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INTRODUCTION: DATA JUSTICE AND THE RIGHT TO THE CITY

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This chapter argues that the concept of data justice can inform and enrich practices motivated by the Right to the City (RTTC). RTTC is, at heart, a radical concept of citizenship that calls for the collective design of urban life, of 'affordable housing, a decent school for the kids, accessible services, reliable public transport. The right to have your urban horizon as wide or as narrow as you want' (Merrifield 2017). The comparatively nascent concept of data justice seeks to understand how datafication of everyday life, predominantly but not solely in urban contexts, compounds existing social injustices and creates new ones. While the lens of data justice helps illustrate how and why an analysis of datafication is today integral to the RTTC, the RTTC cautions against the political co-option of data justice into technocratic and privatised 'data for good' initiatives.

Emerging work on data justice discourages the data fetishism tainting public, commercial and academic discourse on emerging data industries. By 'fetishism' we mean the habit of endowing objects and entities with an almost magical, or at least intrinsic, power to shape the world around us (Harvey 2003). Data fetishism is a form of post-politics par excellence that casts aside theory and ideology and reduces various social problems to systems engineering conundrums solvable with sufficient data and processing capacity (Han 2017; Eubanks 2018). Instead, data justice scholarship and activism in all its diversity understand datafication as a political phenomenon related to more established structural dynamics of social injustice, whether distributive (economic), recognitive (cultural) or representational (political) (Fraser 2005).

FRAMING SOCIAL JUSTICE

A social justice approach focuses on the agency of those groups disproportionately impacted by datafication and urbanisation. We find it useful to draw on Nancy Fraser to frame social justice as participatory parity – that is, ‘social arrangements that permit all to participate as peers in social life’ (2008: 405). Distributive, recognitive and representational injustices are different dimensions of social justice that can be understood in terms of their combined impact on participatory parity in concrete situations (Fraser 2005). Constraints on participation can be attributed to the unfair distribution of economic goods, or the institutionalised cultural marginalisation of group identities, or to rules or institutions that suppress political voice, or a combination of all these.

Following Fraser and Iris Marion Young, this framing means paying attention to the entanglement of economic injustice with the politics of difference. The cultural domination of certain social groups reinforces material economic inequality, just as structural economic inequality in turn reproduces social problems (ill health, high crime rates, violence, addiction etc.) in poor and often racialised communities through the perpetuation of conservative policy discourses. In Fraser’s more recent work, representational injustice is concerned with the asymmetrical distribution of power to determine what defines political space itself. Fraser identifies representational injustice at work where ‘the division of political space into separated bounded polities deprive[s] some of the chance to engage politically with peers on matters of common concern’ (Fraser 2008: 286). In short, there can be no recognition or redistribution without representation.

Dencik, Jansen and Metcalfe (2018) foreground how the emerging political economy of datafication and the politics of difference are intertwined, as opaque proprietary algorithms classify and sort social groups on the basis of ‘group commonalities that are fundamentally alien to individuals and groups themselves’ (p. 4). Transnational data infrastructures act as black boxes with real material consequences for people (most notably refugees and asylum seekers) who have no agency to speak back to systems that govern their daily lives. Distributive, recognitive and representational injustices are manifested in a panoply of concrete data justice issues: the automation and digitisation of social welfare, the datafication of border regimes, racist police profiling, the surveillance of social justice activism and the exploitation and precariti-

sation of labour through automation and platform capitalism, to name but a few. All of these issues and dynamics cut across different axes of oppression, including race, class, gender and legal status, and can ultimately be understood by asking how the dynamics of datafication enhance or inhibit participatory parity, a concern at the heart of RTTC struggles.

Historically, struggles for the RTTC find solidarity in difference, underpinned by a radically inclusive vision of citizenship that isn't contingent on legal status. Collective struggles over housing, policing, urban pollution, green space, transport, education, energy and food sovereignty (to name but a few) have all historically found common cause under the RTTC. Ideologically, what sets the RTTC apart from a more liberal discourse of rights, including human rights, is that it challenges the individualistic and post-political nature of such discourse. The RTTC is fundamentally about the right to 'change and reinvent the city more after our hearts' desire' (Harvey 2012: 4). At its best, the RTTC raises questions over the use and production of urban space that bring together citizens with heterogeneous interests and positions in often unpredictable ways (Lefebvre 1992). Thus, the RTTC is fundamentally sensitive to the question of building political solidarity in the face of difference. The salience of the RTTC today is the promise, at a municipal scale, to construct an alternative narrative of the people that rejects the false choice between a neoliberal technocratic oligarchy (with some progressive concessions) and right-wing xenophobic and racist nationalist populism in particular (Mouffe 2018).

The growing density of urban space, the proliferation of data produced by the concentration of inhabitants, and the technical expertise that cities attract have stimulated ideas about efficient governance and the city as an engine of economic growth. Policy makers and industry players envision data-driven technologies animating regional development in the form of entrepreneurial start-ups, data-science expertise and venture capital investment. In the fetishistic fervour to datify our cities (and their attendant institutions such as schools and health and welfare services), a focus on data justice is a necessary pillar of any effective RTTC activism. The struggles of digital rights activists and community activists organising for the RTTC are intimately entangled (Dencik, Hintz and Cable 2016). The RTTC opposes the unmitigated privatisation of public space and the commodification of the commons. As the informational commons become invisibly commodified, entire

areas of urban life (education, health, transport, policing, tourism, housing, energy etc.) are mediated through digital infrastructures and the data they amass and process. Francesca Bria terms data a 'meta utility':

[W]hat does energy sovereignty mean once we transition onto the smart grid, and firms like Google offer to cut out bills by a third if only we surrender our energy data? Does the struggle for 'energy sovereignty' mean anything if it is not tied to the struggle for technological sovereignty? Probably not. (Bria 2020: 166)

When sutured together, data justice and the RTTC are radical demands that form the starting point of a new politics. The next important step is to design paths to civic participation, resistance and the invention of creative alternatives to otherwise inevitable futures of corporate power and rising inequality.

This introduction makes connections between an existing and substantive body of literature on the RTTC with more recent and explicit calls for justice where data-driven systems increasingly suffuse our social institutions. The first section provides an overview of the RTTC as an enduring conceptual lens looking at the civic, participatory and creative production of urban space. As much work in this area has already established, policies and pundits have normalised the imaginary of datafication most explicitly in urban contexts. The second section will elaborate on the ways that notions of data justice expand upon the intersection of critical data studies and social justice studies, bridging an interest in the social impact of 'Big Data', algorithms, artificial intelligence (AI) and other data-intensive technologies, with established concerns for fairness, rights and opportunity in society. We connect data justice literature to established debates in social justice theory, considering the extent to which the current paradigm of datafication troubles many of the assumptions that underpin prevailing understandings of fairness in contemporary society. Just as the subsequent contributions in this book do, we suggest frameworks and practices through which datafied cities and citizens might engage in more justice-oriented relationships.

A RETURN TO THE RIGHT TO THE CITY

The term 'right to the city' largely originated with Henri Lefebvre, Marxist philosopher and social scientist, writing in the period leading up to 1968 protests in Paris. For Lefebvre, the material spaces of the city are implicated in all social and political aspects of urban life. Because our daily environment constitutes social relations, it follows that the only way for urban citizens to exercise their rights fully is to have the capacity to design their environment and participate in struggles over its development. In Mark Purcell's (2002) reading, Lefebvre offers a radical approach to political inclusion: all inhabitants – not only legal citizens, but all who live in a city – should make these decisions about urban space through direct forms of participation. The RTTC is relevant to a broad spectrum of historical upheavals and gentrification processes driven by often racialised financial capitalism, including 'slum clearance, demolition and displacement of communities in Haussman's Paris in the 19th century, Robert Moses in 20th century New York and contemporary development in cities like Seoul, Delhi and Mumbai' (Minton 2017: 55). The most radical potential of the RTTC therefore lies in an intersectional approach, directly challenging racist, patriarchal, capitalist and ableist social relations that underpin the production of urban space.

Social movements were quick to adopt 'the right to the city' as a slogan in their efforts to resist gentrification and development backed by global capital (Brenner, Marcuse Mayer 2012) and in popular struggles against austerity, globalisation and the destruction of open spaces and land (Mayer 2009). In Brazil, the 'right to the city' gained legal meaning when it enshrined its 2001 City Statute, giving citizens more rights to shape development of public land (Fernandes 2007). The United Nations and the World Social Forum adopted the phrase as a theme during several global gatherings in the 2000s (Kuymulu 2013); in these cases, RTTC reflects global concerns that in cities, democracy and enfranchisement are on the decline, both through the outsourcing of public services and thanks to capitalism's unrelenting emphasis on the exchange value – rather than use value – of space.

RTTC took on new academic significance in the 2000s when critical urban theorists revived the phrase to analyse class struggle, anti-racism and radical democracy in the face of globalisation and later the 2008 financial crisis and Occupy Wall Street. In David Harvey's (2008)

critique, the phrase describes how cities have long been battlegrounds for capitalist surpluses that are reinvested in city planning and infrastructure, leading too often to commercialisation of common spaces, gentrification, assaults on unions, and environmental degradation through new forms of extraction. 'Since the urban process is a major channel of surplus use, establishing democratic management over its urban deployment constitutes the right to the city', argues Harvey – as opposed to privatisation that colonises public space for the rich. The right to the city mobilises certain rights – of social justice and having a high standard of living and dignity – over others, such as the right to property and to participate in the free market. For Harvey, the RTTC is always commons-based and collective, taken up by communities, not exercised by individuals. At all steps are questions of social justice and participatory parity: Who determines what a good city should be? How might we design a world of justly distributed public resources?

RTTC has supplied scholars with a rich framework to understand urban grassroots efforts. Kuymulu (2013) views the Gezi Park uprisings in Istanbul through this lens – the occupation of the park was a reaction to government plans to turn this green space into a shopping mall. A band of activists, occupying the park for three days, effectively stopped the construction and sparked nation-wide protest as citizens reacted to police brutality against the occupiers. Weinstein and Ren (2009) use the RTTC framework to compare formal housing rights protections and the work of housing rights activists across Shanghai and Mumbai. Shillington (2013) uses the concept to look at how inhabitants of Nicaragua's cities use household fruit trees to challenge food insecurity.

Debates also characterise this literature. Exactly what rights does the right to the city encompass (Attoh 2011)? Is the phrase used so often that it risks dilution (Plyushteva 2009)? Should rights even be the focus, over other ethically resonant terms, such as 'needs' (Mitchell 2003)? Does the phrase signal too much about the process, and not enough about the values that should drive the process (Purcell 2002)? These questions become less important when we understand the RTTC as a set of demands enacted through struggle, rather than an objective sociological category. As a discursive practice, the RTTC 'does not exist previously to its political articulation' (Mouffe 2018: 62).

Despite its contingency, we can identify four principles that characterise literature on RTTC: (1) resisting the privatisation of public space

and services, which historically entails treating space in terms of its surplus value rather than civic use value due to government austerity and privatisation; (2) fighting for a more equitable distribution of the benefits of city life to all inhabitants; (3) introducing more democratic practices determining urban development and resource distribution; and (4) guiding these processes using a particular set of rights that emphasise social justice over property ownership.

RIGHT TO THE DATAFIED CITY

The question of technology and its influence on social relations has always been central to RTTC struggles, since urban technologies implicitly encourage and facilitate certain social relations while excluding others. Take Winner's (1980) famous example of how Robert Moses used urban planning as a racist tool to undermine desegregation efforts by constructing freeway bridges that blocked public transport from reaching all-white suburbs. As Winner (1980) observed in his landmark work, people often adjust to social relations resulting from 'technological' change that they would resist if resulting from overt politics. So the question of technology in the RTTC is not new.

Datafication introduces new sets of problems that recharacterise RTTC principles. Shaw and Graham (2017) reanimate a particularly important aspect of Lefebvre's work in this context: the 'right to information', which constitutes part of the broader conceptualisation of the 'right to the city' (Lefebvre 1996). Digital information collected by 'GPS devices, Uber, Wikipedia and TripAdvisor' create digital reproductions of cities' infrastructure that are 'often as important as their bricks and mortar' (Shaw and Graham 2017: 908). Shaw and Graham focus on the power implicit in this shift to urban data, tracing the ways in which powerful corporations such as Google 'reproduce and control urban space itself' (2017: 921). 'In this capacity, [tech companies] have now joined – and in some cases, perhaps even superseded – the ranks of urban planners, developers and landlords from Lefebvre's era in terms of their power over the city and its many problems' (Shaw and Graham 2017: 921). Datafication, in this sense, is increasingly indistinguishable from the privatisation of the city, where civic use value is subordinated to profit-seeking behaviour of a technology sector increasingly controlled by a small group of dominant corporations. Today, regional city deals view data-intensive industry as a panacea for competitive

advantage and a site for surplus reinvestment and growth. State-based services rely more and more on private platforms. Thus, the RTTC is partly about challenging the ‘accumulation by dispossession’ of data generated by citizens and the Faustian pact we make daily when we exchange data for services, such that it might be controlled democratically and operationalised in more emancipatory directions.

Kitchin and colleagues further renew the ‘right to the city’ literature through the examination of the smart city, a much more overt datafication of urban space involving embedded technologies that administer city functions (Kitchin, Cardullo and Di Felicianantonio 2019: 1). Algorithmic and automated systems, while not overtly disciplinary, create forms of control that steer and nudge citizens (Kitchin et al. 2019: 4). This kind of social control entrenches forms of inequality by reconfiguring citizens as productive consumers, forming divisions between those who fuel the tech-infused urban economy and those that ultimately benefit from it. ‘Citizens . . . can browse, consume, and act. If there is civic engagement, it is in the form of a participant, tester, or player who provides feedback or suggestions, rather than being a proposer, co-creator, decision-maker, or leader’ (p. 6). Kitchin et al. (2019) draw on the ‘right to the city’ to propose alternative community- and justice-oriented visions of the city. As Morozov and Bria (2018) detail, many cities are grappling with the neoliberal model of the data-driven city, and are proposing community-driven datafication that provides more equitable distributions of the benefits of city life. The city of Barcelona is a key example: since 2015 it has attempted to adopt the practice of ‘technological sovereignty’ – designing technology to serve local residents ‘and be owned as a commons, rather than applying a universal, market oriented proprietary technology’ (Kitchin et al. 2019: 10). Gabrys (2019) offers another example of participatory, community-driven practices for urban development through citizen sensing of air pollution. Gabrys takes inspiration from Lefebvre to characterise ‘the city as an ongoing collective project’ driven by ‘staving off and surviving dispossession, pollution and injustice that often accompany increasing urbanization’ (Gabrys 2019: 250–1). Drawing on Lefebvre’s underlying philosophical direction, Gabrys asserts that:

the right to the city is more relational rather than teleological, since it is less focused on arriving at a finished urban form, and more attuned to the ways of life that are experienced and sustained,

as well as the political subjects that urban inhabitants become in these collective urban projects. (Gabrys 2019: 252)

As the following section will elaborate, data justice literature is also concerned with lived experience and the ongoing articulation of everyday injustices in ways that constitute more radically democratic practices. While this section has made connections between the concept of the 'right to the city' and the politicisation of data in urban contexts, the next defines the term 'data justice' and highlights several themes it shares with the RTTC literature.

DATA JUSTICE – POLITICS AND PERSONALISATION

As Dencik, Jansen and Metcalfe (2018) suggest, the central thrust of work in data justice is 'to situate data processes within historical and on-going struggles for justice claims'. This work should therefore be understood in a context of broader critical responses within the social sciences to the often evangelistic and celebratory discourses that tend to accompany technology development. Dencik et al. (2018) further clarify this reversal of the dominant narrative, suggesting 'datafication is not a revolution that is drastically changing the structural power and political economy of modern society, but an extension of conditions that have resulted in grievances and injustices towards historically marginalised and politically sculpted targets' (Dencik et al. 2018: 6). In this sense, both critical data studies that draw on RTTC and work in data justice call for a sea change in the hyperbole and sense of triumph surrounding technical progress, and a much more in-depth engagement with social justice concerns in the era of datafication.

Echoing RTTC, a central concern for data justice is the manifestation of power. A number of recent works in data justice have examined the ways in which the political economy of datafication has concentrated power within an elite few and amplified the marginalisation, misrecognition and liability of many (O'Neil 2018; Taylor 2017; Eubanks 2018; Noble 2018). Nancy Fraser's formulation of justice as participatory parity is powerful in this context. Automated welfare services, for instance, typically signal cuts in staff, involve contracts with private firms whose patented systems evade public scrutiny, and facilitate surveillance through algorithmic risk assessment, creating opaque systems with little public oversight. Work in data justice views these automated

systems as ‘a new form of governance that advances particular social, economic and political agendas, benefitting some and disadvantaging others’ (Hintz, Dencik and Wahl-Jorgensen 2019: 143). Another pertinent example is Crawford and Joler’s study of a ‘virtual assistant’, which, rather than focusing on the technical features of the device or the functions defined by its designers, describes and visualises a ‘map of human labor, data and planetary resources’ (2018) that constitute the gadget. Crawford and Joler (2018) chart, amongst other relationships, the ‘[p]rivatization and exploitation’ of rare earth elements used in the production of the virtual assistant, with the ‘[u]npaid immaterial labour’ of users who train the system through their everyday use of voice commands.

While there has been a long-established critique of the consumerist model of public service governance (Clarke 2007), we now must pay attention to public services transformed by data-driven technologies. Examining the ways public services are being revisioned through relationships between public and private intermediaries, Williamson outlines a method of personalisation, which:

involves the use of sophisticated software and algorithms that can be used to collect and analyse ‘big data’ on service users, consisting of personal information and individual behavioural data, in order to anticipate or even predict citizens’ future lives, behaviours and requirements. (Williamson, 2014: 292)

Such services constitute a shift from generalised public services to highly customised and automated relationships between individual citizens and local authorities. Under the guise of this supposedly beneficial ‘personalisation’, such approaches tend to build in a form of isolation, where individuals lose shared experiences of public services, and therefore connections to each other. As Hintz et al. (2019) note, such data-driven personalisation works against notions of collective citizenship, further entrenching an ideology of individual responsibility and personal culpability. For Lake, this ‘hyperindividualism’ surfaces most intensely in urban governance, which is reduced to ‘the management of atomistic behavior’ (2017: 8). Further, such personalisation ‘undermines the contribution of urban complexity as a resource for governance, erodes the potential for urban democracy, and eviscerates the possibility of collective resistance’ (p. 8). In this sense, public services

that are reconstituted as personalised data-driven transactions undermine the very notion of the 'public' as representing mutual experiences, united causes, or indeed the capacity for collective action.

A further concern of data justice is around public space and services, where such notions are becoming increasingly contested in city contexts. The data justice literature, as with RTTC, is concerned about how datafication enables the impoverishment of public space and city services. This is particularly evidenced in new investments in the digital platform sector that sets out to 'unlock the potential' of big datasets as a kind of raw material, but ends up drawing new lines of power between those that store and organise data, and those of us who have less understanding of or control over these information flows. An important, and under-explored, aspect of the existing RTTC literature to date, which the literature on data justice has richly contributed to, is the rise of surveillance systems that encroach on daily life and public space through predictive analytics and facial recognition software, which have been found to embed racial bias (though see Mitchell and Heynen 2009). At the same time that citizens are ceding control of their statistical representations through their online behaviour, automated data collection increasingly privatises and marketises activities in public space – as we witness with the rise of profitable data analytics industries that monetise data on students at public universities (Williamson 2017). Contemporary social justice movements from 15-M in Spain to Occupy to Black Lives Matter have recognised that reshaping public space is also an issue of reaching publics through technical platforms over which they have little control. Both data justice and the RTTC call for collective, democratic oversight of these platforms and to exercise this right by drawing on long-standing social justice principles. By combining the strengths of these two literatures, we can start examining how these trends are particularly amplified in urban contexts.

Another key dimension of data justice work that mirrors RTTC literature is to promote a return to community-driven goals and technological designs that promote shared experiences and action. Perceiving data-driven systems as inherently social quite literally opens up ways of identifying and comprehending the impact of technology in general, and issues of marginalisation and injustice in particular. A pertinent example here is the Algorithmic Justice League,¹ who, through unmasking the racial and gender biases built into various AI products (Buolamwini and Gebru 2018; Raji and Buolamwini 2019), engage in a

range of high-profile advocacy and policy work in the US, for example testifying to the Committee on Oversight and Reform in the House of Representatives concerning the impact of facial recognition and biometric surveillance.

Finally, there is growing interest in not only critiquing the inherent biases and politics of data-driven systems, but also attempting to transform design practices themselves to engage in the ‘dismantling or transforming [of] systems of oppression’ (Costanza-Chock 2019). Contends Costanza-Chock:

the design of AI, or machine learning, is still deeply inequitable. It’s inequitable in terms of: who gets to build it; who the paid AI workers are; who the imagined users are; the goals of the systems; the sites in which we’re building these things; the power relations that these systems support and strengthen; the pedagogy that we’re using to teach the people who are learning how to build these systems in computer science departments around the country and around the world. (Costanza-Chock 2019)

Green critiques the discipline of data science, calling it ‘a form of political action’ (2019: 7) and asking data scientists to view themselves as doing politics through their work, which can make such an impact in people’s daily lives. Green’s depiction is in stark contrast with the insular approach to computer science, where emphasis tends to be placed largely on cohesive design at the expense of considerations of their wider social impact. This notion of ‘design justice’

goes beyond fairness. It entails thinking about the matrix of domination – about intersecting systems of oppression – and what it means to design sociotechnical systems that can transform or overturn these systems, rather than constantly reproducing them in technology, in design, and in machine learning. (Costanza-Chock 2019)

While encompassing a much broader approach to design than simply working with data-driven technologies, the Design Justice Network Principles² offer a tangible set of guidelines for avoiding the kind of biases and marginalisation identified in much of the data justice literature. However, this concern for formalising justice from the outset of

design exists in tension with calls to focus research on lived encounters with data and the everyday experiences of often unpredictable injustice.

In the final section of this chapter, we examine the contribution that the data justice literature has made to our understanding of social justice itself, and ask how this perspective intersects with the praxis-oriented development of RTTC.

JUSTICE IN TIMES OF DATAFICATION

As the previous section discussed, work in data justice is clearly grounded in wider sociological and political critiques of technology; it is oriented towards countering much of the mainstream advocacy and promotion of Big Data, AI and machine learning through centring issues of inequality, discrimination and injustice in public discourse around data-driven technologies. However, in doing so, notions of data justice also offer some productive and pertinent critical commentary on social justice theory itself, and on the general ways in which issues such as fairness, accountability and transparency are discussed in the contemporary context of increasing data governance. Key to this contribution of data justice research is the way in which it draws upon sociological understandings of data and social life, in order to trouble many of the assumptions that tend to underpin prevailing understandings of justice and fairness. Dencik et al. (2018) highlight two principal areas of social justice theory for which the paradigm of datafication provides a pertinent contemporary context: Fraser's concept of 'abnormal justice' (2008), which, rather than attempting to define the fair distribution of resources in society, focuses on the conditions in which the very notion of justice itself is framed; and the work of Amartya Sen (2009) and Iris Marion Young (2011), which foreground the lived experiences of injustice. Across these critical perspectives, Dencik et al. (2018) highlight the ways in which current and pervasive data practices hold particular resonance for understanding social justice differently. For example, the significance of Fraser's work has been to highlight conditions in which 'normal justice' – where 'those who argue about justice share a set of underlying assumptions', and 'contests assume a relatively regular, recognizable shape', and in which justice is constituted 'through a set of organising principles and manifesting a discernible grammar' (2008: 393–4) – fails to occur. Better understood as 'abnormal justice', such scenarios call into question fundamental assumptions about the ontology

of justice, the scope of actors, and the very procedures through which it might be pursued (Fraser 2008). As Dencik et al. (2018) highlight, the omnipresent regimes of data collection and processing, and their fine-grained entanglements with everyday social life, present precisely such abnormalities, where data itself is questioned as a tangible commodity, the extent to which particular groups or populations are disadvantaged is contested, and the routes to claiming or practising justice are opaque.

Once again, work in data justice is a challenge to dominant discourses, this time those in the guise of fairness, privacy and the protection of individual rights, which have tended to characterise broader discussions of the social impact of data-driven technologies. Dencik et al. (2018) specifically question the relevance of more prevalent Rawlsian notions of distributive justice, where the principal focus is to achieve the equitable dissemination of resources in society. As Dencik et al. suggest, the underlying assumptions of distributive justice are 'not enough to question the implications of obscure, unaccountable and interwoven decision making created by datafication' (2018: 4–5), due not only to the abstruse modes through which data-driven systems might identify and categorise populations in ways that result in marginalisation or injustice, but also in relation to the extent to which such processes are traceable and amenable to processes of public scrutiny. In other words, where a notion of fairness underpins the understanding of justice, within which the primary concerns are located in concepts of privacy and the protection of personal rights, assumptions are made about the coherence, agency and permanence of the actors involved, as well as the space in which the very question of justice can be posed and understood. For Dencik et al., the path to understanding such abnormal justice contexts lies in drawing from the work of Sen (2009): to foreground 'social conditions and lived experiences' (Dencik et al. 2018: 4), rather than develop theoretical principles, or indeed assume the fair and unbiased conduct of civic institutions. As such, comprehending the (in)justice of datafied societies comes from examining the struggle between the ways people form their own identities and social groupings, and the pervasive sorting, ordering and categorisation undertaken by often concealed technologies (Terranova 2004), producing automated affinity groups (Gillespie 2014) to which citizens are unknowingly assigned, and with which they are appraised.

Heeks and Renken (2018) also work with social justice concepts to offer new theorisations of justice and human rights in light of datafi-

cation in global development contexts. The authors begin by pursuing three possible theories of data justice based on widespread social justice literature – what they call ‘mainstream’ theories. The first is *instrumental* data justice, which puts a focus on whether the outcome of the use of data is fair and just – here this can mean deploying data in a way that leads to discrimination of those with protected attributes, or to a violation of a subject’s legal rights to privacy and data protection. Second, a *procedural* notion of justice examines the processes of data creation and handling; this valuation places a strong emphasis on whether individuals have consented to the use of their data, or whether stakeholders have any due process over the handling of the data. Third and final, *distributive* justice looks at who controls and accesses the data; this emphasis might ask whether data privacy protections are in place or whether an individual or groups can control their own data representations. Distributive justice would look not only at how fairly data is distributed, but also at whether the benefits of data control are distributed in equitable ways.

Heeks and Renken, however, critique and nuance these ideas by arguing they ignore the social structures that determine, in part, the relationships and data flows under scrutiny in the three mainstream theories. A structural perspective prompts different types of questions, such as ‘[w]hy is access to data maldistributed in the global South? Why is participation in data processes unequally distributed? Why do the benefits of data systems in developing countries include some and exclude others?’ Heeks and Renken’s structural critique shows the limitations of instrumental, procedural and distributive approaches; it focuses instead on the societal conditions shaping data infrastructures and systems – on how society enables the circumstances that shape the creation, exchange and ownership of data. Heeks and Renken draw on Iris Marion Young’s network view of social structure and data assemblage analysis to ask how capitalism or governance regimes produce structural inequalities in developing countries, which in turn bear on the inequitable distribution of data and data rights. The authors also propose a capabilities approach, but one slightly amended from Amartya Sen’s work. From this perspective, data justice for development is not only about fairly distributing data or giving equal access to its control – it would also include fairly distributing the means to achieve with it, along with creating contexts and institutions that enable people to make good use of data and put related protections and rights into place.

Data justice advocates' insistence that we ground social justice claims in structural, political-economic critiques and lived experiences is a clear intersection with the RTTC. RTTC literature, as described above, cannot disentangle theoretical analyses from actual political-economic struggles of urban life. The RTTC must arise from a contingent set of principles that are shaped through ongoing contention and the political articulation of rights in different contexts. In sum, we find that the RTTC is now being reframed and refreshed, yet again, through the rise of urban datafication, and new understandings of justice in light of datafied citizenship is just another illustration of this dialectic that animates both areas of scholarship.

REPOLITICISING DATA FOR THE RIGHT TO THE CITY

This chapter has brought together long-standing interests in 'the right to the city' with emerging calls for 'data justice'; it has highlighted the pressing need to (re)politicise data, particularly in urban contexts where neoliberal ideologies and tech-fuelled entrepreneurial capitalism are at their most acute, but also where citizens might have the greatest opportunities to mobilise tangible community-driven approaches. We suggest that (re)politicising data is both a critical response to the instrumentalist discourses of technological progress and a methodological practice for surfacing issues of injustice, authentic to the lived experiences of communities in the midst of datafication regimes. We have drawn on literature both from RTTC and data justice that argues for recognition of the politics of data (see Ruppert, Isin and Bigo 2017; Bigo, Isin and Ruppert 2019), and for the need to embrace an essential condition of contestation through which data-driven technologies are necessarily developed (Crawford 2016).

Embracing such tensions and contests is precisely where the work of RTTC and data justice intersect: to '(re)politicize data and demonstrate its relevance to social justice issues and advocates' (Dencik et al. 2018). Hintz et al. further suggest such political work as 'a strategy for connecting concerns with data to broader movements for social justice to develop an integrated approach capable of challenging the dominant datafication paradigm' (2019: 152). Political struggle becomes crucial amidst the fog of the common-sense techno-capitalist vision of the future city, where neoliberal forms of data-driven technology are portrayed as not only inevitable, but without rational or feasible

alternatives. The contribution of this chapter is to show how these two theories together take on this challenge, purposefully discounting the certainty of data-driven innovation in the city, offering critical perspectives on the prevailing discourses of efficient, market-led urban futures, and opening up creative and community-centred alternatives.

THE ORIGINS AND STRUCTURE OF THE BOOK

The inspiration, and perceived need, for this book materialised from the editors' experience of organising a week of interdisciplinary events on the theme of data justice, 20–24 May 2019. This programme was funded and supported by the University of Edinburgh's interdisciplinary and civic-facing Edinburgh Futures Institute (EFI), which also generously agreed to support the open-access publication of this book. This book is a product of its environment in the sense that a number of authors not only write from, but also about Edinburgh and urban datafication in Scotland. To the extent that Edinburgh can be viewed as an emerging hub of urban datafication, we, as editors, are accountable to this partial perspective – both the insights that it generates as well as its inevitable blind spots. It is important to state that the University of Edinburgh itself is a powerful player shaping the production of its urban surroundings, through a largely economic narrative that aims to position the region as the 'data capital of Europe'. As academics based at this institution at the time of writing, we are committed to confronting and working through this ambivalent positionality in order to better understand possibilities for intervention. We are also keenly aware of the omissions of this collection and, as such, we view this as a partial and situated form of knowledge, accountable to the manifold mediations and local roots that birthed it.

However, neither is the book solely confined to this local context. The book's contributions have been thematically organised into four sections: the automation of welfare and social services; education; labour; and activism. In each of these sections, we find bold, urgent and diverse analyses of the manifold ways in which data injustices and global struggles over the right to the city intersect: take, for example, AlgorithmWatch's stories of automation in seven cities across the world; Jansen's study of predictive policing in Europe; and Paris et al.'s critical analysis of calls for data transparency in police officer-involved

homicides in the US, following the 2014 police murder of Michael Brown in Ferguson, Missouri. What this book does not offer is a comprehensive overview of the ways in which global concerns about data justice and the right to the city intersect. However, what it does offer is a contribution to ongoing critical praxis in the face of urban datafication. In this spirit, we welcome you to this edited collection.

NOTES

1. Algorithmic Justice League: <https://www.ajlunited.org/>.
2. Design Justice Network Principles: <https://designjustice.org/read-the-principles>.

REFERENCES

- Attoh, K. A. (2011) What kind of right is the right to the city? *Progress in Human Geography*, 35(5), 669–85. doi: 10.1177/0309132510394706.
- Bigo, D., Isin, E. and Ruppert, E. (2019) *Data Politics: Worlds, Subjects, Rights*. London: Routledge.
- Brenner, N., Marcuse, P. and Mayer, M. (2012) Cities for people, not for profit, an introduction. In N. Brenner, P. Marcuse and M. Mayer (eds), *Cities for People, Not for Profit: Critical Urban Theory and the Right to the City*. London: Routledge, pp. 1–10.
- Bria, F. (2020) A new deal for data. In J. McDonnell (ed.), *Economics for the Many*. London: Verso.
- Buolamwini, J. and Gebru, T. (2018) Gender shades: intersectional accuracy disparities in commercial gender classification. In S. A. Friedler and C. Wilson (eds), *Proceedings of Machine Learning Research, vol. 81: Conference on Fairness, Accountability and Transparency*, 23–24 February 2018, New York, USA, pp. 1–15.
- Clarke, J. (2007) ‘It’s not like shopping’: Citizens, consumers and the reform of public services. In M. Bevir and F. Trentmann (eds), *Governance, Consumers and Citizens. Consumption and Public Life*. London: Palgrave Macmillan.
- Costanza-Chock, S. (2019) *Designing AI with Justice*. Public Books. Available at <https://www.publicbooks.org/designing-ai-with-justice/> (last accessed 3 January 2022).
- Crawford, K. (2016) Can an algorithm be agonistic? Ten scenes from life in calculated publics. *Science, Technology, & Human Values*, 41(1), 77–92.
- Crawford, K. and Joler, V. (2018) Anatomy of an AI system. Available at <https://anatomyof.ai/> (last accessed 3 January 2022).
- Dencik, L., Hintz, A. and Cable, J. (2016) Towards data justice? The ambiguo-

- ity of anti-surveillance resistance in political activism. *Big Data & Society* (July–December), 1–12.
- Dencik, L., Jansen, F. and Metcalfe, P. (2018) A conceptual framework for approaching social justice in an age of datafication. Working paper. Available at <https://datajusticeproject.net/wp-content/uploads/sites/30/2018/11/wp-conceptual-framework-datajustice.pdf> (last accessed 3 January 2022).
- Eubanks, V. (2018) *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. New York: St. Martin's Press.
- Fernandes, E. (2007) Constructing the 'right to the city' in Brazil. *Social & Legal Studies*, 16(2), 201–19. doi: 10.1177/0964663907076529.
- Fraser, N. (2005) *Reframing Justice*. Assen: Uitgeverij Van Gorcum.
- Fraser, N. (2008) Abnormal justice. *Critical Inquiry*, 34(3), 393–422.
- Gabrys, J. (2019) Data citizens: how to reinvent rights. In D. Bigo, E. Isin and E. Ruppert (eds), *Data Politics: Worlds, Subjects, Rights*. London: Routledge, pp. 248–66.
- Gillespie, T. (2014) The relevance of algorithms. In T. Gillespie, P. J. Boczkowski and K. A. Foot (eds), *Media Technologies: Essays on Communication, Materiality, and Society*. Cambridge, MA: MIT Press, pp 167–94.
- Green, B. (2019) Data science as political action: grounding data science in a politics of justice. *Computers and Society*, arXiv:1811.03435.
- Han, B.-C. (2017) *Psycho-Politics: Neoliberalism and new Technologies of Power*. London: Verso.
- Harvey, D. (2008) The right to the city. *New Left Review*, 53 (Sept/Oct).
- Harvey, D. (2012) *Rebel Cities: From the Right to the City to the Urban Revolution*. London: Verso.
- Heeks, R., and Renken, J. (2018). Data justice for development: What would it mean? *Information Development*, 34(1), 90–102. doi: 10.1177/0266666916678282.
- Hintz, A., Dencik, L. and Wahl-Jorgensen, K. (2019) *Digital Citizenship in a Datafied Society*. Cambridge: Polity Press.
- Kitchin, R., Cardullo, P. and Di Felicianantonio, C. (2019) Citizenship, justice, and the right to the smart city. In P. Cardullo, C. Di Felicianantonio, and R. Kitchin (eds), *The Right to the Smart City*. Bingley: Emerald.
- Kuymulu, M. B. (2013) 'Right to the city' at a crossroads. *International Journal of Urban and Regional Research*, 37, 923–40. doi: 10.1111/1468-2427.12008.
- Lake, R. W. (2017) Big Data, urban governance, and the ontological politics of hyperindividualism. *Big Data & Society*. doi: 10.1177/2053951716682537.
- Lefebvre, H. (1992) *The Production of Space*. Chichester: John Wiley.
- Lefebvre, H. (1996) *Writings on Cities: Henri Lefebvre*. Selected, translated and introduced by E. Kofman and E. Lebas. Oxford: Blackwell.

- Mayer, M. (2009) The 'right to the city' in the context of shifting mottos of urban social movements. *City*, 13, 362–74. doi: 10.1080/13604810902982755.
- Merrifield, A. (2017) Fifty years on: the right to the city. In Verso Books (ed.), *The Right to the City: A Verso Report*. London: Verso.
- Minton, A. (2017) Who is the city for? In *The Right to the City: A Verso Report*. London: Verso.
- Mitchell, D. (2003) *The Right to the City: Social Justice and the Fight for Public Space*. New York: Guilford Press.
- Mitchell, D. and Heynen, N. (2009) The geography of survival and the right to the city: speculations on surveillance, legal innovation, and the criminalization of intervention. *Urban Geography*, 30(6), 611–32. doi: 10.2747/0272-3638.30.6.611.
- Morozov, E. and Bria, F. (2018) *Rethinking Smart Cities: Democratizing Urban Technology*. New York: Rosa Luxemburg Stiftung. Available at <http://www.rosalux-nyc.org/rethinking-the-smart-city/> (last accessed 3 January 2022).
- Mouffe, C. (2018) *For a Left Populism*. London: Verso.
- Noble, S. U. (2018) *Algorithms of Oppression: How Search Engines Reinforce Racism*. New York: New York University Press.
- O'Neil, C. (2018) *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. London: Penguin.
- Plyushteva, A. (2009) The struggle over public citizenship. *The Urban Reinventors Online Journal*, 3.09, 1–17.
- Purcell, M. (2002) Excavating Lefebvre: the right to the city and its urban politics of the inhabitant. *GeoJournal*, 58, 99–108. <https://doi.org/10.1023/B:GEOJO.0000010829.62237.8f>
- Raji, I. D. and Buolamwini, J. (2019) Actionable auditing: investigating the impact of publicly naming biased performance results of commercial ai products. Association for the Advancement of Artificial Intelligence (www.aaai.org). Available at https://dam-prod.media.mit.edu/x/2019/01/24/AIES-19_paper_223.pdf (last accessed 3 January 2022).
- Ruppert, E., Isin, E. and Bigo, D. (2017) Data politics. *Big Data & Society*. doi: 10.1177/2053951717717749.
- Sen, A. (2009) *The Idea of Justice*. Cambridge, MA: Harvard University Press.
- Shaw, J. and Graham, M. (2017) An informational right to the city? Code, content, control, and the urbanization of information. *Antipode*, 49(4), 907–27. <https://doi.org/10.1111/anti.12312>
- Shillington, L. J. (2013) Right to food, right to the city: household urban agriculture, and socionatural metabolism in Managua, Nicaragua. *Geoforum*, 44, 103–11. doi: 10.1016/j.geoforum.2012.02.006.
- Taylor, L. (2017) What is data justice? The case for connecting digital rights and freedoms globally. *Big Data & Society*, 4. doi: 10.1177/2053951717736335.

- Terranova, T. (2004) *Network Culture: Politics for the Information Age*. London: Pluto Press.
- Weinstein, L. and Ren, X. (2009) The changing right to the city: urban renewal and housing rights in globalizing Shanghai and Mumbai. *City & Community*, 8, 407–32. doi: 10.1111/j.1540-6040.2009.01300.x.
- Williamson, B. (2014) Knowing public services: cross-sector intermediaries and algorithmic governance in public sector reform. *Public Policy and Administration*, 29(4), 292–312. doi: 10.1177/0952076714529139.
- Winner, L. (1980) Do artifacts have politics? *Daedalus*, 109, 121–36.
- Young, I. M. (2011) *Justice and the Politics of Difference*. Princeton, NJ: Princeton University Press.

