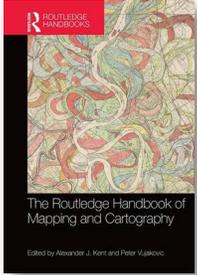


Vasari, Giorgio. 1991. *The Lives of the Artists*, translated by Julia Bondanella and Peter Bondanella. Oxford: Oxford University Press.

Wheeler, Carla. 2018. "The Last Word on Cartography." *ArcWatch* July 2018. Accessed July 23, 2018. <http://www.esri.com/esri-news/arcwatch/0718/last-word-on-cartography>.

THE ROUTLEDGE HANDBOOK OF MAPPING AND CARTOGRAPHY —



Edited by Alexander J. Kent and Peter Vujakovic

Routledge, 2018

618 pages, 283 color illustrations, \$49.46 eBook, \$295.00 hardcover.

ISBN: 978-1-315-73682-2 (eBook);
978-1-138-83102-5 (hardcover)

Review by: Timofey Samsonov, Lomonosov Moscow State University

The Routledge Handbook of Mapping and Cartography has appeared at an interesting time. Cartography is going through a very intensive stage of evolution. More maps are now made by people without any cartographic training than are made by trained cartographers (Griffin, Robinson, and Roth 2017), and although the data have never been precisely tracked, there is evidence that the trend is growing. The current situation is a challenge for cartography because, as Mark Monmonier states in Chapter 40, "once mapping morphed into geospatial technology, the traditional visible map became just another form of geographic information" (540).

The wide availability of easy to use cartographic tools to non-professional mapmakers has, arguably, led cartography to a critical moment in which it must rethink its place in science, industry, and society. Although bookstore shelves are well stocked with beautiful and carefully composed literature on practical cartography (Brewer 2015; Peterson 2015; Field 2018), the most recent comprehensive textbooks on the subject are now almost ten years old (Slocum et al. 2008; Kraak and Ormeling 2010). It seems that the rapid evolution of mapmaking has made the challenge of writing such a volume—one that won't be outdated the day after publication—almost too formidable a task to take on. Almost, it seems, but not quite. *The Routledge Handbook of Mapping and Cartography* is one of the few summarizing, international volumes on cartography to be released in recent years. Densely typeset on six hundred pages, it encompasses a huge amount of information

covering a wide range of theoretical and practical aspects of modern cartography.

The book is composed of six parts, containing a total of forty-three chapters. Part I contains a critical review of some key concepts and paradigms in cartography. Part II expounds major themes in the history of cartography, visualization, and representation in cultural and historic contexts. Parts III and IV are dedicated to an overview of the scientific grounds of modern cartography, revealing its methodological, technological, and practical sides. The chapters in Part V are focused on various social aspects of mapping, and demonstrate how, where, and by whom maps were used in the past and are used today. The final Part, VI, is an attempt to portray some future perspectives for mapping and cartography.

The first eight chapters outline the emergence of cartography as a science and as a social phenomenon. The opening chapter, written by Gyula Pápay, provides a detailed analysis of the impact that German cartographer Max Eckert had on the formation of academic cartography. Eckert is considered to be the founder of cartography as a science, and this chapter contains a critical analysis of his magnum opus *Die Kartenwissenschaft* ("Map Science"), published in two volumes in 1921 and 1925. Since Eckert's book was written in German and never translated into other languages, this chapter contains valuable and unique information about that seminal publication that is not otherwise found in English. Chapter 2, by Christopher Board, discusses the history of communication models in cartography and how they stimulated discourse about differences between mapmaking and cartography, and how they also provoked criticisms that led to the emergence of new paradigms such as geovisualization.

The third (by Amy L. Griffin) and fourth (by Corné P. J. M. van Elzakker and Kristien Ooms) chapters are centered on the map user—the ways in which they perceive, interpret, and apply maps for their purposes. The history of research on visual perception and cognition outlined in

the third chapter shows not only how the investigation of these difficult topics evolved from trial-and-error-based approaches to more systematic ones, but how even systematic approaches are constrained by difficulties of analysis—for example, eye tracking—and of predicting a user’s interpretation. This topic naturally spills over into the fourth chapter, which shows that rigorous, multi-stage research on map use contains many components that must each be given careful attention.

The fifth chapter was written by Matthew H. Edney, and is dedicated to map history. It is, however, not a recounting of the history of cartography, but rather a lesson about how to study this history in a productive way. It describes a variety of modes in which mapping activities happen, and shows how these modes are formed by unique combinations of spatial knowledge, technologies, and social institutions. Chapter 6 (Chris Perkins on critical cartography) stresses the thought that maps are neither value-free nor neutral, but instead reflect the interests of dominant groups. This broad understanding of mapping is facilitated by viewing it through the prism of social contexts, an approach pioneered in the seminal works of Brian Harley.

The first part of the *Handbook* concludes with Chapters 7 (“Mapping as Performance”) and 8 (“The Map as Spectacle”), that respectively explore the qualities of mapping as an intellectual and artistic process, and the ability of a cartographic image to both affect the reader and to serve someone else’s interests. In the former, Joe Gerlach stresses the generative, emergent, and political qualities of mapping, while in the latter, Peter Vujakovic traces the spectacular properties of Baroque cartography. During that period, powerful elites maintained their traditional positions by mobilizing the technologies of modernity and using maps as a form of a social control. Their will was projected on map readers through a spectacle of fear that implied potential threats, reported incidents, and displayed the ability of the state to project force—all ways of control that can be seen through twenty-first-century cartography, too.

The second part of the book provides an overview of the development of cartography from Medieval Europe to the end of the twentieth century. Peter Barber and Catherine Delano-Smith explore the age of medieval mapping—including mappae mundi and early maps in books, on walls, and on separate sheets, as well as the development of world and regional maps—in Chapter 9. In the next

chapter, Radu Leca explores cartography in the Age of Discovery by exposing the inconsistencies of approaching the early world based on Eurocentric geopolitical narrative constructs, and shows us the necessity of decentring those narratives. Leca also discusses how maps function as centering devices integral to the sharing of geographic knowledge in a given cultural context.

Chapters 11 and 12, by Matthew H. Edney, are interconnected, and together present the history of understanding, conceptualizing, and measuring the geographic (as opposed to the geophysical or political) world at various scales. The earlier chapter explores what he sees as the three modes or stages of mapping—space, place, and territorial—progressing chronologically as knowledge about the world grows through more productive refinements in surveying. The latter chapter is focused on surveying itself—revealing the origins and development of systematic surveys, beginning with the French and British triangulations. Part II ends with Chapter 13 on “Cartographies of War and Peace” by Timothy Barney, which investigates the role of mapping in the politics of second half of the twentieth century, mainly in the context of World War II and the Cold War. It highlights the fact that during this period propagandized news maps became one of the major means of manipulating masses of people.

Part III of the *Routledge Handbook* is dedicated to the methodological and technological basis of modern cartography. It contains seven chapters (from 14 through 20) that discuss: geodetic reference and coordinate systems (by Miljenko Lapaine), map projections (E. Lynn User), photogrammetry and remote sensing (Stuart Granshaw), geographic information systems (Paul A. Longley and James A. Cheshire), global positioning systems (Martin Davis), mobile mapping (Martin Davis, again), and finally, neocartography and OpenStreetMap (Steve Chilton). Unlike Parts I and II of the book, this part covers a range of topics that commonly pertain to practical cartographic work and map production. Its discussions are also more observational than analytical, and represent the current state of development of each technology, although the chapters on geographic information systems and neocartography are more focused on revealing their impact and influence on cartography than on a thorough observation of underlying technologies.

Part IV is dedicated to cartographic design and consists of eight chapters. The topics include an introduction to

map design (by Giles Darkes), cartographic aesthetics (Alexander J. Kent), layout, balance, and visual hierarchy (Christopher Wesson), colour in cartography (Mary Spence), lettering and labelling (Christopher Wesson), designing maps for print (Judith Tyner), internet mapping (Ian Muehlenhaus), and maps and atlases for schools (Stephen Scoffham). The chapters in this part of the book, like those in Part III, generally summarize the accumulated knowledge and current research agenda of their various topics, but they change focus from the underlying technological foundations of cartography to its forward-facing, human-oriented aspects—those tied to aesthetics, cognition, and to general graphic design principles. Most of these chapters are observational, except for the chapter on cartographic aesthetics, which is written in a discursive style.

Part V unveils the wide range of map use scenarios to be found in modern society. It is the largest part of the book, and includes eleven topics with content balanced between critical analysis and overview. It begins with Chapter 29, a discussion by Denis Wood of individual visions of place and their reproduction in a form of map, and the next three chapters show how this mapped vision can be used as a powerful tool of manipulation. Chapter 30 focuses on the notion of identity, with Alexander J. Kent and Peter Vujakovic showing how maps play a role in forming or reaffirming national, regional, and local identities and explaining how this is achieved. In Chapter 31, by Guntram H. Herb, the narrative leaves the topic of identity and flows into a discussion of the political power of maps. Geopolitical maps, the author states, use misleading design tricks to falsify the truth and are characterized by deception and limited information. Judith Tyner closes this group of chapters with a discussion of persuasive map design: that is, the design of maps that are able to change or in some way influence the reader's opinion. She shows that persuasiveness incarnates in four major forms: authoritative, understated, propagandist, and sensationalist.

Attention shifts next to three diverse usages of maps. In Chapter 33 Peter Thomas roots the history of schematic mapping in the quantitative revolution of the 1960s. He highlights the learning function of schematic maps and describes how the underlying concepts of choremes and chorotypes can be used to link general spatial theories with particular spatial contexts. The following chapter, on cartography and the news, was written by Peter Vujakovic, and explores journalistic mapping and its significance in

this current period of geopolitical and environmental uncertainty. Vujakovic reminds us that we live in a map-immersed world, and that personal geographies are largely shaped by what we see in news. Chapter 35, by Vyrion Antoniou, Cristina Capineri, and Muki Haklay, overviews various aspects of volunteered geographic information—its representation in the form of data and maps and its influential role on the work of national mapping agencies, on citizen life and science, and on emerging new cartographic activities. “Maps and Imagination” by Peter Vujakovic and “Gaming Maps and Virtual Worlds” by Alison Gazzard (Chapters 36 and 39) explore how maps are used to create landscapes in literature and in computer games. In both, maps serve similar functions—helping to increase the immersiveness of the spatial experience during reading/playing, acting as an integral component of the story or as a supplementary source of information about it, or even as the canvas upon which the story unfolds. Chapter 37, by Kate McLean, touches the untouchable: it is devoted to mapping the invisible and the ephemeral, and presents the particular experiences encountered in mapping smells in urban environments. In Chapter 38, Inge Panneels discusses mapping in art: how and why artists use maps and mapping and where this trend of map use is heading. The artistic side of map use manifests itself in various incarnations such as earthworks, the undisciplining of cartography, and the emergence of art-geography, as well as in the visualization of complex global data and in critical and/or experimental cartography.

The final part of the book (Part VI) consists of four chapters that suggest some possible future developments in cartography. In Chapter 40, Mark Monmonier presents his hunches and hopes on the impact and evolution of digital trends in cartography—focusing mainly on various uses of geographic information in current and future society. Chapter 41 by Danny Dorling (“Can a Map Change the World?”) is dedicated to the image of a world that is produced by maps. The question of who will produce maps in the future, and how these people should be educated, is discussed in “Educating Tomorrow's Cartographers” (Chapter 42) by Beata Medynska-Gulij. This final part of the book ends with a short and intimately personal note from William Cartwright, who presents his own story on how manual map drawing was irreversibly replaced with automated technologies.

The editors of *The Routledge Handbook of Mapping and Cartography* claim that the goal of this book is to provide a

starting point for further research, innovation, and discovery, rather than to cover all facets of mapping and cartography or to deal with any of these themes comprehensively (2). Thus, this book is primarily motivated by the range and diversity of approaches to mapping and cartography that have resulted from transformations to its theory and practice arising from the rich conceptual and technological developments that have occurred in recent decades. It does this by situating these innovations in cartography's historical context, and by demonstrating how that context is reimagined through the innovations. In my opinion, one of this book's major contributions is that it brings a wide variety of rarely discussed and unusual topics to the public—providing a deep vision of cartography not only as a science and practice, but also as a social phenomenon. I have, myself, taken twenty-eight pages of notes in the course of reading this book—notes taken not only for the purpose of writing this review, but also as memoranda of the information I feel is new, and important to improving my competence in cartography.

The parts and chapters of the book are logically arranged in the order of chronological and methodological precedence—Part V, for example, “takes the finished map as the point of departure” (4) for its constituent chapters. The wide context that the book embraces requires some chapters to be more theoretical in nature, while other chapters reflect the practical side of cartography. Unlike traditional textbooks, which represent the state of contemporary science in a declarative manner, the current volume contains a very significant fraction of chapters expounding the various authors' critical opinions on the topics they discuss. This approach fits in very well with this volume's target audience of advanced-level undergraduate and graduate students.

However, since not all of the chapters are focused on critical analysis, the book looks somewhat variegated. Stylistic diversity produces a large fracture in the book's canvas right in the middle of the narrative. In particular, Parts III and IV break the critical mood established at the beginning of the book by providing only commonly known information about the foundations of cartography and map design, and they are immediately followed by chapters that return to critical analysis. My first impulse was to tear these parts out and place them into a separate book. I feel strongly that critical discussion on each topic, rather than simple observation, would provide more a valuable,

provoking, and homogeneous output, while serving the future-oriented goals of the current volume much better.

I was also somewhat disappointed by the appearance of the book, which does not have a feel of a modern effort on cartography—it contains a lot of old, manually drawn maps, and it is typeset in old-style Bembo font (which is, by the way, much too small and is very hard to read). Even the image on the front cover is an old geological map, as if *The Routledge Handbook of Mapping and Cartography* is a book about the old era of manual cartography. The *Handbook's* unfortunate layout looks boring and outdated, masking its aim to motivate modern researchers to push the boundary of a mapping science. Why, too, one wonders, has the topic of automation, clearly essential for future developments in cartography, not merited attention in the book? Surely, it deserves at least a separate chapter.

Not all of the component parts of the book are easy to understand—especially difficult are those focused on social aspects and on unusual interpretations of cartography. For example, the three concluding chapters of the first part (covering, respectively, critical cartography, mapping as performance, and mapping as spectacle) were hard to follow, and I was not able to understand quite everything in the chapter on mapping as performance. I surmise, however, that there are some subjective overtones in this, since I was never strong in literary criticism, or on humanist thinking and writing. If, like me, you are accustomed to looking at cartography from geographic and technical points of view, you, too, will probably experience problems in reading chapters like these. Be prepared to wade through the thorns!

The Routledge Handbook of Mapping and Cartography is a solid, scholarly contribution that presents cartography as a faceted discipline with a rich history, diverse present, and multipath future. The book does not get far beyond Anglo-American cartography—twenty-two of the forty-two authors are from the United Kingdom, and eight are from United States—which makes it somewhat one-sided, but does not diminish its scientific value. While the editors and authors were not concerned with covering all aspects of cartography, they came pretty close to that in the theoretical chapters. The total coverage of material is impressive, but many presentational factors, including the cramped typesetting and stylistic diversity, can make this hard to see. It pays to be patient and unhurried in your reading.

In my opinion this book will be most interesting to those readers that already have some practical experience in cartography and want to expand their understanding of the origins of that practice and the power of the map as an instrument that sculpts our mental image of the space, place, territory, and, ultimately, the entire world.

I would like to sincerely thank the editors of *Cartographic Perspectives* for their valuable comments on this review, which helped to greatly improve its logic and wording.

REFERENCES

Brewer, Cynthia A. 2015. *Designing Better Maps: A Guide for GIS Users, 2nd Edition*. Redlands, CA: Esri Press.

Field, Kenneth. 2018. *Cartography*. Redlands, CA: Esri Press.

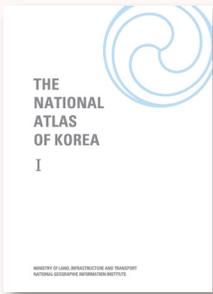
Griffin, Amy L., Anthony C. Robinson, and Robert E. Roth. 2017. "Envisioning the Future of Cartographic Research." *International Journal of Cartography* 3 (Sup. 1): 1–8. doi: [10.1080/23729333.2017.1316466](https://doi.org/10.1080/23729333.2017.1316466).

Kraak, Menno-Jan, and Ferjan Ormeling. 2010. *Cartography: Visualization of Spatial Data, 3rd Edition*. London: Pearson Education.

Peterson, Gretchen. 2015. *GIS Cartography: A Guide to Effective Map Design, 2nd Edition*. Boca Raton, FL: CRC Press.

Slocum, Terry A., Robert B. McMaster, Fritz C. Kessler, and Hugh H. Howard. 2008. *Thematic Cartography and Geovisualization, 3rd Edition*. New York: Prentice Hall.

THE NATIONAL ATLAS OF KOREA, VOLUME I: NATIONAL TERRITORY



Edited by Jeong-Rock Lee, Jungjae Park, Taesoo Lee, and Jongnam Choi

Ministry of Land, Infrastructure, and Transport; and National Geographic Information Institute, Republic of Korea, 2014

170 pages, color maps, color photos, charts, and other illustrations. Free online; see "Obtaining this Atlas," below.

ISBN: 978-8-9856-8230-5

Review by: Aimée C. Quinn, Central Washington University

I was very excited to read about the production of a new five-part national atlas, and I have not been disappointed by this first volume of *The National Atlas of Korea*, devoted to the Republic of Korea's history, government, culture, and socioeconomics. Beautifully bound in boards covered with dark blue cloth, with the Korean title imprinted on the endpapers, fewer than ten numbered pages in this 170-page atlas do not include some kind of color map, photo, or other image. This work, made in the grand tradition of national atlases, harnesses new technologies like GIS and data mining to illustrate the dynamic growth of Korea and to display its dramatic societal and territorial changes. The volume begins with a Foreword by the Republic of Korea's Minister of Land, Infrastructure, and Transport

(MLIT), and a Preface written by the Director General of the National Geographic Information Institute (NGII). These two agencies are responsible for the production of the *National Atlas*. Four pages are given over to a detailed Table of Contents, which is followed by a two-page satellite image of Korea. The volume's last pages reference the photographic sources and copyrights. In between this fore and aft matter is the meat of the atlas, divided into four overall sections: "Territory," "Government and Local Autonomy," "Transformation and Development of the Land," and "Korea in the World." As a government publications librarian, I regularly see and read works presenting the viewpoints of United States federal and state government bodies, and one reason I wanted to read this atlas was to learn more about this country through the eyes of its people and their government. One note about the text: the editors frequently refer their country as "Korea." Several of the maps show the entire peninsula with the Republic of Korea highlighted while the Democratic People's Republic of Korea is contrasted in a solid, lighter color and without any geographic or geocoded features.

This edition thoroughly revises and updates the 2007 version of the national atlas, which was itself a revision of the original 1989 edition. Each of these earlier editions are of interest in their own right, as was the 2009 concise edition, but none were as comprehensive a project as this