



DIGITAL ACCESS TO  
SCHOLARSHIP AT HARVARD  
DASH.HARVARD.EDU

HARVARD  
LIBRARY



# Among Harvard's Libraries: From worksheet to workstation: Technical services workstations in Harvard College Library's cataloging services department

## Citation

Kaplan, Michael. 1995. Among Harvard's Libraries: From worksheet to workstation: Technical services workstations in Harvard College Library's cataloging services department. Harvard Library Bulletin 6 (1), Spring 1995: 8-12.

## Link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:42665372>

## Terms of use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material (LAA), as set forth at

<https://harvardwiki.atlassian.net/wiki/external/NGY5NDE4ZjgzNTc5NDQzMGIzZWZhMGFIOWI2M2EwYTg>

## Accessibility

<https://accessibility.huit.harvard.edu/digital-accessibility-policy>

## Share Your Story

The Harvard community has made this article openly available. Please share how this access benefits you. [Submit a story](#)

will no doubt be specialists in cataloging electronic formats. Serials are always changing. They retitle themselves, absorb others or are absorbed, start new series, etc., etc. With serials, as with books, there is an effort to carry out cooperative work, which is known as CONSER. The complications of serials has led to task forces, one of which, on format integration, Ruth Haas has chaired. The very complexity of the task of recording information so that the user can understand it is part of what fascinates a serials cataloger. The morning newspaper also becomes especially interesting to the serials cataloger, who knows that the name change of a country is going to be reflected immediately in cataloging work.

Catalogers love their work, but they do feel a great deal of pressure. Pressure is, of course, relative, but catalogers are in the position of having a measurable output: titles cataloged. This makes the job, for many, much more than 9 to 5, especially with respect to increas-

ing their knowledge. Rarely, however, do catalogers at Harvard write for publication, though catalogers acknowledge, as one would expect, that use of the library does make for better cataloging. It seems that catalogers are above all generalists, who tend to prefer to add a new skill, most often a language, rather than to burrow more deeply into a problem or subject.

Perhaps, though, we are seeing a changing world, in which catalogers must increasingly become specialists in a language and/or subject, as well as specialists in an aspect of the application of technology. The financial pressures on libraries lead to a desire for all possible efficiency, and cataloging is the most labor-intensive area in which measurements of productivity can be applied. The irony is that efficiency requires ever more knowledgeable people. That is, at least, one of the many things this non-cataloger thinks he has learned about cataloging and catalogers.

FROM WORKSHEET TO WORKSTATION:  
*Technical Services Workstations in  
Harvard College Library's  
Cataloging Services Department*

*Michael Kaplan*

MICHAEL KAPLAN is Head, Database Management, and Coordinator for OCLC/RLIN Operations in the Harvard College Library.

Library automation, viewed historically, has not proceeded in a direct course. Rather, there have been periods in which one aspect—technical services, reference, or public access—has surged forward. This is likewise true of automation associated with the library's technical services—acquisitions, collection development, and cataloging.

In the late 1960s library automation pioneers developed the MARC (Machine Readable Cataloging) format. That was followed in the early- to mid-1970s by the birth and growth of regional and national (now international) online bibliographic utilities (OCLC, RLIN, WLN, and UTLAS, this last now called ISM). In the early years, libraries used the bibliographical utilities, including the Library of Congress, primarily to order printed catalog cards. A by-product of the card-purchasing process was the development of MARC records. As libraries compiled large databases of MARC records, they began to utilize them in their local online public access catalogs (OPACs). Now, in the mid-1990s, we are on the verge of developing massive

networks of client-server systems, that is, powerful interactive systems through which many individuals are able simultaneously to use software and data. These systems, stored both locally and at remote sites, will be tied to and available over the Internet. Client-server systems will replace terminal mainframe systems in most library automation environments, and libraries will be mounting their catalogs on client-server systems. This will be particularly true when the front-ends for library catalogs are WWW (World Wide Web) browsers.

When the Harvard University Library first brought up HOLLIS, its online catalog, in 1985, it was not for the public, but for staff to use in acquisitions. The public catalog came later, in 1988. The terminals used to access HOLLIS were accordingly in acquisitions and collection development departments. Only a few terminals were located in cataloging departments in those days.

On the one hand, this was curious, because it was the cataloging departments that had introduced the modern era of automation by use of the MARC format and of OCLC and RLIN. On the other hand, there was much to be gained by coordinating the collection activities at Harvard University, which took place across a highly decentralized environment: doing so reduced the rate of duplicate acquisitions.

When that first generation of Telex terminals began to give way to IBM terminals in 1988, cataloging departments were more involved—HOLLIS, after all, was by then a true online catalog—but the era of worksheets (the forms catalogers filled out for later editing or input on OCLC or RLIN) had not yet given way to the era of workstations. This was still the situation when the Harvard College Library changed administrations in 1990. Terminals in cataloging departments were still unevenly distributed: in the Cataloging Services Department in Widener Library, for instance, there was only one terminal for every three staff members.

At about this same time serious attention was being given to the concept of a “business resumption plan” or “disaster recovery,” namely, how the library system would recover its databases and resume online processing as quickly as possible after a major disaster to the computing or telecommunications infrastructure. As the plan evolved, an integral piece of it was migrating from “dumb” terminals to “smart” personal computers. Whereas the terminals were essentially hard-wired along a fixed path to the computer center where the database resided, personal computers could make use of various paths—principally the Internet—to telnet to a version of HOLLIS that could be remounted in a remote location on a “standby” system.

So it happened that, at the same time as administrations in the Harvard College Library changed, emphasis was beginning to shift toward PCs as the device of choice for accessing and manipulating HOLLIS. Adding stimulus toward placing a PC on every desk were the dramatic price decreases in PC hardware. It soon no longer made economic sense to purchase unifunctional terminals when PCs, being more flexible, could provide so much more functionality.

For the Cataloging Services Department, this turned into a stroke of serendipity. It presented a real opportunity—but also an interesting challenge to the Department: how do you equip a PC so that it is functionally more than just a “dumb” terminal? Placing the entire operation on a local area network (which was one piece of the total picture) was part of the answer. The LAN could be the purveyor of such administrative applications as word processing, spreadsheets, database managers, and email. But the question still remained: how do we equip our PCs so that a cataloger interacting with HOLLIS has at his or her

command more than just simple keystroke functionality? Where do we obtain that higher level of functionality—cut and paste is a simple example—that was missing with unifunctional terminals? In short, could we take this opportunity to re-tool ourselves and our workplace?

When the Cataloging Services Department received its first networked PCs in the fall of 1991, this was the situation:

We could use a terminal emulation program developed by Yale University (YTerm) to conduct a catalog session through our existing connections with the computer center. This was essentially no different from the terminal connections because it used the same wires and same communications infrastructure to access HOLLIS. One of YTerm's positive qualities was its ability to support the ALA (American Library Association) character set. This character set includes all the diacritics and special letters so important to this library, which collects titles in many, many languages. Indeed, one of the reasons for the original choice of the Telex terminals and the later IBM 3163 terminals was their ability to handle the character set.

We had no immediate answer, however, to providing macro capability with YTerm. (Macro capability, or macros, are the ability to assign multiple keystrokes or multiple operations to a single key, thereby enabling the operator to accomplish long and complex operations without actually having to do all the associated keying.) The department discovered that it was possible, though cumbersome, to use a separate communications program—a version of ProComm—to create MetaKeys, or macros. But the solution was far from perfect and never implemented on more than a few machines.

This direction was abandoned because of two developments in the use of these PCs. The first was a change in the mode of connectivity. The Library's Office for Information Systems made available a program that had been developed by Cornell University for use in an IBM mainframe environment. This program, called Cornell tn3270 or PCIP, allowed a PC to connect to HOLLIS via a local slice of the Internet and conduct a catalog session with full use of the ALA character set. This type of connectivity was ideal for use in conjunction with the disaster preparedness plan.

The second development also happened at Cornell University. An article, “Enhancing the Processing Environment: the Development

of a Technical Services Workstation," by Richard Entlich, William Fenwick, and Dongming Zhang (*Information Technology and Libraries* 11 [1992]: 324-38), presented a number of crucial issues:

- Multitasking (the ability to run several programs at once) or multiple sessions (the ability to run multiple cataloging sessions at once) was integral to the Cornell approach. Cornell, however, was operating with machines that by the time HCL got into the act were obsolete; these were machines based on the Intel 80286 chip (AT class machines) and with relatively little memory. HCL's machines were all 80386 class machines and higher; the majority, in fact, were 80486 machines. All had at least four megabytes of memory; some even had more. (By 1995 we were buying machines with a minimum of eight megabytes of memory.) Cornell was using QuarterDeck's DESQview to accomplish multitasking. HCL wanted (eventually) to use Microsoft Windows.
- Cornell was using the macro program contained within DESQView. We wanted to avoid buying a major piece of software, so instead we settled on an inexpensive shareware program, NewKey. NewKey was a DOS program, but we were not yet operating in a purely Windows environment. For one thing, we had no programs that would allow us to conduct a HOLLIS session in a pure Windows environment. That is only now happening; we are just now migrating from the DOS-based Cornell program to a Windows-based program from McGill University.
- NewKey would, however, run in a so-called DOS-box under Windows, which meant that we could have multiple sessions open, even if we could not see them all simultaneously in a series of open Windows. Instead, we could toggle between the open Windows, seeing one at a time.

The Cataloging Services Department quickly began to investigate use of NewKey in its cataloging routines. We quickly reduced cataloging a title with Library of Congress copy—one of our more common routines—from a process requiring an average of some 50 keystrokes to a single NewKey macro key. The cataloging staff now need only use the cursor to highlight the call number, and then use an

attached barcode reader to wand the barcode label from the book into HOLLIS. NewKey does the rest of the keystroke manipulations. The copy cataloger, of course, must still verify the accuracy of the bibliographic description, but that is the intellectual work, the area where we want to concentrate our resources.

Even this process could be improved, and this macro, and ones similar to it, benefitted from two enhancements. The first was a "tag" command, developed by the Library's Office for Information Systems. It enabled a cataloger to call up a MARC field such as 050—the numeric field in which Library of Congress call numbers are placed—and place it at a predetermined position on the computer screen. This obviated the need for a cataloger to cursor down and over to the beginning of the LC call number.

The second enhancement was suggested by Murray Barsky, a library assistant in the Cataloging Services Department. At the time he made the suggestion staff were wanding the barcode into the record twice: once into a note field readily visible to HOLLIS users, and once into the item record, the area in the HOLLIS record where circulation information is kept. Why, he asked, should we have to wand the barcode twice? Isn't NewKey capable of manipulating the barcode once it has been wanded? The answer, of course, was affirmative, and with a small hint Murray proceeded to edit the existing macro to incorporate his own suggested enhancement.

The significance of these macro programs is enormous. Once monograph catalogers were fully equipped with computers and were all versed in the use of them, of HOLLIS, and of NewKey, production in the first full year of this new environment increased from 64,616 titles to 76,204 titles! And this despite an eighteen percent reduction in staff hours!

Accuracy also increased greatly! This is because it was no longer necessary for cataloging staff to key the call numbers, that is, copy and paste was now an integral part of their total cataloging environment. Many fewer books now have errors in call number transcription.

Ergonomic considerations were also important. Prior to the introduction of proper workstation furniture and prior to the introduction of this advanced computer technology, RSIs (Repetitive Strain Injuries) were frequent. Since the staff are all properly equipped now, reports of these injuries are

down markedly. One of the lessons of the computer era is that placing computer equipment on inappropriately designed furniture is a recipe for disaster. Then, too, I calculate that NewKey saves the department's members 1,500,000 keystrokes per year just on basic cataloging operations alone.

There have been other spin-offs, too. William Hays, a member of the department with a computer background, recognized the potential in building a Paradox database consisting of information about the Department's cataloging arrearage and then manipulating information from that database with a program from our major supplier of bibliographic information, OCLC. That program, the Cataloging MicroEnhancer Plus, is very old and extremely dated by computer standards. Its major benefit, however, is that we can use it to search books in the OCLC database and claim their records in a batch mode so that we can then use them locally. That is, we can extract from Paradox large numbers of "search keys" and use them in CatME+ to search OCLC without having to input the "search keys" manually, one at a time. That way the software does the searching for us, thereby saving time that can be used more productively in non-routine tasks.

It is ironic that Bill's discovery came just at a time when fundamental changes in processing associated with the University's massive, five-year RECON program had appeared to make the CatME+ obsolete. Since then—June, 1992—the CatME+ has had a new lease on life. We are, however, greatly impatient for OCLC to port it to a Windows platform so that we can continue to use it, but with greater ease and with greater conformity with our other programs.

In the spring and fall of 1994 the Department took the lead in moving OCLC access from stand-alone dedicated lines to the University's High Speed Data Network (HSDN). (This is as close as we get to a campus network at Harvard.) While it took much longer to move all the faculties than initially anticipated to this TLP (Telecommunications Linking Program), the results have been nothing less than spectacular! Now every librarian who has a networked PC (sorry, no MACs) and needs access to OCLC can do so from his or her own desktop. We have gone from having perhaps 36 dedicated machines to a situation where literally hundreds of potential users can access OCLC, and yet we have pruned

the available lines to 26 (so far a maximum of 25 simultaneous sessions have been recorded). Despite more use, we are saving about \$20,000 per year on telecommunications costs!

Putting OCLC on the LAN has also had a tremendous psychological impact on the cataloging process. Comparing the first six months of this fiscal year (TLP) to the first six months of the previous fiscal year (pre-TLP), we have discovered that while searching activity was up 84 percent, actual cataloging was up 134 percent during prime-time (normal business) hours. Clearly the searching is truly productive: it is leading to more books being cataloged.

Change continues. During the latter half of 1995 a number of fundamental changes will take place in the arena of the Technical Services Workstation:

- We will soon begin to use the newly released Windows version of the RLIN software, and in early 1996 OCLC will release its Windows version of the Passport software, which catalogers use to access and manipulate versions of bibliographic records in its database. We use RLIN's and OCLC's databases as sources for most of the bibliographic records that are added to HOLLIS.
- A major upgrade in the McGill software mentioned earlier will incorporate a much more advanced macro functionality. The hope is that it will be powerful enough in its applications that it can take the place of NewKey, while still being easy to use.
- RLIN, OCLC, and McGill are programs that are "Winsock-compatible." In layman's terms, they are Windows programs capable of communicating in a particular way over the Internet. It also means that they are compatible with one another and can all function at the same time on a single desktop. One of the problems with our current generation of software is that some of the individual programs will work with Windows, some will not, and not all of them are currently compatible with one another. Thus we must often open or close various programs, rather than have them open and accessible at all times.
- The Cataloging Distribution Service (CDS) of the Library of Congress has released a networked Windows product called the Cataloger's Desktop. This CD-ROM contains most of the major, specialized reference

sources that catalogers use. These are hypertextually linked and keyworded, allowing catalogers to find quickly the rules or references they need in any of a number of places. Catalogers can also annotate them (online) for later use.

The Department is planning to work with HCL Automation to make this available throughout HCL during the fall of 1995.

- CDS is currently working on a version of the Library of Congress Classification Schedules, also for a Windows networked environment. To date about ten of the almost fifty schedules have passed their final quality control and are soon to be beta tested outside LC. We can expect all the remaining schedules to be released by the end of 1996 or early 1997.
- A number of institutions are beginning to experiment with using WWW-based browsers such as Mosaic or Netscape to access their own hypertext documents. This is another area where we expect to move forward in the next year.
- Use of search and retrieval protocols such as Z39.50 are here, or coming, and will enable us to extend our bibliographic reach to the farthest depths of bibliographic cyberspace. With a standard protocol such as Z39.50 it is possible to access remote databases and search them with a local search "syntax," so that it is not necessary to learn the commands that are native to the remote databases. Z39.50 translates local commands to those understood by the remote databases. The records are then brought back to the local environment where the cataloger can interact with them, again using the local catalog's syntax and editing tools.

In a technologically advanced society no one institution can lead in all aspects of technology at any one time. Therefore, the Cataloging Services Department has turned to colleagues elsewhere and brought together a group of like-minded professionals from Columbia, Cornell, Princeton, and Yale to discuss

developments in technical services workstations. We met first at Harvard in July 1994, and again at Yale University in June 1995. Jane Ouder Kirk, Head of HCL's Cataloging Services Department, has dubbed these meetings the Northeast NOTIS Technical Services Workstations Meetings, recognizing that we have three common characteristics at these institutions:

- Geographic proximity (Northeast)
- A common source for our libraries' online catalogs (NOTIS)
- A desire to share our knowledge and experience and possibly pursue joint development work in technical service workstations

Members of three of these institutions (Michael Kaplan, Harvard University; Janet McCue, Cornell University; and Matthew Beacom, Yale University) together with representatives of OCLC and the Library of Congress, under the auspices of the American Library Association's Association for Library Collections and Technical Services, have been giving a series of institutes on technical service workstations. Kaplan, furthermore, has been invited to talk in other venues in New York City, Calgary, and Chapel Hill on related topics.

So what is the sum and essence of all these individual developments? It should be clear that we are rapidly approaching what has been the Holy Grail of technical services departments everywhere for many years:

An advanced, completely integrated technical services platform, where it is possible for members of technical services departments to do their work efficiently and accurately, utilizing information from around the world and from many different databases, to incorporate all this information effortlessly as we struggle to control a bibliographic universe that has been threatening to spiral out of control.

This is the promise of our networked environment. Much work remains to fulfill its promise. But it is gratifying that we here at the Harvard College Library's Cataloging Services Department are among those in the forefront of these national developments.