Pulling the rug out from under the stacks

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Replacing carpet in areas with ranges loaded with books can pose some unusual problems.

Few library amenities are as pleasant as a carpeted floor. But what happens when the carpet wears out? To replace wall-to-wall stretched broadloom with more of the same, the furniture must be moved away temporarily. Library furniture generally moves as easily as the ordinary furniture of home or office, but there is one towering exception—the loaded range.

What one would like, of course, is to move the ranges out of the way, lay the carpet, and return the ranges without having to take the books off the shelves. A check of the literature, inquiries to several shelving manufacturers, and phone calls to librarians likely to know established that loaded ranges are rarely moved. However, Cumberland County College in New Jersey was able to move fully loaded, double-faced ranges that were six sections long. Their method involved a steel frame on wheels, a hoisting winch, long angle irons bolted to the tops of the uprights, and a plywood track on which the loaded frame rolled across the carpet. The ranges were lifted from the top. Anyone facing a worn carpet covered with ranges should look into the method.

¹Cumberland County College's method has not been described in the library literature, although it did win an award from the National Association of College and University Business Officers in 1984. The device was developed by Anthony Abriola, the Cumberland reported moving 50,000 volumes in 96 man-hours, and the books continued to circulate while the new carpet was being laid. A project similar in size cost our library ten times the manhours, and part of the collection had to be closed to users for a month.

One manufacturer's engineer did warn against using that method with their shelving. Their product hangs the shelves on a welded rectangular frame, and the engineer thought that lifting might crack the welds. The people I spoke to at other companies had never heard of lifting loaded ranges and were uncertain whether Cumberland's method would work with their shelving.

Benjamin Prybys of Estey told me of sliding partially loaded ranges across carpet. The bottom shelves must be unloaded and the levellers retracted so that they clear the carpet. The top shelf or the top two shelves are unloaded also to lower the center of gravity. Then the range is tilted slightly and a steel shelf slipped under each upright. These bookshelves are at right angles with the length of the range. With care and a good crew, he said, the partly loaded range could then be pushed across the carpet.

college's superintendent of buildings and grounds. The description which the college submitted to NACUBO identified Abriola as the person to contact for information.

Moving unloaded ranges is a much simpler matter. Once the books are off, most ranges can be moved fairly easily with dollies like those developed at Miami University in Ohio. These devices were described in an article by Brian Alley.2 Working from the plans given in his article, our college's maintenance crew welded together a pair of the devices. The dollies worked well in general and appear efficient and safe. Our custodians made one improvement in the design. To keep the ranges from slipping down, it was necessary to tighten the nuts to the point that the bolts eventually snapped. That problem was solved by a small bar that fit through the slots in the uprights. The bar rested on the small, u-shaped support at the top of the dolly's cradle. It took most of the weight of the range and eliminated the slipping.

It might be possible to design dollies so narrow that the empty ranges could be garaged in the aisles between loaded ranges elsewhere on the floor. This could be important in areas lacking space to store the stacks, cartons, and furniture from the area to be recarpeted.

We have used these dollies on two occasions to move ranges up to six sections long as far as 150 feet. The ranges were moved with most of the shelves in place. A crew of three was able to move up to five ranges per hour. Moving the ranges is incomparably more efficient than disassembling them. On one job we had to move about 35 ranges, mostly double-faced and four or five sections long. Moving them away from the area to be recarpeted and replacing them when the new carpet was down took about 60 man-hours. For comparison, an experienced vendor of library shelving quoted a price of \$6,000 to disassemble and reassemble the same ranges.

Most of the ranges that we had to move had rigid sections that could retain their rectangular shape even if supported by only one of the uprights. The dollies worked well on those ranges. But we also had to move one old x-braced range. That one sagged like a snake. Dollies could be used successfully on that kind of shelving, but every upright would have to be supported or else every section would have to be cross-braced.

Doorways can be another problem, of course. Ninety-inch ranges on dollies need about 92 inches of clearance. Only tall doorways would permit the ranges to be moved from one room to another. But in general, as long as the building has space in which to garage them, moving empty ranges is not hard. The problem is emptying them.

In the usual shift books are moved onto empty shelves. In the carpet shift there will normally be no empty shelves. The books have to be stored somewhere. Libraries with too many books to pile on the floor should consider boxing.

We have installed carpet twice, each time stor-

ing the books temporarily in cardboard cartons. The first time, the collections which had to be boxed were well arranged and had reasonable growing room. In that case it was best to return the books to the same shelves. For that job we had the campus computer center print numbers serially on adhesive labels. These were standard large address labels mounted on strips one across. The same number was printed three times on each label. An asterisk was printed before the first number and after the third number.

Prior to boxing, the numbered labels were attached lightly to the shelves, in order. The cartons were 18x12x12 inches. Each could hold half a shelf of books.3 The boxers put the books from half a shelf into a carton, then tore off one end of the label and put it on the carton. If the books came from the right side of the shelf, the right side of the label was torn off. If they were taken from the left side of the shelf, the left side of the label was put on the carton. The center portion of the label stayed on the shelf. In that way when the ranges had been returned to their places over the new carpet, every carton of books had a definite destination. The number on the carton showed to which shelf the books were to be returned, and the asterisk showed whether they were to go on the left or right side of the shelf.

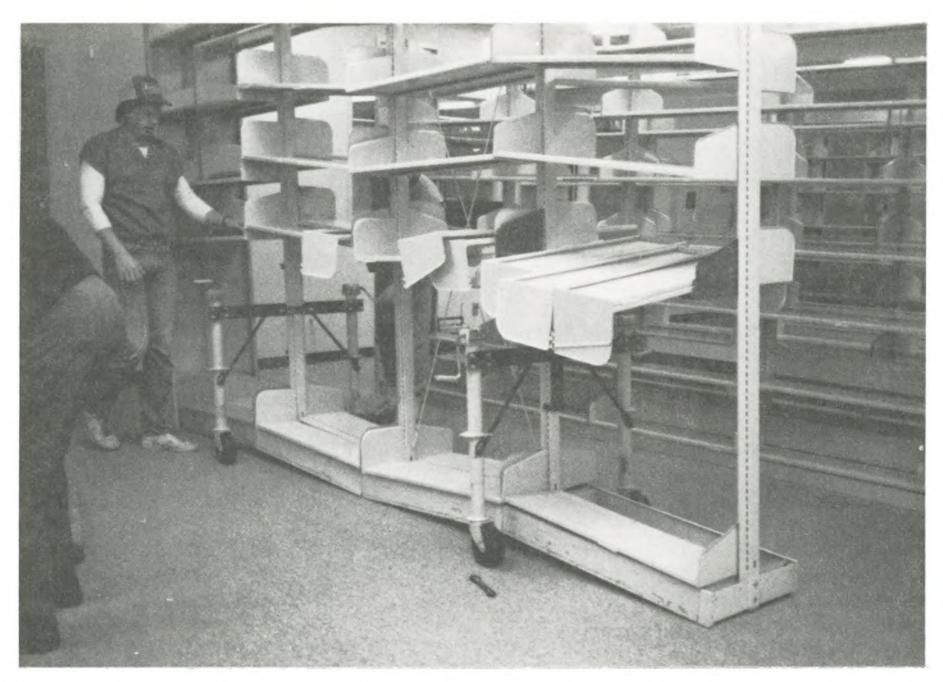
The books were never doubled up or packed on their sides in the cartons. They had the same position in the box as on the shelf. The student assistants who packed the cartons were warned, of course, that the books had to keep the same order in the cartons as on the shelves. Fortunately that is the natural way to do the job, and very few books were scrambled out of order by the boxing process.

A pile of four cartons was a convenient load for the two-wheeled hand trucks we used. The boxing went the fastest when the student assistants made the piles of cartons by starting at the second shelf from the bottom and working up to the fifth shelf. The books had to be lowered only a few inches from each shelf to each carton. When the cartons were returned they were in the same order in each pile, and the books could be replaced on the shelves with a minimum of lifting. The shelves could be emptied or refilled very quickly.

The second project was more complicated. Our building was becoming very crowded. To save a little floor space, we wanted to reassemble the shelving into longer ranges, changing from ranges four or five sections long to ranges seven or eight sections long. Also, the collection we were moving, the bound periodicals, was crowded on its shelv-

²Brian Alley, "Moving Steel Stacks with a Special Dolly," *Library Acquisitions Practice and Theory* 6 (1982):253–57.

³The cartons were singlewalled with a gross weight limit of 65 pounds. They meet a bursting test of 200 lbs./in.² and comply with spec PPP-B-636j. Stacked four high, the bottom carton buckled only infrequently. One book on stacks maintenance recommends cartons the length of the shelf for boxing. Cartons that size filled with heavy books cannot be lifted by ordinary men and are too long to maneuver in stack aisles of the usual width.



The x-braced range, lacking rigid sections, sagged when lifted.

ing. A recent weeding project had freed many shelves, but the empty shelves were not usually next to the back runs that were growing the fastest. The collection needed shifting. Since all the books and all the ranges would have to be moved so that the new carpet could be laid, we planned to lengthen the ranges and shift the collection at the same time.

For this job we prepared two identical sets of serially numbered labels. Each of these labels had just one number. The first set of labels was put on the shelves before we started boxing. The boxers transferred those labels to the cartons as they were filled with books. The second set, the "target" labels, went onto the empty shelves when the ranges had been returned and reassembled. Returning the books, the student assistants simply matched the number on the box with the number on the shelf, then unloaded the carton.

Redistributing the space freed by our weeding project was done in this way. The labels from the first set were affixed to the shelves two days before we began boxing. Every shelf with books on it received a label. If a shelf was more than half full, it received two labels (since two cartons would be needed to hold the books). Empty shelves were skipped. When our labeller reached the end of the collection, the number on the last label was 3,787. That was the number of half-shelves with books on them. We knew that there would be 4,298 half-shelves available when the shelving was replaced.

The difference, 511, was the number of empty half-shelves we would have when finished.

That empty shelving could be distributed through the collection where it was needed. To do this, the stacks supervisor took 511 adhesive dots and the second set of numbered labels, and walked through the collection looking for the runs where space was most needed. Where she found a title that would require space, she noted what number was on the label on the half-shelf at the end of the run. On her second set, the target labels, she put a dot or two on the label with the same number. Each dot in effect inserted 18 inches of empty shelving into the collection at that point. When the ranges were back in place in their new alignment, a student assistant went through the empty shelves putting the second set of labels in place on the shelves. Every shelf received two labels, except that a dot on a label signalled the student to skip the next half-shelf. When the books were reshelved they were in order, and the space available for growth was distributed through the collection roughly where it was the most needed.

The carton and label system is simple and flexible. The work can go on at any number of points at the same time, the cartons can go anywhere in the building in any order, and the collection will still return to the shelves with all the books in place. The work needs to be planend carefully, but the actual supervision is easy.

Unfortunately the cost is sizable. On our second

project 840 square yards of broadloom were installed in an area half of which was used for ranges and half for tables and chairs. The ranges held about 50,000 bound volumes of periodicals and reference books, and uncounted thousands of unbound issues of periodicals. The carpet to cover this area cost \$12,070, installed. Clearing the area and then returning the furniture, ranges, and books took about 1,100 man-hours. The work was done mainly by student assistants working for minimum wages. Our staff also helped, many contributing one to three days. If one figures \$5 per hour for the labor, on the average, then it is plain that the labor involved in removing and returning the furniture increased the cost of replacing the carpet by about $50\,\%$. The cost of the cartons was smaller but not negligible. We used 3,000 at 59 cents apiece.

Another cost was the inconvenience to users. Because we had only limited space in which to store the cartons and the empty ranges, the job had to be done in sections. Although we scheduled the work as tightly as possible, the periodicals collection was unusable for a month between the fall and winter quarters.

The expense and inconvenience were balanced somewhat by the two tasks that were piggybacked on the carpet shift: the shift of the collection and the rearrangement of the bookstacks. The latter especially was valuable. Putting the sections of shelving back together in longer ranges did away with an unneeded walkway which was three feet wide and 80 feet long. If the cost of new construction is \$80 per square foot, the value of the 240 square feet of "found" (and badly needed) floor space could be reckoned at \$19,200—more than the cost of the carpet.

Still, boxing the collection and moving the stacks out of the way in order to lay carpet is an ugly job and one to avoid if possible. But are there any good alternatives for libraries in this situation?

A device that will move loaded ranges, like Cumberland County College's, is extremely appealing. Anyone facing this kind of job should investigate that possibility thoroughly. The manufacturer of the shelving should be asked about the practicality of lifting the ranges. There is an opportunity for significant savings.

Stretching broadloom around the ranges seems not to be feasible. The carpet has to be stretched in both directions, "unless you like wrinkles," as our installer put it.

However, carpet need not be stretched; it can be glued to the floor. It would be possible to glue carpet down the aisles between the ranges without moving them. Of course if the ranges ever had to be relocated afterwards, bare spots or old carpet would be their footprints, but librarians might be willing to gamble that the ranges would stay where they were for a long time. Glued-down carpet apparently has its advantages and its drawbacks, and running strips down the aisles between bookstacks should be considered a possibility to discuss care-

fully with an expert.

Carpet tile is a newer product. Advertisements are beginning to appear in library magazines. Carpet tile comes in squares 18 inches on a side. The fabric is bonded to a heavy rubber-like base. A kind of glue that remains tacky permanently is applied to the floor and holds the tiles in place. The tiles are laid between but not under the ranges. If a tile becomes stained or worn, it can trade places with a cleaner tile from an out of the way corner. The manufacturers claim that carpet tile will outlast broadloom. There have been library installations.

A drawback is cost. Carpet tile costs roughly double the price of broadloom. One saves a bit, of course, by not having to pay for carpeting under the ranges. On the other hand, if the old carpeting under the stacks has to be removed to produce a neat job, that could be tricky. Lifting loaded ranges is not much easier than moving them.

Leaving the old carpet in the stack areas and replacing only the carpet in the reading areas and the walkways, which will be more worn anyway, is certainly possible. That was done in the library of California State University, Hayward, in areas divided between long ranks of ranges and large reading areas. The result is better looking than might be expected.

When all is said and done, boxing the collection, wheeling the empty ranges away, and putting down more broadloom may turn out to be the least disagreeable solution. Some factors that may favor that option in a given situation are when:

- •a shift of the collection or a new arrangement of the ranges is needed;
- there is room to garage temporarily the furniture, the empty ranges, and the cartons;
- •the price difference between broadloom and carpet tile is great;
- •that part of the library can be closed to the public for the time needed to do the job;
- the portion of the area to be recarpeted that is covered with ranges is small;
- the ranges may be moved later, making it important to have carpet under them.

Any librarian planning a new building with carpet ought to raise this problem with the architect. Carpet tile might be justified, or the best plan might be to reserve carpet for reader areas and walkways while tiling the stacks.

Spotts on Woolf

Frederic Spotts, a senior associate of St. Antony's College, Oxford, England, is seeking information on any letters, documents, or photographs of Leonard Woolf (1880–1969) held by academic or research libraries. Woolf was cofounder with his wife, Virginia Woolf, of the Hogarth Press. If you are aware of any Woolf materials, write to Frederic Spotts, 3 Concord Avenue, Cambridge, MA 02138.



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