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Queensborough Baptist Church, Shreveport, Louisiana. **Architect:** Frey Associates—Shoemaker-Colbert-Brodnax, Architects-Engineers, Shreveport. **General Contractor:** Southern Builders, Inc., Shreveport. **Flooring Contractor:** Stephenson Floor Covering, Inc., Shreveport.



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Progressive Architecture® December 1967

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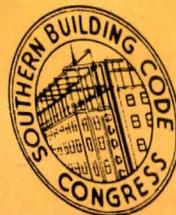
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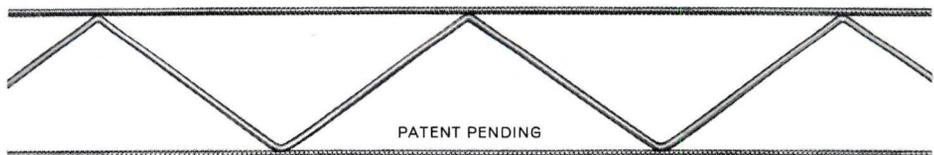
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# VIEWS

## Concrete Issue Reactions

Dear Editor: Your entire issue (OCTOBER 1967 P/A) is a distinguished contribution to the techniques of dynamic design.

MORRIS KETCHUM, JR.  
New York, N.Y.

Dear Editor: "Concrete In Detail" was excellently written, especially in its coverage of the advice that the precaster attempts to give the architect or engineer. As a reader and subscriber to your magazine for several years, I wish to compliment you also on the detail and depth that went into the body of this article.

JOHN G. CUDDY, JR.  
General Manager, Winkrete Pre-Cast Corp.  
Syracuse, N.Y.

Dear Editor: I take issue with George J. Santry's flat statement that "expensive quartz aggregates provide better weathering concrete is a misconception" (p. 135, OCTOBER 1967 P/A). Santry's statement should not be misread or misunderstood to reflect the idea that high-quality, exposed-aggregate panels do not necessarily have to contain good-quality hard aggregates. It is not by accident that quartz, granites, and other high siliceous materials have been preferred and specified since the inception of exposed aggregate panels; they are indeed high-quality, aggregate materials that not only enhance the beauty of precast panels, but contribute to the physical qualities of the concrete as well.

Soft, nondurable calcium aggregates are less preferable; many times, their use results in such poor conditions as spotting, caused by these deteriorated aggregates falling out of panels, and by loss of panel color, caused by bleaching out the aggregate acid. Panel discoloration can often be traced to the high-absorption characteristic of high calcium materials that attract dust and dirt particles more readily than hard, durable, nonabsorptive quartz and granite materials.

Also, contrary to what Santry indicates, many times a soft stone, such as marble, although free from deleterious materials (iron, talc, and so on) is not at all suitable for exposed aggregate use.

Due to the procedure used to produce architectural concrete by the Schokkabeton method, exposed aggregate members are usually sand-blasted, as compared to the standard method used by the majority of other precast contractors of using a chemical retarder to expose the aggregate. It has been our experience in dealing with the various Schokkabeton companies that

they indeed *prefer* to use high-quality hard aggregates such as quartz and granites because, if soft aggregates are used, the sand-blasting eats away at the aggregate faster than the concrete around it.

I would also like to comment on James Schilstone's remarks in the same article. Certainly, he owes it to his clients to provide them with the best quality aggregate materials at the most reasonable cost. However, I am sure that Shilstone would agree that extreme care should be taken by the architect in the acceptance of any aggregate material not being specially processed for exposed aggregate use. Close aggregate size gradation is of utmost importance in exposed aggregate concrete, as is aggregate color consistency, in order to achieve uniform textures and color in the panels. The majority of other aggregates being quarried for some other primary purpose, such as road stone and railroad ballast, vary widely in color consistency and many times in gradation.

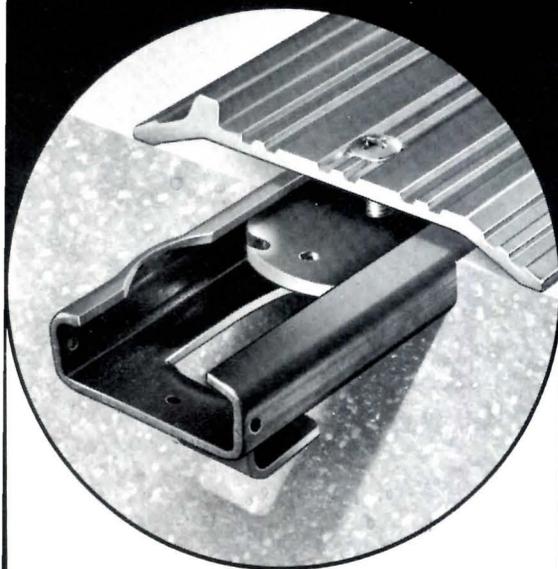
Our experience has been that 99 out of the 100 precast concrete manufacturers prefer to purchase their aggregate requirements from firms whose personnel is experienced in the production of decorative aggregates. Past performance records and test data are readily available from these producers to assure the architect of the highest quality exposed-aggregate precast concrete work.

S.M. BROWN, JR.  
General Stone & Materials Corporation  
Atlanta, Ga.

Dear Editor: Congratulations on "Concrete In Detail." I find this a valuable compilation on the state of the art of concrete in architecture. Due to the fragmentation of the industry, there will certainly be no unanimity of opinion concerning the validity of the statements made on precasting, cast-in-place, connections, and so forth. Nevertheless, the statements reported represent the opinions of many of the most knowledgeable specifiers and producers of concrete in architecture.

I take issue with one statement, on page 140, that may lead to a basic misconception. It says, "Don't Use an Acid Wash." Acid washing has been an integral element in processing in the industry since its earliest days. Properly rinsed and/or neutralized acid washes are a necessity in obtaining the majority of finishes used in precast concrete. The problem of glass etching is mainly limited to colored and heat absorbing glass formulations. Solution of the problem will be attained only through joint research by the glass and concrete industries. I know of no study that has pinpointed acid residue as the sole culprit. In fact, there is evidence that

*Continued on page 16*



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# P/A NEWS REPORT

Progressive Architecture's Monthly Digest of Buildings, Projects, People and Products

December 1967

## PREPLANNING THE LINEAR CITY

NEW YORK, N.Y. Plans for a linear city cutting through Brooklyn above an expressway and a railway right-of-way moved forcefully into the final preplanning stages last month (see pp. 194-197, APRIL 1967 P/A).

Awaiting official approval by the City Planning Commission was a "plan for planning" report on the linear city and the cross-Brooklyn Expressway, prepared by the Baltimore firm Rogers, Taliaferro, Kostriksy, Lamb. At this writing, several city agencies, among them City Planning, Education, and Transportation, were working separately on studies of what they might provide. The various city and state agencies involved in the mammoth \$1,300,000,000 development hope to form a nonprofit corporation to draft detailed plans, coordinate work, and administer the Federal funds (up to 90% of the roadway cost) awarded the project if it becomes part of the Interstate Highway program.

## ST. JOHN'S TO REMAIN UNFINISHED

NEW YORK, N.Y. Plans for the completion of the Cathedral of St. John the Divine have been shelved indefinitely. "There will be no fund-raising drive for its completion, so long as I am Bishop of New York, until there is greater evidence that the despair and anguish of our unadvantaged people has been relieved," stated the Rt. Rev. Horace W.B. Donegan, Bishop of the Episcopal Diocese of New York in late October. Bishop Donegan wants the unfinished cathedral to serve as a symbol "that our society is still as rough-hewn, ragged, broken, and incomplete as the building itself."

Our society is probably no

worse, and possibly even a little better, than most that have existed throughout history, and what the bishop may be forgetting is that the construction of cathedrals has traditionally provided employment for the very underprivileged he is concerned about.

Perhaps a better symbol of concern would be the collection of a fund, matching the now postponed building fund in size, the income from which could be distributed to the needy and destitute.

## DONATIONS MAY SAVE WRIGHT'S IMPERIAL HOTEL

TOKYO, JAPAN. As the date neared for demolition of Frank Lloyd Wright's Imperial Hotel last month, Wright's widow, Mrs. Olgivanna Wright, flew to Tokyo to plead for the hotel's preservation. Meeting her there was Wright's long-time friend and publisher Ben Raeburn. Together, they spoke to government officials and obtained agreement from the Minister of Education and the Governor of Tokyo to the principle of the plan to move the hotel from its present site to one in Kaganei Park. The hotel's salvation, or at least partial salvation, is contingent upon raising \$4 million. Raeburn for one is confident that this sum — or at least part of it — can be obtained from the Japanese Government, which might carry out the reconstruction as part of the centenary of the Meiji Restoration to be celebrated in Japan next year.

Although demolition is slated to begin December 1 (the date has been postponed three times now), initial work will be on the old wing, one that was partially destroyed in World War II bombing raids. And the section of the wing to be destroyed first is one that was reconstructed after the war.

The rest of that wing will remain standing at least until January 15, 1968; this sec-

tion is the most important architecturally, and it is this section that would be moved.

Donations toward the Imperial's preservation can be made in the U.S. to the Committee for the Preservation of the Imperial Hotel, c/o Mrs. Frank Lloyd Wright, Box 157, Scottsdale, Arizona.

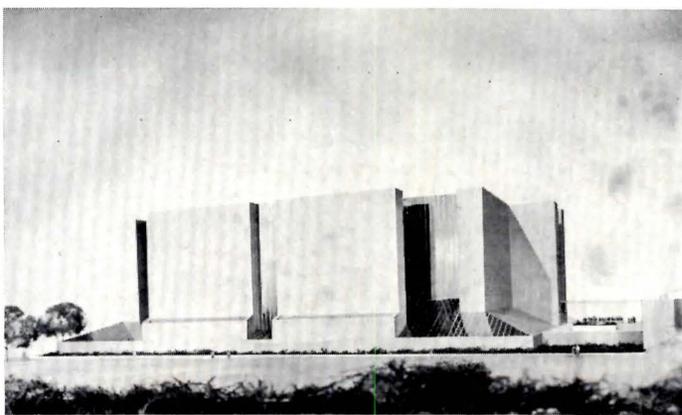
## COMMON SENSE URGED FOR ROADS

WASHINGTON, D.C. The AIA asked Congress to make the advice of specialists — architects, sociologists, planners, and economists — mandatory in the Federal Government's interstate highway program. Testifying before the Senate Committee on Public Works, AIA first vice-president George E. Kassabaum affirmed the conviction of architects "that this approach will produce a highway that is part of the community rather than one that takes the community apart."

Kassabaum was, of course, merely reiterating what architects, and probably Senators, have long known: that the disruptive effects of highways — their displacement of businesses and homes, their ugliness, their disregard for neighborhoods — all have cost the communities they scar far more than the savings realized from putting a road where land is cheapest.

Moreover, Kassabaum stressed that the opportunities of safety through good highway design have not been fully exploited. Innovations in lighting, breakaway light and sign structures, and landscaping are not being fully used by the road builders. "Good design cannot be prescribed," he said. "The design opportunities of a highway do not derive from any textbook or code. Of course, there are reasonable guidelines, but the greatest design success is the product of specialized skills." What is needed now is some Congressional action.

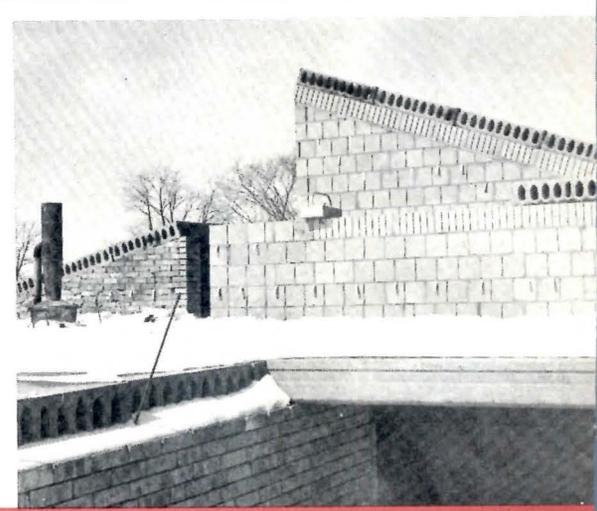
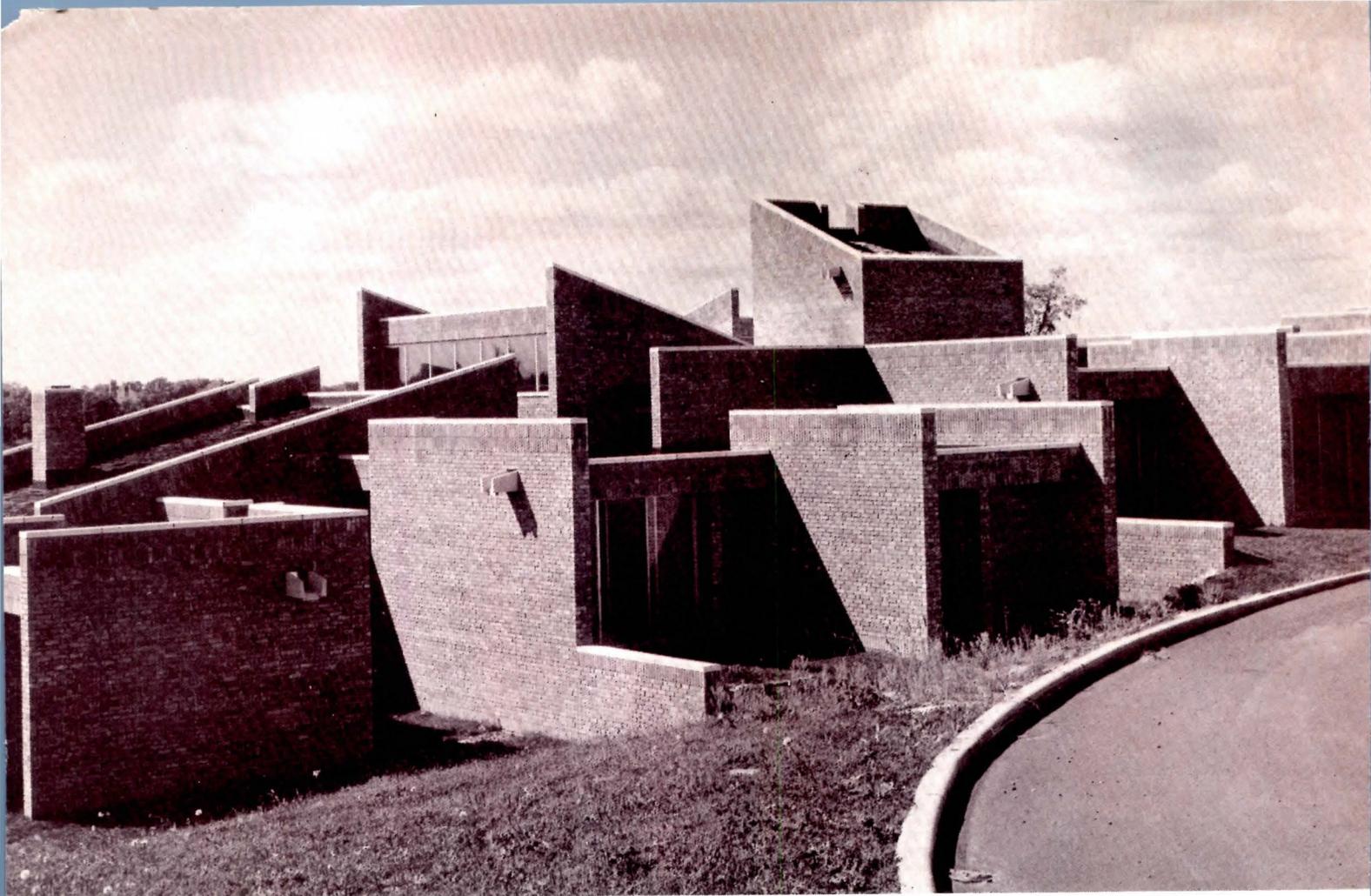
## AETNA FORTRESS



HARTFORD, CONN. Construction was begun last month on the fourth addition to the Aetna Life & Casualty insurance company home office in the past decade. Designed by Kevin Roche, John Dinkeloo & Associates, the 747,000 sq ft addition will increase the over-all size of Aetna's home office by 60%. In all, the building will now encompass about 2 million sq ft, report-

edly making it the largest office structure in New England.

The addition will extend from the east end of the existing Georgian Colonial building, and will consist of two principal elements: a seven-level structure, rising sheer from a two-level base, and a two-level section connecting to the main building. The seven-level section will have



## Spancrete roofs . . . pitched or flat ?

You can have 'em either way . . . as evidenced by Spancrete use on this sprawling Hazelden Foundation project. Much of the Spancrete erection proceeded without delay through varying weather conditions. This rehabilitation center encompasses meeting rooms, recreation and reading rooms, counseling rooms, and living quar-

ters. Spancrete prestressed-precast hollow-core roof planking — some 75,000 square feet of it, and every unit carrying a 2-hour fire resistance rating — was used throughout the project, on flat and pitched roof sections alike. Most of the Spancrete ceiling areas are exposed, with a textured paint finish.

*Rehabilitation Center for Hazelden Foundation  
Center City, Minnesota  
Architects: Voigt & Fourné Inc., St. Paul, Minn.  
Structural Engineer: Schuett-Meier Co., Minneapolis, M  
General Contractor: Rauenhorst Corp., Minneapolis, M*

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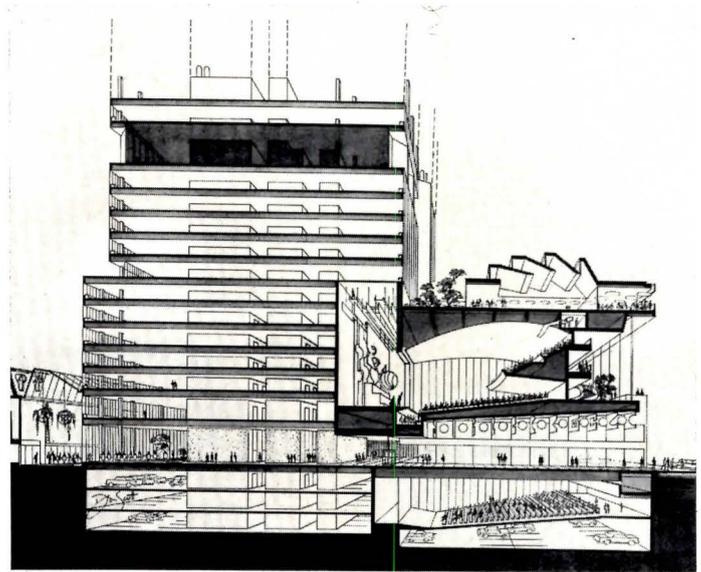
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a setback at the third level, and, instead of conventional fenestration, will have five-story, recessed, window walls of reflecting glass, rising at intervals in the concrete walls. Flared areas of glass extending from the bottom of these window walls will act as

skylight in the two story base. In the interior, a 150' x 50' central court will pierce the building and will be encased floor to ceiling in glass. Because of the court, mechanical equipment will be located on the perimeter instead of in the core.

### THE CHANGING FACE OF TIMES SQUARE



NEW YORK, N.Y. Two new hybrid structures, which combine office facilities with legitimate theaters, are being planned for Manhattan's West side. One, designed by Kahn & Jacobs, will rise on the site of the Astor Hotel on Times Square — that is, if a zoning change proposed by the City Planning Commission is approved. Under the proposed revision, builders would be granted an increase in the amount of space they could include in their office structures, built in Manhattan's theater district, if they agreed to include a theater in the building.

Broadway theaters have dwindled in number from more than 80 in the 1920's to about 35 today, and many of these are small and dimly lit with inadequate stage and dressing space. If the zoning change is approved, the theaters would be the first new ones in the Broadway area in 30 years.

The Kahn & Jacobs proposal calls for an 1800-seat theater above a shopping arcade. Beneath the arcade would be a 1500-seat movie house. On the roof of the legitimate theater would be a

restaurant overlooking Times Square. In the rear of the adjoining office structure, along Shubert Alley, another restaurant would be located, and Shubert Alley itself would be turned into a galleria through the addition of a glass roof.

The second theater/office structure is planned for the former site of the Capitol Theater, with Emery Roth & Sons as the architects.

In defense of his proposed zoning change, City Planning Commissioner Donald H. Elliott stated: "The tide of new office construction is sweeping westward and the Great White Way lies directly in its path. We could stand by and see the theater district obliterated, or take the initiative to coordinate the planned redevelopment of the area with private capital. Office buildings and stores produce greater financial return than theaters. This means that every theater in the district is a potential target for redevelopment. Now, with the added economic incentive to build new theaters under planning supervision, the area can be enhanced and protected."

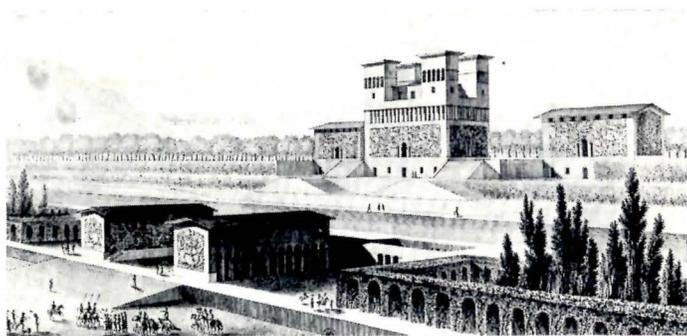
Under the zoning provision, the City Planning Com-

mission could award a developer a space bonus in his office structure only if the size and type of his theater were approved.

The plan, however, may not be all it seems. Some opponents feel that it would merely add a glut of theaters to an area that cannot support the ones it now has. The plan

has the potential of providing the area with continuous-use offices in the daytime and theaters at night. But it could also provide the death blow to most of the existing theaters now there. Some of them, like the Shubert and the Booth, could never be reproduced, and should, like other fine landmarks, be preserved.

## PROGRESSIVE ARCHITECTURE



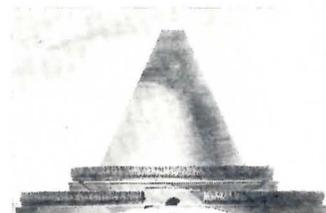
Hunting lodge for the Prince of Bauffremont: engraving after Ledoux.

HOUSTON, TEX. Visionary architectural drawings by the late 18th-Century architects Etienne-Louis Boullée, Claude-Nicolas Ledoux, and Jean-Jacques Lequeu are on view here this month at the University of St. Thomas. Each of the artists, whose works make up the exhibit, reacted sharply to the extravagances of the rococo, and, in pursuing their own design preferences, conjured up visions of things to come.

Boullée showed a predilection for smooth, spherical surfaces; Ledoux compiled simple geometric forms in a monumental manner, while Lequeu's eccentricity took shape in fantastic and exotic creations that point to more recent surrealist architectural design. Followers of Robert Venturi's recent work will recognize certain elements in Ledoux's designs; Kahn admirers will find similarities between Boullée's and Kahn's approaches to form. Appropriately, Louis I. Kahn has contributed an introduction — in the form of an ode



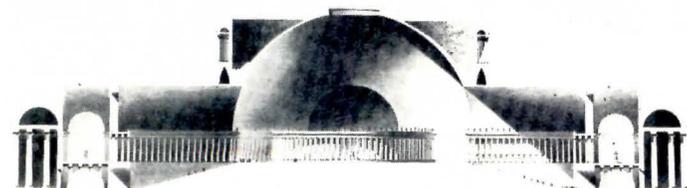
House and workshop of a woodcutter: engraving after Ledoux.



Conical cenotaph: drawing by Boullée.

— to the catalog of the exhibit.

The show will be on view at the St. Louis City Art Museum from January 22 to February 27. From there, it will travel to the Metropolitan Museum of Art in New York City, for a showing from April 14 to May 13. The Chicago Art Institute will borrow the exhibit from the end of May to the end of June.



Cross-section of a museum: drawing by Boullée.

## PERSONALITIES

HUD Secretary Robert C. Weaver appointed **Richard L. Steiner** as his special consultant for development and use of Federal land in urban areas. **Elder Gunter** has joined the department as Deputy Assistant Secretary for Housing Assistance . . . The U.S. Public Health Service, under HEW, named **William G. Matjan** Senior Architect for the Construction Grants Program of the Division of Nursing . . . **Charles E. Krueger** is assistant director for design and construction in the National Park Service of the U.S. Department of the Interior . . . At the Prestressed Concrete Institute's annual convention, **Charles L. Scott, Jr.**, was elected president of the organization for 1967-68 . . . Succeeding the late De Vere Dierks, Jr., as president of the Southern Pine Association is **Martin Calhoun**, who is also president of the Holly Hill Lumber Company of South Carolina . . . New appointments in New York City include those of **Albert A. Walsh** as Chairman of the New York City Housing Authority, and John T. O'Neil as New York City Commissioner of Buildings . . . **John M. Hornyak** of the Atlanta, Ga., firm Edwards & Portman has been named resident architect for San Francisco's Embarcadero Center . . .

**A.Q. Mowbray** has been appointed manager of the ASTM News Bureau for field and promotional operations. **Samuel F. Etris** has been named editor and supervisor of the editorial department . . . Architect **Roger D. Spross**, associate director of the Dormitory Authority of the State of New York, is the new president of the New York State Association of Architects . . . The Producers' Council has re-elected **Earl F. Bennett**, manager of architectural sales for the Koppers Company, to a one-year term as president of the organization. **John K. Bowersox**, director of the Building Contractors Division, Associated General Contractors of America, was elected to succeed John L. Haynes as managing director of the council . . . Two distinguished alumni of McGill University, Montreal, Canada, have been honored by the university's Graduate Society. The Society's Gold Medal for contributions to society and enhancement of the university's reputation was awarded to engineer **Robert F. Shaw**, Deputy Commissioner-General of Expo 67. **Moshe Safdie**, designer of Habitat 67, received a Distinguished Service Award . . . **Eugene A. DeMartin** of Nutley, N.J., has been installed as president of the New Jersey Society of Architects.

## FRENCH CITY SPRUCES FOR WINTER OLYMPICS



Photo: Photopress Grenoble

GRENOBLE, FRANCE Grenoble, host city for the 1968 Winter Olympics, has been working feverishly for two years to put its house in order for the games. This Alpine city of 185,000 expects more than a million visitors on February 6-8, when the official games will be held. In addition,

there will be an influx of some 2000 athletes and about 10,000 newsmen, officials, and coaches. Faced with crowds of such proportions, Mayor Dubedout doubts that all who attend the Olympics will find places to stay. "I already have nine guests coming to my apartment. Other

residents will welcome guests too," comments Dubedout. But if Grenoble fails to provide comfortable lodging for everyone, it won't be from lack of preparation. Most of the athletes will stay in the 1800 new units of the Olympic Village (1), designed by architects Novarina & Welti, with Carton & Blondeau. L'Isle Verte (2, 3), a new apartment development by Paris architects Anger-Puccinelli, already has tenants. Moreover, four hotels are nearing completion.

Nor has Grenoble concentrated solely on lodging. Parisian architect Novarina has completed a new city hall; there is also a new police station (4) by Cakaminsky of

Lyon, and, in addition, a fire house, several schools, and a cultural center (5) should be ready by the end of this year.

The cultural center, designed by André Wogensky, former head of the Atelier le Corbusier, is one of many being built throughout France under a program supported by the French government. It will open soon for perfor-

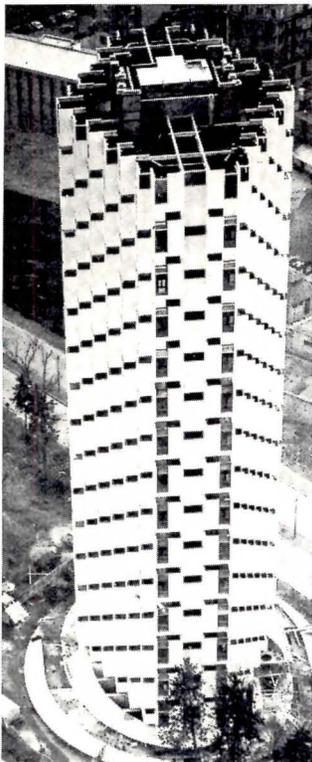


Photo: Photopress Grenoble

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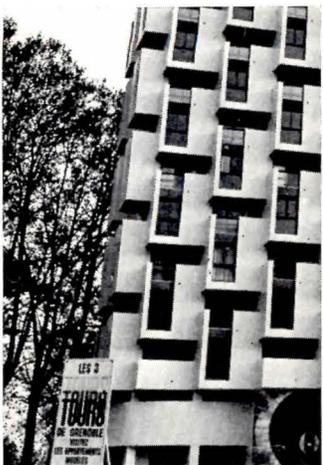
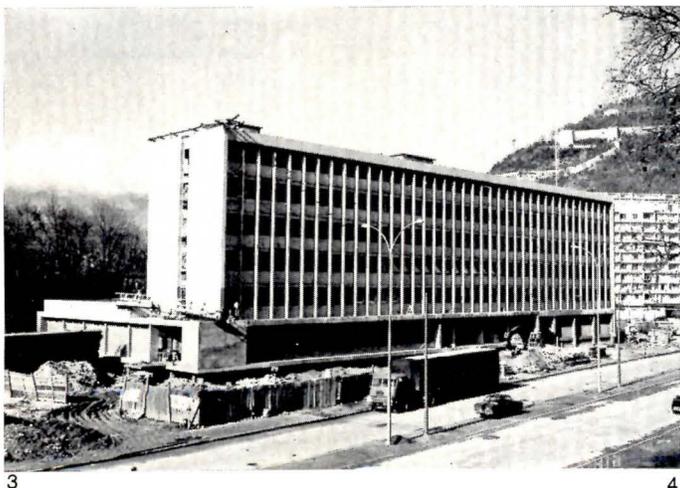


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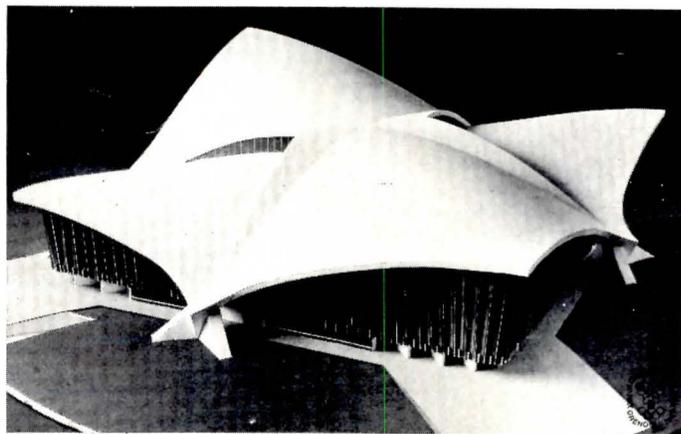
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mances by ballet, drama, and musical groups, as well as movies.

Structures built specifically for the Olympic Games include a speed skating rink (6) (the first in France) by Robert DeMartini and Pierre Junillon of Grenoble, and a

meeting or exposition hall by Paris architect Prouve. No structures will be demolished after the games. As Mayor Dubedout points out, "They chose me because we are undergoing an expansion program, and whatever we build we hope will be permanent."

## PLANNING THE POTOMAC

WASHINGTON, D.C. Stepping out of its role as a perennial gadfly on Washington, D.C., architectural efforts, the American Institute of Architects appeared in a completely new one in mid-September: as leader in planning for development and preservation of an entire river basin.

Occasion was delivery of a mammoth report ("The Potomac," for sale by the U.S. Government Printing Office at \$5) prepared for the Department of Interior under the AIA's leadership, and by a task force heavily weighted with AIA members. Task Force Chairman was Arthur Gould Odell Jr. of Charlotte, N.C., a former AIA president. Others of the 11 member group included architects, landscape architects, an engineer, and a geographer.

Not intended to be a detailed plan for the development of the river, the report is expected to serve as a basis for future planning. It recommends basically that the entire basin of the Potomac be considered — along with its resources — as a "unified living entity."

To do such a job of consideration, and to work with the numerous Federal, state, and local governmental units which would be concerned

with the development of the river, the Task Force recommends establishment of a "Potomac Development Foundation," to be funded by Congress at a rate of \$50 million a year over a five-year period. The foundation would be directed by an administrator — appointed by the President — and would be responsible for matters ranging, said the task force, from participation in water-resource planning to sharing the review of architectural designs for structures in the river valley. It would not, however, be an "operating" agency in the sense of constructing, managing, or operating any specific activity.

Some of the annual \$50 million appropriation recommended would be used to establish "land banks" as a means of preserving both natural beauties and certain other values (for instance, to cut down erosion that might occur if certain areas were "developed"), and for research and development studies. Other areas of activity, according to the report, would be urbanized waterfront development, recreational values, pollution, and a study of the complex of land uses along the river's course.

It is, according to a statement issued by AIA President Robert L. Durham at a formal press conference in the office of Interior Secretary

Stewart Udall (who called the Task Force into being two years ago), "a broad, yet detailed conceptual framework . . . fully adaptable to new technology in land-use planning."

Task Force members, in addition to Mr. Odell, included:

Dr. Edward A. Ackerman, executive director, Philadelphia City Planning Commission; R. Max Brooks, Austin, Tex., architect; Grady Clay, real estate and landscape editor, Louisville Courier-Journal; Donn Emmons, San Francisco architect; Frederick Gutheim, president of the Washington Center for Metropolitan Studies; Francis D. Lethbridge, Washington architect; Ian L. McHarg, chairman of the department of landscape architecture at the University of Pennsylvania; Dr. Thorndike Saville, dean emeritus of the New York University College of Engineering; and Dr. Markley G. Wolman, chairman of the department of geography, Johns Hopkins University. — E.E.H., Jr.

## AFTER THE FAIR IS OVER

BOSTON, MASS. When Expo '67 closed its gates for the last time at the end of October, a few people were probably still standing in line. If they wait just a little longer, they can see the permanent aviary and horticultural exhibit to be housed in the giant bubble dome of the U.S. Pavilion, which the U.S. has given to Canada. Better still, they could move down to Boston for the first U.S. showing of the 20 super-scale paintings that hung in that pavilion all summer. From December 15 to January 10, they will be on display in the Horticultural Hall, the only exhibition place in Boston with ceilings high enough to accommodate them. The largest canvas is Robert Indiana's *The Cardinal Numbers*, which stand 53' high. To install the paintings, special supports will have to be built around the Horticultural Hall's vaulted ceiling.

The Institute of Contemporary Art organized the Boston showing.

## COLOSSUS ON COLUMBUS CIRCLE



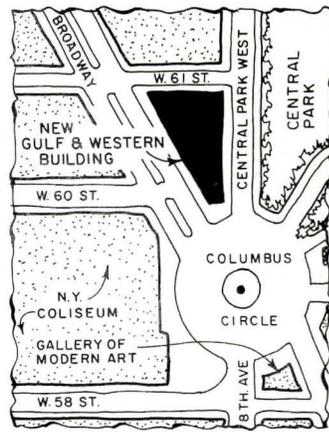
NEW YORK, N.Y. By the end of the year, work will be underway on a 44-story office building at the southwest corner of Central Park, on Columbus Circle. Gulf & Western Industries plans to consolidate its executive offices, some of which have been moved to New York City from Houston. With its total floor space of more than 600,000 sq ft, the building will be the first major office structure to go up in the area since the construction of Lincoln Center a couple of blocks north. Architect Thomas E. Stanley of Dallas, who designed the building, has used only one-third of the site and plans to landscape the rest with trees and several fountains.

The façade will be white marble, aluminum and glass. What the \$20 million structure will provide, due to its height rather than distinctive design, is an anchor for that corner of the park, a role the Coliseum and the Gallery of Modern Art have never played with any success.

Located in the building will be a motion-picture theater and two restaurants, one at the top of the tower.

In announcing Gulf & Western's building plans last month, New York Mayor John Lindsay had this comment on office space in New York City: "Since World War

II, more office space has been built in New York than exists in all Chicago, Los Angeles, and Cleveland. Today a record 98% of all New York City office space is rented. . . . Our real estate brokers will tell you the demand for office space in Manhattan today outpaces supply to the greatest extent in history. On top of all this, new buildings totaling more than 7,500,000 sq ft are being completed in 1967. These already are 90% rented."



## ELEGANT OFFICE ENSEMBLE

Strikingly simple forms, the richness of natural materials, and the pure massiveness of component elements characterize Warren Platner's designs for two new lines of office furniture produced by Lehigh Furniture Corporation. In contrast to the airy sculptural shapes of the metal furniture he produced a year ago for Knoll Associates (see pp. 166-167, JULY 1966 P/A), Platner has designed each piece in the new lines to become a solid part of the space that contains it. A reserved elegance prevents any individual piece from attracting particular attention, but may be counted on to create an appropriately formal atmosphere in reception areas and board rooms of corporations or foundations.

Desks, sofas, chairs, and conference tables in the first line (all told, the line contains eight pieces, discounting variations) are supported by vertical slabs resting on horizontal, rectangular bases. Furniture is of mahogany, oak, or other wood; supporting pedestals may be ordered in three kinds of granite, a highly reflective aircraft aluminum, and red or statuary bronze. The 8' executive desk is inlaid with leather or granite. Seats are leather or natu-

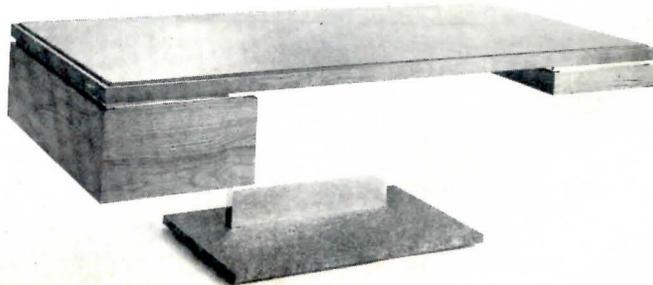


Photos: Ezra Stoller

ral silk. All hardware is concealed, and drawers slide in and out on invisible tracks beneath desk tops, so that the clean lines and angular configurations are retained.

The second line, while less elegant in appearance, is impressively four-square and solid. Available in this series are secretarial desks, storage cabinets, and occasional tables, all of post-and-beam construction in various species of wood.

Architect Platner, who, while associated with Eero Saarinen, designed the poshly understated Ground Floor restaurant in New York's CBS Building, has been at work on the office furniture designs intermittently for seven years. Having seen them through the first stages of production, he's eager to turn his attention to other facets of the profession.



## WATCH THE BIRDIES

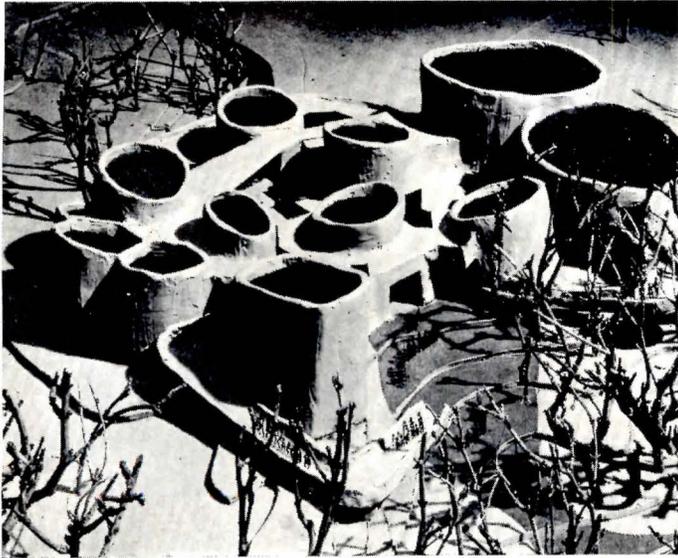
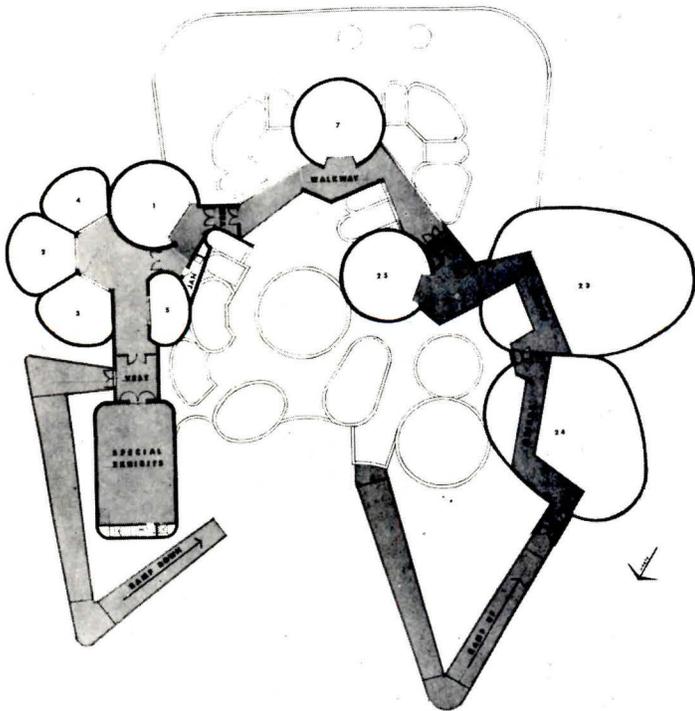


Photo: Louis Checkman

NEW YORK, N.Y. Birds living in the Birds of the World Exhibit at the Bronx Zoological Park will have a bird's-eye view of their visitors, unobstructed by bars or wire mesh. As designed by Morris Ketchum, Jr. & Associates, the bird house, when built next year, will be a cluster of rugged concrete cylinders rising from a rocky, wooded slope at the zoo, like so many incipient volcanoes. Inside each cylinder, birds will fly free between the earth-covered floor and the skylighted roof, often darting past visitors who will stroll right through the exhibits on ramps. Not all the exhibits will achieve this mixture of birds and visitors;

some will keep the visitors back behind glass viewing windows. Each concrete cylinder provides a completely enclosed, isolated exhibit area, and visitors will circulate through the building on ramps that will carry them from ground level to an intermediate or tree-top level, to roof level, then back to ground level through an area devoted to special exhibits.

In strolling through, visitors will be able to watch birds in habitats that closely approximate natural ones. The 30,000-sq-ft building is expected to cost \$1,500,000. Structure will be cast-in-place, reinforced concrete slabs with 10"-thick concrete cage walls.

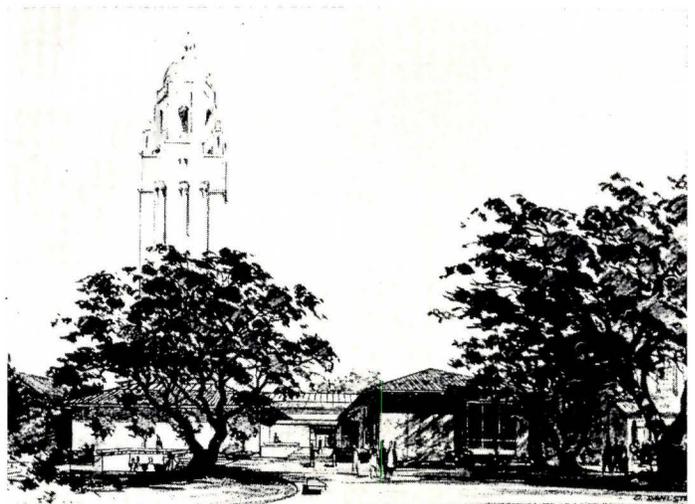


## CALENDAR

Architects and structural engineers may participate in a short course on "Plastic Design of Multi-Story Frames" at the University of Wisconsin's Madison campus, December 13-15. Inquiries should be directed to: Dwight D. Zeck, Institute Director, 725 Extension Building, 432 N. Lake St., Madison, Wis. 53706 . . . The Annual Meeting of the Society of Architectural Historians will take place January 25-28 at the Chase-Park Plaza Hotel in St. Louis. For program information, write to: S.A.H., 1700 Walnut St., Room 716, Philadelphia, Pa. 19103 . . . The Society of the Plastics Industry will hold the 23rd Technical Conference of the Reinforced Plastics/Composites Division at the Shoreham Hotel in Washington, D.C.,

February 6-9. Information on conference sessions and exhibits is available from: Charles Condit, SPI, 250 Park Avenue., New York, N.Y. 10017 . . . Condensed course on Engineers in Private Practice sponsored by the Wisconsin Society of Professional Engineers and the Consulting Engineers' Council of Wisconsin, will be conducted February 8-9 at the Madison Campus of the University of Wisconsin. Address inquiries to: Dwight D. Zeck, Institute Director, 725 Extension Building, 432 N. Lake St., Madison, Wis. 53706 . . . March 2-8 at the Statler-Hilton Hotel in Los Angeles, the American Concrete Institute will hold its Annual Convention. Information about the meeting is obtainable from ACI, P.O. Box 4754 Redford Station, 22400 W. Seven Mile Rd., Detroit, Mich. 48219.

## NEW ART BUILDING FOR STANFORD CAMPUS



STANFORD, CALIF. A building to house classrooms, art library, slides, and studios is being constructed on the campus of Stanford University between the Main Library (whose tower can be seen in the background) and the Art Gallery. Architects John Carl Warnecke & Associates of San Francisco have designed the building in sandstone-colored concrete, with stucco walls and tile roof to conform with existing buildings nearby.

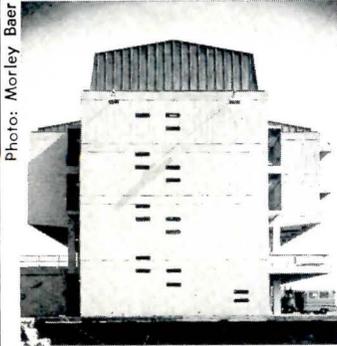
Below grade, the \$2,425,000 structure will contain an auditorium, two large classrooms, a separate slide library, studios, and library stacks. Faculty offices, stu-

dios, seminar rooms, and the main reading room of the library will occupy the second level, 5' above grade. The partial third level will provide additional studio space.

The 350-seat auditorium, having special projection facilities for split-screen viewing allowing students to compare slides shown simultaneously, will be used by other university departments in the evening. For this reason, it has been located at the lower level, with a separate entrance.

Landscaping by Thomas Church will preserve existing oaks and tie in with the building's natural surroundings.

## SOUTHWEST WASHINGTON CHAPTER HONOR AWARDS



1

TACOMA, WASH. The AIA's Southwest Washington Chapter cited five local projects in its 1967 awards program. Jury members Joseph Esherrick of San Francisco, John Storrs of Portland, Ore., and



2

A.O. Bumgardner of Seattle, Wash., found the "no-nonsense seagoing character" of Liddle & Jones's Marine Sciences Building (1) for the University of Washington worthy of the one Honor



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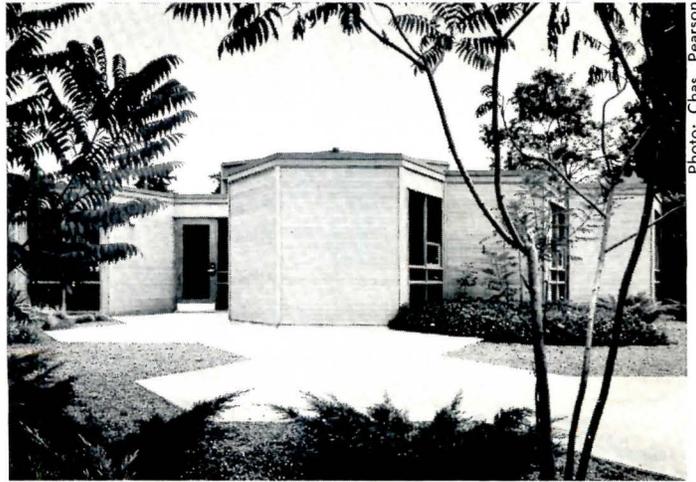
Award made.

Merit Awards went to: Robert B. Price for Housing for the Elderly (2), Tacoma, Wash.; Johnson/Austin Associates for their Puget Sound National Bank, Linden Drive

Branch (3) in Tacoma; Hocking & Moriarty for a Body Shop of the South Tacoma Motor Company (4), and Liddle & Jones for Dr. Evans Dental Clinic (5), Tacoma.



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## COMPETITIONS

The U.S. Department of Housing and Redevelopment is sponsoring a **Design Awards Program for Urban Mass Transportation** to recognize outstanding work of transit authorities, engineers, designers, and urban planners. Closing date for entries is January 15, 1968. Entries must consist of descriptive statements with photos, plans, or other graphics, and should be mailed to: 68 Design Awards Program in Urban Transportation, HUD, 1626 K St., N.W., Washington, D.C. 20410 . . . The Lake Michigan Regional Planning Council announces the first annual **Harry Baime Fellow-**

**ship in Regional Planning** in the amount of \$1000. Any citizen of the U.S. engaged in one of the environmental design professions, including architecture, landscape architecture, and planning, may apply. The award will be given for a proposal to further the development of an aspect of regional planning in the Lake Michigan Region. For more information, write to: James Arkin, Chairman, Lake Michigan Region Planning Council, 332 S. Michigan Ave., Room 440, Chicago, Ill. Entries must be submitted before December 5, 1967 . . . Nominations are open for the **1968 12th Annual R.S. Reynolds Memorial Award** for distinguished architecture exemplifying the use of alu-

minum. The international Reynolds Award, the largest in architecture, is administered by the AIA. Nominations will close February 1. Write to: Reynolds Award, AIA, 1735 New York Ave., N.W., Washington, D.C. . . . Nominations are also being accepted for the AIA's 12th annual **R. S. Reynolds Memorial Award** for a distinguished architectural work that makes significant use of aluminum. The award is open to architects practicing here or in foreign countries. Preference will be given to buildings completed between January 1, 1965 and January 1, 1968. Nomination forms are obtainable by writing to the AIA, R.S. Reynolds Memorial Award, 1735 New York

Ave., N.W., Washington, D.C. and must be returned before February 15, 1968 . . . Architectural designs executed in the U.S. or abroad between January 1, 1963 and December 31, 1967 are eligible for submission in the **1968 AIA Honor Awards Program**. A brochure containing a complete description of the program and registration form is available from AIA headquarters in Washington, D.C. Entries must be submitted according to instructions prior to February 16, 1968 . . . **The Pulitzer Fellowship in Critical Writing** will be awarded by the trustees of Columbia University to assist an American University graduate in preparing for a "career in critical writing on art or an-

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other critical subject." Fellowship may be used for advanced study and/or travel to increase the holder's knowledge in painting, architecture, sculpture, etc. Application forms may be obtained

from: Professor John Hohenberg, Secretary, Advisory Board on the Pulitzer Prizes, Graduate School of Journalism, Columbia University New York, New York 10027. Deadline is February 20.

## THE STATION

Photos: C. Hadley Smith



ITHACA, N.Y. The turn-of-the-century railroad station is something purely American. Hundreds of them dot the landscape from Seneca Falls to Backwater Junction. Mostly they smell of decay and disuse, like relics from a musty corner of architectural history. Only occasionally does someone take an unused railroad station and breathe life back into it. One young couple we know converted a deserted New Jersey station into a weekend home; here they can retreat from civilization, undisturbed save for the one train a day that still lumbers past their house.

In Ithaca, N.Y., the old Lehigh Valley Railroad Station is now serving up steaks and wine, instead of round-trips to Syracuse. Bought a year ago for \$50,000 by Joseph Ciaschi, the station is today a restaurant, filled with relics of railroad days. The original ticket counter fronts for a bartender, not a station master. Lanterns are on tables; old trunks from the lost and found room line the walls, a pot-bellied stove still stands in one corner; a signal arm points to the wine cellar.

The station's exterior is practically unchanged. Ciaschi added awnings. And out



back, a wooden-spoked baggage cart holds an air-conditioning unit. Designers of The Station, as Ciaschi calls it, were S. Guy Lovelace and James Steele of Syracuse, who operate an interior design studio. Lovelace has an architectural degree from Syracuse University.

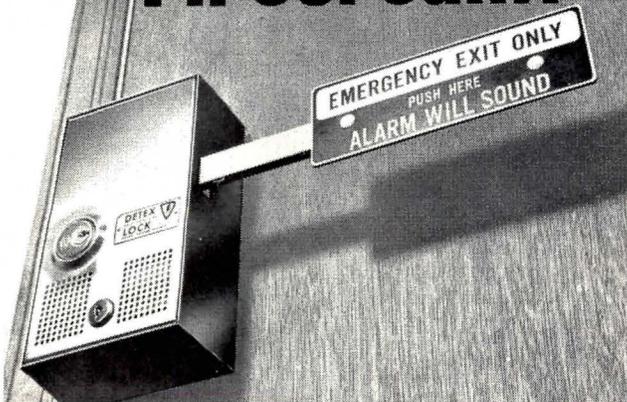


## SCHOOLS

**Environmental study** for the reclamation and improvement of land damaged by strip mining has been undertaken at the **University of Texas** School of Architecture with a \$3000 grant from the Texas Aggregates Association. The program may be the first to involve architects (or architectural students) in a form of environmental planning that has traditionally remained distinct from the architectural professional. Under the terms of the grant, students will develop planning procedures for

obtaining maximum aesthetic and economic benefit from land scarred by surface mining for both industry and the public. With the assistance of faculty consultants, students will formulate recommendations and present their findings to the Texas Aggregates Association, whose membership is composed of producers of lime, sand, gravel, rock asphalt, and crushed stone. R. Gommel Roessner, who is in charge of the fifth-year class for the School of Architecture, is critic for the project . . . Chester Rapkin is the new director of Columbia University's Institute of Urban

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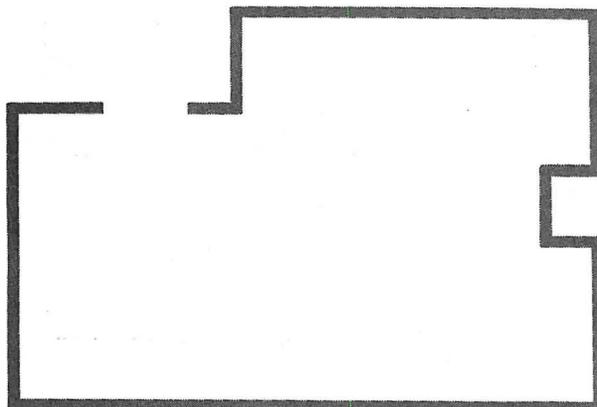


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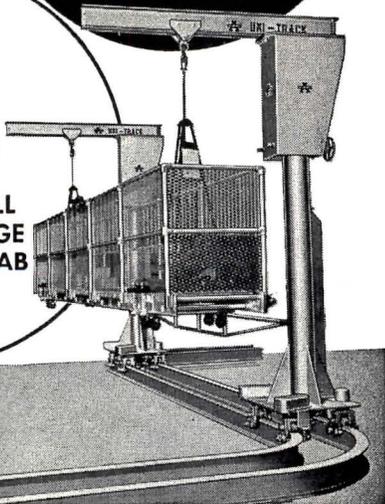
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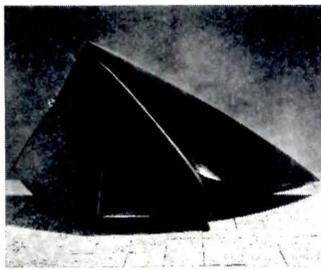
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Environment. He succeeds Charles Abrams, who is now chairman of the institute's executive committee, as well as chairman of the Division of Urban Planning of the School of Architecture . . . Frederick D. Nichols was recently named to fill the newly established Cary D. Langhorne professorship in the **University of Virginia's** School of Architecture. Structural engineer Lev Zetlin has joined the faculty as University Professor. He will be affiliated with the university as a whole rather than any constituent school, and will be free to teach and research in any of the several schools . . . The Goodyear Tire and Rubber Co. has donated \$1,250,000 to **Akron University** as a contribution toward a \$6 million center for the performing arts, new library facilities, and renovation of campus buildings.

## A "SYMBOL OF DIGNITY"



SAN FRANCISCO, CALIF. What architect Donn Emmons describes as "one of the world's major new works of art in our time" will be placed in the plaza of the Bank of America World Headquarters Building. It is a sculpture by Masayuke Nagare, fashioned from a massive piece of Swedish black granite. Some of the massiveness of the sculpture, which will be 23' wide, 30' long and 14' high, and weigh 200 tons, will be alleviated by its gracefully tapered lines and highly polished surface. Architect Emmons believes it will relate well in scale to the building behind it. Facing the sculpture in the plaza will be a low fountain made of the same black granite.

Architects for the Bank of America building are Wurster, Bernardi & Emmons and the San Francisco office of Skidmore, Owings & Merrill.

## BACK BAY BIENNALE

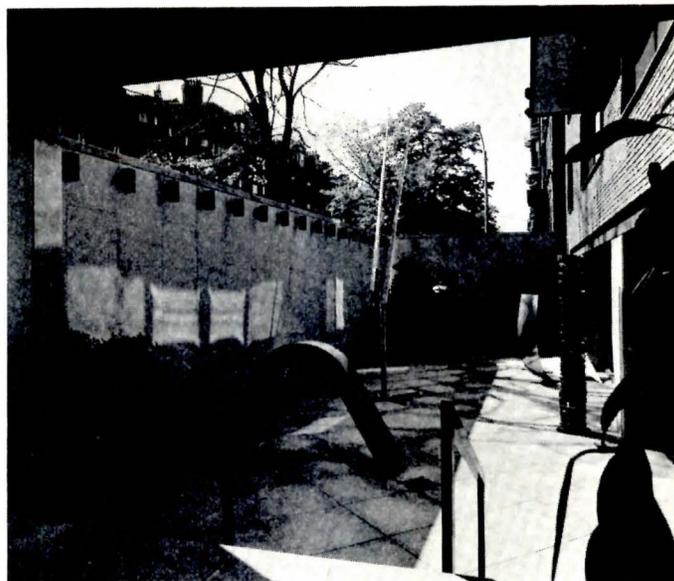


BOSTON, MASS. The newest apartment building on Beacon Street in Boston's fashionably conservative Back Bay is a repository for one of the least conservative art collections in the country. A Calder mobile, a kinetic sculpture by George Rickey, and works by Jean Tinguely, Seymour Lipton, and Barbara Hepworth fill the ground floor lobby and court; paintings, prints, and collages worth \$300,000 adorn corridor walls on all 17 floors.

"Living with art" is the idea of Max Wasserman, owner and developer of the building, and his wife Jean, who is a well-known collector. In planning 180 Beacon Street, Wasserman decided to forego the fancy décor and other accoutrements of luxury buildings in favor of stark surfaces similar to gallery walls. Sam Hunter, until recently head of New York's Jewish Museum, was asked to head the selection committee, which spent two years acquiring 163 works executed since World War II. "This is one of the largest corporate art collections in the country," Hunter says. "It's like living in a museum—that's the innovation."

That's the only innovation, for the building itself, in which rents range from \$250 to \$875 per month, is almost monumentally pedestrian, making no visual, architectural, or artistic contributions of its own.

Tenants, however, seem to enjoy life in a museum. And several of them were enjoying it especially on a recent evening when the whole building opened for a black-tie benefit premiere. Residents opened their doors to display their



Photos: Lois M. Bowen

own private art collections and joined the crowds of viewers wandering up and down stairs and corridors to take in (aside from the art) dancing, mixed media shows, and other events that take place in

empty apartments.

Comments the developer, "It's too early to tell whether the art will rent apartments or discourage people from coming in, but I think it's going to make for better living."

## OBITUARIES

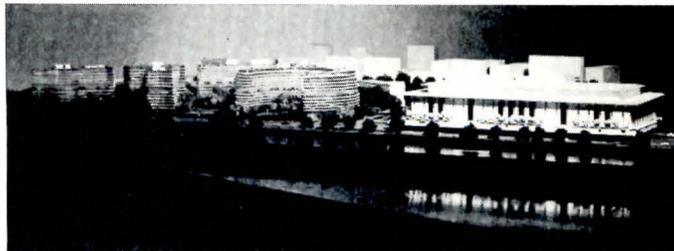
**Gardner Acton Dailey**, San Francisco architect, died October 24 after leaping from the Golden Gate Bridge. He was 72 years old. Dailey was designer of the De Young Museum addition for the Avery Brundage collection of Oriental Art, the Varian Physics Laboratory at Stanford University, and the Bay Area Rapid Transit District headquarters in Oakland.

**John G. Flowers**, executive director of the Texas Society of Architects and of the Texas Architectural Foundation for

the past 13 years was fatally injured in an automobile accident September 16. In 1966, he became an honorary member of the AIA.

**Karl Vitzthum**, 87, died October 30 at his home in Chicago. A native of Munich, Germany, Vitzthum came to the U.S. in 1902 and to Chicago in 1914, where he established his own practice. During his career, he worked at various times with the firms of D.H. Burnham & Co., Graham-Anderson-Probst, and White, Jarvis & Hunt. Among the buildings he designed are the Great Lakes Naval Training Center and Chicago's Midland Buildings.

## WASHINGTON/FINANCIAL NEWS

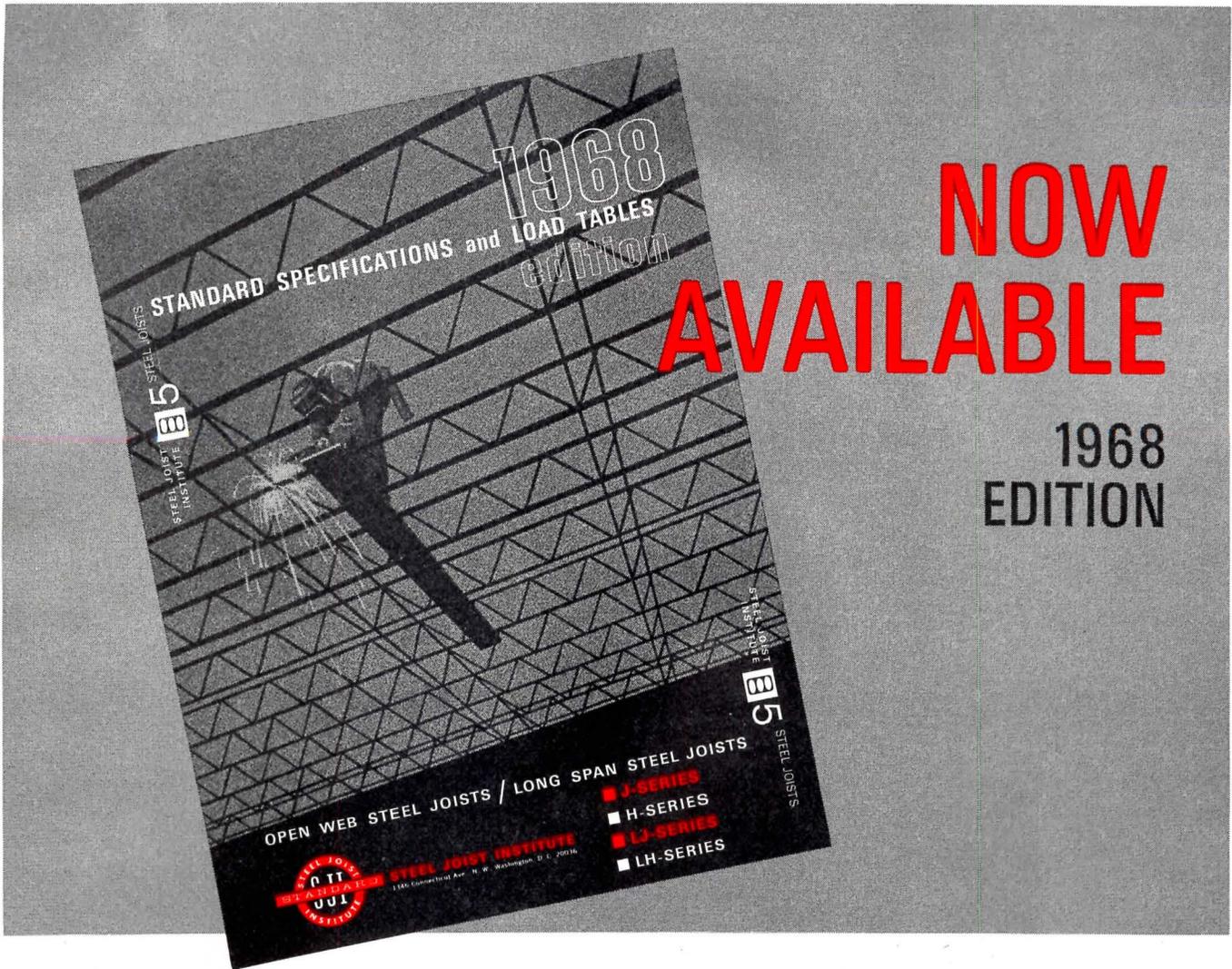


By E. E. HALMOS, JR.

**Kennedy Center brouhaha**—Architects and the powers that control planning in the nation's capital seemed to be

lined up on the same side, for a change, as winter approached.

Focus of the controversy was the \$30 million (at latest estimate) Kennedy Center



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for the Performing Arts, designed by Edward Durell Stone, and the neighboring, \$66-\$70 million, Watergate project, whose curvilinear apartments, hotel and office buildings have already become a major landmark along the capital's Potomac waterfront.

When the city's zoning commission approved the 10-acre Watergate development in 1962, trustees of the Kennedy Center did not object that the fifth and final building in the development would rise to a height of about 150', only



300' away from the edge of the Kennedy structure. In fact, when the Watergate project was first under discussion, the trustees made it known publicly that the buildings would, in their opinion, be "compatible."

This September, however, the Kennedy trustees (who have no connection with the late President's family) suddenly evidenced a change of heart: They appealed to the District of Columbia's Board of Zoning Adjustments to deny a permit for the construction of Watergate South, the \$22 million final structure of the development. Reasons: The proposed building would be too high, too close to the Kennedy Center, and would dwarf and "diminish" it.

That appeal brought a wave of protest — backed by the city's two largest newspapers, and, most importantly, by the AIA, which came to the defense of architects Corning, Moore, Elmore & Fischer, who designed Watergate. They defended a provision of the city's zoning regulations (Article 75), which was specifically written to permit a developer of a large site — after he has received a commitment on an over-all plan — to submit successive portions of the development for detailed approval over a period of time. Thus, it was designed to permit development

of a coherent group of buildings that would be suited, according to the AIA, "for varying uses and planned to make the best use of a site and to create a strong element in the urban scene functionally, aesthetically, and economically."

Speaking for the AIA before the appeals board, board member David N. Yerkes noted that the issue is broader than the affected projects:

"The issue, as we see it," said Yerkes, "can be summed up in this question: Can developers, architects, and plan-

ners . . . depend on the integrity of the public agencies with which they have to deal, and the permanence of the commitments made to them by these agencies?"

The AIA, Yerkes pointed out, is not now concerned with the architectural merits of either group of buildings. "We are deeply concerned," he added, "with defending the procedures which permit and encourage farsighted planning and development of land in the District of Columbia. This is a matter of vital importance to the city . . . and, indirectly, to the future of enlightened planning in other cities.

"Any further reduction in the height of the Watergate South building would destroy the architectural unity of the . . . development. Any minor change in the height . . . would be insignificant in its effect on the Center. To require a major [change] would be an inexcusable reversal of approvals already given.

"It now appears that the trustees . . . are trying to alter the surroundings . . . at the expense of good planning procedures."

As has not always been the case in such hassles, most of the city's officialdom was on the side of AIA: The Appeals Board itself rejected a trustee's contention that it didn't have jurisdiction to decide the height of the final Watergate

building; it was backed by an opinion of the city's chief legal officer; and a number of Congressional figures (including Oregon's cantankerous Senator Wayne Morse, who owns a Watergate apartment) chimed in on the side of the developers.

Final answer won't be possible for some months, pending the zoning board's decision, and possible appeals from it.

And there was a further wry comment from AIA President Robert L. Durham, who noted that the trustees had paid no attention to the AIA's original objections to the Kennedy site. Said Durham:

"This sudden and belated shift . . . suggests either that the trustees now recognize the validity of [our] objections . . . or that they have felt that earlier opposition to the Watergate South building would be badly timed from the point of view of tactics."

**Stone and Safdie have D.C. work** — Both the somewhat ubiquitous Edward Durell Stone and newly famous architect Moshe Safdie appeared on the Washington architectural scene in other connections.

Stone received the assignment to design a huge, \$34-million, 1-million-sq-ft structure (it would be Washington's largest privately owned office structure) for the Boston firm of David Nassif Corporation on a 5.4-acre site in the city's Southwest Urban Renewal area.

Safdie, who was responsible for the spectacular Habitat 67 at Expo 67 in Montreal, was asked by the Housing and Urban Development Department to "submit ideas" for a 600-unit public housing development in the capital. HUD said it was interested to see if the Montreal-based Safdie could come up with something "within the perimeter of public housing cost."

**Supreme Court backs Jersey architects** — While Congressional struggles with the Johnson administration over money matters continued to dominate official Washington, the U.S. Supreme Court provided interesting news for architects:

By refusing to review a decision of the New Jersey State Supreme Court, the

High Court affirmed the legal right of registered architects and engineers to obtain certification as "land planners" under state laws, automatically, without special degrees or examinations.

The state enacted a "professional planners law" in 1962 (see p. 66, APRIL 1967 P/A), but has taken little action under it, because A-E's complained that the statute could be interpreted to prevent engineers and architects from "providing planning services of the type traditionally carried out by these professions."

**Financial** — Although there never was any real doubt that Congress would appropriate needed funds for Federal agencies (and that they'd come out just above where the President wanted them), there is no doubt that the long-continuing hassle between the legislative and administrative branches of the Government would hurt the construction economy. Example: Bureau of Reclamation, unable to let contracts (under Presidential strictures) for a month or more, had actually lost the whole fall and early winter construction season; thus the delay in actual work could run to months, rather than weeks. On highways, threats of cutbacks (which obviously wouldn't be carried out) in apportionments to states had already brought contract awards to a virtual halt; the same applied to work of the Corps of Engineers.

□ On appropriations and economy, by the way, it is interesting to note that although Congress was crying mightily against excessive spending, it had approved appropriations running to more than \$135 billion before the end of October. That was within pennies, figuratively speaking, of what President Johnson had asked last January.

□ Other financial aspects offered no great cheer, though no great discouragement either: General figures for construction-put-in-place held about even with a year ago, indicating a little less than the predicted 4% general rise for the year in dollar volume; housing wasn't slipping, but it was showing no substantial gains; costs — particularly labor costs — continued inching upward.



## TIRADOR... Cohyde's new contract vinyl wall covering

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# THE PRESCON MEMO NEWS

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## HOSPITALS POST-TENSIONING INCREASES DESIGN FLEXIBILITY AND REDUCES COSTS



**St. Luke's and Texas Children's Hospitals** in Texas Medical Center, (Houston) are being expanded from 257,000 sq. ft. to 1,100,000 sq. ft. and a capacity of 1063 beds. Later expansion will increase facilities to 2,200,000 sq. ft. This huge project becomes the largest post-tensioned structure in the southwest and the largest grouted post-tensioned flat plate application in the U. S.

Choice of post-tensioned construction allowed matching existing floor-to-floor heights and provided more room for mechanical. In order to eliminate all beams, yet accommodate the many large openings through the floor, the engineer designed 10" thick slabs. A 3" wearing slab will be added later. Spans are predominantly 24 ft. The structural steel columns are fabricated two stories at a time to reduce the problem of the columns bending in at the top due to elastic shortening of the slab.

The slab was designed by the load balancing method using a computer program. The computer also drafted the 420 tendon profiles and printed them to scale — 26 sheets never touched by hand. Job conditions require use of 4-types of Prescon anchorages: standard, donut, coupled, and central stressed.

This expansion program, costing more than 32 million dollars, adds four floors to Texas Children's Hospital, a 20-story tower, and a south wing to house emergency, laboratories, research (50,000 sq. ft.), administration, and underground parking for approximately 100 cars, and the first two floors of a second tower in the North Court. Texas Heart Institute will also be housed in the project with operating rooms for coronaries, plus several floors in the tower for patients, as well as other facilities.

**Architects:** Staub • Rather • Howze and Rustay • Martin • Vale  
**Structural Engineer:** Francis J. Niven & Assoc. Joe T. Strother—Assoc. Engr.  
**Contractor:** Manhattan Construction Co. of Texas

**The Alexian Brothers Hospital**, San Jose, Calif., has 180 beds and is approximately 120' x 250'. The south wing is 5 bays long (24' x 24') and the north wing is 3 bays long. Each wing is 2 bays wide. Precast tees support a 6" slab to form the roofs. The tees rest on precast beams 30" deep and 48' long, cast of 5000 psi lightweight aggregate concrete.

The multi-story section is approximately 144' long and 58'10" between exterior columns plus a saw-tooth slab that adds 4'7" to the valley, 8'2" to the point (12' between valleys or points). Exterior bays are 24' x 24' with the center bay measuring 24' x 10'10".

First floor tendon spacing in the Main Building was 2'6" o.c. in the middle strips and an average of 16" o.c. in the column strips. Many penetrations of the slabs required horizontal deviation of the tendons around these openings. This was easily accomplished with the Prescon System of post-tensioning.

The multi-story section has saw-toothed slab edges which were pocketed to receive Prescon tendon stressing terminals. A 5½" thick wall section was cast-in-place after stressing and provided concrete cover for the stressed tendons. The tendon placement pattern was repeated in each bay as well as on succeeding floors.

The west end of the building has a chapel on the first floor, with the obstetrics wing above it. These two levels use waffle slab construction to span 52' x 64'. Each span terminated in a 17'7" cantilever. Modules of the waffle slab were 8' x 8' with some areas as large as 8' x 10'. Waffle sections were composed of joists 8" wide and 21" deep plus a 5½" slab at second floor for a total of 26"; the total depth of the roof waffle section was 20".

**Architect:** Robert R. Weber, AIA, San Francisco  
**Structural Engineer:** T. Y. Lin, Kulka, Yang & Associate

**The Memorial Hospital of Gardena, California**, (completed November '67) has seven stories, providing 155,000 square feet. It has 235 patient beds, operating rooms, laboratories, a 200-seat auditorium, and other facilities to make this one of the outstanding hospitals in the country.

The structural frame is composed of an 8½" post-tensioned flat plate with columns at approximately 25' in both directions. Lateral loads are resisted by the use of cast-in-place shear walls.

The second floor level required that 800 yards of concrete be placed in a single operation. Prescon tendons as long as 234'-0" were required in this area. Due to the tendon length, friction losses made stressing from the ends impossible. Prescon tendons with central stressed anchorages (Type X) were used



to reduce friction and obtain the desired force. Central stressing blockouts were located at two points along the tendon length, approximately one-fourth the distance from each end of the tendon. Fixed end anchorages (spread plates) were used at the tendon ends, thus eliminating stressing pockets at the slab edges. Stressing was accomplished by two central stressing jacks operating simultaneously at the central stressing anchorages. Upper slabs also utilized central stressing in areas where applicable, resulting in additional savings.

Use of Prescon flat (Type F) tendons throughout the project made possible an 8% reduction in prestressing material requirements. The thinner flat tendons allowed an increase in eccentricity while maintaining the same concrete cover.

*The advantages that can be gained by use of post-tensioning makes it important that the Prescon System be considered in your project design. Write for literature.*

### THE PRESCON CORPORATION

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J67

# PRODUCTS

## CONSTRUCTION

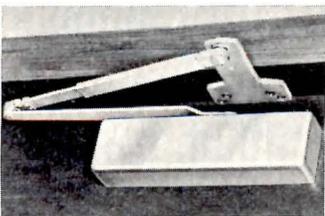
**Architectural vinyl extrusions.** Rigid vinyl (polyvinyl chloride) extrusions for architectural applications have been sophisticated by a process called "Vacu-Seal." The process is said to permit quantity production of very intricate extrusions with close design tolerances. A new line of combination windows and doors are now offered, in addition to manufacturer's usual line of carports, balcony dividers, etc. The extrusions have a hollow core, which, with the low thermal conductivity of the polyvinyl chloride itself, make them effective insulators. Fiberlux Products, Inc., 59 S. Terrace Ave., Mt. Vernon, N.Y. 10550.

Circle 100, Readers' Service Card

**Rewettable lagging cloth.** A built-in adhesive impregnates asbestos insulating lagging cloth so that application requires only the addition of water. Intended for piping systems, ducting, and boilers, for initial application or repair work. Certified incombustible. Since only water is used for application, danger of harm from chemical burns is removed. No filler or sizing is needed. Standard rolls are 50 yds long and 60" wide. H. K. Porter Co., Inc., Porter Building, Pittsburgh, Pa. 15219.

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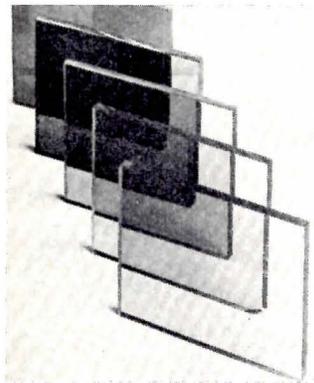
## DOORS/WINDOWS



**Door closers with decorative covers.** Manufacturer has released a line of door closers ("70 Series Trimpower") that feature covers (in either a hardware finish or anodized color) intended to complement the entrance décor. Closers are available with regular or parallel arm applications, and with separate

control valves that adjust closing speed, latching speed, and backcheck. Permits door opening of 180°. Jackson Exit Device Corp., 3447 Union Pacific Ave., Los Angeles, Calif. 90023.

Circle 102, Readers' Service Card



**Grays and bronzes in Plexiglas.** Solar-control colored acrylic plastic is intended for windows, skylights, transparent enclosures, and sunscreens. It comes in transparent gray and bronze, in three standard densities that let through 15 to 75% of the visible light and from 25 to 75% of the solar energy. Two or more densities can be combined to accommodate illumination changes at different elevations in a transparent enclosure. (A combination of three tones was used in the U.S. Pavilion at Expo 67.) These tinted sheets are said to have the same resistance to breakage and discoloration as untinted sheets of the manufacturer's widely used acrylic plastic Plexiglas. Rohm & Haas Co., Independence Mall West, Philadelphia, Pa. 19105.

Circle 103, Readers' Service Card

## ELECTRICAL EQUIPMENT

**Lighting dimmers.** An electronic delay circuit makes possible this line of 1800-w dimmers having "Push-On" "Push-Off" switches. Manufacturer claims they are the first such dimmers to have passed a 10-year life test. The line features 5" x 7" faceplate. Approximately \$85-\$90. Lutron Electronics Co., Ltd., Emmaus, Pa. 18049.

Circle 104, Readers' Service Card

## FINISHES PROTECTORS

**Longer life for copper.** Development of a new polyvinyl fluoride coating system will extend the present uses of copper, claims the manufacturer. It is anticipated that the coating will prevent tarnishing and corrosion of the metal for a period of 25 years or longer. Once the coating is adhesively bonded to the copper, the resultant laminate can be reshaped without cracking or otherwise breaking down the coating. International Copper Research Association, Inc., 1271 Avenue of the Americas, New York, N.Y. 10020.

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## FLOORING

**Acid-resistant motor.** Brick floors installed in institutions such as laboratories and food plants, where they get rough, continuous use, require mortar having effective chemical and heat resistance. This is provided by "No. 340-W Nuran," a water-washable furan-type cement. It reduces brick floor installation costs because excess cement washes up easily, minutes after brick is laid; thus, expensive pre-waxed bricks are not necessary. Manufacturer also claims the cement has strength comparable to epoxy cements. Amercoat Corp., Brea, Calif. 92621.

Circle 106, Readers' Service Card

**A new floor in six hours.** A fast-drying vinyl/urethane emulsion seamless flooring system shortens curing and drying time. System also cuts installation time by packaging ready-to-use components. An opaque base coat of pigmented "Resyn (R) 5005" emulsion provides a solid-color base on which vinyl chips are sprinkled in any desired pattern. A clear seal coat of the same emulsion, applied after the base coat has dried, provides a smooth surface. Coatings may be applied over any substrate. Manufacturer claims minimal creeping from walls. Since water is the only evaporative element in the emulsion, there are no fumes to contaminate the air. National Starch & Chemical

Corp., 750 Third Ave., New York, N.Y. 10017.

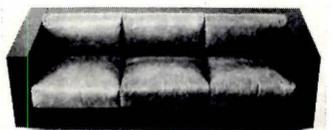
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## FURNISHINGS



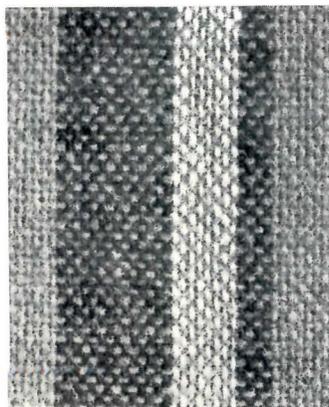
**Mascheroni goes modern.** Until recently, designer John Mascheroni dealt solely in antique furniture. Now, he has designed his first contemporary pieces. Among them are some superscale designs, such as a coffee table (17" high by 36" square) with a frame of polished aluminum tubing 3" in dia. A transparent, solar-bronze glass top rests within the frame. (Tubular frame has rounded corners.) A desk conference table has a hefty leather-wrapped top (seemingly floating) supported by four polished stainless-steel "T" legs. John Mascheroni Furniture Co., Inc 979 Third Ave., New York, N.Y. 10022.

Circle 108, Readers' Service Card

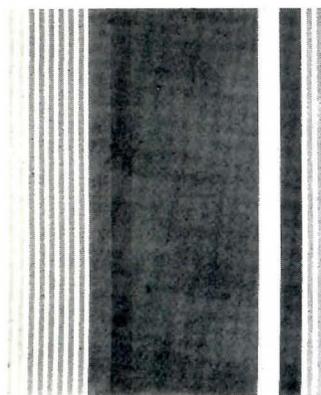


**Lacquer and leather.** The "Saratoga Group," designs by Elena & Massimo Vignelli, include rectangular chairs, sofas, and tables. The texture and shape of the sharp-cornered glossy red, black, or white lacquer frames contrasts with the slightly rounded edges of the leather cushions (in red, black, or natural). The 35½" square table stands 12" high and has the same lacquer finish as the chair and sofa frames. Sten-

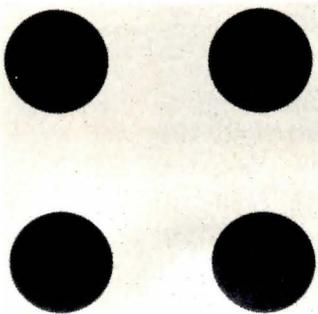
dig Inc., 410 E. 62 St., New York, N.Y. 10021.  
*Circle 109, Readers' Service Card*



**Tweedy.** Patterns correlated with two already existing upholstery fabric groups in "Caprolan" nylon continue the "tweedy" aspect common to both lines. In the "Brigadoon" group, a new warp stripe comes in six color combinations, and a new hound's-tooth in four color combinations. In the "Tango" group, the additions are a herringbone, a plaid, and a stripe, each available in six colors. Manufacturer emphasizes wear and soil-resistance qualities of the fiber, and the stain-repellent finish on the 54"-wide fabric. Graniteville Co., 44 W. 50 St., New York, N.Y.  
*Circle 110, Readers' Service Card*

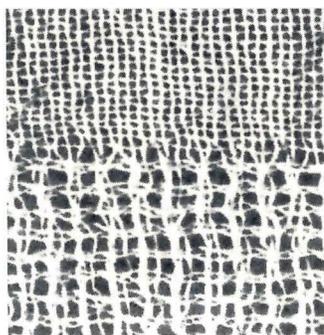


**Dots and Stripes.** With two of his new wallpapers and fabrics, designer Gene McDonald explores large, bold designs. "Knob Dot" is a silk-screened design of 2 3/4"-dia dots spaced openly in rectangular rows. The design comes as black, red, blue, or green dots on a white background in either wallpaper or 48"-wide cotton. "Italian Stripe" is a strictly vertical composition of multiwidth stripes, which comes in four color combina-



tions on paper and six on fabric. Gene McDonald, Inc., 969 Third Ave., New York, N.Y. 10022.

*Circle 111, Readers' Service Card*



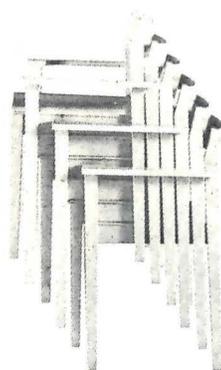
**Vibrancy in textiles.** Items recently introduced by Unika Vaev include a wool drapery fabric and a wool rug in cheerful colors. The supple, wool, solid-color drapery by Paula Trock (shown) is 51" wide with a border more closely woven than the rest of the open fabric. Available in blue, yellow, green, olive, and off-white. A 9'-2" circular wool rug designed by Ib Antoni has a butterfly design in five combinations of vibrant colors. Unika Vaev Corp., 979 Third Ave., New York, N.Y. 10022.

*Circle 112, Readers' Service Card*



**Casual chair.** Walnut frame chair with a foam rubber or down-filled cushions was conceived as a casual, adaptable chair for residential or commercial use. A large selection of stock fabrics is available

for the cushions. Arm pads snap off and on. Dependable Furniture Co., 45 Williams Ave., San Francisco, Calif.  
*Circle 113, Readers' Service Card*



**German-American stacking chair.** Wooden stacking chairs produced in West Germany by the Lubke Company are now being manufactured in the U.S. by the Harter Corporation. These natural beech chairs can be arranged in rows, with or without arms; the former is achieved by alternating armchairs with side chairs. Stacked, six of the chairs stand 45" high. Seats are of beechwood or fabric-covered wood as specified. Harter Corporation, Sturgis, Mich. 49091.

*Circle 114, Readers' Service Card*

#### LIGHTING



**Recessed lighting fixture.** Two-lamp and four-lamp "Gridlume" recessed lighting arrangement is economically priced, according to the manufacturer. It is intended for installation on any exposed-grid, suspended ceiling system. Styled to be used either as a single unit or in end-to-end continuous rows. Celotex Corp., 1500 N. Dale Mabry, Tampa, Fla. 33607.

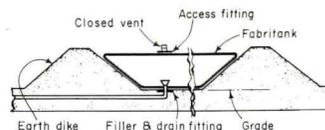
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#### SPECIAL EQUIPMENT

**Extra-sensitive.** Said to "see invisible smoke," this UL-approved 6"-dia ionization fire

indicator is designed to be sensitive enough to trigger an alarm before conventional detectors would react. Detector gives off a small number of ions, enough to maintain a small current between two charged plates. In a fire, invisible aerosols, produced by combustion, "soak up" these ionized particles, break the current, and trigger the alarm — even if visible smoke or flame is not yet present. Sensitivity mechanism adjusts to size of space to be covered. Stand-by batteries take over in case of power failure. Honeywell, 2727 S. Fourth Ave., Minneapolis, Minn. 55408.

*Circle 116, Readers' Service Card*



**Water stored in fabric.** An inflatable, one-piece liquid storage tank, made of nylon and neoprene rubber, can temporarily or permanently store as much as 1 million gal of liquid. When collapsed, it fits into a 2 1/2' x 2 1/2' x 30' container for shipment. Can be installed in earthen embankments. It is lightweight, quickly installed, and the fabric is treated to be noncorrosive. Uses include municipal and industrial liquid storage with possible use as an on-site water tank for construction projects. Firestone Tire & Rubber Co., 1200 Firestone Parkway, Akron, Ohio, 44317.

*Circle 117, Readers' Service Card*

#### SURFACING

**Spray-on wall surfacing.** A spray-on vitreous wall surfacing for institutional uses can be applied at about one-sixth the cost of facing block, claims manufacturer. It comes in a wide choice of colors. Formed from a combination of thermosetting plastics with various inorganic elements, "Spraytile" is said to produce a smooth, almost indestructible finish with good color retention. Curing can be adjusted for different speeds and unusual atmosphere and temperature conditions. Polymer Plastics Manufacturing Co., Inc., 2300 Shames Dr., Westbury, N.Y. 11590.

*Circle 118, Readers' Service Card*

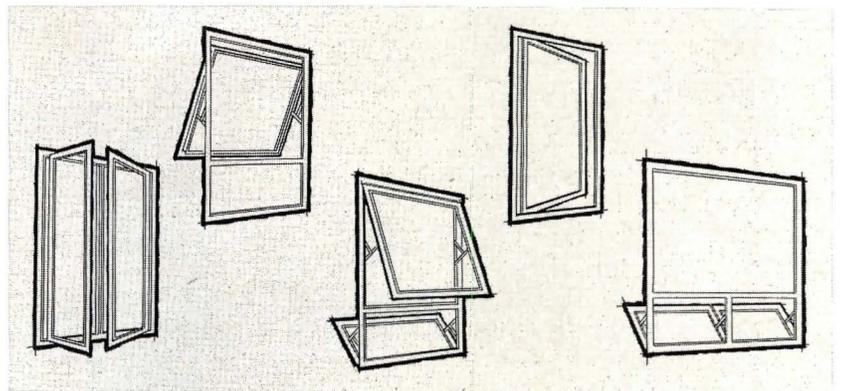
# new weatherstripped steel windows

solve rain, wind and rust problems

## High-performance steel windows by Ceco (check the features)

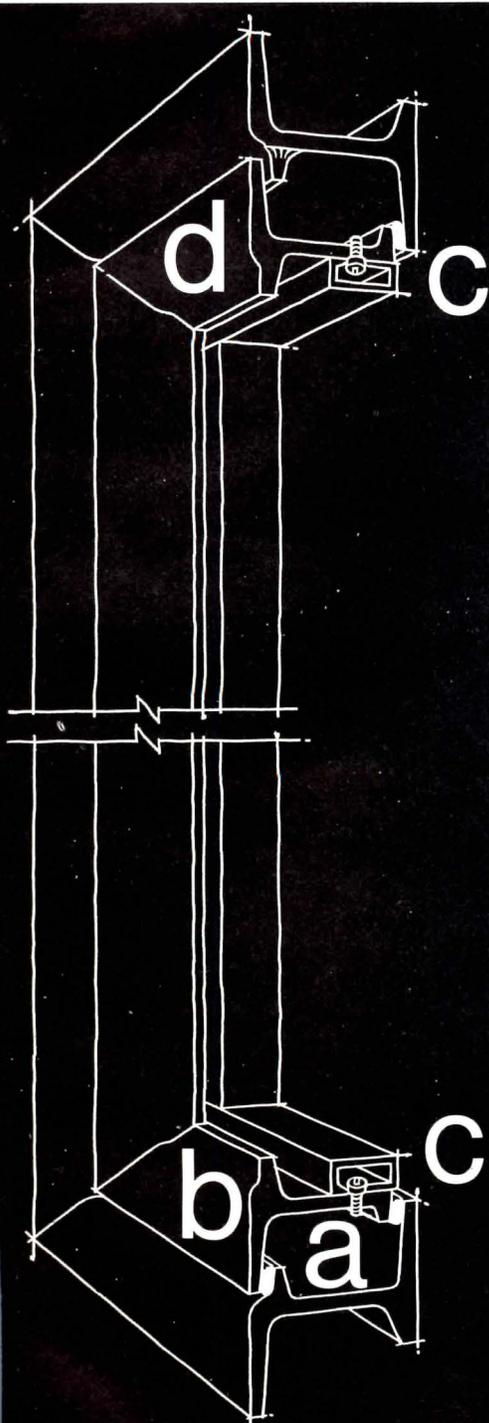
- ✓ Weatherstripped ventilators
- ✓ Built-in pressure-equalizing features
- ✓ "Cecoclاد" in colored polyvinyl chloride
- ✓ Furnished with snap-on glazing beads

Weatherstripping and pressure-equalization features afford superior resistance to air infiltration and prevent water leakage (even under a simulated 8"-per-hour rainfall with 90 mph wind pressure). Add to this, a 6 to 8 mil color-cladding of polyvinyl chloride and you have a truly high-performance Ceco steel window.



Design makes the difference . . .

Cecoclاد Weatherstripped H-P Steel Windows permit outside wind pressures to enter into the internal chamber of the window through planned openings (a) behind baffle (b). This creates pressure inside the chamber essentially equal to the outside pressure. Specially designed closed-cell foamed vinyl weatherstripping (c) seals the inside surface of the chamber. Rain is blocked by the baffle along with outside weatherstripped contact surfaces (d). The baffle and contact surfaces are effective because there is no pressure differential to draw quantities of water into the chamber. Small amounts of water that enter with the wind collect at the bottom of the chamber and drain off freely to the outside.



Pressure-equalized for high performance

The Ceco Corporation, 5601 West 26th Street, Chicago, Illinois 60650.  
Please send copy of Bulletin 1108 entitled "Cecoclاد Weatherstripped Steel Windows . . . Pressure equalized for high performance."



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## CECOCLAD STEEL WINDOWS

On Readers' Service Card, Circle No. 396

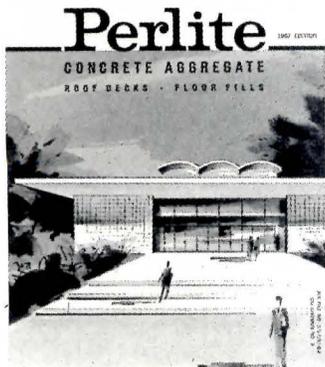
# MFRS' DATA

## ACOUSTICS

**Ceilings for comfort.** Glass fiber helps control heat and noise, when used in ceilings. Chart itemizes efficiencies of thermal-acoustical glass-fiber batts and blankets, according to thickness, resistance, and conductance. Other tables itemize properties of built-up roof deck and ceiling assemblies, and thermal efficiencies of glass fiber, wood fiber, and perlite roof insulations. Packaging data. Brochure. 4 pages. Johns-Manville, 22 E. 40 St., New York, N.Y. 10016.

Circle 200, Readers' Service Card

## CONSTRUCTION

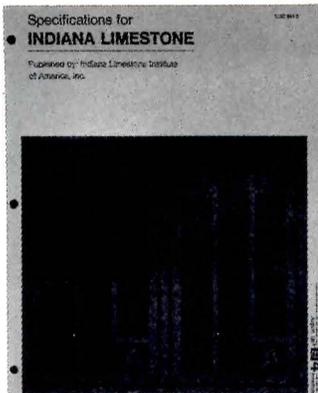


**Perlite bulletin.** Perlite, a natural siliceous volcanic rock, expands when heated. When combined with cement and water, it produces a light-weight concrete with good insulating properties. Booklet gives description and insulation values, emphasizes light weight, low water requirement for mixing, and rigidity. Density selection guide, and specifications. 4 pages. Perlite Institute Inc., 45 W. 45 St., New York, N.Y. 10036.

Circle 201, Readers' Service Card

**Movable walls.** Manufacturer emphasizes the versatility of his movable walls and the convenience they provide in choice of finish, materials, and hardware. Five lines of wall panels are diagramed and their qualities given including fire rating and insulation data. Specifications. Selection guide. Booklet. 24 pages. Vaughan Walls, 11681 San Vicente Blvd., Los Angeles, Calif. 90049.

Circle 202, Readers' Service Card



**Limestone specifications.** Booklet presents standard specifications for Indiana limestone, including general adaptability, geological characteristics, finishes, and charts of physical properties. Specifications for cutting and shipping Indiana limestone, for setting, cleaning and waterproofing. Specifications and notes on veneer stone. One section devoted to high-strength adhesive bonded limestone units. 12 pages. Indiana Limestone Institute of America, Inc., 111 W. 4 St., Bloomington, Ind.

Circle 203, Readers' Service Card



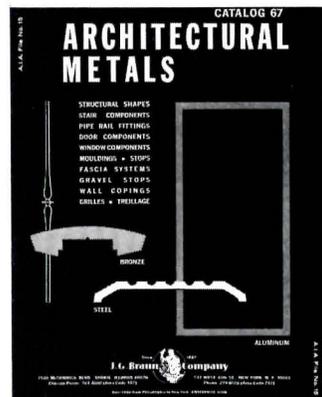
**Aluminum for portals and façades.** Three pamphlets describe manufacturer's lines of aluminum for curtain walls, windows, and entrances. They give typical details, specifications, and special data such as wind loads, custom design services, and standard hardware. 16 pages each. Marmet Corp., Wausau, Wis.

Circle 204, Readers' Service Card

**Plastic piping.** A discussion of plastic piping with a general explanation of terminology, possible applications, building codes and standards is

given in brochure. Special section charts the properties and uses of eight common plastic pipe materials. It includes comparisons of maximum operating temperature, joining methods, and standards. 8 pages. Plastics Pipe Institute, The Society of the Plastics Industry, Inc., 200 Park Ave., New York, N.Y. 10017.

Circle 205, Readers' Service Card



**Bronze, steel, aluminum architectural products.** Catalog shows manufacturer's stock of architectural metal products which includes door and window components, moldings, railings, structural shapes, and grilles, among others. Charts indicate dimensions and weight per ft. Cross-sections. Illustrations. 47 pages. J. G. Braun Co., 7540 McCormick Blvd., Skokie, Ill. 60076.

Circle 206, Readers' Service Card

## DOORS/WINDOWS

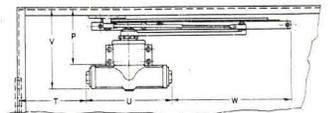
**Windows framed in wood.** Manufacturer discusses line of wood-encased windows according to window style: removable, casement, stacking awning, and stacking trapezoid. Self-storing storms and screens with polyvinyl tracks and frames, combination basement units, and weather-stripped door frames are included. Specifications. Diagrams. Pamphlet. 16 pages. Crestline Wood Windows, Wausau, Wis.

Circle 207, Readers' Service Card

**Flush doors.** Description of solid, and hollow flush doors, fire doors, acoustical doors, and lead-lined X-ray doors are given with specifications and construction features. Booklet discusses factory vinyl and catalyzed laquer

finishes; also describes physical and chemical tests and their results. Includes mention of overlays, prefabricating, hardware machining, louvered doors and veneers. 12 pages. Morgan Co., Oshkosh, Wis.

Circle 208, Readers' Service Card



**Shut the door, Mac.** Three hydraulic door closers for different weight doors are detailed. Where to use them, how to install them, and what they will do are among the questions answered. Price sheets available. Brochure. 7 pages. Color. Ridge Products, Inc., Elkhart, Ind.

Circle 209, Readers' Service Card

## FINISHES PROTECTORS



**Specifying pre-coated metal.** "Du-Lite" is a baked enamel finish which, the manufacturer claims, has superior color retention and durability. It is suggested for building facing, siding, mobile homes, awnings, venetian blinds, and so on. Comparison charts give specific use ratings to alkyd, acrylic, vinyl and the "Du-Lite" fluoropolymer enamels. Comparisons of these enamels are made for durability, film properties, recommended dry film thickness, cost per sq ft, and up-keep cost. Graphs of deterioration rate. Brochure. 8 pages. E.I. DuPont de Nemours & Co., Inc., 308 E. Lancaster Ave., Wynnewood, Pa. 19096.

Circle 210, Readers' Service Card



The Dow Chemical Company, Construction Materials Sales, Dept. 71331, Midland, Michigan 48640.

**At 40 below, Saraloy bends your way.**

Flexible in temperatures ranging from  $-40^{\circ}$  to  $+175^{\circ}$ , Saraloy<sup>®</sup> 640R brand plastic flashing has no plasticizers, hence no migration. This means long life, no call-backs. Can be cut to fit on the job. Solvent weldable.



On Readers' Service Card, Circle No. 331

## FLOORING

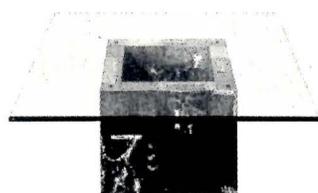


**Caring for the floor.** Pamphlet of recommendations for floor care tells how to maintain new and existing floors. Emphasis is on common floors: concrete, terrazzo, ceramic tile, with special mention of marble, resilient, wood, and conductive floors. Manufacturer's recommended products listed and described. 4 pages. Huntington Laboratories, P.O. Box 710, Huntington, Ind. 46750. *Circle 211, Readers' Service Card*

## FURNISHINGS

**Zographos' first catalog.** This catalog contains full-page black and white photographs

of all Zographos. furniture and adds close-ups of several important design details. Shown primarily are commercial furnishings in leather and stainless steel; also, marble and glass-topped tables, as well as tubular-steel-framed and oak-framed chairs. 30 pages. Zographos Designs Limited, 510 Madison Ave., New York, N.Y. 10022. *Circle 212, Readers' Service Card*

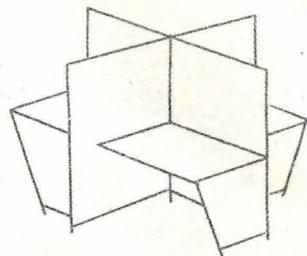


**Contemporary Directional.** Furniture from Directional is shown in an up-to-date booklet of designs by Kipp Stewart, Paul Evans, Jonathan Ginat, and Milo Baughman. Among the armchairs, sofas, and tables featured, are glass-topped "Sculptured Metal" cocktail tables by Paul Evans

with stark, hand-crafted bases of steel, copper, brass, and bronze. Milo Baughman's "geodesic" coffee tables of bronze-finished steel with a heavy plate glass top is more conservative in its structural design. Directional, 979 Third Ave., New York, N.Y. *Circle 213, Readers' Service Card*



**Education furniture.** This line of Harvey Prober designs includes carrels, tables, and a host of stacking, modular, and wall-mounted chairs, and one or two benches and sofas, meant particularly for educational institutions. The oak "Trestle Table" for classrooms comes in five finishes, or plastic-topped. Harvey Prober Inc., Fall River, Mass. 02722. *Circle 214, Readers' Service Card*



**Pinwheel the carrels.** Carrels can be arranged in a pinwheel or zig-zag pattern as well as the more usual wall-lining arrangement. Aluminum frames assure strength; carrel wall panels and shelf tops are of laminated plastic in a choice of solid-color or wood-grain finishes. Optional features include electric lighting and outlets for audio-visual equipment. Brochure: 4 pages. Paneline Division, Movable Walls Corp., 565 E. Edna Pl., Covina, Calif. 91722.

*Circle 215, Readers' Service Card*

**The world of wardrobes.** Manufacturer illustrates four lines of classroom wardrobes distinguished by the following door-operation styles: indi-



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For the man who makes his living with a pencil



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On Readers' Service Card, Circle No. 380

# representatives

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Detail of mural executed and installed by Byzantine Mosaics for new Library in Stockton, California.

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On Readers' Service Card, Circle No. 390

vidual, pair, multiple, and vertical-lift. Wardrobes are available in steel, wood, and aluminum with three standard baked enamel colors. Chalkboard and corkboard can be added as specified. Specifications. 8 pages. Hupp Corp., Aurora, Ill. 60507.

Circle 216, Readers' Service Card

**Cabinets to match desks.** The 300 Series filing cabinets are constructed to match or harmonize with manufacturer's lines of desks. Three hardware styles are shown in pamphlet. Plastic laminate top to match desk tops is an available extra. Various styles and colors are shown. Construction details. 6 pages. E. M. Broene, Steelcase Inc., Grand Rapids, Mich. 49501.

Circle 217, Readers' Service Card

**At ease anywhere.** Suitable for a variety of interiors, Burke chairs have molded seat shells and pedestal bases, with upholstery and swivel-base options. Catalogue also shows a line of elegant bar-



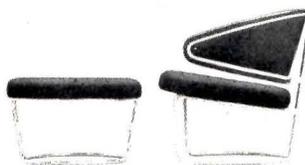
stools. The "Reineman" chair (see photo) has high-strength aluminum alloy frame above a 4-footed pedestal base. Parallelogram arms and four curved aluminum bars connecting frame to base and the tufted, buttonless upholstery give the chair an elegant, airy appearance. Also available in a three-seat unit. Burke Division, Brunswick Corp., 5140 N. Westmoreland Rd., Dallas, Tex. 75247.

Circle 218, Readers' Service Card

**Carpet style, construction, service, price.** Advantages in all these areas are presented

in a brochure on carpets. Twenty-seven photographs of readily available patterns are included. This availability is emphasized as an aid in meeting deadlines. Patterns range from representational motifs with themes such as sailing and golfing, to purely geometric designs of multi-colored, multi-sized circles on a black background or a swirl pattern resembling a stylistic drawing of sea waves (shown). Hardwick & Magee Co., Lehigh Ave. at 7th St., Philadelphia, Pa. 19133.

Circle 219, Readers' Service Card



**Danish designs.** A new Fritz Hansen color brochure features chair, sofa, and table designs by Danish craftsmen, principally Arne Jacobsen,

Børge Mogensen, Verner Panton, and Hans Wegner; it also introduces new designs by Nanna and Jørgen Ditzel, and Grete Jalk. The Grete Jalk chair and stool have anodized tubular aluminum frames with foam rubber cushions and glass fiber backs; upholstery is supplied either from the manufacturer's line or the customer's own material. 23 pages. Fritz Hansen Inc., 979 Third Ave., New York, N.Y. 10022.

Circle 220, Readers' Service Card

#### SPECIAL EQUIPMENT

**Microfilm for the modern man.** "The A-B-C of Microfilm" answers questions about microfilm systems and equipment, and is written in non-technical language. The booklet discusses uses of microfilm, among which are storage of architectural and engineering drawings and catalog information; answers questions concerning the make-up of microfilm, the space-saving advantages, durability, legality, and the forms in which microfilm

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On Readers' Service Card, Circle No. 329



Photograph taken with a Hasselblad camera through a lens cap made with Mirropane Glass.

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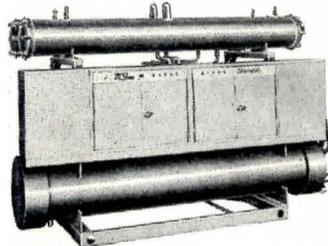
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On Readers' Service Card, Circle No. 351



is produced. 15 pages. Regiscope Corporation of America, 7 E. 43 St., New York, N.Y. 10017.

Circle 221, Readers' Service Card



**Water-chillers.** Two catalogs give information on packaged water chillers model PWA — 15 units with capacities from 7½ through 120 tons. Catalog 901-2 covers units with capacities from 7½ through 60 tons; catalog 901, 70 through 120 tons. Covered in the catalogs are electrical, dimensional, and capacity data, mechanical and engineering specifications, and unit selection information. 24 pages. McQuay Inc., 13600 Industrial Park Blvd., P.O. Box 1551, Minneapolis, Minn. 55440.

Circle 222, Readers' Service Card

### PROGRESSIVE ARCHITECTURE NEWS REPORT

REINHOLD PUBLISHING CORPORATION  
A subsidiary of Chapman-Reinhold, Inc.  
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Editor .....Jan C. Rowan  
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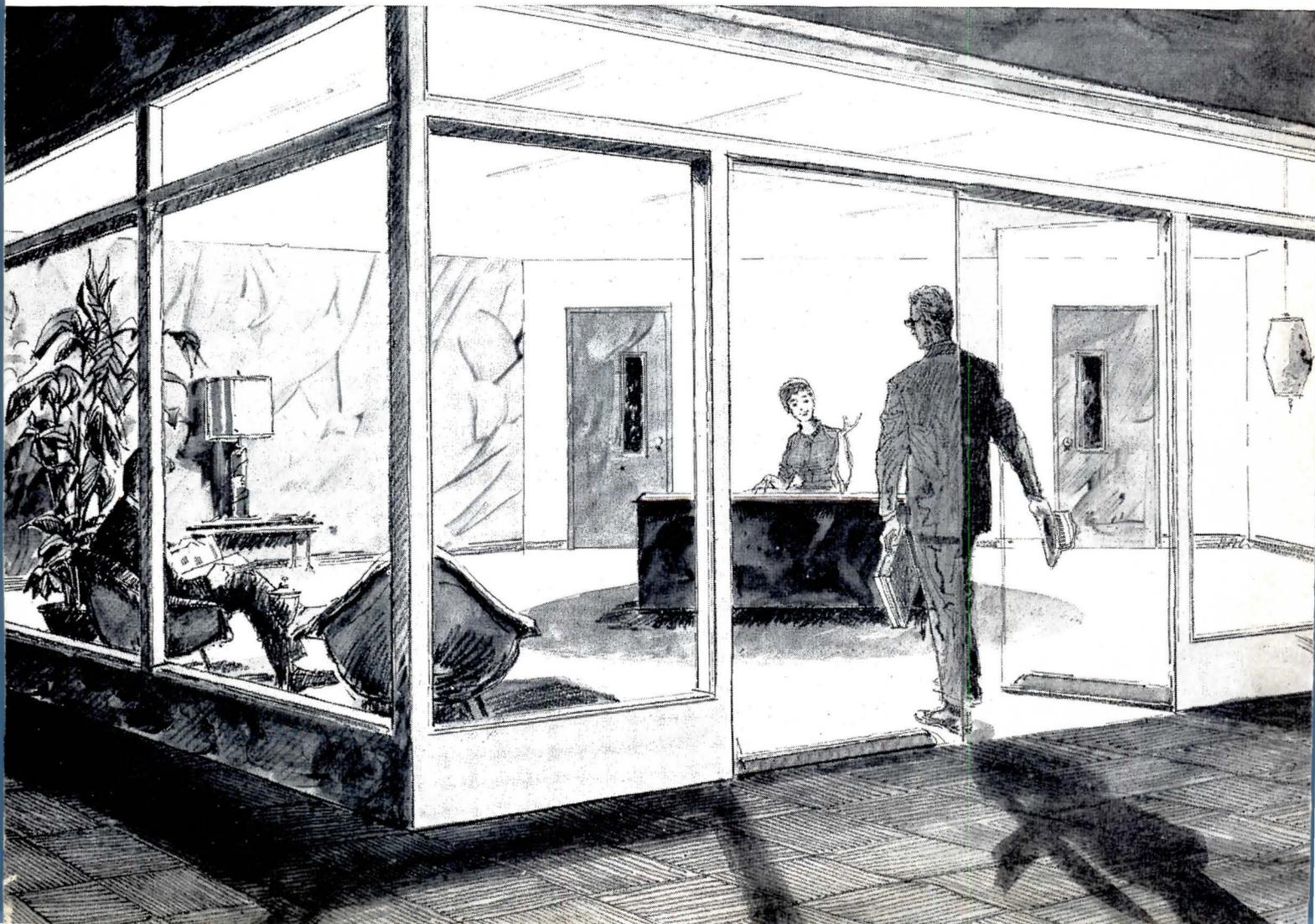


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And send along information about the vertical seam in Universal Frames. I understand it loads up to 450 pounds on a single corner. What's the story with Republic's new Frame-A-Lite Stick System?

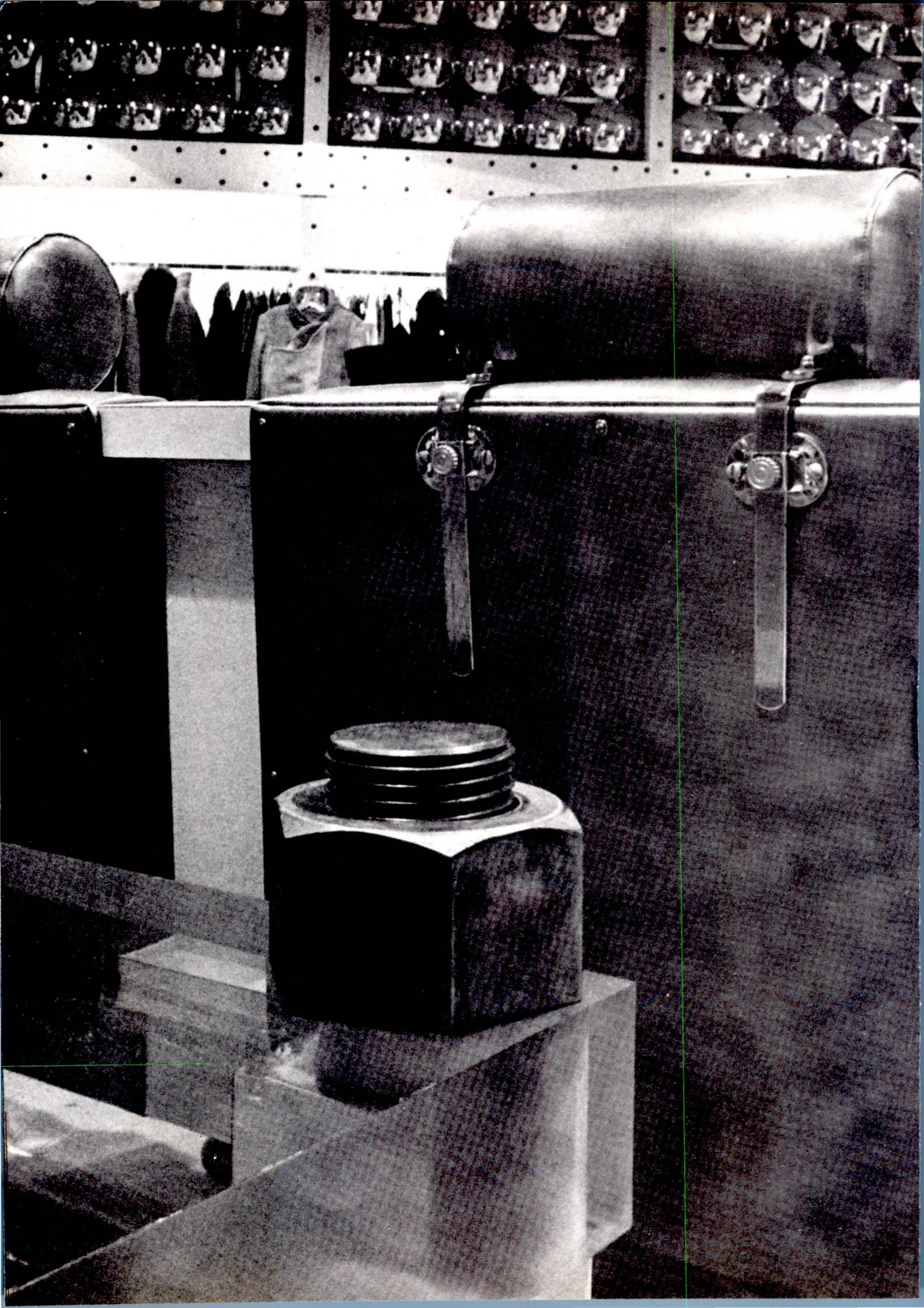
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December 1967 **PROGRESSIVE ARCHITECTURE**

*"We are no longer willing to say that architects should design the buildings, engineers the freeways, landscape architects our parks, and then leave the issues of schools, water, sewerage, and fresh air to the city fathers. We know that this doesn't work. Our present cities are for the most part built in this piecemeal manner, and they are a mess."*

ROBERT L. DURHAM



## EDITORIAL

**Two symbolic fires** — the burning cities in the U.S. and the burning villages in Vietnam — are causing a long overdue discussion about national priorities.

Since any discussion of priorities involves a consideration of national goals, we are beginning a re-examination of our values — something that this magazine called for 18 months ago when we said: "A war on environmental ugliness must be waged on the sources of ugliness if it is to mean anything at all — sources which are deeply rooted in our existing values and attitudes, in our whole way of life."

As has been said so often on our pages, beautification is for beauticians and not for architects. Since you cannot un-ugly something that really *is* ugly, architects should not put themselves into the role of cover-uppers for a questionable civilization by claiming the ability to prettify the existing condition.

Now that the fires finally are stirring the conscience of the nation, even of the architectural profession, "urban survival" is beginning to replace "war on ugliness" as the theme of seminars, and discussions among architects begin to sound more and more like exchanges between social scientists.

Discussions about priorities, on the national level, revolve to a large extent around the guns or butter issue. The billions of dollars available for "defense" and hardly any money for the rotting slums pinpoint not only a moral problem but also the hard fact that any pie, however large, has only so many slices.

But the guns or butter issue is also applicable to architectural problems. Although having a different twist, the questions are similar. What is more important: the eradication of rats, or the creation of processional spaces? Is happiness bigger and better kitchens, or higher ceilings that lift the spirit of apartment dwellers? Many such questions do come to mind.

Daniel P. Moynihan raised this issue at a recent alumni meeting of the Harvard Graduate School of Design. He said: "The respected and revered Episcopal bishop of New York announces that as a gesture towards the poor, the Cathedral of St. John the Divine will not be finished in our time. This is appalling. . . . With no very great evidence, to be sure, but with much conviction, I will argue that the American polity — the experience as well as the sense of community and shared conviction — has been impaired, has atrophied in our time because of the retreat from architecture and public buildings as a conscious element of public policy and a purposeful instrument for the expression of public purposes. . . . Somehow, somewhere in the course of development of democratic or demagogic tradition in this nation the idea arose that concern with the physical beauty of the public buildings and spaces of the city and nation was the mark of — what? — crypto deviationist anti-people monumentalism — and in any event an augury of defeat at the polls. The result has been a steady deterioration in the quality of public buildings and spaces, and with it a decline in the symbols of public unity and common purpose with which the citizen can identify, of which he can be proud, and by which he can know what he shares with his fellow citizen."

Moynihan is right, of course. And yet, also quite obviously, great public buildings and spaces are not enough if individual living conditions are rotten. Circuses and baths did not save Rome; cultural centers may not save the U.S.

Surely we need both, shelter and inspiration. To have comfortable housing without any great cathedrals is wrong; but just as wrong is to have great cathedrals without adequate housing. The question then is: How can we afford both? ■

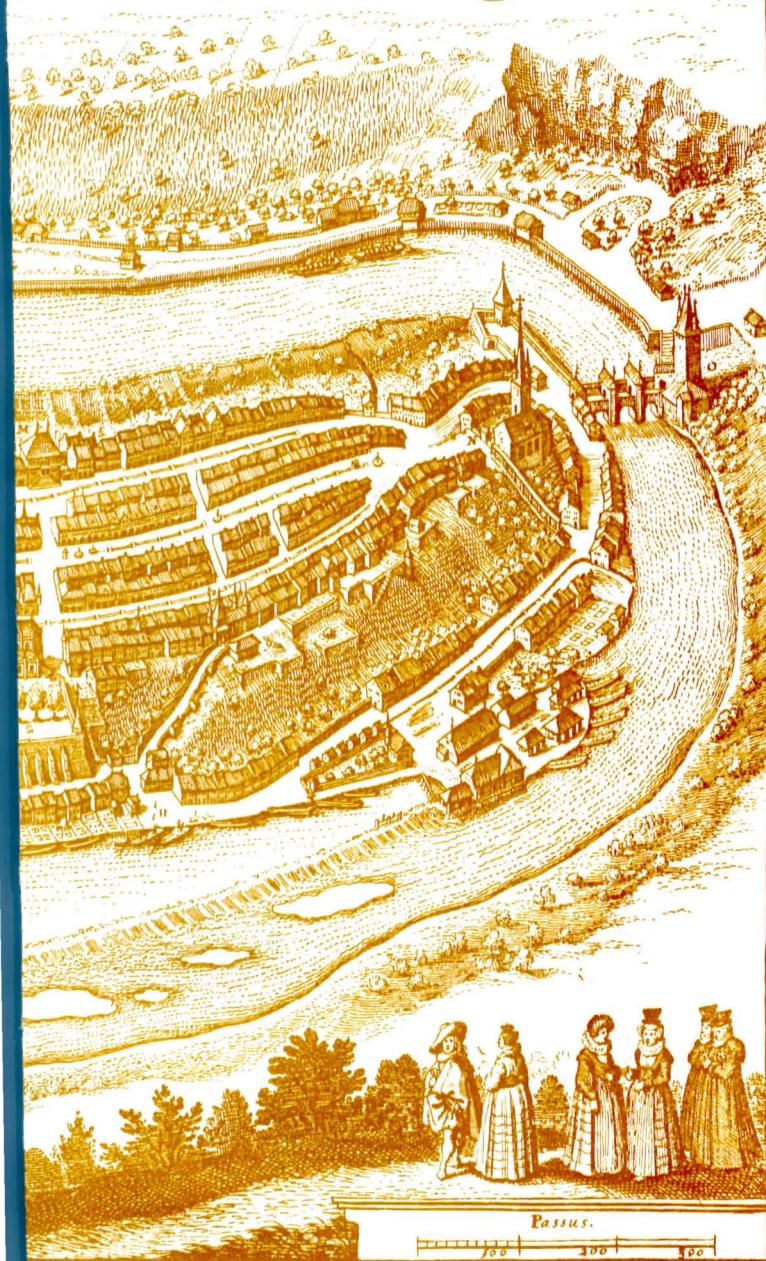
Jan C Rowan



A medieval town plan that still works can be experienced at Bern. Founded as a speculation by the medieval house of Zähringen, its open-end layout allows for indefinite growth. Galantay discusses Bern and the other Zähringer “New Towns” as object lessons for today’s planners.

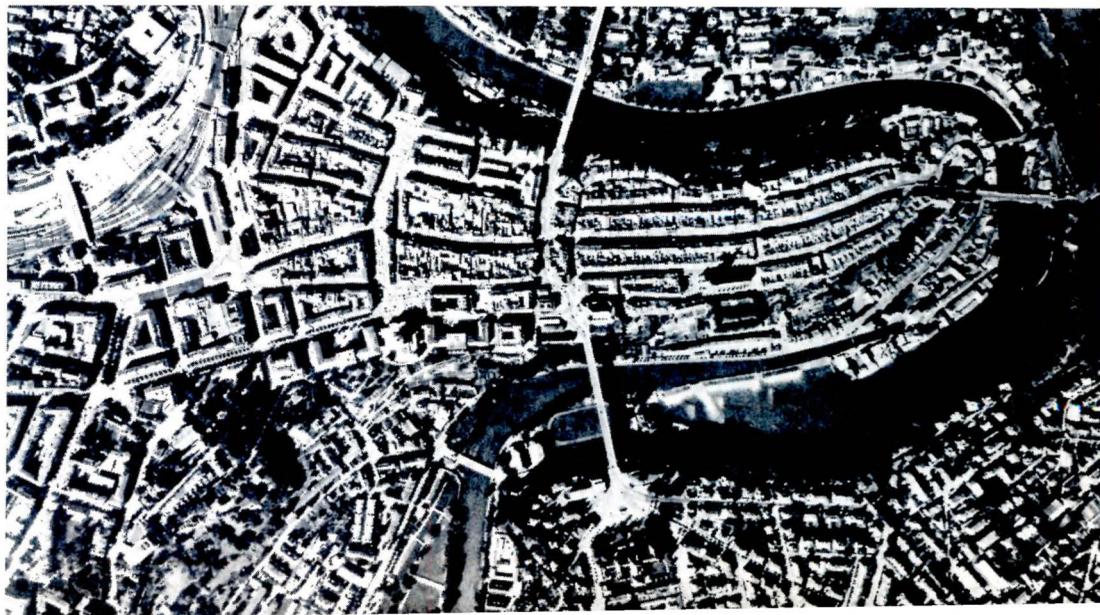


**Bern Die Hauptstatt in Sūcht**  
 land ward erhaben durch Berchtoldum  
 den V. Herzogen zu Zähringen A. 1191. vnd  
 Befreyet von den Keijseren Henrico dem VI. vnd  
 Friedrico dem II. Kam in den Eydgröschlichen  
 Bündt Anno 1353



*Bern in the early 17th Century, from an engraving by Matthäus Merian, the Elder.*

*Central Bern today (right), seen from the air.*



*By Ervin Galantay, an associate professor of architecture at Columbia University, who is currently teaching courses in urbanization and the evolution of cities.*

Visitors to Bern, Switzerland, are surprised both by the compelling image of the old town and by the unique vitality it fosters. Architects and planners become even more intrigued when they learn that the town was founded in 1190 as the result of a regional “New Towns policy” of the long extinct ducal house of Zähringen. Bern offers a classic example of the survival and success of a planned community. By the 16th Century, the small, medieval town had become the most powerful city state north of the Alps, and, in 1848, capital of Switzerland. Through all these political and economic changes, the original core changed but little; in plan and spatial concept, it still retains the essence of the original foundation. Yet it is not a mere tourist precinct; the old town accommodates heavy vehicular traffic and assimilates space-devouring new activities and land uses, and its prosperous retail core is worth the attention of the designers of shopping centers. In fact, the medieval town is still the undisputed center of a city of 170,000 people and of a large urban region. One is tempted to evaluate such a lively historic city simply by applying modern performance criteria; it is a system that functions, a structure that has proven adaptable to pressures unforeseen by the founders. Yet such an empirical approach could not explain the phenomenon of Bern.

To gain a deeper understanding of the correlation between the physical structure of Bern and its development, we have to examine the history of the group of 12 towns built by the dukes of Zähringen. In general, due to the complexity of forces acting on a town’s development, it is difficult to single out the “design” component of the “success” vector. But Paul Hofer, the leading authority on Zähringen Towns, maintains that, in the case of this town group, the similarity of conditions in their origin and growth limits the danger of arbitrary interpretation. Hofer is convinced that plan and spatial disposition were

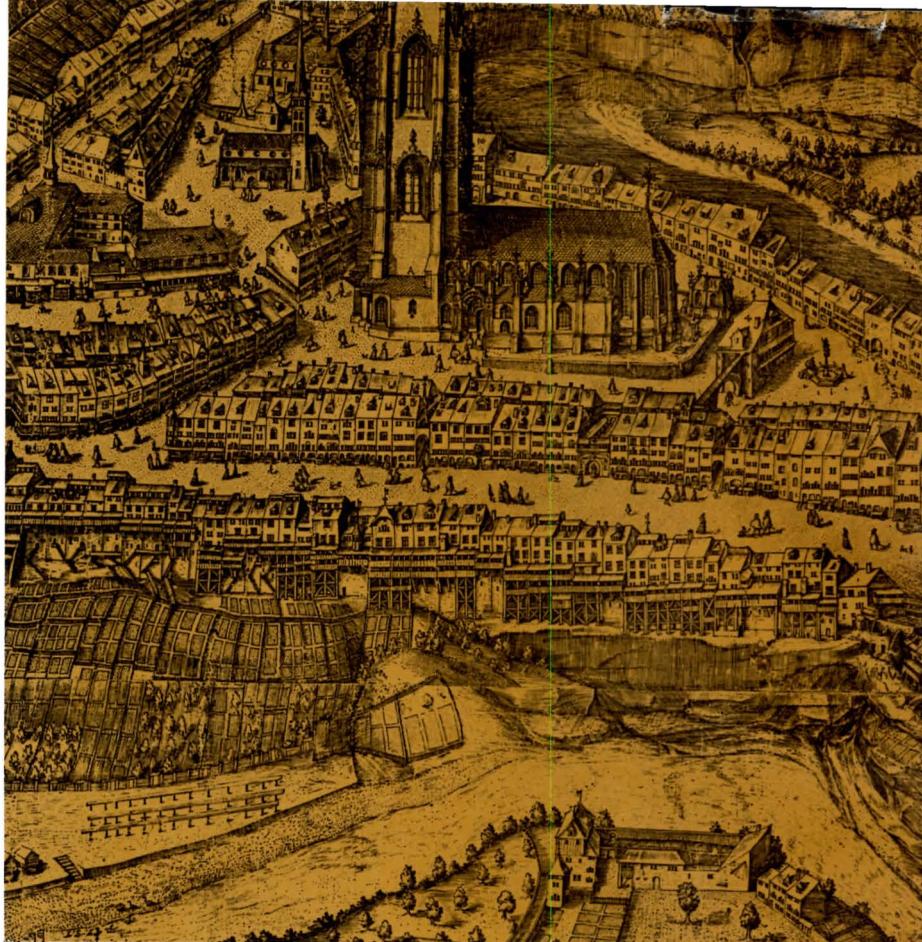
among the key determinants of the survival and successful development of these towns. It is to examine this relation of the designed environment and growth that an exhibition on "The Zähringer New Towns" has been prepared. This exhibition, now being shown at American universities, is based on material assembled for a conference of historians held in 1964 in the castle of Thun. The aim of the original exhibition was primarily to provide historical documentation. For its American tour, the material was reconstructed to emphasize morphological interpretation, in frank acceptance of the fact that the architect's and planner's interest in history is dialectic. The historian is interested in history per se, but the designer seeks stimulation for his own work. Some find such a utilitarian interest in history frivolous, yet one may answer, with Siegfried Giedion, that architectural history should not stop at the compilation of facts, but explore questions pertaining to the past that are significant to present concerns and thus "provide insights into the moving process of life."

One should not discount the relevance of historical models by pointing to the dimensional disparity between medieval and modern "New Towns." Granted,



Europe, showing the approximate area of the Zähringer New Towns.

some of the Zähringer foundations were hardly as large as a single neighborhood unit in modern planning, but such comparisons are misleading. The minimal initial population needed to guarantee a viable New Town is a function of the relative complexity of the society and of the hierarchical relationships and distribution of the surrounding communities. Numbers alone do not make a city. The physical pattern, too, is important,



View of Fribourg by Martin Martini.

since it furthers or frustrates communication, defines and limits the life patterns of the inhabitants, and provides "stimulus inputs" that influence behavior.

Axiomatically, unless the minimum number of components — people, production units, institutions — are brought together in sufficient concentration and density, creative interactions cannot take place and the New Town will not thrive. This concept, postulating a "critical initial urban mass," means simply that the minimal population is a variable, dependent on the physical pattern and density. A compact, well-structured New Town will succeed with a smaller population than will a low-density, spread-out agglomeration. An awareness of this concept is useful in comparing the development of New Towns of various ages and in various societies. Current theory suggests that, today, in the U.S., the minimal population of a New Town must exceed 100,000 people unless the community depends for employment, services, and institutions on an existing metropolis. Yet, in the 12th Century, a thousand people sufficed to form the seed of a similarly balanced community.

### Medieval Promotion

Politically, the creation of the Zähringer towns served long-range dynastic aspirations, but it can also be viewed as a precocious effort of the feudal classes to benefit from the developing money economy. By peddling land grants, market rights, and privileges, the dukes hoped to attract the productive craftsmen and

merchants, thus creating for themselves new sources of income from the collection of customs and taxation. (This policy is not unlike the efforts of governments in present-day developing countries, which try to attract investment and industries by initial tax abatement and other incentives.) The success of the 12th-Century foundations gave rise to a veritable New Town "boom" in the 13th Century, with every petty lord gambling his financial future on new foundations like modern subdivision entrepreneurs. Most of the 13th-Century foundations failed, partly because of whimsical location and lack of hinterland, but primarily because of insufficient "urban mass." What sufficed in the sparsely urbanized landscape of the 12th Century did not suffice in the relatively saturated urban pattern of the 13th Century, where new creations had to compete with earlier foundations grown to maturity. To be viable in the 13th Century, a new town required larger "initial urban mass" or a more effective set of privileges than in the 12th Century.

During the 12th and 13th Centuries, New Towns were created in all parts of Europe, but mostly in politically disputed territories where the frontiers were still undefined. Among these, the Zähringer group was the earliest and remains the most outstandingly successful. The ducal house of the Zähringer was based in the Black Forest and Breisgau areas of southwest Germany, and through marital alliances acquired territories in the area of what is today Switzerland. The

dukes pursued a shrewd policy of land accumulation aimed at the creation of a dynastic state straddling the Rhine. In this process, they created the 12 New Towns that survive to this day, while the political dream of a unified Zähringian state collapsed with the extinction of the family in 1218. The Zähringer towns formed a sensible regional system, distances between them being scaled to promote fruitful economic interaction. The older group of Zähringer towns is located in the German heartland of the family. The first, Offenburg, was founded in 1122, followed by Freiburg in Breisgau, Rottweil, and Villingen. With Rheinfeld, the dukes gained their foothold on the south shore of the Rhine, followed by foundations in the area of present Switzerland: Fribourg, 1157; Zurich and Burgdorf (enlarged); Neuenburg in Germany, 1171; and, in 1190, the last two Zähringer towns—Bern and Thun. Of this group of 12 towns, founded within a period of a few decades, most prosper today and none has disappeared. This could not be taken for granted. Other communities of medieval foundation atrophied; in some cases, their faint outlines can be detected only on aerial photographs. But towns of the Zähringer group survived even disasters such as the Thirty Years War and the bombings of World War II, stubbornly rebuilding in the spirit of the original pattern. Compared to the better-known group of French “bastides,” founded by the counts of Toulouse and the kings of France and England, the Zähringer group impresses both statistically and by “performance.” Today, their combined population exceeds 500,000 (more than one million if we include Zurich, which the Zähringers enlarged considerably), while the more numerous “bastides” hardly muster a combined population of 90,000, and only two of them have risen to the modest rank of “prefecture.” By contrast, four Zähringer towns can boast of great universities; Bern is the capital of Switzerland; Zurich an international power in finance; Freiburg, Offenburg, Villingen, and Fribourg important regional centers.

### The Zähringer Plan

In comparing the structure of medieval foundations and market agglomerations, one needs to realize that the shape of the periphery is less revealing than the internal disposition. In his discerning analysis of medieval foundations\*, Paul Hofer points to the two principal types of me-

dieval towns as those with a single axis or several parallel streets and those with a concentric layout around a central square or pre-urban core: monastery, church, or castle. The most important feature of the Zähringer plan is the spinal location of the market, a disposition expressive of the fact that the market was indeed the *raison d'être* of the foundation. The military function of the Zähringer towns was subordinate to their market function. Whenever possible, the over-all form of the Zähringer plan was a rectangle. In Fribourg, the shape of the site, a rock ledge at a loop of the Saane River modified the basic shape to a trapezium. The polygonal or ovaloid peripheries of towns like Rottweil, Villingen, and Freiburg are due to expansion and the construction of ringwalls and fortifications.

According to Paul Hofer, the following are the eight elements that developed gradually to become typical of the Zähringer towns founded after 1170:

- The wide, axial *Gassenmarkt*, or market thoroughfare, stretching from town gate to town gate, as the main interior space of the town. If a cross-axis exists, it is generally narrower than the market, its alignment slightly shifted at its junction with the spine. This feature is an important deviation from the cardo-decumanus pattern of Roman military settlements.
  - The absence of central squares, the characteristic feature of Roman colonial towns and French “bastides.”
  - The orthogonal geometry of street and building blocks.
  - The “homestead” (*Hofstatt*) as the basic module of development and the unit for the calculation of land taxes.
  - The use of the harmonic proportions of 2:3 and 3:5 in fixing the relation of plots and street widths.
  - The subordinate, lateral position of public buildings and the reservation of the main axis exclusively for market use.
  - The location of the town fortress on a corner or at the flank—not in the middle as are the “principia” of Roman garrison towns.
  - The provision of a central water supply and town drainage system. These “town streams,” running in the middle of the street, are still preserved in most Zähringer towns under the modern pavement.
- The originality of the dukes and their town builders rests on the combination of these elements into a system of distinct identity—an achievement of development and final synthesis. The Zähringer “model” offered numerous advantages:
- The target size of the Zähringer town was not fixed in advance; walls were not immediately staked out. Villingen and



Villingen, Germany



Fribourg, Switzerland



Rottweil, Germany

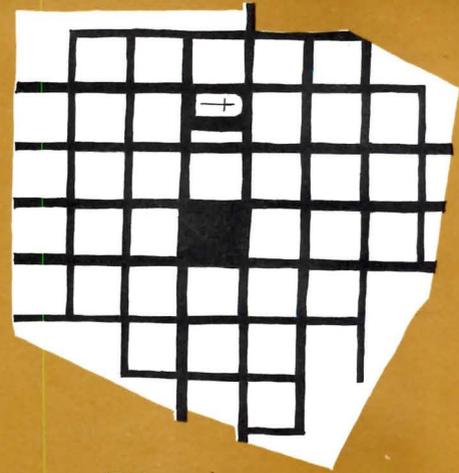
\* *Die Städtegründungen des Mittelalters zwischen Genfersee und Rhein in Flugbild der Schweizer Stadt*, Bern 1963, pp. 85–116.



New Amsterdam



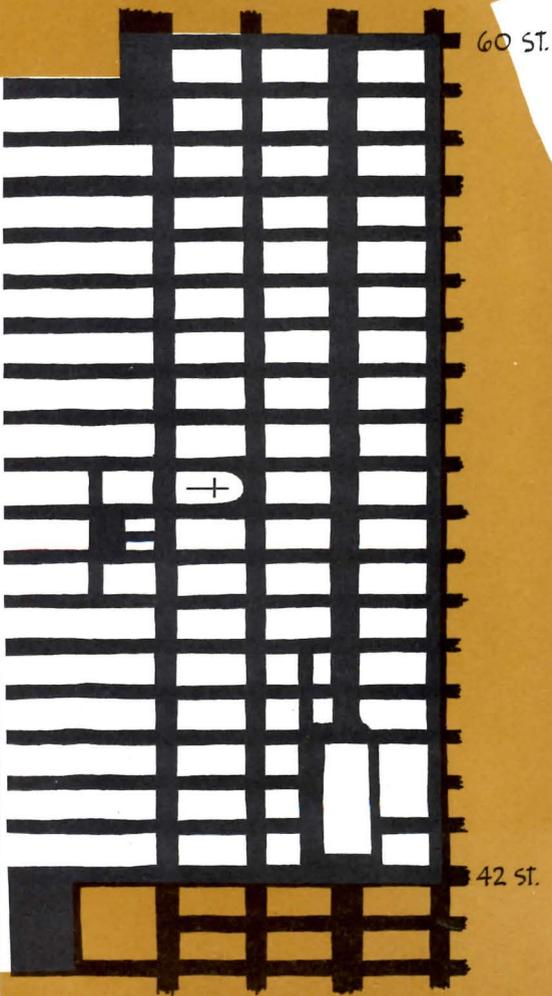
Bern



Mirande

New Amsterdam, c. 1660; 13th-Century Bern; and the bastide of Mirande, France, drawn to the same scale. Note that both New Amsterdam and Bern have spinal main streets, originating in forts. Note the market areas in Bern and Mirande.

Present-day central Manhattan, between 42nd and 60th Streets; central modern Bern; and the town core of Hook, England, drawn to the same scale.



Manhattan



Bern



Hook

Murten were walled in only a century after their foundation. This provided external flexibility; with their essentially uniform internal disposition, the towns could adjust their peripheries to topographic variations and local resources. Paul Hofer likes to compare the loosely orthogonal grid of the Zähringer town to a string net that will casually stretch and distort without losing its basic characteristics. This flexibility permitted the application of the pattern to a variety of sites, hills as well as plains.

■ Equally remarkable is the internal flexibility of the model. Unlike the French "bastides," where the fixed size of the central market square defined the maximal size of the town from the outset, the linear markets of the Zähringer towns were capable of growth. This is best shown by comparing a typical "bastide" like Mirande with the plan of Zähringian Bern. In Mirande, the market square of 180 ft by 180 ft amounts to only 3.2 per cent of the 35-acre town area, and the distance between town gate and market is 600 ft. Had the area of Mirande doubled, the percentage of the market total would have decreased to 1.6 per cent, while the distance from gates to the square increased to 840 ft. By contrast, Zähringian Bern, with 25 acres of built-up area, provided 3 acres for the market, or 11 per cent of the total area, and in future expansions the city was able to maintain this favorable ratio, and access to the market remained direct through the gates. Mirande never grew. The self-suffocating checkerboard of the "bastide" is a "closed system," while the Zähringer plan is essentially "open-ended."

■ Further, the Zähringian "homestead" was not a lot for a single family but a development unit, a "superplot" meant to be subdivided or recombined according to demand, but the legally fixed proportions of the plots guaranteed the survival of the rhythm of the original order. This cadence is subconsciously experienced by a walker like the "cantus firmus" of a melody over which variations are spun.

The wide axial market in the Zähringian plan is an achievement of the first order. There were no such wide streets in Roman towns or in other medieval foundations. The widths of Roman streets varied between 12 ft and 24 ft, with 15 ft being normal. By contrast, the market streets of Rottweil or Murten are 100 ft wide, equal to New York's Fifth Avenue.

In the 13th Century, the market stands were gradually incorporated in the plan of the houses; and, in turn, building regulations and charters permitted private owners to build stone arcades in front of

their lots—the granting of "air rights over a public right-of-way" we would say, resulting in the creation of spacious and useful pedestrian ways.

### The Example of Bern

The plan of Bern is in all respects the final formulation of the Zähringian model. Located in a loop of the river Aare, the town axis runs east-west. The base of the peninsula is 1300 ft wide, but narrows to about 700 ft on top of the rock ledge. At the eastern tip is the old stone bridge, which in 1461 replaced a wooden one erected in 1260 at the site of the original ford. Here, the dukes built their castle—the "Nydegg"—both to protect the ford and to keep an eye on the New Town. The burghers in turn destroyed the fort at the first opportunity (1266–72), but its round shape survives in the curved alignment of the streets.

From the Nydegg, the slightly curved axis of Zähringian Bern rises gently, extending 2000 ft to the Clock Tower (Zytglocketurm)—the gate of the first western town wall. This much was planned as one entity but not built at one stroke. Half of the plan was built around 1190—from the Nydegg to the cross axis; the second half was added a decade later. One may compare Zähringian Bern with the early layout of Manhattan: in both cases, the site was limited on three sides by water. In Manhattan, as in Bern, the tip of the settlement was defended by a fort that also marked the beginning of the spinal market street: Broadway, fortified at its western end at the present Wall Street. Contrary to current theory, which pedantically requires all-round accessibility for the core of a new settlement, one may generalize that, at least initially, limitations are useful: If the New Town cannot spread aimlessly, and if development is channeled by the topography, early concentration is achieved as well as a favorable urban mass. In Bern, the town first expanded westward in 1256: a new west wall was built, marked by its gate-tower, the "Käfigturm." A second expansion followed in 1346, with a new wall and new gate added. After a fire, the town hall and Minster were rebuilt, in a symbolically balanced relationship at the end of the two arms of the cross axis of the Zähringian town. Later, public buildings followed this pattern of lateral location. At the western end, in the 17th Century, baroque bulwarks were added that proved to be a useful land-reserve until they yielded to the railroad yard. The railroad station now marks the end of downtown, and the distance along the market spine from the Nydegg is 4400 ft—equal

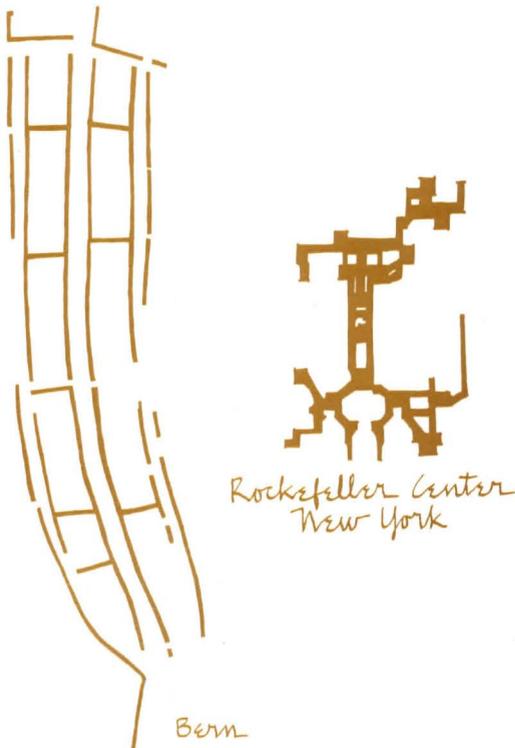
to the stretch from 42nd Street to Central Park along New York's Fifth Avenue, the maximum distance people will walk in any city. In Bern, most through-traffic by-passes the core on a western tangent, and vast parking facilities have been constructed on top of the new railroad station, which still sensibly fulfills the role of a gate to the town in this historic location. In addition, underground storage facilities have been built for the cars of the federal bureaucracy. For the future, additional garages are planned under the old town, with direct pedestrian connection to the arcades above, making this venerably ancient "New Town" one of the most modern in terms of accessibility.

The street pattern of Bern shows some dimensional similarities to the familiar grid of Manhattan, but Bern's pattern seems more sensible, since there are notably fewer intersections along the principal arteries. Along the east-west axis, one can drive an average of 750 ft without having to bother about cross-traffic. In fact, between the Nydegg and the railroad station, there are only four cross-connections, all in the place of former fortification moats. The efficiency of the Bern pattern is remarkable. Unlike other old towns where vehicular traffic has had to be restricted, Bern's streets are open to all kinds of traffic at all times. The old block-pattern has proven equally adaptable to changes and pressures created by increased commercial and office use, including the vast amounts of space claimed by the city, canton, and federal governments whose offices are interwoven with shops, cellar theatres, and attic studios in Kafkaesque complexity. Since even towns of the order of two million inhabitants rarely support a core area in excess of 200 acres, it is clear that the 100-acre area of the old town not only suffices for the core-functions of Bern but permits in addition the survival of a very high percentage of the area in residential use.

The 60 ft by 100 ft module derives from the 12th Century plan, and the strict building regulations and preservation laws disfavor the emergence of vast American-style department stores. Hence, one would suspect that business flees the old town, but the contrary is the case. A stroll under the comfortable cool arcades will confirm the existence here of one of the world's pleasantest and liveliest shopping environments. Since the town structure would not yield to commercial pressures, the retail pattern had to adjust to the container and there is a mushrooming of small and smallest specialized retail outlets, all of them with a good amount of prime frontage and



Montreal



Rockefeller Center  
New York

Bern

Sheltered pedestrian ways in Bern, Montreal, and Rockefeller Center, drawn to the same scale.

highly accessible to cars and pedestrians. This trend toward small shops is not necessarily retrogressive. We only have to reflect that department stores also attempt to restructure their vast loftlike sales floors by introducing interior "boutique streets." A peculiarity of Zähringer towns is the existence of *Hochtroitours*, sidewalks elevated above the roadways. These may be within arcades, as in Bern, or protected by large roof overhangs, as in Thun. In both cases, the pedestrian moves along the display windows overlooking the vehicular traffic, but, having made a purchase, may exit on the lower level to be picked up with his package by a car. On the other hand, store deliveries can be made from the roadway without interfering with the shoppers' movement. This is how the Swiss architect Martin Geiger describes the adjustments of the old town to new forms of retail activity: "At first, the single-standing houses on ample 'homesteads' were replaced by arcaded row-houses on narrow lots: strips connecting two parallel streets with a light-shaft or court in the middle. As the shops under the arcade required more storage space, they gradually filled in the courts on the main floor. When electricity came, it was found that the shops did not need natural light and the sales area expanded into the entire main floor. Such large shops required more frontage, however. Consequently, the window-fronts were bulged inward and soon these penetrations of public space connected the streets on both sides, creating covered passages along which small shops and tiny businesses could locate. Then it was found that the passages need not be confined to street level and connections were established in the basement and on mezzanines. Here, the pedestrian still moves in public space — not inside the shops but in an 'interior-exterior' and profits from the relativization of Inside and Outside that intrigued great architects like Corbusier. Soon, the shopowners were willing to do even more to lure potential customers and started to heat the passages in winter with infrared lamps, making the year-round operation of street-café and snackbars possible." According to Geiger, the medieval arcades and covered cross-connections, modern passageways and shopping concourses amount to a system of 5 miles of weather-protected pedestrian ways.

Montreal, Canada, has recently attracted world-wide attention by promoting a system of undercover pedestrian ways. Yet these will amount, even in 1970, only to 4 miles serving 44 acres of its 200-acre downtown. The 170,000 people of Bern support a disproportionately large core of 100 acres. If we take as an



Multilevel shopping arcades in Bern.



Murten



Halen

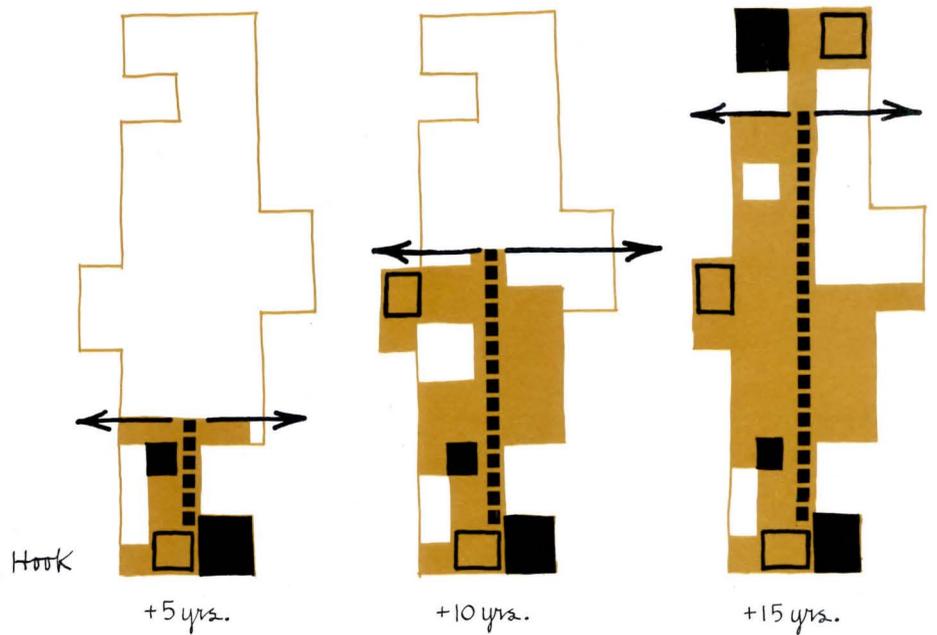
Halen and Murten, to the same scale.

index of pedestrian comfort the ratio between the total length of protected pedestrian ways and the number of inhabitants, we find that by 1970 some 550,000 people will support one-half mile of pedestrian way in Montreal, while Bern offers one-half mile for every 34,000 inhabitants.

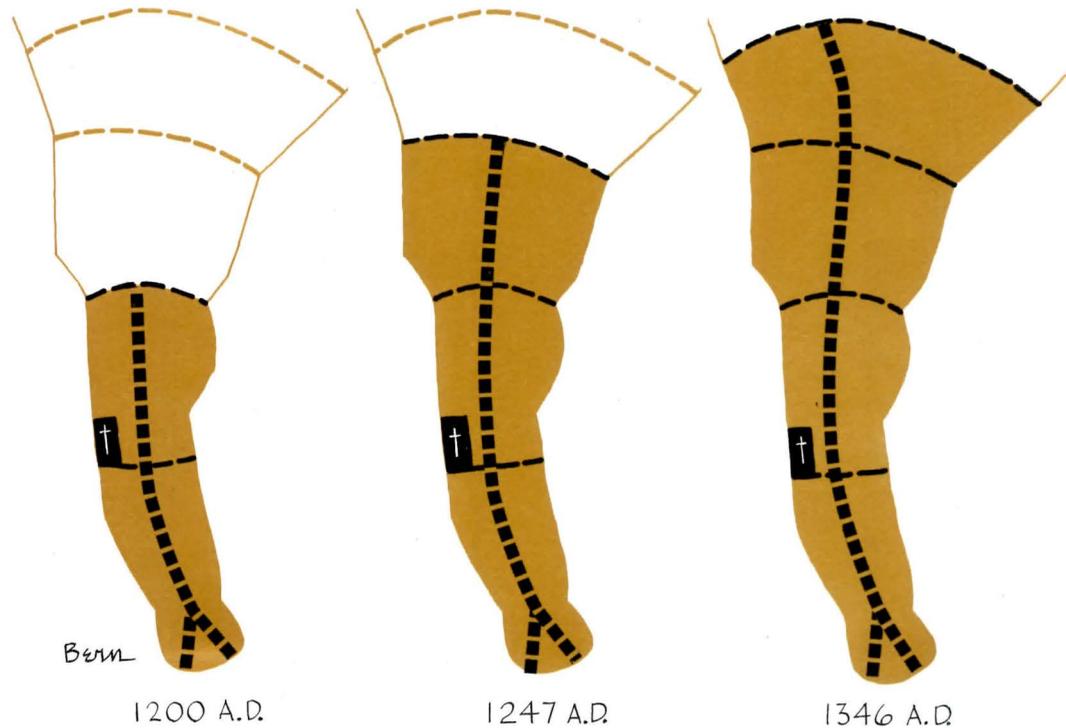
### Halen, Hook, and the Future

An example of continuity between Zähringian planning and modern living can be seen in Halen, a small residential community 3 miles north of Bern. It was built in 1959-61 by architects whose preferences regarding a way of living have been formed by their childhoods in Bern. Halen's 80 dwelling units and community facilities lend themselves to a comparison with the Zähringian Murten, planned for an initial size of 24 "homesteads" providing lots for some 120 families. In both Murten and Halen, we find the same affinity between basic module and over-all town form. Yet Halen lacks the interest and vitality of Murten; it is a dormitory community, not a market. It is not a viable seed for a future city, since it lacks initial "urban mass" both in terms of complexity and also statistically. The plan for the British New Town of Hook offers a more appropriate modern equivalent to the Zähringian towns than Halen. As yet unbuilt, Hook has nevertheless become influential as the first radical departure from the loose, low-density type of British New Town. It is planned for 100,000 people — the minimum size for a self-contained community as we see it today. Of this total, 60,000 would live in the core area at gross densities of 70 people/acre. The design of Hook's core resembles the pattern of Bern both in concept and in dimensions. Like Bern, it is organized along a 4000-ft-long market spine, paralleled by two distributor roads. Like Bern, the core mixes offices and retail with plenty of core housing. Like Bern, it provides a protected pedestrian way system, and the staging plan of Hook's center strikingly recalls the historic growth pattern of medieval Bern.

Historic examples cannot give us a magic key to the solution of modern problems, but from their analysis we may derive some insights toward a new theory of urban growth. And there is much we can learn about the correlation of physical patterns and the development potential of New Towns, the role of the critical urban mass, and the relations between physical environment and social behavior. One of the most pressing problems in urban design is the need for a theory of mutative systems: structures that maintain efficiency and visual coherence in the dimension of time. Not abstract target



*Growth of central Bern, and projected growth of Hook, drawn to the same scale.*



plans aimed at some ultimate crystalline balance, but systems that can adjust to unforeseeable influences, to evolution through a process of compensatory disequilibriums, or, to use the term coined by Hirschfeld and Lundgren, to "disjointed incrementalism."

The Zähringer towns provide convincing examples of what Edmund Bacon calls "a set of design principles capable of influencing future action." They are the living proof that design ideas, expressed in a few lucid guidelines, can be

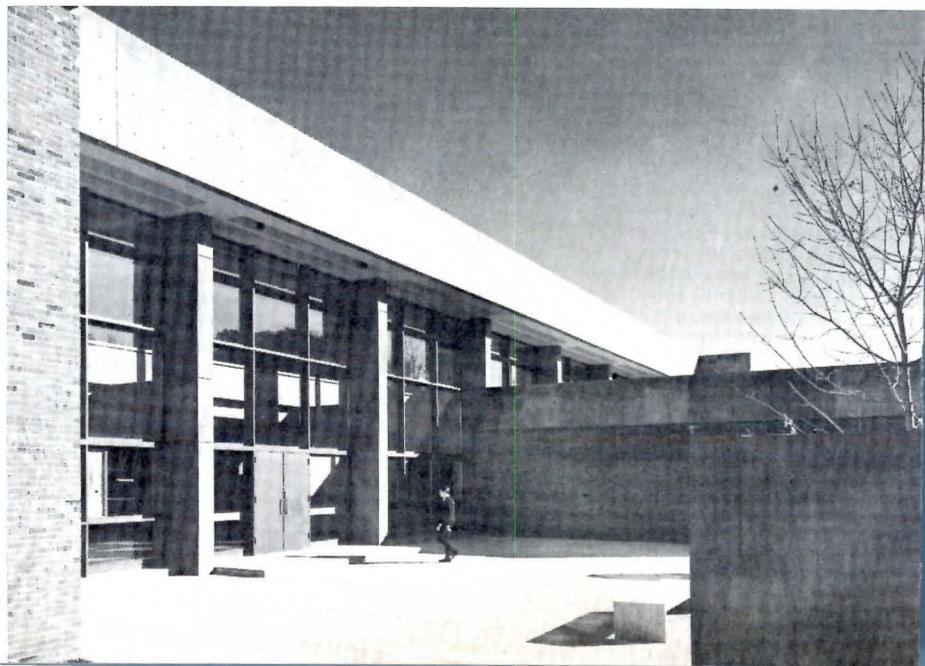
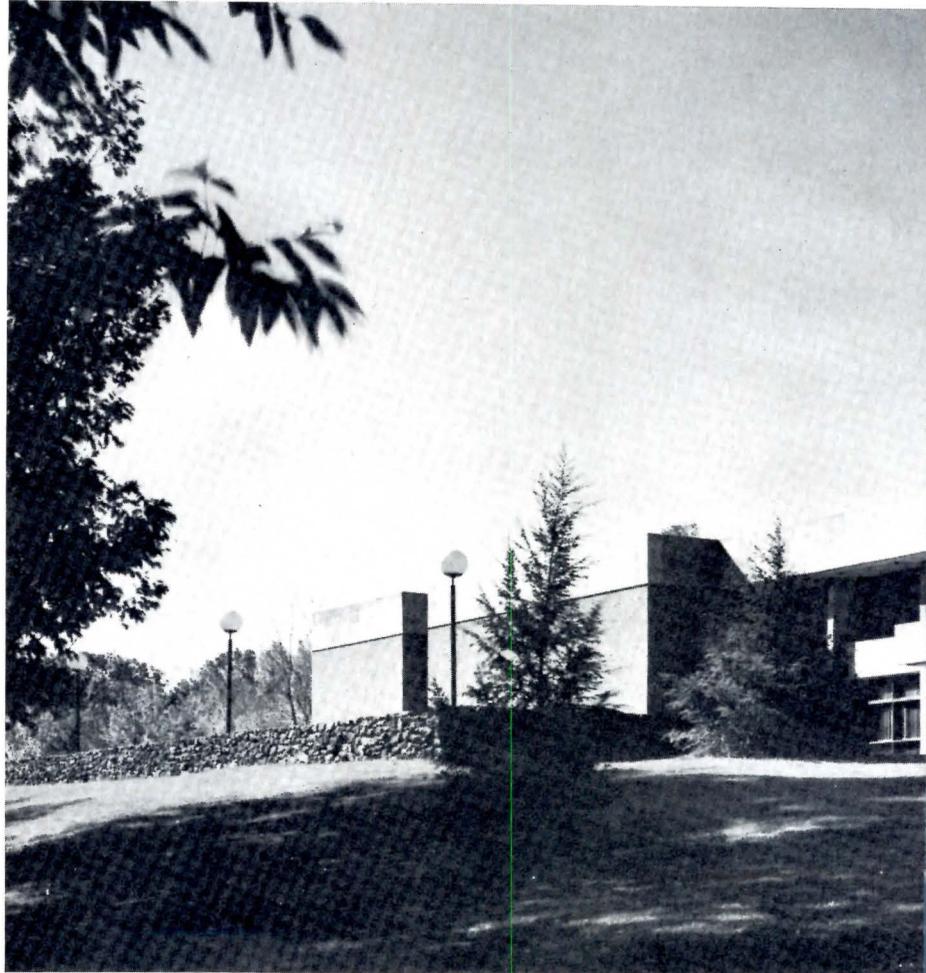
both the carriers of heredity and also the determinants of the city's future.

*Much of the substance of this article is derived from an exhibition on "The Zähringer News Towns," currently being shown at schools of architecture in the United States, and which was prepared at the instigation of the author. The exhibition is sponsored by the Swiss Federal Institute of Technology with a grant from the Pro Helvetia Foundation. It was produced by architect Rolf Hager under the direction of Professor Dr. Paul Hoyer.*

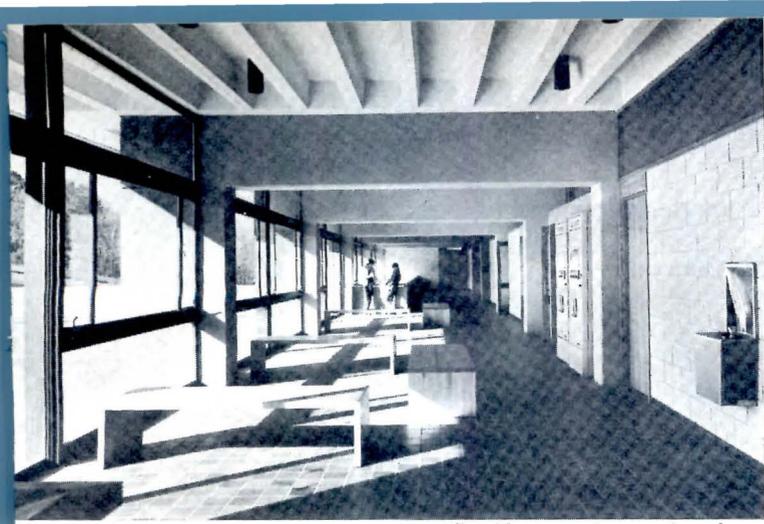
# CENTER OF REPOSE

WORCESTER JEWISH COMMUNITY CENTER, *Salisbury Street, Worcester, Massachusetts. Architects: The Architects Collaborative (Norman C. Fletcher, Partner in Charge; Leonard S. Notkin, Associate in Charge). Site: Steeply sloping site in a residential neighborhood bordered below by a well-traveled road. Program: Provide social, athletic, and theater facilities for all age groups, plus administrative spaces for the center and for the Worcester Jewish Federation, a charitable fund-raising organization. Structural System: Exposed reinforced concrete with either glass or masonry cavity wall infill; short spans in central social wing are ribbed slab and longer spans of athletic and theater wings are prestressed concrete T-beams. Mechanical System: Electric heating; conduits easily buried in cast-in-place concrete structure. Major Material: Masonry walls, quarry tile floors, natural oak millwork. Cost: \$993,000 or \$22.50/sq ft (not including fees and furnishings). Consultants: Souza & True, Structural. Fitzmeyer & Tocci, Mechanical. Norman Associates, Electrical. Photography: Bill Maris.*

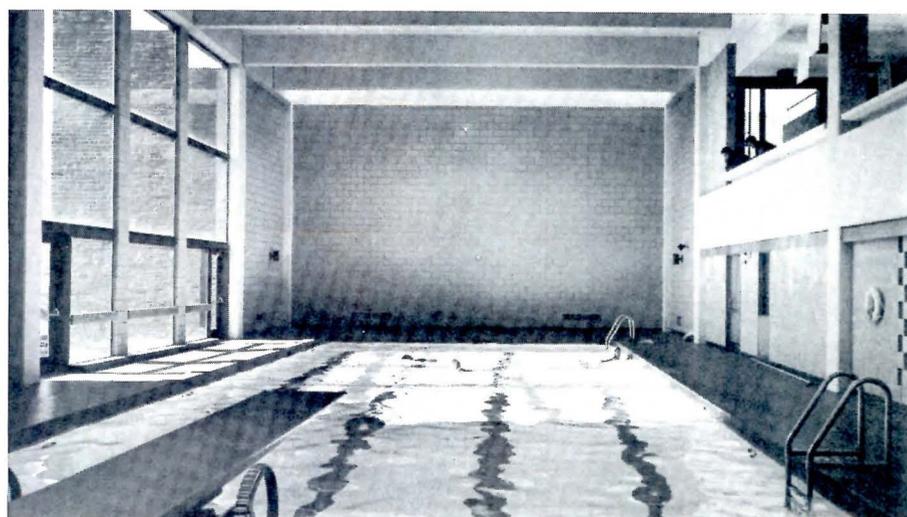
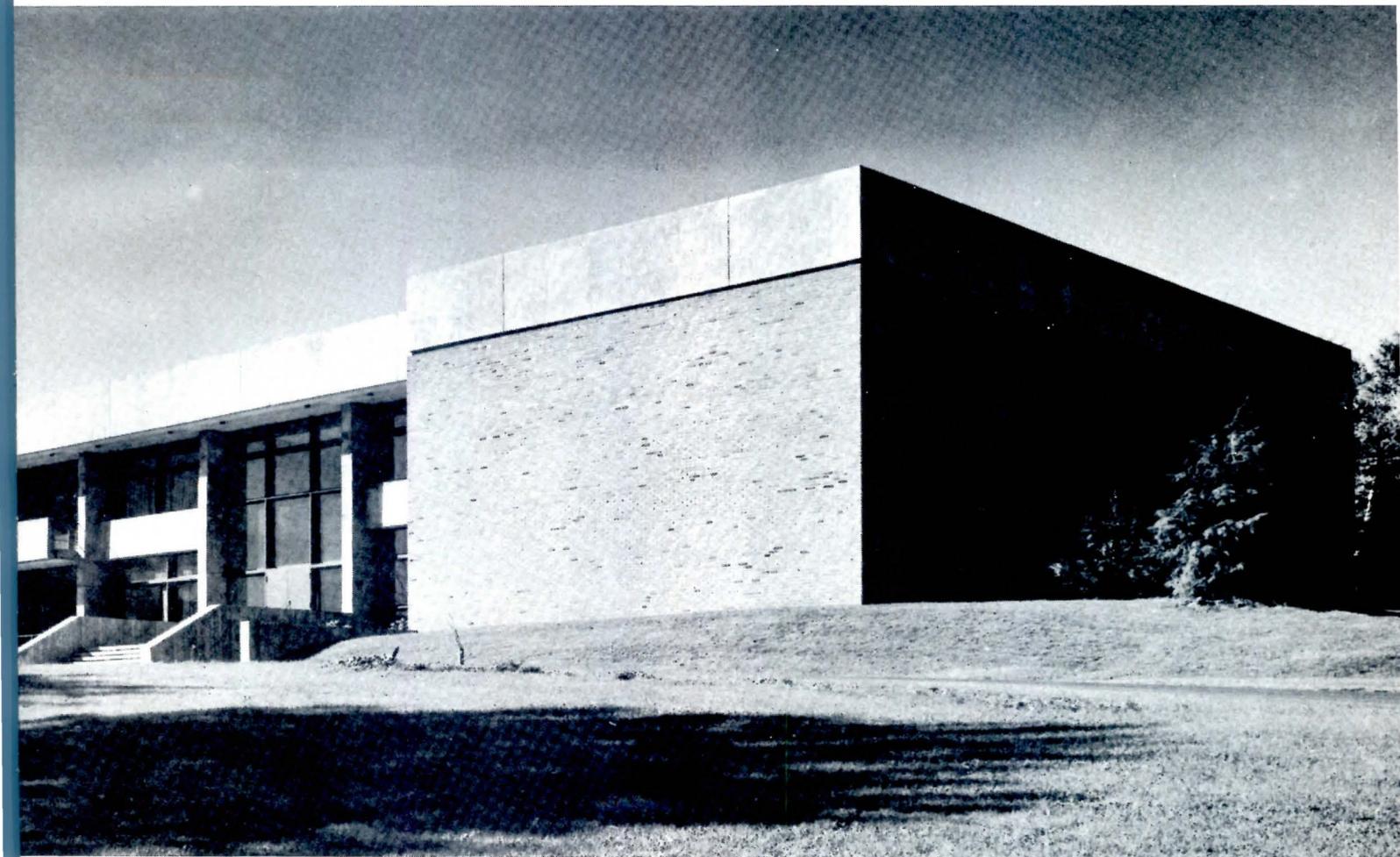
The Worcester Jewish Community Center sits well back from the street behind an old stand of trees in a suburban residential neighborhood, calm, unobtrusive, and well-related in scale and materials to its surroundings. Warm brick walls are topped by deep concrete fascia, and exposed concrete piers execute a measured pace across the center of the façade, in front of the meeting rooms (adults below, young people above). A horizontal created by the second floor is interrupted twice, once by extending to become a balcony for the young peoples' meeting room, once by disappearing to allow the two-story-high entrance lobby. Those elements not dependent on natural light are expressed as opaque masses: the theater meeting room area at the north end and the gymnasium and indoor swimming pool at the other end (although the swimming pool does have a large window-wall looking out into a terrace on the south end). At the rear of the building, the two-story-high handball and squash courts are similarly



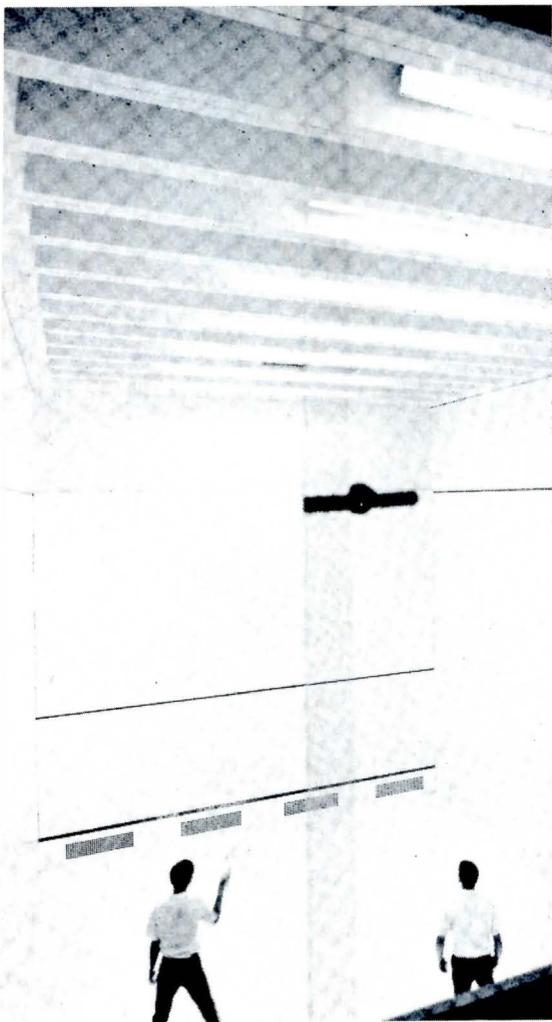
*Across the court and into the rear entrance.*



*Corridors are airy meeting places.*



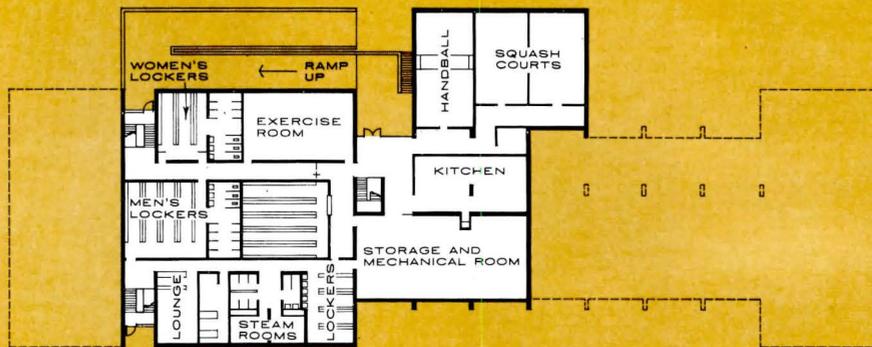
*Viewing plungers from the balcony.*



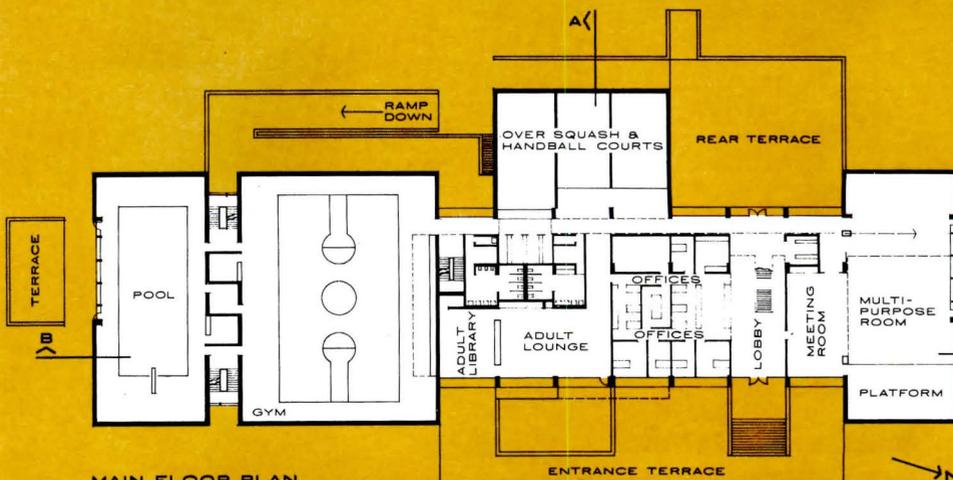
*Squash is seen from above, too.*



*Adult lounge is serene.*



LOWER FLOOR PLAN



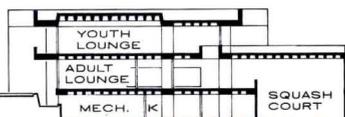
MAIN FLOOR PLAN



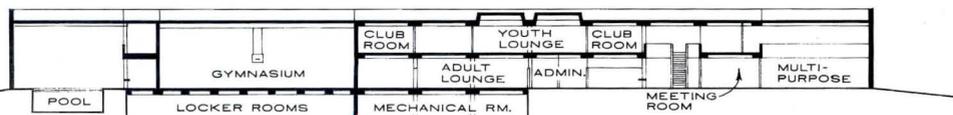
Strong stairway climbs from lobby.



Multi-purpose room in its proscenium incarnation.



SECTION A-A



SECTION B-B

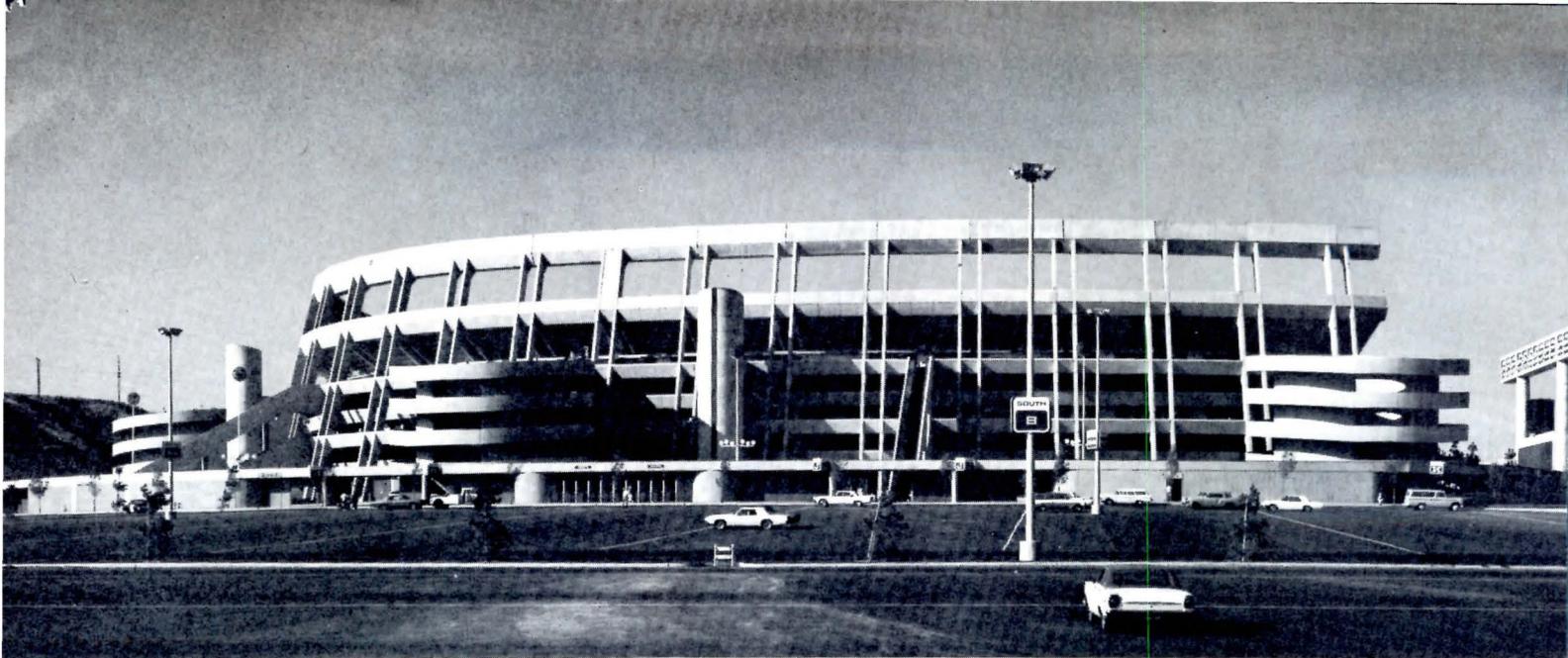
solid forms. The openness of the glass-walled lounges and club rooms is consequently emphasized, particularly from the exterior view, but also from experience of the airy lobby and public circulation spaces.

Since it had to accommodate a rather steep slope, the center is built into a ridge and has its own changes of level within, a fact experienced visually when looking down into the handball courts from the lounge level, or viewing the swimming area from an overhead balcony. Along with the building, the arrivals area and the parking area were terraced into the hill and connected by a curving road that allows a sweeping view of the center and its surroundings upon approach.

An interesting structural use occurred in the larger spaces. The structural engineer advised the architect not to butt the prestressed concrete T-beams that spanned these spaces because of possible irregularities between them. TAC converted this advice into an advantage by spacing the beams 2 ft apart and running continuous skylights between, thereby providing glareless, uniform natural light into the gym and swimming pool and crafts room.

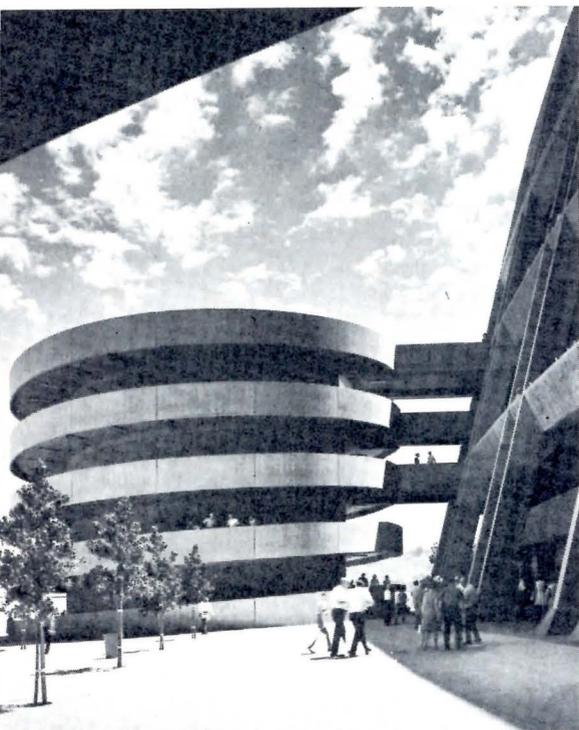
Although a separate theater was part of the original program, it soon became evident that the budget would not allow it. The architects therefore designed a space that is adaptable as three meeting rooms, or, opened up, as an arena or proscenium theater.

TAC has attempted no startling departure or dramatic "statements" in this building, but has designed a useful community center with quiet competence and dignified composure. It serves its purpose well and does not make a lot of fuss about it—a very good thing to see for a change.



*Vertical transportation elements give stadium its visual kicks.*

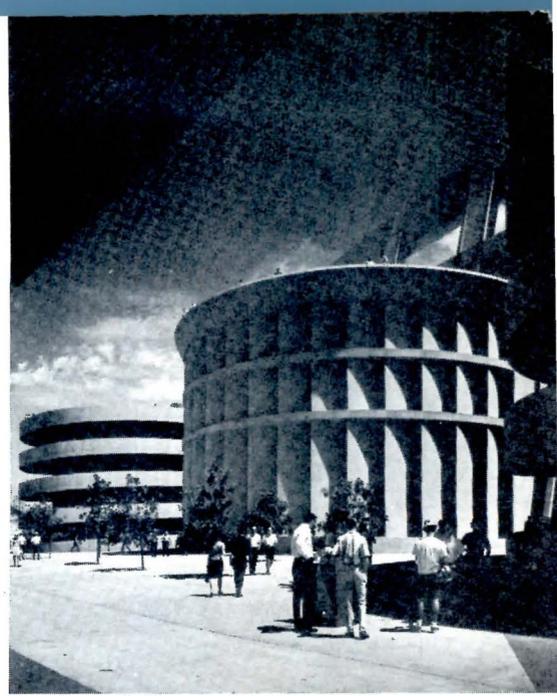
# **FIRM FORMS FOR THE**



*Such as ramps . . .*

*. . . and elevators and escalators . . .*





... plus a clubhouse.

# CHARGERS AND THE PADRES



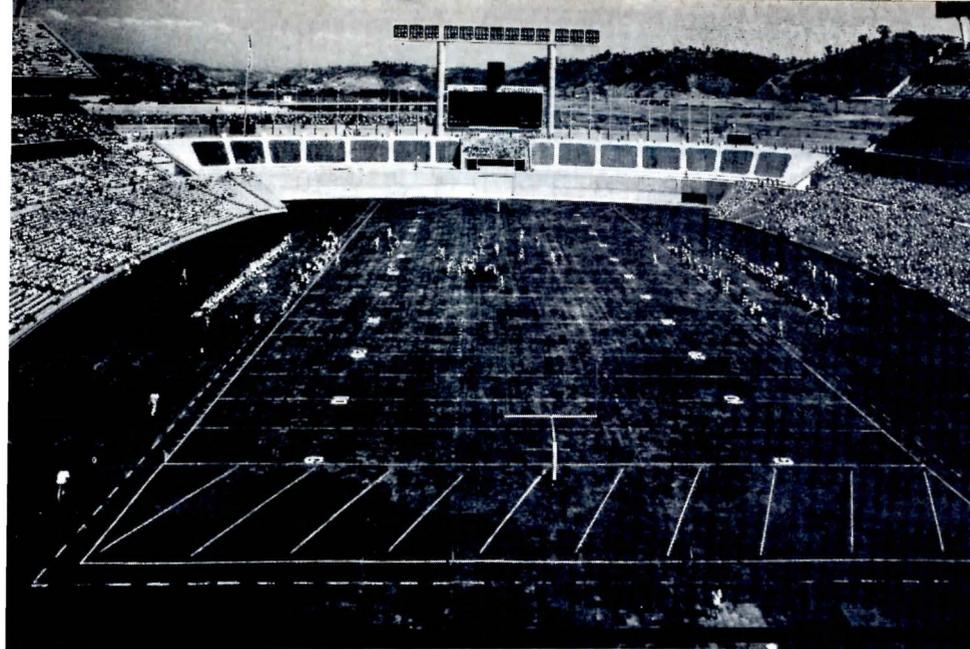
... and more ramps ...

SAN DIEGO STADIUM, Mission Valley, San Diego, California. **Architects-Engineers:** Frank L. Hope & Associates (Frank L. Hope, Jr., Principal in Charge of Design; Charles B. Hope, Principal in Charge of Engineering; R. Gary Allen, Designer; Ernest R. Lord, Project Architect; Steve Ermenkov, Structural Engineer; Bill Smith, Mechanical Engineer; Albert R. Eriqat, Electrical Engineer; James E. Petteway, Planning and Site Selection). **Site:** Mission Valley, a developing community recreational area accessible by present freeways and future highway plans. It was necessary to reroute the San Diego River for a stretch and to raise the parking lot and entrance level above projected flood levels to insure safety; this was done by moving 2,500,000 cu yds of earth from road construction project adjacent to site. **Program:** Design a 50,000-capacity stadium with related facilities and services to serve both football and baseball uses. **Structural System:** More than 1500 steel H-piles support main structure, the backbone of which consists of 40 dual, cast-in-place concrete rigid frames. Seating units, light ring units, and railing units for ramps and concourses were precast and prestressed on site. Entire above-grade structure was constructed of reinforced concrete and concrete block. Movable stand seating is of structural steel, moving on especially designed rubber tires. **Electrical System:** Stadium lighting is on a precast ring cantilevering from the top of the structural frame; lights are a combination of 5000-w incandescent and 1000-w metallic vapor fixtures, which mixture provides proper color characteristics for TV and photography. Tests indicate over 400 ft-c on the baseball infield and over 300 ft-c on a major part of the football field. There is an especially designed electronic scoring and message board utilizing

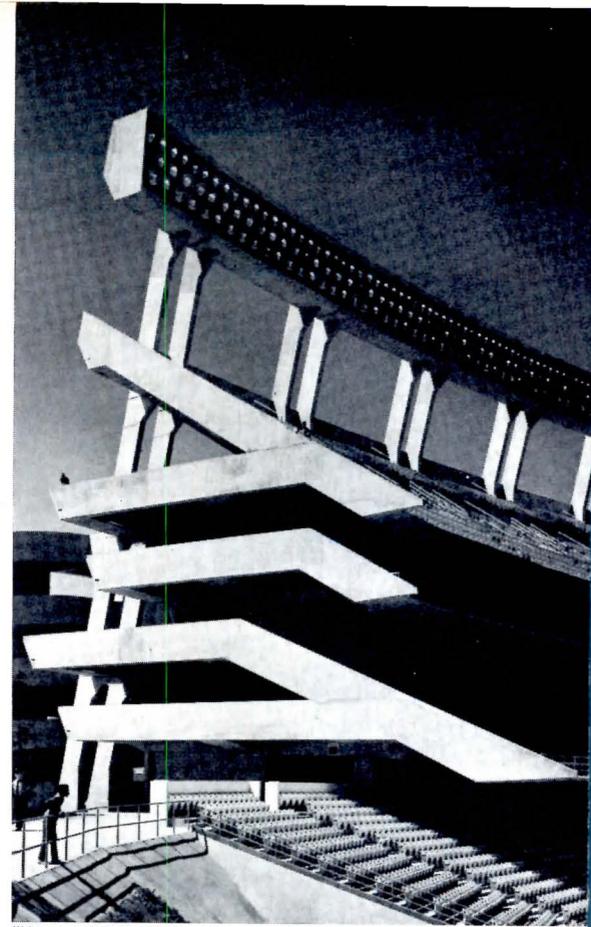
solid-state circuitry and component controls. **Major Materials:** Concrete; molded plastic for seats. **Cost:** \$20,419,467 (total budget was \$21,323,690). **Consultants:** Bolt, Beranek & Newman, Acoustics and Sound Systems. Wimmer & Yamada, Landscaping. G. A. Rasmussen & Associates, Computer Analysis. Benton Engineering, Foundation Investigation. Convair-General Dynamics, Wind Tunnel Tests. Aubrey Devine Jr. & Associates, Food Service Facilities. City of San Diego, Traffic Engineering. **Photography:** Julius Shulman.

As this is being written, the Cardinals have just trounced the Red Sox in Boston's old Fenway Park to take this year's World Series. The contest this year shuttled between the venerable facility in Beantown and the curvaceous new Busch Stadium in St. Louis. While it is not in the cards (if the reader will forgive the expression) that next year's Series will be played in the spanking new San Diego Stadium (the Padres are still seeking major league status), it could not take place in a more distinguished new ball park. Where Houston spent a lot of big Texas money on a Broddingnagian cupcake in its Astrodome, and St. Louis imported the talents of Edward D. Stone to put the pretty architecture on the bare bones of Busch, the architects of the San Diego Stadium have been content to let the virile elements of the structure speak for themselves, and speak eloquently they do.

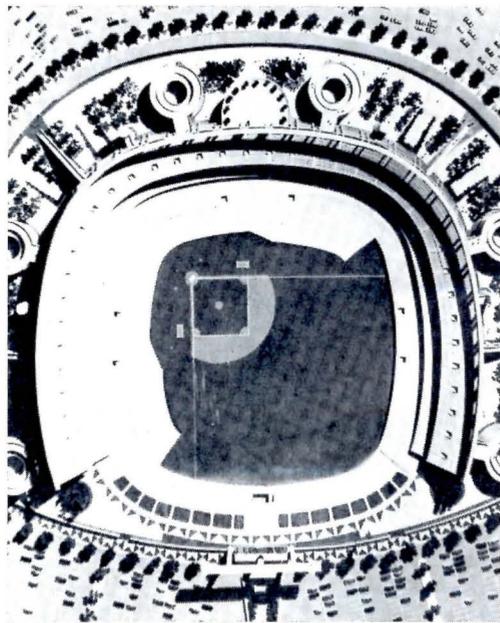
Frank L. Hope, Jr., believes that in a multipurpose stadium there are four prime seating areas: two for baseball, consisting of the V formed by seats parallel to the first and third baselines; and



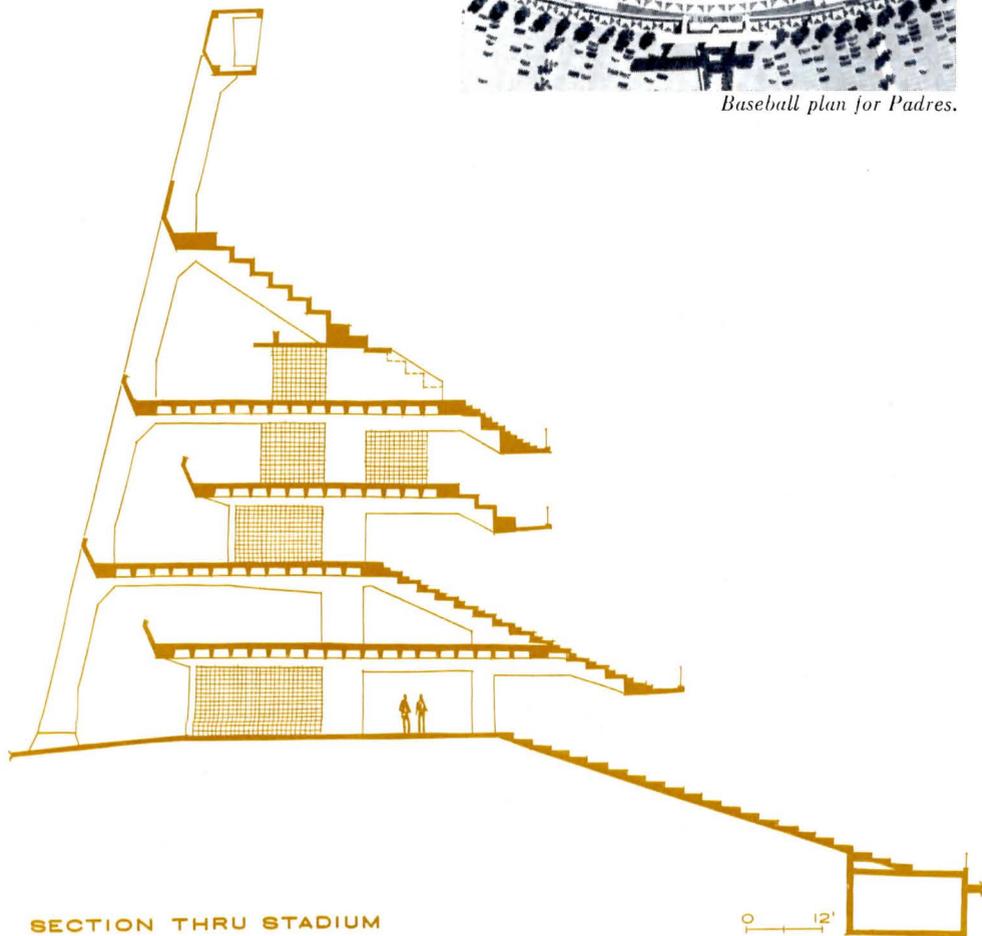
*Chargers hit the line.*



*The section is the message.*

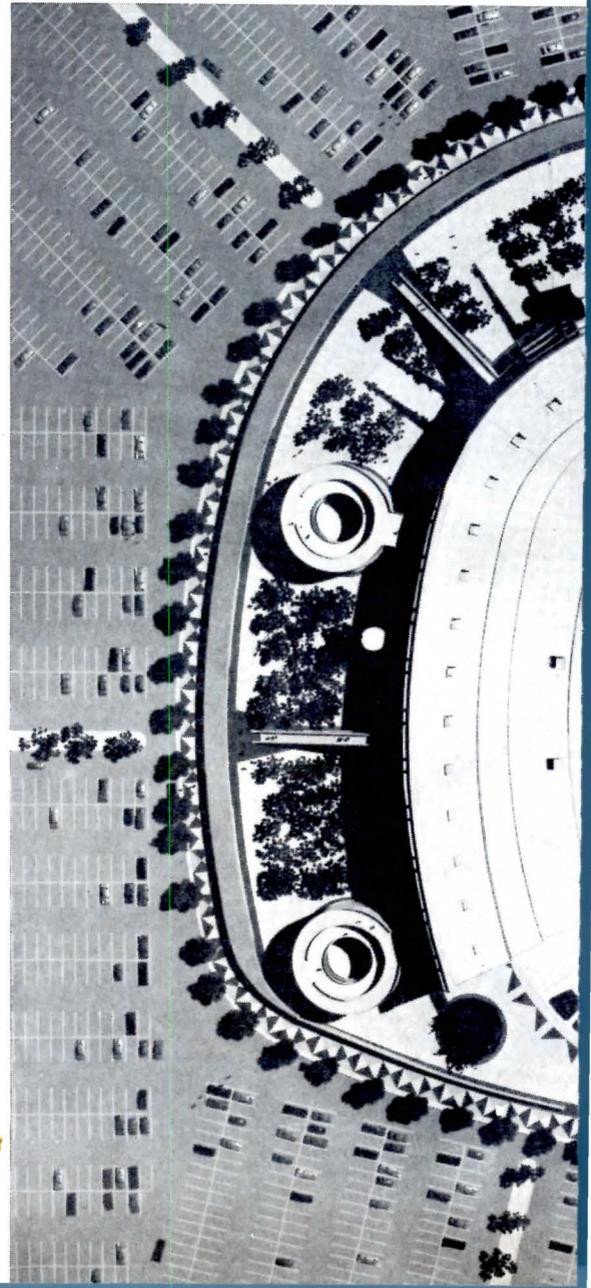


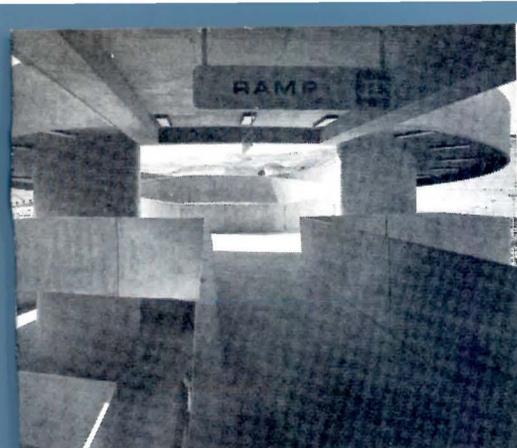
*Baseball plan for Padres.*



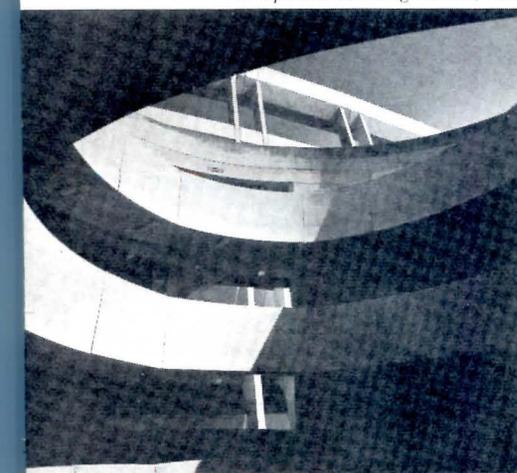
SECTION THRU STADIUM

0 12'

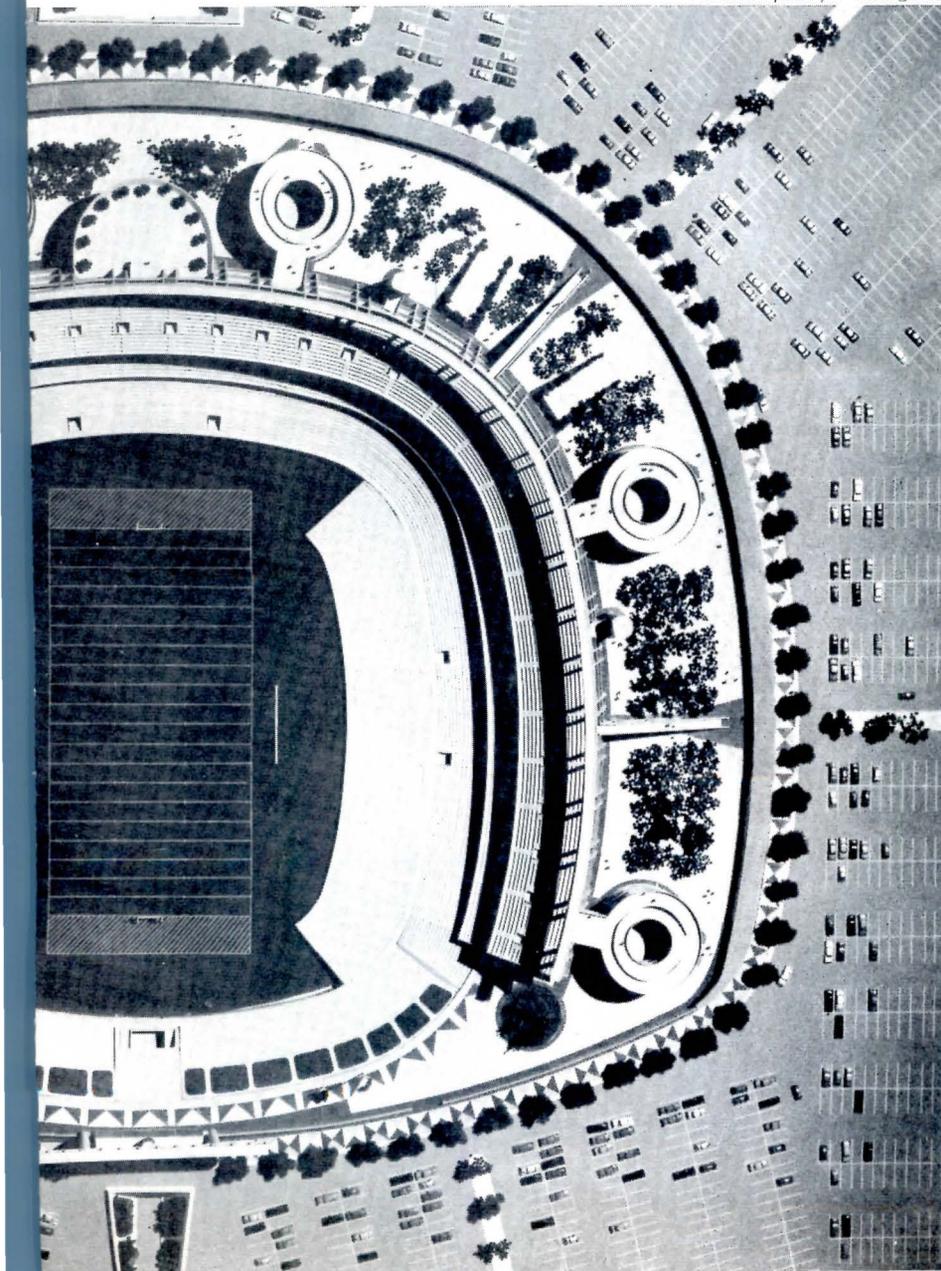




*Ramps are exciting inside, too.*



*Football plan for Chargers.*



two for football, parallel to the sidelines and between the goalposts. (The "Chargers" is the local football aggregation.) To best arrange the greatest number of good sightlines for these two arrangements, the architects evolved a stadium shape that, in plan, resembles a squared-off and flattened-out semicircle. The stadium is open-ended, with the electronic scoreboard forming background statistical commentary to the action on the field. Approximately 5000 movable seats at field level can be rearranged from football to baseball position, and vice versa, in less than a day.

Seating is on five levels: field, plaza, loge, club level, and upper tier. Entrance is at plaza level and down stairs to the field seats. Vertical transportation to the upper seats is by six circular ramps or (for third and fifth levels) eight reversible, high-speed escalators, or (for the fourth level) by four elevators. The fourth level contains press facilities and private boxes.

The dramatic aspect of the stadium is provided by pulling all the vertical transportation forms away from the corpus of the structure itself (where they would only add to interior circulation confusion), and letting them form almost free-standing sculptural elements around the stadium. Thus the logic of separating the transportation systems from the seating amphitheater has had the impressive bonus of good aesthetics. Within the bowl of the stadium an added kick is provided by the color arrangement for the various strata of seats. Bright orange is used on field seating, yellow at plaza level, rust for the loges, and dark brown for the upper levels. In addition, concessions, restrooms, and other special areas are color-coded for easy identification, adding dashes of color throughout the vast concrete structure.

The rash of new coliseums, stadia, and arenas of various sorts throughout the U.S. in the past few years has rivaled only the outbreak of various forms of "cultural centers" in intensity. The question of whether to design a simple, plain-Jane functional structure, or a dolled up version of the same, or go all out and make the thing a kind of roofed-over country club as at Houston, is one that must confront everyone with such a commission. In San Diego, by not being stricken by the beauty bug, but instead doing a logical, gutsy job, the architects have created one of the most impressive of the new sports arenas.



The point quite simply is this: It is not so much new laws that we need; it is the ability to make those we already have on the books effective.

## The Way Out

As we have seen, a housing agency, once an application is submitted to it, is presently under the obligation to make a double review of the situation. In the first place, it must be sure that the proposed construction conforms with its standards of planning, construction, and appearance. In the second place, the financial standing and legitimacy of the developer must be examined each time he submits an application. The review and inspection of his statement is a matter of months, and each time he applies it is as if the agency had never heard of him. Recently, lawmakers have made special incentives available to nonprofit organizations. Unfortunately, the same one-time, one-investigation procedure applies, and the nonprofit status of the organization applying for assistance has to be established anew each time it presents a proposal for approval.

The assumption to be questioned, as must be clear by now, is that each application must be considered as if the applicant were unknown to the agency. If, however, it were the case that when a building proposal is submitted to an agency for approval, the agency could be certain that the applicant was reliable, and that any structure proposed by him was designed competently and in accordance with the agency regulations, would the agency not be in a position to approve the application almost at once? By way of analogy, consider that a doctor practices by virtue of his license; he need not submit a treatment program to the state every time he treats a patient. And a utility does not require official approval to hook up each individual customer. Nor, for that matter, does the licensed motorist file an itinerary for approval every time he goes for a drive. In each case, the party is assumed to be competent and responsible within the activity for which he is licensed.

Let us imagine, then, the conditions that might prevail if our agencies could prequalify the developer in the same way. If, then, a Licensed Development Corporation (as it might be called) were to submit an application, the agency would make a routine mortgage evaluation and ascertain that the site was acceptable and that the number and type of dwelling units proposed were in accordance with governmental objectives. If all went well, the developer would have his approval within days. The agency would have no qualms about granting the approval because the competence of the developer to design and build to agency standards would already be on record. As to his financial standing, there would be no uncertainty to cause delay because the books of every Licensed Development Corporation would be subject to periodical and continual auditing.

The agencies that today are the innocent causes of delay and frustration are

ideally suited to the role of licensing agent. The evaluation of developers is just as fully within their competence as the evaluation of developments is. *But*—and this is all-important—under the new system, the agency would separate the approval of the developer from the approval of any one of his proposals. Let us say to our agencies, “Examine, investigate, establish policy and set whatever standards the public interest requires—but direct your attention to the development *corporation*. Once you have assured yourself of its ability, give it your full confidence and set it free to perform.”

Naturally, the agencies would have to continue to evaluate individual applications made by developers who were not licensed. Such developers, in order to take advantage of the speed afforded by the possession of a license, would have to be offered some equitable and not too onerous means of proving their competence and financial solidity. Monopolies or exclusive franchises should not be allowed; competition would be highly desirable.

In time, too, another important development might be hoped for—namely, that city and state agencies might designate the Federal Government as their licensing agent, creating a uniform standard and permitting a Licensed Development Corporation to enjoy speedy approval of its applications anywhere in the nation.

## Straws in the Wind

Legislators, administrators, and journalists are aware of the present problem, if not of its exact cause. Senator Ribicoff of Connecticut, in calling for a drive to eliminate our slums in the 1970's, has said that our most important single chore is “the job of improving the efficiency and effectiveness of red-tape-snarled government programs.” And New York City Housing Administrator Jason Nathan has stated, “The bureaucratic maze is particularly unfortunate because it has frustrated not only the public but the housing officials themselves.” Ada Louise Huxtable, architecture critic of *The New York Times*, has been driven to say, “The real problem is simple and appalling. In government, everything is solidly stacked against getting anything done. . . . The procedure is standard Kafka or Bureaucratic Nightmare. . . . Not for a nail is the kingdom lost today, but for a kind of operational Parkinsonian-McLuhanism in which the process is the product.”

The year 1966 saw a number of attempts to improve the means by which the forces of private enterprise might be brought to bear on the housing problem. A suggestion was made that a quasi-public body be established by Congress that would be the equivalent for housing of Comsat, the Communications Satellite Corporation, which was established to advance the development of communications systems in outer space. The organization proposed would be nonprofit, but run by business and industrial leaders, and would assume responsibility for

building the necessary housing units. Senator Robert Kennedy of New York announced late last year a plan of his own for employing private developers in coping with the problem of the Bedford-Stuyvesant slum area of Brooklyn.

Most interesting, however, is the “turnkey” system, which has recently been put into operation. Under this system, a private developer comes to a housing authority with a proposal, and the authority, if it approves of the proposal, agrees to buy the finished development at a predetermined price. HUD Secretary Robert Weaver has estimated that the “turnkey” system can effect an economy of three years in time and 20 per cent in costs over the time and costs required under prevailing systems of building finance by government. The first building constructed under this new system was opened in Washington D.C. in February of last year.

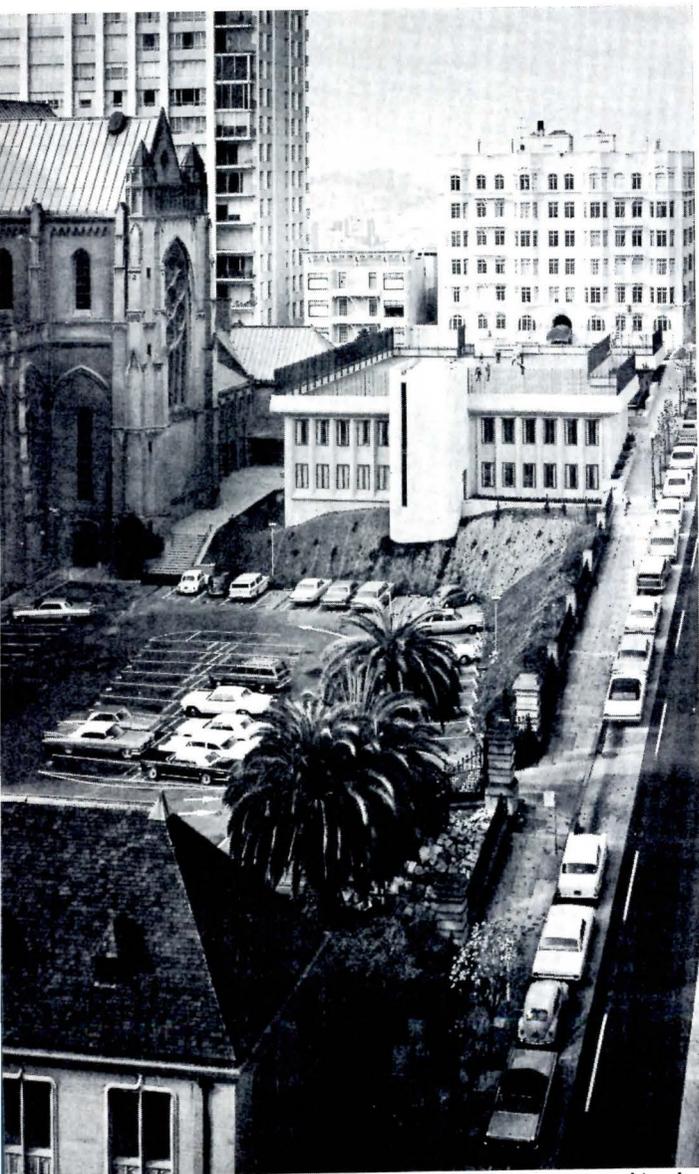
Good intentions are present, then, and the dramatic economies of the “turnkey” method are a great improvement. No method thus far, however, is fully effective in enforcing the standards required by the public interest. The prevailing tendency is to rely upon the competence and integrity of the developer chosen, *without* special licensing and *without* a running audit, in order to get the buildings erected. The method here proposed would correct this last defect. One might foresee the following consequences, if the Licensed Development Corporation becomes a reality:

- Private enterprise would revitalize the government-assisted housing market.
- Religious institutions, labor unions, universities, and other nonprofit organizations entitled to benefits under current housing laws would be able to take their problems to Licensed Development Corporations with confidence.
- Major U.S. financial and industrial organizations that would like to get into housing but that are presently discouraged by the red tape would be encouraged to bring their vast resources to bear on the problem.

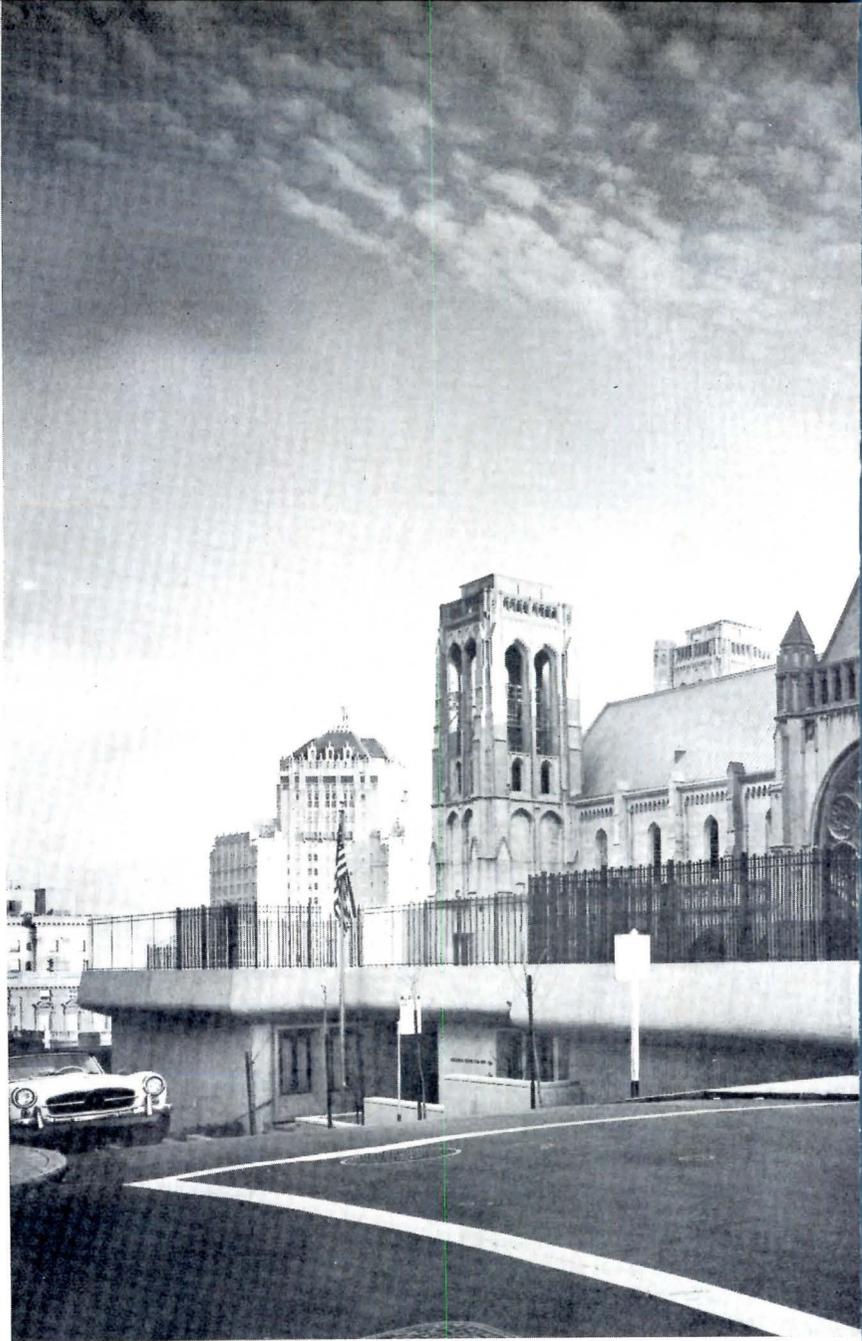
The resulting generalization of the supervisory function of the agencies (with respect to specific projects) would lead, among other things, to heightened architectural creativity.

There is a vast potential of talent and money and idealism and know-how that could be realized in the field of housing if the frustrations that governmental agencies now unwillingly impose were eliminated. Intelligent, well-meaning legislators who see the intent of their laws defeated, housing administrators whose idealism has led only to paper-shuffling, planners whose vision and creativity has been stifled by a proliferation of regulations, leaders of industry who are intrigued by the housing problem but are repelled by the methods of the agencies—all offer abilities, interest, and experience that could be used to immense effect.

The actors are waiting in the wings; what they need are roles capable of being acted.



*Cathedral close is now parking lot.*



*The play is on the roof.*



# GOOD NEIGHBOR POLICY

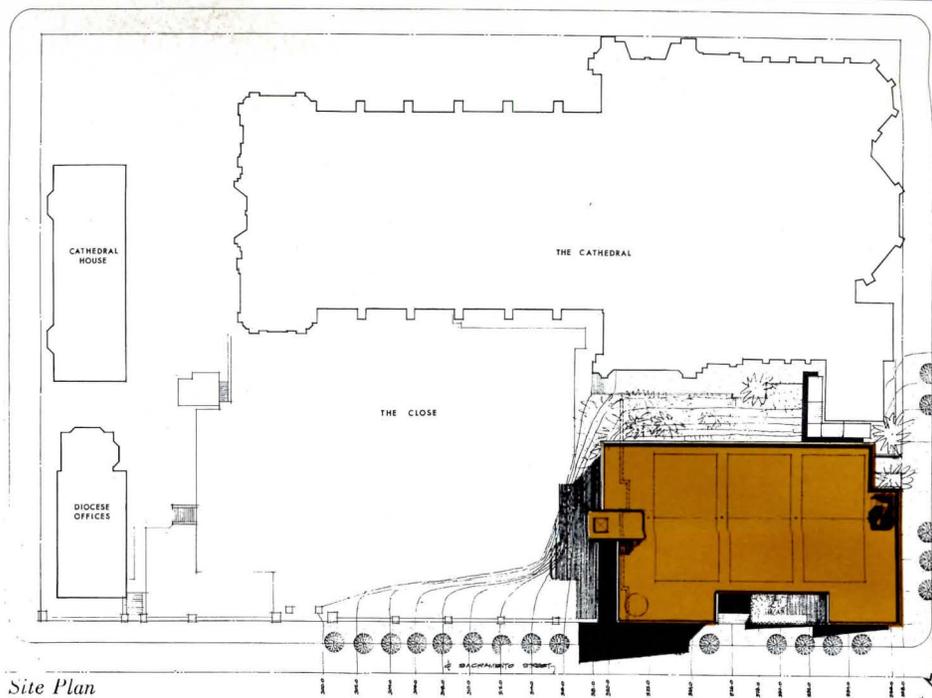
THE CATHEDRAL SCHOOL FOR BOYS, 1275 Sacramento Street, San Francisco, California. **Architect:** Rockrise & Watson; James J. Amis, Associate, Project Architect. **Site:** Adjacent to Grace Cathedral on Nob Hill; part of the cathedral's master plan. **Program:** Provide a new school building for 200 boys of the 10-year-old Cathedral School for Boys. School is divided into a lower division of grades 1-4 and an upper division of grades 5-8; each grade has a home room for 25 boys. Other facilities are a science laboratory classroom, a library, and administrative offices and playground. **Structural System:** Type 1, reinforced concrete, cast-in-place except for precast window units. All exterior walls loadbearing, with interior support from concrete columns within finished walls. Suspended second floor and roof slabs formed with special waffle dome units 5-ft square to integrate with window unit module, provide economical clear span for typical classrooms, and allow expansion of any portion of a classroom. **Mechanical System:** Forced warm air and hot water re-heat coil system. Each room designed with its own mechanical zone. All classrooms on separate heating and ventilating system from offices and library, for efficient use at different periods. Classroom lighting is integrated into coffered concrete ceiling. **Major Materials:** Reinforced concrete with bushhammered finish and color matching the cathedral, with sandblasted precast loadbearing concrete window units; carpeting in all rooms combined with exposed concrete coffered ceilings from waffle forms provide acoustic control. Wood for trim, cabinets, and paneling is natural finished or stained. **Cost:** \$573,550, or \$29/sq ft (exclusive of \$50,000 for furniture, equipment, and carpeting). **Consultants:** Lawrence Halprin & Associates, Landscape Architect. Isadore Thompson, Structural. Yanow & Bauer, Mechanical and Electrical. A. Dudley Kelly & Associates, Interior Designer. **Photography:** Morley Baer.

Nestled close to the north transept of San Francisco's Grace Cathedral (Anglican) on Nob Hill, the new Cathedral School for Boys proves itself a modest and compatible neighbor for that imposing neo-Gothic mass. Thanks to one of San Francisco's precipitous sites, the architects were able to insert the school into a little valley running southwest to

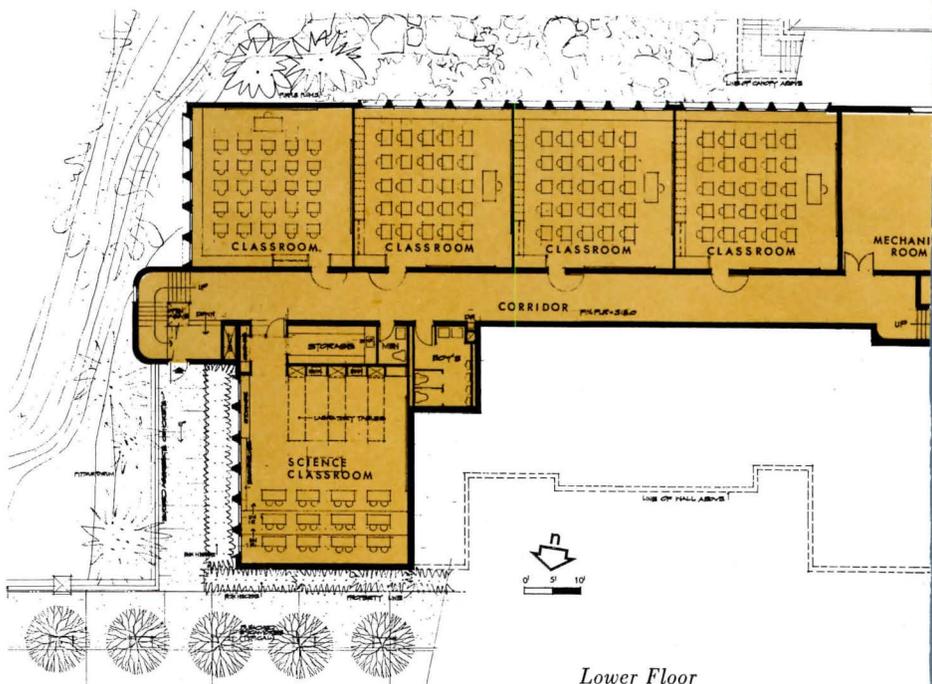
ward the cathedral, thus keeping its bulk and profile depressed and permitting a view of Grace's north elevation. Further to accommodate the school with the dominant design of the older structure, the architects were careful to choose a hue of bushhammered concrete that repeats the color of the cathedral walls, and subtly to emphasize the vertical in the pre-cast window elements with their deep reveals, the long lancet-like aperture illuminating the stair tower on the west end, and even in the rhythmic sequence of accents provided by the fence around the rooftop play area. "The deliberate attempt to maintain the visibility of the cathedral from all adjoining areas to the site, together with the matching of building materials with the cathedral while creating a simple but strong architectural statement, was a basic consideration and a successful solution," the designers say. And they are correct, for the school not only performs its role as a foil for the cathedral graciously, it also holds its own appropriately with such other good Nob Hill buildings as the Pacific Union Club, the old part of the Fairmount Hotel, and some of the older apartments and houses in the neighborhood, causing, as they do, such later structures as the Fairmount addition and the Masonic Temple to stand out like flashy sore thumbs better suited to Los Angeles or Las Vegas.

The school's plan is quite simple: offices, lobby, and library at the upper floor main entryway where they can be used after school hours; classrooms on two levels all facing the cathedral away from the street for noise control and a more cloistered view; the more "active" science classroom and language classroom at the front on the lower and upper floors, respectively; and the playing area neatly placed on the roof, separating it auditorily from the classrooms and also allowing the school to sit undisturbed in its little valley of natural rock and planting.

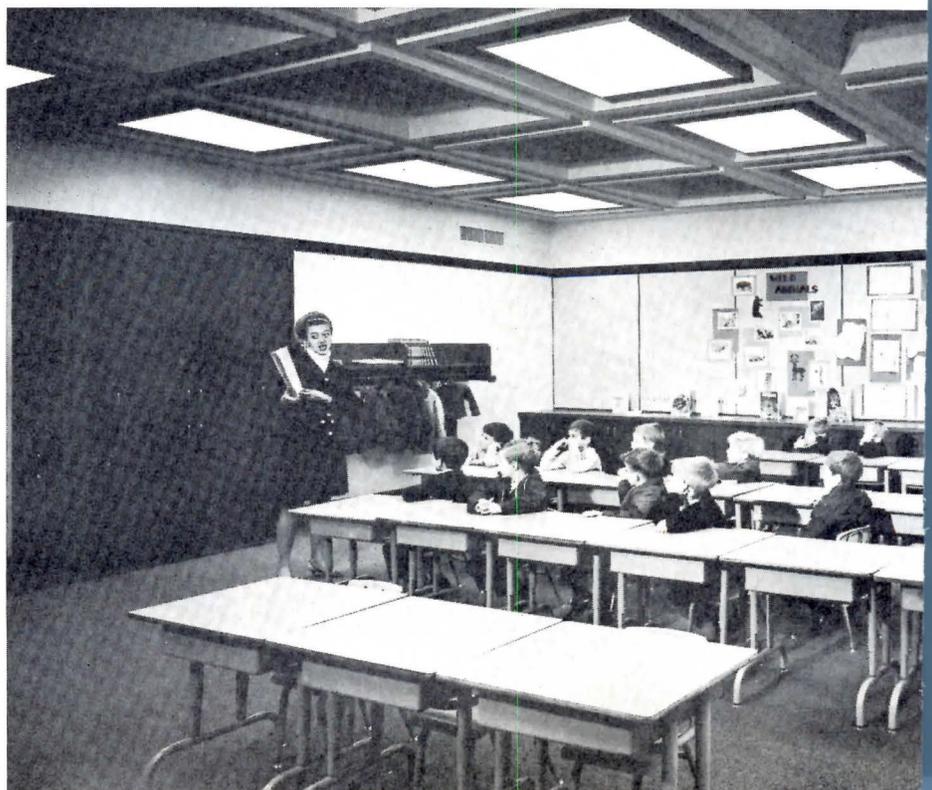
The Cathedral School for Boys (whose students, incidentally, are of many faiths, races, and economic backgrounds) has had the courage not to make a "big" architectural gesture, and, in not doing so, has become an admirable lesson in talented discretion.

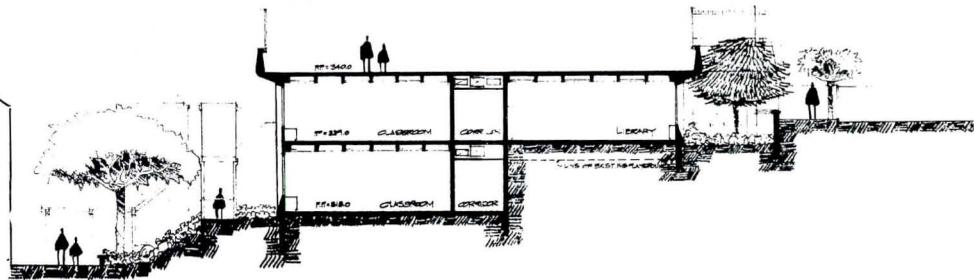


Site Plan



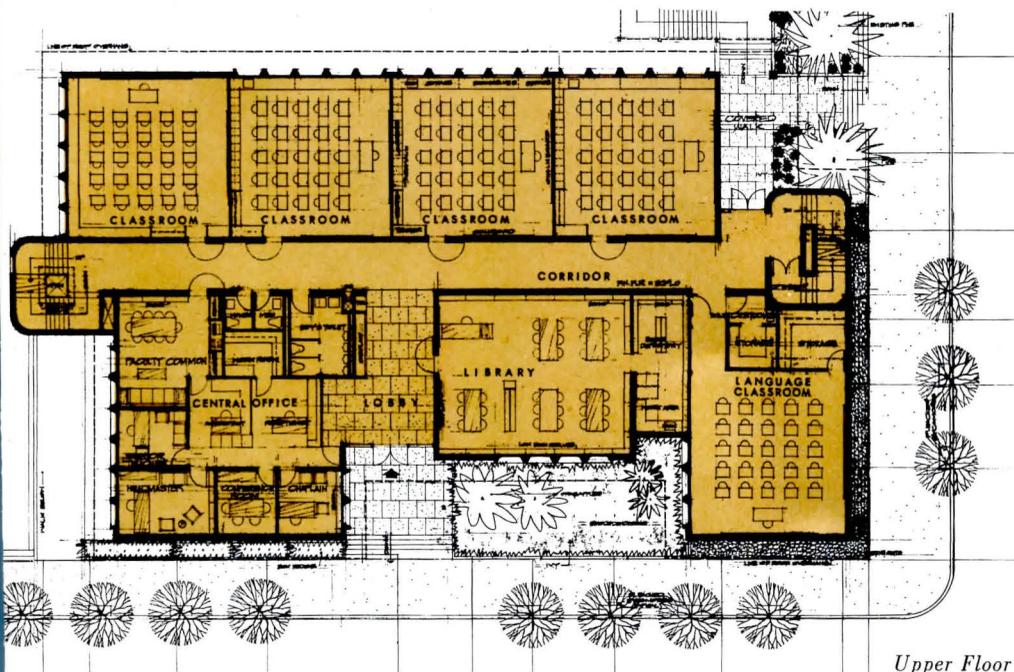
Lower Floor



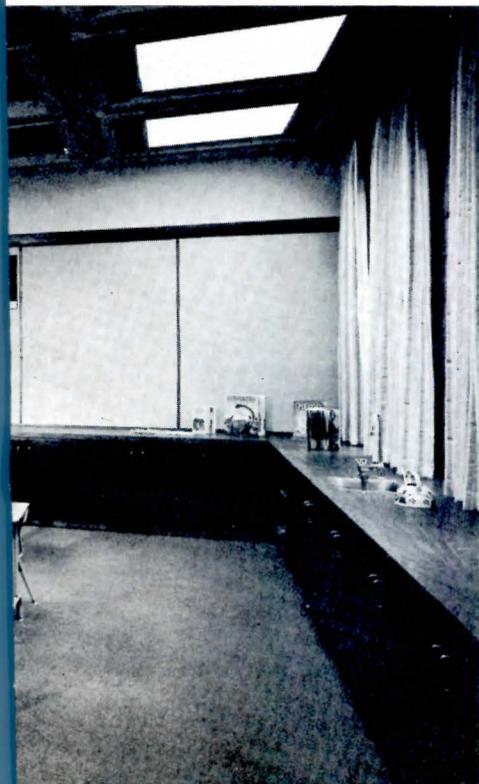
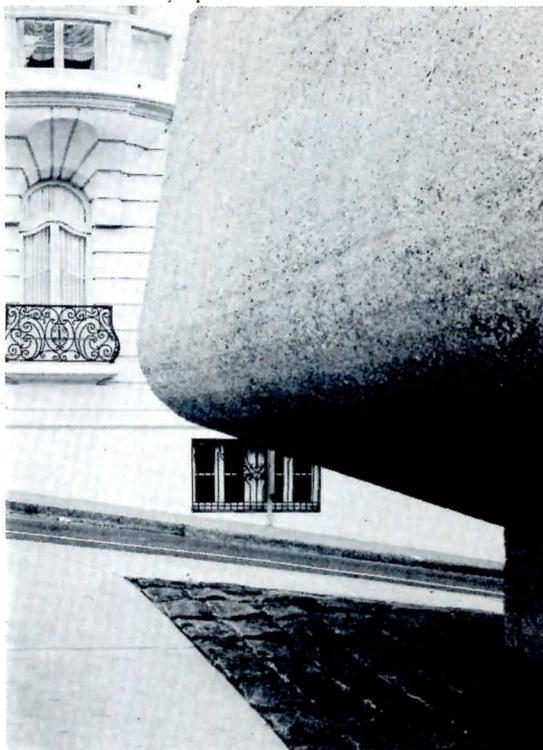


Transverse Section

Details are also sympathetic.



Upper Floor

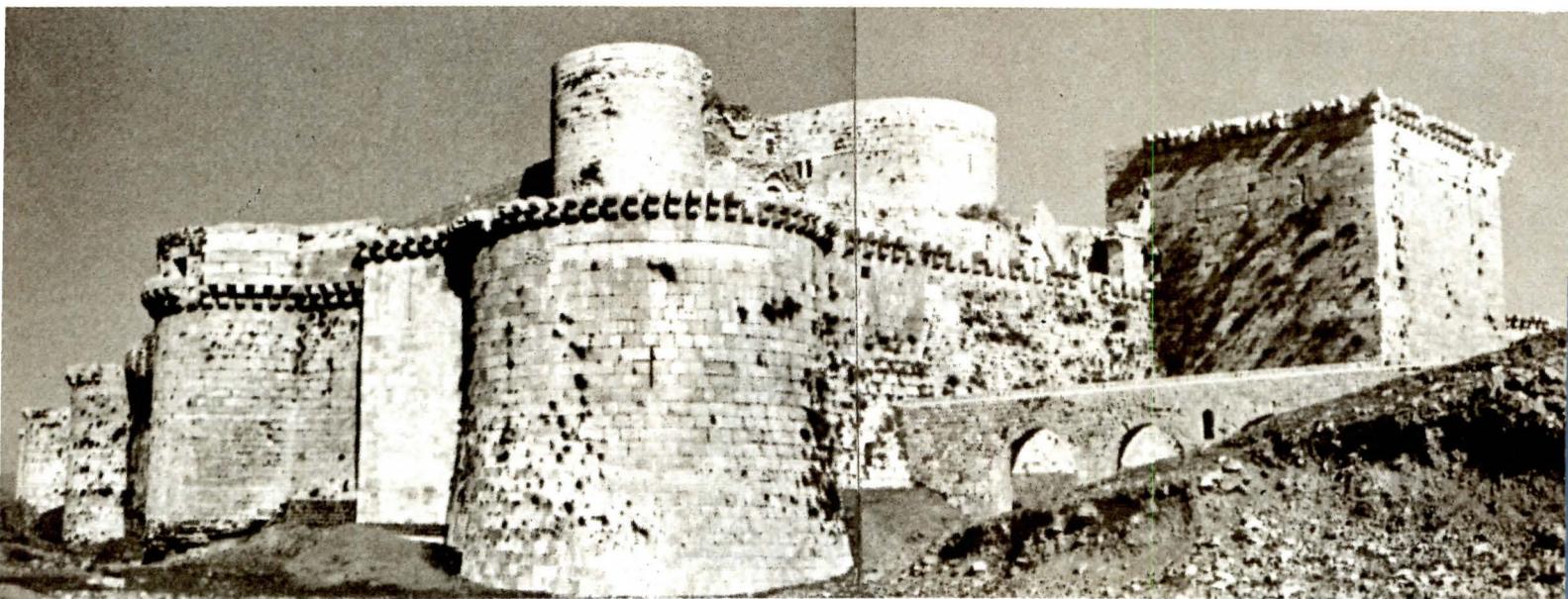


Classroom.



Library.

# Crac des



The Krak of the Knights (Crac des Chevaliers) is located in Syria about midway between the coast and the Syrian city of Homs. It was built as one of a series of five castles (Krak, Akkar, Chastel Rouge, Arima, and Safita) to defend a gap in the coastal range between Gebel Alawi and the first great escarpment of the Lebanon, Nahr-el-Kebit. Of the five castles, by far the most remarkable is Krak. T.E. Lawrence gave an opinion of the Krak as follows: "It is perhaps the best preserved and most wholly admirable castle in the world."

The castle is situated on a spur of the Gebel Alawi and is surrounded on three sides by abrupt escarpments and to the south by a triangular outwork (now destroyed), a ditch and the heaviest fortifications of the entire complex.

The original fortress on the site now occupied by Krak of the Knights was a small castle called Hisn-el-Akrad, garrisoned by Kurdish soldiers stationed there to protect the road from the coast inland. In June of 1110, the Crusaders, under the command of Tancred, Prince of Antioch, arrived in front of the small

fortress and occupied it after dislodging the Kurdish garrison. The Crusaders immediately saw the superb possibilities of the location and commenced to rebuild the Kurdish fort into something of considerably greater magnitude. The Crusaders held the position for 162 years, first under the Count of Antioch, and then under the Count of Tripoli, who, in 1142, yielded it to the Hospitallers. In March of 1271, the Moslem Sultan Al Zaher Baybars laid siege to Krak with a formidable force, and the defenders, who, during the declining years of the Crusades, had been reduced from the 4000 who had garrisoned Krak in its heyday to a mere handful, were persuaded to surrender and were sent off under protective escort to the coast. During its entire history, this was the only time the defenders of this renowned castle were forced to surrender. The castle itself was never overcome, nor were its inner walls penetrated by an attacking force. Krak has remained in Arab hands since 1271, and much of the southern portion of the outer curtain was rebuilt and strengthened by the Arabs. In recent centuries, Krak gradually lost its importance and

became a village whose inhabitants were evacuated by the Syrian Government only in 1934, when a suitable new village was built for them just behind the castle. The Director General of Antiquities and Museums has since removed all village traces and has restored much of the castle to its original condition.

The following is a brief list of books relevant to the Krak of the Knights and other Crusader castles:

Cathart, King D.J. *The Taking of Le Crac des Chevaliers in 1271, in Antiquity*, Vol. XXIII, 1949.

Deschamps, Paul. *Les Crac des Chevaliers*. 2 vols. Paris, 1934.

Fedden, R., and Thompson, J. *Crusader Castles*. John Murray, London, 1957.

Lawrence, T.E. *Crusader Castles*. 2 vols. Golden Cockerel Press, 1936.

Rihaoui, Abdul Kader. *The Krak of the Knights*, translated into English by Safya Sassy; published by the Director General of Antiquities and Museums, Damascus, Syria, 1966.

# Chevaliers

By Louis A. McMillen, director of The Architects Collaborative, Cambridge, Mass.

If we, as the designers of modern architecture, are absolutely honest with ourselves, we must admit that the environment that has been created by man in recent times is in some ways less compatible with his spiritual, emotional, and even physical needs than that created in the past.

Here we refer particularly to the many extraordinary towns and castles of the Middle Ages, from which we gain a feeling of scale and appropriateness, uniquely suited to these human needs. In the light of today's trends, a re-evaluation of the artistry of these earlier designers is surely in order. For instance, over the past decade there has been a notable tendency toward less flamboyant use — or rather, misuse — of materials, a simplification of form, more dignity and serenity of general expression, and at the same time there is much talk of capturing the elusive "human scale." A more monolithic look is creeping in, and the days of the 10-material façade are on the decline.

Much re-study, both through analysis and direct exposure, is needed to recapture the many arts and devices of medieval designers. We must visit the places where the work of their

hands can be seen and the scale of the environment felt.

To visit the Krak of the Knights is the epitome of such an experience. Against the fragmentation of modern living, Krak stands apart — a great unified symbol of another time when men's minds were less cluttered and less pulled apart; when there was a more unified purpose to life; a time, moreover, when architectural expression was more intimately connected with the scale of man and his various needs.

As a whole, Krak has enormous strength and simplicity, yet it is not overpowering. One sees at once a complex building, but one constructed with great art by human beings for human occupancy. There is never a question in the visitor's mind about the uses for which its various parts were intended. This is the ultimate of functional architecture, yet accomplished with an artfulness that is often lacking in today's efforts. There are subtle lessons to be relearned that at one time men knew well, but that have long since been chased from their minds by the race for progress and change at all costs, and by the thoughtless and meaningless copying of things past by the eclectics.

Photos by A.A. Salaam, R.B. Deans, Jr., Louis A. McMillen



## *The Monolithic Look*

*Stone was the only building material available. The effect is unified, restful, and yet tremendously powerful.*



### ***The Variety of Spaces: Great Halls and Intimate Rooms***

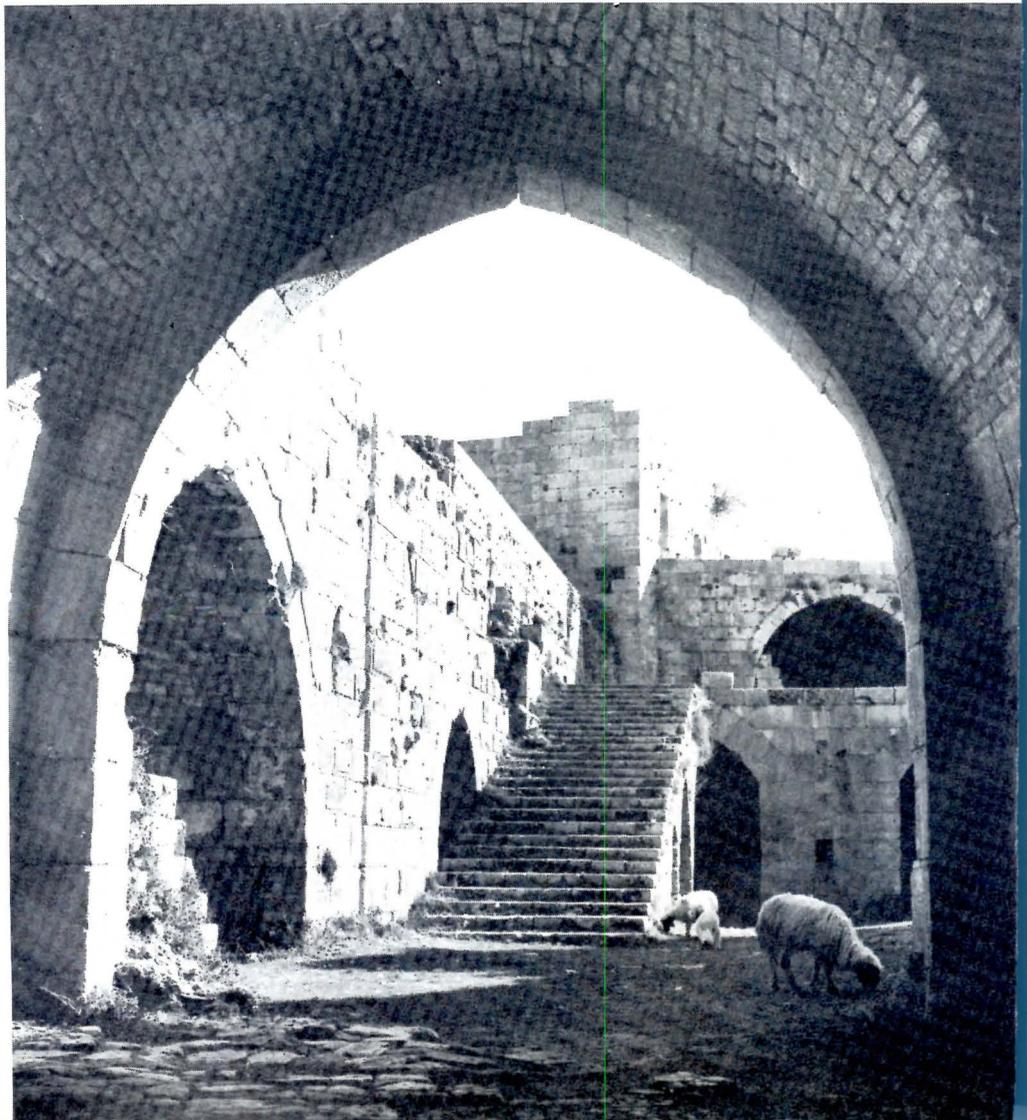
*There are an unbelievable number of shapes and sizes of interior spaces in Krak, ranging from the King's bedchamber at the very top of the whole complex to the vast hall with extremely heavy columns and great vaulted ceilings where the troops were quartered. The beautiful Gothic meeting hall and chapel contrast with the many utility rooms around the outer fortifications such as guard rooms, fortified galleries, watch towers, and walkways. Particularly charming are several small private chambers with terraces overlooking the surrounding hills.*

### ***Variety of Views***

*The Krak is situated on one of the highest hills in the area. It commands unbelievable vistas through a variety of openings, and one is constantly confronted with a new view: sometimes of a shaft of sunlight coming through a Gothic rose window at the end of a long room; sometimes into a small courtyard through an arched doorway; sometimes down a winding skylit passage; or suddenly a view, through a narrow gunport, of something moving across a distant hillside.*

### ***The Intimate Courtyard***

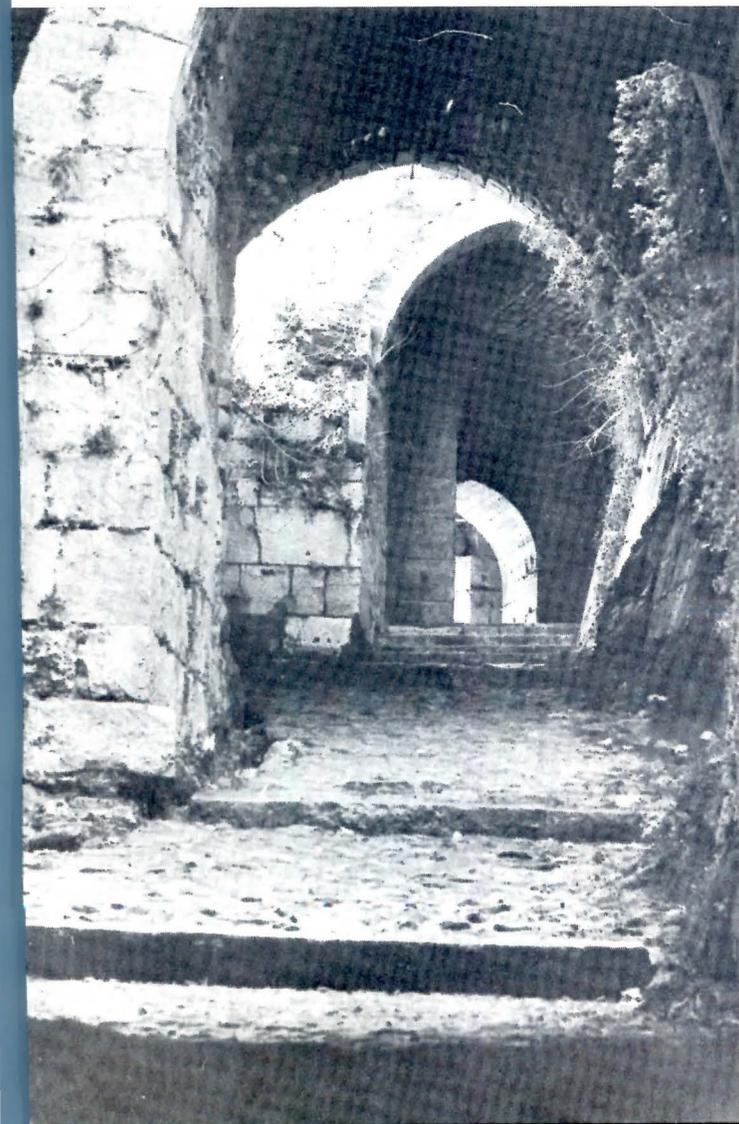
*The several courtyards are most beautifully proportioned and surrounded by architecture of a simple, dignified, and refined Gothic. Courts are entered around corners, through arched doorways, or from upper or lower courts via stairways.*



### ***Contrast of Architectural Expression***

*One of the most unusual and yet intriguing aspects of the Krak complex is the contrast between the absolute simplicity of its exterior, and the great delicacy of the Gothic detailing of the cloister in front of the refectory. In this loggia is carved on the wall a Latin inscription which, translated, reads as follows:*

*“If grace, wisdom and beauty are given you, pride alone tarnishes all these qualities when added to them.”*



### ***The Element of Surprise***

*Going around almost any corner will reveal an unexpected view, room, or court.*

### ***The Deflected Street***

*There are, within the Krak, several wide passages, the main streets of the interior. They are curved, sloped, and pass beneath great Gothic archways of various sizes set on the curving lines of the streets. Light comes from unexpected and hidden sources and produces pools of light and shadows along the way.*

# STUDENT TALK WARMS A CAMPUS

**A heat reclaim system uses wasted heat from classrooms to heat dormitories.**

Demonstrating a principle of the conservation of energy, unwanted heat generated by people and lights will heat and cool six buildings at a new campus in Johnstown, Pa. The heat reclaim system is not new, but this is believed to be the first time that it has been combined with a central plant to transfer heat among buildings.

The six buildings form the nucleus of a new campus for the University of Pittsburgh, and the climate control system will eventually serve the whole complex. Since this is the school's first season, actual operating costs are not known. However, expected operating costs are \$18,000 lower than for a conventional heating and cooling system. The initial \$963,000 cost (including piping for future expansion) breaks down to \$4.60 per square foot.

The types of buildings on the campus contribute to the success of this kind of installation. Classrooms, with no face-tiousness intended, generate a lot of heat from students, and a high level of illumination. On the other hand, dormitories have a low lighting level, and their occupants are less concentrated than in classrooms. So with this new system, heat can be transferred from overly warm classrooms to the cooler dormitories.

## How Heat Is Stored

Because the supply of unwanted heat does not always match the demand for heating in other zones, the climate system needs to store heat. This heat is pumped into two 10,000-gal hot-water tanks with a total capacity of 14,100,000 Btuh. When the system needs additional heat, the tank automatically releases 130F water.

If too much water is removed from the tanks, the stored water temperature may fall below 130F. To prevent this, the de-

signers installed a line to carry water back to the refrigeration machine, which "pumps" it back to 130F. This machine can raise the stored water back to 130F even when the stored water temperature drops as low as 45F.

For further insurance, and to cover vacations when the classrooms are unoccupied, the designers called for electric converters built into the piping system of each building. These bring the water temperature back to 130F.

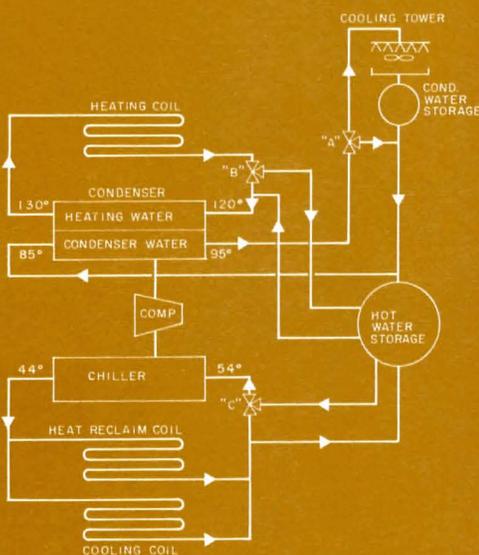
## The Cycle

Waste heat from classrooms is drawn through slots in lighting fixtures into air-conditioning units located above the ceiling. This extraction removes some of the lighting heat before it reaches the room occupants, and it also lengthens the operating life of the lamps. Additional heat sources are tapped in the toilets and kitchens where waste heat from electric motors and air exhausts is drawn across a cold coil before rejecting it outside.

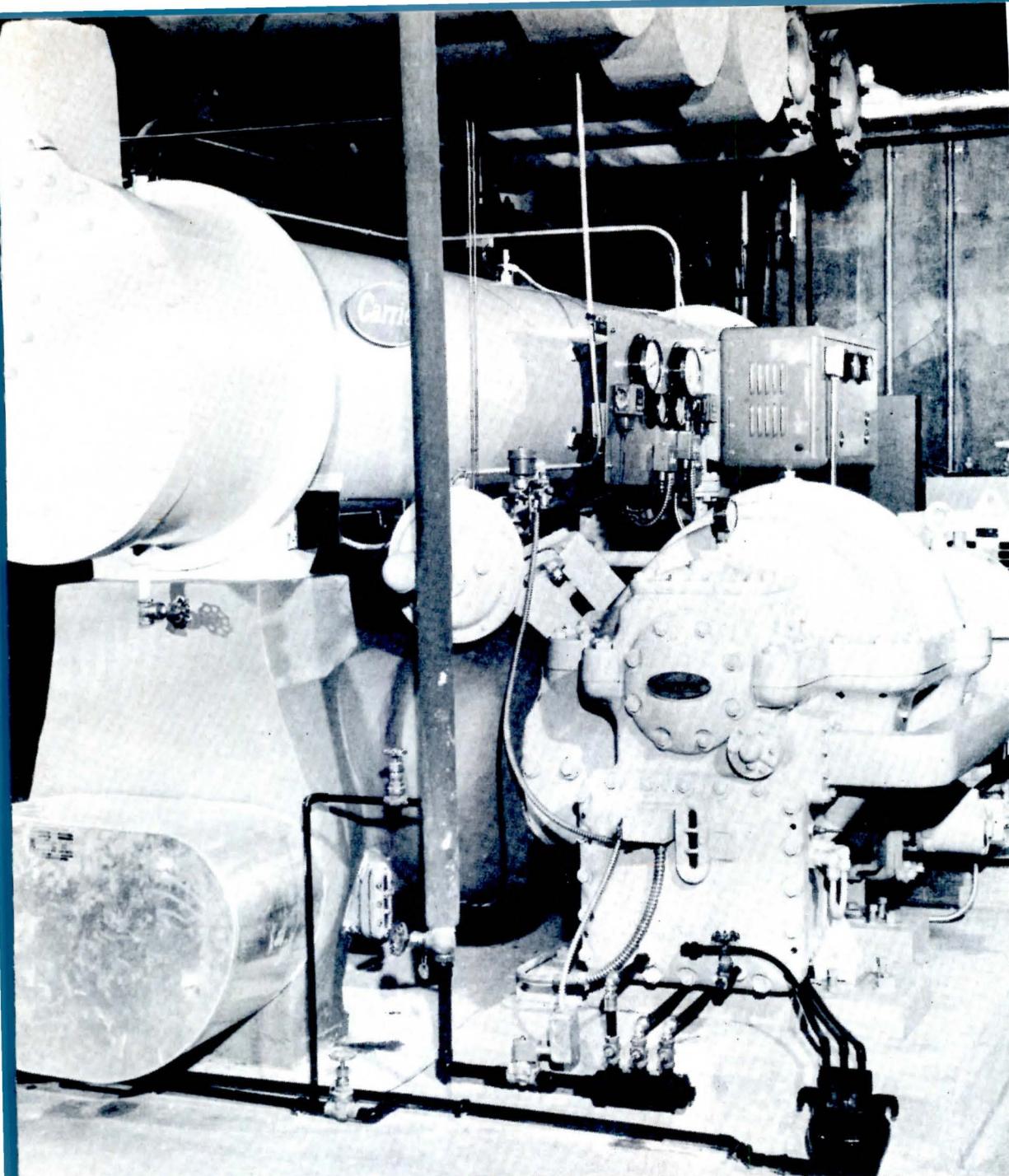
All the heat accumulated from cooling the rooms in winter is transferred through a chilled-water circuit to a refrigerating machine. There it is passed into a heating water circuit, and the re-chilled water is returned to the air-conditioning units to pick up still more heat.

From the central plant, the hot water distributes through underground pipes to all six buildings, where it feeds into fan-coil units. In summer, chilled water feeds to fan-coil units in the classrooms and Students' Union building but not to the dormitories.

The H.F. Lenz Co., mechanical engineers, Johnstown, Pa., designed the heating and air-conditioning system. Carrier Air Conditioning Co. manufactured the equipment.



In the heat-reclaim system, chilled water at 44F circulates year-round to cooling coils and heat reclaim coils, and returns at 54F under fully loaded conditions. In summer, the normal cooling cycle rejects heat through the cooling tower, but when heating is required, valve "A" closes to by-pass the tower and warm the heating water to 130F. When the system is satisfied, valve "B" lets hot water into the storage tank for later use. Excess heat from the tank is rejected through the tower. If water temperature drops, valve "C" opens for stored hot water to enter the chilled-water line, thereby putting a load on the chiller and boosting condenser water temperature.



## THE HEAT RECLAIM MACHINE

Heat reclaim depends upon two things: waste heat and the "double bundle" centrifugal refrigerating machine. The centrifugal, the basic element of most large air-conditioning systems, supplies the chilled water used to air condition — i.e., remove heat from — a space.

Twenty years ago, a modification to the centrifugal made the heat-reclaim system possible. The modified centrifugal machine contains two "bundles" of tubes within the condenser half of the machine instead of the usual single bundle.

In a standard single bundle machine, the condenser rejects heat to a cooling tower or other heat-dispersing device. In a double bundle machine, the second bundle is connected to a hot-water heating system. This permits the system to throw the heat away or conserve it.

# IMPROVISED SITING FOR PLANNED COMMUNITY

HERITAGE VILLAGE, Southbury, Conn. **Architects:** Charles Warren Callister and John M. Payne. **Associated Architects:** James Hahn, Walz & MacLeod. **Project Associate:** Harry Reid. **General Contractor and Owner:** Paparazzo Development Corp. **Site:** 700 acres of rolling, wooded land in rural Connecticut. **Structural System:** Wood frame. **Mechanical System:** Electric ceiling cable radiant heat with individual room thermostats; cooling optional. All-electric appliances. Utility lines buried underground. **Major Materials:** Stained cedar siding and shingle roofs; stone retaining walls. **Interiors:** Wall-board; stone fireplaces. **Cost:** \$55 million, including site; about \$20 per sq ft. Cost to purchaser ranges from \$18,900 to \$31,300 per dwelling unit. **Photography,** except as noted: Ben Schnall.

In working with his clients, the contractor-developers of a 700-acre retirement community, architect Charles Warren Callister has found himself involved in a design experience that he describes as "sculpting in the field" or "architecture on the spot."

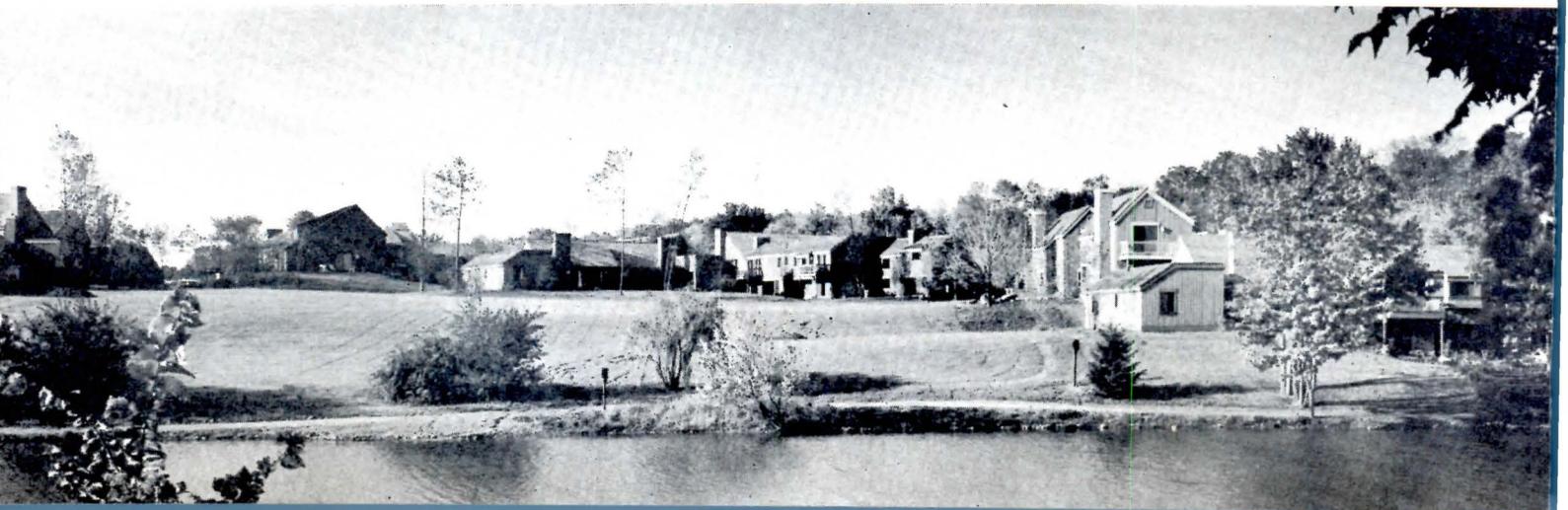
He compares the Paparazzo Development Corp., headed by three brothers, to New England's early carpenter-builders, who approached construction with a craftsman's know-how and certain style precedents, but few, if any, fixed plans. Callister established the precedents, starting with a simple fascia detail and a scheme of varying roof pitches. As a result of previous experience, he decided to maintain an absolute uniformity of materials — vertical cedar siding, cedar shingle roofs, stone retaining walls — even going so far as to clad chimneys in cedar. These elements, plus some half dozen basic floor plans adaptable to both uphill and downhill slopes, make up the components around which the community is organized.

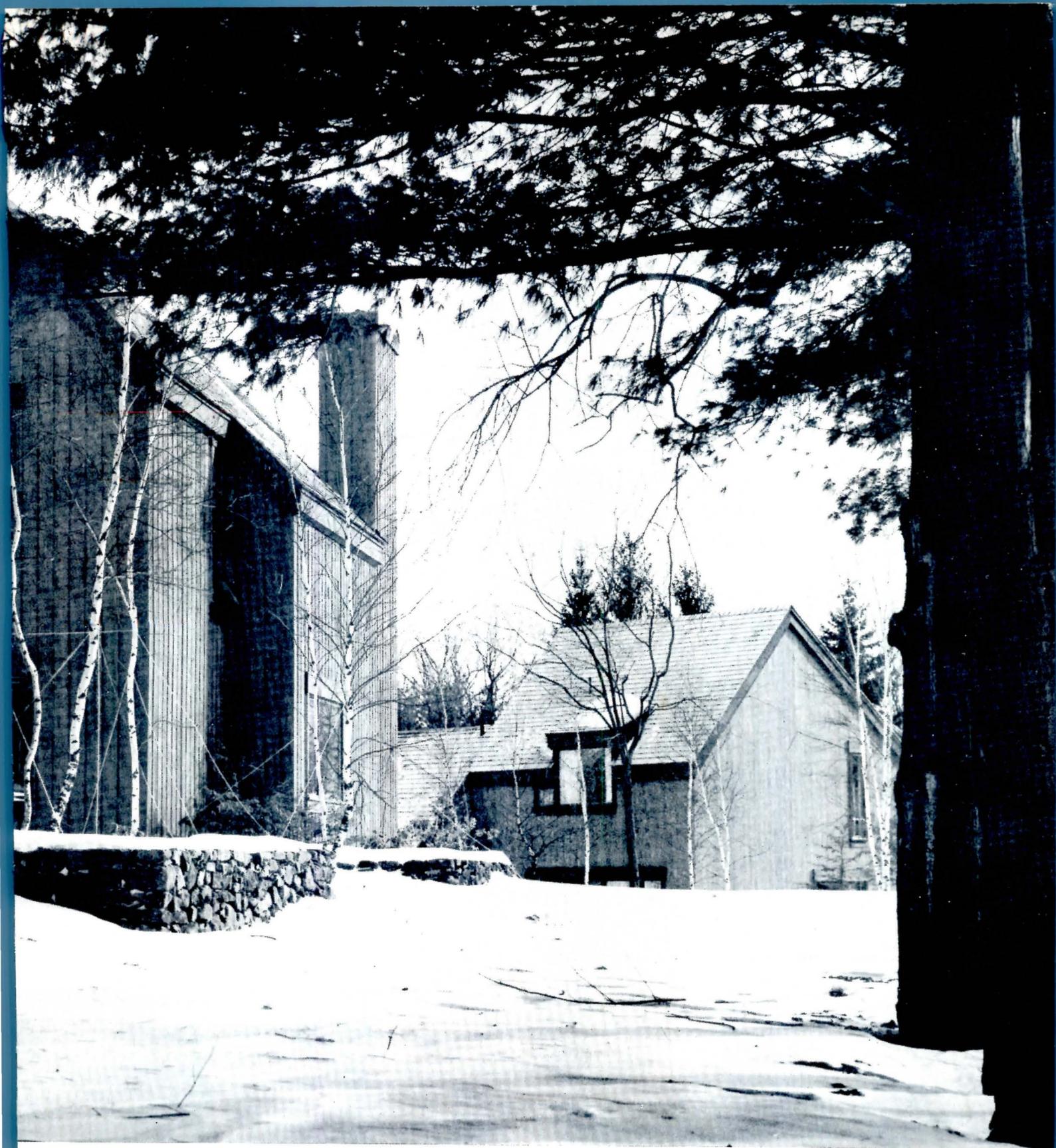
To a large extent, siting, landscaping, and cluster grouping is left to in-the-field decisions. At the beginning of the project, Callister spent a great deal of time at the Connecticut site; he now makes trips from his California offices about once a month to walk off roads, improvise landscaping, and rough out the siting of buildings with Otto Paparazzo, design head of the three-brother contractor team and graduate of the Rhode Island School of Design. Modifications to the natural landscape are kept at a minimum, and when bulldozers do intrude, it is often to create interest through the berming of excavation material, rather than to flatten out knolls and hills.

Callister, selected for his previous work on large planned communities, (notably the 10,000 unit Leisure World in Walnut Creek, Calif., see MAY 1967 P/A), is enthusiastic about the extemporaneous approach that sprang from his informal partnership with the Paparazzos. And aside from inner satisfactions, he claims advantages for the method that might warrant a second look from today's im-



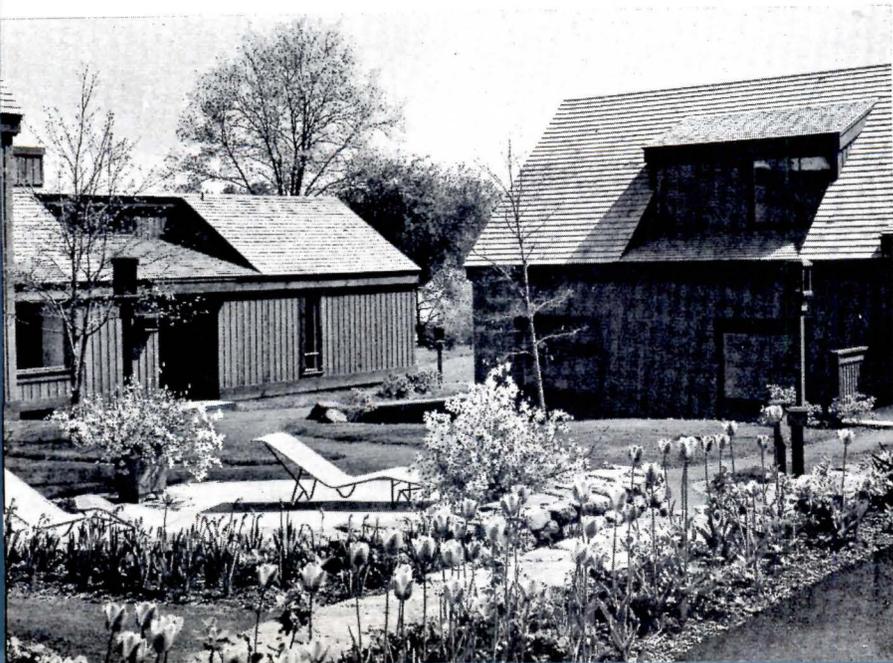
Photo: Callister & Payne

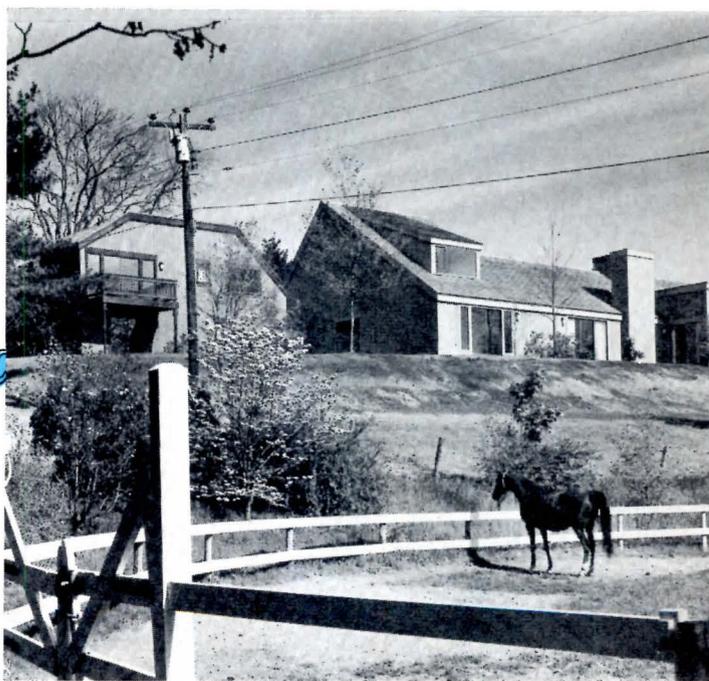
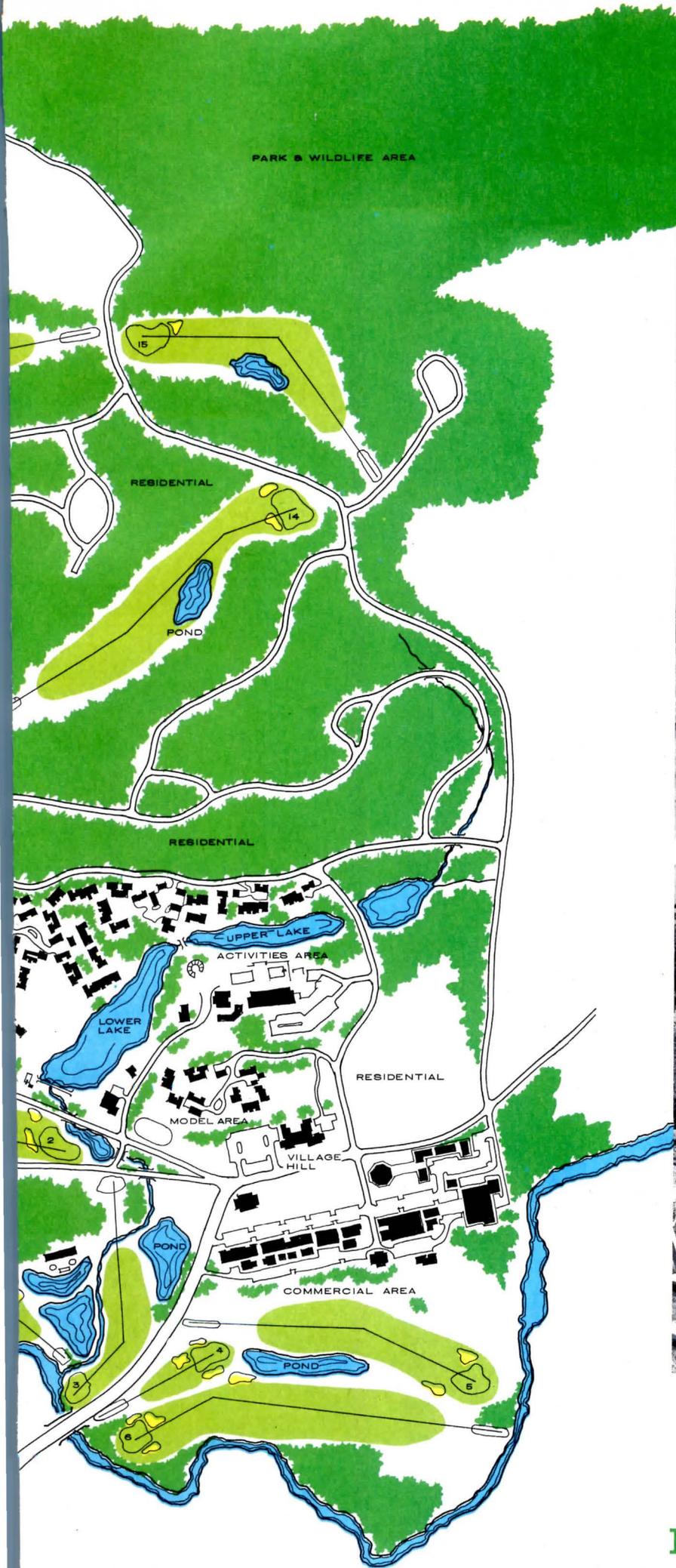




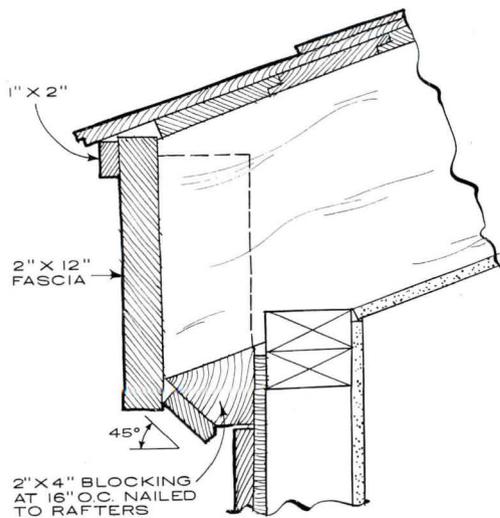
Architect and client-builder lay aside traditional antagonisms and join forces in an extemporaneous approach to large-scale siting and landscaping. Results: Great savings in time, fees, and tempers.







## HERITAGE VILLAGE



TYPICAL FASCIA DETAIL

personal world of specialized responsibilities, weighty reams of drawings, and voluminous specifications. As a result of savings in drawing-board time and the virtual elimination of patience-consuming sessions with separate client and contractor groups, his fees are substantially lower than usual.

The houses themselves are a mellow variation on New England rural architecture, with a bit of California evident in such touches as the stained siding. Since prospective purchasers must have at least one member of the family age 50 or over, and none less than 18, they are "out of the rebellious generation quite a ways," as Callister puts it, and their romanticism differs substantially from the modern swinger. Heritage Village architecture surrounds them with an environment sympathetic to the romanticism of an older generation and provides a link to historic traditions of the area.

preference for certain models, Callister strongly recommends maintaining a good balance in order to keep the development from turning into a conventional suburban mass of repetitive forms.

The community is New England's largest retirement condominium. Although such projects have been gathering momentum in California and Florida, the geography and climate of the Northern Atlantic states have not been considered particularly congenial to senior citizens. However, Southbury's location in the upper Pomperaug Valley (1½ hours from New York; 2½ hours from Boston), puts it in a good spot for men and women who plan a phased withdrawal from business life, spending less and less time at the office and more and more time on the golf course as they approach retirement age.

Of the first 119 units completed, 80 per cent are now occupied and selling is ahead of construction, with work begun on the second increment of 119 units. "The project has a greater sense of success than any I've worked on," says Callister.

Plans for amenities and facilities seem remarkably diverse and complete. Provisions for outdoor activities include hiking and riding trails, stables, trout streams, an 18-hole golf course (completed), and a swimming pool. A large portion of the acreage is made up of Victor Borge's former estate, and his home will be maintained for social activities and adult seminars conducted by the University of Connecticut. The barn is being converted into an amateur theater. There will be a men's club, a women's club, a country club, and a crafts center. An 18th-Century house, reportedly the birthplace of Ethan Allen, is slated for use as an art gallery and museum of local history.

In the spring, work will begin on a 160,000-sq-ft shopping complex that will include a theater, grocery store, restaurant, 110-room inn, drugstore, clothing store, ice cream parlor, and other commercial establishments serving most of the basic and some of the not-so-basic needs of the community. Shopping center and other public buildings will be linked to housing by a system of mini-buses, hopefully cutting down on traffic, parking, and the necessity for second cars.

After studying condominiums and planned communities around the country, Otto Paparazzo says, "I think the size of this community is just right. We've hit it right on the mark." He points out that an increase in size would mean greatly expanded services, such as hospitals, and a drawn-out period of construction that would disrupt the lives of residents. As it stands, the total construction time will be six years.

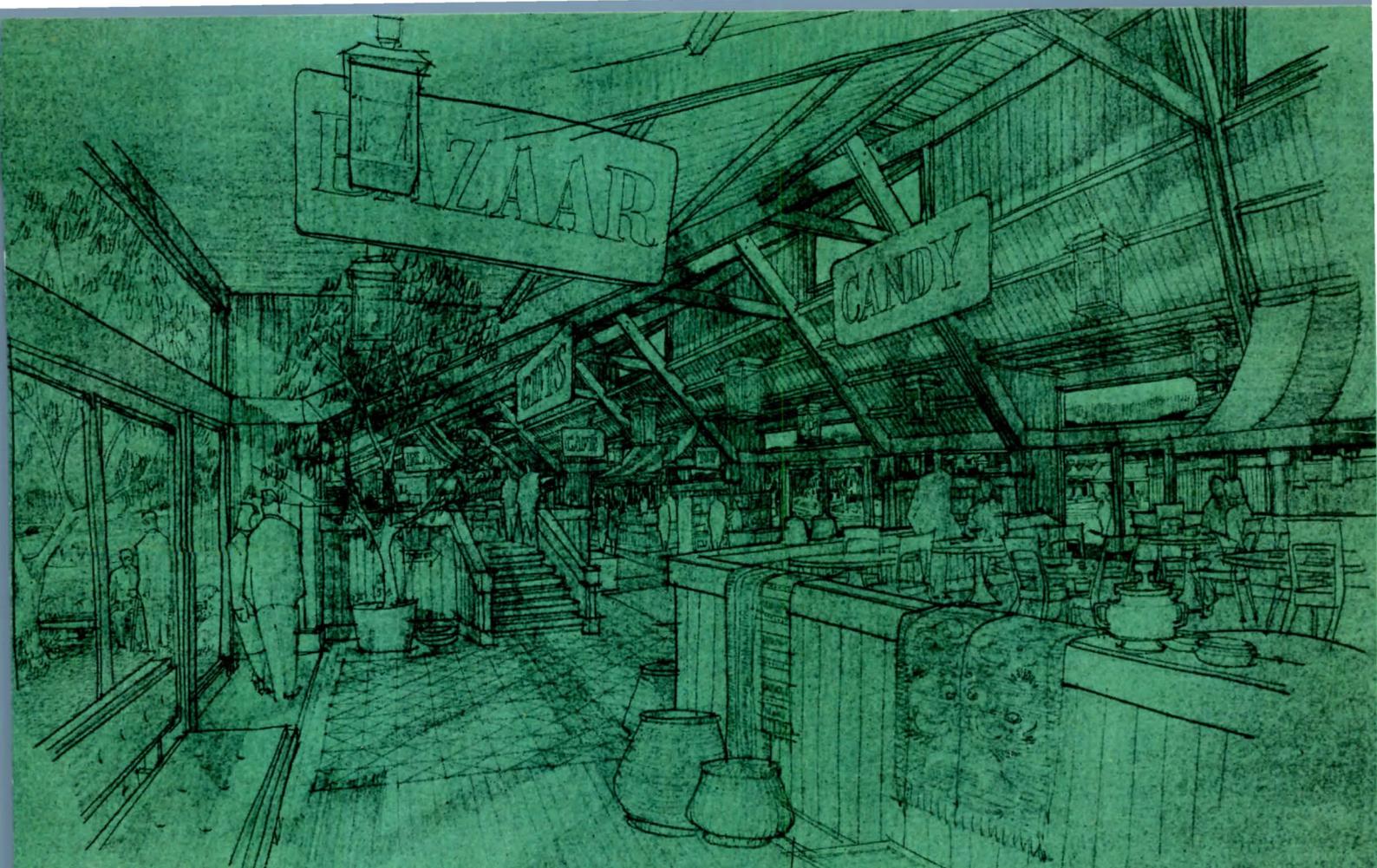
In the beginning, about half of the land was set aside for permanent open spaces—ponds and streams, game pre-



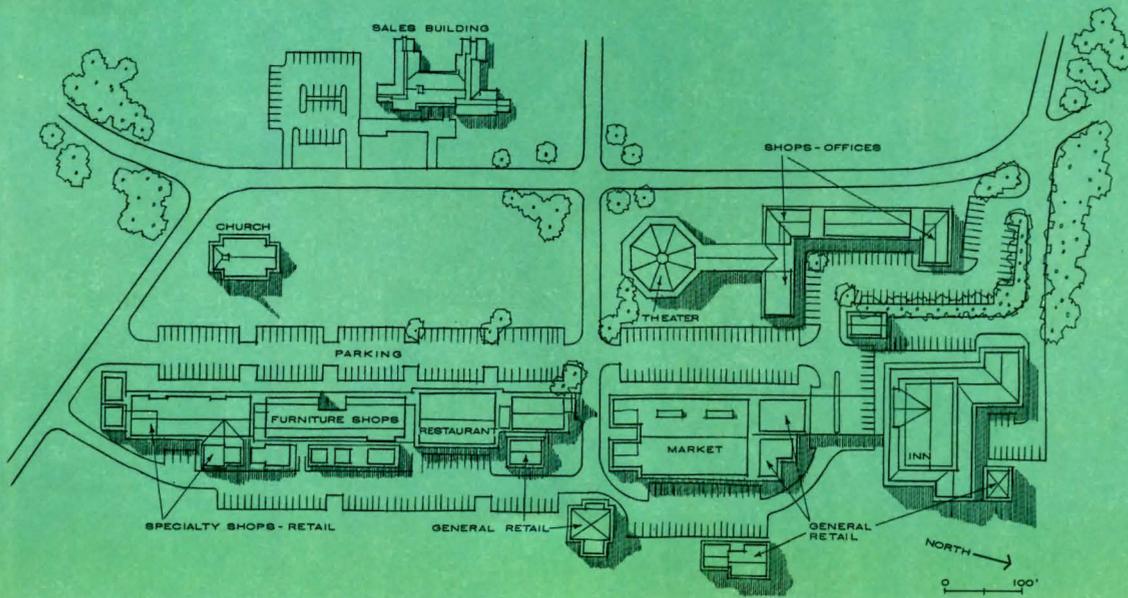
Fascia detail and a scheme of varying roof pitches are basic elements of the architectural style at Heritage Village.

Residences are clustered around concrete courtyards in groups of four to six, containing from two to six units in each structure. Although there are several units or apartments in each building, the scale has been kept residential. "Carriage court" clusters of carports or garages are separated from houses but kept within easy walking distance. Cars are kept off the landscape as much as possible, and their importance is minimized by narrow roads.

A sense of place and individuality is enhanced by varying the composition and mix of house designs in a cluster, and separating clusters with trees and hills. Although there seems to be a buyer



Work on the 160,000-sq-ft shopping complex begins next spring. Plans include a covered market, 110-room inn, and many other amenities.



serve, trails, golf course, woods and meadows. As building progressed, however, it became evident that the land would not accommodate 2000 units without either forcing or giving up open spaces. So the Paparazzos agreed to add almost 300 acres to the original 700 in order to loosen up the complex and maintain an informal, uncrowded landscape. This rare willingness to forfeit part of the yield on their investment rates another gold star for the Paparazzos, and is indicative of the cooperation between architect and developer-client that prompted Callister to describe the project as "one of the most satisfying experiences" of his professional career.

Photo: Eric Iverson



# BOUTIQUES

## A NEW WORLD OF COLOR

If you think the world of Supermannerist architecture is going berserk, you'd better take a look at what the theatre is doing outside the theatres. In the scene of discothèques, restaurants, and clothes shops, our theatre designers, along with display and graphics designers, have been concocting interiors of the wildest psychedelic imagination, with effects of surprise yet on-the-button appropriateness.

Not surprisingly, though, architects are also making contributions to this visual madness, since it is an expression, ostensibly, of a new functional sanity. In the world of retailing, for example, a new kind of merchandising has been adopted; it shows a return to specialized and personalized selling as opposed to the mass merchandising long established in our "land of the big PX" and its supermarkets.

As if they were trying to emulate films, the shops for merchandising the new fashions are even called "boutique-shops" — a two-language phrase with a built-in subtitle.

"The growth of these stores," architect Michael Brill observes, "is happening in all cities. People have too much money and too little chance to indulge personal fantasies in our technocracy. Stores like these preserve one facet of heterogeneity in a society going the other way."

"The new merchandising," says Michael Malcé, one of the new generation of proprietors and one who teaches a course on the subject at Brooklyn College in New York, "is for the individuality in the individual. Everyone is trying to assert his own individuality, and if you are going to cater to a customer of this type, you have to work up the individuality of the store, and not a carbon copy of other stores."

In terms of design, the new shops seem to reach a visual climax by combining — sometimes by superimposing — the recent movements of Camp, Pop, and Op into a rich tutti-frutti that could be called Campopop. Some of the architects working on the new stores are also using Supergraphics (NOVEMBER 1967 P/A) as part of their schemes.

As a consequence, shop design is becoming at least as strong as the displayed merchandise for the first time in decades, and frequently the one blends into the other to inspire a tantalizing treasure hunt for the captivated customer.





(Malcé) Photos: Louis Reens

## MICHAEL MALCÉ & SON

*The hot-and-cool environment that Michael Brill created for the New York "Department Store" of Michael Malcé & Son perfectly matches the campopop merchandise of that up-dated country emporium. Clothes, trinkets, and objects are selected by young owner Malcé with a shrewd if zany eye.*

*Architect Brill, who has previously designed two other shops for his client, took an "impossible" (100' x 14') space that was divided into three areas by differences in ceiling height and quality of lighting and subdivided it further to produce a mini department store for the many varieties of merchandise available.*

*The front area, composed of fragmented, intermeshed alcoves each superimposed with different*

graphics (Brill calls them "hot booths"), opens onto a second, central space that is high, skylighted, and painted all silver (Brill sees it as "cool and airy"); at the back of the shop is a third area with a triangular entry to red-white-and-blue merchandise—as Brill describes it, "low, bright, and jumpy with three times the lighting level to pull you through the store."

The interlocking "hot-booth" departments in the front of the shop have rectangular cutouts in their side walls to permit supervision of the entire shop by one man. From the cash register in the silvered central space, a salesman can check the full length of the store against shoplifting, yet the sense of the alcoves is of separate and sequential spaces.

Because the cutouts overhang close to head level, the edges are painted a 4-in. strip of day-glo orange as a warning. This day-glo orange stripe, which is bordered by a 1-in. white stripe, also solves the problem of providing a joint for the different back-to-back graphics.

The painted graphics in each alcove are abstract symbols of the merchandise displayed: the clock department has stencilled numbers as its sign; the mirrors, combs, and masks have profiles of heads; boxes have a checkerboard pattern.





Photo: Lothar Sandmann

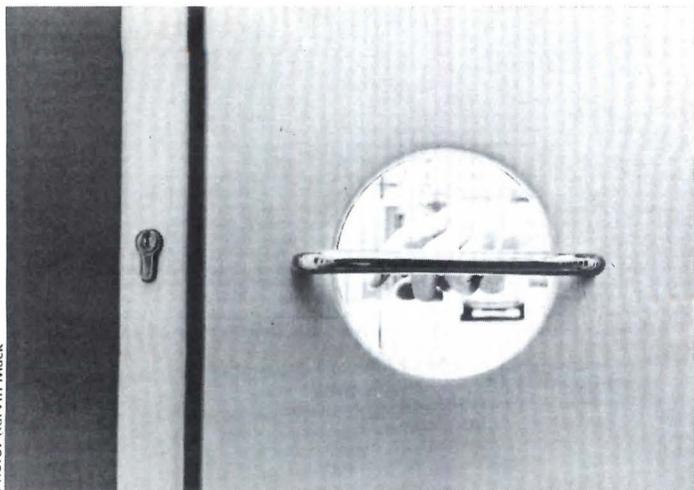
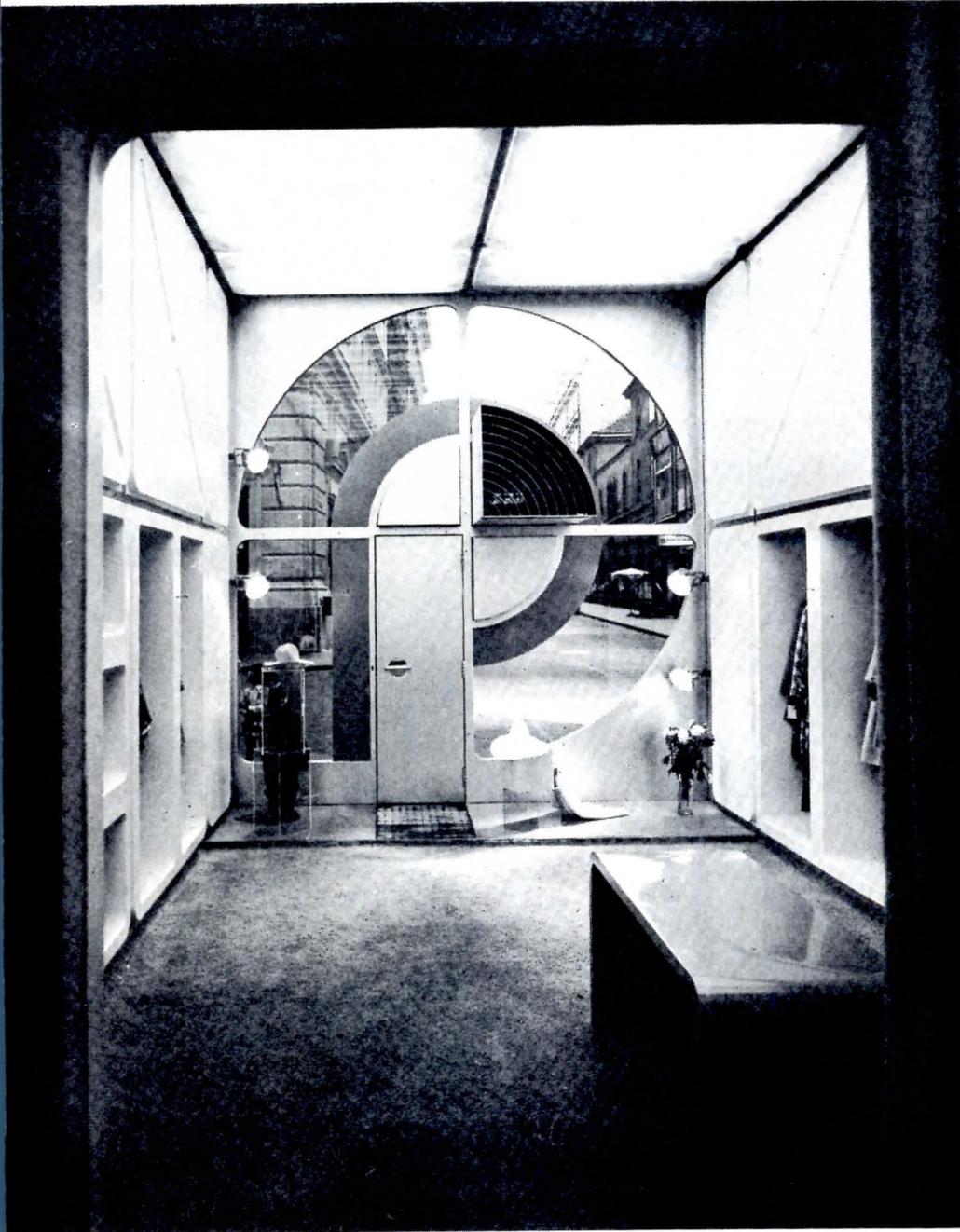
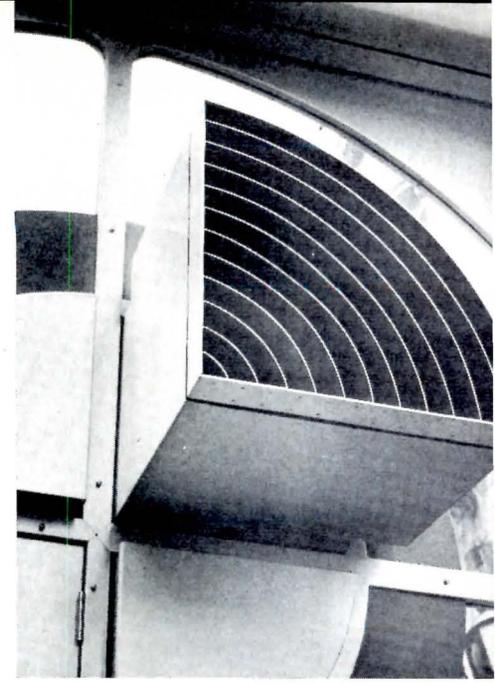
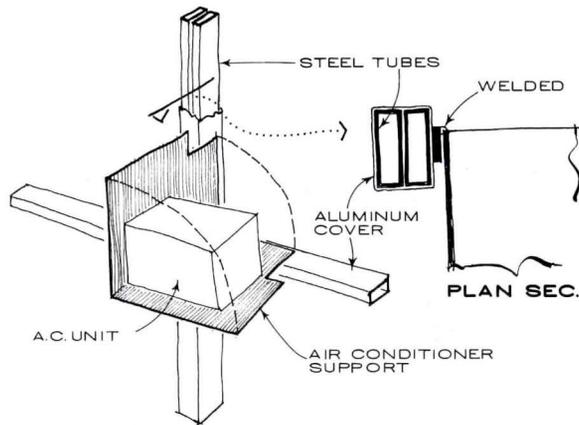


Photo: Karvin Mack



Austrian architect Hans Hollein, whose tiny shop for a candlemaker won him the R.S. Reynolds Memorial Award in 1966, has recently completed a women's "boutique-shop" for Christa Metek in Vienna. Its shopfront has an emblematic character that has been adapted as the trademark-logo of the firm. The natural-color aluminum shopfront employs both polished and anodized aluminum with an orange-enameled panel-stripe attached behind the plate glass window. The CM logo is in green plastic, the lettering below it in chrome finish like the hardware.

The show window, located in an existing structure in the center of town, provides a view of the interior, but is sufficiently re-



strictive to give a sense of privacy for what architect Hollein calls "the more intimate sales-proceedings going on. For this purpose," he says, "the maybe arbitrary appearing shape serves well."

Over the door, a cantilevered air-conditioning unit (see detail) is integrated into the design. Rather than trying to hide mechanical equipment, Hollein comments, "I want to use it as a medium of expression and spatial development." Along with the standard rectangular air-conditioning unit, space is left in the quadrant to accommodate a loud-speaker and a slide projector.

The door itself is solid both for design reasons and for privacy, but a small circular window at the handle level will indicate another person's approach.

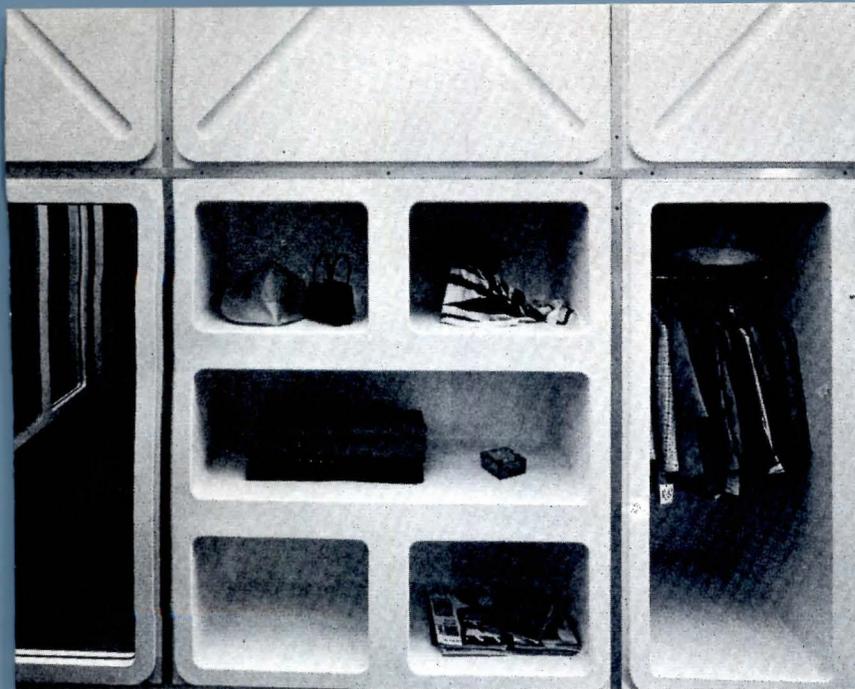
The shopfront design has no formal continuity with the interior, Hollein observes, since the front will remain intact in the future even when the interior is enlarged.

Because of this possible expansion, the 210-sq-ft interior is designed on a grid permitting the interchange and re-use of molded glass-fiber elements that make up the wall and ceiling panels (the former painted, the latter left translucent to function as a luminous ceiling) and also the display bins. The light weight of each element (one man can lift the largest) and the cleanliness of the surface are advantages to the ultimate flexibility of the shop. Showcases thereby become an integral part of the envelope rather than being separate, detached fixtures.

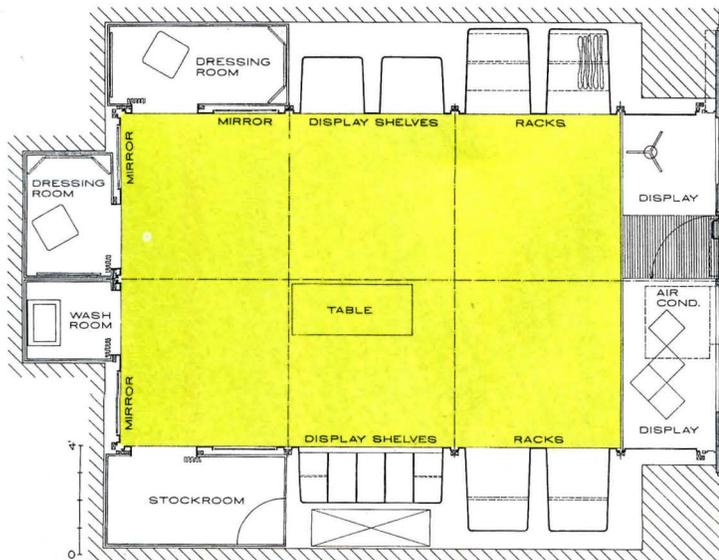
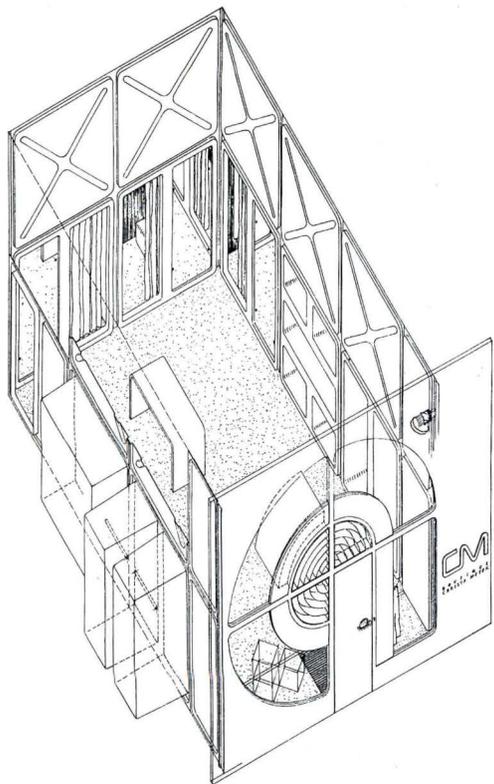
The economics of producing such a small series of molded elements made it feasible to use only a wood negative form, as opposed to a glass-fiber form; however, the limited number of castings with the forms permitted good surface quality. The molding process compared favorably with, for example, the cost in cabinetwork, even though, in the case of one-time elements, the form cost was an extra. Nevertheless, Hollein points out, it would not have made sense to produce one or two elements in a different material, and besides, "The form for the deep clothes-hanging elements was used for the frames of the booth openings and the mirrors."

All told, the Christa Metek boutique is another of Hollein's arresting and compact, rigidly economical designs that displays his progressive involvement with technology and with today's interest in super scale.

(Metek) Photos, except as noted: Hubman



*Inside the shop, white-painted glass-fiber wall panels and natural translucent glass-fiber ceiling panels, which are attached to the frame with aluminum strips, form the neutral envelope, along with sand-colored carpeting. Sections of shelving and display units are in clear plastic. In the display window area and in the dressing booths, the carpeting, curtains, and seating are in yellow and orange.*



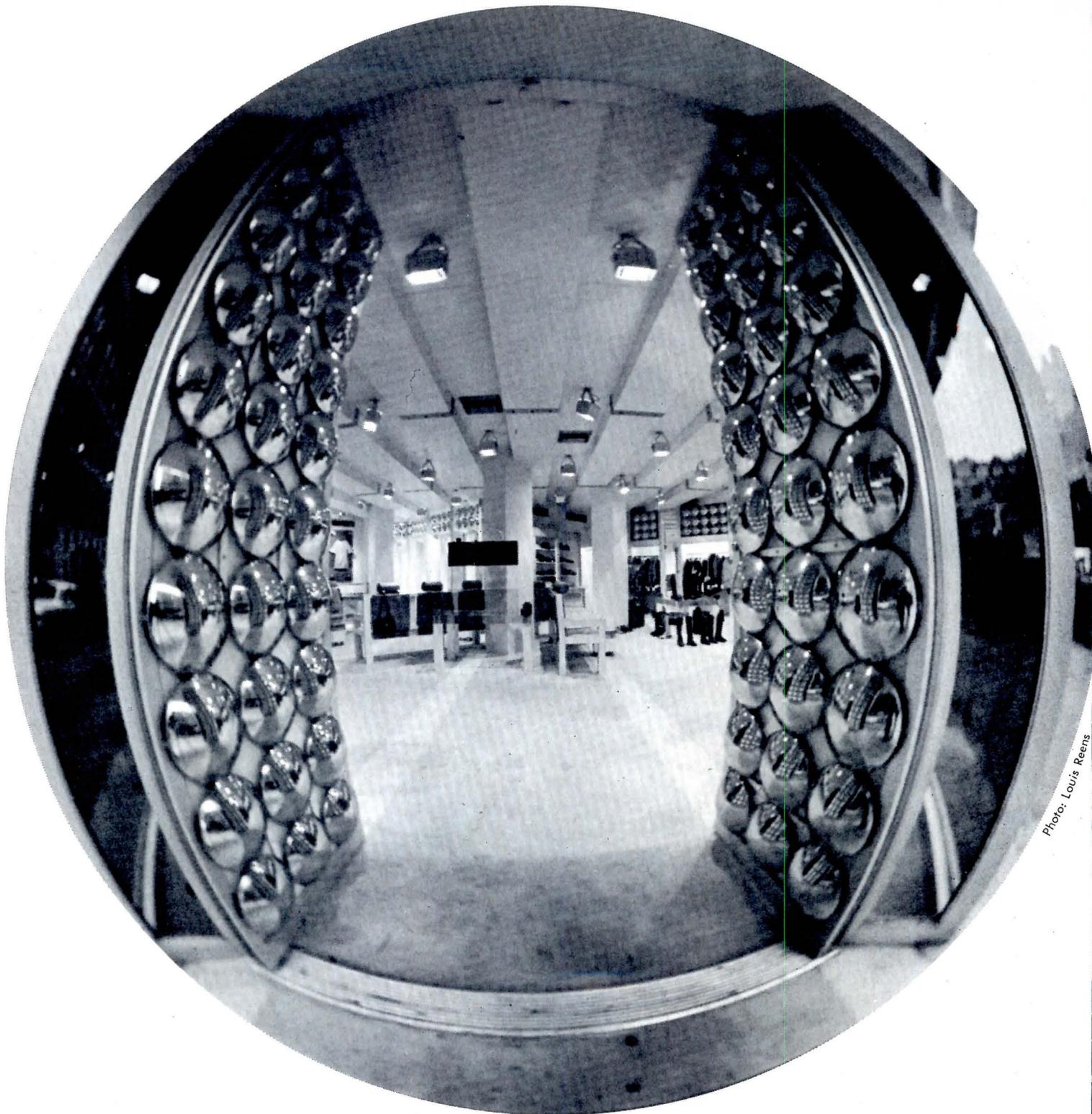


Photo: Louis Reens

## LATINAS

As predicted several months ago (p. 165, September 1967 P/A), space travel imagery is becoming an interior design motif. For the new white-and-silver Madison Avenue shop of *Latinas*, designer Bill Hock, a former cabinetmaker who now also designs *Latinas*' women's fashions, wanted to achieve an effect of space travel on both exterior and interior. He used what was already available to produce that image: "California Baby Moons," which are standard hot-rod hubcaps, are lined up along the glittering front, on the entry doors, and over display cases inside. They are tack-welded onto steel brackets, which are bolted in place. Chairs have auto headrests

and silver "Corfam" upholstery, a synthetic still used primarily for shoes. Quartz-iodine lighting is used throughout to give what designer Hock calls "a very concentrated, hard-edge light that produces a close atmosphere." To produce "a seamless environment," ceiling and columns are covered in opaque glass fiber—a polyester resin over glass matting. And in an effort to conjure up the motion of space travel, the plan is diagonal—a chamfered corner door, diagonal stripes on floor and ceiling, and diagonal furniture layout. Designer Hock says, "The new generation sees a close relation between architecture and clothing."

# ABRACADABRA

The flashing world of the circus midway makes Marsha Weintraub's boutique "Abracadabra" one of the most eye-catching in New York City. Most of her mini clothes are hung at the front of the shop in a mazelike area of flashing uprights and reflecting mirrors, which was inspired by the mirror maze of the penny arcade. Elsewhere, gondolas from a carousel serve as counters for other merchandise, like different sideshows at a carnival. The designer of the shop, a display director who asked to remain anonymous, gives this carnival a contemporary twist of light, motion, action. A motorized hangar in the window makes a dress do a rock dance. Within the perforated metal columns upright fluorescent tubes (four 30-w lamps per column) are on a flicker-flash sequence, like the "chase sequence" of running lights on marquees and roller-coasters. Lighting consultant Marvin Gelman of Lighting Services, Inc., notes, "There is a tremendous swing-over to-day in all specialty shops to dramatic, theatrical, psychedelic lighting."



Photo: Maude Dorr



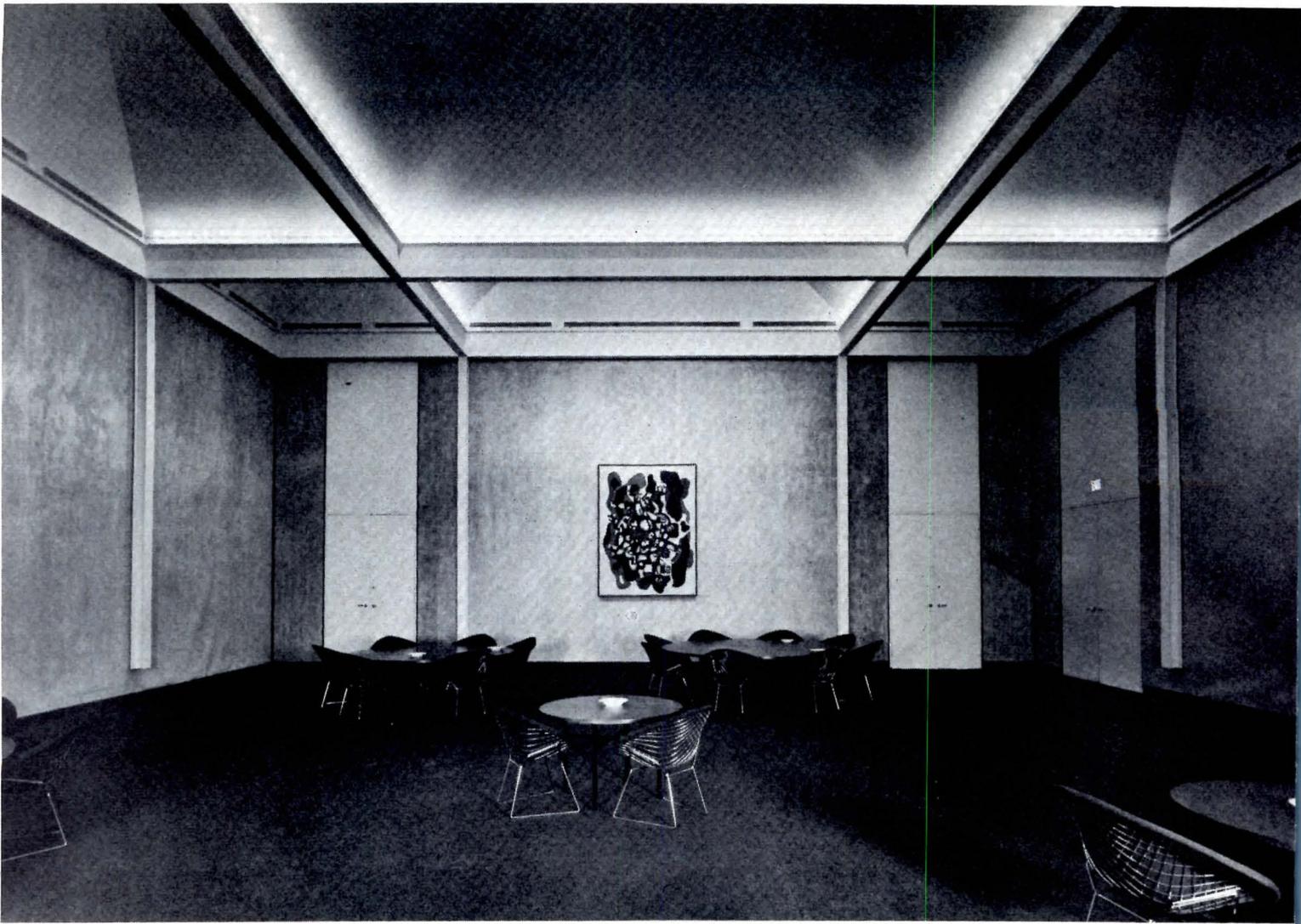
# MARATHON

Marathon Shoe Repair "While U Wait" was pretty drab when Doug Michels, then a student at Yale Architecture School across the street, first saw it. One morning, as he was having his shoes shined, he told the owner so. The guy in the next chair, who turned out to be fellow student Howie Knox, strongly concurred. So the owner commissioned the two tyro architects to design and execute a new sign for \$30.

Marathon Shoe Repair got a Supergraphics shopfront out of that sign commission, and New Haven's parade of urban improvements gained a glossy slipper cover by the new upbeat generation. This bold sign overcomes the chaos of a commercial strip.

Knox and Michels executed the design themselves—a deep blue background and a huge bright red shoe; the shoe is seen in front elevation on the side of the shop and in side elevation on the entrance front. The sole at the sidewalk level is separated from the top of the shoe by the (untouched) store window, so the image is mammoth even though the sign keeps within the New Haven regulation of 3 sq ft of sign per lineal ft of building.

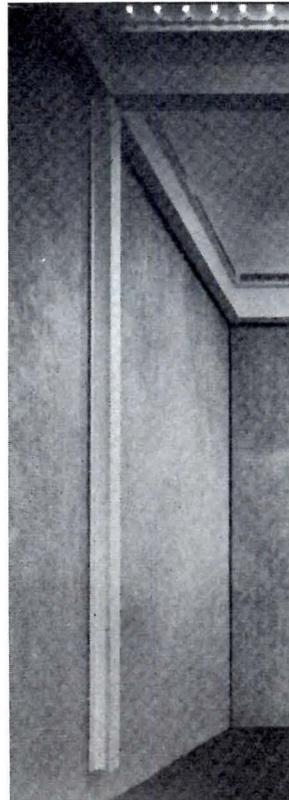
The shopfront is Supergraphics (see November 1967 P/A) because it has two scales that produce a kind of double vision. One scale makes the over-all design read as the sign on a shoe store; the other makes the giant shoe itself read most prominently. Visualize a man standing in the shoe—a man bigger than the A&A building across the street—and you will see what Supergraphics is all about.



# CAMP MIES

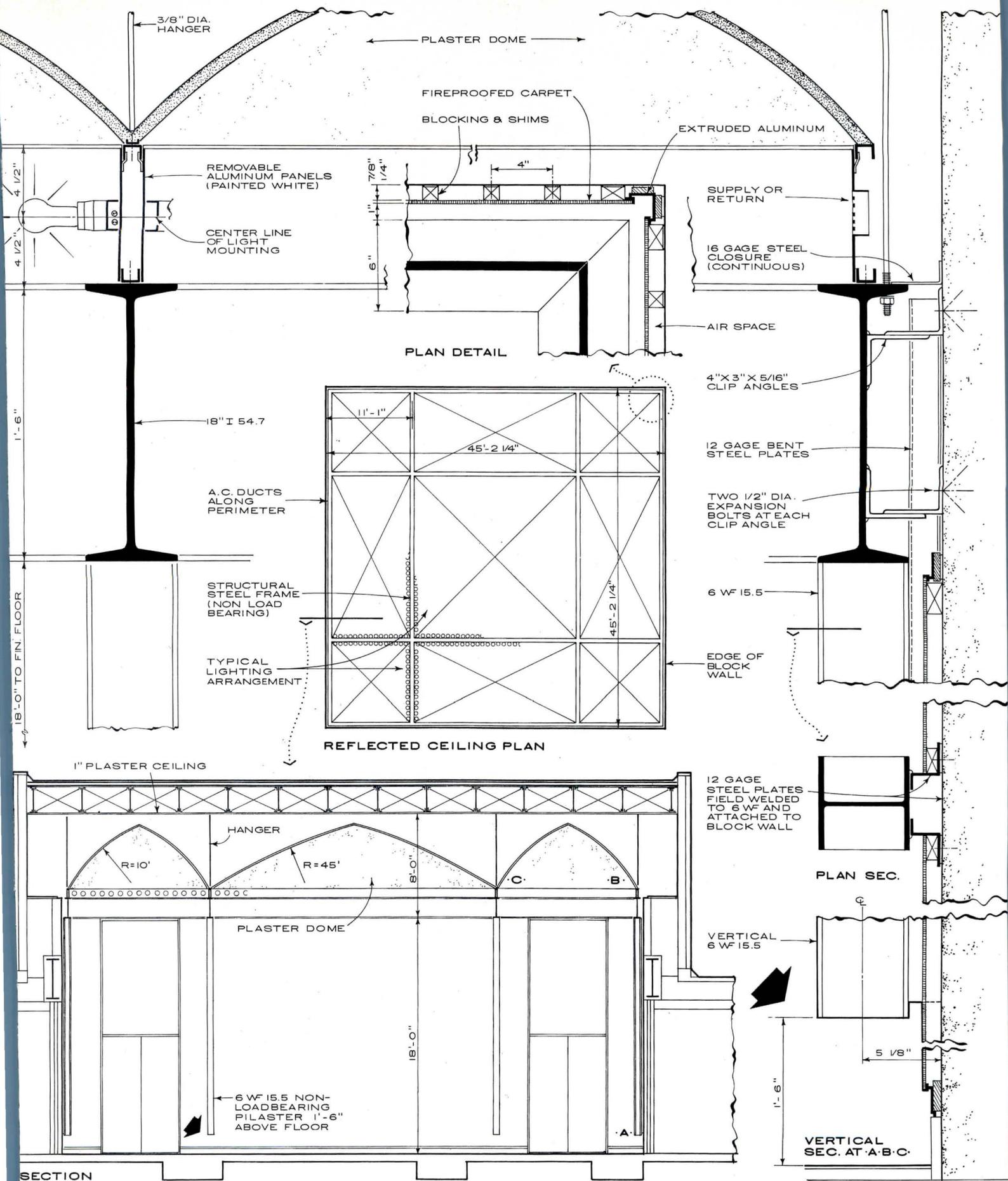
Johnson has the wryest laugh of all. While the Supermannerists' irreverence toward established architectural principles is taking on wild and particolored manifestations, Philip Johnson has designed another handsome, classic room in the Miesian idiom but sends it sky high. The joke may be sick architectural sacrilege, but it really gets off the ground because it is irresistibly funny.

At first glance, the Founders Room atop Johnson's recent annex to the Museum of Modern Art in New York City appears to be merely a domed version of the idiom that Johnson mastered so well. An exposed I-beam struc-



ture of modular bays apparently supports plaster Gothic vaults lighted with strips of exposed, unfrosted bulbs articulated by air-conditioning vents on the perimeter of the white-painted steel. The immediate effect is a combination of Mies, Gothic, and a carnival midway of the 1920s and it comes out somewhat Turkish.

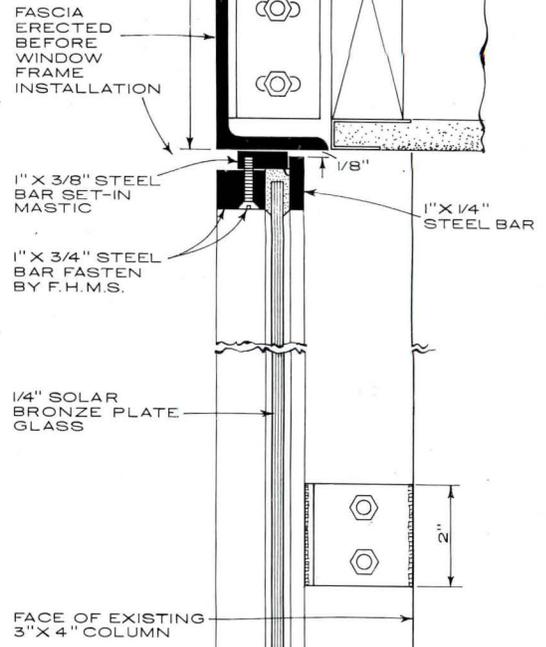
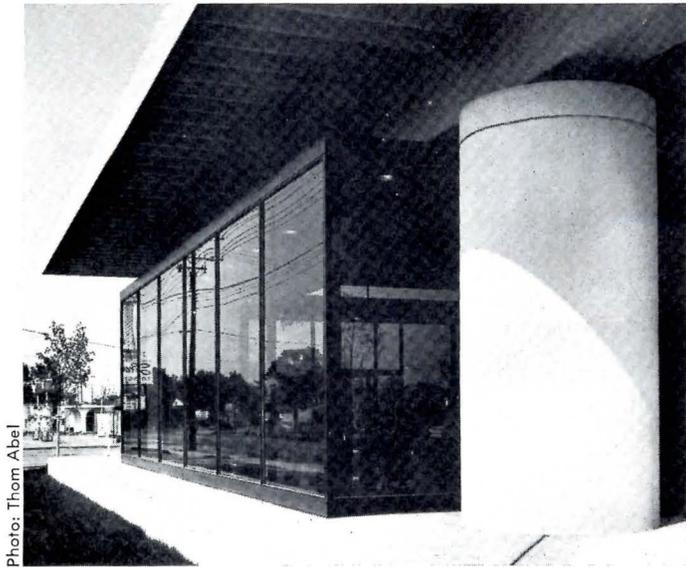
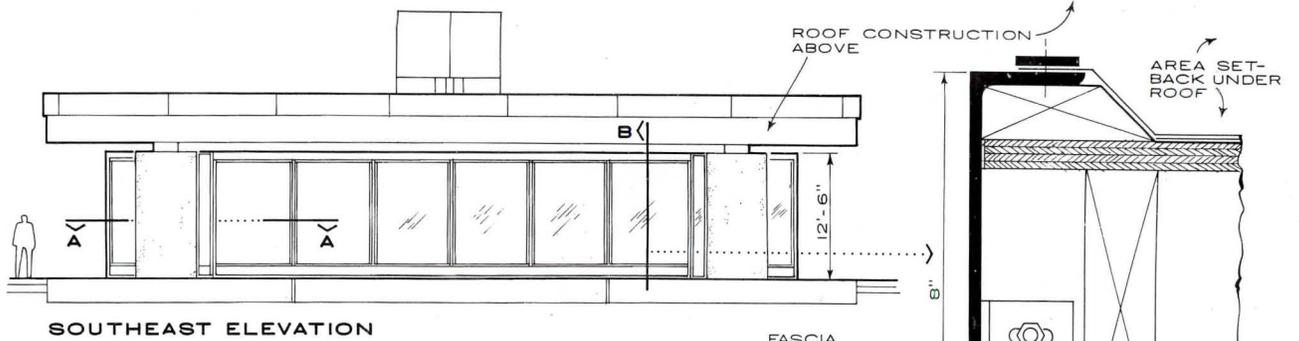
But the next effect, as the eye follows the steel work from the ceiling downward, is an amazing one. For the structure simply stops—a foot-and-a-half above the floor (photo left). It is quite literally a Miesian lift-off—take-off.



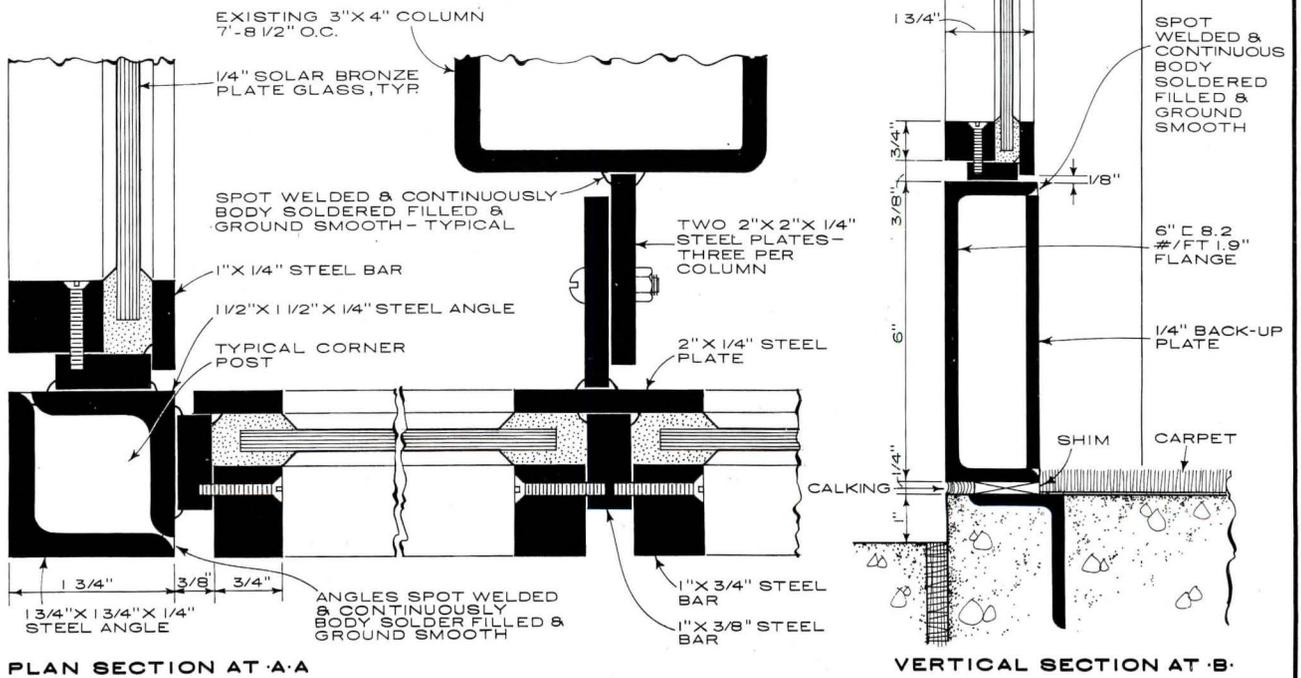
Johnson has been taking Mies off for the past decade, course, but the lingering and the proliferation of the esian idiom make this latest indoor, uplifted inversion coolest joke on the International Style. Actually, when the Founders Room is used for recep- tions, a full crowd conceals the structural surprise that is ing on carpeted walls. When the adjacent meeting rms are open, it is clear that the off-white Founders om is an indoor, reverse-color variant on the black steel erior screen visible through bronze glass on the front rear exterior of the Museum annex.



Johnson points out further that the structural play is no change at all on the Miesian mullion, which was also nonstructural. "Also," he says, "it was a handy grammar (one that we had on the outside) with which to break up these walls. Otherwise they would be too big. Pilasters are the best way to give scale to a room, as Robert Adam showed." These, we note, are the new, uplifted pilasters. Still, to use the Miesian exterior idiom as an interior design motif over the reveal-ful, jointy decorating of black baseboard and black spacers is (however much we all may resist that much misused term) camp Mies.

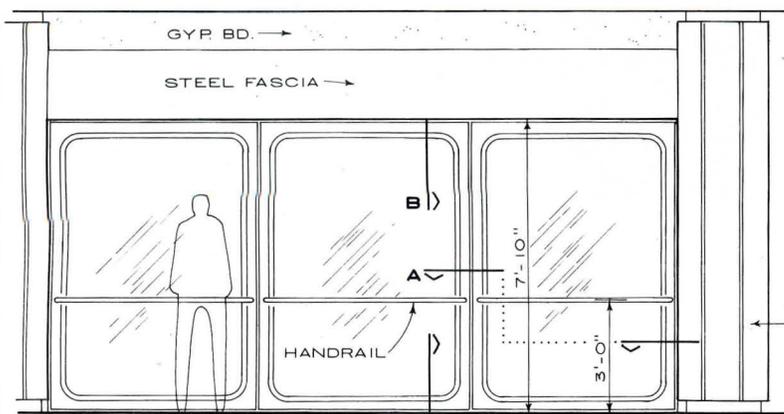


NOTE: "ALL STEEL SHAPES USED ARE OF STANDARD AVAILABLE SIZES"



OHIO SAVINGS BANK: Parma Heights, Ohio  
DON M. HISAKA: Architect

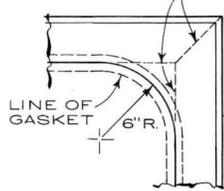
SELECTED DETAIL  
WINDOW WALL



PARTIAL INTERIOR ELEVATION



Photo: Roger Sturtevant

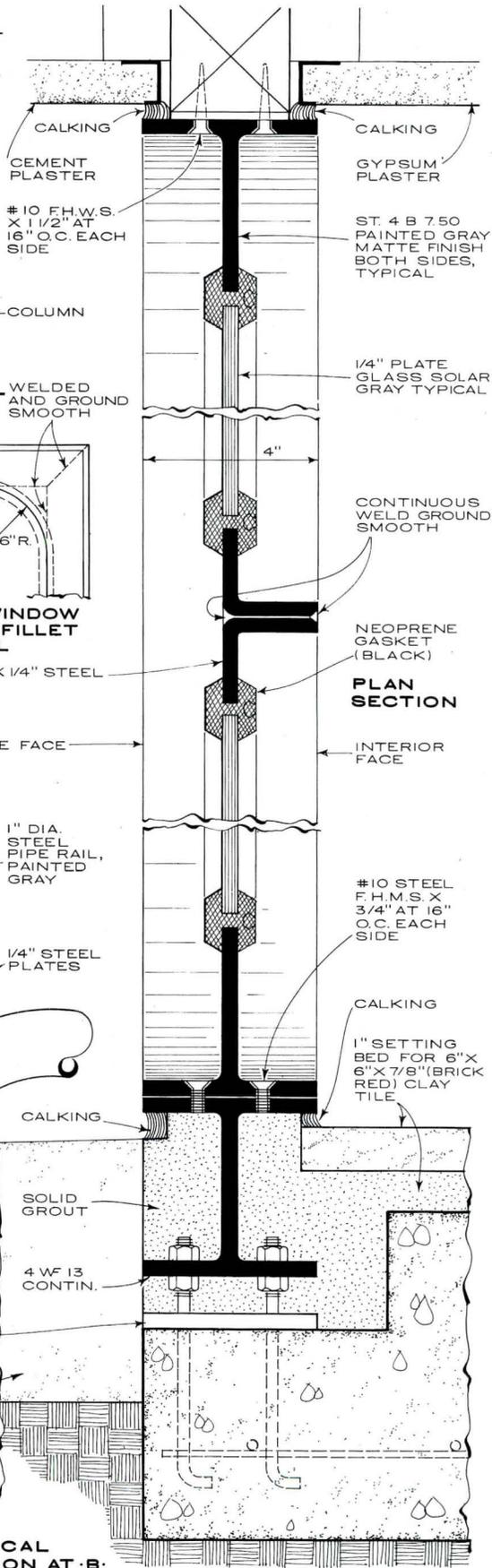


TYR WINDOW WALL FILLET DETAIL

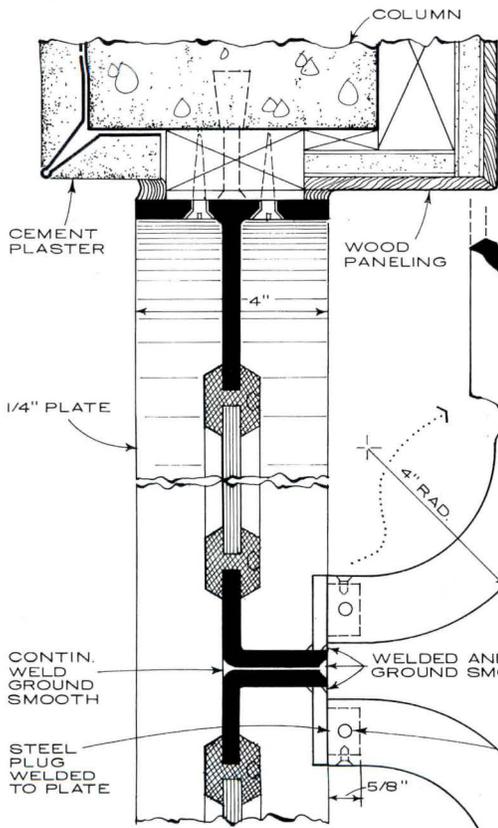
2" X 2" X 1/4" STEEL ANGLE

OUTSIDE FACE

INTERIOR FACE



VERTICAL SECTION AT B-B

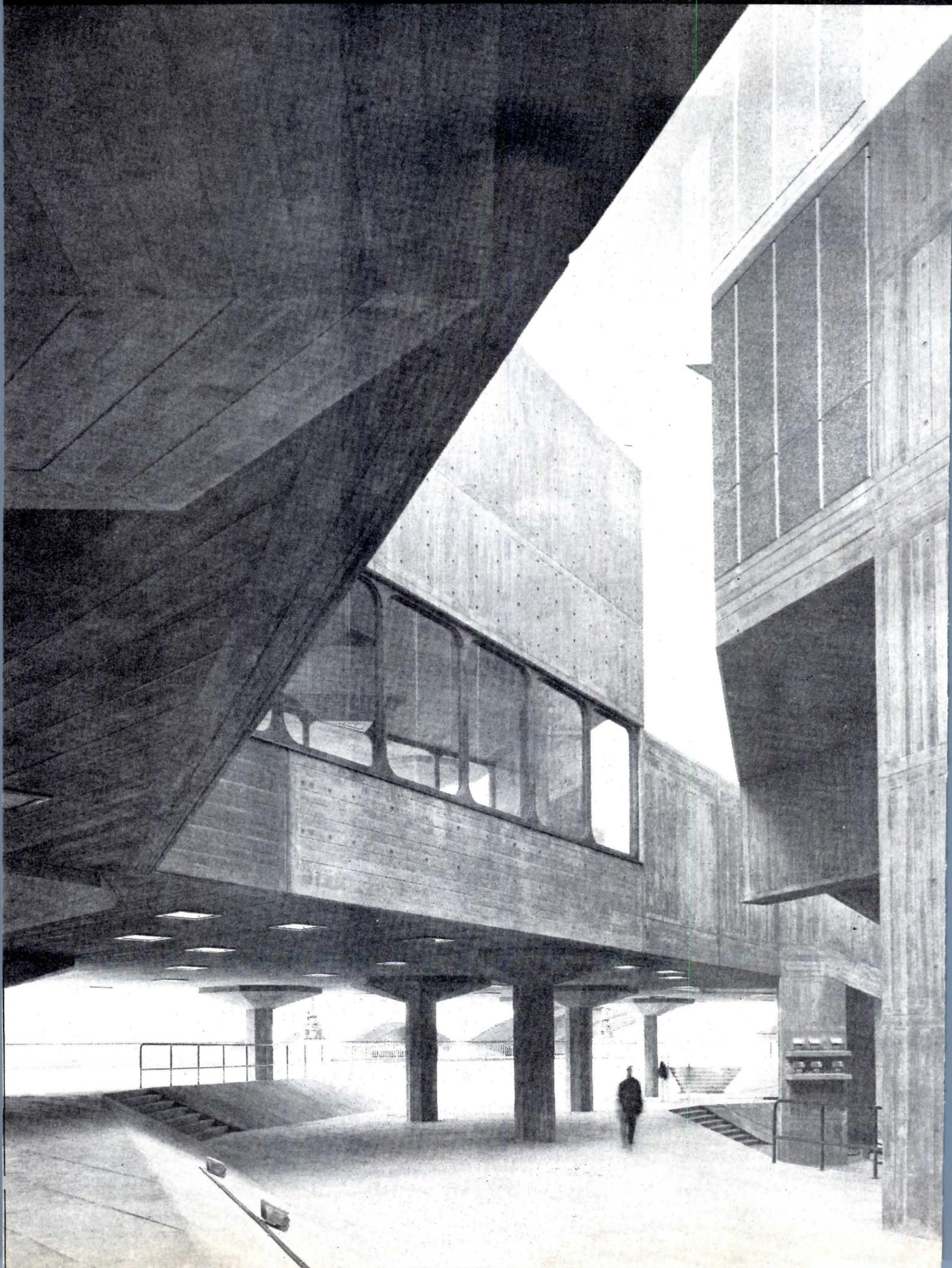


PLAN SECTION AT A-A

BANK OF AMERICA, JACK LONDON SQUARE BRANCH: Oakland, California  
LEE & ROBERSON: Architects

SELECTED DETAIL  
WINDOW WALL

P/A OBSERVER P/A OBSERVER P/A OBSERVER P/A OBSI



# THAMES-SIDE FORM-MAKING

When London's Royal Festival Hall opened for the Festival of Britain in 1951, it was still incomplete, and had to be closed again for alterations in 1962, reopening in 1965. Looking at it from the Victoria Embankment across the Thames, it still appears a somewhat stolid, matronly building, looking out onto the river with dignified mien, its vaulted roof conjuring up disrespectful images of the late Queen Mary in one of her inevitable toques.

The new tenant of the space between the Royal Festival Hall and Waterloo Bridge is quite another cup of tea, however. This is the port-manteau building somewhat cumber-somely named the Queen Elizabeth Hall and Purcell Room, for those auditoria are what it contains. These buildings—plus the National Film Theater tucked under Waterloo Bridge, a large exhibition hall rising above parking decks to the south of QEH&PR (if we may abbreviate), and the projected National Theater and National Opera House to the west along the Thames Promenade (where they will, hopefully, screen out the visual excrement of the Shell Building)—are part of the South Bank Arts Center, London's

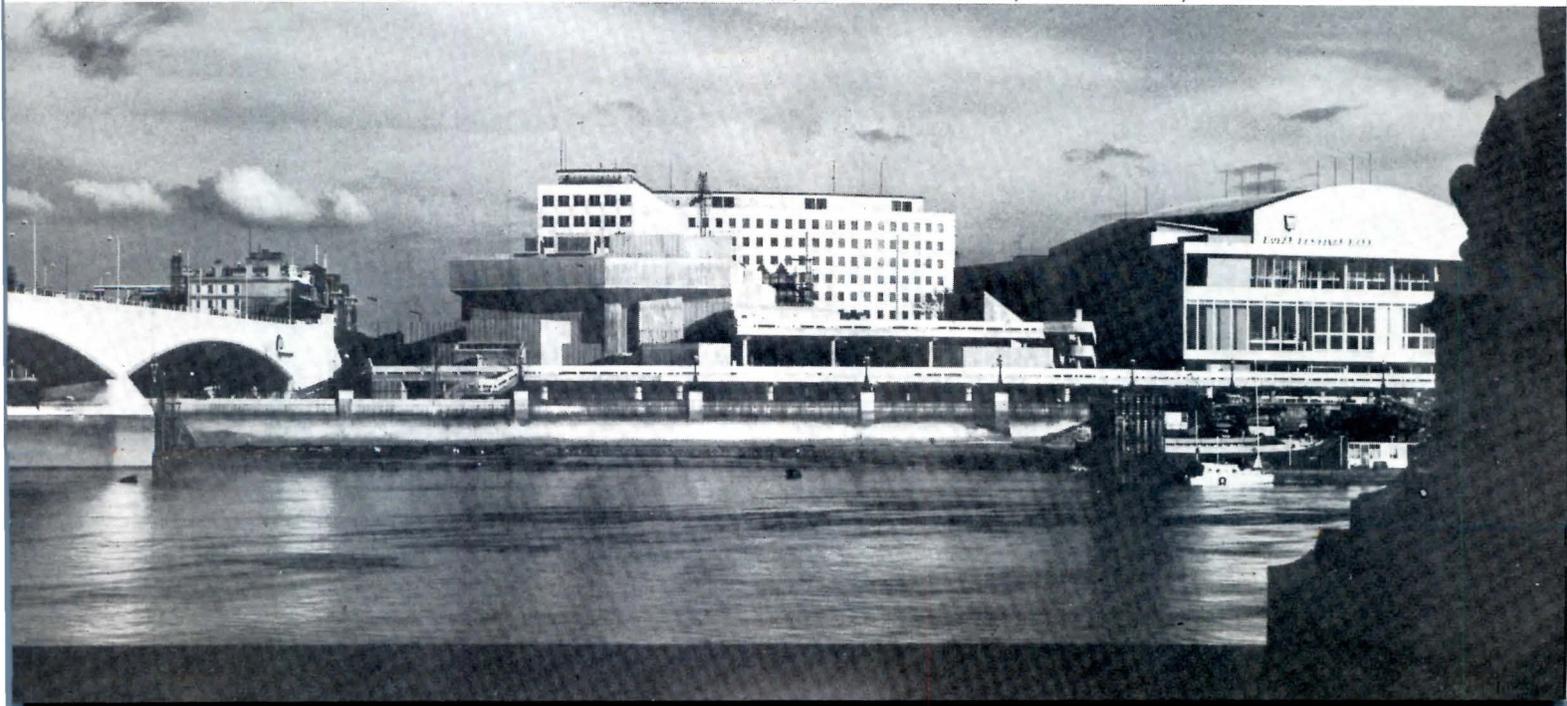
version of Lincoln Center that has blood instead of lilac water in its veins and honest expression rather than flimsy façadery in its fibre.

The latest addition to the Center, Queen Elizabeth Hall and Purcell Room (or QEH&PR), is, unlike Royal Festival Hall, an interesting mass of angles, curved stairs and ramps, pedestrian levels and terraces, and the "expressed forms" of the two halls, the plenum room over the entry, and the mechanical rooms. This is all made out of board-formed or Cornish-granite-aggregated concrete. Concrete, as a matter of fact, is the ubiquitous material, and all others have evidently been selected to blend with it, such as the bronze-anodized, rough-cast aluminum framing for windows and doors; the black leather upholstery in both halls and the foyer; faceted aluminum sound-absorption and lighting pyramids in the foyer; and the wood surfaces used for acoustic purposes (notably the pleated rear wall of the Purcell Room). The effect is, of course, monochromatic; but it is rendered potent by the strength of the composition and the unhesitant handling of the details. Color and movement are provided by patrons, posters, and sweep-

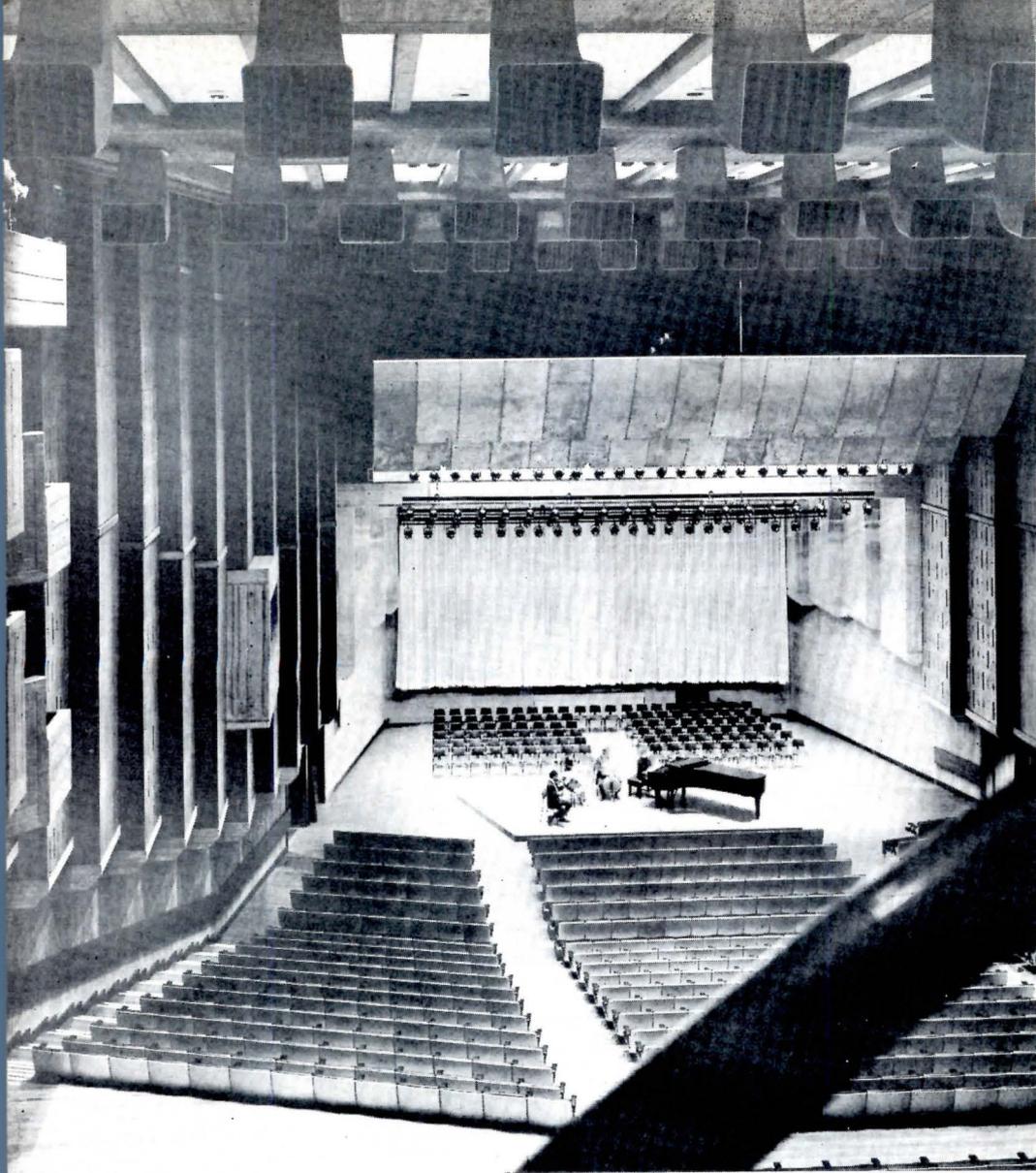
ing views of the Thames and London out of huge foyer windows and from the outdoor terraces and promenades.

The public spaces of QEH&PR consist simply of a large common foyer, the 1106-seat Queen Elizabeth Hall, and the 372-seat Purcell Room. The Hall is approached from either side at midsection, the foyer wrapping around it in plan to accomplish this (with a vertical void occurring between the foyer and the separate rear wall of the Hall). The Room is entered at the west from one point. Since there is only one checkpoint for tickets at the common entrance to the building, we wonder whether there might not be occasional confusion in getting into the correct hall, or in riding herd on ticketless concert crashers. The larger Hall is designed for an orchestra of 35 or a choir of 50, or performances of chamber opera, these size performances being lost in the vastnesses of Royal Festival Hall. The stage platform is in 13 sections, adjustable vertically by electrically-operated rams. The walls are lined with Helmholtz resonators, which have variable slots absorbing frequencies at different levels. In tuning the auditorium, it is possible to vary the slots and therefore the

*Facing page: Between foyer and Queen Elizabeth Hall. Below: Waterloo Bridge, the new halls, and Royal Festival Hall from across the Thames.*



Queen Elizabeth Hall (left); Purcell Room (below left). Facing page: Upper terraces.



degree of sound absorption. There is a reflective canopy above the stage that also can be adjusted, or removed completely in the case of larger performances.

The Purcell Room is generally for debutant musicians or recitalists, although its stage can hold up to 25 musicians. It can be used for meetings and conferences, as can the Hall. The Room is equipped for slide-screen lectures or 16-mm film shows, and the Hall has a retractable sound film screen for full-size films.

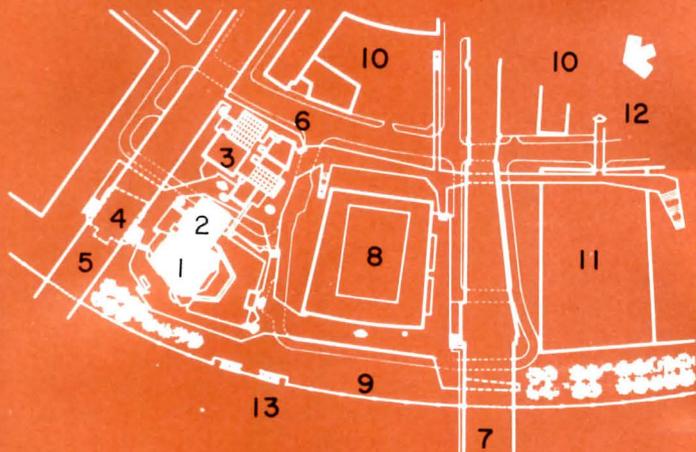
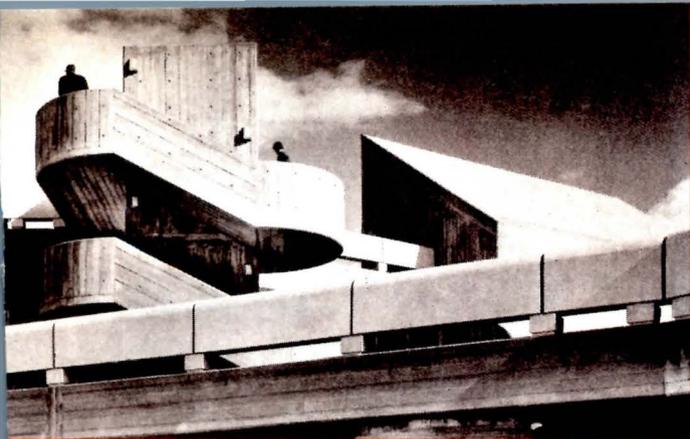
The foyer that connects these two auditoria is punctuated with "random placed" mushroom concrete columns supporting, with flat concrete beams, the floor and the ceiling. This is a generous, flowing space, adequately supplied with bars, cloak rooms, and restrooms. Its very openness leads us to requestion whether there should not be some more directional feeling for the initiatee ticket holder.

The pedestrian and the automobile are well separated here, the car never attaining the level of the entry and pedestrian terraces. Indeed, it has been kept to the rear of the site (under the exhibition hall) to allow a splendid riverside walk to stretch the eventual length of the South Banks Arts Center. This use of the river is one of the finest things about the entire complex. The Center is rising in what was a somewhat derelict warehouse-commercial district, and revitalizing South London in the process (in New York, the then-slum czar Robert Moses threw hundreds of people out of their tenement homes to make way for Lincoln Center). When it is completed, it should read as a heterogeneous series of buildings on the riverfront with the common cause of a dedication to the performing or visual arts. That this will probably be so when the theater and the opera house are finished is indicated by the fact that the same Greater London Council architects were responsible for both the Royal Festival Hall and the QEHR&PR and the exhibition hall: Hubert Bennett, F.G. West, Geoffrey Horsfall, and W.J. Appleton, to name just the four top men.

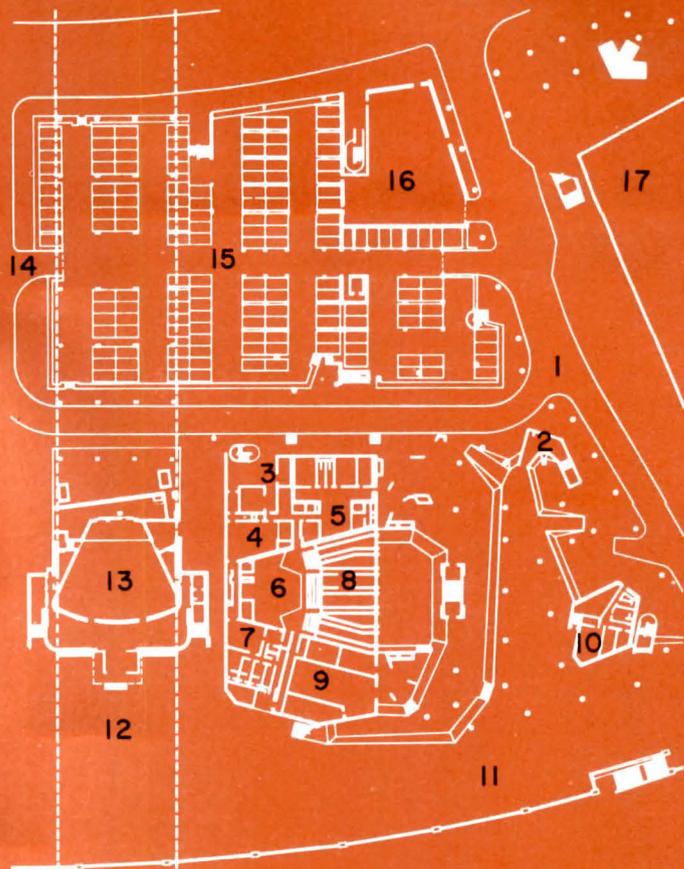
They made, in our opinion, decided design advances with the recently completed buildings. We await with eager interest even better design in the theater and the opera. — JTB



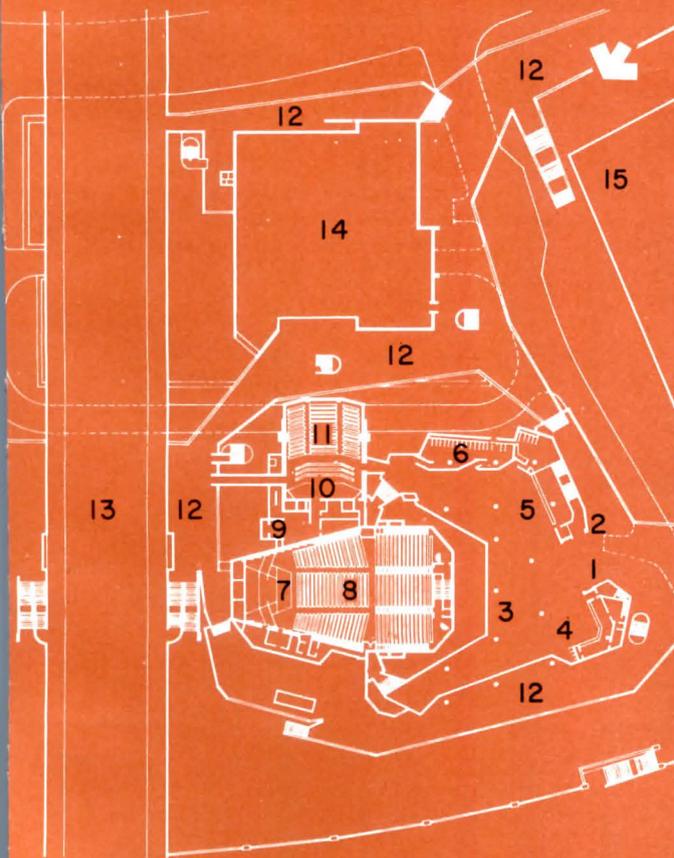
Photos: Richard Einzig, Brecht-Einzig Ltd.



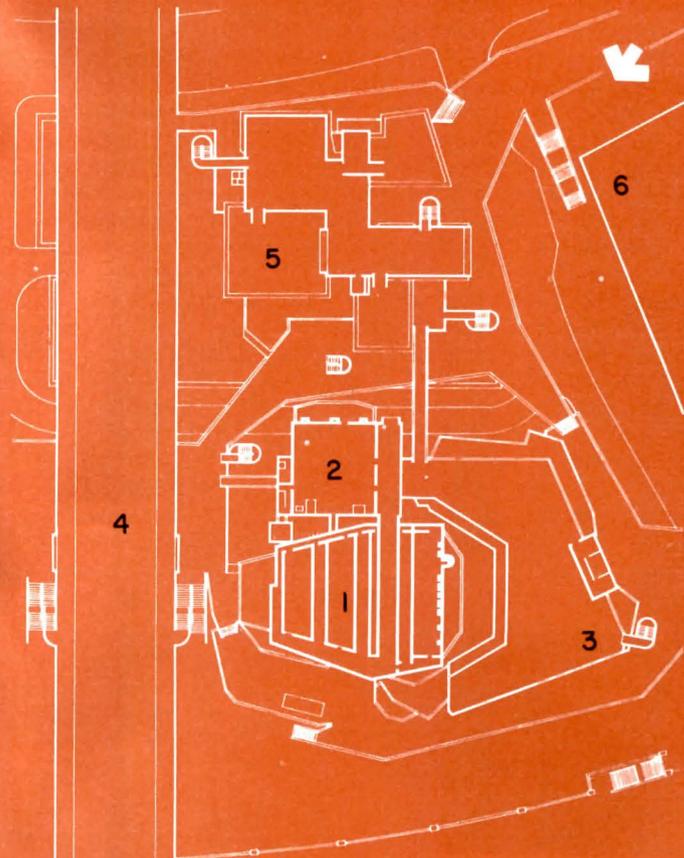
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|------------------------|-----------------------|-----------------------------|
| 1 Queen Elizabeth Hall | 6 Belvedere Road      | 11 Site of National Theatre |
| 2 Purcell Room         | 7 Hungerford Bridge   | 12 To Waterloo Station      |
| 3 Exhibition Gallery   | 8 Royal Festival Hall | 13 River Thames             |
| 4 N.F.T.               | 9 Riverside Walk      |                             |
| 5 Waterloo Bridge      | 10 Shell Centre       |                             |



- Level 13-00**
- |                            |                                 |                        |
|----------------------------|---------------------------------|------------------------|
| 1 Access Road              | 7 Conductor and Soloists' Rooms | 12 Entrance to N.F.T.  |
| 2 Car Users' Entrance      | 8 Queen Elizabeth Hall          | 13 N.F.T. Auditorium   |
| 3 Artists' Entrance        | 9 Refrigeration Plant           | 14 Car Park Entrance   |
| 4 Artists' Reception Foyer | 10 Bar Store                    | 15 Car Park            |
| 5 Orchestra Green Room     | 11 Riverside Walk               | 16 Exhibition Gallery  |
| 6 Stage                    |                                 | 17 Royal Festival Hall |



- Level 32-00**
- |                      |                                    |                        |
|----------------------|------------------------------------|------------------------|
| Main Entrance        | 7 Stage                            | 12 Pedestrian Terraces |
| Car Users' Staircase | 8 Queen Elizabeth Hall             | 13 Waterloo Bridge     |
| Foyer                | 9 Purcell Room Artists' Green Room | 14 Exhibition Gallery  |
| Bar                  | 10 Stage                           | 15 Royal Festival Hall |
| Cloaks               | 11 Purcell Room                    |                        |
| Lavatories           |                                    |                        |



- Level 57-00**
- |                       |
|-----------------------|
| 1 Roof Void           |
| 2 Main Plant Room     |
| 3 Roof Terrace        |
| 4 Waterloo Bridge     |
| 5 Exhibition Gallery  |
| 6 Royal Festival Hall |

# A.I.A. HEADQUARTERS: HEADG

"The design concept is totally out of scale with the existing buildings on the site. This new building would make the existing buildings and garden look like a toy," so architect Gordon Bunshaft, ramrod of the Washington Fine Arts Commission, was quoted in the *Washington Post* after the commission's June 1967 rejection of the Mitchell-Giurgola redesign of their winning entry in the national competition for the new AIA headquarters. "This design has nothing to do with the one that won, anyway," he later told P/A. Not so, thinks Mitchell-Giurgola partner Romaldo Giurgola, chairman of the division of architecture at Columbia University. After experimenting with various configurations and the economics of renting presently unneeded office space in the proposed new building (some critics have accused them of overinsistence on just a bigger version of their original design), Giurgola says that they emerged with a feasibility study showing four possible redesigns, recommending one that would increase the original new square footage from 90,000 sq ft to 130,000 sq ft, utilizing the space provided by the purchase of the Lemon Building next door. "The heavy mass of the GSA Building across the street is actually closer to the Octagon than our proposed headquarters," he told P/A, "making the Octagon a 'satellite' to GSA." The new design, Giurgola feels, would give the AIA-Octagon complex some power of its own. "With the new design, there is actually more open space behind the Octagon than there is now," he claims. "Beyond what is now and will continue to be the garden, there will be a raised paved courtyard. Because the upper floors of the headquarters would cantilever out, the feeling of space may, from some angles, be less.

"We wanted the headquarters to

screen out other buildings, which now make an inappropriate background for the Octagon; I feel strongly that the two should operate as a package that can stand on their own in the neighborhood." The Fine Arts Commission's emphasis on the historic importance of the Octagon and what it feels is the incompatibility of the headquarters mystifies Giurgola. "I deplore their outdated concern with architecture as a monument," he says.

In September, another meeting was held in Washington, with additional drawings being shown (such as the street elevation below) and —unlike the June meeting when the architects did not have their say — with the commission listening to the architect's ideas. To no avail; Giurgola was sent back to the drawing board.

Since this has been, to say the least, a unique series of events in American architecture, P/A has sought the views of a number of people concerned in the affair.

**WILLIS N. MILLS, FAIA** (Chairman, AIA Headquarters Committee): The flat rejection by the Fine Arts Commission of the design for the Headquarters Building has been a baffling and frustrating experience for the Institute and for the architects. It also raises the question of the validity of competitions as a means of revealing imaginative architects to create significant work in Washington, D.C.

**HIDEO SASAKI** (Fine Arts Commissioner who differed with his fellow commissioners on rejecting the design): I believe it is fair to say that the members of the Fine Arts Commission acted in good faith and in accordance with their best and most conscientious judgment. If this decision happens to be a minority one, it should not derogate the validity of

this decision. Design issues are not decided upon by popular vote. Whether the majority of the AIA members agrees or disagrees with the Fine Arts Commission does not appear to be relevant.

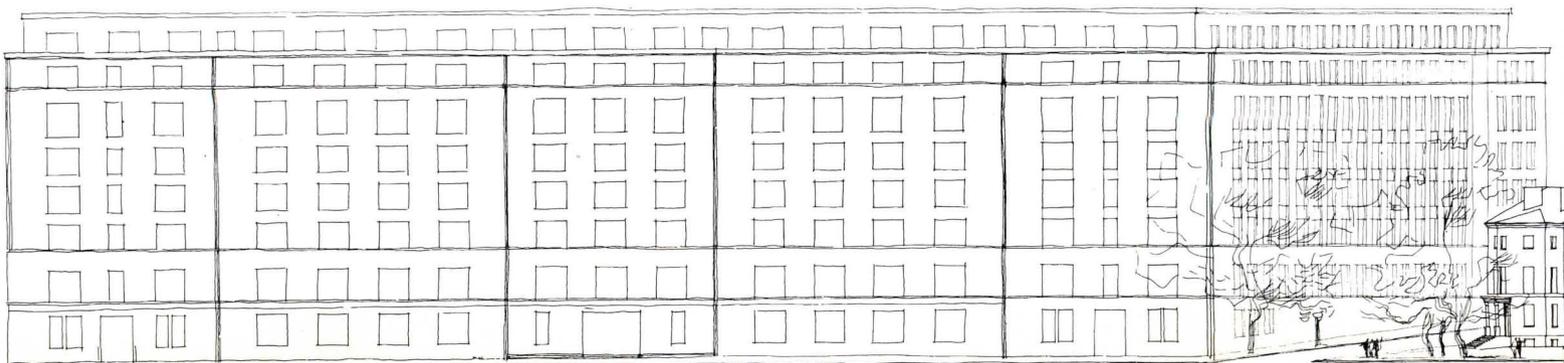
The members of the Fine Arts Commission are appointed by the President to review certain designs and to act in a manner consistent with the dictates of its own conscience. The commission has made many unpopular decisions, and I am sure not all of them were satisfactory to the rejected party. Even President Truman was once vetoed by the Fine Arts Commission!

I do not feel it reasonable that the architects should ask for special dispensations when a decision goes contrary to their own wishes. If the decisions being made by the commission are not liked, then work to have the members replaced with ones who would make decisions more acceptable to the AIA. The basic idea of a design review committee such as the Fine Arts Commission is worthy of support.

**HUGH STUBBINS, FAIA** (Chairman of the AIA headquarters competition jury): I have had a long connection with this project, beginning as a member of the Committee on the Profession. Once, I had the idea that a cultural center should be built, with the AIA to be a tenant. That didn't come off. Then a committee was appointed to study the feasibility of a new headquarters. Its initial recommendation was *not* to hold a competition. The idea was to have each AIA chapter select an architect from its membership, and then each region to select one architect therefrom, the resulting group to be interviewed by the AIA as client as in everyday, real life. The board of directors, however, decided on a competition.

When we had the judging, some of the submissions were unbelievable.

Mitchell-Giurgola rendering shows scale relationships of GSA Building (left), Octagon, AIA Headquarters, and other buildings on block.



# HEADQUARTERS FOR ARCHITECTURE?

O'Neil Ford wouldn't vote for anything. Jack Warnecke [also a member of the Fine Arts Commission] was a great supporter of the winner. We were pleased when the envelope was opened and we discovered that a young, talented, not-too-busy firm had won (we felt when it was all over that a large, busy firm might not be able to give the project the individual attention it deserved). I called Mitchell-Giurgola and told them we had selected talent, not an unchangeable design. I told them what we considered to be faults but that their design was a fine one to develop.

I had no further connection after that, but I go along with the Fine Arts Commission. The new design overpowers the Octagon: It's too big, and yet focuses right on it. I'm very disappointed in the architect's lack of flexibility in this matter. Most designers with a problem like the AIA headquarters try too hard for a "great symbol." This one became that on the second go-round — instead of what should have been a quiet, timeless, non-cliched, self-effacing building with a good garden in front. It is quite possible, in a simply formed building, to get interesting internal space relationships without the passerby being overcome by it.

NATHANIEL A. OWINGS, FAIA (member of AIA "client" committee who reportedly was opposed to the headquarters design): No comment.

CHARLES M. NES, JR., FAIA (AIA President during the redesign period): With the additional property, a new program was given to the winning architects. Since this program was in no way similar to the competition program, it was also obvious that a completely new design was necessary. The schematics for this new design were completed at about the time of the New York Convention and were approved by the board. This

design had never been previously submitted to the Fine Arts Commission, nor, indeed, had the *original* competition designs.

MILLS: An earlier version of the design submitted in January received approval by the commission as to *general concept*.

NES: Following a second meeting with the Fine Arts Commission at which time Mr. Giurgola presented in great detail his ideas and arguments for his design, it was evident that he and the Fine Arts Commission held completely opposite views on what was compatible and acceptable at this location and the design would still not be acceptable with minor changes. The AIA has, therefore, slightly revised its program and has asked Mitchell-Giurgola to attempt another design, which we hope will be acceptable to the architects, the AIA, and the Fine Arts Commission.

J. ROY CARROLL, JR., FAIA (Jury member and former AIA President): I have not read the official statement of the Fine Arts Commission rejecting the second design, but I have read excerpts in the press and statements of Gordon Bunshaft, quoted as saying that with the historic Octagon building on the corner of 18th and New York Avenue, it was not possible to arrive at any solution for a building on the Institute's property behind it. In my opinion, this is nonsense.

The National Fine Arts Commission does indeed have the right to criticize and request changes in or redesigns of any building the Institute may design on its present property behind the Octagon. However, I cannot imagine that any court would permit to stand a judgment that would prohibit the owner of the property from erecting a building to the allowable 92.6 ft height.

A. STANLEY MC GAUGHAN, FAIA (Professional advisor for the competition): In my judgment, both the winning design by Mitchell-Giurgola and the design by I.M. Pei presented brilliant conceptual solutions to this most restrictive and difficult design problem. The winning design married the new building with the old to such a degree that the existing building became essential to the total architectural composition; without the Octagon, the new building appeared incomplete. In contrast, the Pei design stood clearly as a new building — almost as if built on a lot next door — respecting its elderly neighbor but demanding independent notice and the privilege of joint use of the garden. That two designs of such quality emerged in the competition was gratifying. However, it was also clear that neither the winner nor any of the other premiated designs gave promise of a building that would be totally satisfying. . . .

In my view, the important achievement of the Institute's competition is twofold:

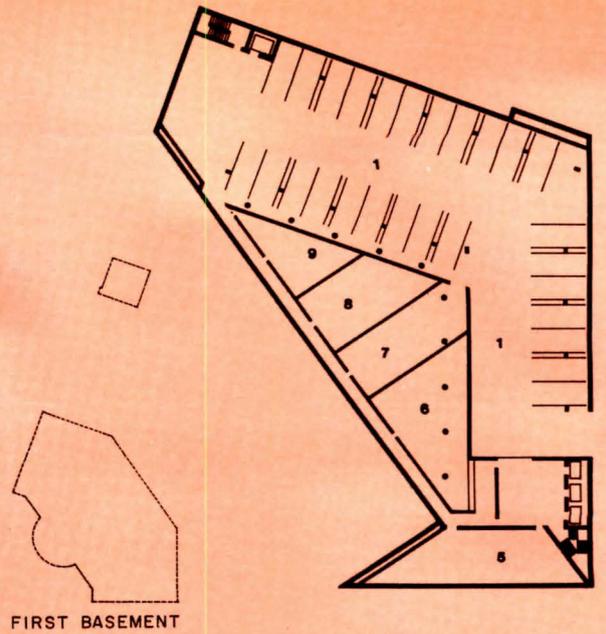
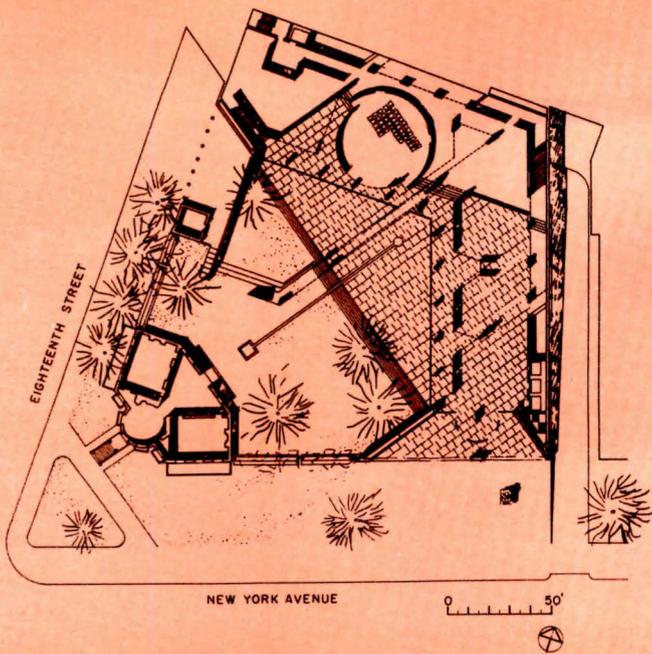
(1) The basic objective of the competition was most successfully accomplished with the selection of an experienced, respected, and talented firm as the architects for the project.

(2) The competition designs provided clear demonstration of the need for important program changes and saved the Institute from making the serious mistake of erecting an inadequate building on an inadequate site.

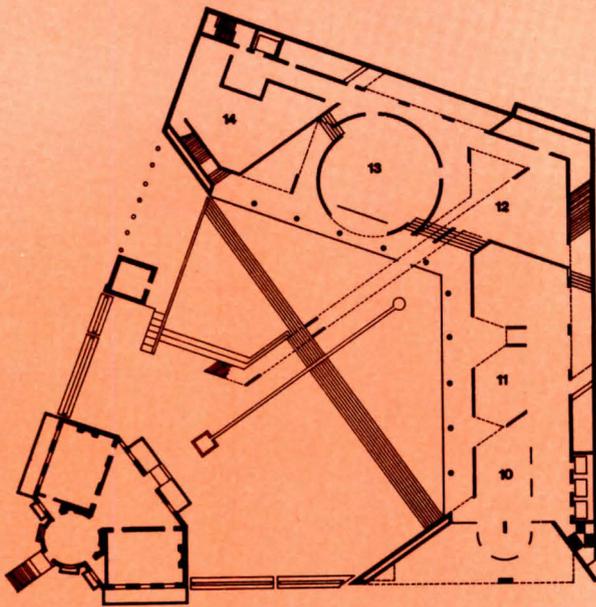
GORDON BUNSHAFT, FAIA (Fine Arts Commissioner): I don't think you should blow this up with a lot of coverage. This is a tempest in a teapot. Just because it's the AIA doesn't make it that much more important.

Competitions are not such a good way to do architecture; to do a good building you have to live with the client. In a competition, you live with

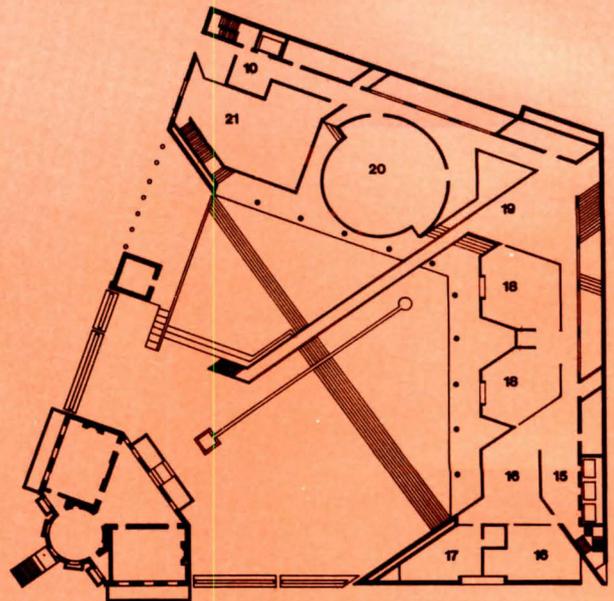




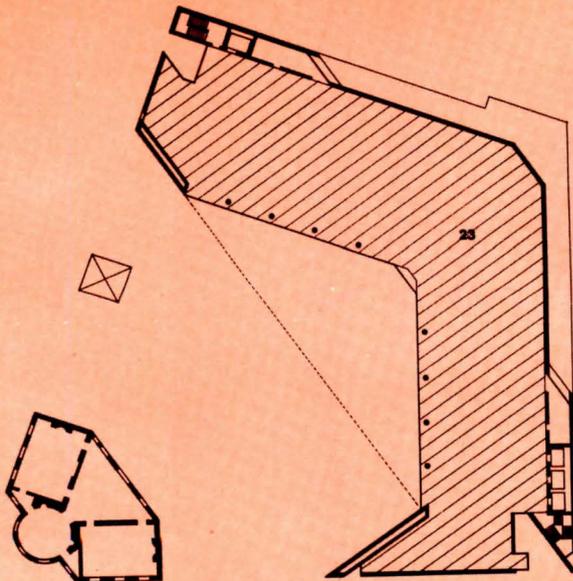
FIRST BASEMENT



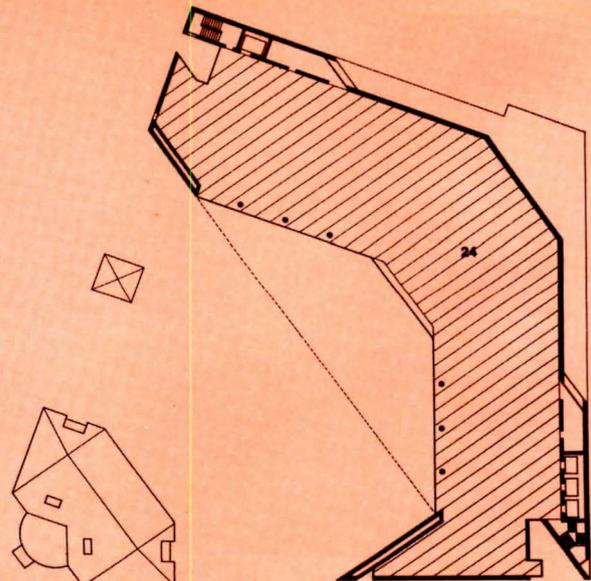
FIRST FLOOR



SECOND FLOOR



THIRD FLOOR



FOURTH FLOOR

First basement: (1) parking; (5) supply; (6) document sales; (7) mail room; (8) storage; (9) central files. First floor: (10) entry; (11) exhibit; (12) lounge; (13) auditorium; (14) exhibit work and storage. Second floor: (15) reception; (16) executive director; (17) president; (18) conference; (19) lounge; (20) board; (21) library. Third floor: (23) AIA and rental space. Fourth through seventh floors (square footage changes as area increases upward): (24) rental.

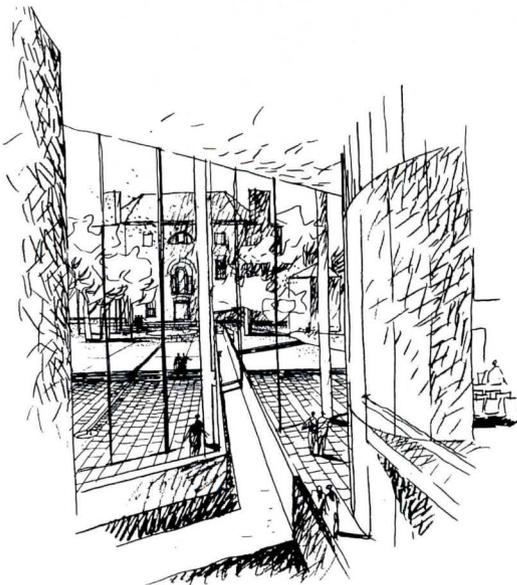
a piece of paper. If you're really serious about architecture, competitions are not the way to do it; it's like getting married by mail. On the other hand, it might be good for the young architects as a means of starting.

The new AIA Headquarters design is just too big a building. Super-scale doesn't work here. The Octagon is an historical building, and its garden is an integral part of this historical building. All the new design leaves is the building.

As far as the Fine Arts Commission generally is concerned, what has not happened in Washington is our real achievement. We rejected a standard-design bridge and are getting a Weidinger job in its place; we caused major changes, including site, on a recent major courts building; and we are trying to be certain that this subway work is first rate.

**PROGRESSIVE ARCHITECTURE:** What can be the next step toward getting (or cancelling) a headquarters?

**MC GAUGHAN:** You ask, "Is there any final court of appeal" from the decision of the Fine Arts Commission. The answer is yes. At least it is my understanding that the legal powers of the commission in this case are established by the Shipstead-Luce Act of 1930. This act declares that development in the capital city "should proceed along lines of good order, good taste and with due regard to the public interest involved and a reasonable degree of control should be exercised over the architecture of private or semipublic buildings adjacent to public buildings and grounds of major importance." The act provides for submission of designs to the commission and for recommendations by the commissioners of the District of Columbia prior to issuance of building permits. The D.C. commissioners in turn are charged with the responsibility for action to effect reasonable compliance with the recommendations of the Commission on Fine Arts. The final appeal in unresolved disputes is therefore to the D.C.



commissioners, and the commissioners have under special circumstances overruled the Fine Arts Commission.

**MILLS:** An appeal to the district commissioners does not seem advisable at this time. We have therefore asked the architects to develop modified plans which will, hopefully, be approved. In view of the contrasting philosophies, I am sure this will not be an easy task.

**STUBBINS:** The AIA has three alternatives:

- (1) Push this design with modifications.
- (2) Fire these architects and hire another firm from a selected panel.
- (3) Just take the Lemon Building and remodel it for expansion.

Anyone selected to do this particular job has the weight of the architectural world on his shoulders, and it's not possible to satisfy *all* the profession. Moreover, it doesn't speak well for this profession that it is unable to design its own building.

**PROGRESSIVE ARCHITECTURE:** What does this do to the idea of competitions?

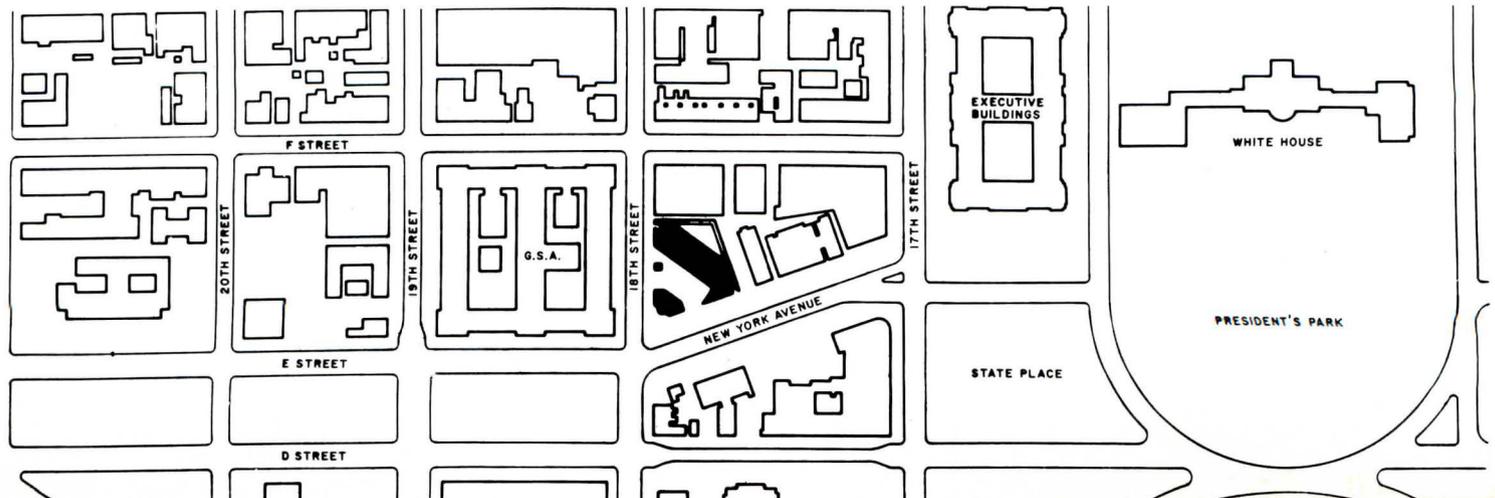
**NES:** The history of competitions has been a mixed one. It has always been a difficult problem, except in the case of monuments, to organize a competition program that is complete

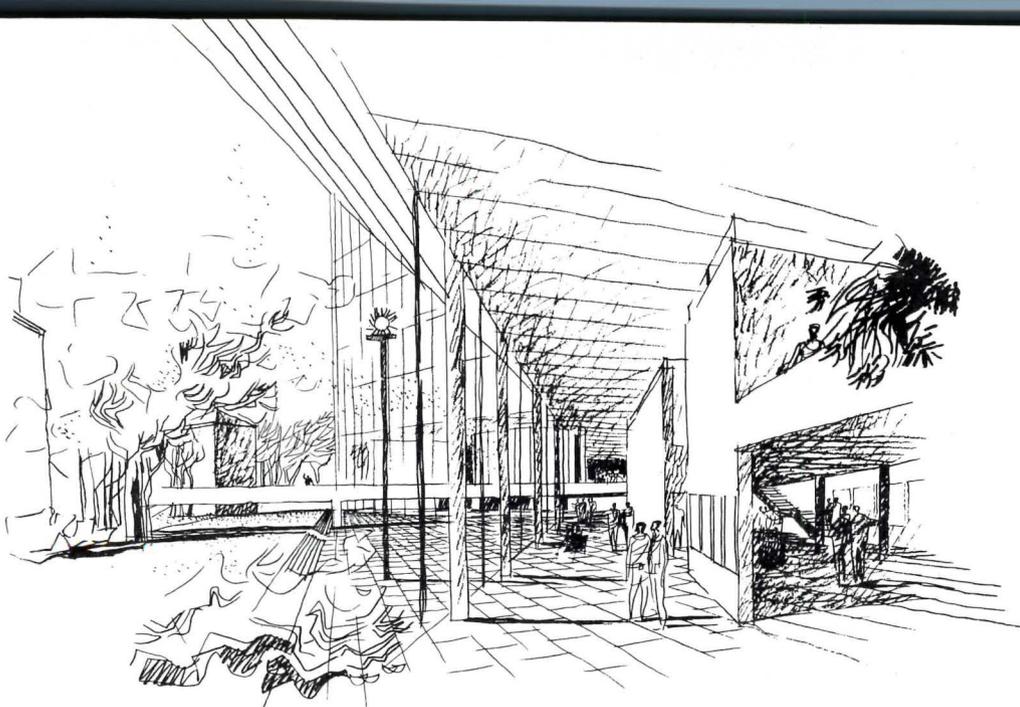
enough, detailed enough, and clear enough to require few changes during the development of a winning design. Therefore, while a jury bases its selection upon a specific design, it is normally understood that this selection is for the architects and not a particular design. A competition can in no way substitute for the close relationship between client and architect during the programming and design development of a project. Therefore, the client should realize that a competition, while often bringing to the fore a young and talented but unknown architect, is expensive, slow, and will usually result in a completely new design by the winner of the competition. I personally feel that, unless absolutely necessary, competitions are not an entirely satisfactory way of choosing an architect and often result in recriminations from all sides.

**MC GAUGHAN:** The primary [Class A] type competition is viewed as a technique for the selection of an architect. I do not believe that the Institute has suggested that competitions are superior to all other techniques for the selection of an architect, since severally equally valid techniques exist. Possibly the most important advantage of competitions is in the encouragement provided for the emergence and development of new creative talent. This "advantage" also entails one of the greatest risks: that an inexperienced designer may be placed in responsible charge of work that is beyond his professional capacities.

**CARROLL:** In my opinion, an architectural jury should be quite ruthless with regard to poor planning, inadequate circulation, unnecessarily complicated structural patterns and the like. However, if an architect is able to solve all of these problems in a perfectly satisfactory way, a jury should try to give him the greatest freedom so that he can express his design in a very personal way.

**BUNSHAFT (reprise):** If you're really





serious about architecture, competitions are not the way to do it; it's like getting married by mail. On the other hand, it might be good for the young architects as a means of starting.

**PROGRESSIVE ARCHITECTURE:** What is the crux of this particular situation?

**MILLS:** Listening to both sides of this controversy, I believe the disagreement arises from the basic approach to the problem. Mitchell-Giurgola sees this as a challenge to mix the new and the old with proper respect for each. They therefore seek to cre-

ate a "place," in Giurgola's term, a single composition where the form of the new building finds its genesis and inspiration in the old. Both are related in a powerful manner to the central garden, which becomes the focus of each. This philosophy is entirely consistent with the original competition program and is an attitude commended by the jury.

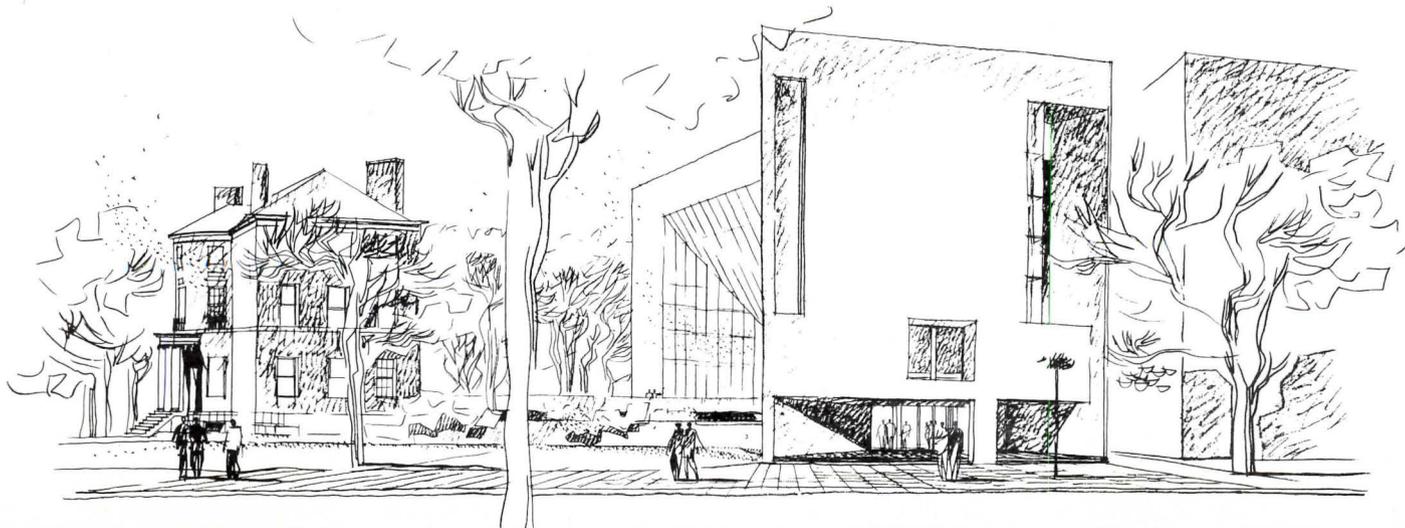
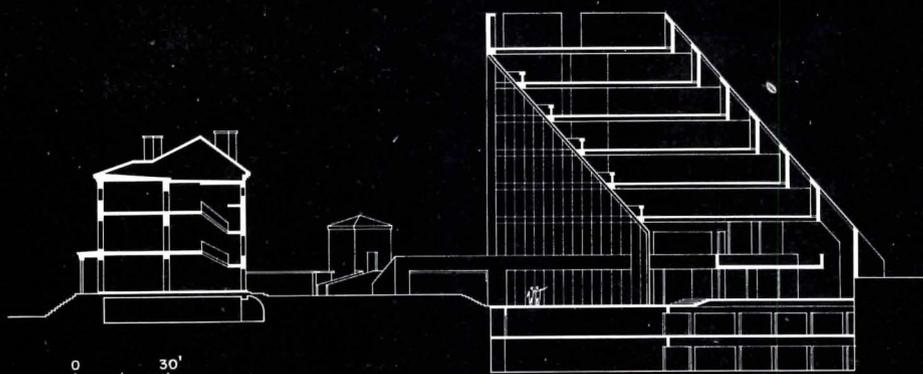
The Fine Arts Commission, on the other hand, takes the position of a preservationist. Here is an important building with its Georgian garden. It is a pleasant, tranquil spot, which should not be disturbed. Therefore, anything that intrudes should go

away. This explains their first recommendation of leaving the present garden and headquarters building intact and finding new required space in the adjacent Lemon Building. Short of this, any new building (in the view of the FAC) should be anonymous and try to be as invisible as possible.

**EHRMAN B. MITCHELL (Mitchell-Giurgola):** The scheme now has been reduced to 110,000 sq ft and we have been instructed to redesign again, making a building that doesn't impose or assert itself. We feel that we are being asked for façade architecture and that our original concept fitted the scene and worked in the cityscape. But we are redesigning for the "new scene" as the responsible architects.

Where this will all end, the magazine knoweth not. There are the possibilities that Hugh Stubbins lists: push it through; get new architects by client selection; or remodel and move into the Lemon Building next door. The greatest future for the AIA-approved design in that batch of selections is, of course, the first: If the Institute can and will stiffen every sinew and make every advance preparation to beard or bypass the Fine Arts Commission and/or leapfrog it to seek approval from the District Commissioners, a possible gambit being to ask, in effect, "Who's the expert in this case—19,000 architects, or a commission consisting of three architects, a landscape architect, an artist, a sculptor, and a television commentator?"

The other technique might be simply to wait out the siege. The Lemon Building is there and probably can be occupied just as uncomfortably for a short time as any other old office building. By 1969, the complexion of the Fine Arts Commission will have changed with the departure of one or two influential members—it is already changing with the imminent commissionership of Washington expert Chloethiel W. Smith—and maybe the American Institute of Architects design can prevail.



# ARBOREAL MANIFESTO

To prepare readers for next month's Annual P/A Design Awards issue, with its rich brew of new design and planning insights and the justifications thereof, we present here a structure by Herman A. Hassinger of Hassinger & Schwam (Philadelphia and Morristown, N.J.), which has won the Silver Medal of the Philadelphia Chapter AIA and the Merit Award of the New Jersey Society of Architects. We suspect that this "elevated recreation module" won as much for its program as for its result. Since it is a model put-down of the architect's usual effusion over his work, we reproduce it in its entirety as a cautionary future reference for other explainers of architecture.

## PROGRAM

To design an elevated recreation module, to provide for maximum play activity involving the use of large muscles together with the creation of a situation which would engender a maximum sense of detachment, leading to a use of image and illusion for the creation of a heightened play situation. The structure had to satisfy clients at various age levels whose psychological needs differed widely, and whose preconceived notions about the recreation module were wildly separate. This need for a recreation module had long been felt by the client and over a long period of time they had been pressing demands for its construction. *(The kids have been bugging the hell out of me to build them a tree house.)*

## SITE

The site selected for the construction of the elevated module was one in which the natural vegetation had achieved a full state of maturity, substantial portions of which were indigenous plant material of various annual varieties. The site was selected for its remoteness and inaccessibility. Its relations to other structures of the area were carefully considered. Every attempt was made in selecting the site to disengage the module from the other structures in the area. *(We had this old weedy corner of the garden that was reasonably far away from the house, so the kids wouldn't bother us.)*

## STRUCTURE

It was felt that, to maximize the integration of this structure with the surrounding environment, it would be necessary to select an organic system. A structural system deeply

rooted in the ground evocative of the natural forms and bearing the various dynamic loads imposed on it. It was felt that an undirectional structure — namely, a round one — would provide a non-axial reference for the module that would heighten its spatial qualities. *(We had this old dead beech tree, which had to be cut down anyway, so I thought it would make a good base for the tree house.)*

## MATERIALS

It was felt that the use of familiar residential materials would give the users of the module a reassuring sense of identification with familiar situations. The deliberate creation of an intimate domestic scale was felt to be conducive to certain play situations which are a necessary preparation in childhood for adult life. The deliberate selection of a small-scaled material made possible this objective. An upper roof form was erected of interpenetrations of solids and voids, which allowed, by their configurations, the possibility of using this upper roof as an observation platform. A fenestration system was selected to provide maximum visibility and ventilation while at the same time providing a sense of intimacy and security within the module. *(When they built our house, we had a couple of bundles of shingles left over plus a whole pile of 2x4s, so we built the thing like a little dog house. The zappy roof shed is on there just for kicks. What the hell, everyone else is winning prizes when they use a roof like this.)*

## CIRCULATION

Since the module is elevated, some form of vertical circulation system was felt to be desirable. After examining many systems, among them elevators, escalators, and self-levitation devices, it was decided in the interest of simplicity to create a system of horizontal bars, one placed over the other, which would allow alternate handholds and footholds by which the occupant could ascend into the elevated module. This circulation device has much potential and its use on construction projects should be unlimited. *(We used a ladder.)*

## MECHANICAL

Because of its distance from existing utilities, it was felt that the unit should be basically self-contained. All provisions for circulation of air are by means of the ventilation areas, which are part of the fenestration and the side walls. Through the clev-

er use of an overhead light slot in the roof shed portion, natural light floods down the roof shaft and gives to the inside of the module the soft mysterious light that is highly conducive to the creation of the play situation. This feeling of mood created by the lighting is directly related to the external environment and often reflects directly the existing climatological light phenomena. *(We left openings in the side walls. On dark, cloudy days it's not as bright as on sunny days.)*

## DESIGN TEAM

Because of the involved nature of this project, it was necessary to consult with technicians of many other disciplines. Experts in the various fields were most helpful in providing

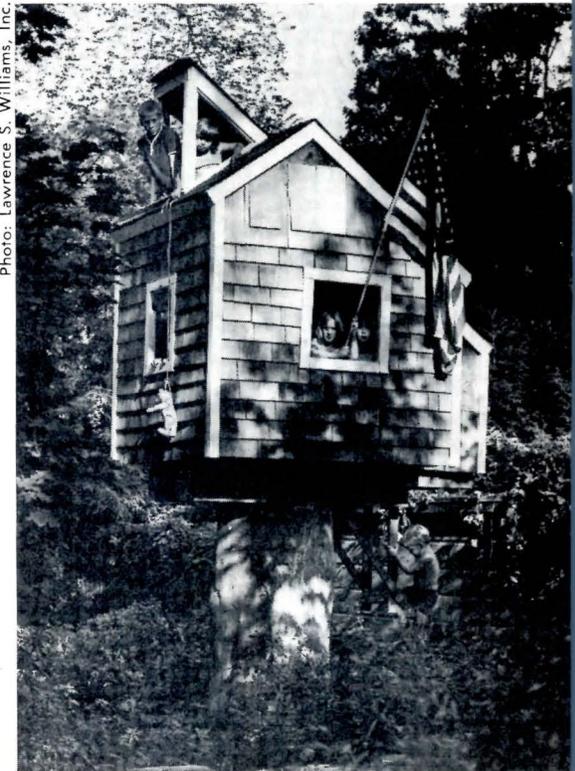


Photo: Lawrence S. Williams, Inc.

an interdisciplinary total environmental approach. However, we must point out that, throughout the entire process, the architect remained as the leading member of the environmental team. Scheduling and programming consultants created a brilliant new departure in construction scheduling. It involved the use of isolated periods of intense construction with the intervening periods being spent on the ordering of materials and scheduling of the next phase of the work. *(I built the damn thing all by myself on weekends.)*

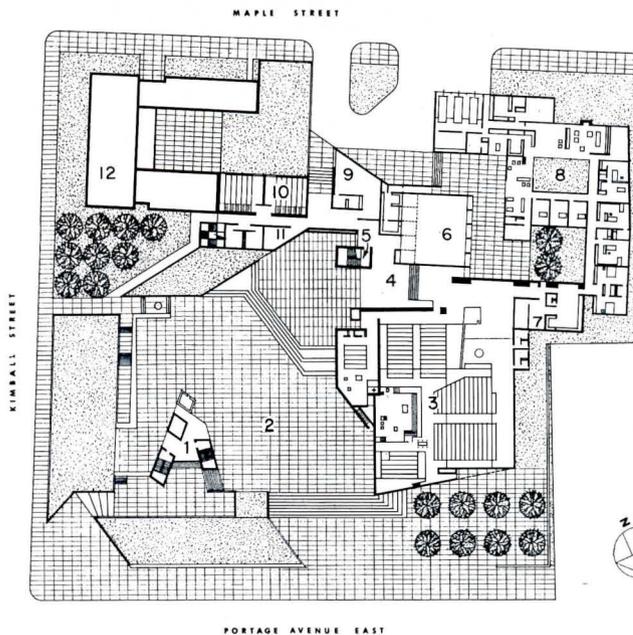
# SOO TOWER

Sault Ste. Marie on Michigan's Upper Peninsula, with its similarly named Canadian sister across St. Marys River, is the center of the region known as the "Soo," through which pass more than a million tourists a year. It was named in 1641 by the Jesuits St. Isaac Jogues and Charles Raymbault, and later (1668) the famed missionary-explorer P re Marquette had a mission here. Beginning in 1855, a system of locks on the St. Marys rapids was begun to connect Lakes Superior and Huron, making Sault Ste. Marie an important shipping port. In recent years, however, the city's economy has been in decline, with no positive reversal in sight.

It is appropriate, then, that when a shot in the arm for Sault Ste. Marie comes about, it should come from the same source as its 17th-Century precursor, the Roman Catholic Church. Father Monroe of St. Mary's Parish (the third oldest in the United States, incidentally) was concerned about the decline of his community at the same time he was planning new and expanded facilities for his parish. The pastor and his architect, Progressive Design Associates of St. Paul, Minn., conceived a project to help resuscitate the city and simultaneously give it an imposing religious center. In the architect's words, "The importance of this project must be seen in the light of today's ecumenism. The church community transcends mere construction of a building in favor of generating a living community complex. It opens the church in an attempt to become an honest part of functioning society, spiritually, personally, and economically."

The solution to providing a working symbol of civic regeneration has





*First Floor Plan*

- (1) Tower (crypt entrance beneath)
- (2) plaza
- (3) church
- (4) narthex
- (5) stair down to museum
- (6) parish center
- (7) sacristies
- (8) presbytery
- (9) library
- (10) education rooms
- (11) nursery
- (12) existing convent

taken the form of a crypt museum and a 175-ft-high observation and carillon tower in the church plaza. Since the site faces the river just four blocks from downtown, the tower will act as both the visual and physical "draw" for tourists to the region. In fact, the importance of the museum and tower in the program are such that they are being constructed first, with the church and related buildings to follow (the tower is almost topped-out by now).

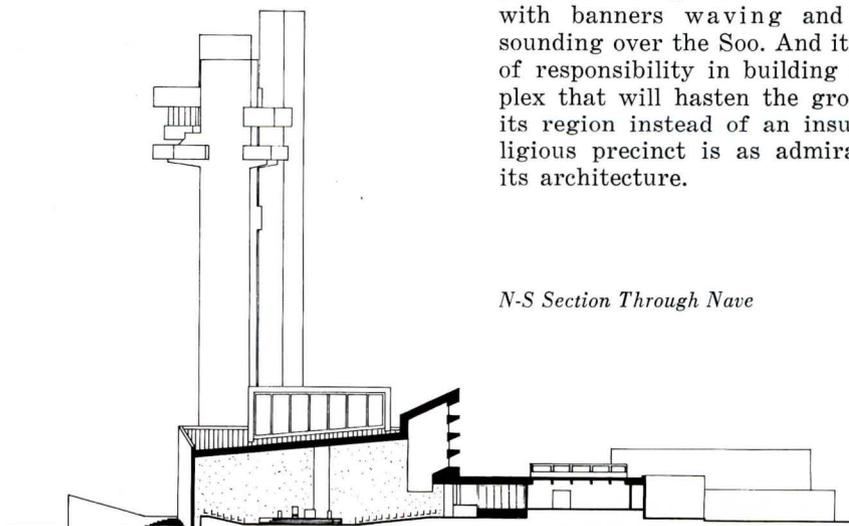
Because the tower had to be a religious expression as well as a strong regional symbol, the architects spent some time studying medieval church towers and their relations to their surroundings. The result in Sault Ste. Marie is a forceful three-legged structure that culminates in a series of interconnected viewing platforms and terraces. From here, tourists will be able to see the countryside for miles around and get a complete view of the activities in the locks. To gain access to the tower, the visitor must first go down into the crypt, then proceed up by elevator. Stairways connect the various levels at the top of the tower, and the 61-bell carillon

will be placed at the 110-ft-level between the two front legs. Descending again into the crypt, visitors will enter a museum that is being planned not simply as a collection of religious and historic artifacts, but as an experience of sights, sounds, color, narration, graphics, sculpture, and other evocative elements. This phase of the visit will terminate symbolically at the entrance to the church.

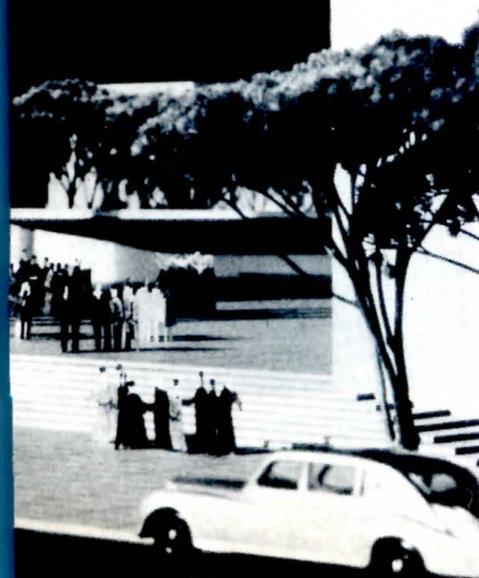
Outdoors, the plaza has been designed — again with a recall of such spaces as the main square of Siena — as an open space for Masses and religious pageants. Spectators will sit on grassy earth berms and the players or participants will perform between the main steps of the church and the tower. Spotlights and banners will be placed on the tower, the carillon will chime, and trumpeters and choristers will sound forth from above.

The tower is cast-in-place concrete with a 4-in. and 6-in. formboard pattern on the exterior, smooth finish on the inside. Observation levels will be both glazed and open except for railings.

St. Mary's should be quite an experience during an outdoor festival, with banners waving and music sounding over the Soo. And its sense of responsibility in building a complex that will hasten the growth of its region instead of an insular religious precinct is as admirable as its architecture.



*N-S Section Through Nave*



# COMPUTER DESIGNS ELEVATORS

BY WM. J. McGUINNESS  
*A brief description of a dialogue between man and machine that cuts design time and gives man more thinking time. McGuinness is a practicing engineer in New York City.*

A computer, of course, does not really design elevators — or anything else. People do. Moreover, these machines, intended for the storage of data and for making calculations leading to design solutions, cannot be programmed or used by uninformed people.

Instead, by its ability to store standard facts and the relationships of criteria, as well as its capacity to make incredibly fast calculations, computers free the creative specialist for clearer judgment in the application of the results. He also receives a bonus of additional time for refining his design, and for dreaming up new ways of solving other problems with the help of his mechanical assistant.

Nothing is more boring to a man with an active mind than the painstaking, repetitive re-assembling of basic facts, and the calculating of results. Computers, which help to relieve this problem, fortunately are becoming easier to use.

The following process illustrates a "conversational" interchange between designer and computer that gives immediate results and thus allows the designer more time to rethink the problem.

## How it Began

The computer-assisted design shown here is an example from a design-system used by Caudill, Rowlett & Scott, Architects, Planners, and Engineers. The method was developed by Charles B. Thomsen, who was in charge of computer-use development, and is now co-manager of the New York office. Over a period of many months, and with advice from Benjamin Stein, an Associate of Seelye, Stevenson, Value & Knecht, the

method was developed and programmed for an 1130, 8-K IBM machine on lease to Caudill, Rowlett & Scott.

## Computer "Language"

Seemingly quite mysterious, the abbreviations used are easily defined. Referring to the second half of the tabulation:

**NO ELEV** — Number of elevators

**SPEED** — Feet per minute  
**CAPACITY** — Pounds, weight of passengers

**HC** — Handling capacity, percentage of building population transported in five minutes

**WT-SEC** — Average waiting time for car to arrive, seconds

**RTT** — Round-trip time of one elevator, seconds

**COST** — Dollars for the elevator group

ELEVATOR DESIGN PROGRAM	
COST DATA INPUT JAN 1967 - INCLUDES COPIT.	
COSTS ARE FOR PURPOSES OF DESIGN SELECTION NOT PROJECT ESTIMATING.	
INCLUDE A DECIMAL IN ALL ANSWERS.	
DONT USE ALPHABETIC CHARACTERS. DEPRESS EOF AFTER EACH ANSWER.	
ESTABLISH BASIC DESIGN CRITERIA. TYPE ANSWER AFTER EACH CRITERIA.	
IF YOU MAKE AN ERROR TYPE 9999. FOR NEXT ANSWER.	
1.	WAITING TIME (30. SEC MAX IS USUAL) 25.
2.	HANDLING CAPACITY (.15 X POPULATION IN 5 MIN IS USUAL). .125
3.	BUILDING DENSITY (125. NET RENTABLE SQ FT PER PERSON IS USUAL) 150.
4.	ANTICIPATED FLOOR TO FLOOR DIMENSION (IN FT AND TENTHS OF FT, IE. 12.5). 12.5
	ANTICIPATED GROUND TO 2ND FLOOR DISTANCE. 20.5
5.	TOTAL NO. OF FLOORS (INCL GND FL) 8.
6.	ZONES (TOTAL NUMBER). 1.
9.	AVERAGE NET RENTABLE SQ FT PER FLOOR. 14000.
THE LEAST EXPENSIVE SYSTEM WHICH WILL MEET DESIGN CRITERIA IS	
4 - 300 FOOT PER MIN 2000 LB ELEVATORS.	
THE ESTIMATED HANDLING CAPACITY IS	
0.19 TIMES THE POPULATION IN 5 MIN.	
THE MAXIMUM ESTIMATED WAITING TIME IS 23.8 SECONDS.	
TOTAL ESTIMATED COST = 124800.01	
OTHER SYSTEMS UP TO 50 PCT MORE EXPENSIVE ARE LISTED ON THE LINE PRINTER.	
IF YOU WISH TO CHANGE ANY DESIGN CRITERIA, INDICATE WHICH STATEMENT NUMBER.	
IF NOT TYPE 10. DONT FORGET DECIMAL. 10.	

POPULATION = 653.		RENTABLE AREA = 98000.					
NO ELEV	SPEED	CAPACITY	HC	WT-SEC	RTT	COST	NRSF/ELEV
4	300	2000	0.19	23.	95.	124800.	24500.
4	350	2000	0.20	22.	90.	131800.	24500.
4	350	2500	0.23	24.	99.	143800.	24500.
5	200	2000	0.19	23.	115.	138500.	19600.
5	200	2500	0.24	24.	124.	153500.	19600.
5	250	2000	0.22	20.	103.	147250.	19600.
5	250	2500	0.26	22.	112.	162250.	19600.
5	250	3000	0.29	23.	118.	177250.	19600.
5	300	2000	0.24	19.	95.	156000.	19600.
5	300	2500	0.28	20.	104.	171000.	19600.
5	300	3000	0.31	22.	110.	186000.	19600.
5	350	2000	0.25	18.	90.	164750.	19600.
5	350	2500	0.29	19.	99.	179750.	19600.
6	200	2000	0.23	19.	115.	166200.	16333.
6	200	2500	0.28	20.	124.	184200.	16333.
6	250	2000	0.26	17.	103.	176700.	16333.
6	300	2000	0.28	15.	95.	187200.	16333.
TOTAL SOLUTIONS EXPLORED =				270.			

**NRSF/ELEV** — Net rentable S.F. per elevator

## What Happens

The computer, programmed with up-to-date cost data (January 1967, in this instance), types out a questionnaire. It asks several questions. The designer answers them by a number, which he types below each question. The information he gives, for example, is:

- (1) Waiting time, 25 seconds.
- (2) Handling capacity, .125 of building population in 5 minutes.
- (3) Building density, 150 sq ft per person.
- (4) Story height, 12'-6". Height, first story, 20'-6".
- (5) Number of floors, 8.
- (6) Zones, 1 (no express elevator).
- (9) Net rentable sq ft/ floor, 14,000.

(Nos. 7 and 8 are reserved for multizone buildings.)

Putting this back into the computer, the designer receives, in less than 15 seconds, the typed answer shown below question No. 9 (see figure). Seventeen other possible (but more expensive) systems are typed below on the "line printer." Solutions explored in this example numbered 270, of which 253 were rejected by the computer as being outside the range of reasonable criteria that had been set up in the programming process.

## Scope

The elevator design is only one of many — and rapidly increasing — computer uses by this architectural office. They include such diversified applications as heat gain and heat loss of buildings; selecting the optimal number of stories for an office building based largely upon net financial return to the owner. The computer also helps to solve management problems in the architect's own office.

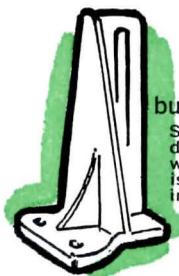
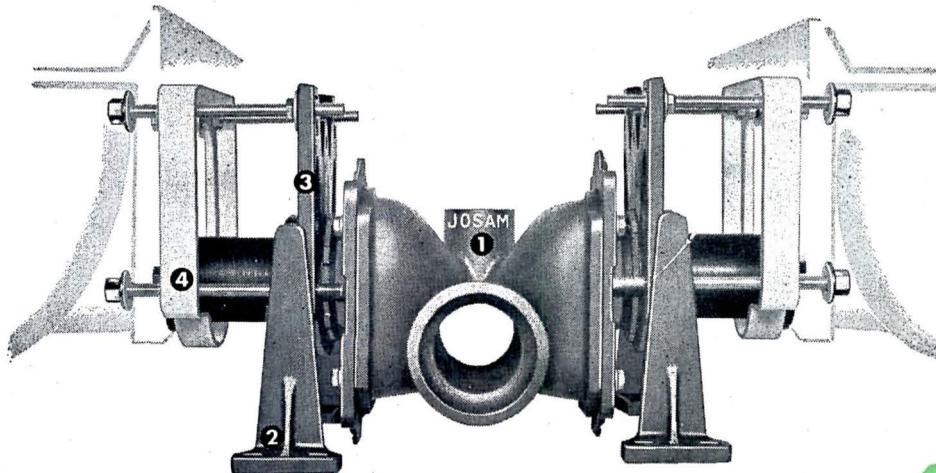
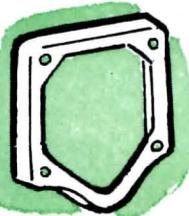
# WHAT MAKES AN OFF-THE-FLOOR INSTALLATION **COST LESS?**



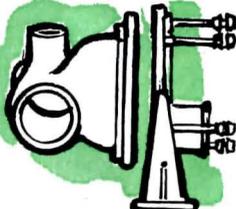
**common vent (1)**  
Saves chase space  
...substantially re-  
duces the number  
of connections re-  
quired in a battery  
of toilets

**positioning frame (4)**

Simplifies alignment...  
Saves one or more  
hours of labor per  
bowl\* ... saves fix-  
ture breakage ...  
saves call-backs ...  
acts as template for  
wall finish, saving tile-  
setting time.



**buttness foot (2)**  
Short Bulldog feet  
do not interfere  
with any type of  
finished floor ... saves  
installation time



**fitting and carrier are separate**  
provide more adaptability to meet  
changing conditions of installation  
... save revision time and labor

**invertible carrier body (3)**

Fits all types of  
toilets, blow-out or  
syphon jet ... saves  
handling time ...  
eliminates stocking  
and ordering of dif-  
ferent carriers.



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## **EVALUATION OF MATERIALS**

BY HAROLD J. ROSEN

*To help architects explain to salesmen how they select materials, P/A suggests that photocopies of this page, as well as last month's column, be handed to building products salesmen.*

Last month, we discussed the factors influencing the selection of materials in the design of a building. The designer determines whether the façade will be masonry, architectural concrete, or metal and glass window walls. Since these materials have been in use for a considerable time, the specifier generally has a wealth of information on them, such as behavior, ability to withstand the shock of a freeze-thaw cycle, abrasion, indentation, mechanical abuse, and so on. This permits both architect and specifier to determine quickly

whether a particular material is satisfactory for its intended use.

However, there are two main areas that the architect or specifier must research: The development of a product or material to fit a particular situation; evaluating the properties of a relatively newly created material to determine if the manufacturer's claims match his test results, thus warranting use of the material.

The architect and specifier are placed in a difficult position when new man-made materials are brought to their attention by a manufacturer, since they must determine the validity of the manufacturer's claims. Where the product is a commodity item, and the manufacturer states that the product will conform to, meet, or exceed an ASTM or Federal specification, there is less of an onus on the architect in deciding about using the material.

For example, let us assume it has been established that a vinyl-asbestos tile is satisfactory for a specific floor. If a designer wants to use a newly introduced vinyl-asbestos tile, which, according to the manufacturer, conforms to the Federal specification for vinyl-asbestos tile, then the material can easily be tested against this standard. If it meets the standards, it can be approved.

### **Establishing Own Criteria**

On the other hand, if a floor is to be subjected to unusual hazards such as moisture, acid or alkali spillage, hot jet fuels, or printer's ink, a commodity item cannot be picked out. In such a case, a material must be carefully evaluated to see if its chemical and physical properties will enable it to perform satisfactorily. In the absence of standards, the architect or specifier may have to establish his own criteria. He must determine which un-

usual fluids will be likely to spill on the floor, and to what extent the proposed flooring material should resist effects.

He must take into account resistance to abrasion, indentation, slip resistance, hardness, heat resistance, and similar factors. At this stage in his investigation, he may not know whether an epoxy, neoprene, polyester, acrylic, urethane, or any other type of formulation will satisfy his requirements. He can, however, start to establish the parameters, and may even select certain ASTM test procedures by which these characteristics will be measured.

Once he determines which test procedures to use, he may set maximum and minimum values for the test results, and ask manufacturers if they have a product that meets the requirements or whether they can make one. The need to create materials that will solve particular problems is a continuing one; this method, used by architects and specifiers, helps manufacturers to develop new products to meet these demands.

### **Evaluating New Materials**

The other area of evaluation of materials concerns new products developed by manufacturers. For the most part, manufacturers rather than architects take the lead in developing new products. The manufacturer then proceeds to bring these new items to the attention of architects.

Again, if these are commodity items that can meet ASTM or Federal specification standards, there is no real problem involved. However, many of these newly created materials and products are specifically designed by the manufacturer to keep the edge on their competition for some time. In these cases, standards for physical and chemical properties are developed by the

manufacturer. A specifier investigating these products finds them difficult to evaluate without normal standards of comparison.

Sometimes, the manufacturer develops his own test methods, and the results have no correlation with standard test procedures. The specifier is then faced with the task of trying to correlate the manufacturer's data against known standards in order to evaluate its properties. His dilemma is magnified if, after electing to use the material, a substitute is offered with its data couched in another set of terms of test references. The specifier is now in a real quandary: He does not really know the properties of the material he has specified, and he has no way of comparing the competing products, since their physical characteristics are referenced to different standards.

If at all possible, it is best to require manufacturers to provide supporting data on their materials. This should be referenced to known standard ASTM testing procedures so that they can be evaluated more readily and competing products compared on the same basis.



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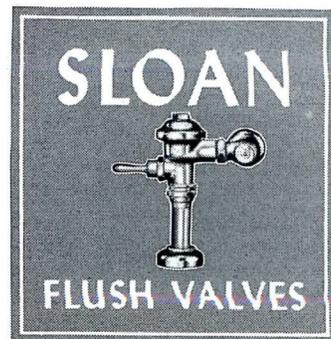
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## LICENSING OF PUBLIC OFFICIALS

BY BERNARD TOMSON  
AND NORMAN COPLAN

*P/A's legal team discusses the question whether a public official dealing with architectural or engineering matters should be required to be a licensed professional.*

Should public officials whose offices involve them with architectural or engineering problems be required to be licensed as architects or engineers as a condition of holding such public office? The New York State Society of Engineers has initiated a legal action to require the Mayor of the City of New York to remove the Commissioner of Buildings from office on the ground that he is not a licensed engineer or architect. There is no specific provision in the Charter of the City of New York requiring that official to be a licensed architect or engineer, but it is the underlying theory of the Society that any appointive public official involved in architectural or engineering decisions must be duly licensed as an architect or engineer to comply with state law, which requires li-

censing for the practice of those professions.

The law of the State of New York provides that "in order to safeguard life, health and property," a person practicing professional engineering or professional architecture must be duly licensed. Although the New York City Charter does not require that the Commissioner of Buildings be either an engineer or an architect, it does require the Commissioner to appoint a deputy who has had at least 10 years experience as a professional engineer employed in structural work. The function and duties of the Commissioner of Buildings, as defined in the City Charter, involve enforcing the multiple dwellings law, the labor law, and other similar laws, rules and regulations covering the construction, alteration, maintenance, use occupancy, safety, sanitary conditions, mechanical equipment, and inspection of buildings or structures. In the performance of his duties, the Buildings Commissioner has the power and authority to examine and approve, or disapprove, plans for the construction and alteration of any building or structure, and to require that the building, construction, or alteration be in accordance with applicable laws and rules. He may permit certain variances to the literal application of the law, and he issues certificates of occupancy.

The New York Society of Professional Engineers argues that the powers and duties of the Commissioner of Buildings, as set forth in the City Charter, constitute the practice of professional engineering or architecture. In their legal papers, the Society states:

"Almost by definition, then, the Commissioner's activities embrace a broad range of engineering services, including consultation, investigation, evaluation and

responsible supervision of construction. Moreover, the Commissioner is given exclusive power to grant variances from the strict letter of the law with regard to construction methods and materials where he is satisfied that the alternative method or materials are equally safe and that the spirit of the law is being observed. . . . It is indeed difficult to imagine a job that is more directly concerned with the safeguarding of life, health, and property and that more urgently calls for a sound knowledge of engineering principles."

The Commissioner, on the other hand, contends that his decisions are made only after consultation with duly qualified technical personnel, including his Deputy Commissioner, who is required to be licensed, and that his function is primarily that of an administrator and executive. He states:

"In short, the Commissioner of Buildings need not be an engineer or architect to carry out his tasks. He is an administrator and an executive carrying out City policy as established by the Mayor and representing the public interest. His department is staffed with technical advisors. The occupation and profession of the Commissioner is that of government and not of engineering or architecture."

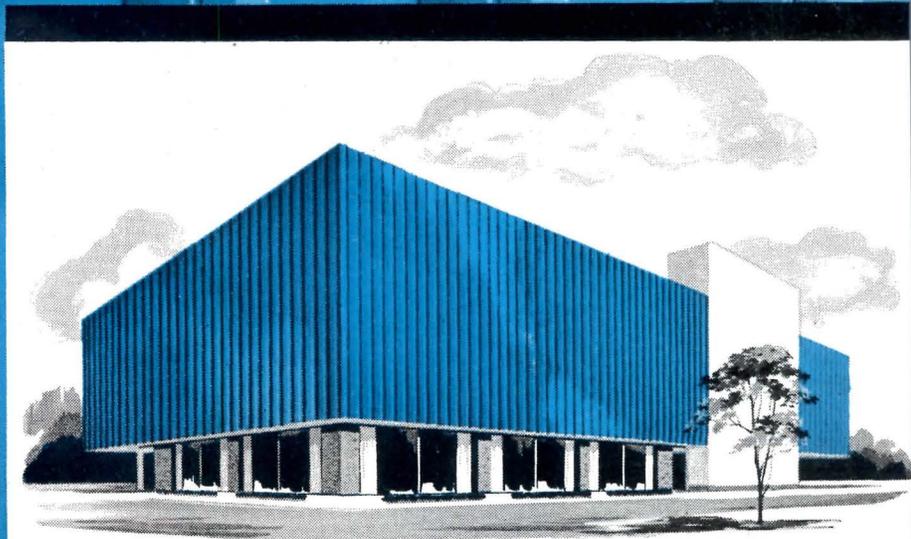
The City moved to dismiss the legal action on the grounds that: (1) the City Charter did not require the Commissioner to be a licensed professional; (2) the Courts cannot interfere with the lawful authority of the Mayor in appointing officials of his choice; and (3) the Commissioner's duties are of an administrative and governmental nature and do not constitute the practice of architecture or engineering. The Court rejected the first two of these contentions, holding that the City Charter was subordinate to state law and that if the activities of the Commissioner constituted the practice of architecture or engineering, the state requirement for licensing to engage in such practice would be paramount to the provisions of the City Charter.

In respect to the contention that the duties of the Commissioner of Buildings are administrative rather than professional, the Court stated that this is a factual question, which must be determined summarily upon a motion to dismiss the action. As of the writing of this column this trial has not been held, nor has the City of New York determined to take an appeal from the decision of the Court refusing to dismiss the legal action.

If the New York State Society of Professional Engineers is ultimately successful in the legal proceeding it has instituted, the implications of such a legal determination may be extensive. There are many different aspects of municipal and state government that have an involvement with architectural or engineering questions. Municipal or state Departments of Public Works, Housing, Highways, Parks, Water and Electrical Supply, Zoning and Planning Boards, Air Pollution, and so on, all involve decisions that may require the application of architectural or engineering principles. The basic question for consideration and analysis is whether the public is better protected if it were legally mandated that all of these functions and similar governmental functions be headed by licensed professionals, or whether such requirement would stultify and unduly limit the governmental process.

We will report further as this litigation develops.

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## PEOPLE AND THINGS

BY WALTER C. KIDNEY

THE MYTH OF THE MACHINE: TECHNICS AND HUMAN DEVELOPMENT. By Lewis Mumford. Harcourt, Brace & World, 757 Third Avenue, New York, 1967. 342 pp., \$8.95. The reviewer is an Associate Editor of P/A.

Mumford's approach to history tends to turn it into a sort of morality play. What matters is not so much what happened, who was king, when, or what wars were fought, as what these things tell us about the relations to the world or to each other that human beings had on various occasions. Every now and then a figure, an Egyptian functionary or a Victorian economist, steps forward (via documents) to speak for what was good or bad, wise or stupid, about his time. And the dimension of time — the vast numbers of years, each with its 365 (or 366) days — is disregarded deliberately, so that patterns of older and more recent times can be superimposed and compared. Thus the Pentagon becomes a citadel of Mesopotamian horrors, and the man in the pyramid is akin in his conspicuous waste of national resources to the man in the nose cone. Since it is values that are being sought, and anyone is likely to see the values of others through the filtering medium of his own, such an interpretation of history is somewhat risky, although quite val-

uable if it can be brought off well.

Now, Mumford, ever since The Bomb first fell, has put into sociohistorical writings his sense of alarm at the way things have been going. His old villains were figures of the past: 17th Century mercantilists and Victorian manufacturers. But, more recently, he has abandoned his qualified optimism about our own times and now bids us beware of such contemporary personages as professional soldiers, roving bands of systems analysts, and the President of the United States, under whose dubious leadership, he feels, we are in danger of getting blown up or poisoned, of shedding innocent blood, or, less sensationally but just as dismally, of becoming robots. *The Myth of the Machine* attempts to recruit the findings of anthropological and historical scholarship to combat one ideological premise upon which, Mumford feels, any attempt to mishandle us will rest — namely, that the nature, and, if you will, purpose of mankind is fundamentally involved with material progress.

*The Myth of the Machine*, tracing man's "progress out of slime" from prehistory until

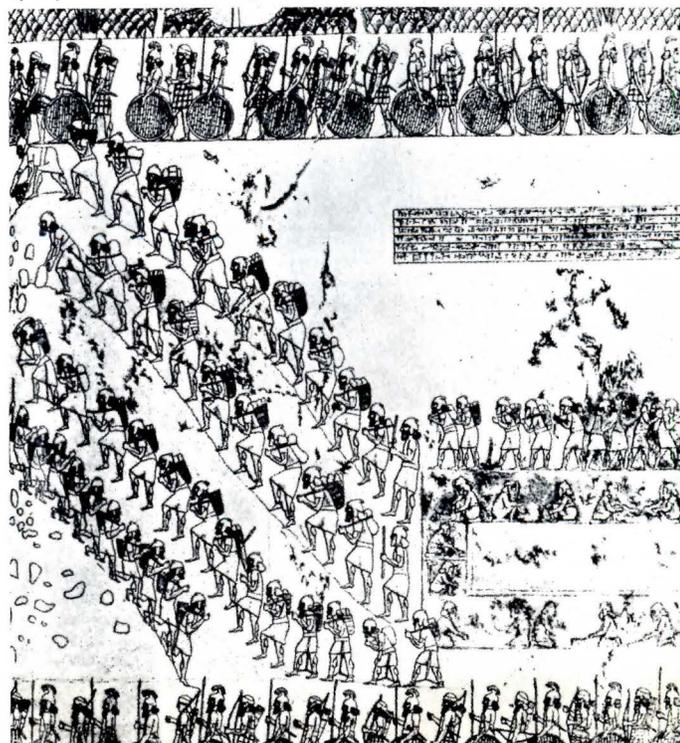
the Renaissance, attempts, first of all, to demonstrate explicitly, that man is not rightly assigned the taxonomy *Homo faber* (which might be translated "Man the Maker of Useful — or at least Clever — Things"); secondly, that such a designation belittles him; and thirdly, that man's material progress has sometimes been attained at a terrible price in terms of the quality of his way of life.

As to the *Homo faber* issue, Mumford claims that anthropologists, blinded by the Victorian doctrine of progress, have not only ignored certain kinds of early technical accomplishments where they existed, but, much worse, have committed the gross oversight of failing to realize that man's greatest artifact has been none other than man himself: that his fertile mind, growing more powerful and versatile, has been able to create cultures, acquire manners, conceive myths, compose poetry, communicate ideas, speculate on the nature of existence, and, incidentally, to invent the instruments and methods that would give him greater leisure and more comfort. Mumford asserts that a language or a style of painting may be a

great invention in its own right, and that an absence of flush toilets or even wheels is not necessarily a sign of sloth and stodge in a culture but perhaps an emphasis on values other than our own. One aspect of the first — "anthropological" — half of the book, which carries over into the second — "historical" — half, is the negative side of the mind: its capacity for vanity, for wishful thinking, for the creation of myths that express dangerous fantasies that can be given the semblance of reality only through force. Although specific mention of this inward danger comes early in the book, it seems to find its truest expression in the second half. And, to introduce this half properly, description of Mumford's "machine" is necessary.

To most of us, "the machine" as a figure of speech refers to the technology of modern times, characterized by the sort of prime mover that can be set in motion anywhere, anytime, by the opening of a valve or the flicking of a switch. But Mumford, just as he expands the commonly accepted list of primitive technical accomplishments to include the feminine container as well as the masculine tool, here expands the concept of the machine to include any system in which a number of elements, impelled by a force outside themselves, act in coordination to attain an end beyond themselves. These elements may be mechanical parts, but they may also be human beings, functionaries and laborers from whom neither comprehensive understanding nor free consent is expected. If Mumford uses anthropology to demonstrate that *Homo faber* is only half a man, he uses ancient history to show that a machine need not contain machinery. The evolution of "prehistoric" man into ancient man (Egyptian or

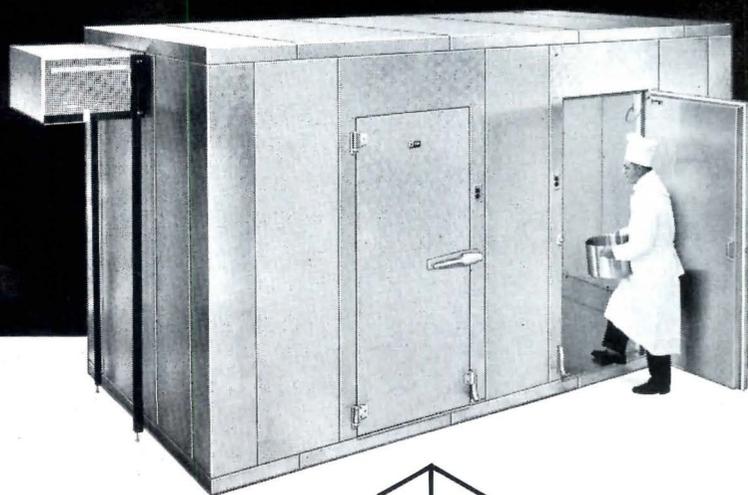
*Megamachines in Action: Assyrians building a mound for the erection of a palace. From The Myth of the Machine.*



*Continued on page 152*



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*Continued from page 150*

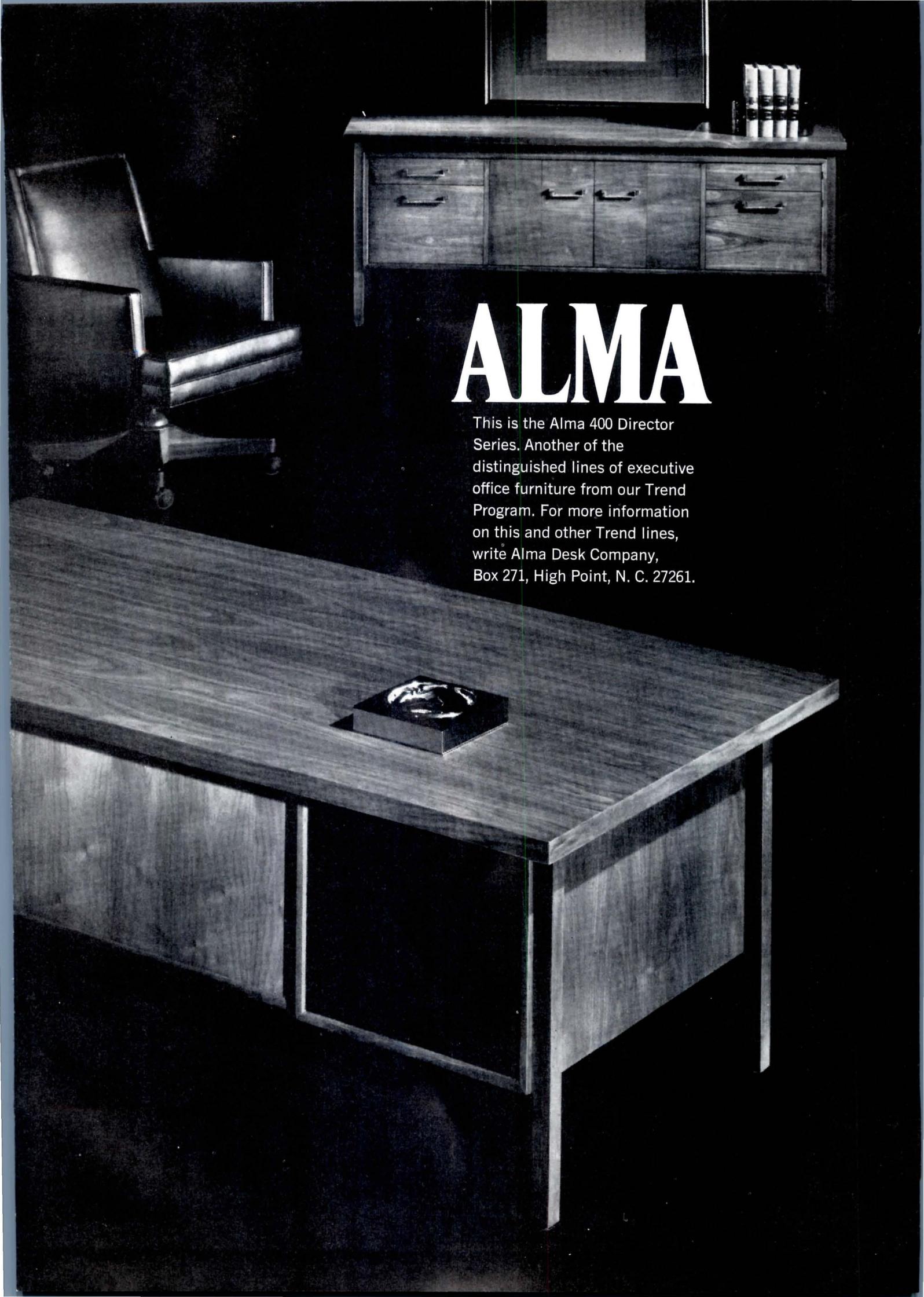
Mesopotamian) is one of increasing collectivization that tames nature somewhat and reduces the absoluteness of the grasp that blind chance has on human affairs, but that also reduces individuals to conscripts whose allegiance is to the egos of the sovereign and his priests, who are mythically allied with the forces that make the crops fertile and keep the hostile outside elements—including foreign nations—at bay. In a Mumfordian interpretation of history, parallels with our own condition are obvious. Substitute most modern generals and some modern scientists for these ancient kings and priests, and there you are.

Being neither an historian nor an anthropologist, this writer has no set opinion on Mumford's conclusions as to what actually happened 'way back then. But what we are dealing with here is an inspirational message, really, which appears in the guise of a work of history. Indeed, Mumford repeatedly admits that he is interested in substantiating the values he holds to be sound and in showing the ill effects of ignoring those values. What the reader has to decide—beyond the questions of what certain fractured skulls mean or whether a political organization (royal Assyrian, not American municipal) can rightly be termed a machine—is whether or not long life, comfort, health, and communal security are going to be the considerations that dominate the whole of his life and that ought to dominate the whole of his culture, so that anything that promotes them must be encouraged at any expense. Mumford's fear is that, in the interest of such considerations, we may turn into a militaristic or industrialized ant colony, and that the warm and fertile human mind may atrophy as a result. Like many "concerned" people, he may be inclined to imagine irreconcilable conflicts between sets of values, or between the things that serve some sets of values and not other sets of values. Mumford has voiced his fear of the dehumanizing influence symbolized by systems analysts, even though these experts often protest that they are greatly concerned with human values and the liberty of the individual.

Ultimately, of course, each individual must judge for himself, pick his own values, decide on what will work for or against him. In any case, this is a vividly interesting book, not because it is history but because it is Mumford—as ever, a person with something to say and a way of his own of saying it.

*Continued on page 164*

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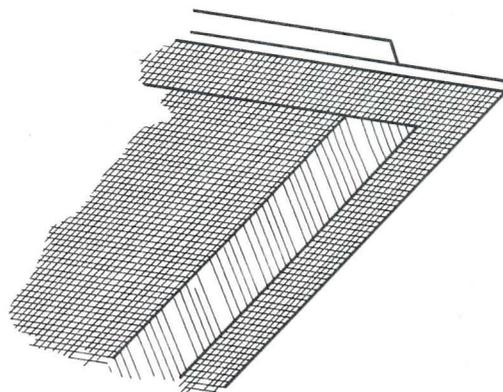
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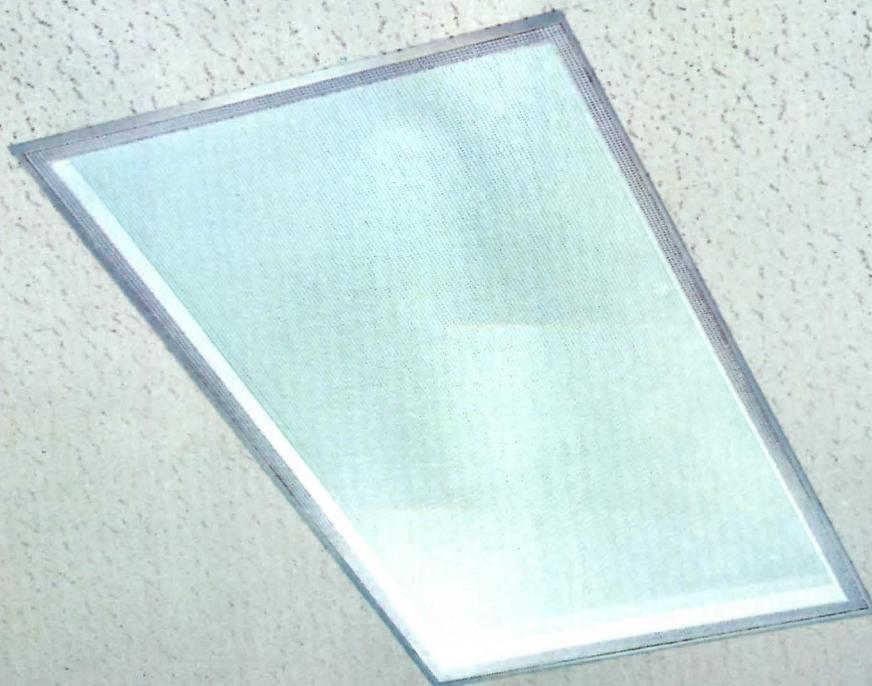
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Continued from page 152

### Three in One

BY SANDRA BLUTMAN

A HISTORY OF ENGLISH ARCHITECTURE. By Peter Kidson, Peter Murray, and Paul Thompson. Penguin Books Inc., 30 W. 55th St., New York, N.Y. 10019, 1967. 352 pp., illus., \$2.45. The reviewer is a postgraduate student at the Courtauld Institute of Art, London, England, writing a thesis under Sir John Summerson on English 18th- and 19th-Century country house architecture.

This book consists of three sections by three different authors: Peter Kidson on Medieval Architecture, Peter Murray on the 17th and 18th Centuries, and Paul Thompson on 19th- and 20th-Century architecture. The first two sections appeared together under the same title five years ago. Only the section on Victorian and modern architecture is new. The book suffers from the flaws of most surveys of its type. As a general introduction to English architecture, it may be useful. For anyone searching for a stimulating and analytical discussion of the subject on a more advanced level, it is a disappointment.

Peter Kidson contributes a competent and useful discussion of architecture in England from the Anglo-Saxon period to the end of the Middle Ages. The allotment of 138 pages for a thousand years has meant that much of the material has, of necessity, been compressed. Yet all the basic material is presented in a readable, complete, no-nonsense way, beginning with Anglo-Saxon buildings, such as the churches at Brixworth and Earls Barton, progressing to the Norman of Ely and Durham, and then to the development of the English Gothic through Canterbury, Wells, Lincoln, Salisbury, Westminster and Gloucester. Important buildings are analyzed in sufficient detail to make their significance readily apparent, and sufficient lesser examples are given to whet the appetite of the reader anxious to pursue general trends in more detail. Sadly, only a few pages are devoted to the extremely interesting characteristics of medieval domestic architecture.

Peter Murray's section begins with Tudor domestic building, discussing and illustrating such crucial works as Hampton Court, Longleat, Wollaton, Hardwick, and Hatfield. He then moves on to Inigo Jones, Pratt and Webb, and then to Wren, discussing in detail the design for St. Paul's Cathedral. Unfortunately, there is little space left over for the fascinating creations of Hawksmoor and

Continued on page 176

DECEMBER 1967 P/A

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# Ceramic tile lends carefree warmth to an unusual circular home by John Nyberg.



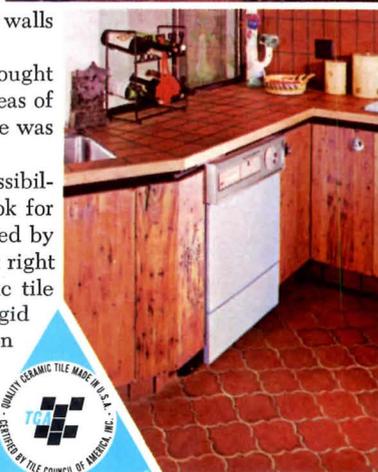
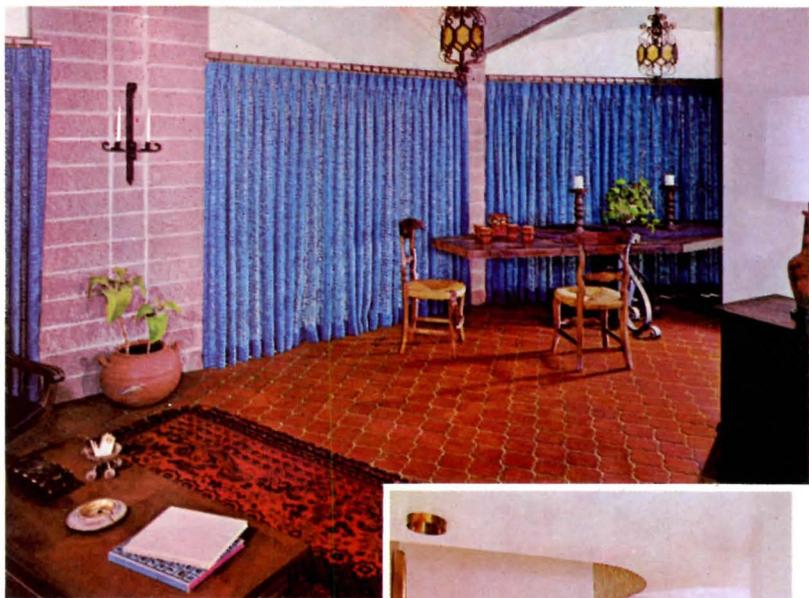
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Continued from page 164

Vanbrugh and the other architects of the "English Baroque." We are whisked onward to Gibbs, the Burlington-Kent Palladians, and to Adam and Chambers. The buildings Dr. Murray discusses and illustrates are the familiar ones: Chiswick, Somerset House, Kedleston, Osterley, Strawberry Hill and Fonthill Abbey are all duly served up. The text is frequently infuriating for its repetition of the standard generalizations, some of which seem rather out of date. We are told that "Wyatt was little more than an imitator of Robert Adam," an unfair (and untrue) assessment of an architect

whose great versatility and skill has been underrated because of his dilatory professional conduct. Surely the picturesque and romantic Wyatt of Belvoir and Ashridge deserves some appreciation alongside Dr. Murray's implied disapproval of the fantastic Fonthill. The section concludes with Holland, Soane and Nash, again with the most obvious buildings chosen to illustrate the basic points.

Paul Thompson has been permitted only 62 pages in which to discuss 19th- and 20th-Century architecture. He begins soundly by attempting an explanation of the social changes that underlie the architectural production of the 19th Cen-

tury. However, his discussion of actual buildings is somewhat odd. First comes a rehash of the "functionalism" of Victorian warehouses, bridges, and industrial buildings, followed by Queen Anne domestic architecture and the Victorian classicism of men like Barry and Cockerell. When he gets to church architecture, Dr. Thompson is unable to sift out the dross to concentrate on a few buildings that could be chosen to illustrate the originality and philosophy of the most difficult phase of the Gothic Revival. Instead, he is content to focus on the individuality of a large number of men and the chapter ends up a frantic and fragmented catalog. No coherent synthesis emerges.

Modern architecture fares even less well. The section on Voysey and Mackintosh is hopelessly scanty, yet space is found to list no fewer than four churches by the obscure Temple Moore. As for more recent modern architecture, the attempt to unearth English buildings that are significant for the development of international modern architecture is almost pathetic. What emerges is simply the tail-end of the style created in the 20's by Mies, Gropius, and Le Corbusier as it occurs in isolated and generally inferior English examples. A large number of names and places are mentioned, but one finishes with a sense of confusion rather than understanding.

Throughout the book, the quality and quantity of illustrations deserve praise. The inclusion of plans in Dr. Murray's section is particularly helpful. As a broad survey of English architecture, the first two sections are useful and may be relied upon for an accurate idea of what English architecture is all about. Dr. Thompson's section, however, is less reliable and might at best confuse and at worst mislead the average reader, for whom the book is intended.

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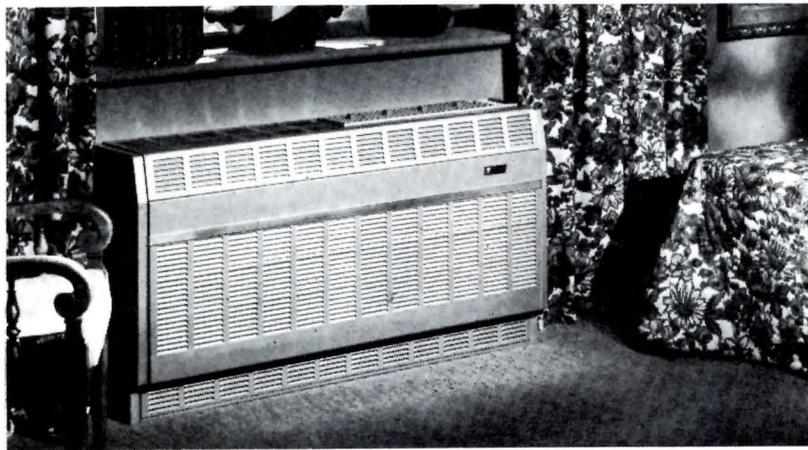
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*Continued on page 190*



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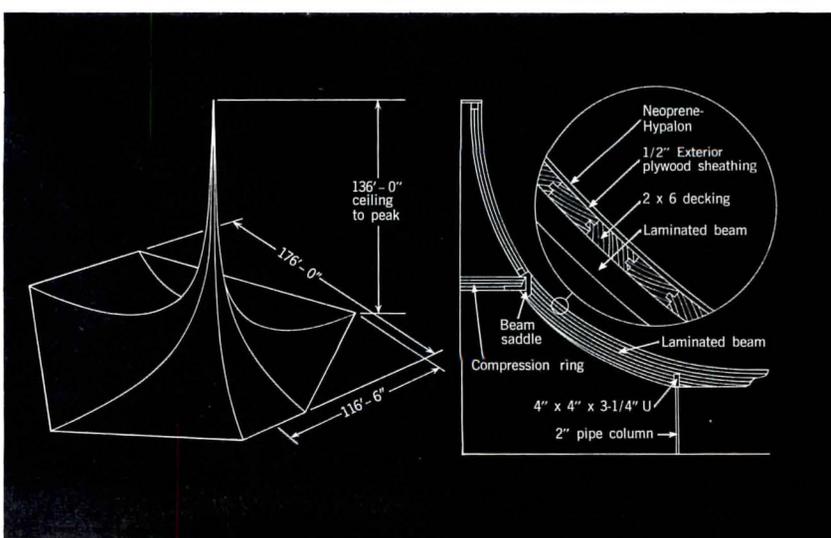
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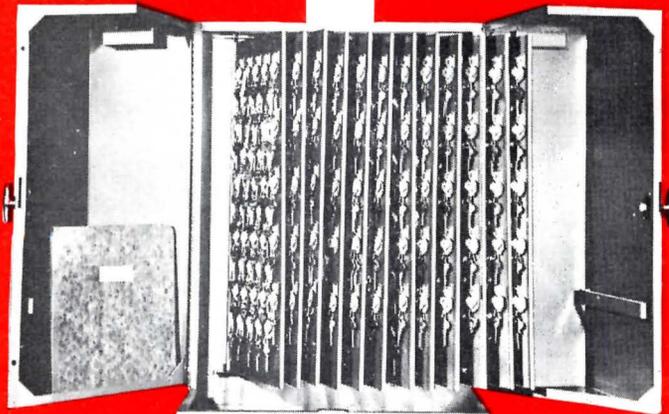


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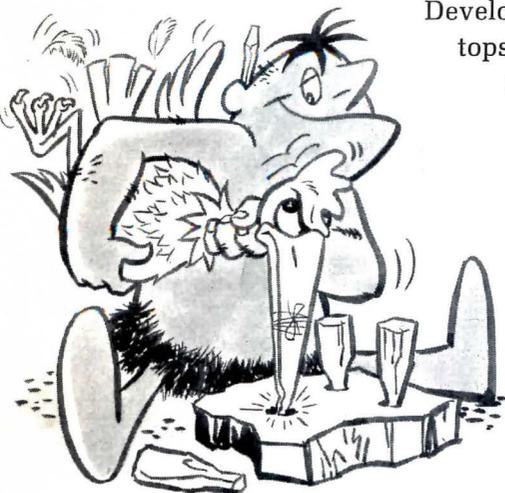
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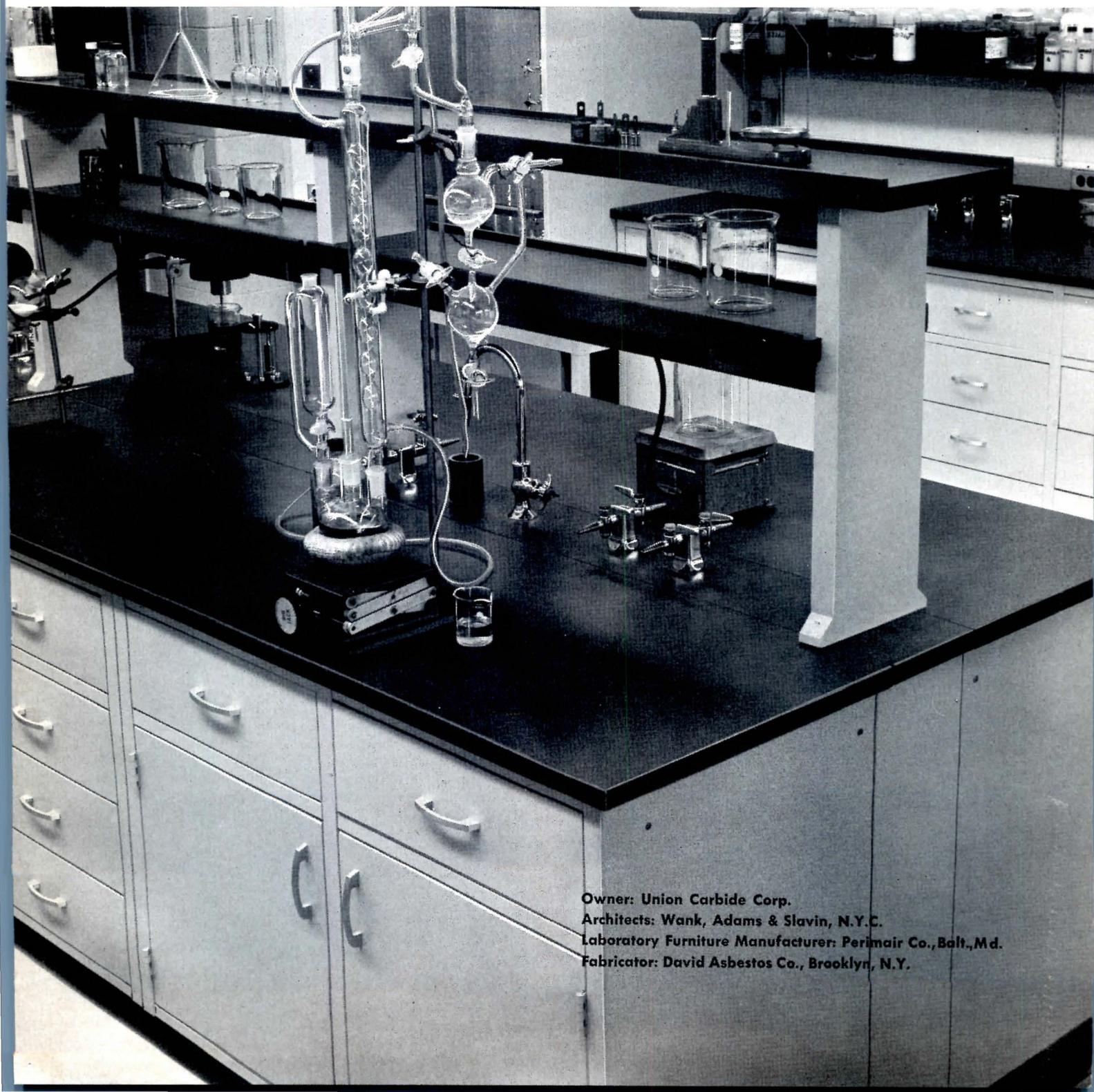
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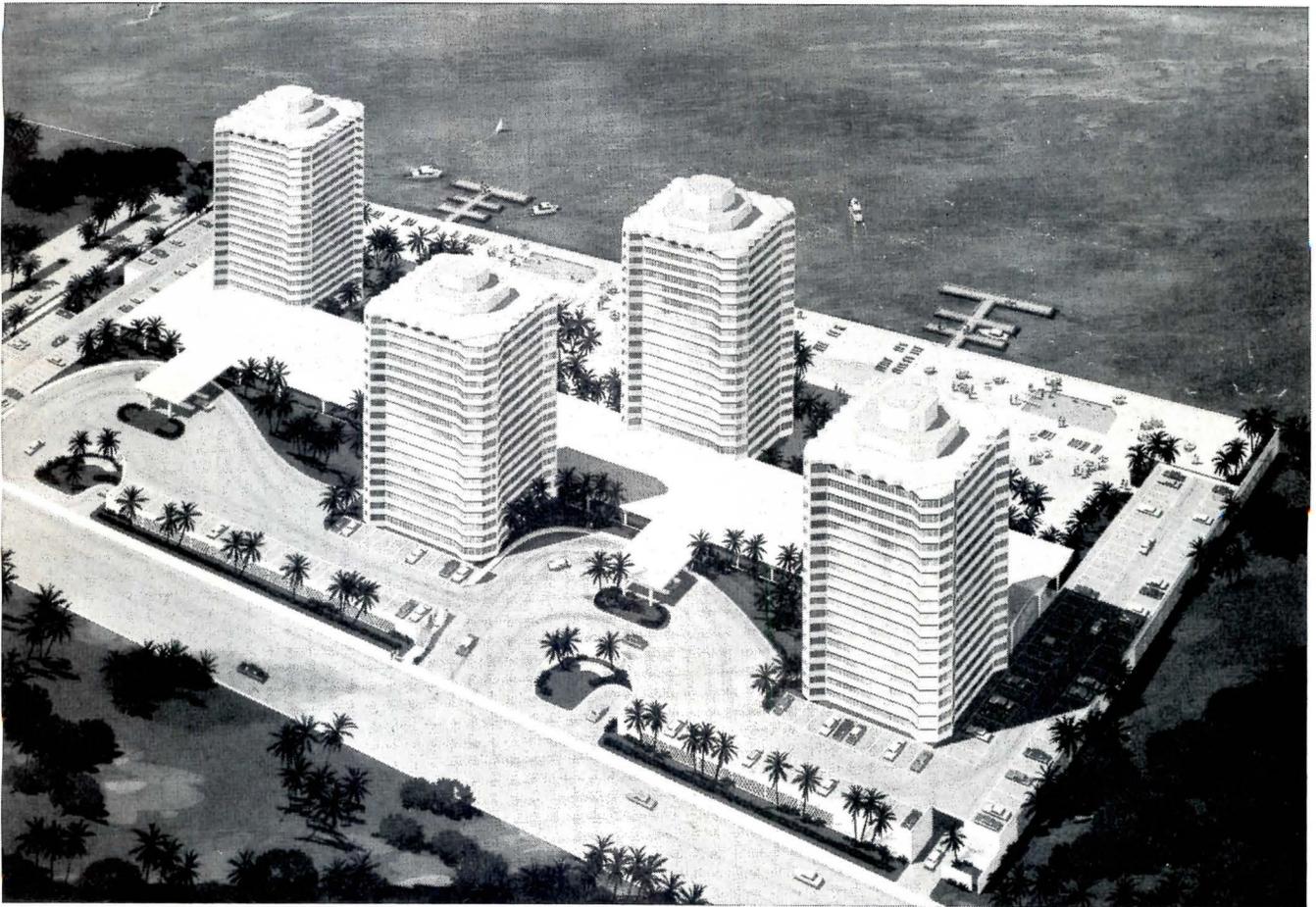
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