"LIBRARY ECONOMY" IN BUILDING PLANNING

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Abstract

It is a universal responsibility of librarians to perform their work in the best economic interests of society. This concern for economy applies as well to the design and construction of their library buildings as it does to the management and administration of their collections and services. This paper addresses three specific aspects of that responsibility when new buildings are being planned: (1) economy in the design and construction of library buildings; (2) the economy with which patrons can use new library buildings; and (3) the economy with which new library buildings can be adapted when necessary to meet the changing nature of information handling and services.

One of the primary responsibilities of any librarian is to assure that society's investment in its bibliothecal resources is spent wisely. That responsibility is the root source of the term "bibliotheconomy" which is used in many Romance languages to define our profession. The world's first library school, founded at Columbia in 1887 by Melvil Dewey, was called "The School of Library Economy," a term that was widely used in the American library profession until after the First World War, when it came gradually to be replaced by the term "library science." Nonetheless, "library economy" remains very important to us.

No other single event in a librarian's life is likely to involve the commitment of a greater amount of society's resources than when a new library building is being developed. That occasion affords us the
opportunity to practice the virtue of good stewardship on the large scale. Economy in library building planning should manifest itself in several ways, of which this paper will concern itself seriatim with but three. These will be: (1) in the construction and operation of a new building; (2) in the facility with which a new building can be used by patrons; and (3) in the ease with which the building will be adaptable as needed with the passage of time.

1. Economical Construction and Operation.

In ancient times most libraries were associated with temples or palaces, and as a result they were most often housed in very grand edifices, a tradition of which vestiges remain with us still. Certainly if a nation or a society today, through its normal process of decision-making, concludes that it wishes to house its library in a palatial or sumptuous structure, it has every right to do so. Librarians know, however, that normal library functions can be performed just as effectively in buildings of humble and utilitarian attributes as they can in palaces. This is not to say that library buildings should not be comely, or even handsome, but rather that the beauty of a building does not depend solely, or even primarily, upon its opulence. Therefore, throughout the building planning process librarians should keep alert to opportunities to keep costs reasonable.

One way in which library building costs in some parts of the world have, especially in recent years, run higher than necessary is in the formulas and criteria used to calculate their requisite sizes in the first place. Most of the research upon which today's library standards have been based has been conducted in the West, and these standards are therefore keyed to Western environments. Yet in many other parts of the world those same Western formulas are being used to plan buildings without first determining whether or not they also fit local circumstances. The concept of "personal space," for example, upon which librarians base table sizes and floor area per reader, was pioneered in the West, and little subsequent investigation of it has been made elsewhere. Although it is widely recognized that the requirements for "personal space" vary from culture to culture, many—perhaps even most—other parts of the World continue to use Western-based space standards in their library planning, resulting sometimes in buildings that may be too large, or too small, for local need. This is an
unintended, but nonetheless pernicious kind of “bibliothecal imperialism” that should be guarded against.

Obviously the matter of building cost also comes early into play in the design and construction of the building itself. Buildings with unusual shapes—curvilinear or polygonal designs, for example—normally cost more to construct than simple rectangles, and parenthetically they are also more difficult to utilize efficiently for library purposes (See Illustrations 1-3). Buildings with low ratios of assignable to gross space—that is, with overlarge lobbies, grand staircases, or imposing vistas—will likely cost more to construct than others with more efficient designs. Often such monumental features as broad podiums, bell towers, or clock towers will also increase the cost of a building disproportionate to its usable space. Unnecessarily high ceilings and atria can swell the outer envelope of the building driving up its construction cost with no commensurate return in its utility. Obviously the unnecessary use of expensive construction materials, such as marble for example, makes a project more costly than it needs to be to perform its library functions satisfactorily.

This is not to say that cheap building materials should always be chosen over more expensive materials. Sometimes quite the reverse is true. Indeed paying attention solely to immediate construction cost can sometimes result in longer-term diseconomies. The most economical decisions are likely to result instead from a review of the comparative “life cycle” costs of different materials. What materials, in other words, are likely to cost least in terms not only of initial construction but also in their long-term continuing care and maintenance and the anticipated frequency and cost of their replacement, as well as the likelihood of their incurring other related costs?

It is widely recognized, for example, that a building that uses incandescent lights instead of fluorescent will cost more to operate because of their higher power requirements per lumen produced. However because incandescent lights also generate more heat than fluorescent lights, their use also creates a secondary power cost for the building’s air-conditioning system, and that secondary cost is sometimes overlooked. In the matter of floor-covering, there are many hard-surface materials that will last longer than carpet. In many Western countries however—and this is in addition to its many other functional benefits—the substantially cheaper cost of cleaning and maintaining carpet over
time more than offsets the greater cost of its more frequent replacement. Since such cost relationships as these are seldom universally true, they need to be recalculated for different economies throughout the world before decisions are made to use it.

Care should also be taken in planning library buildings to assure that they can be economically operated by staff. Again, since labor costs vary widely from one part of the world to another, these factors seldom apply universally but have to be calculated for different locales. Library buildings should be designed so that, other things being equal, functional areas with the greatest anticipated staff interaction are adjacent or nearby, either horizontally or vertically, with easy access between them (Illustration 4). It is a startling but revealing exercise to calculate the cost of poor building layout when even as few as ten staff members a day must walk a half dozen steps farther than they would have to do with a more efficient design. Over an estimated fifty-year lifetime of the building those staff members have to walk an unnecessary 1,244 miles! Moreover, they will have to be paid for the time required for them to do it.

2. The Economy of Library Building Use by Patrons.

Similar planning attention should be given to minimizing the distances that patrons must walk in the building. As librarians, most of us are quite aware of our responsibilities as stewards of society's library money and materials, as well as in the use of our own time in performing our library obligations to society. We tend to be less mindful, however, of our responsibility to assure that society's time exploiting library materials and services is also utilized in the most economical manner. Time, after all, is money, and the more time we can save our patrons in their efforts to use library resources, the more valuable our services will be to them. Indeed it may be that, given an opportunity to provide a "unit" of efficiency either to our own operation of a library or to our patron's utilization of it, we should opt for the latter, although that may be an aspiration that is seldom fulfilled.

Perhaps the experience of the last decade in attempting to develop more "user-friendly" computer systems is bringing the universality of this lesson more clearly to our attention. Rapid standardization of protocols, increasingly transparent interfaces, and ever more meaningful "Help" menus
have combined to make it much easier to develop at least rudimentary computer literacy today than it was only a few years ago. Libraries may present a somewhat analogous opportunity to contribute to society's library literacy by making them more user-friendly as well. Instead of seizing this opportunity, however, it sometimes seems that we have allowed our libraries to become even more difficult to use than they were before. Perhaps we lack a "profit incentive" to make libraries simple to use; perhaps our salaries should be determined at least in part by how easy we make our library systems for our patrons to exploit. Toyota and General Motors learned long ago that unless they made their automobiles so simple to drive that any numbskull could learn to operate them, their companies would go bankrupt. Should libraries do less?

There is no occasion in a librarian's career when we will have greater opportunity to simplify our services to our patrons than while we are planning new buildings. Indeed the assessment of the "user-friendliness" of a library begins with a building feature—namely its front door. The entry should not be so monumental as to awe people or discourage them from entering. Entries should be constructed at least partially of glass so that people can see into the building and assure themselves that there is nothing threatening inside. In parts of the world where traffic normally bears to the right, it is natural for people to expect to enter a building on its right and vice versa, yet every year new libraries are designed in violation of that very simple principle causing unnecessary congestion in the vestibule and lobby.

Signage is very important in helping patrons use a library building efficiently. Although historically libraries seldom used directional signs to good advantage, they have improved greatly in the last decade and are now generally recognized as essential appurtenances in a well conceived building. In American libraries, however, directional signs too often bear texts written not in the vernacular of the average patron but rather in the professional jargon of librarians. Our signs say such things as "Reference" instead of "Get Help Here," and "Circulation" rather than "Check-Out." To most Americans the word "reference" probably brings to mind a letter of recommendation or a citation at the foot of a page rather than library assistance. Likewise the word "circulation" would more commonly be assumed to be something associated with a person's blood supply than with library books. If library signs are to fulfill their intended purpose,
they obviously must communicate effectively with our lay users, and in planning new buildings we have excellent opportunities to consider redesigning certain of our activities with terms that will be understood by all. This situation may also exist in other lands and other languages as well. Parenthetically, it might also be usefully observed here that in this age of universally recognized computer icons and of international driving symbols, it should probably be possible also to develop a universally recognizable set of graphic symbols for library materials and services.

The planning of a new building also provides a good opportunity to consider whether or not some of our traditional past practices continue to be in the best interest of our patrons. All of our operations and routines should come up for reexamination at such times. For example, it is not uncommon in American libraries to keep current issues of periodicals in one location and bound files of the same periodicals in another in order to simplify their administration by staff. The library may wish now to ask itself if, in the interest of simplification for the patron, the two files might better be merged, with current unbound issues kept hereafter in a box at the end of the bound file. It is one fewer exception that a patron must keep in mind when trying to use the library. Also, libraries sometimes develop special topical collections which are then shelved outside of the normal classification sequence. Separately shelved “Women’s Studies Collections,” “Black Studies Collections,” and “Local History Collections” are not uncommon in American academic libraries. If, as seems likely, such special shelving arrangements mean that books so shelved may be “lost” to readers who are unaware of the special collection, continuation of the practice may be profitably questioned at the time the new building is being planned.


In 1966, a 20-page booklet was published by the Educational Facilities Laboratories in New York entitled “The Impact of Technology on the Library Building.” It concluded that “technological developments in the foreseeable future will not alter radically the way libraries are used.” For at least two decades thereafter that prediction proved to be largely accurate. However if such a publication were to appear today thirty years later, it would have to be much, much longer and its conclusions would have to be very, very
different. As we librarians are painfully aware, the ways in which society is now developing, packaging, accessing, recombining, and purging information are changing radically and at great speed, and it is not wholly clear to any of us just how the library buildings being built today should be planned in order best to accommodate these changes.

It appears increasingly likely that advancing communication technology will hasten two fundamental but related modifications in society's information activities that will be of great significance to library building planners in the years, indeed even the months, immediately ahead. These are: (1) a growing ability to "bring the library to the patron" rather than continuing to expect that library users will have always to come to a library building; and (2) a growing electronic ability to access information records quickly wherever on earth they may be housed, in addition to accessing physically the documents on the shelves of the local library. Although the library profession appears to be in broad general concurrence that these changes are occurring, there does not yet appear to be a clear consensus regarding the likely timetable of their advent.

Library building planners can not, indeed should not, decide the rate of speed at which these capabilities will arrive. They do know, however, that library buildings constructed today will be used for a long, long time—probably few of them for less than a half century and many for considerably longer than that—and they must consider how to plan these buildings so that they can be economically adapted to accommodate changing needs as they arise. They look to the growing numbers of information users who are already doing their own end-user searching on the Web from their homes and offices. They see libraries that two years ago were using their FAX machines solely in lieu of interlending but are now using them also to transmit documents to readers' workstations, wherever they may be. Does this indicate that perhaps slightly fewer seats are needed in library buildings today than were needed two years ago? Does it portend that fewer still will be needed five years from now, or twenty years from now, or fifty years from now? The correct answer to all of those questions may indeed be "Yes," and if it is, library building planners must take it into account. Also, as society's "information format of choice" continues to shift from codex books to electronically stored records, how are we to project the number of conventional volumes our new library buildings should be able to accommodate on their shelves in five, twenty, or fifty years?
Unfortunately for planners, the literature that discusses the myriad factors that will determine these developments is spread across so many branches of arcane learning and is so extensive that probably no one can keep up with it fully. There has been some useful recent literature focusing just on the building implications of these factors. The field is changing so fast, however, that a major problem for planners is simply keeping abreast of the current state of the art. Even by the time we know of a development germane to this topic, that development may well be obsolescent, or perhaps even obsolete.

However, at least two discrete but related lessons for library building planners, both involving “flexibility,” recur in the literature. The first of these is that we must make sure that the library buildings we build today are what are called “smart” buildings. A “smart” building should have, as far as possible, all of its communication and electronic control systems integrated at the time of design and its “wire management” either installed, or accommodations for its subsequent installation built in, at the time of construction. All of a building’s power, voice, video, and data transmission components, including even such diverse elements as elevators, fire alarms, public address, air handling, and satellite antennae must be considered in conceptualizing a smart building.

From a purely design standpoint, it is easy enough to develop a smart building simply by installing multiple vertical risers and ample universal grid systems of conduits in all floor slabs, even though many of them will be empty at the time of initial occupancy. This would be the safe thing to do, but it may also be inordinately expensive. Conduits cost money, and vertical risers use up potentially valuable floor space, so again planners are challenged to do “enough” but not “too much” to assure that there will be adequate flexibility to allow the future adaptation of space being designed today.

Still another kind of flexibility must also be sought by today’s library building planners. That is flexibility that will permit the building’s floor areas to serve not only the purposes that are visualized for it at the time of opening but also to meet unanticipatable future needs. In so fast a changing environment it would be arrogant to assume that we have the prescience to foretell how we will be called upon to use library space at some future time. We must design space to meet today’s library needs but with the flexibility to permit its economical adaptation as library practices and needs
change. To achieve total flexibility may well cost more than we have available to spend, but we must do our best to find an optimum balance. It should be possible, for example, to install floors at the time of construction that would be strong enough to support the maximum weights of any reasonable library activity. We also should be able at the outset to install air-handling systems that could accommodate throughout the building any known library activities that future need might dictate. Perhaps we can do the same with ceiling lights.

And in the last analysis, it seems wise for us to design library buildings today that can be easily adapted to non-library purposes entirely. Indeed society's information practices could well change so radically during the lifetime of a library building constructed today to warrant its decommission as a library entirely. There are no doubt thousands of structures in the world today that were originally erected to house libraries but which outlived their utility for that purpose and were modified to serve other societal ends. If that has happened in the relatively stable information environments of the past, it seems certain to occur in the even more kaleidoscopic world of the decades before us.

NOTES


Illustration 1.

Figure A.  
Figure B.

Since books are basically rectangular, more of them can be stored in a rectangular space than in an area of any other design. This is demonstrated in Figures A and B above, each of which has a floor area of slightly more than 800 square feet. Yet when maximally equipped with standard shelf sections three feet long by one foot deep, and when a standard minimum of three feet is allowed for access between and at the ends of all ranges, the installation in Figure A will accommodate 12,750 volumes while that in Figure B will house only 7,000 volumes. Also, patrons will find books more easily in Figure A than they will in Figure B. Similar, although less dramatic, differences occur when comparisons are made with triangular, octagonal, or any other non-rectangular space.
Illustration 2.

Figure A.  Figure B.

Sometimes we are very economical in our use of floor area while ignoring the added cost of excessive ceiling heights. Ceiling heights of 9½ to 10 feet in the clear are wholly adequate for any library purposes (i.e., 12½ to 13 feet floor-to-floor). Whenever these dimensions are exceeded they result in buildings that are considerably more costly to construct, that require a greater amount of cubage be heated in winter and cooled in summer, and that force staff members and patrons to traverse more stair steps and rely more frequently on elevators. Figure A shows a library with 10-foot ceilings, whereas the one in Figure B, which has the same floor plan, has 13-foot ceilings. Interior light wells and atria have a similar enlarging effect upon the overall bulk of a building.
Buildings with unusual shapes create added costs of several kinds. Figures A and B above both contain the same amounts of usable floor space. Yet Figure B requires a larger building site, necessitates the expensive finishing of fully 62.5% more exterior wall surface, presents longer logistical lines for both staff and patrons, and reduces flexibility in the functional use (and future adaptation) of its spaces. In addition, infrequent patrons will find it more difficult to find their way to desired locations throughout the building in Figure B than the one in Figure A.
Shown here is a simple, efficient entry-level floor lay-out providing easy interaction amongst most of the library's staff members. Media Services and Special Collections personnel are among the few staff members located elsewhere, but their departments can easily be placed conveniently a single flight of stairs above or below. Entering patrons meanwhile come in on the right where they first encounter Reference personnel, cross the Lobby to Reserves or proceed ahead to Periodicals (or up or down to other services and materials), eventually circling back to the Circulation desk to check out materials before exiting the building, maintaining a counter-clockwise flow throughout.