

disappointing (partly because this atlas was published prior to Hurricane Andrew). The map for hurricanes consists of dots along the coastline showing where hurricanes made landfall. Two other maps on hurricane preparedness (one on evacuation time and the other on the flood zone for a 100-year storm surge) appear in the Infrastructure and Planning section of the atlas. Neither section, however, references the other in the text, leaving it to the reader to rely on the index to find all the information on hurricanes. Similarly, the information on storm surges is located in three areas: 'Tides' has a map of the 100-year storm-tide zone for the state (p. 34), 'Hurricanes' has a diagram of a storm surge (p. 57), and 'Hurricane Preparedness' has a storm surge map for the southern part of the state (p. 259). In this case, the topic 'storm surge' is not even indexed.

The *Atlas of Florida* illustrates some of the best use and worst abuse of colored photographs. In an atlas one expects the photographs to illustrate and enrich geographic patterns. The only topic where this is done is 'Ecosystems' where photographs are accompanied by a map showing the extent of an ecosystem, such as salt marshes, and some text summarizing substrate, topography, vegetation, fauna, processes, and human impacts. The photographs for 'Landforms' and 'Cultural Landscapes' have no explicit ties to regions on maps. The photographs for 'Architecture,' 'Drama, Dance, and Music,' and 'Attractions' are linked by points on their respective maps. No maps are included with the color photographs for art museums, public arts programs, and folk arts. In addition, black and white portraits of all the governors of Florida and photographs of the

state capitol seem out of place in the atlas. In general the editors might have been more judicious in their use of photographs.

The atlas maps, however, are clear and concise. Choropleth maps comprise the majority of the statistical maps and are classified with Jenks' Optimal method into five classes. This is a good choice for presenting the information. Rigid adherence to this method, however, hinders the portrayal of a time series on population density, and the maps of recreational facilities and visitor accommodations. The use of varying numbers of classes and unequal intervals makes it difficult to compare the geographic patterns between maps in a time series. If one color had been used on all the maps to consistently represent the state mean for each time period then Jenks' method might work for a time series. Another type of problem arises with the recreation facility and visitor accommodation maps where counties having zero rooms are placed in the same class as those with 2,000 rooms. The flexibility of a modified or alternative method of classification would improve some of these maps.

Florida State University is to be commended for embarking on a second atlas within seven years of completing the first one. It is a major organizational feat to produce such a comprehensive atlas involving two editors, two cartographers, nineteen contributors, and an additional atlas staff of eleven. That it was completed in such a timely fashion, shortly after the 1990 census was tabulated, is to be applauded. This atlas should be in all reference libraries and should be found in offices, homes, schools, and local libraries throughout the state of Florida. At \$39.95 the Atlas is a bargain!

BOOK REVIEW

Monarchs, Ministers, and Maps: The Emergence of Cartography as a Tool of Government in Early Modern Europe

David Buisseret, ed. Chicago: University of Chicago Press for the Hermon Dunlap Smith Center for the History of Cartography, The Newberry Library, 1992. 189+xii pp, 8 color plates, 75 halftones, maps, ills. \$45.00 hardcover. (ISBN 0-226-07987-2).

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The Kenneth J. Nebenzahl, Jr., Lectures in the History of Cartography have long been key events in the fields of both cartography and history. This book is the long-awaited publication of the lectures of the eighth series of those lectures (1985) which examined a fundamental yet hitherto neglected episode of European history: the early development of state mapping before about 1700. Such an original excursion cannot hope to be comprehensive in its coverage. Instead, this book presents a series of reflections upon six countries and regions: the Italian states, England, France, the Spanish and Austrian Habsburgs, and Poland.

The logical starting point for this collection, considering their general cartographic precocity, is with the Italian states. John Marino presents the results of his sampling of the state archives, particularly of Naples, and finds a curious anomaly. Despite the many active commercial cartographers of the early sixteenth century, archival maps are encountered sporadically before the 1560s. Venice seems to have been the only state to use maps before 1500. Subsequently, map use in all the Italian

states seems to have been restricted to new or reformed agencies within each state's administration. That is, map use only flourished in those offices which were not bureaucratically bound to pre-cartographic practices.

Peter Barber follows with two lengthy chapters on the situation in England, one to 1550, the second to 1625. The high quality of access to the English state papers results in a splendid discussion of map use which is thoroughly supported by documentary material. Barber is particularly taken by the generational changes in royal ministers and the replacement of older groups by younger, more cartographically literate administrators. The first shift occurred in the 1520s when power passed to men born after 1480 and who came to maturity just as Ptolemy's *Geography* was fresh off the presses; the result was an increase in the number of maps used in the ceremonial, business, and private lives of English statesmen. Barber traces the increasing sophistication of Henry VIII's cartographic enthusiasm, especially through the quizzing of architects for his large palace and fortifications projects. On the other hand, map use was not so common as to have caused many maps to result from the estate surveys following the dissolution of church property after 1534.

Barber's second generational shift occurred in the 1550s, with another increase in the level of cartographic appreciation; for example, the newer ministers "came to expect a greater precision in maps than had their predecessors" (p. 58). Map use was broadened in society generally; the state employed more English map makers rather than French or Italian émigrés; printed maps became common, but being cheaper and more plentiful than manuscript maps, they were used

more roughly and so relatively few survive. The third generational change occurred in the 1580s and 1590s, shortly preceding James I's 1603 accession from Elizabeth. Elizabeth seems never to have grasped the full potential of Saxton's and subsequent topographic mapping; James certainly did and he presided over a thorough naturalization of maps within the state apparatus.

Chapter Four, by David Buisseret, covers the use of maps by the French state before Louis XIV's and Colbert's 1663 reform of the administration of the country, the point where Josef Konvitz began in his *Cartography in France* (1987). French state mapping seems to have originated through France's military interests in Italy (1494-1559) which led to a very close encounter with northern Italian military mapping. Thereafter state mapping broadened to include fortification mapping and regional surveys (especially of border provinces). Buisseret's attention is directed to the commissioning of maps and surveys by individual monarchs and their chief ministers, whose attitudes to maps are assumed to be characteristic of that of the French bureaucracy as a whole (an assumption explicitly stated on p. 118). This is not necessarily a valid extrapolation, so that Buisseret ultimately fails in his implied purpose of explaining the French state's high degree of cartographic sophistication which was so evident after 1700. But Buisseret is not to blame; the history of the more bureaucratic mapping is clearly hindered by a lack of surviving documentation.

The question of surviving source material is of immense importance in the case of mapping under the Spanish Habsburgs, the topic of Geoffrey Parker's essay. The surviving record is copious, but it is clear that it represents merely a fraction of the original

materials, after losses not only to the usual ravages of time and fashion but also to the conscious habit of secrecy-minded ministers to periodically destroy whole categories of maps. Parker pays particular attention to the general-purpose surveys—made with and without map—undertaken of Spain and Portugal and to more special-purpose military maps, specifically those produced in support of the Armada (1588) and of the campaigns of the duke of Alba in and around the Low Countries (1568-73). This essay ends differently from the others, because Parker discerns a decrease in Spanish mapping activities (new surveys) after the 1570s.

Following Parker's essay is James Vann's on the Austrian Habsburgs. Unfortunately, Vann died shortly after the lectures and so the essay appears here with little editing and with no notes. It will nonetheless be essential reading for anyone interested in the cartographic self-representation of the early modern state, an issue sidestepped by the other contributors. Vann relates the form of maps commissioned by the Habsburg princes to their political mentality; general maps were made only of Germany, to which the Habsburgs laid claim as Holy Roman Emperors; the maps of the family territories were all 'local studies,' restricted to each individual lordship tied to the Habsburgs not by conquest or national affinity but solely by dynastic loyalty. It is not until the 1700s, with the end of the Spanish line and the rise of Prussia, that the Austrian Habsburgs embarked upon a campaign to create a modern state—a single political entity—and although that campaign failed, the cartographic result was the *Josefinische Aufnahme* (1763-87), the first single map of all Habsburg territories.

The final, brief essay by Michael Mikos describes the surveys

commissioned by the Polish monarchs in the sixteenth and eighteenth centuries. In style and content, especially with respect to the weakness of the monarchy and its effect on mapping, Mikos does not really advance beyond Karol Buczek's *History of Polish Cartography from the 15th to the 18th Century* (English translation, 1966).

All seven chapters present a similar chronological sequence in map use within each state, from occasional instances before the middle of the sixteenth century—sufficiently unusual to be worth comment by contemporary administrators—to the thorough naturalization of maps by the later 1600s so that their use disappears from the written record so that we can only discern cartographic activity from the maps themselves. Further comparison is difficult because each author has interpreted the topic differently. Marino, Barber, and Parker tend towards map use by the bureaucracy of each state; Buisseret, Vann, Mikos, and Barber (also focus on map use (generally for military purposes) by the monarchs themselves. The first group are interested in 'special-purpose,' or dedicated mapping as part of the daily administration, mapping which does not necessarily require new surveys and data collection (and which might account for the apparent decline in map use in Spain, as Parker's gauge was the lack of new surveys). This special-purpose mapping is quite different from the more general-purpose maps of the second group, of whom only Vann makes the explicit caution that "an interest in geography must be distinguished from a systematic use of or dependence upon maps as instruments of national statecraft" (p. 157). Much of the information tendered by these authors falls in the category of general map appreciation rather than explicit map use; as a result they (excepting Vann)

appear to promote a rather old-fashioned view of the state as the person of the monarch rather than as a larger and more complex social institution. Clearly, there is much work yet to be done on the cartographic angle to the formation of the modern European state.

There are three other important themes which feature in several of the essays: the transition from a manuscript to a printed cartographic culture and the related conflict between map utility and map secrecy; the various forms of patronage and commission whereby the state supported mapping activities; and, the interconnections between the mapping activities of the different states. The precise manifestation of each of these is, however, contingent upon the internal constitution of the different states, so that they encourage little comparison.

The variation in essay content is reflected in the provision of illustrations; there seems to be an inverse relationship between the number of maps reproduced and the number of footnotes in each chapter. Barber's two chapters especially cry out for more illustration. More positively, the illustrations themselves—8 color and 84 monochrome—are of high quality and very few have been so reduced in size as to be hard to read.

In sum, this book is an important and significant 'first try' at understanding a fundamental episode of cartographic history. It has its problems but it nonetheless deserves a wide readership among geographers, cartographers, and historians (especially the chapters by Barber and Vann). It will feature in the cartographic literature for some time, yet it points the way to its own obsolescence: it questions more than it answers, it stimulates more than it satisfies. I look forward to the new research and the new books that will certainly follow.

cartography bulletin board

KNOXVILLE AND KNOX COUNTY, TENNESSEE: A Case Study in Postscript Large-Format Desktop Mapping

by Will Fontanez
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The University of Tennessee Cartographic Services Laboratory began its move from traditional photomechanical techniques to postscript desktop mapping approximately four years ago. This move was completely influenced by the valuable advice and information shared at annual NACIS meetings. Hopefully this article will give some help to cartography labs just beginning to use desktop mapping for the production of large-format (greater than tabloid size) projects.

For some time, large-format mapping on microcomputers has been hindered by software page size limitations, user inexperience, and the high cost and limited size of imagesetter negative output. Recent updated versions of software and advances in imagesetter technology have made it easier and less expensive to produce negatives for large, high quality four-color maps up to about 29" x 44". By combining sets of these large negatives, it is possible and economical to produce even larger maps.

The project reported on here consisted of the design and production of a 62" x 52" four-color wall map of Knox County, Tennessee, along with a 60-page 10" x 14" companion street atlas. All cartographic work was done using Aldus FreeHand on Macintosh II and IIci computers with at least