

CHAPTER 1

Data Politics¹

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Abstract

Data has become a social and political issue not only because it concerns anyone who is connected to the Internet but also because it reconfigures relationships between states, subjects, and citizens. Just about every device is now connected to the Internet and generating vast quantities of digital traces about interactions, transactions and movements whether users are aware or not. What started as an ostensibly liberated space the Internet rapidly became the space over and through which governments and corporations began collecting, storing, retrieving, analysing, and producing data that analyses what people do and say on the Internet. This ranges from who communicates with whom, who goes where, and who says what – and much more besides. This is now being augmented with data that people produce about themselves, especially their relations, body movements and measurements; the amount and range of data that has become available is, as everyone now knows, staggering. This chapter introduces the main themes of the book to position these developments within a broad historical-sociological perspective and to articulate an international political sociology of data politics.

Keywords: biopolitics, knowledge, power, rights, subjects

Introduction

In 1983, Ian Hacking (2015) described the period between 1820 and 1840 as the ‘avalanche of printed numbers’ in Europe and America. Hacking was reflecting on Michel Foucault's concept of biopolitics that targeted ‘population’ with its own characteristics as an object of government in the nineteenth century. This invention was related to developments not least the birth of a science – statistics, Hacking's primary concern – but also associated sciences such as demography and probability, and data production practices such as the census and administrative registers. Hacking emphatically characterised that as the period when the ‘... statistical study of populations comes to amass gigantic quantities of data...’ (2015, 280).

As Hacking was identifying ‘gigantic quantities of data’ a new term was rapidly becoming popular in Euro-American languages: ‘personal computer’. The invention of large-scale data processing machines following the second world war was giving way to the miniaturisation of both processors and components of a computer – storage, graphics, controllers, and cooling. By the late 1980s a personal computer could already store and process all the ‘gigantic data’ collected about populations between 1820 and 1840. This would have been truly wondrous to William Farr (1807-1883), a compiler of abstracts for the newly-founded (1836) Office of the Registrar-General of England and Wales who remained in office for forty years (2015, 284). Hacking recounts that it was Farr who pirated a Swedish computing machine with more than 5,000 moving parts for use in the Office of the Registrar-General (Hacking 2015, 291). Two centuries later, a hand-held device could store and process such gigantic data.

Although the contemporary period has been described as the era of data revolution we insist that it be placed in a longer history (Kitchin 2014, Mayer-Schönberger and Cukier 2013). The personal computer of the 1980s morphed into a ubiquitous device of the twenty-first century, became connected with other devices through the internet (a word born in 1980), converged storing and processing of data with sharing, led to the invention of protocols for collecting, representing, and sharing of data, and generated not only an internet of people but also of things. Now, the amount of data generated and collected from these devices and the interests, authorities, and expertise required to render them useful make the data revolution of the 1820s appear rather miniscule but we need to understand the present as part of a broader historical transformation.

When Edward Snowden, a security operative working for the CIA, walked out of his office for the last time in 2013 (thereafter he became an exile), to reveal that national security organisations had been ‘harvesting’ and ‘mining’ these gigantic masses of data generated by devices, he was carrying a small storage device capable of holding thousands times more data than was amassed between 1820 and 1840 (Toxen 2014, Lyon 2014, Bauman et al. 2014). His act revealed not only the truly enormous quantities of data that have been amassed from devices about those who use them and their interconnections and communications but also the varieties of analytical and algorithmic technologies invented to analyse and interpret them. The question now is how to place the 1980-2020 period within a broader historical transformation?

This book attempts to step back from these developments to position them within a broad historical-sociological perspective to articulate an international political sociology of data politics. We offer it not to express awe in contemporary technological developments but draw attention to social and political practices and arrangements that made them possible. Unlike many interpreters, Hacking understood Foucault’s work as involving different histories of life, labour, and language and argued that Foucault provides both short and long histories of life (Hacking 2015, 279). He saw Foucault’s distinction between body politics (discipline) and biopolitics (regulation) as different perspectives on the same series: ‘There is a longer and a shorter story of biopolitics. The longer story gradually assumes a definite form in the mid-eighteenth century, and it continues today. Whereas Foucault’s early books talked of sharp transformations, his research on sexuality

directs itself not to mutation and revolution but to evolution in the longer term. There is no inconsistency in this: the world knows both revolution and evolution' (emphasis ours. Hacking 2015, 281). The sharp change that Hacking detects in 1820-1840, he argued, belongs to the longer story of biopolitics. Moreover, he also admitted that 1820 and 1840 are arbitrary dates and more precisely these should be 1839 and 1848. Why? The gigantic accumulation of numbers actually bracketed two European political revolutions. 'It represented an overt political response by the state. Find out more about your citizens, cried the conservative enthusiasts, and you will ameliorate their conditions, diminish their restlessness, and strengthen their character. Statistics, in that period, was called moral science: its aim was information about and control of the moral tenor of the population' (2015, 281). Hacking then goes on to illustrate how calculating machines originated from the need to collect, store, and analyse these numbers and how the longer history of biopolitics made the conditions of possibility of the invention of statistics as a moral science of the state and how this science has driven calculating machine technologies in the late-nineteenth and early-twentieth centuries. Although there have been various studies since Hacking's article that explored the rise of census, survey, and statistical technologies as developments of biopolitics (Porter 1986, Desrosières 1998), we want to see recent developments within a similar series.

The purpose of this book is to think about recent transformations in data politics. In our introduction we position these in historical-sociological terms especially of the kind that Foucault and Bourdieu initiated and Hacking and others expanded and modified. For there are fundamental differences between empire-states amassing gigantic amounts of data for governing metropole and colonial populations in the nineteenth century and the complex assemblage of public and private authorities and interests invested in the production of data in the twenty-first century. This book is certainly about these differences. But it is also about situating these differences in relation to social, economic and political conditions when such a modern regime of government emerged and of which we are still subjects. As a contribution to international political sociology we want to consider the conditions of possibility of data politics as a field of power and knowledge (Bigo 2011, Bigo and Walker 2007, Bonditti, Bigo, and Gros 2017).

What is data politics?

If not for the rapid development of the internet and its connected devices 'data' would have probably remained a relatively obscure concept or term confined to these sciences. Yet, data has become a social and political issue not only because it concerns anyone who is connected to the Internet but also because it reconfigures relationships between states, subjects, and citizens. Just about every device is now connected to the Internet and generating vast quantities of digital traces about interactions, transactions and movements whether users are aware or not. What started as an ostensibly liberated space the Internet rapidly became the space over and through which governments and corporations began collecting, storing, retrieving, analysing, and presenting data that records what people do and say on the Internet. This ranges from who communicates with whom, who goes where, and who says what – and much more besides. This is now being

augmented with data that people collect about themselves, especially their relations, body movements and measurements; the amount and range of data that has become available is, as everyone now knows, staggering. There has never been a state, monarchy, kingdom, empire, government or corporation in history that has had command over such granular, immediate, varied and detailed data about subjects and objects that concern them. What exactly governments, corporations and a whole series of agencies and authorities collect, analyse and deploy is complex but it is now generally understood that data has become a major object of economic, political and social investment for governing subjects. This development has been captured by the term 'big data' to mark a departure from conventional forms of data and statistical knowledge. While first coined by industry, big data has come to have different meanings and uses but significantly, and along with the increasing ubiquity of data in everyday life, the term has become less prominent. Notably, attention has started shift to a focus on computation and analytics such as algorithms, machine learning, artificial intelligence and the internet of things. Yet, data remains a key matter of concern as both the product and condition of computation and analytics.

Scholarship on these developments has understandably focused on issues concerning surveillance, privacy, anonymity, and types of conduct that the Internet cultivates about always connected, always measured selves. Perhaps equal to the measure of the influence of the Internet there has been scholarship on data ranging from warnings about its consequences (surveillance, privacy, isolation) to types of conduct (racism, misogyny, bullying). Along with this, numerous studies, reports, guidelines, regulations and legislation concerning data protection and the rights of data subjects have proliferated.

Data Politics builds on this scholarship but it aims to make three distinct yet interrelated contributions to an international political sociology of data politics.

The first concerns a shift in focus from the politics of or in data to data as a force that is generative of politics. In this view, rather than settled in databases or archives, data is a force realised through its production, uptake and deployments. We want to draw the implications of thinking about data not as an inert representation but a language with performative force as Bourdieu (1993, 1973) and Butler (1997) have shown. That is, data politics is concerned with not only political struggles over data production and its deployments, but how data is generative of new forms of power relations and politics at different and interconnected scales. If indeed data enacts that which it represents, this signifies two things. To collect, store, retrieve, analyse, and present data through various methods means to bring those objects and subjects that data speaks of into being. Data sciences such as statistics, probability, and analytics have emerged not because they have merely quenched our curiosities but because these sciences have been useful for the objects and subjects they have brought into being for the purposes of governing and/or profit. And, to speak constantly about data as though it either represents or records subjects and objects and their movements independent from the social and political struggles that govern them is to mask such struggles.

That data is generative of new power relations and politics is evident in the recent struggles over how big data was allegedly used in the US election and UK referendum to create personalised political advertising to influence how people voted. Referring to these electoral uses, George Monbiot writing in the Guardian noted that we must act now to own these new political technologies before they own us. He was of course referring to the work of a company called Cambridge Analytica, which was partly owned by US billionaire Robert Mercer, who also happens to be a friend of former UKIP leader Nigel Farage. It was widely reported that the company allegedly influenced both the US election and the UK referendum by mining data from Facebook and using it to create profiles predicting people's personalities and then tailoring advertising to their psychological profiles. While some of the claims that this happened were brought into question including denials from Cambridge Analytica, UK's privacy watchdog – the Information Commissioners Office – deemed there was sufficient cause to launch an inquiry. These claims and denials were soon followed by the disclosure that the personal information of up to 87 million users was harvested without their permission by an app designed by a Cambridge academic. The seriousness of this breach intensified when Cambridge Analytica claimed that hundreds of companies harvest such data and that it is legal to do so. Or when the Cambridge academic at the centre of the controversy claimed that it was both legal and ethically acceptable to sell data to a third party. Or when CEO Mark Zuckerberg admitted that Facebook took no action to ensure that the tens of thousands of apps it approved adhered to their terms of service.

So, in the wake of already uneven power and influence over electoral processes – such as campaign financing and media alliances – we now have misinformation, disinformation and techniques such as bot-swarms whereby fake online accounts are created to give the impression that large numbers of people support a political position. For these reasons, Oscar Gandy recently argued that this calls for a shift of attention away from a focus on privacy or surveillance and the collection and processing of information to how information is being used and misused (in: Gandy and Tsui 2018).

What these examples illustrate is that data and politics are inseparable. Data is not only shaping our social relations, preferences and life chances but our very democracies. And that is how we want to speak of data politics. However, a problem with these views on data politics are the subjects who are constituted as the addressee and are presumably the affected Internet subjects. This is the second intervention that has led us to articulate what we call data politics. It concerns atomism: often such pronouncements address atomised individuals who need to protect themselves from the dangers of the Internet and its manipulations. It is based on the ontological premise of 'hyper-individualism' whereby persons, events and phenomena are treated as independent and 'atomistic' entities (Lake 2017). Data politics that emerges from this reaction is one of urging people to protect themselves as individuals. It is almost as if the narrative says 'yes, there is collective work that needs done but ultimately it is up to you to change your behaviour to protect yourself from the dark forces of the Internet.' The addressee in other words is the atomized subject

whose data is individualised rather than understood as a product of collective relations with other subjects and technologies (Socialising Big Data Project 2015).

A third intervention concerns the immediacy that pervades these reactions or responses. They are predominantly exercised by the immediacy of a threat, danger, menace, risk, or peril or insecurity or unease that the Internet ostensibly engenders. Even those who have fought battles with governments and corporations to expose their data practices fall prey to a Messianic creep in articulating political problems by decrying their immediacy.

The obverse response to these reactions has been to extol the virtues of the Internet and illustrate that if it is not liberating it is at least making our lives better organized, measured, improved, whatever. Yes, there may be dangers and insecurities but this is a small price to pay for the benefits it brings. This response is still riddled with immediacy and atomism. Its calculative logic is from the point of view of the atomized subject weighing the pros and cons of the Internet against the threats of immediacy.

All this has led us to the conclusion that data politics is yet to find its subjects. This book attempts to step back from the inertness, atomism and immediacy of the dominant points of view of the Internet and the data it generates and ask questions about data politics and position these within a broad historical-sociological perspective. What do we then mean by an international political sociology of data politics?

We start with the assumption that the will to knowledge and the will to power are two aspects of how we conduct ourselves and the conduct of others and thus we approach data not as a representation (i.e., information collected, stored, and presented without interest) but as an object whose production interests those who exercise power. This was at least one of the lessons we have learned from Michel Foucault's studies of the ways in which modern societies come to depend on governing subjects with data collected over not only their physical and social attributes (life, language, labour) but also about the conduct of their behaviour (Foucault 2007). Our second assumption is that the production of data is a social and often political practice that mobilizes agents who are not only objects of data (about whom data is produced) but that they are also subjects of data (those whose engagement drives how data is produced). Our question thus shifts to social practices and agents. Just as the avalanche of numbers was an aspect of the birth of a modern regime of government, in our age data does not happen through unstructured social practices but through structured and structuring fields in and through which various agents and their interests generate forms of expertise, interpretation, concepts, and methods that collectively function as fields of power and knowledge. This was at least one of the lessons we learned from Pierre Bourdieu's studies on the ways in which fields of knowledge constitute fields of power (Bourdieu 1988) that involve struggle and change, fragile moments, and the emergence of new kinds of practices (Bigo 2011).

Foucault and Bourdieu influenced a generation of scholars who have taken up the relations between power, knowledge, and fields and investigated the ways in which states, agencies, organizations, corporations, and institutions – often assembled in different combinations as governments – constituted their authority, legitimacy and legality by producing knowledge about objects and subjects through establishing method and data regimes such as censuses, indexes, indicators, registers, rolls, catalogues, logs, and archives. We now understand much better the relationships between state formation and statistics, probability, and data regimes (Desrosières 1998, Hacking 1990, Porter 1986). Statistics, from their very beginning, combined ‘the norms of the scientific world with those of the modern, rational state’ (Desrosières 1998). These data regimes have now been extensively studied as historical developments. The birth of objects of knowledge such as the economy, population, society and their sciences – originally called political arithmetic and now statistics — have also been studied extensively. Although it would be impossible to summarize what we now know about these data regimes and the state, the overall insight we have gained can be stated as follows. While Max Weber’s argument that the sovereignty of the state consists in its monopoly of the means of violence is often cited, following the studies of Foucault and Bourdieu and the literature inspired by them, we have come to recognize that this sovereignty depends on numerous practices beyond the organization of violence. Historically, the state performs sovereignty with control over and dependence on especially education, fiscal and cultural data regimes. This does not mean that citizens in each state did not influence, interfere, or intervene in the ways which data regimes constituted them as data subjects. On the contrary, scholars have also investigated and documented how citizens have developed democratic practices to challenge social categories of data regimes and their effects (Anderson and Fienberg 2000, Kertzer and Arel 2002, Nobles 2000). There are many cases that illustrate how, for example, census categories such as race, ethnicity, gender, and other indexes have been called into question, subverted, and transformed.

Nonetheless, the state, or rather organizations, institutions, agencies, agents, and authorities that make up the complex field of government, maintained an effective monopoly on data regimes concerning whole populations. This is not to say that corporations did not also generate data about their customers especially over the last century or so but this was largely limited to specific population groups and in relation to narrow concerns. Beginning in the early twentieth century, opinion polling and marketing research were considerable developments in corporate forms of population data generation (Osborne and Rose 1999). And although there have been various international organisations that have entered into fields of data generation and accumulation such as the United Nations, the European Union, Organisation for Economic Co-operation Development and International Labour Organisation, the primary site and scene of collection of population data and its various regimes remained the monopoly of the state for nearly four centuries.

This monopoly of the state over data production, collection and even interception is increasingly challenged. Or, at least, state sovereignty over data regimes is now shared by the birth of entirely

new assemblages of the production of data (Kitchin 2014). Not least has been the increasing accumulation and mobilisation of data by corporations (Thrift 2005). It is tempting to immediately single out the Internet and its connected devices as the source of this challenge. But it is much more complicated than that as our argument above anticipates. It would be folly to assume that Internet technologies develop independently from the interests that constitute the fields through which various data regimes have been invented. However, beyond technological developments, the sovereignty of the state in accumulating and producing data about its population, territory, health, wealth, and security is being challenged by corporations, agencies, authorities, and organizations that are producing myriad data about subjects whose interactions, transactions and movements traverse borders of states in new and complicated patterns. Not least these traversals challenge the methodological nationalism that has dominated statistical thought and practice and their corresponding boundaries of population data, knowledge and power for centuries (Scheel et al. 2016). While Bourdieu's studies focused on the nation and in particular France, others have taken up his conception to understand fields as international and transnational (Dezalay and Garth 1996, Madsen 2011, 2014). For Bigo, the transnational exists in the form of transnational networks and practices of professionals who 'play simultaneously in domestic and transnational fields' (Bigo 2011). In this view, a transnational field is constituted by networks and practices between and amongst professionals who act at various non-hierarchically ordered scales of the transnational, national and local (Scheel et al. 2016).

We have divided the book into what we consider as three domains of data politics: worlds, subjects, rights. In the first part, we discuss some key conditions of possibility of these domains of data politics and then in the next three parts the importance of each domain. We pose key questions that are not exhaustive of possible inquiries and then summarise the contributions of each chapter. Taken together the chapters of this book set out political questions about the ways in which data has been constituted as an object vested with certain powers, influence, and rationalities.

Part 1: The conditions of possibility of data politics

Part 1 addresses some of the conditions of possibility of data politics and through which new worlds are produced, new subjects come into being, and new rights emerge from struggles over the ownership, collection, analysis, and storage of data. The chapters in this part reveal some of the complexities of these conditions. In Chapter 2 Paul Edwards examines the role of infrastructures as one condition of possibility and specifically those of environmental data systems that have been built over a long period of time and are now being undermined by the Trump administration's attack on climate science in the USA. He demonstrates how data analysis models (or algorithms) that mine, collate, organise, and present data and their interoperability and compatibility have become infrastructures of knowledge about the earth's climate. These data models he argues have now become primary worlds of struggle over knowledge about climate change. He deftly illustrates the tension between critiques of algorithms which critical data

scientists advance and the consequences of eliminating such data models as infrastructures of knowledge.

In Chapter 3 David Berry thinks ‘beyond data’ to critically consider their algorithmic underpinnings and connections to a wider political economy and across multiple levels of computational systems. He examines the complexity of understanding the code that underlies data models or algorithms. Berry points out a paradox of the internet where billions of people communicate on the basis of a language that is hardly visible or comprehensible to them: the code. So, while the Internet may depend on a massive infrastructure of servers, devices, and cables what brings them together or more precisely what holds them together and enables them to communicate with each other is this special kind of language. But to understand code is anything but straightforward because code itself embodies various programming and communication languages such as binary machine code to algorithms (Galloway 2006). The Internet has a language but it is hardly visible or even comprehensible to those who do not write such code. How does the language of the Internet traverse both actual and virtual worlds of data? Berry argues that the struggles over the language of the internet and its code takes place simultaneously with the struggles over ‘natural’ languages and their use and abuse. The question then becomes to what extent those who write code enable and shape the former. In regards to this question he argues for a critical theory of algorithms (CTA) to examine ‘the particular historical conditions that give the present its shape in relation to the specific material and ideological formations that algorithms introduce into the social and economic conditions of society.’

In Chapter 4 David Lyon focuses on how everyday life in the twenty-first century is unavoidably surveillant, especially in the increasingly data-dependent Global North and South. This condition is led by giant Internet corporations such as Google who promote data capture and analysis as the new fuel for prosperity and progress, which raises profound questions for the politics of data and everyday life. Lyon frames his discussion of this condition in terms of two wide-ranging concepts, surveillance capitalism and surveillance culture, which both depend on data but often in different ways and with different consequences. He argues that surveillance capitalism is the source of systems that enable many aspects of surveillance culture, and that at present much that counts as surveillance culture is supportive of surveillance capitalism. But, he contends, this is not inevitable, as evident in the case of the Facebook scandal of 2018. The conditions of possibility – surveillance data in this case – do not produce predetermined outcomes. Instead, Lyon argues that a meaningful data politics can emerge through the reassertion of human dignity and especially agency in responses to surveillance capitalism.

Each of the following parts of the book provide more detailed investigations of the worlds, subjects, and rights that emerge under these conditions of possibility of data politics.

Part 2: The Worlds of Data politics

The Internet is an elaborate infrastructure composed of objects, equipment, cables, routers, servers, switches and devices that constitute a unique technological materiality. Unlike other massive material transformations of industrial and post-industrial cities and their transportation and communication infrastructures, the materiality of the Internet is mostly out of sight and located elsewhere. The data servers and data farms are often in faraway and remote locations or nestled within cities that are inaccessible and unknown to most people. Its connectors are often buried under the earth or sea. Its wireless communications are invisible but routers, switches, and masts create strange yet recognizable objects within and outside cities. Without this massive infrastructure and its maintenance and production the internet of things, communications, and exchanges would be impossible. The material infrastructure of the Internet not only generates new logics of borders and capacities of control that remain often invisible but also protocols and platforms that make people think the Internet is made up of a seamless and invisible flow of information. How are these worlds created and governed? What are the material conditions of possibility, configurations, and stratifications of these worlds? How do these worlds straddle or cross between offline and online worlds? To think of worlds is to trace how material conditions of the Internet are critical infrastructures that are generative of politics and struggles.

Through the Internet a new space is being made – a cyberspace perhaps – but understanding this space is fraught with difficulties. The Internet has not only blurred the boundaries between online and offline worlds but it has also rendered the distinction between the two spurious and perhaps untenable. With always-connected devices it is impossible to say when people or things are offline or online or indeed to separate embodied subjects from their operation. What kind of space does the Internet generate? What is the role of data in such a space and how does data make it possible? In turn, how does the Internet and the space it generates make data politics possible and with what effects? In Chapter 5 Ron Deibert and Louis Pauly take up some of these questions by illustrating how states have been attempting to impose their borders on cyberspace. The expansion and intensification of controls over cyberspace by states within conventionally conceived territorial boundaries are well known. But they argue that states simultaneously project power in and through global cyberspace outside of their territorial jurisdictions. They remind us that struggles over cyberspace do not stop at borders and that extraterritorial projections of state power through cyberspace are expanding, deepening, and becoming more elaborate. They create a sophisticated image of cyberspace as a site of international politics and struggles between various national and international authorities.

The emergence of big data with its focus on production, accumulation, mining, circulation, aggregation, analysis and interpretation has also engendered the formation of various professions from data scientists to data journalists. Each of these professions is engaged in competitive struggles between each other and with other professions and yet at the same time also reinforce the broader practice of investing data with powers. These emergent professions and their practices

have not only begun reorganizing existing fields of data production such as the official statistics of states (state and statistics share common etymologies) but also have given birth to new forms of data accumulation and valuation whose source of authority and legitimacy traverse the boundaries of state sovereignties and produce international effects.

In this light, data is not an already given artefact that exists (which then needs to be mined, analysed, brokered) but an object of investment (in the broadest sense) that is produced by the competitive struggles of professionals who claim stakes in its meaning and functioning. They engage in struggles over the valuation of different forms of capital conceived by Bourdieu including cultural, economic, social, and symbolic capital (Bigo 2013). It is through the accumulation of these various forms of capital that their relative positions are established within the field (Bourdieu and Wacquant 1992). The emergence of data as a field and data professionals as its custodians and gatekeepers shapes competitive struggles not only in defining an object but also the principles of how to understand and intervene in data politics. At the same time, algorithms increasingly call into question the very expertise that data accumulation has spawned through the automating practices of judgement. Who decides whether to invest, what to listen to, where to eat, where to stay, and where to go? How do algorithms embed expert judgements and normative assumptions without appearing to do so? In Chapter 6 Didier Bigo and Laurent Bonelli examine these issues through their analysis of the emergence of data production as a field and intelligence professionals as its producers. They argue that competitive struggles not only shape the defining of data as an object but also the principles of how to understand and intervene in what we call data politics. Through a Bourdieusian, international political sociology-inspired analysis, they illustrate the emergence of a transnational space where the production of security data occurs to argue against the illusory idea of the intelligence community as a single world united by common surveillance techniques which are changing the understanding of security. Rather, they highlight how logics of action cut across and transgress distinctions between the internal and the external, the national and the foreigner.

The accumulation of data procures not only cultural capital but also economic capital. An economy of data is founded on the 'voluntary' input of personal data in exchange for Internet services. This creates the conditions for the making of a stock market of data involving data brokers and profit shares generated by deep data mining and data discoveries. How do individuals contribute to this production and what is the political economy of desire that generates a material economy of services? What are the consequences of subjects giving up data in return for so-called free services? What are the legal conditions that enable and disable the circulation of data within and across states? From questions of data commons to data ownership, how are legal regimes being challenged and remade by struggles over data as property?

In Chapter 7 Tommaso Venturini takes up some of these questions through a focus on what is at stake with 'fake news' as a key object of data politics. He illustrates that that misleading term conceals that the production of news and production of truth in general always involve interpretive struggles and a competition between interests to establish authority and expertise. Rather than

considering it an object of algorithmic intelligence, computational analytics or political intentions, he proposes an understanding of fake news based on its circulation rather than its contents. He proposes that it is more appropriate to consider circulating stories as ‘junk news’ and describes its economic, communicational, technological, cultural and political dimensions. In this way, Venturini shifts attention to our ability to discern between news and junk as an important object of debate and discussion and form of data politics.

Felix Tréguer in Chapter 8 considers how data politics is embodied in security assemblages – combinations of technology companies and security professionals – and how their practices are increasingly shaping how the state governs its citizens. He illustrates how these assemblages are leading to a new technological bureaucratisation of the state that transforms citizens’ understanding of themselves as subjects of government. His chapter identifies the need to resist the technological bureaucratisation of the state as a significant element of data politics today – a theme that is picked up by chapters in Parts 3 and 4.

Part 3: The subjects of data politics

The emergence of data as an object of government engenders the emergence of subjects who take positions in and through the various resignifications and challenges that it spawns. Rather than occupying already existing positions, subjects are produced through various digital interactions and at the same time their digital traces shape and organize their subjectivities and how they are known and governed. How are subjects part of the work and making of data through which they then come to be known? Through procedures of channelling, filtering and sorting data, various devices and platforms configure not only transactions and interactions but the data they generate recursively shapes and forms subjects in never fixed but modulating ways. With the increasing circulation, mining and combining of data how are subjects and their affiliations, connections and relations multiplied and governed via ever more dispersed micro data politics?

People govern their health by making themselves data subjects of health. Measuring their own performances with Internet-enabled devices and benchmarking their performance against other performers, data subjects of health increasingly calibrate a model body not through images circulated by the advertising industry but by literally working themselves out through their data performances and for others. How is data part of the making and shaping of bodies and the body a site of data politics? Being a data subject entails the radically shifting meaning of being a consumer from a subject making choices to a choice-making and sorted subject. Being constantly a reviewer, modern consuming data subjects are caught in a spiral of evaluations: they are evaluated and evaluator all at once and all the time. Recommender platforms and evaluation data generated by transacting ever more sort subjects into categories of cultural preferences that narrow and channel choices. How is consuming through the Internet generative of data politics?

In Chapter 9 Lina Dencik and Arne Hintz consider some of these questions of the data subject in relation to the uneven effects of data-driven surveillance practices which simultaneously advance

particular social, economic and political agendas that enfranchise some whilst disenfranchising others, and prioritize certain ways of organizing society at the expense of others. It is in relation to such concerns that they consider the possibility of data justice. They note that much resistance to surveillance has predominantly centred on techno-legal responses relating to the development and use of encryption and policy advocacy around privacy and data protection. They argue that data surveillance should be considered in relation to broader social justice politics. If there is an emergent surveillance capitalism in which the collection, use and analysis of our data increasingly comes to shape the opportunities and possibilities available to us then we must ask broader questions of data justice.

The practices that produce data subjects also involve changing relations of production in the generation of data including the production of its labourers. Are we moving from the logic of having a job to a logic of contributing something to the fulfilment of a task? The data-generated market of global tasks has now created a vast meeting place for those who need and will pay for accomplishing specific and often micro tasks and those who can and need to fulfil these tasks to make a living. To consider the data subject also calls upon consideration of the uncanny convergence between robots and humans not in the way in which the cyborg manifesto (Haraway 1991) envisaged it but perhaps more in the manner in which Star Trek anticipated. How does the automated generation and analysis of data based on artificial intelligence and machine learning appear autonomous and yet inseparable from struggles and relations between programmers, subjects and technologies? In Chapter 10 Brett Neilsen and Ned Rossiter approach these questions through the examination of data centres as sites of data politics. They show how data centres are increasingly moving toward automated economies with the integration of artificial intelligence, machine learning and robotics into processes of capital accumulation. These data infrastructures should be considered sites of struggle not only because of where they are located but also how they have become hubs of command and control over production, consumption, and exchange circuits. Understanding how these centres regulate logistics by which various forms of capital is accumulated and how labour transitions to a society of automation for them is a key political question and field of struggle. For them, ‘data politics are not exclusive to the claiming of rights so much as the production of subjectivity within environments whose data architectures register conflicts between the politics of decentralisation-centralisation and the impossibility of pure distribution’.

Data not only captures but also colonizes minds, souls, bodies and spaces. It subjectifies through practices of production, accumulation, aggregation, circulation, valuation, and interpretation. These practices call upon subjects who are not separate from but submit to and are active in the various ways that data is made and colonizes lifeworlds to constitute ‘data’s empire’. In Chapter 11, Engin Isin and Evelyn Ruppert examine the various ways that data captures and colonizes minds, souls, bodies and spaces and makes data subjects through practices of production, accumulation, aggregation, circulation, valuation, and interpretation. They draw our attention to the fact that these practices operate together yet differently in the metropole and postcolony and

produce different data subjects. They remind us how European empires in the nineteenth century invented various data collection and analysis methods for producing colonial populations and how contemporary practices build on these imperial infrastructures and logics. They invite readers to understand developments such as UN Global Pulse as instances of postcolonial data politics, which call for decolonising data politics.

Part 4: The emerging rights in data politics

If the accumulation of data traverses subjects it also constitutes them with claims to certain rights that concern its accumulation: who owns, distributes, sells, accesses, uses, appropriates, modifies, and signifies data become objects of struggles for claiming rights to such modalities. The rights claiming subject is the figure of the citizen that we have inherited as a political subject who is now making rights claims about being a subject of data. How do subjects exercise and claim such rights through what they say and do through the Internet? How do they perform rights and claims about being subjects of data through how they communicate, share, express and engage with digital devices and platforms? How do they invent data practices that challenge and subvert state and corporate forms of data and struggle for rights through legal and regulatory mechanisms?

This third condition of data politics considers rights claiming subjects such as citizen data scientists as part of material-political arrangements and struggles over who generates, legitimizes and has authority over data and how data is mobilized to make claims for environmental and other rights. It concerns how citizens make data an object of transnational politics and engage in struggles around free expression, privacy and ethics and the forums, practices and networks through which these struggles are being fought. In Chapter 12 Giovanni Ziccardi shifts our attention from the collection and collation of data to consider rights over its life and death. He discusses the whole 'life cycle' of data, especially from a legal-informatics point of view and with particular attention to the right to oblivion after the death of a person and how this constitutes a different kind of right. He discusses the complexities of the European Union General Data Protection Regulation (GDPR) and the impossibility of data oblivion. Rather, he argues that the right to data oblivion requires simultaneously addressing three forms of oblivion that make it up: social, which concerns the persistence and circulation of personal data; technical, which relates to the resistance of technology to the removal of data; and legal, which refers to forgetting, deleting and de-indexing elaborated by legal means through case law or norms.

How are rights not only claimed through regulations, laws, and protocols but by citizens who make claims and in turn perform what is data politics through their everyday digital acts? In Chapter 13 Jennifer Gabrys takes up this question by shifting our attention from data as something collected about citizens to many instances where citizens generate their own data. Whether to document lived experiences through social media platforms, sensing air pollution to challenge governmental measurements, or documenting conflict in overlooked zones, citizens are collecting, analysing and communicating data to articulate alternative narratives. These practices of data citizens not only challenge official practices for making evidence, they also potentially reinvent how rights are

formed, expressed and transformed through ongoing data practices. Gabrys show how citizen practices of using low-cost and digital sensor technologies to monitor air quality and changing urban environments generate distinct forms of data politics through the operationalization of new data and data relations.

The relationship between the right to privacy and that of data protection is illustrative of the transversal relations and legal and political tensions that make up data politics. On the one hand, international human rights laws and obligations seek to secure and universalize the former and various national regimes have emerged to address the latter. However, transversal relations call for a figure of a citizen that is different from the subject we have inherited and instead one who can make rights claims that traverse national borders (Isin and Ruppert 2015). In Chapter 14 Elspeth Guild illustrates an emerging field of international law where data citizens are able to command and have control over their privacy. Guild notes that citizens have discovered to their shock how little control their own state authorities have over the protection of their privacy and shows that the global movement of communications, internet and social media platforms makes a citizen's right to privacy impossible to regulate and protect at the national level. Guild documents how since 2013 a number of authorities, interests, and forces have come together to create an international framework for privacy in a digital age. It is a framework that is emerging as a consequence of data citizens contesting and seeking to establish their rights to privacy by using the intersection of international and national law as a nexus through which to achieve their claims.

Conclusion

This book invites readers to regard contemporary transformations as a field of power and knowledge and an emerging regime of government that is comparable yet irreducible to the modern regime government that emerged in the nineteenth century and of which we are still subject. It provides an analytical framing with a focus on worlds, subjects, and rights as conditions of possibility of such a field. Our hope is that the book contributes to our understanding of this field and the possibilities of data subjects becoming data citizens.

Notes

¹ An earlier version of this chapter appeared as a commentary and invitation to contributors to this book: (Ruppert, Isin, and Bigo 2017).

References

- Anderson, Margo, and Stephen E. Fienberg. 2000. "Race and Ethnicity and the Controversy over the US Census." *Current Sociology* 48 (3):87-110.
- Bauman, Z., D. Bigo, P. Esteves, E. Guild, V. Jabri, D. Lyon, and R. B. J. Walker. 2014. "After Snowden: Rethinking the Impact of Surveillance." *International Political Sociology* 8 (2):121-144. doi: 10.1111/ips.12048.
- Bigo, Didier. 2011. "Pierre Bourdieu and International Relations: Power of Practices, Practices of Power." *International Political Sociology* 5 (3):225-258.
- Bigo, Didier. 2013. "The transnational field of computerised exchange of information in police matters and its European guilds." In *Transnational power elites: the social and global structuration of the EU*, edited by Niilo Kauppi and Mikael Rask Madsen, 155-182. London: Routledge.
- Bigo, Didier, and R.B.J. Walker. 2007. "Political Sociology and the Problem of the International." *Millennium: Journal of International Studies* 35:725-739.
- Bonditti, Philippe, Didier Bigo, and Frederic Gros, eds. 2017. *Foucault and the Modern International*. New York: Palgrave MacMillan.
- Bourdieu, Pierre. 1973. "L'opinion publique n'existe pas." *Les temps modernes* (318):1292-1309.
- Bourdieu, Pierre. 1988. "Social Space and Symbolic Power." *Sociological Theory* 7 (1):14-25.
- Bourdieu, Pierre. 1993. *Language and Symbolic Power*. Massachusetts: Harvard University Press.
- Bourdieu, Pierre, and Loïc J. D. Wacquant. 1992. *An invitation to reflexive sociology*. Chicago: University of Chicago Press.
- Butler, Judith. 1997. *Excitable Speech: A Politics of the Performative*. London: Routledge.
- Desrosières, Alain. 1998. *The Politics of Large Numbers: A History of Statistical Reasoning*. Translated by Camille Naish. Cambridge, MA: Harvard University Press.
- Dezalay, Yves, and Bryant G. Garth. 1996. *Dealing in Virtue: International Commercial Arbitration and the Construction of a Transnational Legal Order*. Chicago: University of Chicago Press.
- Foucault, Michel. 2007. *Security, Territory, Population*. Translated by Graham Burchell. Edited by Arnold Davidson, Lectures at the Collège de France, 1977-78. Basingstoke: Palgrave Macmillan.

- Galloway, Alexander R. 2006. *Protocol: How Control Exists After Decentralization*. Cambridge, MA: MIT Press.
- Gandy, Oscar, and Lokman Tsui. 2018. "On Personal Data Protection, Privacy and Surveillance." *Communication & Society* 43:1-34.
- Hacking, Ian. 1990. *The Taming of Chance*. New York: Cambridge University Press.
- Hacking, Ian. 2015. "Biopower and the Avalanche of Printed Numbers." In *Biopower: Foucault and Beyond*, edited by Vernon W. Cisney and Nicolae Morar, 65-80. Chicago: University of Chicago Press. Original edition, 1983.
- Haraway, Donna Jeanne. 1991. *Simians, cyborgs and women: the reinvention of nature*. London: Free Association.
- Insin, Engin, and Evelyn Ruppert. 2015. *Being Digital Citizens*. London: Rowman & Littlefield International.
- Kertzer, David I., and Dominique Arel. 2002. "Censuses, identity formation, and the struggle for political power." In *Census and identity: the politics of race, ethnicity, and language in national censuses*, edited by David I. Kertzer and Dominique Arel, 1-42. Cambridge/New York: Cambridge University Press.
- Kitchin, Rob. 2014. *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences*. London: SAGE.
- Lake, Robert. 2017. "Big Data, Urban Governance, and the Ontological Politics of Hyper-Individualism." *Big Data & Society*:1 - 10.
- Lyon, David. 2014. "Surveillance, Snowden, and Big Data: Capacities, consequences, critique." *Big Data & Society* 1:1-13.
- Madsen, Mikael Rask. 2011. "Reflexivity and the Construction of the International Object: The Case of Human Rights." *International Political Sociology* 5 (3):259-275.
- Madsen, Mikael Rask. 2014. "The International Judiciary as Transnational Power Elite." *International Political Sociology* 8 (3):332-334.
- Mayer-Schönberger, Viktor, and Kenneth Cukier. 2013. *Big data: a revolution that will transform how we live, work and think*. London: John Murray.
- Nobles, Melissa. 2000. *Shades of Citizenship: Race and the Census in Modern Politics*. Stanford: Stanford University Press.
- Osborne, Thomas, and Nikolas Rose. 1999. "Do the social sciences create phenomena?: the example of public opinion research." *British Journal of Sociology* 50 (3):367-396.

- Porter, Theodore M. 1986. *The rise of statistical thinking, 1820-1900*. Princeton, N.J.: Princeton University Press.
- Ruppert, E., Engin Isin, and Didier Bigo. 2017. "Data Politics." *Big Data & Society* 4 (1):1-8.
- Scheel, Stephan, Baki Cakici, Francisca Grommé, Evelyn Ruppert, Ville Takala, and Funda Ustek-Spilda. 2016. *Transcending Methodological Nationalism through Transversal Methods? On the Stakes and Challenges of Collaboration*. ARITHMUS Working Paper No. 1. Goldsmiths University of London. Avail. at <http://bit.ly/2lqR1aM>.
- Socialising Big Data Project. 2015. *A Social Framework for Big Data*. CRESC. University of Manchester and the Open University. Avail. at <http://bit.ly/28Ye3kI>.
- Thrift, Nigel. 2005. *Knowing Capitalism*. London: Sage.
- Toxen, B. 2014. "The NSA and Snowden: Securing the All-Seeing Eye." *Communications of the ACM* 57 (5):44-51. DOI: 10.1145/2594502.