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A History and Commemoration of Card Catalogs
in the Arizona State University Libraries

by

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REQUIEM FOR THE CARD CATALOGS

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Arizona State University's library card catalogs are no more. The fingers walking through the catalog trays have yielded to fingers on terminal keyboards. The familiar cards have been replaced by displays on CRT's. The catalog records tediously typed, or printed, or photocopied have given way to the bits and bytes of the MARC records in the whirring disk drives. After ninety years of faithful service, the cards and the cabinets are gone. May they rest in peace.

Beginnings of a Card Catalog

The first catalog card seems to have arrived in the Normal School of Arizona Library at the very beginning of the century. Gertrude Muir's history, The Arizona State University Library, 1886-1969, tells how, in March of 1900, Alma M. Davis, Student Librarian, began classifying the books and preparing an author catalog.[1] The inspiration and supervisor of this effort was Professor F.M. "Cap" Irish, "first to attempt bringing order out of chaos in the unorganized, uncataloged book collection then housed in a large front room on the third floor of Old Main." "Samples of supplies and of the proper catalog cards [emphasis mine] were obtained [by Irish] and a copy of the Dewey Decimal Classification purchased."[2]

This catalog was begun for a collection reported in the School's 1900 catalog to be more than 1200 volumes.[3] It seems to have been a period of rapid growth as the catalog for the previous year reports the collection at more than 700 volumes, and the following year's figure is 3000. In the 1904 catalog of the Arizona Territorial Normal School, Librarian Peters reports that a classed catalog of the book collection was available, in addition to the dictionary catalog then being completed. When she left two years later, the Library was said to consist of 5,000 volumes. The Normal School catalogs for several years during this decade have the statement:

> The library is classified according to the most approved methods of library science. ... A dictionary catalog arranged alphabetically by author, subject and title, greatly enhances the usefulness of the library.

Information about the catalog over the next 25 years is sketchy. The first library instruction class in 1910/11 included in its description "the use of the card catalog." A report in the summer of 1910 counted 6000 volumes <u>classed in Dewey</u>. The library seems to have grown slowly, and it is reasonable to suppose that the card catalog grew slowly along with it.

The <u>Bulletin of the Arizona State Teachers College at Tempe</u> for 1930/31, just before the Library moved into the new Matthews Building, says that the accession record shows more than 20,000 volumes plus several hundred bound volumes of magazines and several thousand unbound bulletins and reports. There were also said to be 4000 children's books in the Training School collection. Muir, however, has a figure of 14,306 volumes (excluding documents) and 2,500 bound periodicals moved into the new building. The Librarian's report to the North Central Association for that year states the existence of a full dictionary catalog containing 46,550 cards (an increase of nearly 12,000 over the previous year's report) figured by measurement at 100 cards to the inch.[4] It may be supposed that this catalog moved with the collection.

The Bulletin for the following year reports the collection at 18,000 volumes plus 2600 periodicals and several <u>hundred</u> unbound items. The collection seems to have grown very little during the depression years of the 1930's, being reported at 21,000 plus 4000 bound periodicals and 6000 public documents for 1939/40.

Growth and Transformations of Card Catalogs

There is not a lot of information at hand about happenings to the card catalog during the years in Matthews. It seems to have moved about to different locations in the building during two major additions and remodellings and various rearrangements.

Apparently there were transformations of the catalog during this period, but the clues discovered do little beyond stimulating the imagination. A Library Committee report, undated but apparently from 1940 (last of T.J. Cookson's 20 years as Head Librarian), refers to

> ... the confusion which results from having to consult two card catalogs, an old one and a new one, at least one of which is extremely unreliable. ... The two gradually are being merged into one accurate index, [but] the rate of progress is so slow that it is difficult to predict when it will be a <u>fait</u>

<u>accompli</u>.[5]

It then recommends either speeding the project with more personnel or discontinuing it, merging the catalogs and weeding cards for items not in the Library. No record of a decision on this issue has been found, or of whether the intrusion of a considerable war had any effect on these projects.

A following Librarian was in the middle of his 20 year tenure when, in an annual report issued in January of 1954, he mentions an accelerated recataloging project. He further reports the recataloging of 1,519 volumes during the year, along with cataloging 19,605 new volumes, and the entry of 68,658 new cards into the catalog.[6]

The collections grew rapidly after the War with reported figures passing 100,000 volumes in the early 1950's and reaching half a million items by the mid-1960's.

In the year 1963 decisions were made which led to the death of an old card catalog and its reincarnation in a new one. The collection was to be reclassified from Dewey into the Library of Congress Classification System. The condition of the old catalog determined that the project would be not only a reclassification, but a complete recataloging. It would also encompass a complete inventory and an evaluation and major weeding of the collection The effort would take a dozen years to complete.

There are several views of the state of the old Dewey catalog before its transmutation. The report of a 1959 survey of the Library by Richard Harwell and E.T. Moore for the American Library Association states that "At ASU the purchasing and cataloging abilities of the librarian himself have apparently inhibited the development of strong acquisition and cataloging departments." (This Librarian is reported to have assigned Dewey numbers and done preliminary cataloging for every item before passing it on to a cataloger to finish processing.) Harwell and Moore go on to recommend that technical processing "should be in the hands of particularly strong and capable department heads." Subsequently they state:

> The card catalog of the Matthews Library is, despite some minor flaws, in remarkably good shape. As it has been compiled wholly under the direction of one chief librarian there has been an unusual opportunity to maintain consistency in it. ... The very consistency of the catalog at ASU has created some of its flaws. Unnecessary detail (e.g. gift notes, tracing information) is typed on the face of

the card.   An over-elaborate system of cross-reference cards has been begun.   Titles are unnecessarily repeated in added entries for joint authors and translators. Title cross references are peculiarly used--in a way that too often makes it necessary for a user to consult two cards before finding the call number of the book he is seeking. The catalog is cluttered by unnecessarily extensive cataloging of government documents.[7]

A 1962 report prepared for President Durham by P.M. Miles, Assistant University Librarian, UCLA, also criticizes the catalog for its excesses:

> Too much attention is being given to cataloging as separates many monographic series, government publications, and so on, which are actually more conveniently and economically handled as continuations.   ...   With the indexes and bibliographies which are available today, no large university library can afford to indulge in this kind of detailed cataloging.[8]

Catalogers on the staff at the time, pointing out that none of these outside critics were catalogers, were and are inclined to be more blunt in their assessment of the old catalog. The cataloging is described as old fashioned and of very poor quality. The cards are said to have been poorly typed, half-spaced, crowded to near illegibility and to have had corrections scribbled in pencil. The catalog contained a lot of junk, and a great many cards for items that had been gone for years and for ephemera that should never have been cataloged. The handling of editions and series was erratic and confusing.

The beginning of the reclassification project was followed by a number of transformations in the catalog(s). A new catalog was started to hold all LC cataloging. In November of 1963 the Librarian wrote:

> We will have two card catalogs for some years to come. ... We considered filing the two types of cards into the same catalog but found it impractical because the new, simpler filing rules are quite different from the system that has been used.[9]

However, ten months later, he would write:

> During the last three months of fiscal year 1963-64, a crash refiling project was conducted to make the

Public Catalog easier ... to use. The Dewey Catalog
was completely refiled, alphabetically word-by-word
and then the Library of Congress Catalog and the
Dewey Catalog were combined into one alphabetical
Catalog.[10]

The Card Catalog in Full Bloom

June 15, 1964 was marked by an event with significance for
the future of the catalog. On that date the first automated
system in the Library, an IBM circulation system, went up.

In 1964/65 an inventory was made, and in the following
year 70,000 cards for missing items were removed from the
catalog. Other major changes in the catalog also took place at
this time. After 65 years as a dictionary catalog, it was
split into two sections, becoming an author/title catalog and
a subject catalog. In addition, "Clear labeling of the drawers
and of the cabinets was achieved [and] Many new guide cards
were added ... and greatly facilitated the use of the
Catalog."[11]

These latter accomplishments all coincided with another
momentous event, the move of the Library into the new Hayden
Building. The State Press for September 16, 1966 reports that
opening of the new building has been delayed for a week, and
that for a while students will have to use both buildings
because the books are in Hayden while the card catalogs are
still in Matthews. Memories of people on the staff at that
time, however, are that the catalog had been moved during the
summer.

1967/68 brought another innovation designed to aid in the
use of this catalog. A special Catalog Information Service and
Hotline were set up adjacent to the catalog. This Service
featured direct telephone communication with the outside world
and with the floors of the Library and their subject reference
areas, eliminated trips to the catalog, and provided catalog
information to patrons and librarians. The State Press (Nov.
14, 1967) acclaimed it as a service not provided by any other
library in the U.S.

Meanwhile, reclassification continued apace. During its
first five years, through 1967/68, 72,833 titles were reported
to have been reclassed. For the next few years, however,
little progress was made. Other projects and activities seem
to have taken priority, including addition of the millionth
volume in 1968/69. The reclass would finally be completed in
1975 with a final push to process some 25,000 titles.

William Axford, arriving as University Librarian in 1970, brought several interesting innovations to the card catalogs. The first and foremost was a further division of the author/title catalog into an author catalog and a title catalog. This split was accomplished as a special project during 1970/71. The author/title catalog before division was estimated at nearly 1 million cards (10,000 inches) in 1,256 trays. An additional 680,725 cards (plus 48,575 order slips) were reported filed in public catalogs during 1971/72.

With the author/title split came the decision to emphasize the title catalog as the main catalog. Thousands of shelflist cards were copied to make title cards for items which had not previously been given title added entries. These included items for which title entries would have duplicated authors or subjects in a dictionary catalog. Also, holdings cards for sets were to be attached to title cards, rather than to main entries as they had been before. The quaint practice of tying together entries with continuation or holdings cards with string through the holes was also stopped at this time.

Not the least of the Axford changes was the introduction of color into this three-way divided catalog. Instead of typing headings on added entry cards, the entry elements, tracings titles, etc., were highlighted in color. The color line was continued to the top left of the card to draw attention to the filing element. Green was used for titles, orange for authors, pink for subjects and blue for series. This procedure saved typing time, but added difficulties to filing and possibly to the use of the catalogs. Another change was that call numbers were no longer typed in the upper left corner of cards, but were left where they already appeared on printed cards, or typed at bottom left.

One more innovation in the same sequence was to declare that the subject catalog would function as its own authority, eliminating maintenance of a separate subject authority file. Along with this, large numbers of guide cards (5 x 3 3/8 inch cards with plastic protectors and with subject headings typed at the top) were prepared and filed in the subject catalog.

In the spring of 1972 sample audits of the author and title catalogs were conducted to test the accuracy of their filing. Error rates were found to be 3.9% in the author catalog and 5% in the title catalog. Nearly two-thirds of the errors were minor errors unlikely to cause problems in locating items. Most were the result of changes in filing rules rather than original misfiling. These results were substantially better than reports from similar studies in other academic

libraries. A complete reading of the author catalog in 1972/73 found an even lower error rate of 2.6%. The author catalog at this time was figured to contain about 920,000 cards in 1,052 trays.

The month of October 1975 brought two momentous events in the history of card catalogs at ASU. On October 31 the last Dewey book in the Library was reclassed into LC. A few days earlier, OCLC had arrived and the first machine-readable catalog record had been produced. OCLC brought the ability to catalog books at a computer terminal connected by direct telephone lines to computers and a huge, fast-growing bibliographic data base located across the country in Columbus, Ohio. It enabled ASU to share the cataloging of scores, and eventually thousands, of other libraries. It made it possible to push a button and order catalog cards which would arrive a few days later, ready to file. It also stored all of our catalog records in machine-readable form creating great potentials for future use. University Librarian Koepp's report for the year speculates:

> It is even possible that OCLC may provide us with the means by which it will be possible to give up that marvelous 19th century invention the card catalog, in favor of [a] more flexible and cheaper microfiche catalog. ... Still more basic, however is the possibility of doing away entirely with catalogs and depending upon terminals located in public areas of the library to give location and bibliographic information.[12]

Aside from the implication that an online public access catalog would be something other than a catalog, the statement may be considered prophetic.

Catalog Cards

Having arrived at catalog cards produced by computer controlled printers and shipped across the continent, this may be an appropriate place for an interlude to think about how cards have been produced. This must depend a great deal on inference and remembrance as documentary evidence is sparse.

The catalog cards which Alma Davis produced in 1900, and probably those filed into the Normal School catalog for some years to come, were undoubtedly hand written. The Library of Congress did begin distributing printed cards in 1902, and this eventually became the major source. But, no record has been found of when this library began acquiring cards from LC. The Minutes of the School's Board record detailed expenditures for

the early years,[13] but some skipping through those for the first quarter of the century found no payments to LC. They may be there nonetheless.

There is no certainty, either, about when the first local catalog records were produced on a typewriter. The Minutes of the Board for October 23, 1924 show a payment of $70.00 to the Remington Typewriter Company for a typewriter for the library.[14] It cannot be said for sure that this was the library's first machine, or that it was used to type catalog cards.

It can be said with some confidence that, over the next three decades or so, the catalog came to be composed of printed cards with locally typed headings, and typed cards for local cataloging. Cards likely were acquired from H.W. Wilson and possibly R.R. Bowker and other sources, as well as from the Library of Congress.

The next major change in card production probably came with the advent of the copy machine in the mid-1960's. This made it possible to type and copy unit cards locally, rather than having to type complete card sets. (Typed added entry cards had been variously abbreviated.) Cards were copied onto perforated sheets of card stock and then torn apart and headings typed. Memories recall the first Xerox machine's habit of catching fire and filling Technical Services with foul fumes.

The copy machines were followed shortly by the arrival of LC proofslips, flimsy paper copies of all of LC's printed catalog cards, supplied to the library on subscription. These were filed by year and retrieved as needed to be used in copying card sets. Assistant University Librarian Don Johnson was responsible for another short-lived innovation in the late 1960's. This was a rig for using a 35 mm. camera to photograph entries from the LC book catalogs and NUC's. The photos were developed on campus, and copied to produce card sets. The results were very small print images on the cards, though a Minolta copy machine with a specially developed enlarging lens provided some magnification.

The general procedure of photocopying typed cards and proofslips, varied by color-coding, persisted until the arrival of OCLC cards in 1975. The Xerox 2400 machine which had been used for card production was returned to the Xerox Corporation on October 29,1975. Color-coding of locally produced cards for the East Asian catalog continued until mid-1988.

Decline and Fall of the Card Catalogs[15]

The reign of the card catalogs began to move toward its end in 1979/80 with the decision to produce a COM catalog (catalog on computer output microfiche). A strong motive for this move was the plan to open a new Science and Engineering Library in 1982 (subsequently delayed to 1983). It was clearly not desirable or practicable to create card catalogs for the new library and COM seemed to offer a good solution, at least for an interim period. Other motives were supplied by a huge filing backlog, major changes in cataloging practices with the appearance of the second edition of the Anglo-American Cataloging Rules and LC's decision to implement them and to close its catalogs in the process.

The switch to COM for the new library required a major retrospective conversion project so that all items to be located in the new facility would have machine-readable records and could appear in the COM catalog. About 75,000 titles were converted between May 1980 and February 1981, mostly by AMIGOS Bibliographic Council, but with substantial cleanup by our Catalog Service. Special efforts by the Serials Unit were required to finish converting science serials. The first COM catalog was produced in the spring of 1981 by Brodart, Inc.

The filing of cards had ceased while the COM catalog still in the planning stage. The official date for closing the main public catalogs to new entries was December 1, 1979. The actual physical demise of the card catalogs began in the summer of 1981 with a project to purge all cards duplicated by entries in the COM. All OCLC cards, all cards with science class numbers (G-GC and Q-TX), and all "hard cards" (on-order slips which for some years had been filed in the title catalog) were pulled from the catalogs. Staff from all parts of the Library participated in this effort. It reduced the bulk of the catalogs sufficiently for a consolidation in November of the same year to empty several cabinets.

Since it was not possible in 1982 to create machine-readable records with elements in nonRoman vernacular scripts, access to materials requiring such records became a concern. In that year cards were pulled from the main card catalogs to start separate author, title and subject catalogs for ASU's East Asian Collection.

Even while the first COM was in preparation, proposals were being solicited for an integrated library system. Almost as COM was being installed in the library, DataPhase Corporation was selected as the vendor to supply the integrated

system. The online public access catalog component of DataPhase's ALIS III system, however, was still several years in the future.

The ALIS III OPAC actually became available to the library's users in January 1986. By that time, however, DataPhase Corporation was in the process of selling the ALIS III system to UTLAS Inc. which would rename it UTLAS T/Series 50. UTLAS' plans to support the system as it was being used at ASU appeared problematical, so ASU spent fiscal 1986/87 shopping for and choosing a new integrated system. This time the choice was the system offered by CARL (the Colorado Alliance for Research Libraries). The Summer of 1987 was devoted to converting and transferring ASU's bibliographic data from one system to the other. ASU's CARL-based system became operational in August of 1987.

The aspect of this activity most decisive in the demise of the card catalogs was the conversion of manual catalog records to machine-readable form so they could be added to the online catalog. An effort to convert records for serials had begun in 1982 with the first of two LSCA grants for that purpose. Serials retroconversion by ASU's Serials Cataloging Unit continued over the next half-dozen years and was virtually completed, except for a few "snags", by mid-1988.

As the Libraries added their two millionth volume in 1984/85, University Librarian Donald Riggs received a commitment from the Office of the Vice President for Academic Affairs for $1 million over five years for retrospective conversion. A series of projects using the services of AMIGOS began in the fall of 1984. Some three years and three projects later, about 240,000 titles had been converted by AMIGOS and ASU Catalog Service staff. It would take many months more for AMIGOS to produce the tapes of its output for input to ASU's data base. In 1988 ASU switched to OCLC for retroconversion services. Another 143,000 titles were converted during the next year. This project included the juvenile literature collection, music scores, sound recordings, and twenty-seven microform collections. Almost 100,000 additional machine-readable records were acquired through purchase of MARC cataloging for another fifteen microform collections.

As a result of these efforts, nearly all of ASU's catalog records were in machine-readable form by summer of 1989. The only significant exceptions were some records in non-Roman alphabets and a number of microform collections for which machine-readable cataloging was not available. The arrival in 1988 of the RLIN system for cataloging Chinese, Japanese and Korean materials online made it possible to start doing new

cataloging for East Asian items in machine-readable form. As this history is written, the retrospective shelflist for the East Asian Collection has been shipped to a vendor for conversion.

Unfortunately, the loading of some 130,000 retroconverted records into the online catalog is being delayed by technical problems and by computer programs which, in the fall of 1990, yet remain to be completed.

However, by the time Reference Service moved to its new location on the concourse level of Hayden Library in late July 1989, the card catalogs were largely redundant and were abandoned. This was in accord with library automation goals and with plans for the underground addition and remodelling which did not include space for the catalogs. ASU became one of very few research libraries to have completely done away with public card catalogs by 1990. Within a few weeks the author and subject catalogs had been dumped and the cards boxed for use as scratch paper. The title catalog was subsequently moved into storage adjacent to Technical Services for temporary use in data base cleanup and maintenance projects. Its reprieve was a very short one, however, as by summer of 1990 it was deemed to be unaesthetic and followed the others into various forms of recycling.

The card catalogs have vanished from our midst. "That marvelous 19th century invention" served us long and well. Let it be remembered with respect and admiration.

Kenneth B. Knepp, Catalog Librarian
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NOTES

1. Gertrude H. Muir, <u>The Arizona State University Library, 1886-1969; a history</u> (1971), pp. 3-4. Copies of this history are in the University Archives, and in the Muir files in the Arizona Collection of Hayden Library.

2. Unfortunately, neither of the two sources which Muir cites for this information can be located in 1990. One was a letter written by Davis to Professor John O. Grimes in 1950 and said to be in the "Grimes file" in the Hayden Library Arizona Collection. The other was information obtained by Ruth M. Wright, Librarian from 1911-1918, and apparently included in her scrapbook. The scrapbook according to Muir was in the Arizona Collection. It is now in the University Archives [Ruth M. Wright. <u>Tempe Normal School, Arizona, Library</u> (1918)] but does not contain the material or information used by Muir. Board minutes do record authorization for Davis' appointment and payment of his $10. per month salary through June 1901.

3. Much of the data on collection growth, etc. in this paper is taken from issues of the <u>Annual catalogue</u>, <u>Bulletin</u>, <u>General catalog</u>, and other title variations, of the School/College/University under its various names. The University Archives contain an extensive bound collection.

4. "Supplementary Report on the Library," (Nov. 1, 1932) [for the] North Central Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education, [from] Arizona State Teachers College, Tempe, Arizona, p. 2, (Typewritten). Arizona Collection, Hayden Library, ASU, bound in volume titled <u>Matthews Library, North Central Association Reports</u> (Accession no. 90-337).

5. "Report of the Library Committee: to President Grady Gammage," p. [2], ASU University Archives, bound in volume titled <u>Library Report Committee, 1937-1940</u>, with the presidential papers of Grady Gammage, Ninth President ... An inserted hand-written title page carries the date: Oct. 4, 1940.

6. Harold W. Batchelor, "Arthur J. Matthews Library," <u>Annual Report of the President</u>, Tempe, Ariz., Arizona State College (January 1954), p. 17 (Bulletin, new series, no. 7).

7. Richard Harwell and Everett T. Moore, <u>The Arizona State University Library</u>, report of a survey of the library (Chicago: American Library Association, 1959), pp. 12-14.

8. Paul M. Miles, "Notes on the Matthews Library, Arizona State University, Tempe, Arizona: report to President G. Homer Durham" (1962), p. 12. Copy in University Archives bound with the Durham presidential papers.

9. Alan D. Covey, <u>Message from Matthews</u> (Nov. 1963).

10. <u>Ibid</u>. (Sept. 1964).

11. Covey, Alan D., <u>Annual report</u>, University Library, Arizona State University (30 June 1967), p. 7.

12. Koepp, Donald W., <u>Annual report</u>, University Library, Arizona State University, 1975-1976, p. 9.

13. State Normal School at Tempe [etc.]. Board of Education, <u>[Minutes]</u>, ASU, University Archives.

14. <u>Ibid</u>., (Oct. 23, 1924).

15. Information about recent years is derived largely from the memories and personal files of people still active in the Library. Other data has been taken from <u>Annual reports</u> of the University Librarians.