

Book Review

Data and the City

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Rob Kitchin, Tracey P. Lauriault and Gavin McArdle

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229 pp.

\$ 142.57

ISBN 978-1-138-22263-2

This timely and insightful book explores and discusses some of the key changes and challenges in this emerging era of data-driven urbanism, associated as it is with the increasingly widespread computation of cities. It has 16 chapters organized into 4 parts: Data-driven cities; Urban data; Urban data technologies; Urban data cultures and power. Each of these chapters provide evidence and ground-breaking insights that may help in the identification of the benefits of data-driven urbanism pointing out ways of reducing its potential negative effects. In the Introduction (“Data and the city”) the editors highlight the main changes and challenges in the current data revolution, associated as it is with big data, open data cultures and practices, volunteered geographic information and the creation of the smart cities.

The first part (“Data-driven cities”), with three chapters, deals with the relationship between data and the city focusing mainly on the creation of real-time cities and data-driven urbanism. In particular, the chapters in this initial section explore and discuss how the increasingly large flows of data impact on and transform city services, infrastructures, urban life and the government of cities. Martijn de Waal in chapter 2 (“A city is not a galaxy: understanding the city through urban data”) examines the production of real-time data and through that the creation of real-time cities, which is followed in the next chapter - “Data about cities: redefining big, recasting small” -, written by Michael Batty, by a discussion of big data in historical context, offering interesting perspectives on the challenges associated with its use. In the third chapter - “Data-driven urbanism” -, Rob Kitchin examines and discusses what he considers to be a new era of data-driven urbanism associated with the new technological possibilities and the rise of data production.

The second part (“Urban Data”), with four chapters, is mainly focused on the nature of urban data, examining and discussing it from different points of view. Chapters included in this section focuses the ways in which urban data is produced within socio-technical systems. In the first - “Crime data and analytics: accounting for crime in the city” -, Teresa Scassa discusses crime data and the new way of accessing and sharing it, and does it from a critical point of view, one that sees crime data as far from neutral and objective. In the next - “Data provenance and possibility: thoughts towards

a provenance schema for urban data” -, following the discussion in Teresa Scassa” chapter, Jim Thatcher and Craig Dalton explore and discuss how issues of data veracity and trust are affected by the wider context in which it is produced and used, arguing that situated contextual factors should also be considered together with traditional metadata. Chapter 7 - “Following data threads” -, by James Merricks White, continues this same kind of reasoning, questioning the nature of data but now focused on data threads, an exercise that Dietmar Offenhuber continues in “Sticky data: context and friction in the use of urban data proxies”, the last chapter in this second section, in which different forms of repurposing data are examined and discussed, in some cases also as proxies for other phenomena.

In the third part of the book (“Urban Data Technologies”), with five chapters, the authors examine and discuss emerging urban data technologies and infrastructures, exploring different and selected issues, from technical and practical ones to political, theoretical and epistemological issues. In chapter 9 - “Urban data and city dashboards: six key issues” - Rob Kitchin and Gavin McArdle examine and discuss city dashboards highlighting numerous conceptual and practical shortcomings. This is followed in chapter 10 - “Sharing and analysing data in smart cities” - in which Pouria Amirian and Anahid Basiri discuss also data platforms but now from a more technical point of view, focusing namely interoperability issues. This more technical perspective is also adopted in chapter 11 - “Blockchain city: economic, social and cognitive ledgers” -, in which Chris Speed, Deborah Maxwell and Larissa Pschetz examine the utility of blockchains to capture social practices. Till Straube in chapter 12 “Situating data infrastructures” and Tracey P. Lauriault in the last chapter of this section “Ontologizing the city” discuss how to make sense of data infrastructures and data driven systems.

The fourth and last section of the book (“Urban Data Cultures and Power”), with three chapters, discusses issues of data culture, data citizens and the role of citizen science. If the previous section dealt primarily with technical issues, this last part considers the social and political configurations of urban data infrastructures and data driven systems. In the first chapter of this section Jo Bates explores issues related to “Data cultures, power and the city”, being followed by the chapter “Where are data citizens?” in which Evelyn Ruppert looks for answers to the question that make up the title of the chapter, and by “Beyond quantification: a role for citizen science and community science in a smart city” in which Mordechai (Muki) Haklay discusses the role of citizens. In common these three last chapters question and discuss data cultures and data power taking into consideration the social and political configurations of urban data, thus offering a perspective far from the one that sees and conceives data as being neutral and objective in nature and serving primarily the public good. In other words, the book explores and discusses, also in this last section, numerous political, ethical, epistemological and normative issues related to the urban data revolution.

In sum, this edited volume with 16 chapters is an excellent contribution to the most needed interdisciplinary debate of the changes and emerging challenges in the field of urban data. The book confronts some facets of the dominant thinking with respect to the current urban data revolution, conveying the idea that it is necessary to ensure that the development and use of the smart city technologies be open to democratic control by the society at large, arguing at the same time, in several chapters across the book, that there are still numerous gaps and biases in our understanding of the current changes in urban data, namely about the citizens that populated these emerging data infrastructures. In the case of trust, a key condition in the development of smart city technologies, these essays offer useful insights on the development of the new urban data platforms, insights from which lessons with potential broader application can certainly be taken. One such lesson should be highlight here: it is mandatory to go beyond the presumed objectivity of data and to explore always its context and circumstances. From the discussions in these essays emerge clearly the idea that data, now as before, is always shaped by legal, institutional and cultural factors, recording certain kinds of information but excluding other, being therefore subjective. In other words, it is imperative to combine the discussion of these emerging complex urban systems and its data infrastructures with other key dimensions, namely political, ethical and normative questions. For all these reasons, this edited volume is a positive contribution for a more critical and reflexive practice in all aspects related

to data issues in the emerging paradigm of smart cities, on the need to improve processes of data sharing between all sorts of organizations and citizens, as well as within these organizations. In this sense, the book accomplished its stated objectives. It does not answer all possible questions in the emerging new field of data-driven urbanism, but it definitely is a serious and important contribution for that. For all these reasons, the book “Data and the City” should be commended to all those working in the field of Urban e-Planning.

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