MICROS IN LIBRARIES

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The Massachusetts Board of Library Commissioners is the state government agency responsible for development and coordination of library services in Massachusetts. My role as Head of Fiscal planning and Systems Development includes working with various types of computers used to assist librarians in locating information for their constituents and in helping them manage their internal operations. Let me start this brief discussion with my position that microcomputers can be very useful tools for librarians in their professional functions. We will look at the basics of using micros in a library, but I also want to discuss the impact of emerging technologies as related to the ship's library, the topic of which preceded this talk.

BEFORE YOU ACQUIRE A MICRO...

Unfortunately, most people ask the wrong question when they begin looking for a microcomputer. Rather than asking about what type or model of computer to acquire, the first question should be: "why do I need a computer?". Before you explore microcomputers and deal with a microcomputer salesperson, you must be able to determine your need for a computer. What function needs the assistance of a microcomputer? Report writing? Then you may consider a word processing program that will allow you flexibility to move paragraphs, or one that includes a spelling checker program. Budgets? Then you may need a financial spreadsheet with the capability to recalculate twelve months worth of expenditures when you revise a figure in a budget category. Knowing which functions you want to automate will determine the type of software you need.
In turn, the software will, in part, determine the hardware necessary to perform the function. For example, if you want a database management program that can use variable length fields in a variable length record, the program needed may only be available for a microcomputer with a minimum storage of 256K and two double-sided double-density disk drives. Because of technical considerations, only a "16 bit" microcomputer could handle the program, instead of the Commodore 64 or Apple II that you were considering buying. It is always worthwhile to take an example of the type of reports or budget or some other output of the function you want to automate with you when looking at software to determine whether or not a particular program actually meets your needs. Never, never, never purchase software or hardware you have not seen run the program you want to use for the functions you want to do.

**WHY A MICROCOMPUTER?**

Although most of my experience is with minicomputers, I own a microcomputer that I use on a daily basis. My "home" computer has never really been home, but has become part of my desk at work. There are many advantages to the micro:

- it is generally a self-contained unit with its own memory, storage capacity and programming. "Dumb terminals" only allow you to communicate with a computer and are not capable of performing any programmed functions on its own.

- usually expandable. Most micros can be expanded to include more disk storage capacity, more internal memory, graphics capabil-
ities, and other enhancements. Therefore, you can acquire a microcomputer that will expand with you as your needs increase.

- are sometimes transportable. My home computer can travel with me because it folds up and fits under a standard airline seat. New "lap" computers that can fit into a brief-case are becoming popular. Even most desktop microcomputers can be moved (with great care) from one desk to another, or placed on a cart that may go from room to room. Try that with a minicomputer!

- are usually cheap. My home micro which does most everything I need cost less than $2,000, including software and a modem. Multi-user, multi-task microcomputer workstations usually cost less than $6,000. You cannot even talk to a minicomputer salesperson for less than $20,000.

- micros can run many applications programs, and more programs are being developed every day. If the program you need to perform a function is not yet developed and there are at least two people looking for it, it will be developed soon.

**WHAT CAN I USE A MICROCOMPUTER FOR IN A LIBRARY?**

First, let's look at the microcomputer in a managerial function. Software abounds for budgeting. "Spreadsheets," as they have become to be known, can be structured by horizontal and vertical columns to represent budget categories (salaries, books, supplies, etc.) and time divisions (weeks, months, quarters, etc.). Many spreadsheets allow you to input formulas that will automatically calculate a column or columns. Then, when a figure must
be revised, the new number is entered, a command given, and any other number related by formula to the revised number is recalculated. Hours (and maybe jobs) are saved with this capability.

Another managerial chore we all face is reports. It seems every time I turn around someone wants another report, usually for the same information, but in a different format. Word processing programs are very useful in this function. An existing text file may be revised or updated with little effort. "Typos" can be easily handled and the text printed minutes later. Form letters can be done once and then processed hundreds of times with individualized addresses and salutations.

A third managerial function includes listings maintenance. Almost everyone keeps a file of addresses or phone numbers or other lists referred to daily or weekly, but too large to memorize. A database management program enables you to develop a file with records structured to include information on addresses, telephone numbers, and other data that can be indexed on several file lines. For example, you may have a file with the addresses and names of all the vendors you use. One of the file lines may include information about what type of materials the vendor provides, such as monographs, government documents, music, or serials. Then if you want to send a letter to all the music vendors you deal with concerning the need for a particular album, the database can be used to list only those specific vendors, rather than having to go through the entire vendor list.

Database management and other programs can also be used for library functions. Several software programs exist for serials control using a microcomputer. A few librarians are experimenting with developing online catalogs.
using microcomputers that will eventually replace maintaining the card catalog. Here in Massachusetts well over twenty libraries are using microcomputers for producing catalog cards cheaper than with a typewriter.

All of the functions described above are conducted internally. However, one of the more productive features of a microcomputer includes its capability to communicate with databases and computers external to the library. Using the microcomputer for communications creates a gateway to the world. For example, a microcomputer with the appropriate hardware and software can be used to access remote databases of specific subject files such as the files on DIALOG. You can have access to hundreds of subject indices (such as Chemistry Abstracts or ERIC) online via a micro that you could not afford to purchase or store. In Massachusetts we are experimenting with micros for small libraries to provide dial-up access to the large bibliographic databases on automated circulation control systems which will provide the librarian, and eventually the library user, with information on which library owns a specific title, and whether or not the book is in or checked-out to another user. In another example, Massachusetts' librarians are considering using microcomputers for electronic mail. Rather than sending an interlibrary loan request through the mail, each library would have an "electronic mailbox" to which they could send and receive messages via their microcomputer, saving valuable time and money.

A WORD OF CAUTION...

Microcomputing can be addictive. A person could literally spend months and years considering which program or computer to purchase, always looking for the "best" program, computer
or deal. Please understand two considerations. First, whatever software or hardware you acquire will soon be obsolete. It is only a matter of time before another computer software company or manufacturer offers a "better" or "improved" or "more powerful" program or computer that makes yours look pale in comparison. There is nothing you can do about that. Microcomputer technology is moving too fast for any program or computer to be "state of the art" for longer than twelve months. Secondly, once you think your software or hardware is obsolete, the "grass is always greener" syndrome will strike. You become jealous of every new product that makes yours seem less and less up-to-date. You become envious of colleagues and friends acquiring the "newest" program or computer. Don't fall for it! Their acquisitions will soon be obsolete as well. As long as your software and hardware works, make every effort to curb this frustration. It will only cause you to frequent computer stores and read hundreds of microcomputer magazines instead of sailing.

AND NOW FOR SOMETHING COMPLETELY DIFFERENT...

Prior to this discussion, Carolyn Winn presented a program concerning the ship's library. I listened closely and learned a great deal about a subject I had not thought of before. Therefore, I would like to take this opportunity to briefly discuss the potential impact of emerging technologies as I see it on the ship's library.

Carolyn's presentation made two important points. First, everyone on ship, whether steward, student or scientist, has a need for information. This need includes technical material such as navigational guides, and personal
material such as recreational reading or travel guides for ports of call. Secondly, because of the lack of space on a ship, the librarian must carefully choose the contents of a ship's library.

I wish I had a videotape of Carolyn's presentation to show to librarians. Every person has a need for information, and it is part of the library's mission to attempt to meet those informational needs. No library, no matter how well-managed or funded, can meet all the needs of their patrons on demand. For instance, what happens if a crew member has a need for a particular item which is not on board? New technologies that can be used in providing timely information will have an impact on libraries and their users in the very near future.

One of the problems many libraries encounter is the lack of space to shelve the materials acquired or desired. We are trying to address this problem of providing information for our users by using new formats capable of storing vast quantities of information more efficiently and effectively. One such format is videodisk which can store color prints and text. An example would be that many of the most reputable studies of birds, including color prints, could be stored on a videodisk. The user could access (using a small built-in microprocessor or attached microcomputer) the disk's contents using a specific name index, or browse through the disk's contents as they would a book. One videodisk the size of a music album can store a set of encyclopedias. Imagine the space savings!

Another solution involves communications such as we discussed earlier. If the librarian could not find a desired item in his/her collection, he/she could use a microcomputer as a communications device to search the mul-
titude of remote databases. On ship, a crew member could use a microcomputer and a satellite link to access databases and download the desired information. The ship's library would then include the physical items on board, and the communications link to remote informational sources.

A FINAL WORD...

Microcomputers are fantastic tools that can be used to assist us in managing our libraries and accessing information. Because of their physical size, expandability, and increasing utility, microcomputers will have an effect on many aspects of our daily lives. They are here to stay. Their potential is only as limited as our willingness to explore the ways in which we store and retrieve information now, and in the future.