Economical design and smooth functioning of libraries require detailed preplanning before the architect begins to draw. This preplanning and coordination can be facilitated by an interior designer deft in communication skills and willing to become acquainted with library functions. Flow charts, spatial analysis, and layouts are useful tools to ensure that architectural designs reflect the needs of their eventual users. This monograph discusses preplanning and design of libraries, appropriateness of library environment, and possible ways to reorganize the structure of community libraries. (EMH)
The smooth functioning of a library building and its economical design requires detailed pre-planning before the architect commences producing schematic drawings. Yet in actual practice all too little thought is devoted to Interior Design at the early stages of a project.

Few project teams include an interior designer as distinct from an architect, library consultant or interior decorator and each of these disciplines jealously guards their prerogatives and often preempts interior design processes. What are some Interior Design processes?

Does this person plan the flow of function within the library?
Prepare a furniture layout?
Select furniture styles and wall colors?
A good interior designer will perform all of these functions.

If the form of the building is to reflect functions, then the interior designer must be part of the planning team from the outset of the project and must have the opportunity to communicate with library staff, building committee, architect and library consultant.

Selecting a designer therefore must be done at the outset of the project and the designer must:
1) Know how libraries work
2) Be able to listen and learn from other members of the team
3) Be able to communicate with them credibly.

Selection and communication problems are:
1) If the designer is on the staff of the architect, credibility may be high, but library knowledge and ability to communicate with the staff may be a problem.
2) An architectural firm in which the senior partner is primarily an interior designer who custom designs all furnishings and equipment with meticulous care may know nothing about libraries and be unwilling to be instructed by the library consultant or staff because of his weight of experience in the design area.
3) An architectural firm with experience in integrated commercial design of such functions as gas stations may overwhelm specific individual library functions with a single theme concept.
4) An architectural firm with major library specialization may provide such structured communication that there is no room left for community or staff influence on design.
5) Great architects often consider that the integrated nature of building design requires a single intelligence in the interior and exterior concepts.
6) An interior designer with extensive library experience and high credibility may dominate the planning process to the detriment of design and style.
How to avoid these pitfalls?
Try to select a designer with communication capabilities. Require that designers on the architect's staff or recommended by the consultant be interviewed by the building committee and not automatically become team members.

If the architect or consultant acts as the interior designer, make certain that the following interior design functions are specifically required in their contracts:

1. The library consultant should be required to supply a flow chart or sequential listing of functional spaces.
2. For each functional space the library consultant should list built-in and movable furniture, the quantity and type of functions to be performed in the space. Proximity of other functions, staff and public occupancy, area required, desired proportions.
3. The architect should be required to prepare a furniture layout conforming to the above requirements during the earliest schematic phase of work.
4. The architect should be required to prepare complete specifications for furnishings, colors, lighting and graphics in a system integrated with the functioning of the library.

Ideally the library consultant will work with the staff to prepare a program describing functions and quantities and then this program will be used by the interior designer to create a flow chart and functional description to be used by the architect as the basis of floor plans, and furniture specifications.

A blend of style and function satisfying to most library users is thought to be assured in our modern society by a citizen building committee representing library users and commissioning experts to provide them with solutions. It is doubtful that this is a workable solution but there is no doubt that it is a better solution than any of the other alternatives that have been tried.

What are the communication processes that will provide the best building? How can librarians understand and become part of this process? By learning enough about library building planning to ask the right questions. Examples:

1. If the library is to be a place for individuals to learn, why are not self-service graphics the initial stage of the planning process instead of an afterthought?
2. If the individual is to be best served, why are the lighting and mechanical systems designed for mass use?
3. How can public use of audio-visual machines be accommodated with maximum access and minimum breakdowns?

A communication process that assures communication among designers, staff, and library users, requires that there be stopping places or phases in which the planners communicate with the users. We are all
familiar with typical architectural phases:

1. Schematic plans - scaled or diagrammatic representations of functional areas with or without a furniture layout.
2. Preliminary drawings - scaled plans and elevations showing an actual building on an actual site.
3. Working drawings - complete plans and specifications including electrical, heating, ventilating and air conditioning plans as well as all other detailed drawings necessary to construct the building.

The interior designer should test the library consultant's program against the architect's schematics carefully and thoroughly in the presence of the staff before the architect is authorized to proceed to Preliminary Drawings. This meeting should be required by contract. Most architects will welcome input at this stage of the project. Later, change requires more re-drawing and if changes are made after working drawings are bid by contractors, costs will soar.

How then can this important post-schematic meeting best be structured for good communication?

1. Architectural models in three-dimensions showing both interior and exterior design can be very helpful to staff unfamiliar with two-dimensional plans.
2. Floor plan model kits available on a loan basis from State Library agencies can be very helpful to the interior designer and the library staff in conceptualizing alternatives.
3. A requirement for unusually detailed specifications at schematic phase can be useful. All too often staff suggestions at this time about lighting, graphics and furnishings are answered by architects with the phrase, "We'll get to that later." When 'later' arrives the shape of the spaces or the complexities of the HVAC systems prevent changes.
4. ALTERNATIVES - are the only real method of communication. An institution that has lived in an old building for 20-50 years is going to be so delighted at the prospect of physical improvement that any schematic is going to look better than what they have. The interior designer may be the team member most conscious of the variety of solutions available.

TWO MAJOR ALTERNATIVES

1. A smooth built-in flexible building with mechanical systems carefully planned for any possible change. If this alternative is presented be certain that sufficient detail is shown to understand just exactly how these changes may be effected.

Usually this solution is presented for so-called
multi-purpose rooms. In actual use these rooms then present a bland non-solution to any real use. The sound is too dead for music or too live for films; lighting is too bright and glaring for reading, too non-directional for display. HVAC is unworkable as soon as the room is sub-divided. This alternative is often recommended by architects in the so-called International School that dominated architecture in the 1940-1960 period. Mies van der Rohe's principle that "Less is more" is part of their creed and their buildings often appear clean and functional with plenty of glass and large flat expanses of hard surfaces. Here are some slides of such a library.

2. The New Brutalism - In this alternative each functional area is expressed in the internal and external design of the building - lighting and mechanical systems are design elements emphasized by bright colors and large shapes all visible to the user. Each function is differentiated from others by color, size, shape and furnishings. In a super-organic building such a library where change is an hourly occurrence this kind of fixed design may be dubious, and staff and interior designer should prepare change scenarios to test the building's flexibility. Here are some slides of this kind of library.

THE FLEXIBILITY FALLACY

Almost every library program ever written includes somewhere an exhortation to the architect to provide a flexible building. This phrase should be rejected by designers on the grounds that it is a monstrous cop-out. If we accept the fact that integrity of design requires careful coordination of furnishings, lighting, graphics, size, shape, functional relationships and mechanical systems, then an objective of flexibility may delude us into a failure to deal with each of these requirements as rigorously as we should.

CONTROL

In a free society this concept often seems to strike architects as an effort to set up some kind of CIA-style surveillance effort that would be anathema to the kind of open communication that a library philosophy represents. Yet we all know that libraries that are vandalized because of poor control planning will
adopt ad hoc restrictive systems even more inimical to an open receptive atmosphere. We are approaching perhaps what Norman O. Brown characterizes as "an environment that works so well that we can run wild in it." I have recently heard of an inventory control system linked to a theft-detection system and automatic door so that a library user will not be able to leave a building until the book has been properly checked out. This probably comes under the broad heading of ALA mythology. At each ALA conference I have attended I learned about some magnificent new system that inevitably is never actually attainable, but it certainly is fun to hear about, and the fact that there are circulation control systems currently on the market that would at least fit Arthur C. Clarke's definition of "every smoothly running technology should have the appearance of magic."

Here are some elements of control planning:

1) Book stacks must be planned for easy staff visibility down the aisles.
2) Staff stations must be centrally located.
3) Most machines must be under direct staff supervision.
4) Control can be tested in interior design by a flow chart method in which various library uses are followed from entry to exit.
5) Book borrowing is not the major library use, so that reference functions must be more easily accessible to more people.
6) Staff restrictions will increasingly require remote control of areas by a surveillance device.

INFORMATION DESIGN PARADOX

Paradoxes are an important communication technique. If a member of the planning team at the schematic conference can identify planning paradoxes, the building will be more useful. For example, libraries realizing the growing importance of information services want this service to be visible upon entrance into the building, yet each client's requirements are unique and the type of use requires long-term quiet, undisturbed. How do you design an easily accessible mass use that is somehow quiet and individualized? It is obviously impossible - but worth thinking about - an approach can be made by careful super-acoustical treatment - homosote under carpet underlayment, acoustical tile not only on the ceiling but in the light fixtures. Supergraphics can impart accessibility while retaining distance. A large island design can concentrate staff while separating patrons. Centrex telephone systems can assure privacy and instant accessibility.

COMMUNITY INFORMATION CENTERS

Library Journal's series on Information and Referral Services and the worldwide interest in citizen information has made us all conscious
of the need to tailor information for the individual in the community. For years smaller libraries have set up community resource files for identifying individuals in the community with unique capabilities. Consumer Reports' recent article on operating a community medical file is part of this trend. Library Interior Design should provide for this facility in two important ways:

1) Community bulletin board should be immense 20-40 feet long - well lit and visible from the library entrance with daily revision and near the community information center.

2) The library should operate a community information exchange in the form of a coffee bar/news stand with opportunity for easy conversation. This should be designed with outdoor access in good weather. An indoor-outdoor sidewalk cafe would be ideal.

SLIDES Here are some small libraries designed as Information Centers.

What I have described for you is a planning process, and an information design scheme that will eventually exist only if we insist upon it.
NOLAN LUSHINGTON

Library Programming and interior design have for the most part been based on traditional library standards. Library consultants have turned to their distinguished colleagues for experiential standards to determine empirical relationships among population, books, seating and the space required for these functions. Although community analysis often results in detailed profiles of a community on which to base library planning. The actual buildings resulting from these analyses do not seem to reflect many of the community differences stated in the community analysis.

The buildings still seem to be based on a professional library agenda that emphasizes material input and not library use. A recent publication based on a US office of Education grant offers some promise of a new approach to the interior design process. It is titled, CRC Performance Guidelines for planning Community Resource Centers.

Three organizations are responsible - The American Institute of Architects Research Corporation, Researchitects Inc, and Educational Facilities Laboratories.

The book is based solidly on use and performance rather than on the housing of materials. It is broken into 10 categories of users -
1. Pre-school learners
2. School learners
3. Adult learners
4. Public Attractions
5. Sociocultural Activities
6. Lending services
7. Information and Referral
8. Group interaction
9. Leisure browsing

In each case there are three design steps
1. A user diagram similar to a sequential flow chart
2. A space diagram similar to a non-scaled general schematic sketch of user apaces.
3. Performance Guidelines - A remarkable scheme for breaking down a building into user components,

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<th>Activity Options</th>
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<td>Group</td>
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In this way the selection of materials and design relationships are derivcd from user performance needs.

In addition there are built in concerns with community input for deciding design options and a careful detailed concern for such human needs as eating, hanging up clothes and graphic communications that are so often left till the end of a project.
Chicago is a remarkable city architecturally. Soon we will be touring the Merchandise Mart - an incredibly monolithic structure that was a legend when it was built in the 1930's.

Down the street from this hotel we can all enjoy the fanciful Art Nouveau decorations on the Carson, Pirie, Scott building designed by the great Louis Sullivan in the 1890's.

But down at the University of Chicago - Bruno Bettelheim in the 1940's created the Orthogenic School - certainly a landmark in the creation of homes for the mentally disturbed child, but more importantly, for librarians, the basis of a magnificent book on INTERIOR DESIGN


The book tells us not only about the effects of interior design on behaviour but also the process of interior design in an ever-changing organic building.

Bettelheim says,
"What matters is the intention with which something is done; the serious thought which goes into the selection; the wish to please; and arranging things to make a strong positive appeal while transmitting pertinent meaning." P. 119

"We planned to avoid uniformity; our intent was to increase the patients' feeling of being accepted; to add to the impression that here is a place of hope and of ample satisfaction through a variety of paths...

Therefore the design accumulated over the years, and both patients and staff had a hand in it. Someone would see something which he thought we should have. We would then discuss whether we really wanted it, what it might mean, and where we could put it... more often by chance we would spy something that would make the School more attractive. We would get it and find a place to put it, not worrying about how it would add up or fit in." 109

Bettelheim writes about studies on the effect of spacing on birds and tigers - their attitudes towards other animals and human beings - affected by space. He shows how much improved children were in their attitudes towards their possessions when their beds included drawers underneath so they could actually sleep on top of the things they cared about. The books is filled with concepts of the meaning of interior design alternatives. We hear previews of his latest book - The Uses of Enchantment in his interest in the need for art in buildings.
"Beauty which is for one's own personal use is its own protection" - an echo of another recent and remarkable book on the human effects of design -
STY LE - On Michigan Avenue a few blocks south of the Conrad Hilton Hotel is the headquarters of the Johnson Publishing Company, publishers of Ebony magazine. There can be little doubt that this building is a landmark in high-style interior design. Strong, bold colors, super-graphic walls, intricate carved furniture, and widely differentiated styles on each floor of the building provide an almost complete catalog of the possibilities of modern design with modern materials. Each floor immediately establishes a completely integrated design pattern of its own that follows through with colors, carpeting materials, drapes and furnishings many of them designed specifically for this building.

Since the Bauhaus Movement of the 1920's and the remarkable achievements of the group of architects including Walter Gropius, Mies van der Rohe, Marcel Breuer and others influenced by this school, many facets of our style have become parodies of their principles. A recent book by Peter Gay, Art and Act, Harper & Row, 1976, shows that Gropius unlike many of his imitators and students realized that "The aesthetic, though inseparable from the useful, could not properly be reduced to it." Gropius wrote in The New Architecture and the Bauhaus, "The liberation of architecture from a welter of ornament, the emphasis on its practical functions, and the concentration on concise and economical solutions, represent the purely material side of that formalizing process on which the practical value of the New Architecture depends. The other, the aesthetic satisfaction of the human soul is just as important as the material. Both find their counterpart in that unity which is life itself. What is far more important than this structural economy and its functional emphasis is the intellectual achievement which has made possible a new spatial vision."

Nevertheless this movement has supported a style in which buildings treated as sculpture have been denied the humanity of rich color and texture that Bettelheim has shown is so important for human needs. It is not surprising that one of Gropius' followers is said to have commented, "I think we should treat our clients as children" and to have followed up that remark by designing for him a house totally devoid of anything representative of the client's personality.

The current strictures of our economy may in one sense be our salvation because we are forced to consider carefully the values in existing buildings and in doing so we may be able to discover the joy of curves and curls and the satisfying discipline of masonry walls.
1. The entry and browsing environment - What is the library users initial experience of the library. Most library users come to the library by automobile, yet most buildings are not oriented to parking lot entrance. It will often be necessary for the user to walk from the parking space all the way around the building in order to enter. This walk may present a large blank monolith without doors and windows. Architects hate to permit cars to be anywhere near their buildings. In one case a recent village library created an artificial hill 30 feet high so that the town library would be raised above the sea of cars in a typical shopping center lot. Those few users hearty enough to enjoy the climb to the entrance were then greeted with beautifully designed all-glass doors decorated with golden Helvetica style lettering announcing the name of the library. Those still fewer library patrons who were heavy and strong enough to manage to open one of these heavy beautiful doors were then led into a carefully designed browsing area of beautiful magazines on sloping shelves. In the center was a glassed-in courtyard, and distributed around the courtyard intimate mini-libraries on a variety of subjects. The librarian stationed in one corner of the building could not see or be seen by patrons entering the building and there were no graphics or easily visible catalog to guide patrons through this small and unnecessarily complex small library.

The entry and browsing experience should be simple, easy and explanatory. Doors should be wide, made of clear glass and easy to open. The variety of library activities and guides to these activities should all be visible at the entry. This means that each activity should be characterized in a different way - Color signs or furnishings. Large lighted signs, contrasts in lighting levels, type of furniture arrangements - informal, structured contrasts. All these concepts can be helpful in orienting the users. Perhaps one of the most neglected design concepts is intercommunication among library users. If one user sees another engaged in the same activity - this is the best kind of sign. The mix of materials, users and furnishings that make up the browsing section should be informal and permit easy movement of furnishings by the reader and easy access to materials - sloping display shelves with directional lighting, chairs that glide on carpeting, light, movable tables, community bulletin board information, perhaps even a coffee/snack bar can provide a busy, casual ambience.
Interplay between staff and public characterizes this environment as well as the need for extended quiet study. The proliferation of technical aids to reference work requires a staff desk that has a huge amount of counter space with extensive wiring capabilities. The recent combination of a wide variety of computer based information services in a single telephone terminal system and the availability of mini-computer based circulation and booking systems will require a large number of electrical circuits and probably a separate circuit breaker panel for this desk. The need for staff-assisted terminal operation will require a two-sided desk knee-hole so that patrons can sit comfortably for long periods of time. Turntables for microfilm and fiche readers will permit staff to load machines for patrons.

Quiet study for long periods means at best individual study rooms, or at least carrels. Carrel sides are often neglected in selecting a unit, yet the side of the carrel is often more important than the back in providing a sense of privacy. Controlling patron use of carrels and protecting furnishings and materials from vandalism in carrels can be a problem and careful thought should be given to making the carrel sides low to improve supervision as well as to improve the open appearance of the space. The sea of spindly legs that a reference area often presents with chairs, tables, catalog bases, etc. can be remedied by the use of wall-hung cantilevers for counters and structural supports for catalogs. An index table consisting of 42" high shelving topped by a divided plastic top with overhangs and fluorescent lighting can be more economical as well as more dramatic than a huge table.

Lighting in this area should be exceedingly directional to prevent veiled reflectance and glare caused by plastic lensed fluorescent fixtures. Individual lighting for study areas may be more economical as well as more pleasing to the individual. Low-wattage high-intensity lamps with rheostats provide exact lighting level adjustment at minimal cost.

Graphics in this area can be very helpful to readers but present many design problems. If the graphics are high on the walls they may be masked out by bright lighting fixtures, if they are on furniture they cannot be seen when a patron is standing in front of them. Many designers object to signs hanging from wires but these are the easiest solution if they are hung in coordination with a lighting plan. This coordination of graphics with lighting exemplifies the necessity to begin graphics planning at an early stage in the planning sequence.
The CRC design book I mentioned earlier includes a remarkable breakdown of children's areas into learning areas that involve the child not only in craft and hobby activities, but in physical play environments both indoors and out. They even recognize the necessity for children to eat if they are going to spend some time in these areas. Experiments in Middletown, Ct. and elsewhere have shown that libraries can become part of a communities day care complex, with attention being given pre-school children on a sequential basis, learning machines of many kinds afford a response environment that is very appealing to most children.

Conventional library borrowing activities should still be carried on in spaces that will familiarize a child with the very satisfying catalog/bookstack experience of the library, but the juxtaposing of picture books in browser boxes with covers showing, with filmstrips and films of the same kind of story will reach a wider range of children than the conventional shelf storage of these materials.

Care of machine equipment presents severe problems. Instruction by user graphic diagrams, and brief orientation sessions with opportunity for supervised experience and children teaching children, can help. Probably a fully-supervised counter environment will preserve equipment best but another solution is the localizing of breakdowns and the supervision of breakdown equipment with the availability of many replacements. For example - sound amplifiers rarely breakdown with solid-state equipment, but headsets are a continual problem, so these can be issued at the desk and the amplifiers located in the room. Cassette players are both cheaper and less prone to damage than record players. So they can be checked out and discarded when broken.

Play/learning opportunities for children require special spaces - designed for hard use and soft landings. Solid wood toys, foam cubes, vinyl covered bean bags or shapes especially those that can be stacked or fitted together are ideal for these areas. Sound problems can be minimized by homostate underlayment under carpetings, acoustic ceilings and sound absorbent walls.
This orderly, formal area should be the easiest to design but reader convenience requires some careful planning. Recent emphasis on designing for the physically handicapped has caused some designers to consider incredibly wide aisles for stack areas. Interest in increasing book capacity has resulted in Farzier Poole's complex compact stack design project for the Library of Congress that we heard about at the San Francisco ALA pre-conference last year. In Long Island Harold Rothman was designing a large reference library with books available in compact storage available by a computerized delivery system. At least one medium-sized public library operates a compact computerized bookstack for all its circulating materials with a large reference/reading room containing all reference and browsing materials for pre-selection.

The first contact between book and patron is important and should not be conducted in a tunnel environment with lighting sufficient to read a subway sign. Stack lighting can be economical watt-miser florescent tubes with directional louvers to prevent glare but hung directly from the stack frames so that the reflectors and louvers can cast the light precisely on the books and not in the patron's eyes. Although natural light is very tempting in these energy conservation times, the problems of heat, and weather sealing are still constraints requiring careful design. Skylights must provide some means of allowing hot air to escape and preventing heated air from escaping in the winter. Clerestory windows are very appealing providing views of blue skies and trees while protecting from direct sunlight and rain. However, a clerestory can be very glary and a continuous clerestory wall will make the materials on that wall seem very pale in comparison.

Guides to the bookstack area - catalogs, bibliographies and signs should be closely situated to the stacks, and will require extremely bright lights protected from glare by louvers, and directed precisely at the catalogs or books. There is a close relationship among card and book catalogs that can be symbolized to the public by locating them in similar equipment. A long catalog permits many people to use the drawers at one time and at the same time provides storage on top for many useful bibliographies.

There must be a close relationship between this area and the Reference/Reading environment.
Ad hoc means “for this” specific need or purpose.

A need is common to all living things; only men have higher purposes. But these needs and purposes are normally frustrated by the great time and energy expended in their realization.

A purpose immediately fulfilled is the ideal of adhocism; it cuts through the usual delays caused by specialization, bureaucracy and hierarchical organization.

Today we are immersed in forces and ideas that hinder the fulfillment of human purposes; large corporations standardize and limit our choice; philosophies of behaviorism condition people to deny their potential freedom; “modern architecture” becomes the convention for “good taste” and an excuse to deny the plurality of actual needs.

But a new mode of direct action is emerging, the rebirth of a democratic mode and style, where everyone can create his personal environment out of impersonal subsystems, whether they are new or old, modern or antique. By realizing his immediate needs, by combining ad hoc parts, the individual creates, sustains and transcends himself. Shaping the local environment towards desired ends is a key to mental health; the present environment, blank and unresponsive, is a key to idiocy and brainwashing.