

Another approach, which is to define large datasets primarily as a technical challenge, was also given only passing reference. From a quantitative geography perspective, Big Data can be defined in terms of the tools that are needed to make sense of them. We acknowledge that in the social sciences, Big Data is used as a catch-all phrase: datasets “that are difficult to analyze using established methods” (Lovelace et al., 2016).

For me the greatest limitation of the book was that it provided little to a nontechnical reader explaining how to actually “do” Big Data. This is a major oversight based on Kitchen’s own insight that open data are only empowering to those who already know how to use it. However, with the parallel revolution of open-source software and the emergence of online communities and software products that make data science accessible to the masses (such as RopenSci and Rstudio), everyday citizens can empower themselves to make sense of the data deluge. I would point people who are interested in processing large datasets toward a list of free data science resources here: <http://datasciencemasters.org/>.

Despite these specific issues surrounding the discussion of Big Data (which should be understood in the context of my worldview, outlined above), the book overall is fantastic. Although Rob Kitchen has written entire papers on many of the topics covered, he does an excellent job avoiding the academic’s curse of going into too much detail at the expense of the Big Picture. And any issues one may have about the coverage of Big Data in the book are more than compensated for by the discussion of data overall. Big Data is after all simply an extension of “small data” (which Kitchen argues cogently should be called “capta” in a fascinating passage), so it is crucial to get to harness these ubiquitous condensed and abstracted chunks of information before trying to tame their comparatively monstrous Big brothers!

The Data Revolution is an elegantly written synthesis of the wider context in which data are becoming to the 21st Century what oil was to the 20th. Too often datasets are seen in purely technical terms. Although technology is crucial for actively participating in the Data Revolution (and I would have liked to have seen more about the open-source communities such as those rapidly coalescing around R and Python), technology without direction is amoral. In summary, *The Data Revolution* can be used as a meta-guidebook for empowering oneself with the conceptual tools needed to understand and use the data flood unfolding worldwide for the greater good.

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Rethinking Global Land Use in an Urban Era, edited by Karen Seto and Anette Reenberg. 2014. Cambridge, Massachusetts: MIT Press. 394+xiv. ISBN: 9780262026901, \$40.00.

The beginning of the 21st century marked a milestone in human history. For the first time, more than half of the world’s population lived in urban areas (3.9 billion). This trend is expected to continue in the foreseeable future with 6.3 billion people living in cities by 2050 (United Nations, 2014). This growth will cause more urban land to be developed during the first 30 years of the 21st century than in all of human history (Angel et al., 2011). Combine this unprecedented urban expansion with global population growth, which is expected to grow from today’s 7.3 to 11.2 billion by 2100 (United Nations, 2015), and we are faced with unprecedented challenges and questions to be asked with respect to land-use in the 21st century. For example, how much living space

will be needed to accommodate this growing population or how much land will be needed to feed such a population? Or how does urban growth in one country impact agricultural production and deforestation in the other parts of the world? To answer these questions, we need to understand the complexity of land competition from social, economic, and environmental perspectives at the local, national, and international levels and the connections between them.

In their edited book, *Rethinking Global Land Use in an Urban Era*, Karen Seto and Anette Reenberg bring together 17 chapters from 50 experts from a variety of fields to explore global land dynamics in the 21st century. The first chapter acts as an introduction and scene-setting to the following chapters: it identifies current trends reshaping land-use locally and globally such as urbanization and the growing integration of economies and markets (e.g., telecoupling, see Seto et al., 2012), but also argues that there is a need to rethink land change science in a time when more and more people are living in cities. Specifically, they argue one should look at land-use through four lenses (which are the major sections in the book): land-use competition; distal land connections; decision making, governance, and institutions; and, finally, urbanization and land-use.

The first section of the book focuses on land-use competition, specifically what types of land-use competition exist (such as forest vs. agriculture or urban vs. agriculture), and discusses how local land-use change is increasingly being caused by global factors (chapter 2). Chapter 3 addresses food security with respect to the growing population and discusses the need for intensification of production. Chapter 4 discusses the issue of finite land resources and competition for land—such as production vs. production (e.g., food vs. fuel) or production vs. conservation (e.g., food production vs. conservation). What is interesting about this chapter is that the competition for land is not just local but also global, due to the growing number of sovereign wealth funds and multinational corporations and the increasing degree of interconnections between places. The section concludes with chapter 5, which offers an in-depth discussion of land-use competition between food production and urban expansion in China, specifically the effects of urbanization on the loss of cultivated land for food production.

The second section of the book explores distal land connections. It opens with a chapter that reviews the globalization of economic flows and the impact of these forces on land-use transitions (i.e., land-use and land-cover change). Chapter 7 introduces applications based on the telecoupling framework to land-change science. It makes a compelling argument for considering not just coupled human–environmental systems (where the focus is on local conditions) but also causes that emanate from distant locations to truly understand land-change. This theme continues in chapter 8, which outlines analytical approaches to study telecoupling, while chapter 9 uses palm oil as a case study of distal land connections. In essence, the consumers of palm oil live far from the source; thus many consumers do not immediately feel the impacts of palm oil production on land-use change.

In the third section of the book, the focus is on decision-making, governance, and institutions. Chapter 10 discusses the emergence of global land governance as a result of land grabbing by foreign investors or governments (see GRAIN, 2008), which is prompting states and global civil society to devise new global land governance instruments, while chapter 11 explores large-scale land (grabbing) transactions with a specific emphasis on the actors and their interactions. Chapter 12 focuses on private market-based regulations (such as the Forest Stewardship Council) and what they mean for land-use governance at the local and international level. The final chapter in this section focuses on changes in land-use governance in an urban era. It discusses how governance mechanisms that manage land-use are changing from territorial organizations to global industries that are tied to specific resource flows between urban and rural areas.

The final section of the book turns to urbanization and land-use. Chapter 14 reviews major contemporary urban patterns and processes related to urbanization, such as central place theory, and shows how advances in technology and infrastructure challenge such established theories. The next chapter discusses how urban land-use is unique in terms of form, size, and shape of cities and asks what will the future hold? Will cities be sprawling or compact? An interesting fact brought up in chapter 15 is that currently less than 5 percent of the earth's surface is urban and with the urban population predicted to grow to 5 billion by 2030, the urban footprint will still be less than 10 percent (Seto et al., 2011). The final chapter in this section proposes a framework that moves away from looking at land as discrete categories but instead as a continuum with respect to sustainable development. The book concludes with a chapter written by the editors, which not only provides a

summary of what was presented, but reemphasizes the interconnected nature of land-use and the need to study future global land change and urbanization from a multidisciplinary perspective.

Overall this is a timely, relevant, and thought-provoking collection of papers which not only explores urbanization and food production using case studies from around the world as well as the connections between cities and distant places, but also lays the foundation for new ways of thinking about land-use sustainability in the coming decades. In my opinion, this book would be a great resource for scholars interested in current state of the art of land-use science and a good textbook for any course exploring land-use and land-cover change in the 21st century.

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Global Entrepreneurship, Institutions and Incentives, by Zoltán J. Ács. 2016. Northampton, Massachusetts: Edward Elgar. 634+xxxiv. ISBN: 9781784718046. \$210.00.

With this edited volume, Zoltán Ács is "closing the books" on the research program "Entrepreneurship, Growth and Public Policy: Prelude to a Knowledge Spillover Theory of Entrepreneurship" that he worked on between 1987 and 2006. The book contains 32 chapters plus an introduction. All chapters except three are co-authored. The total number of co-authors is 35, illustrating his very wide cooperation network. However, some co-authors appear more than once: László Szerb (4 times), Sameeksha Desai, Mark Sanders, Bo Carlsson, David Audretsch, and Pontus Braunerhjelm (3 times), and Utz Weitzel, Lawrence Plummer, Haifeng Qian, Siri Terjesen, and Erkkó Autio (2 times).

It is no easy task to review this volume given its very rich and to a certain degree varied content. The book is organized in six parts and we think that the headings of these six parts give a good overview of the content:

- Part 1 Incentives and the many faces of entrepreneurship*
Part 2 The knowledge spillover theory of entrepreneurship
Part 3 Cities, knowledge and entrepreneurship
Part 4 Countries, institutions and entrepreneurship
Part 5 The entrepreneurial society
Part 6 Institutions, incentives, and public policy