## Preface

On behalf of my colleagues in the History of Cartography Project and the staff at the University of Chicago Press, I welcome you to Cartography in the Twentieth Century, which is volume 6 in the History of Cartography, initiated in 1977 by J. B. Harley and David Woodward. The series is intended as a reference work of first resort: a starting point for answering questions about a particular map, a mapmaker, a mapmaking activity, or a mode of mapping and map use. Unlike early volumes in the series, each consisting of a relatively small number of long essays, volume 6 is organized as an encyclopedia, which is not only more convenient for the user eager to ferret out facts but the only way that we, as editors, could cope effectively with both the changing economics of specialized reference publishing and the explosion of cartographic activity that began with the European Enlightenment in the mid-seventeenth century and saw an unprecedented acceleration after 1900. Each of the final three volumes in the series is an authoritative reference work as complete as possible within its individual budget of a million words and a thousand illustrations. The encyclopedic format allowed us to enlist a broad range of experts and to structure more than five hundred clear, concise summaries of basic knowledge for ready and efficient access by scholars, students, map collectors, and interested lay users. Although our primary goal of "getting the facts right" left less room for interpretation, selecting a meaningful set of "facts" was itself an exercise in collaborative interpretation that was simultaneously systematic and subjective. The inevitable gaps—which we hope will be viewed as intriguing questions for further research—are far fewer than if we had relied on the long-essays approach of volumes 1, 2, and 3.

Because users of an encyclopedia like ours should understand how the facts were assembled, I have kept this preface short, aside from our necessarily extensive acknowledgments, so that nearly everything that should be said about its gestation and development appears in the introduction, immediately following, and in the "Brief Processual History of Volume 6," at the back of part 2; both should repay even a cursory reading. There the user will learn why we have unavoidably stretched the boundaries of mapping and map use, why the lens

of mapping and map use as a process nicely complements a detailed examination of mapmaking technology, and why we sidestepped unknowable famous firsts and gratuitous assumptions about the map's prowess in leveraging public discourse. The introduction's discussion of how we designed and developed this collection of alphabetically arranged articles will, we hope, stimulate wider and deeper scholarly interest in the history of cartography—particularly for mapping and map use in the twentieth century, which is no less intriguing than earlier eras better appreciated by historians and map collectors. The "Processual History," as its name implies, describes the implementation of principles laid out in the introduction; as a concise account of a process that was neither straightforward nor predictable, it demonstrates the value of collective action in capturing the history of an involved network of technologies and institutions.

I have many people to thank for their help and support at various stages and in diverse ways. Foremost is the late David Woodward, who cofounded the History of Cartography Project with J. B. Harley, fostered my emerging interest in historical scholarship in the early 1980s, and was an inspiring collaborator during the Exploratory Essays Initiative (EEI) and our early work on volume 6. David was a committed scholar and a superb friend. He is missed more than words can say.

After David's death in 2004, his successor as director of the History of Cartography Project, Matthew Edney, became a valued supporter as overseer of the Madison office, primary liaison with the University of Chicago Press, and convener of the twice-yearly editors' meetings, in Madison, at which he and Mary Pedley, with whom he coedited volume 4, contributed numerous insights on map history and the conceptual underpinnings of a historical encyclopedia.

This is an appropriate point to acknowledge the contributions of Linda Halvorson, reference editorial director at the Press when David, after much deliberation and more than a little angst, adopted the encyclopedia format. Linda coached Matthew, Mary, and me in implementation of HICCs (hierarchically integrated conceptual clusters, discussed in the introduction) and the development of tables of contents for volumes 4 and 6.

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I vividly recall numerous telephone conversations and emails in which Linda imposed a systematic structuring of entry terms and guided development of the lengthy prospectus that was essential for Press approval. Paul Schellinger, who served as reference editorial director from fall 2007 through mid-2013, also strongly supported volume 6, most notably by agreeing to full-color illustrations throughout the volume, in marked contrast to the limited number of color plates in previous volumes. Starting in April 2009, Paul actively participated on the second day of each of our semiannual editors' meetings. Linda was ably assisted by Chris Rhodes and Paul by Jenny Gavacs. After his departure we were in the care of the very able senior project editor Mary Laur, who had worked on various aspects of the *History of* Cartography for the previous decade and a half. Working closely with Mary were assistant editor Abby Collier and, later, editorial associate Logan Ryan Smith. Senior manuscript editor Michael Koplow gave the volume thorough and insightful treatment, and it was a pleasure to work with the Press's design and production staff, especially assistant design manager Michael Brehm and senior production controller Joseph Claude.

I am especially indebted to the Project's long-term managing editor, Jude Leimer, who has orchestrated fact and reference checking for the *History* since volume 1, and who took on this vital role for volume 6 when I began sending approved entries to Madison in 2006. Jude made certain that the first encyclopedic volume carried forward the *History*'s high standards for reliability and stylistic consistency, and provided valuable advice on the development of cross-reference lists for each entry. Unlike her earlier work on the long-essay volumes, which involved comparatively few chapter authors, the encyclopedia structure necessitated queries to hundreds of contributors. Assisting Jude in the complex task of fact and reference checking and careful line editing were graduate assistants Jennifer Martin and Jed Woodworth, who had joined the Project for volume 3 in 2002, and Paul Hansen, who replaced Jed in 2012. Jude also coordinated a coterie of expert translators—Claudia Asch, Kimberly Coulter, Eric Goddard, Diane Howard, Marina Luskutova, Barbara Marshment, Jeremy Scott, Shawna Woodworth, and Nadine Zimmerli-and consulted with Sarah Bennett, Fei Du, and Jason Morgan, on the transliteration of references in Russian, Chinese, and Japanese, respectively. Though many of our non-Anglophone contributors are competent in English, we nonetheless encouraged them to write in their native language.

Jude was also an active participant in our semiannual editors' meetings, along with project manager Beth Freundlich, who has coordinated the Project's financial, data management, fund-raising, and outreach activities in Madison since 1996; Beth was particularly helpful when we began to recruit contributors, coordinate their contracts with the Press, and monitor their progress. She set up and maintained a database management system that has served all three encyclopedic volumes. Assisting her in database design and maintenance were offcampus consultants Judah Bloom, Alison Glass, Theresa Hudacheck, Duane Maas, and Mark Slosarek. At various times Beth also coordinated the work of Jan Manser, Renee Raines, Teresita Reed, and Paul Tierney, who served the Madison office as financial specialists or office administrators, and supervised student clerical or library assistants Catlin Doran, Fernando Gonzalez, Joel Longsdorf, and Stephen Wyman.

In the year following David's death, Jim Burt, then chair of the Geography Department at the University of Wisconsin–Madison, served as interim director of the Project. The University of Wisconsin–Madison Advisory Board for the History of Cartography, comprising associate deans from the College of Letters & Science and the Graduate School along with several UW faculty, provided valuable advocacy and advice within the institution.

Roger Kain became a regular and valued participant at our editorial meetings in 2008, when Matthew appointed him editor for volume 5. Rosalind Woodward played a role in the meeting weekends, as well. She had hosted potluck suppers for Project personnel and supporters since the 1980s and continued this tradition, making each Saturday evening gathering a muchanticipated culmination of our intensive two-day strategy sessions.

I also acknowledge the skill and devotion of long-term illustrations editor Dana Freiburger, who procured illustrations, secured permissions to publish them, obtained and cropped scanned images as needed, worked with Jude and me in editing captions, and prepared image materials for transmittal to the Press. Dana's skill as a creative problem solver included technical support that kept the Madison office running and working with information technology specialists Suzanne Harris and Jay Scholz in the Geography Department to provide secure off-site network access for Matthew, Mary, Roger, and me as well as our associate and assistant editors. Steven Dast (UW-Madison Memorial Library), Jaime Stoltenberg (map and GIS librarian, Arthur H. Robinson Map Library), and Thomas Tews and Paddy Rourke (geography librarian and assistant librarian, respectively, UW-Madison Geography Library) gave generously of their time and experience and provided ready access to their respective collections, maps, and scanning equipment.

Cartographic artwork for the volume was expertly prepared by the UW-Madison Cartography Laboratory, which continued its tradition of in-kind support Preface xxiii

to the Project. The expertise and devotion of assistant director Tanya Buckingham and cartographers Isabelle Broad, Vanessa Knoppke-Wetzel, and Chloe Quinn, who worked on maps and diagrams for volume 6, are gratefully acknowledged.

In Syracuse numerous student assistants worked on volume 6 from 1998 onward. Ellen Daniels Holm assisted with bibliographic work that predated the EEI, and for short periods between 1999 and 2003 Peter Yurkoski, David Call, Rebecca Carlson, Ahmed Saad, Molly Schmelzle, Kate Krezel, and Karen Culcasi worked on the EEI. Karen, who was my graduate research assistant for volume 6 in 2004-5, completed a Ph.D. with me in 2008, and wrote three entries. Georgina Perks, Aman Luthra, Karissa Stay, Claudia Asch, Jeremy Bryson, and Effie Davidson Scott also served as graduate research assistants, and undergraduate Alexis Kinney worked on the project one summer. Claudia's involvement is particularly noteworthy: in addition to serving as my graduate assistant for four years—interrupted by dissertation fieldwork in Mexico—she wrote or cowrote three entries, translated numerous others from German and Spanish, and was particularly adept at tracking down errant contributors and persuading them to complete their entries. Claudia later became research assistant for volume 5.

Syracuse colleagues supported volume 6 in diverse ways. Michael Wasylenko, senior associate dean in the Maxwell School of Citizenship and Public Affairs, arranged for two years of assistantship funding during a time when our federal grant support was severely strained; Joseph Stoll, staff cartographer in SU's Geography Department, was a sympathetic confidant who also contributed three entries; David Stam, an old friend of David Woodward's and librarian emeritus at SU, was a fount of wisdom and understanding; Chris Chapman and Margie Johnson in the Geography Department office helped me cope with a range of departmental and university tasks; the Maxwell School IT staff (notably Brian von Knoblauch, Mike Forentino, Edward Godwin, Mike Cavallaro, and Stan Ziemba) provided expert guidance and timely troubleshooting; university reference librarians John Olson and Elizabeth Wallace were helpful in the diverse ways good librarians usually are; and Christina Leigh Deitz in the Maxwell School and Trish Lowney and Caroline McMullin in the Office of Sponsored Programs offered helpful advice on funding sources and reporting requirements.

A project this large would have been impossible without external funding. Among the donors listed on the financial support pages at the beginning of this book, the National Science Foundation, which awarded a threeyear grant for the EEI and a pair of back-to-back five-year grants, deserves special mention. I particularly appreciate the enthusiastic guidance of our program officers in the NSF's programs in Science, Technology, and Society and in Geography and Spatial Sciences. In addition, the National Endowment for the Humanities funded a three-day planning conference, hosted by the Library of Congress in October 1997, that marked the effective start of work on volume 6, and the Gladys Krieble Delmas Foundation helped us cover specific funding needs in 2007 and again in 2011. The UW-Madison Graduate School, College of Letters & Science, and Department of Geography provided steady institutional and financial support for work on volume 6 and Project management, with the assistance of the UW Foundation's Chris Glueck.

The technical expertise, editorial skills, and enthusiasm for the *History* of my associate editors (with whom I share the title page) helped increase the pace at which I could move volume 6 forward. I also want to thank our advisors (listed facing the volume title page) and our contributors (listed on pages v–viii), whose roles in volume 6 are at once obvious and central. Let me indicate special appreciation of the late Ingrid Kretschmer and Peter Collier. As an advisor to both the EEI and volume 6, Ingrid was especially helpful in recruiting German-speaking contributors, and she also wrote nine entries. Peter, who was an EEI participant and a most active volume 6 advisor and associate editor, also provided us, as author or coauthor, with more entries (twenty-six) than any other contributor.

Finally, I thank my wife Margaret and daughter Jo for the loving forbearance and understanding resignation essential when a Big Book project like volume 6 becomes an element of family life. And my parents, John and Martha Monmonier, to whom I dedicated *Technological Transition in Cartography*, deserve an encore.

Mark Monmonier DeWitt, New York May 2013