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BUILDING TYPES STUDY: UNIVERSITY AND COLLEGE BUILDINGS

FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD

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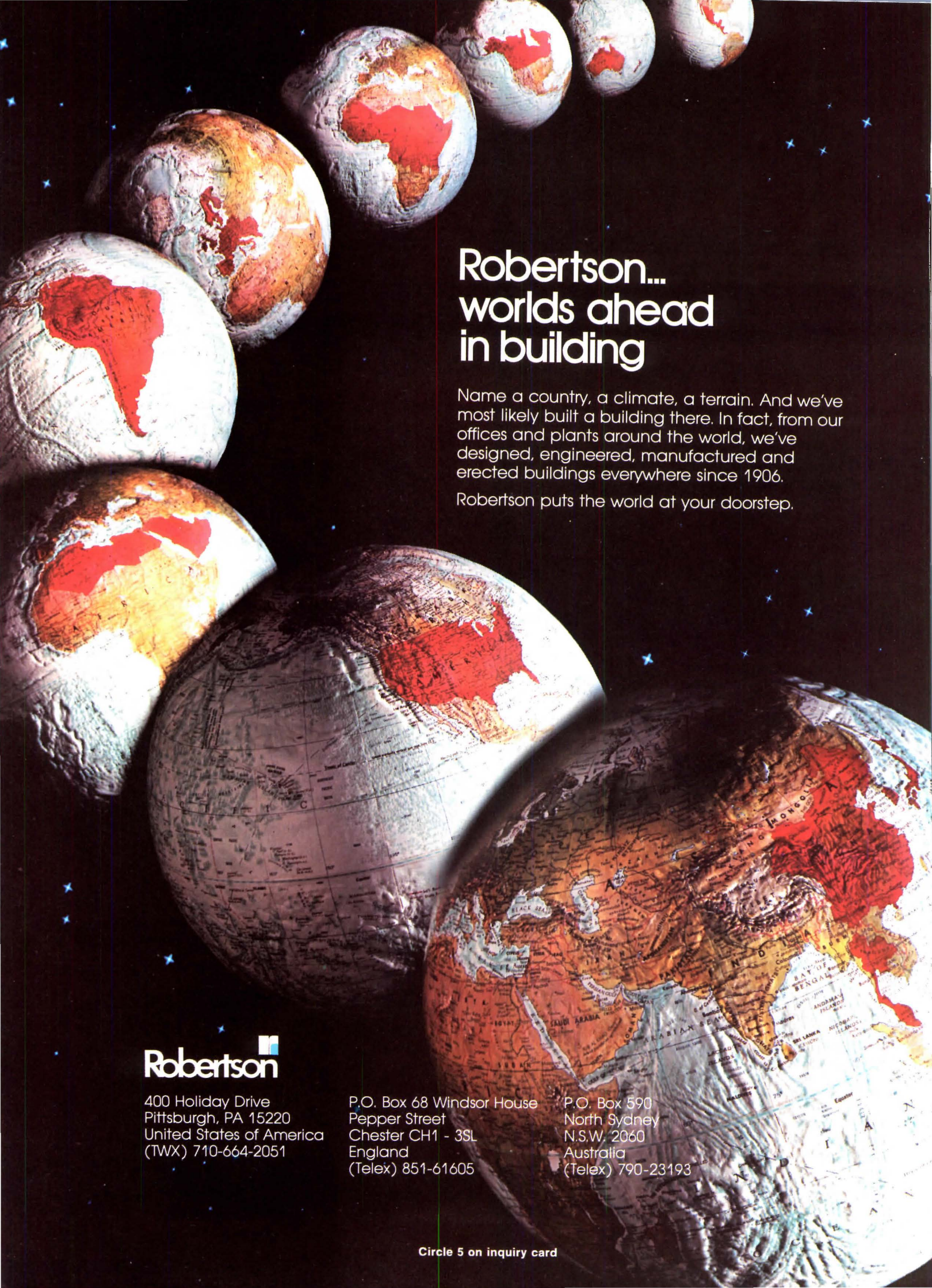

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What do you say when a young person asks: "Which architecture school should I go to?"

I've never really known how to give a good answer to that question and neither, I've observed, do most architects. All of which is sort of serious for a young person who is about to make a serious (and expensive) commitment—whether he or she is a turned-on young high school senior looking for an undergraduate school or a college student looking at graduate schools of architecture.

I asked the question of the architects, engineers, and teachers assembled for RECORD's Round Table on The Engineering Education of Architects (mid-August, page 82)—a group chosen for their interest and involvement in education—and they too saw the business of advising a student on school selection as very difficult. For one thing, as architect James Foley pointed out, "No two schools are the same. As a former president of the NAAB, I've visited and carefully analyzed a lot of schools—and no two are the same. Some schools put a lot of emphasis on technology, on the good solid stuff. Some turn out great draftsmen. Some are known as "design schools"—but then how do you define that? Design means something different at Princeton than it does at Cornell, I'd say. In any case, the old curriculum requirements are sort of out the window at most schools, and vary all over the place.

"I think there is a crying need for some kind of third-party evaluation process to say, 'Well, if your main interests are in that area, you should go here or there, but for Pete's sake don't go to X or Y.' "

Herman Spiegel, structural engineer and former dean at Yale: "The problem is that even if you know the schools well, you have to know the young person. You need to know the individual's strengths and weaknesses and then maybe you can recommend 'a best school'—which might be totally different for another young person."

Tyrone Pike of Tishman Research said "the first questions to the young person has to be, 'Do you know what architecture is?'; and the second, 'Why do you want to be an architect?' Because I believe it is still true [others confirmed the ratio] that only about 25 per cent of students who enter school graduate. And to what extent that is a misunderstanding of what studying architecture involves, and to what extent it is the fault of the school, is a good question. . . ."

Michael Greenberg: "High-school guidance counselors are not well-informed, and they are critically important. Many of them are closer to the students than the parents are—at least in these terms of choosing a school or a career. But they don't have a real understanding of what is required, what architecture is about."

Architect Ray Stainback agreed: "There is a full spectrum of potential talent, just as there is a full spectrum in the profession. There are many architects who might have been top-notch construction men, except they took that step over to architecture. On the other hand, many architects might have been artists—painters or sculptors—except they took a step towards construction."

And so—like so many things in architecture (and in life, I guess)—it all depends on the person. Perhaps this comment by Herman Spiegel best summed up: "If we look at the catalogues of the different schools of architecture, they sound basically alike—and they are not. Further, I don't know how you could put out a third-party report that could truly portray what is happening at a school—because things change within the school all the time. Like most people, I guess I boost my own school—because I think Yale is a great school. But I don't think we can take the responsibility away from the student—especially the graduate student—to find his or her own way. The young people just have to do a lot of research on their own—and the smart ones do that. They can't afford it, but they find a way to get around—they hitch-hike, they stay with a friend of a friend, they talk with students and faculty, they look at the work hanging on the walls. Maybe that's the best."

So, in a sense, we end where we began. What do you say when a young person asks: "Which architecture school should I attend?" One editor's advice (and earnest plea) is this: Do help them understand what it means to be an architect. Do make sure they attend an accredited school—there are many students in school today who don't know and haven't been told that they are not headed for a professional degree. If nothing else, refer them to "Architecture Schools in North America," published by Peterson's Guides, Princeton, NJ for $8.95—it's the best guide I know. Don't put down the study of architecture if you're having a black day. Somebody helped all of us to get started—it's one of our professional responsibilities to help those coming along.

And nothing makes you feel better than to get a young person started! —*W. W.*

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In warmer Charlotte, North Carolina, "solar belts" using alternating panels of aluminum and PPG clear glass gird Equitable Life's clean-cut regional headquarters. "A slick, brilliant use of glass in a simple but innovatively planned building," said the AIA jury.

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And even in the forward-look architectural environment of Columbus, Indiana, the high drama created by PPG's reflective Solarco Bronze glass helps set Bell of Indiana's switching station apart.

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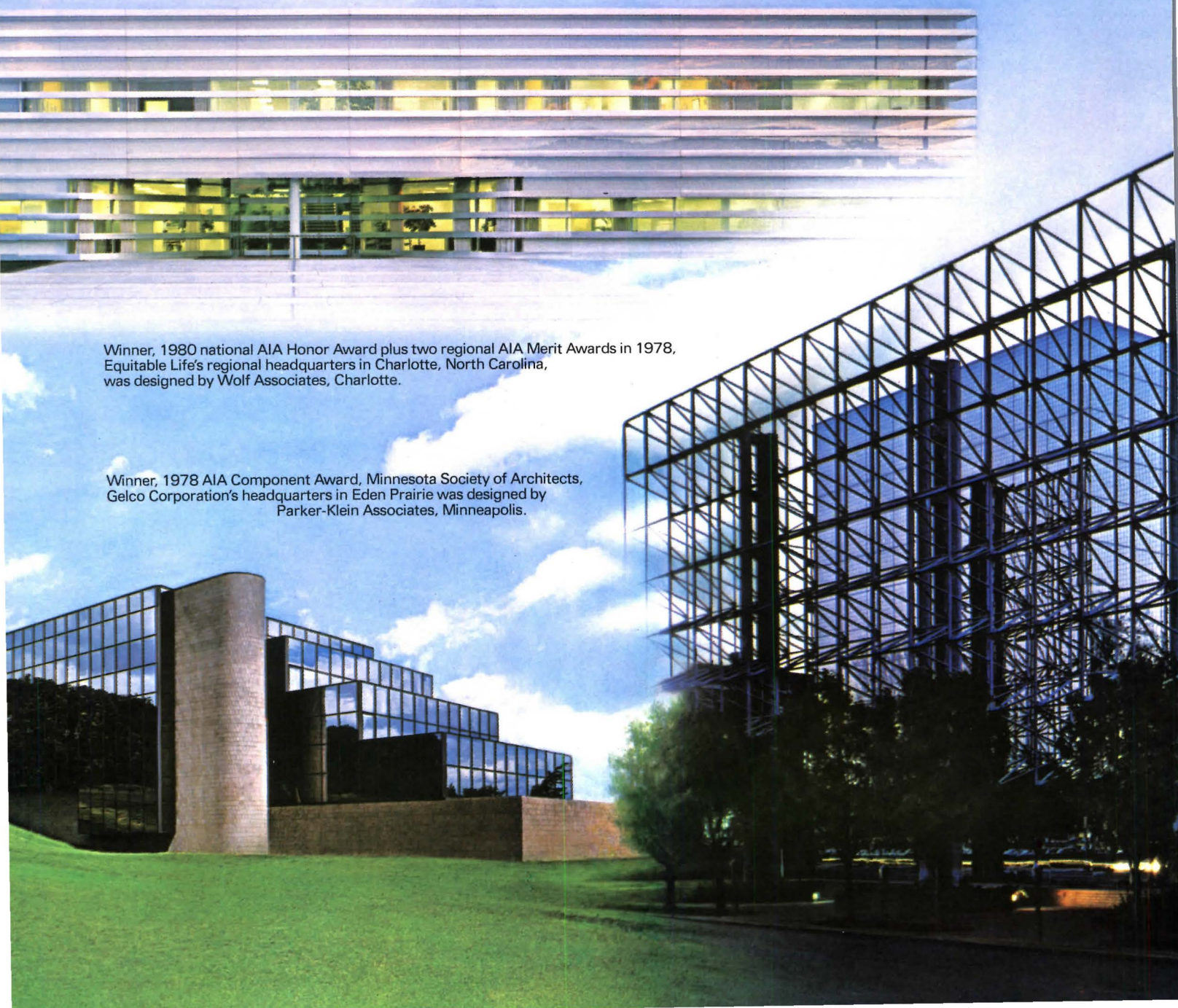

Winner, 1980 national AIA Honor Award plus two regional AIA Merit Awards in 1978, Equitable Life's regional headquarters in Charlotte, North Carolina, was designed by Wolf Associates, Charlotte.

Winner, 1978 AIA Component Award, Minnesota Society of Architects, Gelco Corporation's headquarters in Eden Prairie was designed by Parker-Klein Associates, Minneapolis.

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Winner, AIA Honor Award in 1980,
Bell of Indiana's Columbus Switching Station
was designed by Caudill, Rowlett, Scott
of Houston, Texas.

In past years, the Housing Committee of the New York Chapter of the AIA has restricted its annual Residential Design Awards Program to single-family dwellings. The Chapter's 1981 awards, however, encompass every aspect of residential work, ranging from interiors to multifamily complexes, and including both new construction and rehabs, completed as well as unbuilt designs. Eric Goshow, AIA, chairman of the awards subcommittee, stated the Chapter's goal: "We hoped that an inclusive approach would enable us to begin to grasp the pulse . . . of what New York City architects are designing and thinking about. We were also aiming our approach at younger architects who might have provocative ideas to share but, as yet, no forum in which to exchange these ideas." Twenty projects were selected for awards out of a total of 93 submissions.

Otto Baitz

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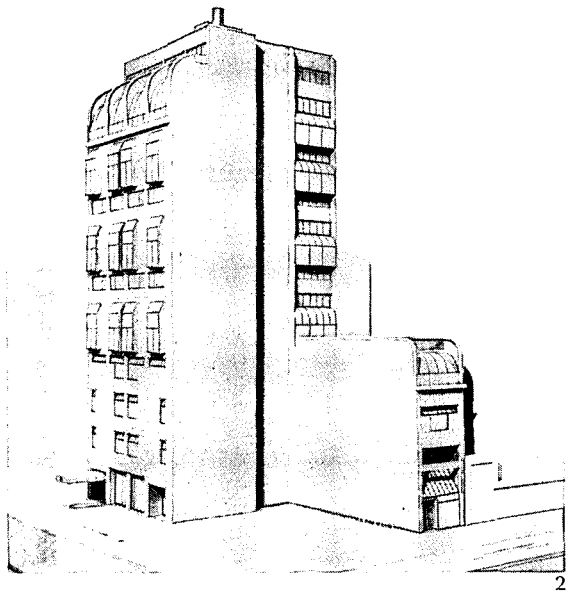

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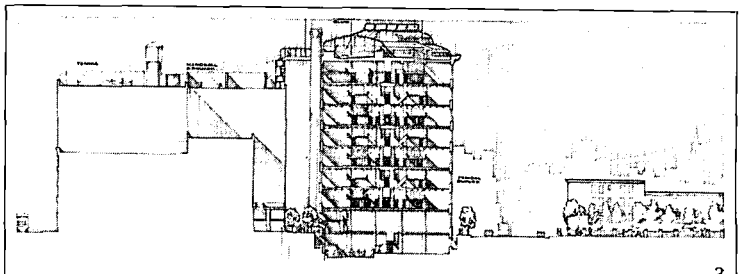

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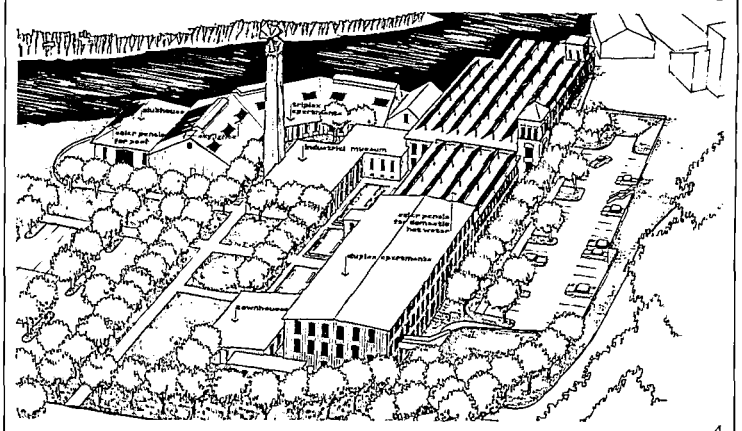

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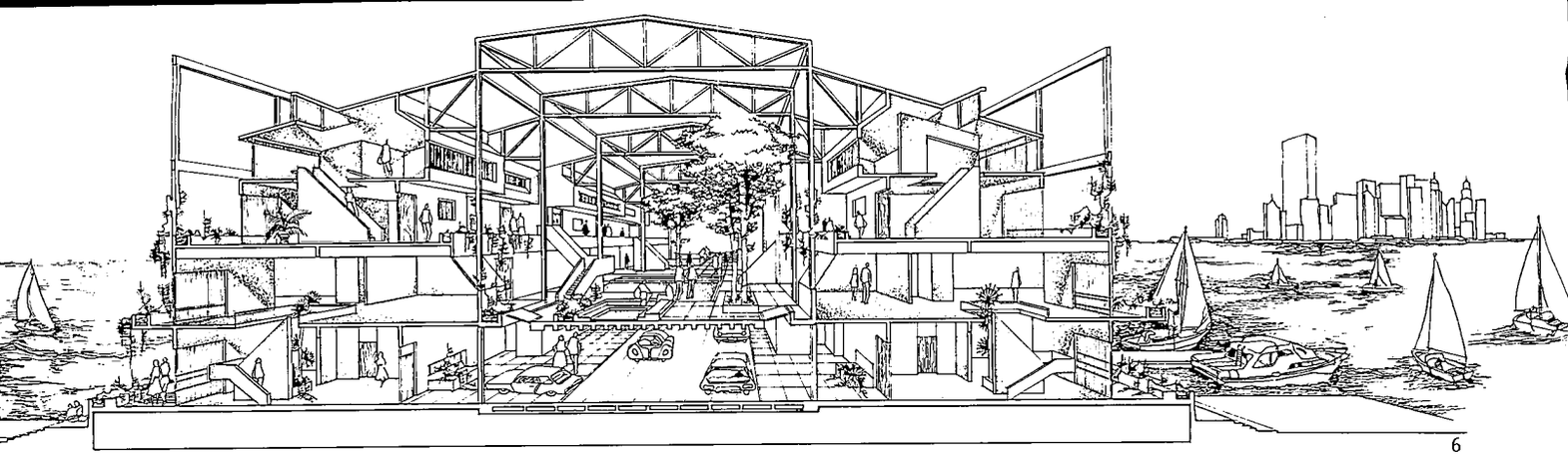
NEW YORK CHAPTER OF AIA RESIDENTIAL DESIGN AWARDS

The awards jurors were Bernard Rothzeid, FAIA, of Rothzeid, Kaiserman and Thomson, P.C.; Lewis Davis, FAIA, of Davis, Brody & Associates; Joseph Wasserman, AIA, of Gruzen & Partners; and June Vollman, managing editor of *Housing* magazine. In his summary of the panel's deliberations, Mr. Wasserman noted, "We found, perhaps predictably, that the multifamily projects seemed to be the most successful entries as a group. We thought that the recycled buildings in this category particularly deserved recognition. . . . Nearly half of the 93 entries were in the new single-family category [but] try as we did, we could not unearth any new talent in this area. . . . Perhaps this lack of direction in the single-family home is symbolic of the confusion surrounding the post-modern esthetic among architects. In any case, the jury found the work of older, well recognized architects to be much more tightly conceived and thoughtfully executed."

1. 222 Columbia Heights, Brooklyn, New York; Alfred De Vido, architect (Multifamily New Construction, Built). Terminating a row of Renaissance Revival brownstones, the masonry structure was designed to echo the characteristic texture and proportions of the Brooklyn Heights Historic District. Extensive windows offer a panoramic view of Lower Manhattan.

2. Gallery Apartments, New York; Stephen B. Jacobs & Associates, architects (Multifamily New Construction, Not Built). Limestone walls and the suggestion of a curved mansard allude to the Beaux-Arts facades of nearby houses on Manhattan's Upper East Side. Four stories of art galleries and commercial space are surmounted by 11 residential floors. The project is now under construction.



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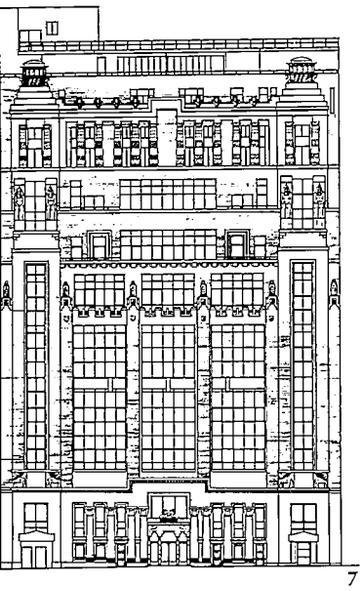

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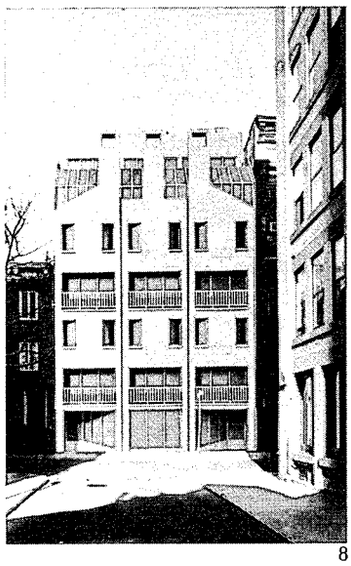

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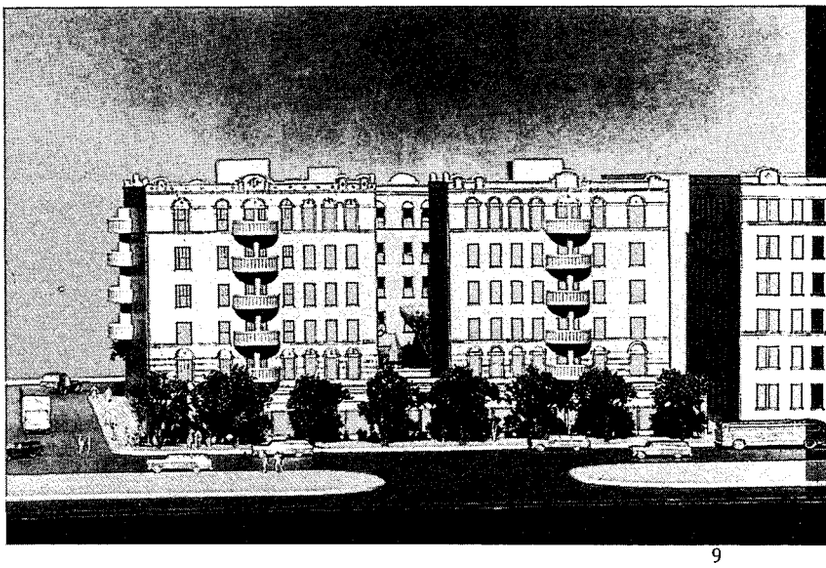

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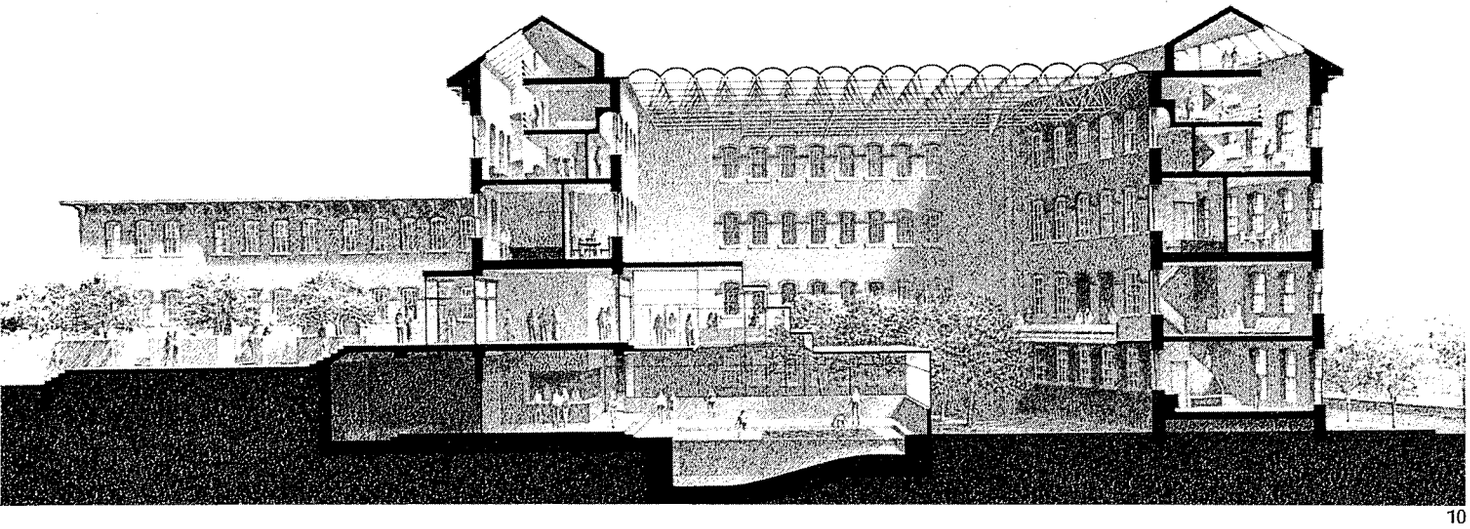

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3. Printing House, New York; Stephen B. Jacobs & Associates, architects (Multifamily Rehab, Built). Industrial lofts have been converted into apartments and maisonettes, with a rooftop restaurant and health club. One of the largest flat-plate solar collectors in the northeast (6,000 square feet) supplies much of the building's hot water.

4. Falls Mill, Norwich, Connecticut; Stephen B. Jacobs & Associates, architects (Multifamily Rehab, Built). Masonry walls, heavy timber framing, and plank floors enhance the interiors of an 1883 textile mill. Adjoining dyeworks were redesigned as a recreation and social center.

5. Bleecker Court, New York; Avinash K Malhotra, architect (Multifamily Rehab, Built). Two new structures were attached to existing lofts to create multilevel apartments. Organized around a garden court, the complex incorporates a vintage cast-iron facade salvaged from a fire.

6. Brooklyn Army Terminal Development, Brooklyn; Perkins & Will, architects (Multifamily Rehab, Not Built). Unused since the Korean War, the Terminal will be developed to provide 530 housing units, a boat basin, and a public esplanade.

7. Alexandria Condominium Apartments, New York; David Gura, architect (Multifamily Rehab, Not Built). Floor slabs for new apartments will trisect the original auditorium of a temple for the Knights of Pythias, built in 1926. A gold mirrored curtain wall accentuates exotic terra-cotta ornament.

8. Christopher Street Housing, New York; Stephen B. Jacobs & Associates, architects (Multifamily Rehab, Not Built). Consolidation of an obsolete garage and a parking lot in Greenwich Village provides a through-block site for simplex and duplex units.

9. EN REM Group 2, Bronx; Shelly Kroop & James McCullar, architects (Multifamily Rehab, Not Built). Two 1920s buildings will be rehabilitated to house 99 apartments. Corridors with exterior views will encourage community surveillance of inner courtyards.

10. Bulova Watch Factory Conversion, Sag Harbor, New York; The Croxton Collaborative, architects (Multifamily Rehab, Not Built). Plans for the 100-year-old, 80,000-square-foot structure focus on a skylighted atrium for year-round activity.

on, New York; Eisenman/Robertson rchitects (Single Family New Con-

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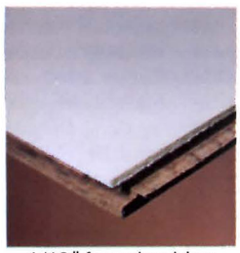

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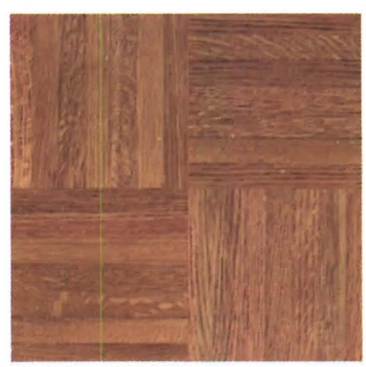

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Offices opened

ADD, Inc. architecture and interior design, announce the opening of a Washington, D.C. office located at 2000 L Street, N.W., Suite 200.

Ackerman, Inc., Architecture + have opened their offices at 7701 Clayton Road, Clayton, Missouri.

Dakan Guy Associates PC announce the association of Michael L. Dakan and Theodore K. Guy for the practice of architecture, planning and engineering, located at 922 Colorado Avenue, Glenwood, Springs, Colorado.

Ferebee, Walters & Associates have opened an office in the Research Triangle Park in North Carolina.

Jason Frye and Associates, Inc. Architects announce their new offices in the Fannin Bank Building, Suite 601, 1020 Holcombe, Houston, Texas.

Rai Y. Okamoto, FAIA, AICP has resumed practice in architecture, planning and urban design. The firm's name is Okamoto & Murata, Architects & Planners, AIA, Pier 1 ½, The Embarcadero, San Francisco, California.

Richard Oliver, Architect has resumed the practice of architecture. His office is located at 23 East 26th Street, New York, New York.

Dick R. Orr, AIA and James A. Hornak, AIA announce the formation of the architectural firm of Orr-Hornak Associates, Inc. located at 2924 South Calhoun Street, Forty Wayne, Indiana.

RTKL Associates Inc. announced the formation of an affiliate firm, Hughes Design Associates Inc. Under the direction of Thomas P. Hughes, president, Hughes Design Associates Inc. will be providing interior architectural design and graphic design services.

The Denver architectural firm of Blizzard & Simmons, Architects and the Midwest architectural, engineering and planning firm of Samborn, Steketee, Otis & Evans, Inc., have joined to form SSOE Inc. of Colorado Architects, Engineers and Planners, 9145 East Kenyon Avenue, Denver, Colorado.

C. Michael Walker, Martha Doty Freeman and Joe C. Freeman announce the formation of Walker Doty & Freeman Architects & Planners, located at 506 ½ West 7th Street, Austin, Texas.

Guy K. C. Wilson, AIA announces the formation of a partnership with son, Tom C. Wilson, for the practice of architecture. The firm's name is Wilson & Wilson, Architects, located at The Professional Building, 194 Pleasant Street, Concord, New Hampshire.

Firm changes

Michael E. Hickok, AIA has been appointed regional manager of the new Washington, D.C. office of ADD Inc.

Joseph T. Barnett has been elected to the board of directors of Allen & Hoshall, Inc.

Gunnar Birkerts and Associates Architects announce Kenneth Rohlfing as associate.

Bohlen, Meyer, Gibson & Associates, Inc. Architects and Interior Designers announce Melvin Meyer, AIA as president, John M. Gibson, AIA as executive vice president, Noel E. Cord, CPA, Michael E. Rogers, AIA and Hans P. Mengering as vice presidents.

Booker Associates, Inc. has added Paul H. Marsh and Cory M. Schulz to its architectural department.

Bovay Engineers, Inc. announce the following changes: Charles A. Fawler, PE, will assume the position of vice chairman of the board of directors and will continue as chairman of the executive committee. Guy Curgiuele, PE as president and chief operating officer, J. Thomas Evans, PE and Stephen A. Bryan, PE have been elected vice presidents, R. G. MacLennan, PE was named corporate manager of marketing and strategic planning, Morris Backer, PE has been appointed manager of regional office operations accountable for Austin, Albuquerque, Baton Rouge, Spokane and Dunbar & Dickson offices. Gerald P. Carr, PE has been elected senior vice president and has been appointed manager of Houston operations. R. O. Grimes, PE, senior vice president, will continue in his role as corporate manager of administration and Robert E. Johnson, PE, has been appointed manager of corporate engineering.

Stanley G. Boles has been promoted to associate design principal at the Portland architectural firm of Broome, Oringdulph, O'Toole, Rudolf & Associates.

Campbell & Wieland, Inc., an engineering, architectural and planning firm, announce the addition of Barry J. Sullivan as graphics designer and Calvin W. Maichel as electrical engineer.

Susan Chamberlin, AIA has joined Cathers/Lukens/Thomson Architects as project architect.

continued on page 55

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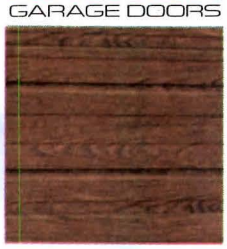

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FFICE LITERATURE *continued from page 53*

De Leuw, Cather & Company, Engineers and Planners, announce the ppointment of Thomas E. Barron as Denver-based manager, marketing nd sales, western region.

Dames & Moore has named Frank J. Vernese an associate.

EDI/Cape Hopkins Clement, Inc. announce the following additions to eir staff: Pamella Jordan and Julie A. Wait have joined the interior design nd space planning division, and Michael S. Youla has joined the architec- ural division as a participant of the intern development program.

Alisa Quint has joined the firm of Esherick Homsey Dodge and Davis as irector of interior architecture and James Hastings has been named ssociate.

Joseph Wasserman, AIA has joined the New York office of Gruzen & artners, Fredric Rosen, AIA has been named director of design of the lewark, New Jersey office, Ralph Steinglass, AIA has been named associate artner and Frederick Baar, RA and George Yourke, RA have been named ssociates.

Haines Lundberg Waehler announce Leevi Kiil as senior associate, Jay leishman and Stuart Markowitz as associates, Wilford E. Gibbs, Jr. and oseph F. X. Levey as senior staff specialists and Jane Cohn as director of ommunications.

Rentscher Haynes Spencer Richards, Architects & Planners announce hat the firm name has been changed to Haynes Spencer Richards, rchitects Planners.

Howard Needles Tammen Bergendoff Architects Engineers Planners nnounce that Lee Mogel has joined their New York office as principal rchitect. Ronald F. Turner has joined the Kansas City, Missouri office as a enior architect. Larry Blankenship has been named director or architectural lanning for the firm's architectural division.

JRB Architects, Inc. announce the promotion of Shirley A. Hefele to the ewly created position of marketing coordinator.

JSA Inc., Architects and Planners in Portsmouth, New Hampshire nnounce that James M. Warner has joined the firm as a principal.

Edward J. Davis has been named senior vice president of the Houston- ased architectural and engineering firm of Bernard Johnson Incorpo- ated.

The firm of Jung/Brannen Associates, Inc. Architects announce that homas Dolle, Axel Kaufmann, Bradford W. Allen, Walter Grallert, Richard Keleher, L. Franklyn Lucas, Jr., Robert James Onofrey, David Rib, Karla S. ohnson, Charles J. Kirby, Fredrick Reeder and John A. Willand have joined he firm as associates.

Werner K. Ruegger, AIA has joined Kamnitzer Cotton Vreeland, rchitects and planners as senior architect specializing in design.

Robert K. Weir, AIA has joined the staff of Keith Brown Associates as n associate.

Larry Anners has joined McClellan/Cruz/Gaylord & Associates as redit manager, Fausto Martinez is a new project architect and James A. alkin has been named assistant to the chairman of the board.

James Noble has been named project architect/manager of The cGinty Partnership, Architects, Inc.

Richard K. Miller & Associates announce Wayne V. Montone as resident and chairman of the board, Mark D. Oviatt as vice president and ichard K. Miller as principal consultant emeritus.

Richard Jay Hornberger has joined Morgan Associates as a senior ssociate.

Ben M. Hurst, H. Davis Mayfield, III, AIA and Donald M. Palmer, AIA ave been named partners of Morris/Aubry Architects, a Houston based rchitectural, planning and interiors firm.

Philip V. Warde has been named assistant director of production for he architectural and planning firm of William L. Pereira Associates.

Perkins & Will has named Robert E. Gray a vice president and partner, nd Thomas A. Kamis, Jr. and Wilbert O. Rueter as vice presidents of the rm.

Price Rothe Muse, Architects Engineers Planners announce the promo- on of Robert E. Reedy to associate in the firm.

James T. Chapman joined Lee Saylor, Inc. Consulting Cost Engineers as ice president and director of marketing.

New addresses

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Photoreproduction helps architects cut drawing time and costs

Time-consuming, repetitive, and costly drafting methods often impede productivity and reduce profits. Production, distribution, and storage of drawings can all be considerable cost factors. If quality is sacrificed to complete a drawing for a project quickly, the cost can be failure to obtain a contract. If contractual deadlines are missed, a design firm may face financial penalties as well as cash-flow problems. And if an architect opts to increase staff or pay overtime rates to meet peak drafting demands, cost overruns become a real possibility. In the following article, reprographics specialist Paul F. Braman suggests how architects, engineers, and other design professionals can eliminate such problems by adopting a variety of simple photoreproduction methods.

by Paul F. Braman

Industry estimates of architectural drafting costs dramatize the potential for cost-cutting. According to a recent readership survey conducted by *Compass*, a reprographics periodical, architectural design drafting time costs an average of about $30 an hour, if personnel and overhead burden expenses are included in the rate. Since it takes about 19 work hours to create each square foot of a new architectural engineering drawing, the drafting cost per square foot can easily approach $600. To restore a deteriorated architectural drawing by retracing requires about six and one-half drafting hours at an approximate cost of $200 per square foot. To revise and check a drawing using conventional methods can take up to 9.5 hours of drafting time, or nearly $300 for each square foot.

Photoreproduction can cut these manual drafting costs from one-third to 90 per cent, depending on the method used. Such methods include photodrawing and overlay, phantom-image, paste-up and scissors drafting techniques, all of which can be applied to creating, duplicating, restoring, and revising architectural drawings.

Compare, for example, the amount of handwork required to restore a yellowed, dog-eared drawing (say six hours per square foot) or to create a revised drawing (perhaps nine hours per square foot) with the photoreproduction efforts needed to achieve the same results. Photographic methods used to accomplish these tasks often require less than 30 minutes, with material costs running in the neighborhood of one dollar per square foot. While some handwork still is required with these methods, it can be done in a fraction of the time needed for conventional drafting.

One photo-restoration method involves creating a reduced-size negative of the original drawing. Smudges and stains are opaqued out on the negative, and lines are scribed (since the negative is much more compact than a drawing, the amount of handwork is minimal). Then the image is blown back to a full-size, positive second original.

A similar photo method may be used to revise a good-quality original drawing. A reduced-size negative of the original is opaqued to delete the parts of the design which need to be changed. Then, a photocopy is made on a draftable surface film or paper in order that the draftsman can add elements to create a new original.

When a reproduction service handles such tasks, draftsmen who would otherwise be detailed to tedious tracing are free to concentrate on more challenging projects. Because the photographic process duplicates all desired information exactly, there is no possibility that errors of omission will occur during retracing.

Winning new business through photoreproduction

Most practicing architects know that the best designs don't always find favor with the client. One reason is that clients often lack an architectural eye, the ability to visualize the finished building's appearance by looking at a black and white rendering. Prospects may be unable to imagine how completed designs will fit into landscapes or how the subtle colors of building materials may pull together design elements.

One solution is to create large, hand-drawn, full-color renderings that insert building designs into proposed settings. The cost of such a rendering can easily approach $1000 or more, but there is a far less expensive photographic alternative. The designer quickly sketches the proposal in a convenient size with black lead or ink. This rendering is then enlarged photographically to suitable presentation size on a white photographic paper or film which is easy to color and mount. Watercolors, markers, or pencils are used to add color to the photocopy. If the architect is modifying the design of an existing building, creation of a photodrawing is another option. A duplicate photograph of the actual building is made with the portions to be changed masked out. The design professional draws in new elements to finish the presentation rendering. At any stage of design the architect can marry photographically his project sketch with a photograph of the setting. Once again copies can be made in any size, and color may be added to dramatize the display.

Overlay or pin drafting: cost and quality advantages

While architectural use of overlay techniques is relatively new, basic overlay principles have been employed by the printing industry for years to create four-color books and periodicals in perfect register. To use overlay drafting techniques, drawings, intermediate graphics, and reproductions must all be kept in precise register. This is done by prepunching all materials for use with a standard pin bar system, which ensures that the scale and position of information on each drafting sheet will always correspond exactly with information on companion sheets, regardless of where or when they were prepared.

In this manner any number of sheets can be combined photographically to yield clean, precise composite drawings. Perfect registration also simplifies photoreproduction of common, repetitive design elements. A camera rather than a draftsman can duplicate and position the element wherever it is needed. So the same line or detail never has to be drawn more than once and tracing and redrawing tasks are eliminated. If overlay composite drawings are printed on an offset press, different design elements can be

continued on page 67

Paul F. Braman is a regional reprographics market specialist for the Eastman Kodak Company. Mr. Braman developed this article from a presentation he delivered at a recent conference on reprographics techniques sponsored by the College of Architecture at the University of Florida.

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denoted with colors, such as brown for duct work or green for plumbing.

The following scenario illustrates the potential of overlay drafting. An architectural firm faced with a tight deadline must quickly and accurately communicate with the groups in distant cities who are responsible for their project's mechanical systems. Because the firm uses overlay drafting it can adopt a team drafting approach. Multiple copies of floor plans and other base drawings are duplicated photographically on clear punched film and distributed to drafting teams working on electrical, heating, air conditioning, and plumbing drawings. The draftsmen place these duplicates on pin bars and superimpose punched blank matte overlays for their drawing contributions. Then reduced-size negatives of the base and overlay drawings are used to generate enlarged composite drawings for each mechanical discipline.

In addition to speeding the production of composite drawings, overlay drafting can markedly enhance drawing quality. One example is the utilization of phantom-image or "ghosting" techniques in the overlay process. Since information in the base drawings is needed only for reference, various screens or film tints may be added when the base drawings are photographically reproduced. The dots or patterns in the screens or tints transform solid black lines into unobtrusive grays. Against these phantom backgrounds, details stand out boldly in what might otherwise be a "busy," hard-to-read composite. This heightened clarity can eliminate costly misinterpretation of key data.

Because different elements in the set of drawings are supplied by different sources, overlay drafting offers an easy and positive checking procedure, too. If one discipline conflicts with another, or if elements are missing, the flaws usually can be detected with a simple visual inspection. Yet if such defects are found, changes need be made only on the inaccurate overlays. Other overlays and base drawings remain intact, and original drawings serve as fixed, primary resources. Production and postage costs can be cut by distributing reduced-size prints or even microfilm copies of drawings to individuals who do not need full-size copies. Diazo prints can be replaced with higher quality yet less expensive offset prints.

To use this technique successfully, however, architects must plan carefully and make some minor modifications to usual drafting methods. One basic requirement is agreement on a common set of punch-and-pin specifications. Another is the selection of drafting materials with a high degree of dimensional stability, in order that lines and proportions will stay in register when overlays are combined or superimposed over base drawings. Drafting lines must be strong and dense to reproduce clearly. Weak or broken lines will yield poor reproductions, while extremely light lines may not reproduce at all. A sensible drawing identification code also needs to be developed and applied faithfully. Today a wide variety of photographic alternatives is available for almost every drafting task.

Tailoring photo methods to the firm's specific needs

Choice of a photographic method may be determined by cost, personal work preferences, or equipment capabilities. Some reprographic techniques require the use of expensive and sophisticated cameras with "blow-back" capabilities (enabling reduced-size negatives to be rendered opaque and blown back to their original size); others require only a simple contact frame. Another option is to create intermediate photoreproductions by making contacts of originals with wash-off materials. Some new wash-off films have been designed primarily for making contact-positive reproductions directly from good translucent positive line drawings, while others can be used to make contact positive reproductions of old, damaged originals from drawing negatives. These intermediates then can be altered as needed and made into contacts to produce same-size film negatives which can be used to create any number of second originals.

The durable assets of a film archive: protection against loss and space saved

Whatever photoreproduction method is used, the value of having film copies of drawings for the file cannot be overestimated. These copies may be on microfilm or reduced or full-size negatives. Many original drawings need to be kept for years, and if such drawings are lost, the cost to the organization may be high. With film copies on file, however, the potential for loss is substantially reduced. This is because original drawings never need to be lent. Instead, microfilm copies of drawings or negatives may be used to produce any number of second originals to be shipped to different locations. Whoever receives a second original can make as many bluelines as needed.

Microfilming drawings can yield substantial space savings, as well. A large architectural firm can store the equivalent of a warehouse full of drawings in a single filing cabinet. High-quality 35 millimeter microfilm copies of drawings and supporting documents may be mounted on easy-to-file aperture cards printed or punched with project and drawing identification information. Whenever full- or half-size copies of microfilmed drawings are needed, the indexed film can be blown back to the required dimensions through an optical system with no loss in definition. These second originals may then be used for reference, revision, or production of inexpensive diazo prints. Or the microfilm may be employed to create half-size negatives which can be revised by opaquing before they are used in turn to create full-size second originals.

Paste-up and scissors drafting and photodrawing

With paste-up drafting, a repetitive design element in a building facade, bridge trusswork, or floor plan is drawn just once at a convenient scale and multiple copies are reproduced on clear film at the scale desired. Copies are then taped or pasted up on a blank drawing form, which is photographed to create a composite original. The same paste-up technique can be used to change the scale of a drawing before revisions, if the addition of new details would clutter the old drawing. After a photographic copy of elements has been made at an enlarged scale, the draftsman makes the additions. Paste-up techniques also allow standard details to be borrowed from file drawings and specifications to be duplicated from catalogs.

The draftsman can also cut out unwanted information from an original drawing. The scissored copy then is contacted to produce a second original on a matte or drafting service. This technique is very simple and very fast.

Of course, photo-drawing requires the existence of some object to photograph; for example, a building to which a wing will be added. The object is photographed and a halftone positive of the photo is taped into place on a clear film with a format block. Finally a contact print is made on a drafting surface, enabling the draftsman to add the new information. Depending upon the quality needed in the finished drawing, one can use screened diffusion transfer prints or negatives shot on line or continuous-tone film to generate the halftone for paste-up.

Architectural, engineering, and other design firms have two basic reprographic service options: They can contract with area blueprinters or they can establish their own reprographics departments. Photoreproduction capabilities and services offered by blueprinters can vary dramatically. So architects may need to make several telephone calls to get a realistic picture of services available in their areas.

A very small percentage of the country's architectural and engineering firms have in-house reprographics capabilities. These companies tend to be fairly large and often are involved in multistory building design projects. Yet it is altogether possible for the small architectural office to set up an in-house shop that can economically meet about 80 per cent of its reprographics needs. One such firm spent less than $10,000 to equip its two-person department. The investment in training and equipment is worthwhile for firms of any size, yielding not only savings in time and money but graphic results of the highest quality.

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Emerging case law: construction management revisited

Since construction management emerged on the scene in the late 1960s and early 1970s, architects, engineers, contractors, and owners have attempted to define the role of the construction manager. This process has involved both borrowing from existing construction industry concepts and creating new ones. Legal definitions for construction management have developed slowly. One area that has been particularly difficult is the application of existing statutes to the construction manager. In some states, for example, a construction manager is required to hold a contractor's license under the state's licensing laws. A recent Indiana case involved a claim by a contractor that the use of construction management on public projects violated the state's competitive bidding laws. The court had to analyze construction management and its relationship to architecture before reaching a decision.

by Arthur Kornblut, Esq.

Although the process of construction management has a lengthy history—elements of CM have been utilized in the construction industry for decades—the widespread use of the term "construction management" is of relatively recent origin. Many of the laws and regulations affecting the construction industry still do not acknowledge the existence of a construction manager. This is slowly changing, however. In 1980, for example, Virginia enacted a statute which expressly authorizes the use of construction management on state projects, yet requires the development of administrative procedures to define construction management services under the statute. The statute simply states that a CM contract is one between Virginia and another party "to engage design services and a contract or contracts for construction. . . ."

A major difficulty in the use of construction management services by public agencies has involved laws calling for competitive bidding. Public entities generally are required to solicit competitive bids before they can contract for goods or services. Specific exceptions to this requirement involve contracts for architectural and engineering services, because of the impossibility of establishing an objective basis for comparing the services upon which a bid might be based. Construction contracts, on the other hand, are almost always bid competitively because such bids are based on well-defined drawings and specifications, thus ensuring comparability. Construction management, involving both design- and construction-related activities, does not fit readily into the patterns established for competitive bidding—or for the exemptions therefrom.

An Indiana community school board decided to employ construction management services on certain projects involving additions to schools. The board first retained an architect to design the additions; it then interviewed various architectural and engineering firms before selecting an engineer to serve as a construction manager. After submitting 23 bids on different contracts, and having them all rejected, a contractor sued the school board, alleging that the state's competitive bidding statutes had been violated by the negotiated construction management contract (*Attlin Construction, Inc.* v. *Muncie Community Schools*, 1980). The subsequent legal proceedings enabled a court to contrast the distinctions between construction management and general contracting. Relying heavily on the contract between the school board and the construction manager, the court pointed out that the CM did not have to construct any of the additions. Rather, his primary function was to coordinate the solicitation and acceptance of bids and share various responsibilities with the architect during the construction phase. The contract emphasized the CM's primary role as providing services to the owner, without guaranteeing the cost of the work. The court described the CM as one who "synchronized the entire construction package."

Although one Indiana statute required competitive bidding for construction contracts in excess of $5,000, another permitted school boards to contract for "engineers, architects . . . and other professional consultants" without competitive bidding. The contractor contended that this latter statute did not exempt construction management contracts from competitive bidding.

In rejecting the contractor's suit, the court said: "As a general rule, contracts for personal or professional services entered into by a public body with a private organization or individual are not governed by public competitive bidding laws and need not be submitted for public competitive bids. . . . Applying this general rule to public works contracts, its rationale is that competitive bidding laws are applicable to public works construction contracts only where the material and work must conform to specifications allowing the performance of the contract to be measured by relatively objective standards. Consequently, it is presumed that the legislature intended the lowest price to be the ultimate determining factor in awarding the contract. However, with public contracts calling for professional and/or personal services requiring aesthetic, business or technical judgment, and/or professional or scientific skills and experiences, it is assumed that the legislature could not have intended the lowest price to be the ultimate determining factor as the performance of the contract cannot be evaluated objectively. Because the nature of personal and/or professional service contracts makes it unlikely that bids would provide any advantage to the public body in awarding the contract, advertising for such bids would be undesirable, impossible or impractical." The court relied on two factors. First, the architect's contract with the school board preserved many of an architect's traditional responsibilities during construction. Second, at least one principal in the CM firm was licensed as an engineer in Indiana. Looking beyond the form of the CM contract to its substance, the court was persuaded by the fact that the school board had doubly satisfied the statutory requirements to have a licensed design professional perform services during construction.

The court went on to note that even if the CM did not have a licensed engineer as a principal, it still would have ruled in favor of the school board because the architect's contract placed the architect in a position of authority over both the contractors *and* the construction manager. The contractor had tried to rely on a recent California case that invalidated a negotiated CM contract. However, in this instance the court noted that the California *contract had the CM guaranteeing* the maximum price for the project, making it "more closely akin to the traditional lump sum general construction contract rather than to a contract for the services of an engineer or an architect."

Mr. Kornblut is a registered architect and practicing attorney in Washington, D.C.

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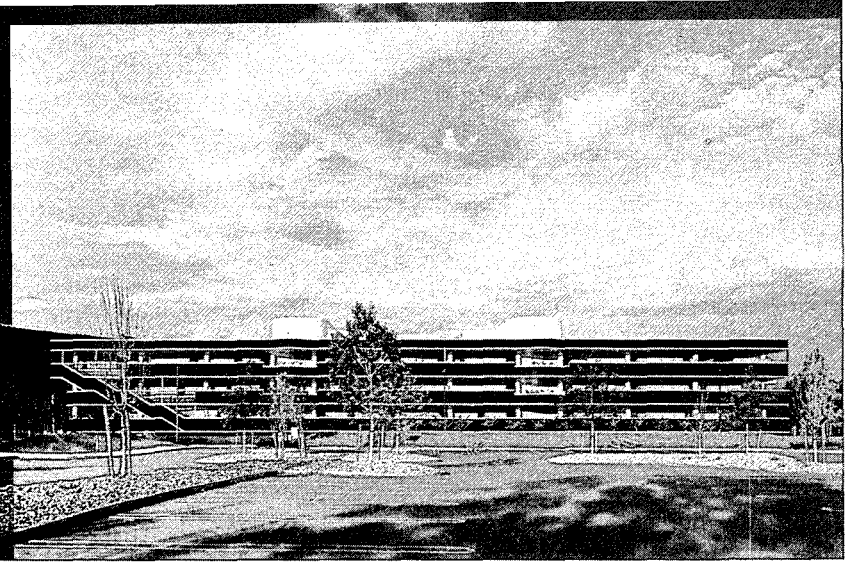
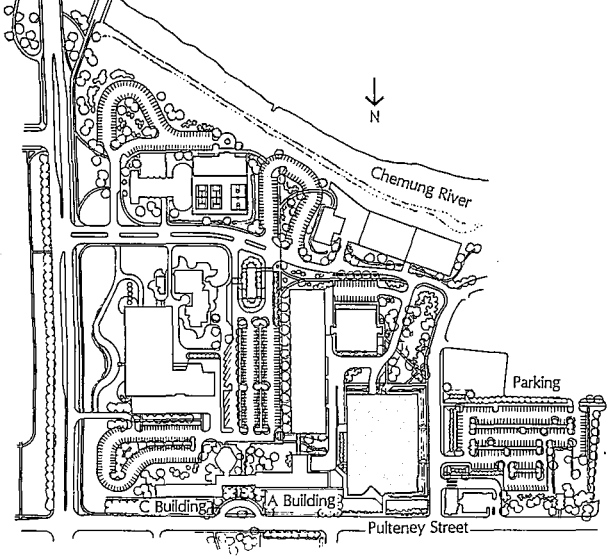
A MEETING OF MINDS AT CORNING

Esthetic delight in technical expertise informs every facet of Davis, Brody & Associates' design for the W.C. Decker Engineering Building at the Corning Glass Works in Corning, New York. Yet it is not only the celebration of structural ingenuity and finely honed industrial materials to which architect Lewis Davis alludes when he calls the $14,750,000 research center "an engineer's building." Besides involving Davis, Brody in complex planning of research facilities for all aspects of glass-melting technology—from plant design to the preparation of equipment for manufacturing consumer goods—the client asked them to help reshape the working patterns of an entire scientific community. From the earliest planning stages, this project was conceived as an ideal habitat for scientific thought, a full-scale instrument calculated in every detail to enliven the exchange of ideas. —*Douglas Brenner*

Robert Gray photos

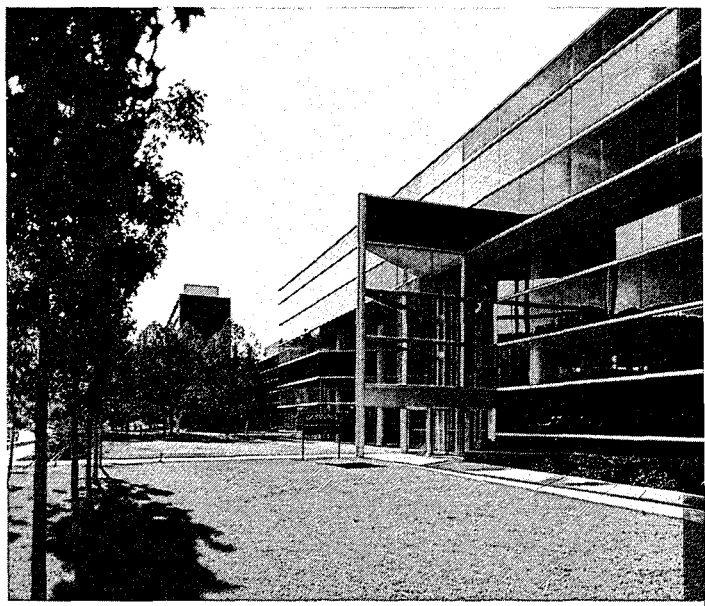


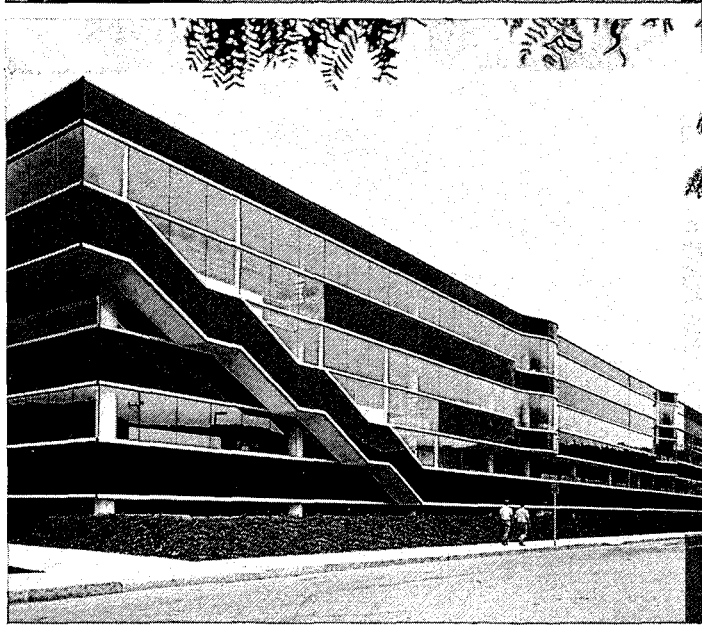


Until construction of the 240,000-square-foot Decker Building in the glass works' main Houghton Park campus, the 785 professionals and support personnel who compose the four major departments of Corning's Engineering Division occupied offices and laboratories at 17 different locations scattered over a 10-mile area. Although this somewhat feudal arrangement had its advantages—privacy and a sense of identity for each small unit—it had become increasingly apparent to Corning management that physical separation was hindering communication and creativity throughout the division.

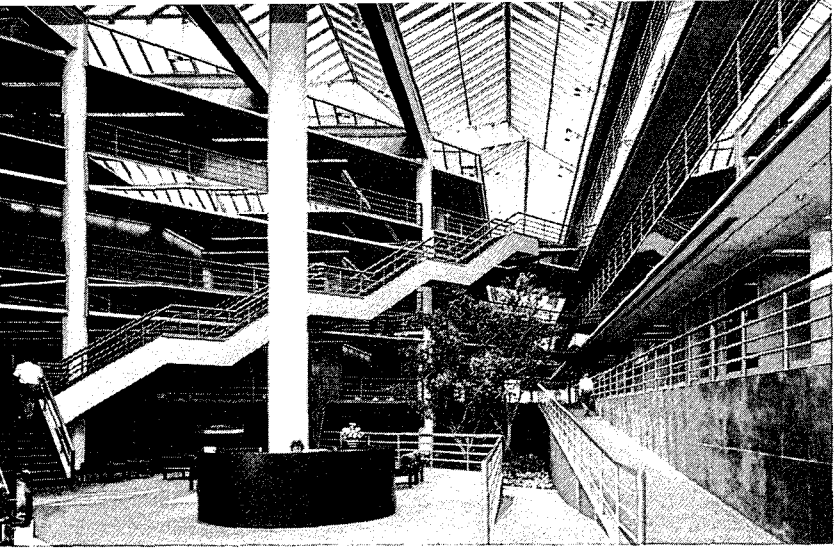
Before mapping out a strategy for consolidation of engineering activities, the company sought the advice of Professor Thomas J. Allen, a specialist in organizational psychology and management at M.I.T.'s Sloan School of Management. In meetings with Corning representatives, and later with Davis, Brody's project team, Dr. Allen stressed that over 80 per cent of an engineer's ideas arise from face-to-face contact with colleagues. "Engineers hate seeking information on the phone," he reported. "What's more, they won't travel more than 100 feet or so from their desks to exchange ideas, even when working in the same building on the same project." Allen estimated that a single, centrally located facility—provided it were designed to give staff the means, and the incentive, to keep in touch with each other from day to day—might increase the productivity of Corning engineers by as much as 15 per cent. Fundamental architectural guidelines emerged from these initial programming discussions. In order to minimize stratification by floor, the building should be predominantly horizontal, with readily accessible circulation between stories; offices should be clustered in an open "landscape," and interspersed with informal gathering places to invite casual brainstorming. Davis, Brody translated these requirements into an environment whose efficiency, elegance, and liveliness would more than compensate the engineers for the loss of their former domains.

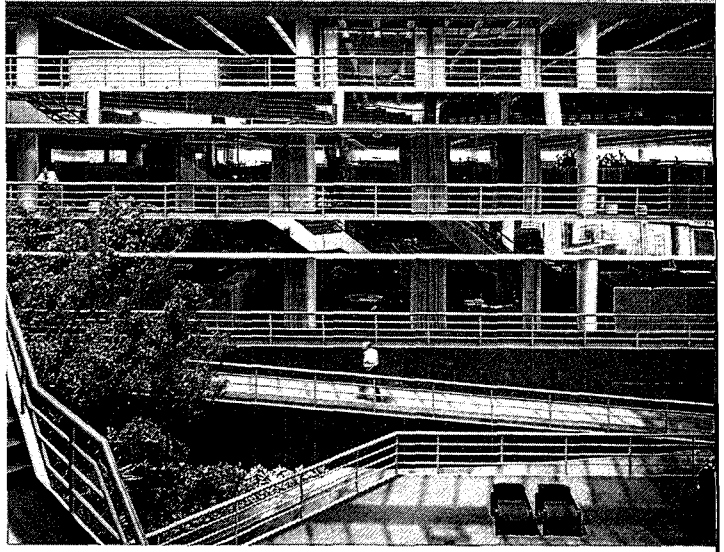
Aside from a request that the new building be generally compatible with its immediate neighbors in Houghton Park—a group of typical postwar International Style structures, most of which were designed in the mid-1950s by Harrison, Abramovitz & Abbe—the client specified no particular esthetic or materials. Impelled by the abiding respect for architectural continuity that has distinguished their work in a variety of settings, from urban housing to suburban university buildings, Davis, Brody elected to reuse Harrison, Abramovitz & Abbe's basic motif of curtain walls paneled with black glass. While extending the cornice line of A and C Buildings next door (photo center right), the architects transformed an essentially vertical fenestration scheme into an emphatic horizontal (to suit the layout of the new facility) and otherwise modified borrowed forms in a spirit of sophisticated license that Lewis Davis calls "mannerist." There is certainly an ironic twist in the display of allusions to the International Style within a "contextual" building, given recent criticism of that style for its own rejection of history. Of course, it is also singularly appropriate at Corning to evoke a school of architec-





The jutting wedge of the W. C. Decker Engineering Building's north entry forms an imposing portal to the main campus of the Corning Glass Works. Stilted above a river flood plain, three stories of offices, laboratories, and conference rooms are clad in glass and aluminum curtain walls that harmonize with earlier buildings to the east (left in photo above center). Inside, a skylighted atrium is the focus for an open office landscape, laid out according to guidelines established by psychological studies of researchers' needs. The cascading flights of steps in the atrium, echoed in a cantilevered staircase on the west facade (above) were inspired by the famous stairs of Alvar Aalto's M.I.T. dormitory, apt tribute to another architect who painstakingly analyzed the impact of buildings on human interaction.

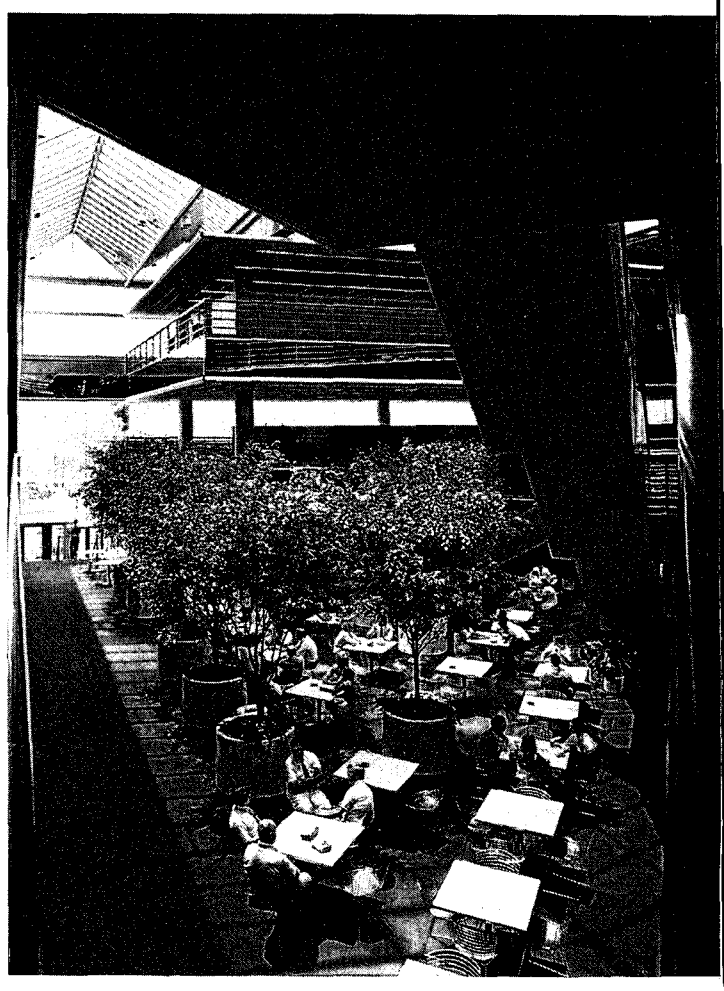


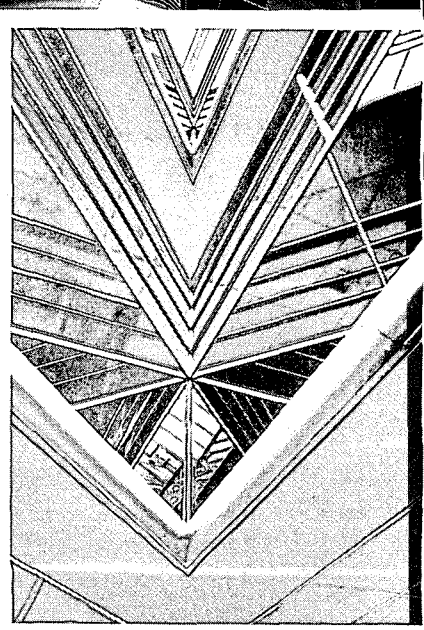


ture whose founders hailed the glass wall as one of the glories of our age and praised the engineer as a modern hero. To that end, the Decker Building incorporates nearly all the canonical elements of the classic International Style of the 1920s: a skeletal framework of steel sheathed in concrete; curtain walls and ribbon windows; fluid interior spaces; and an almost Cubist overlapping of transparent planes. Yet so tight is the fit of architectural expression to program in Davis, Brody's design, that none of these time-honored components stands out as gratuitous stylistic pastiche. Indeed, the new structure actually comes closer to the original pioneering spirit of modernism than the neighbors to which it defers.

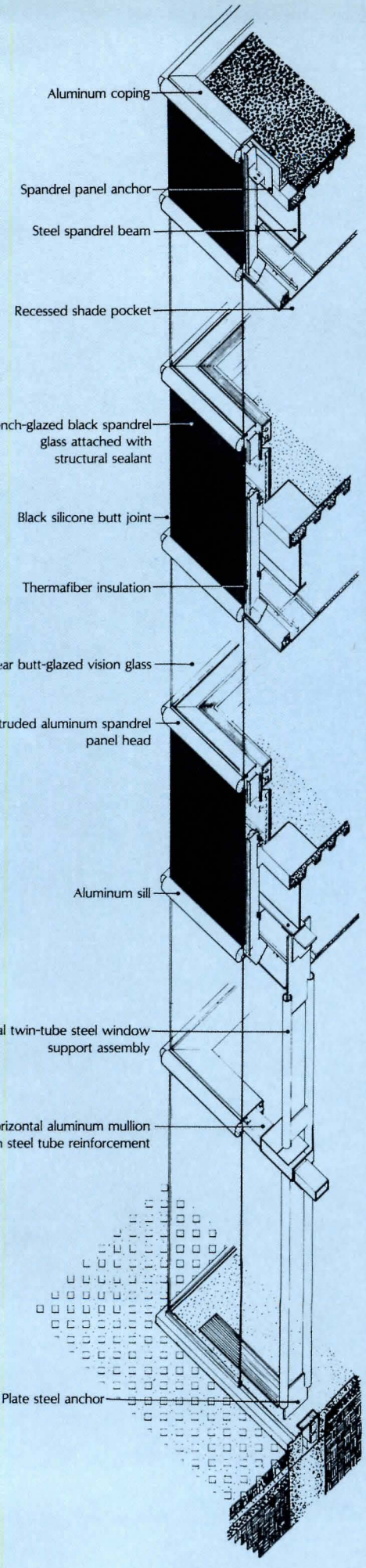
Because the opaque black spandrel glass used by Harrison, Abramovitz & Abbe is no longer manufactured, the architects specified heat-strengthened clear glass lined with a black ceramic coating. Jambs of black structural silicone complete the effect of a continuous dark band, and sills and caps of extruded aluminum underscore the geometric precision of the curtain wall. By maintaining a continuum of texture, color, and scale along Pulteney Street, the new facade completes a monumental front at the northern boundary of the Houghton Park campus.

The basic parti of the building, an oblong grid of 32-foot bays, allowed considerable flexibility in open interior planning. (This columnar structure also enabled the three main stories to be raised above the flood plain of the Chemung River. The open basement, partially shielded by earth berms, is used as a parking garage.) Although the simple tectonic logic of posts and slabs is apparent throughout the interior, the architects have varied it with diagonal and curved forms that channel circulation and signal major gathering places. The central atrium—splayed in opposite directions at either end to avoid the monotony of an unbroken corridor—is the spine about which all interior spaces are deployed. Roofed with solar-reflective skylights, it is also a prime component of the building's energy program, exposing inner offices to natural illumination while protecting them from climatic extremes. Orientation of the triangular indoor courtyards at each end of the atrium was carefully planned to engender a sense of community. Lewis Davis likens the northern node of the atrium, which functions as the main lobby, to the front door of a house, a formal entry for guests. Its counterpart to the south resembles the "kitchen door," for family (Corning executives like to speak of the "corporate engineering family"). Nearly every member of the Decker Building staff enters through this space, which also houses a cafeteria. "Wherever you enter, you don't feel you're just stepping into a lobby," says Davis A. Chiodo, Corning's director of facilities engineering and construction. "The whole building unfolds before you—but that still doesn't reduce the sense of excitement and surprise." At center stage in this visual drama are the boldly scaled stairways, escalators, and barrier-free ramps which, along with a double bank of elevators, offer even the most sedentary engineer ample reason to move from floor to floor—just for the pleasure of the trip.

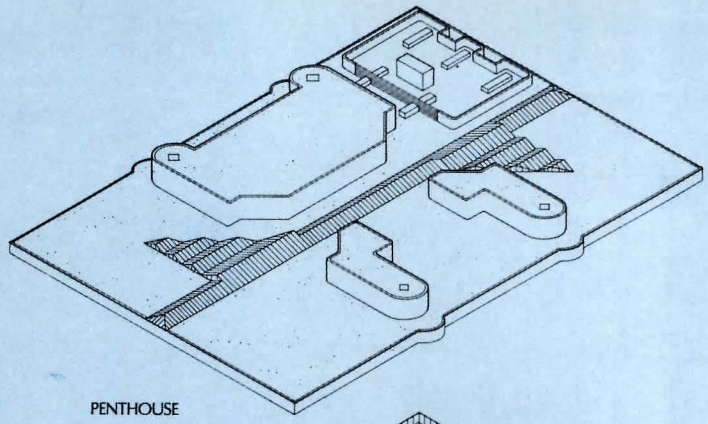




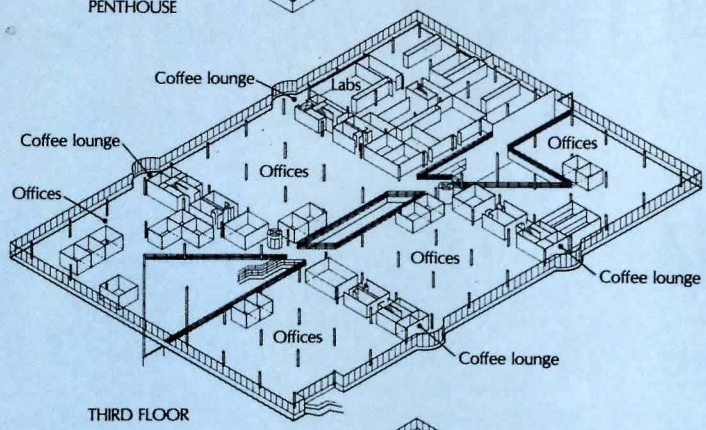
From the largest public spaces to the smallest details, every element of the interior is designed to promote communication among the staffs of various engineering departments. Convenient stairways and ramps in the northern end of the atrium, which functions as a lobby (top left and right), invite researchers to visit their colleagues throughout the building. A frieze of mirror glass along the balconies encourages eye contact and reflects a kaleidoscope of decorative effects (right). In the southern tip of the atrium (above), trees and cafeteria tables create a year-round magnet for personnel from the entire Corning campus.



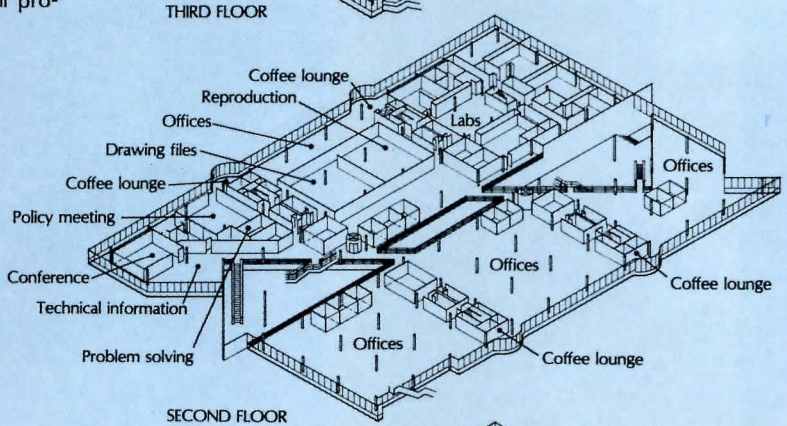
Constructed on a 32-foot grid that permits office landscapes to be rearranged according to changing staff needs, the Decker Building is targeted for a maximum capacity of 840 users. Besides external links to other facilities in Corning's headquarters complex, the research center has a direct line to company operations around the world, thanks to video satellite transmission from the Problem Solving Room, a "miniature think tank" at the northeast corner of the second floor. Exacting technical standards are reflected in sleek interior finishes and the precise geometry of curtain-wall surfaces. In order to emphasize the semicircular profiles of aluminum spandrel heads and sills, these members abut at 90-degree re-entrant corners rather than standard miter joints. The exposed voids of these heads and sills are fitted with inset caps, painted black to emphasize the gleaming arcs of their projecting rims.



PENTHOUSE



THIRD FLOOR



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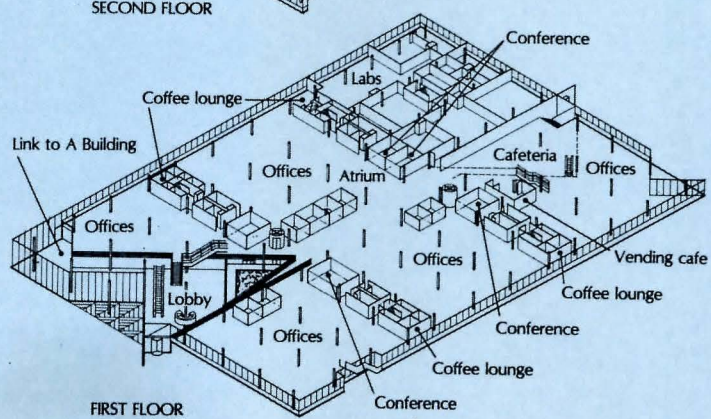
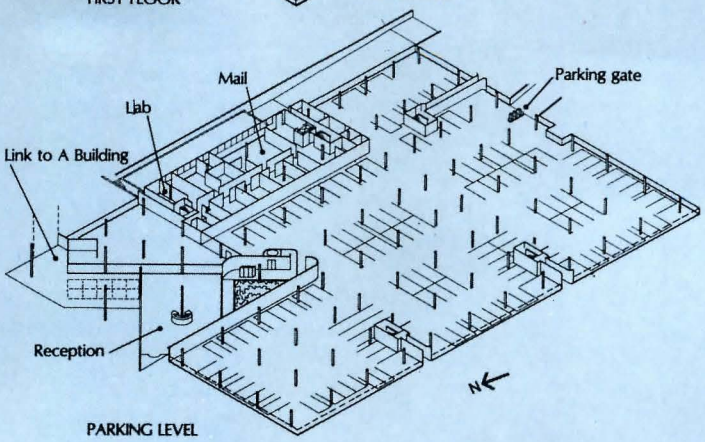
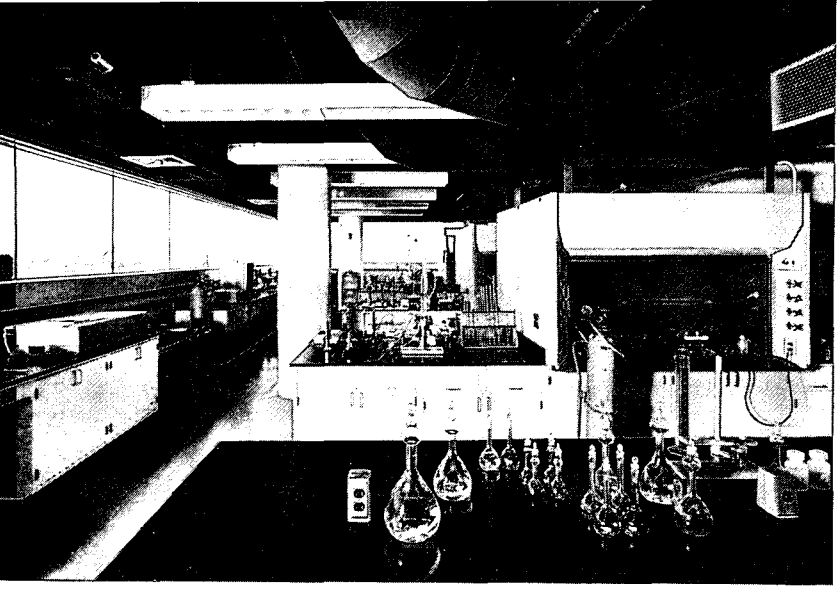
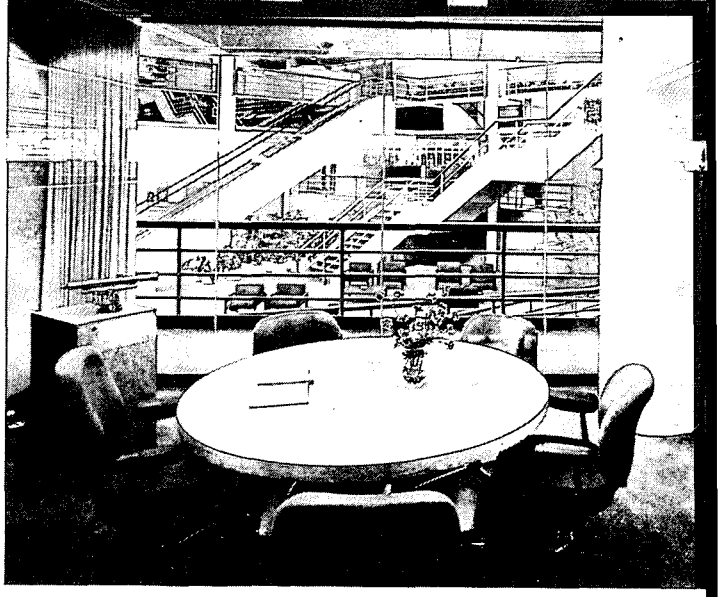


FIRST FLOOR



PARKING LEVEL

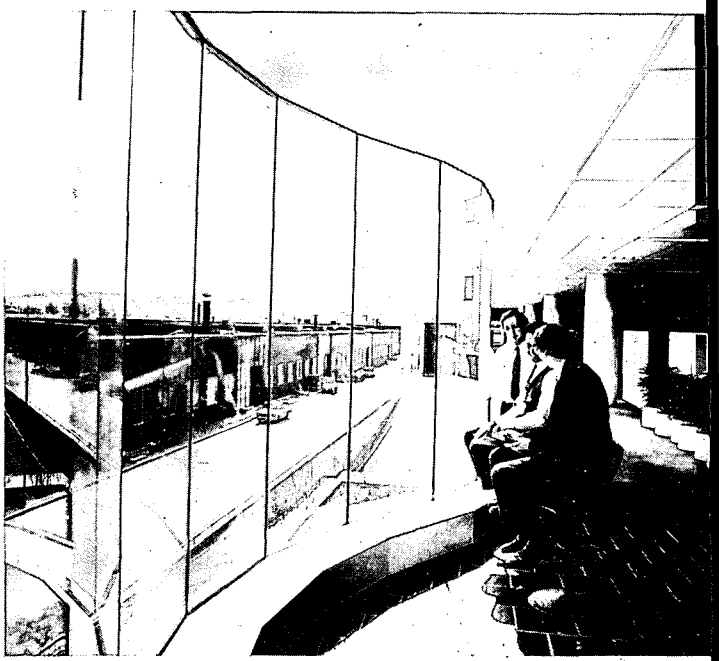


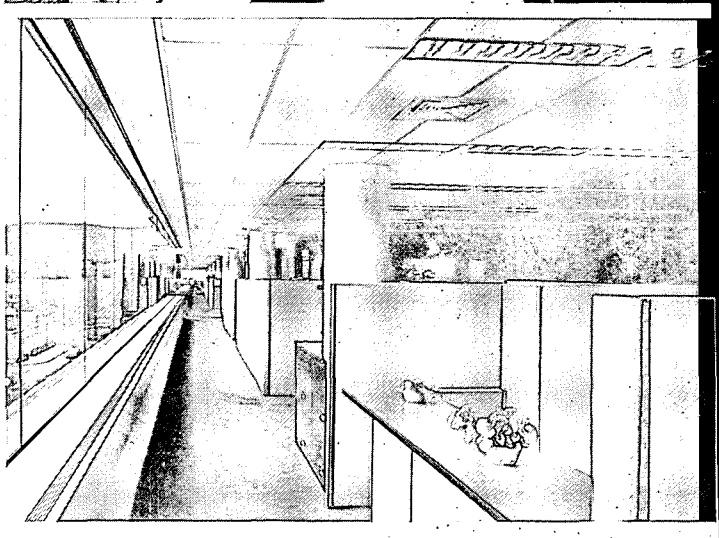


One of the subtlest, yet most engaging devices employed by Davis, Brody to relate the soaring atrium spaces to human scale is the application of continuous strips of mirror glass to balcony fascias and cornices. These gray-tinted reflective surfaces, which run the length of the building, offer constantly changing views of activity on every tier. Fortuitous glimpses of passersby or the occupants of offices on another level are additional reminders for the engineer of resources available within easy reach. Lewis Davis notes that the mirrors also allow every occupant of the building to choose a personal vantage point from which to observe his favorite kaleidoscopic effects. Considered thematically, this built-in mirror game embodies the interplay of "hard data" and creative imagination that underlies the engineer's own work.

Perpendicular to the atrium, banks of utilities and support services organize every floor into six zones, each of which comprises a group of functionally related operations. Although laboratories are necessarily surrounded by full-height walls, offices are enclosed either by 62-inch high partitions or by floor-to-ceiling glass screens. The acoustic privacy furnished by sound-absorbent carpets, fabric wall coverings, and suspended fiberglass ceilings is reinforced by an "electronic masking sound" that blots out middle-range noise frequencies. There are no offices around the perimeter, which is reserved for circulation. Besides permitting work stations to be assigned on the basis of effective location rather than traditional perquisites of corners with windows, this arrangement gives everyone access to daylight and a view. A series of bowed oriels, protruding from the east and west facades, marks the location of 12 coffee lounges, informal meeting places supplied with beverage machines and high stools. The walls opposite the curved windows are mounted with washable writing boards for impromptu calculations or drawings. These discussion areas are positioned at the junctures of principal office and laboratory sectors on each floor, to bring together engineers from different disciplines.

After an orientation program that Dr. Allen helped plan, Corning staff moved into the Decker Building last January. There are as yet no statistical measures of productivity in the engineers' new home, although management has already observed a "significantly increased" level of interaction. There have been a few regrets over the trade-in of old ivory towers for a new glass think tank, but "Everyone seems to agree," says Davis Chiodo, "there's no better way to build trust and confidence than by working face to face."

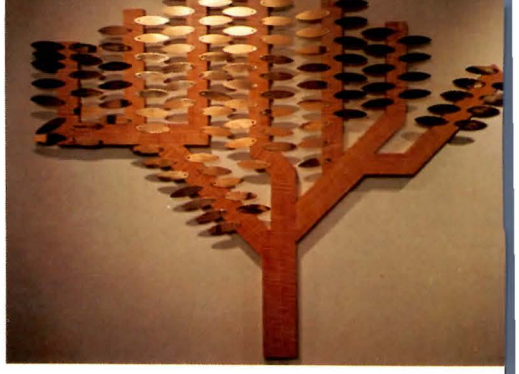


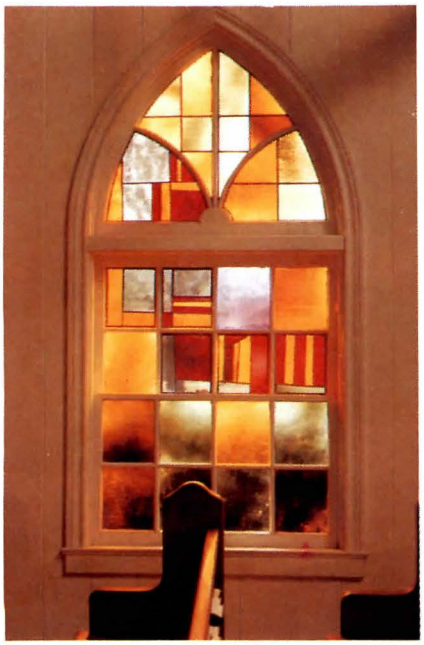


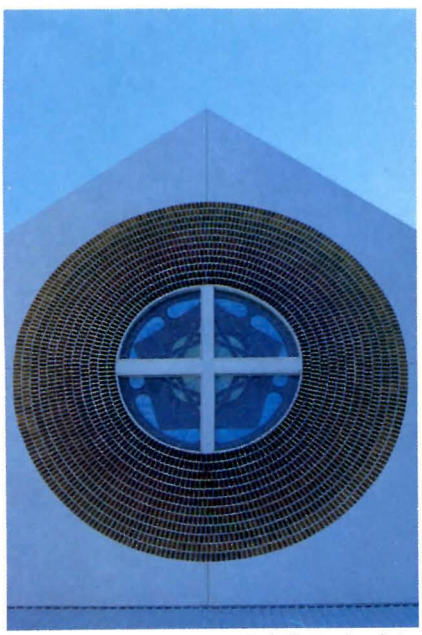
Wherever possible, laboratories have an outside view (above left). Glass-walled executive offices overlook the atrium (top and opposite), leaving the perimeter free for daylighting of open-plan staff areas and bow-windowed coffee lounges (above center). Conceived as informal meeting places for engineers from various disciplines, the lounges are equipped with wall-sized writing tablets.

W.C. DECKER ENGINEERING BUILDING, Corning, New York. Owner: *Corning Glass Works.* Architects: *Davis, Brody & Associates—Lewis Davis, partner-in-charge; Anthony Louvis, associate-in-charge; Ian Ferguson, project designer; Anthony Beaumont, project architect.* Engineers: *Wiesenfeld & Leon* (structural); *Cosentini Associates* (mechanical). Landscape architects: *Peter Rolland & Associates.* Consultants: *Antoine-Heitmann & Associates, Inc.* (curtain wall); *Ostergaard Associates* (acoustical); *Wolf & Company* (cost). General contractor: *The John W. Cowper Company.*

A new generation of church builders in Texas are reviving the liturgical arts, by collaborating in traditional ways







Rudy Hernandez photos

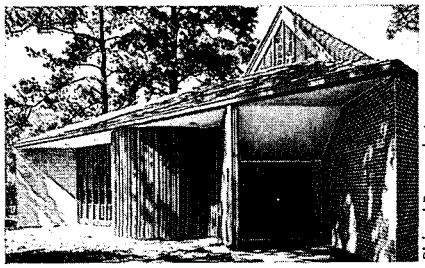
As the nation's Northeast and Midwest ponder the fate of churches and synagogues abandoned by dwindling congregations, the South and West are vigorously building new ones for their growing populations. Four recently completed houses of worship in Houston by Clovis Heimsath, architect, suggest that this ancient building form is still vital. At least, St. James Episcopal Church, Temple Emanu El, Lord of Life Lutheran Church, and Cypress Creek Christian Church, seem to express strong spiritual convictions unique to each faith that cause them to differ markedly in physical appearance.

Heimsath is a designer of strong convictions himself. He believes that the current debate about modern architecture is a call to embody the moral principles of society in new symbolic forms. Appropriately he is a designer of churches. No other building type is obliged to carry so much metaphoric freight. His quest for meaning in religious iconography has made him a student of what he calls building conventions, the vernacular forms that evolve from indigenous culture.

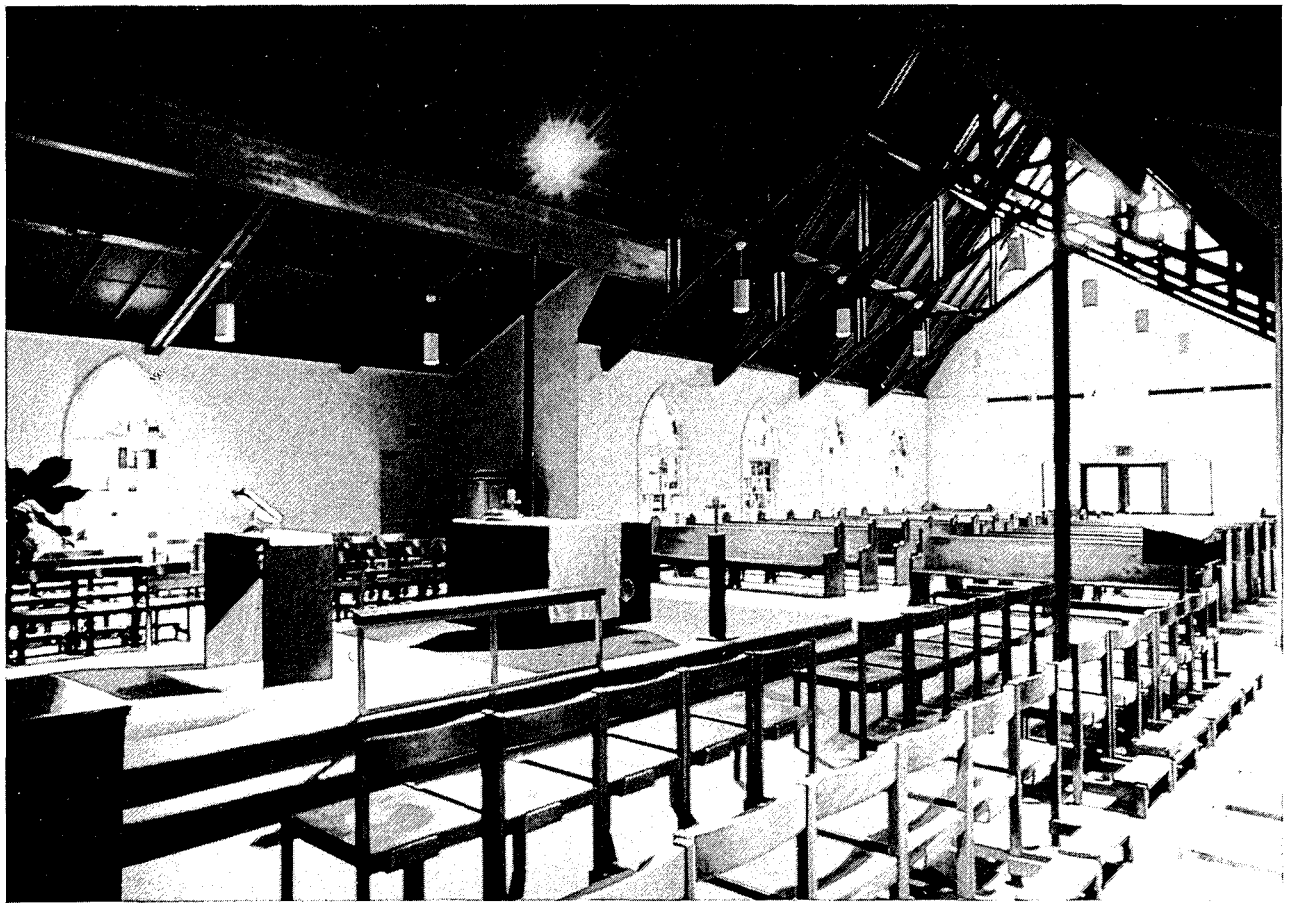
Going a step further, Heimsath suggests that architects and artists should collaborate more with each other and with their communities in the creative act. The most natural opportunity to begin this cooperation, he feels, is to be found in ecclesiastical architecture. Heimsath surely relishes the challenge. He moved a promising practice from Houston to tiny Fayetteville (population: 400), 85 miles west, to establish a community of liturgical artisans. Many of the religious objects—altars, tabernacles, crucifixes, stations of the cross—that adorn his churches are produced there by the resident ceramist, stained glass maker, cabinet maker, and metal worker.

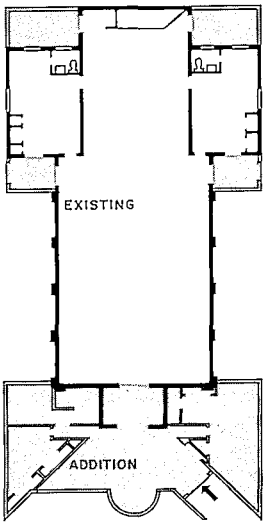
Although each of Heimsath's four churches differ in form, certain design concepts can be readily discerned in all of them. As perceived from the exterior each building is a symbol of faith, its form the outgrowth of carefully designed interior space. Each religious structure is sited in a way which welcomes its community. Doorways and vestibules, like the portals and narthexes of traditional churches, have been decorated with liturgical art explicitly selected to help bring the worshippers to a spiritual frame of mind. There are also four interior concepts: a hierarchy of spaces, the presence of denominational symbols, an atmosphere that supports counseling, and flexibility for numerous ways of teaching.

The four churches shown on the following pages are only the beginning of Heimsath's effort to renew liturgical design with the aid of skilled artisans. He and his co-workers are engaged in a whole series of such projects at various stages of completion. Whether or not he succeeds in his ultimate hope of creating new symbolic forms, he has already helped create sanctuaries which express some of the convictions of the congregations they house and as such belong uniquely to them. —*Roger Yee*

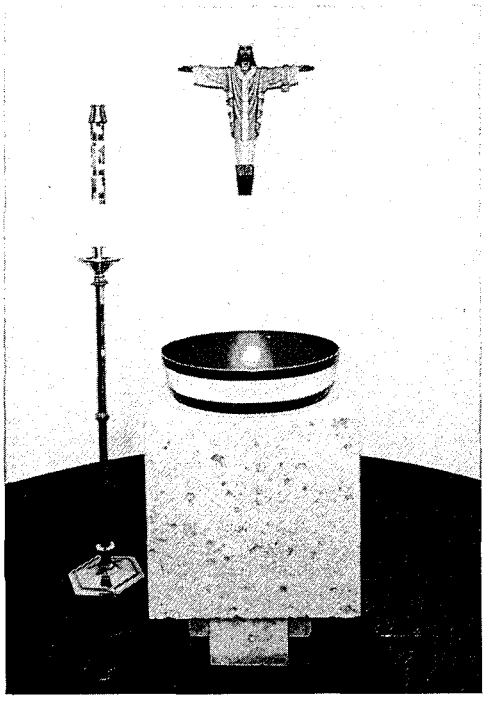


Richard Payne photo





1. St. James Episcopal Church, Houston, Texas

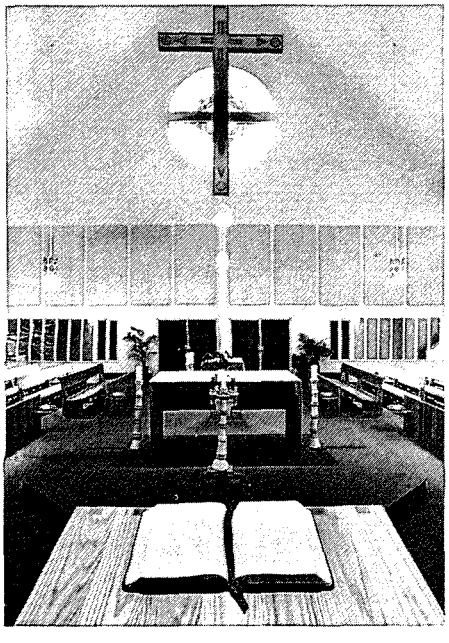


Perhaps the most modest of the four churches, Heimsath enlarged its existing basilica plan (left) for changing liturgical needs by relocating the sacristy and washrooms that flanked the chancel to make room for new seating turned 90 degrees from the longitudinal axis of the nave. A vestry and a baptismal font have been added to the extended front.

While the renovation leaves the over-all form of the church intact, the new crossing filled with chairs instead of pews fosters the informal sense of community desired by the church. A diagonal turn at the new narthex lengthens and deflects the procession to the altar, providing an area where congregation, clergy, and choir gather after services. New stained glass windows designed by Rambusch Associates and a color scheme contrasting exposed wood roof trusses against a deep blue ceiling add a greater feeling of depth to the nave.

Maryann Heimsath photos

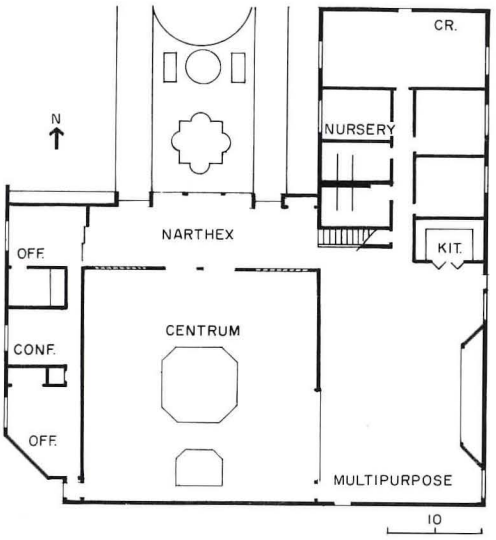
2. Lord of Life Lutheran Community, The Woodlands, Texas



A very different problem awaited Heimsath in designing this completely new facility nestled in a heavily landscaped residential development. Facing the building site across a wide avenue was a massive new public school clad in brick. Heimsath reasoned that the church would have to present an imposing facade to the avenue to be a convincing counterpoint to the school. He also chose to align the main axes of the two buildings to increase the importance of each.

Borrowing a page from frontier history, Lord of Life displays a "false front" (photo above) that is slightly higher than the interior. The plan is assymmetrical, as the facade plainly shows. The nave is flanked on one side by a lofty multi-purpose activity room that can be opened directly into the nave for overflow crowds, and on the other by the pastor's study and offices. However, the alignment of the major axis can be followed from the cross and fountain just outside to the rose window, and down the nave to the altar. Such respect for ancient religious symmetry grants a quiet dignity to this modest stucco and corrugated metal church.

The nave is enclosed by broad wall surfaces pierced by the rose window. An open screen separates it from the narthex. Tinted light streams in through the rose window, contrasting with the calm monochromatic color scheme of the nave itself. Incandescent pendant luminaires throw warm pools of light over the pews. These are turned 90 degrees to the main axis (photo opposite page). This arrangement enables the congregation to look at each other as well as the clergy. The church is filled with original handicrafts: the ecclesiastic furniture and accessories, luminaires, and rose window, are all the work of Heimsath's artisans. The stained glass is by Maryann Heimsath, all ceramic work by Pat Johnson and the altar and other woodwork (except the pews) by Rob Hunt.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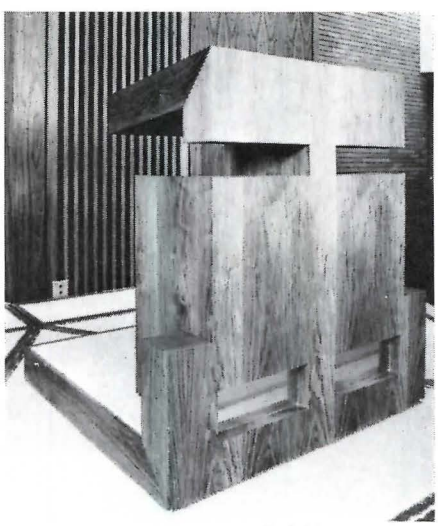
10

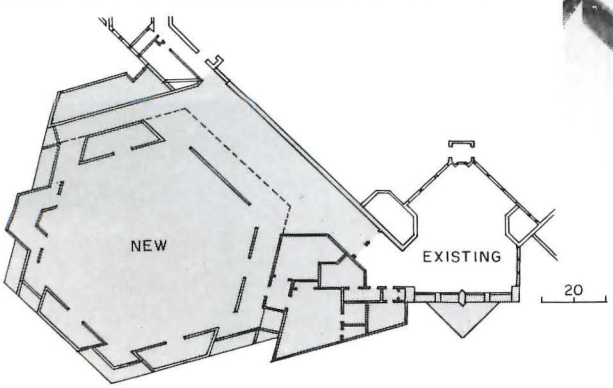
3. Temple Emanu El, Houston, Texas

As one of Houston's largest Jewish congregations, this synagogue already possessed a vast, handsome facility designed in the Prairie style of Frank Lloyd Wright. Heimsath's charge was to place a flexible new space within the temple complex to accommodate weddings, bar mitzvahs, and other activities requiring a smaller room than the temple sanctuary.

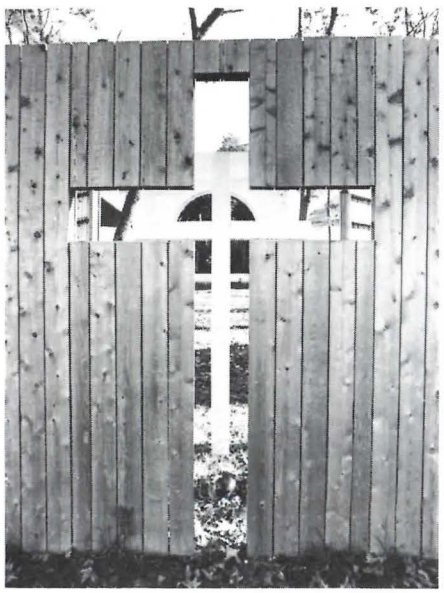
The geometry of the hexagon inspired the architect to create a non-directional space, dominated by the concrete pan ceiling spanning 65 feet clear across its inner walls. This ceiling is subdivided into equilateral triangles from which the various interior design elements take their orientation. The walls are formed by storage panels, the altar, doorways, and stained glass windows meeting the ceiling vault ribs in a pattern describing the Star of David. On the floor, the border between carpet and wood parquet edging is another hexagon; the handcrafted wood altar furniture is drawn from the same geometry. The careful attention to detail results in a high degree of harmony.

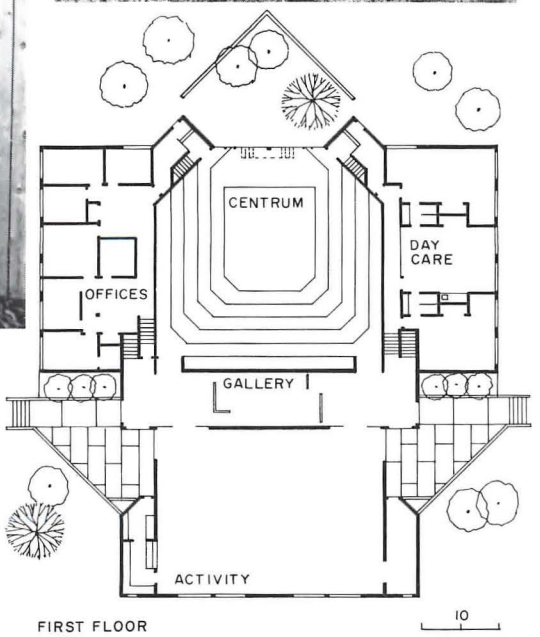


Rudy Hernandez photos



4. Cypress Creek Christian Church and Community Center, Houston, Texas





FIRST FLOOR

Probably the most secular of the four projects, this building combines facilities for the church congregation (Disciples of Christ) and the community at large. Community organizations participated with church members in planning and financing the church, so that 15 different groups conduct programs there besides the congregation. The communal nature of the building was formally symbolized by the footpath that runs from the County Library through the church to the Cypress Creek Courthouse on the other side. The congregation itself made the stained glass windows (not shown) designed by Maryann Heimsath.

To be so many things to so many people, the church has been designed on split levels for easy access, so that the interiors can readily serve more than one purpose or user. Its numerous provisions, ranging from church and community offices and a Sunday school and day care center to a large multi-purpose activity area, revolve around the Centrum, a 400-seat auditorium with an altar that doubles as a three-quarter thrust stage for theater, music, and community forums. There are few references to religious symbolism here or elsewhere within the sharply angular building. An air of spirituality is sustained, however, by means of the unexpected soures of natural light the architect has devised, from the glass doors behind the altar and from clerestory windows at the rear of the congregation and elsewhere in the church.

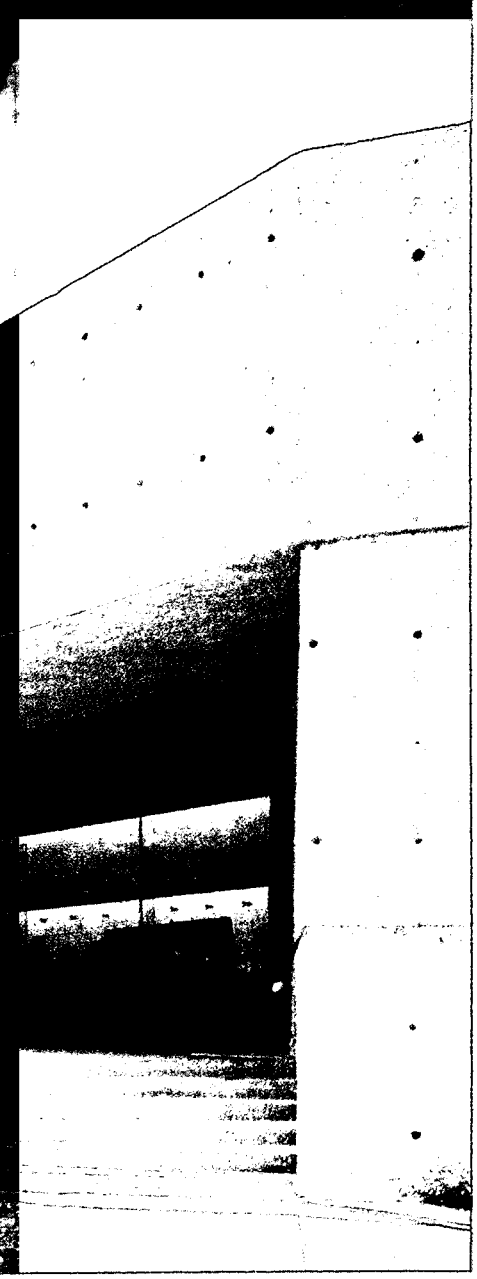
THE TAMAYO MUSEUM

Mexico City's newest museum, designed by Abraham Zabludovsky and Teodoro Gonzalez de Leon, opens to controversy but offers some of the best exhibit spaces to be found anywhere.

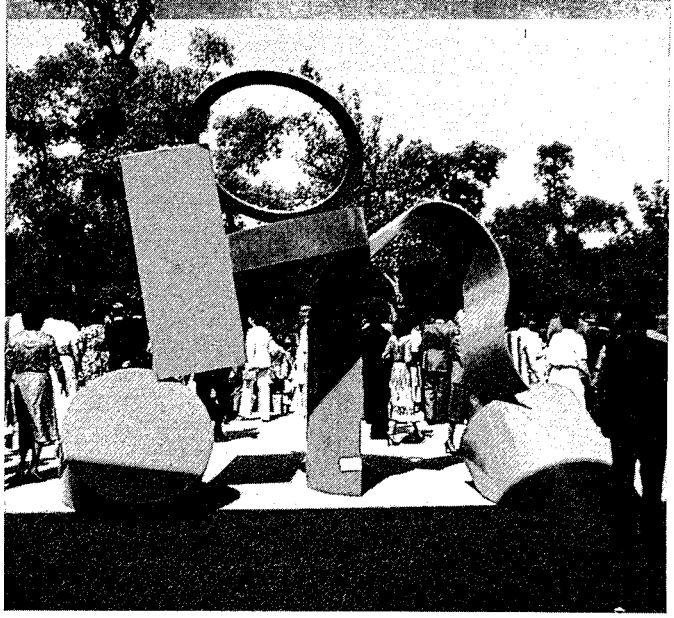
"I hope that the people of Mexico can enter this door unburdened by the prejudice that artistic creation should be oriented in a single direction." The words were Rufino Tamayo's. The occasion was the recent opening in Mexico City of an important new museum, a museum that bears the celebrated artist's name and houses his personal collection of contemporary art, but a museum that many in Mexico's art establishment did not want, and a museum that was very nearly never built.

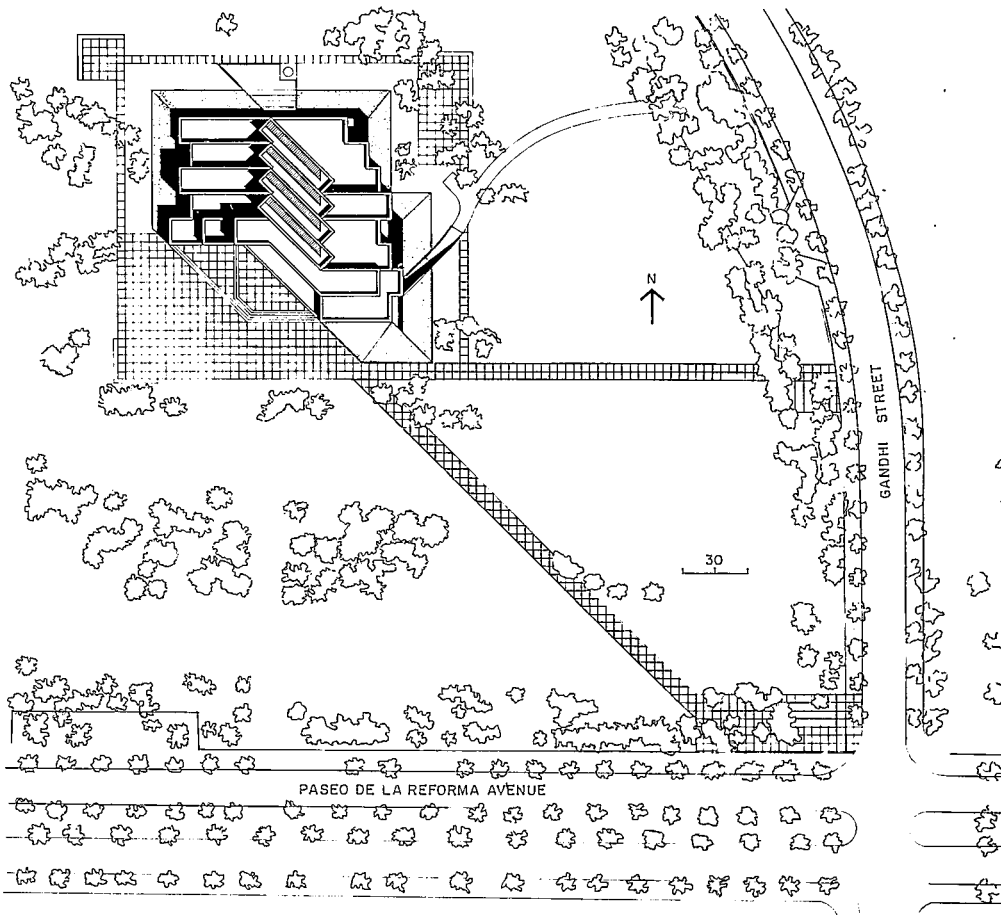
Tamayo's words barely concealed the 82 year-old artist's keenly felt sense of estrangement in the highly politicized world of Mexican fine arts where fellow artists like Rivera, Orozco, Siqueiros, and O'Gorman had left contemporary art with a strong leftist imprint. Tamayo never found revolutionary social themes especially congenial. Doors closed to him. In 1936, with a mixture of indignation and regret, he went into voluntary exile. When he returned after many years in Europe and America, some things had changed. He had gained an international reputation and the personal wealth that went with it. But other things had not changed. The revolutionary mould remained intact and still shaped the choice of material selected for display in the nation's galleries and museums. To counter what he felt was a cultural blind spot, Tamayo offered his entire collection to the people of Mexico—provided it could be housed in a museum that bore his name to be built in Chapultepec Park.

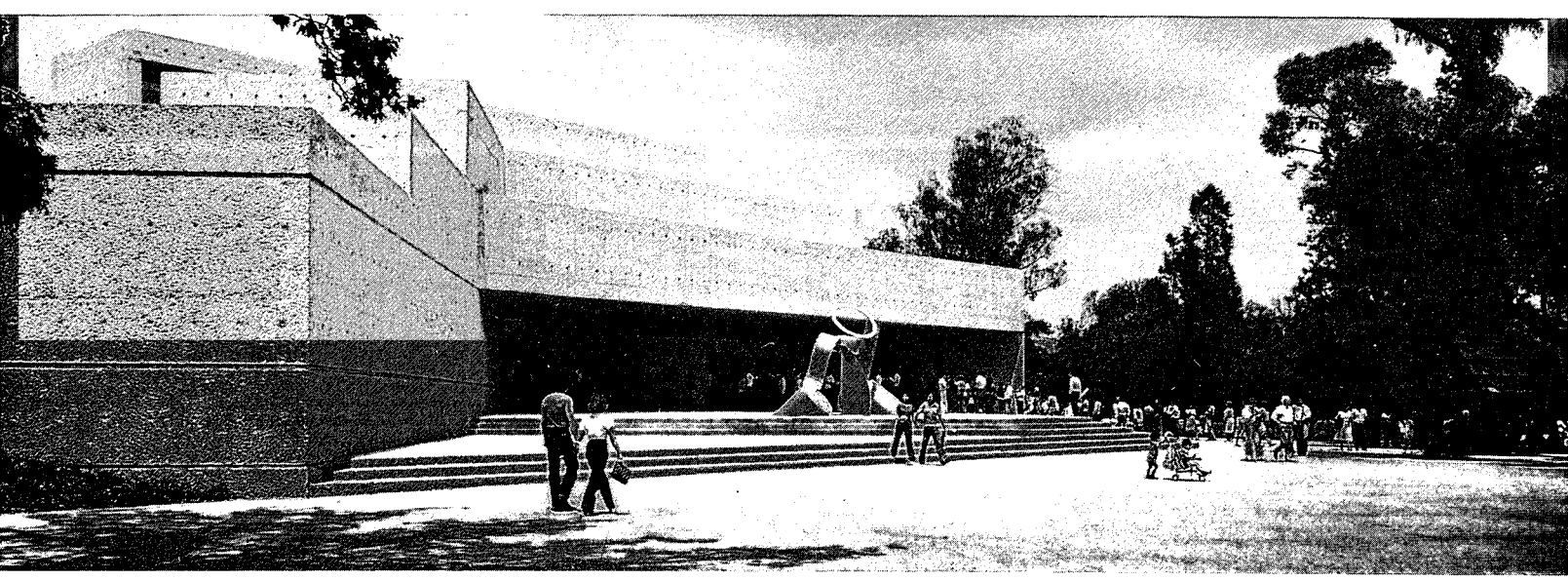
The stipulation of Chapultepec, the city's slender downtown greenbelt, aroused new controversy, but it was critical to Tamayo's hopes for bringing the collection to the people, to a place heavily used for recreation already. A similar reasoning had long since led to the establishment of other museums in Chapultepec, just as it had led, in earlier years, to the location of the Metropolitan Museum in New York's Central Park and to Washington's principal museums along the Mall. A final irritant to some sectors of Mexico's artistic community was the fact that, in an abrupt and significant break with tradition, the new Rufino Tamayo Museum was to be funded from private sources. Each of these things, while it added its quotient of bitterness to the debate that surrounded the project, served to shape both the collection and the building that houses it. It might be argued, in fact, that the final design benefited from all the controversy because architects Teodoro Gonzalez de Leon and Abraham Zabludovsky knew right from the start what special issues the new building would have to confront.

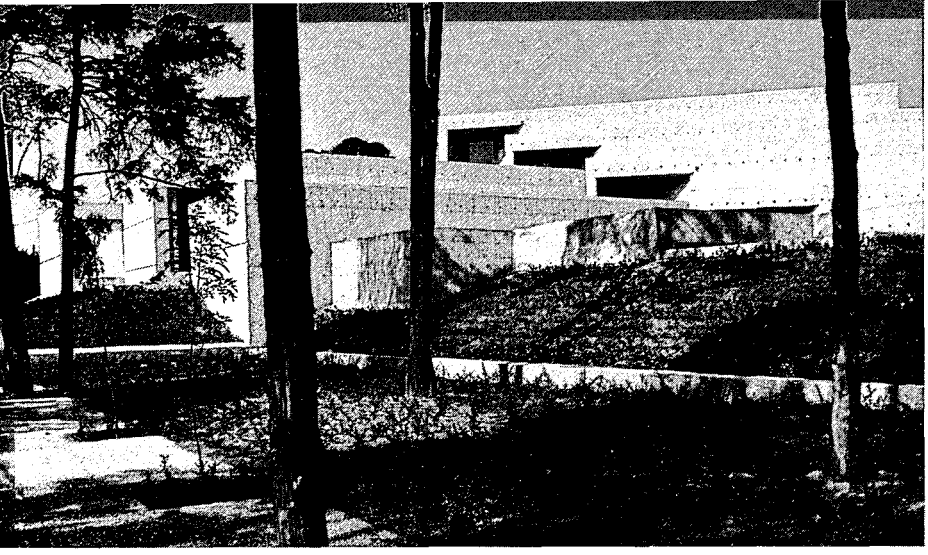


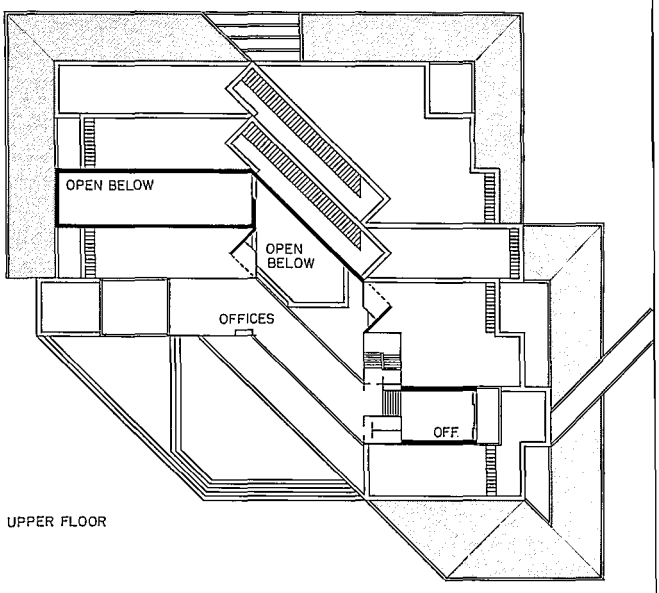
Julius Shulman photos



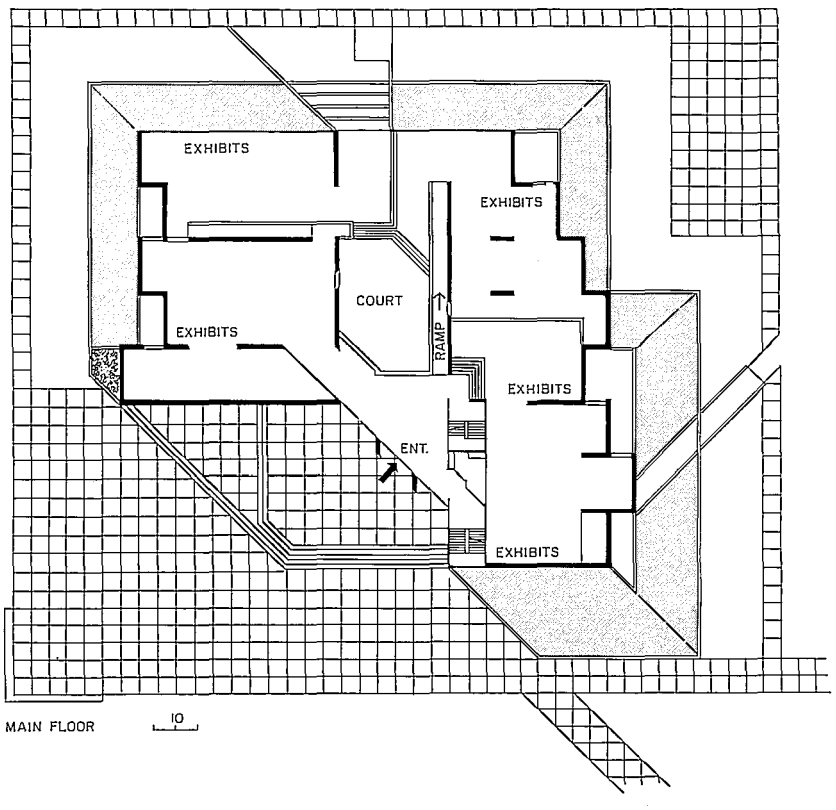




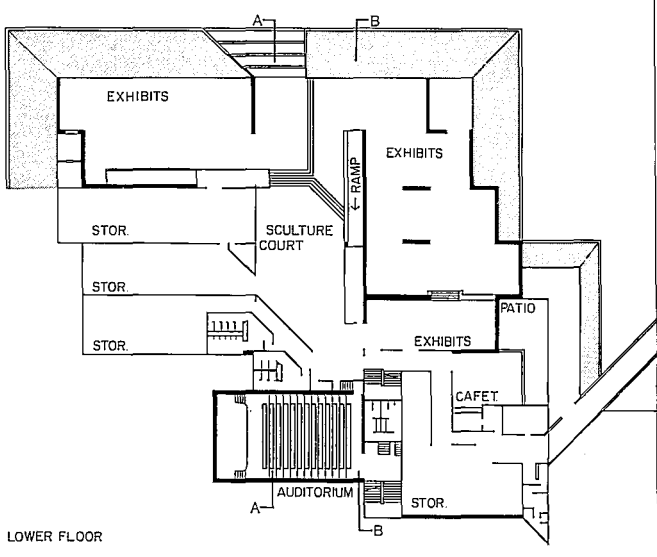




UPPER FLOOR

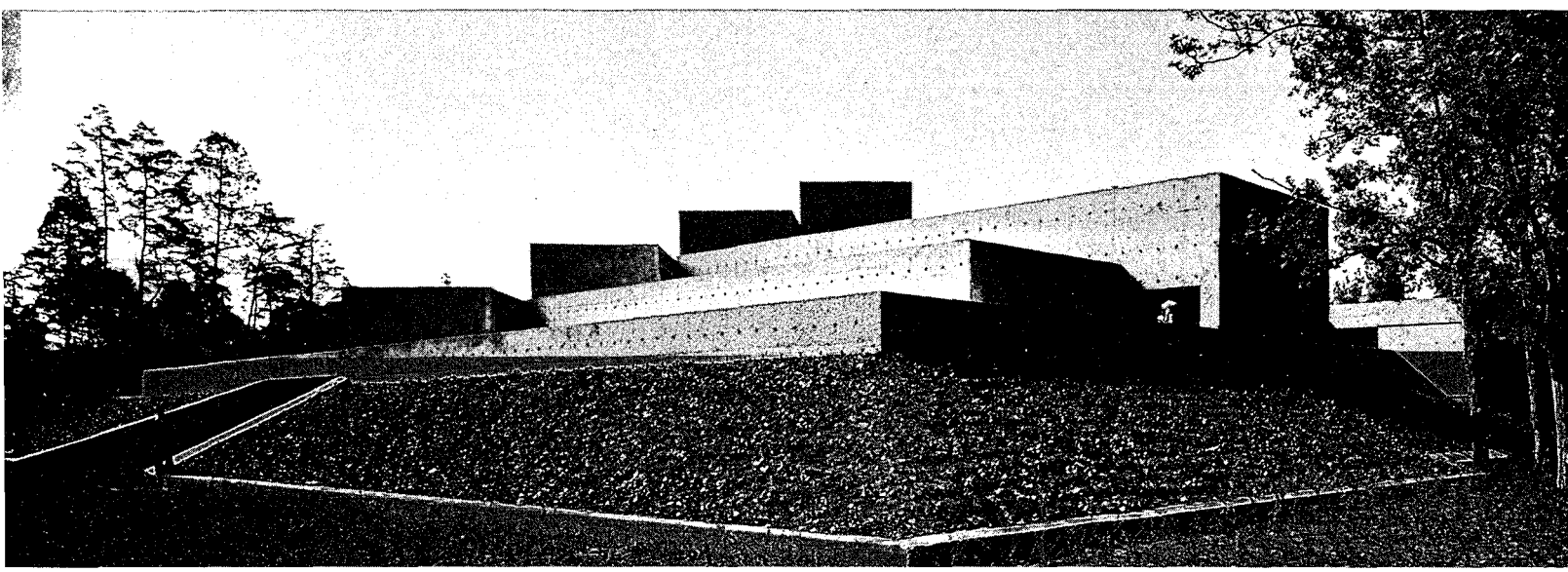


MAIN FLOOR 10



LOWER FLOOR

Plans for the long delayed, 50,000 square-foot, four million dollar project reveal a complex program of spaces brought together in compact but informal relationships. The lowest two levels contain exhibition and other public spaces. The upper level, really a partial level, houses offices and other support spaces.

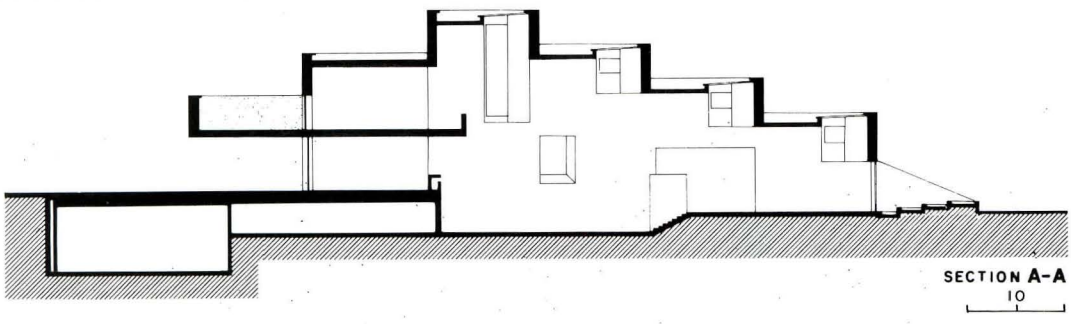


They knew for example, that the Chapultepec question had galvanized a sector of public opinion not otherwise involved, and that it could only be assuaged—and then not completely—by a design that demonstrated the utmost respect for its surroundings. They also knew that only a design of strong but essentially modest character could disarm critics from a small but vocal minority who complained that Tamayo was building a grandiose monument to himself.

In its finished form, the Museum confronts these issues squarely. It is sited with considerable reticence off the Paseo de la Reforma on a site freed up by the demolition of an existing structure that had fallen into disuse. Though it opens to the Reforma on a long diagonal (see site plan), the Museum is shrouded by clumps of sycamore trees that isolate it effectively from surrounding buildings—including the widely admired Museum of Anthropology by Pedro Ramirez-Vazquez, its nearest neighbor to the west. Unlike the Anthropology Museum though, the Tamayo Museum buries much of its volume in the ground—or at least draws the earth back up over its flanks as berms on three sides. The intention is to minimize the building's apparent volume, and this it does very successfully. Even above the level of the berms, the concrete exteriors—with their exposed marble aggregate—step back in deference to the park and in consciously modelled forms (photo left) to produce lively elevations that change from each point of vantage.

Inside, the Museum consists of two groups of exhibition halls united by a central, covered court. The exhibit halls, each a different size, house paintings, engravings and tapestries. The court is given over to sculpture. Starting at the vestibule, with its broad overlook into the sculpture court (photo above), the visitor circulation is through a descending circuit of spaces starting toward the west and ending in the exhibition spaces to the east of the court (see plan). The route can be broken in half by returning to the vestibule by means of the long pedestrian ramp in the sculpture court. Those visitors who continue for the full circuit can either return to the vestibule by a stair or descend still another level to a patio restaurant and a 250-seat auditorium located under the entry plaza. The various spaces flow easily into one another and the visitor is guided from one to the next without any sense of coersion.

The palette of interior finishes has been kept to a practical minimum. The walls are uniformly finished in the same concrete with exposed aggregate that is used on the exteri-



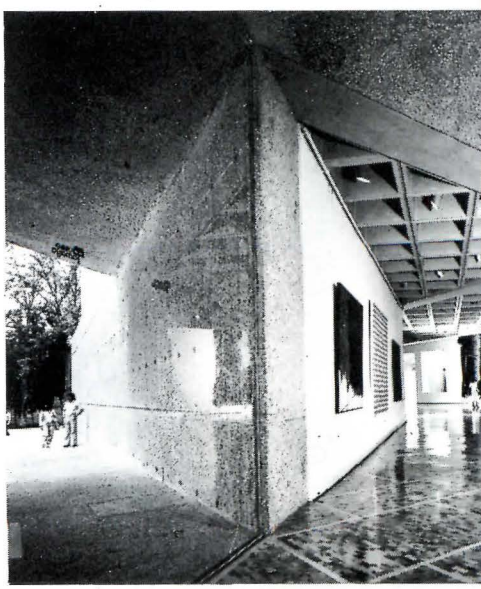
The narrow range of finish materials unites exhibit spaces that are sharply varied in size and proportion. These spaces are also nicely modulated by changes of level and by variations in quality of light. The interiors provide frequent glimpses into the surrounding park (photo left) or into the small, enclosed court (photo above) soon to be enriched with a suitable outdoor sculpture.

ors, and the floors are a pine parquet, sanded and highly polished. In color and texture, the contrast between the two materials is exceedingly rich and effective. Artificial light and daylight are similarly combined for balance and blend.

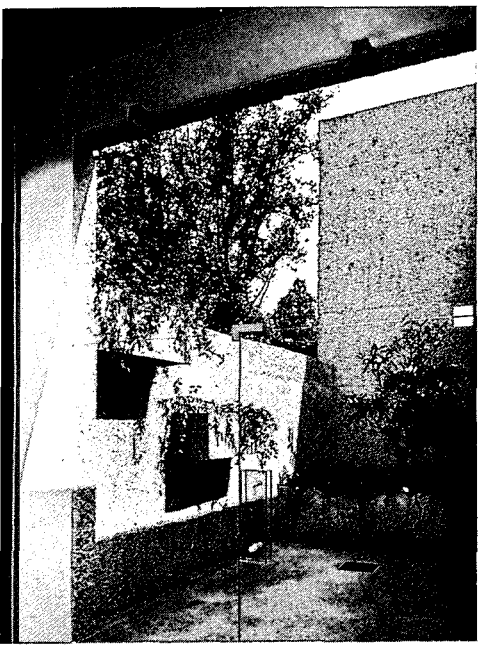
Though the Museum's spaces are essentially orthogonal, a very strong sense of the diagonal is established overhead in most of the spaces. It is the diagonal of the entry axis from the Reforma, and it is stated in the two-way waffle slabs of the exhibit spaces (photos right) and restated emphatically in the roof structure over the sculpture court (photo above and previous page).

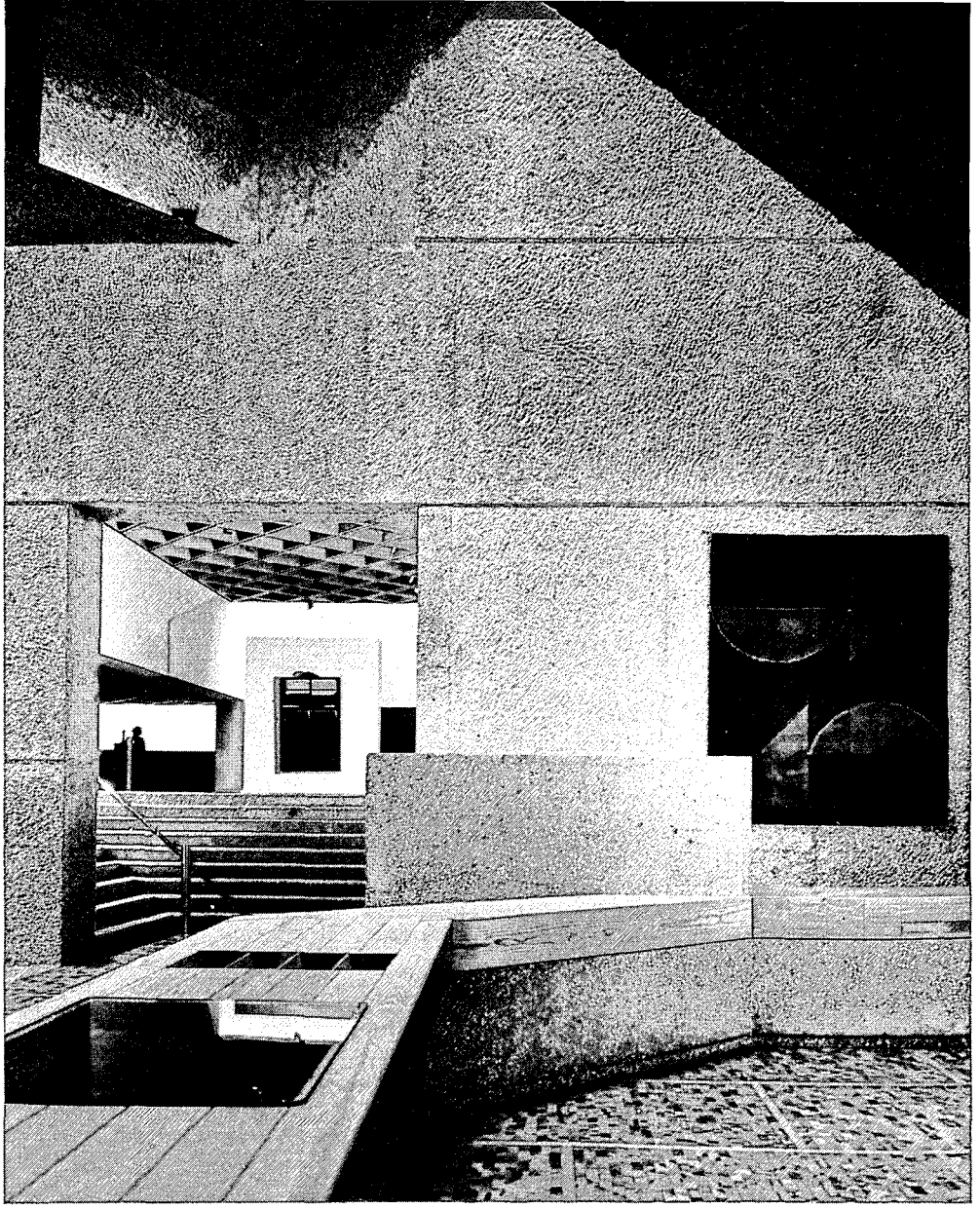
The Museum's collection is substantial. In addition to a dozen works by Tamayo, it encompasses some 300 or so works by 168 contemporary artists including Picasso, Leger, Miro, Ernst, Dubuffet and Dali among others. All these works are displayed in the most sympathetic of surroundings and are made as accessible to the people of Mexico as possible. Some who have already visited the Museum came despite the controversy; others because of it. But most, like museum visitors everywhere, are rather indifferent to the art world's inner tensions and turmoils. They came—and will continue to come—to enjoy the Museum and its collection, to cherish it for what it is instead of scorning it for what it is not. *Barclay Gordon*

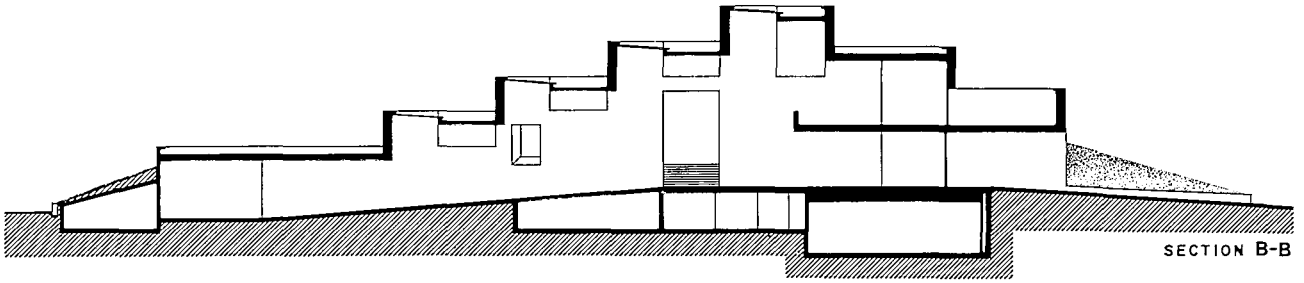
THE RUFINO TAMAYO MUSEUM, MEXICO CITY. Architects: *Abraham Zabludovsky-Teodoro Gonzalez de Leon—Francisco Lopes; construction supervision.* Structural design: *DICSA.* Museography: *Fernando Gamboa.* Lighting consultants: *Jules Fisher-Paul Marantz, CID Instalaciones.* Contractor: *GUTSA.*



TAMAYO MUSEUM



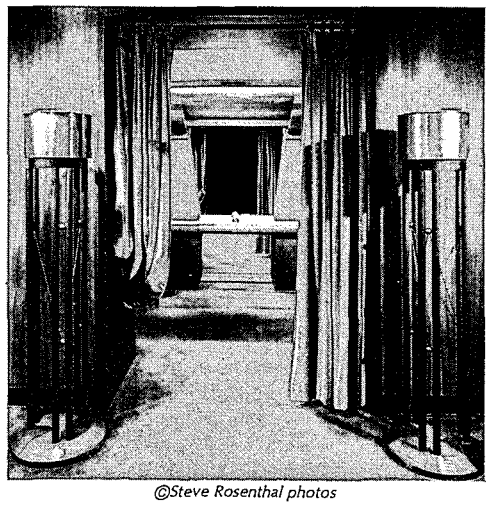




SECTION B-B

IN THE ARCHITECTURAL VANGUARD..

Rodolfo Machado and Jorge Silvetti are held in high esteem. But apart from an ill-fated renovation of the Harvard Faculty Club—regrettably disassembled before completion by a changing of the faculty club's administrative guard—their reputation is predicated exclusively on writing, teaching, and drawing. This interior remodeling of a Boston luncheon club constitutes an auspicious, if second, beginning.



©Steve Rosenthal photos

Any self-respecting compendium of the reigning avant-garde would be incomplete without Rodolfo Machado and Jorge Silvetti. They have secured their position as active—and influential—participants in the current architectural (r)evolution by virtue of their *curricula vitae:* impeccable academic credentials (Machado heads the Department of Architecture at the Rhode Island School of Design, and Silvetti is associate professor at Harvard), and a firm portfolio brimming with exquisite drawings of unrealized projects (the most memorable being the "Steps of Providence," an urban design scheme for Providence, Rhode Island). And like their colleagues in the post-modern pantheon, the Boston-based Argentinians rose to international prominence on the wings of the countless exhibitions and competitions that have provided so much luster for the profession and the press, over the last five years. But while invitations to the 1980 Venice Biennale and the "Chicago Tribune Tower Competition: Late Entries" are the very stuff of "cutting edge" dreams, that particular wave seems to have reached its crest. Even in the ranks of the avant-garde, what's generating attention—and ambitions—now, is architecture rendered in three dimensions rather than two. With this project, Machado/Silvetti take their first step in the long journey from paper architecture to built architecture.

First commissions are frequently characterized by the vaunting ambitions of the architect: too often, even a humble house addition looks as though the designer packed ten years of ideas onto the porch alone. But Rodolfo Machado and Jorge Silvetti are no neophytes to architecture: they are sophisticated designers, who, at 39, know the difference between ambition and pretense. Their interior remodeling of Boston's venerable Downtown Club *is* ambitious, but it is also restrained and appropriate.

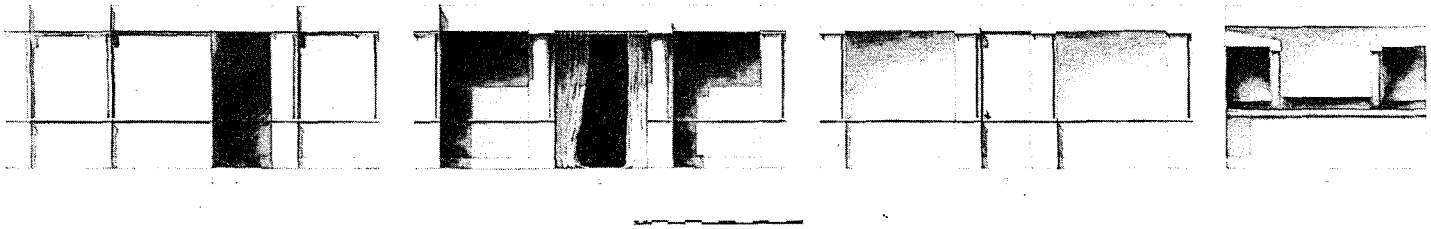
The architects were given a generous budget and a portion of the penthouse capping the State Street Bank Building, a space they dub "innocuous contemporary." The project's design determinants came in two forms: building regulations banned changes to existing floors, windows, walls, ceilings, and even curtains; and the clients specified very particular imagery—they wanted a room that would "reflect the two major aspects of the club: an old club in an old city, and the sea." Considering the magnitude of the physical constraints, and the specificity of the esthetic goal, the architects availed themselves brilliantly of the only remaining means responsive to both: they concentrated on furniture and casework.

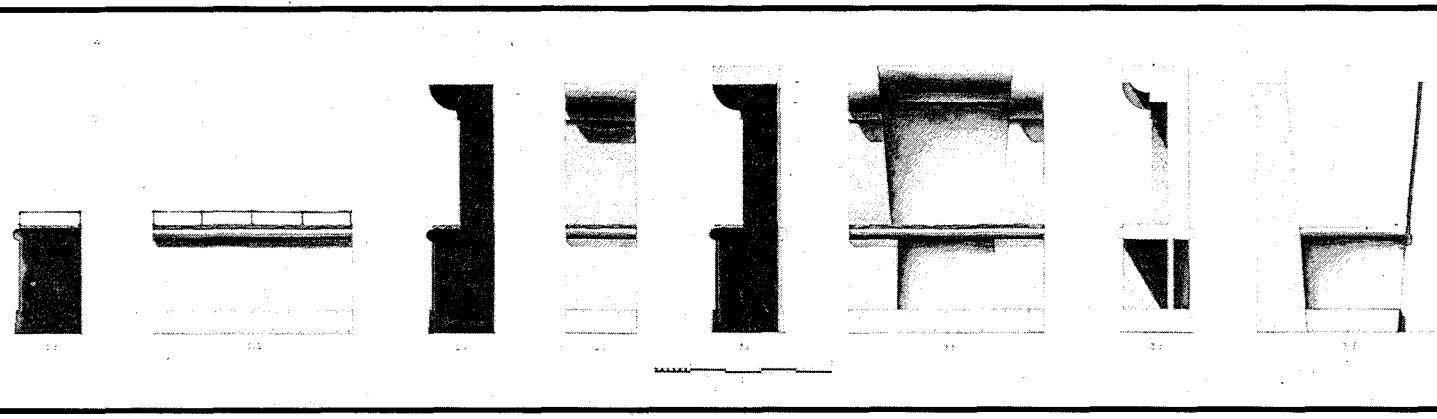
Each day at noon, members of the prestigious luncheon club are ushered to their table through the velvet curtains of the consciously too-grand entrance, flanked by urns abandoned by the Harvard Faculty Club (top). The entry opens onto a circulation corridor defined by three facades and a parallel line of freestanding consoles (elevations overleaf). The massive facades serve to anchor the otherwise ill-defined room, and, by suggestion, subdivide the necessarily open-plan dining area by proffering three individual backdrops for three distinct bays. This visual subdivision is reinforced by two false beams that reach from between the facades to the window-wall (axonometric overleaf). The five freestanding consoles function as either hostess station, waitress station, or linen cabinet; they also guide circulation, introduce a small-scale element, and reiterate the established spatial definition. The mahogany casework has been expertly crafted into columns, pediments, cornices, keystones, and overscaled moldings. These classical elements provide ornament, detail, and a hint of grandeur; in the architects' words, they add "character."

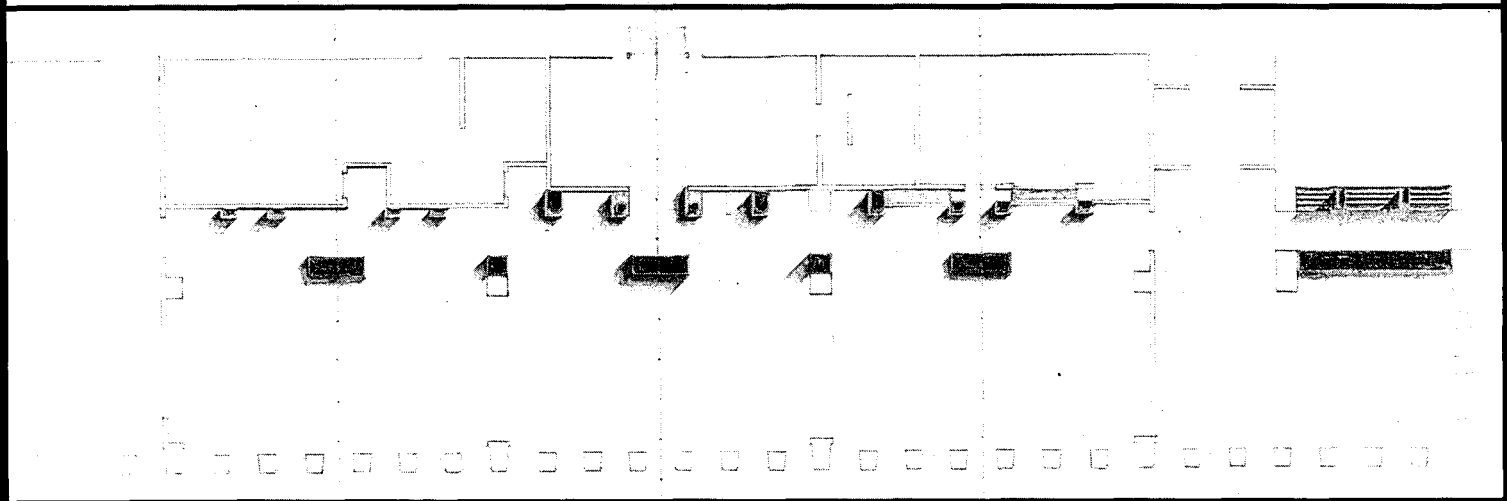
Machado/Silvetti have quite conspicuously chosen a classical architectural idiom for this project: to some, that will be merely fashionable; to the 500 members of the Downtown Club, it is perfectly appropriate.

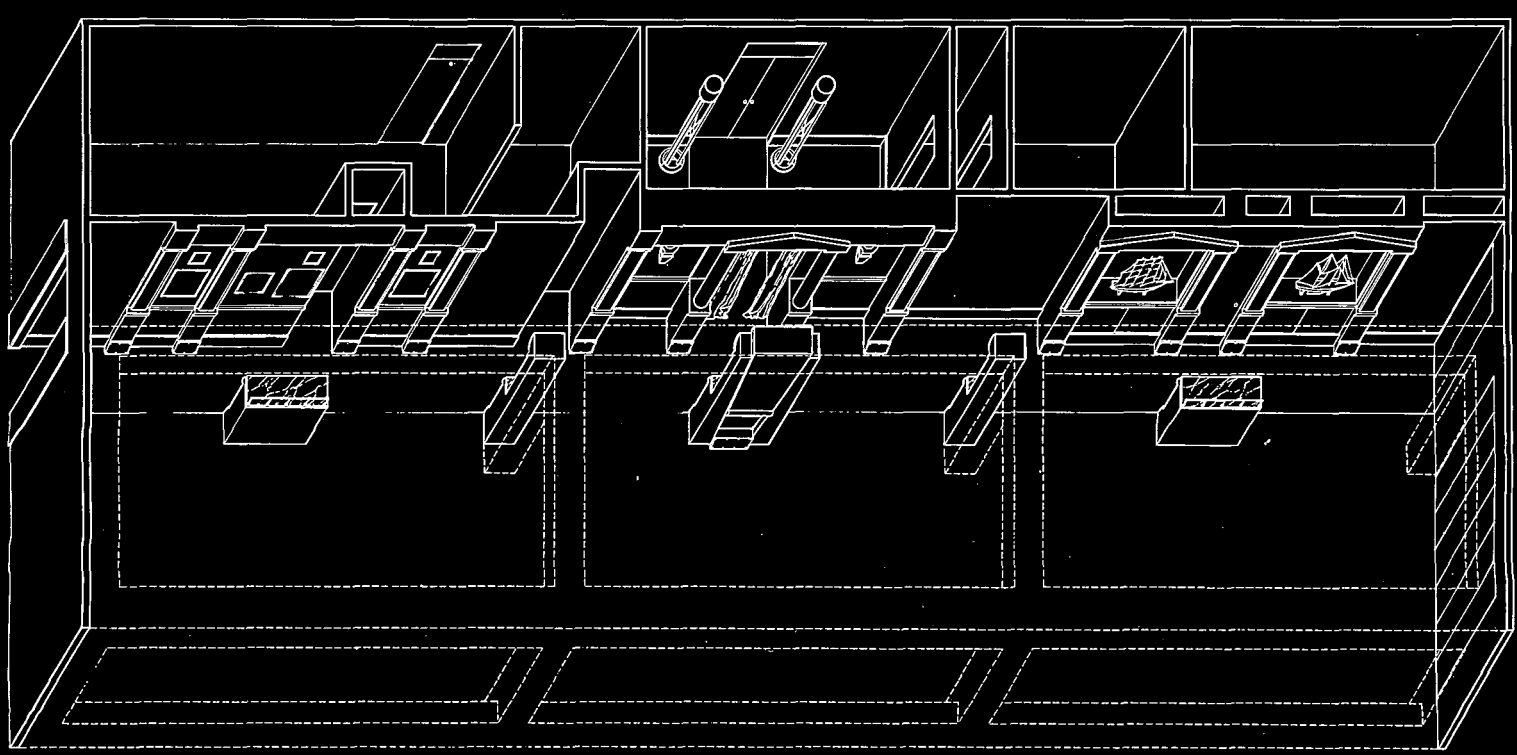
A postscript is added by Machado: "We don't yet build buildings, so we build furniture that looks like buildings." If the furniture is any indication, the buildings should be worth waiting for.—*Charles K. Gandee*

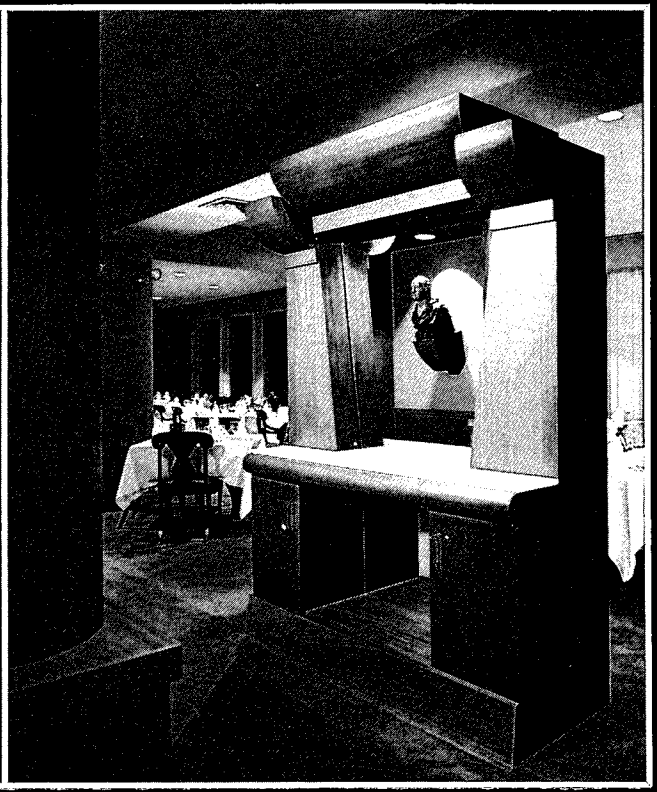
THE DOWNTOWN CLUB, Boston, Massachusetts. Owner: *State Street Bank.* Architects: *Machado/Silvetti.* General contractor: *A. Bonfatti & Company.* Cabinet work: *Scott & Duncan, Inc.*



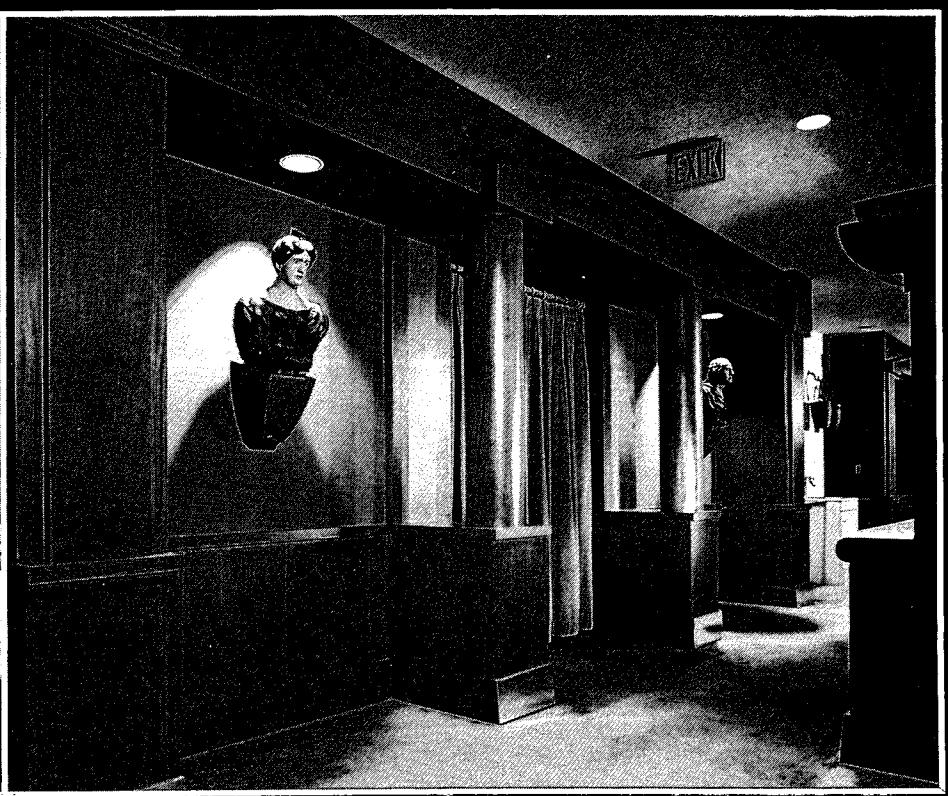








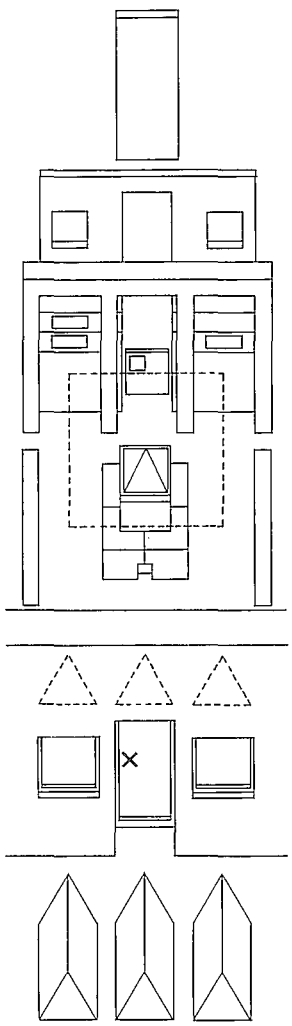
An expansive window wall threatens to overwhelm diners by its magnetic penthouse view, and a ban on interior partitions resulted in a full panorama of too many tables: equilibrium and order are restored, however, with "place-making" and organizing facades and consoles. The ship models, nautical-theme etchings, and figureheads are borrowed from a sailing museum: these American folk art objects lend the client-prescribed salty air. A bar (shown in plan and elevation) is contiguous with the dining area.



MIXING MEMORY AND DESIGN

Merchants catering to the carriage trade are no less competitive than their colleagues in the suburban mall, and even on Madison Avenue—the *luxe* commercial spine of Manhattan's Upper East Side—quiet good taste is frequently neighbor to wretched excess. But if the neighborhood's salmon-colored marble facades, blinding mirror-glass windows, and sidewalks inset with treacherous-when-wet white tile are dizzying, refuge can be found by turning off the avenue at 69th Street. From the corner, all you have to guide you are three white canopies inscribed with the words "SOINTU: HARMONY IN MODERN DESIGN" and suspended above a door and two windows neatly punched into the side wall of a modest stucco building. But to the sophisticated eye, attuned to the elegance of clean lines confidently drawn, the detour will come naturally. In contrast to the din of the avenue, such restraint constitutes an eloquent sidestreet whisper.

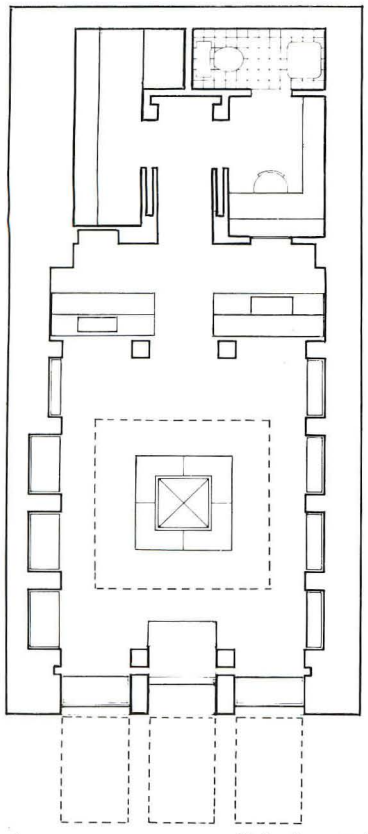
A year ago, however, restraint and subtlety were not terms applicable to the shoebox space at 20 East 69th Street: a western-wear store that preceded this design employed the more aggressive, and familiar, marketing tool of a large plate-glass window, cutting into the building on the diagonal, intended by its angle and ready display of merchandise to lure pedestrians off the avenue. But when New York architect Tod Williams was given the commission to design a shop for selling "modern design objects," he elected to forgo the glass, "to replace the wall and to reinforce the integrity of the structure . . . to embrace its solidity." But such high-minded architectural motives were compounded by the scale of the diminutive objects to be sold—an Alvar Aalto vase would be lost behind a 10-foot sheet of glass.



The section and axonometric (above) illustrate the means by which a pavilion was inserted into a tiny street-level space.

Though retail veterans will fault the discreet facade as too-easily passed by, perspicacious shoppers are amply rewarded: once inside, expectation created by the pristine triangular canopies gives way to wonder at the near-magical atmosphere of this tiny room. Behind the diligently restored exterior wall—stuccoed and painted to match the rest of the building—Williams inserted a three- by four-bay pavilion. To help reinforce the *parti*, he created the illusion of structural independence: definition is provided by pilasters interlaced with display cases, and columns pulled either inside, slightly free of the facade (to emphasize the separation of building/container and pavilion/contained), or pushed to the rear to divide the display area from the service counter. The most prominent feature of the room is an overscaled vitrine, designed to display the "single most precious object" in the shop; but the glass pyramid cap, the encircling bench, and the four cavities along the base are mini-clues to the various motifs that provide SOINTU with its evocative—if to some rarefied—air.

Williams likens the vitrine with its tripartite division to a building; indeed, in elevation and massing there is a direct parallel to his scheme for the "Chicago Tribune Tower Competition: Late Entries," done with associate Billie Tsien. The analogy is extended by the addition of four cavities at the base—according to Williams, symbolic "entrances" to the building/vitrine. Apart from its self-referential value, the vitrine also serves the important service of guiding circulation around the shop, past each of the eight display cases. The bench provides both a functional *and* provocative element: obviously, customers are being invited to use the bench as a seat for appraising the objects displayed in the



cases, but museum-goers will feel nostalgic as they sit in this silent, dimly-lit room and look into glass cases containing not relics but "modern design objects." Such associations are heightened by the glass pyramid (echoing the triangular canopies) that points toward the side-lit inset in the ceiling, and by the backdrop of the side-lit panel terminating the hall that leads to an office and storage room. It's almost as if a Pharaoh with a prescient taste for the Modern Movement stocked his pyramid with 20th-century housewares.

Clearly, most Madison Avenue shoppers stopping in to purchase Scandinavian stemware or Swiss cutlery will not be susceptible to—or even interested in—the allusive gestures being made here. And perhaps only those initiated into the current stream of post-modernism will take pleasure in the self-referential abstraction of a building for the vitrine, and the various references to a museum, to a reliquary, or even to a tomb. What *everyone* will notice, however, is a very special little room with near-peerless detailing, impeccable construction, an exquisite palette, and the unexpected tranquility of an evocative atmosphere. And just as the "modern design objects" on display so succinctly capture the spirit of their time, this interior pavilion, with its full complement of references and associations, captures some of the more spirited aspirations of our time.

—Charles K. Gandee

SOINTU, New York, New York. Owner: *Kipp Trafton.* Architects: *Tod Williams and Associates—Tod Williams, principal-in-charge; Susan Bower, associate-in-charge; Robert McAnulty, associate; David Warner, assistant.* Consultant: *Rick Shaver (lighting).* General contractor: *Albert Disser of Disser Construction Company (with Eamon Duffy).*

Jaime Ardiles-Arce photos

ALVAR AALTO IN CONTEXT

by Robert M. Kliment

"The modern world searches the art of the past for forms that anticipate and vindicate those of the present."—J.C. Lemagny

The modern world of architecture should search also for an understanding of the origins and intentions from which those forms are derived. The perception of the past and the degree to which that perception has been directly engaged in the teaching and the practice of architecture has of course increased radically in recent years. As architects we search for guidance and inspiration not only from forms and from theories, but also from periods we perceive as historically and culturally related to our own; and from both we derive not only ideas for the development of our work, but in those forms and from those periods also a measure of vindication of the work we have already done.

Of building forms and theories there are many, and upon many of them we draw. Of historical and cultural periods parallel to the present there is, however, one of particular relevance, and that of course is the period from 1890 to 1930, which marked the decline of the classical tradition and the rise of functionalist modernism. The functionalist modern esthetic and theoretical source is but one of three overlaid but nonetheless distinct idioms and attitudes which characterize architectural language at present. The other two are the vernacular and the classical. Much of the most interesting work of the past twenty years draws, in relevant balance, upon all three; rather than, in polemical isolation, upon one alone. The work of the early twentieth century was also characterized by the same three idioms, but the difference between this architecture and that of today lies in the relative importance given to each idiom. For the architecture of today, modernism is the immediate precedent and therefore the inertial norm, and the reengagement of the classical tradition and of vernacular usage embodies ideas that are new.

In the early twentieth century, the classical tradition, modified by vernacular precedent and local usage, was the inertial norm, and functionalist modernism was the vehicle for and symbol of the new architecture. Then too, some of the work most interesting and instructive to us now also drew on all three idioms. It was work that did not adhere to one style, but rather established between the three a coherent fusion calibrated to the nature and requirements of program, site and symbol; an inclusive order characterized by the engagement of classical and vernacular precedent with relevant attributes of the functionalist modern style.

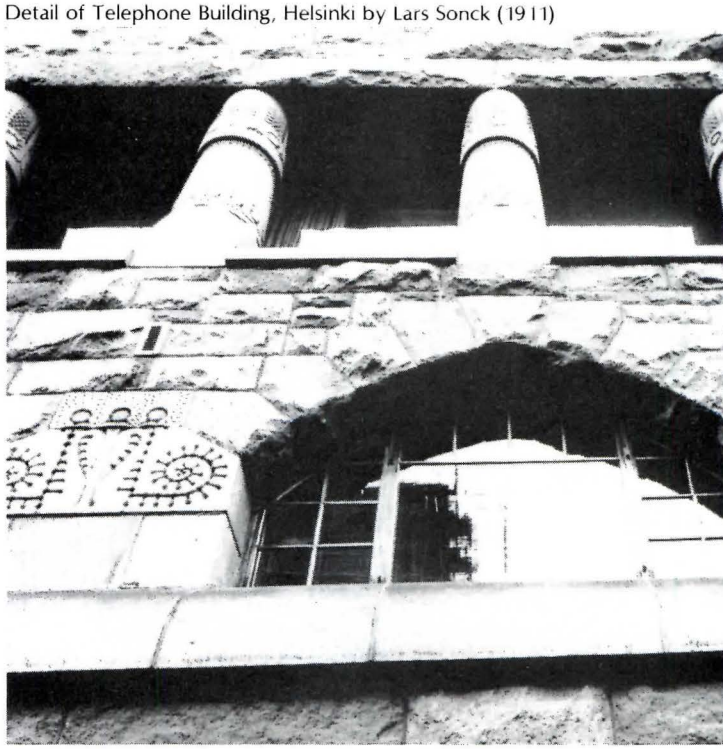
There is much work of this kind throughout Western Europe and the United States, but it is in the architecture of Finland that these three idioms and their interrelationships seem most instructive to me. There are three reasons for this: First, because Finland is a small country with few major centers of construction and a closely knit architectural profession, the new architecture soon became pervasive and coherent; second, because the search for a new style, fusing the classical and vernacular precedents with modernism, was a conscious expression of the national will, perceived as related to the movement toward independence of Finland as a nation; third, and most significantly, because this was the time and the place in which the career of Alvar Aalto began.

When my partner Frances Halsband and I were invited by the Museum of Finnish Architecture to exhibit in Helsinki in the summer of

Top: interior of the University Library in Helsinki by Carl Ludwig Engel (1836-18
above: interior of the main University building by Engel (1828-1832)

"I found myself more interested in the work

Detail of Telephone Building, Helsinki by Lars Sonck (1911)



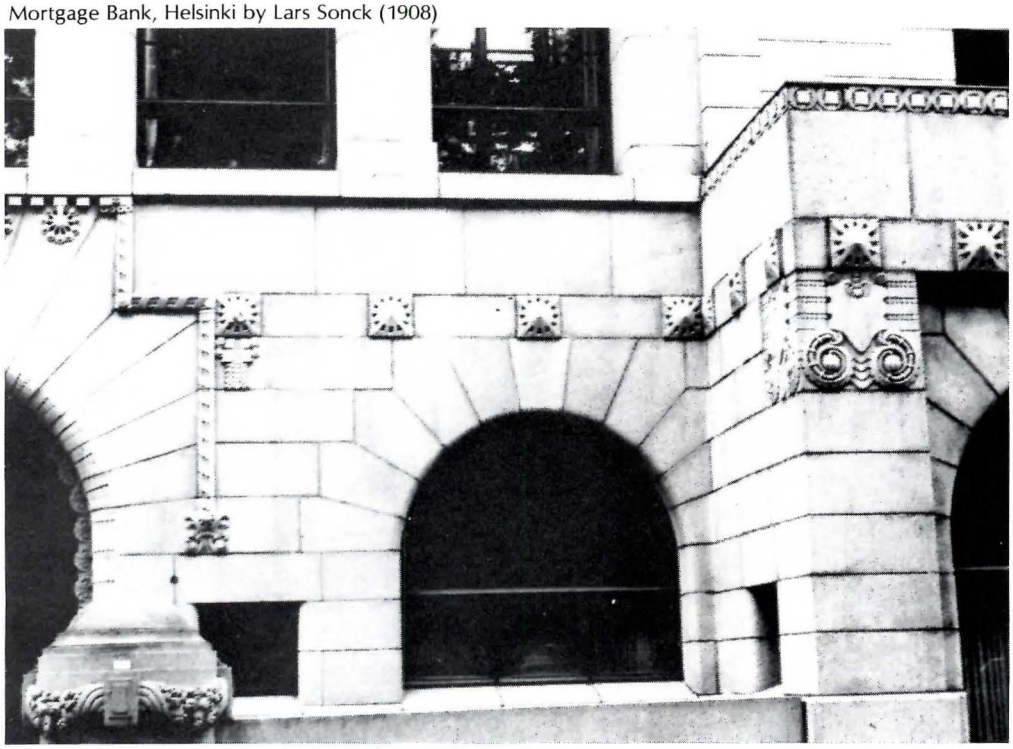
R.M. Kliment practices architecture in New York City with his partner Frances Halsband

University Library in Helsinki by Engel (1836-1840)

R.M. Kliment photos except as noted

o's predecessors, the relationships of each to the other and of Aalto to them."

Mortgage Bank, Helsinki by Lars Sonck (1908)



Stair detail in Telephone Building

1980, and to participate there in a symposium on the current state of our profession, the opportunity seemed auspicious and opportune. It was a chance to exchange views with Finnish and other European colleagues, to see the new work of Aalto, and for the first time to see a coherent body of work of a period that my partner and I had come to see as related to our own. I had been to Finland once before, in 1960, following my graduation from architectural school and a year spent in Italy. What I chose to see in 1960 and what I chose to see in 1980, my perception of Aalto then and my perception of Aalto now, are a measure of the extent to which the architecture of the past in general, but more particularly that of the non-modernist past of the last 100 years, has been reengaged into the current teaching and practice of architecture.

In 1960 I visited only Aalto buildings, and was barely aware of anything in Finland that went before. I saw Aalto as quite separate from his past and having little connection with it, other than with some aspects of the 17th and 18th century wooden churches in the villages and countryside. Aalto seemed to me then a phenomenon of invention and inspiration. Indeed, he has remained so still, but his roots in Finnish architecture were of no concern to me twenty years ago, nor did Finnish architecture as a formal sequence interest me at that time. In the spirit of the fifties I was instructed by Aalto as modernist and ignored his connections to his neo-classic contemporaries and to his predecessors. On my return to Finland last year I found myself more interested in the work of Aalto's predecessors, the relationships of each to the other, and of Aalto to them. For instance, one major characteristic of Aalto's work that my partner and I have long admired and emulated in our work is the knitting together of discrete elements into a coherent organism, by means of a specially formed and textured organizing, orienting, and usually central space; and the engagement of that organism into its context. This intention and this device have little in common with the work of Aalto's modernist contemporaries, and is derived from the central spaces of classical planning and the vernacular systems of craft and decoration. This perception of Aalto's work in the context of Finnish precedent rather than as the singular *oeuvre* of a modern master has been instructive to us. By seeing him as part of a sequence he serves to engage the work of his predecessors into our own experience.

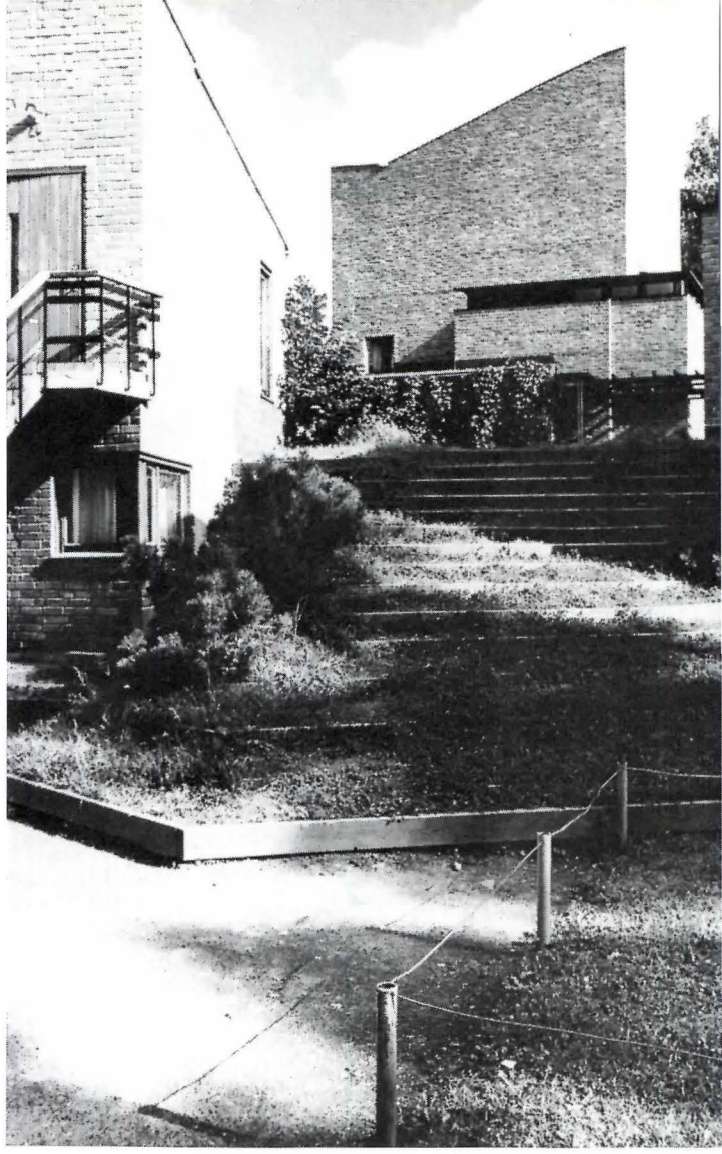
The Finnish architecture which forms this sequence includes the vernacular wooden churches; the neoclassical civic, religious and institutional building of the early and mid-19th centuries; the national romantic and neoclassic buildings of the late 19th and early 20th centuries, including the work of Eliel Saarinen in the United States; and, lastly, the work of Aalto himself.

The early wooden churches are characterized by a simple articulation of elements subordinated to the coherent whole. Their sanctuaries, interior wooden vaulting, ribs and infill as well as their exterior roof profiles are enhanced by vernacular ornament.

The neoclassical work in Helsinki of 1805 to 1840 is symmetrical and axially planned. Special places are marked on the exterior by portico, pediment and dome; on the interior, by higher spaces, clearly articulated, elaborately bound, and generously lighted. Such important places appear as effective as they do in part because of the manner in which the 19th-century Finnish architects handled the elements of figure and ground. By simplifying the background while elaborating the ornament they gave the work a quality common to Georgian and to much neoclassical architecture, from Ledoux and Boulee on.

The national romantic style and the neoclassical work that followed, a period roughly from 1890 to 1930, embodies qualities of both vernacular and classical architecture. The vernacular craft decorative devices are overlayed on the classical aspirations to clarity and order, marking not only special places, but also elements of the classical canon where decoration and elaboration are normally to be found. For instance, the capitals of columns and pilasters turn out not to be Ionic or Corinthian, but freely invented ornament including strange devices from the national past.

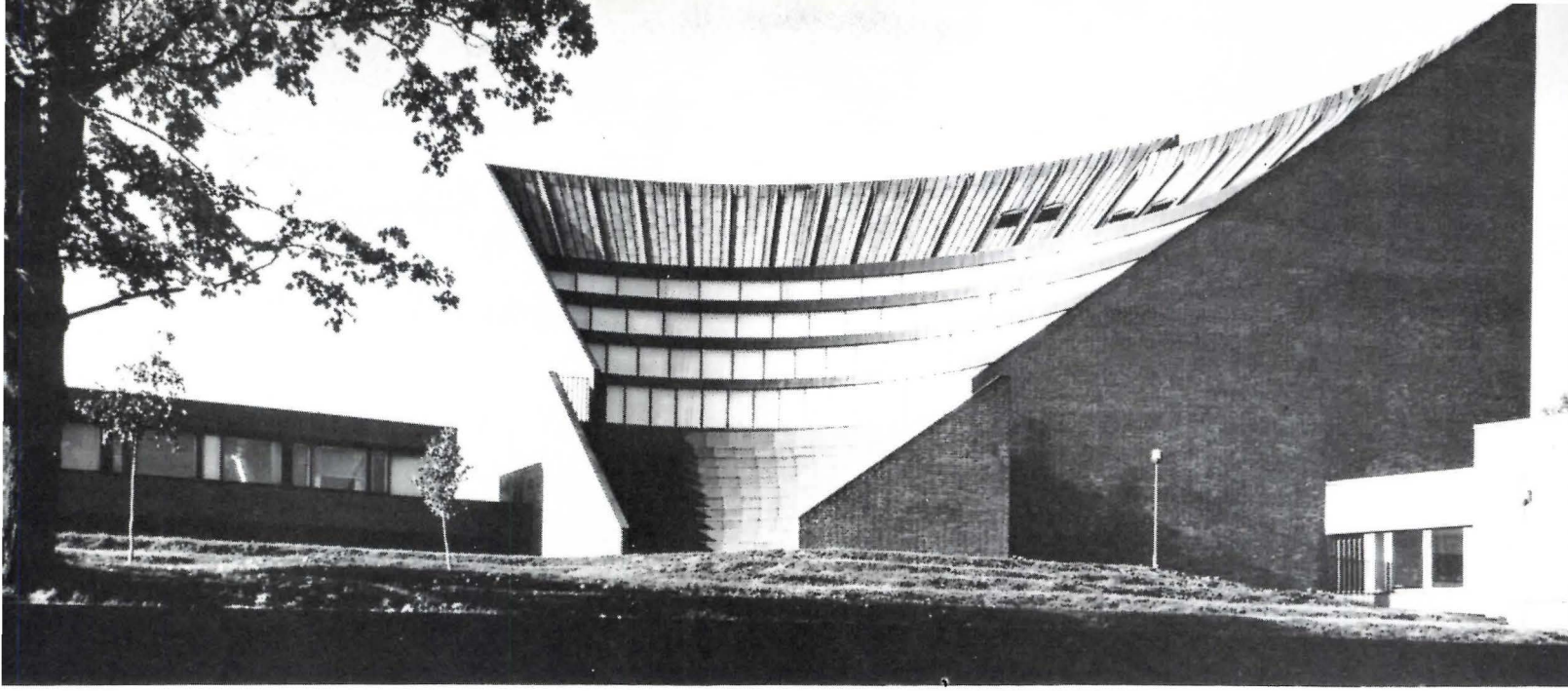
It was in this sequence and from this tradition that the career of Aalto emerged: First, his derivative vernacular work of the Tampere exposition in 1922, and the neoclassical work in Senajoki and Jyvaskyla of 1924 and 1925; then the international style—exemplified by Paimio, Turun Sanomat, Viipuri and Sunila—of the late '20s and '30s;

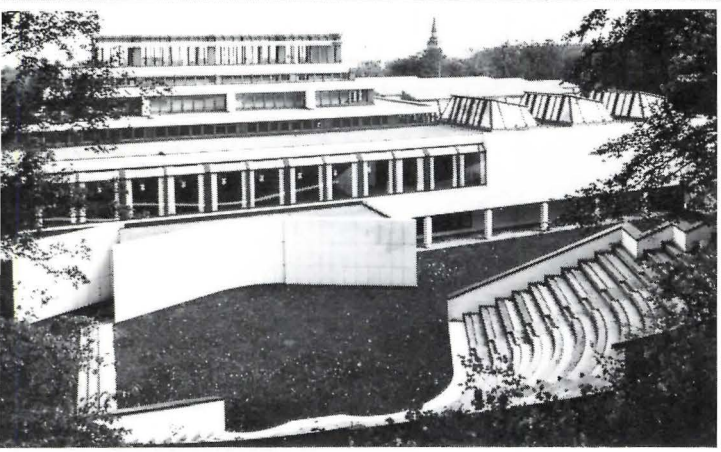


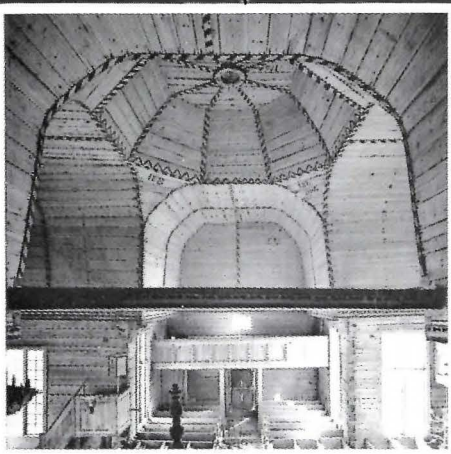
Town Hall at Saynatsalo by Alvar Aalto (1950-1952)

"This perception of Aalto's work in the conte

Kingswood School, Cranbrook, Michigan by Eliel Saarinen (1929)







op: Otaniemi Technical School (1949); above: Aalborg Museum, by Aalto

Interior and exterior of 18th-century church at Petajavesi

Lars Pettersson

sh precedent rather than as the single *oeuvre* of a modern master has been instructive to us."

Dining room at Cranbrook by Eliel Saarinen (1928)

and after 1945 the highly personal style that engaged in each project, in varying balance, aspects of all that went before.

The quality that is admirable and instructive in the architecture of Aalto and his immediate predecessors is to be found in its capacity to deal with issues large and small in scale, general and particular in nature; to respond expressively to problems of connections and texture that are the concern of the larger community, along with issues of idiosyncrasy and particularity that are the concern of the institutions, the special places and individual people of which that community is composed. This quality of early twentieth century architecture is shared by its neoclassic predecessor of the early 19th century and, within a range in which the idiosyncratic is more constrained, with architecture in the classical tradition generally. The quality in which this architecture of the early twentieth century moves beyond its predecessors is in this very acceptance of a wider range of the exceptional, the particular and the idiosyncratic.

These qualities describe the intentions of our own work. Shown here in illustration of our aims are a project for a science library for Swarthmore College and a project for a weekend house in the country. The Swarthmore campus is composed of randomly placed buildings, designed in a variety of styles, dating from the 1860s to the present. The principal organizing elements of the campus are Parrish Hall of the 1860s, a three-hundred-foot long gray stone building with balloon mansard roofs and white porticoed pavilions at center and ends, a 1500-foot-long *allee* of century-old oak trees on the axis of Parrish to the south, and a nature preserve to the west. At the north end of the campus axis is the Dupont Physics and Chemistry building, completed in 1960, made of exposed concrete frame, tan exposed aggregate precast concrete panels, and brick.

Our intention in the siting and the design of the library was to extend to the north the order originally established by Parrish and the line of trees to the south, to preserve and define the open space and its connection to the nature preserve, and to engage the 1960 building into the preexisting and vernacularized classicism of the campus.

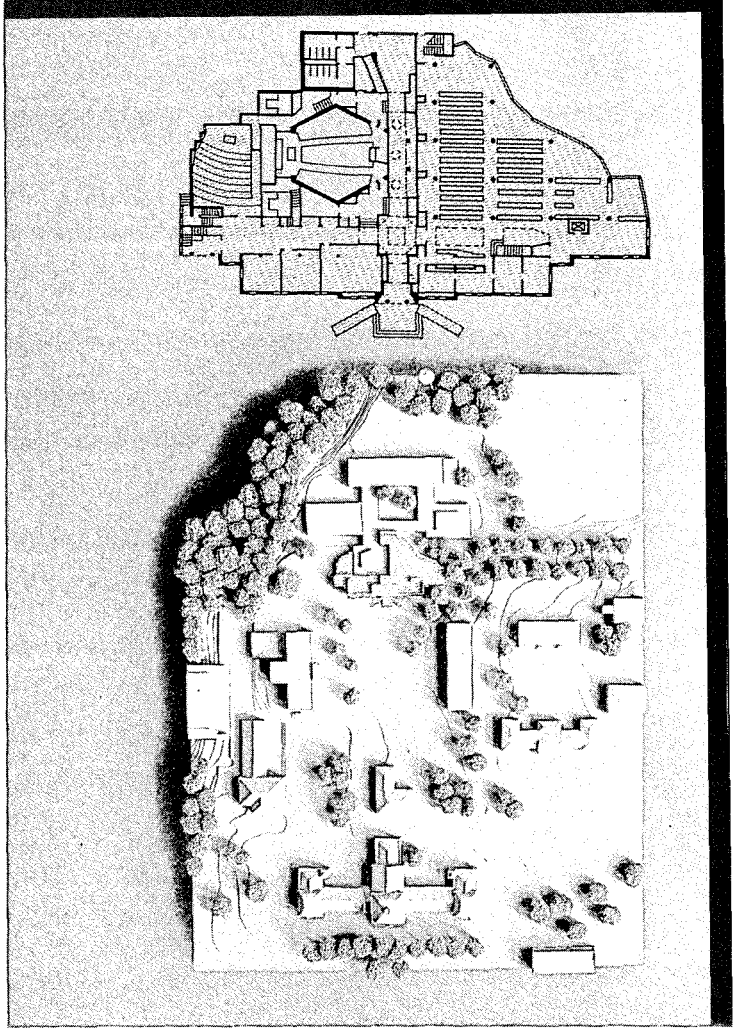
The means to this end are a combination of classical, vernacular and modernist elements. On the exterior, to the south facing the campus, on axis with Parrish, there is an apparently symmetrical facade made of light grey granite, with buff sandstone light plaques, score lines and base, and an elaborated sandstone entrance portal marked by two dark grey granite columns, upon a plinth of the same material. To the west is a portico. The northeast elevation facing Dupont is made of strip windows with sandstone spandrel panels, arced to engage the library to the Dupont building and into the garden at its core. The interior is organized about a central double height space at the entrance with axes extending north, east and west.

The project for a weekend country house was based on the Georgian Wythe house in Williamsburg, Virginia. The model of the freestanding Georgian house consists in its most basic elements of brick enclosing walls, hip roof, chimneys and openings of varying degrees of elaboration. The Wythe house is among the most austere examples of this prototype.

Our intention in this project was to elaborate upon this most simple of models to accommodate the requirements of the modern country house; to continue, in effect, a 250-year tradition of house-building that has reflected elements of the classical idiom, and of vernacular and modern usage, in varying degrees and intensities, in its accommodation to evolving requirements.

In this project, the basic organization of the whole and the location of decorative elements have followed the classical model, because the model is in fact so accommodating. However, the decorative elements themselves, the openings of each elevation, the entrance hall and stair, draw upon classical, vernacular and modernist precedents but constitute, within the general continuing order, a different and more idiosyncratic language particular to circumstance.

Thus our work is related to aspects of the architecture of the early twentieth century not primarily by form and ornament, though that may be a consequence, but rather by an affinity for the sources and intentions which we attribute to that architecture; that is, a balance, appropriate to circumstance, of elements of classical, vernacular and modernist origins.

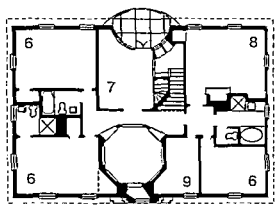


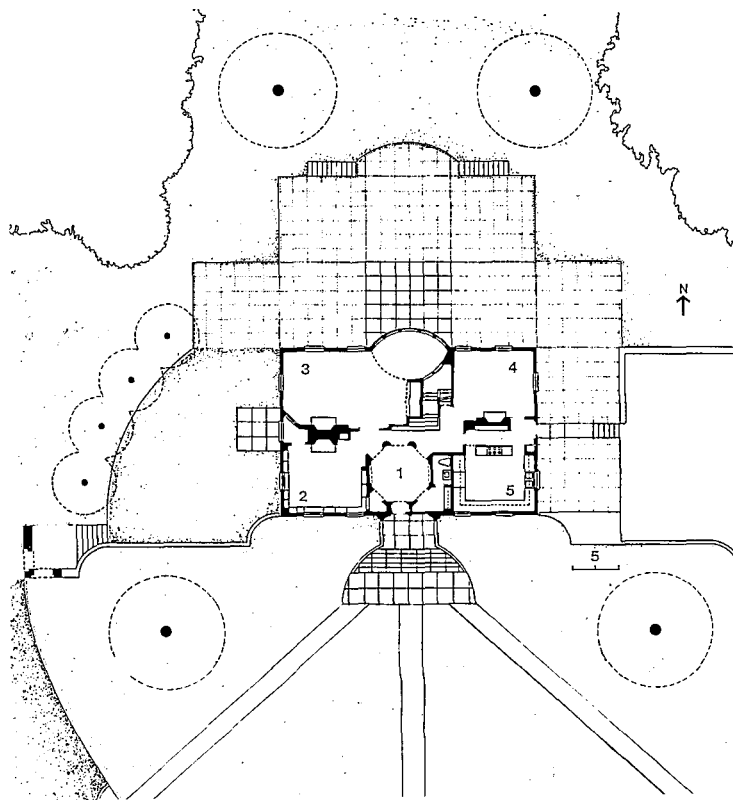
Project for a science library at Swarthmore by R.M. Kliment & Frances Halsba

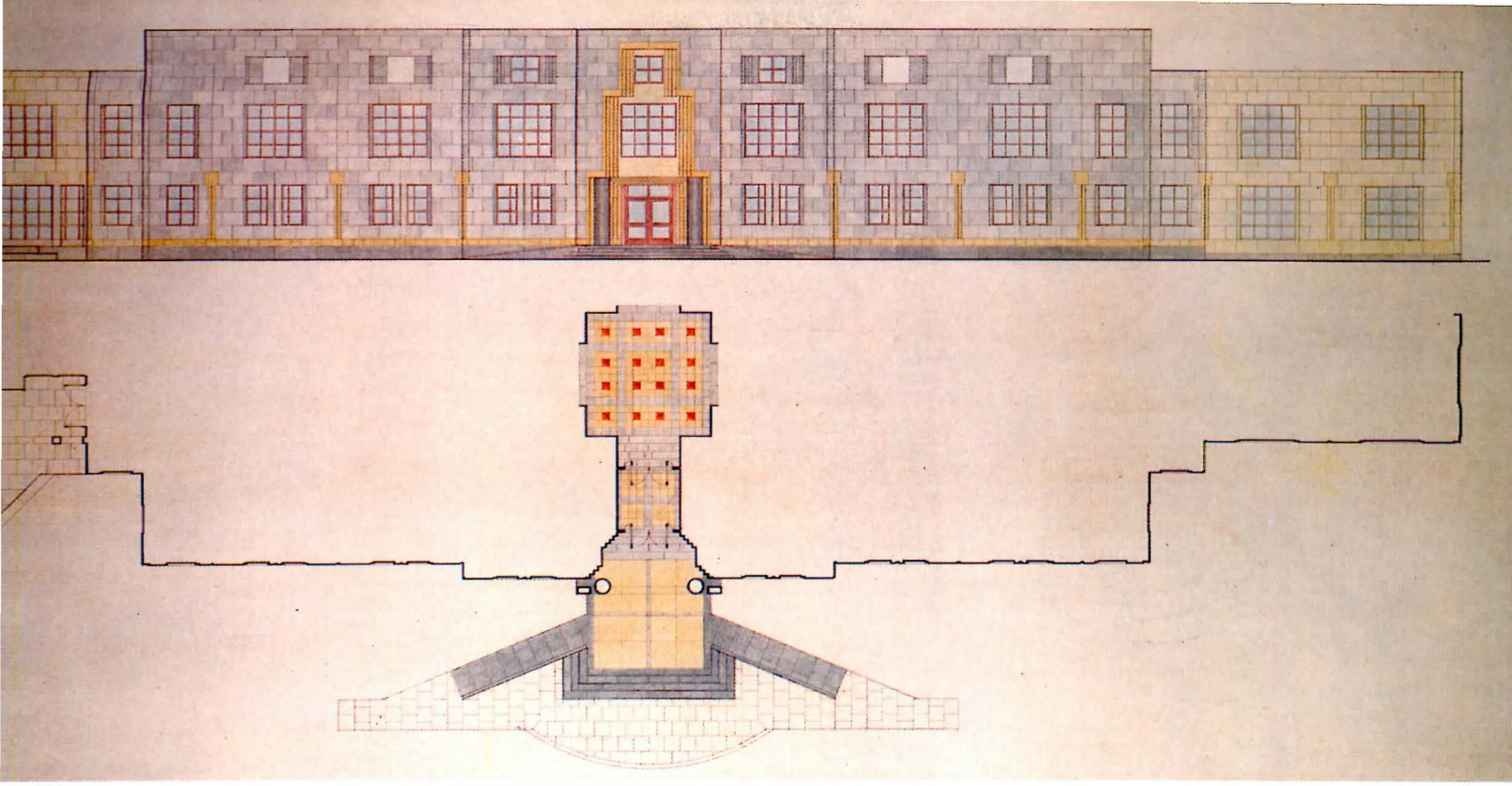
"Our work is related to aspects of the archite

Project for a country house by R.M. Kliment & Frances Halsband Architects

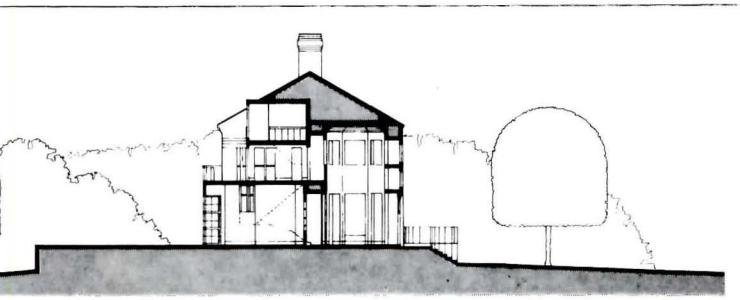
1 Hall
2 Library
3 Living room
4 Dining room
5 Kitchen
6 Bedroom
7 Sitting room
8 Master bedroom
9 Dressing room

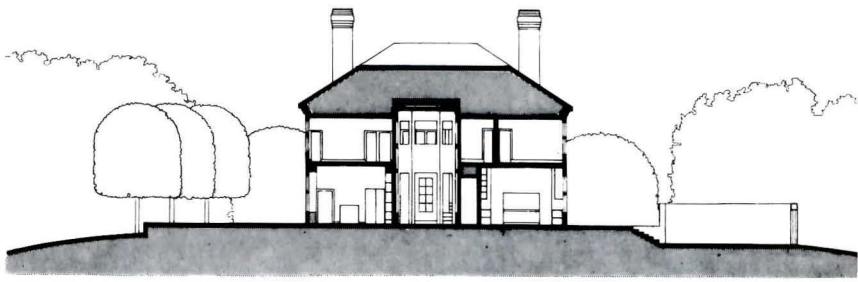


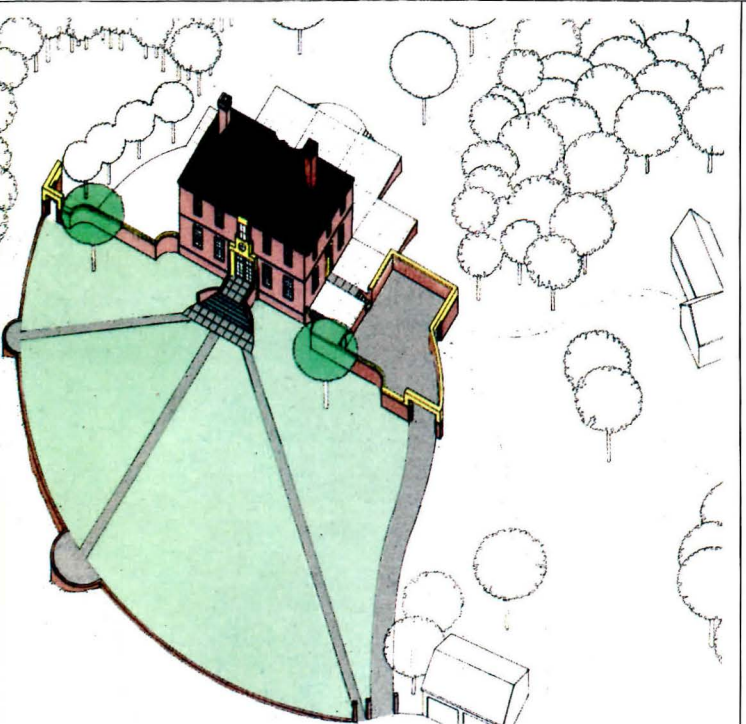


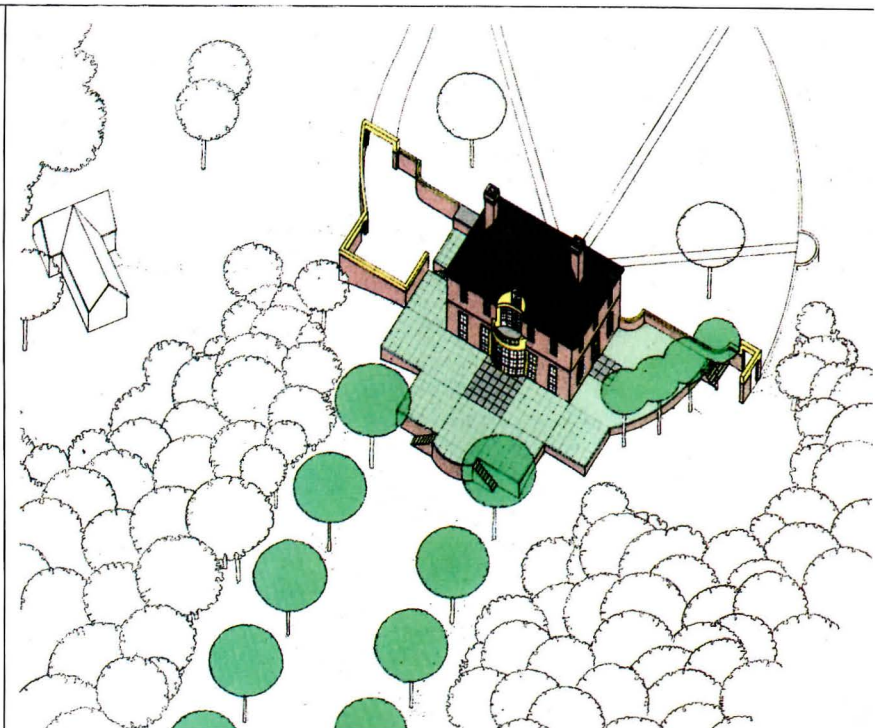


e early twentieth century not primarily by form and ornament . . . "

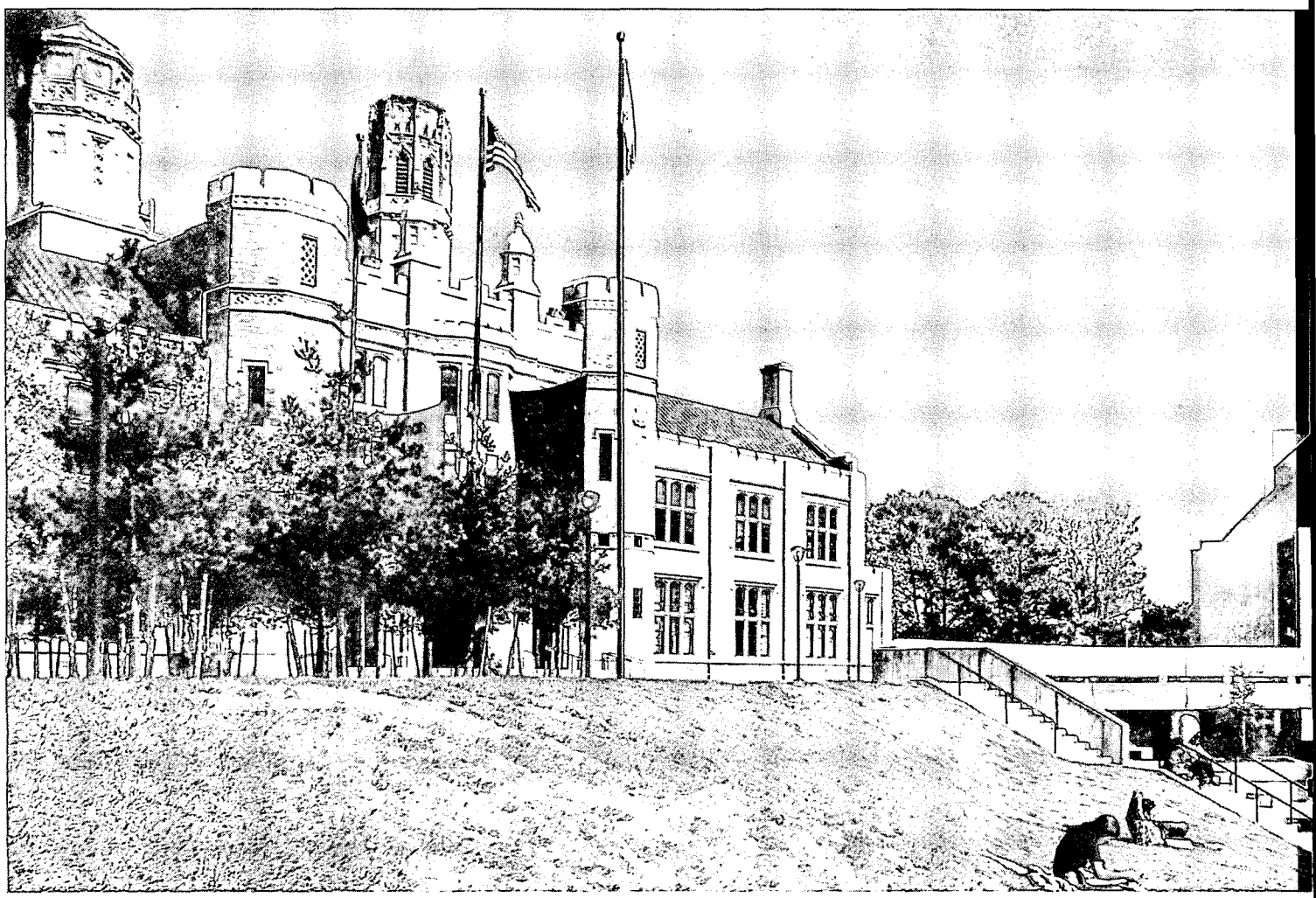








NEW PRIORITIES IN COLLEGE BUILDING



A NEW MASTER PLAN RESHAPES LEHMAN COLLEGE AND ITS LOCATION

Architects Todd/Pokorny have accomplished the difficult feat of reorganizing an outmoded, classical campus plan with sensitivity—redesigning the older buildings for new uses while mixing in large, bold and strikingly modern new buildings in unanticipated locations. In developing their plan for the Bronx, New York location, the architects have addressed both changing urban patterns (which have strongly affected this campus) and the need for more career-oriented programs in this traditionally liberal-arts school (an academic reality affecting colleges everywhere).

The original 1928 plan by architects Thompson Holmes & Converse and Frank Meyers envisioned a formal arrangement of buildings around a large central space, open to the east onto the green lawns of a future Bronx Community College. Those "green lawns" are now, in fact, noisy train yards. And when Todd/Pokorny began work in 1968, only four of the Collegiate Gothic buildings of the original plan were built—and these were subsidiary buildings, not the planned-for grand main building. Together with the train yards on the other side, the missing main building left the central space a vast scaleless relic of earlier intentions.

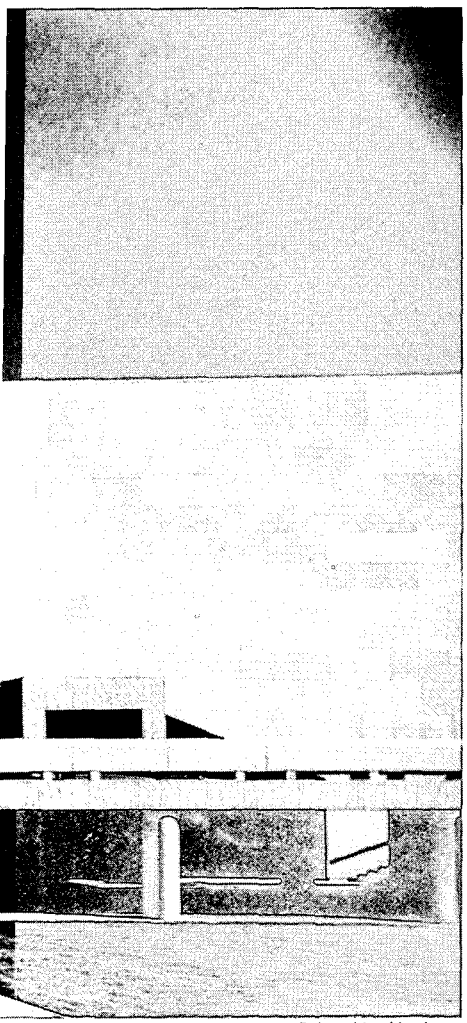
The architects' first important decision was to plan the new library and concert hall as one long building. This closes the eastern end of the central space, insulating it from the train yards, and gives it a tighter, more urban character in keeping with the neighborhood, the scale of the existing buildings, and the realities of controlled entry points needed for security. The rounded end of the concert hall was designed to form a funnel-like, controlled main entry into the central space for all visitors and students.

The second important decision was to excavate the central space and the areas for all new construction to permit a bi-level series of walks—the lower ones covered for inclement weather—and to facilitate construction of foundations in a rock-filled site.

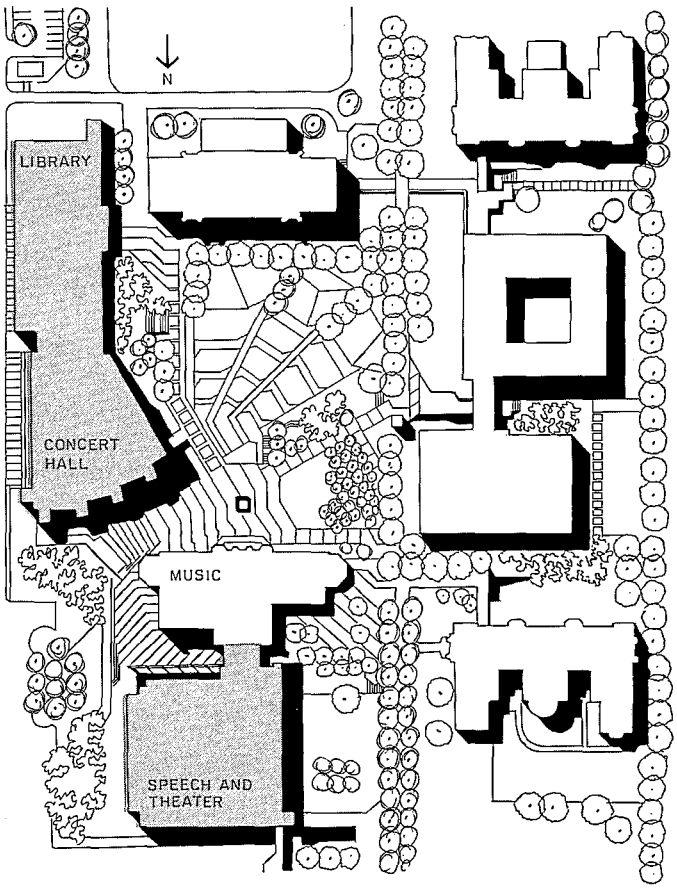
Just as the architects had to make important decisions about adapting an old campus plan to the realities of existing conditions, they had to face the realities of radically altered academic goals that had emerged by 1968, and that continued to change during the planning and construction process. President Leonard Lief regards Lehman as a liberal

ɔw that the pressing needs of the post-war baby boom are over, it is apparent that the main thrust of campus planning will ange. The frantic pressures to build have subsided, and an era of stability lies ahead for most universities and colleges. wo-year colleges, graduate schools, and some under-graduate schools in the Sun Belt can expect continued growth.)

The shift in planning priorities will be from speed and volume to refinement. Even on campuses with shrinking enrollments, w buildings and the remodeling of old ones will be required to accommodate more sophisticated teaching techniques and ɔre specialized programs for the careers that many students have now set for themselves. Schools must also change to commodate more community involvement—often through public cultural and athletic events. (It is no coincidence that all ree projects on the following pages contain theaters.) More importantly, stable enrollments advance the opportunity of fining or even reshaping whole campus plans to bring them into harmony with currently projected enrollments and the realities changing environments.—*Charles K. Hoyt*



Robert Motzkin photos



ts college. "But we have to face the realities f a different world," he says. Eighty per cent f the students work, and the average age as risen from eighteen in 1968 to twenty-six 1981. Accordingly, the school has supple- ented the liberal arts program with voca- ɔnal and professional training for such areers as nursing and computers.

One such program—in performing arts— as given Lehman a particularly attractive raw for certain students, and President Lief xpects that draw to maintain enrollment at ɔout the current 7000-student level, while ther city colleges lose enrollment. It is a very rofessional and prestigious program that has rongly shaped the character of the new cilities and the way others have been emodelled.

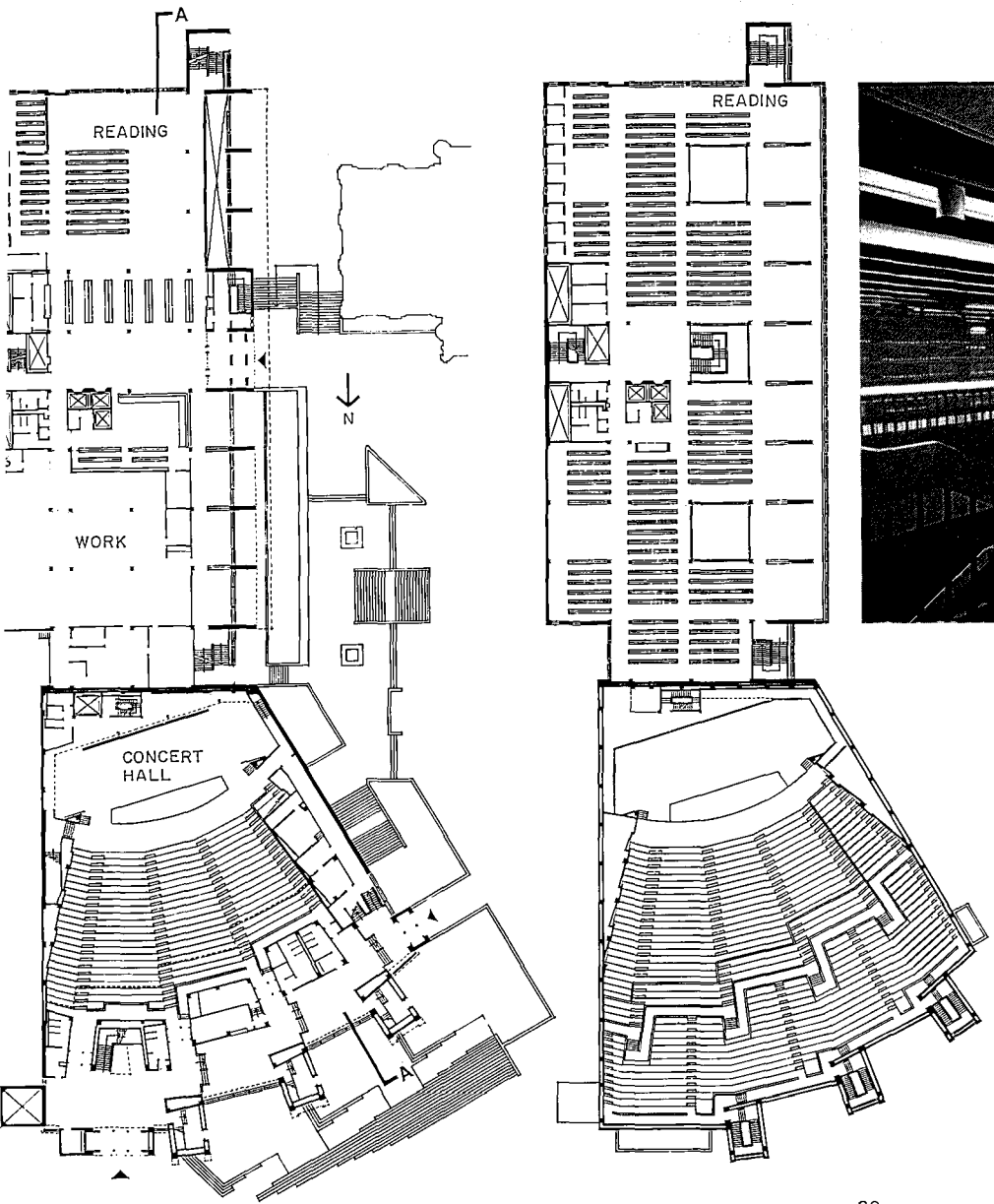
Lehman has four major spaces—and several minor ones—for the full-scale production of plays and concerts. The enormous 2,300-seat concert hall is notable not only for its unusual size but for its fine acoustics—despite an unconventional flaired plan which brings a sense of intimate contact with the stage from the farthest seats. In fact, the hall has attracted widespread critical acclaim and is constantly rented to private producers, who attract major performers to its stage. The result is a perfect match for Lief's intentions that the college expand the services of the campus into the surrounding community.

The other performing arts facilities are located in the new speech and theater building—planned around separate public and production corridors—and in the music building, remodeled by Todd/Pokorny from a student union. They are for the exclusive use of the students, and are also in constant use.

The second major performing arts space is the 500-seat auditorium in the speech and theater building. It is unusual for the very steep rake of its seating (see section overleaf) and again for the resulting intimacy with the stage. According to the assistant director of the performing arts center, Valerie Simmons, the actors had, at first, a difficult time learning to project upwards, but the results have paid off in the all-important interaction of audience and performers. Other facilities for theatrical productions include a cube-shaped "black box" for small experimental plays and a jewel-like recital hall in the auditorium of the former student union.

A new gymnasium has been planned by Conklin & Rossant to be partially underground to preserve the northern open space. It is highest of Lief's present priorities for which he is seeking funding.

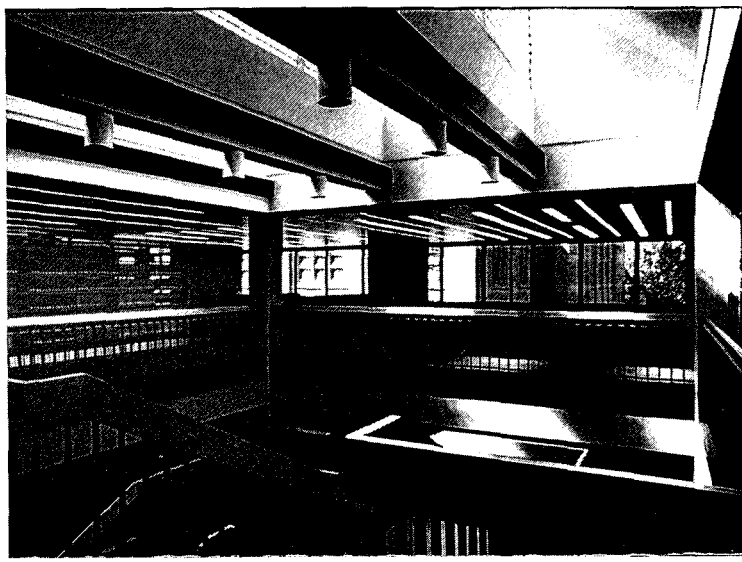
LEHMAN COLLEGE CENTER FOR THE ARTS, Bronx, New York. Owner: *Dormitory Authority of the State of New York*. Architects: *Todd/Pokorny—partner-in-charge: Jan Hird Pokorny; partner-in charge of production: David F. M. Todd; project designers: Stuart Pertz (master plan); Paul Basile (buildings)*. Engineers: *Slocum & Fuller* (mechanical); *Geiger/Berger Associates* (structural); *Eberlin and Eberlin* (site). Landscape architect: *R. T. Schnadebach*. Consultants: *Ranger Farrell & Associates* (acoustical); *Consultants Collaboration* (food services); *McKee-Berger-Mansueto, Inc.* (cost).



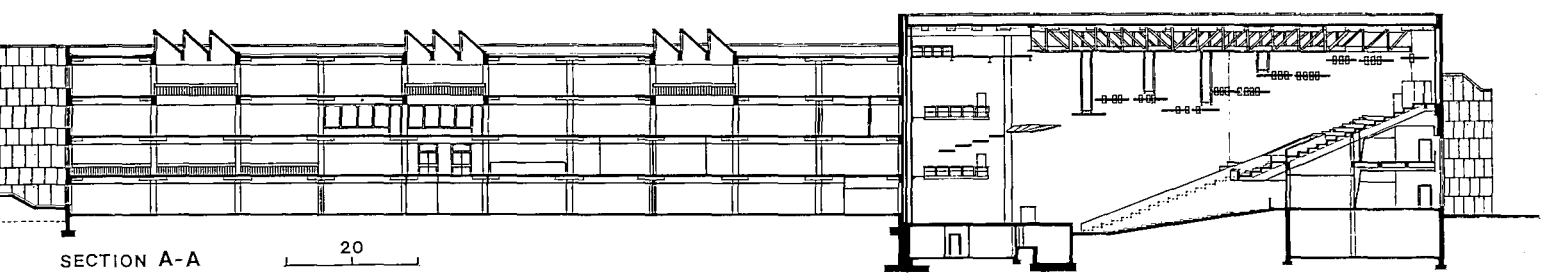
ENTRANCE LEVEL (LIBRARY AND CONCERT HALL)

THIRD LEVEL

20



The unusual fan shape of the concert hall can be seen in the plans and the photos below and opposite. In the latter view, from the remodeled music building across the main campus entry, the effort to integrate new and old esthetics with the sloping roofs of the stair towers can be seen. Also, the architects have made a great effort to match the older fieldstone walls with a variegated limestone facing on all new builings—including the library, visible in the background. Over the top floor of the library, monitors admit light to stairwells and reading areas (photo above). Pokorny regards this as a background, loft-type building, appropriate to its use and budget.



SECTION A-A

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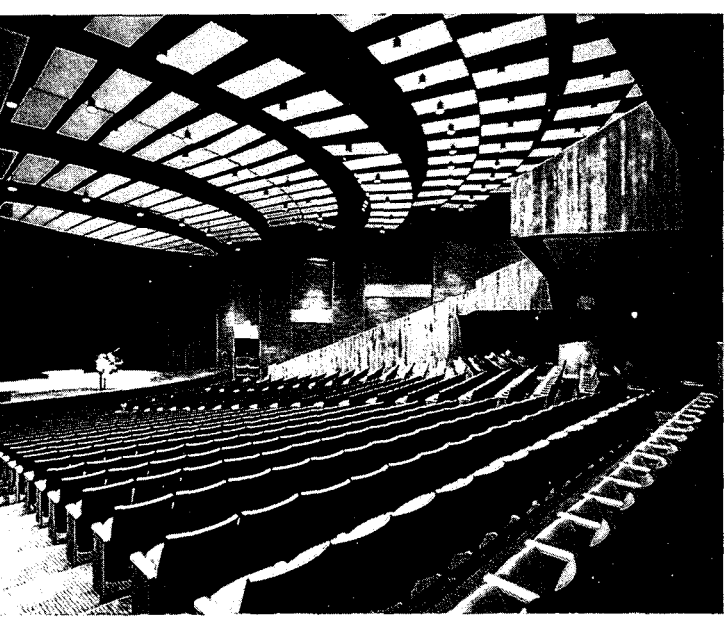
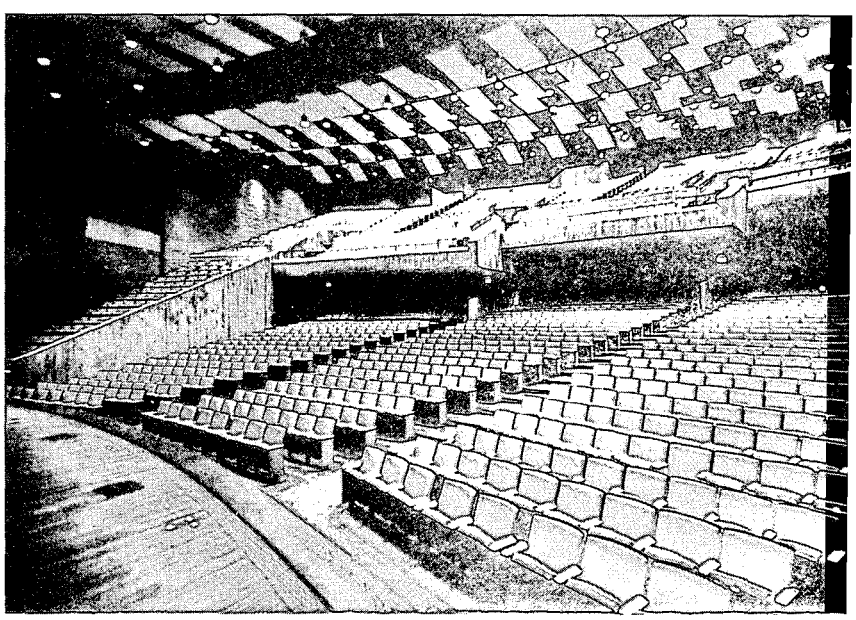
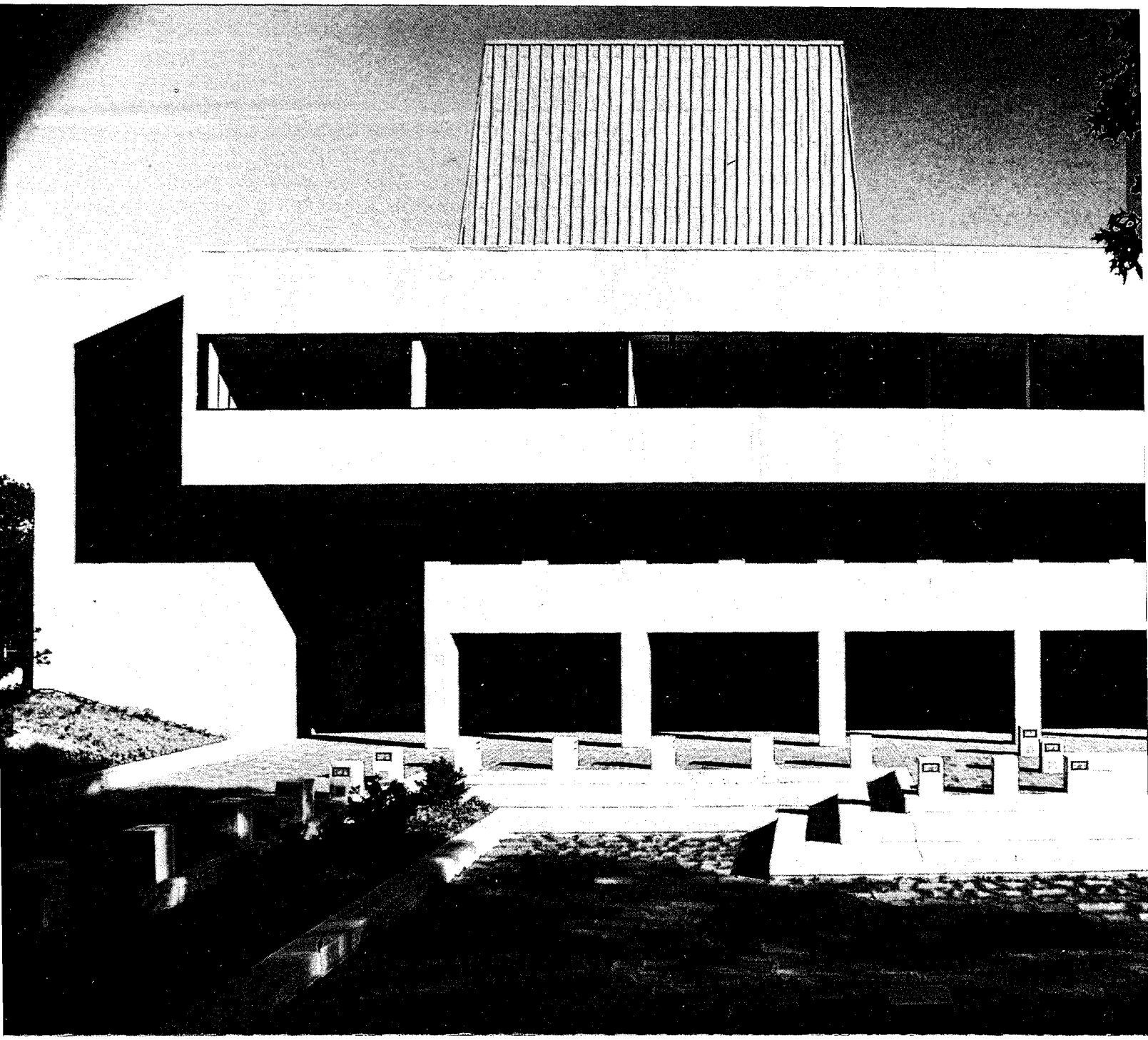
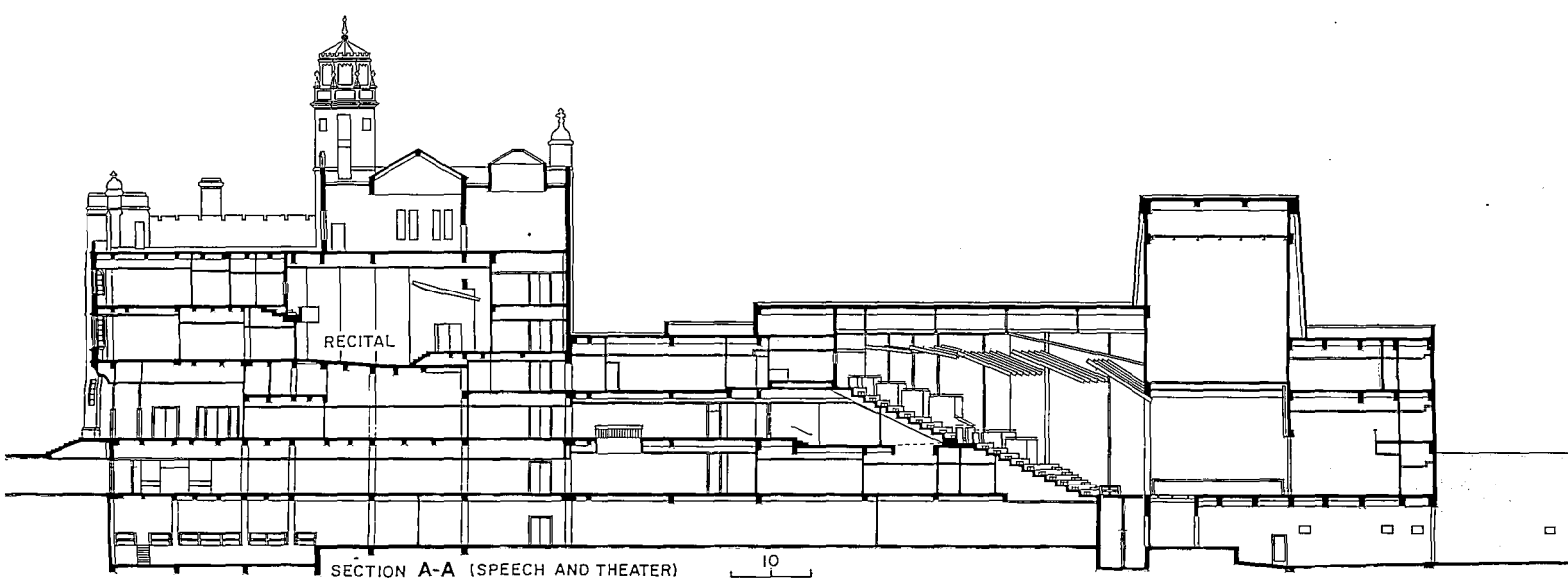
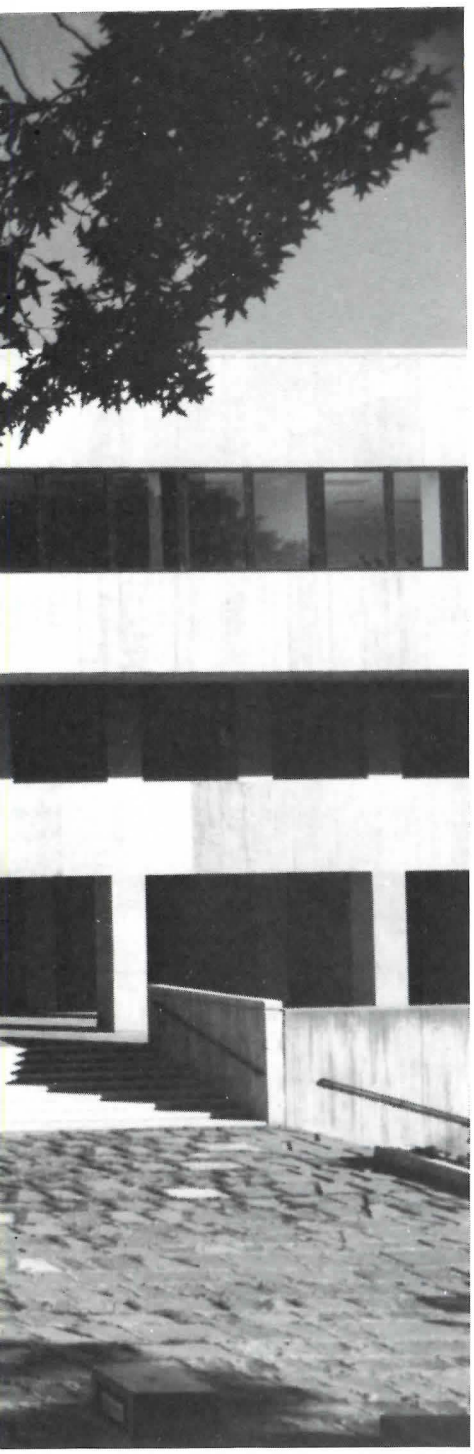


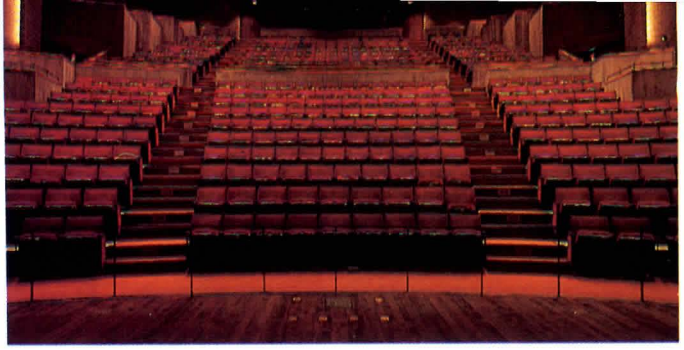


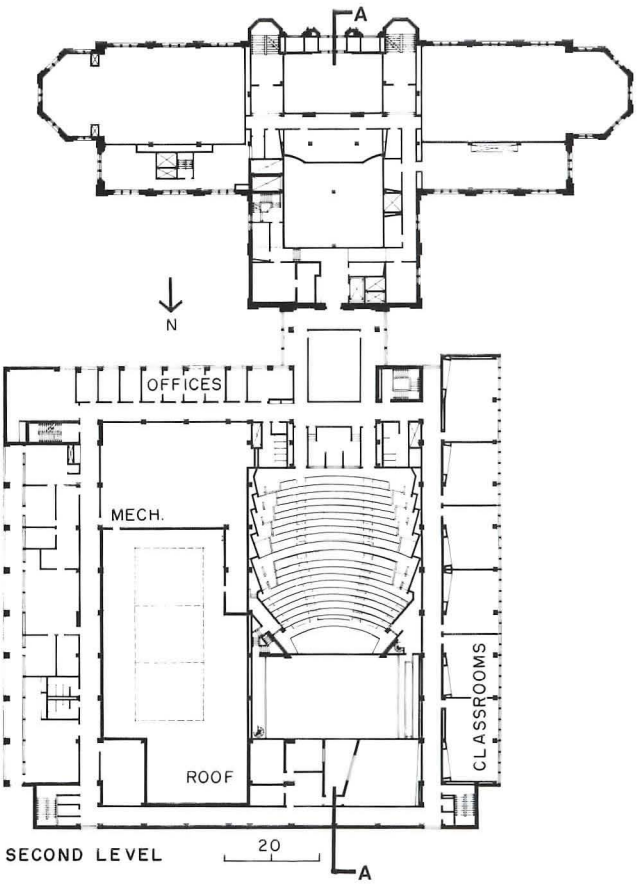




SECTION A-A (SPEECH AND THEATER) 10

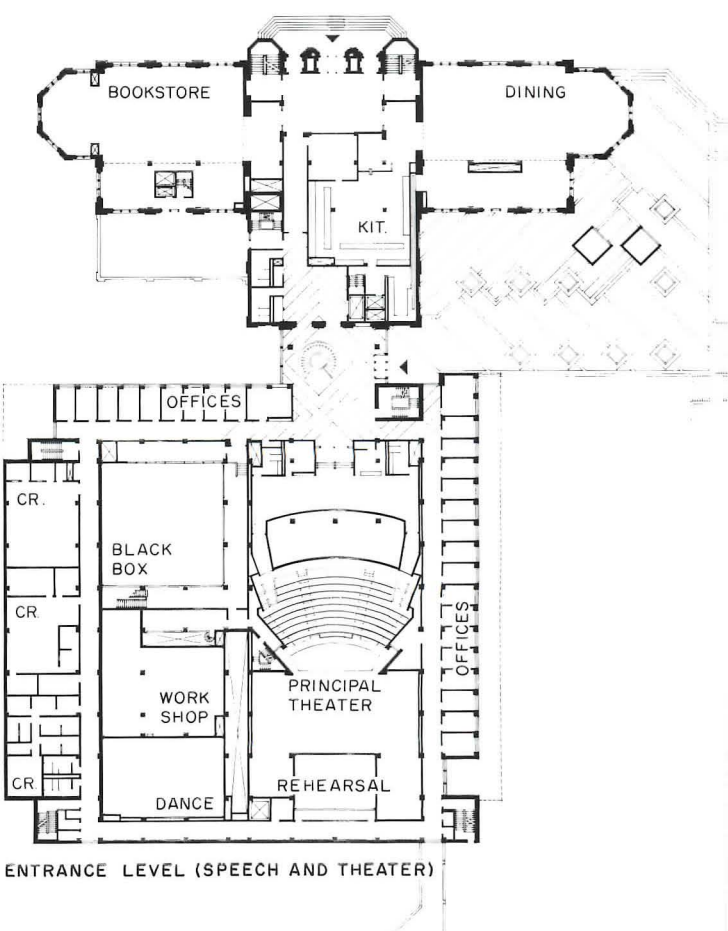






SECOND LEVEL

The unusually steep rake of the main theater in the new speech and theater building can be seen in the smaller photos and section. As in the concert hall, there is a mechanical-lift stage. The stage can be extended in depth by a movable wall that opens up a rehearsal room. Class and practice rooms in this building look out onto a paved courtyard that slopes down to admit light to a cafeteria under the terrace next to the music building. The two buildings are connected by a new lobby, which gives access to performing arts spaces in both.



ENTRANCE LEVEL (SPEECH AND THEATER)

A NEW CENTER UNITES A MICHIGAN CAMPUS

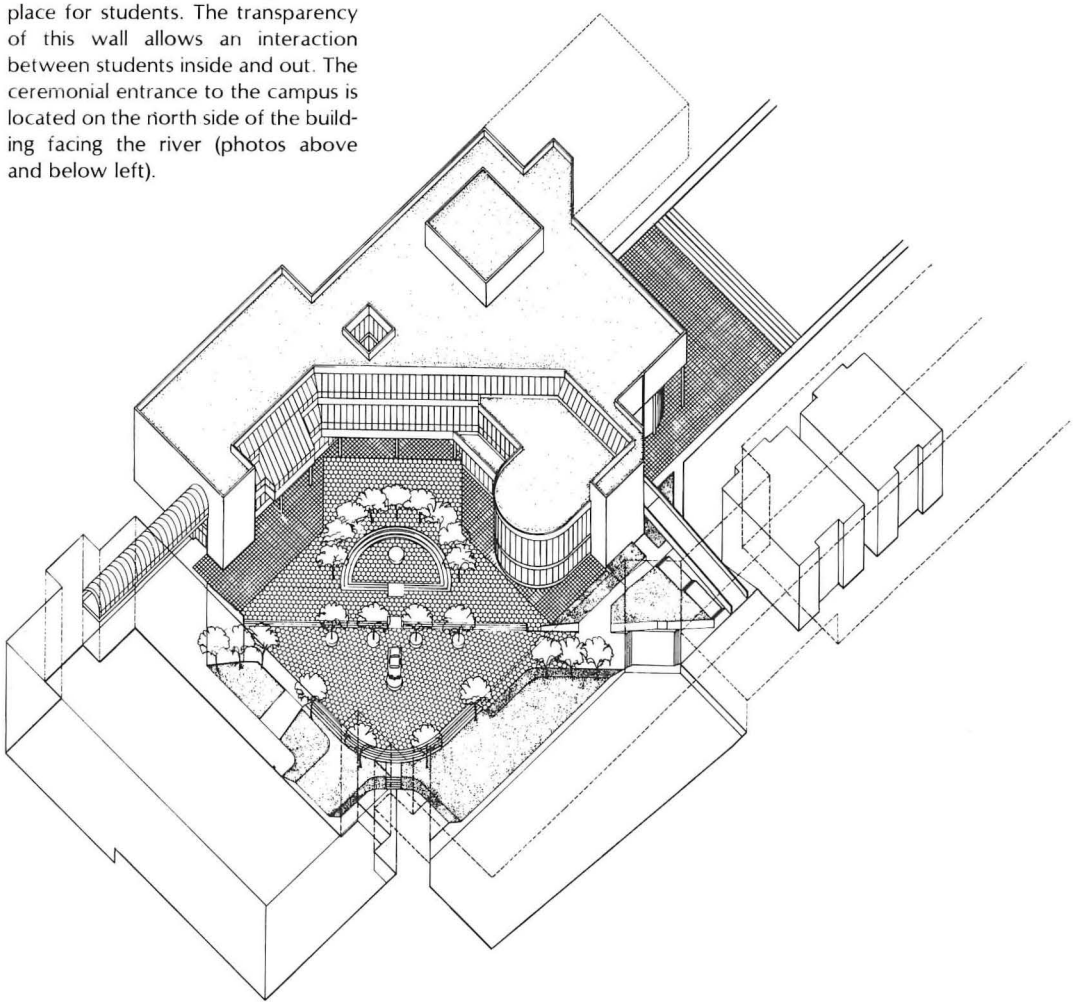
Ulrich Franzen & Associates—working with associated architects Tomblinson, Harburn, Yurk & Associates—have designed, for the University of Michigan at Flint, a new student union. And that new building achieves three important planning goals for a new 8000-student campus on the Flint River.

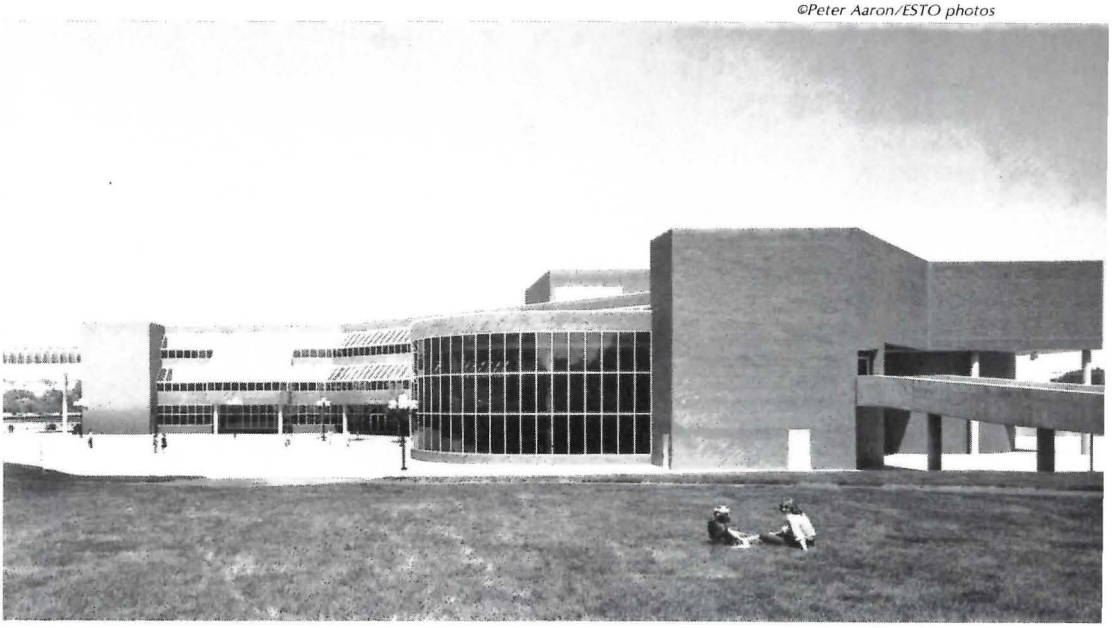
First, because it links groups of buildings at each end of the rectangular campus, it forms a pleasant indoor route between these buildings in a climate that is often harsh. This role (see isometric) is emphasized by a dramatic aerial bridge with a curving transparent acrylic roof leading to an adjacent building, and yet another bridge and a direct connection to future campus buildings.

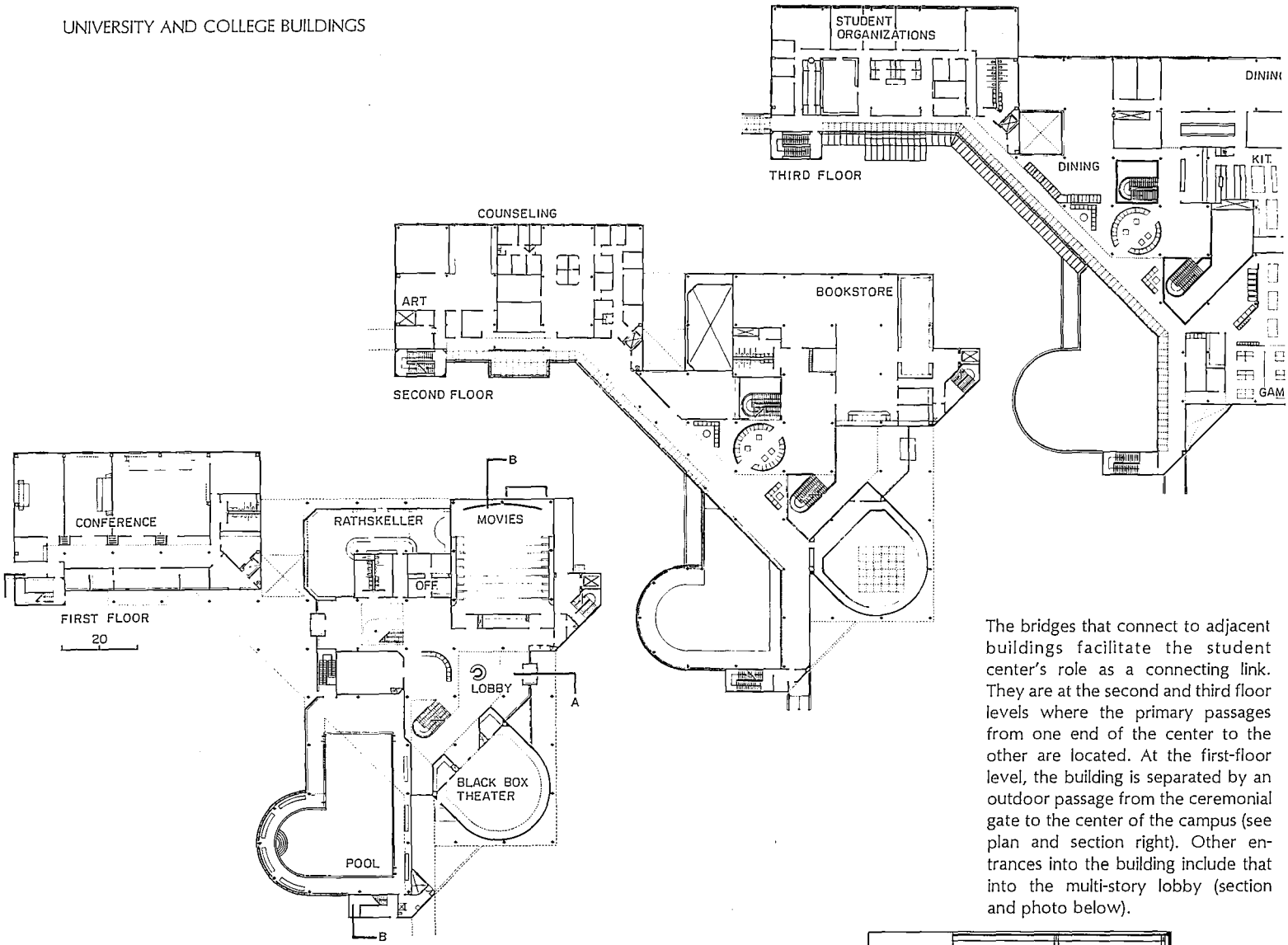
The second role of the student union is to give definition to the northern edge of the campus and to create an outdoor terrace appropriately scaled and shaped to become a student gathering place during good weather. Beyond this edge of the campus, a strip of land along the river is being developed as a park, which will be linked to the central space by a passage through the building at its midpoint.

The third planning role that the new building achieves is to provide a formal entrance to the campus—and the architects have emphasized this role by the two significantly different scales of the park facade (see photo right). One facade sets back and has a strong large-scale massing. A ceremonial gate is formed by a freestanding segment of the buff-gray masonry walls (see small photo, top). The other facade sits forward, and has a

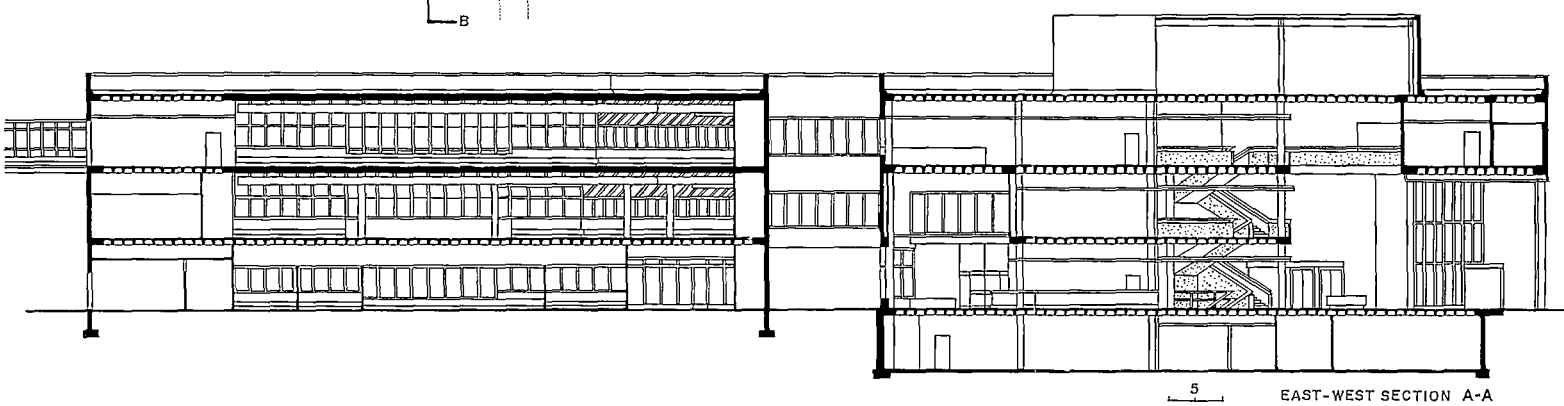
Large areas of glass make a variety of forms on the south wall. Those forms help to mold the central part of the campus—which they partially enclose—into a pleasant gathering place for students. The transparency of this wall allows an interaction between students inside and out. The ceremonial entrance to the campus is located on the north side of the building facing the river (photos above and below left).







The bridges that connect to adjacent buildings facilitate the student center's role as a connecting link. They are at the second and third floor levels where the primary passages from one end of the center to the other are located. At the first-floor level, the building is separated by an outdoor passage from the ceremonial gate to the center of the campus (see plan and section right). Other entrances into the building include that into the multi-story lobby (section and photo below).

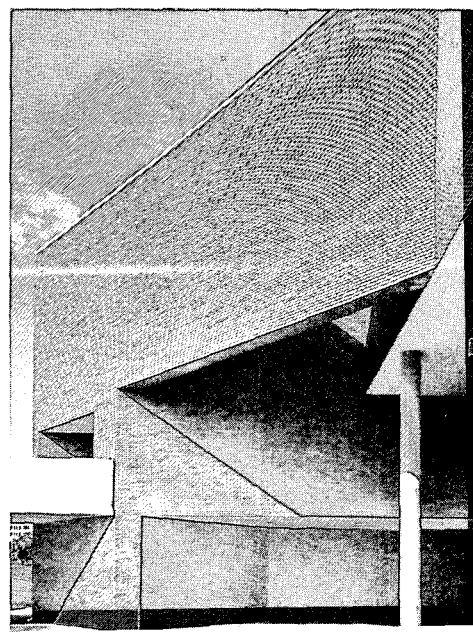


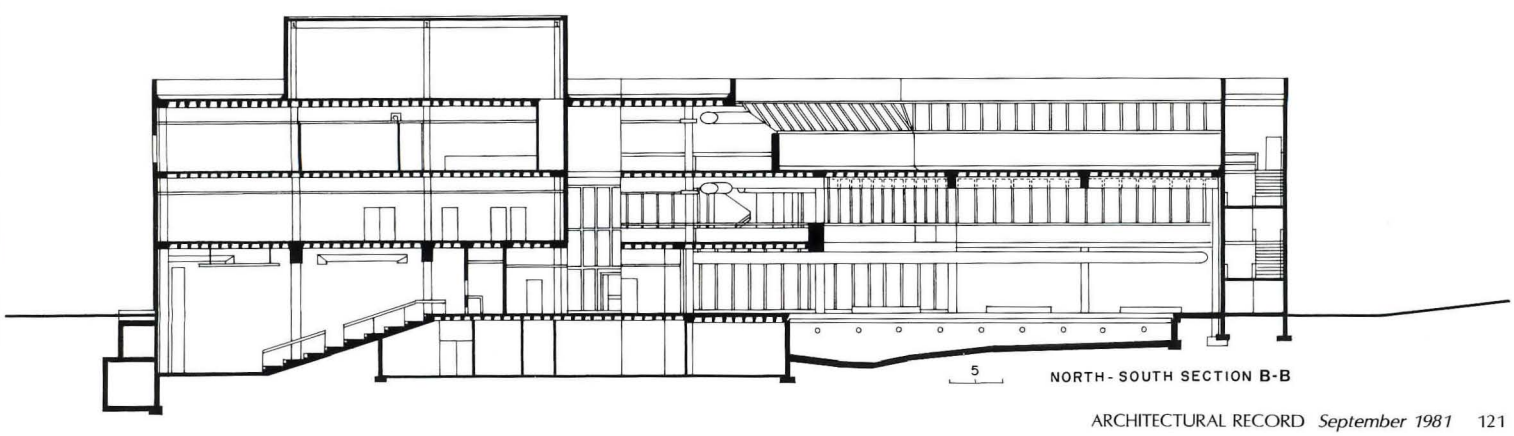
smaller-scale more open facade related to the park. However—as these facades both face north—neither has as open a character as might otherwise be expected. Instead, the openness was reserved for the sunny south side.

The student center was conceived to offer an unusually broad range of amenities within a single building—again reducing the need for outdoor walks in the winter. The large glass areas admit sunlight to a variety of spaces for student clubs and organizations, dining, arts and crafts, counseling, health care, and different lounges for socializing, games and reading. The most unusual facility is a swimming pool intended solely for leisure use.

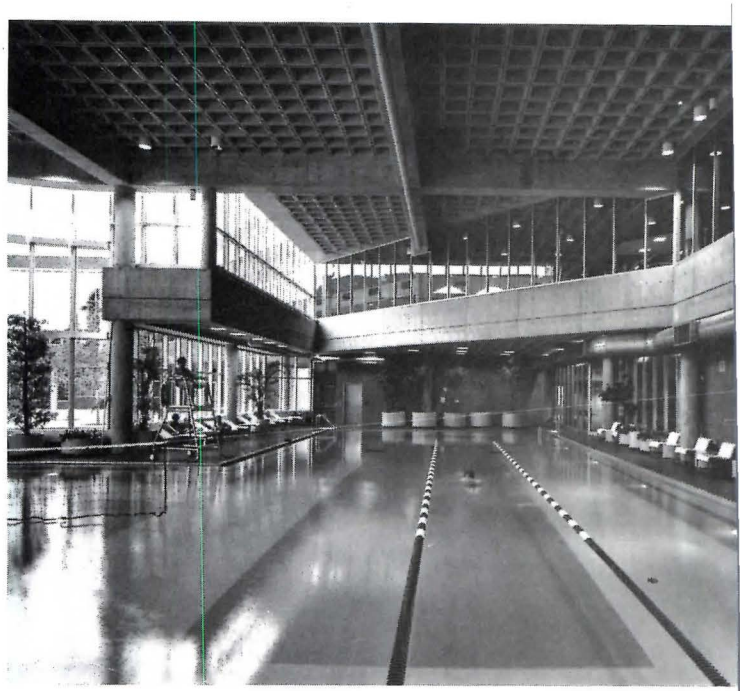
Other facilities include a rathskeller, an art gallery, a convenience-book store and an experimental theater—as well as a room with a floor of carpeted steps for movies, lectures and community functions. The building's concrete structure has been expressed by exposed coffered ceilings in many of the larger spaces.

UNIVERSITY CENTER, Flint, Michigan. Owner: *University of Michigan, Flint—director of campus development: Robert Wilson.* Architects: *Ulrich Franzen & Associates—associate-in-charge: Samuel Nylen.* Associated architects: *Tomblinson, Harburn, Yurk & Associates.* Engineers: *McClurg & McMillan* (structural); *Fuerstenberg, Crompton & Associates, Inc.* (mechanical/electrical). Consultants: *Stephens-Bangs Associates Inc.* (food service); *Auer/Nichols* (interiors). General contractor: *Sorensen-Gross Construction Company.*

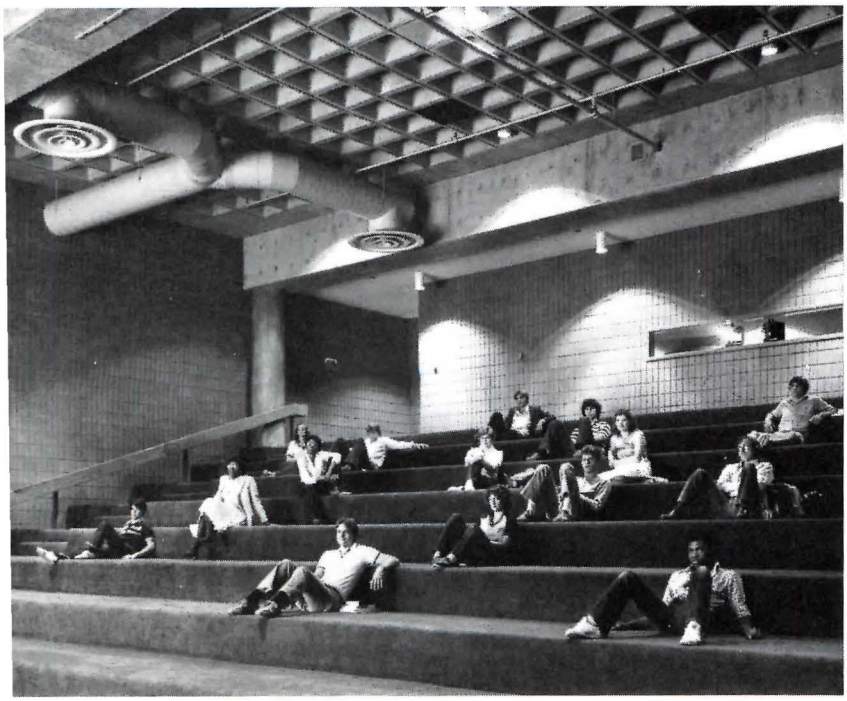


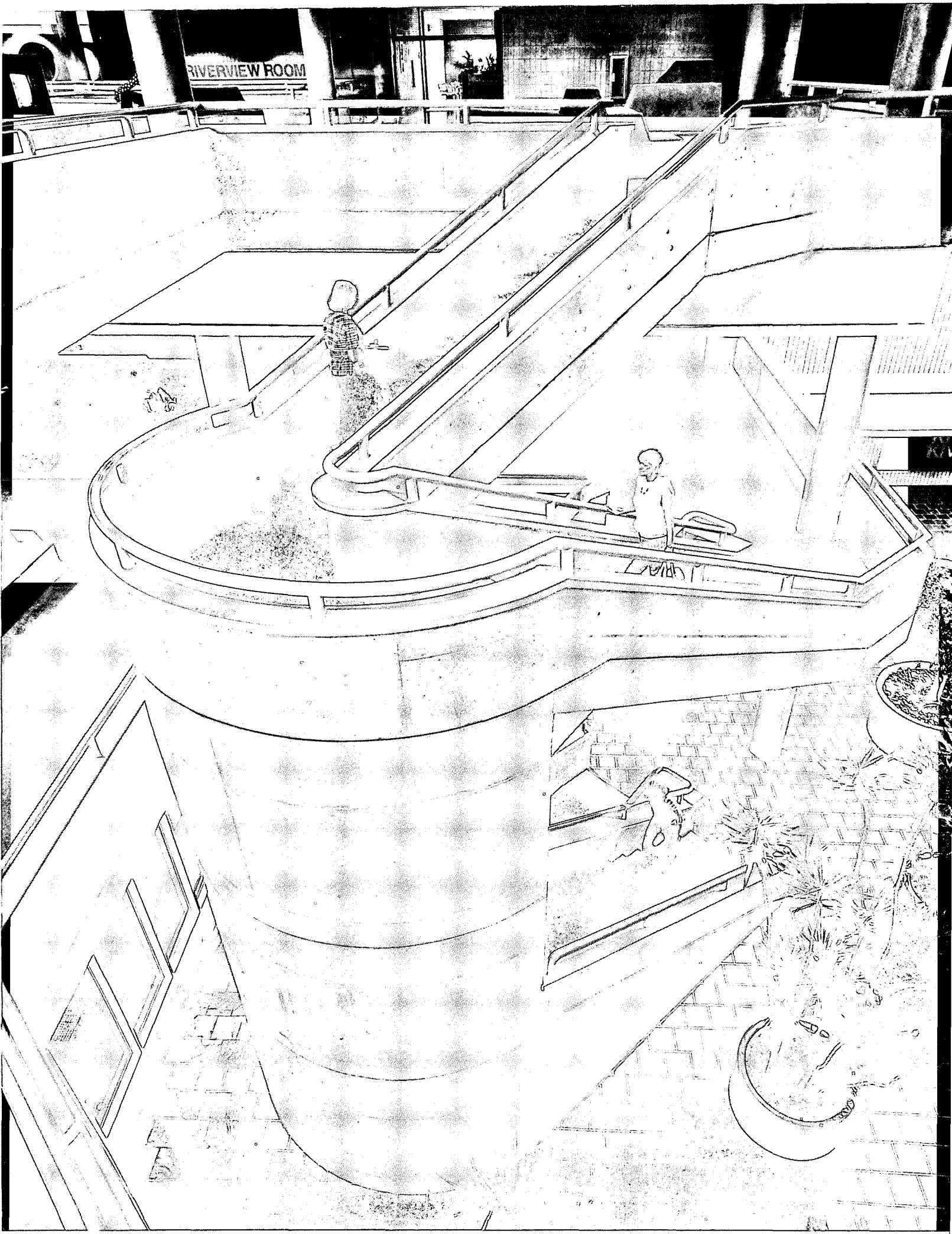


NORTH-SOUTH SECTION B-B



The passages between bridges are connected by a dramatic stair in the main lobby (photo far right), and by other secondary stairs. The pool is located in the two-story space with the curving glass wall that plays such an important role in shaping the central part of the campus. The architects have brought a sense of liveliness to the building by making the pool visible from outside, from the high central lobby, and from the passages above. The lounges for various types of activities are located under the sloping sections of the south-facing glass roofs and are filled with sunlight on good days. The main spaces have exposed coffered concrete ceilings—like that in the stepped and carpeted room (photo below) which is used for movies, lectures and community functions. Concrete in a variety of finishes also forms the walls of the main lobby and emphasizes the building's tough durable nature.




RIVERVIEW ROOM

THE VAST STONY BROOK CAMPUS ON LONG ISLAND GETS A FOCUS

Architects Damaz, Pokorny, Weigel took over the master planning for this 1,000-acre New York State campus in 1965 and have coordinated the work of up to five separate architectural firms working on far-flung centers for science, math, engineering, medicine and the humanities. The architects have developed a straightforward design language for all of the buildings and established consistent materials: buff-colored concrete and warm brown brick. Their input began at a time when the university was changing from a small institution in scattered neocolonial buildings to a giant campus projected to have 25,000 students (although that projection has now dropped to about the current enrollment of 16,000).

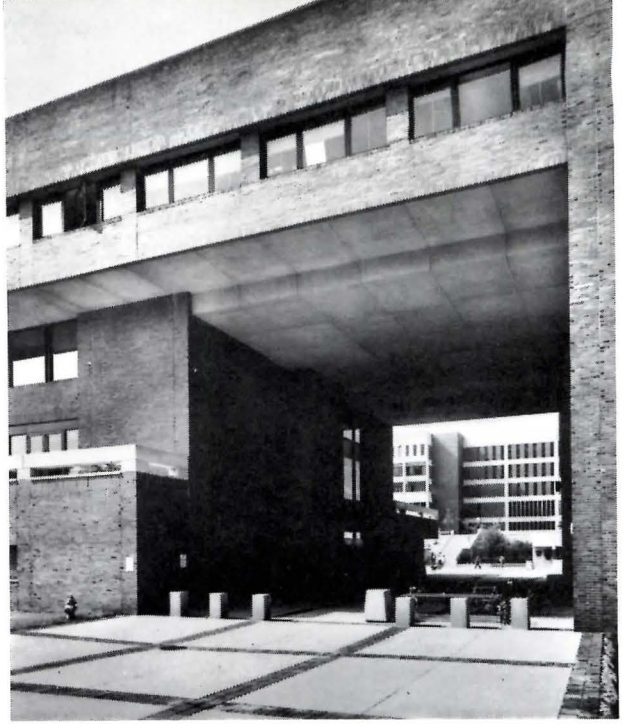
The architects wanted a design language that would be appropriate to the new scale. For the small older buildings that were to remain, Jan Pokorny simply recommended planting ivy.

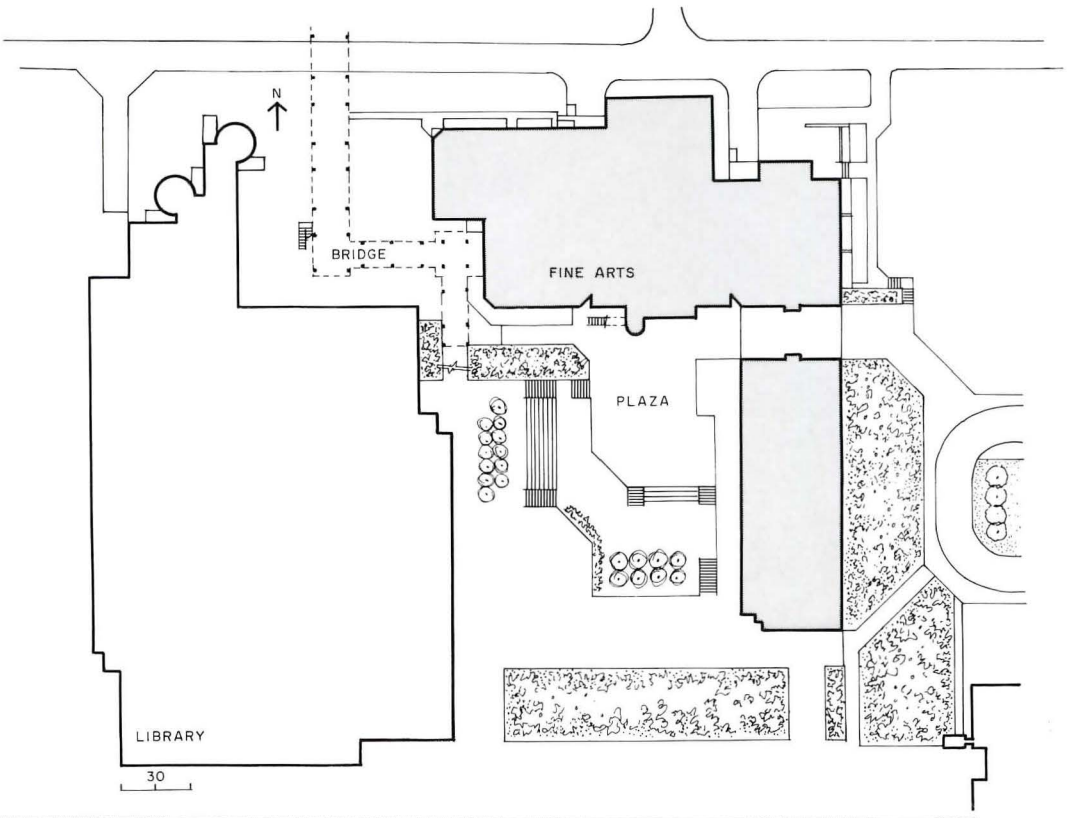
Damaz, Pokorny, Weigel's own buildings are those that surround the heart of the campus—a terraced hillside plaza where students of all of the many separate disciplines can meet. There is a student union, connected by an elevated walkway to the north; a library; and the most recent building, which is shown here: an L-shaped fine-arts center which encloses two sides of the plaza, giving the plan not just a sense of containment but a symbolic ceremonial entrance through a three-story-high portal (see small photo above and right side of plan). The architects had also planned a beacon-like tower for the university's administrative offices on the fourth side of the plaza—but the drop in expected enrollment has left this project in question.

There are five theaters in the north wing. The major theater has 1200 seats, is designed for a wide range of performances—plays to opera, and is piggy-backed over a 400-seat recital hall. Sharing extensive production facilities are three experimental theaters in which the audience and stage can be arranged in a variety of relationships. All of the theaters open off of a large multi-story lobby, which also gives access to an art gallery for intermission enjoyment. The south wing holds a variety of seminar rooms, offices, and music practice spaces, all arranged around large skylit studios for art on the top floor and

Norman McGrath photos

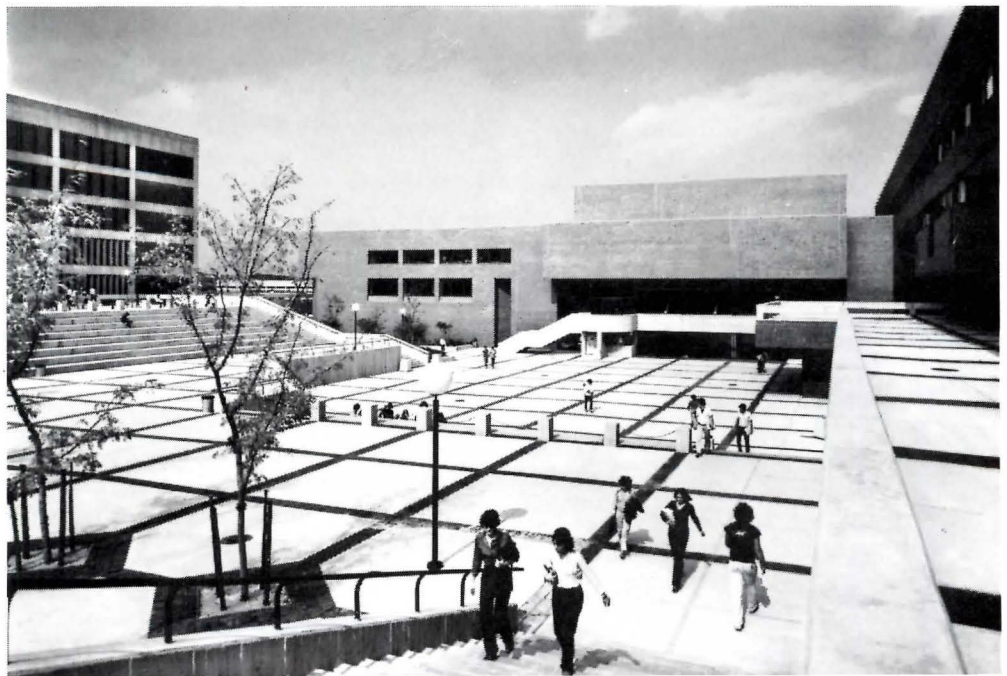
The architects were asked to take over master planning for the entire campus and the design of the library (left in bottom photo and plan) and the new fine-arts center (all photos and right in plan). Together these form a nucleus for the campus and enclose a central plaza that is usually filled with student activity. Without a tower once planned for the south side, the high terraces supply much of the desired sense of containment, and the vista above the terraces to green trees provides a delightful bucolic surprise, unexpected when approaching the monumental entry (photo right).

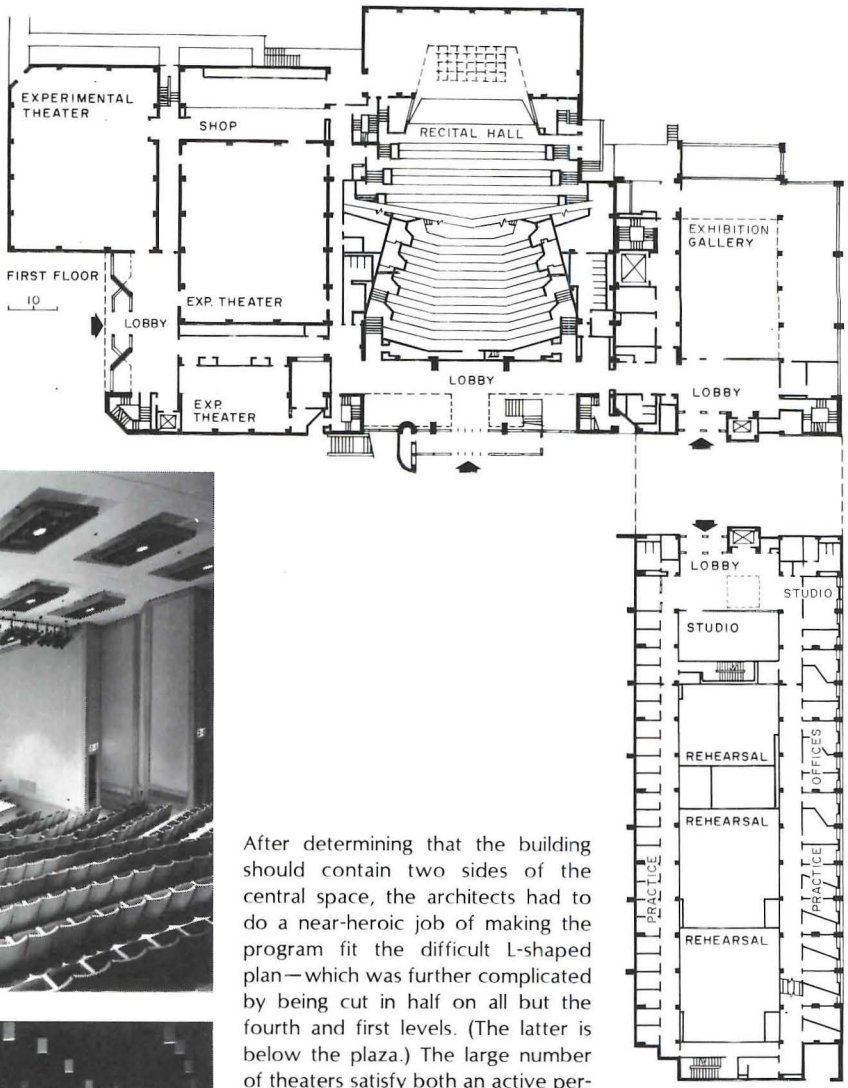


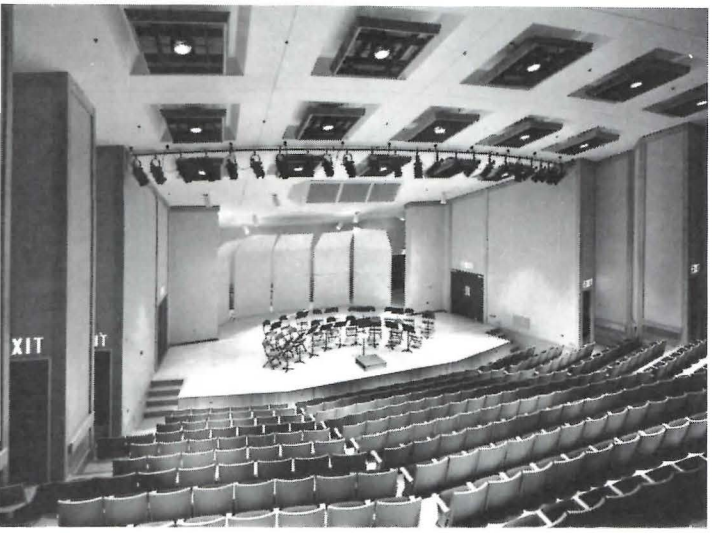


ehearsal and classrooms on the floors elow.

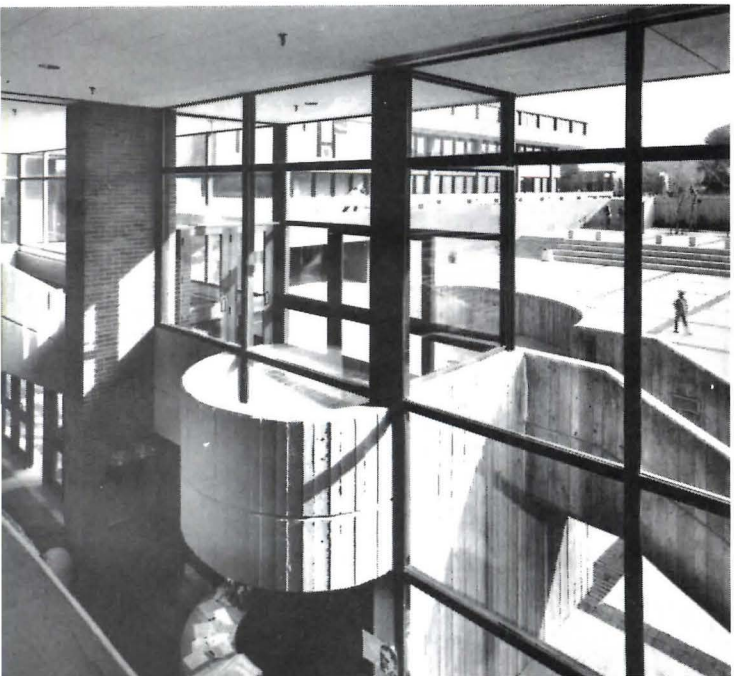
INE-ARTS CENTER, NEW YORK STATE UNIVERSITY .T STONY BROOK, Stony Brook, New York. Own- r: *State University Construction Fund.* Architects: *)amaz Pokorny Weigel—associate in charge of roject management: Arthur J. Costello; designers: eslie Armstrong and James Hadley.* Engineers: *.tlas-Balogh Associates* (structural). *Seelye, Steven- on, Value & Knecht* (mechanical/electrical); Con- ıltants: *Bolt, Beranek and Newman Inc.* (acousti- al); *Howard Brandston Lighting Design Inc.* (light- g) *Nissim Zelouf* (cost); *George C. Izenour Asso- iates Inc.* (theater). Landscape architect: *Dan Kiley nd Partners.* General contractors: *J. F. O'Healy onstruction Corp.* (Phase I); *A.D. Herman Con- ruction Co., Inc.* (Phase II).





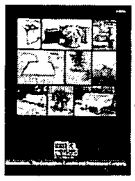


After determining that the building should contain two sides of the central space, the architects had to do a near-heroic job of making the program fit the difficult L-shaped plan—which was further complicated by being cut in half on all but the fourth and first levels. (The latter is below the plaza.) The large number of theaters satisfy both an active performing arts curriculum and a desire for community involvement through public cultural events. There is a concert hall (top photo left) and a large theater (bottom) with an acoustic shell that drops over the stage so that the theater can be used for concerts as well. Three black box theaters (the largest shown at right) allow for flexible arrangements of performers and audience. The lobby (photos below left) gives access to all of the theaters. The art studios (right) are skylit by the rooftop monitors.



OFFICE LITERATURE

For more information, circle item numbers Reader Service Inquiry Card, pages 195-1



SITE FURNISHINGS / Benches, planters and trash receptacles are shown in a color catalog. Products are made of solid oak and other woods, and gel-coated plastics. ▪ Woodcrafters of Florida, Inc., Jacksonville, Fla.

circle 400 on inquiry card

COST EFFICIENT LIGHTING / An advance brochure explains how owners can reduce lighting energy costs and increase light output by using HID lighting systems other than Mercury Vapor. These newer sources—HPS, LPS, and metal halide—are shown to be a practical alternative to Mercury vapor light. ▪ Advance Transformer Co., A North American Philips Co., Chicago.

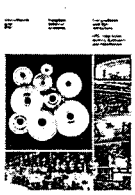
circle 401 on inquiry card

BATH IDEAS / "Elegance" booklet contains 40 pages of ideas for bathroom, powder room and kitchen, and features spas, shower coves, decorative faucets and accessories, all types of sinks, toilets, etc. Brochure helps with product selection, color coordination and decorating. ▪ Kohler Co., Kohler, Wisc.

circle 402 on inquiry card

VINYL WALLCOVERING / A brochure on *Diffracto-Lite* metalized plastic shows how the textured wallcovering reflects and diffracts ambient light in office, hall and reception areas. *Diffracto-Lite* is fire-retardant, non-toxic, and resists stains and tears. ▪ Coburn Corp., Lakewood, N.J.

circle 403 on inquiry card



INDUSTRIAL LUMINAIRES / A 16-page catalog lists the advantages, applications, product specifications and ordering details of a full line of industrial *Holophane* luminaires. Included are *Prismpack, Lobay, Petrolux* and *Cranelite* fixtures. There is a worksheet for calculating energy savings. ▪ Johns-Manville Sales Corp., Denver, Colo.

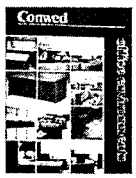
circle 404 on inquiry card

SAFETY/SECURITY / Over 100 products, ranging from alarm service systems and anti-slip surfaces to surveillance cameras and traffic control systems, are cataloged in a 22-page brochure. Products for four industry segments are listed: commercial, occupational, transportation and residential/personal. ▪ 3M, St. Paul, Minn.

circle 405 on inquiry card

COPIER PAPER / A paper swatch book sampler contains papers for *Xerox* copiers, all other plain paper copiers, offset presses, spirit duplicating and general office use: 41 different papers from 16 lb Dual Purpose to 110 lb Index Stock. ▪ Xerox Corp., Rochester, N.Y.

circle 406 on inquiry card



OFFICE SYSTEMS / An "Interior Environment" brochure describes the importance of the interaction of office components for productivity, design and operating efficiency. Furniture systems, acoustical panels, ceilings, wall treatments, casegoods and lighting are covered. ▪ Conwed Corp., St. Paul, Minn.

circle 407 on inquiry card

ELECTROSTATIC COATINGS / Application sheets describe the time- and cost-saving benefits of renewing fences, office furniture, lockers—almost any metal surface—with spray-applied electrostatic coatings. ▪ National Electro-Coatings, Inc., Westlake, Ohio.

circle 408 on inquiry card

SOLAR GREENHOUSE / A full-line color catalog presents free-standing, lean-to, and even-span greenhouse structures, and includes watering and ventilation options, controls, gauges and heaters. Dimension, construction and price information is given for each product. ▪ J. A. Nearing Co., Inc., Laurel, Md.

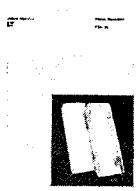
circle 409 on inquiry card

MOVABLE PARTITIONS / Written for architects and contractors, this booklet compares costs of movable partitions with those of fixed walls. A table with a 20-year financial analysis compares eight variables, including tax savings on depreciation and investment tax credits that affect the long-term costs of movable and fixed partitions. ▪ United States Gypsum Co., Chicago.

circle 410 on inquiry card

CERAMIC TILE / Color product data sheets illustrate residential applications of *Romany-Spartan* tile on floors, walls and counter tops. All color options and available sizes, shapes and trim are shown. ▪ United States Ceramic Tile Co., Canton, Ohio.

circle 411 on inquiry card



FIBERGLASS INSULATION / "FS 25" flame-resistant commercial ins lation is described in a data shee which provides hazard ratings, su gests applications, and lists availab batt thicknesses and R-value ▪ Johns-Manville Sales Corp., De ver, Colo.

circle 412 on inquiry ca

FLEXIBLE SEALANTS / The "Comb flex" system described in a produ brochure can seal both sides cracks and joints in concrete stru tures without transferring stress fro one side to the other. The literatu cites typical applications and giv detailed instructions for installing t joint-sealing system. ▪ Sika Corp Lyndhurst, N.J.

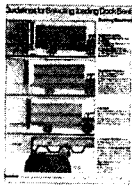
circle 413 on inquiry ca

MAKE-UP AIR / A 10-page brochu is concerned with make-up air a door heaters in ratings from 2,000 16,000 cfm, with heating outputs to 2 million Btuh. All *Jackson Church* units are gas fired. ▪ Yor Shipley, Inc., York, Pa.

circle 414 on inquiry ca

PLUMBING SPECIALTIES / A full illustrated 72-page catalog for hote schools, institutions and food servi operations covers lines of faucet fittings, pre-rinse assemblies, bubbl valves and utility faucets. ▪ Fish Mfg. Co., Los Angeles.

circle 415 on inquiry ca



DOCK SEALS / "Guidelines for S lecting Loading Dock Seals," a tw page pamphlet, illustrates the mo common problems associated wi building and truck condition ▪ Bondor, Div. Gilmore-Kramer Co Inc., Providence, R.I.

circle 416 on inquiry ca

INSULATED DOOR SYSTEMS / A illustrated bulletin explains how insu lated RubbAir door systems se against loss of heat, humidity, refri eration, and conditioned air in indu trial plants and commercial establish ments. Examples include meat coo ers, printing plants, supermarkets an hospitals. ▪ RubbAir Door, Div. Eck Industries, Ayer, Mass.

circle 417 on inquiry ca

more information, circle item numbers on
der Service Inquiry Card, pages 195-196

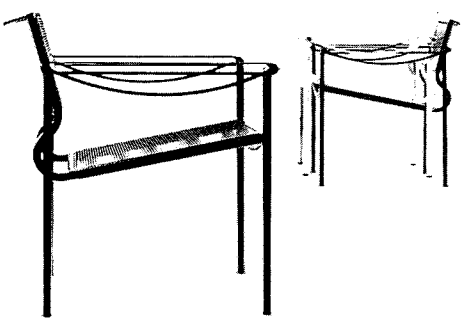
DESIGNER'S SATURDAY '81

Gilbert Lesser design ©Designer's Saturday, Inc.

Designer's Saturday 1981—the largest interior furnishings show in the Northeast—will have 37 manufacturers exhibiting their newest products to architects and interior designers. Having in recent years expanded beyond the time frame of just Saturday, October 15 will be the kick-off day and labeled Student's Day, while the 16th and 17th will be the primary exhibition days, highlighted Saturday night by the annual gala party for the design community at the Metropolitan Museum of Art.

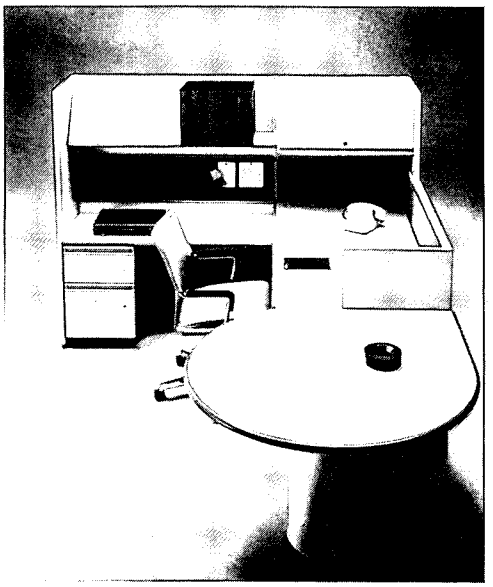
SEATING SERIES / Designed by Emilio Ambasz and Giancarlo Piretti, the Dorsal Operational Arm Chair belongs to the new Dorsal seating system. The series is economically priced, yet provides the automatic response features of the award-winning Vertebra system. ▪ Krueger, Green Bay, Wisc.

circle 300 on inquiry card



SPAGHETTI LINE EXPANSIONS / The full line of "Spaghetti" furniture designed in 1960 by Giandomenico Bellotti, is now available as part of ICF's "New Additions" presentation (new designs based on old designs). While the side chair has been available, complementing it now are the armchair (shown), dining and occasional tables and stool. Pieces have chromed or epoxied steel frames with matching PVC "spaghetti" winding in red, black or white. ▪ ICF, New York City.

circle 302 on inquiry card



OFFICE SYSTEM / This work station with round conference end belongs to the Marcatré Office Furniture System, a series of wood and wood/laminated work-space components designed by Mario Bellini. ▪ Atelier International, Ltd., New York City.

circle 304 on inquiry card

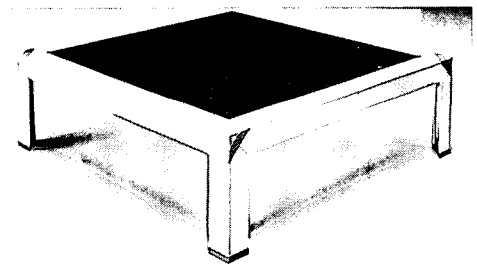
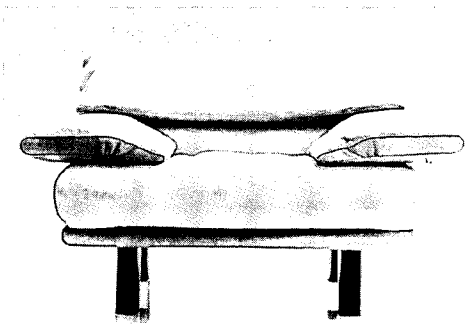


TABLE SYSTEM / Paul Haigh's residential and contract table collection consists of interchangeable side rails, legs, and table tops. Five side rail sizes and two leg lengths in black or clear anodized aluminum create 24 table sizes, from a 3- by 3-ft lounge height to a 3- by 5-ft desk to the 4- by 7-ft dining or conference table. ▪ Knoll International Inc., New York City.

circle 301 on inquiry card



LOUNGE SERIES / The "Alanda" lounge series designed by Paolo Piva is equipped with an internal mechanism allowing the arms and back cushion to adjust to individual comfort. ▪ B&B America, New York City.

circle 303 on inquiry card

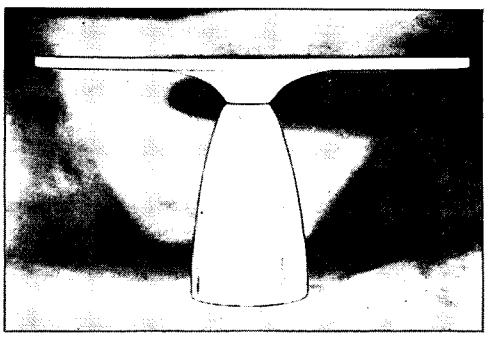
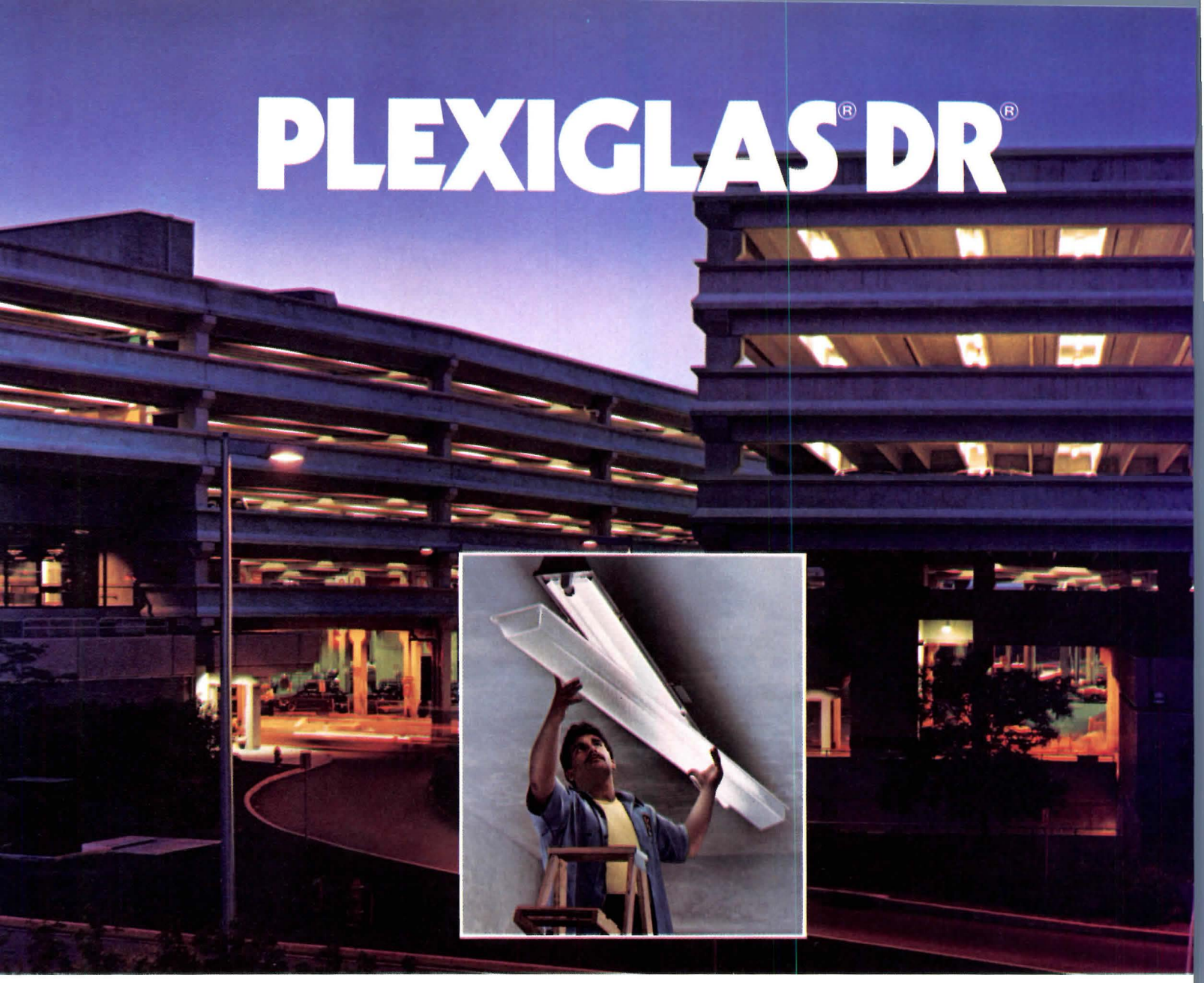


TABLE / The new table collection by Draenert Studio (number 1790 shown) offers dining, cocktail and occasional tables in granite, oiled slate, marble or travertine as well as clear or smoked glass. ▪ Turner Ltd., New York City.

circle 305 on inquiry card

more products on page 135

PLEXIGLAS® DR®



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For complete information on this affordable lens material that provides all the impact strength you'll probably need, and will continue to look good for years, circle the Reader Service Card number or write: Rohm and Haas Company, Independence Mall West, Philadelphia, PA 19105, Attn: Marketing Services Department.

Plexiglas acrylic plastic is a combustible thermoplastic. Observe fire precautions appropriate for comparable forms of wood. For building uses, check code approvals. Impact resistance a factor of thickness. Avoid exposure to heat or aromatic solvents. Clean with soap and water. Avoid abrasives.

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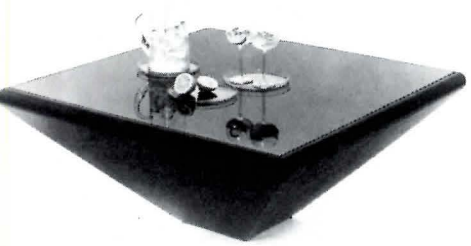
PLEXIGLAS® DR® / Where Extra Toughness Counts

ADJUSTABLE SEATING / Designed by Toshiyuki Kita and manufactured by Cassina of Italy, the Wink adjustable-position lounge chair is available in zip-fastened fabric or leather, with multi-colored, changeable fabric covers. ▪ Atelier International, Ltd., New York City.

circle 306 on inquiry card



QUADRO TABLES / The Quadro tables designed by Tom Boccia include a cube end table and an inverted pyramid coffee table (shown). Both are topped with reflective black glass and are upholstered in leather. ▪ Jack Lenor Larsen, New York City.

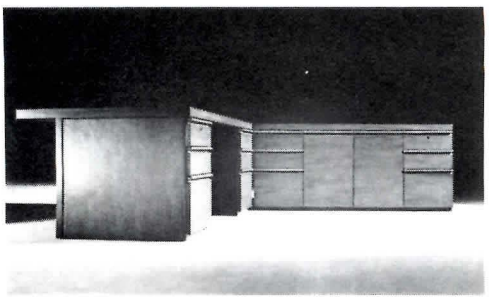
circle 307 on inquiry card

ARM CHAIR / The Stanyan arm chair, designed by Brian Kane, may be framed in polished chrome or 18 painted finishes. The arms are available upholstered or in solid oak or walnut in several finishes. ▪ Metropolitan Furniture Corporation, South San Francisco, Calif.

circle 308 on inquiry card

OFFICE SEATING / The Vitra series, just introduced in the U.S., includes highback, low back and executive models. A co-active synchro-tilt mechanism provides proper support for every office posture. ▪ Herman Miller, Inc., Zeeland, Mich.

circle 309 on inquiry card



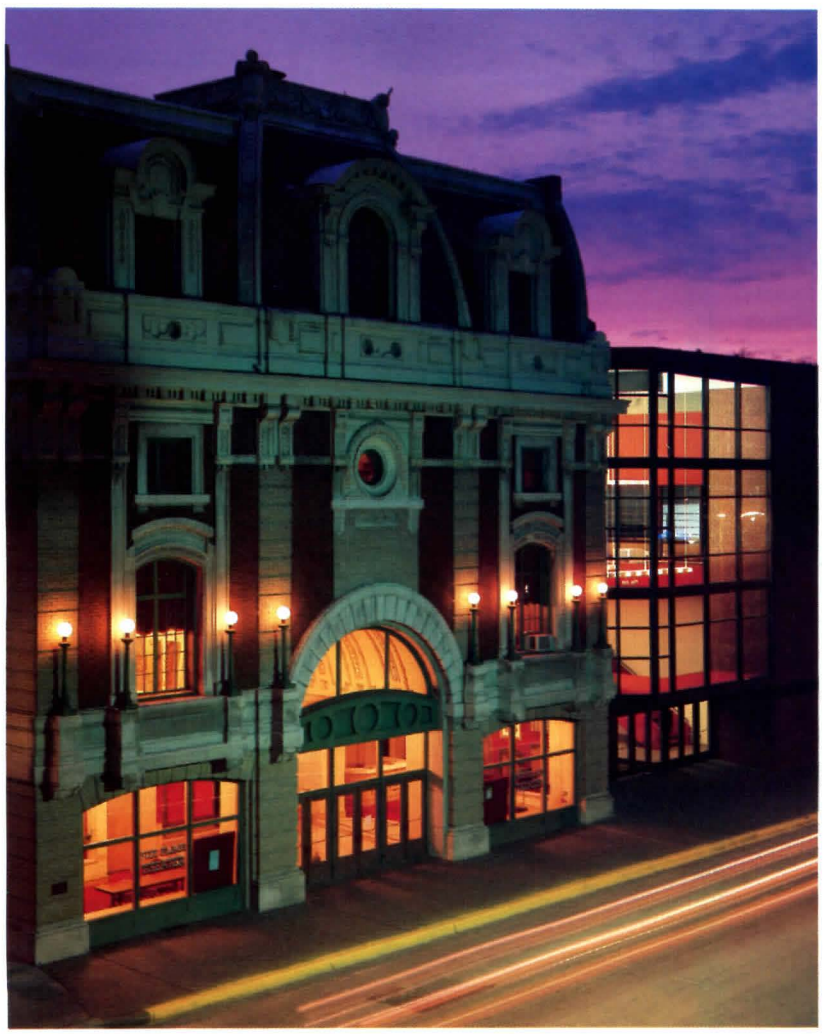
DESK AND CABINET / Architects Gwathmey Siegel designed this wood desk which features modular pedestals that rest directly on the floor and provide maximum storage. Because the "T" design work surface is an overlaid piece, many different sizes and shapes can be accommodated. ▪ Knoll International Inc., New York City.

circle 310 on inquiry card

more products on page 137

Echoes of the past, promises for the future.

Answers for "Renaissance America"



It is the blending of a major historical theater/landmark with an all-purpose cultural center. It is the Five Flags Civic Center, pride of Dubuque, Iowa. The irreplaceable theatrical treasure, earliest known example from America's premier theater architectural firm, Rapp & Rapp, forms a harmonious union with a new 27,000 square foot civic arena.

The painstaking renovation and imaginative new facility are part of "Renaissance America." And Gold Bond Building Products is there with answers—three types of plaster, including that used in the restoration of decorative plaster moldings, gypsum wallboard, steel studs, joint compound and Spray Quick textured ceiling finish.

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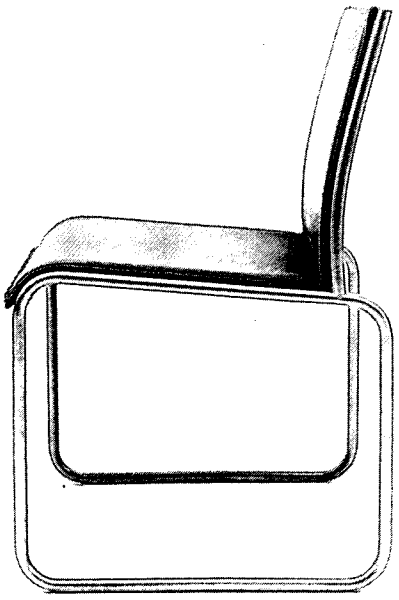
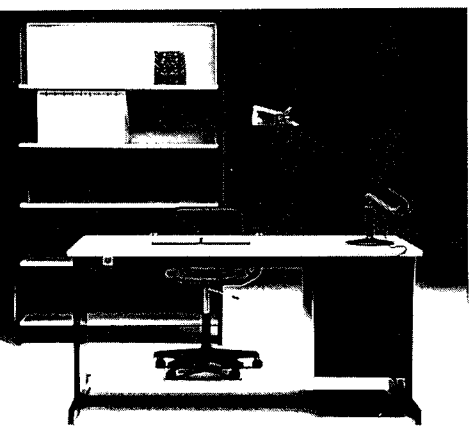


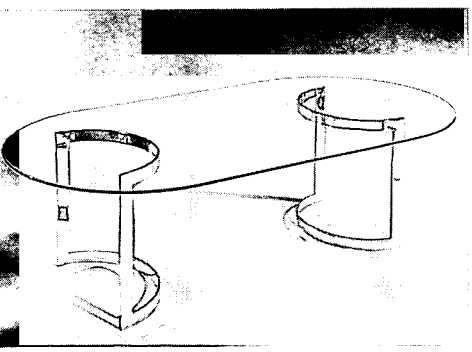
ULL-UP CHAIR / This lightweight, tubular steel ull-up chair, designed by Richard Schultz, is availale with or without arms in leather, vinyl, or fabric pholstery, and painted or polished chrome frame. Knoll International Inc., New York City.

circle 311 on inquiry card



ESK SET / The new series 45 CR desks have a eige working surface, brown side panels, and rown or brick-red pedestals. The chair belongs to he Edys modular system—designed for ergonomic omfort. Both designs are by Olivetti Synthesis. The Pace Collection, Long Island City, NY.

circle 312 on inquiry card

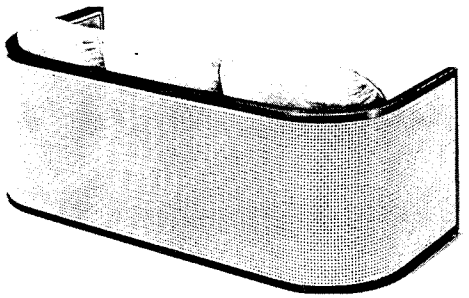


CONFERENCE TABLE / This glass conference table s available in various sizes, each with distinctive djustable crescent bases finished in hand-rubbed ntique bronze or chrome. ▪ John Stuart, New ork City.

circle 313 on inquiry card

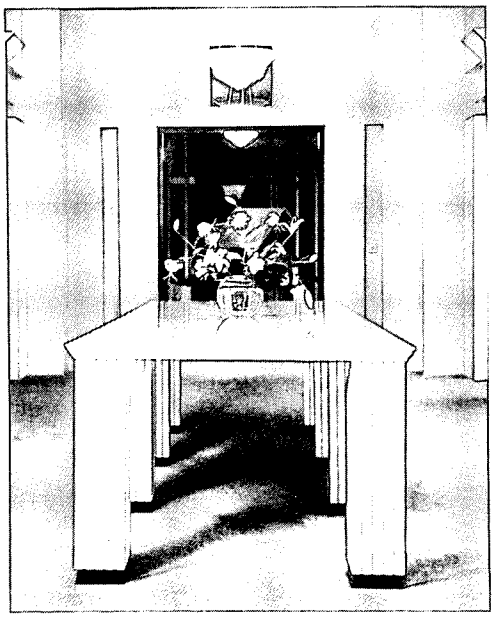
MODULAR SEATING / The Barrett lounge seating group with its straight back and arms consists of four units: left facing, right facing, intermediate and corner elements. The ends of the elements are fully covered and can be re-arranged as required. ▪ Stendig, Inc. New York City.

circle 314 on inquiry card



LOUNGE SERIES / The new Peabody Lounge Series, designed by Lawrence Peabody, is available in either cane or upholstered back, ranging from a lounge chair to a four-seat sofa. ▪ Helikon Furniture Co., Inc., Taftville, Conn.

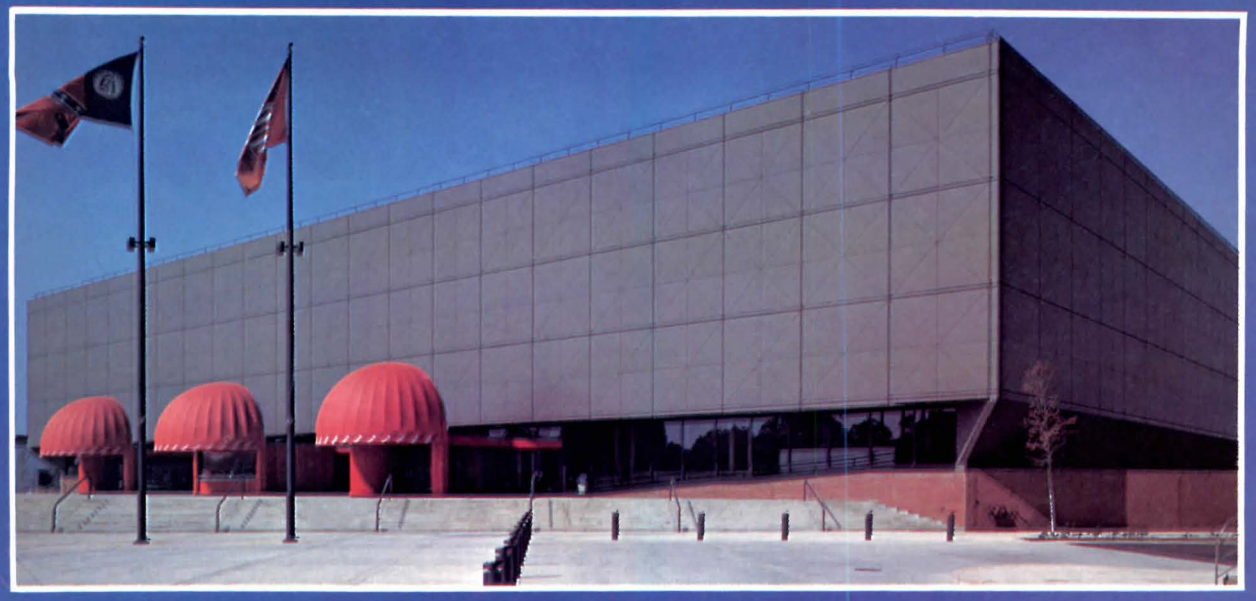
circle 315 on inquiry card



MICHAEL GRAVES' TABLE / The prototype of Graves' newest and most striking table is now on display in the Sunar showroom, available in lacquered or wood versions. The legs are a "reference to architectural patterns . . . by their similarity to fluted columns," as Graves explains; and the top has square fragments of bird's-eye maple, separated by lines of epoxy with mother-of-pearl tesserae at corner intersections. ▪ Sunar, Norwalk, Conn.

circle 316 on inquiry card

more products on page 139



UNPLAIN GEOMETRY

The solution for the Augusta Richmond County Civic Center was Alcoa Alply panels.

Architect: I. M. Pei and Partners
Wall Panel Distributor: Whelan Manufacturing Co. — Trenton, N.J.

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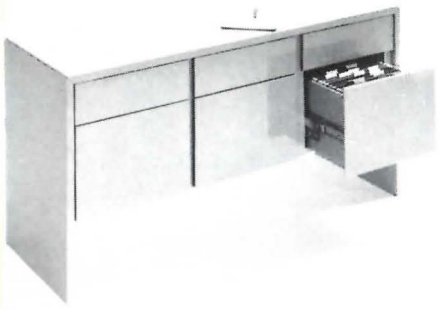
ALCOA



ILE CABINET / The Katonah Utility/File Cabinet has three utility drawers and three filing drawers for letter or legal sized filing. ▪ Intrex, Inc., New York City.

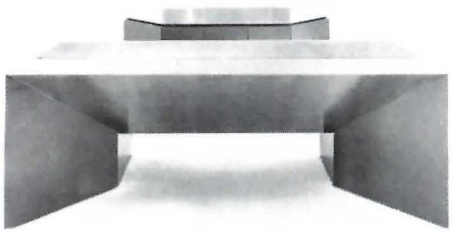
circle 317 on inquiry card

POST-MODERN TABLE / As a new addition to Dunbar's varied designer collections is this "Column Section Table" designed by John F. Saladino. A ½-in. thick clear glass top is supported by solid ash sectioned legs formed as columns. ▪ Dunbar, Berne, Ind.

circle 318 on inquiry card

THEATER SEATING / Ikria, the new theater seating system designed by Dave Woods, utilizes a molded plastic outside seat and back shell. Architects and designers may choose a center pedestal frame or a common standard frame arrangement. ▪ JG Furniture Systems, Quakertown, Pa.

circle 319 on inquiry card



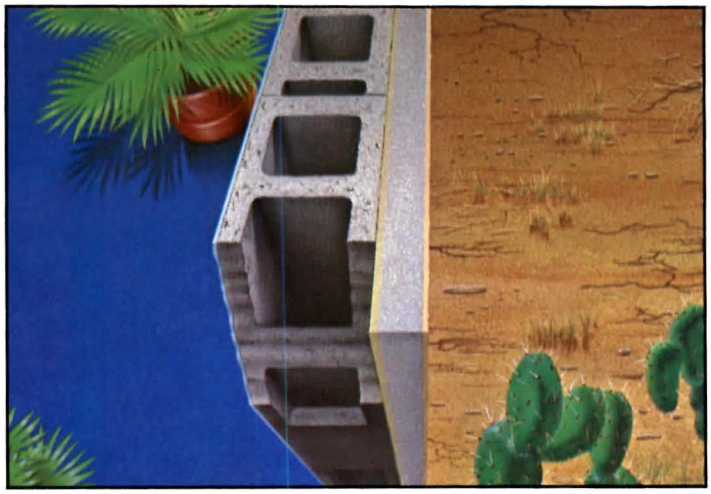
EXECUTIVE DESK / The Executive Decision desk and credenza, designed by J. Wade Beam, combines exotic lacquers with brushed steel and is accented with a leather writing surface. The angled credenzas, with either door storage or file drawers, have end compartments with shelves. ▪ Dunbar, Berne, Ind.

circle 320 on inquiry card

more products on page 141

ENERGY EFFICIENCY.

It's in the bag.



Restoring an old, run down, energy-leaking building into a modern, beautiful, energy-efficient building is now easier than ever before. All you need to remember is that the Insulation Solution is in the bag. In the Thorowall Insulating Plaster bag.

Thorowall is the cement-base, fire resistant insulating plaster brought to you by Thoro System Products, and designed specifically for exterior wall application.

A Rhodipor product, Thorowall Insulating Plaster is new to America, but yet an old favorite throughout Europe since its development in Germany nearly 15 years ago.

You see, Thorowall Insulating Plaster features a perfectly balanced combination of expanded polystyrene beads, hydraulic binders and chemical additives. Because of these extremely lightweight aggregates, Thorowall Insulating Plaster weighs only one-sixth that of plaster with conventional sand aggregates. Therefore, it puts little stress on the wall structure to which it's applied. Because it is packaged in powder form, it eliminates the need of fitting boards to special sizes. All you have to do is add water and Thorowall Insulating Plaster is ready for application. And because it is a plaster it can be applied by either a spray gun or trowel. As easy and as fast as applying stucco.

But the most important thing is that Thorowall Insulating Plaster comes from us. And you know us well. We're Thoro System Products, the same company that has been protecting, beautifying and waterproofing masonry and concrete for over 65 years with such products as Waterplug, Thoroseal and Acryl 60. And when it comes to making energy-efficient buildings out of old structures, we've got the insulation solution wrapped up for you in the Thorowall bag.

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INSULATING PLASTER
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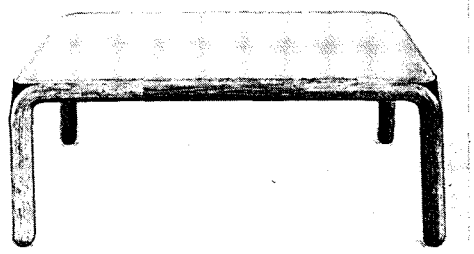
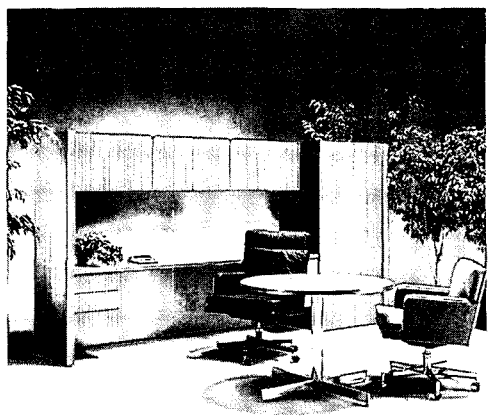
424 CHAIRS / A new line of seating, the 424 series, offers 32 versions of a single-shell chair with separated back and seat. It is scaled to fit high-density open plan environments. ▪ Steelcase, Grand Rapids, Mich.

circle 321 on inquiry card



TABLES / Series 355 Tables feature legs that curve gently into the top apron, creating the impression of one continuous movement. Crafted in white oak, the tables are produced to meet various requirements, including conference, dining, coffee tables and, with the addition of a pencil drawer, table desks. ▪ C I Designs, Boston, Mass.

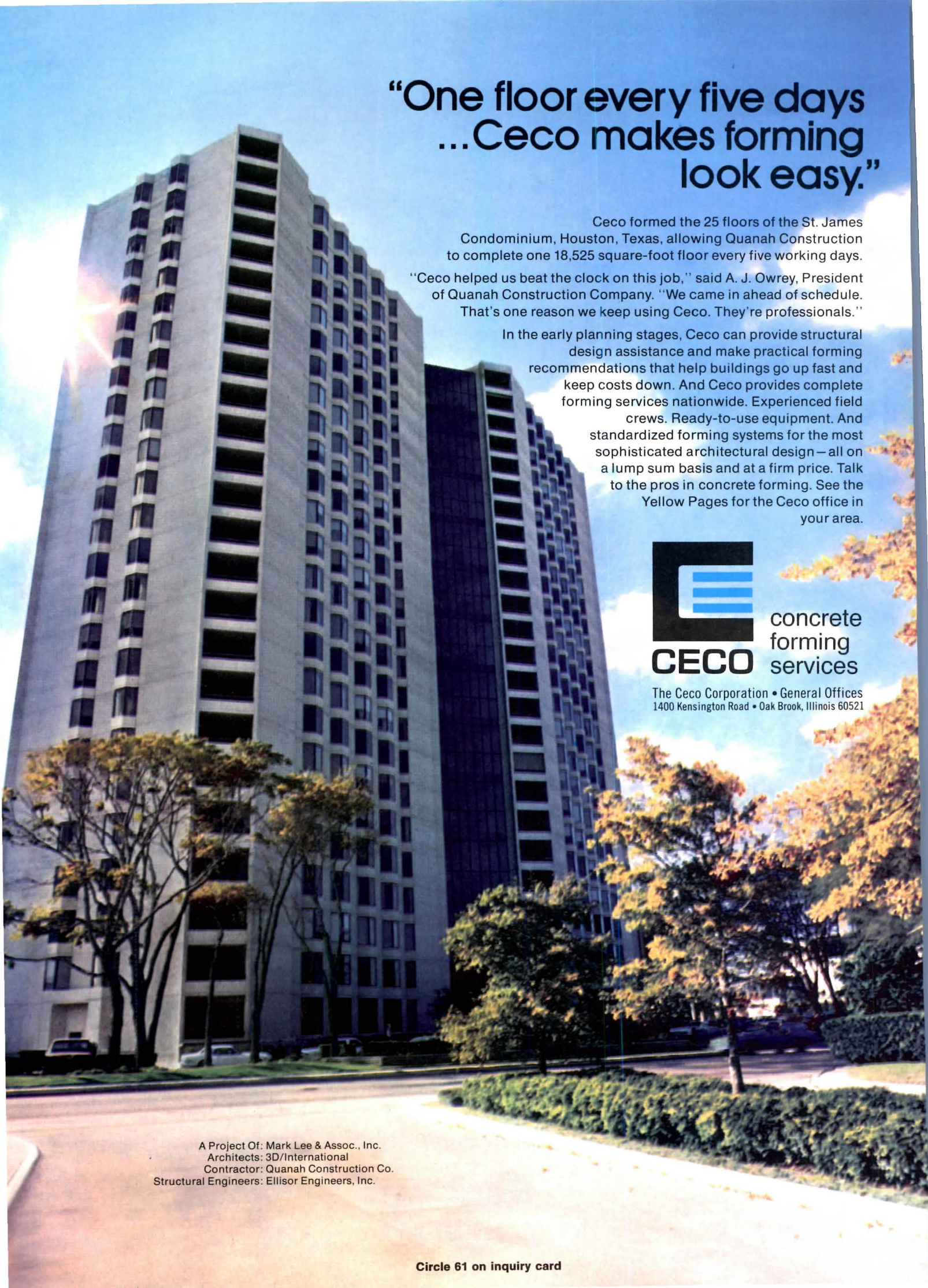
circle 322 on inquiry card



OFFICE SYSTEM / The expanded Illuminated Open Plan System offers work surfaces in a range of sizes reflecting various office needs and the use of CRT terminal equipment. ▪ JG Furniture Systems, Quakertown, Penn.

circle 323 on inquiry card

more products on page 143



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Ceco formed the 25 floors of the St. James Condominium, Houston, Texas, allowing Quanah Construction to complete one 18,525 square-foot floor every five working days.

"Ceco helped us beat the clock on this job," said A. J. Owrey, President of Quanah Construction Company. "We came in ahead of schedule. That's one reason we keep using Ceco. They're professionals."

In the early planning stages, Ceco can provide structural design assistance and make practical forming recommendations that help buildings go up fast and keep costs down. And Ceco provides complete forming services nationwide. Experienced field crews. Ready-to-use equipment. And standardized forming systems for the most sophisticated architectural design—all on a lump sum basis and at a firm price. Talk to the pros in concrete forming. See the Yellow Pages for the Ceco office in your area.

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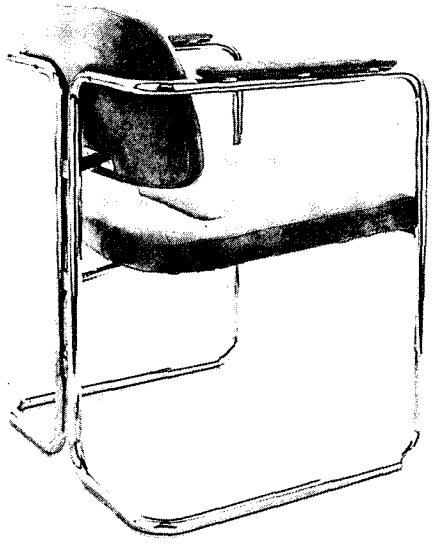
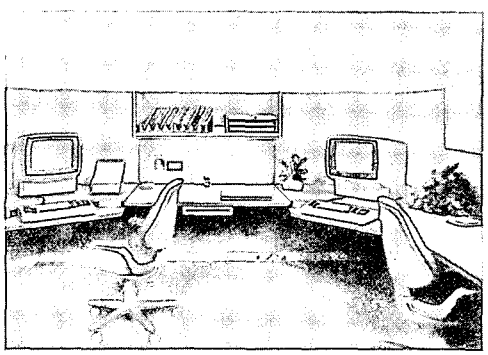


SEATING / The Sessan chair, originally designed for a Swedish luxury ship line, is available in fabric or leather. The chrome frame and upholstered seat, back and armrests provide comfortable support combined with compactness. ▪ DUX, New York City.

circle 324 on inquiry card

OFFICE SEATING / Designed by Robert De Fuccio, the new DF seating series features high-back and low-back executive and conference chairs available with castors or glides. ▪ Castelli Furniture, Inc. New York City.

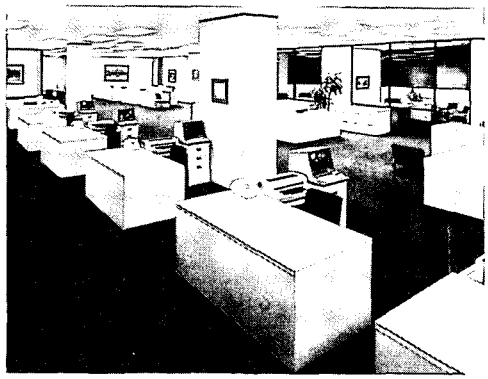
circle 325 on inquiry card



COMPUTER WORK SURFACE / Two new introductions are the 120-deg (left in photo above) and 90-deg (right above) electronic support work surfaces, both with either fixed or adjustable, recessed keyboard pads. CRT cables run through special channels to baseboard raceways. Also shown is the newly-introduced paper management system. ▪ Haworth, Inc., Holland, Mich.

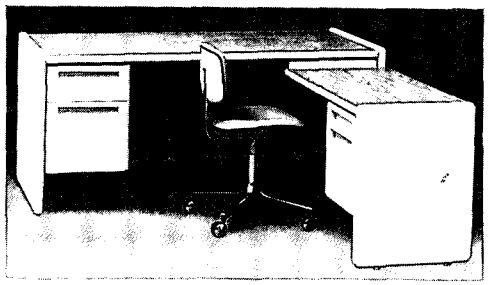
circle 326 on inquiry card

more products on page 144



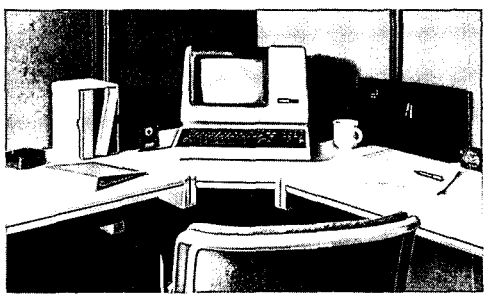
DESK SERIES / The Series 75 cube desk features recessed hardware and internal wiring channel for machine and phone cords to maintain its contemporary, uncluttered design. ▪ Shaw-Walker, Muskegon, Mich.

circle 327 on inquiry card



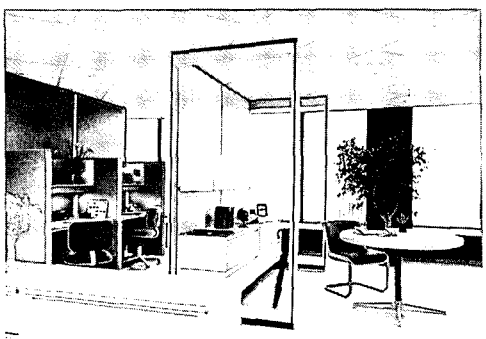
DESK SYSTEM / The modular Open Plan System (O.P.S.) Desk Collection offers a wide range of configurations of worksurfaces and other system products. ▪ GF Business Equipment, Inc., Youngstown, Ohio.

circle 328 on inquiry card



WORK STATION / An extension of this manufacturer's "Privacy Panel System" is the electronic work station components (some of which are shown). The series consists of desks and cantilevered work surfaces that meet eye level, posture and knee clearance requirements. ▪ The E.F. Hauserman Co., Cleveland.

circle 329 on inquiry card



PRIVACY PANELS / Part of this line of panel systems for office interiors is the "Privacy Panel System." Four heights are provided, including the floor-to-ceiling one shown. Other products to be exhibited are freestanding filing and storage units, electronic system support surfaces and the CAS seating line. ▪ E.F. Hauserman, Cleveland.

circle 330 on inquiry card

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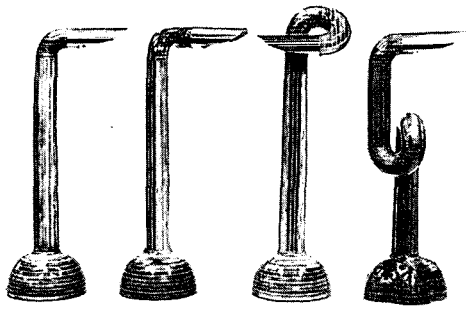

FLOOR LAMP / These limited edition, handcarved mahogany floor lamps by artist/designer Alan Friedman are part of a collection of tables, chairs and lights for this manufacturer. ▪ Turner Ltd., New York City.

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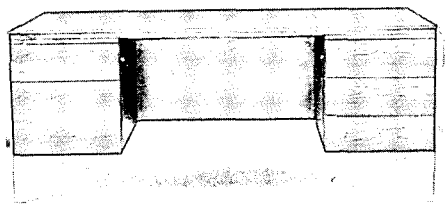

DESK SYSTEM / This desk belongs to the Electa system of desks and credenzas designed by Alexis Yermakoff. Teak, walnut, cherry and oak finishes are now available in addition to the conventional Stow/Davis finishes and veneers. ▪ Stow/Davis, Grand Rapids, Mich.

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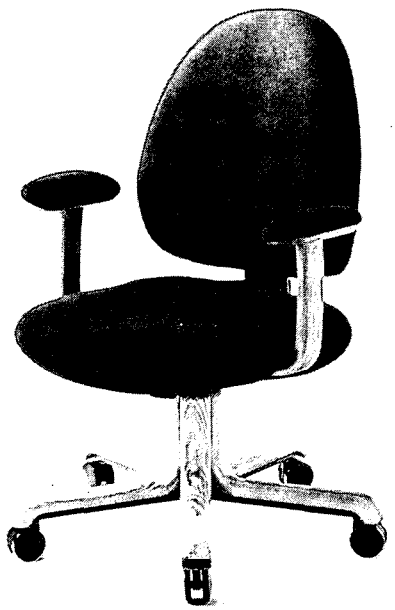

STEAM-BENT CHAIR FRAME / A solid steam-bent white oak frame creates a special image for the "Tempus" seating series which offers options of high-back management, mid-management and task-worker models. A self-contained back control unit is used in conjunction with, but is completely independent of, a standard tilt control. This unit permits the chair back to have a fixed position or a self-articulating back. ▪ The Gunlocke Co., Wayland, N.Y.

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Exposed steel wall system provides economy and energy efficiency in new Chicago schools

Cheers!

Introducing Quarry Naturals.

It's new from American Olean. And we've built a new ceramic tile plant to make it for you.

Quarry Naturals™ tile has great character. It's uniquely textured. It's a warm, earthy quarry tile. It picks up color generously. And subtly.

Quarry Naturals—made in America—has a great heritage and proud name. It's incredibly durable. And so easy to maintain.

It's available now in three sizes (3⅞" x 8", 6" x 6", 8" x 8") and four rich, earth-tone blends, with more coming. Each carton is "pre-blended." Great care is given so the blending is consistent. And we have a line of trim pieces which complete the job.

See Quarry Naturals at any of our showrooms (check the Yellow Pages). For more information, contact your American Olean sales representative or write to: American Olean Tile Company, 2878 Cannon Avenue, Lansdale, PA 19446.

American Olean Tile
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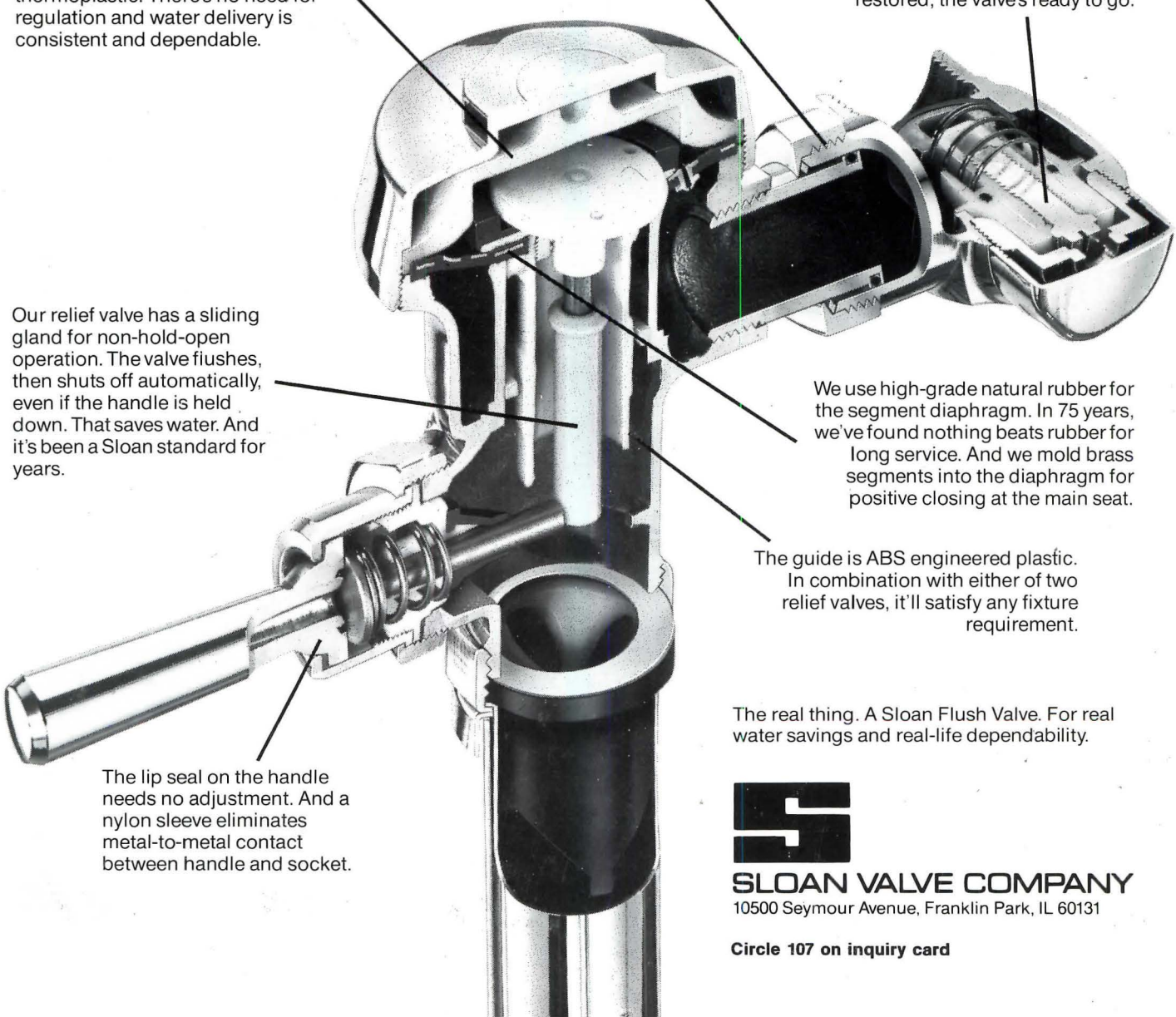
How to flush out the real thing in flush valves.

Look for all these precision features. And you'll be looking at the real thing—a Sloan Flush Valve. For example, look at the inside cover. Sloan's is molded of the finest thermoplastic. There's no need for regulation and water delivery is consistent and dependable.

The tailpiece is adjustable to compensate for roughing-in error. Its leakproof connection can't be accidentally disengaged.

BAK-CHEK means pressure losses—even to negative pressures —have no effect. When pressure's restored, the valve's ready to go.



Our relief valve has a sliding gland for non-hold-open operation. The valve flushes, then shuts off automatically, even if the handle is held down. That saves water. And it's been a Sloan standard for years.

We use high-grade natural rubber for the segment diaphragm. In 75 years, we've found nothing beats rubber for long service. And we mold brass segments into the diaphragm for positive closing at the main seat.

The guide is ABS engineered plastic. In combination with either of two relief valves, it'll satisfy any fixture requirement.

The lip seal on the handle needs no adjustment. And a nylon sleeve eliminates metal-to-metal contact between handle and socket.

The real thing. A Sloan Flush Valve. For real water savings and real-life dependability.

SLOAN VALVE COMPANY
10500 Seymour Avenue, Franklin Park, IL 60131

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