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For several years, many Map and Geography Round Table officers and Publications Committee members have planned for a refereed journal in the field of map librarianship as a companion to MAGERT’s successful newsletter, base line. This inaugural issue of Meridian is the result of that planning—and more recent work by its staff, Editorial Board, consulting editors, and contributors. It is my hope that the articles, research note, and reviews contained herein will be interesting and useful contributions to the broad field of map librarianship.

One might get the mistaken impression from issue number one that Meridian is exclusively for research in the historical aspects of cartography and map librarianship. Although that is one aspect, articles which advance the organization and dissemination of cartographic, geographic and remote sensing collections and information, and describe and document the major trends and issues in the professional development of cartographic and geographic librarianship are most welcome. It is your editor’s hope that papers covering this entire range of topics will appear in forthcoming issues of Meridian.

Our readers are encouraged to submit articles. “Information for Contributors,” appearing elsewhere in this issue, provides details about Meridian’s editorial policy. Also welcome are letters to the editor and comments (critical or otherwise) on Meridian, its papers, research notes, and reviews. Contributions considered to be of general interest will be considered for publication. In addition, persons wishing to review materials for the journal are invited to write the review editor.

I would like to formally thank all those people, including our advertisers, who have made this debut possible.

Philip Hoehn

REVIEWS

Publishers are invited to send review copies of their books, maps and other items to the review editor. Brent Allison, Map Library, S76 O.M. Wilson Library, University of Minnesota, Minneapolis, Minnesota 55455. Manuscripts of reviews should be addressed to the review editor. Readers wishing to review materials for Meridian are invited to write the review editor indicating their special areas of interest and qualifications.

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America's First Federal Map Library

By Richard W. Stephenson

With the reorganization of the Library of Congress in 1897, the Hall of Maps and Charts (now the Geography and Map Division) was established under the dynamic leadership of Philip Lee Phillips. This paper examines the need for a Federal repository for maps, atlases and related materials and the creation and early development of such a center within the administrative framework of the Library of Congress.

Need for Maps

The creation, use, and collecting of maps by officials of the American government is as old as the nation itself. During the trying times of the American Revolution when the country's very existence was held together by a thread, General George Washington struggled to obtain sufficient maps to aid him in safely moving his army and in fighting the enemy. Despite having been a licensed surveyor since his youth, the General found himself unable to lead an army and also to personally provide himself with the needed maps. Washington wrote to the President of the Continental Congress on January 26, 1777, that "The want of accurate Maps of the Country which has hitherto been the Scene of the War, has been a great disadvantage to me. I have in vain endeavoured to procure them, and have been obliged to make shift, with such Sketches, as I could trace out from my own Observations and that of Gentlemen around me" (Washington 1932, 65). Later General Washington recommended and Congress approved the appointment of Robert Erskine to be Geographer and Surveyor General of the Continental Army. Many of the maps eventually made by Erskine, the nation's first official Geographer, and his successor Simeon De Witt, are now preserved in the New York Historical Society.

In the early days of our Republic, maps made by and for Government departments for the purposes of defense, war, and commerce were kept by these agencies as long as they were of current value in carrying out their varied missions. A few agencies, such as the General Land Office, maintained excellent collections, but generally the number of maps in government offices was small, being kept rolled, flat in portfolios, or bound as atlases. There was no government-wide policy concerning what to keep and what to discard. Obsolete official maps, such as those of Erskine and De Witt, were either destroyed or passed into the hands of a private individual or a public institution. Map collections found in Federal agencies were so few and their holdings so inadequate that in 1842, Secretary of State Daniel Webster, while negotiating the northeastern boundary of the United States with Lord Ashburton of England, was forced to borrow large numbers of maps from the Harvard College Library map collection (Badger 1891, 74).

Need for a Federal Map Library

By the mid-19th century, there was a growing awareness among a few educated persons within and without the Federal Government, that a need existed for a central repository for current and obsolete maps, atlases and related publications. The first to call attention to the need and to propose a solution was Lieut. Edward B. Hunt, a brilliant Army engineer and physicist then on assignment with the United States Coast Survey.

A few agencies, such as the General Land Office, maintained excellent collections, but generally the number of maps in government offices was small... Obsolete official maps... were either destroyed or passed into the hands of a private individual or public institution.
Edward B. Hunt

Hunt was born in Portage, New York on June 15, 1822. Graduating second in his class from the United States Military Academy in 1845, he was commissioned in the Corps of Engineers, rising in rank to Major in March 1863. Later in that same year, Hunt worked with the Navy Department in developing an underwater torpedo which he called the “seaminer.” Tragically, Hunt was critically injured during a test of his invention and died as a result of his injuries on October 2, 1863 at the age of 41 (Barnard 1895, 31-41; U.S. Coast Survey 1864, 17-18, 207-208).

Hunt, in the course of his coastal geography studies at the Coast Survey in 1853, “found it a matter of great difficulty to collate the various authorities bearing thereon, and still more difficult to make sure that I had not omitted some such authorities, possible of the first importance.”

He came to the realization that what the Federal Government needed was “a complete and special geographical library, not only of materials on the United States sea-coast, but of those relating to the whole country, to America at large, and to the whole world.”

There is not, in the United States, nor on this Continent, a single collection of geographical materials which is even tolerably complete.”

after the disastrous Christmas Eve fire a year and a half earlier when more than 35,000 volumes were destroyed, including nearly the entire map collection.

After carefully developing his thoughts on the need for a geographical library and its contents Hunt presented his plan to the members of the American Association for the Advancement of Science at their annual meeting held in Cleveland, Ohio, from July 28 to August 2, 1853.

A resolution in support of this proposal was passed by the Association and a special committee was appointed to memorialize Congress concerning the establishment and funding of a Geographical Department. (American Association for the Advancement of Science, 1853, 275) In addition to Hunt, the committee consisted of such distinguished gentlemen as Professor Alexander D. Bache, Superintendent, U.S. Coast Survey; General Joseph G. Totten, U.S. Army; Col. J.J. Abert, Chief Engineer, U.S. Army; Lieut. Matthew F. Maury, Superintendent of the Naval Observatory; Lieut. C.H. Davis, Superintendent of the Nautical Almanac; Peter Force, historian and former Mayor of Washington, D.C.; and Prof. Arnold Guyot, the distinguished physical geographer.

In the fall of 1853, the Committee met and drew up a memorial urging Congress to establish a Geographical Department in their Library. The Committee remarked that “There is not, in the United States, nor on this Continent, a single collection of geographical materials which is even tolerably complete. The Harvard collection, the collection of the State Department, the Hydrographic Office, the Topographical and Engineer Bureaus, the Coast Survey, the Smithsonian Institution, and those of Libraries, Colleges, Societies, and scholars generally throughout our country, have been formed for some special and limited purpose, and hence, all are at present very imperfect. None rises to the rank of a true Geograhical Library, in which should be found the means of investigating all geographical questions, both of sea and land, at home and abroad”
Kohl urged the American people to establish a map library or, as he called it, "a chartographical depot," that would focus first on developing a significant collection of maps of America.

(Norton's Literary Gazette 1854, 189).

The memorial was presented to the United States Senate on March 30, 1854 by Senator Edward Everett of Massachusetts and then referred to the Committee on the Library for its consideration. Here it seems to have died a peaceful death.

Johann Georg Kohl

Three years later, in the winter of 1856-1857, the German scholar Johann Georg Kohl delivered a lecture at the Smithsonian Institution concerning the need for "a collection of the charts and maps of America" (Kohl 1856). Kohl was a distinguished geographer who had worked and travelled in the United States since 1854. Prior to his arrival in this country, he had combed important European libraries for information relative to the exploration of the New World. In the course of his extensive research, he had made a large collection of hand drawn tracings of the important maps of America preserved in European libraries. Many of the maps in his collection were virtually unknown to scholars then working on this side of the Atlantic Ocean (Wolter 1981; Wood 1976).

In his public lecture at the Smithsonian Institution, he remarked on the tragic loss in Europe over the years of significant maps of America due largely to ignorance and disinterest. "When another new map appeared the old one disappeared from kingly palaces, and from the academies, and was laid aside to be forgotten. Or no—not laid aside; for if this had been done, if the old maps had been carefully preserved in archives and libraries, that would have been all we wanted. But these old and precious documents were allowed to perish; they were either never more heard of, or if recollected and spoken of still, it was only with contempt and to upbraid them for their 'ridiculous' blunders" (Kohl 1856, 95).

Kohl urged the American people to establish a map library or, as he called it, "a chartographical depot" (Kohl 1856, 143), that would focus first on developing a significant collection of maps of America. In deviating from Edward Hunt's plan for a comprehensive geographical department, Kohl remarked that "American maps are what is wanted the most, not only here but everywhere, because they have been until now the worst provided for. At a later period we might try to include the whole world; but such a work is too enormous to be undertaken at once" (Kohl 1856, 146).

Kohl also suggested that the Chartographical Depot include an auxiliary library containing "historical works and books of travels from which we have taken maps, and which are necessary to explain these maps. Further, it should contain all important works on the subject of American discovery, geography and history, and at least some good dictionaries of those languages in which the legends on the maps have been written; always, however, keeping in view the subordinate character of the collection, and restricting it to what is clearly indispensable" (Kohl 1856, 137). He stressed that maps "should be put forward as the principal thing, that they should not be mixed up with the books on the shelves, or be deposited in corners of the library, as is their usual fate; but that they should stand before the eye as the prominent and independent object of the collection" (Kohl 1856, 137).

Kohl concluded his lecture with the following warning: "If the United States would not be found inclined to give life to the plan proposed here, then there would be left as little hope for its realization as Columbus would have had for the carrying out of his project had Ferdinand and Isabella refused him their assistance" (Kohl 1856, 146).

Regrettably, neither Kohl's nor Hunt's call for the establishment of a Federal map library was promptly heeded by a Congress and Government that soon found themselves wrestling with the financial panic of 1857 and the lengthening shadows of a coming civil war.

Daniel Coit Gilman

On January 31st, 1871, Daniel Coit Gilman, then professor of physical and
political geography at Yale University’s Sheffield Scientific School and later president, consecutively, of two universities, delivered the annual address at a meeting of the American Geographical Society in New York City. In his address entitled “The Last Ten Years of Geographical Work in this Country,” Gilman lashed out at the difficulty in obtaining current geographical information from Federal agencies. “Where are their results to be found,” Gilman inquired? “In the first place, we look for them in the government offices at Washington, in the manuscript records, in the printed documents, irregularly distributed, often very inaccessible to those who are most desirous of obtaining their contents. The extreme difficulty of ascertaining what there is in the various departments of the general government is only surpassed by the difficulty of knowing how to get at it... Now it is very puzzling to the geographical student, in consequence of the mode in which these various papers are distributed, to know how to bring together, at any one time, the results of so many different investigations. It sometimes appears as if these departments were not acquainted with each other’s work, and felt still less of interest in the work of savants who are engaged in similar researches. Some of these facts may point to the incompleteness of our civil service; for while we have so many able officers of the government engaged in investigations of the highest value to mankind, much of their usefulness is impaired by the defective arrangements for gathering up, presenting and distributing to the public the results thus ascertained” (American Geographical Society 1872, 113-114).

In these sentences, Gilman’s condemnation of the problems faced in obtaining recent geographical information from the government comes through clearly. He concluded his diatribe against the existing conditions with a recommendation that there be established “in Washington, or elsewhere, as a department of the general government, a bureau of maps and charts and geographical memoirs, where all these vast accumulations may be stored, classified and rendered accessible, like the books in the Library of Congress, or the books and models in the Patent Office, so that persons who have the right may make inquiry respecting them” (American Geographical Society 1872, 114-115).

Ainsworth R. Spofford

When he sat down to prepare his annual report for the year 1872, more than likely Librarian of Congress Ainsworth Rand Spofford was unaware of Professor Gilman’s suggestion the year before that there can be created a central repository for maps and charts. Here in his report, however, the Librarian of Congress recommended for the first time that, when space permitted, a map room should be established. As he envisioned it, the “map-room” would be of “spacious dimensions, in which the thousands of separate maps now accumulated and hereafter to accumulate in the Library could be thoroughly classified, catalogued, and utilized for reference at a moment’s notice” (U.S. Library of Congress 1872, 10-11).

Ainsworth Spofford, a former bookseller and newspaperman from Cincinnati, Ohio, joined the staff of the Library of Congress in 1861 as Assistant Librarian, assuming the position of Librarian of Congress in 1864 (Cole 1971-72, 1975, 1977). During his long tenure as Librarian, lasting until 1897, he was eminently successful in expanding and broadening the collections, as well as in promoting the Library’s unique dual functions as a legislative library and the nation’s library. Within the first six years of his leadership, the collections were significantly enlarged and enriched by the transfer of the 40,000-volume Smithsonian Institution Library in 1865, the purchase for $100,000 in 1867 of the great Peter Force American history library containing nearly 23,000 books, 40,000 pamphlets and over 1,200 maps and views (Stephenson 1973, 184), and the arrival in 1871 of nearly 20,000 items that had been deposited for copyright. The latter was the result of the new Copyright Act of 1870 in which registration and deposit was centralized in the Library of Congress.
As the Librarian of Congress conceived it, a separate fireproof library building should not only provide the space required for the expanding book collection and a central reading room for the use of the public, but also suitable space for five separate apartments housing copyright records, maps, fine arts, periodicals, and a packing room.

Through the long years of arguing for, planning, and waiting for the completion of the new building, the Librarian of Congress never wavered in his desire to establish a map library. In his special report received in the Senate on December 3, 1895, Spofford discussed at length the needs of the Library including its organization and staff. "Respecting the general question of the reorganization of the entire Library service," he wrote, "it may be gathered . . . that the following departments or divisions are deemed important: (1) printed books, (2) periodicals, (3) manuscripts, (4) maps and charts, (5) works of art, (6) catalogue department, (7) binding department, (8) Copyright office and records, (9) superintendence." The Librarian cautioned Congress that "Each of these divisions should have a competent head, and the salaries of those employed in each should be graduated in proportion to experience, capacity, and responsibility . . . ." (U.S. Congress 1895, 14).

"The large and rich collection of maps, numbering over twenty thousand, which the Library has accumulated," Spofford pointed out in his special report to Congress, "will require one of the large halls in the new building for their proper classification and arrangement. Many of these are original manuscript maps and plans of the Revolutionary period, drawn by British, French, and American engineers . . . . The engraved maps, from the early period of settlement in America, to the most modern examples, form a most valuable series, illustrating the boundaries and topography of the country in every part . . . . and when arranged in progressive series and systematic geographical order, their utility will be immeasurably increased" (U.S. Congress 1895, 7).

As the time approached for the completion of the new building, Congress authorized the Joint Committee on the Library to hold hearings "for the purpose of inquiring into the condition of the Library of Congress, and . . . also to report a plan for the organization, custody, and management of the new Library building and the Library of Congress" (U.S. Congress 1897, 1). Bernard R. Green, Superintendent of the new library building, Librarian of Congress Spofford, and several distinguished American librarians of the time were called before the committee. In his lengthy testimony Spofford did not fail to mention the maps in his custody. He reminded the members of the "very large and important collection of maps,
Fig. 1. "Scene in the Old Congressional Library . . . Showing Present Congested Condition." Photograph of drawing by W. Bengough, Harper's Weekly, February 27, 1897. Photograph courtesy Library of Congress.
Among many other things, this Act of Congress for the first time authorized the creation of a map library and earmarked funds for hiring a "superintendent of hall of maps and charts...and two assistants."

After finding the study of law not to his liking, Philip Lee Phillips found employment in 1876 with the Library of Congress. Although officially assigned the duties of a book cataloger, Phillips early in his career became interested in the maps and atlases then scattered helter-skelter in the capitol building.

mostly, but by no means all, acquired by copyright. They largely exceed 40,000 in number. Among them are a great many illustrative of the Revolutionary campaigns. Those are originals; that is to say, uniques [sic]. They were acquired at various times during the last forty years and almost every camp or battlefield from Newport down to Yorktown is there represented. There are originals by British, French, Hessian, and American engineers. They should be very carefully guarded and exhibited, in my judgement, because they are among the most valuable historical materials, military history being one of the divisions of history now most cultivated and effectively treated by leading historians” (U.S. Congress 1897, 58).

Map Library Authorized

After debating the issues in December, January and early February, the two houses of Congress finally came to agreement and passed the necessary legislation reorganizing the Library and appropriating the necessary funds. President Grover Cleveland signed the act on February 19, 1897. Among many other things, this Act of Congress for the first time authorized the creation of a map library and earmarked funds for hiring a "superintendent of hall of maps and charts, [at] two thousand dollars; [and] two assistants, at nine hundred dollars each" (Statutes at Large 1895-1897, 544). Although not seeming to be very large by today's standards, the salary designated for the superintendent of the hall of maps and charts was exceeded only by six positions in the Library.

With the building complete, the appropriations and reorganization act passed, and the staff poised to begin the move from the Capitol Building, Ainsworth Rand Spofford, now 72 years of age, graciously stepped down and assumed the position of Chief Assistant Librarian, a position he was to hold with distinction under two Librarians of Congress until his death in 1908. To replace the venerable Spofford, President William McKinley selected John Russell Young of Pennsylvania to lead the greatly expanded legislative and national library into the twentieth century. Young, a newspaperman and diplomat well-known and liked in Washington, D.C. political circles, was immediately endorsed by the Senate on June 30, 1897.

Phillips Appointed Map Librarian

The new Librarian quickly set about the important task of filling the key supervisory positions created by Act of Congress. There is some evidence that he first considered hiring James B. Harmer as Superintendent of Maps and Charts (Mearns 1947, 143). Probably on the advice of Spofford, however, Young looked to his own staff and wisely chose to promote the gifted and hard-working Philip Lee Phillips to the new post. Phillips was the son of Philip Phillips, then a successful Washington lawyer and a former pre Civil War representative from Alabama. After finding the study of law not to his liking, Philip Lee Phillips found employment in 1876 with the Library of Congress. More than likely the position was secured through the influence of his father who, unknown to his son, secretly paid his salary for nearly four years (Ristow 1971, 96).

From this inauspicious beginning, however, emerged a dedicated employee who was to serve the Library faithfully for 48 years.

Although officially assigned the duties of a book cataloger, Phillips early in his career became interested in the maps and atlases then scattered helter-skelter in the Capitol building. In fact, he became so knowledgeable, that it was to Phillips the Librarian turned when questions were raised concerning the Library's cartographic materials. Perhaps to improve his knowledge of the materials, in 1878 he began to prepare bibliographical citations to American maps found separately and in publications in the Library. Still extant are the hand written author cards Phillips prepared indicating the maker of the map, title, imprint, as well as the date he recorded the information. Eventually this simple file was to become a massive 15,000-entry cartobibliography. In seeking funds to publish it "as the first printed catalogue of the Map Department," he
noted that “It is the product of twenty years of labor in the old library in ransacking through hidden sources, a work which is original in its idea and which will be a valuable assistance to the Library and to students...” (Phillips 1899, 11). Phillips was successful in getting the support of the Librarian of Congress. Accordingly, in 1901, his 1137-page bibliography was published by the Government Printing Office under the title A List of Maps of America in the Library of Congress, Preceded by a List of Works Relating to Cartography. Despite the passing of some 87 years since it was issued, it remains a well-used bibliography, not only in the Library of Congress, but elsewhere.

Library Moves to New Building

With the conclusion to the session of Congress on July 24th, plans were put into operation for the long awaited move of the Library. The old library closed on July 31st and the transfer of the more than 787,715 books, 218,340 pamphlets and a multitude of maps, prints, and other objects—800 tons in all—began two days later. Laborers hired for the occasion, working under the direction of the regular staff, began the difficult undertaking of removing the materials from the overfilled fireproof rooms designed for the old library, as well as from 18 separate storage areas in isolated locations in the Capitol building. The laborers placed the books on hand barrows and open trays, and carried them to the waiting horse-drawn wagons which then transported the materials the short distance to the new building facing the east front of the Capitol. Upon arrival the books and other materials were quickly dispersed by hand and by elevator to their preassigned locations. Fortunately, the weather remained good and “as a result of the care, foresight, and industry of the staff, the whole Library, with its manifold and various treasures, was removed in ten weeks” (U.S. Library of Congress 1897, 6).

Maps and atlases as they were identified were carried to the north curtain on the building’s second floor where, as Phillips put it, “they were dumped... in absolute confusion” (Mearns 1947, 160). Phillips hastily estimated, when requested, that he had received from the old library some 25,000 sheet maps, 1,200 atlases, 700 pocket maps, and 800 roller maps (U.S. Library of Congress 1897, 25). By September, 1898, however, he was able to report that “A careful count” showed that the collections in fact included 47,042 sheet maps, 1,180 atlases, 410 school atlases, and 1,563 pocket maps for a grand total of 50,195 items (U.S. Library of Congress 1898, 25).

Before beginning the task of sorting and arranging this mass of cartographic materials, Phillips visited several libraries “to find out if any system of classification and treatment was used which would be a precedent to follow in arranging our collection.” To his dismay, he reported to the Librarian that he “found them all in a very primitive condition in regard to their maps and awaiting this Library to take the initiative” (Annual Report 1898, 2).
Early Development of Map Library

Finding no pre-existing system worthy of emulation, therefore, Phillips and his two assistants, Anita Stevens and Charles W. Wells, pitched into the seemingly insurmountable task of sorting, cleaning, mending and placing the maps in Manila folders. In the upper left corner of each, Phillips wrote the area, date and author so that “in this manner much time and trouble in opening maps is saved and also wear and tear” (Annual Report 1897, 2). The maps were then arranged in a geographical-chronological-alphabetical classification system designed by Phillips. Clara Egli Le Gear, long-time employee of the Geography and Map Division and who worked for Phillips during his final decade, wrote that “The maps were arranged by continent under the world, and alphabetically by country under each continent. Each country had five subdivisions, namely: 1) special maps arranged alphabetically by subject; 2) the country as a whole arranged chronologically; 3) the counties or provinces, arranged alphabetically; 4) the cities and towns, arranged alphabetically; and 5) miscellaneous maps, i.e., non-political maps. The subarrangement was always chronological” (Le Gear 1969, 22). For want of map cases, Phillips and his staff arranged the maps according to his classification scheme in piles on tables so that they could be easily found if needed. In one year, Phillips was able to report to the Librarian that his system of classifying maps by area and date had been a success. “That it is a good one,”
The anticipated move of the Hall of Maps and Charts from its temporary quarters on the second floor to permanent facilities on the first floor occurred on May 28, 1900.

From chaos this great collection has been so systematized that within a few minutes all maps and atlases are accessible.

He noted, "has been exemplified by the readiness with which repeated calls for maps etc. have been met with a speedy response. From chaos this great collection has been so systematized that within a few minutes all maps and atlases are accessible" (Annual Report 1898, 4-5).

The most troublesome maps that Phillips had to deal with were the 1,400 roller maps that had accumulated in the old library over many years. Maps mounted on rods for hanging in parlors, offices and schools were popular in the United States in the nineteenth century, and as such, many were represented in the Library’s collections. “They require,” Phillips commented, “when very numerous as is the case in the Library, special furniture and even then are very difficult to handle. As most of the roller maps are varnished, time seems to stiffen them in a way to be almost unmanageable. The text rubs off and the size for purposes of examination is clumsy and difficult to consult” (Mearns 1947, 161). Phillips solved this vexing problem once and for all. He had the maps removed from the rollers, cut into parts according to size, and placed them in manila folders to file with the single sheet maps.

Move of Map Library to Permanent Quarters

The anticipated move of the Hall of Maps and Charts from its temporary quarters on the second floor to permanent facilities on the first floor, “north curtain” occurred on May 28, 1900. The Division was to occupy this site on the main floor of the Library of Congress for more than 50 years. In less than three years the Division had been transformed from a mass of unorganized material to a well organized collection of cartographic materials with a well-appointed reading room in which to consult them. The new facility was equipped with a reference counter, several readers tables, two "Jenkins rollers" containing frequently used reference maps, atlas shelves, and of special importance, 13 oak map cases especially designed for the Hall of Maps and Charts. “The cases already furnished . . .,” Phillips wrote, “were found sufficient to contain all the maps relating to America and also a few miscellaneous subjects; but not sufficient to contain the large number of maps relating to other portions of the World. I would suggest the number of cases be doubled for this reason” (Annual Report 1900, 1).
Development of the Collection

Six additional cases arrived in 1901 and seven years later, specially constructed metal cases were installed in two levels, virtually filling from floor to ceiling the area designated for the Hall of Maps and Charts. With the equipment needed to house a map library arriving or in place, and with a small but dedicated staff to assist him, Phillips turned his attention to improving and expanding the collections in a logical fashion. He set about acquiring as many maps of America as possible, some foreign charts and topographic series, recent maps of foreign countries, and modern and antiquarian atlases. In addition, Federal government agencies were requested to deposit their map production in the Library, as well as any obsolete cartographic items no longer needed for their current work.

Phillips was especially pleased with the transfer from the Department of State on July 17, 1903, of the 474 hand drawn copies of maps that made up the Johann Georg Kohl collection of early maps of America. In his first annual report submitted on September 22, 1897, Phillips had advocated the transfer of this valuable collection to the Library of Congress as being “most appropriate” (Annual Report 1897, 6). Congress had appropriated $6,000 in 1856 for Kohl to make copies of the maps that he had found in European archives and libraries before coming to the United States. Kohl
further enhanced the maps with marginal notes explaining the location of the original, its contents, and its importance. To make the collection more widely known and used, the Library of Congress issued in 1904, a reprint of Justin Winsor’s bibliography of the collection, with author and general indices prepared by Phillips added to it (Winsor 1904).

Publication of Cartobibliographies

Phillips’s great love was bibliography and in the first two decades of the twentieth century he focused his efforts on the compilation and publication of cartobibliographies on a variety of topics. His greatest undertaking was the preparation of the monumental catalog entitled *A List of Geographical Atlases in the Library of Congress*. This work, describing in detail 4,324 atlases dating from the middle ages to 1919 and including tables of contents and bibliographical notes for many of the older items, was published by the Library of Congress in four volumes between 1909 and 1920. Some years later, Clara Egli Le Gear, who had assisted Phillips on volume four, resumed work on the atlas list. Volumes five through eight describing atlases received since 1920 were published by the Library between 1958 and 1974, and a ninth volume consisting of a combined author index to the previously issued volumes has been completed and will be published in the future.

Death of Phillips

On January 4, 1924, Philip Lee Phillips died while still on active service with the Library. Through his tireless efforts he had salvaged from the old library some 50,000 maps and atlases that had been ‘‘dumped . . . in absolute confusion’’ and organized it into a usable collection. Under his guidance the cartographic holdings of the Library grew to 524,000 pieces ranging in date from the earliest examples of maps and atlases to the most recent. In lamenting the loss of his trusted expert, Librarian of Congress Herbert Putnam said that Phillips’s ‘‘Entire absorption in his collection—its development and its interpretation—had brought him to a precision of knowledge regarding its contents which constituted him a recognized authority, without recourse to whom conclusions in American cartography would be unsafe’’ (U.S. Library of Congress 1924, 6).

With the administrative support of Librarians of Congress Spofford, Young and Putnam, and 27 years of direction by Philip Lee Phillips, the first Federal map library was established on a sound footing. Six geographers have led the map library in the 64 years since Phillips’s death, each contributing significantly through their own personalities, interests and specializations in shaping today’s Geography and Map Division.

Richard W. Stephenson is the Specialist in American Cartographic History in the Geography and Map Division, Library of Congress. The paper is a revision of a presentation he gave at the meeting of the Middle Atlantic Division, Association of American Geographers, April 1988. The MS submitted in August 1988. This article is not protected by copyright.
NOTES

1. Gilman was Professor of Physical and Political Geography at Yale, 1863-1872; President, University of California, Berkeley, 1872-1875; and President, Johns Hopkins University, 1875-1901.

2. Although Gilman orally delivered his address on January 31, 1871, and it was included in volume three (1872) of the Journal of the American Geographical Society, it actually was not printed until 1873.

3. By 1875, the Library had actually reached 17,500 volumes housed in two buildings and several annexes, with a third building then under construction on Capitol Hill.

4. In 1897, the salary of the Superintendent of the Hall of Maps and Charts was exceeded only by the Librarian of Congress, $5,000; the Superintendent of the Library Building and Grounds, $5,000; Chief Assistant Librarian, $4,000; Assistant Librarian (Superintendent of the Reading Room), $3,000; Register of Copyrights, $3,000; and Chief of the Cataloging Department, $3,000. A "Comparative table" published in the hearings on the Condition of the Library of Congress (1897) revealed that the head of the Map Room in the British Museum earned a salary of £2.250.


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American Association for the Advancement of Science. 1853. Proceedings 7 (July).


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The Gulf was one of the first areas of the New World to be mapped with any fidelity, appearing frequently on maps and charts.

Independence brought change, as Americans began to map and chart their own country themselves. At first, their maps and charts were produced by the private sector, and among chart makers were Capt. Paul Pinkham, Mathew Clark, and Edmund Blunt, the most prolific of the early commercial chart publishers. None of these had the resources necessary for truly thorough, scientific surveys, and by the first years of the nineteenth century charts were so few and imperfect that the thousands of vessels plying the coastal waters of the United States ran grave risks and suffered heavy losses every year (Roberts 1957, 221). Mariners had to rely on whatever charts were available—old sheets of Des Barres’ *Atlantic Neptune*, or of Southack’s *New England Coast Pilot*, Mathew Clark or Blunt charts. The problem was of concern to many, including leading members of the American Philosophical Society, and with their support President Thomas Jefferson urged the formation of a survey of the coast, which resulted in the aforementioned Act.

The Coast Survey was not the earliest American effort to chart the Gulf. The necessity for accurate charts of the area had long been recognized. In May of 1806 Congress had ordered a survey of
Defense was a major concern: during the War of 1812 there were complaints from the region that the English had better charts than any they were furnished from Washington.

The Survey got off to a slow start. Ferdinand Hassler, the first director, was a Swiss-born engineer whose comprehensive plan for the operation of the Survey had been selected by Congress.

Hassler was committed to scientific accuracy, and would not be hurried.

Hassler did not live to see the first official chart appear . . . He died in 1843 . . . Nor did he see the surveys reach the Gulf Coast.

been formally opened only in 1802 and the latter was still far in the future, as it was not founded until 1845. Hassler had to go to Europe in 1811 to obtain proper instruments and books. The hostilities between England and the United States in the War of 1812, and some personal business, delayed his return until 1815, and the first actual work on the Survey began in 1816 (U.S. Treasury Dept. 1818, 8-21). But after only two years’ work, the Survey was halted abruptly in 1818 because of congressional interference. Not for fourteen years, until Hassler’s reappointment in 1832, did the Survey really get under way (An Act 1832, 570-71).

When work was finally resumed, contrary to some expectations, finished charts were not immediately forthcoming. Hassler was committed to scientific accuracy, and would not be hurried. Base lines were measured and remeasured, and a network of triangles slowly spread from Long Island (the location of the original baseline) north to New England and south toward Chesapeake Bay. Hassler considered these meticulous surveys absolutely essential foundations, after which accurate charts could be drawn. Congress, with which Hassler still had a very prickly relationship (his annual reports were often full of complaints about his pay, and a defense of the work accomplished) was restive. Thousands of dollars were being appropriated every year for the survey of the coast, but where were the results? Apparently in response to this pressure, between 1835 and 1839 three harbor charts were published: Newark, New Jersey, and Bridgeport and New Haven, Connecticut (U.S. Coast Survey 1842, 28). The reason for the selection of these three harbors, none of them major, is still unexplained. Furthermore, these charts had to be published commercially, as the Survey did not yet have a printing office. Indeed, finding trained engravers, and training apprentices, was a problem for the Survey when it finally set up its own engraving and printing division.

Hassler did not live to see the first official chart appear, although he was
between 1846-1853 triangulation crept along the Gulf Coast, westward from Florida, finally reaching New Orleans.

Alexander Dallas Bache, great-grandson of Benjamin Franklin . . . succeeded Hassler as director of the Survey . . . Bache brought not only a good engineering background but also superior administrative skills.

proud of its progress and mentioned it in his last report (U.S. Coast Survey 1844a). He died in 1843, and it came out the following year. Nor did he see the surveys reach the Gulf Coast. His 1843 report noted that triangulation now existed from the east end of Rhode Island to Chesapeake Bay and Cape May; the Gulf was still out of sight.

It was only a matter of time before the survey would reach the Gulf. Following an initial order which was both logical and historical, as it was the order of the Des Barres charts and of the organization of Jefferys' American Atlas, the sequence of charts ran from the Ma-Canada border, down the Atlantic Coast, followed the Florida peninsula into the Gulf and swept around it to the Texas-Mexico border then, leaping across the continent, ran from southern California to the farthest north coast of Washington, covering territories not imagined at the inception of the Survey in 1807.

Alexander Dallas Bache, great-grandson of Benjamin Franklin, a West Point graduate, scholar and educator, succeeded Hassler as director of the Survey. Where Hassler had brought to the Survey a firm foundation based on rigid scientific principles, Bache brought not only a good engineering background but also superior administrative skills. In his first annual report, for 1844 (U.S. Coast Survey 1844b) we find the first notice that the Survey had reached the Gulf Coast.

One of Bache’s earliest accomplishments was to divide the survey of the country’s vast coastline into ten sections (U.S. Coast Survey 1846, 3). Three of these sections covered the Gulf Coast. Section VIII—Dauphin Island, Alabama to Vermilion Bay, Louisiana—included the Mississippi River and Delta, the area of our immediate concern. Beginning in 1846 Bache’s reports outlined the work done in each section, so it is possible to trace the development of the charting of the Mississippi River and Delta. By this time the survey of the area between Mobile and New Orleans was in full swing, and Bache listed six operations which needed to be done before any chart could be published: 1) Reconnaissance, making a general plan and determining future stations; 2) Triangulation, both primary and secondary; 3) Astronomical observations; 4) Topographical work; 5) Hydrographical work; and 6) Magnetic observations (U.S. Coast Survey 1847, 6). In Section VIII, a base line was measured on Dauphin Island, after which steps 1-6 could be followed for each area chartered.

Through Bache’s reports we can follow the course of the Survey in Section VIII. Between 1846-1853 triangulation crept along the Gulf coast, westward from Florida, finally reaching New Orleans. Work on the Delta charts was going on at the same time. A preliminary chart of the Delta was finished in 1853 (U.S. Coast Survey 1853, 82). From this time onward, there was constant activity in the section. The progress reports, which were included in annual reports of the Survey, graphically record the extension of the triangulation network during the active period of 1851-1881. The chart for 1851, for example, shows that the Survey had not yet reached New Orleans, nor were there any surveys on the Delta (U.S. Coast Survey 1851). By 1859 primary lines have been run around New Orleans, and there are many triangulation sites on the Delta (U.S. Coast Survey 1859). The report for 1870 shows the early triangulation network up the Mississippi River as far as New Orleans (U.S. Coast Survey 1870), and by 1881 work has progressed from the Delta nearly to Natchez (U.S. Coast Survey 1881). The annual report for that year also included the first detailed chart of the survey up the river to Memphis (U.S. Coast Survey 1881a).

The previously mentioned New York harbor chart of 1844 was the first sold directly by the Survey. By 1846, the Survey had sixteen charts ready for sale (U.S. Coast Survey 1846, 52); by 1849, twenty-one (U.S. Coast Survey 1849, 61). By 1855, eighty-two separate charts, in 2,577 copies, had been distributed for sale (U.S. Coast Survey 1856, 249-250), but not until 1856, when nine copies of a chart of the Delta are listed (U.S. Coast Survey 1856a, 162), were...
The Mississippi Delta is a geomorphologically dynamic region. Charts freeze changes on paper, and are an invaluable documentary source for tracing the Delta’s history.

Once publication for sale commenced, difficulties for map librarians began. Tracing the publication history of the charts is complicated. The Survey has changed both its name and chart numbering system several times. It began as the Coast Survey. In 1878 the name was changed to Coast and Geodetic Survey, to reflect an extended charge, for at that time the Survey added work on land to its coastal duties and became responsible for setting up a triangulation network across the entire country (Roberts 1957, 222). In 1970 the name was changed again, to National Ocean Survey, and in 1980 to National Ocean Service (NOS), the name by which it is known today.

Tracing the name changes is less difficult than trying to follow changes in the number assigned to a particular chart. There have been at least three major numerical sequences. The last two can be tracked through a conversion table available from NOS, the Nautical Chart Number Conversion Table (1977?). This table ignores the earliest set of charts, what might be called series I, perhaps because few still exist and for all practical purposes can be left out of consideration. There is, however, a set of 45 microfiches which trace the history of every chart, and every plate, and through this the sequence for a few charts in the area of the Delta and New Orleans can be worked out. It is instructive to look at their publishing record, which will give one an idea of the frequency with which the charts are revised and updated. It is no wonder that Americans and others, from novice holiday sailors to captains on large, commercial vessels, rely on them.

One of the earliest was a chart of the Mississippi River Delta which initially appeared in the annual report for 1874. (Fig. 1) Note that it is marked chart 94. When it was finally published for sale, it eventually became chart 194, the designation ”chart 94” henceforth being given to a reconnaissance of the Poto-
Fig. 1. 1874 chart of the Mississippi Delta. Courtesy Yale University Library.
Fig. 2. Electrotype print of portion of an 1892 edition of chart 195 covering area south of New Orleans. Courtesy Yale University Library.
Fig. 4. Portion of 1929 edition (corrected to 1930) of chart 1272. Courtesy Yale University Library.
Fig. 5. Portion of 1962 edition of chart 1272. Courtesy Yale University Library.
At the present time the area of the Mississippi Delta is covered by 11 charts.

Complaints from Congress about the costs of engraving, topographical details dropped off the charts. For navigators, the charts lost none of their utility, but aesthetically they lost a great deal of their charm. Chart 195, "Mississippi River from Grand Prairie to New Orleans," was published in 1892. Figure 2 shows an electrotype print of chart 195 taken from a copper engraved plate. The engraving is elegant. Note the fine detail along the river, clearly distinguishing between field, woods, and marsh land. The chart became 1271 in 1925, (being apparently not in much demand, since only three issues of the 1884 original are recorded), and Figure 3 shows a 1929 edition. The delicate detail achieved in the earlier engraving has been replaced by a coarser line in the lithographed edition. This is not to say that delicacy and elegance cannot be achieved by lithography. They can. But a simpler type of execution was followed by the Coast and Geodetic Survey. There is still some indication of topography; marshlands are clearly distinguishable here, but little else. From a historical perspective, it is interesting to watch changes on the Delta. In Figure 4, a 1929 edition of chart 1272, "The Mississippi River Delta," Southwest Pass has lengthened, Garden Island Bay is now almost filled in, and there are enormous changes north of Pass a Loutre. As time went on the technique became yet more simplified to the style we find on charts today, in which topography is shown only by color. Figure 5, a 1962 edition of the same chart, adds new cultural features, for oil was discovered in the Gulf, and platforms and oil rigs, particularly in East Bay and north of Pass a Loutre, make their appearance. Garden Bay is even more filled in.

While there are exceptions, in general the Survey used three scales for its charts (Guthorn 1984, 20). 1:80,000 was common and is the scale used in Figures 1-5. For surveys of larger areas the usual scale was 1:400,000. These small-scale charts were not intended to be used for close sailing, and indeed soundings are indicated only on a narrow strip close to the coast on charts of this scale showing the Gulf area.

At the present time the area of the Mississippi Delta is covered by 11 charts, ranging in scale from one of the entire area of the Gulf of Mexico at 1:2,750,000 to a harbor chart of New Orleans at 1:15,000. These 11 charts are only a fraction of the numerous charts which cover the coasts of the United States. They are contemporary examples of a grand tradition.

Barbara B. McCorkle is Map Curator at the Yale University Library. This is a revision of a paper she presented at the MAGERT annual conference in July 1988. The MS submitted August 1988.

<table>
<thead>
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<th>Chart</th>
<th>Title</th>
<th>Scale</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
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<td>94</td>
<td>Mississippi River from the Passes to Grand Prairie, Louisiana</td>
<td>1:80,000</td>
<td>1873-1879</td>
</tr>
<tr>
<td>194</td>
<td>Passes of the Mississippi</td>
<td>1:80,000</td>
<td>1855-1925</td>
</tr>
<tr>
<td>195</td>
<td>Mississippi River, Grand Prairie to New Orleans</td>
<td>1:80,000</td>
<td>1884-1924</td>
</tr>
<tr>
<td>1271</td>
<td>Mississippi River, Buras to New Orleans</td>
<td>1:80,000</td>
<td>1925-1974</td>
</tr>
<tr>
<td>1272</td>
<td>Mississippi River Delta</td>
<td>1:80,000</td>
<td>1925-1974</td>
</tr>
<tr>
<td>11361</td>
<td>Mississippi River Delta</td>
<td>1:80,000</td>
<td>1974-</td>
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NOTES
1. United States Statutes at Large, 2, 413.
2. During the period covered by this paper the reports of the Superintendent of the Coast Survey appeared in various forms: 1816-1849 in both Senate and House documents; 1850-1859, as separate publications by various public printers as well as in Senate and House documents; 1860-1900 as separate publications by the Government Printing Office, as well as in Senate and House documents. See: United States Coast and Geodetic Survey, List of Catalogue of the Publications Issued by the U.S. Coast and Geodetic Survey 1816-1902. Washington: G.P.O., 1902, pp. 10-77.
3. I owe this information to Robert Hansen of NOAA, who kindly lent me a set of the microfiche while I was working on this article.

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---. 1844b. A Report of the Superintendent of the Coast Survey, Showing the Progress of the Work During the Year Ending November, 1844. 28th Cong., 2d sess., S. doc. 16 (Serial 450)
---. 1845. The Report of the Superintendent of the Coast Survey, Showing the Progress of That Work. 29th Cong., 1st sess., S. doc. 6 (Serial 498)
---. 1846. The Report of the Superintendent of the Coast Survey, Showing the Progress of That Work. 30th Cong., 1st sess., S. doc. 6 (Serial 505)
---. 1849. The Report of the Superintendent of the Coast Survey, Showing the Progress of That Work During the Year Ending November, 1849. 31st Cong., 1st sess., S. doc. 5 (Serial 553)
---. 1851. "Sketch H Showing the Progress of the Survey in Section No. 8 1846-1851."
---. 1853. Report of the Superintendent of the Coast Survey Showing the Progress of the Survey During the Year 1852.
---. 1856. Report of the Superintendent of the Coast Survey Showing the Progress of the Survey During the Year 1855.
---. 1856a. Report of the Superintendent of the Coast Survey Showing the Progress of the Survey During the Year 1856.
---. 1859. "Sketch H Showing the Progress of the Survey in Section No. VIII from 1846 to 1859."
---. 1870. "Sketch H Showing the Progress of the Survey in Section No. VIII from 1846 to 1870."
---. 1881. "Sketch Showing the Progress of the Survey in Section No. VIII from 1846 to 1881."
Pre-Twentieth Century

Women Mapmakers

By Alice C. Hudson

Women have made important contributions to the male-dominated field of cartography. From the seventeenth century to the present, women have been cartographers, engravers, mapsellers, publishers and colorists. Despite their overwhelming absence from the literature of the field, some 150 women’s names (and sometimes extended biographical data) have been found in a long-term research project focusing on pre-twentieth century women in cartography.

Penny Barckley, formerly map librarian at the State University of New York, and I began our investigation of women mapmakers in 1977, and speculated that we might discover perhaps five to 10 pre-twentieth century individuals. During a long paper session at the Seventh International Conference on the History of Cartography in Washington, D.C., Ms. Barckley inquired of Maud Cole, then Curator of Rare Books at New York Public Library (NYPL), “What about the women?” Ms. Cole responded, “M.A. Rocque.” From that glittering little clue the research project began. We were both “map ladies,” map curators, and were interested in the heritage women might have left to the field we ourselves had chosen: cartography, in its widest sense. When we mentioned the project to others, we received mixed reactions, including bemused support. Others were openly hostile, commenting that it doesn’t take much for a woman to stand out in this field, or it’s easy to be one of the greats when there were so few women involved. However, we weren’t looking for greats—just workers in the vineyard. Others said, “They were only widows. ..” Yet, for example, while only a widow, mapseller Mary Cooper ran a business for 21 years after her husband’s death (Chubb 1927, 428). And Charles Bricker (1968, 78) states the Van Keulen “firm’s prosperity and longevity was as much owing to the Van Keulen women as to the men; many were longer-lived, and as widows managed to carry on the family business as efficiently as their husbands had.” Other individuals, especially Mary Ritzlin, contributed names for the project.

We plunged ahead, registering our project in the International Directory of Current Research in the History of Cartography, and even hearing from Ronald Vere Tooley of The Map Collector early on. Feeling we didn’t have much, we did not respond, and Tooley printed a list of 64 women mapmakers in 1978. We happily take credit for inspiring the Tooley article.

Methodology

Over a three-year period, we searched indexes and looked at individual plates in monographs and atlases in the Map Division of the NYPL. We examined personal name indexes of some 1,100 volumes on the history of cartography. For example, we read through both the personal name and publisher indexes in the eight volume Phillips-LeGear List of Geographical Atlases in the Library of Congress, and there found many names and citations. For every new name found, we rechecked basic resources for further information. The Library of Congress, Geography and Map Division’s Bibliography of Cartography and various printed book catalogs of major research libraries were invaluable. We recorded on worksheets each woman's name, specialization, dates,
place of publication, affiliations, publications and associated family names, where found. Not all these categories of information were found for every entry.

**Findings**

Instead of the expected five to 10 names, we found some 150 pre-twentieth century women mapmakers, engravers, publishers, cartographers and colorists. The categories overlapped as some women were involved in more than one area of specialization. We obviously only scratched the surface, as we, by necessity, concentrated our efforts in one library and its original source materials. To be clear, we have 150 named women. Many more remain unnamed, or hidden behind initials or unsigned, unattributed works. To paraphrase Virginia Woolf (1958, 51), "Anonymous" was often a woman. For so many women, very little information could be found. This problem is not unusual in cartography, as stated in *Tooley's Dictionary of Mapmakers Supplement* (1985, v): "There is scarcely any biographical information on the greater number of the names recorded... One of the main aims of this work was to place a name within a given period, where possible with the dates of birth or death or, alternately, the dates of the first and last publication... Unfortunately, a high percentage are known from only a single entry." We couldn't have said it better ourselves.

The 150 women participated in all aspects of mapmaking. Surprisingly, 21 were engravers—and most of these were eighteenth century French women. Unlike the stereotype of women and twelve-year old children coloring maps by the yard, only 10 of the named women were colorists.

Fifty-five women took over their husband's, brother's or father's business and ran them for a few months to several decades. We concluded that in many cases the women must have been part of the business before their husband's death in order to have enabled them to carry on the business, sometimes for decades. In England, the women inherited their husbands' guildrights. Surely the prudent women prepared for this.

Sixty-three were publishers or printers, and nine were map sellers. These are somewhat fuzzy distinctions, but we have tried to follow the terminology used by the women themselves, as described on the maps or title pages of books.

Twenty-three are more clearly described as mapmakers or cartographers, and of these, almost all were nineteenth century women. Most produced geographies or atlases, but one published a handbook on globes. This pattern may reflect the opening up of the educational systems to girls, as Madame Coindé implies in her introduction to the 1813 English translation of Las Casas's *LeSage's Historical, Genealogical, Chronological, and Geographical Atlas*. In describing one of the maps she designed for the atlas, she says, "... This map... is particularly adapted for the use of young ladies, into whose hands very few books on [mythology] can be put with propriety; and, without some knowledge of this branch of history, how could they enjoy the reading or theatrical representations of the best authors and poets... either ancient or modern, which by the assistance of this map, will become clear, amusing and instructive?" Madame Coindé says she has worked with Las Casas when he visited England and designed six additional maps for his atlas. Madame Coindé labelled herself the editor of this atlas, and she also was one of 25 agents for its sale.

**Problems and Pitfalls**

First, we had to be aware of male names masquerading as female, such as Hyacinthe, May, Andrea, Maria, Felice, Joyce and so forth. Second, the use of initials to mask identity—and perhaps lend authority—was best illustrated by S.S. Cornell, a major nineteenth century atlas designer for Appleton; her name was Sarah, as evidenced in four pages of citations in the *National Union Catalog Pre-1956 Imprints*. M.A. (Mary Ann) Rocque is another example. Third, indexes in major histories of cartography
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Fig. 1. Title page from atlas edited and sold by Mme. Coindé.

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NEW YORK:
PUBLISHED BY D. APPLETON AND COMPANY, 443 AND 445 BROADWAY.
1864.

Fig. 2. Title page of an 1864 Sarah Cornell atlas.
that did not reflect contents about women were a problem. Despite the fact that Mary Senex might have been mentioned in the text along with John, often he would be indexed, and she would not. This happened over and over, and was discovered when we found text about women, and in checking the index, would not find it cited. A fourth problem was the standard library practice of not making catalog entries for all publishers, engravers, dealers, and so forth. These particular persons become accessible only by handling original materials and examining title pages, introductory essays, and every plate. And finally, because we restricted our list to professional mapmakers, those women whose only cartographic products were classroom assignments were eliminated. We found several manuscript maps and globes by women or girls, and some were outstandingly good. Citations to such items were found at the American Geographical Society, Yale, and NYPL, and elsewhere. A typical example is the charming map of the United States by Euphemia Fenno at NYPL.

Challenge for Further Research

We hope our work will spur other researchers to open up the study of women’s contributions to the history of cartography. We suggest pursuing several specific areas of research: (1) Women engravers centered in eighteenth century Paris; (2) The Van Keulen women; (3) A reexamination of Sacajawea’s contribution to Lewis and Clark’s exploration as evidenced in their original journals and maps; (4) The rise of women in geography and atlas publishing in nineteenth century America, and their virtual disappearance in the twentieth; (5) Guildrights, marriage patterns, business operations and their interrelationship.

The information we have collected will become the core of a data bank on pre-twentieth century women cartographers to be maintained at NYPL’s Map Division for the support of scholarly research. That unedited, raw data, now being input will be freely available on written request and will include for each entry, biographical data, a list of published works, professional affiliations, and citation to books, articles, and other information about each woman. Separate from the data bank and from this research note, the list of women mapmakers found to date will soon be published as an update and expansion of the 1978 Tooley list.

There are 150 stories to follow up on. In some cases, little more will be found, but for others, much is to be written.

We firmly believe there is more than enough women’s history for a shelfload of monographs. We challenge the scholarly establishment in the history of cartography, and researchers outside that establishment, to be inclusive in the examination of the history of cartography.

Much of the recent scholarship and eye-opening discoveries in women’s history in the United States came after the same sort of exploration had occurred in the field of Black history. There our eyes have been opened to the complex history of civilizations and cultures, and a whole proud history about which many of us had been previously ignorant. The same perhaps is occurring in the study of the history of cartography, where we are seeing a growing literature by North Americans and Europeans on the value of non-Western mapping. Major portions of the new multi-volume History of Cartography focus on non-Western mapping, and P.D.A. Harvey’s volume on The History of Topographical Maps is especially enlightening on Third World mapping.

And now it’s time, as Abigail Adams wrote, “to remember the ladies.”

Alice C. Hudson is Chief, Map Division, New York Public Library. She gave an earlier version of the paper as a slide presentation at the MAGERT annual conference in July 1988. The MS submitted August 1988.
PRE-TWENTIETH CENTURY WOMEN CARTOGRAPHERS: A QUICK LIST

[Abbreviations: 3M = Tooley’s Maps and Mapmakers: TB = Thieme-Becker’s Dictionary of engravers; 56 = LC’s Pre-56 imprints; TL = Tooley’s List in “Map Collector.”]


Barriere, Isabelle. fl. 1800. [Tooley List, OTB, OLC-56, OMMM]


Belin, Eugene, vene. Printer. Atlas Universal et classique de géographie ancienne Romaine, du Moyen Age, Moderne et Contemporaine, by Drioux. “Saint-Cloud, Imprimerie de Mme. Ve. Belin. Paris, 1870, appears on the half title, on verso of which is the table of contents for the atlas. By 1899, the press is in the hands of Belin Freres. The Belin publishing/printing firm was in Paris from the 18th to the 20th century. The 1881 Atlas Universel, as cited in LC “Pre-56” was published by Ve. Belin & fils.

Fig. 3. Sample entries from data bank on pre-twentieth century women mapmakers at the New York Public Library.

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The Diary of Christopher Columbus’s First Voyage to America 1492-1493 abstracted by Fray Bartolome de las Casas. 1988. Norman, Okla.: University of Oklahoma Press.
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The History of Cartography
Volume one:
Cartography in Prehistoric, Ancient, and
Medieval Europe and the Mediterranean.
By J.B. Harley and David Woodward,
editors.
Chicago; London: University of Chicago

This is the long-awaited first volume
of a six-volume work chronicling the
history of cartography from prehistoric
times to the twentieth century. The
History of Cartography is a most mono-
mental effort—grandiose in conception
and in imagination. The publication of
volume one is an occasion for celebra-
tion. Congratulations are in order to the
guests of the chapters, to the University of Chicago Press, to the editorial board, to the financial
supporters of the work, and to everyone
who toileted for this book. It is a major
accomplishment. Volume one weighs five
and a half pounds, is folio in format and
has 292 fine black-and-white illustrations
(well produced), plus thirty-two pages of
fine color reproductions. Beautifully
printed, designed, and bound, the phys-
ical appearance is a credit to the
University of Chicago Press. Users of
the book will be delighted to find
footnotes on the pages to which they
refer, an extensive bibliography, and a
bibliographical index as well as a fine
general index.

Aside from the content, you might
assume that here is one more coffee
table book—lovely and sometimes useful,
but more often an object for display
rather than one of substance. But
substance abounds here. The intent was
to be comprehensive. This was achieved
to the extent that the book will undoubt-
edly become a standard reference work.
It is not "an easy read." As the editors
note, "A project such as the History is
achievable only through a division of
labor. No single scholar with the neces-

ary breadth of linguistic and meth-
odological skills and subject background
(and without the commonly revealed
nationalistic bias) has emerged to write it
alone" (p. xix). (One might too say that
reviewers of it should also be commis-
ioned in battalions). There are ten
authors and twenty-one major sections
to the work. These latter are further
subdivided into many parts. It is not
surprising that the planning of this book
began a dozen years ago. The surprise
is that the book appeared so soon!

Volume one focuses on prehistoric,
ancient, and medieval cartography. It is
admittedly Europe-centered, which will
be offset by volume two of the History,
devoted to the historical cartography of
Asia. In their Preface, Harley and
Woodward define maps as follows:
"Maps are graphic representations that
facilitate a spatial understanding of
things, concepts, conditions, processes,
or events in the human world" (p. xvi).
In their Preface, the editors carefully
consider their definitions of maps and
cartography, and have established criteria
for the History (see pp. xvii-xviii). The
overall arrangement of the History is
both chronological and geographical. The
editors recognize the potential dangers
of their effort. "It could be said,
perhaps, that the moment is never right
for this kind of synthesis. This History
will certainly reveal its share of the gaps
and imbalances in our existing knowl-
edge" (p. xx). And that may indeed be
one major accomplishment of the work in
the long run.

In his "The Map and the Develop-
ment of the History of Cartography,"
Brian Harley begins with the statement
that "The principal concern of the
history of cartography is the study of the
map in human terms" (p. 1), and
continues with a solid review of the literature of the history of cartography to the present time, which should be required reading for everyone interested in the subject.

Some chapters in Part One: "Cartography in Prehistoric Europe and the Mediterranean" are difficult for those of us who have not worried much about definitions of maps and are not so familiar with rock art. In about fifty pages, Catherine Delano Smith, with a little help from G. Malcolm Lewis, introduces us to examples of maps found as pictographs and petroglyphs, plus maps on bone and metal artifacts, on pottery and sculpture. Smith cites three qualities to identify maps: "that the artist's intent was indeed to portray the relationship of objects in space; that all the constituent images are contemporaneous in execution; and that they are cartographically appropriate" (p. 61). This is all rather new for most of us. She writes "... when research for this chapter was started, the number of topographical maps from the prehistoric period in the Old World referred to in recent histories of cartography totaled four" (pp. 54-55). The list given here includes over fifty maps. We need to stretch our minds, even if we have to reconsider our ideas about early maps, as a result of this chapter.

In Part Two of the volume, "Cartography in Ancient Europe and the Mediterranean," readers will be faced with more familiar subjects. This deals with maps "from the Babylonian itineraries about 2500 B.C. to the Byzantine Greek reconstructions of Ptolemaic cartography in the thirteenth century A.D." (p. 105). It begins with sections on the cartography of the ancient Near East, Egypt, and Archaic, Classical, and Hellenic Greece. The transition chapter, "Greek Cartography in the Early Roman World," is followed by a fine chapter on Ptolemy which will surely become a standard source of information on him. Three sections on the use and construction of maps in the Roman Empires and a chapter on cartography in the Byzantine Empire, including more discussion of Ptolemy, conclude this section. O.A.W. Dilde provides both an introduction and a conclusion for this part of the book. Dilde notes that the lack of surviving maps from this period is one major problem for scholars. About Ptolemy, he writes "Our review of Ptolemaic scholarship offers nothing to revise the long-held consensus that he is a key figure in the long-term development of scientific mapping" (p. 277). Dilde ends, as might be a theme of all the writers, by calling for more research.

Far and away the most comfortable chapters of this work, for most of us, will be the chapters in Part Three, "Cartography in Medieval Europe and the Mediterranean." This begins with the section by P.D.A. Harvey titled "Medieval Maps: an Introduction," which is short and good. The same problem of lack of surviving maps are evident for the medieval period. The next section, David Woodward's "Medieval Mappaemundi," is wonderful. It is confident, authoritative, informative, and a joy to read. The literature survey is very good and the commentary on writers such as Orosius and Isidore is excellent. Woodward's text is exciting and thought-provoking. This section is worth the price of the book, offering new insights into making these maps, especially in their projections and grid system, as well as understanding them.

Tony Campbell, in "Portolan Charts from the Late Thirteenth Century to 1500," provides the reader with a superb discussion of the subject. It is a pleasure to read, and like other sections of this volume of the History, easily displays the knowledge and research of the writer. The reader senses in this section a leap toward the modern world of cartography, to Columbus and the age of the European discoveries. The final chapters by Woodward and Campbell, it seems, are the ones most familiar in the usual context of the history of cartography. Following these, the "Local and Regional Cartography in Medieval Europe," by P.D.A. Harvey, is again an outstanding contribution to the literature of the history of cartography.

The "Concluding Remarks" of Harley and Woodward are well worth noting.
Maps cannot be understood apart from the society in which they emerged.

Harley and Woodward... were successful in producing this result. Nice work!

Carol Urness, Assistant Curator
James Ford Bell Library
University of Minnesota
Minneapolis, Minnesota

The Population Atlas of China

The Population Census Office of the State Council of the People’s Republic of China and the Institute of Geography of the Chinese Academy of Sciences, Compilers and Editors.


(Checked edition: Beijing: Zhongguo Tongji Chuban She.)


The publication in 1985 of the 1982 Population Census of China, the third census of the People’s Republic, was a significant event in demography and world affairs (Li 1987). It reported on the population of the largest country in the world, one that had undergone a rapid demographic transition since the second national census in 1964. The book reviewed here is an atlas that depicts the spatial distribution and organization of this large population.

The atlas begins with a concise introduction and editorial notes. The maps are grouped in 8 sections. The first consists of 10 “background maps” that introduce the Chinese administrative divisions, city locations, land and water, and per capita industrial and agricultural outputs. In the following sections the foci are on population distribution (9 maps), ethnicity (13 maps), sex and age (15 maps), population change (15 maps), educational level (12 maps), employment (41 maps), and family, marriage, and fertility (22 maps). Appendix 1 contains 52 pages of statistics on main population indicators by xian (county) and city. This content allocation reflects the current concerns among scholars and Chinese officials with the population growth and the transfer of rural labor to non-farm jobs.

Most maps in the atlas are national in scales of 1:8,000,000 and 1:12,000,000. The xian data are used in two-thirds of the maps, many of which are the most detailed maps to date to have appeared outside China.

Maps on population distribution show vividly the strong concentration of people in east and south China. Thus 6 densely populated regions in the eastern half of the country are mapped in much larger scales (varying from 1:500,000 to 1:850,000); density is calculated from the data grid ranging from 5.9 to 7.5 km². These maps are valuable for studying the urban-economic development of the regions.

The percentage of minority population within the total population, and the ethnic composition, occupation, and education of the minorities are mapped. So too are the distributions of 54 different minorities.

The sex and age of the population receive ample attention. The maps show (a) distributions and (b) proportions in the total population of the working-age population and of both the young and old
dependent populations. The proportion of women of child bearing age is also depicted. On the map of sex and age structure by province (shown by pyramids), the effects of the reduction of birth rate due to the Great Leap Forward and to the recent birth control movements are evident (p. 42).

One critical aspect of the Chinese population change is the growth: the average annual growth for the nation from 1964-1982 was 2.1 percent. The vital rates and the natural increase rate are mapped. Unique in this section is the inclusion of 8 maps showing the population density and distribution in different historic periods from 2 A.D. to the 1930's. Conspicuously absent in this atlas is the depiction of population change due to migration.

The section on education presents the proportion of population at all levels of education but emphasizes those segments that have completed or have had some college education. These maps reveal the generally low level of education among the citizenry.

The section on employment is the largest. It comprises four types of maps: (1) the characteristics of the population that is employed, seeking employment in urban areas, unemployed in urban areas, and non-employed; (2) composition and proportion of the population in 14 different industrial categories; (3) categories of occupations, and the education, sex, and age structures of workers within each occupation; and (4) the number of persons per 100,000 population in science, health, engineering, commerce, teaching, and communication occupations.

The last section of the atlas details household size and type; marital status by different age groups; and measures of birth parity, fertility, and average number of live-born children by all women, and by women grouped by different ages, education and occupation.

The cartographic execution of the atlas is superb. Generally, the maps are well designed in clarity and the choice of color. Insets are used often and constructively, e.g., to show the spatial details and the frequency distribution of

the data units to facilitate the interpretation of the choropleth maps. The vast sparsely settled and uninhabited lands in north and west China are shaded in gray (i.e., left non-mapped), thus the likelihood of showing biased or nonsensical data on a choropleth map is eliminated.

On a number of maps, the data of each province are depicted by a graphic (e.g., a histogram) placed within that province. This presentation is effective (e.g., on pp. 42 and 152), but if the graphic is too complex, it is difficult to grasp the map content visually (e.g., pp. 26 and 118).

The definition and demarcation of Chinese urban places have changed frequently since 1949, as has the meaning of "urban population" (Ma and Cui 1987). The two maps showing urban population distribution on pages 17 and 18 must be read critically. The 1982 Population Census of China is limited in reporting urbanization and migration; so too is this otherwise fairly comprehensive population atlas.

The aim of this atlas is to provide a scientific summary and portrayal of the main characteristics of China’s current population and its development process, and to serve as an information tool for all students in Chinese affairs, and for Chinese planners and policy makers. This aim has been admirably achieved. Indeed, this volume should be added to all libraries for students and interested citizens.

LITERATURE CITED

Mei-Ling Hsu
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World Mapping Today.
By R. B. Parry and C. R. Perkins

For as long as there have been map librarians, there have been lamentations concerning the lack of a cartographic equivalent of Books in Print. While that particular millenium has not yet arrived—at least not in the sense of an annual publication—with World mapping today (WMT), map librarians have had their appetites whetted.

WMT's purpose, as stated on page 1 of the "Introduction," is, "attempting to put together within one cover as much as possible of the various kinds of information needed for finding out about and acquiring modern topographic and thematic maps." It goes about this task via the following arrangement: list of graphic indexes, 4 pages; introductory chapters, 55 pages; world-mapping section, 507 pages; glossary, 4 pages; and geographical index, 10 pages. The introductory chapters (1 through 7), whose purpose is to give an overview of current mapping, the problems of map acquisition, and the impact of new technologies.

The listing concentrates on the material that a good general map collection might wish to acquire.

and thematic, with the latter meaning bathymetric, geological and geophysical, environmental, administrative, human and economic, and town maps); and monochrome graphic indexes. The listing of mapping concentrates on the material that a good general map collection, with a healthy acquisitions budget, might wish to acquire. Specifically excluded are: road and tourist maps; imagery; detailed planimetric and cadastral mapping; facsimiles; digital data; and navigational charts (with some few exceptions); specifically included, outside of the sheet maps which are WMT's focus, are gazetteers and national atlases. Of those items excluded, detailed mapping, digital data, and important out-of-print or restricted publications are mentioned in the text. The primary sources for all information was publishers' catalogs. The structure of each catalog entry is:

line 1 Title, Scale, Series, Edition, Author.
line 2 Place: Publisher, Date.
line 3 Number of sheets in a series, number published.

symbol indicating if index is published.

For example:

Carta topografica d'Italia 1:50,000 Series M792 Firenze: IGMI, 1964-636 sheets, ca. 230 published. symbol unless otherwise noted, all maps are colored.

As previously noted, following the body of the book is a four-page glossary, defining some map terms used in the text, e.g., "formlines," and a geographical index listing all the nation-states and other "mapping units" into which the body is divided, plus some alternative names and the name of sub-national areas (e.g., Canadian provinces) that have separate discussions. All of the above is presented in an oversize volume (30 cm. high), with textual material in two columns per page, in a small but clear print.

In order to give the most thorough and balanced review possible of a work such as this, one would need to use it daily for several months. In the interest of having the review out in some timely
... especially notable is the superb table, "Patterns of map availability," ...

... why are these essays ... here at all?

The graphic indexes ... are perfect for photocopying and subsequent library-housekeeping use ...
Access America is both a compendium of information about the accessibility of our national parks and an invitation to persons with disabilities to experience the natural beauty and serenity offered by these parks. It is based primarily on data provided by personnel in thirty-seven national parks, responding to detailed questionnaires prepared by the publisher. This is supplemented by information provided by park publications, by disabled visitors, and by private concessionaires in or near the parks. This information is presented in considerable detail in both narrative and graphic form. To supplement the factual data, twelve disabled park visitors contribute personal essays which illustrate and document some of the ways in which the parks can be enjoyed by disabled persons.

The book contains thirty-seven chapters (one on each park covered), an introduction, the twelve personal essays, a bibliography, and three appendices. The park chapters have a consistent internal organization. The first information given is the address and phone number of that park office which is most directly responsible for accessibility concerns. This is followed by a general description of the park, its history, natural features, distinctive fauna and flora, and unique attractions. The first major subdivision, "General Information," includes remarks on the park’s climate and weather, safety concerns (e.g., dangerous animals or terrain), the location of medical and support services, relevant publications about the park (disability-oriented or general), and the availability of interpreters and TDD devices for hearing impaired persons. The second section, "Programs," describes organized and self-guided programs offered in the park, and gives detailed information regarding their accessibility to persons with mobility, hearing, or visual impairments. The third section, "Visitor Centers," evaluates the accessibility of each Visitor Center in the park, including such facilities as auditoria, restrooms, exhibit areas and bookstores. Next, "Campgrounds" discusses the suitability of the park’s campgrounds for use by mobility-impaired persons, noting which, if any, individual campsites have been designed specifically for this population. Finally, "Supplementary Information" describes services offered by local businesses, such as hotels and lodges, shops, transportation vendors, and a variety of recreation/adventure outfitters.

This narrative presentation is supple-
... of the three appendices ... one gives the address and telephone number of local independent living centers, while the other lists hospitals and dialysis centers near each park.

The individuals at Northern Cartographic ... deserve a great deal of credit.

ACCESS AMERICA ... is attractive, carefully conceived, well organized, clearly presented, and of great usefulness.

The only comparable work is Access National Parks (National Park Service 1978), which describes some 300 parks, historic sites, national monuments, and similar places. Although it includes many more facilities—and is still useful for that reason—it is badly in need of updating. It also provides much less information on the parks than does Access America. Although Access America succeeds admirably in achieving its objectives, two suggestions for the next edition come to mind. The legend for interpreting the maps is printed at the beginning and end of the book, making reference to it awkward when one is attempting to read a map somewhere in the middle of the book. A detachable, laminated legend, which could be inserted wherever one wants, would be helpful. Secondly, I think the spiral binding and the soft front cover should be carefully evaluated. While the binding makes this book easy and convenient to use, I wonder if either it or the front cover are strong enough for heavy library use, or for extensive personal use in the bustle of a family vacation.

I hope the rather high price does not discourage disabled persons or the libraries which serve them from ordering this important and unique information source. It is attractive, carefully conceived, well organized, clearly presented, and of great usefulness in encouraging and assisting disabled persons who would like to visit our national parks.

LITERATURE CITED

Richard E. Bopp
University of Illinois at Urbana-Champaign
Urbana, Illinois
Map Librarianship: an Introduction.
By Mary Lynette Larsgaard
Littleton, Colo.: Libraries Unlimited.
1986. 2nd Ed. 382 pages.

The first edition of Map Librarianship, published in 1978, quickly became known as "the bible of map librarianship." As the definitive text of current practices and procedures for librarians who deal with cartographic materials in the U.S., it possibly did more than any other publication to bring these materials out of the "benign neglect" status in libraries. Ms. Larsgaard's delightful writing style had much to do with this; not only did we get the practical advice we needed, but also a book we thoroughly enjoyed reading.

Ms. Larsgaard has now given us a second edition, written in the same informal prose, and offering the same "hands-on" practical advice about all aspects of map librarianship. She again gives us the "map's eye view" of library procedures by discussing them in the sequence of events a map travels through during its life in the library. Selection and acquisition are first, followed by classification, cataloging, and storage, care, and repair. Then, for the librarian who is the interface between the cartographic materials and their users, there are chapters on reference services, public relations and marketing, and education.

The fundamental difference in this second edition is the move from "map librarianship" to "cartographic materials librarianship." There is more than just a change in the words here; there is a difference in attitude. Atlases, aerial photographs and globes are no longer "supporting materials," but now have their proper "cartographic materials" status. There is also a pervading attitude that cartographic materials have an equal place in libraries with books and other materials.

The first chapter on selection and acquisition is more than twice the size of the first edition's. The Library of Congress G Schedule classification code is used to guide us through detailed descriptions of the various types of maps, accompanied by many illustrations. There is more information about globes, relief models, atlases, and remote sensing imagery than in the last edition. There is also more emphasis on collection development policies, with sample policies appearing in Appendix A.

The second chapter on cataloging and computer applications has been thoroughly rewritten and updated to include AACR2 and AACCM. Ms. Larsgaard points out improvements of AACR2 over AACR1, and includes much less information and fewer examples of unit and form card systems than in the first edition. The computer applications section continues where the same section in the first edition left off, covering developments since 1980. In the cataloging problems section, information on added entries and scale has been dropped, replaced with cataloging information on foreign-language materials, map series, sheets containing more than one map, micro and macro reproductions, archival materials and computer cartography. Ms. Larsgaard's conclusion in the first edition recommended AACR/LC/ISBD(CM) cataloging; in this second edition, it is rewritten to more strongly recommend cataloging using AACR2/LC/ISBD.

The chapter on map conservation has been updated with information which became available since the first edition. Basically, though, Ms. Larsgaard retains the basic information and prudent advice.

The first edition's chapter on public relations and reference services has been divided into two chapters in the second edition. The new chapter on reference services starts with an extensive discussion of cartographic materials basics, such as scale and projection. Information retained from the old edition deals with the reference interview, map
In the history and training section, the new edition provides much more specific information on map librarianship and much less general library philosophy and ancient history...

The appendices... have been expanded and reorganized.

Ms. Larsgaard's second edition of Map Librarianship is bigger and better...

users, and types of reference questions. The new chapter on public relations discusses publications, exhibits, presentations, and user studies, as did the first edition, but a section on map societies has been added.

The last chapter is a new one, titled "Education." Some of the topics in it, such as continuing education and employment outlook, were taken from the "Map Librarianship: a Brief Overview" chapter in the first edition, but you'd hardly recognize them. In the history and training section, the new edition provides much more specific information on map librarianship and much less general library philosophy and ancient history ("2700 B.C. and all that").

Those of you who, like myself, found Ms. Larsgaard's appendices and bibliography to be about the best there are, will not be disappointed. The appendices in the second edition have been expanded and reorganized. The sample acquisition policy has been replaced by collection development policies; specialized bibliographies on such topics as cataloging, remote sensing materials, and pre-1900 materials have replaced lists of state highway map sources, geological map sources, and commercial map publishers. A new appendix suggests a syllabus for a cartographic materials librarianship course.

Those who consult the databases to find literature about cartographic materials in libraries will undoubtedly find reference to the second edition of Map Librarianship (Nichols 1982), and may wonder if it will suffice. Mr. Nichols' book does contain much useful information and uses the same hands-on approach, but, since it was written in the U.K. and is geared towards map librarianship there, for map librarians in the U.S., it is not as useful as Ms. Larsgaard's book.

To say that Ms. Larsgaard's second edition of Map Librarianship is bigger and better than the first edition applies to the book physically as well as intellectually. Not only are there 52 more pages in the second edition, they are 1/4 inch taller and wider than those in the first edition. Moreover, the book has a more professional look to it. There is an historical map on the outside cover, the typeface is a bit larger, and the headings are in a different, bold typeface.

Intellectually, Ms. Larsgaard rewrote the text so that it has a more professional "sound" (e.g. "Once the patron's question has been discovered, and this is often the hardest part, and then translated into library-ese..." is now "Once the user's information need has been defined—as precisely as possible in terms of area and subject—and then translated into libraryese...").

Those librarians who deal with cartographic materials, and who have not yet acquired Map Librarianship: an Introduction, are strongly encouraged to do so. Every cartographic materials librarian will learn something from this book, as I have in the course of reviewing it.

LITERATURE CITED


Jim Coombs, Map Librarian Southwest Missouri State University Springfield, Missouri


By Ralph E. Ehrenberg
ISBN: 0-87474-406-7 (hardback) $29.95; 0-87474-4-7-5p (paperback). $15.00.

The Woodrow Wilson International Center for Scholars has produced a respected series of guides to research resources awaiting discovery in the Greater Washington, D.C. area. In the twelfth volume of this reference series, Ralph E. Ehrenberg's Scholar's Guide to
Washington, D.C. for Cartography and Remote Sensing Imagery, the Center acknowledges "the importance of cartographic materials for most projects pursued by [its] fellows and guest scholars."

Washington, D.C. serves as a focal point for cartographic and remote sensing collection, production, and distribution. National collections and resources are housed in, or administered from, the nation's capitol as a function of, and support for, government activity. Mr. Ehrenberg’s Guide enumerates 181 sources of cartographic information with forms ranging from the traditional atlas and map to the latest in geographic information systems and satellite imagery analysis. To do so, Ehrenberg surveyed facilities in and around Washington, D.C. and collected information from catalogs, lists, and personal interviews. After compilation, entries were returned to the appropriate bodies for review; all information is correct to March 1986.

Mr. Ehrenberg has grouped his directory entries into eleven sections, four listing research collections and seven containing organizations, dependant upon the nature of the collection or organization. The collection sections are composed of "Libraries," "Archives and Manuscript Repositories," "Museums and Galleries," and "Data Banks." Organizations include "Research Centers and Referral Services," "Academic Programs and Departments," "United States Government Agencies," "State and Local Government Agencies," "Embassies and International Organizations," "Associations and Societies," and "Publishers, Publications, and Media." Each section follows a template given at the section’s beginning in a manner similar to World Directory of Map Collections (International Federation of Library Associations, Section of Geography and Map Libraries 1986). Unlike this IFLA publication, Ehrenberg neatly sidesteps the pitfall of cryptography by presenting pertinent information through intelligible phrases or complete sentences, not in code.

Descriptions of collections and services go far beyond the usual directory entry with number of volumes, scope, and hours of service. Entries are rounded out by brief collection histories, descriptions and histories of facilities housing collections, highlights and foci of special interest, or descriptions of services’ primary patrons. Events giving flavor to research are also described, such as the three o'clock tea at the Folger Shakespeare Library. Explicit information regarding resource access is included: appointments required, proper identification or clearance necessary, and suggested advance arrangements due to remote storage facilities. Cross references easily lead the user through the morass of confusing organizational relationships to the proper descriptive entries. Many entries include publication titles or tool names to aid in collection access and description.

Six appendixes follow the body of descriptive entries. Three cover information especially important for the out-of-town scholar: "Map Stores," "Housing, Transportation, and other Services," and "Federal Government Holidays." Two of the remaining appendixes group map and remote sensing imagery collections by size and the final appendix recap s entry formats for all eleven sections. A short bibliography is followed by five indexes which, in this reviewer’s opinion, increase the value of this volume one hundredfold. Entries may be accessed through personal names, subjects, geographic headings (one index for remote sensing imagery and a second for maps), and names of organizations and institutions. The personal name index does not include the names of those responsible for services or collections; it makes available the names of cartographers, photographers, and many others who appear within the bodies of entries. The organizations and institutions index allows access through names of organizations described and groups included as part of organizational descriptions.

Mr. Ehrenberg furthers the Wilson Center’s self described “switchboard function” of connecting scholars with resources through careful enumeration of collections and producers of cartographic...
materials located within the political hub of the United States. His thoughtful consideration of each resource will take some of the “guesswork” out of research possibilities in Washington, D.C. and unique tidbits of information give some of the facilities an increased air of uniqueness and encourage exploration. While specific details will become dated, Scholar's Guide to Washington, D.C. for Cartography and Remote Sensing Imagery will serve as a signpost in regard to accessibility, protocols, and procedures. Scholar’s Guide to Washington, D.C. for Cartography and Remote Sensing Imagery should be found on the shelves of most map collections in the United States, especially major collections and those in academic settings. It should also be available wherever research is centered on cartographic products and geographic information or on the resources of Washington, D.C.

LITERATURE CITED

Jenny Marie Johnson, Map Collection and Cartographic Information Service, University of Washington, Seattle, Washington

A Social and Economic Atlas of India
ISBN: 10-562041-0. $65.00.

The appearance of a social science-oriented atlas for the world’s most populous democracy indeed is a welcome event for scholars interested in having at their fingertips tremendous amounts of needed information. Nine sections cover the following topical areas: People, climate, natural resources, infrastructure, produce, tourist visits, national economy, and international equation. By using data derived from the 1981 census or subsequent national surveys, the reader is given information as current as possible. Care to provide the user with more data has led to the provision of a bibliography of additional sources with each map, an extensive narrative text, as well as at least one graph or similar statistical compendium. While such accuracy will over time date the usefulness of the atlas, one might assume future expanded and updated editions will appear from time to time.

If this assumption is correct, what changes might one want to find in such a future edition? While the color printing is unusually clear and distinctive, for many maps the gradient concept of color values was not used. Hence light and dark hues of the same color are placed randomly in ranking statistical values. The reader thus can easily be confused as to which shade or hue of a color is present on a map, the high value or the low value.

To this reviewer there is a basic question which needs to be raised when presenting extensive amounts of data. Namely, what is the best format to be used? Is the map format necessarily the best? Undoubtedly, the compilers of this atlas faced the same question, as is indicated by the provision of statistical tables and narrative text. The relationship of the three to each other, however, will sometimes confuse readers. For example the map for telephones (pp. 120-121) and their availability leads to confusion. The graph for telephones cites “Districts” and “Circles.” Gujarat Circle has 144,000 telephones. The District section, however, cites Ahmedabad with 98,000 telephones, Surat 25,000, Vadodara (Baroda) 22,000, and Rajkot 13,000, or a total of 158,000 telephones. One has to read most carefully to determine that the districts refer to urban areas, while the circles are for all other portions of the state. Further complicating perception of the telephone situation is the map itself; it simply assigns one color to Gujarat, thus creating the impression of uniform telephone availability.

This does raise the problem of urban...
versus rural development in India. The atlas seldom takes note of the huge difference between urban and rural, thus creating the impression that such key social indicators as availability of banks, education, individual income, industrial development, non-working population, power consumption, or transport vehicles are equally available in all parts of a state. Needless to say, Maharashtra, Tamil Nadu, and West Bengal seem to be well-developed states. But were one to delete the data for Bombay, Madras, and Calcutta, respectively, would the data show the three states to be so well developed?

Similarly there is the inconsistency of treatment of topics. The map for groundwater (pp. 76-77) has uniform color shading for each state, which creates the impression of uniform availability of water throughout the state. Inset on the map page is a considerably smaller map citing “drought-prone districts.” This inset is far more detailed and even carries an appended note, “while interpreting this map, it should be noted that generally only some blocks in a district are drought prone and not the whole district” (p. 77). One needs to ask why drought potential was important enough to portray at the district level, while groundwater availability received state level treatment.

These observations point out some reservations about the organization and treatment of topics. They should alert potential purchasers to the fact that some difficulties will be encountered in using the atlas. At the same time, it must be most forcibly stated that there indeed is a wealth of data in the atlas which will provide readers with extensive information on a key third world country.

**Donald Clay Johnson, Ames Library of South Asia**
University of Minnesota
Minneapolis, Minnesota

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**Historical Atlas of Canada, Volume I: From the Beginning to 1800.**

This magnificent first volume of a projected three volume atlas of a cartographic interpretation of the development of Canada has had a long gestation period. A team of scholars generated the Historical atlas of Canada project in 1970 and a major editorial grant was provided in 1979 by the Social Sciences and Humanities Research Council of Canada. The atlas, published in French and English editions, is chronological in approach: volume I, “From the beginning to 1800;” volume II, “The nineteenth century;” and volume III, “Addressing the twentieth century.” In his foreword, Wm. G. Dean indicates that the research for the atlas was done by individual authors, or teams of authors who are at the forefront in their specific fields. This enormous undertaking has involved nearly 250 authors and research assistants from Canadian universities, departments of federal and provincial governments, private organizations, and from universities in the United States and Europe. The contributions of the major scholars are specified by R. Cole Harris in his preface. He also discusses the inspiration that the work of Harold A. Innis and Andrew H. Clark provided and he points out that the volume is dedicated to them.

The atlas provides a visual approach to the Canadian past with an emphasis on social and economic change. It has “maps on the nature and structure of past societies, their patterns of livelihood, and their transformation of the landscape [that] present stimulating images of the lives of ordinary people.” (Foreword).

The format of the atlas enhances its usefulness as a reference document. The table of contents has six sections:
"Prehistory," "The Atlantic realm," "Inland expansion," "The St. Lawrence settlements," "The northwest," and "Canada in 1800." The numbers and titles of the plates are listed in each section along with the author(s) of plates and lists of titles of maps, graphs, illustrations, plans, etc., on each plate.

In the body of this work each of the six major sections is preceded by an informative essay by R. Cole Harris which provides an overview of the plates that follow. Each plate is a complex document in its own right and is literally a mine of information on its specific topic. Scales are provided for all maps, plans, and diagrams. The maps are well executed with pleasing colors and clear printing. Very occasionally color gradations are a little difficult to distinguish. The arrangement of the data, even on extremely complex plates, is not difficult to follow; a truly laudable accomplishment.

The latter part of the atlas is devoted to notes on each plate as well as lists of primary and secondary sources for that plate.

There are many themes in this atlas commencing with continental glaciation and archaeological evidence of the movements, livelihoods, and culture of early peoples of Canada, as well as environmental aspects such as ecology and climate. The significance of the fishery, early settlement, development, and colonial efforts in the Atlantic provinces is shown. The exploration, exploitation, and settlement of the interior, primarily by the French, and the eventual conflict with English and Americans is well documented. The unique settlement and development of the St. Lawrence valley by the French is dealt with in detail. Another important theme portrayed and described is the northwest from Hudson Bay to the Pacific coast and the significance of the fur trade in this area. This volume is neatly completed by a brief look at Canada in 1800 which reveals the emerging pattern of modern Canada.

This atlas is a far cry from the simplistic dictionary definition of an atlas being a collection of maps. It is a complex document with the text inseparable associated with the maps, diagrams, plans, illustrations, etc., providing a unique, thoroughly researched view of the history of Canada. It is a significant addition to the reference works on this country and in some Canadian university libraries copies have been so heavily used that the spines are splitting. The editors of subsequent volumes in this series have the difficult challenge of matching the fine quality of volume I. With funding for the completion of the project assured, volumes II and III are awaited eagerly.

Vivien Cartmell
Queen Elizabeth II Library,
Memorial University of Newfoundland
St. John's, Newfoundland

The Cartography of North America 1500-1800
By Pierluigi Portinara and Franco Knirsch

This volume is a large, lavishly illustrated collection of maps and charts of North America from 1500 to 1800. It has a minimal amount of text including a brief history of cartography, an essay on the production of old maps and a short treatise on the exploration of North America. These take but fifteen pages to accomplish. The rest of the text includes a brief (about one page) introduction to each of the three centurial sections into which the volume is divided. There is a section of biographical notes on forty-five map makers and a short, one-page index. The breakdown of the maps are sixty captioned plates for the sixteenth century, forty-two captioned plates for the seventeenth century and seventy-one captioned plates for the eighteenth century.
Of note is the inclusion of a large number of manuscript maps...

...one really wonders about the selections made. ... minimal captioning fails to connect the map with its importance. ... One wonders why a large part of the eighteenth century section should be devoted to the maps of Antonio Zatta...

A stunning art book...it seems to be...a quick fix on the cartography of North America...

century. There are nine additional maps used in the introduction and opening essays. Some ninety illustrations of explorers, royalty, technical equipment and events are peppered through the volume. Of note is the inclusion of a large number (about 25%) of manuscript maps many of which logically appear in the earlier sections of the book when these maps had considerable importance. The book is largely arranged chronologically and attempts to connect the unfolding story of the exploration and settlement of, and competition for, the continent of North America as told through its historical cartography with the development of the art and science of map-making itself. It further states that it is an authoritative reference work, a fascinating reading experience, and a stunning art book. With this in mind the authors state that they made their selection of maps based upon their historical significance, scientific merit and beauty.

In light of these stated goals, one really wonders about the selections made. Many seem to have no significance for the criteria stated. While those that do, suffer from minimal captioning which often fails to connect the map with its importance in either the history of North American cartography or the development of cartography as an art and science. With but a short introduction to the above, it is left to the reader to connect the two goals. The only apparent development is the gradual change from manuscript maps to wood block printing and eventually largely copperplate engraving, not a particularly earthshaking revelation. One also wonders why a large part of the eighteenth century section should be devoted to the maps of Antonio Zatta without inclusion of John Mitchell's map of 1755 upon which they are based. In some cases, much later printings of maps are used rather than the first edition, for no apparent reason. In point, Jean Nicolas Bellin's maps of North America used in this volume are from Didot's Histoire General des Voyages published in 1757 and not from Charlevoix's Histoire et Description Generale de la Nouvelle France where they first appeared in 1744. As cartographic firsts there are important differences.

Because of its lack of text and seeming lack of direction to its maps the volume can hardly be called an authoritative reference work nor is it a fascinating reading experience (except, of course, if your definition of fascinating is that it is to be short). A stunning art book though it is. Indeed it seems to be more of a book for the general public who may want a quick fix on the cartography of North America rather than an in-depth survey as found in such books as Schwartz and Ehrenberg (1980), Tooley (1985) and Cumming (1971, 1974). Even as an art book it has some major flaws. The reproductions of several maps are quite blurry. A further frustration is the printing of maps on a two page spread and then tightly binding the volume so as to leave a large portion (and usually the one you want to see the most) buried in the gutter. I praise the inclusion of hard to find portolan charts but am disappointed in their often being hidden in the binding. At $80 it is difficult to recommend this book. An authoritative reference work it is not, but at the same time the full color, high quality paper, and reproductions of many one-of-a-kind items does make it tempting.

LITERATURE CITED

Jon L. Walstrom, Map Curator
Minnesota Historical Society
St. Paul, Minnesota
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ALA members and other persons interested in the objectives of the Map and Geography Round Table are invited to submit manuscripts to the Editorial Board for consideration. Full-length manuscripts (generally not exceeding 7,500 words) as well as shorter commentaries, research notes and letters should be addressed to: Philip Hoehn, Library Map Room, University of California, Berkeley, California 94720.

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