

# Collecting to the Core — Critical Cartography

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**Column Editor's Note:** The "Collecting to the Core" column highlights monographic works that are essential to the academic library within a particular discipline, inspired by the *Resources for College Libraries* bibliography (online at <http://www.rclweb.net>). In each essay, subject specialists introduce and explain the classic titles and topics that continue to remain relevant to the undergraduate curriculum and library collection. Disciplinary trends may shift, but some classics never go out of style. — AD

Maps represent human understanding of the physical world and serve as historical records of how those representations and perceptions have changed over time. Also, people love maps, as I witness every day when users access the **American Geographical Society Library** and directly experience the geography, art, history, and beauty presented on a single 24x36 piece of paper. Maps can elicit incredibly evocative responses from users, who find themselves lost in the rich images and information. When I point out some critiques of the information as it is represented — that one country appears larger than another when in reality it isn't, or that the color red is meant to evoke a certain emotion, the user's relationship with the map shifts, as one begins to think about how the information is presented, rather than approaching the map as a piece of art or a historical document. It is problematic when individuals view maps uncritically, allowing the data and visual representations provided to serve as fact, when they often are not the whole truth. Since the mid-1990s there has been dramatic growth in the popularity of maps and other cartographic visualizations, fostered by Web technology developments, cheaper computing systems, and more accessible software programs. As technology has expanded, so has the ability for anyone with access to information and map-making tools to develop maps, increasing the prevalence of maps in our everyday lives — on television during the election cycle, in Web-based infographics, through the widespread adoption of map apps on smartphones, and in the academic research of scholars in fields ranging from religious studies to biology — and additionally increasing the need for critical map-reading skills. Given this growth, it is timely to discuss foundational monographs that question the content and meanings embedded in cartographic representations. This essay focuses on four works that embrace a critical approach to reading maps: **Arthur Robinson's** *The Nature of Maps*, **Mark Monmonier's** *How to Lie with Maps*, **Denis Wood's** *The Power of Maps*, and **Alan MacEachren's** *How Maps Work*.

A discussion of cartographic analysis, or "critical cartography," as it is known within the academic discipline, must begin with **Arthur Robinson**. A longtime member of the **Department of Geography at the University of Wisconsin-Madison**, Robinson played a leading role in the development of cartography as a field of study. In his early career, he served as director of the map division for the **Office of Strategic Services** during the **Second World War**. This work led him to argue for the formulation of standards for map design, which could prevent the often erroneous usage of and representations in maps. In 1976 he cowrote with **Barbara Bartz Petchenik** *The Nature of Maps*, in which he discusses at length "some of the human cognitive characteristics that lead to an understanding of mapping as one of man's basic forms of knowing and communicating."<sup>1</sup> Until the late 1960s and early 1970s, the study of cartography dealt primarily with the production and design of maps, with very little research on users' consumption and perceptions of maps. **Robinson** quotes a **Czech** author as saying, in a discussion on the state of current cartographic thought, "in other words, the map user is expected to submit, more or less, to the cartographer's conditions." This theory that the cartographer creates a product to be accepted without question is one that **Robinson** and **Petchenik's** work rebuffs, in part by coining the term "map percipient."

A map percipient is a viewer to whom the map will convey information. The emergence of this term and its definition was radical in that it acknowledged that the map percipient played a role in the interpretation of a map and could question the information presented. The most important chapters in this book discuss how maps function as a communication system and compare the author-reader relationship with that of the cartographer-percipient, making an argument that there are essential differences between these communication systems and emphasizing how maps can, and should, be questioned by users.

Following the publication of *The Nature of Maps*, the scholarly debate around maps' designs, values, and representations grew and the field of critical cartography was cemented as a subdiscipline. Critical cartography addresses the power hierarchies and biases inherent in visual representations and embraces the idea that geographic knowledge equals power; if

you have knowledge about your surroundings, you have the power to represent and possibly manipulate the space. Historically, mapmaking was once concentrated in the dominant, Western, state-based world powers — England, France, Germany, and the United States. It was also embedded in major cartographic companies like **Rand McNally**, the **National Geographic Society**, and even major oil companies. In 1991, **Mark Monmonier** authored *How to Lie with Maps*, the first book to introduce critical map-reading skills to a wider audience.<sup>2</sup> Written in a less formal and more popular tone, *How to Lie with Maps* effectively explains how maps can distort reality and "tell lies." As **Monmonier** writes in the introduction, "I want to make readers aware that maps...are also subject to distortions arising from ignorance, greed, ideological blindness, or malice." Despite being written for a broad audience, *How to Lie with Maps* quickly became, and continues to be, an essential read for undergraduate students of cartography and geography because **Monmonier** clearly illustrates how maps can be used for political propaganda and corporate advertising, and how even the simple use of color can impact a map's meaning. *How to Lie with Maps* was published in a second edition in 1996 with the addition of two new chapters, one of which addresses the growing use and manipulation of maps using computers and multimedia tools.

Shortly after the publication of *How to Lie with Maps*, **Denis Wood** expanded on **Monmonier's** critical arguments in *The Power of Maps*, a highly theoretical and philosophical academic monograph.<sup>3</sup> **Wood** radically argues that maps communicate nothingness as much as something real. In other words, what they don't show (by omission) is as illustrative as what they do show. He proposes that maps are not simply pretty pictures, but powerful tools which represent the cartographer's construction of information. *The Power of Maps* depicts how maps are used as tools that serve the interests of those who produce them, be it an individual cartographer, a corporation, or a government or other social or political entity. The emphasis that maps work by serving interests highlights **Wood's** thesis regarding the inherent bias of these visual tools. **Wood** recently revisited

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this topic in his 2010 work *Rethinking the Power of Maps*.<sup>4</sup>

In 1995, Alan MacEachren wrote *How Maps Work: Representation, Visualization, and Design*.<sup>5</sup> *How Maps Work* is the most comprehensive of the monographs discussed in this essay, and a book which Monmonier calls a *tour de force* for academic cartography. In over 500 pages, MacEachren presents a deep cognitive-semiotic discussion of cartography, proving that to fully understand maps and how they work individuals need to know the many divergent ways in which maps can represent information. MacEachren departs from Robinson and Monmonier's depictions of the map as a communication tool and argues that it is through semiotics and symbols that users perceive and understand cartographic representations. He also addresses the then-nascent field of geovisualization and how its tools and technologies change maps from presentation tools into a "thinking-knowledge construction process" that relies on human interaction and exploration for knowledge creation. MacEachren pioneered writing about geovisualization and how it would affect the ways in which many academic disciplines consume and analyze information. Nearly twenty years

old, this book is every bit as relevant today as at its first publication.

Each of these books represents a foundational work in the field of critical cartography and helps highlight the evolution of map analysis. They all belong in the core collection of any academic library supporting programs in geography and any other discipline that relies on maps and other geographic visualization models to represent data in teaching and research. 🐾

#### Endnotes

1. Robinson, Arthur H., and Barbara Bartz Petchenik. *The Nature of Maps*. Chicago, IL: University of Chicago Press, 1976.\*
2. Monmonier, Mark. *How to Lie with Maps*. 2nd ed. Chicago, IL: University of Chicago Press, 1996.\*
3. Wood, Denis. *The Power of Maps*. New York, NY: Guilford Press, 1992.\*
4. Wood, Denis. *Rethinking the Power of Maps*. New York, NY: Guilford Press, 2010.
5. MacEachren, Alan M. *How Maps Work: Representation, Visualization, and Design*. New York, NY: Guilford Press, 1995.\*

\*Editor's note: An asterisk (\*) denotes a title selected for *Resources for College Libraries*.

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## Issues in Vendor/Library Relations — Indianapolis

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Today we have a lot of ways not to travel to meetings, once you add up teleconference, Webcast, Webex, Webinar, E-forums, video chatting, all for "live" meetings, or podcasts and streaming video for after the fact. Soon I'll have one more, since the company I work for, Ingram, plans to install videoconferencing, another way to save on the travel time, travel costs, and general wear and tear of actually going somewhere to talk to people. I am sure there will be many meeting occasions when we'll be thankful for the chance to stay put.

On the other hand, we'll probably feel a little cheated now and then, since as most people who travel in their jobs would tell you, it's all worth it, sometimes at least. One thing lost, in an untraveled meeting, is the transition period, that zone when you're not at home, not at work, not there yet. You're on the way, maybe all by yourself, and maybe these in-between times are your only chance to be out of reach for a little while, your best opening to take a stab at organizing your thoughts. As miserable an experience as getting there can be, as any frequent flyer knows all too well, there are times it feels like a ration of grace.

As a heartland city, you can drive to Indianapolis from lots of places, Columbus or Chicago in three hours, St. Louis or Detroit in

four or five, Pittsburgh in six, Kansas City or even from Atlanta in eight. For me, the drive to attend this year's meeting of the **Association of College and Research Libraries** was five hours, due north on I-65 from Nashville. Signs for the National Corvette Museum in Bowling Green are always my marker for having left Tennessee and entered Kentucky, where the next couple of hours or so are through wooded hills whose underlying limestone, visible at a couple of highway blasting sites, accounts for some of the world's largest caves, and those roadside signs announcing Hidden River Cave, Horse Cave, Kentucky Down Under, and the most famous of these geological attractions, Mammoth Cave.

There's also Dinosaur World, in Cave City, whose ambassador is a giant T-Rex menacing the highway, and further on, signs for the **Abraham Lincoln Birthplace**, for Fort Knox, and then for the Kentucky Bourbon Trail and its distillery highlights Maker's Mark and Jim Beam. By then, the land has opened up, the Blue Grass Parkway would take you east toward Lexington, and soon you are upon the headquarters of the UPS cargo aircraft fleet,

adjacent to Louisville Airport and larger in its own right than many passenger airports, and a few minutes from there the Ohio River bridge crossing, Louisville behind you and the straight, flat homestretch before your first view of the Oz-like Indianapolis skyline, maybe two hours ahead.



According to *USA Today* that morning, companies are planning on more convention and business travel this year, loosening policies from the recession. So I was part of a trend in my five-hour drive, along with some 2,000 librarians who each had made their own trip to Indianapolis. The first librarian I recognized was a library school professor whose class I had spoken to a couple of times. She was there to give a poster session and had a tube slung over her shoulder. She wasn't sure how the class would run this coming year, she told me, since the entire program was going online. Classes would no longer meet in person. Maybe she'd ask me to put on a Web presentation. She'd figure something out. In any case, library education, apparently, was heading in a different direction than business travel.

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