

appropriately sets it aside from the information on basic principles. A new appendix with reviews of five software packages has been added and separate boxed descriptions are distributed through the chapters that focus on symbolization. I would like to suggest a similar treatment of manual production techniques in these chapters (for example, the discussion of cross-screening in the chapter on choropleth mapping should be boxed).

The text is enhanced with new appendices and supplements. In addition to the new appendix of software reviews, an appendix has been added on defining constants for the 1983 State Plane Coordinate System. The appendix on census definitions and sources has undergone major revisions. The text is also sold with two supplements: *Maps and More, Your Guide to Census Bureau Geography* (a 16-page booklet published by the U.S. Bureau of the Census) and *Map Projections* (a poster from the U.S. Geological Survey). One disadvantage is that students that purchase used copies of their texts do not usually receive the supplements and, thus, it is awkward for the instructor to assign them as readings unless they require that the student obtain these items separately from the Census Bureau and the Geological Survey.

One overall negative impression is that the text is sometimes too wordy. For example, the introduction contains too many definitions that are of tangential relevance. They are not wrong, but they are not important to teaching cartography (example: "geographic cartographer" is not a necessary distinction). Likewise, the discussion of the communication model is obfuscated by distinctions between map author, map designer, and cartographer and distinctions between map reader, map viewer, map user, and map percipient. Students new to

cartography will miss key concepts as they wade through the excess subtlety. This overly defined terminology is particularly unconvincing because the author does not stick with these distinctions in the remainder of the text and reverts to standard usage.

In summary, the third edition of *Cartography: Thematic Map Design* is an excellent text for introductory cartography courses that emphasize thematic mapping. It is well written and contains detailed explanations of the nuts and bolts of thematic symbolization techniques. It is also suitable for courses on advanced map design that include color use, typography, and production techniques. Dent's text is comprehensive and accurate, and it allows students to master both the analytical and aesthetic challenges of mapping quantitative data. □

## BOOK REVIEW

### *The Cadastral Map In The Service of The State: A History of Property Mapping*

Roger J.P. Kain and Elizabeth Baigent. Chicago & London: The University of Chicago Press, 1992. 423 + xix pp., maps, appendix, notes. \$49.95 cloth. (ISBN 0-226-42261-5).

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In *The Cadastral Map in the Service of the State*, Roger Kain and Elizabeth Baigent present a survey of the diverse forms and uses of state cadastral mapping throughout three centuries of history. Acknowledging that a cadaster may be defined generally as any

property map, Kain and Baigent focus their study specifically on state and public property mapping as an activity apart from private cadastral mapping.

Initially, Roger Kain became curious about cadastral history while writing *Tithe Surveys of England and Wales* (Cambridge: Cambridge University Press, 1985) with Hugh Prince. As a result, he spend over five years conducting research with Elizabeth Baigent to write this new book. The two authors frame their inquiry in the context of Mark Bloch's work on cadasters in the 1930s. They note that although their research, like Bloch's, is concerned with rural cadastral mapping, they maintain a different purpose to their inquiry. Whereas Bloch looked to cadasters "as sources for reconstructing the past rural histories of European countries," Kain and Baigent define the context of their book to be "concerned with the relationships between cadastral mapping and contemporary society: we view cadastral maps as instruments for effecting state policies with respect to landed property and for exerting political and economic control over land." The authors do not examine urban cadasters in this book because of the difference in purpose and use from rural mapping, however, they note that they are in the process of constructing a similar history of urban cadastral mapping.

The story of the cadaster is the story of the state's representation of property when such representation is perceived to be a useful vehicle for power. Beyond this broad purpose, the uses to which cadastral maps have been put are diverse, and it is this diversity of use which the authors seek to analyze. The volume is divided into nine chapters which systematically examine the development of cadasters in different regions of the world between 1607-1907.



In the first chapter, Kain and Baigent provide a chronological overview of cadastral traditions, beginning in antiquity. Following a decline in property mapping in favor of the deed during the medieval period, the cadaster returned in the fifteenth century in the form of private estate mapping. Private use developed into public and ultimately state use during the sixteenth and seventeenth centuries. Though the strength of property mapping was first perceived to be in its ability to record tax information, the maps were soon used for storing other kinds of information relating to state control of property.

Chapters Two through Seven examine, consecutively, the cadastral surveys of the Northern and Southern Netherlands; Sweden, Denmark, and Norway; Germany, the Austrian Habsburgs; France; and England and Wales. Each state mapping project is distinguished by the century in which cadasters flourished or declined, the scale of the surveys, and the political contexts in which each project arose. For example, in Chapter Two the authors point to the strong, early cadastral tradition of the Dutch polder maps in the seventeenth century. The need for property maps was particularly strong in the "polder" areas of Northern Netherlands, where flooding from the sea necessitated the construction of polders and dikes. Additional factors creating a strong environment for cadastral development were the high value of arable land, the rise of capitalist agriculture, and a high population density.

By contrast, in Norway, Sweden, and Denmark, Kain and Baigent focus on monarchical power as the primary factor responsible for the rise of cadasters. Particularly in Denmark, monarchy required maps for centralization and dissemination of power, and for generation of tax

revenues.

The chapter on Germany has particular importance as the first published study of cadastral material of the German region. Citing the strong tendency of German geographical literature to focus on the local region rather than on more nationalistic studies, the authors have compiled diverse source material to create a well researched, initial effort in this area. The result is a story in which military conflict figures as the primary context in which cadastral mapping arose. The need for further research work on German cadastral traditions is emphasized by the volume's Appendix, "A regional guide to German cadastral literature."

In Chapter Six, the French cadastral map is framed by the eighteenth century debate over tax reform, and the need for graphic documentation illustrating the relations between individual taxation and individual property. The impetus towards a national survey was epitomized by the "cadastre parcellaire," conceived by Napoleon as "a natural adjustment in matters of land ownership to the new legal code of post-revolutionary France." Taxation also motivated the mapping projects of England and Wales, although this was not to occur until the nineteenth century with the Tithe Commutation Act of 1836. After a history of ambivalence towards the graphic image in matters of property documentation, the English and Welsh created a "high point of Western cadastral achievement."

In Chapter Eight, the history of cadastral mapping is examined as a tool of colonialism in North America, Australia, New Zealand, and India. The authors compare two classes of colonial maps, those drafted prior to settlement, and those drafted after settlement. In addition, they discuss the relative uses to which the surveying

techniques of rectangulation, triangulation, and metes and bounds were put.

In the final chapter, the themes of colonial history are pursued more formally, and in greater detail. Kain and Baigent look independently at how the maps were used for the purposes of reclamation, resources management, enclosure, colonization, and taxation. Clearly presented, the themes offer a useful guide for approaching the maps as a linked body of work.

The organization of Kain and Baigent's book makes it ideally suited for reading comparative histories of cartography. The story of each cadastral tradition may be read individually, or as part of broader, cross-cultural themes in cartography. There is a great deal of cross-referencing, encouraging the reader to look backwards and forwards in the text.

The volume contains plentiful reproductions of the maps, with accompanying locator maps which establish geographic and chronological contexts. It is the look of these half-toned reproductions which is perhaps, initially, the most compelling aspect of the book for anyone browsing its pages. The diversity of cadastral forms is awesome, ranging from the painted forests of Norwegian property maps, to the grand coats of arms of Dutch polder maps, to the cool lithography of Austria's Franciscan cadaster. The spectrum of materials, typographies, and patterns all serve to lead the reader into the text to discover the motivations and methods behind the graphics.

Also striking is the interdisciplinary magnitude of writing cadastral history. The breadth of extant research is enormous. Each chapter of regional history carries its own list of acknowledgments—this book is the result of the research efforts of many people. The scope of cartographic material