AN ADDITION TO A LANDMARK AT VASSAR, BY SHEPLEY BULFINCH RICHARDSON AND ABBOTT

AN UNUSUAL YOUTH CENTER FOR MIAMI BEACH, BY FERENDINO/GRAFTON/SPILLIS/CANDELA

AUDIO-VISUAL CENTER FOR THE UNIVERSITY OF CALIFORNIA, BY MARQUIS & STOLLER

TWO LEARNING PLACES IN CHICAGO, BY METZ TRAIN OLSON & YOUNGREN

BUILDING TYPES STUDY: RELIGIOUS BUILDINGS

FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD

JULY 1977 7 A McGRAW-HILL PUBLICATION FIVE DOLLARS PER COPY

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Letters to the editor

The Building Types Study looking back forty years (April 1977) was an excellent issue. I am sure many architects will keep this in their library.

It is good to get news about the Society of American Registered Architects, too.

RECORD is still the best.

Eugene Padanyi-Gulyas, F.ARA
Billings, Montana

While I enjoy every issue of RECORD, the May issue deserves a special commendation. Everything in the book, from cover to cover was informative, educational, interesting, exciting and really stimulating.

Martin A. Brower
Director of Public Relations
The Irvine Company
Newport Beach, California

I was delighted to learn that the May 1976 issue of RECORD on human settlements received the 1977 National Magazine Award and I would like to congratulate you and the staff on this well deserved recognition.

From the time this issue was published, I have always felt that this was one of the most significant contributions the architectural press has made toward the advancement of "social architecture." The magnificent job done by the editors as well as the graphic designer has received praise from everyone who has seen the issue. I am happy to see that it has also been recognized by a distinguished group of their peers.

Again, my congratulations and best wishes.

Michael Y. Seelig
The University of British Columbia
Vancouver, B.C., Canada

My husband would have been horrified to see his Bauhaus building, shown in its new splendor in your June issue, depicted as a symbol of the "International Style"!

All his time in the U.S.A. he fought against this silly title, which was invented by [Philip] Johnson and [Henry-Russell] Hitchcock and which is a totally misunderstood term that they took from a book my husband had just published at the Bauhaus under the title *Internationale Architektur*—something quite different from International *Style*.

Their book is the root cause of all the misunderstanding in this country about the motives of early modern architects like Le Corbusier, Mies van der Rohe, Gropius and others, none of whom ever used the term International Style in Europe because that is not what they wanted to create. As soon as their architecture became known as a "style," all the shallow imitations now dulling our architectural landscape began to appear.

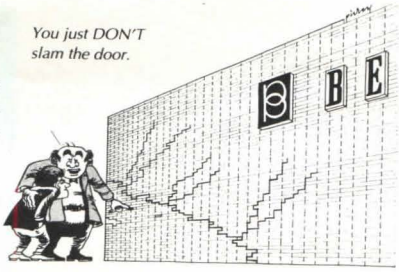
To see this name affixed again to his favorite building, after his talking and lecturing and writing against it a full lifetime, would really disappoint him.

Ise Gropius
Lincoln, Massachusetts

RECORD extends its apologies to Mrs. Gropius, and to Dr. Gropius, for its ineptness in using the loose term "International Style" in its report on the Bauhaus workshop building restoration in Dessau, East Germany (June 1977, page 35). The editors cannot believe, however, that any of its architect readers would imagine that Walter Gropius and the Bauhaus stand for anything as limited as a mere style of architecture or that they would interpret the phrase as anything more than a shorthand expression for a larger entity. And indeed we did pair the term with the more encompassing "modern architecture" to make clear, we hoped, the wider range of Bauhaus influence.

Your article on the BEST structures, as designed by Site, Inc. (March 1977) has prompted my response. I regret that Alan Dunn is no longer with us to administer a proper "coup de grace."

Alex Pierce, Architect
Portland, Oregon



You just DON'T slam the door.

Your editorial in the February issue, "Maybe this year we can get back to talking about design quality?", correctly states the problem ". . . put more emphasis on what architects do best—which is design."

The suggested solution, however, asks architects to, again, go off into areas in which they are unqualified; public relations and marketing.

In an age of highly sophisticated marketing techniques, architects still insist on peddling their services from door to door. Indeed, the real problem is that architects are running the AIA!

V. J. Colangelo, AIA
Stamford, Connecticut

Calendar

JULY

22-25 The American Society of Interior Designers National Conference and International Exposition of Designer Sources, "Horizons '77," Hyatt Regency and Sheraton Houston hotels, Houston, Texas. Contact: ASID, 730 Fifth Ave., New York, N.Y. 10019.

AUGUST

1-5 Seminar, "Energy Conservation in Buildings," sponsored by Energy Educational Services of Connecticut; at the Holiday Inn, East Hartford, Conn. Contact: Dr. K. Raman, 28-A Ambassador Dr., Manchester, Conn. 06040.

15-19 Joint U.S.-Mideast Business Conference, sponsored by the Joint Mideast-American Business Company; St. Francis Hotel, San Francisco, Calif. Contact: John J. Fogarty, Director of Marketing, Joint Mideast-American Business Co., 420 Lexington Ave., Ste. 646, N.Y. 10017.

15-26 "The Scientific and Mathematical Foundations of Engineering Acoustics," summer program sponsored by the Massachusetts Institute of Technology (MIT). Contact: Richard H. Lyon, Massachusetts Institute of Technology, Rm. 3-366, Dept. of Mechanical Engineering, Cambridge, Mass. 02139.

19-21 First Annual National Solar Energy Convention and Exposition, "Solarcon," sponsored by Solarcon; Civic Center/Brooks Hall, San Francisco, Calif. Contact: Solarcon, P.O. Box 27231, San Francisco, Calif. 94127.

29-31 "Solar Heating and Cooling: Practical Design and Economics," sponsored by the Center for Management and Technical Programs, University of Colorado, Division of Continuing Education. Contact: The Center for Management and Technical Programs, P.O. Box 3253, Boulder, Colo. 80307.

30-31 The 1977 Annual IES Technical Conference and International Lighting Exposition, Waldorf-Astoria Hotel, New York City. Contact: Linda Madden, The Illuminating Engineering Society of North America, 212/644-7920.

SEPTEMBER

21-23 Symposium on Roofing Technology, sponsored by the National Bureau of Standards and the National Roofing Contractors Association; National Bureau of Standards, Gaithersburg, Md. Contact: Robert G. Mathey, B348, Building Research, National Bureau of Standards, Washington, D.C. 20234.

26-28 ERDA Concentrating Collector Conference, sponsored by the ERDA Division of Solar Energy; Georgia Institute of Technology, Atlanta, Ga. 30332. Contact: Dr. J. R. Williams.

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER)

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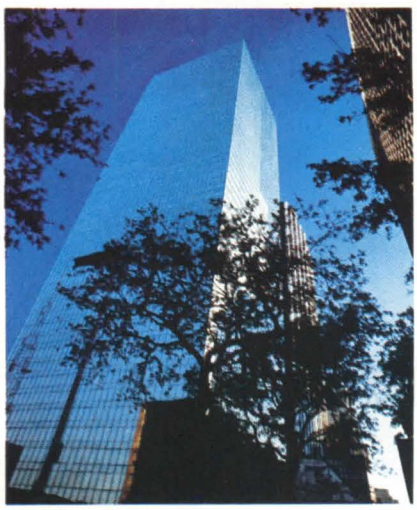

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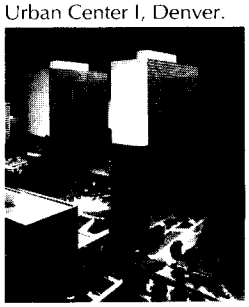

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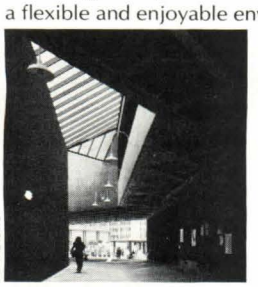
"Main," designed by James Renwick in the Second Empire style completed and in 1865, has recently received an addition by Jean Paul Carlhian of Shepley Bulfinch Richardson and Abbott. The new structure shares the basic rules of axial composition that controlled Renwick's design.

79 A different kind of youth center: Ferendino/Grafton/Spillis/Candela's design for one in Miami Beach

In a city that would not seem to be in need of public supported social programs, a real need is fulfilled by these facilities for an unusually wide range of activities.

85 Clark Kerr Learning Resources Hall Santa Barbara, California

On the Santa Barbara campus of the University of California, this communications center represents a new concept in sharing and spreading information throughout the campus system. Designed as a prototype, it accommodates the technological aspects while providing a flexible and enjoyable environment.



Ezra Stoller © ESTO

89 Two learning places by Metz Train Olson & Youngren

The Academic Facility for Rush University is a cool-hand, collegiate composition, into an existing network of streets and buildings—evaluated here by critic Nory Miller; while on the South Side, several of the University of Chicago's quadrangle structures have been adapted for new uses, putting a glow on some good old Gothic detailing.

97 Loft living: big spaces, fresh images

New York City architect Alan Buchsbaum remodels an old factory space for use as a residence and office.

BUILDING TYPES STUDY 504

101 Religious buildings

Religious buildings offer to the architect some of the most challenging design problems he or she ever encounters, and the rewards in the endeavor are almost certainly as great as the perils. The buildings shown in this Study form a collection, albeit a selective one, that is a good representation of the state of the art today.

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104 Memorial United Methodist Church Avon, Connecticut
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106 St. Barnabas Episcopal Church Marshallton, Delaware
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110 Leamington Road Baptist Church Preston, England
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119 Inventor develops a unique open-web joist that uses its lower chord not only to support load, but also to serve as a fire sprinkler line.

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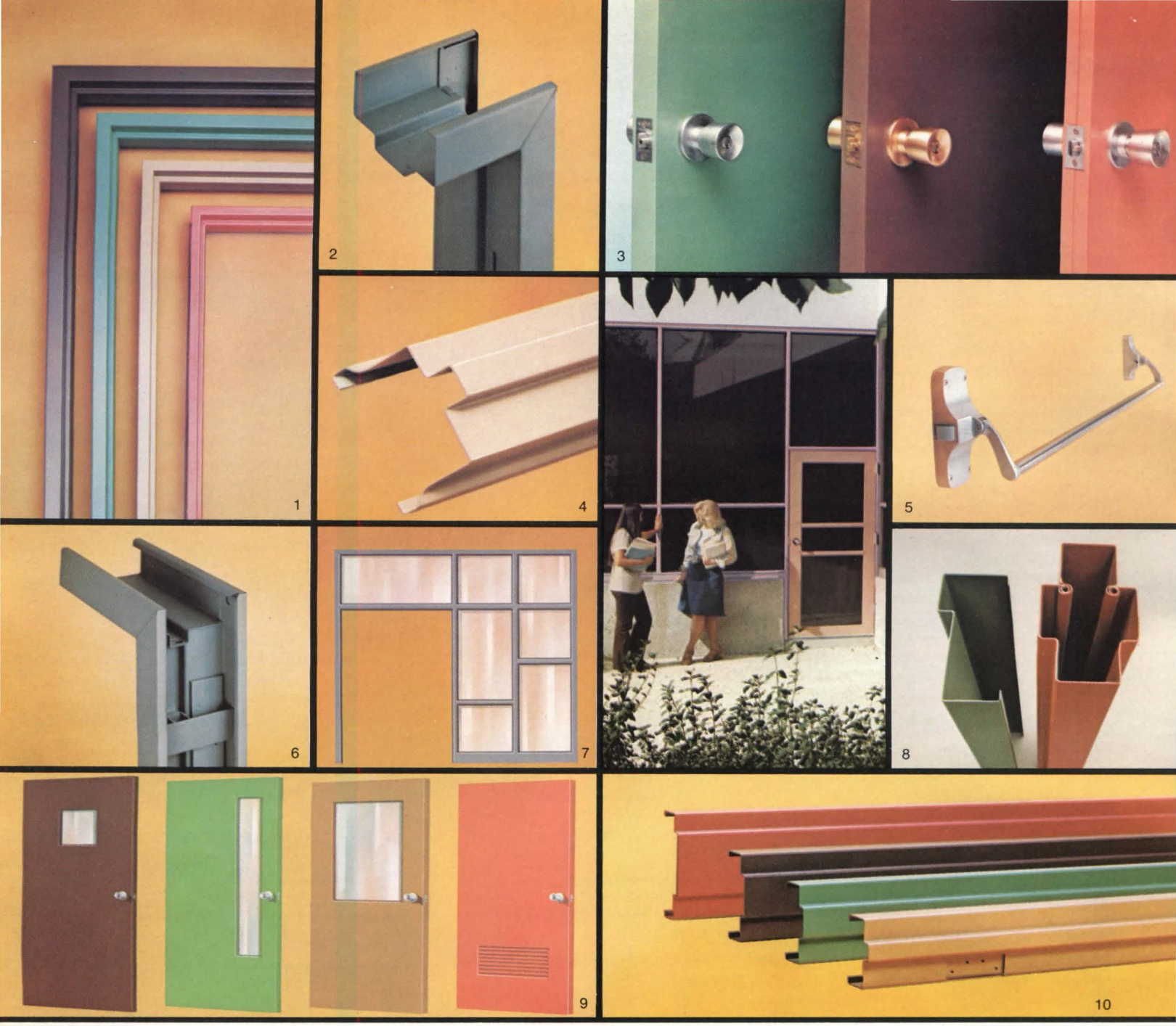
NEXT MONTH IN RECORD

Building Types Study: Health maintenance facilities

Staying well, or getting well, preoccupies American society. So does paying for it. And designing places where such concerns can be cared for—from the neighborhood clinic, to the hospital, to the regional health sciences center —is demanding more and more of the architect's competence, commonsense, and humanistic perception. This article will deal with several recent hospitals that facilitate, more than the efficient delivery of services, a congenial, consolidating sense of well-being within their social and physical setting.



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Some random thoughts on the San Diego convention

▪ The issue of whether, under the Code of Ethics, AIA members shall be allowed to engage in contracting (in effect, become design-build firms guaranteeing a fixed price) has been voted on—but is clearly far from settled. For one thing, the vote (see News, page 26) was much too close for anyone to think of it as a mandate, or "the voice of the profession." For another thing, a Pittsburgh chapter resolution, noting the closeness of the vote and requiring that the AIA Board continue to study the ban on contracting, passed overwhelmingly. But the fundamental point is that a lot of thoughtful and honorable men—having participated in the debate—continue to believe in the desirability of changing that point of the Ethical Code. The group which favors the change to permit contracting is far broader than the group with "business appetites"—those who see increased profit in becoming design-builders. It also includes many who have no personal interest in contracting, but who feel that contracting is a legitimate area of professionalism; or who think that the distinction between building for a client and building for one's own account as owner (which *is* allowed under the Code) is a narrow and fuzzy distinction; or who argue that "if the client wants a design-build deal, who are we to say they can't have it"; or who believe that architects do and can handle conflict of interest situations in an ethical way; or who ask why the AIA should tell architects *what* kind of practice they should have—arguing that describing *how* they should practice is enough—in short, that tough and carefully enforced ethical standards would and should eliminate the need for rules of conduct.

Myself, I think there are good answers to all those questions and that the majority vote was the right one. But, because there are a lot of good men—whose arguments are far above entrepreneurial or simple profit motive—who do not agree, the debate will go on. And that is as it should be.

▪ Beyond the question discussed above, the revised Code of Ethics seems an improvement, if only in language and clarity. It is, as the Board said in its report, "a general reaffirmation of the Institute's Standards in effect since 1909." The new format, as the Preamble says, clearly separates and defines "three kinds of statements: canons, ethical standards, and rules of conduct. The canons are broad principles of conduct. The ethical standards, more specific, are goals toward which members should aspire and guidelines for professional performance and behavior. The rules of conduct are mandatory, and their violation is subject to disciplinary action by The Institute." The Code is a powerful and professional document—and this time of debate and revision might be a good time for every architect to re-read and ponder them.

▪ Besides the Ethical Task Force, two other AIA Board groups had labored through the year on related and important issues: dues and membership. The new dues structure passed after only minor debate—and like the new Code of Ethics has the great advantage of greater clarity. Key points: dues for members are $100, for associate members, $30. Supplemental dues will be based on the total number of registered architects—employers and employees alike—in the firm as of January 2nd; at the rate of $155 each *minus* a credit of $85 for each such registered architect who is a member of the national AIA.

▪ Similarly, the new membership structure seems simpler and clearer. But some fundamental decisions were made by the voting: Under the new rules, associate membership will be open only to "those without architectural licenses who are employed under the supervision of a licensed architect in a professional or technical capacity directly related to the practice of architecture," or who are otherwise on the NCARB track towards licensing. The Board proposal that any graduate of a school of architecture be eligible for associate membership was voted down. Individual chapters may continue to establish professional affiliate (non-architect) or student affiliate categories.

▪ What happened at the convention, in these critical areas, does seem a reaffirmation of traditional attitudes within and on behalf of the profession. There are those who have and will describe this as protectionist "circling of the wagons." For what one editor's point of view is worth, I don't see it that way at all. I think just the right things are happening: New (and to some, controversial) ideas are coming forward; they are being beautifully debated; and rational decisions are being made on a majority-vote basis. And that is as good a way to run a profession as it is to run a nation.

—*Walter F. Wagner Jr.*

ABX
Ralph Wi

NEWS REPORTS
HUMAN SETTLEMENTS
BUILDINGS IN THE NEWS
REQUIRED READING

Ehrman B. Mitchell, Jr., FAIA, was elected first vice president and president-elect of the AIA at the Institute's convention last month. A partner in the firm Mitchell/Giurgola, Architects, of Philadelphia and New York, he will succeed Elmer E. Botsai, FAIA, as president in December 1978. Details on page 27.

In a surprise move, William E. Slayton, Hon. AIA, has resigned as AIA's executive vice president. He had held the post since December 1969. Details on page 26.

The AIA in convention rejected ethical code changes that would allow architects to accept prime contracts. Arguments on both sides of the question were eloquent, and the vote was narrow: 995-864. Details on page 26.

A record $12,078,853,000 in April contracts reflected double-digit gains in all three construction categories over the preceding April, according to the McGraw-Hill Information Systems Company. Nonresidential contracts, up 14 per cent (chiefly in commercial and industrial building), "are finally showing that there's more to the construction business than the two extremes of one-family housing and nuclear power plants," commented George A. Christie, chief economist for F.W. Dodge. Residential contracts, up 31 per cent over last year, showed apartment building taking a larger share of the market—26 per cent so far in 1977. Nonbuilding contracts, up 11 per cent, totalled $3,922,448,000, including $2 billion in electric power plants and a quantity of public works.

The American Institute of Architects has joined with industry groups to try to reduce product liability costs and so to reduce insurance premiums for architects and engineers. Details on page 29.

Henry L. Kamphoefner, FAIA, has received the Joint Award for Lasting Achievement in Architectural Education from the Association of Collegiate Schools of Architecture and the American Institute of Architects. Mr. Kamphoefner became founding dean of the School of Design, North Carolina State University in 1948, and is now Dean Emeritus of that school. The National Endowment on the Humanities has named him Humanist in Residence in Cumberland County, North Carolina, an appointment that becomes effective in September of this year.

Thieves have stolen the cast-iron Bogardus Building from New York City's Landmarks Preservation Commission. When the building was demolished in 1971, Commission Chairman Beverly Moss Spatt saved the panels, thinking to reconstruct the historic 1849 structure. An earlier theft—undertaken, officials determined, for the value of the scrap metal—reduced the number of panels to 59, which the Commission secured under lock and key in hopes of using them as patterns for new fabrication. Though a few panels remain at the Smithsonian and in the Commission's offices, Mrs. Spatt has sadly concluded that "we don't have enough left to fabricate it now."

HUD has awarded a $780,000 contract to the AIA Research Corporation to collect data on energy use in buildings. AIA/RC will develop building classification systems based on use, climate and construction, and will document energy consumption in buildings constructed over the last three to five years. HUD will use the data to develop energy consumption performance standards for new building. Major subcontractors for the study include The Ehrenkrantz Group, Syska & Hennessy, both of New York City, and the NAHB Research Foundation, Inc., of Rockville, Maryland.

The New York Court of Appeals has upheld the landmark status of Grand Central Terminal and has denied Penn Central the right to build a commercial office tower above the venerated building. Resolving the issues raised by the railroad and New York City's Landmarks Preservation Commission, the state's highest court said that the public as well as the railroad was responsible for the creation of valuable real estate clustered around the terminal. "A fair return is to be accorded the owner, but society is to receive its share in the making of a once great railroad."

More skyscraper climbing: alpinist George Willig conquered the World Trade Center on May 26. Willig, a toymaker by profession, accomplished the ascent in three and a half hours, using "pitons" and "crampons" of his own design that wedged into window-washer guides. A fine of $250,000 was imposed by New York City for misappropriation of police and fire department services, but Mayor Beame happily reduced the amount to a penny a floor ($1.10).

The Prestressed Concrete Institute will accept entries for its 1977 Awards Program until August 8. The program, conducted annually, will "recognize excellence in design using prestressed concrete and/or architectural precast concrete." It is open to architects and engineers in the United States, its possessions and Canada. For information: Prestressed Concrete Institute, 20 North Wacker Drive, Chicago, Illinois 60606.

The General Services Administration has published "Design Criteria: New Public Building Accessibility," a set of guidelines developed to tell designers how handicapped persons use office buildings. The guidelines, which take a performance approach to barrier-free design, were developed by Ezra D. Ehrenkrantz and Associates. Copies are available for $2.60 at GSA Business Service Centers across the country.

The AIA congregates in overcast San Diego to debate ethical standards and hear about the future of the world

Four thousand people gathered in San Diego June 5-8 for the 109th Annual Convention of the American Institute of Architects, to see, hear and talk about the future of the world and the practice of architecture.

In an attempt to depict TOMORROW, the unifying theme of the Convention, a visual barrage of multimedia presentations—perhaps symbolic of this expected future—offered attendees an array of films, slides and television images projected on various-sized screens, many of them gigantic and suspended from the ceiling.

In a radical departure from past Convention organization, one main hall in the downtown San Diego Convention Center was converted into a multi-purpose arena where exhibitors' displays (housed in specially designed structures called "pods") intermingled with a speakers' corner and other areas set aside for panel discussions and question-and-answer sessions. These discussions were conducted both by Institute members and by invited manufacturers. The plan allowed maximum exposure for both the exhibitors and the architects, and emphasized the interaction of both groups in the building process. Though reaction to the new exhibit concept was mixed on the parts of both manufacturers and attendees, there is no question that it provided a lively, active and even festive atmosphere.

In three general meetings dealing with the business of the Institute, members elected Ehrman B. Mitchell, Jr., first vice president and future president; adopted a major resolution concerning the recertification of architects; rejected a major resolution dealing with professional ethics; and altered the Institute's dues structures. Details of these actions appear below, as do excerpts of major addresses.—*Janet Nairn, Architectural Record, San Francisco.*

In thoughtful debate, AIA rejects ethics changes that would allow general contracting

The biggest issue of the convention, and the longest debate, was on the question whether architects would be permitted to accept prime contracts and become, in effect, design-build firms. The AIA Board had proposed, as part of a new Code of Ethics and Professional Conduct (which was in all other respects approved) that the existing prohibition against architects taking contracts be removed, as long as "in the performance of architectural services, members shall not allow their own financial or other interests to affect the exercise of independent professional judgment on behalf of their clients [Rule of Conduct 403]" and "members performing other services that may bring their interests into conflict with those of their clients shall do so only after written disclosure of the possibility of conflict. [R. 404.]"

This wording was rejected by the majority of delegates, and instead—by a narrow vote of 995 to 864—the prohibition against greater involvement in construction was continued by these amendments:

"Alternate R. 403: Members shall not undertake any activity or employment, have any significant financial or other interest, or accept any contribution, if these would reasonably appear to compromise the members' professional judgment or prevent members from serving the best interest of the client"; and, more specifically;

"Alternate R. 404: Members may not engage in building contracting where compensation, direct or indirect, is derived from profit on labor and materials furnished in the building process except as participating owners. Members may engage in construction management as professionals for professional compensation only."

Opposition to the change that would have permitted architects to undertake contracting was led, as it was last year, by Board member Jerome Cooper from Atlanta. Mr. Cooper said first, "In speaking out against this particular aspect of the proposed Standard . . . I hold [no] concern for the manner in which these issues have been addressed. The deliberations that have taken place this past year have been most becoming to the Board. . . . The men who have guided the Ethics Task Force are among the best minds on the Board . . . men whose ideas are not to be taken lightly. . . ."

But he issued these warnings: "Even though Rule 403 would place an injunction upon the architect [who wishes to engage in contracting] to let no concern for his own personal interests influence his personal judgment . . . only the most exceptional among us would have the discipline to withstand that temptation when confronted with the spectre of personal financial loss. That the Task Force has found it necessary to require the architect to place his client on notice of the existence of this temptation [the full disclosure rule] is indicative of the fragile nature of the resulting relationship."

Mr. Cooper made these other points:

- "We are told . . . that adoption of the Task Force's position would affect only those architects who chose to engage in contracting and not materially affect the business or professional environment in which the rest of us would find ourselves . . . But can there be any doubt that business and ethics are immeasurably intertwined and that this position does not deal so much with business tastes as it does with business appetites." He argued that, with some members of the Institute bidding competitively on the basis of total project development costs, "the requirement for bidding on professional fees would be but a heartbeat away for the rest of us."
- "Neither shall we escape the changed concept of liability that will inevitably follow."
- In answer to the hope that the new ethics would broaden AIA membership and increase its influence upon the construction industry and upon society, Mr. Cooper argued: "The ultimate success of a profession depends not only upon the breadth of its membership but also upon the excellence of its ideas and the strength of its resolve. . . ."
- He called upon the convention "to remind this Board that within the construction industry we are unique in our skills and concerns . . . that it should not weaken our profession by engaging in contracting or other business adventures which will dilute our energies and obscure our duty."

The opposite view was as carefully given by AIA President John McGinty before the debate. He said, in part: "We have some fundamental choices to make. Consumerism, for instance. We can interpret those uncomfortable aspects of this tide that touch us—increased liability exposure and antitrust suits—as 'attacks on the professions'—and join with the doctors, lawyers and engineers in circling the wagons in a defensive posture against the public. Or we could see in this challenge the opportunity to increase the effectiveness of our performance, to do a better job in education, in design, and in project delivery.

"Another fundamental choice we face is deciding who we, the members of the AIA, are. One option would be the elitist route, to represent only those architects practicing in traditional relationships with traditional clientele. . . . But I don't believe that would be consistent with the future. The future clearly is one of expanding options and rising expectations. If we choose to abdicate these new roles and responsibilities to others, we should not be so arrogant as to assume we have prevailed. We will simply write off that piece of the action, much as we did the housing market a generation ago, and draw the circle tighter. I do not believe that is professionally responsible. . . .

"Many of the opponents of the proposed new ethics characterize . . . removing the restrictions on architects building their own designs for a fixed price as an erosion of professionalism. . . . That conclusion is based upon the notion that professional advice, in order to be untainted, must be beyond possibility of contamination by avarice or conflict of interest. The world is not that simple. Professionalism is more than that.

"What makes us professionals is not the absence of potential conflict. It's how we resolve that conflict. . . .

"A member of this Institute who elects to pursue contracting is not released from his professional responsibilities any more than an architect who only draws. He has the same imperatives for honesty, selflessness, and competency as other architects. . . ."

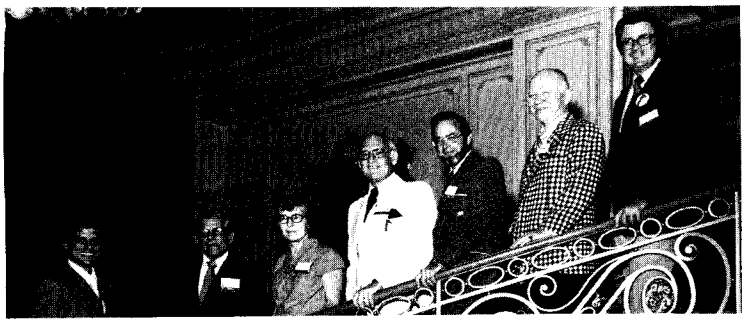
As noted, the narrow vote continuing the ban on contracting or design-build work makes it seem clear that the issue will continue to be debated. Indeed, a resolution passed at the Convention requires the Board to continue the study. With so many good and earnest architects standing on both sides of the question, that seems the only reasonable course.—*Walter F. Wagner, Jr., Architectural Record, New York City.*

Bill Slayton resigns as AIA executive vice president

In a move that appeared to come as a surprise even to experienced members of the AIA Board, William E. Slayton, Hon. AIA, resigned as executive vice president "effective the end of this year. This will give us both time to look around—me for my next career, you for your next executive vice president." He had served in the post since December 1969.

Mr. Slayton came to the AIA with experience and credentials that greatly strengthened the Institute at a time when more involvement of the AIA in Congressional and Federal agency liaison was clearly needed. As one-time president of Urban America and as long-time (1961-66) Commissioner of the Urban Renewal Administration, Mr. Slayton brought to AIA knowledge not only of what could and could not be done in Washington, but how to get it done. A succession of AIA presidents and Boards, during Slayton's administration, greatly strengthened AIA's voice on Capitol Hill and within the Administrations and Federal agencies. The present AIA liaison group with the Federal government has been built in these years, and has proved effective—especially in such broad areas as city rebuilding, energy policy, and national land-use policy. Mr. Slayton's term also saw the establishment of strong programs in continuing education, and codes and standards work, of state and other component influence on AIA programs (including Grassroots), of a community services commission and department, and of the minority/disadvantaged scholarship program, as well as the creation of more effective interdisciplinary programs with architects in industry, government, and education, and with engineering and contracting organizations.

Said Mr. Slayton to the Board, "It has been a great pleasure to see AIA develop, and to be a part of that development. But my usual time span in career situations has been more like five years, and I think it is time for me to have one last career before I reach that chiseled-in-stone retirement age. . . ." The AIA Executive Committee, during the Convention, selected president-elect Elmer Botsai, president John McGinty, and first vice president Ehrman Mitchell as a committee to start the search for a successor.—W.W.



AIA president John McGinty, at left, meets with newly elected president-elect Ehrman Mitchell, vice presidents Sarah Harkness, Herbert Epstein and Charles Schwing, treasurer Joseph Thomas, and secretary Robert Lawrence.

Convention names Ehrman Mitchell president-elect

Architects at the 1977 AIA Convention elected Ehrman B. Mitchell, Jr., FAIA, first vice president and president-elect of the Institute. Mr. Mitchell, who is a principal in the firm Mitchell/Giurgola Architects of Philadelphia, will take office as president in December 1978. Elmer Botsai, FAIA, Chairman of the Architecture Department at the University of Hawaii, will succeed John M. McGinty, FAIA, as AIA president this December.

Members also elected three vice presidents: Herbert Epstein, FAIA, of Epstein/Greenfield Architects, Brooklyn Heights, New York; Sarah P. Harkness, of The Architects Collaborative, Cambridge, Massachusetts; and Charles E. Schwing, FAIA, of Charles E. Schwing & Associates, Baton Rouge. Joseph F. Thomas, FAIA, of the Pasadena, California, firm Neptune & Thomas, Architects, was elected to a two-year term as treasurer, and Robert M. Lawrence, FAIA, of Oklahoma City, continues as secretary.—*J.N.*

At the Dodge/Sweet's party, held amid U. S. Navy ships tied up at Broadway Pier, RECORD senior editor Mildred Schmertz, a newly inducted Fellow of the Institute, talks with Pittsburgh architect John Schurko and his wife Mary Ann.

"Futurist" sees obsolete cities and an energy glut

In the most controversial of the major speeches heard at the convention, philosopher and "futurist" F. M. Esfandiary drew strong reactions, ranging from hearty laughter to applause, on his personal vision of the future.

Boldly beginning, "We are the breakthrough generation. . . We are still too programmed by the Old World psychology of failure, too hobbled by guilt and shame and self-doubt, too scarred by eons of suffering and backwardness, to fully appreciate the meaning of our new age." Mr. Esfandiary forecast six breakthroughs we will experience.

There will be abundant energy, food and raw materials, Mr. Esfandiary prophesied. "All this primal screaming about scarcity is a galactic farce. There is no scarcity. There is a psychology of scarcity. We are at the beginning of an energy glut." (He did not explain this.

Values and lifestyles will change, too, he said. Beyond our present-day choices of behavior, we will be more mobile—"We will be fluid and on the move."

There will be breakthroughs in community life, he went on. "The cities are . . . now historical landmarks. We should leave them as they are, and get out. . . . Cities have a great future as museums. . . . [They] cannot be modernized. Urban renewal is largely a waste of money. The very concept of city is obsolete."

The fifth breakthrough to be experienced will be in space. "From here on, the only barriers in our forward thrust are the limitations in our imaginations."

The last breakthrough will be in life extension. To achieve prolonged life spans, we will undergo "genetic and biological reconstructions, indefinite replacements of perishable organs . . . cryonic suspension. . . . We will create new bodies suitable for existence in space."—*J.N.*

Kappe defines the emerging context of architecture

In his opening-day address, Raymond Kappe, partner in the Santa Monica, California, firm of Kahn, Kappe, Lotery, Boccato, and founder of the Southern California Institute of Architecture, discussed the ways man has approached the problems of the past.

"To predictions of fantastic growth in population and urban density by the year 2000, architects responded with the concept of megastructure. Technology was to emerge full-blown to solve the world's physical and social problems. Architectural schools," he continued, "attempted to assimilate these new attitudes, and the new generation of architectural students was spending most of the time collecting data, discussing issues, analyzing but finding it very difficult to synthesize without reverting to traditional design vocabulary and subjective decision-making methods."

Mr. Kappe also considered the occurrence in history of "system breaks," which he defined as discontinuities in past trends. The paramount system break facing mankind today is the energy crisis. "We have flaunted our dominance over the rest of the biosphere with our ability to harness and transform the environment," he said. Concluding, Mr. Kappe saw a continuing concern with design and technological considerations, "but we will have to assume the responsibility for developments that respect the available world-wide resources and future sources of energy," while dealing with development stresses.—*J.N.*

Resolved: to resume the ethics debate next year

In addition to the ethics issue, there were a large number of other resolutions that AIA members voted on during the Convention's three morning business sessions. Some of the results were:

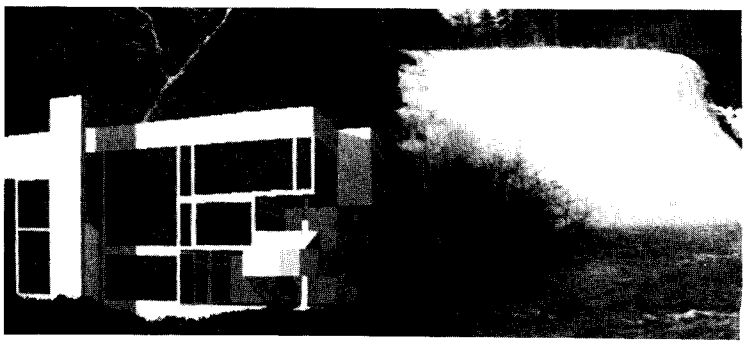
- A resolution passed that directs the AIA board of directors to continue to investigate and to report to the 1978 convention on the present prohibition of architects acting as designers and builders simultaneously.
- A resolution passed that establishes improved communication between the Institute and the membership either through existing written bulletins or possibly by a special newsletter.
- A resolution failed that would have permitted direct-mail balloting for election of national officers and regional directors.
- A resolution passed that requires the treasurer to report at Convention the amount of money spent on account of each resolution adopted at the previous Convention.
- A resolution passed that establishes a task force to study the current structure of member representation by directors from regions and to present the findings at the 1978 Convention.
- A resolution passed that requires the AIA board to review the procedures for electing Fellows.—*J.N.*

Greenberg demonstrates the latest in computer graphics

The future of computers in the architects' world was optimistically canvassed by Donald Greenberg, Professor of Architecture and director of the program of computer graphics at Cornell University. In a talk entitled "Tools for Change," Mr. Greenberg singled out the computer as a necessary tool for the architect that will become as routine in use as the pocket calculator. But, he added, it will be only an aid to better design and communication.

"Architects work and design in a three-dimensional world, yet our communication either is in two-dimensional drawings, or it is verbal or numerical," Mr. Greenberg said. "Our ability to comprehend complex phenomena is much greater when we see them, so we must improve this situation by use of the new computer technology.

"I am not advocating computer-design . . . and I must make the distinction between computer-design and computer-aided design. In computer-aided design, only analysis takes place, and the machine answers the questions which are asked. This does not suggest, however, that we all become technocrats!" (A report on Mr. Greenberg's innovative work will appear in RECORD's "Engineering for Architecture" issue, to be published in mid-August.)—*J.N.*



Attendees heard four major addresses in San Diego, all augmented by a space-age splash of giant multi-media images. Among them: Donald Greenberg's demonstration of such computer graphics as a color rendering of a Meier house.

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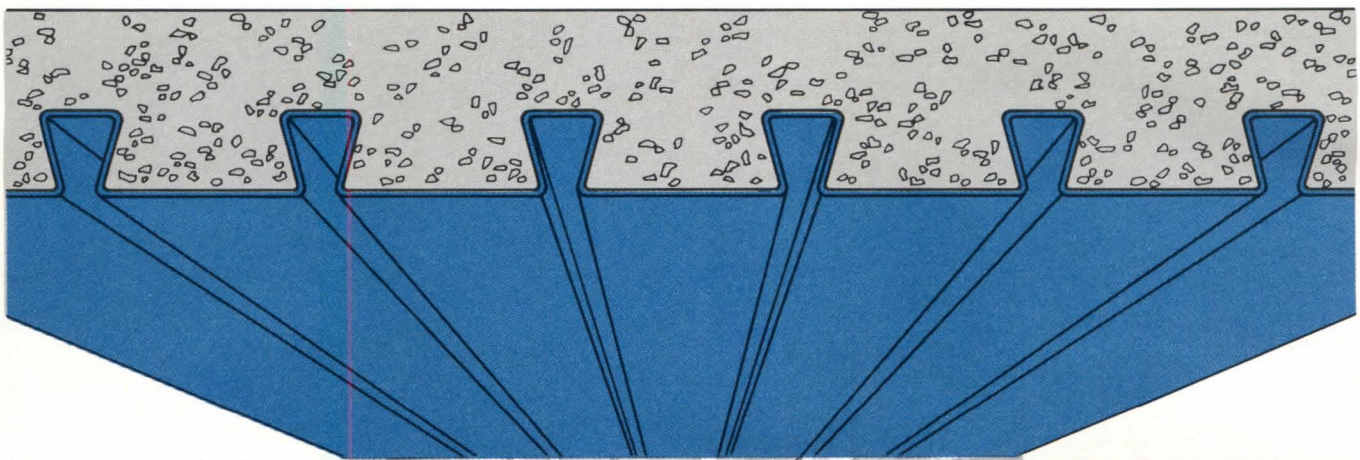

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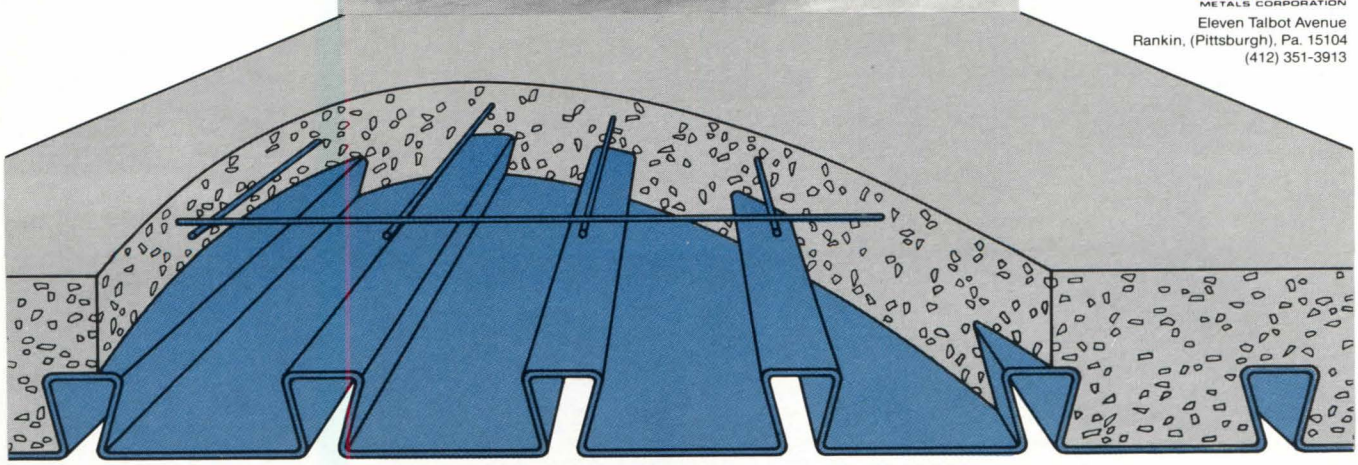

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GSA will renovate the Old Post Office

A renovation designed around a 196-foot-high indoor courtyard has been selected by the General Services Administration for the Old Post Office on Washington, D.C.'s, ceremonial Pennsylvania Avenue.

The 78-year-old structure is marked for $16 million in modernization work that will spare its 315-foot-tall clock tower. A mixture of shops and commercial ventures will be permitted on lower floors. The National Endowment for the Arts and the Advisory Council on Historic Preservation, plus other Federal agencies, will be housed on other floors, GSA says.

The architect selected for the design is Arthur Cotton Moore Associates, Washington, in a venture with McGaughy, Marshall & McMillan, and Stewart Daniel Hoban & Associated Space Design Inc.

The plan calls for replacing the first floor, mezzanine, roof and skylight. Fire safety improvements will be made, and special facilities for the handicapped will be added. Construction will begin in September 1978.

The renovation design venture was selected under GSA's prototype "level three" process, the first time this system has been used. Under this process, the agency pays a fee—$46,000 in this case—for a completed conceptual design to the three finalists involved in the competition.

GSA describes the building as Romanesque Revival style with Gothic overtones. It exhibits such features as arched entrances and fenestration, turrets, and a heavily rusticated base—a style popular in the late 1890s.

Presently, there are nine levels of office space arranged around a skylighted, monumental court. Originally, the first-floor courtyard space was used as the main post office work room, and it too was covered with a skylight.—*William Hickman, World News, Washington.*

AIA teams with industry to reduce product liability costs

The American Institute of Architects is taking a new tack in its battle against what the organization sees as excessive product liability costs.

It is urging Congress to beef up existing Worker's Compensation laws and to make their awards more generous, but at the same time to "immunize" all employers except the prime workplace employer from tort prosecution arising from worker injuries.

If the campaign is successful, the effect would be that construction companies will pay higher product liability insurance premiums, while rates for architects and engineers could fall dramatically.

AIA has joined forces with other construction design organizations and the manufacturers of production equipment in an *ad hoc* organization called the Special Committee for Workplace Product Liability Reform. The Committee has employed former Senator Robert Taft, Jr. (R-Ohio), a partner in the law firm of Taft, Stettinius & Hollister, to lobby for the proposal.

Committee spokesman Randolph J. Stayin says he expects the proposal to be supported by organized labor under the assumption that injured workers would get uniform, higher minimum benefits and increased workplace safety.

In many states, the statutory limits on Worker's Compensation settlements are so low that injured workers seldom stop at seeking relief from the prime employers. Instead, they seek damages from construction designers, or, in the case of manufacturing injuries, the builders of the production equipment.

The proposed revision supported by the AIA-related group specifies that Worker's Compensation will be the sole remedy for workplace-related injuries. It also proposes a revision in Federal minimum standards for the state-administered program under which injured workers would look only to Worker's Compensation funds, in return for higher benefits, as their exclusive remedy.

The legislation proposed by the Committee also would eliminate suits of insurers and employers against suppliers of equipment and services to the workplace. This, the Committee says, would encourage employers using such equipment and services to improve workplace safety.

In addition to the AIA, the Committee is supported by the Machinery Dealers National Association, the National Machine Tool Builders' Association, the National Tool, Die, and Precision Machining Association, the Packaging Machinery Manufacturers Institute and the Truck Equipment and Body Distributors Association. The National Society of Professional Engineers is also expected to join.—*William Hickman, World News, Washington.*

HABITAT plus one: what gives?—Part Two

Continuing his report on the fruits of last year's HABITAT Conference in Vancouver, Eric Carlson of UNEP, who last month described official United Nations actions proceeding from Conference recommendations, this month discusses its effects on national governments and on non-governmental organizations. At the national level, activity has been especially lively in Latin America and Africa, while the NGOs are sponsoring workshops, exhibitions and other consciousness-raising efforts. Mr. Carlson also ventures some predictions and voices some hopes for the increasing involvement of the UN Habitat Foundation in Nairobi, the UN Center for Housing and Planning in New York and the UN regional commissions, as well as for the vigorous recruitment of private money and labor.

At the national level the impact of the HABITAT recommendations has varied considerably. Obviously, implementation on sensitive issues such as land policy is not easy, even—or *especially*—in developing countries. But determination to proceed on basic human settlements issues is evidenced in several places.

Mexico established a Ministry (Secretaría) of Human Settlements early this year. In the Philippines in 1976, two entities were established—a National Housing Authority and a Human Settlements Commission—which are fundamental for the implementation of the HABITAT recommendations. In Bolivia, a high-level team of four professionals from the UN Habitat and Human Settlements Foundation (UNHHSF) was requested to provide advisory services for policy, reorganization, financing and investment programming, and assistance to the Housing Bank. The report, presented on March 17 in La Paz, advocates an integrated approach to human settlements improvement, such as called for by HABITAT. In Venezuela, a national Habitat foundation was created, supporting research and demonstration projects, urban restoration and renewal activities, community development and information exchange.

In the African region, several countries have undertaken reviews of their policies and have structured new institutions to finance human settlements development. Lesotho, for example, has just set up a Building Finance Corporation, with technical assistance and seed capital from the Habitat Foundation.

The non-governmental organizations (NGOs) represented at HABITAT have demonstrated increasing concern with its follow-up. At a notable meeting in Geneva in February, they adopted a resolution stressing the need for an early decision on the international cooperative human settlement programs and their financing, urged NGOs to mobilize public opinion for governmental implementation of the recommendations for national action. And in general they pressed for action on the part of the international community.

Each NGO, in its own way, is promoting the HABITAT cause, some with quite specific projects. The Commonwealth Human Ecology Council (CHEC), for example, sponsored a special international workshop on human settlements for developing countries in London in March, which produced considerable agreement on the importance of monitoring HABITAT's implementation and strengthening applied urban research, education, training and information programs at all levels. The International Union of Architects has urged its national chapters to push for acceptance of HABITAT recommendations. In many countries, special discussions and exhibits on HABITAT have been organized. In Paris, for example, the École Spéciale d'Architecture organized a one-week Exhibition Vancouver 76 to inform French public opinion about this event and its follow-up.

In May, the UN Habitat Foundation sponsored an expert Advisory Group Workshop in Nairobi, chaired by Margaret Mead, on NGO Collaboration for Human Settlements Improvement, which is expected to arrive at a three-year action plan. This might include the designation of demonstration cities in the various regions, where NGOs could help organize systematic participation efforts.

What does the crystal ball show for the future of HABITAT?

First, as often stated, HABITAT was designed to *begin* a process, and it is clear that there must continue to be increased mobilization of resources and energies at all levels to deal adequately with the recommendations of the HABITAT Conference. The inputs of the UN family of organizations will seem exceedingly modest when viewed in the light of the problems to be dealt with. However, hopefully, they can be catalytic and demonstrative at regional and national levels.

It should be noted that while the HABITAT Conference devoted such enormous efforts to discussing the international program and institutional structure for human settlements, the organizational links, central secretariat, and possible locational aspects (without agreement), this was a narrowly focused debate, as it was in the General Assembly. The main UN forces were the Department of Economic and Social Affairs, with its Center for Housing, Building and Planning, the UN Environment Program, and, perhaps the HABITAT Secretariat itself, which is now dissolved. (Enrique Peñalosa, the Secretary General for HABITAT, has retired to Bogotá, Colombia, and opened a consultant office there.)

However, the total budgets devoted by all three UN agencies to

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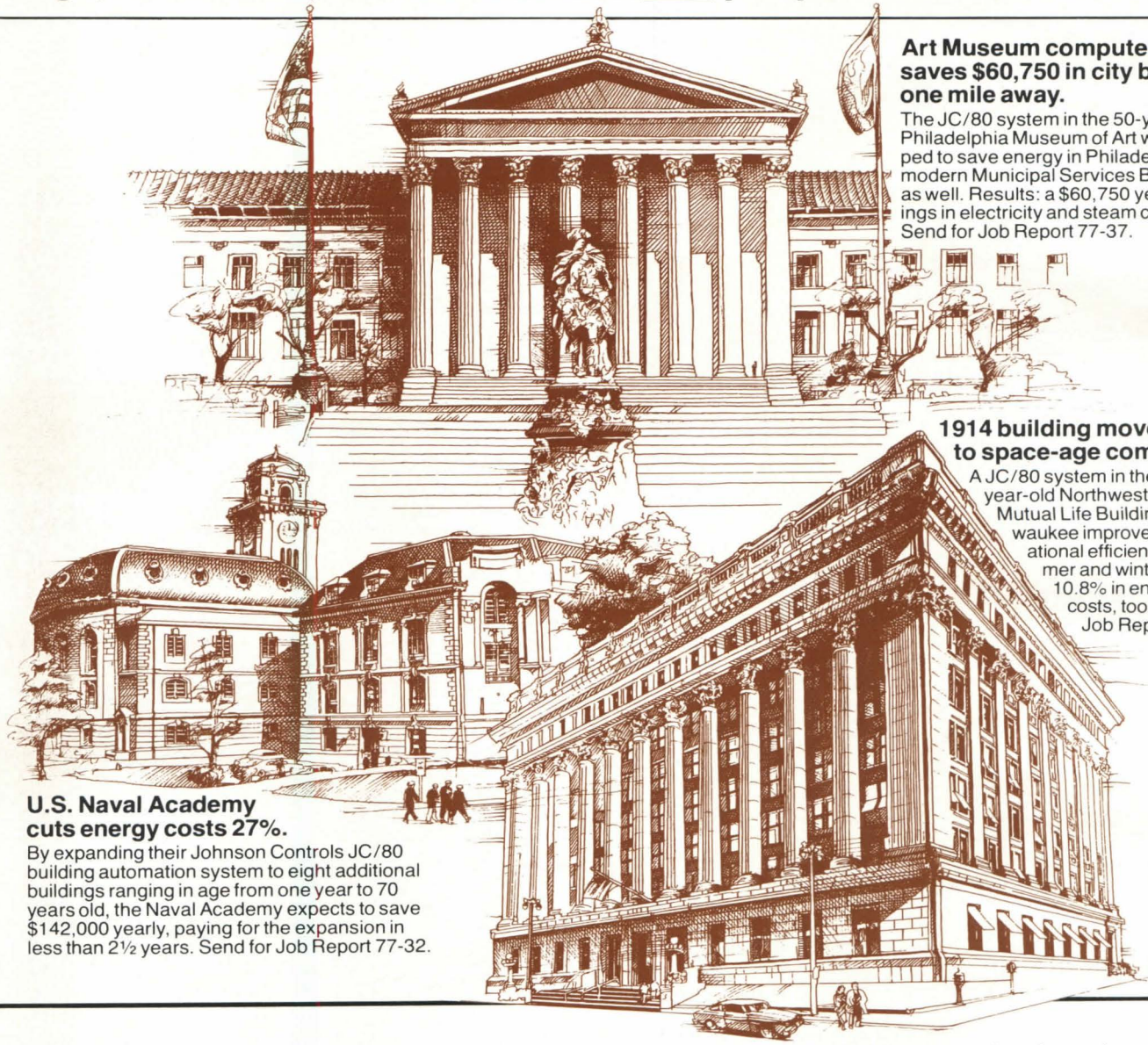

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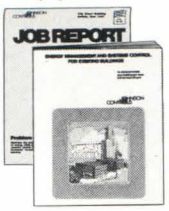

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human settlements purposes were infinitesimal compared to the quadrupling of investments of the World Bank in this field over the past years, in a large ongoing and growing program which remains totally beyond the scope of the HABITAT and General Assembly debate.

The instrument which the UN General Assembly created especially to deal with the problem of resource mobilization is the UN Habitat and Human Settlements Foundation, made operational in August 1975, and presently located in Nairobi. The Foundation is a unique flexible organization with considerable potential for promoting the implementation of the objectives and recommendations of HABITAT. Currently, it is engaged in servicing some 40 requests from governments. Its initial capital of $4 million is contributed by the UNEP Governing Council, supplemented by voluntary pledges or contributions from some 12 developing countries. The draft decision of the UN General Assembly related to the Foundation is likely to receive close attention at the July meeting of the ECOSOC.

As for the UN Center for Housing, Building and Planning, located in New York, clearly it, too, must be strengthened and revitalized to serve as a core technical unit in the proposed new central secretariat for human settlements. At present, however, the Center's budget and personnel resources are not in line for any significant growth in the immediate period ahead, if it remains in the Department of Economic and Social Affairs. It seems evident, therefore, that it should have close ties with the UN Habitat Foundation.

The regional economic commissions are establishing regional committees for human settlements with their own secretariats and work programs. These committees will be immediately involved also in the development of the regional networks for human settlements technology. Another possible development could be the establishment of regional Habitat Foundations for resource mobilization and other functions, in conjunction and collaboration with the UNHHSF. One such regional entity, to be of a private enterprise character, is already under discussion for the Arab states. Strengthened regional information programs and focal points, in some cases related to the regional banks, should also be developed.

At the national level, as in Venezuela, a pattern of establishing Habitat Foundations or other quasi-public entities may prove useful for follow-up of all phases of the HABITAT Conference recommendations, for resource mobilization and information, and as a focus for research and demonstration activities and for NGO participation.

Many countries would be well-advised, as in the case of Bolivia, to undertake studies leading to reform and reorganization of their institutions dealing with habitat and human settlements policies, financing and investment programming. A growing demand for services in this field can be anticipated.

A word for the private sector: clearly international and government efforts for improved human settlements will be meaningless without the understanding, collaboration and support of private builders, professionals, entrepreneurial groups, investors and the like. Perhaps the most significant display in Vancouver at the time of the Conference, privately financed and mounted at the Vancouver Gallery of Art, was the exhibit of the winning entries in the International Architectural Design Competition for low-income families, focused on a slum area and resettlement program in Manila. This competition demonstrated that there is a vast reservoir of talent and professional resources capable of meaningful contributions.

As for financial institutions, it is evident that they often have more stability and longer historical perspectives than many governments. A continuing effort must be made to interest and involve them in follow-up to some of the HABITAT Conference recommendations. Their assistance with both information and investment aspects can be considerable, as can their mobilization of resources and household savings. Workshops and seminars at both regional and national levels to discuss financial requirements between borrowing agencies and lenders for habitat and human settlements purposes will be another priority follow-up to HABITAT.

The conclusion? The news of the demise of HABITAT was premature. It lives!

The determination of those who participated and contributed to HABITAT now is gradually being focused on the action required for follow-up at national, international and local levels. This is where new leadership is required to use the promotional tools and recommendations of HABITAT, which should be widely circulated among professional, civic and university groups. HABITAT, after all, is a continuing process, the struggle for a world with better living conditions in communities that are economically, socially and environmentally sound and viable.

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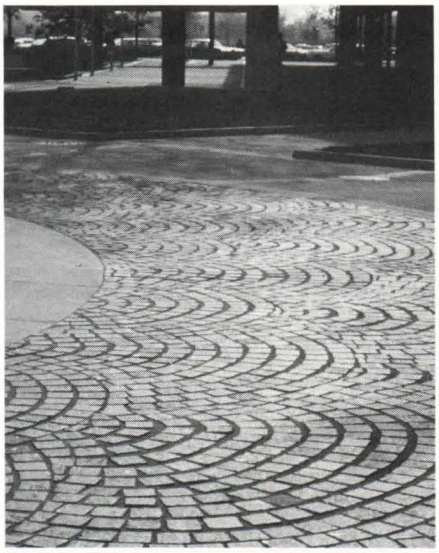

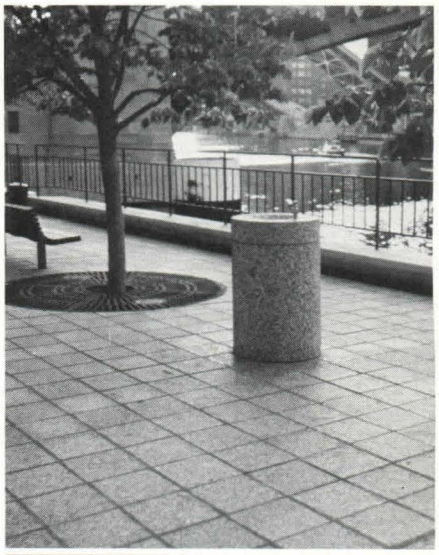

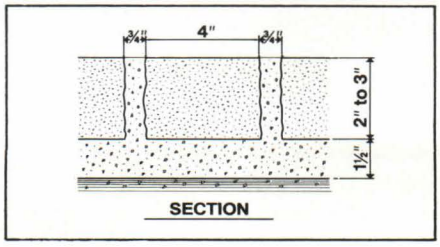

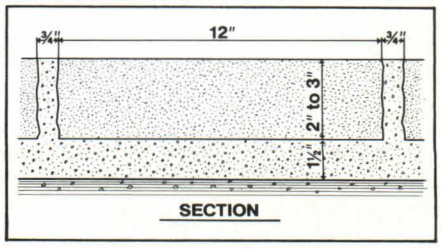

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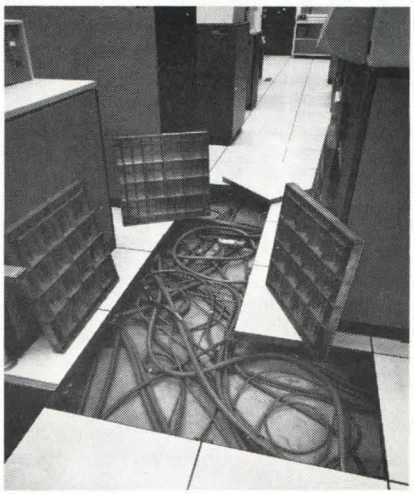

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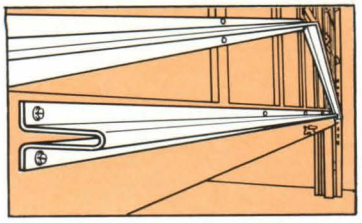

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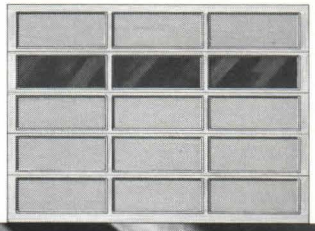

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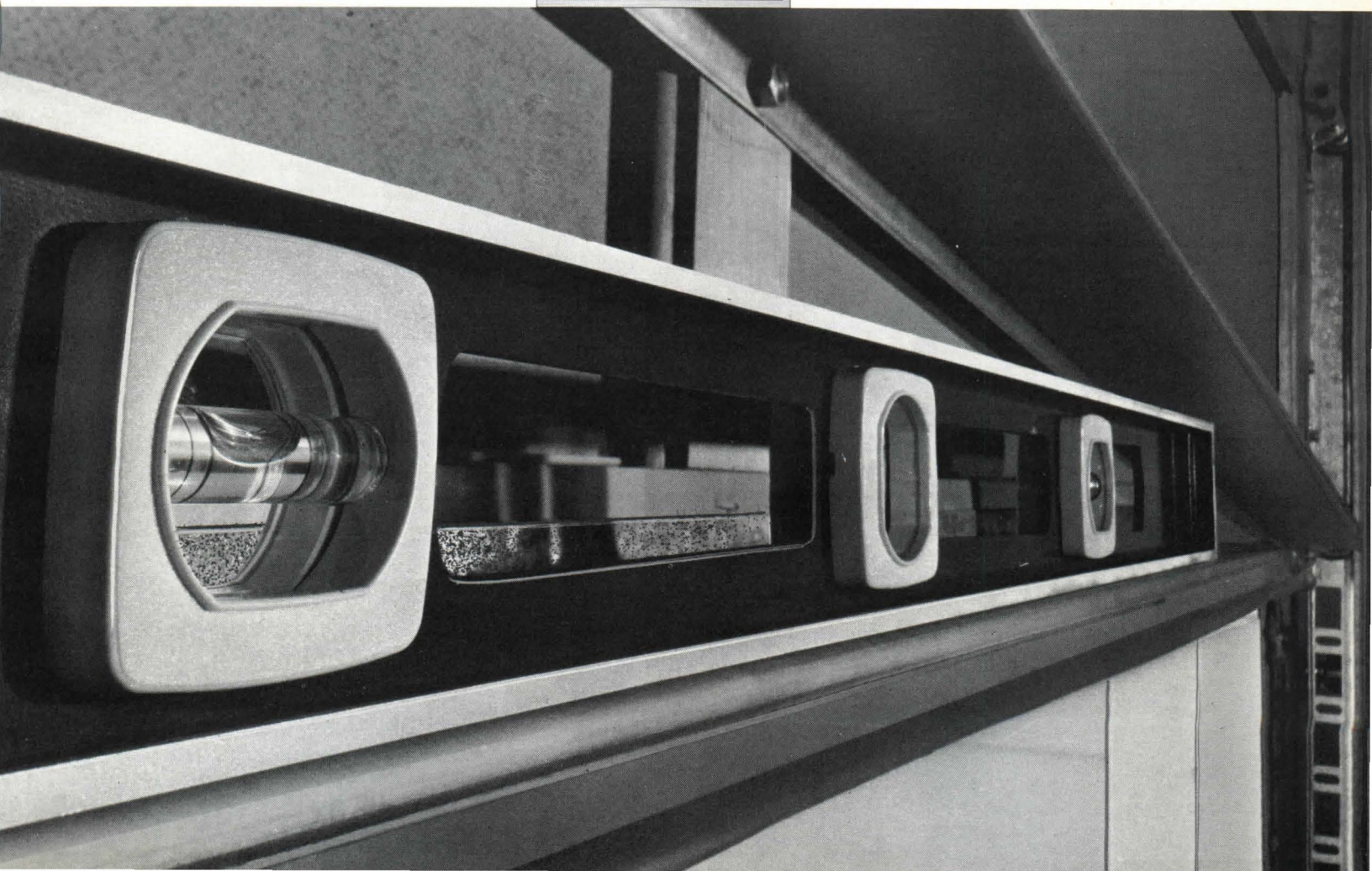
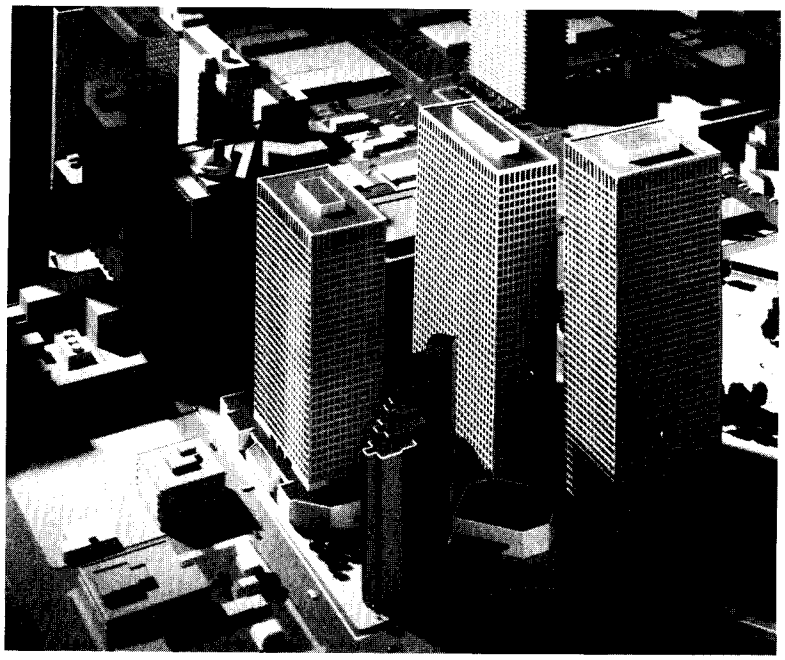


Commercial office buildings continue to rise in major downtown areas

Despite poor-mouthing by construction professionals and investors, high-rise office buildings in the cities are by no means finished as a building type, as these six projects for *five large cities* scattered from coast to coast testify. In all but one case these buildings were commissioned by private developers, and in all cases they are intended at least partially for commercial rental. And if none of them is likely to leave a major and long-lasting mark on the course of architectural design, all of them will have considerable impact on the fabric of their downtown areas and on the living and work patterns of their users and neighbors.



Houston to get new towers in Allen Center Complex

Two Allen Center (rear center), the first of two new office towers in Houston's Allen Center business complex, is under construction. The 36-story reinforced concrete structure will provide 1.2 million square feet of office space. Its curtain walls will be precast concrete with bronze reflective glass. Designers were Lloyd/Jones and Associates. An executive hotel (lower left) may be constructed also. One Allen Center (upper left), completed in 1972, can also be seen at left below.

Summit Tower East on way to construction in Houston plaza

Steel erection has been completed on Summit Tower East (center), one of two 31-story buildings soon to be members of the Greenway Plaza office park complex in Houston. Designed by architects Lloyd/Jones and Associates, the silver-colored tower of solar reflective glass will measure 100 by 250 feet. It will be completed by mid-1978. Floor space in the towers and in a projected 11-story office building will total 2 million square feet.

Newark utility company plans office building

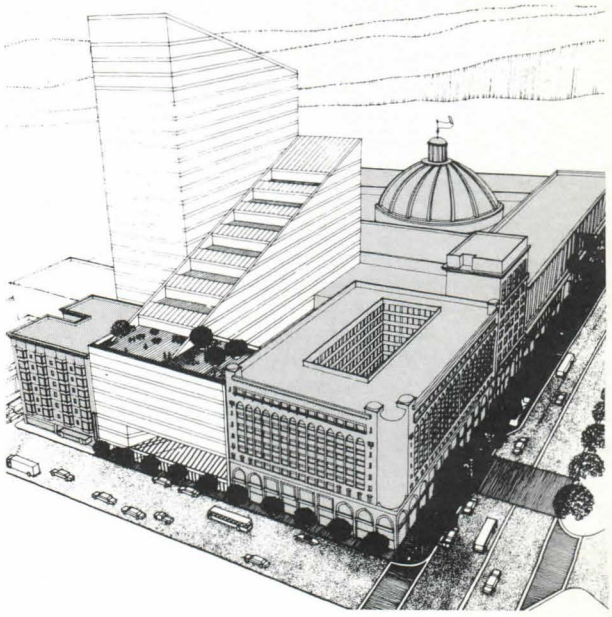
Within the next three years, a 26-story office building designed by Poor, Swanke, Hayden and Connell of New York will house the new headquarters of Public Service Electric and Gas Company of Newark. To be called the Public Service Center, the tower and an adjacent two-story plaza will sit on a granite base. Reflective insulative glass will form its exterior finish. The open plaza will occupy the site of present PSE&G building which will be demolished.

Chicago Loop to receive first major office building in four years

.F. Murphy Associates' $60 nillion Monroe Centre de-gned for downtown Chicago vill provide more than just ffice space. It will be the first najor structure built in Chi-ago's Loop in four years. The 0-story office building has a ngle tower, rounded to blend n with its site, the southeast orner of Monroe and Dear-orn Streets. Two banks of ele-ators operate within the tower, ne serving the lower floors, ne other high-rise. Solar ab-orbent window modules in-rease in height from 5 ft 6 in. o 7 ft 9 in. on the north facade, vhich faces the First National Plaza. The center's curtain walls taper upward to avoid conflict with existing structures. 750,000 square feet of rentable space will be available once the building is ready for occupancy in late 1979. Each floor will contain 21,600 square feet. Both subway and surface transportation will be within short distance of the structure. Demolition of buildings on the site will begin immediately, with completion scheduled in five months. Construction will begin in October. Developers are Romanek-Golub and Company, a Chicago-based real estate firm.

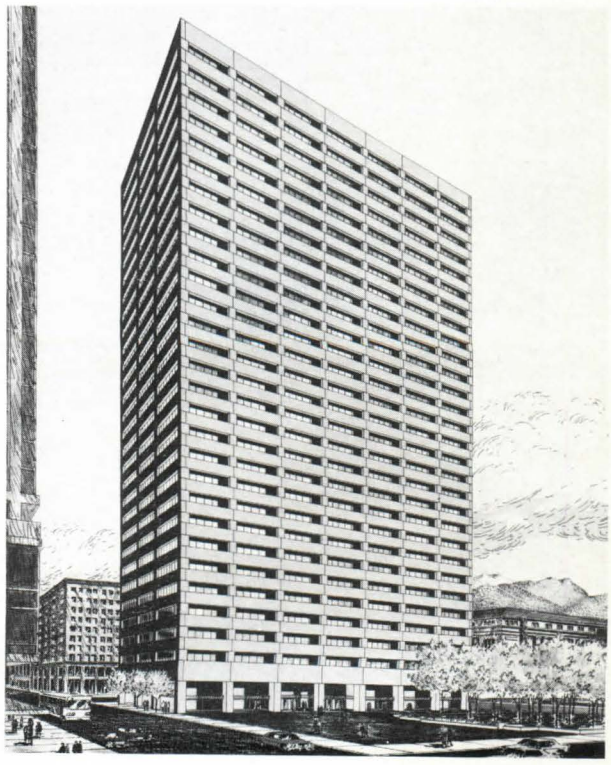
San Francisco mart combines new and old building

Restoration of the Pacific Building in San Francisco will be the first stage of plans to develop the San Francisco Apparel Mart, designed by architect-designers Whisler-Patri. The Pacific Building, which holds present Mart facilities, will be renovated using Moorish architecture and San Francisco-style interior decorations. This theme will be carried into the construction of Apparel Mart Tower (left).



Denver's Urban Center building project continues

As the next phase in an ongoing, multi-block development project for Denver's financial district, Urban Investment and Development Company has begun construction of a 29-story office building with street-level shops and boutiques and an adjacent landscaped plaza. Urban Center I and Urban Center Plaza were designed by Hellmuth, Obata and Kassabaum, Inc. The tower will contain 669,880 gross square feet of rentable space. Beige-hued precast concrete and bronze-tinted glass will wrap its concrete core and steel frame.



WATTS NEW

ENERGY MANAGEMENT VIEWS FROM THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION VOL. 1 NO. 4

ENERGINEERS* FIND EFFICIENCIES IN RELIGHTING

The power to create all the lighting in the United States consumes only about 5 percent of all energy produced. And since about 68 percent of all electricity is generated from coal, nuclear, and hydro sources one can't really say that lighting provides a major opportunity for saving scarce oil and gas. But the cost of electricity is climbing, and lighting does utilize some fossil fuels, so it doesn't make sense to squander the lighting power we do use. Instead of emotionally pulling out lamps and darkening work areas to the point of reducing crucial productivity, energineers should be looking for ways to improve the energy efficiency of existing lighting systems. Fortunately, lighting modernization affords opportunities for saving both fuels and money. Here is what energineers need to know about it.

Traditionally, lighting users have concentrated on footcandle measurements as criteria for lighting design and specification. Recent new scientific developments indicate that there is a better way. Several, in fact. The idea now is to use the quantity of light as just one of several factors in designing for the quality of light. Quality lighting energineers now should consider undesirable veiling reflections, uncomfortable glare, and the selection of the proper amount of light for the task to be performed. New standards are available to the lighting designer such as visual comfort probability and equivalent sphere illumination. With these design tools, the user can obtain a much more pleasing work space, lighted for maximum tenant comfort and the highest operational productivity. It isn't so much that these design methods are revolutionary; but with the cost of electricity rising rapidly, it becomes more prudent to invest in the small additional design cost.

Energineers should also consider the source of light being specified. Selection of lamps which are most efficient as measured in terms of output lumens per watt is an effective means of conserving energy. It also saves money over the life of the lamps. As can be seen in Figure 1, fluorescent, metal, halide, and high-pressure sodium lamps—all high intensity

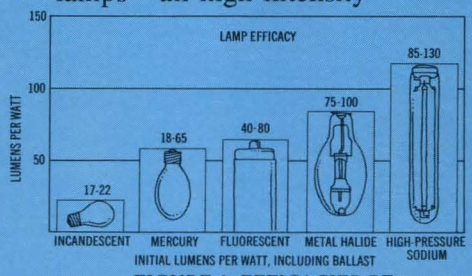


FIGURE 1. EFFICACIES OF LIGHT SOURCES

discharge (HID)—sources are the more efficient. This doesn't mean that all incandescent lamps should be automatically discarded. In fact some applications still are best achieved with Edison's "light in a bottle". The higher brightness and relative difficulty of distributing lumen output of HID sources has now been controlled by new fixtures. So it is not unusual to find them being aesthetically applied in many office and work areas that only recently would not have been recommended. Even the unique color qualities of HID sources are providing unexpected benefits when coordinated with appropriate interior decorations.

Also, energineers should consider the long range life cycle costs of lighting as well as the first installation cost. Figure 2 shows the total estimated 10-year costs

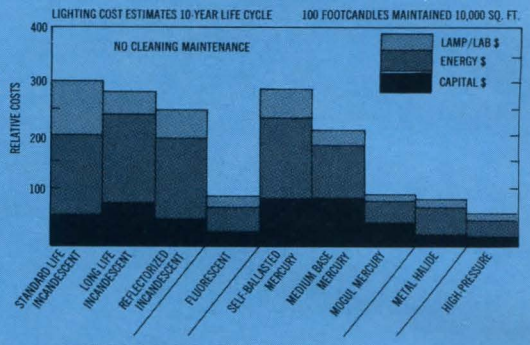


FIGURE 2. COMPARATIVE 10-YEAR LIGHTING COSTS

of producing one million lumens of usable light. This graph assumes no cleaning maintenance, a factor that no professional energineer should overlook. One of the primary considerations is the degree of lighting degradation occurring with the build-up of dust and the natural aging of the lamp. The maintenance philosophy has not changed in many years. It still centers on economic trade-offs between periodic cleaning and the group or spot replacement of older lamps. Fortunately, suppliers have developed elaborate decision models that are available to make life-cycle costing analysis easier.

Effective lighting controls can also have a beneficial effect on overall system costs. Selective switching, dimmers, and timed controls to automatically remove human judgement (or lack of it) should also be considered. Rising costs should convince energineers that these energy efficient relighting ideas are worth investigating. A qualified electrical contractor in your area will be glad to help. Just ask.

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Enfranchising the perceptions of people

DIMENSIONS: SPACE, SHAPE & SCALE IN ARCHITECTURE, *by Charles Moore and Gerald Allen; Architectural Record Books, New York, 1976; 183 pages, illustrations, $12.95.*

Reviewed by Raymond Gindroz and David Lewis

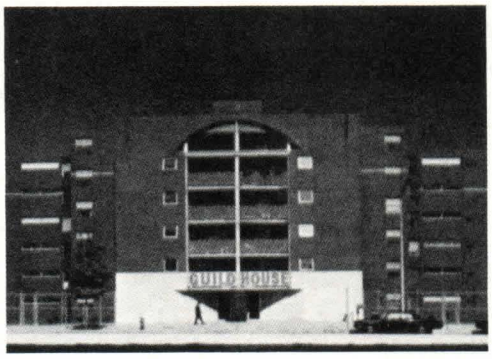
In our age in which personal environments consist of places connected by a fast-moving car or an airplane or a television set, what is the role of the architect as a maker of places? The authors of this book discuss this question through examining a variety of places which have been very carefully made. And in doing so they have produced what may well turn out to be one of the most important statements of urban design and architectural theory to be published in years.

The title essay sets the book's theme. It moves rapidly from an explanation of purely objective measures of height, width, and length to an exploration of the perceptions of the user—an odd mix of objective measure, eclecticism, and subjective emotion—until the reality of architecture becomes transferred from the dimensions, proportions, and forms on a drafting board of complex images in the minds and emotions of the users of architecture.

In the essay *Inclusive and Exclusive,* one of the illustrations is of an electronic circuit, and on the opposite page is a map of the Los Angeles freeway system. The inference is, of course, of an open-ended, almost random network of high-speed movement, interspersed with destinations, *places.*

"The most powerful places which our forebears made for themselves, and left for us," the authors tell us, "exist as a series of contiguous spaces. They organized a hierarchy of importance—first dividing what is inside from what is outside. . . . In Peking an axis penetrates from the outside of the city through layer after layer of walls to the seat of the emperor himself. . . . The temple of Angkor Wat, with its cross axes and its concentric rings of temples, provides a diagram of heaven which recalls the concentric rings of mountains around the seven seas which center on the sacred Buddhist mountain."

But the world of modern perceptions isn't like this anymore. "Many of us have stamping grounds which exist in separate places ending at one airport and picking up again at some other one. No matter where our bodies are at



any moment, we can have 'instant anywhere' by making immediate electronic contact with people anywhere on the face of the globe. We can even revel in the vicarious pleasure of blasting people off the face of the earth in order to be able to make contact with them in outer space. . . .

"About the time that architects and planners started to bleat about human scale (as if it had to do entirely with man's body and not at all with his mind or his ideas) and to rhapsodize about the pleasures of sitting in the Piazza di San Marco (the heart of Venice and 'the finest sitting room in Europe') people everywhere were changing the kinds of places they inhabitated, electronically extending themselves in new ways."

One theme of the book lies in the resolution of the question posed by the diagram of the electronic circuit: what is the role of the architect as a maker of places in a world of dynamic physical movement and in the networks of the mind? In searching for contemporary monumental architecture in California, the authors lead us away from such traditional place-making as the San Francisco Civic Center—to Disneyland. There they find an intense point in the looseness with which Los Angeles pours itself unhierarchically across the landscape, the "unchartable sea of suburbia," a specific place, "indeed a whole public world, full of sequential occurrences. . . . There on the inside of the Matterhorn from an aerial tramway over the bobsled run on the inside of the plastic mountain, is a vision of a place marked out for the public life, of a kind of rocketing monumentality, more dynamic, bigger and—who knows?—even more useful to people than any the world has yet seen."

Walking tours of buildings and environments develop and illustrate this theme. Some of the buildings are quiet indeed, with apparently unexceptional vocabularies. Others are rich, eclectic and eccentric. St. Thomas' Church on Fifth Avenue in Manhattan is examined both on the drawing board and in its urban context. Its curious asymmetries and distortions of Gothic imagery make little sense when seen as isolated elevation drawings. When perceived by the pedestrian moving along Fifth Avenue or 53rd Street, they become dynamic elements which create a memorable street corner, a monumental portal, and a sanctuary. In this way they provide an intense focus in the generalized texture of the city.

The Santa Barbara County Courthouse is unexpectedly linked with Le Corbusier's Carpenter Center to show how an architect can use specific images (one romantically Spanish Colonial, the other romantically TVA technological) to become the basis of a formal invention tailored to its local context. The relationship between local place and far away-image is made over and over again in many different ways by the user himself as he moves through these buildings.

Hadrian's Villa as the Roman emperor's representation of the entire world described in circles and squares is seen as a dialogue between one man's vision and a specific place, which provides a coherent sequence of startlingly different and unique places.

In the course of these walking tours, the authors lead us from the idea of architecture consisting of the images in people's minds to the brink of a very puzzling and disturbing question. In this electric age, do we simply provide "places" which have the same discontinuity of experience for people as switching from one TV program to another? Are "places" in competition with one another for memorability? The answer lies in the very notion of objective, "out there," form itself.

In examining two buildings by Joseph Esherick—the Cannery in San Francisco and the McLeod house in Belvedere, California—the authors refer to them as "dedicated to the moving inhabitants, not to the matters of form." Gradually the authors move from the old notion of objective form to the inhabiting of form, and from inhabiting form to enfranchising the perceptions and the values of the users themselves. Discussing housing design in Great Britain and United States, they find "the message to architects should be clear—invite involvement, invite care." Let the architect become involved with his constituents, and together create a place which at once responds to particular physical conditions and configurations but contains the joy of laughter and peace and surprise and discovery, of insideness and outsideness, of monumentality and of intimacy, of light and dark, of color and texture, a place that is physically there, to walk through and explore, and here as a living image in our cultural and personal baggage of experience.

Raymond Gindroz and David Lewis are architects and planners and partners in the firm of Urban Design Associates in Pittsburgh.

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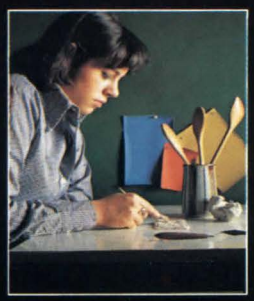

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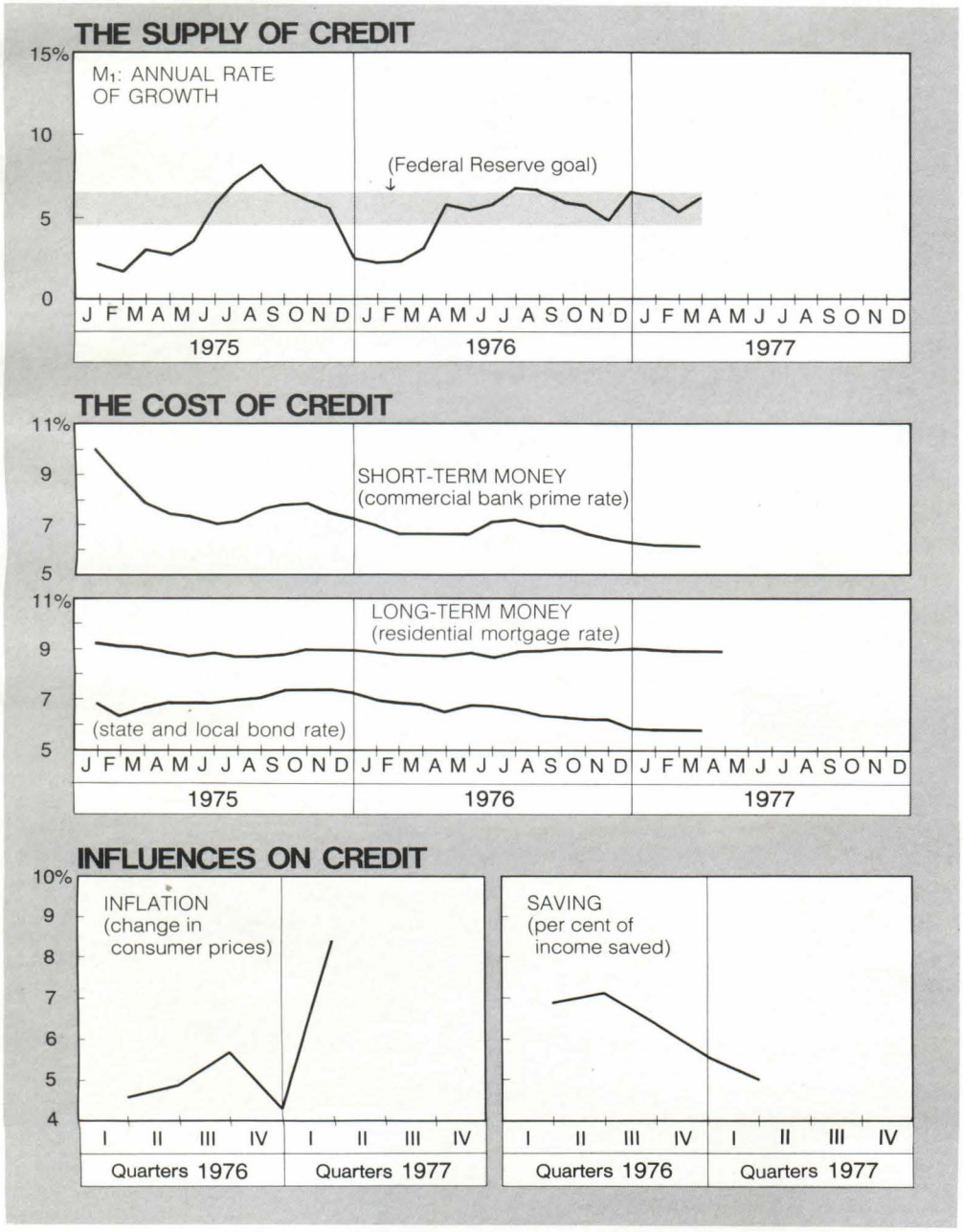
Stable money markets will benefit most construction this year, but a squeeze on housing funds could develop

Stability prevailed during the early months of 1977 in the money markets that provide the financing for construction. In a show of determination, the Federal Reserve continued to keep a firm grip on the money supply (M_1), holding its growth within the target range (4½ to 6½ per cent) for what now amounts to more than a year (top chart). With business demand for funds still less than robust, this proved adequate to meet the financing requirements for most types of construction, and interest rates (middle chart) either held stable (short-term) or declined ever so slightly (mortgages and state/municipal bonds).



It's not quite a picture of *complete* stability, however. The bottom chart offers a look at a couple of unsettling changes taking place behind the scenes, which could have a bearing on the behavior of the credit markets later this year, or early in 1978.

- The flare-up of inflation in the early months of 1977 has made the Fed nervous. In May, speaking the mind of the Board, Chairman Arthur F. Burns lectured the Senate, "Too often in the past we have lacked the courage or the patience to stay long enough on a monetary and fiscal path that will lead to non-inflationary economic growth. We cannot afford to backslide once again." Translation: I'm still convinced that the economy is more in need of restraint than stimulus. If the Congress doesn't curb its spending, the Fed will have to adopt an even tighter monetary policy than it wants to. (Or something close to that.)
- Consumers have backed off the uncommonly high rate at which they had been saving in 1975 and most of 1976 when they were stashing away better than 7 per cent of their incomes. (It was this strong flow of deposits into thrift institutions that set up the boom in homebuilding that's been going on since last fall.) The savings rate is now down to only 5 per cent of disposable income, and that 2 per cent differential means a shortfall of roughly $25 billion a year.

How much do these new developments threaten the continued expansion of construction markets? For the balance of 1977 they don't pose much of a threat at all. Above all else, savings and loans and other thrift institutions are highly liquid, having both the commitments and the funds to sustain a high level of building for at least another six months. But as we get into 1978, these constraints on the supply of credit—along with a reviving demand for funds by business to finance a 15 per cent higher level of capital spending—could mean the beginning of a credit squeeze for some types of construction, notably housing.

It doesn't have to happen, of course, but the Federal Reserve's dogged pursuit of a tight money policy increases the probability. If nothing else, these developments at the edges of the money markets are further reason to look for a greater shift in construction away from housing and toward commercial and industrial building in 1978.

George A. Christie
Vice president and chief economist
McGraw-Hill Information Systems Company

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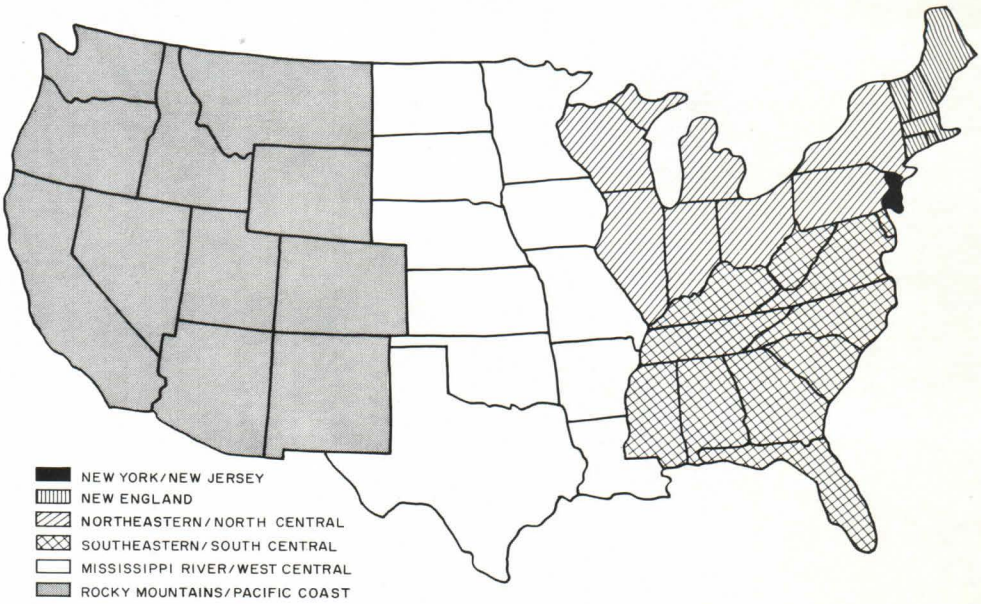
Construction costs show an 8.9 per cent rise in twelve months

The following is a summation of regional per cent changes in building construction costs. Based on a recent survey of the prices of five key building materials, and wage rates for ten widely used building trades, average building construction costs have increased 5.2 per cent in the past six months and now stand 8.9 per cent above a year ago. On the average, 183 metropolitan areas throughout the United States reported building material prices increased 10.2 per cent in the past 12 months, while hourly wage rates of building trade craftsmen increased 6.9 per cent for the year.

John H. Farley, chief editor
Dodge Building Cost Services

Districts	Number of metro areas	9/76 to 3/77	3/76 to 3/77
Eastern U.S.			
Metro NY-NJ	16	4.5	7.9
New England States	21	5.4	9.1
Northeastern and North Central States	46	4.9	9.2
Southeastern and South Central States	39	4.5	7.7
Average Eastern U.S.	122	4.8	8.5
Western U.S.			
Mississipi River and West Central States	35	5.7	8.4
Pacific Coast and Rocky Mountain States	26	6.4	11.3
Average Western U.S.	61	6.0	9.8
United States: Average	183	5.2	8.9



HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES 1941 average for each city = 100.00

Metropolitan area	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976 (Quarterly) 1st	2nd	3rd	4th	1977 (Quarterly) 1st	2nd	3rd	4th
Atlanta	335.7	353.1	384.0	422.4	459.2	497.7	544.8	575.0	598.7	602.6	604.1	655.6	657.1	701.5	712.0		
Baltimore	295.8	308.7	322.8	348.8	381.7	420.4	475.5	534.3	581.1	609.7	611.2	583.5	585.0	605.7	614.8		
Birmingham	274.7	284.3	303.4	309.3	331.6	358.3	402.1	421.2	448.0	469.0	469.5	550.4	551.9	543.8	551.9		
Boston	265.7	277.1	295.0	328.6	362.0	394.4	437.8	462.5	513.2	535.7	537.2	554.4	555.9	567.7	576.2		
Chicago	328.4	339.5	356.1	386.1	418.8	444.3	508.6	529.6	560.1	560.3	561.8	633.7	635.2	662.2	672.1		
Cincinnati	288.2	302.6	325.8	348.5	386.1	410.7	462.4	500.1	550.6	602.9	604.4	608.3	609.8	615.6	624.8		
Cleveland	303.7	331.5	358.3	380.1	415.6	429.3	462.2	509.5	531.0	578.7	580.2	631.4	632.9	619.4	628.7		
Dallas	270.4	281.7	308.6	327.1	357.9	386.6	436.4	477.9	499.6	506.1	507.6	537.0	538.5	560.1	568.5		
Denver	305.1	312.5	339.0	368.1	392.9	415.4	461.0	510.0	553.6	580.3	581.8	614.5	616.0	656.3	666.1		
Detroit	301.2	316.4	352.9	377.4	409.7	433.1	501.0	538.7	597.5	615.1	616.6	615.7	617.2	634.2	643.7		
Kansas City	264.3	278.0	295.5	315.3	344.7	367.0	405.8	444.9	509.1	523.8	525.3	545.8	547.3	568.2	576.7		
Los Angeles	310.1	320.1	344.1	361.9	400.9	424.5	504.2	531.8	594.1	599.1	600.6	671.6	673.1	709.2	719.8		
Miami	286.1	305.3	392.3	353.2	384.7	406.4	447.2	485.5	558.9	588.1	589.6	591.0	592.5	604.6	613.7		
Minneapolis	300.2	309.4	331.2	361.1	417.1	412.9	456.1	488.6	538.0	548.3	549.8	562.6	564.1	593.0	601.9		
New Orleans	267.6	274.2	297.5	318.9	341.8	369.7	420.5	442.1	494.7	522.8	524.3	533.3	534.8	580.2	588.9		
New York	313.6	321.4	344.5	366.0	395.6	423.1	485.3	515.3	533.5	539.4	540.9	579.3	580.8	607.7	616.8		
Philadelphia	293.7	301.7	321.0	346.5	374.9	419.5	485.1	518.5	567.5	581.8	583.3	577.7	579.2	615.8	625.0		
Pittsburgh	275.0	293.8	311.0	327.2	362.1	380.3	424.4	465.6	509.5	508.5	510.0	524.8	526.3	549.5	557.7		
St. Louis	293.2	304.4	324.7	344.4	375.5	402.5	444.2	476.7	528.9	542.7	544.2	535.6	537.1	605.8	614.9		
San Francisco	390.8	402.9	441.1	465.1	512.3	561.0	632.3	672.5	753.3	790.1	791.6	819.3	820.8	904.5	918.1		
Seattle	283.5	292.2	317.8	341.8	358.4	371.5	424.4	450.2	515.1	525.9	527.4	569.0	570.5	603.7	612.8		

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.

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The news release as marketing tool

by Stephen A. Kliment, AIA

A news release is nothing more than an 8½-by-11 sheet of paper (two sheets at most), typewritten for offset reproduction, and designed to impart to its recipient a piece of news and a source for further details. What differentiates news releases from most other tools of marketing communications is the indirect path used to reach the client. There is, in other words, between the client and yourself, a middleman. This middleman who must be satisfied as to the news value of what you have sent him, represents the news media.

Not all happenings lend themselves to this vehicle. The simplest guide to apply is the "single event" rule. Imagine that you (1) are about to complete a major commission (if on time and within the budget, or a candidate—you feel—for an AIA Oscar, so much the better); (2) have just been retained for an important commission; (3) have made some key staff promotions or appointments; (4) have agreed to merge with or acquire another firm; (5) have received some outstanding recognition for a project, principal or the firm as a whole; (6) have changed address; (7) have opened a branch office; or (8) have made a technical or management breakthrough.

All these situations fit the "single event" rule and justify a news release.

When to avoid a release

Do not use a news release merely to talk about a continuing activity of the firm. A job in progress, the workings of your firm's financial management system or project delivery approaches, are the stuff of feature articles, not news releases.

Nor are you likely to get any hot editorial reactions with releases on the virtues of an internal management reorganization, completion of interim phases of a project, or staff reassignments. An exception may be the assignment of a new person to head a branch office; in this case a notice in the local press may have some market value, especially in a smaller community.

Who should receive news releases

Begin to build up a media list. Divide it along these lines:

1. *Printed:* journals and newsletters read by your clients, your peers and colleagues; journals and newspapers read by the general public; financial journals (if your firm is publicly owned).

2. *Broadcast:* radio, television, wire news services.

3. *Selected associations* of potential clients (e.g. school administrators, commercial developers).

You may further break down your list along the lines of national, regional and local media. If you specialize in certain building types (hospitals, multi-family residential) or services (renovation, construction management), you could divide the list on such lines.

The breakdown allows you to "rifle-shot" releases. (Why send news of a school project to a magazine read by apartment developers?) Scattering releases across the whole spectrum is costly, and needlessly saturates your market. Make a point of keeping your list up-to-date, especially in terms of the name and position of the target editor. (For sources you can use to build up a media mailing list and keep it up-to-date, see the article "Getting Published," RECORD, February 1977).

Some firms also send courtesy copies of news releases to their mailing list of past and current clients, along with a short explanatory note. If you retain a clipping service, be sure to send them a copy of all your releases; it will help the service do a more thorough job for you.

Finally, make a point of following up a mailing with a phone call to a handful of key journals.

Timing for market impact

Timing depends on publication dates. A monthly journal usually cuts off all but earth-shaking events about three to five weeks before publication date. Weekly magazines, which tend to have a strong news slant, are more flexible and will process news almost up to the last minute. Always (even if your agreement with the client doesn't require it) coordinate publicity with the client, general contractor, key suppliers and consultants. It may save you time and money and will make for a bigger splash.

Writing the news release

The typical news release consists of seven parts: your logo and address; a title or headline; contact information; release date; dateline; text; and supplements.

The most crucial element is the title or headline. This should be typed in capital letters and should not exceed two lines; it should be informative, specific, active, and dramatic without being coy, cute or corny.

As to text, what distinguishes a news release from other pieces of writing is sequence and emphasis. Place the main point in a short first paragraph. (Editors cut from the bottom of the release.) The second and successive paragraphs should then take up: (1) the event in more detail, including some back-up rationale; (2) a quote or two on the event by a principal (optional); (3) *relevant* background on the firm and its principals; (4) information on *relevant,* recent, or current projects.

No news release should go beyond two typewritten double-spaced pages. The aim of a release is to whet the appetite, not to cover every possible angle. If there is so much to say it cannot fit onto two pages, you need to rewrite it or forget about it. To round out the material, it sometimes helps to include a project photograph, staff snapshot, or copy of a report, if appropriate.

It is a sanguine office that believes all editors will observe a suggested release date. You will thus do better to wait until all contents are cleared, and mark the piece "for immediate release" at the top of page 1.

Producing the release

If you plan to issue more than three or four releases a year, develop a special news release form. It is rarely worth setting the release in type. It costs more money and dilutes the sense of immediacy conveyed by the typewriter face. The original should be clean, black and sharp. Double-space the text and leave generous margins for use by the editor. Reproduction is best by photo offset for the quantities you are likely to need. Offset costs are about $5 per hundred per original.

Tying in with other marketing efforts

As we noted, your program of news releases cannot exist in a vacuum. It must tie-in with the over-all direction of your marketing and communications. If you plan to expand geographically, or cultivate a particular series of building types or services, or make an organized effort to improve the level of design, then the tenor of your news releases should reflect this, along with your firm's other marketing communications.

Mr. Kliment is an architect and communications consultant in New York City.

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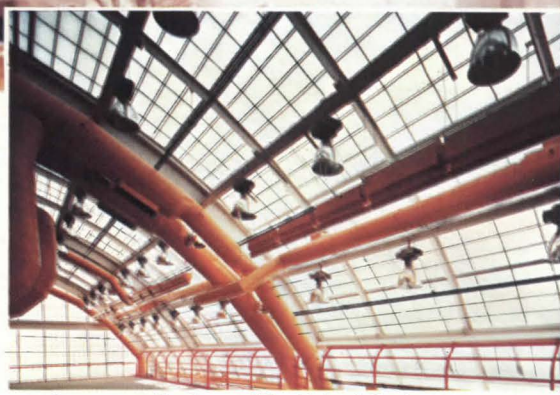

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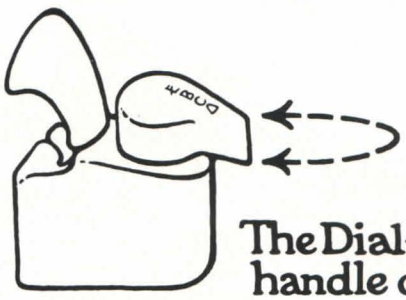

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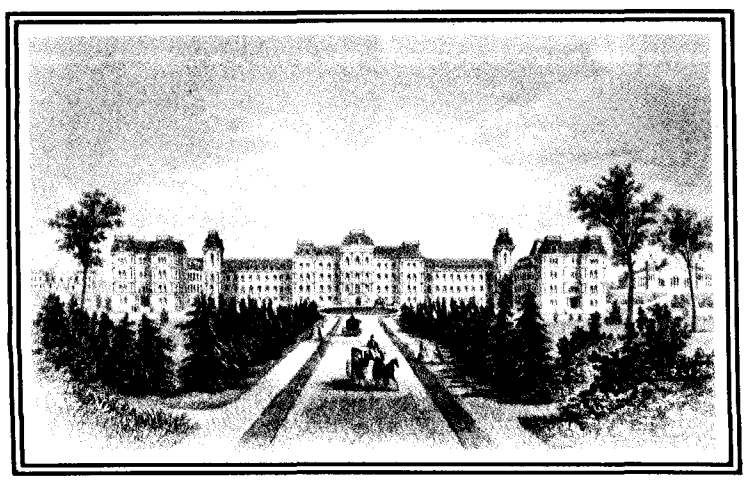
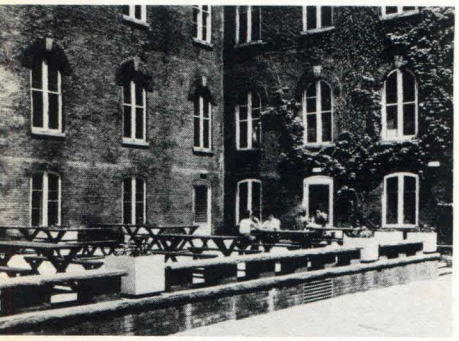
RECYCLING "MAIN" –A LANDMARK AT VASSAR



Vassar College Library

The engraving at left was made soon after Main, designed by James Renwick in the Second Empire style, was completed in 1865. The Renwick building is the heart of today's Vassar, but back when the college was founded, it was the entire body as well. In the beginning, Vassar girls—among the first American women ever to go to college—lived, ate, went to class and studied in this grand structure. As the campus grew, Main's functions changed and by the early 1970s it seemed logical to expand it into a needed college center. Architect Jean Paul Carlhian of Shepley Bulfinch Richardson and Abbott proposed that the new facilities (above) be wrapped around a rear wing in such a way that two high, skylit atriums were created. This juxtaposition of old and new has produced eminently successful interior spaces, which interconnect easily while leaving the original landmark, including the main facade shown in the engraving, intact. For respecting the old building and bringing new life to the restored structure, SBR&A have won a 1977 AIA Honor Award.—*Mildred F. Schmertz*



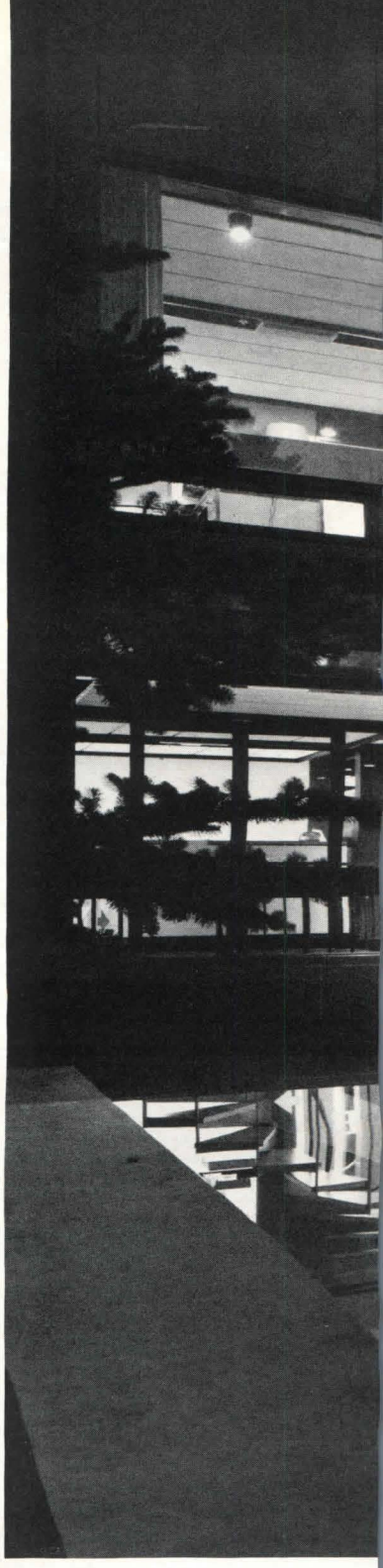
It is among the nice coincidences that occasionally happen in the practice of architecture that Jean Paul Carlhian of Shepley Bulfinch Richardson and Abbott should have designed the addition to this particular building by James Renwick. The latter, a great 19th-century eclectic, designed in several styles including his Pugin-inspired Gothic Revival. Grace Church and St. Patrick's Cathedral in New York City, and the crenellated and spired Gothic fantasy for the Smithsonian Institution in Washington, D.C, are among the best of his works in this style.

During his visit to the Paris Exposition of 1854, Renwick discovered a new brand of eclecticism—a French Renaissance Revival—called Second Empire in honor of Napoleon III. What he saw were the enlargements of the Louvre by Louis Visconti and H.M. Lefuel. He returned to the United States with the new style as part of his repertoire. He performed it conspicuously in Washington for the Corcoran Gallery of Art (now the Renwick; RECORD, July 1972, pages 110-112), and for a much smaller audience in the small town of Poughkeepsie—that new breed of woman student at Vassar.

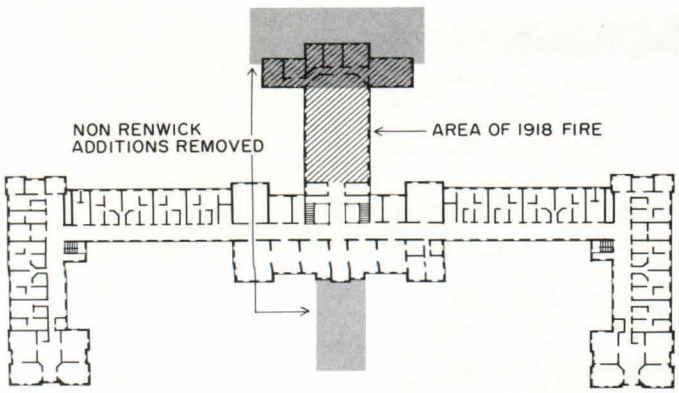
Back to Jean Paul Carlhian and the coincidence. He, most fittingly, is French, grew up in Paris, spent his boyhood at the Louvre and studied architecture at the seminary for which eclecticism was the religion—the *École Nationale Supérieure des Beaux Arts.* From 1937 to 1948 he competed for a *Grand Prix* with, for contrast, a two-year interval at Harvard under Walter Gropius from 1945 to 1947. So he too, like Renwick, has brought a little bit of Paris to Poughkeepsie. Deeply interested in formal composition as taught by the *École*, he has applied its principles in this addition to the Renwick building.

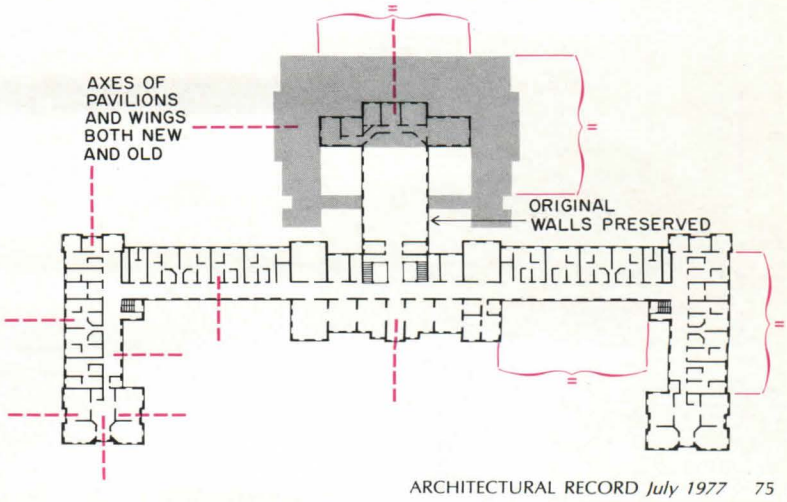
In his own words: "The essence of any French Second Empire composition lies in the articulation of various elements of the plan and elevation in a series of wings and pavilions, symmetrical within themselves and symmetrically disposed on either side of a single grand axis. As a clue to what we believe to be the massing success of the addition, such an arrangement was preserved, with all the new elements arranged symmetrically along the original main axis, thus recognizing, reemphasizing, and reinforcing the original concept. The side elevations were articulated along similar lines. The openings posed a real problem, with all efforts to duplicate, imitate or recall the Renwick windows turning into failures. Skylights were chosen, wherever justifiable, over conventional windows. Where the latter were deemed necessary they were grouped into simple glass surfaces, each of which became a single statement. Another challenge was the roof silhouette. Sloping roofs or other 'Mansard' solutions interfered with views from Main's windows. We devised a crenellated outline where cutouts (in lieu of pediments) expose inward sloping skylights (in lieu of dormers) which we believe provides a measure of articulated richness which can stand on its own besides Renwick's bravura."

The addition stands on its own with Main on the interiors as well. Its two-story landscaped atriums, spanned by bridges at the second level, are dramatically handsome communal spaces for the college to congregate—better than any of the major spaces extant in the Renwick structure.



The two old photographs (top left) show the wing as it appeared before the renovation. The outdoor terrace has been replaced by a two-story atrium, and a new terrace (left) extends beyond the snack bar in the new structure. The photo of the new addition (above) has been taken from a vantage point similar to the ones in the old photographs. It is accessible from the four points of the compass including a bridge over the sunken court which illuminates and gives access to the lower lobby. The diagrams (right) show the elements destroyed and replaced and the considerations of symmetry and proportion which controlled Carlhian's design.


NON RENWICK
ADDITIONS REMOVED
AREA OF 1918 FIRE


AXES OF
PAVILIONS
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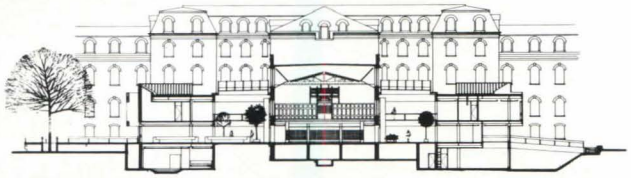
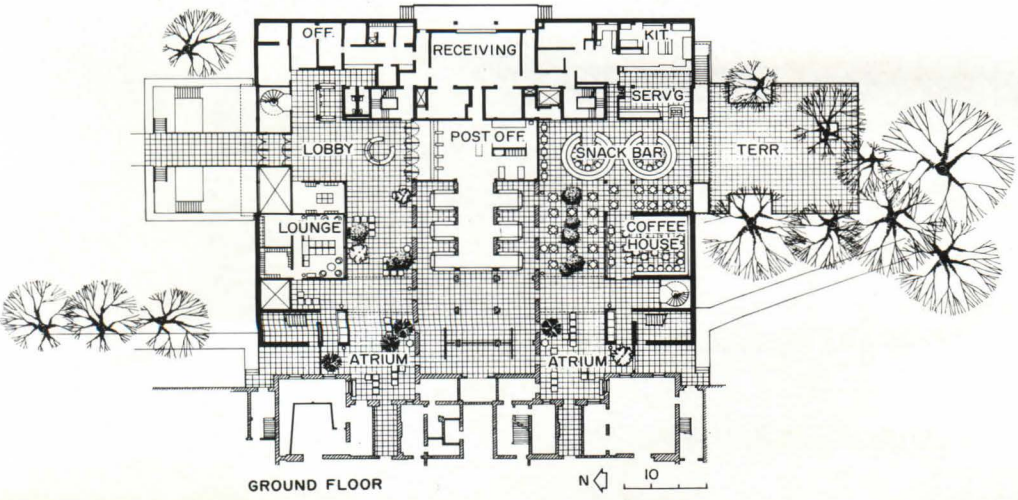
WALLS PRESERVED



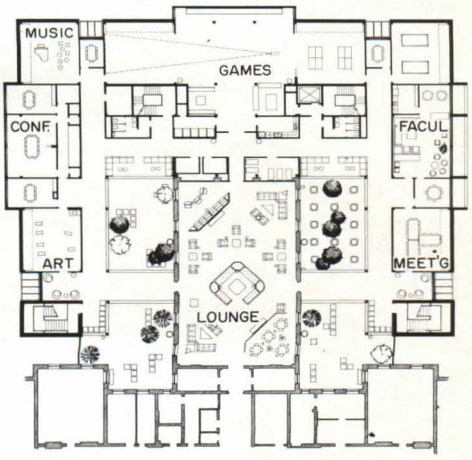
As the section (left) and the plans (opposite page) indicate, the new addition consists basically of a U-shaped structure wrapped around the eastern stem of Main. The entire four-story building over 500 feet long was originally designed to house all of the activities of the Vassar of 1865. The original structure remained virtually untouched save for two additions. Following a disastrous fire in 1918 which swept away the original chapel and its apse, the stem of the "T" was extended eastward. The other addition created a new axial appendage toward the west (see diagrams overleaf). The latter unfortunate accretion was demolished by Vassar in the sixties in celebration of the centennial of its foundation.

Carlhian persuaded the College that the post-1918-fire addition to the east be demolished as well. Everything left was by Renwick and Carlhian and his team were determined to preserve as much of his work as possible, as well as adding to it in the original spirit of his design.

Most dramatically, Carlhian preserved Renwick's walls and windows by holding his additions respectfully back from them by the use of glass-enclosed halls and two magnificent atria (left and right photos), which serve as all-weather gathering spaces. These are crossed by bridges at the second floor level that interconnect the two-story lounge in the Renwick "T" (bottom left) with the additions which flank it on either side. This lounge was a former dining hall which had been badly remodeled after the 1918 fire. Carlhian removed the ceiling, recaptured the spaces between the post-fire trusses, and revealed the original Renwick windows that had been blocked up—thus bringing sunlight to the room.



GROUND FLOOR



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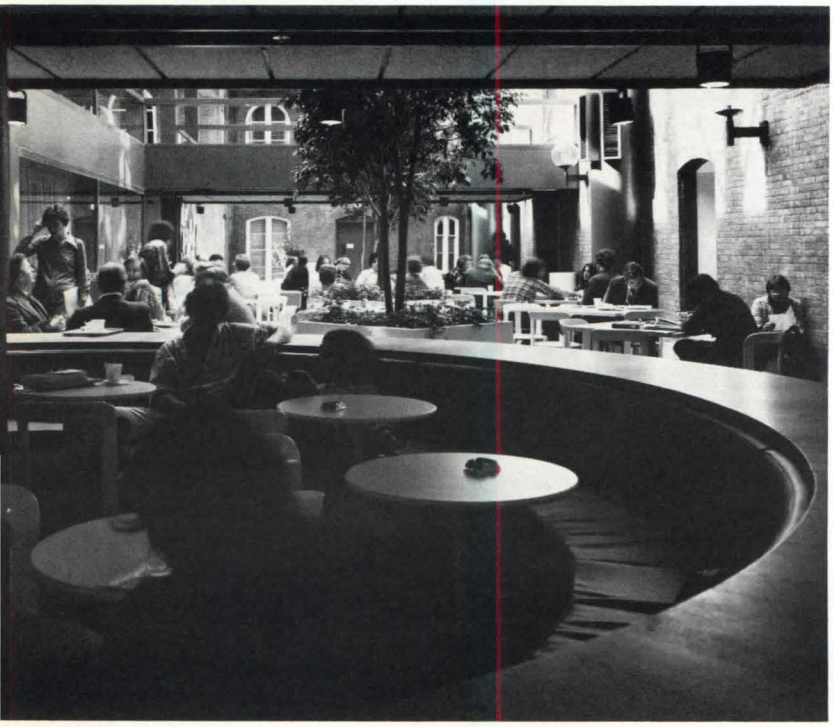
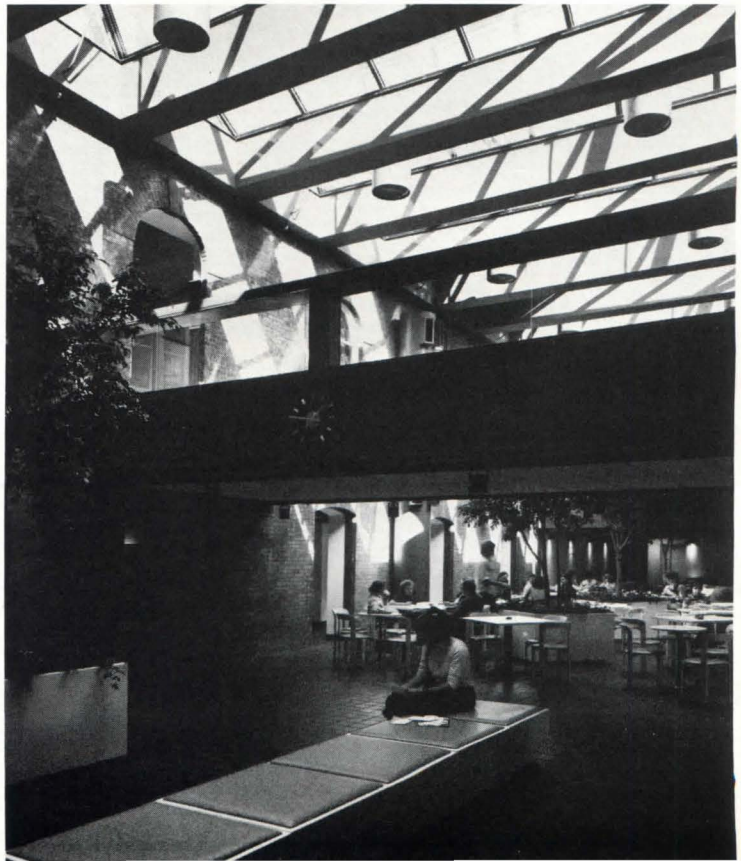
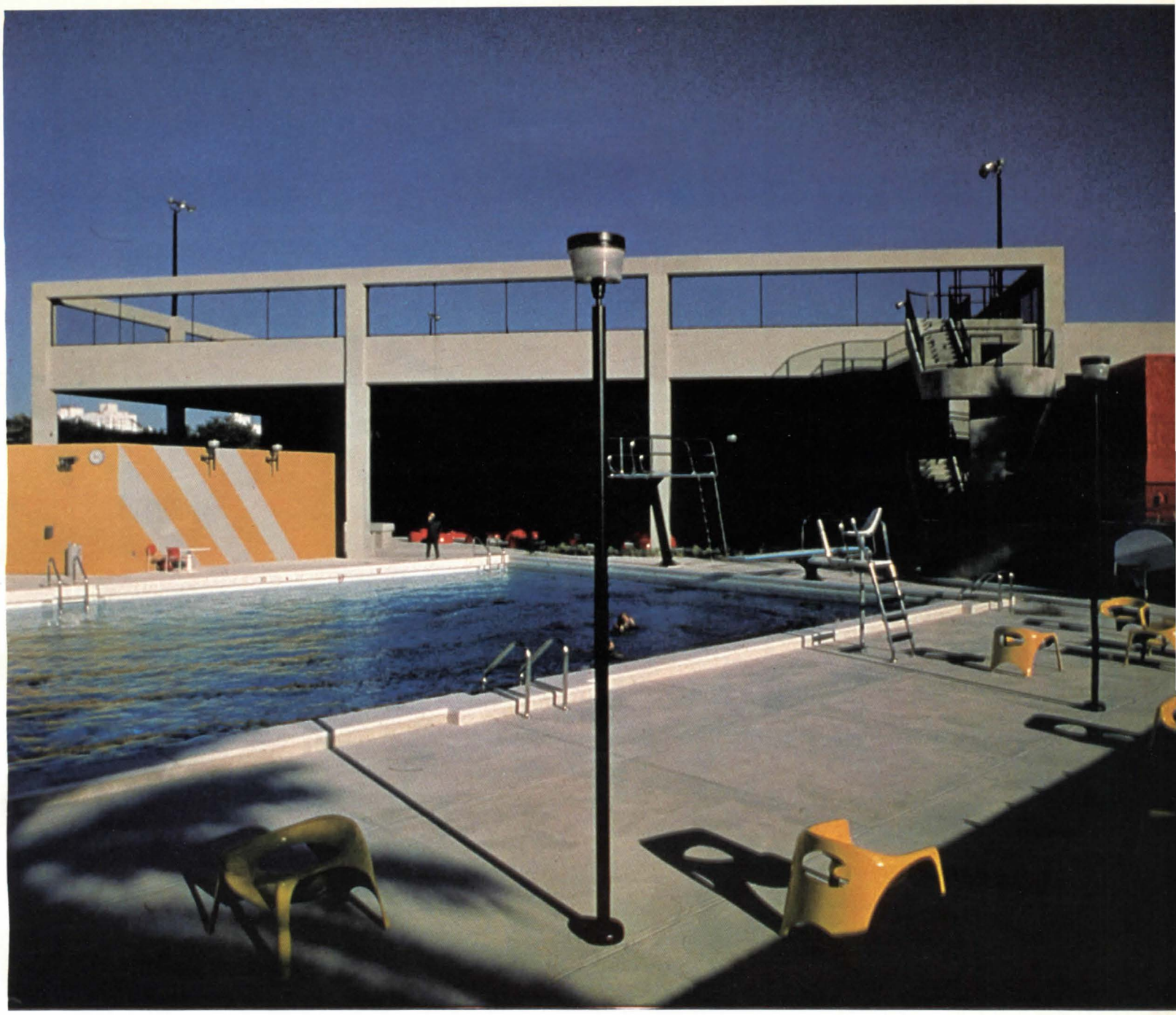


Special care was taken to assure that all the new brick walls in the addition matched perfectly the color and coursing of the original. Exposed metal parts on the interior as well as the exterior were either coated or painted in a special shade of gray to recall the subtly differing shades of the old slate roofs of Main. Shown above is the student pub and to the left and below are two views of the atria. Where needed, the original windows have been remodeled as walk-through openings. The atria are used primarily as sitting, study and circulation space.



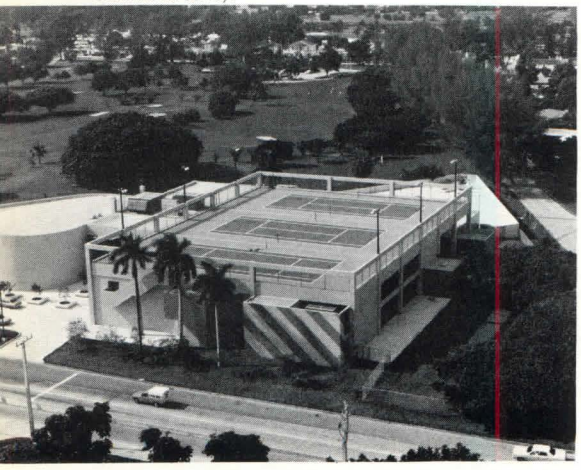
COLLEGE CENTER, Vassar College, Poughkeepsie, New York. Architects: *Shepley Bulfinch Richardson and Abbott.* Consultants: *Zaldastani Associates (structural); Stressinger & Adams (mechanical); Thompson Engineering Co. (electrical); Elizabeth Carlhian (landscape).* Contractor: *Dimeo Construction Co.*



A DIFFERENT KIND OF YOUTH CENTER

The "junior citizens" of Miami Beach have a sparkling new facility that is intended to bring them together as a cohesive group —and hence keep them in the community. To serve its particular function, the building differs from traditional concepts in many interesting ways. The image is vibrant; the possible activities are many and varied. And most important, the building is what the users really wanted.—*C.K.H.*

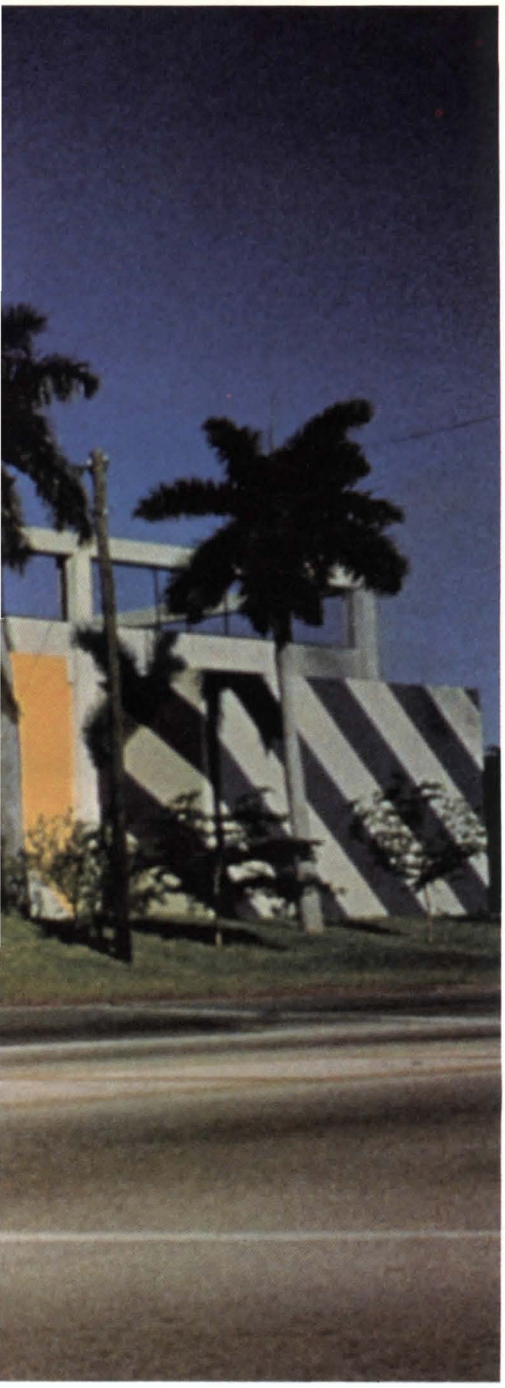
Smith Aerial Surveys

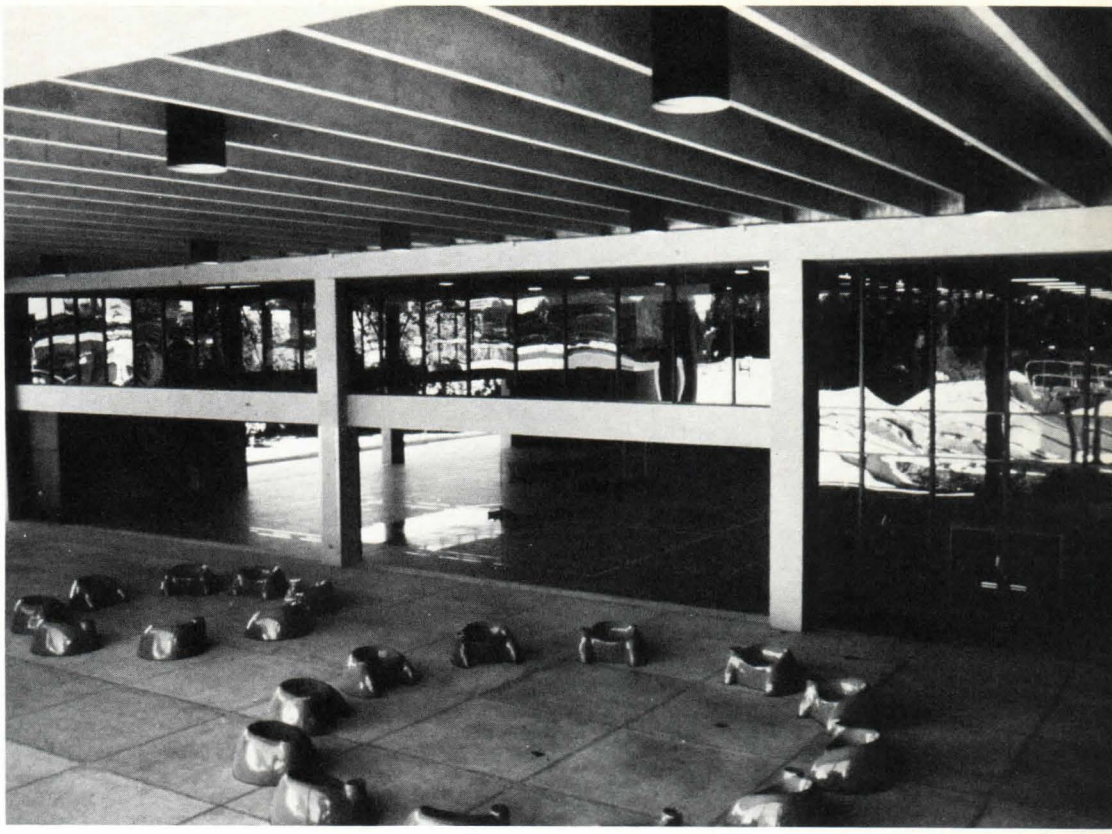


The Miami Beach Youth Center is different from many of its predecessors because of the wide variety of activities offered, because those activities are actually what the users wanted, *and* because of the facility's distinctive design. Architects Ferendino/Grafton/Spillis/Candela spent a great amount of time and effort to make sure that the results met the difficult program, and some of the processes are discussed later on. But first, it is interesting to see what their efforts produced.

A surprise here is the diversity of possible activities beside the usual gymnasium and meeting rooms (see plan, overleaf). Within the brightly colored environment, there are constant loud sounds from bowling lanes, pinball machines (located on a mezzanine above the lanes), a juke box and multi-media equipment (located in the smaller round form at the top of the plan, overleaf). Separated from the noisy uses, there are facilities for serious pursuits such as reading, group discussion, musical practice (also located on the mezzanine) and even television programs to augment the local schools' requirements in a more relaxed atmosphere.

The architects point out that—despite the presence of an ice skating rink (to the left of the entrance)—the center conserves energy in ways that hark back to earlier practice than the normally fully enclosed educational facilities in the region. For example, much of the floor area relies on natural ventilation, which of course is only possible all year in such





As viewed from the entrance side (photo, left), the building forms a gateway to a multitude of activities, which include tennis on the roof and swimming in the 75-foot pool. Other activities in the gymnasium are accommodated in spaces that can be open to the outdoors or enclosed, depending on the normally temperate weather (photo above).

subtropical locations. The gymnasium has walls that can be opened up by means of rolling steel doors. And the center's main gathering place is a double-height open "porch" between the swimming pool and gymnasium (photos above and last page).

Almost all of the center's spaces open to each other—either directly or through glass walls. The objects are to encourage interest in all of the activities, to avoid a feeling of isolation when the spaces are under-utilized, and of course to allow surveillance from the control desk. (There are three full-time directors, a supervisor and many part-time directors.)

The 42,300-square-foot factility was built for a cost of $2,300,000 on a difficult triangular site, which contained utility easements that

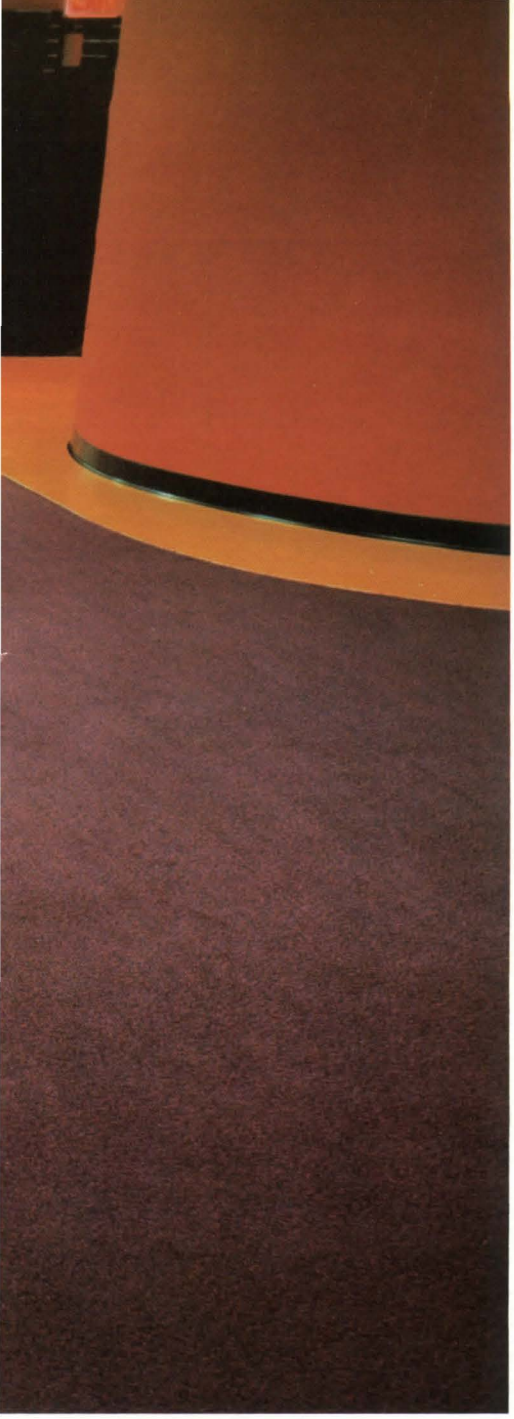
further complicated planning. The building's scale recognizes both the nearby large single-family houses and the fact that the building is institutional in nature. The center's dynamic appearance relies on the molding of traditional construction methods—rather than structural theatrics. It is built in the usual construction manner for the area: poured-in-place concrete frame with stuccoed concrete block infill. The mezzanine and roof (where three tennis courts are located—see aerial photo) are precast concrete double tees.

How did this youth center get to be so different? To a distant viewer, Miami Beach might appear to be the last place in need of government-sponsored social programs and their facilities, but it has some unique problems. One is a large population of the aging which has retired to a popular mecca of "golden years" sun worship, only to find that their once adequate funds no longer can support them.

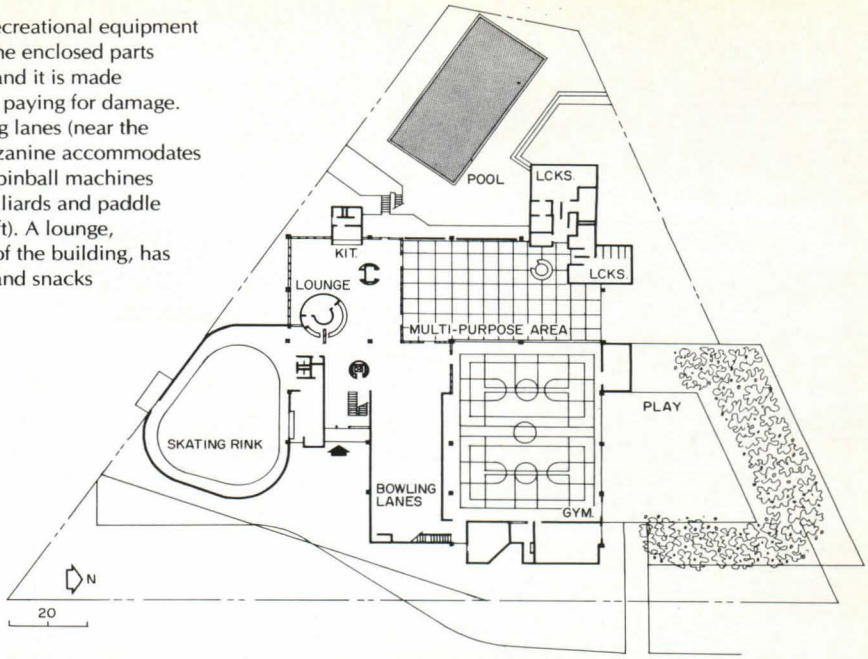
Another problem has been the disaffection from the city by the children of often affluent local families. And it was to counter this disaffection that the concept of the youth center was started.

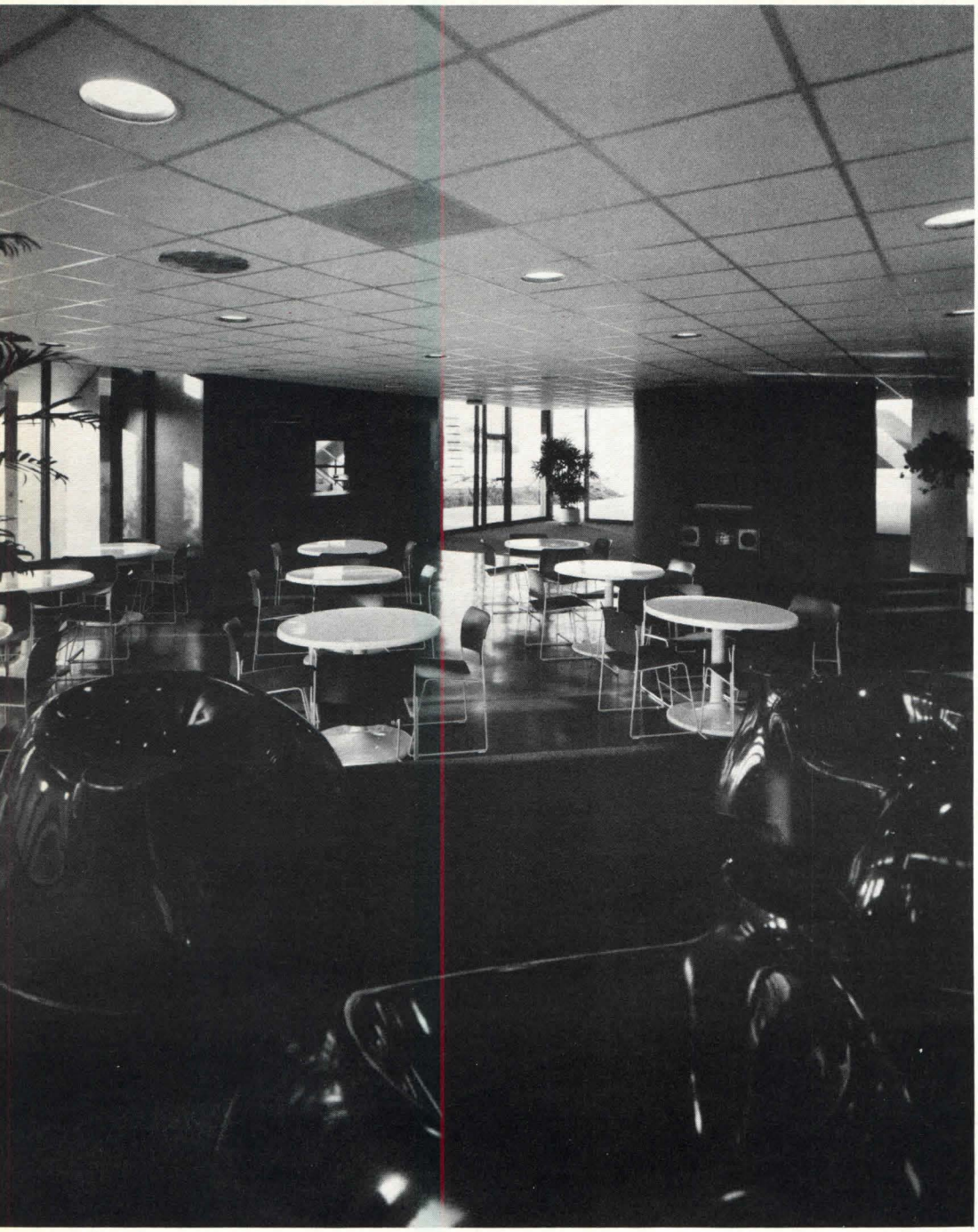
While the very term "youth center" may conjure up images of impoverished neighborhoods and the desire to keep the poor off the streets, the needs here were quite different: to give social cohesion—and hence civic enthusiasm—among contemporaries who might be otherwise scattered over a broad geographic area. To do this, the center was to provide constructive outlets for pent-up energies, including augmenting school programs and any other activities that might be popular—as well as the traditional athletic facilities.

How is such an unusual facility programmed? To determine what activities were to be housed—as well as an appropriate site—architects Ferendino/Grafton/Spillis/Candela were commissioned to do preliminary research right after approval of the $2.5-million bond issue. A group called "Junior Citizens of Miami Beach" was organized with representation by all local schools, and it acted as an advisory committee to the architects. In the group's



A multitude of recreational equipment is contained in the enclosed parts of the building, and it is made feasible by users paying for damage. Over the bowling lanes (near the entrance) a mezzanine accommodates practice rooms, pinball machines and tables for billiards and paddle tennis (photo, left). A lounge, toward the rear of the building, has tables for study and snacks (photo below).



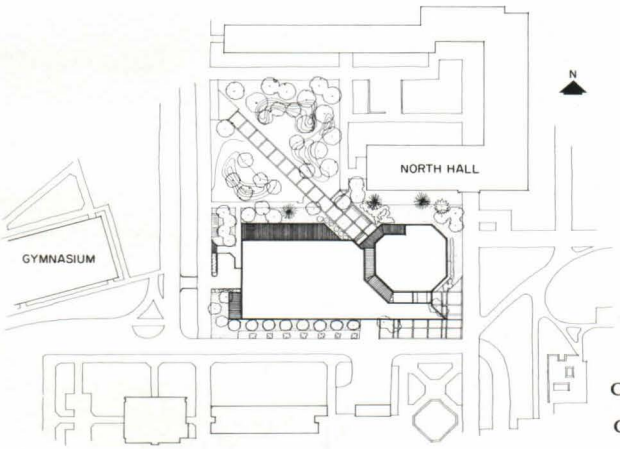


name, a survey was sent to all students between 9 and 18 years of age, and its first question concerned just what was perceived by the potential users when the term "youth center" was mentioned. Aside from the answer: "a place of our own," their perception was close to that of the original intention: to create an atmosphere for social cohesion. The need for the center was emphasized by almost twenty per cent of the respondents stating "nothing" in answer to what they did in their free time.

Other questions involved interests in activities not accommodated by existing local facilities (the consensus included swimming, bowling, tennis, karate, billiards, gymnastics, relaxation, concerts, "rap" sessions and—surprisingly—ice skating) and who should use the facility ("teens," "pre-teens" or both—the consensus was both). Another question concerned the desirable location of the proposed facilities, and the majority answer was a generous "anywhere." The last answer left the architects with a long, detailed search to determine a site. This was finally chosen on the edge of a golf course near two of the larger local schools and public transportation routes.

MIAMI BEACH YOUTH CENTER, Miami Beach, Florida. Owner: *City of Miami Beach.* Architects and engineers: *Ferendino/Grafton/Spillis/Candela—partner-in-charge: Edward Grafton; project manager: Jose Corbato; project architect: Julio Grabiel; interior and graphic designer: Howard Snoweiss* and *Juan Lezcano.* General contractor: *Seldin Construction Co.*

Ezra Stoller © ESTO photos



A CENTER FOR AUDIO-VISUAL DEVELOPMENT

The Clark Kerr Learning Resources Hall on the University of California campus in Santa Barbara is the first link of an audio-visual inter-campus communication system in the state—a structure housing the technology of an educational network to share information. As a communication service center, it was designed by architects Marquis & Stoller not just to provide for all the newest electronic equipment, but to meet the obvious need for spatial flexibility to accommodate yet-to-be-developed equipment. In so doing, the architects also maintained a sensitivity to non-technological aspects, perhaps demonstrated best by not losing sight of a simple pedestrian circulation pattern, and ultimately converting that circulation space into a major design feature in the new structure and thereby enhancing the experience for the passer-by.—*Janet Nairn*

The purpose of the Learning Resources Hall is to be an integrated, specialized, non-teaching facility for the development, production, storage and distribution of any kind of visual or audio material that can be used as a learning aid by students and teachers. It is, in essence, an extension of the conventional library containing printed matter; it is an electronically-based library. It has become the central communications hub on campus, and is directly electronically connected underground to several other buildings. While this structure was intended to be a prototype design for such facilities on other campuses throughout California, the concept has not yet been widely adopted.

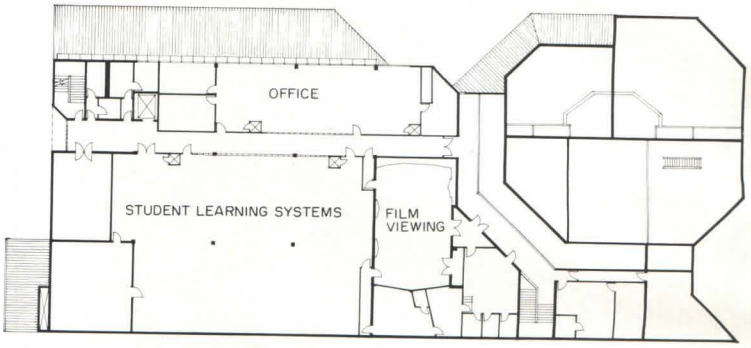
To facilitate the various kinds of spaces needed to carry out this multi-dimensional audio-visual purpose, and to maintain what was a long-established, well-trodden axial through the site, the 45,000-square-foot building was separated into two sections by a skylighted arcade. One section houses the video production facilities in a soundproof chamber; the other houses offices, photo studios, engineering shop, graphic arts, set production and storage—the support facilities.

The arcade is the focal point of the structure for most. It becomes a special experience, a bonus that did not exist on the campus before. There is a great strength of enclosure, partly due to blind walls enclosing spaces needing little natural light and to the dominant coffered ceiling at the entrance. Yet there is also a light-filled openness with non-enclosed entrances and the two-story height of the space, capped by a skylight.

The structure is poured-in-place reinforced concrete, with shear walls for expected lateral earthquake movement. The video studio is separated structurally from the balance of the structure. In the arcade, the roof and second-story balcony are cantilevered from the large wing, attached at only two points to the video studio wing (on the north and south sides—seen on the second story plan) by a hanging connection composed of two steel pins that provide a vertical expansion joint.

At completion in 1975, the building cost was $55 per square foot.

CLARK KERR LEARNING RESOURCES HALL, The University of California, Santa Barbara, California. Architects: *Marquis & Stoller—J. Peter Winkelstein, Peter Kampf, project architects.* Engineers: *Isadore Thompson & Associates (structural), Archer-Spencer Engineering Associates, Inc. (mechanical/electrical).* Landscape architects: *EDAW, Inc.* Consultants: *Wilson, Ihrig & Associates, Inc. (acoustical); J. E. Goolsby (graphics); The Koch Company (cost).* General contractor: *J. W. Bailey Construction Company.*



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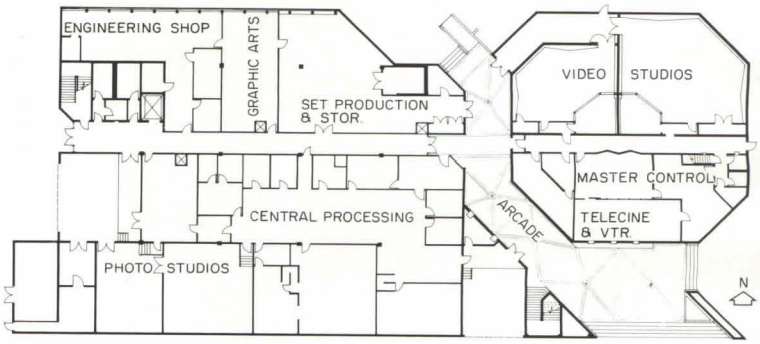
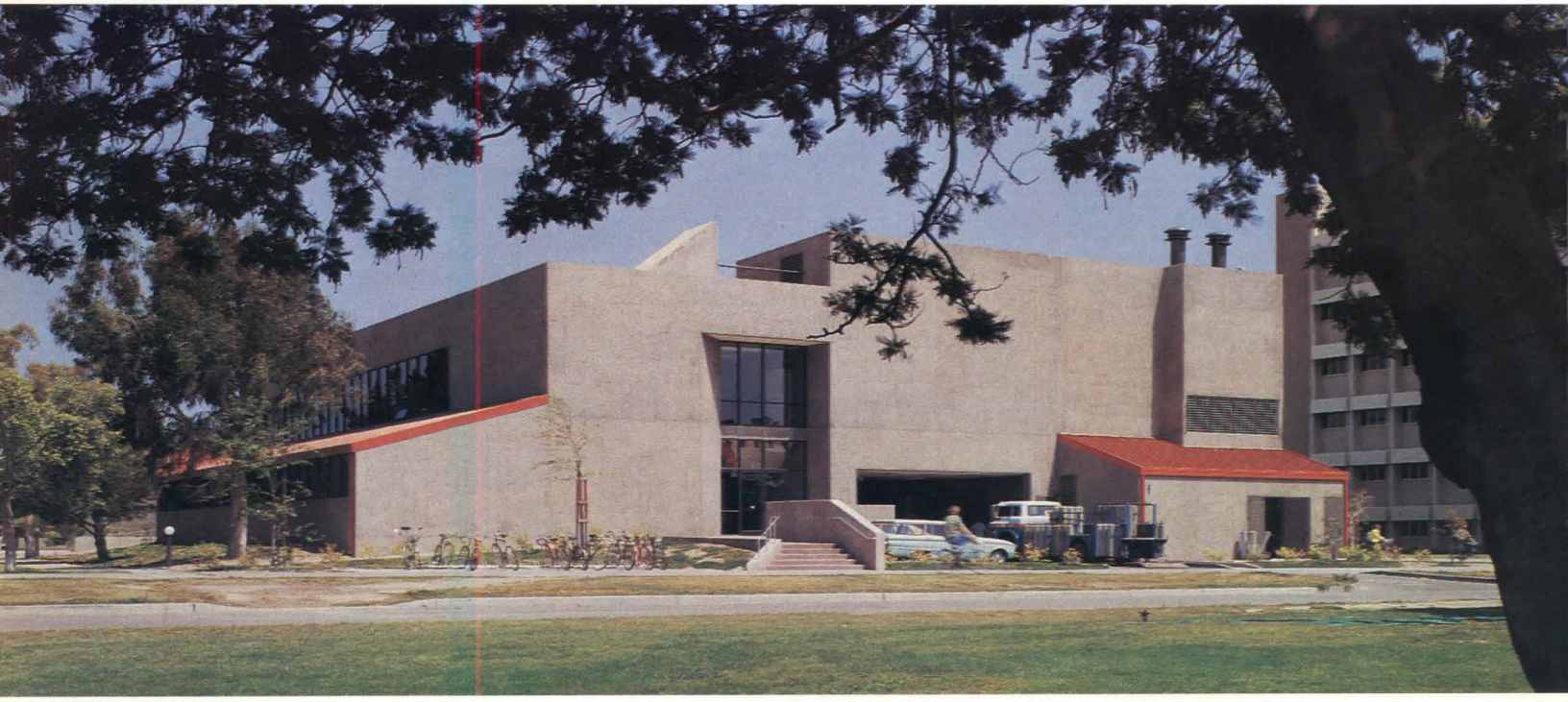
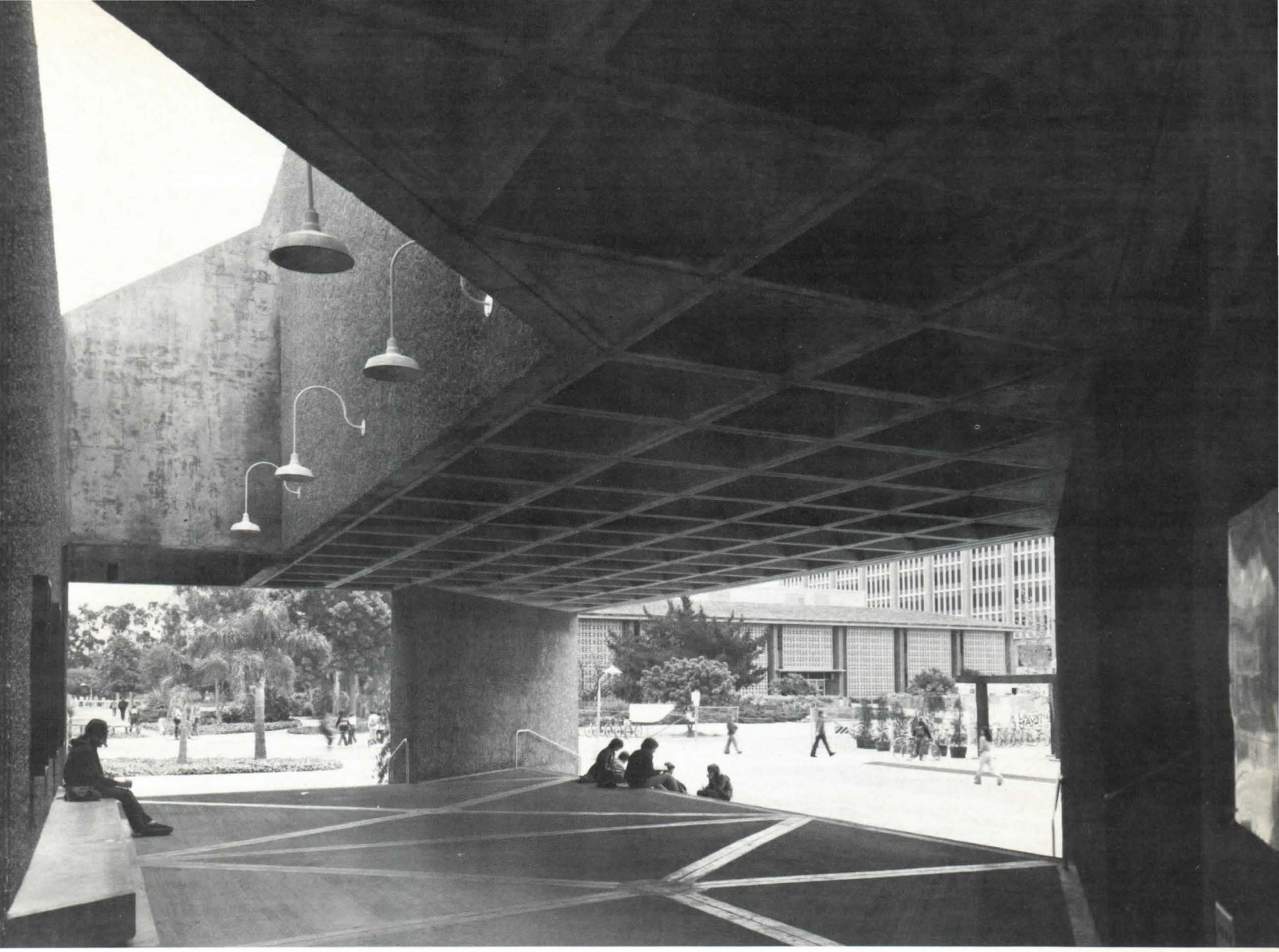


FIRST FLOOR





Built-in flexibility is obviously experienced in the learning systems area (above) where the electrical system is spread across the open ceiling beams allowing any kind of working arrangement and demonstration. Not seen is the easily accessible channel below the first floor hallway, which contains the heart of the center, the cables and electrical hookups. The video control room (right) and studio (above) are separated from the other facilities as a division of functions and sound control. The engineering shop (below) was positioned near the building's service entrance (bottom page 86) and is filled with natural light through a line of clerestory windows.

2

LEARNING PLACES

BY METZ TRAIN OLSON & YOUNGREN

By Nory Miller

On the West Side of Chicago, the Academic Facility for Rush University, part of the complex Rush-Presbyterian-St. Luke's Medical Center, is a cool-hand, collegiate composition that has been sensitively spliced into a network of existing services and streets. Critic Nory Miller's anatomy of the architecture (overleaf) is as full of lessons as her subject. And down on the South Side, several of the University of Chicago's quadrangle buildings, bristling with gargoyles, have been adapted inside for new uses (page 94), leaving dignity intact while putting a glow on some good old Gothic.—*William Marlin*

COOL-HAND COLLEGIATE

Designing part of a hospital complex has generally been to the practice of architecture what personal injury litigation has been to the practice of law—not entirely glamorous.

There are so many programmatic considerations, not to mention overlapping or conflicting departmental demands, that esthetic impulses are often excused from the room, if not rudely laughed out of it.

This makes Rush-Presbyterian-St. Luke's Medical Center's new academic facility—Rush medical college, for short—a really remarkable event. The architects, Metz Train Olson & Youngren, with partner John King in charge of design, have not only come up with a technically proficient structure, but they have also made the most of what everyone else thought was an impossible site, one with an elevated train running through. Inside, it clearly responds to functional patterns; outside, to existing elements of the surrounding Medical Center, becoming a unifying, organizing participant amidst an unkempt cluster of older facilities. Exacting and elegant in its massing, finishes, and detailing, and very much in the Chicago "tradition" in this respect, the Rush medical college more than holds its own as a conscientious architectural concept.

This is not only an architectural story. It is a programming and planning story, tied up in the very nature of medical practice itself. This was to be a new school with a very old name. Rush University, named after Benjamin Rush, the doctor who signed the Declaration of Independence, dates from 1837, the year of Chicago's incorporation, but it was discontinued during World War II. Then in the late 1960s, Presbyterian and St. Luke's Hospitals, having been recently combined, started some soul-searching. And the architects, called in early, helped the hospital to decide what its nature, and its location, as an institution should be.

There was a question, for example, as to whether to stay in its inner-city neighborhood, where nurses had to be paid a 20 per cent premium to surmount the dangers of coming to work. It was realized, finally, that other, and less noble, premiums would have to be paid were the institution to hightail it for "safer" surrounds. The result is what John King calls a "mini-national health system," with the medical center as a research and referral hospital linked to other primary, secondary, and tertiary health-care facilities throughout the region. Gradually this Rush Care Network, and revolutionary it is, has come to consist of 14 medical schools in the Midwest, plus ten hospitals in Chicago and northern Illinois.

The Network was full of implications, and obligations. It meant building a neighborhood clinic, nearby in the West Side ghetto, and knocking on doors to find people who needed care. It meant offering its own pre-paid health-maintenance insurance program. It meant starting its own medical school, cutting ties with the one at the University of Illinois, and Rush University, which had been in this same neighborhood, was rechartered in 1969.

The Rush Care Network now serves a population of 1.5 million. Students have access to all of its components. And the college, opening last September at a cost of $24.5 million, has 1,000 of them, expected to double in four years.

Where to put the college was an open question for a long time. The architects looked into building it over the expressway, but the delays of government red-tape seemed too much, and into putting it across the street from the hospital complex. Says partner Ralph Youngren, "No one thought we could use the skinny site where the elevated train ran, but the hospital already owned it, and it was on the same block as the rest of the buildings. So we said, why not think of the El as an asset, building around it, maybe even putting stops right inside the hospital—a potential that has not yet been taken advantage of, what with the Chicago Transit Authority somewhat hesitant. But we did achieve the major concept—a walkway in the air. The hospital complex consists of buildings dating from the 1880s to the 1970s, and these are made of different materials, with different entrances, and they have no connections. We wanted to build *the* connector."

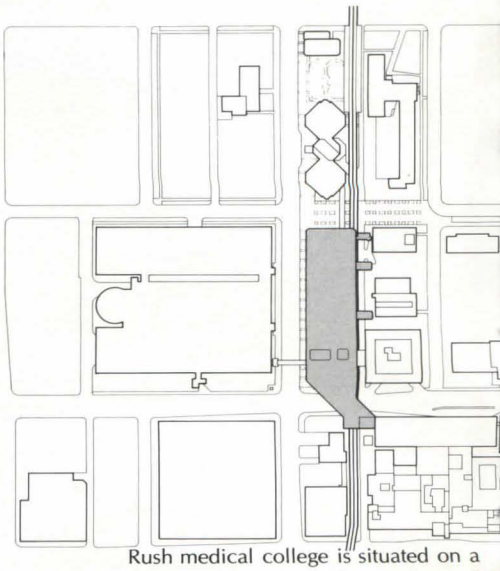
That is exactly what Rush is, one tinkertoy in an urban-scale construction. "It isn't a building," King emphasizes. "It's a mid-section."

This "mid-section" starts on the fourth floor. There is nothing below except the concrete stilts supporting it, and the train. But the structure is such that a third floor could be slung down; first and second floors could be built up from grade. "The idea for that street level area," says partner Carl Hunter, an associate designer at the time, "was eventually to have a drug store, flower and book shops, maybe a restaurant, and doctors' offices. The complex now has thousands of people and no amenities, but it could be a school on top, with a lively sub-culture below."

Today, there is just the school on top—floors four, five, and six. But the structure is geared to hold between seven and eleven more. Four additional elevator shafts are in place to serve such someday expansion. And mechanical gear, housed in spiffy immaculately sheathed side towers so that nothing on the roof will have to be removed for expansion purposes, can carry more vertical load. Horizontal growth can also occur at each end.

The El suggested several trains of thought about the structural configuration itself, and has even become a kinetic feature of experiencing the architecture. The college is on stilts because it was necessary to climb over the El tracks and thus take advantage of the site's full width. A way also had to be worked out to insulate the college from the trains.

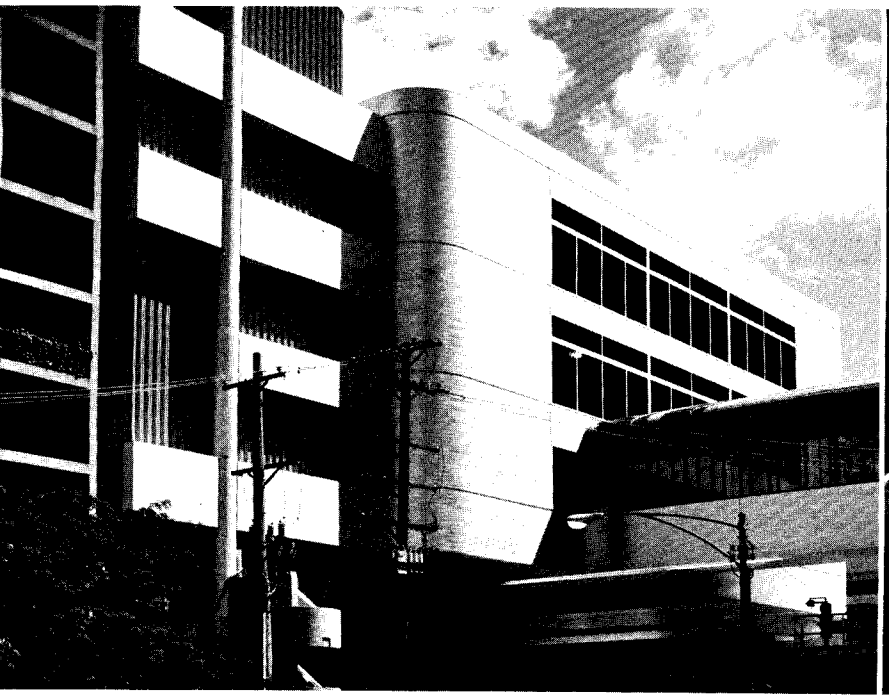
The first thing was to separate the building's structure from that of the tracks. They are supported on columns that go six feet below grade. The building, in contrast, has caissons going down 60 feet. That left only the most virulent vibrations to travel through the soil,

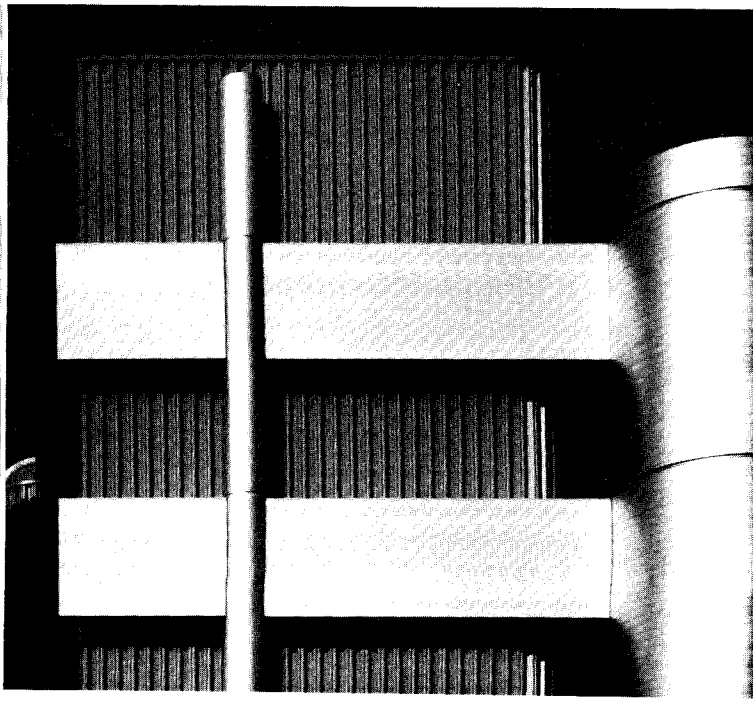


Rush medical college is situated on a skinny urban site with an elevated train track running through it. The long structure, on stilts, climbs up and over the tracks and, acting as a three-level walkway in the air, actually consisting of floors four through six, it interconnects with older surrounding facilities. Cantilevered on either side of the main axis, the *savoir faire* of its hoisted, hovering surfaces gives continuity and composure to the existing streetscape, while leaving room for future additions, amenities, and activities that can be plugged in from grade-level upwards. Seven to eleven more floors can also be added topside. Aluminum slats provide an impeccable, immaculate detailing that is more than worthy of the Chicago tradition.

Philip Turner

Steve Grubman photos except where noted





down to the caissons, and up again. So a neoprene pad was placed between the concrete stilts and the steel columns at the fourth floor.

As for noise, the architects devised an obstacle course of sand-filled concrete-block walls, with sealed joints covered with sound-absorptive panels, plus a reflective hard membrane over the tracks themselves. The ceiling bounces sound back down, and the side walls devour it. Just in case, the floor above the tracks is flocked with acoustical fibers. In some places, the trains are only ten feet from a doctor's desk. You can't hear a thing.

The El also determined the structural system. To climb over it, the architects cantilevered the building 24 feet out on that side. Efficiency factors said to cantilever it 24 feet on the other side. That left 72 feet of central column-free space, ensuring fine flexibility, and, to span that, there was a choice between a five-foot six-inch beam or the same amount of steel in a seven-foot six-inch truss. That gave the architects an idea.

One of the real problems of the hospital complex was that it was a bunch of separate buildings, and though the new building was envisioned as a connector, none of the floor levels of its neighbors matched—unless, that is, the truss option was used to make room for interstitial space between floors, thus giving an over-all floor height of 17 feet six inches. That could manage to touch two of the three nearby buildings, and any new additions to the site. Brilliant. But would it make sense in dollars?

A study of another research building in the medical center was done to see how much had been spent in remodeling and, in the previous ten years, it turned out that $9 per square foot had been spent, 85 per cent of that for mechanical changes—not counting the disturbance every time something was changed. With interstitial space, where a man can walk in and rearrange the innards of the building without scratching at its skin, much of that expense could be saved. So the decision was made. Rush has interstitial levels below the fourth and above the fifth and sixth floors. There is none between the fourth and fifth because there are two-level lecture halls in that location. This premium will be repaid in seven years.

With its floor-height module, the college could be connected to two older adjacent buildings—climbing over the street to meet one of them and giving it an additional elevator core. There are also bridges to a new parking garage, across another street, and a new geriatrics center next door—both of them by Metz Train Olson & Youngren.

The long cantilevers naturally called for a lightweight skin. The architects adapted a British system of extruded aluminum slats, encased in stainless-steel slipcovers, but left the slipcovers off in this application. The slatting technique proved less expensive than bending big metallic sheets, and retooling an American plant to make the slats was no problem. What was a problem was racking the slats into panels for site work. King relates, "At first the people were racking them up from the back, and there were variations in color. The building would have come out striped, but carefully preselecting the slats, it worked fine."

As a result, the Rush medical college has a certain top-hat *savoir faire*. It avoids the potential harsh desolation of a futuristic structural essay by the scale and texture of the slatting pattern, by the tone of the aluminum finish, and in its dash around corners and the delicate definitions of section and infill. Nor is the smart cut of its facades disappointed by the interior—a restrained palette of burgundy and blue, natural woods, buff carpeting, and rounded accents.

The skinny site dictated that corridors be run along each outer edge, with rooms in the middle. The east corridors are public and carpeted; the west ones, in terrazzo, are for supplies, animals, and staff. And rather than shut the classrooms and offices into little cells, the architects borrowed natural light for them by way of canted glass clerestories. Spritely gathering spots are sprinkled throughout.

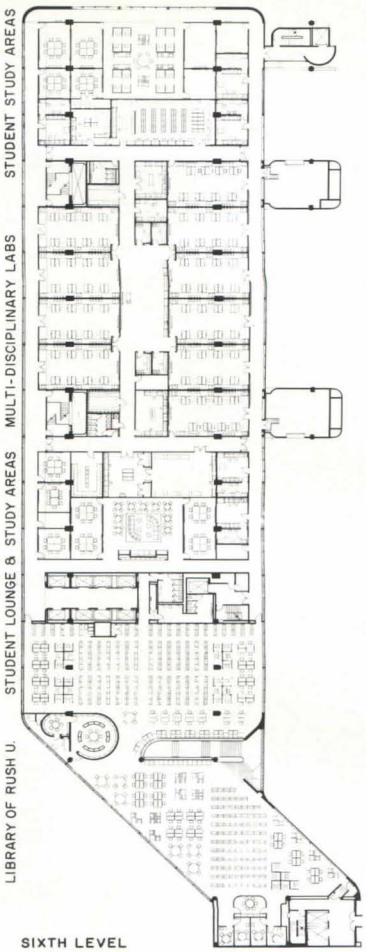
The two-level library, a lounge-like focal point at one end of the school, is reached by a dramatic staircase, celebrated with a pyramidal skylight, carpeted throughout, made comfy with handsome wooden furniture, and embellished with chrome light fixtures. The doctors hated fluorescent supermarket-style libraries, said so, and wanted something like the lamps from their own school days. So there are table lamps all over; touted today as "task lighting," something other than energy conservation was on the architects' minds at the time the lamps were specified.

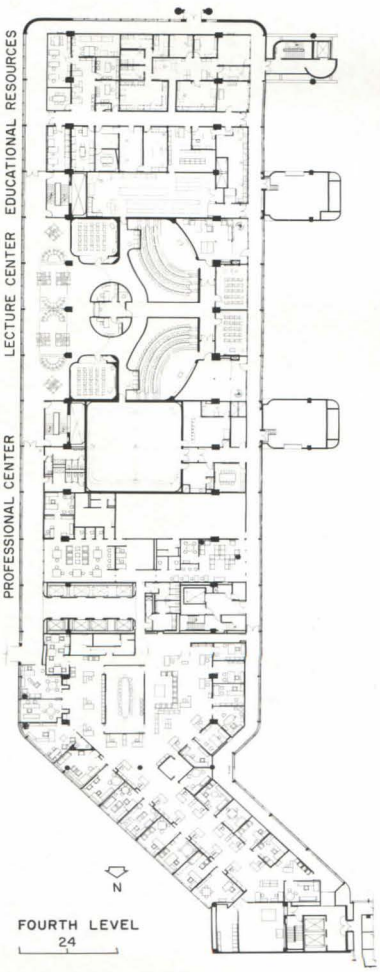
A lot of the furniture here consists of a system that was developed by Niklas Zographos, at the architects' request, from an earlier chair design of his. They further invented, and had fabricated, a special carrel that can be locked full of books, like a piano's keyboard. This kind of attention appears throughout, whether it is a handsome railing on a back staircase or trunk lines in the desks of the lecture hall for electronic hook-up, and this has yet another practical side—the kind of natural, giving thoroughness with which people tend to apply themselves to their work when their surroundings are comely, engaging, and bright.

Rush medical college was not an inexpensive building, running $91.40 per square foot, but not untoward, either, for this kind of technical load. Besides saving, strengthening, and sharing itself with its urban context, it can make room for the growing demands of an unknown future in an economical fashion, making front-end costs more than justifiable. And what sure style! Perhaps it will help dispel the notion that quality is limited to corporate headquarters and private hillside homes.

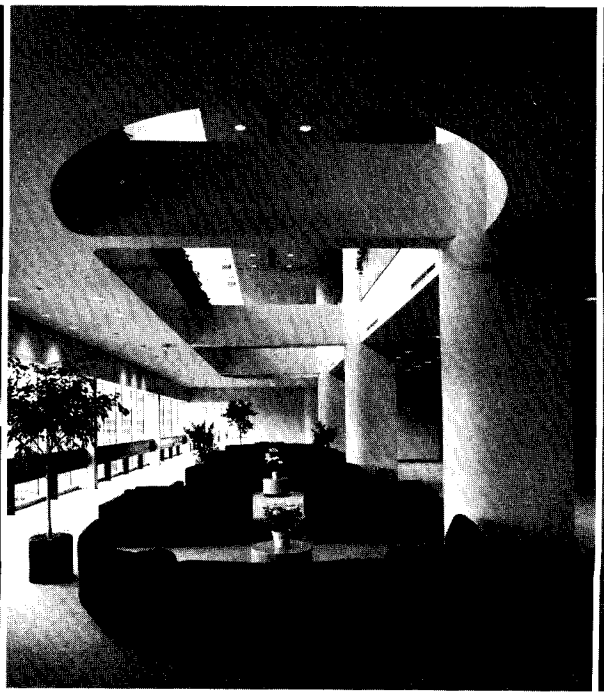
ACADEMIC FACILITY OF RUSH UNIVERSITY, Presbyterian-St. Luke's Medical Center, Chicago. Architects: *Metz Train Olson & Youngren; John Matthew King, project designer; Kenneth R. Mullin, project manager.* Engineers: *C. A. Metz Engineers and Le Messurier Associates (structural); Environmental Systems Design (mechanical, electrical); Bolt Beranek and Newman (acoustical); David A. Mintz (lighting).* General contractor and construction manager: *Morse/Deisel.*

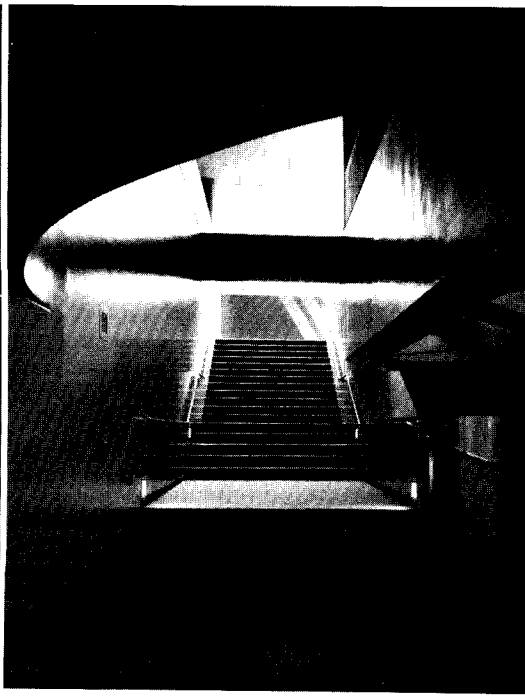
Nory Miller is managing editor of *Inland Architect* magazine, architecture critic for *The Chicago Daily News*, a 1976 Fellow of the Graham Foundation for Advanced Study in the Fine Arts, and a 1977 recipient of the Loeb Fellowship of Harvard University.





Steve Grubman photos





A GLOW ON OLD GOTHIC

The idea that a learned and lookable architecture should be part of a good education, or that a good education should at least lead to an appreciation for architecture as a sound cultural influence, was mixed right into the mortar of the University of Chicago when it was founded in the early 1890s.

Henry Ives Cobb was called to lay out the campus; Frederick Law Olmstead, the tree-lined linearity of the Midway Plaisance. Wright, Goodhue, Mies, Eero Saarinen, and many others would find place here as well. But it is Cobb's English Gothic quadrangles that hold the campus together.

In a recent picture book about this heritage, *Dreams in Stone,* Donald J. R. Bruckner, the University's Vice President for Public Affairs observes, "There are styles more awesome, most seem to me more noble; but in Gothic it is clear the builders had fun."

These buildings, gotten up in blue Bedford stone, look like a meeting of mischievous gray eminences, which makes them very good English Gothic-revival buildings. There is dignity and humanity and wit in them. Good old Gothic, or the fun part of it anyway, might not have been a bad thing to stick to.

Metz Train Olson & Youngren, with Ralph Youngren seeing after things, did stick to it, and in regearing the interiors of several of these buildings for new needs, they have assimilated the idiom with a subtle, sure hand.

The old Harper Library, of 1912, by Shepley, Rutan & Coolidge, has been turned into the College Center. The old Rosenwald Hall, of 1914, by Holabird & Roche, and the old Business East of 1904—also by the Shepley firm—have been turned into the Graduate School of Business.

In addition, the adjacent Wieboldt Hall, of 1926, by Coolidge & Hodgdon, has been turned into a study area as an extension of the College Center facilities in old Harper. Rosenwald and Business East interiors were done in association with Samuel A. Lichtmann, with the Harper/Wieboldt conversion assigned to Metz Train Olson & Youngren on their own.

Essentially three concerns guided the architects, working with Calvert W. Audrain, the Director of Physical Planning and Construction of the University, and Harold Hellman, the University Architect. The Gothic character of the interiors had to be preserved. The functional nature of the various new academic facilities had to be efficiently accommodated; in other words, the affectionate retention of old stylistic elements and details could not be allowed to get in the way of practical performance. And the life-style of students and faculty had to be expressed.

The main reading room of Harper, always somewhat cavernous and regal, as if waiting for some knighthood to assemble, now has lounge-style study areas and a lot of quiet corners to get lost in. Big old tables were refinished, and in the small study areas, defined by low book stacks, which are oak-trimmed standard metal units, new trestle tables of oak have been used. Two magnificent chandeliers, rewired and relamped, spread a soft light over the richly patterned vaults and infill of the ceiling, reaching over to emphasize the deep recesses of the Gothic windows.

Beyond each end wall are the East Tower and the West Tower, which contain faculty offices and, on a third-floor mezzanine, student lounges. Classrooms, with their reclaimed detailing, are varied and delightful.

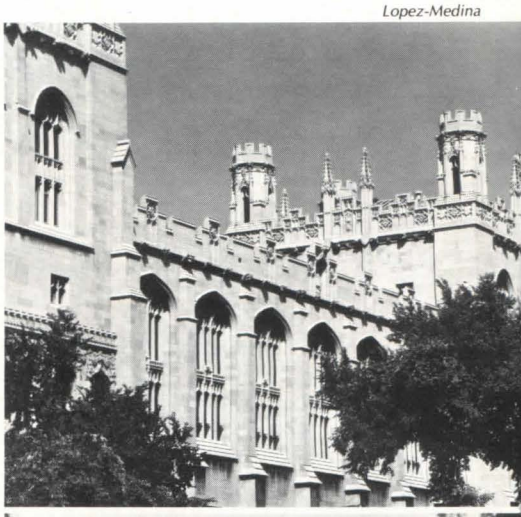
Old Business East has been tied into old Harper by way of a new third-floor reading room, which is directly accessible, as is the reading room in Harper, from the new "checkpoint" and library services desk in the East Tower. This beautifully proportioned room has finally been allowed to reveal its full nature, and an affable nature it is. Wonderful wood trusses, once lost in the dark "up there," have new lighting concealed in them. Two study platforms have been put in, and are proving popular. Colorful foam cushions provide a put-up-your-feet nonchalance.

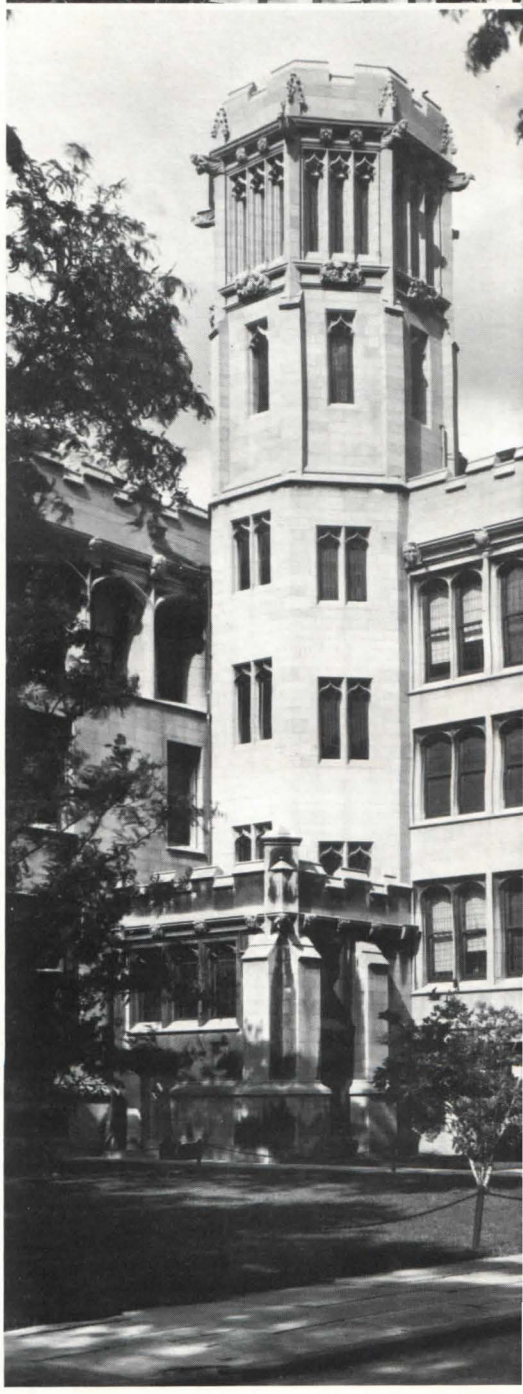
The second floor of Business East, formerly stack space, now has classrooms and offices, while the main floor was redesigned to house two tiered classrooms and a seminar space. These serve the Graduate School of Business, as does the entire Rosenwald interior, reached by a bridge from Business East, which was redesigned for offices, seminar rooms, and administration. For example, the Dean's suite of offices, off a reception lobby, incorporates Gothic-style screens of oak —and this incorporation of old themes, set off by bright contemporary posters and hangings, appears throughout the principal areas of the complex. Whenever possible, the architects saw to it that original detailing was reworked. Some doorways were redesigned for easier, more spacious access, but their details were lifted from older existing elements. Very little was thrown away, and what had to be was thoughtfully replaced with features of enhancing simplicity. This is not only a unifying design discipline on the part of the architects but also a dignifying one. Like Cobb and his colleagues years ago, they had fun, but now it is an evenly distributed humor.

Those gargoyles still grin; finials sprout, ancient emblems encrust refurbished stone walls. There is solidity and certitude in these retrieved resources and, maybe influenced by it all, there is a feeling that being "modern" is not the privilege of one particular time.—*W.M.*

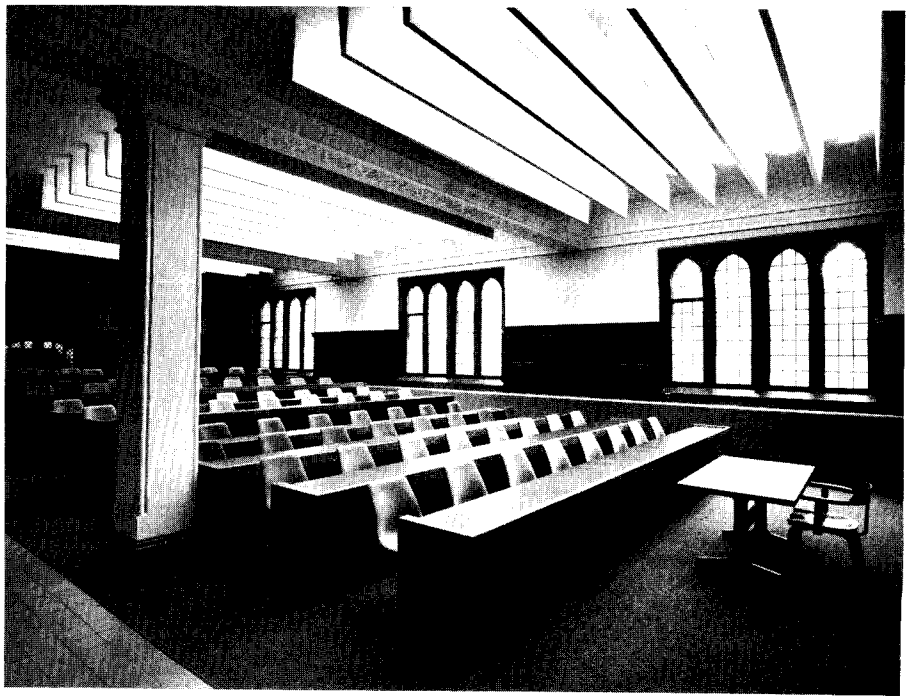
THE COLLEGE CENTER and THE GRADUATE SCHOOL OF BUSINESS, The University of Chicago, Chicago, Illinois. Architects of The College Center (formerly Harper Library and Wieboldt Hall): *Metz Train Olson & Youngren.* Architects of The Graduate School of Business (formerly Rosenwald Hall and Business East): *Samuel A. Lichtmann and Metz Train Olson & Youngren.* Engineers: *C. A. Metz Engineers (structural); Environmental Systems Design (mechanical, electrical, plumbing).* Contractor: *L. J. Graf* (Harper Library Reading Room); *Coath and Goff* (College Center, Graduate School of Business conversions).

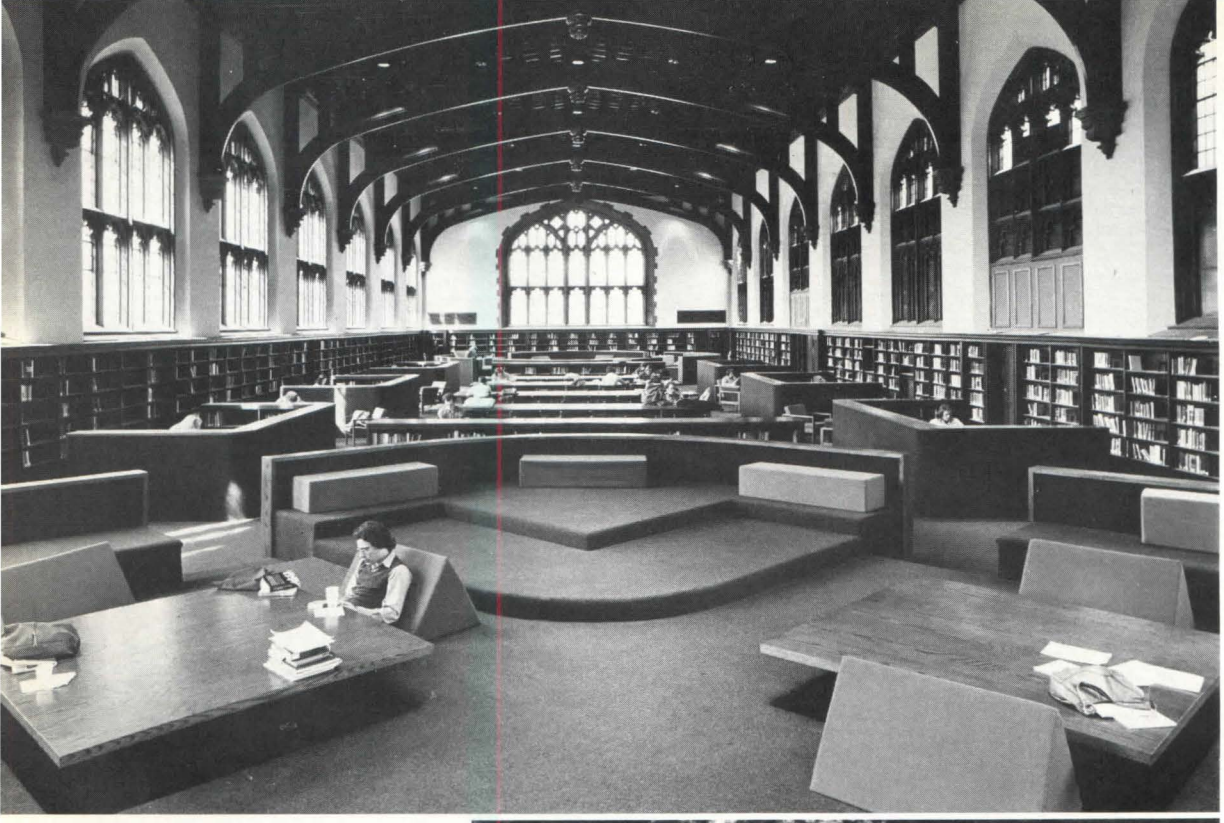
Lopez-Medina



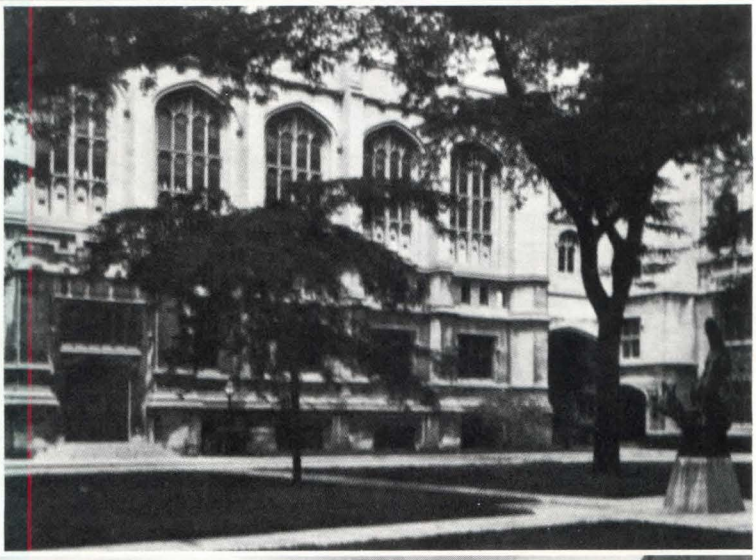


The English Gothic quadrangle buildings of The University of Chicago are yielding up some efficient, stylish contemporary facilities. The old Harper Library (opposite top) has been adapted inside as a new College Center, and its main reading room (above), while carefully preserving the character of the original scale and detailing, has been made more informal and familial. The old idiom has been evoked down to such small details as the lighting battens in a Harper classroom (right) which liven up original ornament. Other phases of the quadrangle conversion include old Rosenwald Hall (opposite below) and old Business East (overleaf) as the Graduate School of Business.





The beautifully proportioned third-floor reading room in old Business East (above), connecting to the study and library facilities in the old Harper Library, redesigned as the College Center, now fully reveals the gentle grandeur of its wooden trusses and provides colorful, comfortable surroundings for reading and quiet conversation. In the somewhat more staid office and seminar areas of adjacent Rosenwald Hall, old details have been either preserved or newly interpreted—for example, the Gothic-style wooden "screens" of the Dean's office entrance (below), setting off both original window details and wood moldings, and enhanced by bright contemporary posters and hangings. Outside Business East (right) maintains its familiar symbolic stance.



LOFT LIVING: BIG SPACES, FRESH IMAGES

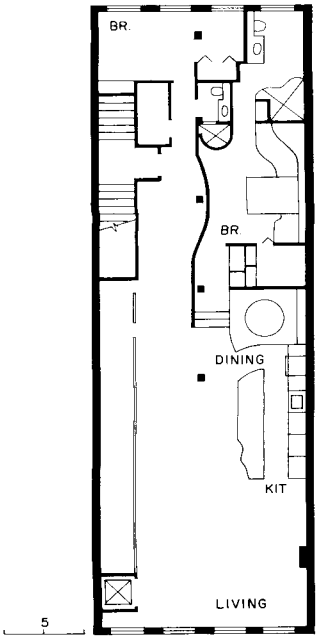
Changes in the zoning ordinances, here and in other cities, are opening up old manufacturing districts to special residential occupancies. These transformations sometimes produce new kinds of neighborhoods and often—as in this loft by architect Alan Buchsbaum—generate spaces of high contrast.

Norman McGrath photos

At the time of purchase, this five-story loft building—a former cord factory—in Lower Manhattan showed many of the signs of neglect that make this kind of building economically attractive and certain design idiocyncracies that might be turned into architectural virtues. The floors were in poor condition and needed patching. The stamped tin ceiling, nailed right to the wood joists, was in sad disrepair. Transverse partitions, some of them awkwardly positioned with respect to the structural grid of heavy timber, chopped up the space wastefully. In addition, all the mechanical and plumbing services were at one end of the 25- by 90-foot floors.

Buchsbaum removed the partitions and made repairs to finishes where necessary. He opened the space to its full length. In plan, he zoned out the principal functions, being guided by obvious requirements for light and privacy. The kitchen, needing large amounts of neither, was placed near the center of one of the long walls. But to bring the services to it from the rear wall, the bedroom and dining areas had to be raised up to create a false floor. Across from the kitchen, Buchsbaum set up a work area with drafting tables, tack space and supply cabinets. The plan is completed by living space and bedroom at opposite ends.

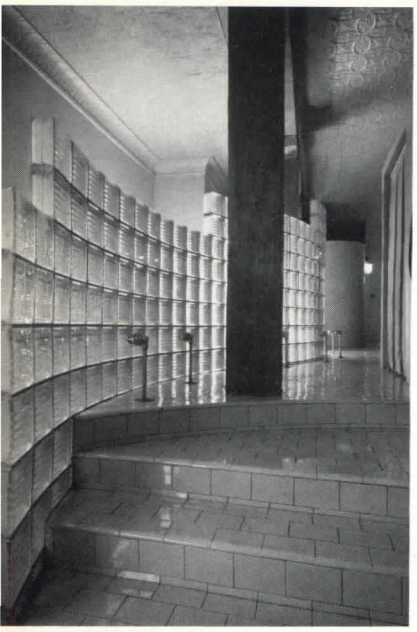
In general feeling, the loft is casual and unselfconscious, although sculptural accents —as at the long kitchen counter—betray an abiding concern for form. Most of the furnishings are simple, informal, and selected for their potential for easy rearrangement. Buchsbaum has gotten considerable design mileage from subtle contrasts in textures and from a lighting plan that is well thought out and inventive in its selection of fixtures.



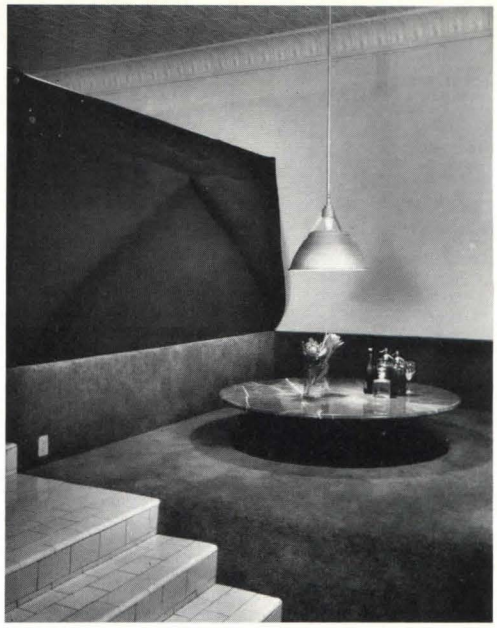
The bedroom however, presents a somewhat different vocabulary of form and finish—a vocabulary of more studied elegance and more dramatic contrasts (see preceding page). The raised floor is finished in a smooth, high glaze, off-white tile that turns up at the built-in bed to form an enclosure for the mattress. The closet has mirror-glass doors and the whole space is defined in the long axis by a gently undulating glass block partition that slaloms leisurely around a pair of heavy wood columns. The lighting is subdued in the bedroom although the glass block partition is actually lighted from both sides. A row of airport fixtures, floor mounted with rigid conduit and fitted with blue bulbs, lends the space an unexpected trace of mystery.

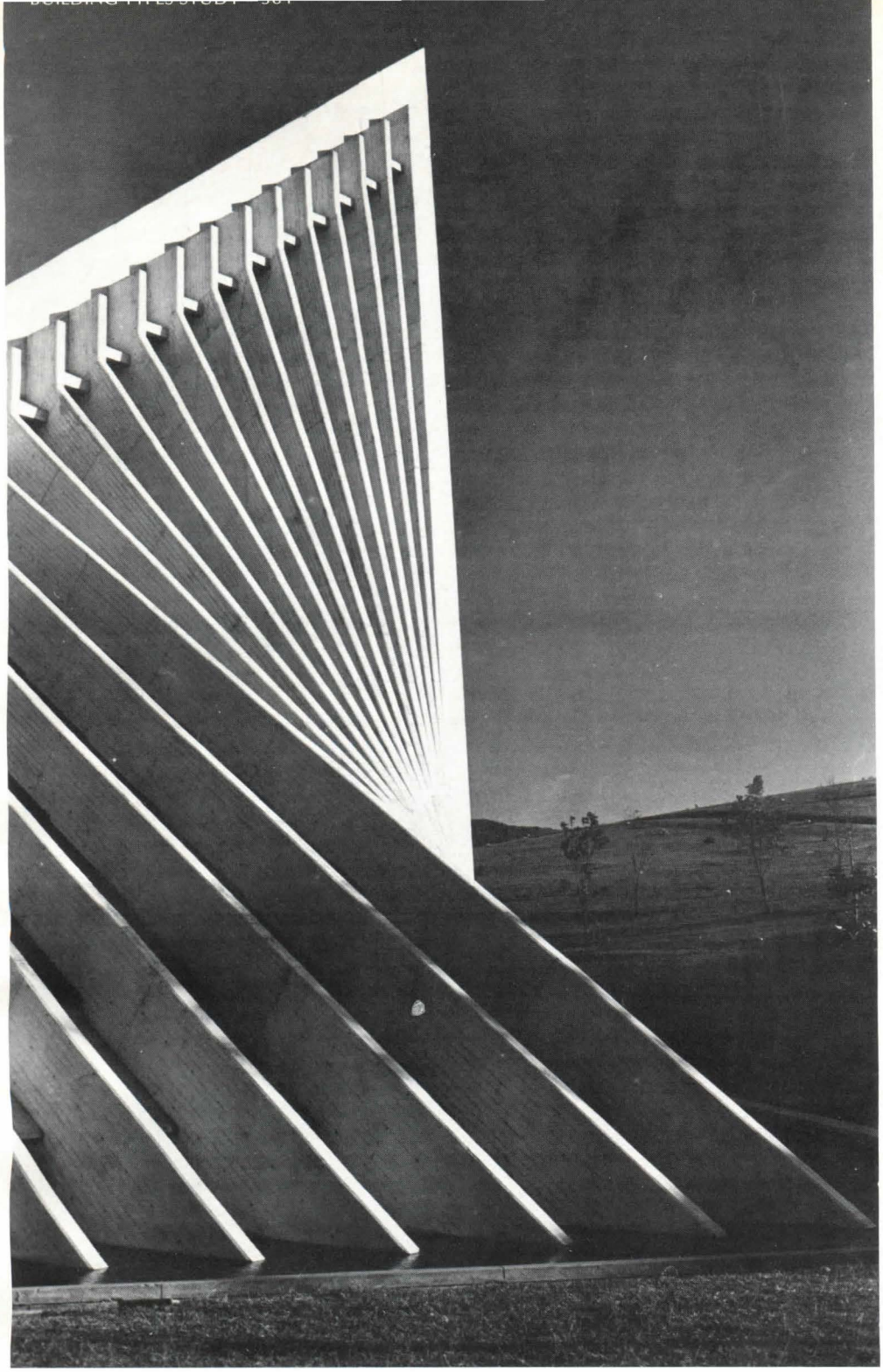
The building has three owners (Buchsbaum is one) and each occupies a floor. To put the project on a sounder economic footing, the remaining space has been turned into rental property.

LOFT FOR ALAN BUCHSBAUM, New York City. Architects: *Alan Buchsbaum and Stephen Tilly.* Lighting design: *Paul Marantz.*

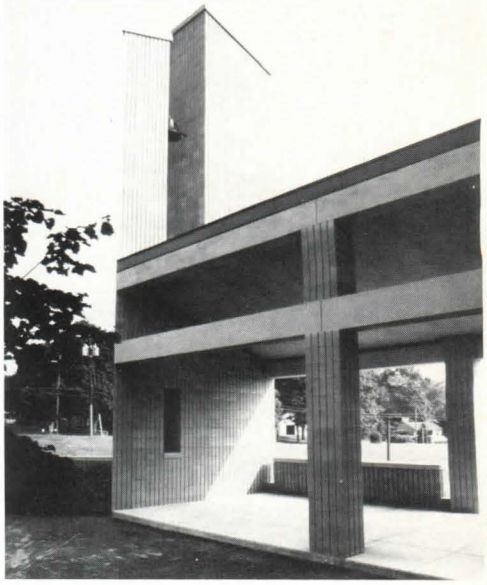


The raised platform—required for plumbing—provides carpeted seating for the dining table which is set in a circular cutout. Over the dining area (photo at right) is a tapestry/sculpture executed in felt and designed by Robert Morris. The bath, with its open shower, is shown reflected (photo below). It is finished, like the bedroom, in reflective materials.





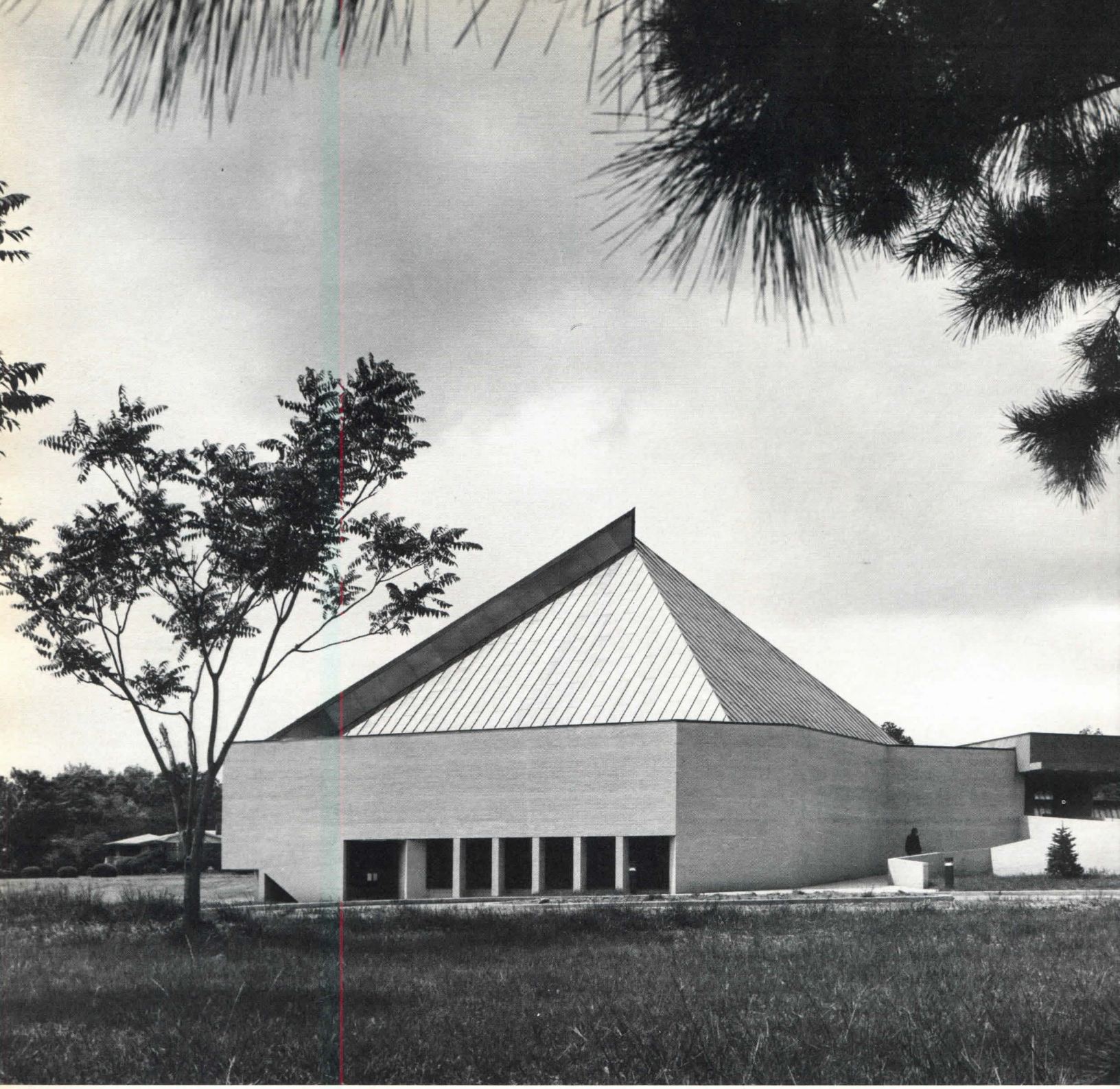
Gordon H. Schenck, Jr.



Otto Baitz

RELIGIOUS BUILDINGS

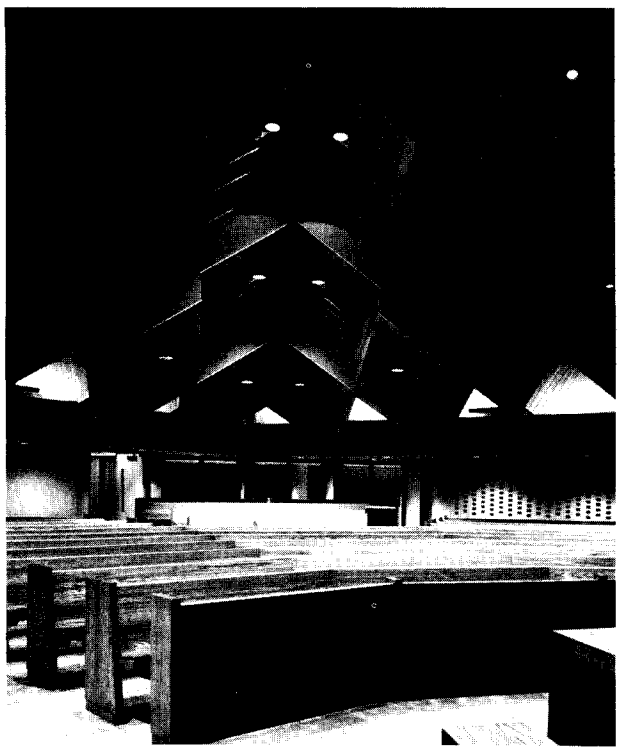
Religious buildings provide some of the most taxing and difficult programs that architects ever have to cope with, for, in spite of the full storehouse of architectural precedents for them, there are nonetheless a bewildering variety—and sometimes a baffling vagueness—of goals they are meant to respond to. Consider, for instance, the question of "function," which, in turn, the form of religious buildings is meant to follow. Is function simply what goes on inside—the movement of some number of people and the sounds they make? Or is it something a good deal more complicated, less clear, more filled with matters of the heart and soul? The answer is clearly the latter—though none of the buildings shown in the following collection defines "function" in just the same way as any other one. They use structure, recalled traditional shapes, light, symbolic images—all to try hard to conjure up the picture of "church" in our minds. Some respond to the changing forms of the liturgy; several—since they are renovations—respond as well to the current reawakening of interest in adaptive re-use. Their quality is probably uneven—though it is to no one person, perhaps, to say which veer farthest from excellence. In any case, this is a collection which gives a good picture of the current state of thinking about the problem of designing religious buildings.—*Gerald Allen*

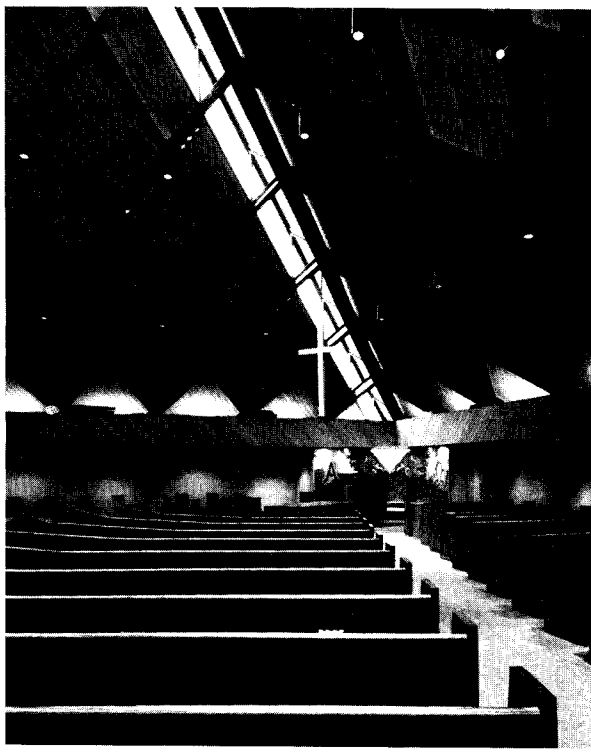


CARMEL PRESBYTERIAN CHURCH

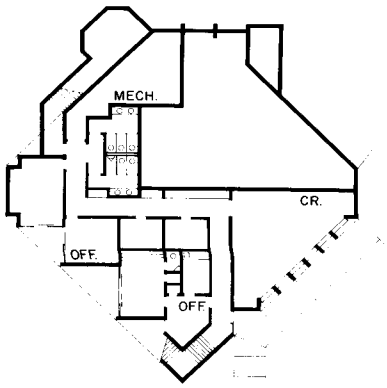
This church building is one of a group of buildings meant eventually to surround an open cloistered area roofed over by a bosque. It is, in plan, a 75-foot-square, topped by a 60-foot-square pyramidal roof. The structure of the roof is steel lattice, sheathed in pine decking with rigid insulation and a standing seam copper roof. One of the four sides of the pyramid extends farther than the others to form a north-facing clerestory. The flat roof around the bottom of the pyramid acts as a beam to contain horizontal thrust. It also contains duct work and it forms, inside, a trough for the lighting. Typically, according to the architect, the church congregation socializes after services, and so a covered porch outside and a special place inside are provided. To encourage people's movement to these areas—and also to increase the connection between the church interior and the bosque—three pairs of glass doors are provided. In the rear of the church is the choir loft, and, above that, speakers for the electronic organ.

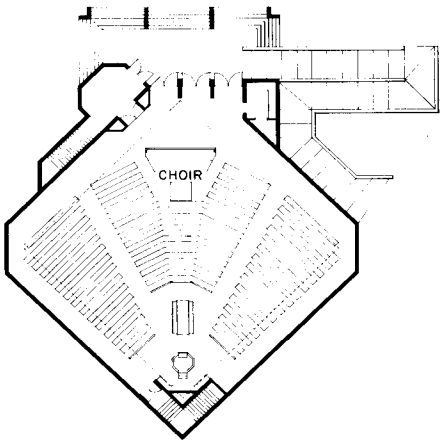
CARMEL PRESBYTERIAN CHURCH, Charlotte, North Carolina. Architects: *Wheatley/Whisnant Associates—Murray Whisnant, principal-in-charge-of-design.* Engineers: *King-Hudson and Associates (structural); J.M. McDowell and Associates (mechanical); S. T. Hocsak and Associates (electrical).* Consultant: *Robert Cook (acoustical).* Fabric wall hanging: *José Fumero.* General contractor: *R.H. Wheatley Company.*

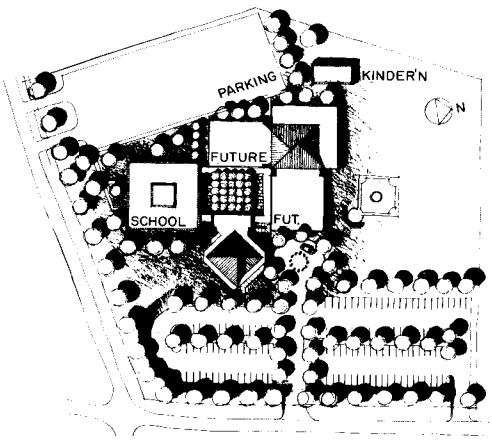


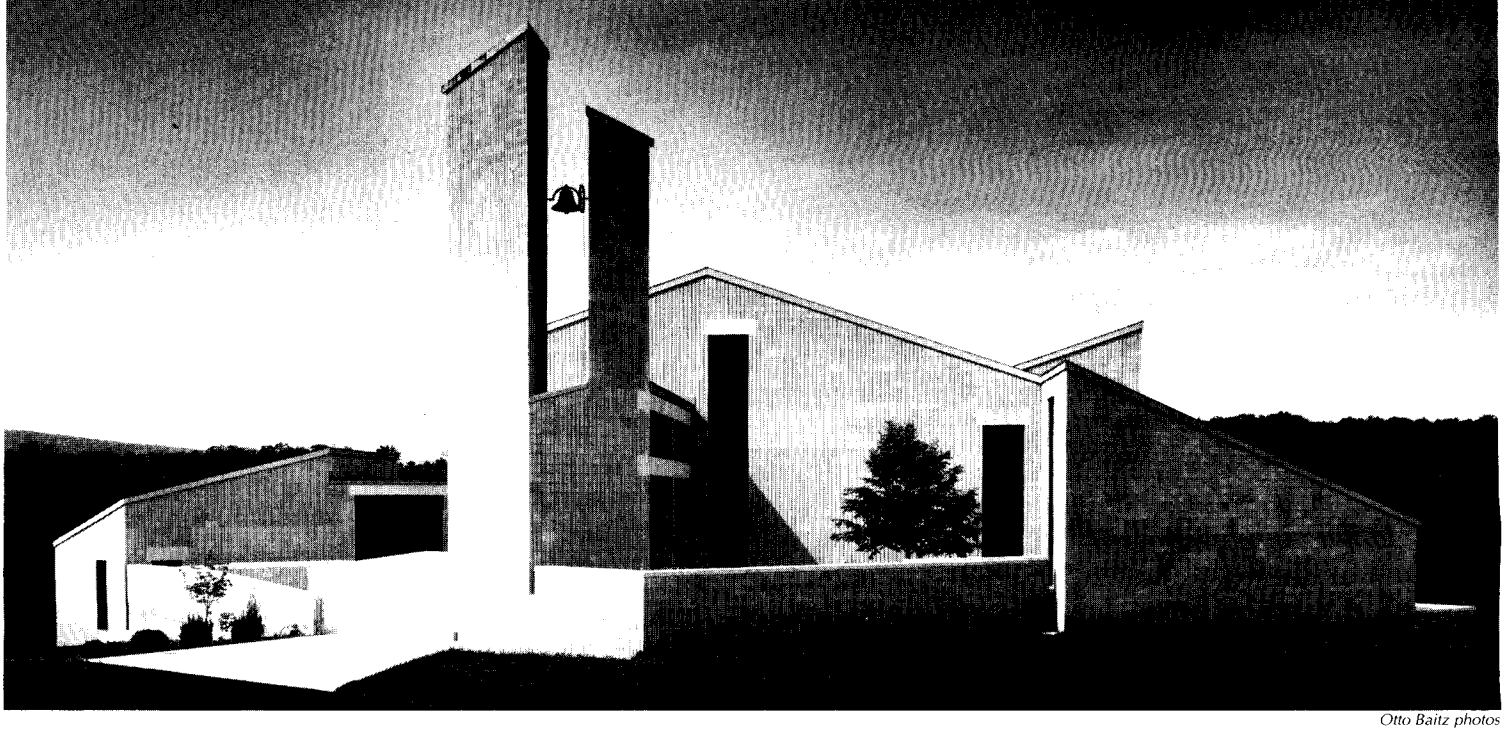


Gordon H. Schenck, Jr. photos

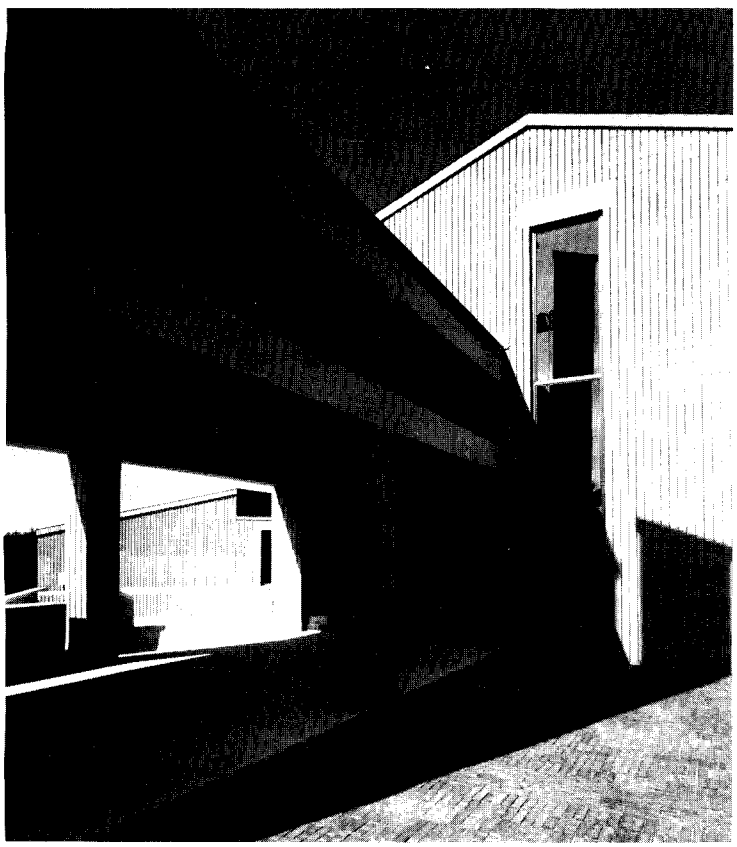








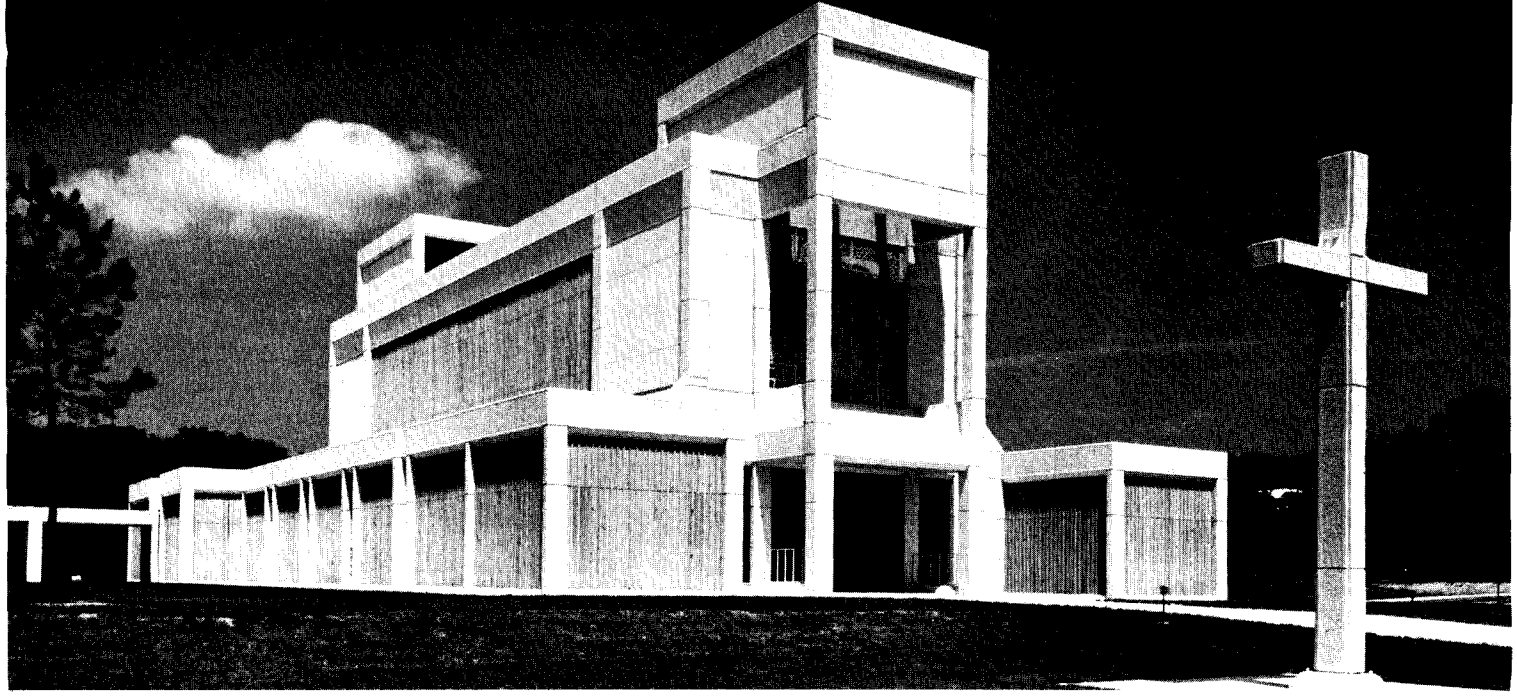
Otto Baitz photos



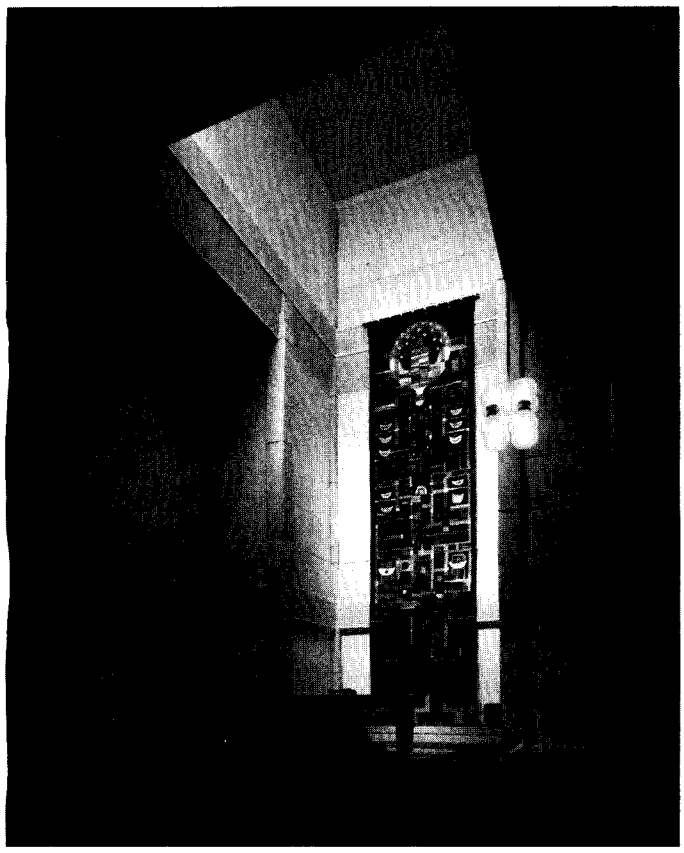
MEMORIAL UNITED METHODIST CHURCH

The congregation of this church approached their architect with a strong and well-defined program, a minimal budget, and a magnificent site of four acres in a pasture with views of rolling wooded hills. The fundamental principle of the building program was that the life of the church begins in worship, and a second tenet—almost immediately as important—was that for the uses of tomorrow as well as today, a flexibility had to be built into the design for worship. Seating was required for 240 people, including a choir of 30, and supplementary seating for special services needed to be able to be brought in (from a storage room off the narthex, as it turned out). The resulting church is a structure of considerable simplicity, made of concrete block bearing walls. As is so often the case in contemporary churches, natural light—shown above—is used to denote the altar, the focal point of the whole building; here the clerestory that admits a sheet of light at that point is almost the only "architectural" feature of the interior, and it gains enormously in power for that. Outside, the angular, fragmented shapes of the block suggest, without copying them, older church forms.

MEMORIAL UNITED METHODIST CHURCH, Avon, Connecticut. Architects: *Philip Ives Associates—associate-in-charge: Edward W. Winter.* Engineers: *Throop & Feiden (structural); I. M. Robbins (mechanical/electrical).* General contractor: *Fred Brunoli & Sons.*



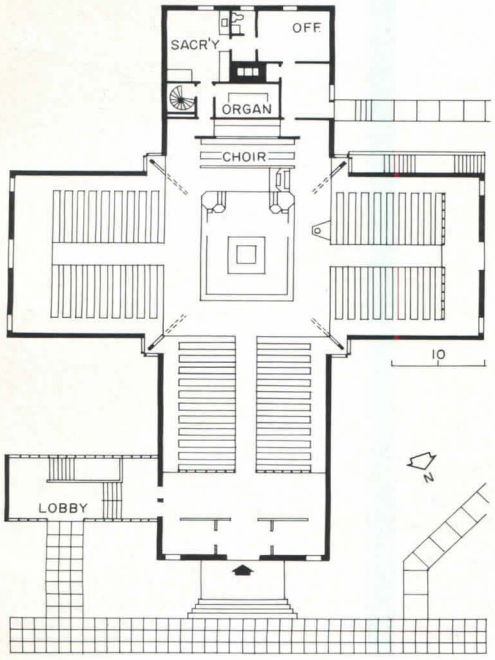
Frank Lotz Miller photos



CHRIST THE KING CATHOLIC CHURCH

This church, like several others in this collection, is designed as the centerpiece of a collection of buildings still to come—in this case, a rectory, parish hall, and eventually a school and a convent. It attempts in part to follow the ancient form of the basilica—a simple, three-aisle structure, originally with flat ends—in new-fangled materials: a concrete structural frame with infill sometimes of concrete (in the tower at one end and over the altar at the other) and other times of rough-sawn cedar, stained to weather eventually to gray. Light is introduced inside at either end of the building in two different ways. At the entrance is a large stained glass window, and over the altar is a clerestory that allows the light to flood down over the entire chancel area, illuminating as well the large and thin wall hanging that forms its focal point. In one important way, however, the building swerves from the traditional forms which on the whole it emulates: the traditional long and thin shape of the basilica has been considerably widened—in homage to current liturgical thinking, which tends to require not only a freestanding altar facing the congregation but, in addition, a seating arrangement that brings more people up front.

CHRIST THE KING CATHOLIC CHURCH, Little Rock, Arkansas. Architects and engineers: *Wittenberg, Delony & Davidson, Inc.—project architect: Fred Arnold.* General contractor: *Matson Construction Company.*

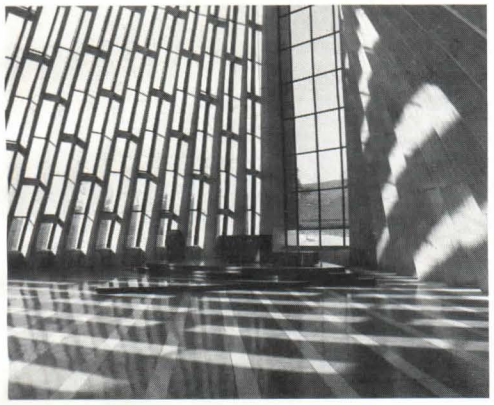


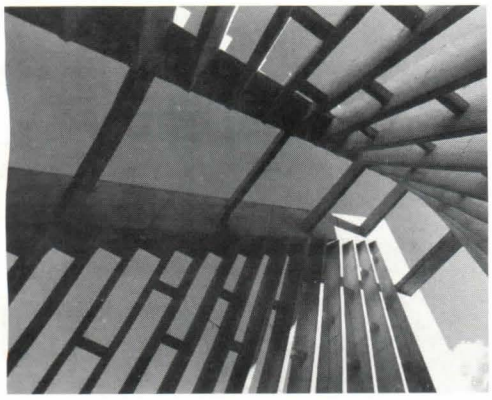
ST. BARNABAS EPISCOPAL CHURCH

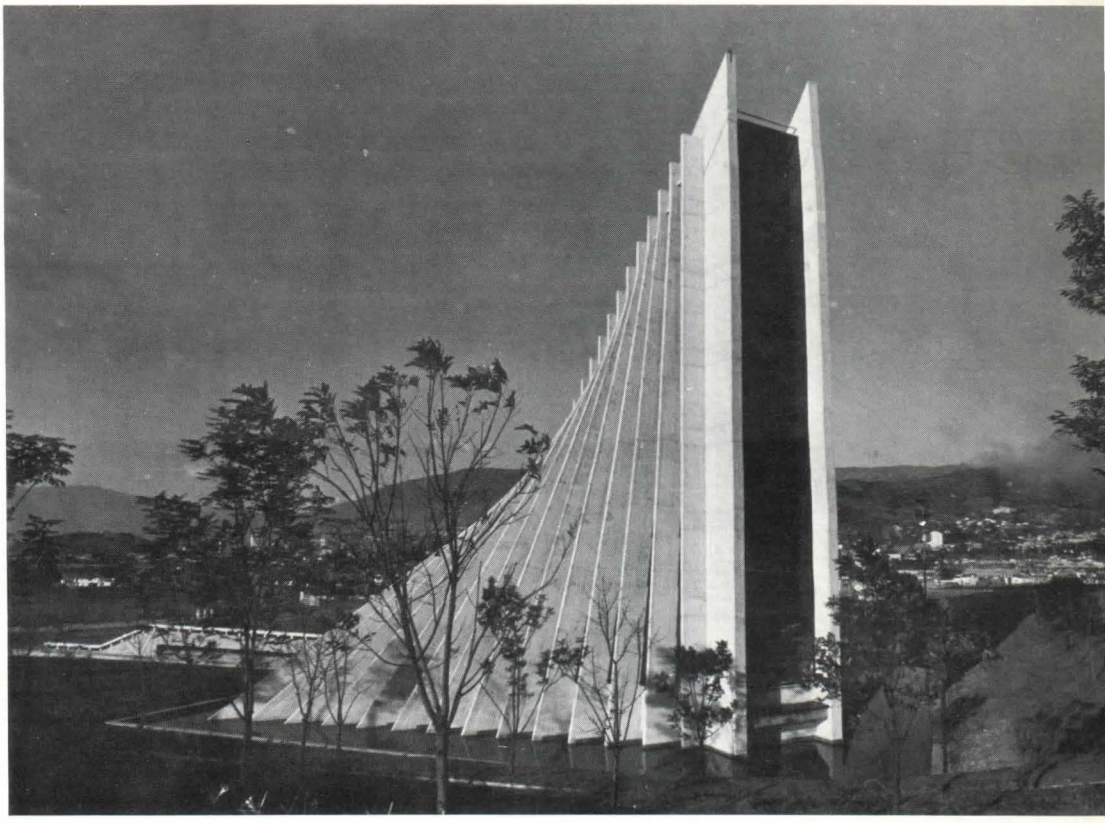
The design of this delicate, gently scaled, and specially lighted Episcopal church was only one part of an over-all study which was undertaken by the architects. The new church was to be constructed on a softly rolling site in suburban Delaware, and the entire complex was intended eventually to include a large church school as well as a sanctuary proper and rooms for other more directly liturgical activities. The new school still is waiting to be built, but its anticipation is reflected in the prominent entrance lobby to it, which is located just left of the main entrance to the church itself. This lobby now contains as well a flight of stairs that lead down to classrooms and an assembly hall below the existing church.

The most striking feature of the interior of the church is a large double cross, so designed as to be visible from all sides, and made of stained glass. This hangs above the main altar, and it is lit from skylights above, in the roof of the crossing of nave and transcept. The interior supports for the crossing also become, outside, the church's spire, in a lacy web of structural elements topped by a cross.

ST. BARNABAS EPISCOPAL CHURCH, Marshallton, Delaware. Architects: *Victorine and Samuel Homsey.* Engineers: *Victorine and Samuel Homsey (structural); Ewald and Miller (mechanical/electrical).* *Double cross above the altar designed by June Groff.* General contractor: W.D. Haddock Construction Company.



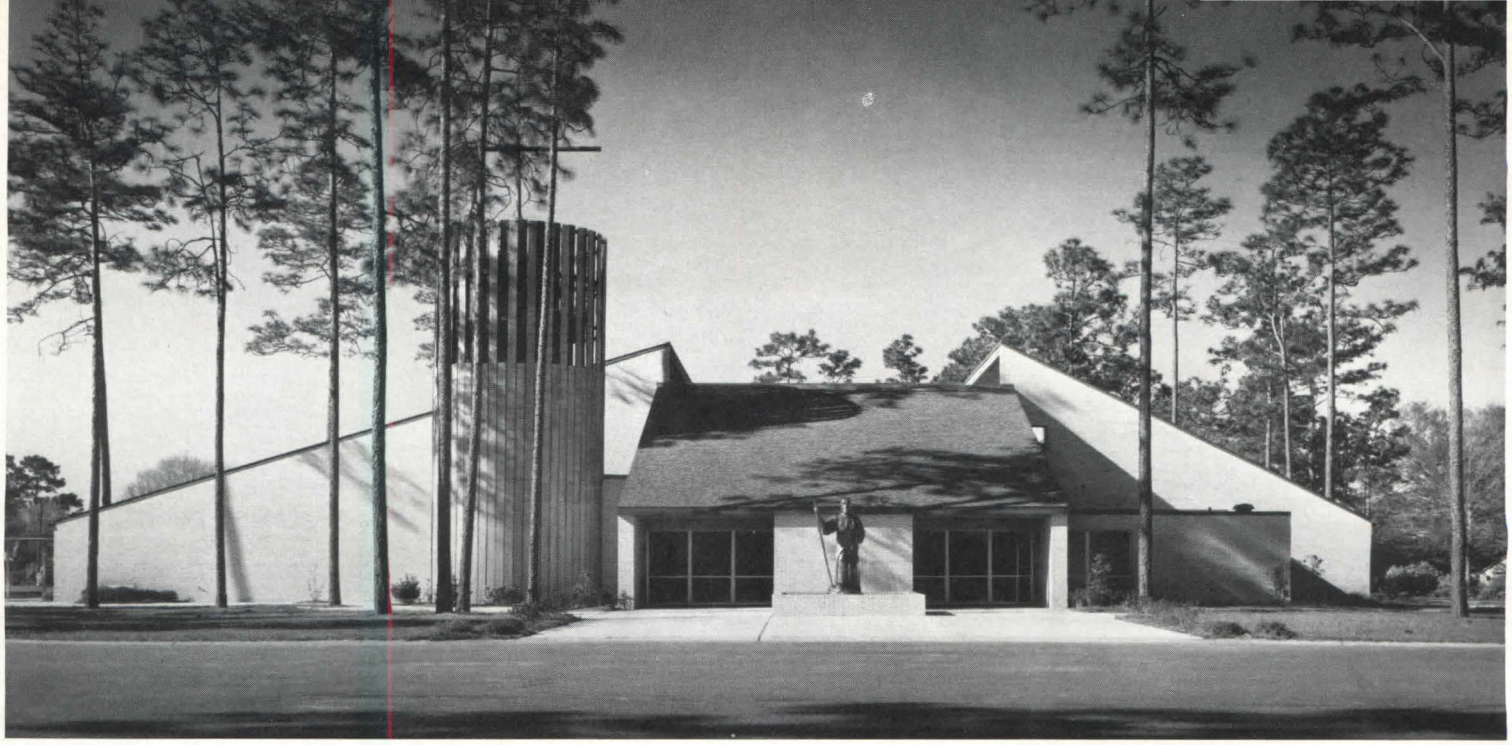




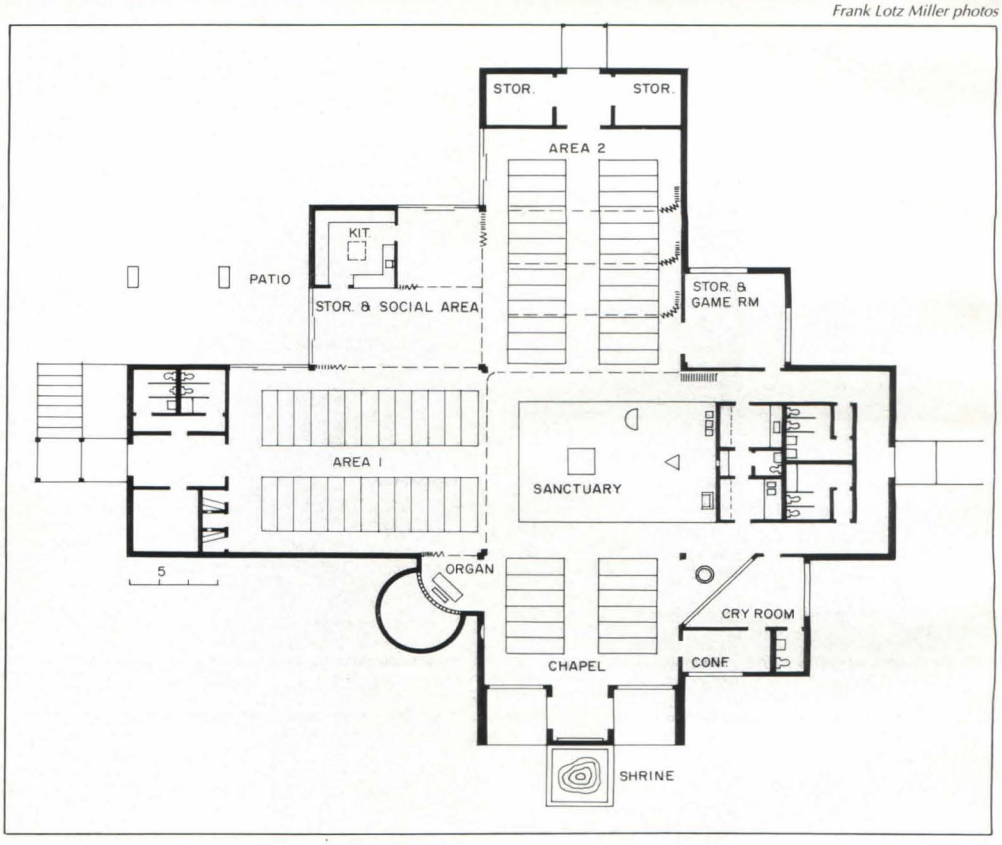
CHAPEL OF THE ASSUMPTION, MEDELLÍN, COLOMBIA

This is a small Roman Catholic chapel which is located in a cemetery just south of the city of Medellín in Colombia. According to the architects, the motivating concept of the design here was a desire to express the Christian hope of the resurrection of the body and life after death in terms of a clear and dramatic structural shape for the building. So a structural system was devised, using two triangular frames that rise to a height of over 90 feet above the chapel's altar. These in turn support 52 white concrete ribs which spring up to reach it and which have infill of gray-tinted glass. Since the ribs spring from the perimeters of a plan that is rhomboidal, the resulting three-dimensional shape becomes complex and remarkable, as it creates an interior space, brilliantly lit, that rises upward from a relatively low entrance portal to its full height above the altar. The interior modifies all of this drama somewhat with a touch of austerity, in that, aside from the altar itself, there are no other furnishings. The basement of the church contains a crypt and a small chapel, and there is also a ceremonial platform at the main entrance for funerals.

CAPILLA DE LA ASUNCION, Medellín, Colombia. Architects: *Laureano Forero and Rodrigo Arboleda.* Engineer: *Jaime Muñoz Duque (structural).* Consultand: *L. and L. H. Forero (landscape).* General contractor: *Arquitectos Ingenieros Asociados Con-Con-Creto.*



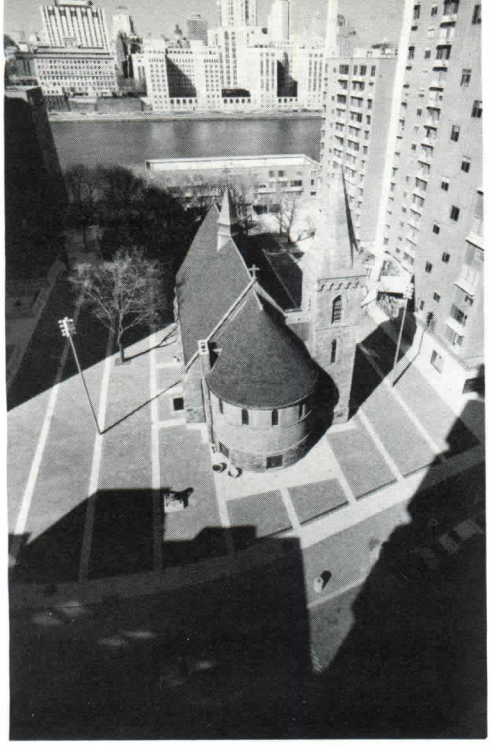
Frank Lotz Miller photos

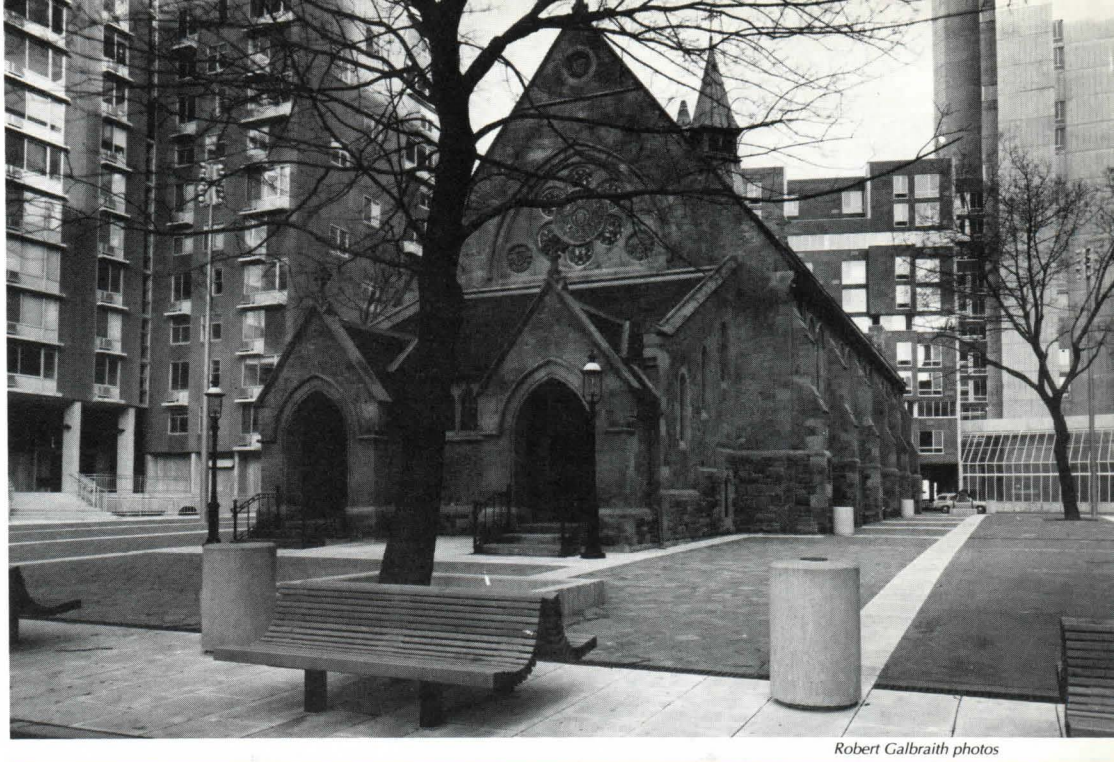


ST. PATRICK'S CATHOLIC CHURCH

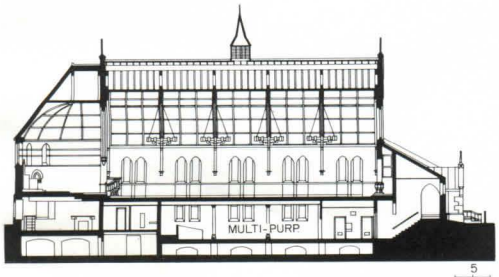
The program for this Roman Catholic church called for a great deal of flexibility for round-the-week use, and it had as well to make a visible impression to tourists on the nearby highway leading to Alabama Gulf Coast beaches not too far away. Three specially divisible areas were required, and they are achieved in the plan which is shown above: a permanent chapel which can seat up to 80 people, a secondary seating area to bring the seating capacity to 250 on Sundays, and a third area which could be used for church services but could also be adapted to secular activities. The building can be used for one, two, and three separate functions simultaneously, or combined into one room for large and special services. Most of the architectural emphasis here, then, is on a special set of church functions; for the rest, the building is for the most part extraordinarily simple and dignified, sitting quietly on its site in a grove of tall pine trees. Four separate roofs pitch upward towards the central area, which corresponds to the central crossing in churches of traditional design.

ST. PATRICK'S CATHOLIC CHURCH, Robertsdale, Alabama. Architects: *J. Buchanan Blitch and Associates—J. Buchanan Blitch, Bill Argus, Jr., and Eduardo Camacho.* Engineers: *D. E. Britt and Associates (structural); J.V. Reuter, Jr., (mechanical); Schroeder and Associates (electrical).* Consultant: *Sean Cullen (furnishings and stained glass).* General contractor: *D. and A. Equipment Company.*





Robert Galbraith photos



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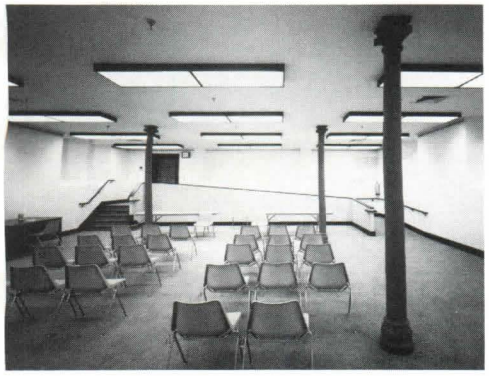
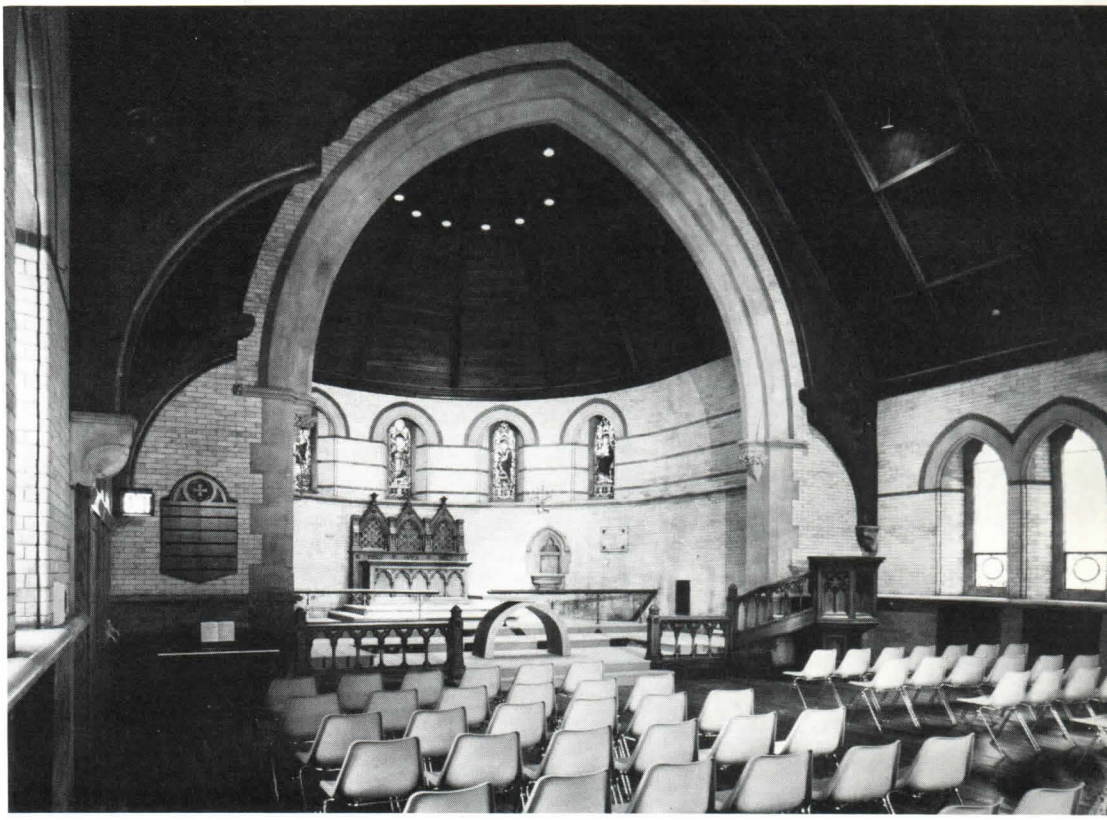
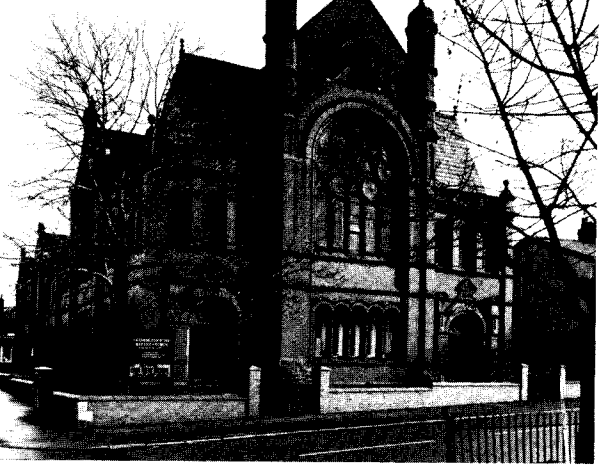


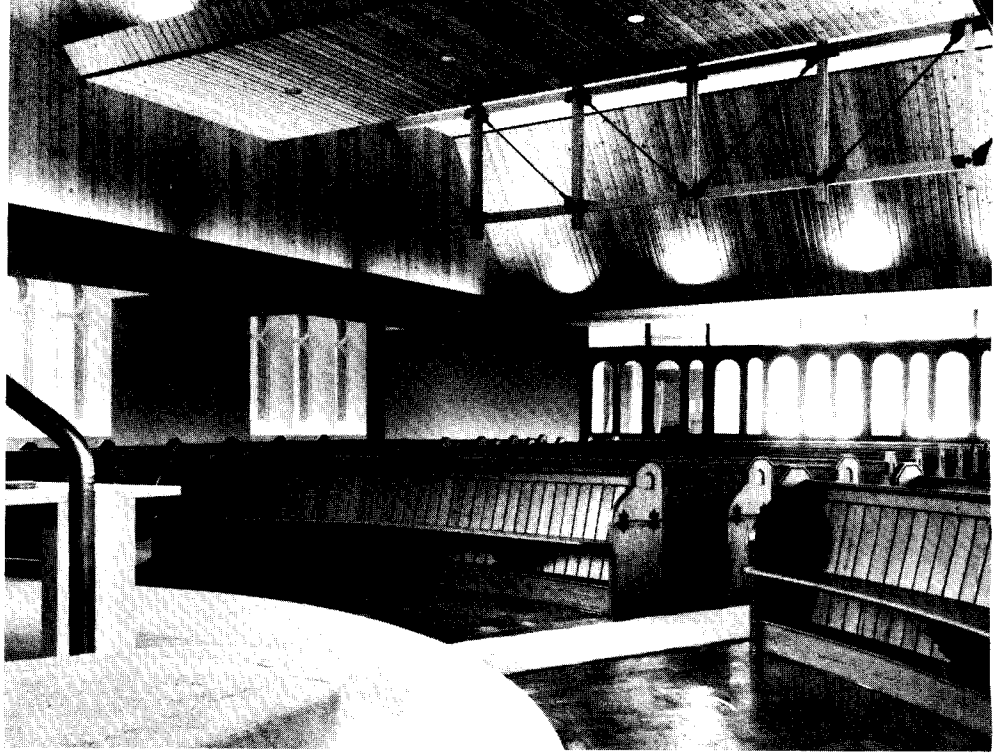


CHAPEL OF THE GOOD SHEPHERD

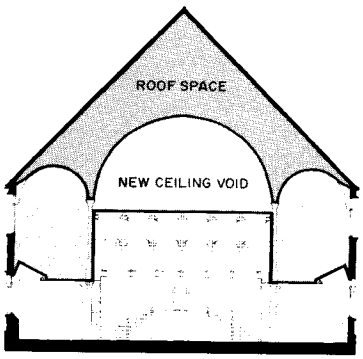
The Chapel of the Good Shepherd on Roosevelt Island in New York was designed in 1875 by Frederick Withers, a one-time partner of Calvert Vaux, one of the architects for Central Park. It has been restored as a community building with a religious focus for the burgeoning Roosevelt Island new town. The design problem in this case involves an intriguing host of technical problems, rather than any dramatic alteration of the old building's appearance. Current code requirements, for instance, call for windows about six times the present size for ventilation (which is therefore accomplished mechanically), and a good deal of structural reinforcing (by new steel beams) was required. Access for the handicapped also had to be provided, and the front stairs had to be supplemented with an additional stairway reached from the opposite direction, which was finally placed in the bottom of the bell tower, with new mechanical equipment in the top. All of this, as well as the needs of the community, increased the urgency for the building to become a multiple-use structure in order to raise the required money for its preservation.

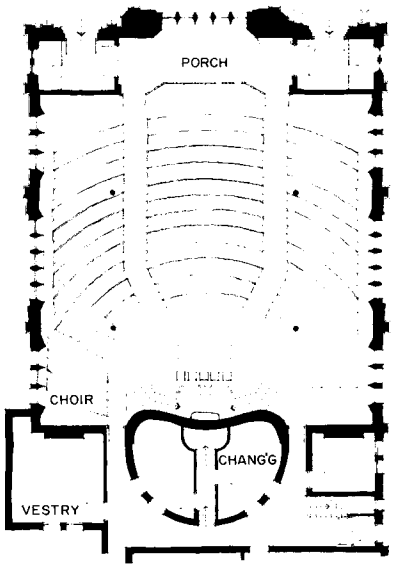
CHAPEL OF THE GOOD SHEPHERD, Roosevelt Island, New York, New York. Architect: *Giorgio Cavaglieri—project manager: Denis Glen Kuhn.* Architects for the plaza landscaping: *Johansen & Bhavnani.* Engineers: *Hecht, Hartmen & Concessi (mechanical).* General contractor: *Calcedo Construction Corporation.*





Roger W. Park photos

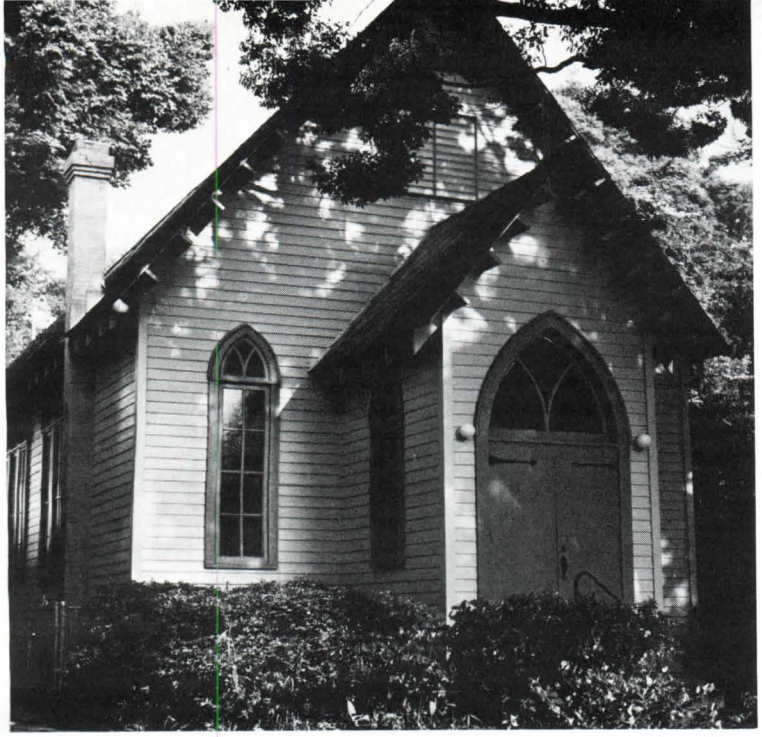


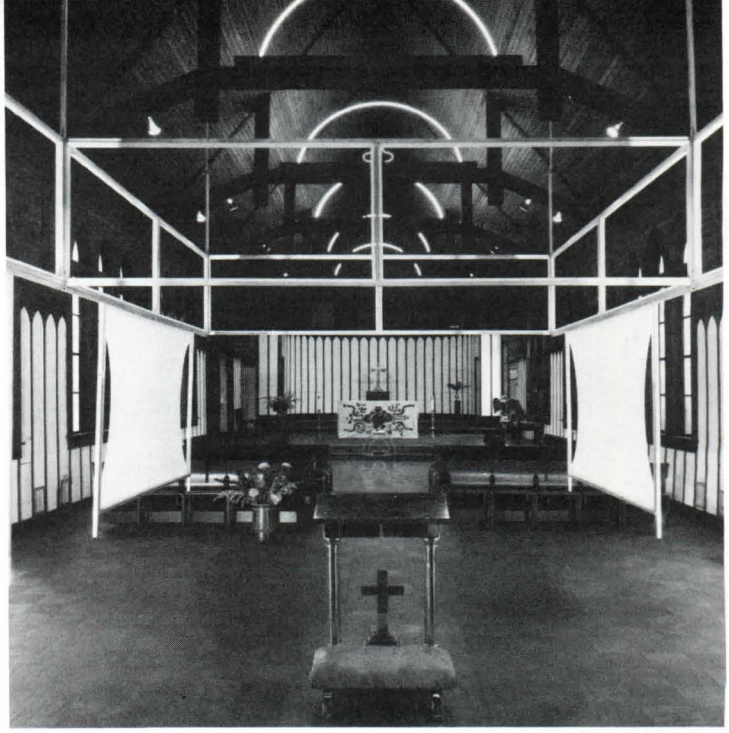


LEAMINGTON ROAD BAPTIST CHURCH

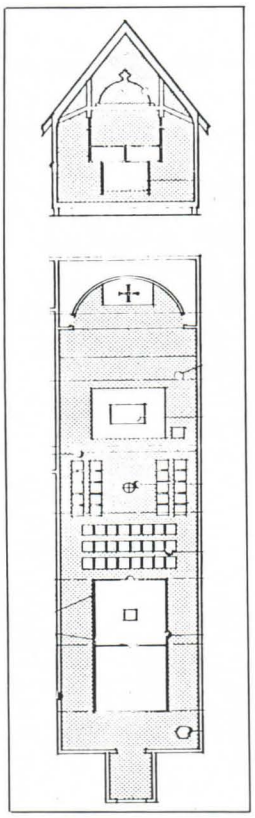
The architects of this radical restoration were initially commissioned to design an altogether new building to replace the one which is shown above. They duly noted, however, that, in addition to a rather small budget for the required new program, they were being presented with an older building which made a considerable and memorable impression in its neighborhood. Its basic problem was that it was vast and therefore extremely expensive to heat and otherwise to maintain, and it was also beset with a particularly bad case of dry rot, which would have to be arrested immediately if the building were to survive. And so it was arrested, the shell of the existing building was retained, and a two-thirds smaller (in volume) and more modern interior was composed inside it. Existing cast iron columns were used as a basic structure from which to hang wooden trusses at varying levels; these in turn were left exposed, and they support the lightweight timber ceiling. The windows at the ground floor level were left exposed, to give light inside, and the new strongly profiled ceiling was cocooned in fiberglass taken down the paneling of the external walls to give a very high level of thermal insulation.

LEAMINGTON ROAD BAPTIST CHURCH, Blackburn, England. Architects and engineers: *Building Design Partnership.* General contractors: *Henry Ibbotson and Sons, Limited.*





Belton S. Wall photos



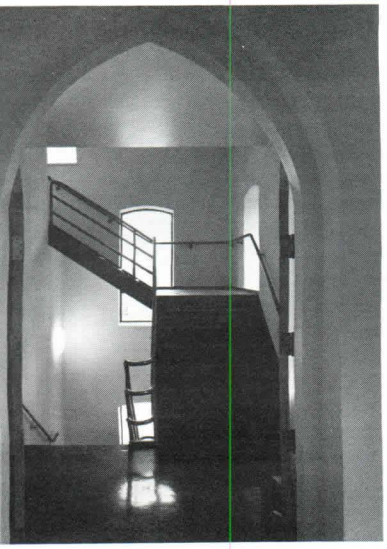
ST. MARY'S EPISCOPAL CHURCH

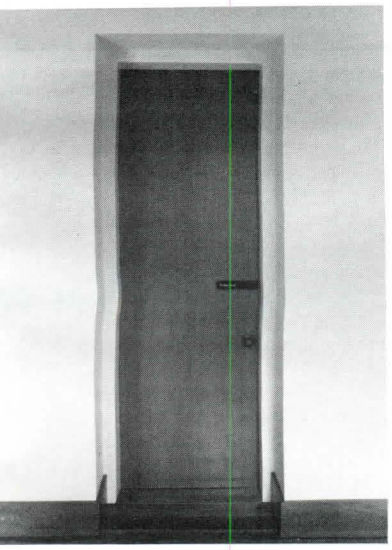
The renovation of this small church made good use of a building which had fallen into disrepair, and it attempted to invest it as well with an altogether new character which, it was hoped, would be appropriate to a liturgical form that had changed radically since the original church had been built. The adaptation, though, sought to respect as much as possible the character of the original structure, shifting the tone to the more contemporary mainly by application of new elements, rather than by radically altering the old ones. Thus the bulk of the renovation consisted of providing new furnishings, new lighting, and new mechanical systems—plus simply refurbishing what was already there. Flexibility is the key here: the new seating is composed of interlocking single chairs, there is no fixed pulpit, nor is there a communion rail, and the altar is completely portable. Panels of nylon stretched on aluminum frames allow spaces to be defined differently for different functions, and neon arches were added above to create the feeling of a festive atmosphere—and to induce some light up near the dark ceiling. Track lighting, in addition, is used to provide supplementary lighting when needed during the day, and primary lighting at night.

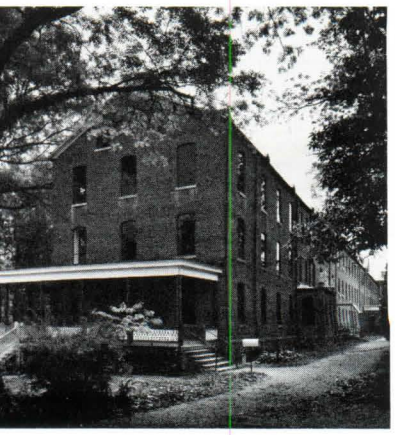
ST. MARY'S EPISCOPAL CHURCH, Jacksonville, Florida. Architects: *Freedman/Clements/Rumpel.* General contractor: *Jenkins Construction Company.*

Rick L. Alexander photos

MONASTERY AT BELMONT ABBEY

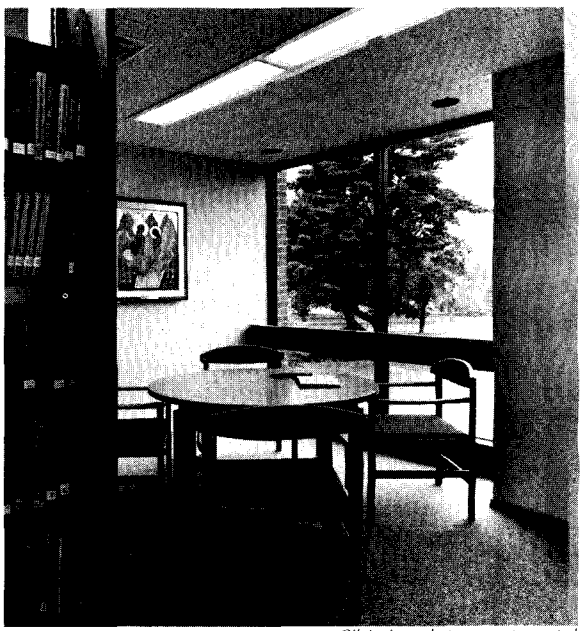






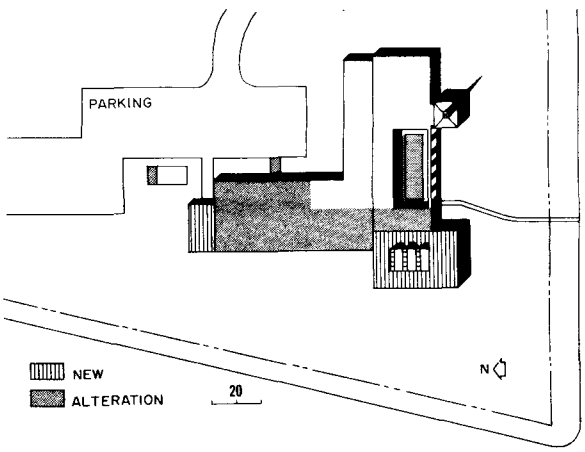
This newly renovated monastery in North Carolina began life as a 33-foot-wide building with a single-loaded corridor that was designed and built by the monks of the monastery in 1881. Successive efforts added and added to it until, by 1900, it had attained the considerable length of 300 feet—still in the form of a row of rooms on three floors. The building is an unsophisticated one, containing no very important architectural feature except the most important one of all—the imprint of the people who carefully put it together. It has now been renovated with perhaps equal care to make 36 rooms for the monks, each with sinks, closets, and individual heating and air-conditioning controls. In addition, there is a six-room infirmary with a kitchen, plus six bathrooms and a dining room, a living room, and a television room. New stairs were added to replace old ones that did not meet the code, and all walls that were not load bearing were replaced to form the new rooms. The greatest change of all was the replacement of the old windows—not, perhaps, the most desirable event, but necessary, and necessarily "modern" for what turned out to be inexorable reasons of cost.

MONASTERY AT BELMONT ABBEY, Belmont, North Carolina. Architects: *McMurray Architects + Planners.* Engineers: *King-Hudson and Associates (structural); Mechanical Engineers, Inc. (mechanical); Stephen T. Hocsek Associates (electrical).* General contractor: *Turner Construction Company.*



Gil Amiaga photos except as noted

LIBRARY OF THE MERCER SCHOOL OF THEOLOGY

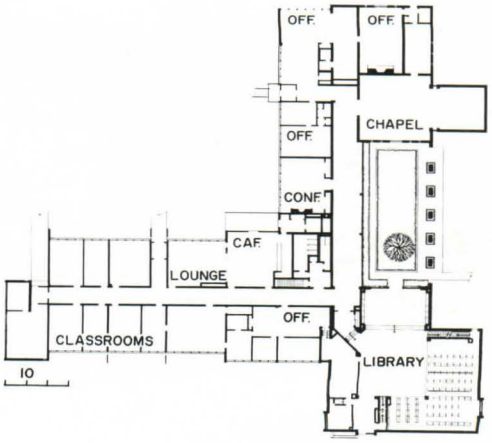


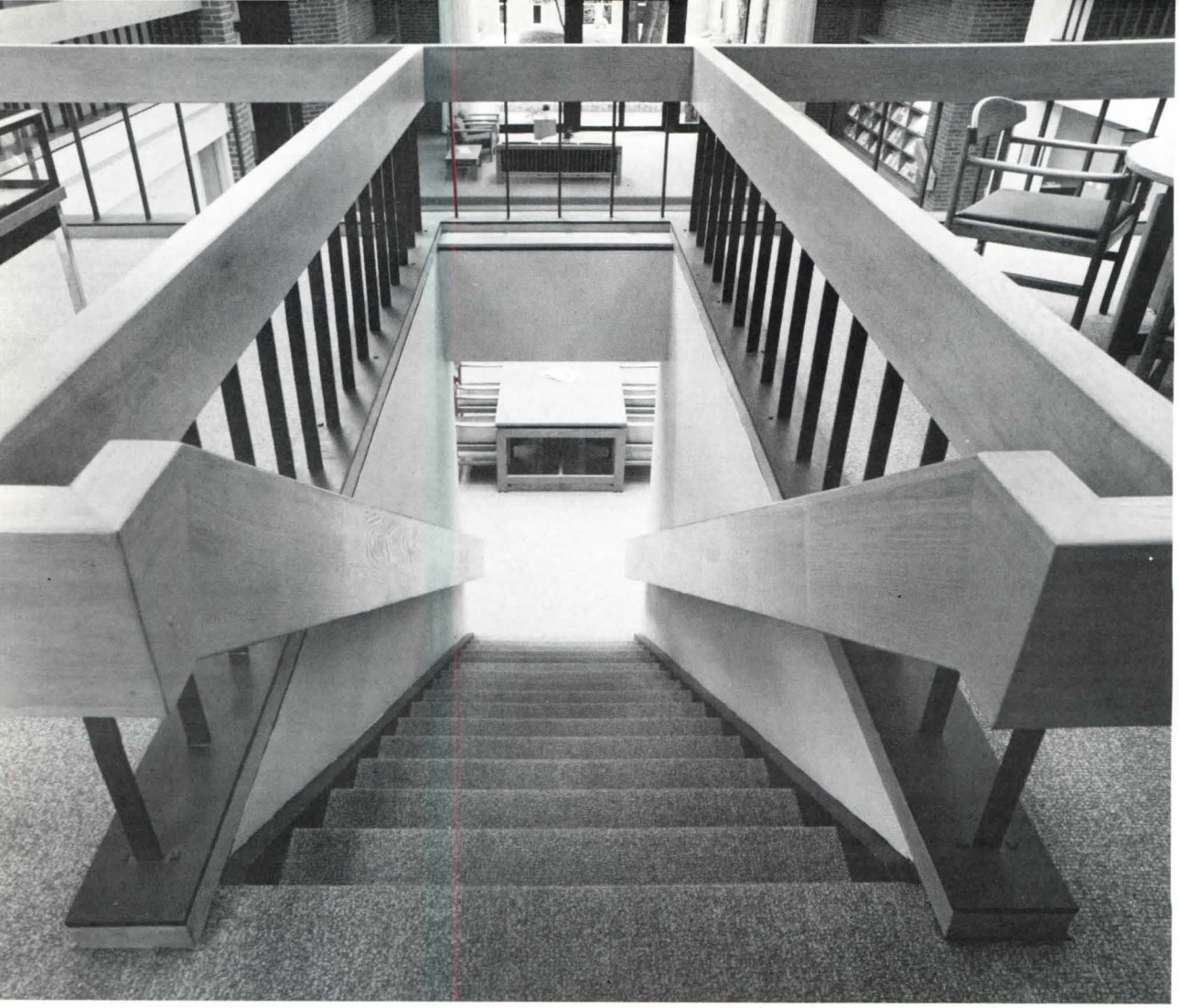
The building shown on these and the following pages is a renovation of existing spaces in a school of theology for a new library, bookstore, and other related functions. The spaces are designed eventually to house as many as 75,000 volumes; and, as well, the main reading room is conveniently and quickly convertible into an auditorium for assemblies, meetings, and even small theatricals. The tables normally used for reading are moved aside to the leisure reading area (the raised platform near the large windows that face the cloistered courtyard), and this in turn becomes the stage. Chairs can be brought up from the basement by booklift.

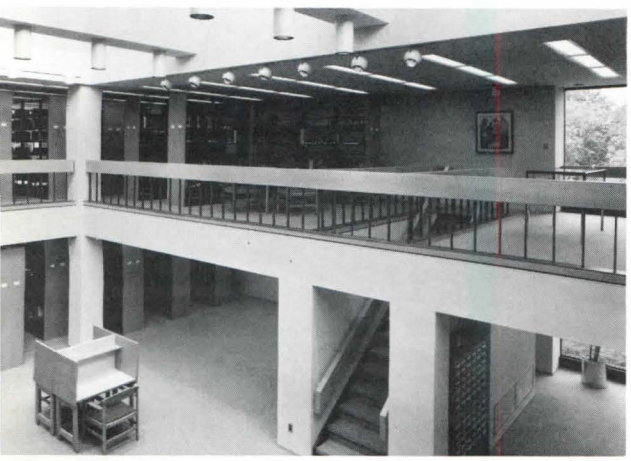
The location of the library takes advantage of the cloister and its garden, which was planted with evergreens and ivy to give a tranquil view—not only from the main reading room, but from the mezzanine above.

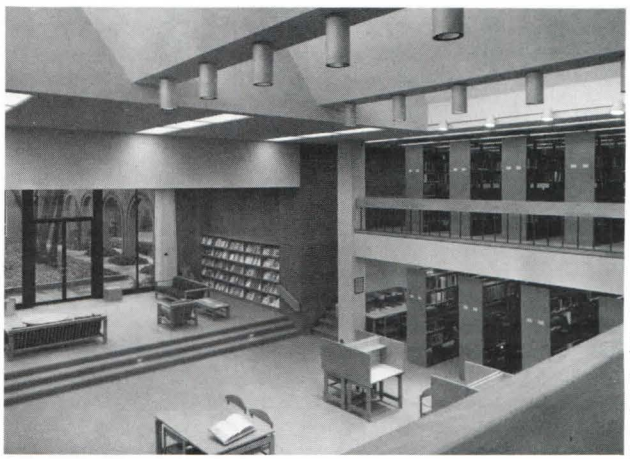
The librarian's office and the catalog workroom are located around the booklift, which serves all three levels, and this area is in turn connected with the administrative offices of the school, so that delivery and communication links are short. Another area, under the mezzanine overhang, is separated off from the main reading room by a screen and is used as a projection room.

A bookstore, which had before been housed on makeshift tables in the corridor, was moved into the renovated spaces, and existing

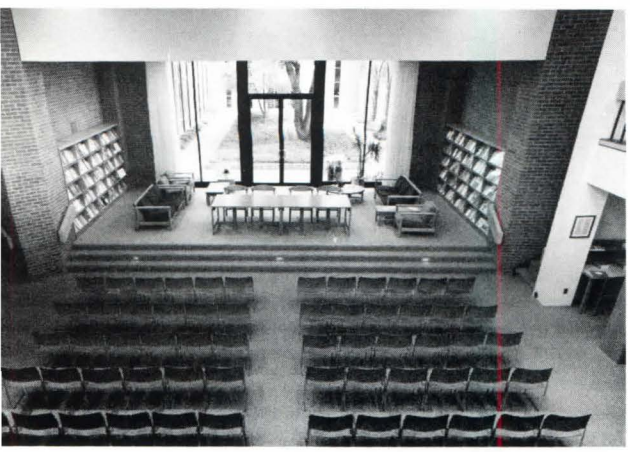








Kenneth R. Sanderson Inc.



large classrooms were divided into smaller seminar rooms, while another classroom was converted into a lounge that opens up into the school's cafeteria.

In the large, central reading room, a high and skylighted ceiling gives a lightness and openness to the room—and it balances, as well, the daylight which is admitted by the large wall of glass that opens onto the renovated garden of the cloister.

LIBRARY OF THE MERCER SCHOOL OF THEOLOGY, Garden City, New York. Architect: *Ronald Woodward.* Engineers: *Victor Santoro (structural); Phillips Associates (mechanical/electrical).* Consultant: *Eleanor Pepper (furnishings and color).* General contractor: *Ingram-Howell Company.*

ELEVATOR SPACE REQUIREMENTS IN HIGH-RISE BUILDINGS

By Jeffrey K. Ochsner, Nat W. Krahl and Anderson Todd, FAIA

All of the authors are affiliated with Rice University, Houston. Jeffrey Ochsner is a graduate student in architecture. Nat Krahl is professor of civil engineering and architecture and chairman of civil engineering; he also is partner in Nat Krahl and Associates, consulting engineers. Anderson Todd is professor of architecture, and a practicing architect.

Economic pressures in recent years have compelled the architects of high-rise buildings to squeeze the most out of net-to-gross areas. It follows that in the future architects must push net-to-gross ratios to the highest levels without sacrificing the amenities tenants expect. It is apparent, however, that very real limits do exist for the net-to-gross ratios that are defined in part by the space demands of vertical transportation. If elevator-system performance in a high-rise building is to meet acceptable levels, there is a minimum amount of building volume that must be devoted to elevator space.

Even at the earliest stages of planning and design it is often necessary to estimate elevator requirements. A review of high-rise buildings constructed over the past two decades can lead to some "rules of thumb" for estimating the space required for elevator hoistways.

In our work at Rice University we have been able to identify two excellent indicators of the relative efficiency of elevator design. *The first is the ratio of total area devoted to elevator hoistways and machine rooms in a given building to the gross floor area of that building. This is a measure of over-all effectiveness.* The second indicator is the ratio of elevator hoistway area to the gross floor area on the lowest typical rentable floor. This indicator reflects the fact that the large space demands of local and express elevators on lower floors reduce the area of these prime lease spaces. As a result, buildings that appear effective over-all may actually be impractical because of inadequate space at lower levels. (Neither indicator makes allowance for elevator lobby and corridor design. While particularly efficient layouts of lobbies and corridors may enhance building efficiency, the contribution of such planning is usually minimal since elevator core layouts generally follow fairly standardized patterns.

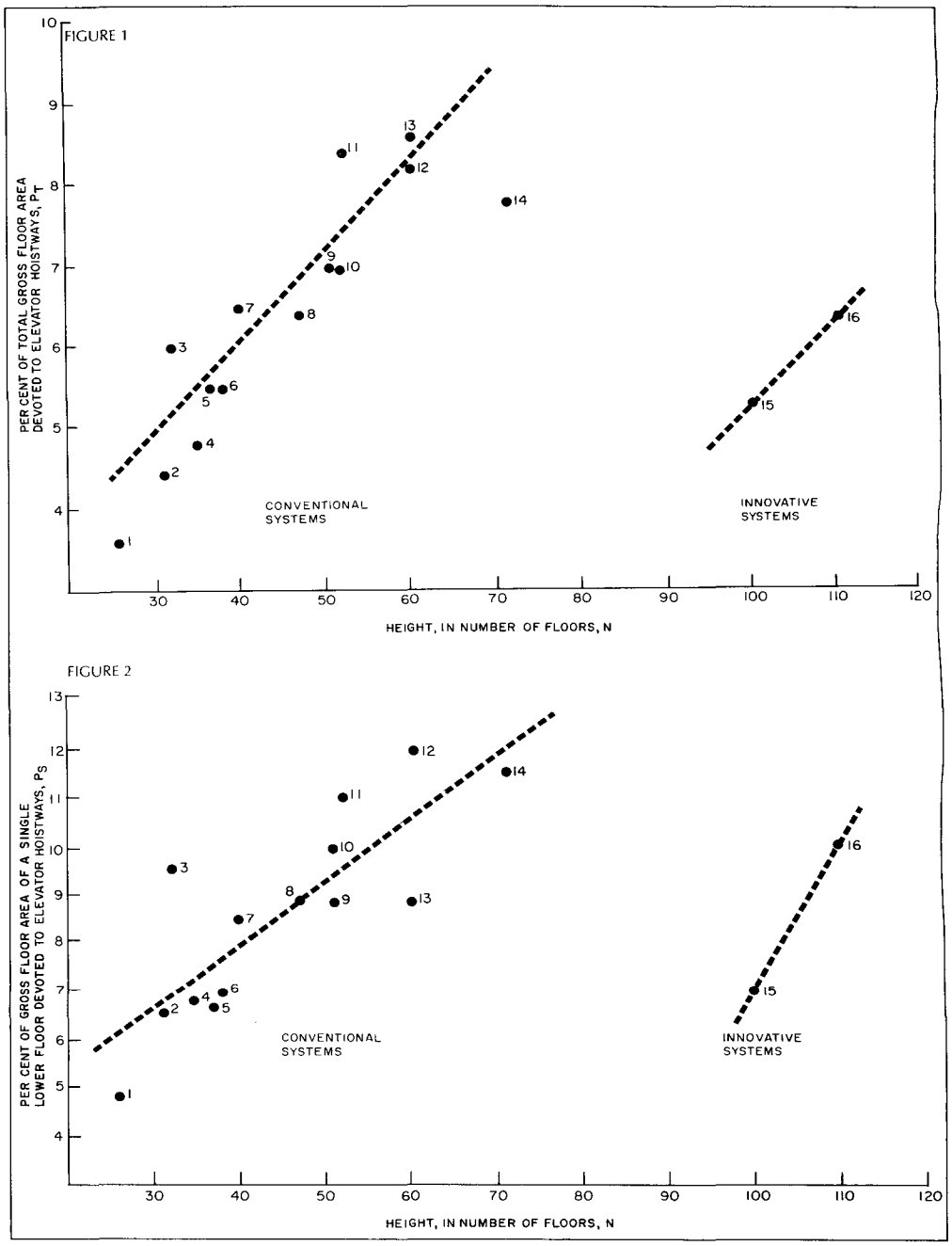


Figure 1 shows per cent of total gross floor area devoted to elevator hoists plotted against height of building, in number of floors, for a number of recent high-rise structures. *Figure 2* shows per cent of gross floor area of a single lower floor devoted to elevator hoistways plotted against height of building, in number of floors, for the same buildings. The list on the following page shows the data used in plotting the two figures. All of the buildings listed are of recent design. In structures constructed before 1950, the quality of elevator service varies widely in terms of the time required for calls to be answered. Today, most systems are designed so that most calls are answered in 30 seconds and only 2 or 3 per cent remain un-

answered after one minute. (While people appear willing to wait 5 or 10 minutes for a subway, they will not make the same allowance for elevators. Of course, this seems less true in older buildings. By current standards, the two-minute waits encountered in skyscrapers of the thirties seem unbelievably long.)

The tabulations given are approximate. It should also be noted that the spaces occupied by plazas and parking garages and their elevators are omitted from these totals.

It is clear from the figures that either economic feasibility or elevator service must suffer if *conventional* elevator systems are to be used in buildings over 80 floors. All recent structures above this height have introduced innovations to increase elevator capacity without increasing hoistway space. These new solutions include tandems (double-deck elevators) and systems with sky lobbies. It appears from the figures that such systems make some taller buildings more efficient than conventionally designed lower ones. The very-high levels of high-rise building found in the World Trade Center and the Sears Tower are possible only with these elevator systems.

It seems clear from both *Figure 1* and *Figure 2* that a fairly linear relationship exists between building height and elevator space demands for conventional systems, and that a similar but different relationship exists for innovative systems. The straight lines shown on the figures represent the "best" linear interpretation of the four sets of data by least squares solution. The equations of the four straight lines are as follows:

Figure 1, conventional systems

$$P_T = 1.67 + 0.11\ N \qquad \text{(Eq. 1)}$$

Figure 1, innovative systems

$$P_T = -4.60 + 0.10N \qquad \text{(Eq. 2)}$$

Figure 2, conventional systems

$$P_S = 2.69 + 0.13\ N \qquad \text{(Eq. 3)}$$

Figure 2, innovative systems

$$P_S = -22.80 + 0.30\ N \qquad \text{(Eq. 4)}$$

where P_T= per cent of total gross floor area, devoted to hoistways,
P_S=per cent of gross floor area of a single lower floor devoted to hoistways,
N=number of floors in building.

These equations can be used for a quick estimate of elevator requirements in preliminary design. For example, for a 60-story building with a conventional elevator system, Equation 1 tells us that the designer must expect to devote about 8.27 per cent (say 8.3) of the over-all gross area to elevators. Equation 3 tells us that for the same building he must also expect to devote about 10.49 per cent (say 10.5) of the lowest typical rentable floor to elevators.

Innovative elevator systems will enable buildings to grow even taller than today's tallest buildings, but eventually a new limit must be reached. Indeed, perhaps the ultimate limit on high-rise structures will come, not from the structure itself, but from the demands of vertical transportation within it.

The table and graphs shown here are not the final word in elevator design. They are simply indicators of some "rules of thumb" which may prove helpful in determining building efficiency and economic feasibility at the earliest stages of design and planning.

ELEVATOR HOISTWAY REQUIREMENTS

1. Alcoa Building, San Francisco: 26 floors
   a) gross floor area total: 520,000 sq ft
      devoted to hoistways: 3.6 per cent
   b) gross floor area single floor: 20,000 sq ft
      devoted to hoistways: 4.8 per cent
2. Tenneco Building, Houston: 31 floors
   a) gross floor area total: 1,100,000 sq ft
      devoted to hoistways: 4.4 per cent
   b) gross floor area single floor: 34,200 sq ft
      devoted to hoistways: 6.6 per cent
3. Civic Center, Chicago: 32 floors
   (Note: This building provides extra elevators to courtrooms and municipal offices.)
   a) gross floor area total: 1,460,000 sq ft
      devoted to hoistways: 6.0 per cent
   b) gross floor area single floor: 39,200 sq ft
      devoted to hoistways: 9.6 per cent
4. Equitable Building, Chicago: 35 floors
   a) gross floor area total: 850,000 sq ft
      devoted to hoistways: 4.8 per cent
   b) gross floor area single floor: 24,000 sq ft
      devoted to hoistways: 6.8 per cent
5. Brunswick Building, Chicago: 37 floors
   a) gross floor area total: 791,000 sq ft
      devoted to hoistways: 5.5 per cent
   b) gross floor area single floor: 21,600 sq ft
      devoted to hoistways: 6.7 per cent
6. C.B.S. Building, New York: 38 floors
   a) gross floor area total: 820,000 sq ft
      devoted to hoistways: 5.5 per cent
   b) gross floor area single floor: 20,600 sq ft
      devoted to hoistways: 7.0 per cent
7. New England Merchant's Bank, Boston: 40 floors
   a) gross floor area total: 720,000 sq ft
      devoted to hoistways: 6.5 per cent
   b) gross floor area single floor: 18,000 sq ft
      devoted to hoistways: 8.5 per cent
8. 1100 Milam Building, Houston: 47 floors
   a) gross floor area total: 1,130,000 sq ft
      devoted to hoistways: 6.4 per cent
   b) gross floor area single floor: 24,100 sq ft
      devoted to hoistways: 8.9 per cent
9. Carlton Center, Johannesburg: 51 floors
   a) gross floor area total: 1,650,000 sq ft
      devoted to hoistways: 7.0 per cent
   b) gross floor area single floor: 31,500 sq ft
      devoted to hoistways: 8.9 per cent
10. One Shell Plaza, Houston: 51 floors
    a) gross floor area total: 1,200,000 sq ft
       devoted to hoistways: 7.0 per cent
    b) gross floor area single floor: 23,200 sq ft
       devoted to hoistways: 10.0 per cent
11. Marine Midland Bank, New York: 52 floors
    a) gross floor area total: 1,000,000 sq ft
       devoted to hoistways: 8.4 per cent
    b) gross floor area single floor: 19,250 sq ft
       devoted to hoistways: 11.1 per cent
12. Chase Manhattan Bank, New York: 60 floors
    a) gross floor area total: 2,100,000 sq ft
       devoted to hoistways: 8.2 per cent
    b) gross floor area single floor: 30,800 sq ft
       devoted to hoistways: 12.0 per cent
13. First National Bank, Chicago: 60 floors
    a) gross floor area total: 2,090,000 sq ft
       devoted to hoistways: 8.6 per cent
    b) gross floor area single floor (at grade): 50,400 sq ft
       devoted to hoistways: 8.9 per cent
14. U.S. Steel Building, Pittsburgh: 71 levels (64 floors)
    a) gross floor are a total: 2,900,000 sq ft
       devoted to hoistways: 7.8 per cent
    b) gross floor area single floor: 41,000 sq ft
       devoted to hoistways: 11.6 per cent
15. John Hancock Building, Chicago:
    (Note: This is somewhat a special case as it includes apartments and a sky lobby. Elevator service demands of apartments are lower than those of office space.)
    a) gross floor area total: 3,010,000 sq ft
       devoted to hoistways: 5.4 per cent
    b) gross floor area ground level: 46,000 sq ft
       devoted to hoistways: 7.2 per cent
16. World Trade Center, New York: two towers, each 110 floors
    (Note: Each tower has two sky lobbies.)
    a) gross floor area total: 9,640,000 sq ft (including both towers)
       devoted to hoistways: 6.4 per cent
    b) gross floor area single floor: 43,800 sq ft (one tower)
       devoted to hoistways: 10.2 per cent

Sprinkler system installer invents a bar joist that is part sprinkler pipe

A unique new structural bar joist that incorporates steel sprinkler pipe as its lower chord could dramatically cut installation costs for sprinkler protection—perhaps in half—according to its inventor, Morton Hirsch, president of Active Fire Sprinkler Corporation, a Brooklyn, New York sprinkler contracting firm.

Outlets for sprinklers are located on uniform modular centers, rather than on a specific sprinkler-design spacing. Hirsch says that 4-ft centers are most desirable, considering web spacing, architectural layouts, and typical sprinkler-head multiples. The uniform centers facilitate the design of sprinkler systems and the design and production of bar joists. Unused outlets are plugged.

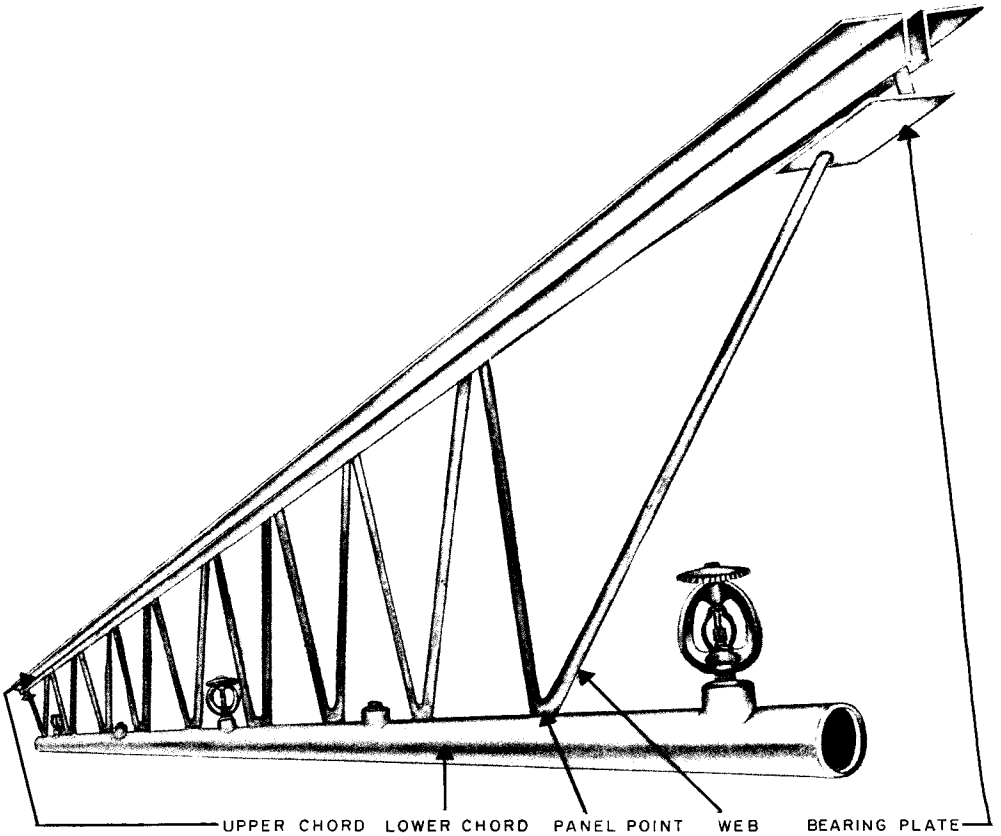
The outlets may be up or down, depending upon whether the joists will be left exposed, or whether a finished ceiling and pendant heads will be used.

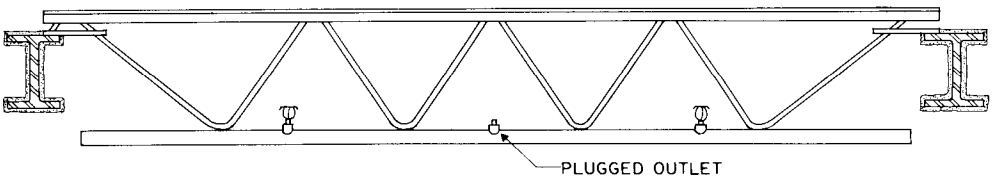
Obviously not all joists need be hydraulic. The designer might use a hydraulic joist every sixth or seventh one for floor construction where it is framed on 2-ft centers; or every third or fourth one for roof construction, if it is framed on 4-ft centers.

The modularity of the system allows a sprinkler system to be installed before the type of occupancy is known, and it can be adapted to future architectural and occupancy changes.

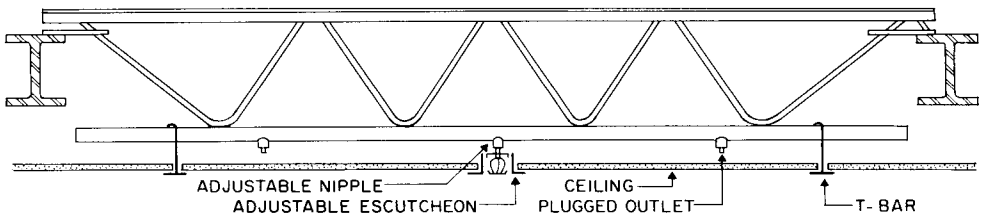
In addition to the sprinkler-head connection, two other mechanical connections are required. One is the end connection which joins two hydraulic joists in a straight line. The other one is the cross-main connection that connects two parallel hydraulic joists.

The lower chord of a bar joist essentially is a tension member, but it also must have stiffness between panel points to allow hanging of lighting fixtures, pipes, etc. The inventor's structural consultant, Milton Alpern, points out that a pipe section is stiffer than the customary bars of bar joists, and that because of welded outlets on the holes, the material cross-sectional area of the pipe can be compared directly to the cross-sectional area of the lower chord of any standard bar joists. The hydraulic bar joists can use either 1¼-, 1½- or 2-in. pipe depending upon the design load, joist spacing and span.

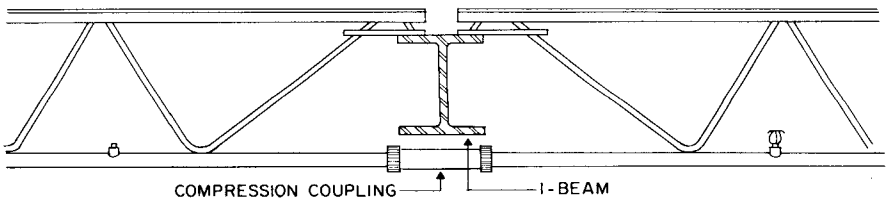




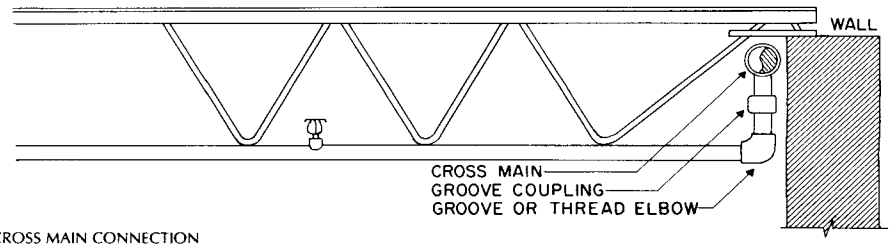
EXPOSED JOIST



CONCEALED JOIST



END CONNECTION (JOIST-TO-JOIST)



CROSS MAIN CONNECTION

New standard for masonry wall insulation

Zonolite® Thermo-Stud® System

Here's an economical new system that makes it easy for you to design a complete, uninterrupted insulation envelope with no thermal shorts.

Called the Thermo-Stud system, it features a rigid Zonolite Styrene Foam insulation board in which a patented metal furring channel is factory-embedded. The system provides a complete insulation envelope that achieves outstanding insulation values with minimum thickness to deliver more useable interior space. And there's no deterioration of "R" values with time, either.

Positive Mechanical Attachment. Mechanically fastened as a unit to masonry walls, the Thermo-Stud System permits immediate attachment of gypsum drywall to the metal channels with standard drywall screws. It goes up fast, and you get the permanence, integrity, and safety only mechanical fastening can provide.

Low Installed Cost. The Thermo-Stud System is just about the most economical method for insulation and interior drywall finish. Installation rates up to 2,000 square feet per man day can be expected, minimizing construction time and labor costs.

For complete information on the new standard for masonry wall insulation and interior drywall installation, write Thermo-Stud System, W. R. Grace & Co., Construction Products Division, 62 Whittemore Avenue, Cambridge, Massachusetts 02140. In Canada: 66 Hymus Road, Scarborough, Ontario M1L 2C8.

GRACE

For more data, circle 67 on inquiry card

WATER COOLERS / A full line of commercial water coolers and fountains is described in a 12-page color catalog. The material contains installation and rough-in drawings, application and capacity tables, color and material swatches, accessory information and electrical specifications. ▪ White-Westinghouse Corp., Commercial Products, Mansfield, Ohio.

Circle 400 on inquiry card

TRAFFIC DOORS / *AirGard* flexible doors meet USDA standards for cooler and freezer room applications; an eight-page catalog outlines the energy- and time-saving features of both bi-parting and strip door types. Said to minimize the movement of air between rooms having a temperature differential, *AirGard* doors are offered in a selection of stock options for specific conditions: impact plates, window and hinge variations, magnetic locks, weights. ▪ Chase Industries, Inc., Cincinnati, Ohio.

Circle 401 on inquiry card

LOUDSPEAKERS / Data sheets on the "160A/168A" speakers and the "731A" driver explain their suitability for areas where high speech intelligibility is required under adverse ambient noise conditions. The music/paging speakers are fully weatherproofed for such outdoor applications as shopping plazas, stadiums, etc. ▪ Altec Corp., Anaheim, Calif.

Circle 402 on inquiry card

SECURITY SCREENS / A full line of security and insect screens, screen doors and accessories is described in a 28-page catalog. Featured in the bulletin are *Van-Guard* security screens and the fast-operating *Push-Quick* life safety emergency release, said to have wide application in public housing projects. ▪ Kane Mfg. Corp., Kane, Pa.

Circle 403 on inquiry card

INSULATION BOARD / Pre-molded flat or contoured fiberglass *MA Board* is available in various thicknesses and densities for thermal and acoustical insulation applications from -120 to 450 deg F. A fact sheet gives information on physical and acoustical properties of the sound control board, which can be faced with fabric, laminated, coated, etc. ▪ Molded Acoustical Products, Inc., Allentown, Pa.

Circle 404 on inquiry card

PRE-INSULATED PIPING / *Chil-Gard* pre-insulated, prefabricated piping systems are designed for buried chilled water and condensor water applications. A four-page brochure gives physical characteristics and installation suggestions for this polyvinyl chloride plastic pressure carrier pipe. ▪ RIC-WIL, Inc., Brecksville, Ohio.

Circle 405 on inquiry card

FLOW CONTROL UNITS / Water flow rates of 1.5-, 2- or 3-gallons per minute are possible with *Omni* flow control products for bathroom and kitchen faucets and showers, according to a six-page catalog. Vandalproof units are included; a chart gives information on thread sizes and fitting dimensions. ▪ Jenson-Thorsen Corp., Addison, Ill.

Circle 406 on inquiry card

WINDOW VENTILATORS / Said to be easily installed in either operable or fixed wood- and metal-framed windows to permit year-round, draft-free ventilation, *Unitas* vents are burglarproof. Product brochure shows how these German-made units provide a tight, weatherproof seal when in the closed position. The anodized aluminum ventilators are available in brass, bronze, black, brown, and other finishes. ▪ Roto International, Essex, Conn.

Circle 407 on inquiry card

CUTOFF LUMINAIRES / The "Modules II Sharp Cutoff Luminaire Lighting System" is described in an eight-page color brochure. All available sizes, finishes, wattages and poles are shown on charts; photometric data, dimensions and mounting information are also given. ▪ Moldcast Lighting, Pine Brook, N.J.

Circle 408 on inquiry card

REPLACEMENT WINDOWS / Cross-sectional drawings of double- and triple-hung, slider, and picture windows are featured in a 12-page catalog of residential and commercial replacement window units. Newly-introduced Gothic and circle-top windows with operating top sashes are also shown. ▪ Season-all Industries, Inc., Indiana, Pa.

Circle 409 on inquiry card

WATER-SAVING FIXTURES / A four-page brochure introduces a line of *Water-Guard* fixtures: toilets, urinals, shower-heads and faucets that are said to reduce water use 25 to 75 per cent. Potential savings may be calculated using flow rates provided for each fixture. ▪ Kohler Co., Kohler, Wis.

Circle 410 on inquiry card

FACSIMILE TRANSMITTERS / Time-sensitive documents and drawings can be electronically transmitted and reproduced at distant stations in just minutes, according to a data sheet on *Copyphone III* facsimile transmitting equipment. Material can be sent automatically and received unattended. ▪ Telautograph Corp., Los Angeles, Calif.

Circle 411 on inquiry card

UNIT HEATERS / A product bulletin describes a line of heavy-duty electric unit heaters with draw-through design, interchangeable mounting for vertical or horizontal discharge, and a fan delay to recirculate residual heat from ceiling to floor. The UL-listed heaters are available in 2.5- to 50-kw models ▪ Brasch Mfg. Co., Inc., Maryland Heights, Mo.

Circle 412 on inquiry card

FIXTURE PLATE / A fact sheet explains the advantages of a fixture plate or base designed to maintain true vertical installation of lighting, meter box and other fixtures on aluminum siding. The plate is nailed to sheathing and butts pre-cut siding; electrical wires are then pulled through the hole provided, and the fixture plumbs automatically. ▪ Omni Products Co., Addison, Ill.

Circle 413 on inquiry card

CERAMIC TILE / Over 160 tile colors and dozens of shapes, sizes, designs and glazes are illustrated in a specifier's guide to *Romany-Spartan* ceramic tile. The company's mural design service is also described. A section of the guide deals with tile trim for both floors and walls; national distributors for the *Romany-Spartan* line are listed. ▪ United States Ceramic Tile Co., Canton, Ohio.

Circle 414 on inquiry card

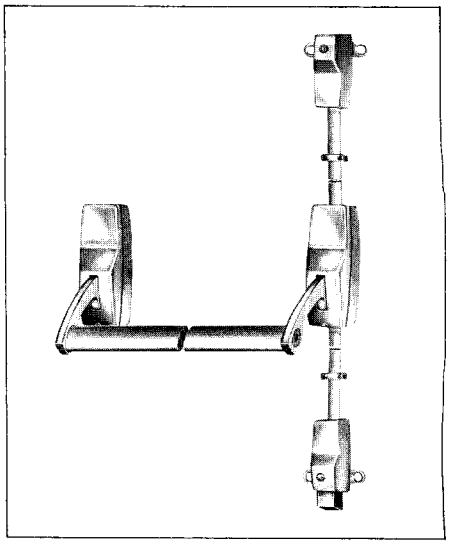
MOBILE CARRIAGE STORAGE / An application guide assists in the selection of filing/storage mobile carriage space compactor systems for a variety of specialized installations. Conceptual drawings show how space can be utilized for maximum efficiency, and illustrate a number of typical applications for computer tapes, office files, X-rays, libraries, law office, schools, museums and geological collections. Featured are both manual and fully automatic electric systems, ranging from 3-ft mini-carriages to extra-large 68-ft-long units. These systems permit adapting existing shelving or new hardware. ▪ Spacesaver Corp., Ft. Atkinson, Wis.

Circle 415 on inquiry card

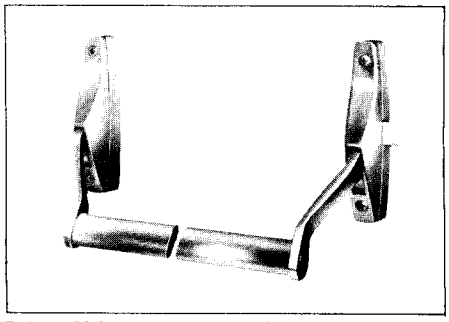
more literature on page 136

All Russwin exit devices work beautifully.

Russwin exit devices give you an easy way out on both styling and safety requirements. Let you smoothly blend function into the prevailing mood of interiors. Give you continuity in door hardware styling, throughout the building. Available in a wide selection of vertical rod, mortise and rim designs UL listed models. Narrow stile, concealed and low profile types. Add beauty to emergency duty with exit devices from the full, in-depth Russwin line. Write for more detailed information.



Exiter 780 Series UL listed heavy-duty vertical rod type



Exiter 630 Series Narrow Line heavy-duty rim type

365 Series Low Profile rim type

HARDWARE DIVISION, EMHART INDUSTRIES, INC.
BERLIN, CONNECTICUT 06037

RUSSWIN

For more data, circle 68 on inquiry card

Designed FACTORY FLOORS by Jennison-Wright

Wood block floors are often "taken for granted." They're known for their many unique qualities (see panel at right), but not completely understood. To truly understand them requires living with them as we have for over 60 years. We know, and would like to prove to you, that properly pre-designed Kreolite® End Grain Wood Block Floors can serve many of your traffic and production problems and make life beautiful for you and all of your associates. Let us preplan your floors so that none of their advantages will be overlooked. This is part of our service.

ADVANTAGES OF KREOLITE® FLOORS:

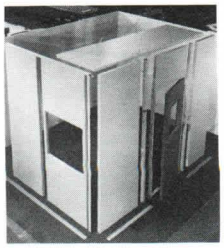
1. Easy relocation and concealment of service lines to machinery.
2. Speed and economy of replacement in aisles and other heavy wear areas.
3. Special finishes for absolutely dust-free surfaces.
4. Versatility in providing for in-floor conveyor systems, tow-lines, etc.
5. Measurable contributions to noise abatement.
6. Easy installation of oil dispersal and/or recovery systems.
7. Traditional properties of comfort through insulation.
8. Non-sparking surface in volatile areas.
9. Reduction of damage to dropped tools and products.
10. Priced for profitable production.

JENNISON-WRIGHT JW ®

The Jennison-Wright Corp., P.O. Box 691, Toledo, Ohio 43694 ... *you'll find us in Sweet's Catalog and in the Yellow Pages*

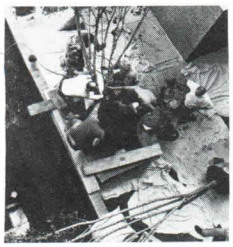
For more data, circle 69 on inquiry card

NOISE CONTROL PANELS / The *TEC* noise barrier panel system, consisting of 2-in.-thick acoustic panels, connectors, floor channels, and ceiling caps, is said to provide an efficient and simple method for isolating and protecting people from noisy equipment and machinery. Barriers, enclosures, walls/partitions, hinged sound screens, and plant offices can be constructed from *TEC* components. Solid core wood and steel doors have continuous acoustic seals. ▪ Eckel Industries, Inc., Cambridge, Mass.

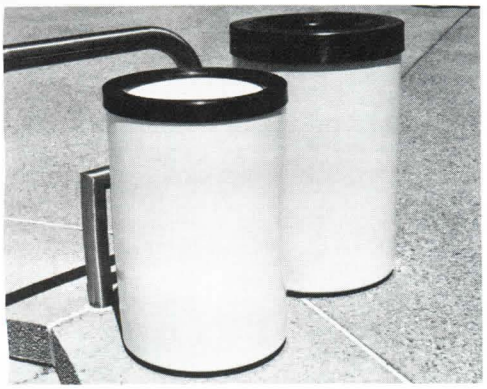


Circle 302 on inquiry card

SOIL-LESS PLANTING MIX / *Terra-Lite Metro-Mix 200* contains horticultural vermiculite, Canadian sphagnum peat moss, perlite, granite sand, nutrients and trace elements: no dirt. These and other lightweight soil-less planting mixtures are said to provide exceptional drainage, aeration and moisture retention for such interior landscape requirements as the mezzanine of the Cambridge Hyatt Regency Hotel, shown here (Everett Conklin Companies, International, landscape contractors). ▪ W. R. Grace, Horticultural Products, Cambridge, Mass.



Circle 303 on inquiry card



TRASH RECEPTACLES / Available in several diameters and heights, these ash and trash receptacles for outdoor use come in more than 20 standard colors. ▪ Peter Pepper Products, Inc., Compton, Calif.

Circle 304 on inquiry card

LOBBY SEATING / This modular seating line, designed by Robert Bernard Associates, begins as an individual base lounge chair and multiplies into a two-, three-, and four-seater unit. Unit pictured has a laminated table top interchangeable with the chairs. Seat back and shell are molded plywood, urethane covered and upholstered, mounted on a black matte finish square steel bar. Polished chrome-plated, tubular steel form the legs. ▪ Thonet Industries, Inc., York, Pa.

Circle 305 on inquiry card

more products on page 131

"Butler building?" Wrong,

it's by Varco-Pruden the uncommon building company.

Uncommon? Yes, and for important reasons. We're now number two in the metal building industry, and you've probably never heard of us.

Each Varco-Pruden building is built to your precise needs. To your exact width, length, and height requirements — even your frame of mind. Without cost penalty. Without added construction time.

Also, the Varco-Pruden weathertight SSR roof is the best in the industry. Period.

There's a Varco-Pruden Franchised Builder near you, with a Varco-Pruden plant near him.
Call him.
Or us.

Varco-Pruden
metal building systems
Unit of AMCA International Corporation
Clark Tower, Memphis, Tennessee 38137
901/767-5910

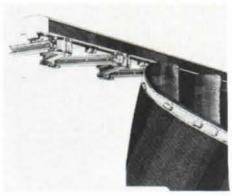
For more data, circle 70 on inquiry card

When you need hundreds of windows on a very tight schedule, start by specifying a very good window

The bigger the project, the more you need to be sure of the windows. We've furnished windows like these Casemasters for projects requiring several *thousand* units. The Casemaster is beautiful, rugged, easy to operate, and tight. Those are some of the reasons they get specified. Another is that Marvin can deliver big numbers of windows on a tight schedule, including prefinished units set up and ready to go into the opening. Write for complete information on these and other fine Marvin units. Marvin Windows, Warroad, MN 56763. Phone: 218-386-1430.

For more data, circle 71 on inquiry card

DRAPERY HANGERS / Pinch pleats do not have to be sewn in to drapery treatments using the *Rohline* hanging method: special nylon tape with four snaps per fold is sewn to the top of a flat panel and snapped onto the linkage. Drapery folds will not sag; panels are said to be easily removed for cleaning. ▪ OHline Corp., Gardena, Calif.



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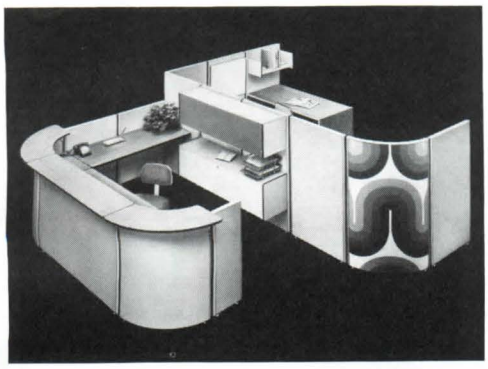
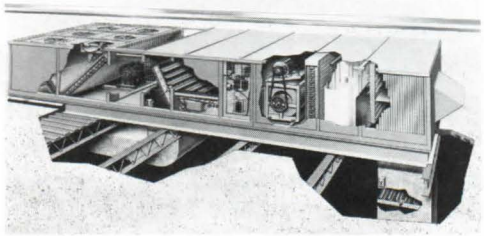


WORK STATIONS / Curved corner panels, counter tops and work surfaces are new design features of the *serie-Seven* modular office system. The 24-in.-radius curved corner panels are available in heights of 40-, 56-, and 72-in., faced in a choice of vinyls and fabrics. Other additions are an acoustical panel with a NRC of 0.99; a universal swivel-mounted fluorescent task light; and two sizes of flipper-door cabinets. ▪ The Haws Corp., Elkhart, Ind.

Circle 307 on inquiry crd

OUTDOOR BULLETIN BOARD / The largest "Messenger" board is 10-ft-wide with 6-in.-high black baked-enamel letters on a white aluminum background. The vandalproof 3/16-in.-thick *Plexiglas* cover has a continuous top piano hinge, and comes with two recessed tumbler locks. An optional 12-in.-high top-mounted name panel serves to identify the school or building. Tubular legs, framing and door are extruded, anodized aluminum; the signboard needs no additional bracing. ▪ Poblocki and Sons, Milwaukee, Wis.

Circle 308 on inquiry card



ROOF-TOP PACKAGED AIR CONDITIONER / The "Mark 15" packaged hvac unit has a cooling efficiency that meets ASHRAE 90-75 standards for 1980. It is available as a multizone, single zone, or single zone variable air volume unit for either bypass-type or throttling boxes. Dampers used with the throttling VAV unit are located downstream of the fans for quiet operation and improved fan efficiency. Several heating options are offered including gas furnace, electric resistance coils, steam or hot water coils. Cooling options include both direct expansion and chilled water cooling. ▪ American Air Filter Co., Louisville, Ky.

Circle 309 on inquiry card

more products on page 133

Haws makes it an EASY REACH!

Model HWCD-8 electric water cooler beckons to those in wheelchairs as well as the general public, promising the satisfaction of cool water for all, meeting the requirements of Public Law 90-480 and most state codes.

Dual, self-closing operating lever valves offer greatest user convenience; stainless steel exterior eases maintenance, assures permanent brilliance. Packaged water chiller is warranted; installs behind louvered panel.

Specify Haws Model HWCD-8 wall-mounted electric water coolers for schools, hospitals, office complexes, or any other projects where construction, leasing or financing involves federal funds. Get full facts on Model HWCD: contact Haws Drinking Faucet Co., 1441 Fourth St., Berkeley, CA 94710.

Haws®
WATER COOLERS

For more data, circle 72 on inquiry card

To begin with 40,000 tie-rod holes were patched with THORITE, the nonslump, nonshrink patching mortar before all concrete surfaces, inside and out, of this library were sprayed with two coats of THOROSEAL PLASTER MIX, cement-base, waterproof coating, PLUS ACRYL 60, adhesive bonding agent. The primary purpose of this finish not only waterproofs and preserves these surfaces for as long as they stand, but maintains the architectural detailing with a beautiful, uniform white texture over all.

Beautiful fluting of Medical Library finished and waterproofed

quickly and economically with THOROSEAL PLASTER MIX!

Louis Calder Memorial Library, Miami, Fla. • Arch.: Steward & Skinner Ass. • Contr.: Clark Construction Co. • Appli.: Bernard Snetiker Painting Contr.

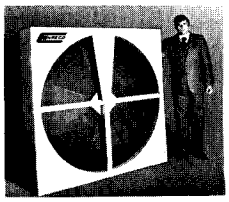
THORO

S T A N D A R D D R Y W A L L P R O D U C T S

DEPT. A R 777 • 7800 N.W. 38th ST., MIAMI, FLORIDA 33166

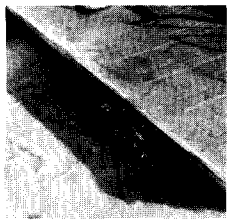
For more data, circle 73 on inquiry card

ENERGY RECOVERY WHEEL / Utilizing a newly-developed heat transfer material, the *Enreco* wheel works automatically by slowly rotating between two adjacent air ducts, one carrying exhaust air, the other, outside make-up air. Energy recovery efficiencies of up to 90 per cent are claimed for the heat transfer media, a material that is nonmetallic, nonasbestos, chemically inert, water resistant, bacteriostatic and fire retardant. This media is shaped into small unidirectional triangular flutes, providing maximum open face area with the largest possible contact surface to passing air. Air flow surfaces are coated with a water film to promote transfer of both latent and sensible heat. ▪ Energy Recovery Co., Germantown, Wis.



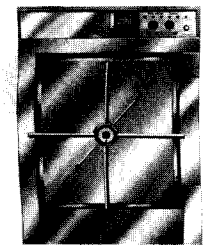
Circle 310 on inquiry card

PRE-ENGINEERED ROOFING / The "Standing Seam Roof" system developed by this manufacturer of low-profile pre-engineered metal buildings is said to provide a thermally-efficient roof which acts as a complete, one-piece membrane. Roof movement resulting from seasonal temperature changes is accommodated by the mounting clip shown in photo. The clip is attached to the purlins and extends through the insulating layer to fasten onto the roof panel. This allowance for thermal expansion and contraction should result in longer, useful roof life. ▪ Varco-Pruden, Memphis, Tenn.



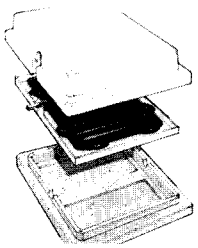
Circle 311 on inquiry card

LARGE BULK STERILIZERS / Institutional users of the *Verna-Clave* series of large bulk rectangular sterilizing equipment can specify almost any combination of chamber size and mounting method from a large selection of standard ASME-rated units. Doors have radial locking arms; full automatic control of the sterilization cycle is maintained by an indicating recorder incorporating cyclelock selector pushbuttons for all types of loads. Timers are reset automatically on a fail-safe basis in the event of loss of electrical power or a 2 deg fall in sterilizing temperature. Conduit for supply and exhaust systems have check valves, steam traps, and vacuum breakers to protect the potable water supply. ▪ Vernitron Medical Products, Inc., Carlstadt, N.J.



Circle 312 on inquiry card

SOLAR HEATING PANEL / Weighing only 13 lbs when full of heat-collection water, these 30- by 30- by 5-in. solar panels are said to provide up to 1000 Btu/hr for residential heating. The panels may be mounted on sunlit areas impractical for larger units, and connected in a number of patterns to meet different on-site requirements. Competitively-priced, the panels have a preformed, closed-cell urethane base; a plastic cover with ultraviolet inhibitors; and a polyurethane solar energy absorber with integral channels for uniform water flow. ▪ Edmund Scientific Co., Barrington, N.J.



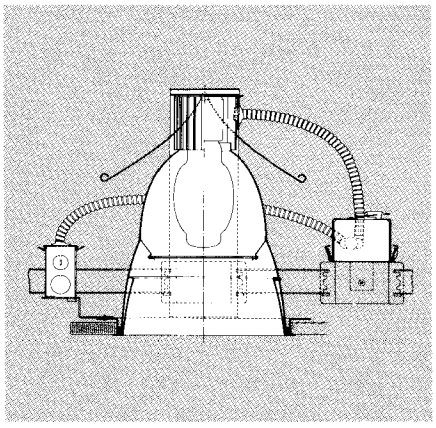
Circle 313 on inquiry card

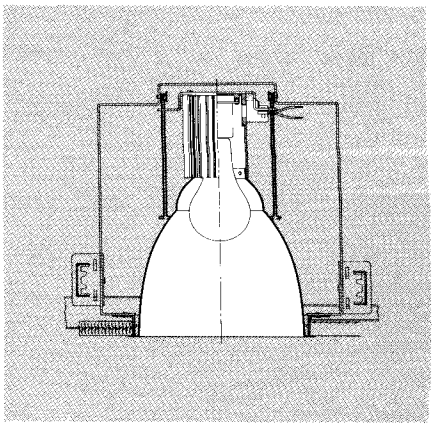
more products on page 135

With Gotham, you've got a choice.

Aesthetic appeal . . . Gotham downlight engineering . . . and the choice of incandescent or energy-saving H.I.D.

Here are combinations for efficiency and lighting quality to give you the complimentary downlight system for your interiors. However you look at the Gotham 3000 Series H.I.D. and the Gotham 900 Series incandescent, they're a perfect match.





Gotham 3000 Series

For mercury vapor or metal halide lamping, this Gotham series lets you benefit from the high lumen output, long life and energy savings of these light sources. Features of this Open Reflector Downlight series include precise optics for low brightness; high efficiency; and the option of specially finished baffles to give the light incandescent color compatibility.

Gotham 900 Series

Where recessed low-brightness incandescent downlights are called for, this Gotham series is a highly efficient, quality choice. For a range of wattages—and complete with U.L. listed thru-wiring junction box—the Gotham 900 series fixtures are engineered to eliminate glare; to give soft, even illumination; to be an economical, high performance lighting choice. Available with specular Alzak or specular champagne gold reflector.

For full details and specification information on the Gotham choice of the 3000 Series and the 900 Series, contact your ITT Gotham representative; or write:

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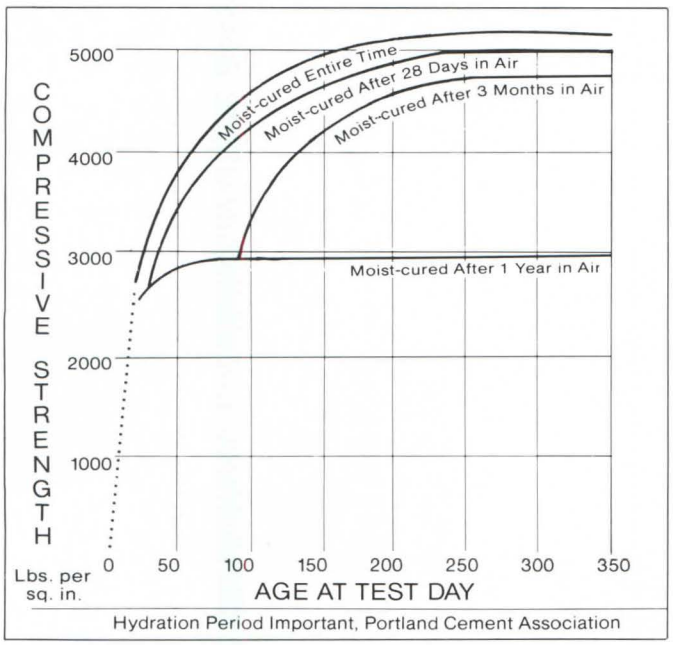
P. O. Box 195, Vermilion, Ohio 44089 • Phone (216) 967-3131

For more data, circle 74 on inquiry card

Hillyard Cem-Seal® II. Why the best seal is also the best cure.



Hydration Period Important, Portland Cement Association

Proper curing. Without it, concrete dries quickly and doesn't build its full-strength potential. But when new concrete and terrazzo floors are kept moist over a period of time, an increase of up to 270% in compression strength is possible, according to a study made by the Portland Cement Association. And that's where Hillyard Cem-Seal® II comes in.

Cem-Seal II is a clear, non-yellowing copolymer seal and curing compound. One coat sprayed on concrete and terrazzo floors forms a clear membrane surface barrier that holds moisture in the mix over the proper hydration period. Moisture is allowed to escape very slowly as vapor.

And while Cem-Seal II is protecting the surface against penetration of outside moisture, stains and soil, it's also producing a water-tight, dense, hard floor. One that has higher wear-resistance and won't be affected by the worst threat of all—freezing, expanding water under its surface.

Cem-Seal II saves you time and inconvenience by eliminating any need for materials such as plastic or sawdust on new concrete. It's your best seal and your best cure for strong, wear-resistant concrete and terrazzo floors. For complete information, write or call:

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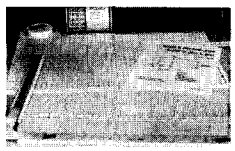
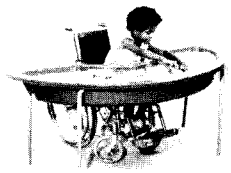
PERSPECTIVE SCALING CHARTS / Photographs and perspective views can be measured directly using these scaling and perspective charts. Charts give direct scales for both horizontal and vertical dimensions regardless of foreshortening, simplifying interpretation of photographs and odd-scale drawings. Perspective views can be drawn from any vantage point, including aerial and topographic views; any size or shape object, interior or exterior, can be accommodated. ▪ Skapa, Andover, Mass.



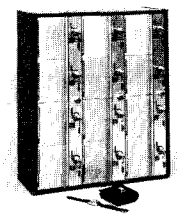
Circle 314 on inquiry card

PLAY EQUIPMENT / Sand and water play units are available in heights convenient for handicapped children. The curved (pictured) and rectangular troughs are made of all-weather ABS plastic; units can be filled by hose or pail and emptied by the built-in drain. Portable, permanent, or mobile (with casters) "Martian Canals" may be used indoors or out. ▪ TheraPlay Products, Long Island City, N.Y.



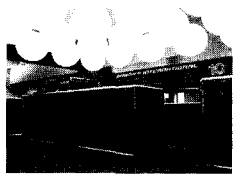
Circle 315 on inquiry card

PERSONAL EFFECTS CHECKING / The "Mini-Check" locker for small, valuable articles such as watches, is designed to complement existing checking systems in those locations utilizing self-service coin-controlled security lockers. Coin-controlled locking mechanisms accept coin or token fee; hardware is type 304 stainless steel. Self-closing doors are 3/16-in.-thick; the case is brown enamel-finished 19 gauge aluminum. ▪ American Locker Security Systems, Inc., Jamestown, N.Y.



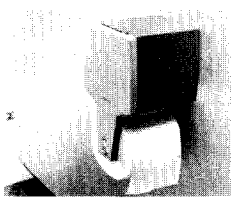
Circle 316 on inquiry card

COUNTER FACINGS / Easy-to-maintain facings for the Braniff ticket counters at the Dallas-Fort Worth airport are of *Architectural Mesh,* a woven wire product recommended for heavy traffic areas. *Architectural Mesh* uses a variety of wire diameters or strip widths, and with different crimps. The mesh is woven into various patterns to highlight the base metal. Mesh is available in stainless steel, brass and aluminum; special designs can be woven to meet specific requirements. ▪ Cambridge Wire Cloth Co., Cambridge, Md.



Circle 317 on inquiry card

TOILET TISSUE DISPENSER / The *Contin-U-Matic* automatic-refill toilet tissue dispenser for commercial and industrial washrooms accepts all standard-size 4½-in. rolls of tissue. Reloading is said to be easy: just unlock, flip open, and slip on the new rolls; there is no need to peel or break cores. The stored second roll drops into position only when the original roll is used down to the last few sheets. ▪ Scott Paper Co., Philadelphia, Pa.



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For more data, circle 76 on inquiry card

EVAPORATIVE CONDENSER / "V-Line" evaporative condensers for air conditioning, industrial refrigeration, and process vapor condensing are explained in a 24-page product bulletin. Cutaway views show construction details; full engineering and dimensional data are given for the blow-through condensers, which range in capacity from 147- to 14,700-MBH. ▪ Baltimore Aircoil Co., Inc., Baltimore, Md.

Circle 416 on inquiry card

ELECTRIC SNOW REMOVAL / An illustrated brochure outlines the advantages of electric snow and ice removal systems, and shows how to estimate annual operating cost by multiplying the electrical rate by the power required to handle an annual snowfall for a particular area. Installation methods are shown, and such special applications as stairs, curves and unusually shaped sidewalks are discussed. ▪ Easy Heat, New Carlisle, Ind.

Circle 417 on inquiry card

INLET GRATING / An illustrated bulletin discusses six functions important for good inlet grate design: capacity; screening out harmful debris; eliminating unwanted clogging; strength; durability; and bicycle safety. ▪ Neenah Foundry Co., Neenah, Wis.

Circle 418 on inquiry card

SHELF STORAGE / A product brochure on "Tri-Line" storage units features the "Active-Aisle" system: steel shelving units are mounted on wheels which fit into floor tracks. Each storage unit is immediately available by sliding it apart from others on the track as needed. Also shown are fixed shelving for permanent or semi-permanent installations and mobile storage carts. ▪ Hamilton Industries, Two Rivers, Wis.

Circle 419 on inquiry card

WINDOW TREATMENTS / A 32-page color brochure shows how woven wood can be used as a window treatment in any room in the house, as woven wood shades, draperies and accent pieces. A section details the features of various types of woven wood products, explains how to treat special windows, and illustrated trim options. ▪ Del Mar Loomcrafted Woven Wood, Huntington Beach, Calif.

Circle 420 on inquiry card

LABORATORY FUME HOODS / A large selection of standard, induced air, and specialized fume hoods is illustrated in a product catalog. Included is a choice of base cabinets, counter tops, interior linings, blowers and plumbing and electrical fixtures and accessories. To facilitate planning and installation, the catalog supplies cooplete roughing-in details and duct collar locations and sizes. ▪ Duralab Equipment Corp., Brooklyn, N.Y.

Circle 421 on inquiry card

HEAT RECLAIM FANS / An application bulletin details cost savings possible for this heat reclaim system, and gives procedures for system sizing and layout. The installation consists of a number of large overhead fans installed to recirculate warm, stratified air from high-bay ceilings back down to employee working levels. ▪ Emerson-Chromalox Div., Emerson Electric Co., St. Louis, Mo.

Circle 422 on inquiry card

MODULAR CLASSROOMS / "Modular Concept—A Solution to School Housing Problems" explains the advantages of relocatable structures in typical school applications. ▪ Profile Structures, Inc., Santa Fe Springs, Calif.

Circle 423 on inquiry card

GARBAGE DISPOSERS / A loose-leaf binder catalog presents a complete line of commercial disposers, as well as details on the "Positive Flush" system. A section compares features of the manufacturer's most popular disposer models; tables, troughs, control systems and accessories are also shown. ▪ Master Disposers, Inc., Cincinnati, Ohio.

Circle 424 on inquiry card

MATS AND MATTING / "Carpet Cover II" all-nylon pile mats for commercial and industrial use are shown in an illustrated 16-page catalog. Other products include rubberized link entrance and anti-fatigue mats; vinyl- and pile-top link mats; entrance and corridor mats; molded rubber stair treads; duckboard matting; steel roll matting; and accessories such as frames and nosings. Photos illustrate specific use locations. ▪ Durable Mat Co., Norwalk, Ohio.

Circle 425 on inquiry card

CONTRACT/OFFICE FURNITURE / An extensive collection of commercial and office furniture, including stacking, office and upholstered chairs; conference, dining and stacking tables; and lounge pieces, is presented in this manufacturer's current catalog. Included is information on a Grade 6 upholstery fabric, *Firex*. ▪ Fixtures Mfg. Corp., Kansas City, Mo.

Circle 426 on inquiry card

TUBULAR STEEL SEATING / A color brochure presents the "421 International" series of seating for contemporary or conventional offices, manufactured in the United States, Canada and France. The chair line features open tubular frame styling, and is available in both sledbase and swivel models. ▪ Steelcase, Inc., Grand Rapids, Mich.

Circle 427 on inquiry card

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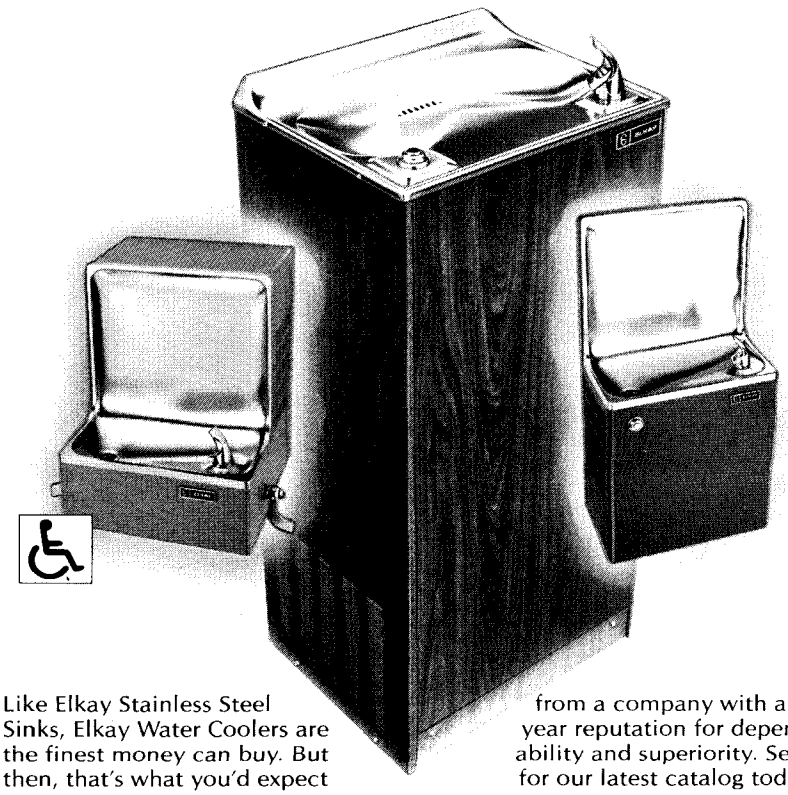

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LABORATORY STORAGE / An eight-page bulletin describes the "Gratnell Modular Storage System" for organizing samples, specimens, apparatus, supplies, etc. The brochure shows how stationary or mobile modules are tailored to specific storage problems by combining steel frames with interchangeable polystyrene, wood, or basket trays. Wall, peninsula, or island units are said to be easily arranged and rearranged to meet changing needs. ▪ Fisher Scientific Co., Pittsburgh, Pa.

Circle 428 on inquiry card

ENVIRONMENTAL ROOMS / A 16-page planning guide for environmental walk-in rooms provides an analysis of conditioning systems available; information on pre-fabricated construction and non-cycling refrigeration systems; and possible room applications. ▪ Forma Scientific, Inc. Marietta, Ohio.

Circle 429 on inquiry card

SOIL PIPE FITTINGS / Brochure presents the complete *No-Hub* line of carrier-fittings for use with *No-Hub* cast iron soil pipe. Photographs and dimensional drawings show typical installations for both single-floor and mutli-floor pipe systems. ▪ Wade, Tyler Corp., Pyler, Texas.

Circle 430 on inquiry card

MOVABLE WALLS / The "2500 Operable Wall System" is a top-hung, manually-operated partition using uniform basic components to accommodate individual job needs. A product brochure shows how the use of L's, T's and cross-overs to achieve 90-degree turns saves money by eliminating manual or automatic switches, transfers or stack devices. Continuous contact seals on each panel provide a sound barrier; special panels are available for locations requiring greater acoustical performance. ▪ Richards-Wilcox Mfg. Co., Aurora, Ill.

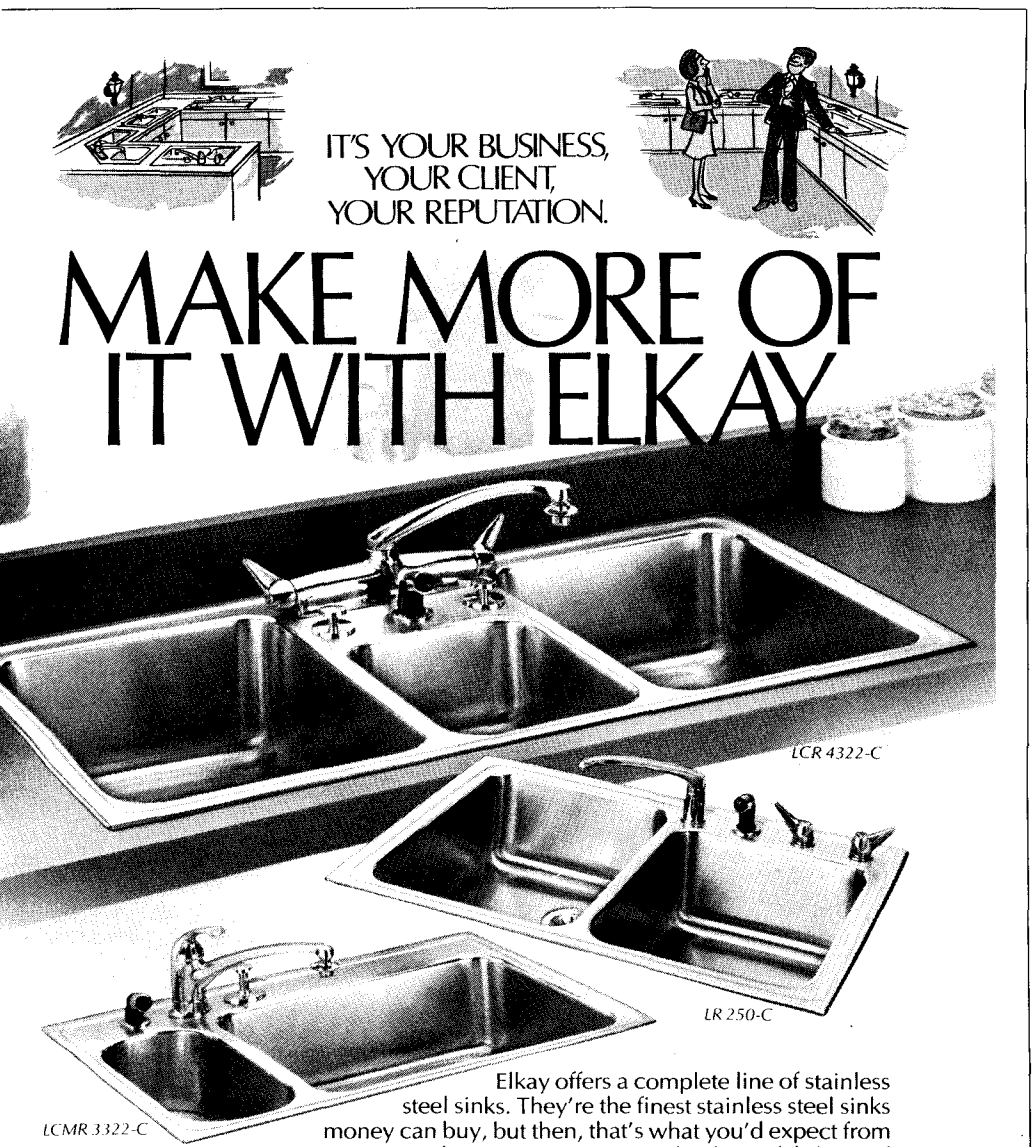
Circle 431 on inquiry card

OFFICE FURNITURE / The "Designs in Wood" collection of contemporary tables and bookcases is shown in a full-color brochure. Included are end tables, magazine tables, conference and table desks, along with matching bookcases. All pieces are offered in walnut and oak veneers. ▪ Steelcase Inc., Grand Rapids, Mich.

Circle 432 on inquiry card

PERIMETER HEATERS / Four series of perimeter units—electric fin tube sill line, pedestal, draft barrier, and architectural draft barrier heaters—are described in a product catalog. All units have built-in duplex receptacles and tamperproof controls; a "Perfect Fit" feature permits wall-to-wall installation without field alteration of heaters or accessories. ▪ Erincraft Mfg. Co., Inc., Michigan City, Ind.

Circle 433 on inquiry card



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For more data, circle 77 on inquiry card

NOISE CONTROL / Sound control effectiveness of floor/ceiling assemblies and plywood wall systems is the subject of tables included in "Plywood Construction and Noise Control." The 12-page brochure also offers basic information on the types, control and measurement of noise, as well as results of acoustical tests on several plywood construction systems used in apartment buildings. ▪ American Plywood Assn., Tacoma, Wash.

Circle 434 on inquiry card

ELECTRICAL SWITCHES/RECEPTACLES / The *Decora* line of switches, receptacles, combination devices and matching wallplates is presented in a color brochure. Switches, receptacles and wallplates are available in matching or contrasting colors. Product brochure contains ratings, dimensional drawings, installation and operational features; also included are UL-listed combination devices. ▪ Leviton Mfg. Co., Inc., Little Neck, N.Y.

Circle 435 on inquiry card

GROUND FAULT INTERRUPTERS / The theory of operation behind *Qwik-Gard* ground fault circuit interrupters is explained in an illustrated bulletin; direct-wired, plug-in and circuit breaker configurations are described. Specialized *Qwik-Gard* units for residential, commercial and industrial buildings, for mobile home parks, and for construction sites are also described. ▪ Square D Co., Lexington, Ky.

Circle 436 on inquiry card

LOW FLUSH TOILET / An illustrated bulletin describes a line of china and stainless steel toilet units which need only two quarts of water per flush. Floor-mounted units operate with an air and water sequence valve, and are said to have a high volume usage capability. Toilets can be used with existing plumbing and treatment systems, and meet UPC requirements. ▪ Microphor Inc., Willits, Calif.

Circle 437 on inquiry card

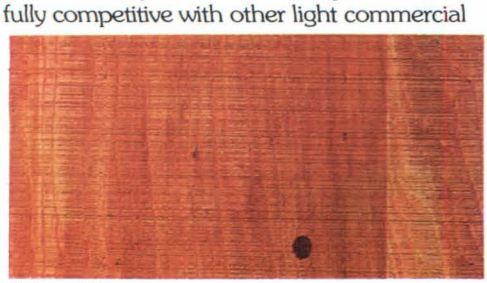
NOISE CONTROL PANELS / *Acoustisorber* mineral-fiber panels and screens are standardized for low cost and easy installation, according to a brochure on these noise control products for industrial environments. Panels are 2- by 4-ft wide and 2-in. thick, framed in galvanized steel. Aluminum expanded and flattened metal mesh is also available on one side for applications where physical abuse is likely. Screens, 2-ft-wide by 4-, 8-, or 12-ft long, may be suspended, supported freestanding from the floor, or used to enclose a noise source. ▪ United States Gypsum Co., Chicago, Ill.

Circle 438 on inquiry card

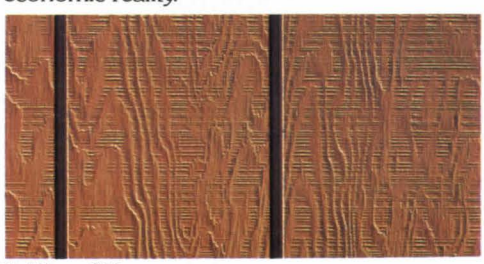
Now there are four basic exteriors for Type III buildings.

Anyone who's designed or built light commercial structures in the 50,000 square foot range knows about steel curtain walls, concrete and masonry. We'd like to introduce you to something else: Simpson plywood sidings.

Simpson Redwood Plywood offers the natural beauty of redwood at a price that's fully competitive with other light commercial siding materials. And Simpson Ruf-Sawn 316 gives builders an attractive saw textured resin overlaid surface that takes paint beautifully, and requires virtually no maintanence. Both can be fire retardant treated and successfully restained or painted. Something that makes the 4-story wood-clad commercial building an economic reality.



Redwood Plywood



Ruf-Sawn 316

That's why architects Ware-Malcomb-Gardner & Associates used Simpson Redwood Plywood in the building you see here. They needed four floors to satisfy the program requirements; and wanted the natural beauty of redwood. Fire treated Simpson redwood plywood was a natural solution.

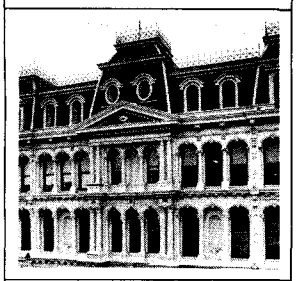
Either redwood plywood or Ruf-Sawn 316 panels could be the perfect solution for your next light commercial project. We'd like to tell you more about both. Just write Simpson Timber Company, 900 Fourth Avenue, Seattle WA 98164.

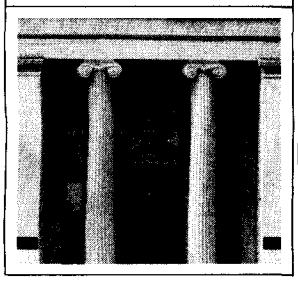
Plywood Sidings

Simpson

For more data, circle 78 on inquiry card

Caution: Endangered Species





Since 1930, more than 4,000 important American landmarks have been *needlessly destroyed* . . . to say nothing of individual homes, entire sections of our cities. And, more are disappearing every year. The only way to stop this destruction is to get involved. Personally. For more information, write: National Trust for Historic Preservation, Department 0605, 740 Jackson Place, NW, Washington, DC 20006.

New associates, promotions

Allen & Hoshall, Inc., consulting engineers, have announced the following staff changes: **J.M. "Matt" Bonner,** vice president, has been appointed chief engineer; **Frank Gianotti, III,** chief project manager, and **Bob Kelley,** chief of production.

Beyer Blinder Belle, architects and planners, have appointed **Frederick A. Bland** director of design. **Michael A. Geyer** has been named an associate.

Dalton•Dalton•Little•Newport, architects, engineers and planners, have appointed **Jim L. Ayres** vice president in charge of the firm's activities in West Virginia.

De Leuw, Cather & Company, consulting engineers and planners, have announced the following staff changes: **James A. Caywood,** executive vice president; **David M. Harlan, G.A.R. Meier, Lawrence D. Hazzard, Roy W. Kessmann,** vice presidents; **Robert S. O'Neil,** Midatlantic regional manager.

The Eggers Group, P.C., architects and planners, have announced that **Jan J. Kalas** and **Michael Greenberg** have been elected vice presidents.

Golemon & Rolfe, architects, have announced the following staff changes: **John M. Farrell** has been named a partner; **Samuel G. Catli, Jr., Janita Lo, Robert Kester** and **Harry A. Harwood** have been named associates.

Gruzen & Partners have announced that **Thomas C. Lehrecke** has been promoted to senior associate and **Virendra K. Girdhar** has been named an associate.

Albert Kahn Associates, Inc., Architects and Engineers, have elected **Daniel Shahan, Paul G. Fleck** and **C. Dino Gavras** to the firm's board of directors.

Kammeyer Lynch & Partners, Inc., environmental planners and landscape architects have elected **Tom Runa** a principal.

Kemp, Bunch and Jackson, Architects, Inc., have elected **Albert L. Smith** as president and chief executive officer. Mr. Smith succeeds **William D. Kemp,** who will continue as chairman of the executive committee. Walter Q. Taylor has been added to the board.

William Kessler and Associates, Inc., Detroit architects, have announced that **Eugene L. DiLaura, Jr.,** has rejoined the staff and has been named technical and construction administrator.

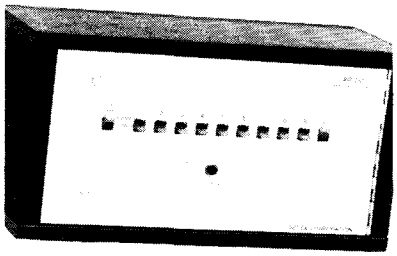
Kirkham, Michael and Associates, architectural engineers, have announced that **Kent O. Lande** has become manager of their Minnesota operations.

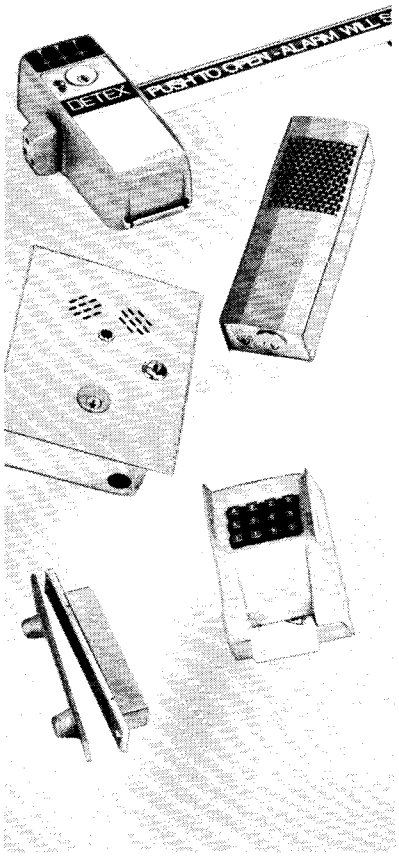
The architectural firm of Lankton Ziegele Terry and Associates Inc., has announced a transition of management following the death of its president, **John N. Ziegele.** The new officers are: **John W. Crawford,** president and treasurer; **J. Robert Dageforde,** vice president, personnel; **Val E. Fuger,** vice president, design and secretary; **Herman Thun, Jr.,** vice president, business development; and **Carl R. Wagner,** vice president, production.

Lothrop Associates, architects, have announced that **Arthur C. Clements, David A. Heuer** and **Kyun Kim** have been elected partners.

more Office Notes on page 173

SQUEALERS





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Roofing Concepts/Principles is a non-proprietary, functional manual to assist in designing roofing systems that function. $12.50 (Prepaid) Paul Tente Associates, P.O. Box 7508 Colo. Springs, Co. 80933.

MANAGEMENT WORKSHOP

Value Management Workshop for contractors, construction managers, engineers, owners in Washington, D.C., June 20 and Chicago, July 11. For more information call 800/848-3960 (in Ohio 614/882-4388) or write VM Workshop, P.O. Box 1-A, Westerville, OH 43081.

When Answering

BOX NUMBERS

to expedite the handling of your correspondence and avoid confusion, please do not address a single reply to more than one individual box number. Be sure to address separate replies for each advertisement.

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New firms, name changes

Paul Depondt and James M. Peterson have formed the architectural and engineering firm of **A/1—Chicago,** with offices at 18 South Michigan Avenue, Chicago.

Robert W. Anderson and Brian R. Klipp announce the formation of a partnership to be known as **Anderson/Klipp,** with offices at 288 Clayton Street, Suite 201, Denver.

Ted Mondzeleuski, Jr., AIA and Wayne D. Bridgens have announced the formation of their partnership, **Architectural Concepts,** with offices at 1221 North Chester Road, West Chester, Pennsylvania.

Charles S. Bicksler, AIA has announced the formation of **Charles S. Bicksler & Associates,** with offices in Griffith Towers, Pottstown, Pennsylvania. The new firm succeeds Sanders and Bicksler.

Jim Carr and Tommy Razoznik announce the formation of **James H. Carr Associates, AIA,** with offices at 6044 Gateway East, Suite 720, El Paso.

Clifford L. Coleman AIA and Melissa M. Coleman, registered architects formerly of Lancaster and Hershey, Pennsylvania, announce the opening of their office at Morris Street and Benoni Avenue, Oxford, Maryland.

Neil Frankel, AIA has announced the formation of **Frankel/Associates/AIA,** with offices at 173 West Madison, Chicago.

Robert F. Galpin, Jr. AIA & Associates and Prem N. Bhandari, AIA, announce the formation of **Galpin & Bhandari, architects,** with offices at 184 Manget Street, Marietta (Atlanta), Georgia.

Gruzen & Partners has acquired the Washington firm of McCleod Ferrara Ensign.

John H. Hadley, Jr. has formed his own company, **Hadley/Architects,** with offices at 335 N. La Cienga Boulevard, Los Angeles.

Harbeson Hough Livingston & Larson, has changed its name to **H2L2 Architects/Planners,** and has added former associates Fritz K. Neubauer and Barry N. Eiswerth to its partnership.

James Howie, Andrew Freireich and Joseph Druffel have established the firm of **Howie, Freireich, Druffel, Architects,** with offices at 500 Fifth Avenue, New York City.

Arthur D. Little, Inc. has announced a new operating unit, **Arthur D. Little Program Systems Management Company.** Albert J. Kelley has been named president of the new unit.

Lynn A. Riley, AIA, and Jeffry T. Fletcher have formed a partnership, with offices at 213½ East Broadway, Maryville, Tennessee.

Spinney-Coady-Parker, Architects, Inc., has changed its name to **Spinney-Parker, Associates, Inc.** The address will continue to be 711 South Fifth Street, Springfield, Illinois.

Richard G. Stein, FAIA, Cyril Beveridge, AIA and Carl Stein, AIA have formed a partnership, to be known as **Richard G. Stein and Partners, Architects;** with offices at 588 Fifth Avenue, New York City.

P. Whitney Webb, Hugh D. Dillehay, Kennon C. Taulbee, Alan Hisel, R. L. Herrick announce the formation of the **Webb-Dillehay Design Group,** with offices at 104 Esplanade, P.O. Box 419, Lexington, Kentucky.

THE **Stemwinder**

NEWS AND VIEWS ON HARDWOODS AND VENEERS

Richard K. Stem
President
Chester B. Stem
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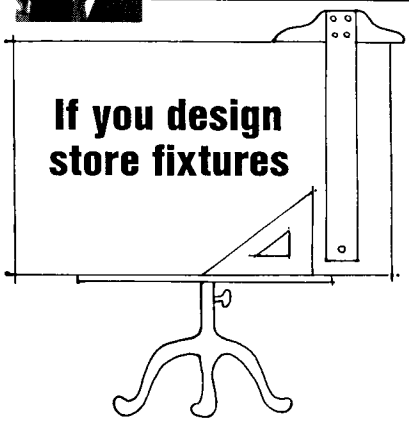

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...and also about this book

The Architectural Woodwork Institute has just published a book, "Architectural Woodwork Quality Standards and Guide Specifications." Covers specs on architectural paneling and fine cabinet work. For a copy, send $3.50 to: The Architectural Woodwork Institute, Chesterfield House, Suite A, 5055 S. Chesterfield Road, Arlington, Va. 22206.

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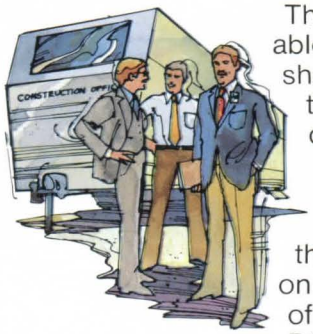

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So you can't afford to install anything less than Sloan Flush Valves.

That's because a Sloan Flush Valve uses 12½% less water than a flush tank. And this difference increases with use because leaks in tanks go undetected to waste even more water. With today's water rates, it all adds up to a healthy saving on your water bill.

You also save on the energy needed to pump water within a building to upper floors and distant branches. The more water you save, the less energy you have to pay for.

Sloan Flush Valves save water another way, too. Because you can't hold a Sloan Flush Valve open, it meters out the same minimal amount of water needed to flush one fixture, then shuts off automatically.

Put an end to water waste that's costing you money. Find out how Sloan Flush Valves use 12½% less water. The facts are in a recent test report prepared by an independent laboratory. For your free copy, write us. We will send you the facts.

Sloan Flush Valves.
Anything else is a waste of money.

SLOAN VALVE COMPANY
10500 SEYMOUR • FRANKLIN PARK, ILL. 60131

For more data, circle 108 on inquiry card