

# Trends in Special Library Buildings

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## Introduction

SPECIAL LIBRARIES TEND to have small physical facilities. There are major exceptions to this rule, such as the Linda Hall Library, the National Resources Library, Upjohn's Corporate and Technical Library, 3M's Technical Library, etc., but by and large most of the facilities take up a small corner in a corporate, not-for-profit, or governmental complex and function as information-gathering support for certain, circumscribed groups. A unit's allegiance may be to research, marketing, or law. Occasionally the scope is wider; there are general corporate libraries and general technical libraries, but more often than not, most patron groups are small and the manager of the library reports to a department head.

Of course reporting structures being what they are, from time to time library managers find themselves answering to the chief of facilities (along with the cafeteria and janitorial services), head of word processing (in tandem with office automation groups), and general office groups (as do purchasing and supplies). In situations such as these the organizational attitude tends to be that support groups are all facilities that work for the good of the organization but do not make any money. In other words they are cost centers. Often the directive is to keep

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them "mean and lean"—i.e., keep the overhead down by limiting the "head count" (the number of employees) and size of the facilities.

Since special libraries, indeed all libraries, tend to be object intensive facilities, a directive such as this can be adverse to their mission. To perform their jobs, library staff members depend upon print and media resources and equipment. In this day and age, access to a variety of information materials is a necessity. The installation of good electronic equipment is also a necessity.

Recently, however, there has been a perceptible movement toward a new and more beneficial reporting structure. Some managers now answer to vice presidents of information resource management (IRM). As IRM groups begin to show an interest in information as well as the interfaces of equipment and cables, more and more special libraries are being taken under their wing. For the libraries the benefit is obvious. IRM groups tend to have money and power. This allows the libraries to tie into general information transfer within the organization. The inference is that when this occurs they tend to grow larger and more professional—but more about this later. Let us get back to the setup of special libraries.

One of the keys to a special library is that its professionals usually belong to the Special Libraries Association or similar educational associations, but, as with everything else, there are major exceptions. Corporate law librarians, librarians in law firms, not-for-profit law agencies, and governmental law libraries, tend to belong to the American Association of Law Libraries. A similar situation exists in the medical library and military fields; hospital librarians tend to belong to the Medical Library Association and military librarians to the Military Librarians Association. Indeed, there are a plethora of educational associations with a majority of members who are in the special library rather than the academic, public, or school library sectors. This may explain why so few people are aware of the explosive growth of special libraries over the past twenty-five years. Association membership is quite fragmented.

This explosive growth is extraordinary. Whereas the vast majority of academic, public, and school libraries that are in existence today were in existence twenty-five years ago, the opposite is the case in the special library field. Granted, many of the other libraries were small entities. Twenty-five years ago a public library's facilities may have consisted of one Carnegie building while today its board of trustees may oversee a main library, eleven branches, and a museum (the original Carnegie building). The point is, however, that the public library was in existence. Twenty-five years ago most special libraries were little more than

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an amalgam of books and a variety of shelves scattered throughout the organization.

There are several reasons for the growing special library phenomenon. The primary reason, however, can be directly attributed to the changing national economy. Agriculture and manufacturing are shrinking as percentages of the gross national product and the United States is turning toward service and information to enhance its wealth. As long as the trend continues, the total number of special libraries will expand and a portion of those already in existence will not only broaden their scope but substantially increase their physical size. Several developments are already in place that appear to be accelerating the pace:

1. a growing reliance upon online and telecommunications systems and the collateral impact: the development of the previously mentioned information resources management;
2. the growth of corporate and governmental "campuses";
3. the development of special library systems and with it, in-house standards as well as the growing professionalism of special librarians.

These developments imply vast changes in the way people work and use library facilities. Special libraries, once relatively passive places, are becoming busier and busier. In the discussion in the pages that follow, the excitement that is flooding the field can only be hinted at. It can only be described as fantastic.

### **Online and Telecommunications Systems**

Although special libraries were not necessarily the first to use online and telecommunications systems, today the proactive ones tend to be among the most "wired up." Some special libraries—particularly those in the defense and scientific research sectors—have formidable cabling and wiring requirements. It is not unusual to find a very busy facility with four parallel telecommunications cabling systems in existence simultaneously: hardwires to in-house mainframes, direct data-lines to far distant in-house facilities, dial-up datalines to a myriad of commercial online services, and direct dial voice and intercom lines for voice communications. Several of the same facilities are beginning to experiment with satellite send/receive systems that include televideo.

This reliance on online and telecommunications systems is rooted in their *modus operandi*. As a group, special libraries tend to be very patron and service oriented. Although a facility might be tiny, with a

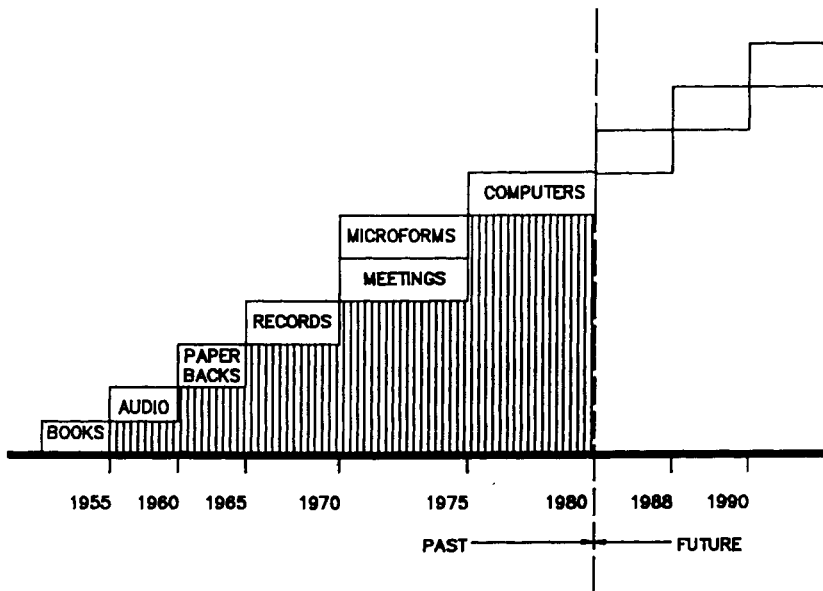


Figure 1. Special libraries—like all other libraries—are growing. They contain more of everything: books, equipment, furniture and media.

small circumscribed collection and few patron seats, at the same time it may field an incredible number of reference questions each day. It is not unusual to find a busy 8000 square foot research facility with upward of fifteen in staff. The idea is to get relevant and timely information to patrons as quickly as possible. Speed is of the essence. Information that arrives two or three days late may have no significance at all—the proposal may have already been sent or the contract signed. Professional service of this type requires a very labor-intensive operation.

As the complexity of the information services grows, the number of professional and nonprofessional staff also tends to grow—and so do the variations in online and telecommunication requirements. It simply is not possible to keep all the needed source materials on site if for no other reason than real estate limitations. At a rental figure of perhaps sixty dollars a square foot (in midtown Manhattan), or construction costs in excess of two hundred dollars a square foot (for some high security projects), one does not store large back runs of materials unless they are absolutely required. Instead, the library in question

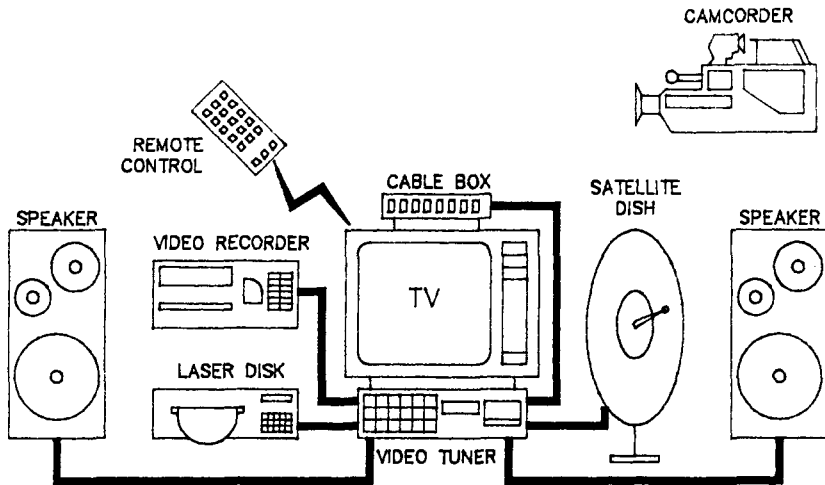


Figure 2. Some special libraries are among the most "wired up" in the nation. Video management is becoming a major concern.

relies on online and telecommunications systems of one sort or another and a very fast system of interlibrary loan with, if at all possible, a twenty-four or forty-eight hour turn around time. Patrons demand the latest information and refuse to wait for a hard copy that will arrive several weeks or months hence.

Here it must be underscored that the operations of special libraries tend to be tied to the operations of the groups to which they report. In other words, if a patron group is a relatively expensive operation, and it can be demonstrated that costs can be reduced or profits achieved through the efforts of the library, then the library's operational costs are rarely at issue. Indeed, the facility may be encouraged to subscribe to as many commercial services as it needs. To some extent, this explains the rise in "top down" situations in which higher management paves the way for the installation of online and telecommunications systems. Even though the systems are more expensive than their hard copy counterparts, they are perceived by the patrons of the library as supplying the competitive edge. The patrons can accomplish their work much faster and thus finish a project in record time. Record time equates to lower overhead in salaries paid that must be charged back to the project—and therefore more profit.

The competitive edge is a major impetus to the constant expansion of online and telecommunications systems throughout the workaday world. A major midwestern hospital, for example, recently decided that information management is one of its prime corporate directives. Because of this the total number of online services in the library have been dramatically increased and the library is about to move to new quarters that quadruples its size. The idea is to provide attending physicians with the latest clinical information enabling them to spend less time on their patients' cases. For the attending physician, less time equates to more disposable dollars. For the hospital the benefit relates to more referrals which in turn causes more beds to be occupied—in other words, more profit.

Providing a wide variety of online services, however, causes a whole series of facility problems. They revolve around the proliferation of and interface requirements for equipment, workstations, voice lines, data lines, electric power, and similar paraphernalia. To make sense out of this chaos, organizations have been creating new wrinkles in their reporting structures—the aforementioned information resource management groups.

When an IRM group is first formed, its *modus operandi* tends to be very equipment, word processing, and records management oriented. The people involved care first about purchasing and interfacing the equipment and second about a steady flow of “short bursts” of in-house information—e.g., sales, inventory, accounting, or personnel data. Since special libraries tend to be: (1) more hard copy oriented; and (2) interested in someone else's copyrighted information (prepared out-of-house), they are left out in the proverbial cold. They may not even be served by the group except perhaps as petitioners for a new personal computer or telephone line. This is unfortunate for, as previously noted, IRM groups tend to have money and power. Eventually, however, IRM groups begin to develop policies that encompass the dissemination of information—any type of information—throughout the organization as their *raison d'être*. After all, information is information regardless of where or how it was developed, who owns it, how big it is, and in what format. As soon as this occurs the libraries begin to join the fold.

Once a library becomes part of the information resource management effort, there are organizational questions that must be answered. For example, who controls access and passwords to the various commercial online systems—data processing or the library? In most engineering firms the engineers want their own passwords so that they can speed up

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their work. Most of these people tend to be comfortable with computers. Obviously without some sort of control too many passwords will soon exist. Here an overlap exists between the rules developed by data processing and those developed by the library. Furthermore, one department has an equipment orientation while the other has an informational one. This potential conflict has to be sorted out.

The overlap becomes even more pronounced in the case of a company that has set up its own education department. Which group is in charge of training employees to use online systems—data processing, education, or the library? Which one should demonstrate the various types of microcomputer software on the market? Which one should have a computer library and display within its four walls?

The answers to these questions affect the size of a special library's physical facility—as does the level of participation in the information resource management effort. Implicit are requirements for search areas, training rooms, microcomputer and software displays, as well as workstations for patrons and staff. Implicit also are requirements for bigger and more expensive facilities which contain more of everything—hard copy, media, equipment, and staff.

### **Corporate and Governmental Campuses**

The number and type of corporate and governmental campuses are on the rise. There appear to be two major reasons for this trend: (1) the high cost of land in the country's most dynamic cities, and (2) a university or collegial mind-set in many board rooms. Although most people recognize the first reason as valid, they often are surprised at the second one and query the logic behind such a statement. This, however, is the Age of Information and the nation's larger corporations and governmental agencies are demanding that their new employees be chosen from a pool of well-educated people. In the technical and professional arenas a substantial percentage of new employees have spent four, six, perhaps ten years of their lives on college campuses of one type or another. These people like to work on campuses because they are used to working on them. The result is an increasing architectural spillover. Indeed, it has been observed that in certain fields creative and effective endeavors tend to come from corporate and governmental facilities located in campus-like quarters.

The implication is that special libraries located on campuses can be compared to their counterparts in university settings—and that is the case. Where the average special library contains only a few patron seats,

those located in campus settings tend to feature patron lounges, browsing areas, carrels, and a variety of tables and chairs. Where special libraries in buildings in our larger cities tend to occupy very workman-like spaces, it is not unusual to find attention paid to the architectural aesthetics of a similar facility on a campus setting. Floor to ceiling glass, skylights, mezzanines, and other design features are becoming commonplace. Indeed, their designers consider them to be intellectual community centers. The architecture is such that employees are encouraged to use the library facilities on their breaks and during lunch hours. The facilities are placed in close juxtaposition to the company cafeteria or on some major route that must be passed several times a day.

A landmark special library of this type was designed by the late Eero Saarinen for IBM's Thomas J. Watson Laboratory. The complex opened as far back as 1959. Although the laboratory building has been expanded two times since and a companion structure is about to be constructed, the original library still stands. One cannot walk from one end of the building to the other on the second floor without literally walking through the facility.

The same concept was used by the authors of this article in their design of the library at Oak Ridge National Laboratory. In this case the major walkway through the library is also a major entrance/exit route for one area of the laboratory. After the renovation occurred, circulation and reference questions rose dramatically. Indeed, the use of the library rose dramatically.

### **Special Library Systems**

Today, public and university libraries commonly are organized into systems. If the systems are large enough they may consist of one or more flagship facilities, regional branches, local branches, small satellites, and even off-site storage. Systems imply standards and requirements to which all the facilities must adhere. Systems also imply the pooling of staff and resources. For example, technical processing may be centralized. Although a small percentage of processing may be performed on site to accommodate local needs, a portion of newly acquired books and materials may be processed by one central group.

The systems concept is successful and continues to gain ground because of economies of scale. Then too it makes sense for one group to oversee the operations of all the libraries within a particular organization. Here the surprise is that the systems concept has taken hold in the corporate, not-for-profit, and governmental sectors. For example, the



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Veterans Administration and Department of Interior consider their libraries to be part of national systems with headquarters in Washington, D.C. The Department of Interior libraries range from the National Resources Library to school libraries on Indian reservations. In the corporate sector, at least one major high-tech company has more than thirty-seven facilities linked together in a national and, yes, international system which crosses divisional lines. A yearly conference is held as are regional meetings at which networks, policies, and standards are discussed. The conference and meetings are also used for educational purposes. Seminars, workshops, and training sessions are commonplace.

Since libraries are such object intensive facilities, square foot requirements are an integral part of the standards discussed at these conferences and meetings. The publications that result may encompass everything from the floor space required for staff and user workstations, to the minimum width of aisles between stacks and the space needed around copying machines.

At this juncture it must be noted that most major corporations, not-for-profit agencies, and governmental organizations usually have general space standards overseen by their facility planning departments. These standards tend to be based first upon grade level (e.g., clerk, technician, professional, executive) and then upon workstation needs. For example, a technical employee may be entitled to a desk and a swivel castered chair in a space no larger than eighty-five square feet. A professional employee may be given a desk, a credenza, two file cabinets, a coffee table, a swivel castered chair, and four guest chairs in 180 square feet.

Happily, libraries tend to be considered "special"—that is, there is leeway for them to deviate from the general standards. The facility planners recognize that libraries have different needs than the majority of groups and departments. However, *workstation sizes* must adhere to the general space standards which in turn means that a library system's standards must also adhere to them unless special dispensation has been given.

Space standards tend to be very political. In our society, space is equated with power. The more space one controls, the more powerful that person tends to be. It would be very foolish for a library system to publish a space standard for its library managers that provides them with workstations the same size as those for senior vice presidents. On the other hand, a library manager could have a 125 square foot office—in tandem with other managers in the organization—adjacent to which

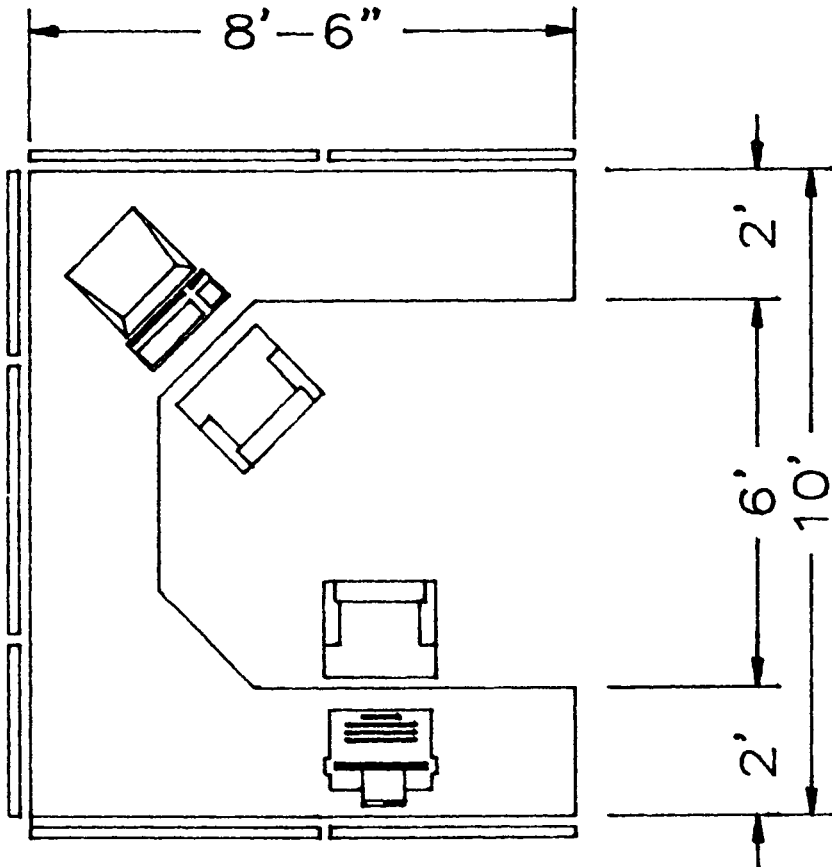


Figure 3. Technical employees may be allocated an 85 square foot u-shaped open office systems furniture workstation.

are storage areas amounting to 65 square feet and a specialized search area of 60 square feet.

Space standards have many positive aspects, not the least of which is the implication that library managers are on a par with other managers in the organization. Although the majority of special librarians have their masters degrees—and quite a few hold two masters degrees—and some their Ph.D.s, it was not so long ago that library staffs were looked upon as glorified clerks. Indeed, the senior author of this article was a

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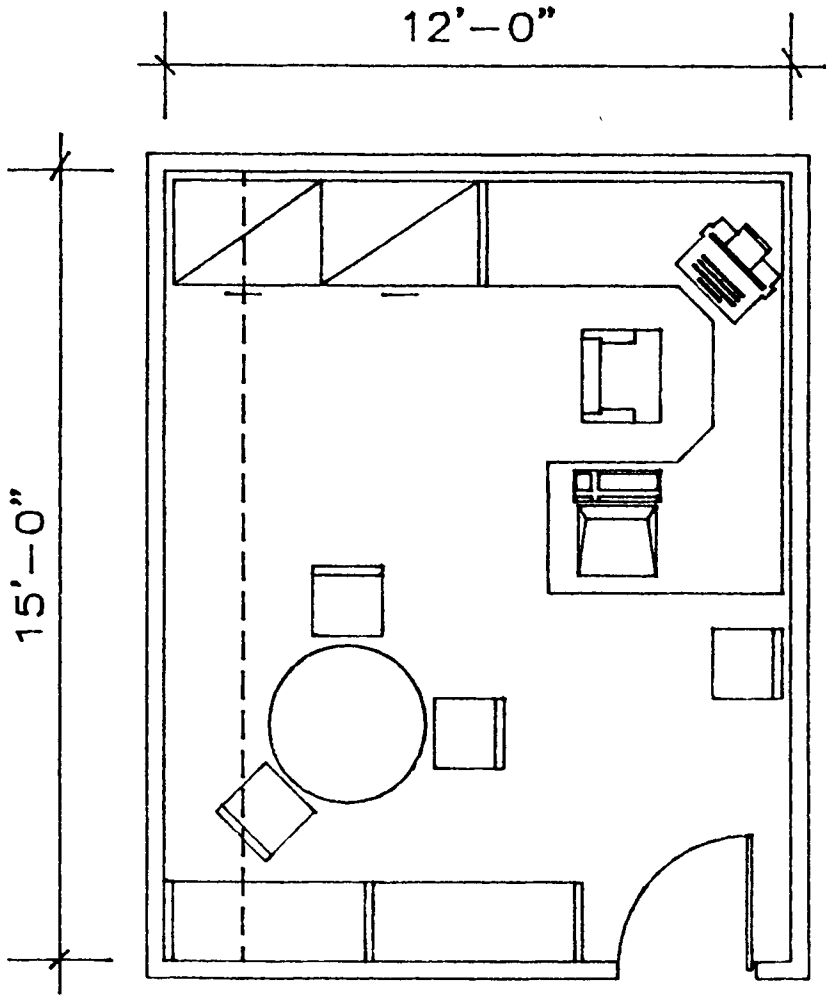


Figure 4. The librarian or library manager may be allocated an 180 square foot enclosed office systems furniture workstation.

special librarian about twenty-five years ago. She became a special librarian because her desk just happened to be situated in the library. No special training was required.

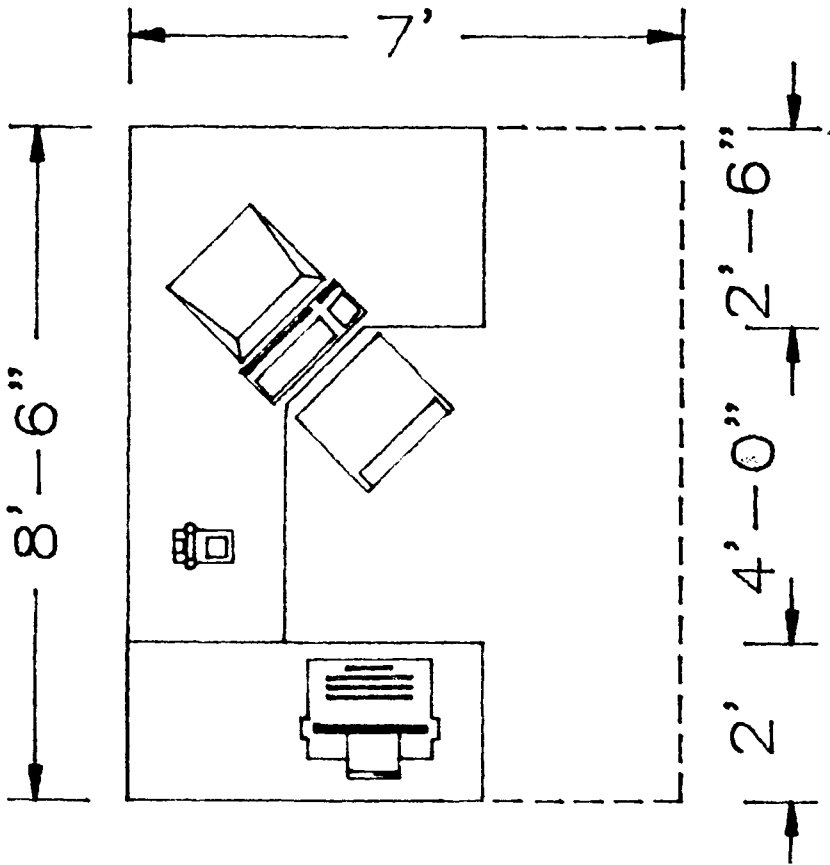


Figure 5. A free standing computer terminal workstation for staff and/or patron searches often requires 60 square feet.

While this situation still exists, the trend in the field is toward a more professional staff. In one corporation, the technical library employees (thirty-two people) are evenly divided between professional librarians and clerks. In another, seven with Ph.D.s work out of the library. Their main assignment is corporate intelligence—i.e., perusing the technical journals and second guessing the competition. Law libraries increasingly are managed by lawyers who may or may not have their MLS.

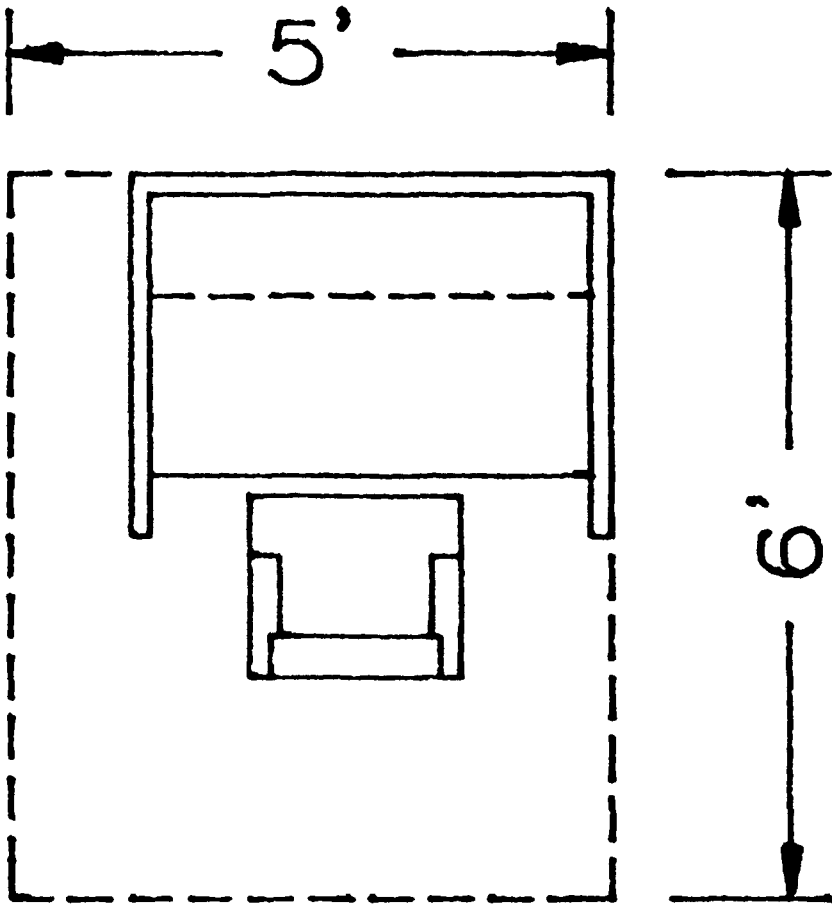


Figure 6. A microform reader/printer needs at least 30 square feet.

A more professional staff means more professional facilities—e.g., staff and user workstations that adhere to the standards mentioned earlier, search areas outfitted with the latest electronic equipment, and bookstacks maintained in a neat and orderly manner. Professional facilities tend to be well appointed. Furniture and equipment have finishes, surfaces, and textures that are durable *and* attractive. They are maintained on a regular schedule and often there are service contracts

on them. That means that broken pieces are replaced as soon as possible, and new systems furniture configurations are set up "as-needed."

## **Furniture and Equipment**

Probably the most important furniture and equipment trend in the special library field is the growing reliance on systems furniture for patron as well as staff areas. The trend is continuing unabated because: (1) most large corporations, not-for-profit organizations, and government agencies use systems furniture to furnish their office facilities; and (2) systems furniture tends to be more relevant to constantly changing multimedia/electronic environments, which are exactly what the "best" libraries tend to be.

Systems furniture is exactly what the name implies—a "system of furniture." Parts fit together, like those in an erector set, to create anything from individual workstations to entire offices. Since every piece of furniture is either a simple module or made up of components that integrate with one another, work surfaces and enclosing panels can be rearranged at a moment's notice. A simple standard shaped desk can quickly be changed into an *L* or a *U* configuration. Desk tops can be raised or lowered and run-offs added or removed at will. Pedestals complete with drawers and file cabinets can be replaced as can wall shelving, cabinets, closets, panels, blackboards, bulletin boards, etc. by utilizing the appropriate sockets. Hollow spaces are available to run wiring. A system of electrical and telecommunication extension cords and receptacles can handle nearly all needs.

Most systems furniture components and modules are produced by office rather than library furniture manufacturers. Although the office market is larger than the one for libraries, office furniture can rarely meet the durability requirements of patron areas in academic, public, and school libraries. It is not uncommon to find public library furniture installations which are up to fifty years old. Indeed, quite a few libraries, particularly those in the northeast, contain several chairs, tables, and freestanding cabinets that are more than 100 years old.

In large corporations, however, most office furniture installations tend to be less than twenty years old, and facility planners see to it that they are "refreshed" every eight to ten years. Yes, here and there the old gray "army" issue desks manufactured in the 1930s and 1940s can still be found. These desks are so durable that they are ubiquitous in the library field; they can be found in any number of technical service departments. The trouble is, they are more relevant to a bygone era and certainly are not relevant to multimedia facilities.

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To meet patron area durability requirements, library furniture companies vend tables and carrels that are extremely wear resistant. This furniture tends to be heavy and made out of wood. Extremely hard plastic finishes cover tabletop veneers of maple, oak, or birch—or substitute for them entirely. The cores of the same tabletops contain poplar, densiwood, or some other solid materials. Top-of-the-line items almost never hide fiber or composition board in their cores.

Special libraries, however, rarely have the same patron area durability requirements as their public, academic, or school counterparts. They do not have to contend with 500 students in their facilities each day. This means that they can use systems furniture wherever it is applicable whether it be for patrons or staff.

Here it must be noted that systems furniture tends to be even less durable than standard office furniture. That is because standard office furniture is screwed, bolted, or somehow glued together and systems furniture is not. Some systems furniture lines are made out of varying size panels. As indicated, the idea is to facilitate change. Manufacturers claim that initial purchase prices can be paid back in labor cost savings onces workstations are moved 2.5 times. Because the emphasis is on moving and rearrangement, the assumption is that parts will break or be lost in the process. Of course new parts are easy to get, but this means that all except the “best” system furniture lines begin to show wear within the first few years of installation. They are not made to last.

For libraries the happy news is that the library furniture manufacturers have begun to enter the fray. Although their products are heavier and not as easy to move or change, they seem to be more durable—and one manufacturer's line appears to be very ergonomic indeed.

In a multimedia environment, the furniture must be ergonomic—designed with a human-machine interface in mind. Chairs, tables, and carrels should provide comfort for any number of people no matter whether they are tall or short or fat or thin. Comfortable furniture helps to eliminate backaches, neck strain, and yes, even eyestrain. Lighting requirements, for example, for reading print on hard copy are quite different than those for reading similar print on a green or amber video display screen. In one case, the eyes have to contend with dark lines on a white background, and in the other case, light lines on a dark green or amber one. To cope with this problem, bright overhead lights can be reduced and staff and patron workstations outfitted with swivel and/or gooseneck task (desk) lamps.

Another example concerns desktop heights. Desks used to process hard copy typically stand twenty-eight to thirty inches from the floor. Since keyboards are about two inches high, to type comfortably, the

keyboard should rest anywhere from twenty-four to twenty-six inches from the floor. Many systems furniture lines offer special adjustable drawers that clip underneath desks to provide the correct keyboard height. Some people prefer workstations in an *L* configuration—a desk for paper processing that is 2-1/2' x 5' with a run-off at a right angle that is 1-1/2' x 2' to hold a microcomputer or terminal. Systems furniture catalogs are filled with options such as these.

The fact that parts are so easy to install enables special libraries to use systems furniture transaction desks in their circulation and information areas. Actually, the smaller special libraries do not have circulation desks at all. Circulation is not that high; materials are checked out only by a small group of people. The major focus is on the information desks. That is where all the "action" is. This explains why so many special librarians prefer to call their facilities "information centers." The majority of their work concerns gathering and disseminating relevant information accurately and quickly.

In addition to standard reference tools, any number of patron-oriented search stations or scholar's workstations may be located near the information desk. (A scholar's workstation has space for reading and writing, terminals, videodisc players, etc.) In a multimedia environment, help must be only a step away. After all, for each user friendly database a patron can access by him or herself, there may be ten which are difficult to use. Then too the plethora of equipment—e.g., tapes, compact discs, microforms, etc.—may be unfamiliar to a patron. On-off switches may be difficult to find, microfilm may have to be threaded, lenses may have to be changed, and so on and so forth.

In the smaller special libraries, staff workstations often are located in close juxtaposition to the information desk. Since the facilities tend to be small and the staff are required to supply high service levels, it is not uncommon to find workstations in these libraries out in the open. The difficulty here relates to quiet and concentration; constant interruptions make it difficult to accomplish daily work. The trend is toward enclosed offices with windows which afford a good view of the entrance and the patron areas. In larger facilities, most professional librarians have their own enclosed offices.

In addition, the larger facilities often contain compact shelving because floor space is in short supply and information services are growing by leaps and bounds. Although a hard copy collection may be circumscribed—it may not be allowed to grow, say, beyond 30,000 volumes—its square footage allocation may need to be compressed. Things such as scholar's workstations, media collections, and laser



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printers eat up space. While the traditional patron station takes up twenty-five to thirty square feet, a scholar's workstation needs at least forty square feet and an individual dictating room—perhaps as much as fifty square feet. One way to gain space is to condense the hard copy collection's area by utilizing compact shelving.

This type of shelving can be purchased on a variety of types and sizes. Some systems are manual and some electronic. There are small units and very large ones. Several types of compact shelving are made to be used for materials handling, others for records management, and still others specifically for libraries. The one problem they all have in common is floor loading. The buildings in which compact shelving is to be installed may have floors that cannot bear their weight once they are fully loaded.

Compact shelving requirements notwithstanding, office building floors are not constructed to carry ordinary bookstack loads—i.e., 150 pounds per square foot. They usually are made for lighter weights—fifty, sixty, seventy-five, or one hundred pounds per square foot—which correlate to local building codes. Where one city may require only fifty pounds per square foot live load carrying capacities, another may require seventy-five pounds per square foot. Although some office buildings have live load capacities higher than local codes require, most do not. This means that the area in which a special library is to be housed may need to have the floor reinforced. Whether it does or does not depends upon the construction of the building and where the traditional bookstacks can be located. In some buildings, for example, the area near the elevator is particularly strong. In others, the strength lies close to the outer walls. A note of caution, however: only a structural engineer should make this determination. If questions exist, one should be called in immediately. Overloaded floors can collapse and kill.

As far as compact shelving installations are concerned, they nearly always require reinforced floors. Here fully loaded weights escalate to 300 pounds per square foot, far in excess of most office building codes. Furthermore, librarians rarely depend upon compact shelving unless their traditional shelving is full and they either are faced with off-site storage or breaking their collections into little pieces and storing them in bookstacks all over the building. In other words, the traditional bookstacks in the area surrounding compact shelving are filled to the brim and the compact shelving in due time becomes as heavily loaded.

## **Trends**

In the preceding pages a variety of trends concerning special library facilities have been discussed. Since so many of these trends are tied to managerial decisions, it is difficult to talk about one without discussing the other. As consultants who work in many different types of libraries each year, we see all trends converging—i.e., academic, public, and school libraries becoming more like special libraries and vice versa. Everyone is more information oriented and service is the key. Entrepreneurism has just begun. Indeed, libraries in every field are selling their services. They sell them to other departments, libraries, organizations, and even individuals. At the same time, special library facilities are becoming larger and more handsome. They appear to be metamorphosing into intellectual community centers just like their counterparts in other fields. Yes, the majority of special library facilities will remain small, but a substantial minority will rival the square footage of a good size public library.