PRODUCTION NOTE

University of Illinois at Urbana-Champaign Library
THE RENOVATION OF A MEDIUM-SIZED
PUBLIC LIBRARY BUILDING

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Evansville (Indiana) Public Library

The present Central Library building of the Evansville (Indiana) Public Library and Vanderburgh County Public Library was constructed in 1931 at a cost of approximately $325,000. The architectural firm was that of Walker and Weeks of Cleveland. Miss Ethel F. McCollo ugh was the Chief Librarian of the Public Library then, and to her belongs the credit for insisting upon a simple, modern design—not one step up from the ground level, the entrance right out at the sidewalk, two front display windows, and plenty of room, so much so that thirty years later the building still has room for growth. The building is described in detail in Wheeler and Githens’ book about American public library buildings. Briefly, it is strategically located on a street corner (with an alley on the third side), only one block east and one block north of the busiest downtown intersection. It consists of a rectangle, 85 feet by 135 feet, and five stories, one below ground and the fourth above ground set back from the building edge on three sides. There is a core stack of eight levels, each 7 feet high; only one of the eight stack levels is below ground and only five stack levels in all have yet been installed. The first, second, and third floors above ground are each 14 feet high, and the fourth or top floor is 7 feet. For the last eight years the authors have been associated in their present positions and have striven to renovate this medium-sized building. This is a brief report of some of their experiences in this endeavor.

The building was well built to begin with, and with reasonable care should certainly last another thirty years in good condition. For various reasons, such as lack of funds, undesirable conditions have been allowed to develop; in other cases, such as air conditioning, the appropriate equipment had not been available until fairly recent years. As efforts were begun to improve the physical condition of the building, two facts soon became evident. One was that the blueprints of the building were not altogether correct; changes made in the construction of the building were not shown on
any set of blueprints in the Library's possession. A second was that persistent questioning of contractors, senior employees of the Library, and others was needed to ascertain facts, alternatives, advantages, and disadvantages of proposed repairs or methods of work. In other words, there was often no one obvious method of approach, and some mistakes were made.

Repointing. The first major job was to repoint the building. The exterior of the building consists of Indiana limestone. In about twenty years or less, the mortar weathers and cracks; water penetrates through the outer wall and causes the paint on the inside to peel and the plaster to crumble. This disintegration had begun and obviously repainting or even replastering had to be postponed until the mortar on the exterior had been replaced. The back wall of the building was within 6 inches of the neighboring buildings which came only halfway up the height of the Library's back wall. Nothing could be done to replace the mortar between the bricks of the back wall of the Library and below the height of the adjoining buildings. Therefore, a copper channel was installed all along the top edge of the adjoining buildings and tilted slightly from one end of the library building to the other so that it would drain into a downspout. This improvement prevents rain water from getting onto and through the bottom half of the back wall.

The other exterior walls of the building were repointed by a commercial contractor in the summer of 1954, at a cost of $3,500. This price included a 5-year guaranty, and the guaranty clause has been invoked at least once. The repointing consisted of scraping out the loose mortar between every two bricks or blocks of stone, and of replacing it with fresh cement. The windows were also recaulked. In older buildings especially it is a good idea to clean the exterior walls at the same time by sandblasting. The result is that the building will then look almost like new, and rain water will be sealed out if a good job of repointing has been done.

Replastering. Although some modern buildings use dry-wall construction (i.e., various wood products as wall surfaces), traditionally and still the more often found method of interior wall covering is plaster over lath and metal screen. Plastering will last for years if kept dry, but moisture draws its strength and causes it to crumble easily. Replastering (including both a rough base coat and a finish coat ready to take paint) is relatively inexpensive, costing about fifty cents a square foot. Patch-plastering can be done satisfactorily by a library handyman, but large stretches of space, especially on the ceiling, should be done by experienced workers. This particular building has aluminum windows which draw moisture; therefore, in time the plaster around the window crumbles. If more cement than usual is mixed with the plaster powder, it is possible to have a plaster wall which will take paint relatively well and resist moisture as the same time. All necessary replastering is done before any repainting.
Repainting. If there is one secret to keeping a library building looking clean and attractive, it is to put gallons of paint on the walls at intervals. Water base paint is especially good for plastered surfaced, costs less than oil base paint, is easier to work with, and lasts as long. An effort is made in this Library to repaint walls about once every four years, with no washing between times. On wood and metal surfaces, oil base paint is used because it will take washing better, will hold better, will not show fingerprints, and will not rust as readily as will water base paint. Woodwork is washed about every six months. The roller has displaced the brush except for painting trim work. In addition, a paint-sprayer, which costs about $40, including the compressor, is invaluable. There should be adequate ventilation for its use, the operator needs to wear a mask, and all areas not to be spray-painted must be covered, as by tape.

A heavy program of painting has been completed, including the painting of some surfaces of the building never before touched, such as the stacks, the garage, and the basement hallway. A second complete cycle of repainting is almost completed, involving some work by outside contractors (especially for the main lobby with its 28-foot ceiling) but mostly by the Library's building maintenance staff. Scaffolding is virtually a necessity, and one unit for two men was made from $20 worth of 1 1/2-inch pipe (with T and L fittings and couplings) and the use of a pipe cutter and threader. Such a unit can be taken apart and assembled easily and will reach the ceiling of any part of the building except that of the main lobby. In such a program of painting, the cost of paint becomes a factor to consider. A discount of 20 per cent from list price was secured with permission to go in on the local school system's contract for paint. Originally an interior decorator was hired to map out colors for all parts of the building, but for various reasons this practice could not always be followed. In general, however, bright colors have been used, especially in areas where higher light levels were desired.

Relighting. As is the case with repainting, it can be expected that relamping will be needed every so often. When this building was built, all of the lights used were incandescent. Fluorescent lamps cost more but use less electricity and give out more light and less heat. Thus in each stack aisle, three 4-foot (40 watt) fluorescent tubes have replaced three 60 watt incandescent bulbs (the largest size which could go in the Holophane globes); they give about twice as much light and illuminate the bottom shelves more efficiently. The first fluorescent tubes used in this program of stack relamping flickered considerably upon being turned on. This difficulty was been corrected with the use of fixtures with instant start ballasts.

When in 1953 a Young Adult Room was opened, 500-watt silver bowl reflector incandescent lamps were used. These gave a good semi-indirect light, but they burned out quickly and were expensive to replace, used
considerable power, and produced a noticeable heat load. The twenty-three lights in the room are now being replaced by 4-foot fluorescent fixtures of two tubes each, drawing 80 watts per fixture. The total power load will be 1,840 watts vs. 11,500 watts. In similar fashion fluorescent tubes have replaced incandescent bulbs throughout most of the building. In the main lobby with its 28-foot ceiling there are three large and impressive chandeliers with about thirty bulbs in each. No reasonable alternative has been found for these, but 24-inch fluorescent tubes are being mounted over the book shelves in this room. They cost $4 each, including a movable metal reflector, and about twenty-five will be needed in all. Fortunately when the building was built, reasonably adequate circuits and outlets were installed.

One other particular type of electrical problem involved the lights in the two display windows. For years staff members had had to remember to put them on and to cut them off. Finally automatic time clocks were installed, one for each window, at about $10 each. This allows the lights to continue burning until some time after the building closes and on evenings when the building is closed altogether. It is necessary only for a staff member to remember to change the time settings from winter to summer.

Heating. The Central Library building was built to use steam heat, the steam for which is piped to the building from the local power company. This is a clean and efficient heating system and requires no space or manpower on the part of the Library. However, there have been two main complications, of which one will be explained under "Plumbing" in the next section of this paper. The other complication arose from the fact that an excellent pneumatic system of thermostatic controls for the radiators had been installed and the air lines run up to the radiators, but hand valves had then been used instead of automatic valves, presumably to save some money. However, the result was that any one radiator had to be turned on or off by hand and had to be turned all off or all on. When a valve was turned off, steam condensed in that radiator and produced loud knocking when it was pushed out by fresh steam. Over a period of several years, thermostats have been replaced and automatic valves installed in place of hand valves. The radiators themselves were of the heavy cast-iron coil type. As packing of the valves wears out or other repairs are needed, these radiators are being replaced by new, modern, lightweight and smaller convектор-type radiators which cost about $60 each, not counting the scrap value of the old units. The convector-type radiators are more efficient and produce less dust because they are enclosed and therefore save on time and cost of repainting walls and radiators.

Plumbing. The main problem in the field of plumbing is that the water drainpipes for the building lie under the basement floor and lead into and on a level with the sewer in the street. The result had been that heavy rains or flash floods pushed water back through the drain pipe into the basement of the
building. This happened repeatedly between 1932 and 1948 and prevented the normal use of the basement level. It is to the credit of Mr. Arnold Rosaaen (second Chief Librarian here, from 1948 to 1951) that he figured out a solution, namely, installing valves in all openings of the drain pipe. These are turned shut when it rains so that water cannot back up into the basement from the sewer in the street; by the same token, water cannot go out the drainpipe. The downspouts too feed into this drainpipe on the street side of the basement valves and before a master valve. If this valve is shut off and if it rains hard enough and long enough, the downspouts will fill and the rain water will accumulate on the roof and come down on the inside of the building wall through hair line cracks. This difficulty has occurred twice in the past ten years. Furthermore, it is dangerous to have more than a few inches of water accumulate on a roof, and openings have been made in the parapet wall around the roof to permit excess water to escape.

Another complication arises from the fact that the steam used to heat the building is also led into the same drainpipe as a water condensate. Since the drainpipe valves are closed at night, in case it were to rain, the steam heat must also be turned off since the condensate would fill the drainpipe and flood the basement floor. The effect of turning off the heat each night is to have the steam which is left in the pipes condense; in the morning when this cold water is hit by fresh steam, pounding results, and the scale on the inside of the pipe is torn loose with resulting corrosion and eventual leaks (about eight or ten per year). Since these steam pipes are behind the plaster and in the ceilings, it is no small job to tear out the plaster, replace the pipe, replaster, and repaint. In addition, shutting off the steam at night means that the building is cold in the morning. What is needed is to have all the storm drainage collected under the first floor level and led out to the street sewer by gravity and to have a sump pump installed at the point where the drainpipe to the street sewer leaves the building. Such a pump would raise the water leaving the building to a level above the street sewer and thus prevent the backing up of water from the sewer while permitting steam to be left on all night. Tying off the downspouts and installing such a pump will cost about $5,000, and the matter is being studied by the Buildings and Grounds Committee of the Board of Trustees.

Other plumbing problems have included an additional toilet, wash basins, and hot water. The Children's Room in the basement level had need of a toilet nearby. Appropriate facilities were available, and a toilet was installed on a 6-inch concrete base so that it would empty properly into the drainpipe under the floor level. But when water backed up after the first heavy rain, it was realized that this outlet too needed to have a valve installed. A wash basin was also put in and another just above it in the stacks; fortunately water pipes ran nearby and a common vent pipe could be used. Hot water had been produced earlier by a small electric heater in the summer and by a conversion unit in winter which drew upon the steam heat. These were re-
placed by a 60-gallon electric heater and by two 5-gallon electric hot water heaters installed in rest rooms furthest removed from the main source of hot water. In addition a shower was put in a basement room for any staff member who needed to use it, and an electric dishwasher installed in the basement and its drain hooked into that of the sink. After water backed up and shorted the motor, it was realized that the drain from the sink was too small. The dishwasher was then moved to an adjoining room where it could empty directly into the building's drainpipe.

**Air Conditioning.** What has been described so far have been jobs of improving what was already basically part of the building. In addition to these improvements, there have been a number of features added to the building, the most important of which was air conditioning. When the building was erected in 1931, air conditioning was still neither practical nor effective. The next best thing was used, namely, a powerful exhaust fan on the top floor and an even more powerful ventilating fan system in the basement, together with large metal ducts which go throughout the building. Unfortunately the system was relatively expensive to operate and did little to alleviate the summer heat. In 1953, a 5-ton Carrier water-cooled air conditioning unit was installed in the newly-decorated Young Adult Room. It cost $3,771, including a cooling tower on the roof. In 1960 an air-cooled condenser replaced the cooling tower, at a cost of $770, after almost $1,000 had been spent in six years to repair the harmful effects of the chemicals in the city water upon the water tower. Air-cooled units had not previously been available at 5-ton capacities.

Between 1954 and 1959, fourteen window-type ton or ton-and-a-half air conditioners were purchased at about $200 each and installed in nine rooms of the Central Library building, especially the cataloging department and library office, which were just under the roof of the building. These installations are satisfactory, but the do tend to be noisy. And in 1958, at a total cost of $25,000, thirty-five tons of air conditioning were installed in the stacks and public service areas of the building, using seven 5-ton packaged units produced by Winkler (Stewart-Warner). This was equal to $715 per ton. These units are all air-cooled with the compressors and the condensers on the roof so that the only noise in the Library is the hum of the circulating fan. Ducts had to be installed and space found for the packaged units of circulating fans, filters, and controls. The system has worked well and is to be recommended. A completely centralized system is practical only when incorporated in a new building. The packaged units are next best. They allow for some zone control and have one main advantage in that not all the units go out of order if there is trouble with any one of them. Air conditioning does require electricity, and it is estimated that it costs about $8 a day in the summer to keep the building cool. Patrons and staff alike agree that the comfort is worth the additional cost of electricity.
Communications and Sound Control. In 1958 a system of five DuKane master (sending and receiving) intercommunication sets was installed at various points in the building, especially in the book stacks, at a cost of $600, including installation of a master control panel. These sets are in addition to sixteen telephones (and four telephone jacks for movable phones). The intercoms have some advantages, e.g., they do not require a person to be physically at the unit to use it. On the other hand, the unit must be left on all the time with the result that the tubes will require replacement every two years. On the whole, a better system might be found in the various types of internal or house telephones.

A different type of communication system consists of six NuTone chime boxes installed on all main floor levels and controlled by the telephone switchboard operator to call a custodian, the Chief Librarian, and the staff artist. Each of these has his own code signal, and each is often likely to be away from a telephone. The chimes cost $70 including a built-in transformer, were installed in 1958, and have worked very well.

Sound control can be secured in various ways, as by a rubber pad under a typewriter. But perforated acoustic tile, costing about 16 cents for a 12-inch by 12-inch block, is remarkably effective, especially on the ceilings. A special mastic is used and can be easily applied by the building maintenance staff. It will not adhere if the humidity is high, and it will dry out if subject to unusual heat, as from a ceiling radiator. It has been used in this Library in the film projection room, two branch library auditoriums, and the Board of Trustees' room (to absorb the noise of the window air conditioner), and will be installed in most other rooms in time.

Furniture. Library furniture has been refinished and remodeled and new furniture made. Refinishing can be done by the building maintenance staff with an electric sander, but it takes skill and experience to do a good job, especially on a chair or other piece of furniture with many and rounded surfaces. Commercial refinishing is relatively inexpensive, about $30 for an average desk, $5 for an arm chair, and $10 for a large reading table. Many pieces of furniture were redone in a light blond finish. However, because the wood filler and stain soon wear off, the natural finish of the original wood is to be preferred. Some of the heavy rectangular reading room tables (3 feet by 8 feet) were refinished, and the wooden legs and aprons replaced by wrought iron or tapering brass legs. The result is attractive, but the wood table top is too heavy for even six such legs to hold without shaking.

Other furniture has been remodeled, such as using the apron and legs from a refinished table to make a frame for newspaper sticks, or combining two such reading tables with a double-faced two-shelf unit for periodical indexes. Formica is especially useful and easy to work with, especially for the top of a table or a counter. Some old shelves for bound newspapers were
assembled by means of electrical conduit and painted different colors, for the temporary and public storage of unbound out-of-town newspapers.

One of the greatest helps in the renovation of this building has been the ability of the Superintendent of Buildings and Grounds to build economically many different pieces of library furniture to meet specific needs. For example, he has made at least ten book trucks, two of metal and eight of wood, at an average cost for materials of $40, including caster wheels. He built a U-shaped work table for the preparations section of the Technical Services Department and a movable projection booth for film showings with acoustic tile lining the inside. Several different types of wood shelving have been built, including periodical racks in which the shelves are slanted at an angle to the back wall. Three units were made of counter-height tubs for phonograph records, and several A-frames.

Use of Waste Space. Surprising as it may appear, considerable space in this building has been recaptured from nonproductive use. For example, the exhaust fans on the top floor were removed after air conditioning was installed, and a room about 15 feet by 15 feet was made available for storage. On this same floor there was a room too large for any one use; a partition down the middle provided two rooms—one for the display artist and one for meetings of staff groups. On the other hand, two non-weight-bearing partitions were taken out of the Technical Services Department, providing more flexible use of a larger open space. On the second and third floors of the building there was a wide hall half the length of the building. A masonite wallboard partition on the third floor provided a normal width aisle as well as a room for library supplies and for distribution shelves for new books. The wide hall on the second floor has been equipped with shelving to become the Library's fiction room and has freed much needed space on the first floor for adult nonfiction books.

Removal of the ventilating system in the basement freed another 15-foot by 20-foot area which was given over to shelving for the Children's Room. To the rear of the Children's Room had been a collection of free-standing shelves with bound newspapers. Conversion to microfilming eliminated most of these, and the remainder were moved into the stacks. The area in question was relamped, floor tile laid, metal shelving installed along the walls, and the area converted into a Materials Center for teachers. Even in the core stacks extra space was utilized by the fastening of metal shelf uprights to the rear walls at right angles to the stack aisles for extra shelving.

Tools for the Job. Over the years a number of power tools have been purchased for the building maintenance staff, in addition to hand tools, ladders, the paint sprayer mentioned earlier, etc. Following is a list of the most nearly essential of these power tools, with their approximate 1961 price. Their total cost of $335 will be repaid many times over if the tools are placed
in the hands of the right workman.

1. Portable power saw with 6-inch blade ($35)
2. Belt sander, 4 inch ($45)
3. Bench saw with 10-inch blade ($100 with motor)
4. Power drill, heavy duty ($35)
5. Sabre saw ($60)
6. Planer, 4 inch ($30)
7. Band saw ($40)

Personnel. Important as power tools are, men who can handle them are more important. The total building maintenance staff of the Library consists of nine persons, three of whom work in the branches, and one is a matron at Central Library. Three of the other five do most of the craft work. None of these three has any special training, but all have had some experience, are interested in the work, and are able and willing to learn. The building maintenance staff is only one person larger now than it was ten years ago, and the hours of work have been reduced from forty-four to forty per week. Harder work, greater use of machines, and better planning account for part of the explanation that all the many jobs described above have been done in addition to regular duties. The point is that it can be done, and it is well worth trying to do it.

As has been mentioned from time to time, some of the work was done by outside contractors. This is especially true of new construction or installation or where city building permits or inspections were involved. The Library's own employees have tended to do the repair or maintenance work such as painting.

Finally it should be recognized that the renovation of a library building never ceases. There is always more that needs to be done, more that could be done, and more than can be done with present resources. In part this is true because the standard of what is desired and what is acceptable in a library building is always being raised—in the minds of library staff members and of patrons. The goal should be to make the library building as attractive physically as the smartest shop in town.

**FOOTNOTES**

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