

# THE HISTORY OF CARTOGRAPHY

## National Topographical Mapping

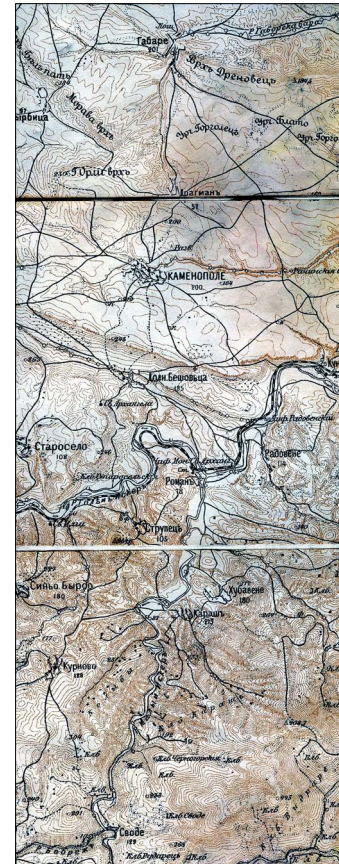
Volume Five, *Cartography in the Nineteenth Century*, covers a cartographically turbulent time. The century was marked by the increasing adoption of maps as fundamental instruments of politics and administration, the proliferation of thematic mapping within the social and natural sciences (in academia and in government), the development of property mapping, the rise of railroad mapping, and the contribution of lithography to making cheap maps available to all levels of society.

Amidst all this turmoil, the ascent of national topographical surveys stands out as especially important. National, territorial surveys spread after 1790 and grew into large, multifaceted mapping agencies such as the Ordnance Survey in Great Britain, the U.S. Geological Survey, and the Service géographique de l'Armée in France. These systematic surveys shaped a new understanding of the nature of maps and mapmaking that was captured after 1825 by the neologism, “cartography.” We literally could not have a history of cartography in the nineteenth century without the systematic surveys!

*Cartography in the Nineteenth Century* explores the many aspects of these surveys. The technical and scientific

foundations of topographical mapping are studied in entries on triangulation, theodolites, base-line measurement, terrestrial photogrammetry, and statistical methods to manage error in geodetic surveys. Other entries trace individual surveys; as their administrative utility expanded, they grew from limited military surveys into permanent government agencies. Their intricate histories show that politicians and treasuries resisted the growth in the name of economy. Volume Five’s entries discuss how territorial maps were used not only by senior political and military officers but also by lower-level bureaucrats as tools for understanding their countries. Furthermore, geographers turned the surveys into countless smaller-scale reference maps. The great territorial surveys may seem like monuments of science and rigor, but when we study them in detail they come alive as thoroughly human endeavors, full of all the ideals and foibles of humanity.

Professor Matthew Edney explores the topic in an illustrated essay about national surveys as a foundation of modern cartography. Visit us online: [geography.wisc.edu/histcart/2025-extras](http://geography.wisc.edu/histcart/2025-extras)



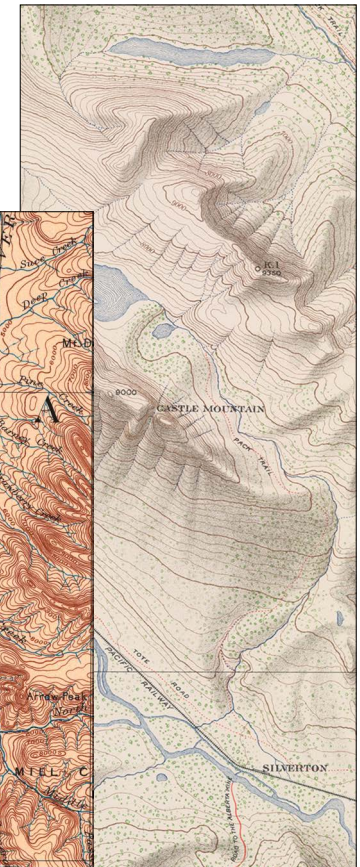
Detail of Russian map of western Bulgaria: Dubnik, sheet V-4, at 1:126,000 (after 1878). Image courtesy of Peter Collier.

Illustrated in Volume Five in Peter Collier, “Topographical Mapping in the Ottoman Empire and Middle East.”



Detail of Joseph P. Iddings and Walter H. Weed, *Topography*, at 1:250,000, from the *Geologic Atlas of the United States: Livingston Folio, Montana* (U.S. Geological Survey, 1894). Size of the original: 55 × 47 cm. Image courtesy of the U.S. Geological Survey, Denver.

Illustrated in Volume Five in Lynn Usury, “U.S. Geological Survey.”



Detail of James Joseph McArthur, *Castle Mountain Sheet of the Topographical Survey of the Rocky Mountains*, at 1:40,000 (Ottawa: Topographical Surveys Branch, Department of the Interior, 1890). Size of the original: 47.1 × 35.3 cm.

Image courtesy of Library and Archives Canada, Ottawa (Online MIKAN no. 3775471 [Item 7]).

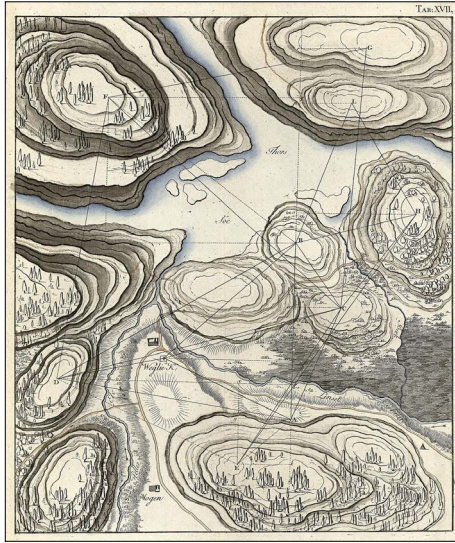
Illustrated in Volume Five in Jason Grek-Martin, “Topographical Mapping in Canada.”

## Cartography in the Nineteenth Century

eds. Roger J. P. Kain and Judith A. Leimer (forthcoming in 2027)

Volume Five of *The History of Cartography* provides an unparalleled account of the formation of modern mapping in an era of industry and empire, revolution and nationalism. With 411 entries, one million words, and 1,055 full-color images, the volume investigates the dramatic changes and innovations that surrounded maps and mapping activities during the nineteenth century.

Publication of Volume Five in 2027 will fill the gap between Volumes Four and Six (on the eighteenth and twentieth centuries) and complete the landmark *History of Cartography* series. Readers will be able to follow new narratives connecting the volumes from prehistory to the twentieth century, tracing how different kinds of mapping have developed over time and across cultures. It will be possible to see how the tension between inertia and creativity played out in the development of cartography, from property mapping to geographical mapping. Readers will develop their own insights into the art and science of mapmaking, the use of maps within imperial and state bureaucracies, and the adoption and adaptation of Western mapping practices by non-Western peoples.

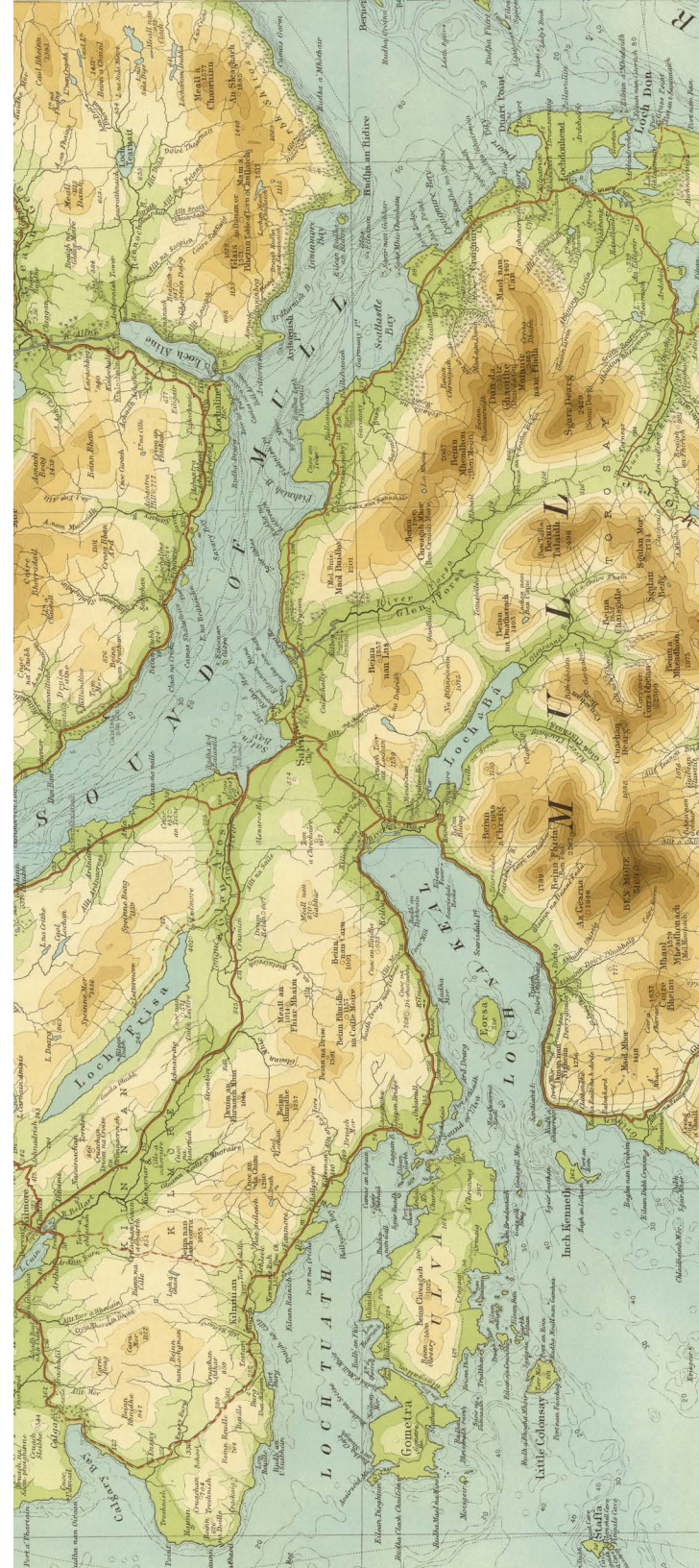


Jørgen Henrik Rawert, *Forelæsninger over den geometriske trigonometriske og militaire landmaaling tilligemed nivelleringen*, at 1:10,000 (Copenhagen: Sebastian Popp, 1793), pl. 17, Size of the original: 23.4 × 20 cm. Image courtesy of Det Kgl. Bibliotek; The Royal Danish Library, Copenhagen (DA 1.–2.S 18 4°).

Illustrated in Volume Five in Michael Jones and Venke Åsheim Olsen, “Topographical Mapping in the Nordic Countries.”

### Thank you!

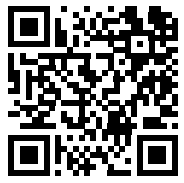
We sincerely appreciate the significant financial support provided by the Wisconsin Alumni Research Foundation, through the University of Wisconsin-Madison Office of the Vice Chancellor for Research, and by the UW-Madison College of Letters and Science. We are grateful to NEH and NSF, which provided major financial backing, and of course to you—our generous donors!



### THE HISTORY OF CARTOGRAPHY

Detail of *Mull, &c.*, new series, sheet 10, of Bartholomew's “*Half-Inch to Mile*” *Map of Scotland* (Edinburgh, 1899).

Image courtesy of the National Library of Scotland, Edinburgh. Illustrated in Volume Five, *Cartography in the Nineteenth Century* (forthcoming 2027). Learn more: [geography.wisc.edu/histcart](http://geography.wisc.edu/histcart)



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Print pages 2–3 double-sided and cut along the dotted line to create a topographical bookmark!

December 2025

Dear Friends:

I have great news! The careful copyediting of Volume Five, *Cartography in the Nineteenth Century*, is now underway, and our small editorial team is working closely with an excellent production team at the University of Chicago Press.

Volume Five identifies several map genres that exemplify the attributes of nineteenth-century cartography: one of these is the rise of the national topographical survey. I have chosen this phenomenon as a focus for our newsletter. Indeed, *The History of Cartography* is itself a comprehensive, systematic, and detailed survey of the history of maps and mapping. It is a detailed guide to the subject that fosters new insights about maps and their significance in and across all cultures.

We have an urgent need for private gifts to see the series through publication. Federal and foundation funding opportunities are scarce. May I count on your support? Make a gift online:

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Thank you!

Sincerely,



Matthew Edney  
Project Director

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