

Cartographic Collections

M&GIC: The Map & Geospatial Information Collection of Cornell University Library

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A Brief History

Cornell's first map librarian, Barbara Berthelsen, was hired in 1949, with her duties split between reference and map librarianship. Prior to that the duties we now associate with the map librarian were assigned to library staff on an *ad hoc* basis. The collection was small and consisted mostly of donated maps or maps contained in professorial book collections, most notably the maps from the library of Andrew Dickson White, Cornell's first president. There was one noteworthy map purchase: The Jared Sparks Map Collection was purchased in 1872, although this acquisition, too, was a part of the larger purchase of the Sparks library. The Sparks maps are manuscript maps from the Revolutionary War period and include maps by Capitaine du Chesnoy, Lafayette's aide, and one sketch of fortifications by George Washington.¹ A noteworthy early donation was that of Charles W. Wason, a Cornell alumnus and businessman, whose 9,000-item book collection formed the basis of Cornell's East Asia collection and contained many maps of China and Japan from the turn of the century and earlier.

Cornell seems from the beginning to have participated in whatever government depository programs were available, so there is now a strong collection of US topographic maps and survey maps. The influx of maps from the Army Map Service after WWII provided the impetus for establishing a separate map collection at Cornell and hiring Berthelsen. When the map collection was moved from the old University Library, where crowded conditions had made it almost unusable, to its present home in John M. Olin Library in 1962, it was contained in 169 five-drawer cases. Depository collections continued to be the main agent of growth right up to the present. There were some interesting donations. One, for example, was from Arthur J. McNair, a professor of civil engineering, who consulted for Amtrak in the late 1960s. He donated a unique set of 750 "valuation" or "track and right

of way" maps of the Northeast Rail Corridor, most at a scale of 1:1200. Another noteworthy donor was Professor John M. Echols, for whom the Southeast Asia collection is named.

Berthelsen retired in 1991 after 42 years of service. Her imprint is on every aspect of the collection. She was followed by Susan Greaves, from Dalhousie University in Halifax, Nova Scotia. Susan presided over a major redesign and expansion of the collection space, reorganized many of the acquisitions procedures, and moved the responsibility for cataloging into Library Technical Services. The result has been a much more accessible collection both intellectually and physically. Greaves also brought the collection into the digital age, developing its initial Web presence and serving digital mapping data from the Map Collection's home page. In 2005 Greaves moved to Queens University in Kingston, Ontario, in her native Canada.

A history of the collection would be incomplete without mentioning the contribution of Professor John W. Reps, now emeritus professor of city and regional planning, and author of *The Making of Urban America: A History of City Planning in the United States* and *Bird's Eye Views: Historic Lithographs of North American Cities*, among other books. Professor Reps has been an ardent supporter of the collection since his arrival as an assistant professor at Cornell in 1952. He has made or organized many donations of cartographic material to the collection and to Rare Books and Manuscripts. As the founder of Historic Urban Plans, Professor Reps published over 500 facsimiles of urban plans, maps, and views, which have filled critical gaps for many map libraries here and abroad.

The collection thus has benefited from exceptional continuity in both leadership and location during a time when map collections have gone through astounding changes in every aspect of acquisition, technical processing, services, and maintenance.

Cartographic Resources on Campus

The collection in Map & Geospatial Information Collection (M&GIC) consists of 280,000 to 300,000 map sheets filed in drawers, several thousand atlases, a small collection of globes, and a growing collection of digital mapping. Cartographic reference materials are housed in the Map Room. Two computers running current versions of ArcGIS are available in the Map Room, and more are available in the computer laboratories on campus and at Mann Library.

M&GIC doesn't have a monopoly on cartographic resources. The Division of Rare and Manuscript Collections has a number of important holdings in addition to the Sparks maps already mentioned, for example, a 1492 *Cosmographia* and some volumes of the Blaeu *Atlas Maior*. Many rare maps have not yet been entered in the online catalog. Similarly, the University Archives have important local manuscript maps and campus maps, but, as with rare materials, intellectual access to the archival collections can be difficult and depends on the depth of the collection level description. A substantial number of area atlases are held in the Kroch Library Asia Collection stacks and reading room. The Department of Geology maintained a separate, uncataloged map collection until 2002. Their maps were transferred to M&GIC and are still being incorporated into the collection.

There are several large microform sets including the Library of Congress's *Land Ownership Atlases* and *Ward Maps*, but also more unusual holdings such as *Karte des Deutschen Reiches* from pre-WWII Germany in 4100 fiche and a half dozen reels of early and otherwise inaccessible Vietnamese maps from 1400-1900. Many thematic atlases, such as historical or linguistic atlases, are kept in the open stacks or in reference collections.

Mann Library, the library for agriculture and life sciences, has retained a small collection of reference maps and some atlases. Most of their collection was transferred to M&GIC in the early 1980s. Mann Librarians and staff, however, provide important support for GIS and digital mapping at Cornell. This support includes maintaining CUGIR, The Cornell University Geospatial Information Repository at <http://cugir.mannlib.cornell.edu/>, GIS workshops, and research consultations.

Some maps, such as the McNair donation noted above, are housed off-site at the Library Annex, and more transfers from the working collection on campus to the Annex are being planned.

Intellectual Access

Cornell is fortunate to have catalog access to most of its cartographic resources. The online catalog provides a single point of intellectual access to the materials housed in the many different locations we have noted, and the library is committed to increasing intellectual access to all its materials. For example, a very skilled batch record loading unit in Library Technical Services is adding analyzed records to the USGS Geologic Series as the maps themselves are moved to offsite storage. This unit also loaded the David Rumsey Historical Map Collection item records into the online catalog, thereby extending the reach of Cornell's map collection across the Internet. One powerful result is that records for individually analyzed maps from historic

atlases in the Rumsey Collection are now returned by searching that geography in the catalog. For example, a keyword search for "Tompkins County" and "maps" will return, among map records, the record for the Rumsey Collection map of Tompkins County from the Burr Atlas of 1829, with a link to the image itself.

Another approach to access is an experimental geographic interface to the map collection at <http://128.253.77.249/>. The interface is admittedly sub-beta. The system as designed requires manual record enhancement, which has slowed progress, but the approach shows potential. It was designed using the Google Maps API (in a very early instance) and Manifold by students in a graduate-level computer science class.

Collection Development

Geography departments are often the driving force for collection building in academic map libraries, but Cornell has never had a geography department. Perhaps because of this the collection has become quite eclectic. There is the solid base of depository mapping, which has been augmented over the years by explicit efforts to develop a core collection. Beyond that, map collecting strategies have been devised on the fly to respond to the instructional and research needs of the university, the motto of which is its founder's hope that "I would found an institution where any person can find instruction in any study" (Ezra Cornell, 1868).

The collection is used most heavily by the architecture, city and regional planning, and landscape architecture students and faculty, followed closely by historians and researchers working in area studies, such as East Asia studies, Southeast Asia studies and European studies. The map librarian works closely with the bibliographers and selectors in these areas to ensure research needs are being met.

The collection is also used by the general Cornell community and researchers from Ithaca and Tompkins County. The availability of some subscription-based online resources such as the *Digital Sanborn Fire Insurance Maps*, the *Readex U.S. Congressional Serial Set* and *AncestryLibrary.com*, which now provides access to scans of the Library of Congress's microfiche set of landownership atlases, brings a steady stream of visitors from off campus.

In addition to the depository program and donations, M&GIC has an allocated budget and a small income from endowments for purchasing materials. The added expense of digital mapping is now a stress on those allocated funds. However, additional funds have been made available for large purchases, for example, a recent purchase of Thai maps and digital data, and, earlier, GfK Macon's *Digital Maps for GIS* coverage for Europe.

The challenge for continued growth of the collection is to increase the funds available from endowments. Cornell is just embarking on a massive fundraising campaign, and, while the library is an important part of that effort, direct help for the Map Collection is well down on the list of library priorities. Finding a way to engage with prospective donors is critical. The first step in engagement is to develop a public relations program that educates the library community and the academic community about the map collection resources and services but also goes beyond that to reach potential donors.

Public Relations

One strategy for increasing M&GIC's visibility both within the library and to the university community has been a series of exhibits in display cases outside the Map Room in a fairly high traffic area. Several map exhibits have focused on the Cornell New Student Reading Project, in which all incoming Cornell students are required to read a book chosen by the Provost. Each year a new book is chosen. Some notable examples have been *Things Fall Apart* by Chinua Achebe, *Kafka's The Trial* (we didn't attempt that one), *Fitzgerald's The Great Gatsby*, and most recently, *The Pickup* by Nadine Gordimer and *Lincoln at Gettysburg* by Garry Wills. The project is an event for the entire community. In that spirit we duplicated our map exhibit for *The Pickup* in the Tompkins County Public Library.²

Other displays have been coordinated with major exhibits given by the Division of Rare and Manuscript Collections. Its most recent, *Lafayette in Two Worlds*, provided a perfect opportunity. We chose maps illustrating Lafayette's triumphal tour of the United States in 1824-25, and this exhibit was very successful. Our most recent collaboration was on Wine and Grapes. (Cornell has an extensive archive of wine-related materials). Our exhibit was called "Cartobibulosity" and seems to have been a great hit. An exhibit on Darwin is in the planning stages.

Far and away our most successful exhibit has been a display by an art class of "Maps to Get Lost By." This assignment resulted in a dozen or so maps featuring various strategies of misdirection. The maps were featured both in the print version of the *Cornell Chronicle* and the *Cornell Chronicle Online*³ and piqued alumni interest.

The unmet challenge has been to transform the physical exhibits to online exhibits. The time, energy, and expertise required to bring an exhibit online has proved elusive but is clearly critical to engaging a larger public.

Our very active Library Communications Department has been instrumental to the success of our

public relations effort. They have insured that exhibits get on university events calendars and in the student newspaper, the *Cornell Daily Sun*, and have worked on placing images from the exhibits in as many campus venues as possible.

The Local Community

M&GIC is fortunate to be situated in an area where the local government departments have impressive cartographic knowledge and GIS skills. The City of Ithaca and Tompkins County partner to produce an excellent Web site, Tompkins County GIS at <http://www.co.tompkins.ny.us/gis/>. GIS users and experts from Cornell join with the local government experts to stage annual GIS Day events. The two groups have also formed a GIS interest group, SynerGIS, which has been a very effective for networking. Ithaca and Tompkins County are frequent areas of study for Cornell students, so M&GIC attempts to collect as much local cartography as possible while the students still besiege the City Clerk for more.

Administrative Context

The library doesn't have a standalone government documents department of the sort that forms an umbrella administrative grouping for many academic map collections. M&GIC for the past several years has been a department within the Preservation, Conservation and Maintenance (PCM) Division, which would seem at first glance an odd pairing.

Working within PCM, however, has proved beneficial. The division head provided strong support and brought a lot of ingenuity to bear on problems of staffing, space, and resource allocation. She also included the map collection in several successful conservation grants. Immediate access to conservation expertise guaranteed the ongoing physical health of the collection. The conservators have worked with M&GIC staff to develop exhibition guidelines and have provided much-appreciated help in actually mounting the exhibits.

A very recent reorganization returns the collection to public services on the rationale that there is a large public services component to the map collection. We're looking forward to the synergies this reorganization will develop.

Staffing

M&GIC has been staffed by one full-time map librarian, one half-time map assistant and two map assistants who come in for two hours a day. This configuration will change in the reorganization. The "paraprofessional" staff is the backbone of the department. The

half-time assistant does most of the technical processing—checking in maps or creating preliminary records for the catalogers. He also fields many of the reference questions. One assistant comes from the conservation laboratory and provides help in maintaining the collection, along with many other duties. For example, she just completed a multiyear project to re-fold the entire USGS topo quad collection—over 1,100 folders.

The other part-time assistant is the head of Media Services, which is contiguous to the Map Room. He has helped organize shifts of large parts of collection and is currently working on a project to move 10,000 USGS maps stored in vertical files to an offsite storage facility. He also populates our experimental interface with data. Having even part-time staff available for projects and to cover reference duties has had a positive impact on service and has given the map librarian a great deal of flexibility in scheduling classes, tours, and research consultations.

Cataloging of maps is done by Library Technical Services. Four catalogers do map cataloging on a quota basis as a part of their other cataloging responsibilities. Currently they create about forty original records a month. The collection is almost completely cataloged, although backlogs remain, particularly records for the Geology Department maps.

Three talented student assistants work 10-12 hours a week, helping with general housekeeping, ongoing projects, and reference work. The nature of student assistantship is evolving, and we increasingly depend on them for GIS help, map design, and scanning/plotting of maps.

The Physical Space

The collection is in a single room of about 4700 square feet, located on the lower level of Olin Library, the central library building. The space in one large room has allowed us to stack cases four high (20 drawers total) around the periphery—these are mostly the USGS Topo Quads—and keep the cases in the center of the room two high. That gives us a lot of consulting space, even though all available space seems to be covered by mid-semester. The space is adequate, but there is a challenge in balancing onsite and off-site storage, particularly with easy online access to USGS and NOAA products. As an increasingly large percentage of the collection moves to off-site storage in the near to mid future, we will need to solve the attendant problems of discovery and retrieval.

The collection is open from 9:00-5:00 on weekdays and 1:00-5:00 on Saturdays. Maps do not circulate, nor do atlases and books in the map collection. There are photocopy services available nearby, and patrons are allowed to take materials there for copying. The

Photocopy Center is able to scan/photocopy material 36" wide in black and white. Two 14"x 21" color scanners are available in the Map Room itself, along with a small black-and-white photocopier. Since these are the only large-format scanners available at this end of an extended campus, they are heavily used by students and faculty scanning non-cartographic materials. The map librarian, on a case-by-case basis, offers very large format color scanning on a case-by-case basis by in a nearby facility. Forty-two inch color plotters have been available at the somewhat distant Mann Library and in the Architecture Department's Computer Lab a short walk away. M&GIC has just acquired a plotter of its own, and negotiations have begun on acquiring a 54" color scanner. Establishing the appropriate level of scanning and plotting equipment in the Map Room itself in this environment has proved challenging, and acquiring it even more so. It would be fair to say that we have not yet arrived at the optimal mix of service and technology.

Reference and Instruction Services

The entire staff provides in-person reference service, with referrals to the map librarian encouraged at any sign of difficulty. The map librarian also provides phone and e-mail reference service. The challenge in reference is to provide a reasonably consistent service when our service providers spend only a limited amount of time in the collection itself and have many other duties while here. This leaves them with little time for learning such a diverse collection, not to mention online resources and digital mapping. We meet this challenge with ongoing training and by encouraging everyone to share answers and experience.

Another parallel approach is to encourage self-help by developing more information tools for patrons seeking cartographic information. The increase in resources online makes this absolutely essential. Tools range from instruction sessions for academic classes to efforts such as the geographic interface mentioned above. The Web page, <http://www.library.cornell.edu/olinuris/ref/maps/map.htm>, acts as a portal to cartographic information, with some local emphasis. More could also be done online in the way of guides to specific products or categories of material. The material that has been developed is being integrated into a library-wide guide delivery system, which is hoped to expose more researchers to the possibilities of using cartographic material.

Putting the Collection Online

The single biggest challenge facing M&GIC right now is how to deliver more of its resources online. The difficulties are physical, administrative, logistical, and

conceptual Serious planning for this effort has just begun, helped by the articles that have appeared here in *Cartographic Perspectives* and other journals and in discussion lists and conference papers. In the meantime, while we plan, whenever we scan a map for any purpose, we add it to our collection of scanned images for some future online access.

Networks

M&GIC is an active, dynamic collection that supports a wide range of academic research needs. It continues a long tradition of stewardship and service. There are challenges, but if there is a single thread running through this description it's that by building networks to a wide range of communities an academic map collection can meet those challenges successfully. The building of networks is never done, of course. Map librarians can't help but feel the ground is constantly

shifting under them and that they live in a time of abrupt and occasionally frightening transition, but in reviewing the history of the collection for this article it became clear that M&GIC has been in transition for sixty years and stands at the present in good shape and ready for sixty more.

¹Berthelsen, Barbara, "The Sparks Map Collection," *Special Libraries*, vol. 69, no. 4, April, 1978. p164-68.

²Kibbee, Robert J., "Meandering Maps: Getting Lost in Paper Worlds", *Cornell Chronicle Online*, Feb 1, 2007. http://www.news.cornell.edu/stories/Feb07/maps_exhibit.html

³"Let us go to another country: An exhibit of maps related to *The Pickup* by Nadine Gordimer" Tompkins County Public Library Website, Sept. 12, 2007. <http://www.tcpl.org/pickup/maps.html>