Reflections on the Development of
Wisconsin's PAST AND PRESENT:
A HISTORICAL ATLAS

By Zoltán Grossman
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 (pages based on double-spaced text)

INTRODUCTION

History and purpose. In July 1996, six Madison-area cartographers began discussing a proposal for a historical atlas of Wisconsin. The mapmakers were part of the newly formed Wisconsin Cartographers' Guild, and had spent much of their professional careers developing historical maps for encyclopedias and educational curriculum. For years, Wisconsin cartographers, geographers and historians had discussed the possibility of developing such an atlas, which had not been produced in Wisconsin since 1878. Guild members saw the state's approaching 1998 Sesquicentennial celebration as an ideal opportunity to make the longstanding dream a reality.

In 1997, the Guild secured The University of Wisconsin Press as the book's publisher, and won a grant from the Wisconsin Sesquicentennial Commission to cover half of the Guild's development costs. Guild members Marily Crews-Nelson, Laura Exner, Michael Gallagher, Zoltán Grossman, Amelia Janes and Jeffry Maas undertook the project on separate Macintosh computers. They met weekly to make decisions, and carried out the research, text writing, map production, and layout as a team. The Guild set up a group of outside experts to guide the work, and consulting editors to review every aspect of the work.

The Guild promoted its Atlas as an educational resource that would last beyond the celebration of the state's 150th birthday, and interest students and the general public in further studying Wisconsin history. In the process of developing the proposal and starting the project, Guild members faced a myriad of questions that any project team would face in producing a historical atlas of a state or province. They also faced a variety of dilemmas specific to the portrayal of Wisconsin's rich and diverse history.

Questions. First, as in any publishing project, Guild members had to specify the audience of the book. What were previous works on Wisconsin history, and how would the Guild distinguish its project from these works in both form and substance? They also had to study other examples of historical atlases on North American history, and draw lessons from the strengths and shortcomings of previous works. How could a new historical atlas could both make history come alive for the audience, and yet provide an accurate reference tool for students and teachers? How could the non-academic project team strike a balance between public accessibility and scholarly approval?

Second, the cartographers had to make decisions on the format of the presentation and the work process to develop the atlas. How would the cartographers balance graphic and textual elements necessary to communicate historical information, and submit them for editorial examination—all within a time span necessary to publish the book in the Sesquicentennial year? How would they cooperate amongst each other in sharing the skills, resources and technology necessary to complete the project, and navigate the wide variety of historical resources available to them?

Third, the project team needed to make critical decisions about the thematic content of the book—what they felt could be expressed by a historical atlas that other historical publications could not adequately express. These decisions included identifying an overall theme in the history of an arbitrarily formed political region in the western Great Lakes. Would the history of Wisconsin be best expressed in a traditional chronological presentation, or a presentation organized around major themes that recur throughout the state's history? How would Guild members selectively pare down the tremendous amount of historical data into manageable sections, and decide when to stop adding data to maps?

Fourth, since no work of historical research can pretend to be comprehensive, the cartographers/authors had to capture at least the basic themes in Wisconsin history. On a case-by-case basis, which ideas would be best expressed through text narratives, spatial representations on maps, or illustrations? How would they develop the maps to carry the requisite data, yet keep in mind the maps' aesthetic quality and readability? How would

they cross-reference interrelated historical themes, and draw parallels between different periods of history?

The central goal of the project was to produce a historical atlas that was distinct both from previous works of Wisconsin history, and from previous state historical atlases. The distinctiveness was based on the general readership for the publication, the integration of colorful maps with accessible text in a single engaging format, and an emphasis on history from the "bottom up." The Atlas was formulated to present Wisconsin as a story of peoples and landscapes, rather than simply of dates and names. Guild members were at times conscious that their choices might point new directions not only for cartographers, geographers, and historians in Wisconsin, but for those contemplating historical atlases elsewhere in North America.

Audience. The ambition of Guild members was to see the Atlas adopted as an educational resource in Wisconsin schools, as well as on the bookshelves of libraries and homes. The target audience for the Atlas was the general population of Wisconsin, including former Wisconsin residents. The emphasis, however, was quickly placed on high school students and college freshmen/sophomores, for several reasons.

First, Guild members wanted the Atlas adopted as an educational resource in the schools. At present, Wisconsin history coursework is not required in Wisconsin beyond the 4th grade. History and social studies instructors in higher grades have long needed a concise and visual Wisconsin history publication that can heighten students' interest in the subject, and inspire the students to research further. Students can use the maps as a starting point for gaining an overview of a topic, then turn to the atlas bibliography as a source for continued reading and study. The goal of the Atlas is to make history more accessible to the public, and enable students to visualize historical changes in Wisconsin.

Second, state history—the stories of people at the local level—can clarify and deepen students' understanding of U.S. and world history. Few compelling tools on state history, however, are available for instructors. Instructors in high schools and colleges could incorporate the Atlas into their U.S. history curriculum, to provide a local angle on larger events at the national level. The history of one's own backyard can help illuminate and personalize the history of our country and world. Maps help to bring this history alive, and locate it in particular places, in ways that text alone cannot.

Third, because the Atlas was aimed at a young readership that has not yet graduated from college, the language and graphics were developed at a level that would also be accessible to a general public that has also not graduated from college. Guild members wrote the text with straightforward laymen's language, defining historic terms when needed, without using overly academic language. They designed the maps to be detailed without being overly complex, so that the readership would be intrigued without being overwhelmed. Striking a balance between academic language and laymen's language, and between overly complex and overly simplistic maps, was the key challenge of the project. The process often involved "translating" dense text sources and images into a form that would be understandable to non-college graduates. It also required a name change, from the original Historical Atlas of Wisconsin to Wisconsin's Past and Present: A Historical Atlas. Observing that historical atlases are often perceived as dry reference materials, University of Wisconsin-Madison Professor Emeritus of Cartography Arthur H. Robinson suggested the name change to improve book sales.

Fourth, the schools were emphasized in the project because educational institutions are increasingly interested in new and innovative ways of teaching history. In particular, teachers are increasingly interested in multicultural approaches that do not segment off ethnic groups, or treat certain groups as afterthoughts, but incorporate them thoroughly into the history of the whole. The "bottom-up" approach to history, or an approach that focuses on social history, can perhaps also engage students in a way that histories of institutions and important individuals cannot.

LITERATURE REVIEW

Wisconsin history sources. One intention of the Atlas was to fill a gap in state history publications. As former Senator and Governor Gaylord Nelson wrote in a project endorsement, "Your historical atlas will....fill a longstanding gap in the historical literature of our state. There are many fine histories, memoirs and other writings that tell us about Wisconsin, but the missing link is a handy modern historical atlas.....". Professor Robinson stated simply, "Wisconsin deserves to have a historical atlas." The Atlas was produced in the context of an existing field of literature on Wisconsin history, and built on that literature, but approached the history in different ways.

The only existing Wisconsin historical atlas, published in 1878, contains very few historical maps, even for its era. It emphasizes county township maps, illustrations of landowners' homes, and some 1870s statistical maps. While entitled Historical Atlas of Wisconsin, its coverage of historic themes was limited to a long section of text in the back of the book. The main secondary source of Wisconsin history is the History of Wisconsin series edited by William Fletcher Thompson, and published in five volumes by the State Historical Society of Wisconsin (which will soon publish a sixth volume). The comprehensiveness of the series can also makes it an intimidating resource for readers needing a succinct overview of certain themes in Wisconsin history. The series was the primary source cited in the atlas project, along with a few smaller works, such as Wisconsin: A History by Robert C. Nesbit, and the more travel-oriented Wisconsin: A History of the Badger State by Norman Risjord. A primary goal of the Atlas was to add a visual orientation to scholarly coverage of Wisconsin history, yet to also incorporate a textual element not available in visually oriented books such as Wisconsin: The Way We Were.

Three recent publications by The University of Wisconsin Press have helped to greatly heighten public interest in state history. First, the Cultural Map of Wisconsin took a unique approach in mapping cultural sites, most with some historical bearing, to aid travellers and students seeking the state's hidden cultural treasures. The reverse side of the wall map displayed thematic history maps and city maps along the lines of the presentation contemplated for the Atlas. Second, Wisconsin Land and Life assembled together a collection of essays on different aspects of Wisconsin history, arranged into thematic sections, with a number of high-quality black-and-white maps.   The essays were written from an academic perspective, but told stories of great relevance to a general readership. Third, The Atlas of Ethnic Diversity in Wisconsin used 1990 census data to draw a picture of Wisconsin's peoples. Though current in its focus, the new atlas will certainly help to heighten interest in how the state's ethnic geography developed. All three of these publications were both different from each other in purpose and effect, and all were also very distinct from the proposed historical atlas of Wisconsin.

This existing rich field of literature on Wisconsin history begs the question of why no one has produced a historical atlas of Wisconsin for the past 120 years. The idea has been discussed for years in the University of Wisconsin and State Historical Society, but various factors have prevented it from coming to fruition. First, a lack of adequate funding has been a constant problem in a state that lacks the financial base of its neighbors to the south and northwest. Second, the best geographical and historical minds in the state were involved in some of the aforementioned projects, some of which have taken years to accomplish. Third, there has not been an adequate match between historic and cartographic expertise in the state's publishing industry. Fourth, individual cartographers have not until recently possessed technology that enabled them to make maps without relying on expensive equipment or service bureaus. Fifth, and perhaps most importantly, the high value placed on Wisconsin history has ironically resulted in such a plethora of sources that anyone seeking to summarize them faces an intimidating task. The idea of publishing an atlas to accompany the History of Wisconsin series, which had been considered as early as the 1960s, meant that an atlas would have the virtually impossible duty of matching the comprehensiveness of the series.

The University of Wisconsin and the State Historical Society, while the most natural sources of an atlas, also possess an institutional momentum that can stretch projects into years of discussion, development, and production. Guild members felt that an atlas could be best produced by a small independent team (operating at the fringes of these institutions), using a set source of funding, a tight deadline, and a book concept that does not claim comprehensiveness. They saw the Wisconsin Sesquicentennial as the ideal opportunity to give impetus to an atlas project, to set distinct beginning and end points for the project, and to secure funds. (The last prediction turned out to be incorrect—though the Guild received a $65,000 grant from the official Sesquicentennial Commission, potential sources for the other half of the atlas project had been "tapped out" by Commission or other fundraisers. Instead of being the perfect funding opportunity, the state's birthday turned out to be the worst.)

One important task of the Guild was to investigate how other states' histories have been translated into the form of a historical atlas, and what lessons could be drawn from them. Another priority of the non-academic project team was to establish a work process that included a comprehensive system of academic and expert review.

Previous North American historical atlases. Three distinct types of state (or provincial) historical atlases have been developed in North America in the past 30 years. The first type is an atlas of historic maps, such as the outstanding Atlas of Historical Maps of Maryland (1982) or Atlas Historique du Canada Français (1961), which reprints and analyzes old cartographic representations. A few works, such as An Historical Atlas of Early Oregon (1973), deliberately produces thematic maps in an archaic style (with mixed results), to elicit a historical "feel." The second type is a general geographical atlas devoted to current coverage of a particular state or province, but which contains a section on history. Examples are Atlas of Michigan (1977) and particularly Atlas of Pennsylvania (1989)—a collective project of three universities, which contains an excellent 41-page historical section edited by Edward R. Muller. It takes certain themes—such as settlement, agriculture, urbanization, education, and industry—and develops each of them chronologically over two or three two-page spreads, mostly employing data-intensive choropleth maps.

The third type is a state (or provincial) historical atlas, which currently cover only a minority of states and provinces. A few early attempts, such as the historical atlases of Alabama (1974) and Texas (1975), repeated a single-scale two-color map base map, and dropped data onto the base for different presentations. The themes of the maps were mainly event-driven, focussing on overlapping periods of conflict, settlement, and growth. A few later atlases such as the Manitoba Historical Atlas (1970), or Atlas Historique du Québec (1995), incorporated a more colorful set of maps divided into demographic, agricultural and economic sections, with a heavier emphasis on text, but also repeated virtually the same base map perspective throughout the presentation. Interestingly, some of these early atlases list the cartographer as the author, and add the text writer as a subauthor.

Most existing state historical atlases are part of a series published by The University of Oklahoma Press. Editions in the series are the the historical atlases of New Mexico (1969), California (1974), Arizona (1979), Missouri (1982), Oklahoma (1986), Washington (1988), Kansas (1988), Texas (1989), Arkansas (1989), Colorado (1994), and Louisiana (1995). The Press also published the Historical Atlas of the American West (1989) based on the same format. All the atlases in this series have an identical layout format, with about 60-110 plates, consisting of a full-page map on the left-facing page, with explanatory text on the right-facing page. All use exclusively black-and-white maps, with the exception of the most recent (Louisiana), which features two-color maps and several four-color maps. The atlases generally list the text writer as the author, and lists the cartographer separately.

The series organizes presentations in distinct historic stages—location and physical setting, Native American tribes, European contact and settlement, political

development, population and urbanization, economic growth of transportation, communication, agriculture, and industry/commerce, and cultural growth. For this reason, the series remains a useful tool for comparing similar data from different states. The exact order of the themes (and emphasis placed on them) changes within the series. The map plates tend to use the same format of full-page state base maps (including county boundaries), with either point locations, linework, or choroplethic tint fills. (The Colorado atlas is the only one in the series to use grayed-out topographic linework.) The maps and statistics also tend to focus on static single eras, without tracking changes in a particular theme between different eras. The lack of explanatory notes on the maps leaves the only interpretation to the blocs of text on the facing page. Each atlas seems to lack a unifying theme, and lacks cross-references or interrelationships between map plates.

A more advanced example of an atlas is the Historical Atlas of Massachusetts (1991), published by the University of Massachusetts Press. Its first section, "Historic Landscapes," divides Massachusetts history into eight distinct eras. For example, the subsection entitled "Industrialization and Urbanization, 1860-1900," displays maps of population change and distribution, railroads, foreign-born residents, occupations, manufacturing employment, and the growth of Boston—each map with a particular year or span of years within the 40-year period. This format allows for some comparison of geographic changes within the era. The second section, "The Political and Social Landscape," focuses on selected themes that cut across different eras, such as politics, women, ethnicity/race, health, architecture, communications, transportation, and energy. The atlas uses a variety of choropleth maps, point symbol maps, and some bulging cartograms, but rarely combines different cartographic methods on the same map.

Parts of the Massachusetts atlas resembles the format of the three-volume Historical Atlas of Canada, perhaps the most acclaimed historical atlas yet published in North America. It uses map plates designed around periods based on broad historical-geographical themes, and maps developments within the periods. It integrates multiple maps on different themes within the plates, so that the reader can ascertain multiple trends of the period, and compare their impacts on the same geographical areas. The Canadian atlas also broke new ground in graphic representation, by deemphasizing neatlines, using flow arrows and notes to historicize many presentations, and providing context with differently scaled maps on the same spread.

The National Geographic Historical Atlas of the United States (1988) takes a slightly different approach, dividing U.S. history into thematic sections representing The Land, People, Boundaries, Economy, Networks, and Communities. Each thematic section retains a rough chronological flow from early to modern, though the thematic map subsections, or plates, also tend to contain historical progressions within them. Both the Canadian and U.S. historical atlases try to visually integrate maps, graphics and text on the plate or spread, though the U.S. atlas makes much more liberal use of photographs and other illustrations. The graphic look of both atlases stands in marked contrast to the previous flagship of North American historical atlases, the American Heritage Pictorial Atlas of United State History (1964), which nevertheless retains respect among cartographers as an unparalleled source of accurate data presented in a clear format.

Two recent U.S. historical atlases, The Settling of North America: The Atlas of the Great Migrations into North America from the Ice Age to the Present (1995), and Mapping America's Past: A Historical Atlas (1996), bear an uncanny resemblance to the eventual format of the Guild's atlas, though Guild members only saw the two works after the project's central format decisions had been made. Both atlases used self-contained two-page spreads, with an emphasis on maps, along with a thematic textual overview and generally unobtrusive illustrations. The spreads had a title in the upper left-hand corner, and each contained one main map that illustrated the central theme, and one or two secondary maps that focused on interesting subthemes. Guild members were not as inspired by the uneven quality of the cartography, however, as both works used maps that

had clearly been produced with different styles and specifications. The layout of the two atlases nevertheless provided some assurance that the Guild could successfully use a two-page spread format.

Guild members applied lessons from the state/provincial and national historical atlases to the historical atlas project. They decided early in the Wisconsin project that, although historic maps make excellent illustrations and can help reflect the geographic thinking of a particular period, the emphasis of the Atlas would be on modern, geographically accurate thematic maps. Guild members also decided that the project would not include a long initial section on physical geography, since they felt many students would simply skip through such a section, and since numerous excellent sources of Wisconsin physical geography were already available. They chose instead to highlight physical geography in the context of state history; for example, showing watersheds and pre-settlement vegetation in the context of timber cutting and marketing.

Map sources fell into three separate categories. Some Atlas maps used a single previously produced map as a source map, which required securing permission from the copyright holder. Guild cartographers, however, almost always added other map data, notes or tables to make the presentation richer. More commonly, Atlas maps used two or more maps as sources, which required care in combining and corresponding information. Many of these sources were black-and-white maps from a dissertation, which the Guild cartographer could combine in a color format, and which were always welcomed by the original author The third category consisted of maps built "from scratch"—using raw data never before presented in a map form. Certainly the most time-consuming and enjoyable of the three methods, the use of primary source data also meant not having to ask permission or verify original sources.

Production of historical maps also confronts the problem of geographic accuracy of historic sources. As University of British Columbia School of Library Professor Anne B. Piternick wrote in Cartographica (Winter 1993) on her participation in the Historical Atlas of Canada production process: "Even when maps already existed they could not necessarily be used. Contemporary maps were often found not to be accurate enough to be used as direct sources for mapping, and even recent maps could not always be used because of the smallness of scale, or lack of specific detail." Piternick also observed that textual sources are rarely complete enough to accurately plot a specific location on a map that also includes nearby rivers, roads, and boundaries.

Guild members decided to use a wide range of maps, using varying scales, to depict the macro and micro levels of Wisconsin history, and maintain aesthetic variety. They also tried to avoid, whenever possible, data-intensive and visually unappealing presentations that use only choroplethic fills or point locations. They attempted to use point symbols or notes to add another level of information to choropleth maps, and whenever possible to create an juxtaposition between color and pattern fills, point symbols, linework, and notes on a single map. A color fill can communicate why a city or other point symbol is located in the area where it is found., for instance, that the Wisconsin town of Kiel is located in an area of northern German settlement. In this way, readers can be drawn into the story told by the map, without being overwhelmed by too much visual information of one type, and without being "underwhelmed" by overly simplistic maps that simply note locations or areas without any interesting context.

From their experience with educational maps and graphics (and with classroom presentations on cartography), Guild members felt that many atlas and textbook maps fail to engage younger readers, by underestimating students' ability to understand and process information. Associate Professor of Geography Henry W. Castner, of Queen's University (Kingston, Ontario) asked in Cartographica in 1987, "Is there any reason we should restrict ourselves exclusively to 'what-is-this' or 'where-is' questions directed at the highly generalized and simplified maps found in most children's atlases and school geography books? The evidence...suggests that children, before they even show up in our classrooms, are ready and able to confront complex perceptual problems. Thus the

educational problem, as I see it, is to try and identify where and in what other ways we might introduce the complexity of geography..."

Guild members believed that a map that tells a story, draws in the reader to solve a puzzle, or takes the reader on a journey through a landscape, is a more useful tool for teaching history than a map that simply places information in space. Most existing state historic atlases have been fine reference tools for readers studying state histories, but have largely failed to interpret reference data in a way that would engage and interest readers not already in historical or geographical fields.

Reference and thematic atlases. Atlases are commonly developed either as "reference" atlases or as "thematic" atlases. The reference atlas is commonly referred to as "application-neutral," containing maps that simply plot the locations of places or phenomena. The main goal of a reference atlas is not to attract attention to any particular aspect of the presentation, but to provide a neutral resource for scholars and students to draw upon in their research. Many reference maps use either point, line or areal symbology to place data, rather than a combination of these methods. The advantage of a reference atlas is its ability to show the existence of places and phenomena, providing a resource unencumbered by overt values or interpretation, and without restricting the utility of the data.

A thematic atlas is commonly referred to as "application-specific," containing maps that not only plot locations, but seek to highlight certain patterns in the data, or juxtapose the data to other spatial phenomena. The goal is to not only to "show" the data, but to interpret it. Thematic maps commonly mix point, line and areal symbology as a means of juxtaposing and comparing data covering different themes. Instead of showing separate maps of mineral resources and early roads, for instance, the thematic atlas would overlay the roads on a map of mineral resources, in order to offer the insight that many roads were built to haul ore to processing centers. As Castner wrote, thematic maps emphasize "relatives and dynamics of indefinite boundaries, overlapping processes, and representations of abstract attributes and spatial variations." Thematic atlases, whether modern or historical, are designed to communicate messages, and so are most common and useful in an educational setting.

Of course, the line is often blurred between reference and thematic atlases. A number of thematic atlases offer fine reference maps whose only purpose is to locate places, rather than to tell their story. Some thematic atlases also offer interpretative maps that can double as useful reference tools, sometimes for more than one theme. Even the most "neutral" reference atlas uses some value and judgment calls in choosing which data to show. For example, its choice whether to represent precolonial Native American cultures as areal fills or point symbols indicates whether it views the cultures as centered on regions or on villages. Many atlases can be defined not as purely thematic or purely interpretative, but all atlases can be placed somewhere on the spectrum between the two poles.

The 1976 publication of the Atlas of Early American History: The Revolutionary Era 1760-1790 touched off a debate in the cartographic community over the purpose of reference and thematic atlases, particularly in an educational context. In American Cartographer (1977) Atlas Cartographic Editor Barbara Bartz Petchenik defended the usefulness of "factual" reference maps that "simply show what existed where." By choosing the route of an "application-neutral" atlas, she maintained that the maps preserved their "widest possible utility." Petchenik wrote that "maps can only show locations—they cannot show why these locations are important, or what processes are going on at these locations, or what intentions underlie those processes....a map can never 'show how,' in the sense that circumstances or relations are explained (except, of course, those that are purely spatial/distributional in nature). Maps are limited to the depiction of a surface having objects or phenomena distributed on it. Maps are static, nondiscursive, and unable to depict directly a dynamic, abstract relationship....While maps can imply

abstract concepts or show the results of a process, such notions as concept and process are better handled with verbal description."

In an American Cartographer review of the Atlas of Early American History, University of Toronto Geography professors W.J. Eccles, W. G. Dean, G. J. Matthews, and Thomas F. McIlwraith criticized the "application-neutral" approach, or at least questioned its dominance in an atlas that claimed a partly interpretative purpose. They asserted that in the "struggle between thematic and encyclopedic interests...the distributional patterns of selected data sets have been suppressed by maps showing only the existence of a feature and nothing of its spatial relations. Displaying one phenomenon at a time, map by map, is strong evidence that we are dealing with a catalogue, or directory." They added, "Interpretative maps carefully conceived can tell long stories and guide the reader in a novel learning experience." Petchenik replied in American Cartographer (1978) that "...users should not have to work around an imposed point of view...". She maintained, for example, that reference maps that separately plotting the trading posts of competing fur companies are more useful to a scholar than a single thematic map that forces a theme of "conflict" by locating all the posts in one presentation.

McIlwraith continued the American Cartographer exchange in 1979: "Historical atlases, and indeed all atlases, are both reference works and interpretations, with the degree of emphasis on one facet or the other, subject to enormous variation.....Mapmakers introduce interpretations into their thematic maps by their choice of subject material, class intervals, and scale.....As long as patterns and interpretations are inevitable aspects of historical mapping, it seems wise to embrace them fully. Readers must, of course, be able to extract the factual basis of maps and then be encouraged to use it for building up their own interpretation. Happily, catering to both aspects simultaneously is quite feasible." McIlwraith asserted that superimposing different themes over a map can build "graphic literacy" by identifying associations between them, and that a "spatial sense for what thematic maps can show is a prerequisite for the intellectual challenge a map can offer." He agreed with Petchenik that "a few carefully composed statements of what to notice on a particular map could carry an interested user beyond the basic facts to a new level of awareness of how society has evolved."

The discussion over reference and thematic atlases has even more bearing in the context of education in the lower grades, where perhaps the primary goal is to stimulate and hold the students' interest. North Carolina State University Professor of Design Denis Wood wrote in a special 1987 school atlas issue of Cartographica, "thinking about atlases as places to look up facts, instead of as things to read, has blinded us to our own cartographic tradition." Wood maintained that the purpose of an atlas should be to "make something greater that any single map can be; to, through the inter-relatedness of the maps, through their juxtaposition and sequencing, make something higher, something that no individual map could aspire to...create a discourse, a mediation, to tell a story." He observed that atlases created merely as tools for locating information often fail to recognize why readers are drawn to atlases in the first place. Wood wrote that that readers can derive pleasure in poring over maps, much like they can enjoy landscape paintings, or can use thematic maps as representations of engaging stories, much like they read mystery novels.

Castner agreed in the same Cartographica issue that many reference atlases "reinforce an idea that maps serve essentially as repositories of information, i.e., as spatial dictionaries. Without any other experiences, this singular exposure to geographic thinking may be in part responsible for the very limited (and certainly simplistic) view of the nature of geography and cartography which is held by much of the general public. In contrast, I suggest that the real intellectual excitement of geography lies in the complexity of the subject, in the challenge of visualizing these complexities....All this we might call 'geographic thinking'; it has a strong analytical component as well as a descriptive one."

As an educational project, Wisconsin's Past and Present: A Historical Atlas was conceived as an atlas very firmly placed on the thematic end of the spectrum. Its purpose was not simply to provide a catalogue of Wisconsin historical sites or county data, but to draw in the readers' interest with new visual angles and associations of diverse themes. The Guild consciously sought to avoid an image of a reference atlas that would simply sit on a shelf rather than inspire a student to dig deeper into Wisconsin history. Yet the merits of reference maps were also not completely lost on Guild cartographers. They incorporated an "application-neutral" state base map in the front of the book, and numerous tables of elections and other data that were largely left to the reader to interpret.

Text accompanying Atlas maps pointed out particular patterns on maps that merited a closer look, based on one or two historical lessons that could be extracted from the map data. Yet the text writers also (partly for a lack of space) sought to avoid overkill in interpreting maps. The text did not seek to spell out all the possible interpretations of a map, or highlight every detail that might contain thematic implications. The reader is free to identify patterns that are not part of the central theme of the text, or even to see areas that do not fit the Guild interpretation. By juxtaposing different data on a map, and juxtaposing different maps in the same book, the Atlas enabled readers to extract their own lessons. Though the goal of the Atlas project was clearly "application-specific," the effect of some maps and charts may prove to be "application-neutral"—providing resources that can be used to bolster differing views of Wisconsin history. The beauty of an educational atlas, as Castner wrote, is that it can take "an educational approach that looks at more than one possible solution to a question." This more balanced strategy may assuage Petchenik's justified fear of an imposed thematic viewpoint.

Having reviewed the past lessons of Wisconsin historical literature, previous state historical atlases, and the general purpose of historical atlases, the Guild undertook to design the format of Wisconsin's Past and Present: A Historical Atlas. Guild members viewed the format of the atlas, instead of being simply a way to arrange information on a page, as being critical to the development of a "user-friendly" publication.

ATLAS ORGANIZATION

Format decisions. The earliest Guild objective was to produce an atlas that is modern and provocative in its design and style, using a format that would be both compelling and understandable to the general public. Early in the project, Guild members made two key decisions. First, they decided that the Atlas would be a map-intensive presentation, using photographs, illustrations and other graphics to supplement historical data on the maps. They wanted to stake a middle ground between the text-heavy approach of most scholarly works on Wisconsin history, and the photograph-intensive approach of coffee-table books and many illustrated atlases. Second, they decided that the Atlas presentations would be made on facing two-page spreads. In the Atlas itself, a spread format allows for an interplay of text, maps and other graphics, and a single visual impact. By using a two-page spread format, self-contained Atlas spreads could also be converted for use as educational ancillary materials, such as posters, overhead transparencies, and eventually CD-ROM. (The Office of School Services of the State Historical Society of Wisconsin has expressed interest in developing an Atlas Teacher's Kit, both for explaining maps to students, and to use the Atlas itself to train teachers in Wisconsin history.)

The format and layout of the spreads was largely developed by Guild member Laura Exner, who had extensive experience in page design. Her layout scheme integrated text and graphics into distinct blocs on a 9-by-12 inch page, in order to give each spread a clean and consistent look. The flexibility of how to arrange these blocs, however, allowed spreads to appear different from each other—avoiding the repetitious

look of some other state historical atlases. Each Guild member coordinated a certain number of spreads. The use of text, maps, and other graphics in a single presentation allowed them to select the most appropriate vehicle for imparting key information. If a concept was too visually overwhelming on a map, or not spatial enough to present on a map, it could be explained in text or shown as a photograph or chart illustration. Conversely, if a list of place names proved too cumbersome for the text, the places could be plotted instead on a map. Maps and charts could be used to illustrate the central theme of a spread, or could be used as reference tools (for example, a reader might find a chart of elections useful even in isolation from the explanatory text or maps).

The first element of the spread was the main body of text, called the "overview." It was conceived of as a basic review of the primary theme of the spread, presented in chronological order. It often explained the maps and other graphics on the spread, and served as a theme "primer" that could stand alone. The overview covered the highlights of the theme, to provide necessary context to the visual elements. The overview was in 10-point Times type, within two 3-inch columns which could jump from the first page to the second page of the spread.

The second element of the spread was the "insight column," which offered a personal angle on history, through telling an interesting short story or biography that sticks in the reader's mind. Nearly all of these insight columns also served as captions to explain photos, illustrations, or small maps. While the overview tended to be a recitation of historical eras, the insight column offered side stories to make the history come alive. Many of these stories would detract from the impact of the overview if they were forced to be contained within it. The insight columns were in 8.5-point ITC Garamond Light Narrow type, which Exner found as one of the few attractive fonts that would fit well within a 1.5-inch space. The map fonts employed the serif Adobe Garamond for much of the political type, and the sans-serif Gill Sans for most physical and city type.

The third element of the spread was the "main map," or the central map presentation. The main map was usually, but not always, larger than other maps. It contained the most essential geographic data necessary for a spatial understanding of the spread theme. While a few of these maps were researched and compiled using a single map source, many more combined information from two or more previously existing map sources. Some "main maps" did not consist of a single map, but combine numerous small maps in a single presentation, such as maps on colonial or territorial boundary changes.

The fourth element was the "secondary map," which depicted a single event or place that illustrates the primary spread topic. In much the same way as an insight column offered a different angle on the main text, the secondary map often told a side story at a more human level (in fact, some secondary maps were explained in insight columns). The secondary map could focus on a small-scale area within Wisconsin in order to narrate historical change at a micro level. It could also show Wisconsin within a larger-scale regional or national map, to show the state's geographical relationship to larger historical forces. Some spreads had more than one map in a secondary role. Guild artist Amelia Janes developed a color palette for the main and secondary maps that provided subtle and complementary colors, including earth tones, and avoided garish or overly dull colors. She selected a number of colors within the same color range, in order to provide gradations that could depict a range of data.

The fifth element was the addition of other images— such as photographs, paintings, charts, graphs or diagrams— that serve to further illustrate the historical theme. Again, Guild members wanted to avoid the "coffee table" feel of many illustrated atlases, that present tiny maps beside giant photographs. The most ideal use of illustrations is to integrate them within a single presentation encompassing a map and text. Photographs of people, in particular, serve to humanize history for the readership in a very subtle and subjective way that abstract maps and charts cannot. For this reason, spreads generally used photographs or other illustrations of people whose faces could be seen, and fewer

images of impersonal crowd scenes, inanimate buildings, or modern views of historic sites. (Portraits were often the most visible images that could be placed with a narrow insight column, though Guild members preferred not to focus too often on individuals). A number of photographs also served to dramatize changes in landscape, by contrasting historic shots of wetlands, prairies, roads, or eroded gulleys with modern shots of the same place after it was radically transformed. Guild members would have liked to have used more old maps, cartoons, posters, and other period illustrations, but too few reproduced well at a small scale.

The process of formulating the layout scheme was indicative of the work process of the Guild. A Guild member with skills in the area proposed the initial layout, but other members gradually refined it in the process of producing the Atlas, and mutually agreed on revisions to the original plan. This collective and flexible approach was also critical in other stages of Atlas production.

Work Process. The Wisconsin Cartographers' Guild was founded in May 1996 by six cartographers in the Madison area. Webster's New World Dictionary defines a guild as "an association of persons of the same trade, pursuits or interests formed for their mutual aid and protection, and maintenance of standards......a society of artisans." Guild members are former or current employees of Madison-area professional mapping firms, with a total of about 35 years of experience in the craft. They are professional cartographers who work on Macintosh computer hardware, using Illustrator, FreeHand, Photoshop, Quark, and other software programs. Guild members have mutually complementary backgrounds in digital production, graphic arts design, geographic knowledge, and historical research. They have degrees in cartography, art, history, geography, and science, and as individuals have compiled and produced maps for numerous publishers of encyclopedias, textbooks, travel books and magazines, museum books, history books, and other publications.

The Atlas project was made possible partly by geographic circumstances. Guild members live in or near Madison, which has developed as a national center of cartography, and provides some of the richest troves of state historical research available anywhere in the country. The Wisconsin State Historical Society Library contains the second-largest collection of state historical documents (after the Library of Congress) and renowned document and photo archives. The University of Wisconsin has other libraries, academic experts, and an encouraging community of historians, geographers, and cartographers. The state government also contains numerous sources of historical data and expertise, such as the Legislative Reference Bureau. In addition, the relatively small population base of Madison, and of the state as a whole, affords researchers knowledge of and access to experts that would not be the norm in a larger city such as Chicago or Minneapolis.

In a sense, the Atlas was also a product of historical circumstances. Associations of individual graphic artists have become a growing trend in the publishing field. Changes in computer technology have lessened a cartographer's reliance on outside technical service bureaus. By using e-mail to trade correspondence and map files between different sites, the Guild has worked within a "virtual" office place. The Guild reflects a working environment not unlike the artisan craft guilds and rural cooperatives in Wisconsin's past. The ability of Guild members to combine this cooperative effort with the advanced computer technology available today, at a time when the Sesquicentennial has heightened public awareness in Wisconsin history, helped set the stage for the development of the Atlas.

The collective process used in the Atlas project was not consciously decided by Guild members. Most members had been friends or co-workers for years, and had built a trusting and respectful working relationship. Their decision to form a Guild had much to do with a desire for creative control over the development of the product—a control that is often sorely lacking in workplaces based upon strong divisions of labor. They wanted to take a section of a book through different stages of development, and coordinate the

conceptualizing of the design, the researching of the content, the writing of the text, the acquisition of the graphics, and the production of the maps. This is not to say that each spread coordinator actually did the work at each of these stages, because of different skill levels in different fields. But spread coordinators, and the Guild as a whole, exercised creative control over the process, with all the joy and headache that such control entails.

A flexible collective structure proved to be the most natural working arrangement for the Guild. Each Guild member had her or his individual strengths, and the Atlas development process was an ideal atmosphere for sharing skills, resources and technology. Each member absorbed the equivalent of at least two or three graduate seminars on Wisconsin history, from research, experts in the field, and from each other. But just as importantly, if one member had produced a base map useful to another spread, he or she shared it freely. If one member had skills in a computer program that another lacked, she or he trained the others. If one member had artistic skills that the others lacked, she worked on illustrations for another spread. If one member had research skills that others lacked, he or she would offer a library tour. If another member had developed writing skills, he or she would take others' accumulated research materials and write the spread text.

The billing system reflected this sharing of work. Each two-page spread had the same fixed dollar amount, no matter what its level of complexity (since most members coordinated a mixture of complex and relatively simple spreads). The functions of research, writing, and map production had a fixed percentage of that amount. The spread coordinator in effect "subcontracted" a certain task to another member, for a percentage of the income. (For the few spreads shared between two coordinators, the decisions and compensation were split by mutual agreement.) The project would not have been accomplished without a diversity in skills and experience, and may not have been feasible without a previous working relationship—at least in such a short period of time as the Atlas project entailed.

There were, of course, always tensions inherent in the collective arrangement. Different levels of skills, and different personal backgrounds and emphases, could lead to misunderstandings. A map presentation that is graphically strong could contain factual inaccuracies, and a well researched, comprehensive map may appear dry and lifeless. Members sometimes had to balance criticizing a map with their desire to be supportive of a friend under deadline pressures. Different levels of experience with the academic world often lead to divergent opinions about how to verify or generalize data. These problems seemed to most often appear in text, since all Guild members were comfortable in making maps but not all were confident in their writing abilities. They often found that outside editors and readers paid much more attention to the accuracy of the text than to the accuracy of the maps. The fact that spreads were coordinated by different cartographers at times gave the spreads inconsistent approaches or "tones," though these were often reconciled through the editorial process.

The painstaking editorial process both slowed the development process, and provided some assurances that Guild members' shortcomings would be offset by internal and external editing. First, during the initial Atlas development, Guild members held several long sessions with State Historical Society Editor John O. "Jack" Holzhueter, who directed them to some of the central themes that needed to be covered in each spread, and trustworthy sources and experts in the fields. The coordinator would take this information as a basis for initial research. At the mock-up stage, the coordinator would float ideas past other members at a weekly Guild meeting, based on their initial research and contacts, and then begin production.

Using the central themes, the coordinator would usually outline the flow of the text, and identify map subjects that could be developed to complement the text. On some spreads that had few available map or data sources, coordinators' choices were more limited. In these cases, the maps would often be produced first, and the text would be written to fit the more limited map presentation. The coordinator often found that certain

data or notations would not fit on a map, or would not present themselves spatially. In these cases, the coordinator would transfer some key information to the text, or add a graphic that would illustrate the key concept. Spread production was a constant process of sifting and winnowing information, and deciding whether it would be best represented as text, as a map, or as another graphic.

At first draft stage, the maps and text would go an "internal editor"— both to catch factual inaccuracies, and grammar and spelling problems, but also to have a fresh pair of eyes decide whether the presentation is clear and understandable. After the coordinator made corrections and put them through an internal correction edit, the spread would be passed on to an "outside expert"—an individual (sometimes more than one) who had academic or other institutional credibility in the field. While the experts understood the reading level of the intended audience, some experts would treat the material as they would an academic treatise, and write a critique much longer than the actual text. While this process often proved frustrating, it enhanced the ability of coordinators to self-edit their work, and anticipate possible misinterpretations that could result from data that were either too precise, or not precise enough.

After the expert caught errors or important omissions, the coordinator would correct them before passing the spread to the two general "consulting editors"—Holzhueter for text, and U.W.-Eau Claire Geography Professor Ingolf Vogeler for maps. Any disagreements between the coordinator and the expert or internal editor were resolved by the consulting editor, who carried out a complete edit based mainly on content and clarity. Both consulting editors also examined the relationship between the text and the maps, to make sure the information corresponded. The coordinator would correct errors found by the consulting editors, and put the spread through a final internal edit before it went to the University of Wisconsin Press for final copy editing. In all, each spread was edited by a minimum of five individuals. The editors often had very different opinions that had to be reconciled, sometimes by altering language, presenting contrasting opinions, or simply deleting unnecessary parts of the spread.

While the editorial process was slow, Guild members found more support and encouragement from the academic community than they had anticipated as a non-academic project team. The seemingly contradictory goal of the Atlas was to develop text and graphics that would accessibly to a non-academic audience, and yet have the information academically verified. This approach was criticized by Milwaukee Public Museum Curator of Anthropology Nancy O. Lurie, who wrote the Guild that it should have contracted for the services of a professionally trained ethnohistorian. Yet the Guild, and other institutions that had previously considered producing a state historical atlases, simply did not have the funding for such a comprehensive approach. The combination of a reliance on contracted experts and a lack of funding may be one reason that a historical atlas has not been produced in this century. Another reason has been the complexity of existing source materials on Wisconsin history, and the difficulties of incorporated diverse historical themes into a single publication.

Thematic decisions

Time, space, and place. Producing any historical atlas is a complex exercise in combining time and space, in the setting of a particular place. The title Wisconsin's Past and Present: A Historical Atlas itself combines the elements of time (history), space (maps), and place (a single state). Through maps and text, a historical atlas of Wisconsin needed to show how the concept of "Wisconsin" evolved from arbitrary boundary lines on the landscape to a cohesive political and cultural entity—a unique place unto itself.

Before doing so, Guild members had to answer constantly recurring questions on the Atlas treatment of time, space, and place.

The aspect of "time" presents specific challenges to a state historical atlas project, and in particular to an atlas developed to coincide with the anniversary of statehood. Would statehood define the beginning of the period covered in the atlas? How would the atlas deal with the the legacies of the pre-colonial, colonial, and territorial periods? How much weight would it give to the social, economic and cultural history of Wisconsin if it is solely guided by a political definition of the state's history? Would the Atlas limit its coverage up to an arbitrary point in history that would be considered the start of the current period? Would it examine historical themes only at the times when they have the greatest impact on state history, or also when they (seemingly) lay dormant?

The aspect of "space" also presents specific challenges. Only certain aspects of the state's history can be visualized spatially, and can be successfully mapped. How would the atlas deal with non-spatial dimensions, such as overall shifts in culture or political ideology that affected the rest of the nation and the world? How would it deal with aspects of state history not easily represented on maps, such as changes in women's social roles, the lengthening of lifespans, or the ban on colored oleomargarine? Would the atlas subtly give undue prominence to concepts that could be spatially represented? How would it map former landscapes in a way that would provide present-day reference points for a modern readership, without detracting from historical veracity? On a more practical level, would maps present specific data using areal fills, point symbols, or linework?

The aspect of "place" also provides formidable obstacles. Can "Wisconsin" be called a place prior to statehood? Its territorial boundaries (and variety of proposed state boundaries) serve to demonstrate the arbitrary shape of the state. How would the atlas provide a reference point to the present-day location of Wisconsin without suggesting an historic inevitability of the state's creation? How can the state be defined as a place if, for example, some counties within Wisconsin bear more physical and cultural similarities to neighboring states than to other counties in the state? How would the Atlas deal with Wisconsin as one of many places within a larger regional, national or international context? Would the atlas privilege certain areas within the state because of their higher population or greater historical significance?

None of these questions were clearly answered at the beginning of the atlas project. Guild members, and outside experts and consulting editors, confronted the questions as they arose (many are specified in the following section on spread decisions). More often than not, practical realities answered the questions for them, at least in the context of completing a book project. Limitations in map sources, research time, and reader comprehension led the cartographers to make numerous compromises to reconcile the aspects of time, space, and place.

Under the category of "time," the Atlas tended to emphasize the parts of pre-statehood history that continued into the state period, instead of giving equal weight to the entire time span before statehood. (For example, Native peoples that were no longer living in the state in 1848 received less coverage than those that remained in the state.)

Under the category of "space," modern references are given on some maps—where part of the purpose is to show historic sites where present-day travellers could visit—but not on other maps, where the purpose is to show an area as it was defined by people of the era, rather than by modern society. (For example, the Tourism map has modern U.S. highways, but the map of the fur trade shows only the canoe routes important to the era.)

Under the category of "place," each presentation would generally show Wisconsin as a state, but then add a secondary map that either focused on an area within the state, or the state as part of a larger community. (For example, the shipping spread has maps about the impact of ports on state history, but also a map of export routes to other parts of the Great Lakes region.) While indicative of the nature of any historical

atlas, the concepts of time, space and place were not enough to give this specific atlas an unifying theme or feel. Guild members felt that some guidance was needed in developing overarching coherent ideas that would transcend different parts of the Atlas.

Overall theme. In 1997, Assembly Rep. David Prosser said of the approaching Sesquicentennial celebration, "The whole population of the state can ask 'What are we all about? Where have we come from? What is our heritage? What can we accomplish that makes us different—that distinguishes us—from other states?" The Sesquicentennial has been a time for commentators to try and identify unifying themes in the 150 years of state history. Some of these attempts have been blatantly "boosterist" in their intentions, and most have been far from successful. Few asked the question of whether the natural or cultural "essence" can ever really be captured of any place contained within constructed boundaries. Even fewer have asked if 150 years (encompassing only two human lifetimes) is really an adequate time for a place to establish a unique identity, or whether the search for identity is a constantly renewing process. The Atlas attempted to address the question in a different way, by looking at Wisconsin in the context of being part of multiple larger wholes, and accepting that at least some of what makes Wisconsin interesting is what it is not.

State Historical Society Editor Jack Holzhueter suggested an overall theme during the early development of the Atlas. He noted that the area known as "Wisconsin" is not at the center of many aspects of history, with a few exceptions such as the dairy industry or progressive politics. Wisconsin has, however, always been generally "on the edge," or at the intersection of historic natural and cultural regions. For example, Wisconsin was at the leading edge of the glaciers, and subsequently on the "tension line" between the Northwoods and the Central Plains. It later became a meeting ground for different Native American nations, and a new home to diverse groups of immigrant settlers, who introduced new "cutting-edge" political and economic ideas to the rest of the country. Wisconsin still serves as a borderland combining the agricultural Midwest, the industrial Great Lakes, and the Northern forests. It lies between the urban centers of Chicago and the Twin Cities, and parts of the state has become a hinterland to both metropolitan areas.

Guild members incorporated the idea where they could in the spread presentations, and found that many spread themes already incorporated the concept of an "edge." Unlike many other Midwestern states, Wisconsin combines radically different natural and cultural elements that are exceedingly rich and complex. A politician emerging from Wisconsin generally has developed opinions about a myriad of urban, agricultural, and natural resource issues, because these concerns shape state government policy. Also, unlike many neighboring states, Wisconsin has a greater variety of medium-sized cities, and does not have an overwhelming amount of its economic or cultural life concentrated in a single urban center.

Yet the state's regional diversity also may carry a negative side. Much of the Wisconsin media, and many policy studies, seem to focus either on the local or national levels, rather than the intermediate state level. Most media outlets cover only a portion of the state (with the exception of public radio), and do not seem to advance a vision of Wisconsin as a single community, or a unified whole. Part of the reason may be a lack of historical education about how different regions of the state have interacted, and how, for example, farm policies have impacted urban areas, or how industrial policy has affected natural resources. One goal of the Atlas was to offer a view of Wisconsin history that values the urban and the rural, the cultural and the natural, the north and the south, and offers a glimpse at the ethnic and economic diversity of the state.

In unraveling how the people and landscape of Wisconsin have been transformed over time, Guild members and consulting editors also identified certain pitfalls to avoid. Unlike many existing state historical atlases, they chose to emphasize economic, political, cultural and physical trends rather than singular events (such as the course of a specific battle or election). They chose to highlight changes at the base of society, and the impact of large groups of people, over the stories of particular individuals, though individual

histories were sometimes used to shed light on larger trends. Holzhueter questioned most attempts to portray historical events as "firsts" without full verification. Finally, they chose to organize the Atlas pages by primary themes, rather than strictly by chronology, though with chronological concepts contained within each theme.

Chronology. Once the layout scheme had been finalized, the key remaining decision was how to organize the Atlas thematically. Would it be by chronology or concepts, or a combination of both? The arguments for the purely chronological approach were powerful. A progression through time is perhaps the clearest way to organize any historical presentation. A reader can instantly grasp its familiar form, and locate sections of history.

Professor Michael P. Conzen, chairman of the University of Chicago Geography Department, wrote in a letter to the Guild that the Historical Atlas of Canada should be a model for the Guild atlas, as "one immediately grasps what the dramatic historical-geographical developments and evolutions were that shaped the country and its people, and these are then presented in all their categorically cross-cutting and fascinating integration in the resulting plates." Conzen questioned the creation of an atlas that is "thought of in categorical terms," and stated that an atlas should pose certain questions: "What are the key shaping themes in Wisconsin history? How many of them are there? Can they properly be illustrated through maps? How temporally extensive and overlapping are they? How can they best be translated into clusters of distinct but causally related subject matter that could populate the maps of each plate?"

Yet, while Conzen saw concept-based approaches as overly "traditional," and favored centering a presentation based on thematic eras, some Guild members and other outside experts saw limitations to the chronological approach. As Conzen wrote, the approach necessitates identifying eras based on overarching historical-geographical themes, in order to organize plate (or spread) presentations. Yet the approach also brings forth numerous contradictions.

First, unless carried out very consciously or delicately, the chronological approach can tend to essentialize periods of time. A period may be deemed to be marked by overall economic growth, even if the reality was that some industries were declining (such as lumbering or wheat farming) at the same time as others were growing. The height of one historic trend may be in the middle of a selected period, while the height of another trend may transcend two periods. The crudest form of chronological texts, based on arbitrary blocs of time (such as decades), expends much of its energy in trying to capture the essence of the period.

Second, the chronological approach has a tendency to portray history as an inevitable progression, and to deemphasize regressions or circular loops of history. Existing state historical atlases generally depict a march of exploration, settlement, and growth, without much examination of remnants of previous "stages" of history, or of the balance between the gains and the costs of each stage.

Third, and perhaps most importantly, the chronological approach often fails to demonstrate the continuity of history—the "past and present." If an atlas limits a spread or plate to a particular period, the spread will only cover the top three or four themes during that period. A spread on the 1990s, for example, may have maps on high-tech industrial growth, welfare reform experiments, and environmental issues. The maps would certainly cover some of the major controversies of the period. But what about the legacies of earlier controversies? What about the minor or seemingly dormant trends that would not "make the cut," or the transformation of particular themes over time? A chronological approach privileges a theme at its height of importance, and often fails to demonstrate the transformation that a theme takes over time. It was very different, for example, to be a "German" in Wisconsin in 1850, 1900, and 1950—yet a strictly chronological approach would tend to examine Germans in one period—at the height of their identity and social cohesion.

A thematically based spread format allows a particular theme to be brought from its origins in state history up to the present day, to make the point that Wisconsin history is still a living entity. History did not stop in 1890, 1940, or 1990, and current events very much have their roots in the past. Instead of limiting a particular period to two or three main themes, a thematic approach can demonstrate continuity and change of 20 or 40 themes across different spans of time. Educators would be better able to make history relevant to students whose main concern is how history affects their everyday lives. On a practical level, thematic spreads not limited to a particular time period also make for more engaging educational ancillaries, such as wall posters.

A concept-based approach depicts history as a complex mosaic of rises and falls, booms and busts, reactions and counterreactions, all overlapping each other in time and space. Conzen challenged this model by writing that, "With this presentational structure, the reader is limited to a narrow contemplation of specific topics (like Scandinavians, or environmental questions) without seeing how all sorts of subjects fit together in the complex patterns of interactions created over the course of time. That this arrangement permits 'comparison' eludes me; what exactly would one be comparing by looking at the spread devoted to Scandinavian settlement and the, say, the spread examining environmental questions?".

The Atlas came to incorporate what Guild members saw as the positive aspects of the thematic approach, while retaining some of the clarity of the chronological approach. Much as Petchenik observed about the Atlas of Early American History, "the semi-chronological organization of the Atlas is now subordinated to the topical groupings." First, as discussed below, the thematic spreads were arranged in a rough chronological order within each of the sections (or subsections) of the Atlas, with trends that are generally earlier on the timeline coming before generally later trends. Second, within each spread, the main body of text was written in chronological order, from the initial development of the trend to the present day. Third, a system of cross-references in the text directs the reader to other spreads that have some bearing on the theme, and enables them to find maps covering different themes that have similar geographic patterns. (While Scandinavian maps may not have much relevance to Environment maps, they might be very relevant to maps of crop choices or voting patterns.) In a sense, each thematic spread was coordinated by a different cartographer/author, and so serve as distinct "essays" on different historical themes, not unlike Wisconsin Land and Life. After reviewing a reply from the Guild, Conzen agreed that "You describe your planning...in terms much closer to the mix I discussed in my original reply to your prospectus than was apparent from the prospectus itself. I look forward to seeing how you have grappled with the issues in specific cases."

Sections. The themes of the two-page were selected by reviewing some of the major works on Wisconsin history, such as The History of Wisconsin series, Wisconsin: A History, and Wisconsin: The Story of the Badger State, as well as abbreviated versions of state history, such as those found in the State of Wisconsin Blue Book and Encyclopædia Britannica. The Guild's internal editor listed the themes that constantly recurred in these works, explored the themes' "mapability," and the possible availability of source materials. Using this process, he came up with approximately 38 spreads. Instead of determining which themes should be included in the Atlas, the approach emphasized which themes could not possibly be left out of the Atlas. As University of Oregon Geography Professor William G. Loy wrote in American Cartographer about the development of the Atlas of Oregon (1980): "An atlas should contain what most atlas users will open the book to find. On the other hand one must make an atlas out of what is available. The actual contents of atlases, of course, reflect both the ideal and practical approaches."

In examining the overall thematic balance of the Atlas, Guild members and outside experts added several more spreads, and altered the themes of some other spreads. The process ended up with a total of 42 spreads. At that point, one option

would have been to arrange the spreads in chronological order, but this proved an impossible task. How would one, for instance, rank the order of a spread on Germans vis à vis a spread on dairy farming? In researching the spread themes, the internal editor noticed that themes seemed to fall within three general (and interrelated) areas of study. A large body of literature examined Wisconsin's peoples—ethnic groups, religions, and cultures. Another body of literature centered on natural resources and industries, including agricultural and environmental issues. A third body of literature generally focused on social and political questions, particularly the role of governments and popular movements.

The 42 spreads were organized into sections around three central categories, in order to coincide with the three major interrelated areas of interest in Wisconsin history. Each section, in turn, contained three subsections. The first section, "Peoples and Cultures," looked at indigenous groups, immigrant groups, and the state's religious and cultural diversity. The second section, Land and Economy, examined Wisconsin's natural resources, agriculture, and industries. The third section, Society and Politics, looked at the development of political boundaries, social movements, and government in Wisconsin's history. Within each section, the historical themes of the two-page spreads could be arranged in a more chronological fashion. By turning the pages, and assisted by a system of cross-referencing, the reader could compare how the themes affected a particular geographic area of the state at different times. The Wisconsin atlas came to most closely resemble the National Geographic Historical Atlas of the United States in its thematic organization.

The "Peoples and Cultures" section was very straightforward in its treatment of space and place, though changes through time were often more difficult to document. The first subsection covered indigenous cultures, including early cultures, Native American-European encounters, Eastern Wisconsin nations, Ho-Chunk Nation, Ojibwe Nation, Potawatomi Nation, and native land conflicts. The second subsection examined immigrant cultures, including European Immigration, British Isles ethnic groups, Germans, Scandinavians, ethnic Milwaukee, African Americans, and Newest Arrivals (Latinos and Asians). The third subsection covers "cultural legacies" of immigration, focusing on religious patterns and individual cultural figures.

The "Economy and Land" section tended to map networks of interaction, rather than solely historic sites or areas. The first subsection covered natural resources, including glacial landscapes, mining, and timber. The second subsection dealt with agriculture, including dairy faming, crops, weather hazards, and rural changes. The third subsection looked at industries, such as transportation, southeastern Wisconsin and Fox Valley industrial belts, Great Lakes trade, tourism and recreation, and environmental impacts of industry.

The "Society and Politics" section was very straightforward on the aspect of time, but spread coordinators often found ideas difficult to represent spatially. The first subsection covered boundaries through history—colonial, territorial, state, and county. The second subsection examined political movements and social conflicts, such as the labor movement, the Progressive Era, women's movements, and 1960s protests. The final subsection looked at the role of government, including federal elections, congressional representation, state government, military installations, and the educational system.

The spreads, however, could hardly be seen as thematically self-contained, since the themes are so strongly interrelated with one another. The Atlas took several approaches in tying together different themes. First, the Introduction outlined the overall theme of the Atlas, and pointed to concepts that cut across different spread themes. Second, the main overview text and captions constantly would refer to other spreads in the Atlas. The story of the 1871 Peshtigo Fire, for instance, though covered on the Weather Hazards spread, refers to harmful lumbering practices that are covered on the Timber spread, and so contains a notation to "(See Timber)." Third, the Index enabled

the reader to look up a concept or place name, and find it on different thematic spreads. For example, the fact that Ashland can be found on the Great Lakes, Mining, and Timber spreads would communicate to the user about the basic history of the city (the Index did not distinguish between text references and map labels, since so many pages contained both). Using these strategies, Guild members consciously attempted to interweave different themes in Wisconsin history, but without an overarching master plan that would point toward a specific theory of the state's essence.

Comprehensiveness. The Atlas was not intended to serve as a comprehensive reference of Wisconsin history. It was intended as a basic resource to interest the public in the state's history—especially in the context of the Sesquicentennial—and to be used as an educational tool. Its goal is to whet the appetite of the reader or student, who could turn to the authoritative resources in the bibliography for further study. The Atlas could not tell even a fraction of the stories of Wisconsin history, or map a fraction of the historic sites in the state.

The decision of what to include in an atlas is only part of the problem in atlas production. The other part of the problem is what not to include, and when to stop adding information. The self-contained spread format enabled the coordinator to decide that no more graphics or text would fit, so in effect limited the scope of the presentation. In a few cases, a concept that did not fit on one spread was transferred to another where it thematically would fit (for example, the map of French long lots moved from the Encounters spread to the Fox Valley spread). Oftentimes in production of a map, a cartographer would come across certain issues that needed to be addressed in the text, or could not be shown spatially on the map. Explanations of the maps often turned into a very useful frameworks for developing the text.

Since there was no possible way to reflect all events or people that have affected Wisconsin history, certain choices had to be made. Any future editions of the Atlas could include new themes not covered in the 1998 edition. Themes that often arose in Atlas research included the history of health (epidemics, settlement patterns, sanitation), crime (statistical patterns, infamous crimes, gangsters, prison construction), sports (teams, stadiums, fields), architecture (ethnic and modern), demographics (birth and death patterns), media (print readership, electronic coverage), and wildlife (distribution changes, hunting, fishing, bird migration). After Atlas publication, Guild members expect to hear plenty of other ideas.

Balance. Producing a historical atlas of an existing political entity is a walk through a minefield of historical and modern-day sensitivities. In the Atlas, the authors had to address or reconcile academic and institutional debates that often still rage, and strong personal identities connected to ethnicity and place. Whether the cartographers/authors made their decisions consciously or unconsciously, they often had to account to multiple and differing constituencies.

One sensitive area involved state geography. First, many statewide map presentations visually privilege data from rural areas over data from urban areas, where type density often limits the amount of information that can be presented. This necessitates separate maps that focus on dense urban areas (such as Milwaukee) at a smaller scale. Second, different regions of the state need to be evenly covered, even if they have a smaller population base or shorter history of settlement. The Atlas project team included members from Douglas, Milwaukee, and Grant counties (as well as two Minnesotans and one transplanted Southerner), and a strong effort was made to cover the northern region and other areas of the state often neglected in many historical texts. Third, smaller cities were often slighted in map and text sources, so spread coordinators had to make a conscious effort to develop maps that would include cities such as Eau Claire and Racine. Fourth, some communities may have wanted their local historic figures to be given recognition, though the Guild's decision to focus on historic trends rather than important individuals prevented most problems in this area. The lack of a single dominant city in the state enabled the Atlas to examine smaller population centers,

and give more coverage to rural areas, than would be possible in a historical atlas of a state such as Illinois or Michigan. A major shortcoming of the Atlas, however, was a lack of distinct maps on smaller-sized cities such as Beloit, La Crosse, and Stevens Point.

The second sensitive area involved politics. The presentation of different opinions about past history are standard in any historical text or atlas project. The emphasis on portraying state history as a still-evolving process, however, had the additional problem of possible embroilment in current controversies, which were usually more difficult to address than past controversies. Guild members had to take care that their own personal opinions on these controversies did not crowd out other perspectives. The last one or two paragraphs of some spreads took on a journalistic tone, as these debates had to be presented as as-yet-unresolved parts of state history. Two examples were the environmental issues connected to the paper and mining industries. Both sides in the environmental debates were dissatisfied with some of the text language and map data compromises presented in the Atlas. The best strategy seemed to be to present the debates themselves as the primary subject, rather than to try to comprehensively detail the arguments of both sides. To do so would have been to emphasize the modern conflicts over past conflicts.

By far the most sensitive area involved ethnicity.   Time, space, and place—rather than raw population numbers—were again used as the criteria for developing presentations. A small indigenous group that has lived in Wisconsin for centuries (and ceded territory that came to form part of the state's land base) may have more coverage than a large immigrant group with a more recent and localized area of settlement, or an older indigenous group that moved completely outside Wisconsin. Likewise, an immigrant group that settled in large rural areas early in the state's history may have had more coverage than a larger immigrant group that settled later in the cities. These choices certainly did not reflect any relative "importance" of ethnic groups, but rather how easy it is to "map" them over a larger area and time period in Wisconsin history.

As an example, Poles were the second-largest "first ancestry" reported in Wisconsin in 1990. The spreads on German, British Isles, and Scandinavian ethnic groups each cover a larger percentage of current Wisconsin citizens, and Poles are part of a general spread on European Immigration. Yet to further recognize their status, Poles are also presented on the Ethnic Milwaukee spread. Similarly, the Oneida are part of the spread on Native Nations of Eastern Wisconsin, since it was necessary to show their settlement in Wisconsin in the context of Menominee ceded lands. Yet to further expand the coverage of this key Wisconsin Indian nation, a map of its reservations is also incorporated into the Land Conflicts spread. The Atlas of Ethnic Diversity in Wisconsin provides a more detailed view of ethnicity based on modern census numbers and distribution.

Even the names of ethnic groups are open to challenge. This is true even of European immigrant groups such as Czechs, usually called Bohemians in the past. It is even more true of ethnic minorities, such as Latinos, most commonly called Hispanics in government data, and who most commonly prefer to be called by their name of national origin. Names are particularly important among Native Americans. First, many of their governments are currently in the process of officially changing from a former name developed by other peoples (and often using a derogatory concept) to a name or a spelling that they use themselves. The Ho-Chunk, formerly the Winnebago, are a clear case in point, and the Wisconsin Chippewa are increasingly turning to "Ojibwe" (like their Minnesota counterparts). Second, some historians now prefer to add an "s" to tribal names when referring to the plural; the Cambridge History of the Native Peoples of the Americas, for instance, asserts that "referring to collective members of indigenous groups in the singular is an ethnocentric and nonsensical convention left over from the nineteenth century."   The Atlas, however, generally uses versions of the names preferred by Wisconsin tribes, whose spokespeople insist that their names (particularly the new versions) incorporate both the singular and the plural. They say that converting these

names to a plural English form would add a new layer of inaccuracy, in the same way as adding an "s" to "Swiss" or "Chinese."

Each two-page spread in the Atlas had its own unique issues and problems that spread coordinators had to address on a case-by-case basis. The issues often centered on the selection of spreads to cover particular information, the availability of source materials, limitations on map and text space, and whether to cover ideas through spatial representations, illustrations, text, or a combination of two or three. The following is an attempt to chronicle the highlights of each spread, and Guild production decisions that may not be evident to the reader. The spread decisions show how the larger atlas theme, format, and organization was applied in the actual production of the atlas.

SPREAD DECISIONS

Peoples and Cultures SECTION

Indigenous Subsection

Early Cultures. The first spread in the "Peoples and Cultures" section deals with the ancient peoples who inhabited present-day Wisconsin. The concept was to employ a single map that located key archeological sites, with an icon denoting the cultural era of the site. A number of sites, however, were inhabited by different cultural groups in different eras. The spread coordinator, Amelia Janes, used parentheses to identify icons for the cultures that use the site other than the culture for which the site is primarily identified. The map uses relief and an absence of state boundaries to emphasize the landscape of the early cultures, which had no overlap with the U.S. political era.

The map locates Paleo-Indian and Archaic sites, but does not emphasize them as they were not geographically concentrated in present-day Wisconsin. The Old Copper Culture acquired copper ore from the Keweenaw Peninsula, but fashioned its tools primarily in eastern Wisconsin. Early, Middle and Late Woodland cultures predominate on the map, as well as the effigy mounds constructed at many (though not all) Late Woodland sites in Wisconsin, and on the west bank of the Mississippi River. The Late Woodland culture overlapped in time and area with the Oneota and Middle Mississippian cultures. A number of different cultures used stone quarries, and created petroglyphs or pictographs, which are also identified on the map.

Smaller maps depict southern Wisconsin as a unique concentration area of the effigy mound culture, and as a northern riverine outpost of the Hopewell and Mississippian cultures. Using blueprints and air photos, Janes also rendered an illustration of the Mendota State Hospital mound group in Madison, to offer a view of one of the most dramatic surviving bird mounds. (An insight column tells the story of a destroyed eagle mound that was located and outlined using aerial photographs and remote sensing.) The spread also includes examples of effigy mound shapes, and an acquired bird's-eye view of the Aztalan platform mounds at the height of the Middle Mississippian culture.

Native and European Encounters. The goal of this spread, coordinated by Jeffry Maas, was twofold. First, it was to examine the first contacts between Native American peoples in Wisconsin and Europeans as a story of mutual interactions, rather than a simple narrative of European exploration and colonization. Second, it was to at least touch on the Native American groups that were in Wisconsin at the time of the Iroquois Wars and early French colonial period, but were no longer in Wisconsin by the time of statehood. Both of these goals were necessary if this spread was to function as a "bridge" between the pre-colonial Early Cultures spread, and the spreads on the native peoples still residing in Wisconsin in the modern American era.

The initial concept of the Encounters spread initially had problems of overlap with the Colonial Boundaries spread in the Society and Politics section, but Maas concentrated on the relations between peoples on the ground, rather than a larger view of the political-military balance. He used the fur trade as the primary narrative, given that Natives and Europeans were mutually bound within the fur trade system, which also charts the increasing dependency of Native peoples on European goods and political

power. He plotted routes of French explorers, yet made it visually clear that they were following previously existing Native American trade routes. The main map also plots the main fur trade posts, forts and settlements in the French, British, and American eras. It used color-coded type rather than color-coded symbols for the three eras, since some forts changed hands between the three powers.

The second goal of reviewing the "refugee" tribes from the Iroquois Wars—such as the Huron, Sauk, Meskwaki (Fox), and Kickapoo—was much more difficult to achieve in the limited space of the spread. The narrative of their far-reaching movements across the region was relegated to an insight column, which partly explained their flight to Wisconsin as a result of the turmoil created by the eastern Great Lakes fur trade. Their tribal areas of 1768 were shown on a second map, whose primary purpose was to show Wisconsin's place in the French "corridor" between the St. Lawrence and Mississippi rivers. In retrospect, the "refugee tribes" should have had their own spread, which could more thoroughly describe the effects of displacement, epidemics, and colonization on their decisions to leave Wisconsin. The Atlas emphasis on how the past shaped the state of Wisconsin short-changed the peoples whose influence did not continue into the statehood era.

Native Nations of Eastern Wisconsin. This spread covers the Menominee ceded lands of central and eastern Wisconsin, and the Native peoples from New York State who settled on these lands—the Oneida, Mohican (Stockbridge-Munsee), and Brotherton (Brothertown). One map shows the routes that these people took to Wisconsin, and their Wisconsin reservations are shown on another map in the necessary context of Menominee land cessions. (The Oneida—today one of the largest and most economically developed Wisconsin tribes—is also mapped on other spreads.)

The main map combines themes from maps produced for the Traditional Menominee Clans Project, directed by University of Wisconsin-Stevens Point History Professor David Wrone and Menominee artist James Frechette. Treaty cessions are shown with a distinct color fill and year, and collectively identify Menominee territory as delineated in the 1825 Treaty of Prairie du Chien. (Other areas claimed by the Menominee, which overlap other tribal lands, are identified on the Land Conflicts spread). The main map also locates Menominee villages and hunting camps of the 1830s—some from Helen Hornbeck Tanner's excellent Atlas of Great Lakes Indian History—and all reservations later formed on Menominee ceded territory. Finally, the map labels natural features (mainly hydrography) in both English and the Menominee language. The overall effect of the map is to portray the pre-treaty indigenous territory as a distinct entity, with its own boundaries, place names, and population centers. This map is a prototype for three other Native American maps in the following three spreads, like this spread also coordinated by Zoltán Grossman.

The spread also displays a satellite photograph of the present-day Menominee and Mohican reservations, accompanied by a political map of the same area, to show how lands around the reservations have been cleared for farmland. An insight column tells the story of the Menominee timber industry, and how its sustainable harvesting practices have preserved the reservation forest.

The Ho-Chunk and Dakota Nations. The Ho-Chunk (Winnebago) and Dakota (Sioux) controlled most of western Wisconsin until 1837. They were grouped together in this spread because of this geographic proximity, their common membership in the Siouan language family, and the lack of much solid data on the Wisconsin Dakota. The main map, like the Eastern Wisconsin Nations map, shows Ho-Chunk and Dakota treaty cessions, 1830s villages, and present-day lands. Neither tribes has a Wisconsin reservation—the Dakota have a Minnesota reservation adjacent to the state, and the Ho-Chunk possess trust lands rather than reservation lands (and will soon reacquire additional lands along the Kickapoo River). State boundaries are shown on the map for geographic context, since the boundaries were present at the time of the last Dakota treaty shown. The hydrography is labeled with English and Ho-Chunk names, using the recently

standardized Ho-Chunk spelling system. The Ho-Chunk Historic Preservation Department and Hocak Wazijaci Language and Culture Program provided invaluable assistance on the main map.

The smaller map depicts the process of Ho-Chunk removal from Wisconsin in the 1830s-1860s— first to Iowa, then Minnesota, Dakota Territory and Nebraska. Many Ho-Chunk hid out in Wisconsin, or traveled back to their homeland. An insight column on Yellow Thunder, who led the resistance to removal, touches on the remarkable story. The removals map also serves as a locator for Ho-Chunk ceded lands in Wisconsin, undivided by individual treaty areas, to put the larger map into a better spatial context.

The Ojibwe Nation. This two-page spread treats the history of the Ojibwe (Chippewa), also identified by the larger group of Anishinaabe. Anthropologists commonly use the name Ojibwa, but the Bands themselves only use the spelling in Michigan and Canada. The main map again locates treaty cessions and modern reservations, and names both hydrography and reservations in Ojibwe. It locates villages in both the 1830s and 1870s, to dramatize historic mobility and decentralization of the Ojibwe within their region, and offers examples of their earlier battles with the Dakota. The accompanying text narrates the treaty cessions and the 1850 "death march," or the unsuccessful attempt to remove Wisconsin Ojibwe to Minnesota.

The smaller map locates (though does not label) the more than 250 Ojibwe reservations and reserves in four states and four Canadian provinces. Some of the Canadian reserves are shared with other tribes. The map also uses a color fill to show the approximate extent of pre-cession lands, which is defined by treaty cessions in Wisconsin, Minnesota and North Dakota. The extent is much more difficult to define in Michigan and Canada, where treaties were signed jointly by Ojibwe chiefs and other tribal chiefs, and so the line is drawn more loosely around the present-day lands.

A unique feature of the Ojibwe spread is the tracing of an Ojibwe birchbark scroll, which tells the story of the historic Ojibwe migration from Canada's Atlantic Coast. The scroll uses culturally specific symbology, but also includes recognizable geographic features, including the Bayfield and Keweenaw peninsulas. The scroll helps to place mapmaking in a different cultural context, and to show how the Ojibwe themselves viewed their landscape. In a larger sense, it helps communicate the message that historical maps not only narrate history, but are themselves the result of historical change. The actual route depicted on the scroll is shown on the smaller map of Ojibwe domains and reservations.

The Potawatomi Nation. The Potawatomi form a small population and land base in modern Wisconsin, and in the treaty period shared only the southeastern and southwestern corners of Wisconsin with the Ottawa and Southern Ojibwe. The history of Potawatomi mobility before and after the treaties, however, would be extremely difficult to explain in any less than a full spread. Before the treaties, the tribe migrated through Michigan, Ohio, Indiana, Illinois, and different regions of Wisconsin. Since the treaties, they have been removed to Missouri, Iowa, Kansas and Oklahoma, and many fled to northern Wisconsin or Canada (where they share reserves with other tribes). Like the Ho-Chunk and Ojibwe, many returned to Wisconsin to re-establish a land base.

The main map shows Potawatomi treaty cessions in southern Wisconsin and northern Illinois, villages in the 1830s and 1870s (both treaties and villages shared with the Ottawa and Southern Ojibwe), the temporary "refuge area" of the Door Peninsula, and present-day reservation parcels. The hydrographic labels are in English and Potawatomi, though it was difficult to document the historic names for some rivers, whose labels may actually reflect Potawatomi translations of the English name. The smaller map of Potawatomi removals shows the full ceded territory as a single color, and shows temporary "interim" reservations and modern reservations with different fills. Arrows identify some of the general routes of removal and return gleaned from text sources. An insight column focuses on Potawatomi history in Milwaukee (the largest Wisconsin city on Potawatomi ceded lands), from the treaty era to the modern casino.

Conflicts Over Native Land Resources. The last spread in the Indigenous subsection, also coordinated by Zoltán Grossman, reviews conflicts between Native American nations and the larger U.S. society and government. Much of this history was too detailed in include in the four spreads on the tribes, and would have diverted attention away from the internal histories of these nations toward U.S. federal and state Indian policy. This spread affords an opportunity to examine Wisconsin Indian history in the context of national policies, and to emphasize the continuity of Indian land and resource issues—from the Black Hawk War to the Ojibwe spearfishing controversy. An insight column briefly describes the Black Hawk War.

The main map identifies each of the nations in Wisconsin at the time of the 1825 Treaty of Prairie du Chien with a single cohesive color—Ojibwe, Menominee, Potawatomi, Ho-Chunk, and Dakota. Cross-hatch patterns locate the overlap between treaty areas. Symbols depict the Black Hawk retreat, and battles and occupations through Wisconsin history, and notes describe historic incidents. An inset map shows the counties with the most intensive clashes during the recent Ojibwe spearfishing conflict, and the main map locates modern casinos. The effect of the main map is to show that Native sovereignty is not a relic of the past, but that the continued existence of reservations and off-reservation treaties affects present-day Wisconsin politics. A smaller map shows the present-day Oneida Reservation, still within its 1838 treaty boundaries, but facing encroachment by non-Indian landowners and municipalities. The map also has the effect of balancing out the lack of Oneida data on the Eastern Nations spread.

Immigrants Subsection

Anglo-Americans and British Isles Immigrants. The first spread in the Immigrants subsection was one of the most difficult to formulate. It originally focused on Yankees, or American arrivals from New England and New York, who were instrumental in Wisconsin's early history. English immigrants are another group that seemed to best "fit" on this spread. To add another layer of complexity, non-English immigrants from the British Isles (Scottish, Welsh, Cornish, Irish, and Scots-Irish) and British Canada did not seem to easily fit onto other spreads. Janes defined the spread as encompassing English-speaking immigrants from the 19th-century British Isles, and their descendants, defined linguistically as "Anglo-Americans." The category includes immigrants from Ireland not only because the entire island was then part of the United Kingdom, but because many of the ethnic Irish immigrants in Wisconsin came from industrial cities in Great Britain.

Anglo-Americans defined Wisconsin's language, founded many of its towns, and devised much of its system of laws, political leadership, land surveys, real estate, and business. Yet because Yankees tended to settle in towns rather than settle large farming areas, making them somewhat difficult to map by area and period. Early census data records only "native-born" Americans, without ethnic breakdowns, but the "native-born" tend to be Anglo-Americans before the Civil War. The first map on the spread is the percentage of native-born citizens to the total population by county in 1850, in order to show areas where they predominated. Because of the vast differences in early county populations, however, it was necessary to also incorporate a band showing the numerical concentration of native-born citizens in the southwestern Wisconsin "lead district" and in southeastern Wisconsin. The map identifies communities named after communities in the eastern states.

The map of immigrants from the British Isles shows the English, Irish, Scottish and Welsh based on a 1940 map by G.W. Hill, using 1940 census date informed partly by a 1905 survey of ethnic "stock" (foreign-born people and children of foreign-born). It also identifies the origin of certain place names, in the four countries of the United Kingdom. An accompanying map shows the ethnic areas of origin in the British Isles. A map of Dane County locates distinct Yankee, English, Irish and Scottish rural neighborhoods in Dane County in the 1870s, to dramatize how these groups settled very

close to one another. A plat map of Janesville in 1873, which accompanies an insight column on the city's Yankee founder, shows a variety of English/Yankee, Scottish, and Irish surnames of landowners. In 1990, 12 percent of Wisconsin residents reported their first ancestry as originating in the British Isles, with the Irish making up half the figure.

Becoming German American. The spread on German ethnicity was not at all difficult to justify, but surprisingly difficult to define. The immigrants originally did not identify with the concept of "German," since Germany did not exist as a unified state until 1871, and the immigrants were extremely diverse in their regions of origin and social makeups. Their contrast with the dominant Anglo-American society served to strengthen their German identity, but then tended to repress that identity in the political tumult of the world wars. Insight columns tell the stories of German American social clubs (such as the Turners), and the pro-Nazi Bund of the 1930s.

The main presentation "From Germany to Wisconsin," developed by spread coordinator Michael Gallagher, has three integrated parts. A map shows the constituent states of the German Empire in 1871, with major regions coded by color. A chart shows the three distinct waves of 19th-century German immigration, also color-coded by the main regions of origin. A second map shows the "arc" of German settlement in Wisconsin, also color-coded by regions of origin. The map also locates some towns in Wisconsin and Germany with the same place names. Using this presentation, the reader can ascertain the "who," "when," and "where" of German immigration to Wisconsin— for example, that southwestern Germans came earlier and settled closer to Milwaukee than later immigrants.

A second map focuses on German ethnicity in the 20th century. It uses the Hill map for township areas of major German ethnicity in 1940, as well as areas of mixed ethnicity where many Germans also lived. The map also includes figures in each county to show the 1990 percentage of residents reporting their first ancestry as German. An accompanying bar graph shows the rise and decline of Wisconsin's German-born population. The map shows general continuity between the 1940 color fills and the 1990 figures, with some interesting exceptions. In 1990, about 47 percent of all Wisconsin residents reported their first ancestry as German.

Scandinavian Settlement. The spread on Scandinavian settlement was not difficult either to justify or define. The narrative covers the commonalities and differences between each of the groups—Norwegians, Swedes, Danes, Finns (including ethnic Finns from Sweden), and Icelanders. The main map shows these groups from the 1940 Hill map. Spread coordinator Jeffry Maas added symbols for key Scandinavian settlements in the 1830s-1940s, and cities, villages and townships with a strong Scandinavian presence. An inset map shows the European areas of origin for each group in 1919, after Norway achieved independence from Sweden, and Finland achieved independence from Russia.

The main map shows a clear Norwegian concentration in the south-central region and along the Minnesota border, Swedish and Danish settlements further north, Finns along Lake Superior, and Icelanders in two tiny enclaves in eastern Wisconsin. The Hill map also used a category for "mixed ethnicity," which presumably includes many areas where Scandinavian groups overlap with other groups, particularly Germans. In 1990, about eight percent of Wisconsinites reported their first ancestry as Scandinavian—a surprisingly small figure, although augmented by a sizable report of "second" ancestry.

European Immigration. The main goal of this spread was to incorporate European ethnic groups not covered on the Anglo-American, German or Scandinavian spreads, particularly the later immigration waves of predominantly Catholic ethnic and national groups. By far the largest of these groups is Poles (seven percent of Wisconsinites claimed Polish as their first ancestry in 1990). The spread also briefly covers the French, Italians, Dutch, Czechs, Belgians, Swiss, and others, claimed by a total of about 11 percent of state residents as their first ancestry. Spread coordinator Marily Crews-Nelson added a chart listing all European ethnic groups in the 1990 census of "reported first

ancestry," as a percentage of the total state population, in order to rank them in order of their present-day size.

The main map uses the the Hill source to identify 1940 enclaves and areas of mixed ancestry. An accompanying map shows the homelands of these ethnic and national groups on a map of Europe with post-World War I boundaries—after Polish, Czechoslovak, Baltic, and Yugoslav independence. The map uses both linguistic keylines of ethnic groups, (such as the Poles), and state boundaries for national groups (such as the multilingual Belgians and Swiss). Symbols identify the counties of initial settlement of particular ethnic groups, in an attempt to historicize the map earlier than 1940.

The European immigration spread was very difficult to conceptualize, both because of the diversity of the ethnic and national groups, and the obvious need to avoid defining them as the "other" European immigrants. The statewide presentation of the map also emphasizes the rural presence of the ethnic and national groups, rather than the urban presence. This problem is partly corrected on the Ethnic Milwaukee spread. A map of ethnic groups in Racine—known as one of the most diverse Wisconsin cities—was also included to demonstrate the ethnic diversity of smaller cities in the state.

Ethnic Milwaukee. This spread, coordinated by Zoltán Grossman and Jeffry Maas, was an effort to correct the visual rural emphasis on the European Immigrations spread, and depict the history of what was by the far the largest immigrant center in Wisconsin. It also concentrates on European immigrant groups, since African Americans and Latinos in Milwaukee are covered on other spreads. The spread was hampered by a lack of quality map sources on the subject. Many sources on Milwaukee's ethnic history are clearly written for a Milwaukee readership, and only vaguely describe ethnic neighborhoods—usually on the basis of wards— rather than clearly outline zones of settlement.

One clear exception to this problem were the writings of Michael P. Conzen and Kathleen Neils Conzen. Two of their maps in a Journal of Historical Geography article were combined to produce a map on ethnic neighborhoods and retail patterns, which shows the growth of German, Irish, and native-born "cores" in 1850-90 (with other ethnic neighborhoods in 1890), and their relationship to horsecar lines and retail districts. A discussion of the Milwaukee Polish community both served to illustrate the importance of retail shops to ethnic cohesion, and to balance out the relative lack of coverage of Poles elsewhere in the Atlas.

Another exception was a dissertation by Dr. Howard Botts, now chairman of the University of Wisconsin-Whitewater Geography Department. Using grid cell methodology, he charted changes in German, Polish, Norwegian, English, Irish, Czech, and native-born neighborhoods in 1880-90, and on other maps showed dominant occupations in the same grid cells. The color map was able to illustrate the correspondence between ethnicity and occupation that the multiple black-and-white source maps could not. While grid cells present a clear graphic portrayal of these kinds of correspondences, their drawback is their lack of geographic specificity. It was necessary to at least identify the outer limits of the collective grouping of grid cells, to relate the data to a familiar urban landscape.

On the Ethnic Milwaukee spread, an oversimplified narrative of immigration "waves" into the city was difficult to avoid, as was an overemphasis on German settlement. The spread, however, provided a welcome respite from the emphasis on ethnicity-for-its-own-sake in the first Atlas section, by discussing the relationship between ethnicity, class, and community economics.

African American Settlement. Wisconsin Black history has been explored in text, but rarely in maps. The first page of this spread, coordinated by Zoltán Grossman, reviews the history of abolitionism and Black suffrage in the state, as well as the rural African American communities in Grant and Vernon counties. A map of southern and eastern Wisconsin identify the primary Black communities in 1895, and the county

population in 1930.   The map also shows abolitionist centers, and possible routes of the Underground Railroad in the 1850s, based on textual rather than map references. An insight column tells the story of fugitive slave Joshua Glover, who was freed by white abolitionists from a Racine jail, in defiance of the Fugitive Slave Act.

The second page of the spread focuses on Milwaukee, where 80 percent of Wisconsin's African Americans now live, using several different map and text sources. Dots identify African American households around downtown Milwaukee in various years between 1852 and 1905, to show that the Black presence was more or less decentralized. (The households more than doubled in size during the period.)   In the 1910s, the Black population became more concentrated in an "Inner Core," which grew to the north and west. Several sources were used in the creation of this map, in order to demonstrate the dramatic segregation that grew over time in the city. A small inset carries the growth of the "Inner Core" through to 1980. While many of the sources emphasized the poverty and isolation of the community, African American sources have also directed attention toward the social and economic life in the exclusive Black neighborhoods. They also dissuaded the Guild from using the term "Black" as a noun, preferring "African American." While African Americans cannot accurately be described as "immigrants" to the United States, they can be seen as "immigrants" to Wisconsin from other parts of the U.S.

Newest Arrivals. This spread originally was entitled "Latin and Asian immigration," but spread coordinators Michael Gallagher and Zoltán Grossman dropped the title in the research phase. The decision did not have mainly to do with the dispute over the terms "Latino" and "Hispanic," since the two terms are interchanged in the text. The title change reflected the fact that, in Wisconsin, the families of most Latinos did not come directly from Latin America, and the families of many ethnic Asians did not immigrate to the state directly from Asia. They came as a result of "secondary migration" from other states in the U.S., particularly Mexican Americans from Texas, and Laotian Hmong from California. Wisconsin's Hmong population has more than doubled from the figures in the 1990 census.

Two maps use a color fill to show the 1990 county population percentages of Latinos and Asians, as well as letter symbols to identify the largest Latino and Asian ethnic groups within the counties. Pie charts break down the population of the largest Latino counties into ethno-national groups, with the added effect of showing the large Puerto Rican community in Milwaukee County. The maps also identify Japanese American relocation areas in World War II, and Cuban refugee processing centers in 1980.

The overwhelming majority of the "newest arrivals" can trace their roots to either Mexico or Laos. Small inset maps were added to show the movement of Mexican American migrant workers from the Rio Grande Valley of Texas, and the homeland of the Hmong in the mountains of Laos. Conceptual problems remain with the spread. For example, only about ten percent of Wisconsin Mexican Americans are still migrant workers, and a sizable number of both Latino and Asian families are not "new" to Wisconsin, but have lived in the state for generations.

Cultural Legacies Subsection

Immigrant Religious Patterns. Any presentation on local religious history is bound to face problems, due to the sensitivities of different religious groups that their histories be included and accurately depicted, and the lack of data that covers more than one religious group at a time. Wisconsin's religious institutions played such an enormous role in the state's social, cultural and political development that the lack of statistical data sources—particularly maps—becomes especially shocking. For example, no accurate state or county data are available for any historical period on the correlation between

religion and ethnicity—perhaps one of the primary factors that shaped Wisconsin culture and settlement patterns.

The religious history of Wisconsin is also centered on two other themes, as outlined by spread coordinator Amelia Janes. First, the state is located in a transition zone between the predominantly Roman Catholic Great Lakes region, and the predominantly Lutheran Upper Midwest. The color fills on the main map identify if a county was mainly Catholic or Lutheran faiths in a 1926 census of religious affiliation. Different boxed crosses identify the largest Lutheran synod in the county, and colored crosses identify the largest non-Lutheran Protestant denomination. The Lutheran patterns show a clear correlation to the main map on the Scandinavian spread. Second, Wisconsin's religious diversity made it a haven for smaller religious groups during the settlement period. Symbols and notes on the map locate the first organization of a religion in Wisconsin, and other notes locate other noteworthy religious sites.

Four other graphics attempt to add different layers to the presentation. A pie chart shows the breakdown of Christian religious groups in the 1906 census of religious affiliation. A small map shows 1994 sites of non-Christian communities in the state, which are barely mentioned on the main map. Another small map locates modern communities of Old Order Amish in the state, and an insight column discusses their waves of settlement and struggle for a distinct cultural-religious identity. A final map shows the German Catholic communities of the "Holy Land" area northeast of Fond du Lac, where few public schools exist even today. The Amish and Holy Land maps emphasize the continuing legacy of devout religious life in the secular environment of present-day Wisconsin.

Cultural Figures. This spread was the only attempt to focus on individual figures—a common theme in most textual sources on Wisconsin figures. Since Wisconsin is known mainly for being on the edge of the Chicago and Minneapolis cultural spheres of influence, rather than as a distinct cultural center, a focus on individuals is a method of looking at the history of arts, entertainment, and scholarship in the state. The central source for the main map was the State of Wisconsin Blue Book, which only lists deceased figures. The spread coordinator, Marily Crews-Nelson, omitted military, political, philanthropic, and industry leaders, to keep a narrow emphasis on arts and scholarship. The map emphasizes the role of Madison and Milwaukee, due both to population size and the presence of educational institutions. Type is color-coded for whether the individual was born in or simply lived and worked in Wisconsin, and symbols denote their various fields. Many educators, artists, musicians and athletes were simply left out of the map for lack of space, and the focus was narrowed to emphasize the fine arts over the numerous examples of "folk art" in the state.

The primary biographies feature three of the state's best known figures, One presents Frank Lloyd Wright's buildings in the U.S. (the main map locates his buildings in Wisconsin). A biography of Vince Lombardi, included partly to give recognition to the entertainment role of professional sports in Wisconsin, is accompanied by a map of "Cheese League" football training camps. Georgia O'Keeffe, who deemphasized her Wisconsin childhood, but nevertheless learned her first art skills in the state, is discussed in an insight column. The spread also offers shorter biographies of figures who may not be instantly recognized as Wisconsinites by other Americans: Harry Houdini, August Derleth, Zona Gale, Edna Ferber, Orson Welles, Frederick Jackson Turner, Thornton Wilder, Laura Ingalls Wilder, Owen Gromme, and George Poage. The figures were selected to represent a variety of fields and backgrounds.

LAND AND ECONOMY SECTION
Natural Resources Subsection

Glacial Landscapes. The glacial spread, coordinated by Amelia Janes and Michael Gallagher, was one of the most difficult to conceptualize and produce. Despite the plethora of reference materials, theories concerning Wisconsin glaciation are in a

state of flux, and existing map representations tend to oversimplify or distort the complexities of glacial history. The main purpose of the spread was to provide context for the other spreads in the Land and Economy section, by explaining why Wisconsin's natural resources are located where they are. In most of the state, the Ice Age has not only created the landforms, but has in doing so has profoundly shaped Wisconsin's forests, mineral deposits, farmland, and hydrography.

The main map at first depicted both the different eras of glaciation, and the landforms left behind. The actual direction of ice movement in the form of lobes, however, was relegated to an inset map. The main map only represents the different kinds of landforms that the glaciers left behind—including moraines, outwash and till plains, and drained glacial lake basins. Terminal and recessional moraines can be clearly seen on the map, but are also explained in the text, as are the smaller examples of glacial landforms. The scale of the map did not allow for an adequate visual representation of drumlins, though an esker is shown in a photograph.

A secondary map depicts the flow of the glacier into the Baraboo Range, next to Devil's Lake. This map originally depicted the theory of Devil's Lake as a remnant of a Wisconsin River rerouted by the glaciers. That theory, however, has partly fallen into disrepute, and a more complex story is told of Devil's Lake and the Wisconsin River alike as the products of glacial meltwaters.

Mining Districts and Discoveries. This spread, coordinated by Amelia Janes, covers Wisconsin's history of mineral extraction, based mainly on metallic minerals rather than non-metallic stone, and how mining "booms" and "busts" affected settlement patterns in certain regions. The text reviews the chronology of metallic mining eras, or economic cycles, corresponding to the resources of lead, zinc, iron, and copper. The main map legend duplicates the same order of resources.

Since it was impossible to locate and label every individual mine in the state, the main map uses color fills to identify mining "districts," or areas with their economy mainly based on mining, and mining "centers," or communities with their economy based largely on mining. Since metallic minerals often co-occur, the symbols for the key centers are often split between two color codes for the minerals. The map also locates key early mineral roads and ports. It locates but does not label stone quarries in 1898, even though they provided had a large economic impact on local areas, but does not expand on them to avoid adding another layer of complexity. The map also shows major metallic mineral discoveries of the 1960s-1990s in the northern Precambrian Shield, to show that Wisconsin's mining history is not necessarily over, yet that certain mining proposals have been delayed or halted. The map again shows the flow of major rivers, to locate the downstream communities that have raised concerns over environmental impacts of sulfide mining. The spread used information from both mining supporters and opponents.

A smaller relief map shows the southwestern Wisconsin "Driftless Area," with a color fill for the historic lead district, and an overlapping pattern for the later zinc district. The map locates early mining camps and key individual mines, mining communities, and processing centers from the 1820s to the 1970s. The lead district is defined not by the formal right-angle boundaries identified on some maps, but with a more generalized boundary emphasizing the geological area. An accompanying graphic depicts the operation of the Helena shot tower along the Wisconsin River, and its role in ammunition manufacturing and shipping.

Timber, River, and Mill. The timber spread, coordinated by Jeffry Maas, takes a subject that has been previously mapped, and treats in in new ways. The "edge" theme is especially pertinent to timber, as Wisconsin was ideally situated with rich forests in the north, and rivers flowing south to agricultural areas that needed timber for settlers' homes and farms. The text takes the reader through the rise of the timber industry, its connection to transportation and industrial growth, the disparities of wealth between timber workers and timber " barons," and more recent conservation programs. A small

map of vegetation cover around 1840 locates the conifer forests north of the "tension line," and the hardwood forests, savannas, and prairies south of the line.

The main map combines major elements of the timber industry in the 1860s-1910s. The 1840 tension line is reproduced to show the original southern edge of the pinery. Color fills identify the main watersheds in northern and central Wisconsin, since the logs were floated to market within distinct "river districts." Arrows show the directional flow of the rivers, as well as timber shipping routes on the Great Lakes. Symbols and notes locate major "booms," or log storage areas. Finally, symbols locate the major wood products industries that processed and used the timber. The costs and dangers of transporting logs down the Wisconsin River resulted in a staggering of the wood manufacturing plants along its banks, while other rivers had most industries concentrated at their mouths. The spread text and a photograph emphasize the role that railroads played in transporting timber, but railroad lines would have overloaded the map and unnecessarily repeated data on the Transportation spread. An insight column looks at later attempts to settle farmers in the northern "cutover district"—a theme often revisited in other spreads.

Agriculture Subsection

Harvesting the Crops. On the surface, this spread would seem to be one of the most straightforward in the Atlas. Its goal was simply to examine the non-dairy aspects of Wisconsin agriculture, particularly grains and specialty crops. Yet an overwhelming volume of data, little of it specific to identifiable small-scale areas, and the question of how to represent crop areas on the main map, vastly complicated the production. Spread coordinator Jeffry Maas expressed the opinion that the Crops spread could easily have been broken into six or seven spreads.

The main map uses fills to denote growing seasons in the state. The icon symbols place the emergence of commercial crops (as opposed to garden produce) in specific counties in specific decades. The icons include modern speciality crops such as ginseng, mint and cranberries. The main map was the only geographic representation on the spread of grain crops other than wheat, and of animal-based agriculture other than dairy cows. As such, it carried a tremendous burden, and so Maas added a more straightforward inset map of primary agricultural regions in the 1930s.

The secondary map deals with Wisconsin's first major crop, wheat, and the shifting areas of its production around Wisconsin. While wheat is commonly thought to have collapsed as a Wisconsin cash crop, it was more accurately eclipsed by farms on the wide expanses of Minnesota and Dakota Territory. The dairy-based agricultural system that largely replaced wheat used many of the same feed crops as are identified on the spread. The task of separating out dairy and non-dairy agriculture was rendered impossible, but the spread at least reviews some of the state's major crops and farming trends.

America's Dairyland. The Dairy spread was an obvious choice for the Atlas, and the only problem was paring down the immense amounts of information available on the Wisconsin dairy industry. The text narrates the ethnic origins of the industry (an insight column also identifies the nations of origin of the main dairy cattle breeds), its growth through technical innovation, and the critical differences between the economies of butter, cheese, and bottled milk. A dot map of milk farms and cheese farms in 1932 shows how the production of fluid milk was clustered around cities, whereas production of cheese and butter (which were relatively easier to ship) was distributed throughout different parts of the state. A yellow fill identifies clusters of dairy farms as "cheese districts." They were not significantly different in distribution from present-day cheese districts, except perhaps for a more northward extension into the Cutover District. Spread coordinator Marily Crews-Nelson also located sites of interest to the growth of the dairy industry on the main map.

Much of the Dairy spread deals with dairy economics, including an insight column on the farm foreclosures of the 1980s, and the potential impacts of Bovine Growth Hormone and cloning on dairy production. A secondary map shows the national milk pricing system, which was centered on Eau Claire, and put Wisconsin milk producers at a price disadvantage relative to other states. The system was devised in 1937 to encourage dairying around the country; the map shows its most recent iteration in 1996, though without graphically depicting the areas of the country that have declared their independence from the system. A first draft of the legend based on price factors was changed to a map based on straight dollar amounts. A bar chart shows the top milk and cheese producers in 1996, the year that California first overtook Wisconsin in milk production (but not cheese production). The effect of both graphics is to depict Wisconsin not only as a leading dairy state, but as the historic center of a national dairy economy.

Weather Hazards. This spread, coordinated by Amelia Janes, went through perhaps more of an evolution than any other spread in the Atlas. It began as a spread on "natural impacts on agriculture," emphasizing droughts and floods, and metamorphosized into a spread on all types of "natural disasters." The focus was finally narrowed to the impacts of weather hazards on human history in Wisconsin, including the role of humans in creating or exacerbating these "natural" hazards. The text takes the theme through floods on the first page (paired with cool green-blue map colors) and droughts, fires and storms on the second page (paired with red-orange map colors). The text describes Wisconsin as on the "edge" of historic weather systems, including the Dust Bowl, tornado alley, and major ice storms. The main map on the first page emphasizes floods and storms, including key flood-prone rivers and the dates of major floods, counties affected in the 1993 floods and the 1976 ice storm, a county tally and examples of major historic tornados, and the 1977 "downburst" windstorm in northern Wisconsin.

Three problems arose in the map production. First, every community and individual seemed to want their "favorite" storm or flood to appear on the map, while only the most damaging storms or floods would fit on the map (for example, spread coordinator Amelia Janes received a letter from an elderly Pensaukee couple politely requesting that their 1877 tornado be included). Second, many storms were not limited to a point location, and were difficult to map without cluttering the presentation. Third, historic data were much more difficult to locate than modern records, owing to changes in population and record-keeping. For these reasons, the map should not be treated as comprehensive, but does accurately represent repeating patterns of storms and floods.

The second page also has a map of the Peshtigo fire, and a locator map with the other Midwestern fires that occurred on the same day. The Peshtigo map uses color gradients to show the origin and extent of the fire, which is often inaccurately thought to have started in one location. Two small floating maps show the general areas of key droughts in this century, identifying the areas of the state most often affected. Finally, two photographs describe the results not of fire, but of fire suppression. A Wisconsin River bluff near Prairie du Sac is shown virtually barren in the 1870s, and heavily forested in the 1990s. The invasion of trees may have been caused both by the prevention of fires and changes in grazing patterns, but the point remains that fire has played a key role in shaping Wisconsin's landscape.

Changes in Rural Society. This spread began as a presentation on "human impacts on agriculture," but evolved under the coordination of Jeffry Maas to present examples of the social-ecological transformation of farming areas. It is one of the few spreads to not include a statewide map, since processes of rural change are better understood at the "micro" level. Among these processes are the integration of town and country, of town and city, and of city and country.

The often overlooked integration of town and country is represented by maps of the "rural neighborhood" around Delavan, from a 1929 University of Wisconsin-Extension study of rural social and economic networks (covering high school, church,

and milk marketing networks). It shows that the reach of the rural village grew in the early part of the century, in the process increasing social contacts, but also weakening Wisconsin's distinct rural cultures. Perhaps the key period of rural change, during the 1930s Great Depression, is represented by a map of rural electrification in two Jackson County townships, and photographs of a Vernon County farm before and after erosion control (which was first codified in Wisconsin).

The theme of urban sprawl is also used on the spread on southeastern Wisconsin industries. This spread, however, emphasizes the effect of urban sprawl on surrounding farmlands, using the example of Eau Claire. The growth of the city (including the construction of a mall) in the 1960s-1980s drove up property values and taxes for adjacent farms, driving many out of business, and transforming the landscape. While the text covers the historic population shifts from rural towns to urban areas, they are graphically portrayed on the Representation spread.

Industries Subsection

Transportation Networks. Of all the themes in the Atlas, transportation is perhaps the most interrelated with other themes. The growth of transportation networks by itself is not a particularly compelling subject, but when seen in the context of social and economic development, it becomes one of the most critical historical factors. Roads and railroads profoundly shaped trade, mining, military affairs, logging, immigration, crop farming, dairy farming, and the tourism industry. These sectors, in turn, helped to shape the networks to meet their their own needs.

The first map looks at the growth of roads, from territorial plank roads and military roads to the State Highway Trunk System and the federal Interstate system. It secondarily looks at canals, whose early promise as key transport routes was not fulfilled. Spread coordinator Michael Gallagher also examined the Good Road Movement that began in the 1890s, and illustrated its positive effects by comparing two photographs of the same Clark County highway in 1918 and 1938. He had attempted to show the same process with a county map, but it failed to dramatize the extent of road improvement.

The second map charts the growth of the rail network, using seven dates from 1858 to 1970. Unlike early roads, most of which are still in use, the railroad map faced the challenge of how to also depict the decline of the network. Gallagher employed dashed lines and dates to show the regression of rail lines. The text reflected the decline of interurban trains, and the possible beginning of their resurrection in the 1990s. Consulting editor Jack Holzhueter also added text on air travel, which is not shown on any of the maps.

Southeastern Wisconsin Industries. This spread focuses on urban and industrial growth around the cities of Milwaukee, Racine, and Kenosha, with an emphasis on Milwaukee. The subject matter was not one of the strengths of Guild members, and spread coordinator Amelia Janes did extensive research to identify major themes. The obvious geographic issues involving location at river mouths, and proximity to Chicago, were not enough to explain the growth of manufacturing centers. Janes found that the early use of agricultural products—flour for milling, leather for tanning, and barley for brewing—set the industrialization process in motion. The availability of industrial raw materials, transportation networks, and immigrant labor enabled heavier metals-based industries to expand. Since the names and identities of major companies were as important as the types of industries they represented, the text had to incorporate numerous elements. It left out all but brief mentions of labor or environmental issues, which were covered in more detail on other spreads.

Due to a lack of adequate map sources, the spread went through several iterations. Plans for separate maps on Milwaukee's Menomonee River Valley, Racine industries and Kenosha industries had to be dropped, either because no sources were available, or the scale of the map could not convey anything more than simple locations. An excellent source was finally located on major Milwaukee factories in 1912, which specified the factory type, size and company. The outlying areas of Milwaukee County, and eastern

Racine and Kenosha counties, were incorporated into a single large map. Color gradations showed urban growth of the three cities in three periods, and icons identified key industries and companies in 1945. Transportation networks of 1937, including interurban train lines, were overlaid on the map. The effect was to depict an interlocking regional network of industrial production and urbanization.

Industries of the Fox Valley. This spread—devised as a twin to the Southeastern Wisconsin spread— describes a classic case of the blending of geography and history. The Fox River Valley developed as an industrial zone owing to its proximity to water transportation, water power, rich farmland and forests. The text focuses on the eras of early settlement, canal-building, flour mills, paper mills, and river clean-up. The history involves some obvious progressions—Indian villages that become trading posts, forts, and then townsites; river rapids that became locks, then power dams, then industries; a river that became a route for trade, then of commerce, and then of pollution.

While it was easy to write about the history of Fox Valley industries, it was rather painstaking to historicize them in a map representation. The main map focuses on the large modern paper mills in the valley (defined by a workforce over 1,000), with each company's founding date and the present-day transportation network. Spread coordinator Amelia Janes dropped an effort to include non-paper industries, due to the overwhelming amount of data (the goal of locating multi-site paper firms was complex enough). An accompanying chart represents the 170-foot drop of the Lower Fox through locks and dams to Green Bay.

A smaller map sites the paper industry plants in Green Bay and De Pere, and includes historical information, such as the 1838 extent of the two cities, and examples of the French "long lot" land survey system described in the text. The spread also includes an 1870 bird's-eye view of Neenah-Menasha, with an insight column on the historic rivalry between the cities. The graphic was included for its information, its aesthetic qualities, and to depict a popular mapmaking method of the era.

The Inland Sea: Great Lakes Shipping. This spread examines Wisconsin ports on the "Inland Sea," and their role in the economic growth of the Great Lakes region. It is centered on maps of the state's two "coasts," along Lake Michigan and Lake Superior. Large ports are shown with a modern city fill (including neighboring Duluth). All ports are identified with symbols depicting commercial fishing, wood and metal shipbuilding, repair/drydock facilities, grain elevators, and ore docks. A single symbol also locates all Wisconsin lighthouses on the Great Lakes. An insight column reviews the history of ferries across Lake Michigan, which has historically formed a barrier to ground travel to the state from the east.

The spread was originally going to examine Wisconsin's role in foreign trade, but spread coordinator Jeffry Maas found the subject too cumbersome to map. He included a map representing the trade network within the Great Lakes region, particularly the role of ports in shipping grain out of the area, manufactured goods into the area, and raw materials to the steel mills. The iron ore of the Lake Superior region, together with coal and limestone found elsewhere in the region, provided the necessary ingredients for steelmaking, and thus of the industrial boom in the United States. The Great Lakes spread relates directly to other spreads on mining, manufacturing industries, environment, transportation, and many others.

Tourism and Recreation. This spread was originally devised to locate key tourist attractions in the state, but evolved into a serious look at the social, economic and environmental implications of travel tourism and the state's outdoor recreational industry. Spread coordinator Amelia Janes did not focus on recreational pursuits (such as sports), that do not specifically involve travel. The spread instead traces the overlapping periods of Wisconsin tourism—late-1800s scenic tourism, early-1900s automobile tourism, mid-to-late 1900s cottage tourism, and late-1900s weekend tourism.

The main map depicts the government-related sections of the modern tourism industry— state parks, state historic sites, major highways, state and national forests,

national lakeshore areas, state recreational trails, and more. It also offers some examples of historic data, including early resort centers and historic circus towns. Spread coordinator Amelia Janes purposely avoided mapping privately owned modern tourist attractions, because the numbers and choices would have been too overwhelming. The map shows major fish hatcheries and top "fishing hot spots," in order to communicate the historic importance of sportfishing in Wisconsin tourism. It also shows the Chicago, Twin Cities, and Milwaukee metropolitan areas, to identify the main sources of tourism in their Wisconsin "hinterlands."

The spread contains a number of smaller maps that illuminate other aspects of tourism in the state. A thumbnail map gives modern data for the county ranking in tourism spending (the top-ranked counties are urban centers), and concentrations of recreational homes, primarily in the north. A small map based on Increase A. Lapham's 1870s map of Kilbourn City accompanies an insight column of Wisconsin Dells. Another map focuses on Lake Tomahawk in Oneida County in the 1950s-1990s, to dramatize the encroachment of lakefront development on the very environment that draws visitors to the lakes, and the importance of zoning and winter recreation in the area. Two maps emphasize the role of hunting, by comparing deer herds in 1932 and 1961, to depict the dramatic shift of deer from the northern "cutover district" to central and southern counties that have landscape managed for deer. An additional difficulty of these maps, and of the spread in general, was in distinguishing between in-state and out-of-state tourism, though the two types of tourism are not as different as they may seem.

Impacts on Wisconsin's Environment.   This spread looks at environmental pollution and the modern environmental movement, primarily in the context of industrial growth in the post-World War II era. Spread coordinator Zoltán Grossman had the option of mapping earlier environmental controversies, but for the sake of space incorporated them instead into the text. The main map examines recent environmental controversies, or at least examples of some of the most prominent controversies. It locates towns with major industrial air and water dischargers, particularly in the coal and paper industries. It shows an effect of air discharges by identifying the regions vulnerable to damage from acid rain. It shows an effect of water discharges by showing water bodies with PCB contamination in a purple tint. (An attempt to show mercury-contaminated water bodies was too overwhelmed with data.) The map identifies points of chemical pollution, including Superfund clean-up sites, major spills, and atrazine-contaminated wells. It also locates nuclear reactors, and areas explored for a potential underground nuclear waste dump. Finally, the map locates wild and scenic rivers, defeated nuclear reactor proposals, and defeated dam proposals, to identify some of the successes of the state environmental movement.

The spread also includes three other graphic features. It has insight columns on John Muir and Aldo Leopold, to emphasize the leadership that Wisconsinites have taken in the conservationist and preservationist wings of the environmental movement. It shows photographs of the same Columbia County wetland in 1940 and 1968, to dramatize the draining of wetlands during the period. Finally, the spread shows the effect on the state of 1950s atmospheric nuclear weapons testing in Nevada, in order to tell the story how Wisconsin milk producers took a leading role in banning the tests, because of the contamination of their product. The map shows only the radioactive debris paths tracked by the Air Force over the state at 10,000 feet, and does not show the additional paths tracked over other states, or paths over Wisconsin at higher altitudes. Yet the map dramatizes why dairy farmers were so concerned about environmental problems that originated from so far away.

SOCIETY AND POLITICS SECTION
Boundaries Subsection
Colonial Boundaries and European Empires. This spread was conceived of as the first of a series of four on changing political boundaries that affected present-day

Wisconsin—through the development of European colonies, U.S. territories, the state of Wisconsin, and its counties. The first spread of the series, coordinated by Michael Gallagher, concentrated on boundaries through the French, British, and early American eras. It instantly had the problem of temporal and thematic overlap with the second spread in the Atlas: Native and European Encounters. Yet while the Encounters spread focused on the "peoples and cultures" of the colonial era, notably those Indians and Europeans involved in the fur trade, the Colonial Boundaries spread takes a bird's-eye view of the political and military competition among European empires and the young United States.

The spread centers on three maps of the French Era, British Era, and the beginnings of the American Era to the War of 1812. The maps consistently use matching colors for French, British, Spanish and American territories, spheres of influence, and disputed areas. A timeline lists the key events in the French era, while another timeline identifies key events in the post-1763 British and early American possession of Wisconsin, including events directly affecting Wisconsin's people. The third map temporally overlaps the Territorial Boundaries spread, but concentrates on U.S.-British conflict rather than internal territorial development.

Another problem of the spread was that it privileges the European colonial version of political boundaries, while generally avoiding the overlapping zones of Native sovereignty. The text, however, delves into the Native involvement in European colonial conflicts, particularly in fighting on the French side in the Seven Years War, and on the British side in the Revolution and War of 1812. The maps locate key battles outside Wisconsin that involved Wisconsin-based fighters. The third map also attempted to show how French and Spanish proposals for the new American republic's western boundaries would not have encompassed Wisconsin.

Territorial Boundaries. This spread overlaps in time with the previous spread, but the subject matter differs considerably. It shows the changes in U.S. territorial boundaries in the western Great Lake region—from the claims of eastern states and early state boundary proposals, to the Wisconsin Territory. The territories went through numerous boundary and name changes, but the series of six small maps depicts the changes that specifically affected the area that would later become the state of Wisconsin. The maps depict each time "Wisconsin" changed hands, including possession by the Northwest, Indiana, Illinois, and Michigan territories, with each newly admitted state becoming a non-subject color. A larger map details changes during the Wisconsin territorial era, including proposed territorial capitals, and boundary disputes with neighboring states and British Canada.

A second presentation by spread coordinator Zoltán Grossman shows the rectangular land survey that began during the territorial era. Many historical atlases explain the township/range system with a generic diagram, not tied to a particular place. The first map plots the original survey of southern Wisconsin, from the "Point of Beginning" near Hazel Green, with township /range lines and notations coded by color. The map highlights a particular township (the Town of Ottawa in Waukesha County), and a second map enlarges the township, showing its section lines and numbers. Grossman chose this township was chosen because its Section 16 actually has a lake still called "School Section Lake" —a good example of the historical continuity of the land survey system. A third diagram depicts the quartering of one section into subsections for sale. An accompanying insight column explains the township/range notations, and how they can be used to measure distance from the Point of Beginning.

Statehood. This spread is one of the few in the Atlas to offer a snapshot treatment of a particular theme, with the main map tied to a particular year. The presentation of Wisconsin in 1848 was chosen in order to focus on the attainment of statehood, since the Atlas would be published in the Sesquicentennial year. The Guild also made the choice in order to present and discuss different state boundary proposals made in the preparatory period before statehood. Spread coordinator Michael Gallagher developed a main map

that presents Wisconsin according to the pre-statehood census and land survey. A color fill shows the surveyed lands, different dots show towns according to population size (using Alice Smith's History of Wisconsin Volume I, and Milo Quaife's The Attainment of Statehood), and white lines showing the county boundaries in 1848.

A smaller map presents "possible Wisconsins," by plotting the proposals for Wisconsin's northwestern boundary in the two years leading up to statehood. Included in these proposals was a new territory or state made up of the northwestern third of the territory (present-day northwestern Wisconsin and northeastern Minnesota). The map clearly shows the present-day Wisconsin boundary as the product of compromises between different regional interests. An insight column tells the story of these proposals in Congress and in two constitutional conventions.

County Boundaries. This spread looks at the development of county boundaries within Wisconsin. Spread coordinator Jeffry Maas developed three maps showing Wisconsin counties in 1848, 1861, and 1998, with color fills referring to the founding year of each county. (Coincidentally, each legend contains nine years in which counties were founded.) The 1848 map includes a number of counties that had been formed in the territorial era. The number of counties doubled between 1848 and 1861, and most northern counties were created between 1861 and 1961. Each map shows river systems, in order to show that new counties could retain their access to major waterways. The maps also give the original names and spellings of several later renamed counties. The 1998 map plots the boundaries of the proposed Century County, and the relationship to three existing county seats, to show that alienation from county governments can still stimulate the formation of new counties.

The three main maps depict counties in particular years, without showing the interim boundary changes or county seats. Another series of four smaller maps offers a case study of these more involved changes in a particular area of the state. The counties of northwestern Wisconsin are shown in four periods, including the founding year of each county, the annexation and reannexation of land by contiguous counties, and shifts and disputes among proposed county seats. In this way, this series demonstrates the fluidity of the changes, and the almost arbitrary form that the counties finally took. Dates also identify the founding date of each city and village, to put the boundary changes in the context of settlement.

Social Movements Subsection

Progressive Era. The first spread in the subsection on social movements examines Wisconsin's most famous movement, but one that is not often seen in the context of social history or historical continuity. Most histories of the Progressives emphasize the political dimension, and focus on the La Follette family and other political figures. While an insight column is devoted to "Fighting Bob" La Follette, the spread looks more closely at the ideology that motivated the Progressives, and the legacy they left behind. The spread looks at the Progressive movement as an outgrowth of populist politics of the late 1800s—including the Grange, Greenback Party, and People's Party— and as resulting in increased unity between farmers and small business owners. The State Government and Federal Elections spread do a credible job in covering the Progressives within the structure of electoral politics.

Spread coordinator Michael Gallagher produced three election maps examining the geographic voting strengths of three winning candidates for Governor—Democrat William R. Taylor in 1873, Republican Francis E. McGovern in 1910, and Progressive Orland S. Loomis in 1942. While affiliated with different parties, the three men subscribed to populist or progressive viewpoints, and the maps show a similar distribution of support. The maps demonstrate the weakness of party affiliation in relation to ideology in Wisconsin.

A larger, though secondary, map by Zoltán Grossman is the first published to examine the 1933 milk strikes, an episode of rural rebellion that occurred at the height of the Great Depression. (Though a strike, it did not thematically fit on the Industrial Labor

spread.) The farmers' strikes came in three waves, which extended their reach across the state's dairy belt. The most violent clashes between the strikers and the police, National Guard, and anti-strike farmers were concentrated in different counties in each strike wave. The map can be easily compared to the 1932 map on the Dairy spread, particularly in the relationship of milk and cheese production to striker-blockaded cities.

Industrial Labor Unions. The spread on the labor movement, coordinated by Zoltán Grossman and Michael Gallagher, focuses on trade unions in the state's industrial centers. The text narrates the growth of Wisconsin workers' movements, and groundbreaking state labor laws. The main map shows the locations of major strikes and lockouts in Wisconsin history, limited to labor actions that involved large numbers of strikers, galvanized the statewide labor movement, or resulted in major gains or set-backs for union members. Icons on the map represent key industries hit by strikes in particular towns or cities, and a chart lists the locations and dates of the strike, and the targeted company if applicable. The map cannot pretend to be comprehensive by any means, but does show the geographic concentration of certain labor organizing, particularly in timber and paper. The map also shows the Milwaukee area as clearly the center of union activity in the state, with Racine, Madison and Green Bay far behind.

A secondary map focuses on the events during the Bay View Strike in Milwaukee in 1886. The strike for an eight-hour day was notable both for its fatal outcome, and for the involvement of many workplaces throughout the city. The coordinators had planned an additional map not concentrating on strikes, but on union organizing, with the Knights of Labor centers shown throughout the state. Yet the Knights were only a short episode in Wisconsin labor history, and maps of union organizing tended to merely mimic the strikes map showing industrial centers. In this sense, the strikes map represents not only strikes, but trade union strongholds in different eras.

Women's Influence. Of all the historical themes covered in the Atlas, the women's movement was perhaps the most difficult to conceptualize in the forms of maps. The very nature of gender dynamics are not primarily geographical, by the very fact that women are everywhere, and not usually specific to space or place. Some important exceptions exist, however, as pointed out by Margaret Beattie Bogue during the initial development of the Atlas, and incorporated by spread coordinator Marily Crews-Nelson into three map series comparing the profound social changes between the 1930s and 1990s. First, gender settlement patterns differed according to regions, with the north having a lower female population due to the prevalence of all-male lumbering camps (in effect resembling the high male population of the early western states). Second, women tended to become owners of farms in regions (such as the northern counties) with poorer soil. Finally, the percentage of women in the paid workforce tended to initially rise in urban counties, and later in rural counties.

A larger map locates centers of the suffrage movement, concentrated in southern and eastern Wisconsin. The distribution of pro-suffrage groups tended to emphasize larger population centers, where women's clubs were located. A color fill for counties that voted for suffrage in a 1912 referendum show most in the northwest, where women formed a smaller proportion of the population. An insight column tells the history of women's clubs in the fight for temperance, and their clash with immigrant anti-prohibition interests. Unlike many other histories of Wisconsin women, the spread does not emphasize the role of individual women leaders, but looks at the evolution of movements in the state advocating the rights of the individual "woman," and later of the community of "women." The spread also emphasizes the impact of the movement on the daily lives and work of women not directly involved in the political movement. For example, the spread covers women industrial workers and women's baseball teams in World War II.

The 1960s: Time of Turmoil and Change. This spread, coordinated by Zoltán Grossman, is one of the few to be tied to a specific time period in state history, focusing on the interrelated movements for civil rights and against the Vietnam War in the late

1960s and early 1970s. It emphasizes the events that took place in two cities—Milwaukee and Madison—though events elsewhere in the state are also mentioned in the text. The maps could convey only the most dramatic or militant of the protests, rather than the constant smaller protests or movement events. Neither map could rely strictly on present-day street maps as bases, since the streets of both cities have changed over the past three decades.

The first page looks at the Milwaukee civil rights movement on the mid-1960s, and in particular the civil disturbances of 1967—both the African American "riot," and the white confrontation with open housing marches. Milwaukee's racial geography is critical to understanding these events, so the map clearly identifies the North Side and South Side, and an insight column draws parallels with the North-South divide in U.S. history. The map shows the route of marches through both parts of the city, as well as clashes and arson attacks located through newspaper accounts, and schools and churches that were critical in controversies over segregation.The second page locates key sites of the anti-war and civil rights movement around the University of Wisconsin-Madison campus. The map focuses on the main clashes, bombings, and arson attacks of the era, leaving coverage of more peaceful sentiments in the community to the main text. An insight column tells the story of the "New Year's Gang" and the bombing of Sterling Hall.

Government Subsection

Federal Elections. The spread on federal government, coordinated by Zoltán Grossman, details the Wisconsin votes for U.S. senator and president. The text narrates the distinct eras of party dominance in Wisconsin history, and how they relate to state geography, from a short period of Democratic dominance to the 100-year reign of Republicans and Progressives, to the modern two-party system. Two maps show party voting patterns in the state for the past century (a period of relatively stabilized county boundaries), by averaging the Republican vote in each county for the periods before and since World War II. Counties with low Republican votes voted for a Democratic plurality, with the exception of two elections with strong Progressive candidates (identified with a pattern). The map clearly shows a shift in the northwestern counties from a prewar Republican/Progressive pattern, to a postwar Democratic pattern. It also shows a shift in (heavily German) Milwaukee suburban counties from a prewar Democratic pattern to a postwar Republican pattern. The text explains the shifts as resulting from changes in party ideology, population movement, and the weakening of ethnic and religious identities.

A chart of all presidential elections in Wisconsin history tracks individual candidates, color-coded by party, as another reference tool for gauging party strength. By using columns for the first-, second- and third-place finishers in Wisconsin, the chart shows how many times state voters have chosen the national victory (30 out of 38 times), identifies the losing candidates and the strongest "minor party" candidates. The chart also tracks how the state has gained and lost votes in the Electoral College. Another chart lists U.S. senators, and color-codes them by party (U .S. senators were chosen by the state legislature until 1914, so the spread does not include senatorial election maps). An accompanying insight column charts the rise to prominence of conservative Republican Senator Joseph McCarthy, as a counterpoint to the La Follette Progressives.

Population and Representation. This spread blends two related themes in Wisconsin history—the distribution of population, and the creation of congressional districts. The population theme alone would have been placed in little context of its role in state history, and the representation theme alone would not have been placed in the necessary context of population shifts (and also would not have been particularly compelling to a general readership). The two presentations combined tell an interesting story about the difficulties of reapportioning congressional districts in the face of rapid population growth and mobility. Two maps of 1882 and 1991 show the increased

concentration of population in urban areas, identifies the ten largest cities in each year, and draws the congressional district boundaries. As on the County Boundaries spread, coordinator Jeffry Maas adds a map focussing on a case study in a smaller area of the state, in order to offer an example of the evolution of congressional district boundaries. Like legislative districts, they largely followed county lines in the 1800s, but now are drawn to encompass pieces of counties.

Other material on the spread is not map-oriented, but offers references in the same way as the other two government spreads. This type of information is usually contained in an appendix to an atlas or textbook, but it is represented in graphic form for the sake of consistency and impact. A narrow chart shows the party affiliations of each congressional representative in Wisconsin history (without naming the individuals), and tracks proportional representation of the state in Congress—the gain and loss of Wisconsin's seats. Another chart tracks the state's population growth over the same period, with two additional lines representing urban and rural populations, which cross in the mid-1920s. The urban-to-rural shift is also covered on the Rural Change spread, but is here placed in the context of state politics.

State Government. This spread, coordinated by Amelia Janes, closely parallels the Federal Elections spread, but focuses on governors and legislators. The text follows the course of political parties on the state level, including the profound splits in the Republican Party in the first half of the 20th century. A chart names the victory in each gubernatorial election since statehood, color-codes his party, and the parties of the first and second runners-up. (Naming all the top three finishers, as on the presidential chart, would have enlarged the chart to a size where it would have dominated the spread.) The spread also presents four thumbnail maps of gubernatorial elections for governors who took state politics in new directions, by initiating legislation or representing a shift in party strength. These four examples of elections, from 1881 to 1986, coincidentally captured some of the party geographic patterns discussed on the Federal Elections spread, such as the shift of northwestern counties toward the Democrats.

Reapportionment is the central theme of the presentation on legislative politics. Maps of Assembly and Senate districts in 1892 and 1998 show the increased concentration of legislative seats in urban areas. They also depict the change in drawing district boundaries—from using mainly county boundaries to transcending county lines to equalize numerical representation in each district. Since it was impossible to fit labels or boundaries for all the urban districts, lists grouped the districts on the side of the map. The Legislature is also the subject of a list of "Wisconsin firsts in legislation," listing some of the major 20th-century reforms from the State of Wisconsin Blue Book.

The Military in Wisconsin. The U.S. military has never had a huge influence in Wisconsin, at least relative to other states. It has affected state history through intervening within the state, securing defense contracts within the state, deploying Wisconsin units and personnel outside the state, and establishing federal military installations within the state. Of the four ideas, Wisconsin interventions are covered on other spreads, military spending is covered in the main text, deployments of Wisconsin personnel are covered on a chart, and the establishment of installations is the basis of the main map. The text takes the four ideas through the periods of the Indian Wars, Civil War, overseas expansion, the world wars, Cold War, and the present-day status of forces. The main map locates the installations in the context of these eras, including territorial-era military forts and roads, Indian Wars posts, Civil War training camps, temporary World War II camps, and the large permanent installations, communications facilities and Nike missile sites built in the Cold War. The map also locates present-day National Guard and military reserve facilities.

Three insight columns discuss examples of different types of military facilities built in different eras. Madison's Camp Randall is offered as the largest example of the Civil War training and prisoner camps. Badger Ordnance Works is an example of the World War II-era defense plant, which lasts to the Vietnam War and today offers a

fascinating example of the environment of former military complexes. Project ELF is an example of the Cold War-era high-technology facility, which evolved through the course of several controversial proposals. Spread coordinator Michael Gallagher documents how each of these military installations affected state history, and was in turn affected by state politics.

Educational System. Like religion, education in Wisconsin is a huge topic that shaped all facets of social and political development in the state. This spread could only scratch the surface in narrating the rise of public and private education, and their role in early settlement. It touches on the Wisconsin Idea, vocational-technical colleges, the University of Wisconsin System, the extension system, and other innovative educational reforms in state history. The main map locates public and private colleges and universities, gives their founding dates, and shows technical school districts with color fills.

The secondary presentation focuses on a more mappable aspect of public education. School consolidation moved students from one-room rural schoolhouses to new schools in villages, and later to even larger schools in larger population centers. The map examines the school districts in Marquette County, with the help of a local historian who plotted all the one-room schoolhouses and village schools on a base map for spread coordinator Laura Exner. In the early 1960s, small high schools around the county were centralized into one large school in the county seat of Westfield, as a consolidated union district. The idea of consolidation is another Wisconsin innovation, but one that was very controversial at the time. As is also discussed in the Rural Change spread, "progress" often comes at the expense of traditional cultures.

The decisions made by spread coordinators in the course of producing the Atlas, as well as overall decisions on format made by the entire Wisconsin Cartographers' Guild, provided some insights into the complexities involved in the production of any historical atlas. The lessons learned through this process are only now being assimilated by Guild members, at the end of the production process. The only real test will come after publication, when the Guild will receive public feedback on the effectiveness of their choices.

LESSONS LEARNED

The production of Wisconsin's Past and Present: A Historical Atlas offers some insights for cartographers or historians considering a similar project elsewhere in North America. Since most states and provinces do not yet have their own historical atlas, their histories are literally uncharted territory or, rather, they have many valuable stories that have yet to be told on maps. Through the course of producing the Atlas, members of the Guild learned a few types of lessons on the process of developing a historical work of cartography.

The first type of lesson involved the context of time and place of atlas production; how the Atlas was shaped by the timing of its production in the 1990s, and how its development was affected by its focus on Wisconsin rather than another state. The second type of lesson focused on the work process, and the integration of the roles of author/historian and cartographer within the project. The third type of lesson involved the general development of any state or provincial historical atlas, including the process of integrating time, space, and place, and could be applied to future projects elsewhere.

Context of time and place. As Dr. John McQuilton wrote in Cartography (March 1987) on his co-editorship of Australians: A Historical Atlas, "Like all atlases, an historical atlas will tell the reader as much about the social climate in which it was produced as the basic information it portrays....But in another sense, historical atlases are unique: the cultural element, the differing histories of each nation, produce markedly different atlases from country to country." Both of McQuilton's observations hold true in the production of Wisconsin's Past and Present: A Historical Atlas.

The Atlas certainly reflects the late 1990s not only in its computer-based production process, but in its cartographic style and thematic content. Its use of full-color maps integrated with text and illustrations comes out of a growing trend in history textbook production, pioneered by such works as the Houghton Mifflin Social Studies series (1991). As previously discussed, the use of maps to narrate fluid stories of North American history, rather than simply to plot historical data, is an innovation developed by the historical atlases of Canada and Massachusetts since the late 1980s.

The Atlas clearly gives expression to a multicultural and inclusive view of Wisconsin's population, with a greater emphasis on social history than earlier state historical narratives driven by individuals or events. The spreads on Native American nations, African Americans and new immigrants are clearly influenced by recent debates over race relations in Wisconsin. The spreads on European ethnicity, religion, and rural society unabashedly place a positive value on the maintenance of cultural "traditions"—a hallmark of Wisconsin's tourism-oriented society in the 1990s. The pages on the environment, tourism, and the mining, paper and timber industries reflect current debates over environmental policy. While all these issues may have been addressed in an atlas produced in, say, the early 1960s, the Atlas avoids portraying them as peripheral to a central narrative dominated by white, native-born political and industrial leadership.

The "cultural element" and unique history of Wisconsin also resulted in a historical atlas "markedly different" from similar atlases in North America. Wisconsin has a much richer and more multilayered history than was originally assumed by Guild members at the beginning of the Atlas project. Though the state is not necessarily a center for national culture, media, or economics, it borders on and incorporates an incredibly diverse variety of natural and cultural regions. As such, Wisconsin can be seen as a laboratory for studying the interactions between the histories of the agricultural Midwest, the industrial Great Lakes, and the Northwoods, and the insights gained in studying Wisconsin history can enrich the larger history of North America. In particular, Guild members were often struck by the ethnic and religious dimensions of Wisconsin's political and economic life—not coincidentally a favorite topic of their consulting editor.

Unlike most other states, Wisconsin blends together the legacies of early Native American and French-Canadian influence, Lutheran immigration from northern Europe, and Catholic immigration from (mainly) central and southern Europe. This cultural pattern appears repeatedly in settlement patterns, political organization, and choices of economic livelihood. The interplay between ethnicity, religion, politics, and economics is so pronounced in any narrative on Wisconsin history that it threatens to overpower other narratives. Yet it also emphasizes the centrality of social history, which is often overlooked by state histories that concentrate on the governmental level. In his 1912 autobiography, Senator Robert M. la Follette, Sr., acknowledged his debt to Wisconsin society: "I had...absolute confidence in the people...it is a rare and exceptional people. The spirit of liberty stirring throughout Europe...gave us political refugees who were patriots and hardy peasants, seeking free government as well as homes....In every city and hamlet in the commonwealth are still living the last of these pioneers. And as a heritage to their children they are leaving the story of their oppression which forced them to abandon their native lands and intensified their devotion to self-government...To the character of the people of Wisconsin I attribute the progress which we were able to make...".

The socio-political history of Wisconsin differs from that of many other states, in a way that makes a historical atlas perhaps more compelling to a lay reader. Instead of solely focusing on institutions and individuals, Wisconsin political history has taken "populist" turns that emphasize people, their lives, their land, and their work. Peoples and landscapes are much more mappable concepts, and make for much more interesting maps, than individuals and institutions. The Atlas attempted to integrate institutional histories or strictly political data into larger social or economic narratives. For example, the unavoidable state coat-of-arms was not located in the front of the book, as in so many

other state history texts, but was put in the context of the Mining spread. Patterns of representation in the U.S. House of Representatives—hardly an attention-grabber for most students—was similarly put in the context of more compelling Wisconsin population growth patterns. The rectangular land survey was not simply used as an explanation for Wisconsin's predominant land ownership patterns, but was explored in the context of territorial settlement and Yankee/British cultural influence.

In many modern textbooks, such as the Houghton Mifflin series, publishers are insisting that "dry" political data, such as lists of Civil War battles or U.S. presidents, be relegated to an appendix in the back of the book. For good reason, they anticipate that students can relate better to a narrative of a single battle or president, and use the tables as simple reference tools. Yet the visual format of the historical atlas enables the reference material to be brought back into the pages of the book, and interwoven with other text and graphics in ways that relate the metahistory to the microhistory, the political history to the socio-economic or cultural history.

The focus on Wisconsin not only affected the content of the atlas, but its actual development. In the early stages of the project, Guild members quickly realized that their historical-geographic project had been blessed by the very history and geography they were studying. The historical emphasis on education in Wisconsin helped enable the development of a historical atlas. Elsewhere in the country, the primary audience for the atlas may have been a professional or academic readership, but in Wisconsin the popularization of local history and geography has reached to lower grades and to the public at large. The Guild's emphasis on making state history relevant to students and the larger public enabled the project to gain crucial early support. Madison was also an ideal locale for producing an atlas, given access to excellent historical resources, and an unparalleled community of cartographers, geographers and historians. The Atlas would have been very difficult to produce almost anywhere else in the country, at least in the form that the Guild envisioned it. The Guild itself would also have been very difficult to form in almost any other city in the country. The work process that the Guild brought to the production of the Atlas not only affected the internal workings of the project, but affected the content of the project in ways that Guild members could not have predicted. By integrating their work roles, Guild members were (at first unknowingly) integrating disciplines and worldviews that had been kept separate in many previous historical cartography projects.

Work process. The process of producing a historical work of cartography requires a matching of resources and skills that may be very difficult to obtain. It does not simply involve the translation of historical themes into map form, but a huge process of organization that commonly meets dead ends, and requires a great deal of flexibility. The project team needs a mixture of skills in the areas of mapmaking, geographical and historical knowledge, writing, and art and design. It is highly doubtful that one or two individuals alone, no matter how qualified, could have the necessary skills to develop an aesthetically attractive, yet historically and geographically accurate product. Even a team with complementary skills needs a respectful decision-making process that negotiates between different visions of the publication.

An atlas that is produced by a non-academic project team needs to have a system of academic and other professional checks-and-balances in place before even beginning the project. The project team also needs a built-in editorial system so as not to rely strictly on consulting editors who may not be as intimately familiar with the map production process. The team also needs to have some confidence in its ability to translate academic histories into an easily digestible form. In this regard, the Guild learned from both its successes and its shortcomings. A major strength and weakness of the project was the lack of a firm division of labor among Guild members. Each coordinator took a spread through all stages of its development, and participated in research, map design, production, and writing. The weakness in the process was evident when a coordinator had to make decisions that she or he did not feel qualified to make.

The strength in the process was evident when other members stepped in to fill gaps in skills or knowledge.

Producers of other historical atlases have found that gaps in comprehension and understanding between the cartographer and author are a major obstacle in the work process. Memorial University of Newfoundland associate professors Rosemary F. Ommer (History Department) and Clifford H. Wood (Geography Department) wrote in Cartographica in 1985 on their experience in co-producing a two-page spread on shipping for the Historical Atlas of Canada. They observed, "Cartographers interacting with map authors essentially become 'investigative reporters.' The depth of investigation can largely be dependent upon the level of cartographic experience or training possessed by the map author. Initial contact between map author and cartographer usually produces a series of questions: who is the intended audience? what is the purpose of the map? what message do you want to convey? what is the age and educational level of the user group? how sophisticated is the prospective user group? how will the maps be used? under what conditions?....These are all questions that when answered will guide the cartographer is assessing the approach to be used in designing and producing the finished map." Barbara Bartz Petchenik agreed in American Cartographer (1977), "The cartographers needed to share the historians' grasp of content in order to conceive of maps that would communicate particular content; the historians needed to share the cartographers' grasp of visual communication in order to shape their data into map form."

The production of one spread in the historical atlas of Wisconsin can help to illustrate the complexities involved in answering these questions, and in the integration of the functions of map author and cartographer in the project. The Religion spread was one of the most problematic in the Atlas, given the lack of source materials that evenly treated a variety of religions in different eras, the overwhelming presence of Catholics and Lutherans in the state, and the extraordinary sensitivity that any discussion of religion can stimulate. The Cultural Map of Wisconsin, for instance, had received criticism for its lack of coverage of Jewish sites. The spread coordinator, Amelia Janes, an artist and the daughter of a Protestant preacher, was joined in research by Zoltán Grossman, a geographer of Hungarian Jewish and Catholic heritage. They initially conceived of the main map as a county choropleth of Lutheran and Catholic population percentages, but had few additional ideas other than a messy and ill-conceived plan to use colored dots to identify religious communities of a particular time period. Consulting editor Jack Holzhueter suggested using a 1926 religious survey, which covered each county's Catholic and Lutheran affiliations, breakdown of Lutheran synods, and other major faiths. Using this census, Grossman suggested adding symbols to the Lutheran/Catholic choropleth map, to denote the largest Lutheran synod, and the largest non-Lutheran Protestant denomination in each county. Janes' cross-based symbols served the function of showing the spatial distribution of religious communities, for example showing Norwegian Lutherans in the Scandinavian western edge of the state, and Presbyterians in the northern cutover.

At this point in the process, the Religion map had fulfilled its cartographic/geographic goals, but not its historical goals. The map as it stood would have functioned as a fine reference tool for identifying Christian religious patterns before World War II, but it had three major problems. First, as a statistical map representing the year 1926, it lacked the element of historical development. (Yet scant previous statistical data were available for comparison, and there was little room on the spread for an additional comparative map.) Second, the map covered only the largest groups in each county, and had no coverage whatsoever of smaller Christian groups or any non-Christian groups. Third, as Janes pointed out, it had the dry look and feel of a reference map, with interesting data but no spatial concentrations or
narrative.

To help solve the problems, Janes located sources that identified the first sites of Christian churches in the state, as well as other religious sites of interest (including some

sites that were unique in the nation or world). Using two different symbols, she plotted these sites, and added short notes for each. The notes served to draw the reader into the map, and gave some historical context to the 1926 data. Yet too many notes risked overwhelming the readership and driving away a less sophisticated audience, while too few notes risked missing some small but important religious groups. Even the icons became an issue, as Catholic/Protestant crosses could not be used to identify Eastern Orthodox, Unitarian, Baha'i, or Jewish sites, and the legend could not contain too many icons. A small church was used to locate early Christian organization, and a book was used for sites of religious interest, including some non-Christian sites. Janes reworded the legend to take the identification of initial Christian sites out of the map labels and, through considerable editing by Holzhueter, the sites were winnowed down to a manageable list of examples that did not fill up the map.

By attempting to be more comprehensive, the map ironically risked alienating members of smaller groups that were not included in the first tier (census fills/symbols) or the second tier (site notes/icons) of information. Grossman suggested adding a chart of the relative size of each religious group in the 1926 census, which Janes revised to a more manageable list of groups not represented in the map legend, along with a small pie chart. Grossman also suggested a small dot map in the corner to show the sites of groups from world faiths other than Christianity. The map had to use 1994 data due to a lack of prior data, and the recent arrival of most Muslims, Buddhists, Hindus, and Sikhs.

Janes and Grossman had also planned an additional county map and state population chart focusing on the relationship of religion and ethnicity. The map would have examined a group of townships in Waukesha County, where excellent research had already been conducted on Welsh churches. They had to abandon the idea when faced with inconsistent ethnic mapping at the county level, and a complete absence of accurate statistics for ethnic-religious correlations at the state level. The subject was relegated to discussion in the text, with no graphic element. This is one example of how production of a historical atlas can identify gaps in the historical record that still need to be filled.

The result of the process may not have been what any of the participants had originally envisioned. But it resulted in a presentation from which readers could learn something about the distribution of major religious groups throughout the state, and almost certainly find at least one reference to the history of their own religious groups, without frightening them away with too many labels or icons. The main religion map was made possible by Janes' cartographic sense of clarity (and her artistic and religious sensibilities), in combination with Grossman's concern for religious and geographic inclusiveness, and Holzhueter's attention to historical detail and accuracy. Janes functioned as a cartographer and map author, while Grossman and Holzhueter augmented the role of map author in certain areas. Many spreads in the Atlas were developed in a similar fashion, challenging the notion of a completely separate role for the author/historian and cartographer. Gaps in comprehension between the cartographer and historian—as Ommer and Wood identified in their discussion—can be overcome in the process of producing a historical atlas, if their roles are integrated as much as possible. The spread coordinators essentially become "investigative reporters" not only of another person's thought process, but of their own.

The experience with the Religion spread illustrates how an atlas project team needs to retain flexibility in the process of developing the atlas. Outstanding map ideas may end up too complex for readers to understand, or may not have the necessary source materials. Conversely, vaguely conceived map ideas can develop into some of the most interesting presentations, if allowed to mature. The goal should be to clearly communicate four or five primary ideas in a two-page presentation, by using visual and narrative methods that are intended to stimulate the readers' imaginations. It often eases the process to have a grasp on the visual sources that are already at hand, and build a narrative around them. The project team has to engage existing material to understand what issues can and should be included, but also has to develop a sense of closure to the

presentations, and know when to stop adding new layers of information that may clutter maps or overwhelm text. The process of historical atlas development thus bears some similarity to the larger project of popular history. The purpose of an atlas is not simply to enrich the body of knowledge for fellow historians or geographers, but to transmit that knowledge to the public. The methods of communication to the public, or the format of the atlas, are as critical to the process as the atlas content.

      Atlas format. By integrating the concepts of time, space, and place in a graphic form, the historical atlas presents an ideal format for presenting the history of a state or province.   Many previous historical texts have fallen short by not fully utilizing the potential of maps as powerful tools of conveying information, and many historical atlases have fallen short by not realizing either the strengths or limitations of the atlas format. The University of Oklahoma series, as discussed earlier, was not necessarily designed to heighten interest in state histories, but to provide a reference resource for educators and others who are already learning about the history of a particular state. The format of the Wisconsin atlas was designed as a tool for attracting readers, and for holding their interest. Combining graphic and textual elements can appeal both to an audience that is visually oriented, and an audience that retains the written word, or needs access to an overview on a particular topic. A balance of text, maps, and illustrations can draw in a readership that may avoid a historical publication that relies on text or illustrations alone.

      Some atlas projects have overemphasized the volume of data at the expense of aesthetics and audience comprehension. While they may, for example, present maps of many statewide elections, it is highly doubtful that such a data-intensive visual presentation would hold the interest of a high school student. An average voting pattern map, or maps of a few representative elections, can make the thematic point without overwhelming the reader. This strategy was employed on the Federal Elections, State Government, and Progressives spreads, in order to illustrate textual discussion on political trends. On the other hand, some historical atlases have underutilized the map as a tool for conveying data, preferring state maps with drab number figures in each county, or differently sized versions of the same symbol in each county. The Wisconsin atlas attempted to use different techniques for presenting data, if only to keep a map visually engaging.

      One example of a map that fully uses the Atlas format is "Timber Transport and Wood Products Manufacturing, 1860s-1910s," on the Timber spread. Most textual narratives of the logging era emphasize the central importance of river systems in transporting logs to industries and markets. Cartographer Jeffry Maas could have simply plotted the key wood industry towns on a map of Wisconsin rivers. Yet after some struggle over representing additional ideas, he grafted new layers of information onto the map, each of which opened a new window on the logging process.   He used a color fill to highlight northern watersheds, tiny arrows to show the direction of the river flow, symbols for log storage areas, and icons to identify specific woodworking industries. The additions (some accompanied by Cultural Map-style notes) gave a sense of motion to the map's narrative, provided historical explanations for the locations of some industries, and carved Wisconsin into spatial representations that would not be evident to the casual reader. The map offered a portrait of a 50-year period of logging history, redefined space in the context of that period, and redefined specific places in relation to a resource that may have been far upstream. The primary strength of the historical atlas is this ability to shed new light on historical themes, in an easily digestible format integrating time, space, and place.

      In order to convincingly portray both the temporal processes and spatial expressions, atlas themes need to be ordered in a coherent and yet engaging organization. Strictly chronological presentations present a clear progression to the history, but overemphasize the temporal, and thus have difficulty in explaining the continuity of themes through periods of time. Strictly thematic presentations help to group ideas in categories of interest to most readers, but overemphasize the spatial, and often fail to

provide the larger context of historical events and trends. A combination of chronological and thematic methods helps to focus on particular aspects of history, without limiting them to a single time period. A historical atlas, by combining the temporal elements of history with the spatial elements of geography, enables a more complete picture to emerge of historical trends and events.

The Dairy, Rural Change, and Progressives spreads, for example, all emphasize the rapid and dramatic changes that took place on Wisconsin farms in the Great Depression of the 1930s. The milk strikes of 1933, shown by a map on the Progressives spread, expressed the anger and frustration of dairy farmers over dropping prices for cheese, butter, and evaporated milk. The three waves of strikes grew across the state from east to west. But the milk strikes map, in isolation, does not show either the prelude to the 1933 events, not the legacy of the strikes. Other parts of the Atlas can help to solve the riddle as to why the strikes happened, and as to their ultimate results.

The Rural Change spread offers some clues as to the causes of the strikes. A map depicts the area around Delavan in 1913-29, showing the process of consolidation of local milk marketing areas. The process of consolidation closed many small creameries and cheese factories in the countryside. The larger dairy processing plants paid less to farmers producing milk for cheese, stoking resentment that would lead to the strikes, and to the resulting bombing and arson attacks on large creameries and cheese factories.

The main map on the Dairy spread shows the same strike counties as corresponding to the concentrations of farms producing milk for cheese, which clustered into distinct "cheese districts" throughout the state. The map shows that fluid milk was produced primarily on farms concentrated around major cities such as Milwaukee and Madison, due to the difficulties of shipping bottled milk long distances. The strikers were unsuccessful in blockading dairy products from reaching these cities, partly because of the use of railroads to ship milk, and a lack of support from local fluid milk producers. The strikes collapsed, leaving many dairy farmers more vulnerable than before. Also on the Dairy spread, an insight column examines dairy farm foreclosures in the 1930s and 1980s. After the brief upsurge of sales in World War II, many small dairy farms of eastern Wisconsin— which had been the center of the strikes—began to be consolidated into large "agribusiness" holdings. The full-scale demise of the family dairy farm did not occur until the 1980s. In that period, some militant farmers temporarily revived the 1930s practice of milk dumping and the "penny sale" against farm auctions.

The historical atlas, by cross-referencing different presentations, can juxtapose the temporal and the spatial in ways that most other publications cannot. A simple map of the 1932 dairy industry offers a spatial view of dairying, but without a sense of how the industry developed, or of the implications of its eventual form. The consolidation of milk marketing areas likewise offers a spatial description of change over a short span of time, but without examining its historic effect. Yet both spreads contribute to the understanding of the "historical moment" of the 1933 milk strikes. Though the economic rationale had been laid for the strikes, it took the element of human consciousness—of political organizing—to set them into motion. At that point, despite all the spatial elements, the "accident" of a farmers' rebellion might have turned the dairy industry in a different historical direction. The fact that it did not succeed offers insight into the development of the dairy industry to the present day. Cross-referencing the Dairy, Rural Change, and Progressives spreads helps to give some depth and interplay to what otherwise would be a linear story of the rise and fall of a type of farming. If developed with an insight to interrelationships between themes, the historical atlas can at least point toward views of history that are more cyclical and complex than those offered in standard textbooks.

This system of cross-references between pages can help to interweave the issues within a thematic presentation. A historical atlas is an excellent forum for cross-referencing multiple subjects, and providing different levels of comparative geography that can open new possibilities for historical analysis. One example comes from the

woman suffrage map on the Women's Movements spread. It shows northwestern counties as the only stronghold of male support for woman suffrage in a 1912 referendum. The same map shows that the same region ironically contained almost no pro-suffrage groups. Smaller maps on the facing page show the same counties as having a lower percentage of women than most southern Wisconsin counties, and a higher proportion of woman-operated farms (explained in the text as linked to the poorer quality of soil). These one-to-one map comparisons, however, do not sufficiently explain why the region stood almost alone in backing suffrage. Yet maps on other spreads show that the same counties were overwhelmingly Scandinavian, dominated by the timber industry, and unique in voting for Progressive presidential candidates in both 1912 and 1924. If these observations do not answer the suffrage question, they at least open up more routes for finding the answer, and suggest that the answer might have different layers. A historical atlas, unlike a historical text without maps, and unlike a single historical map or map series, offers geographic avenues for such historical comparisons. The unique narrative of a historical atlas can generate new insights that were not even intended by the cartographers, simply by visually representing different themes on the same base map, in the same book.

Conclusion. As McQuilton wrote on his Australian atlas project, "Historical atlases have a long, proud, and sometimes troubled history. Those associated with their production long remember the experience." Wisconsin Cartographers' Guild members will long remember the ups and downs of producing the state's first historical atlas in 120 years. Wisconsin's Past and Present: A Historical Atlas will be reviewed by geographers, cartographers, and historians, who will certainly recognize its shortcomings and recommend improvements. Guild members hope the Atlas will be viewed not as an attempt to perfect the art or science of producing a historical atlas, but as an attempt to move the production of historical atlases one step forward in the United States. They hope that other similar projects will follow, and together break some new ground in atlas development.

The increased ability of small-scale cartographic organizations to take on large atlas projects can enable more states and provinces to develop their own historical atlases. While they may have less access to research sources than Madison-based cartographers, they may have more access to funding and other resources. Given more time or funding, or a larger project team, the Guild could have produced a much larger and more comprehensive atlas, and it plans future enlarged editions if possible. There is no reason why other states or provinces should limit their vision of an atlas.

A state historical atlas project can provide an invaluable resource for students and scholars alike. Historians and geographers are slowly moving away from a model of a historical atlas as a reference tool (much like an almanac or encyclopedia) and toward a model of a historical atlas as an educational tool. Incorporating an atlas into history curriculum requires it to take on a more vibrant approach in its use of colors, illustrations, and language, without falling into the trap of a USA Today-style presentation. Few other classroom resources can blend together history and geography, and turn them into a more unified whole, than a historical atlas.
Finally, state historical atlases can help to underscore the relevance of history at the local level. Educational institutions too often present local history and geography as the bottom rung of a greater ladder of knowledge. But state histories and geographies do not simply add a local angle to more important national or global events. They offer insights into the larger picture, by examining our own backyard in the context of the rest of the world. Without a richer understanding of local complexities and subtleties, students will not fully comprehend the "local" aspects of other regions or countries. A state historical atlas will not solve this problem, but can help engender respect for the history that is most accessible and around us at all times. While a historical atlas cannot tell all the fascinating stories in a state's history, or map all the places, it can inspire readers to go search for these stories and places

themselves.

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See Atlas Bibliography for spread sources.

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