



Within-Library Solutions to Book Space Problems

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LIBRARIANS ARE KNOWN for filling bookstacks faster than the building planners had expected. We never seem to learn from past experience that our collections are indeed doubling in size faster than we would expect.

Before additional space can be made available, librarians have had to make do and many have become quite adept at making book space out of nothing. Whether one looks within or without the library building for solutions to space problems, usually higher cost and greater inconvenience will be encountered unless additional space is provided as a part of the existing structure. Internal solutions can at best be considered only temporary and the over-all long-range cost will probably be greater by postponing construction. The principal advantages gained by increasing book capacity within the existing building are the relative speed and ease with which it can be accomplished and the proximity of the materials. Some avenues of relief via in-house practices will be set forth in this paper, all of which have been attempted in some library at some time, but they should be considered only stop-gap measures. The only permanent solution to the book space problem as long as libraries are buildings where *books* are housed and as long as book collections continue to grow, is construction of additional space.

To develop a base from which to begin research, the writer distributed a questionnaire to 200 libraries requesting information about current book space needs and specific solutions attempted. The cooperation of the librarians queried was most satisfying—84 percent completed and returned the forms. The over-all response seemed to indicate that the matter is a serious one for many libraries and solutions are being sought.

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A prevailing pattern seems to exist for college and university libraries; when a building has been occupied for about ten years, the librarian will then declare a state of emergency and begin to store, weed, or practice some kind of space economy. Another fact unearthed by the survey is the paradox that some libraries, public libraries in particular, occupy a one-year-old building but already have a storage facility.

Both library literature and the survey indicate that there are some common methods—and a few uncommon ones—practiced by libraries to accommodate larger numbers of books within the building. A list of the most widely used practices would include the weeding of collections or a book retirement program, a restricted acquisitions policy, shelving of books by size, shelving on the fore-edge, leaving less space for growth, shelving two or three deep, using higher shelves, decreasing the depth of shelves, reducing aisle widths, using longer ranges and therefore having fewer cross aisles, and reducing the width of cross aisles. Other within-library means of accommodating more volumes in a given space are microreproduction and storage, but these will not be discussed here except peripherally as they are treated by other writers in this issue.

Early in a librarian's consideration of his book space problem he will give thought to weeding the collection if this is not already an ongoing process in his library, and to heavier weeding if it is. The approach to the philosophy of weeding varies among different kinds of libraries. The average public library can without a qualm get rid of many authors past their heyday and shelves can be unloaded of books on subjects long out of the current public interest. Most college and university librarians feel some obligation to retain nearly everything purchased, even out-of-date material, in the interest of academic research, but one must be careful not to generalize on the matter as exceptions show up with annoying regularity.

More than a few librarians have expressed themselves on the subject of book selection in reverse, noting that weeding books is more difficult than adding them. One author commented that almost anyone can make the decision to add a book to the library but considerable thought and consultation are necessary to remove one. There is indeed much to be said for keeping a collection current and substantial, especially when the library must operate on a small budget and cannot aspire to comprehensiveness through size. It has been said that the quality of a collection can be weakened as surely by an overabundance

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of dead weight on its shelves as it can by insufficient current acquisitions. Verner W. Clapp wrote of "the impracticality of comprehensiveness";¹ Keyes D. Metcalf said the discarding of books is one method of reducing growth, "because not all books that are added to a collection remain useful indefinitely";² and Ralph E. Ellsworth wrote of prophets who "proclaim that unless some kind of bibliothecal birth control is developed, blockbuster library buildings with cancerous tendencies will eventually fill up the open spaces in the middle of our campuses."³

The survey questionnaire that was sent to public libraries for this study asked if they practiced weeding and for what purpose, how many weeded books were sent to storage and how many were discarded. Every public library returning the questionnaire responded that it did weed its collection and over one third indicated that they weed for the sole purpose of making additional space for new acquisitions. Only 9 percent of the volumes weeded by these libraries last year went to storage and 87 percent were discarded.

Of the academic libraries queried, 60 percent weed their collections. Small college libraries, especially, are weeders. The results of the questionnaire indicate that the 116 academic libraries responding had last year retired from their collections over 800,000 volumes, most of which were placed in storage, while 122,958 volumes were discarded. Large university libraries weed their collections and discard books on a much smaller scale than do small academic libraries and public libraries, and in every instance they reported the stated reason for doing so was based on space needs, never quality control.

Perhaps the best known book retirement project undertaken by a major library in this country is that at Yale. A full account of the project, funded by the Council on Library Resources, Inc., was published by Lee M. Ash, project director, in 1963.⁴ He described the program as a systematic weeding of the stacks, class by class, for the purpose of storing, transferring, filming, or discarding the material. The Yale project includes the assignment of certain *new* acquisitions to storage. A recent report from that library indicated that the project does not now operate on the same scale as previously, "chiefly because of faculty opposition."⁵ The operation has resulted in placing nearly a quarter of a million volumes in storage, transferring over 50,000 volumes to other campus libraries, and discarding 5,626 volumes. Ash was again chief discarder when the Harvard libraries of medicine, public health and dentistry were combined, along with the old Boston

Medical Library, to form the new Countway Medical Library. He banished "several tons" of books equal to 2,000 feet of shelf space, amounting to 70 percent of the collection.⁶

Special libraries in New Jersey entered into a periodical discard project in 1962 in which lists of materials which they were planning to discard were circulated so that other libraries might request them if they wanted them. Seven academic and public libraries in the state received the lists.⁷ The results apparently were disappointing as the project was abandoned after four or five years.⁸

One can conclude from the literature and the results of the questionnaire that, except for the use of separate storage areas, weeding is the most widely used in-house space-saver. For the public library, it is an accepted way of life, but economy of space alone cannot be named as the prime reason for its employment there.

The fact has been asserted that the best time and place to weed a book collection is in the selection process. Most libraries impose a set of standards or qualifications which must be applied to every book purchased but all-books-current plans have proliferated and there is now much less actual selection on the part of librarians than formerly. Alexander Laing in his treatise, "The Virtuous Stack-Weeder's Manual," said, "Every library, however large, must exercise some sort of selection at its gate."⁹ He pointed out the relative ease with which a library can acquire any book (through photocopy if no other way) and the arduous task of removing one.

The librarian of Yale University wrote in his annual report for 1952-53 of the futility of continuing the principle that had been adopted and followed by the library over a period of time—to be a library of record and "to collect as much of the printed and manuscript output of the world as was needed. . . ."¹⁰ Absolute comprehensiveness was finally viewed as impractical, unnecessary and impossible. Overwhelming space problems brought the matter to the fore with an immediate solution sought and the Yale "selective acquisitions program" was born. The fact had been realized that the growth of the collections could not continue at the rate they were experiencing and a plan (never fully realized) was established for weeding the collection before the books were purchased.

The libraries queried in the writer's survey were asked questions regarding their interest in highly selective book purchasing for reasons of space economy. When asked if they practice reduced and discriminate purchasing of library materials *specifically because* of the

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shortage of shelf space, a surprisingly large number of public libraries answered "yes"—21 percent of those answering the questionnaire. Asked if a shortage or consideration of shelf space entered into the decision to buy or not buy duplicate copies, 37 percent answered "yes" again. The same percentage also gives extra consideration to the purchase of long periodical runs or large sets for the same reason.

Only two academic libraries, less than 2 percent of the college and university libraries responding, replied that they limit their purchasing program because of book space needs in the building. Only 13 percent to 14 percent give special attention to decisions to buy long runs of periodicals or large sets because of space considerations.

It has been suggested that a cooperative acquisitions agreement may be considered one means of conserving shelf space in the library. This may or may not be the case, depending particularly upon the kind of agreement envisioned. If it is the purpose of the pact to economize on funds and space, not necessarily the further development of specified fields which would involve accelerated expenditures in those fields, one might expect some help with shelf space from the agreement. If the plan calls for *heavier* spending by each library in one or more areas, there may be no space economy resulting, but indeed a need for more shelf space, especially if no more than two libraries participate.

If more than two libraries take part in the agreement, there is a chance that space may be saved but this will depend upon several factors, including the degree and depth of the collection development program that is planned. For example, if a given library is assigned an area which requires large bulk purchases, it may find that more space is required than if it had continued to purchase moderately in all fields designated in the plan. Another contingency is whether or not the participating libraries will exchange volumes among themselves to form core collections upon which to build. If a cooperative acquisitions agreement is under consideration with an eye toward relief for crowded book shelves, a bit of circumspection is advised.

Our large depository libraries have served a most admirable purpose in housing and servicing vast collections of research materials. They act as a library's library and very definitely will provide a library with thousands of feet of additional bookshelf space. The Center for Research Libraries in Chicago and the Hampshire Interlibrary Center in Amherst, Massachusetts, are two such resource centers. The writer cannot, however, refer to the use of these centers as in-house

solutions to book space problems for the purposes of this paper; buying a subscription to their services is certainly more than buying storage space, but it is *that* also. The materials are located outside the library's walls and must be considered stored in another place.

Major acquisitions programs and projects exist which can be utilized by libraries to make esoteric and foreign materials available to patrons without housing them on the premises. Again we must go abroad to locate them but only for the cost of an interlibrary loan from another library in the country. The Farmington Plan, whose purpose is to acquire for housing in an American library one copy of the important works from all countries, was inaugurated during World War II and is active today.

The National Foreign Newspaper Microfilm Program of the Association of Research Libraries aspires to involve most large United States libraries in microfilming newspapers from abroad so they will be available on film in this country. The plan is not fully activated, but, in the meantime, we can call upon the Library of Congress for approximately 800 filmed newspapers from other lands, and the Center for Research Libraries has filmed an additional 200 foreign newspapers.¹¹

The Latin American Cooperative Acquisitions Project (LACAP) has operated through Stechert-Hafner, Inc., since 1959, starting with a traveling agent to search out important library materials in all Latin American countries. New publications are acquired and sold to libraries, many of whom acquire all materials from certain countries.

Finally, two programs of the federal government offer succor in acquiring and locating foreign publications in United States libraries: the PL 480 program and Title II-C of the Higher Education Act of 1965.¹²

Physical arrangements of books which permit more volumes per square foot are often employed when space crises arise. Most of these are emergency measures and would not be recommended for planning the placement of books and bookstacks under normal circumstances. Although they will bring a measure of relief to a crowded situation, they will also bring inconveniences.

An old, old remedy for book space ills, the chronological arrangement or fixed location of books, was first used by libraries in Europe and is still used by many today. No classification scheme is necessary. Books are added to the shelves chronologically as they are acquired;

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the call number is a location indicator rather than a subject symbol. Browsing is obviated by the employment of such a plan. In this arrangement it is never necessary to shift books as the shelves are filled consecutively, and filled to capacity. It has been estimated that a standard section of shelves three feet in length will accommodate 168 volumes by this method, about forty books more than would be shelved with one-fourth space allowed for expansion. The fixed location plan will therefore allow for the shelving of 32 percent more books over the standard arrangement which allows expansion space.

Librarians were not asked in the questionnaire whether they did or did not employ fixed shelving, but they were asked if they used minimal expansion space (less than 20 percent on the shelf). A surprisingly large number responded that they do: 60 percent of the public libraries and 50 percent of the academic libraries.

Shelving books by size is one means of increasing stack capacity which is utilized in many libraries, but most often in large research libraries, and then most frequently in their storage quarters. It is possible, according to Keyes D. Metcalf, to gain as much as 20 percent in space if five sized sections are used, the classified arrangement of the books is maintained, and adequate space for expansion on each shelf is allowed.¹³

This technique is employed to some degree by the New York Public Library Reference Department; the Bay City, Michigan, Public Library; the University of Michigan Library; the California Lutheran College Library; and others, both large and small, including the cooperative deposit library centers. Responses made to the questionnaire indicate that 32 percent of all libraries answering the question shelve books by size, at least to some extent. The Center for Research Libraries combines the chronological and the size method in portions of their building and considerable space is gained over conventional shelving arrangements.

A library can simply choose to leave less space for growth or expansion and thus add more books to each shelf. Most library building consultants would advise keeping the shelves at no more than 75 percent of capacity in the interest of convenience, time and actual economy. When the books are beginning to crowd one another on the shelf, there is greater wear on the covers and spines, and the time consumed in procuring or replacing one becomes a factor to consider. This space saver is another example of the false economy in gaining

space through makeshift designs. As previously noted, more than half the libraries queried fill their shelves to more than 80 percent capacity.

Most librarians know that aisles between ranges in an open access library should be at least 36 inches in width. Under adverse conditions when the need to create additional book space is imperative, one can narrow this aisle to 30 inches and gain over 10 percent in space for shelving books. It would be possible, but not advisable, unless the bookstacks were closed, to narrow the aisle still further and make a greater gain. At least one library added as much as 60 percent space by narrowing the aisles to 20 inches.¹⁴ Twenty percent of the college and university libraries answering the question in the writer's survey have narrowed aisles to less than 30 inches in order to acquire more space; 22 percent of the public libraries have done so.

Metcalf points out the opportunity we have to conserve bookstack space by installing shallower shelves. He notes that Fremont Rider told us that 94 percent of all books in college and research libraries measure 9 inches or less from spine to fore-edge. Most libraries are equipped with ranges that measure 20 inches in depth while we actually require only 16 inches in most cases. Two 7 inch shelves back to back have 2 inches between them, thus making it possible for a book 9 inches in depth and a book 7 inches in depth to be shelved opposite one another on the same range. Since most of our books are no more than 9 inches in depth, says Metcalf, the 7 inch shelf should meet our needs, for the most part. The amount of space that can be saved in this manner would come to about 8 percent. Eighty percent of the librarians answering the survey questionnaire stated that they use shelves larger than 7 inches in depth in their buildings.

Virtually all books are taller than they are wide and this height is a factor to be considered in the search for shelving space. Oftentimes a harried librarian will resort to placing books on the shelves on the fore-edge in order to reduce the height needed to shelve them and thereby creating space for another shelf. Of the librarians responding to the question, 20 percent shelve some books on the fore-edge in order to gain additional space.

A combination of shelving books on the fore-edge and shelving by size can result in very great economy of bookstack space. Metcalf refers to this technique as saving as much as 100 percent over the subject arrangement plan. He also points out the danger this method has

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for the life of the book; it is detrimental to the spine for a book to rest in this position.

Higher bookstacks and longer ranges with fewer cross aisles will, of course, accommodate more books. Long ranges are not necessarily undesirable but high shelves bring several problems. Despite this fact we often willingly add one more shelf to a range already too tall for a small girl to reach, but it is with some reluctance that we extend ranges to eight or ten sections. It is even possible to improve traffic patterns in the stacks and create greater ease of use with long stacks which have fewer interruptions from cross aisles. A high shelf can be resorted to when circumstances demand it, but it is one of the least desirable means of finding additional space for books. It is less objectionable, of course, if the bookstacks are closed to the public.

Cross aisles are normally expected to be over 4 feet in width and anything less should not be considered for an open stack library. If the aisle is as wide as 5 or 6 feet, consideration can be given to gaining more bookstack space by making it narrower if there be such a need. Metcalf says that 2.5 percent in space can be gained by reducing the cross aisle from 6 feet to 4.5 feet, provided the ranges are 30 feet long. Another 2.5 percent can be gained if the aisle is reduced to 3 feet.¹⁵

Thirty-seven percent of the librarians answering the questionnaire stated that they have some shelves high enough to require a step stool. Twelve percent said their libraries are equipped with ranges longer than ten sections.

Placing books two or three deep on a shelf is a desperate measure and perhaps the court of last resort in the librarian's search for book room. The great inconvenience provoked by such an arrangement is equivalent to that of storing the books in boxes, or perhaps outside the building. This is not to say that it is not utilized and it will indeed give books a home until better quarters can be found. Wide shelves are necessary and a closed stack situation is highly recommended.

Five public libraries out of fifty-five responding to the question in the survey regarding storage areas gave an affirmative answer to the question, "Do you shelve books two or three deep on shelves?" Four academic libraries out of 116 responding gave an affirmative reply.

Libraries included in the survey are of various sizes although they are mostly large libraries. It was thought that their space problems

are more acute than those of smaller libraries and the suggested solutions can be applied generally. In concluding this paper it seems apropos to set down some additional interesting facts gleaned from the survey questionnaire distributed and analyzed by the writer. For the purposes of simplification they are enumerated below.

Academic Libraries

1) Eighty-eight percent have bookstacks open to all students and faculty. Less than 3 percent indicate that their bookstacks are closed to everyone. The remaining percentage obviously has a limited open stack arrangement.

2) Nearly half have storage space within their library buildings. Many also have an "annex" in another location. Shelving in storage is as follows, in order of frequency named: standard shelves, store in boxes, commercial storage shelves, shelved by size, and two or three deep on shelves.

3) Two academic libraries out of 116 responding have branch or departmental libraries solely because of space limitations in the main building. Twenty-five state that they exist *partially* for that reason. Sixty-one report that space in the central library has nothing to do with the existence of departmental or branch libraries.

4) Nearly one-half purchase microform materials, even when hard copy is available, in order to conserve shelf space, the cost or frequency of use notwithstanding.

5) Less than one-tenth admitted that they participate in an acquisitions program with other libraries for the single purpose of saving bookstack space. Twenty percent stated that their purpose in joining such a venture was in the interest of book budget economy.

6) Fifteen academic libraries resort to storing books in boxes.

7) Means employed within the library to gain additional book space, listed in order of frequency reported by academic libraries:

- a) Weeding or retirement to storage
- b) Minimal shelf expansion space
- c) Purchase of microforms
- d) Extra high shelves
- e) Shelve by size
- f) Excessively long ranges
- g) Narrow aisles
- h) Shelve on fore-edge

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- i) Shallow shelves
- j) Discriminate purchasing

Public Libraries

- 1) Twelve percent have an annex used for storage purposes.
- 2) Twenty-seven percent purchase microform materials, even when hard copy is available, in order to conserve shelf space, the cost or frequency of use notwithstanding.
- 3) About one-half of one percent of the public libraries responding entered into a cooperative acquisitions program for reasons of space economy alone.
- 4) Two-thirds have a storage facility within the central library, either a separate floor, wing, room, or area. Shelving there is as follows, in order of frequency: standard shelves, commercial storage shelves, two or three deep on shelves, stored in boxes, and shelved by size.
- 5) Means employed within the library to gain additional book space, listed in order of frequency reported by public libraries:
 - a) Storage in building
 - b) Minimal shelf expansion space
 - c) Equally: (i) Weeding
(ii) Extra high shelves
 - d) Shelve by size
 - e) Equally: (i) Discriminate purchasing
(ii) Shelve on fore-edge
 - f) Equally: (i) Narrow aisles
(ii) Shallow shelves
 - g) Excessively long ranges

Fremont Rider, who pronounced many succinct precepts for library administration over twenty years ago, made an issue of the fact that storage and weeding are not solutions to book space problems; he calls them "confessions of avoidance."¹⁶ Rider, of course, was enamored with the future of the micro-card. But even the revolution in micro-facsimile materials offers little help for immediate needs, writes Robert H. Muller: "Yet the concensus seems to be that, for the next decade at least, no great help can be expected as far as space is concerned, from microreduction, computer applications, cooperative networks, and facsimile transmission."¹⁷

Any within-library *solution* to book space problems will of necessity be a short-termed one. Construction of one kind or another is inevitable in the long run but librarians must expect the plea for needed space, in the future, to fall on less concerned ears than before, as our boards and our regents expect the millennium very soon and assume that the library will be wired for every new, non-book, space-saving device invented. The general conception of the computerized, miniaturized library is growing and it does harm to our efforts to resolve the now library space problem.

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