



Tenth Annual Design Awards



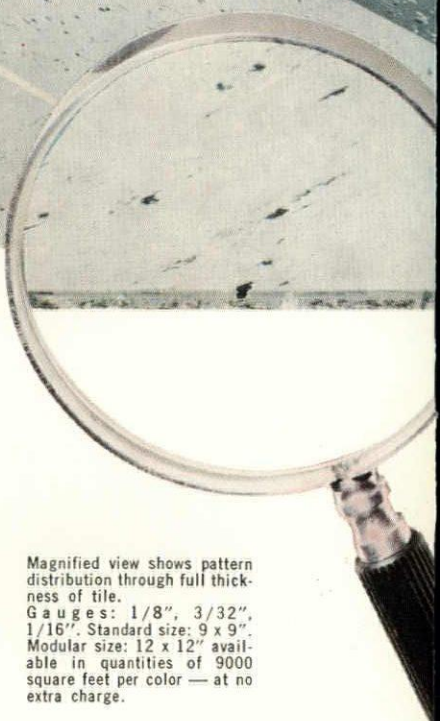


Colors: V-815 San Marino, V-817 Adriatic with white feature strip

Vina-Lux® **800** *Series*

unique floor beauty that won't "walk off"...

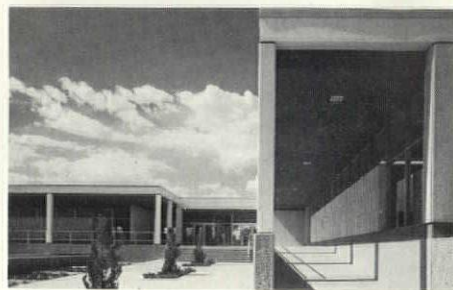
... because the distinctive color-chip pattern is distributed through the full thickness of the tile. 800 Series in Vina-Lux vinyl asbestos tile retains its beauty and pattern under the heaviest concentrations of traffic... delivers so much more value and performance than surface patterns... yet costs no more. Specify Vina-Lux 800 Series, for installation over concrete — above, on or below grade, or over wood or plywood subfloors. Consult Sweet's Catalog — or let us send you samples, color charts and detailed architectural specifications. Azrock Floor Products Division, Uvalde Rock Asphalt Company, 521-A, Frost Building, San Antonio.



Magnified view shows pattern distribution through full thickness of tile.
Gauges: 1/8", 3/32", 1/16". Standard size: 9 x 9".
Modular size: 12 x 12" available in quantities of 9000 square feet per color — at no extra charge.

an exclusive styling by **AZROCK**®

For more information, turn to Reader Service card, circle No. 303



Tucson City Hall, Arizona. *Architects:* Friedman & Jobusch, Tucson. *Mechanical Engineer:* John Paul Jones, Tucson. *General Contractor:* The Ashton Co., Inc., Tucson. *Acoustical Cont.:* Babby Building Specialties, Inc., Tucson.

Year round, Armstrong Ventilating Ceilings distribute air through Tucson City Hall; are fire-retardant, acoustical, too

Needing no diffusers and only short supply-air ducts, the Armstrong Ventilating Ceiling system is a simple and highly efficient method of distributing conditioned air. At the same time, the ceiling presents an uncluttered, monolithic appearance. Tucson City Hall clearly demonstrates both these advantages. The cool comfort of this building throughout Arizona's hot summer demonstrates how effective the Armstrong system is. The ceiling offers excellent sound absorption, too; and being a Ventilating Fire Guard Ceiling, it meets the local code's requirement for three-hour fire protection. This alone saved Tucson \$10,700, by eliminating the need for intermediate fire protection. For more information, contact your Armstrong Acoustical Contractor or Armstrong District Office, or write Armstrong, 4201 Watson Street, Lancaster, Pa.

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and build for keeps—with Dur-o-wal

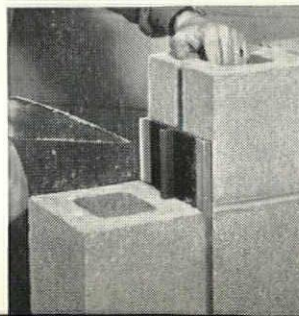
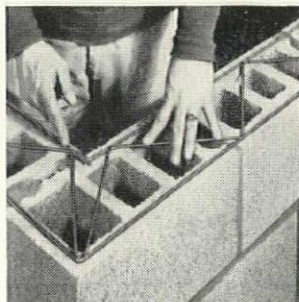
Not how cheap, but how long until the wall needs costly repairs? That's the question if you really want to get the most for your building dollar. It's the reason why Dur-o-wal masonry wall reinforcement is specified throughout the continent. Dur-o-wal can more than double flexural wall strength and, when used in lieu of brick headers for composite masonry walls, increases compressive strength several times over. Years—which more than make up for the initial cost of Dur-o-wal—are added to masonry wall life. Please pass the evidence? Write to nearest address below for new comprehensive Dur-o-wal data file.

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The Original Masonry Wall Reinforcement with the Truss Design

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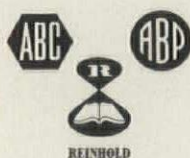
Strength with flexibility—the two basic factors for a repair-free masonry wall are assured by these engineered companion products. Dur-o-wal reinforcement, top left, increases flexural strength 71 to 261 per cent, depending on weight Dur-o-wal, number of courses, type of mortar. The ready-made Rapid Control Joint, beneath, with its neoprene compound flange, flexes with the wall, keeps itself sealed tight.

THIS MONTH IN P/A

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VOLUME XLIV, No. 1



Cover REINHOLD PUBLISHING CORPORATION SEALS

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(Photo: Robert Lawrence Pastner)

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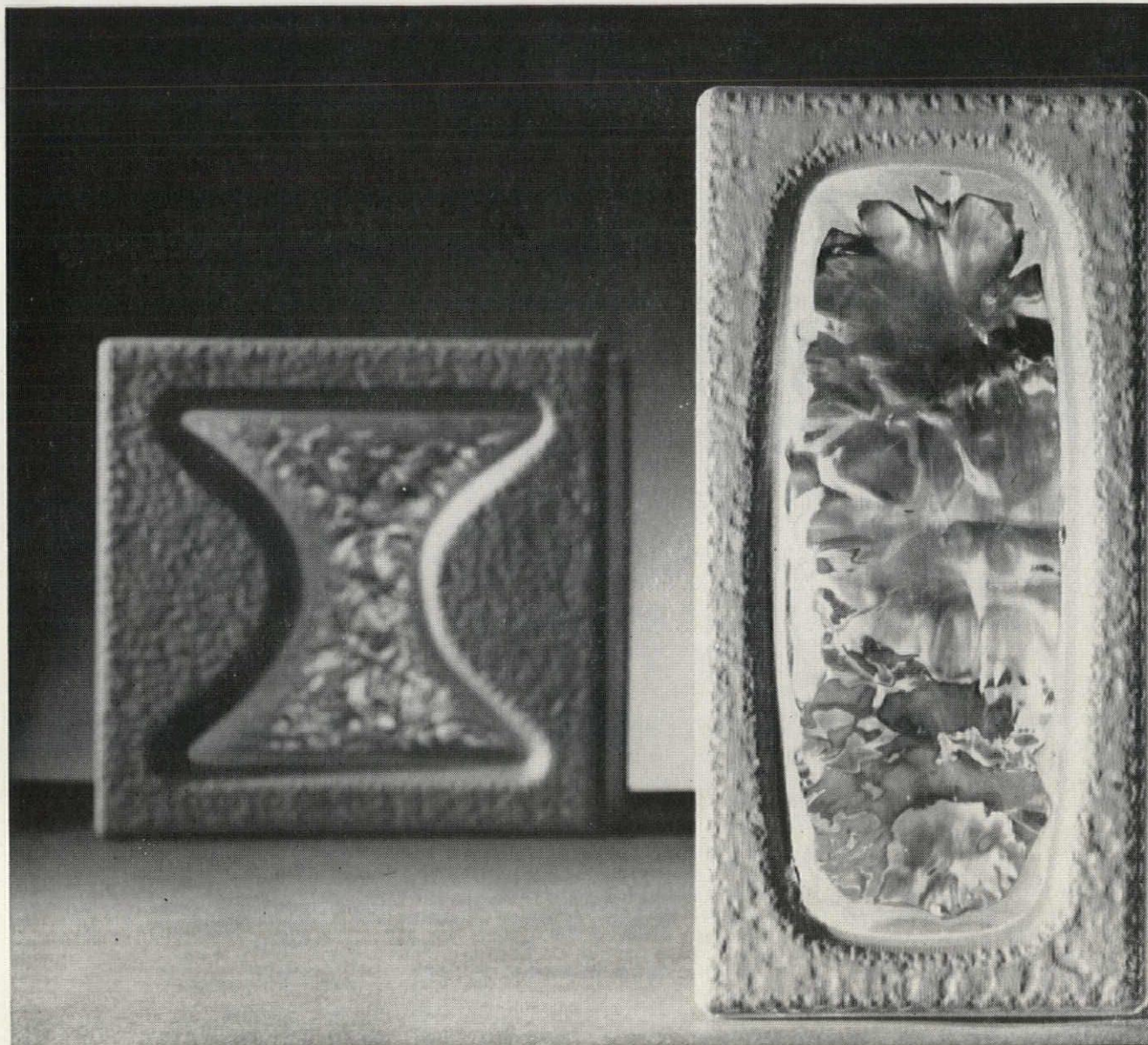
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Think of the ideal wall for today's buildings. Take the grace of the grill. Add the classic benefits of glass. Blend the two in one material. *Now you've got INTAGLIO*, new all-glass wall units by Pittsburgh Corning... three 8 x 8 x 4" units and one unit 4 x 8 x 4". Each combines in a single, integral unit—on both faces—the graceful, pierced pattern of the grill; the beauty of artfully antiqued glass; the texture of masonry; and the visual, thermal, acoustical properties of double glazing. One material, one unit does it all. One trade installs it in a single operation.

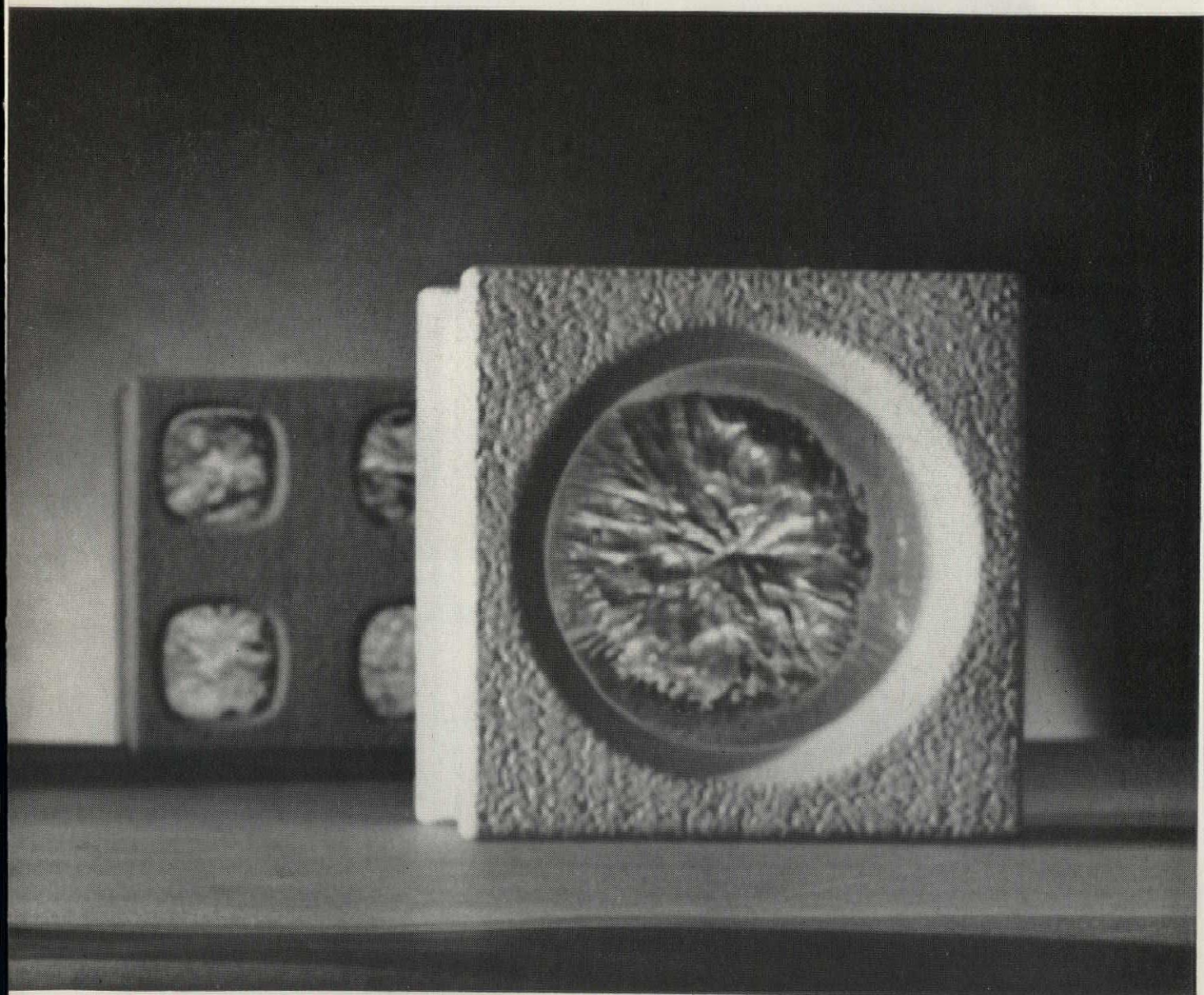
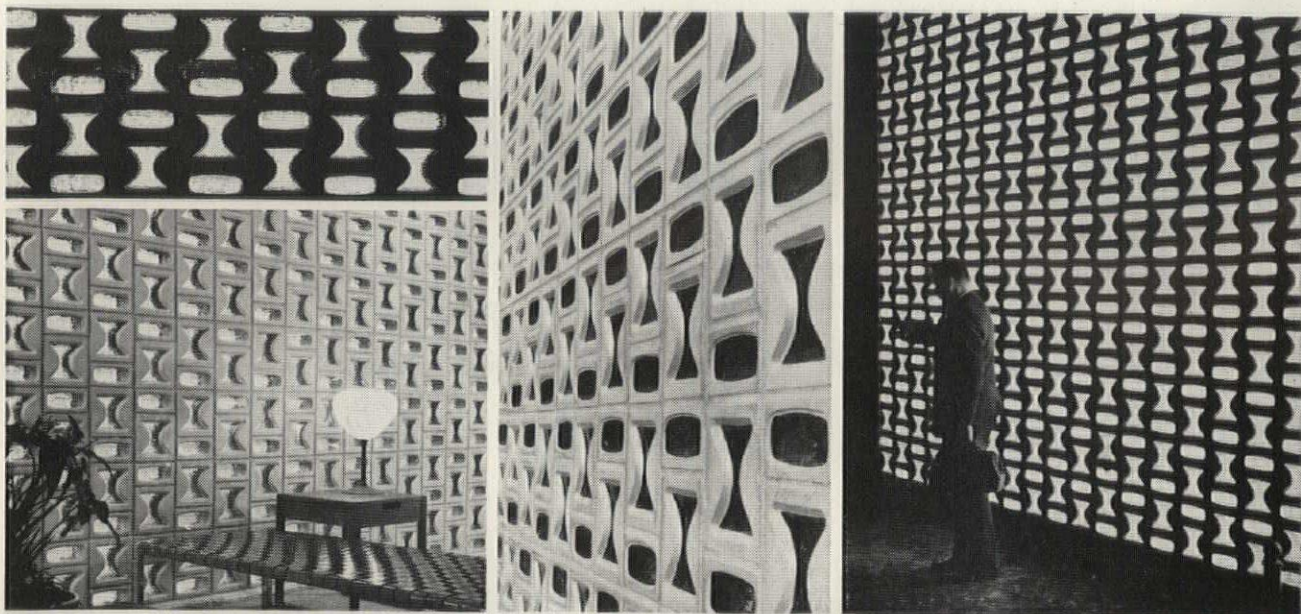
The wall is finished inside and out.

The exciting design possibilities are endless.

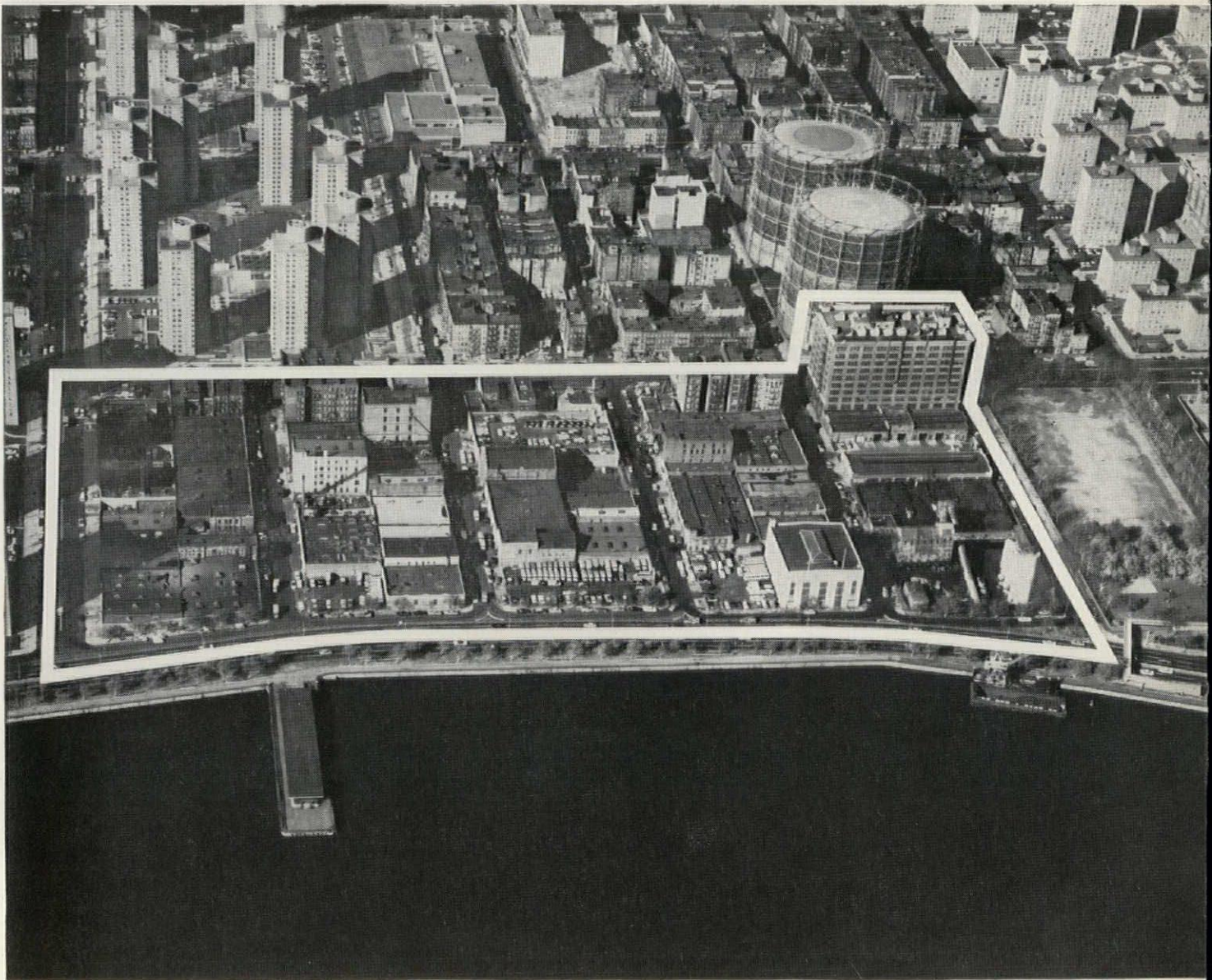
Let us send you sketches showing just a few... along with complete product details. Write for our new INTAGLIO brochure. *Pittsburgh Corning Corporation, Dept. IP-13, One Gateway Center, Pittsburgh 22, Pa. Distributed by the Pittsburgh Plate Glass Co., and independent distributors.*



Seen above left to right are INTAGLIO designs II, I, IV, III



A CHALLENGE AND NEW YORK'S EAST RIVER



The East River Urban Renewal Area is bounded by East 106th Street, the Franklin Delano Roosevelt Drive, East 111th Street and First Avenue. It contains 22.2 acres. The solution will be based on creative provision for middle income housing, integrated with necessary schools, retail shopping, including development of river front and other facilities for recreation.

OPPORTUNITY TO DESIGN URBAN RENEWAL PROJECT

in the 5th ANNUAL \$25,000 RUBEROID DESIGN COMPETITION

The winning concept will receive primary consideration by the City of New York Housing and Redevelopment Board and Project Sponsor for use in construction.

The subject of the 5th Annual Ruberoid Competition will be the design of the East River Urban Renewal area, a project of the Housing and Redevelopment Board of New York City now ready for planning. The Competition will offer a total of sixteen prizes, nine open to all entrants with a grand prize of \$10,000 and seven for students only, with a first prize of \$2,000.

Adding an exciting new dimension to the Competition is the fact that the Housing and Redevelopment Board will consider the winning concept for adoption and selection of the winning architect in the execution of the project.

A prospectus containing the complete program eligibility rules, etc. is available on request. It has

been approved by the A.I.A. Committee on Awards and Competitions.

The Competition will be judged by a jury of distinguished architects and city planners with Mr. B. Sumner Gruzen, F.A.I.A., Kelly & Gruzen, New York as Professional Advisor.

For a prospectus containing full details, send the coupon.

The RUBEROID Co. Dept. 204
P.O. Box 129, New York 46, N. Y.

I intend to enter the Fifth Annual Design Competition.
Please send me a copy of the program.

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Address _____

City _____ Zone _____ State _____

Entrants are requested to register prior to May 15, 1963
Competition closes June 29, 1963

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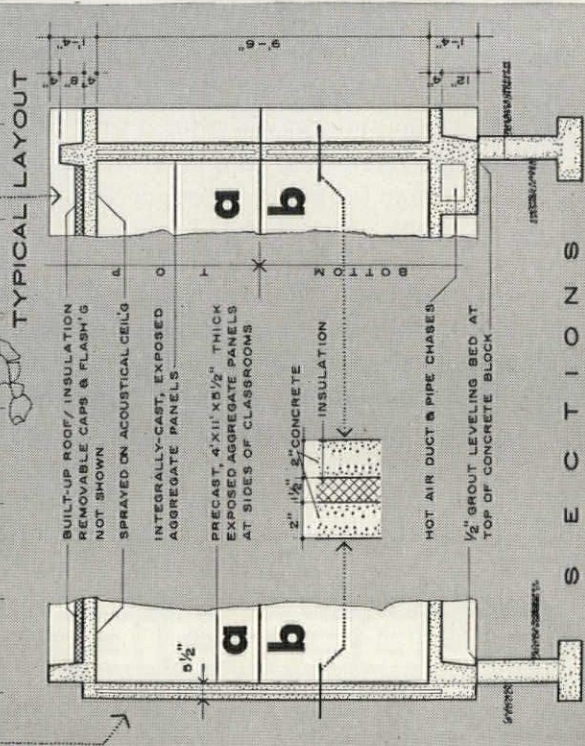
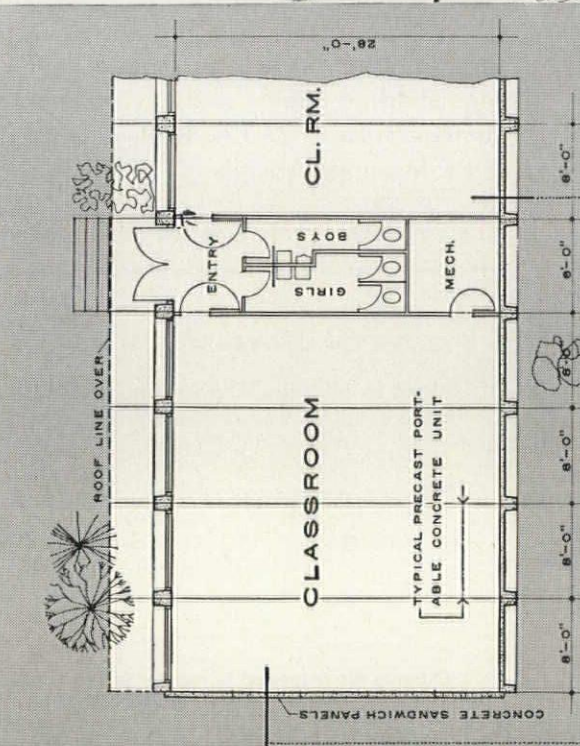
The RUBEROID Co., 733 Third Ave., New York 17, N. Y.
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demountable classroom

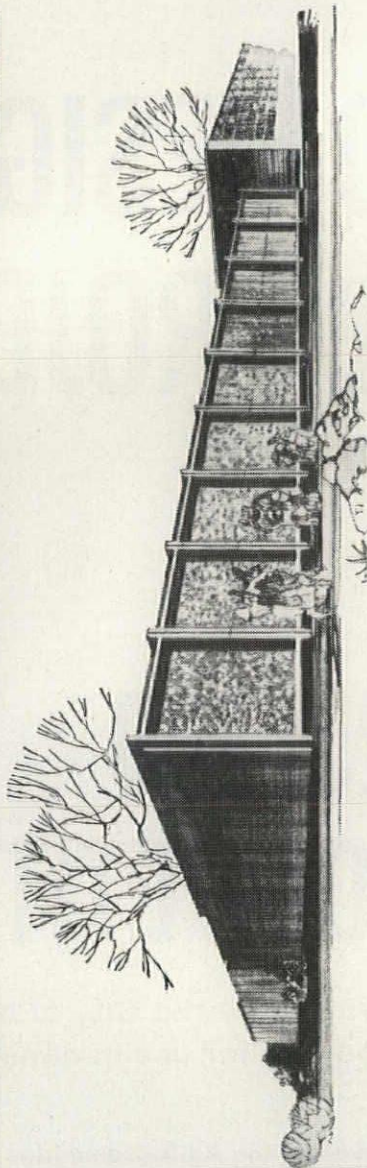
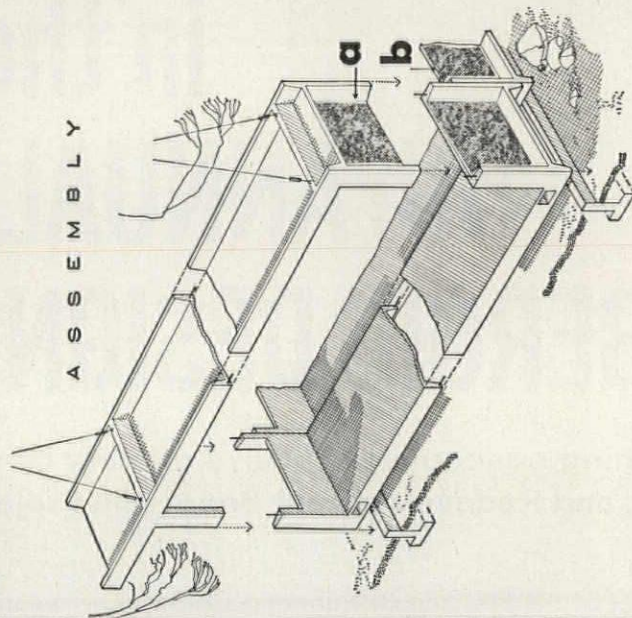
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Prepared as a service to architects by Portland Cement Association

Clip along dotted line



ASSEMBLY



Pittsburgh Architects: John Pekruhn, A.I.A., Deeter and Ritchey, A.I.A., and Laurence & Anthony Wolfe, A.I.A.
Consulting Structural Engineer: R. A. Zern, Pittsburgh

Entire classrooms precast in concrete make up the new addition to the Homewood Elementary School, Pittsburgh, Pa. The design brings beauty, extra utility and easy upkeep to what is usually a "temporary" type of construction. Moreover, a degree of portability is achieved which allows future transportation to another site at very nominal cost.

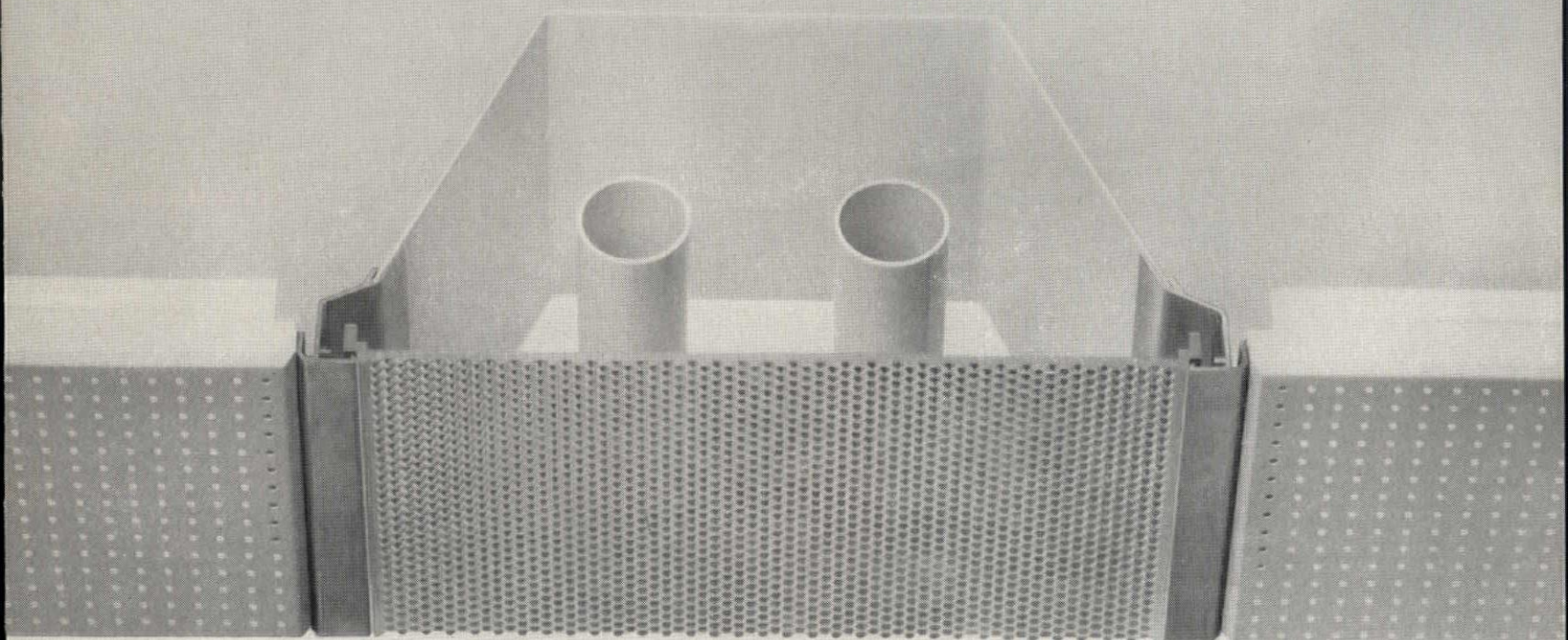
The concrete segments—each 8' wide by 28' long—include a roof or floor section combined with half of each side wall. The precast units were designed for mass production and contain all the essentials of classroom planning. Air ducts, concealed conduits and pipe chases provide a finished room without unsightly exposed utilities.

Oriented to enclosed, planted playgrounds, the structure is completed by a street facade of integrally cast exposed aggregate panels that enhance aesthetic values... keep out dust and noise... discourage vandalism.

PORTLAND CEMENT ASSOCIATION

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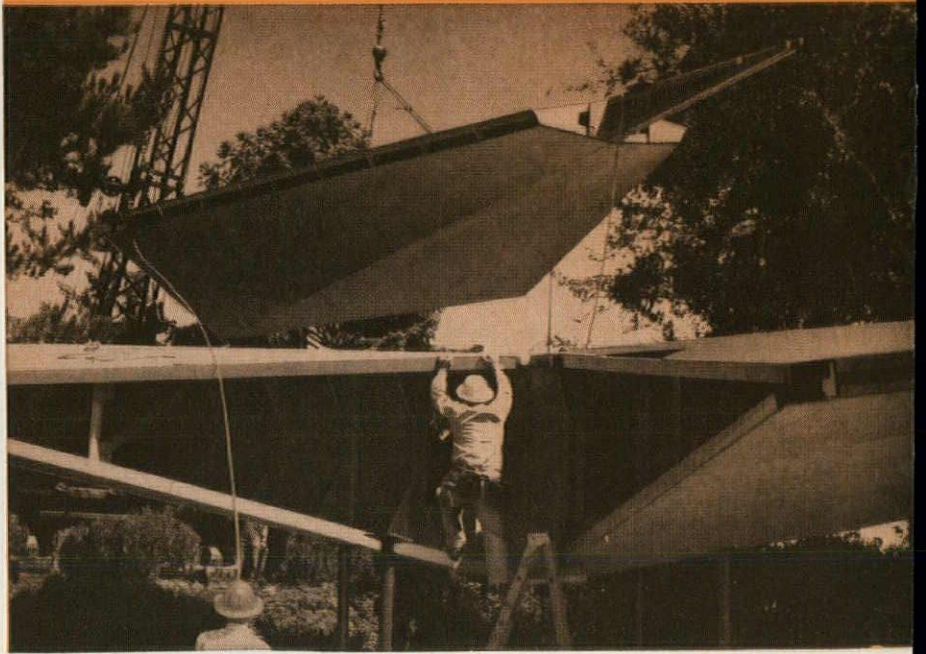
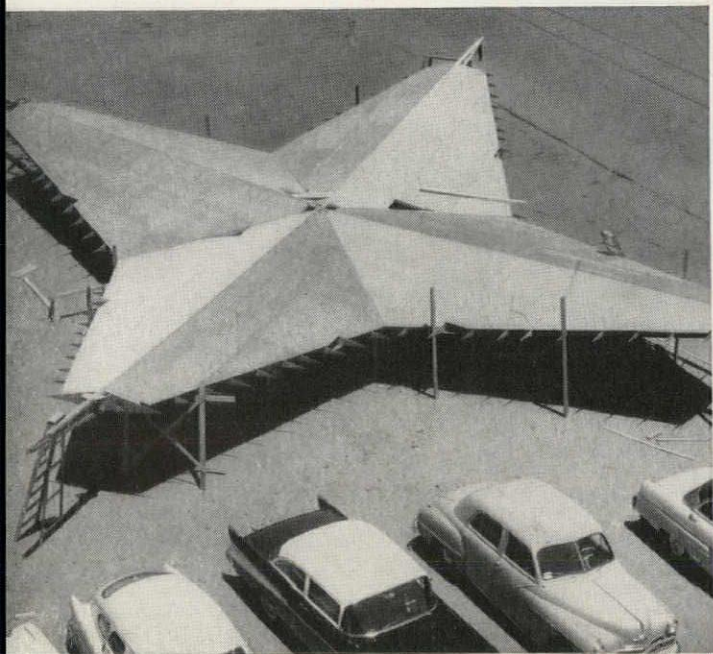
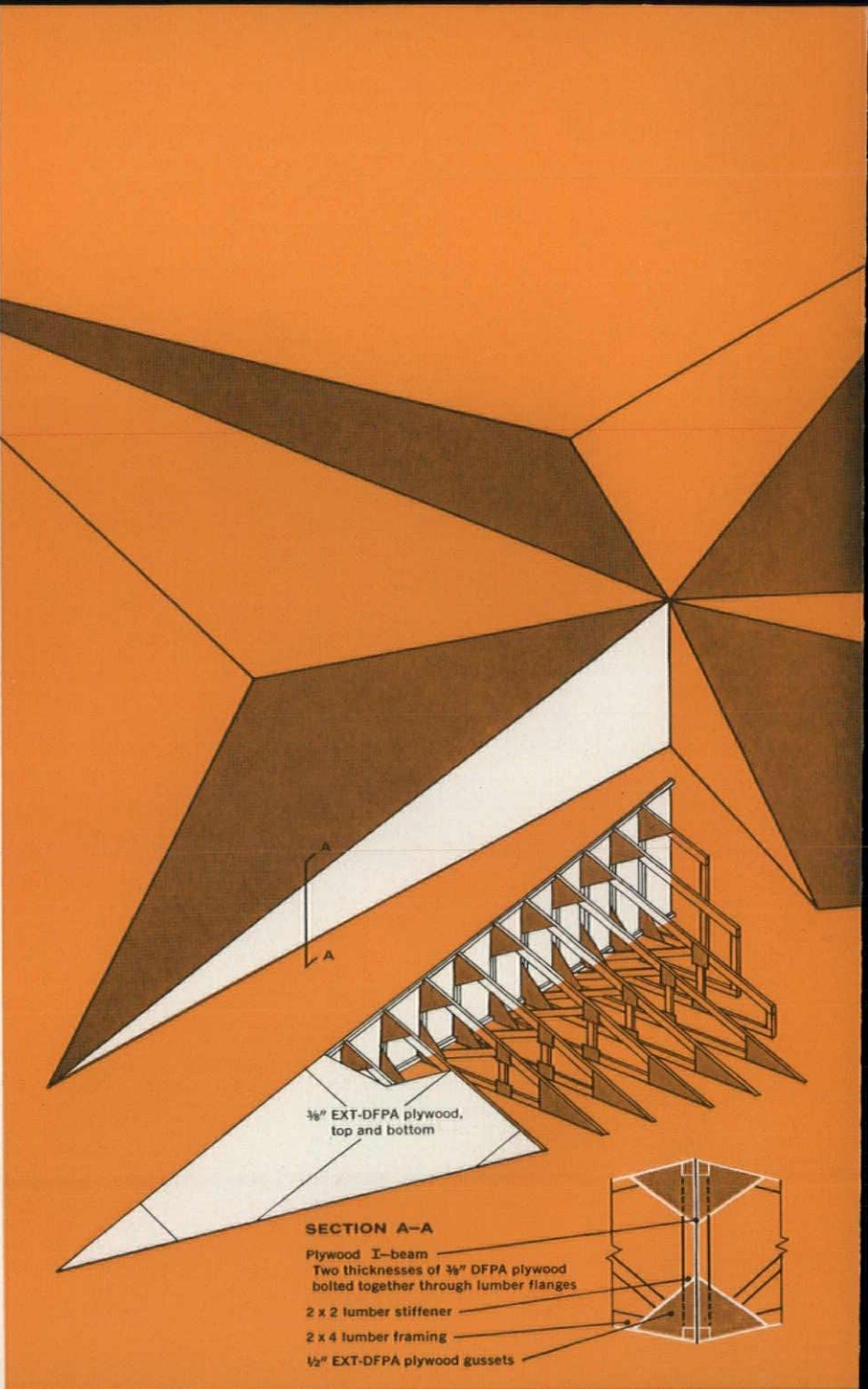
A national organization to improve and extend the uses of concrete

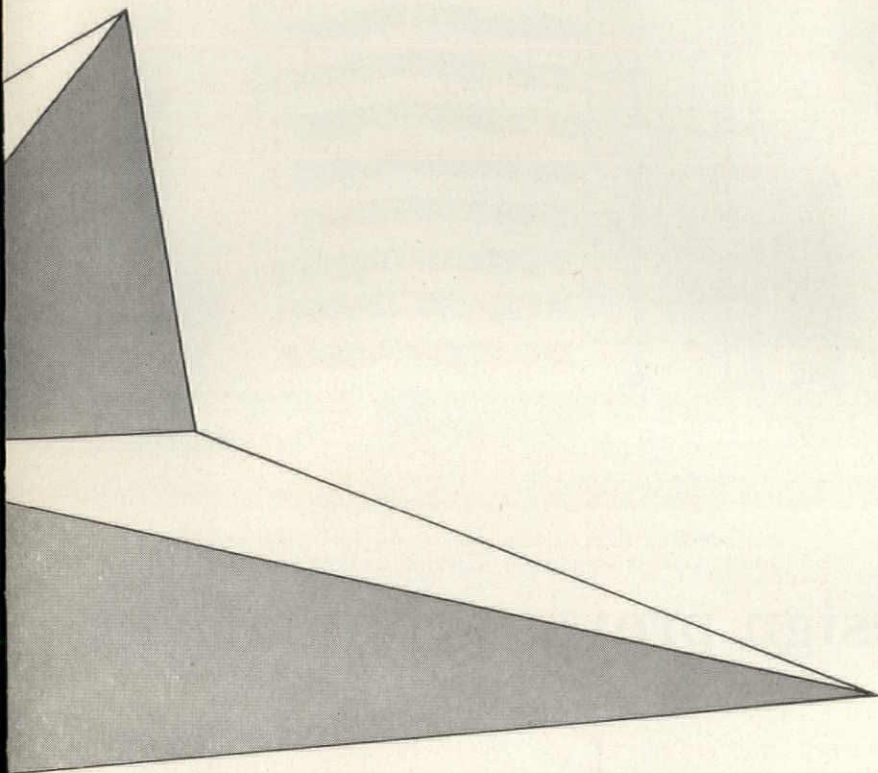


Another new troffer design? No one will know the difference. This is so often said regarding subtle details. And yet, it is this difference that counts. It is this difference, this excellence of detail, that gives good architecture the mark of quality, and Gotham's troffer (shown as a section mock-up above) has the refinements that can contribute to any architectural excellence. A contract for 16,500 of these units, installed in the New York Life Building, NYC, has just been completed. If you have a chance, go and see it. If you can't, write to us for data: **Gotham Lighting Corporation**
37-01 Thirty-first Street, Long Island City, NY*

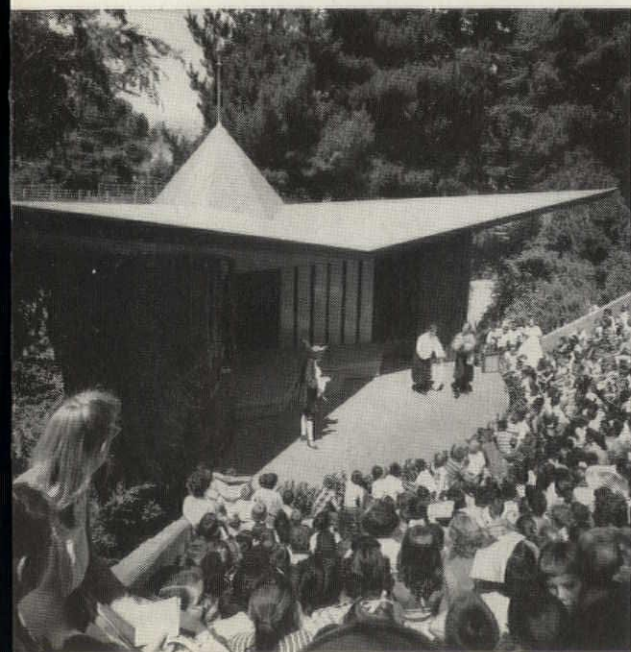
*RECESSED TROFFERS AVAILABLE IN 1'x4', 2'x2' AND 2'x4' MODULES.

Arroyo Viejo Children's Theater, Oakland, Calif.
 Architect: Irwin Luckman
 Fabricator: Berkeley Plywood Co.
 Bullder: Karl Ronkvist





the most exciting ideas take shape in fir plywood



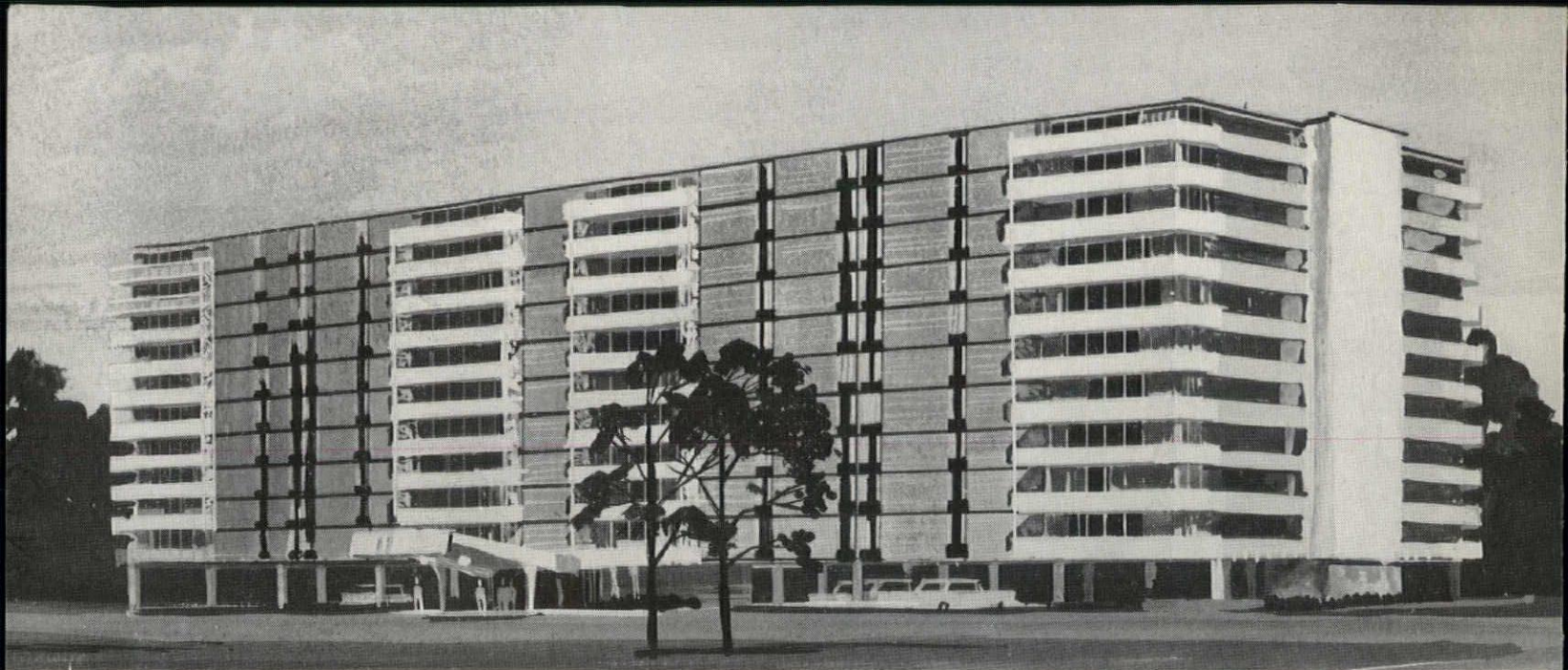
THIS INGENIOUS STAR-SHAPED ROOF demonstrates the remarkable structural forms that can be achieved with plywood. Deceptively simple, the design bears more resemblance to airplane wings than a conventional roof, with interacting plywood and lightweight lumber members forming skeleton and structural skin.

Four plywood I-beams radiate from the center to form the spines of the 22 x 38-foot wings. Trusses cantilever off both sides of the beams and plywood skins form a rigid diaphragm that provides structural integrity for the entire assembly. The roof is supported by only eight steel columns. Components were temporarily bolted together by the fabricator to check tolerances, then trucked to the site for installation.

For further information on plywood and other new plywood structural systems, including folded plates, space planes, Delta structures, components, etc., write (USA only) Douglas Fir Plywood Association, Tacoma 2, Washington.



ALWAYS SPECIFY BY
DFPA TRADEMARKS



Owner-Builder: BCH Construction Corporation; architect-engineer: Backus, Crane & Love; steelwork: Bethlehem Steel Company.

“Goal post” steel design proves economical

The new apartment building at 1217 Delaware Avenue, Buffalo, is slated for occupancy early in the year. About 190 ft long and 60 ft wide, it has ten floors, eight apartments to a floor, each with a balcony. It will be a very snazzy place to live. But very few of the tenants are likely to appreciate the *really* remarkable things about this building.

Consider: the design problem was to plan a sizable building, with ample landscaped grounds, on a sloping lot only 132 ft wide and totalling less than an acre. To save space and to avoid unsightly parking lots, the design was to provide for parking *under* the building. It was also important to provide a maximum of column-free floor space. **HERE'S HOW THEY DID IT:** First, they designed a steel frame with only two rows of eleven columns each, 35 ft on centers. Column spacing was dictated in part by parking requirements at grade level. The columns themselves are unique. They are made up of two wide-flange sections, shop-welded flange-to-flange. Openings were cut through the webs to permit the extension of the main floor girders, which cantilever out a minimum of 7 ft (15 ft where they support balconies), and function as continuous beams.

So, aside from filler beams and miscellaneous members, the steelwork was shop-fabricated into rigid bents, each comprising two built-up column sections, bisected by a beam. Connections were welded. These bents were shipped to the site and erected fully assembled. Columns were spliced with high-strength bolts at mid-story height—and only 6 bolts were required for each column. Filler beams were also bolted into place. Steel erection was *fast*.

HIGHLIGHTS OF THE STRUCTURAL ANALYSIS: First, the designers were able to provide the advantages and economies of welded rigid frames but, at the same time, they avoided field-welding. They also took advantage of the economies inherent in continuous design by running the girders through the columns. In addition, the floors are of composite design. Shear studs were attached to the girders and to most of the floor beams after formed-steel decking (with



Topping out a section of the steelwork. It took just 17 working days to erect the complete 775-ton frame.

openings provided where necessary) was installed as a permanent form for the concrete floor.

As a result of all these factors, the designers were able to reduce the weight of steel required—and, by using relatively light and shallow floor beams, they saved 2 to 3 inches in total depth per floor, reducing the total height of structure.

Considering the stringent architectural limitations, it is a most economical structure.



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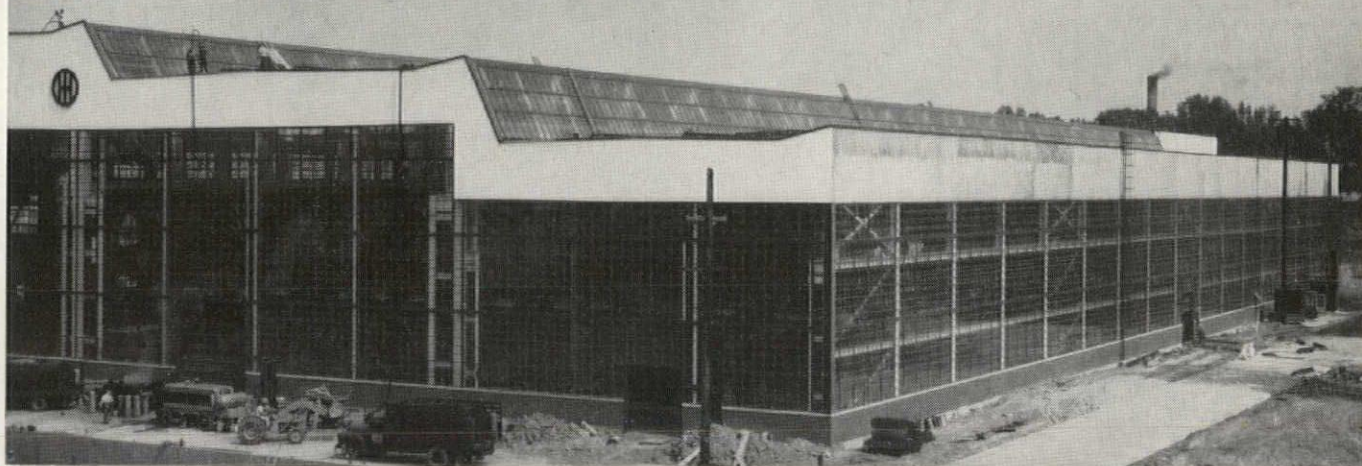
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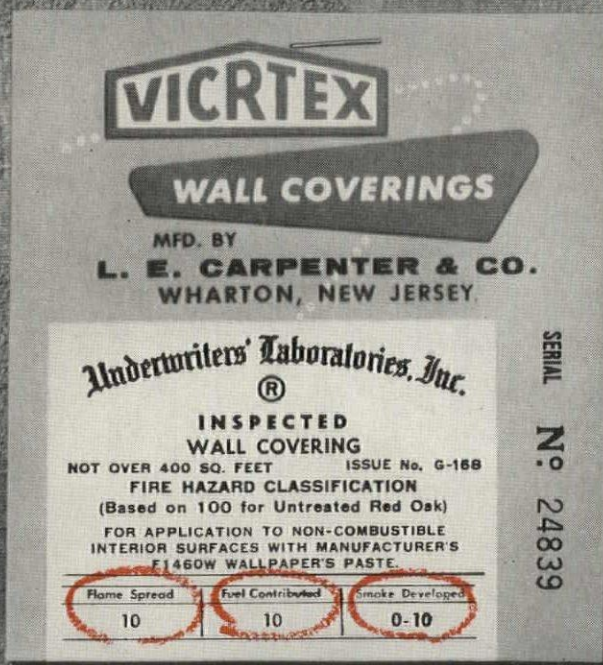
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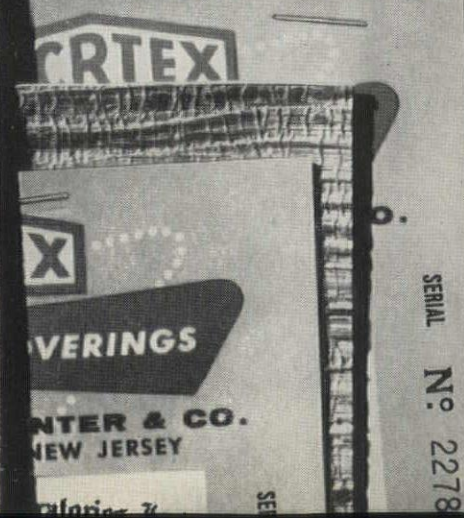
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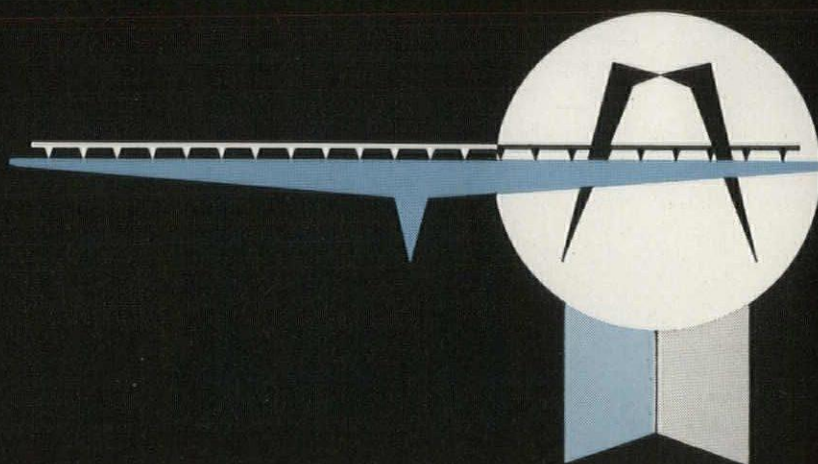
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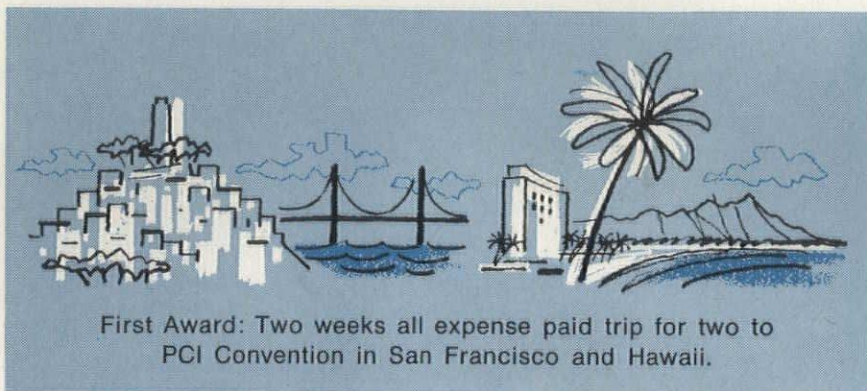
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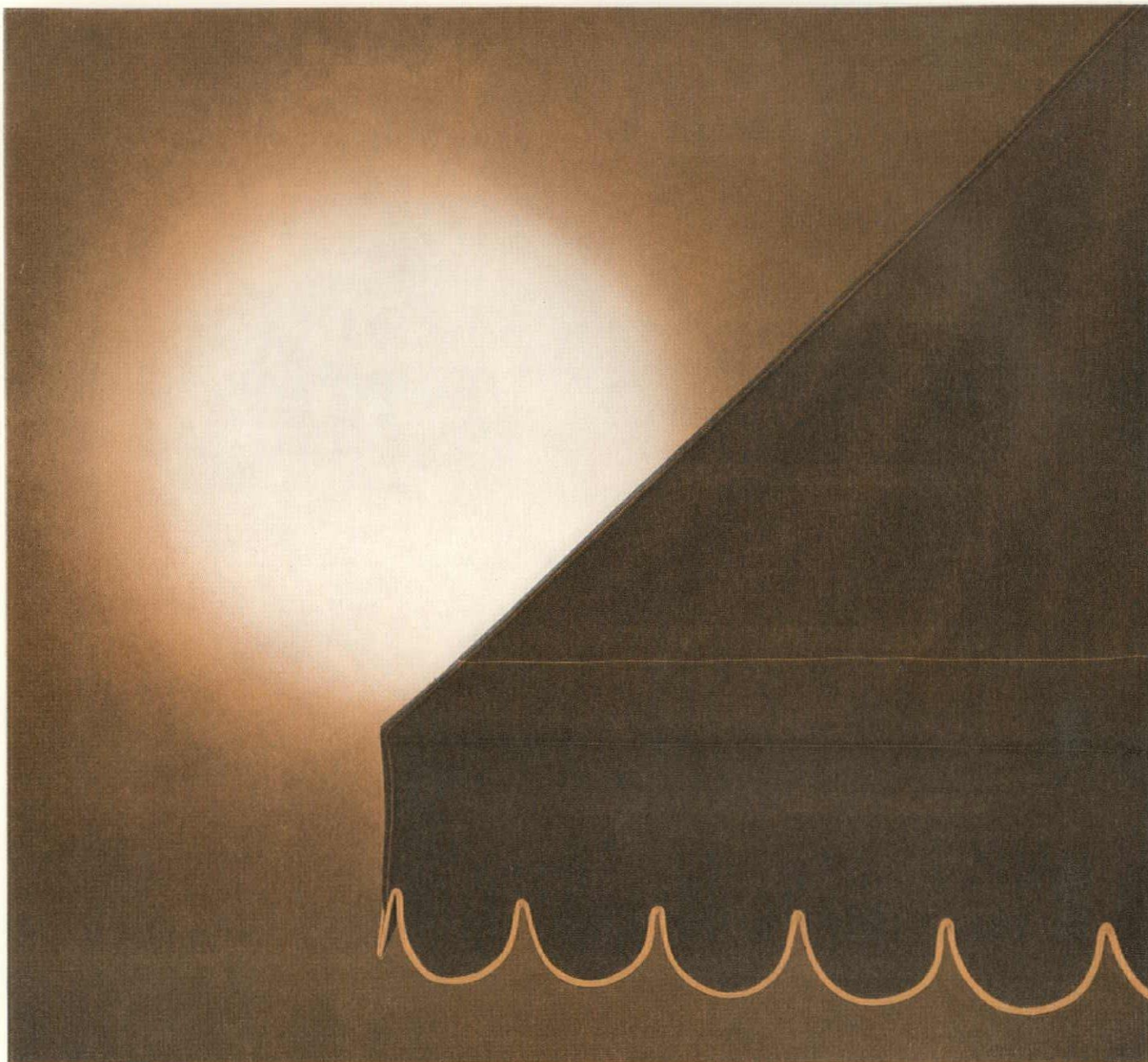
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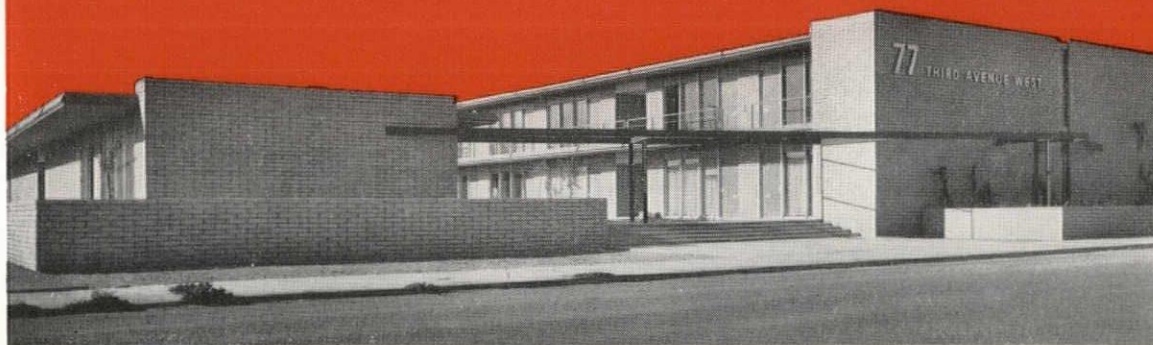
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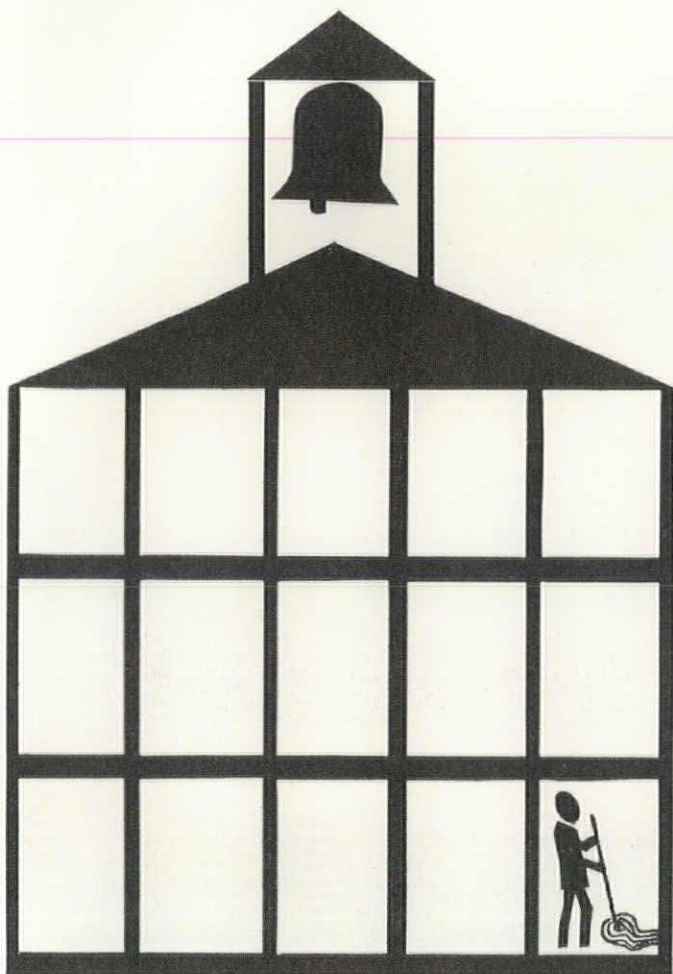


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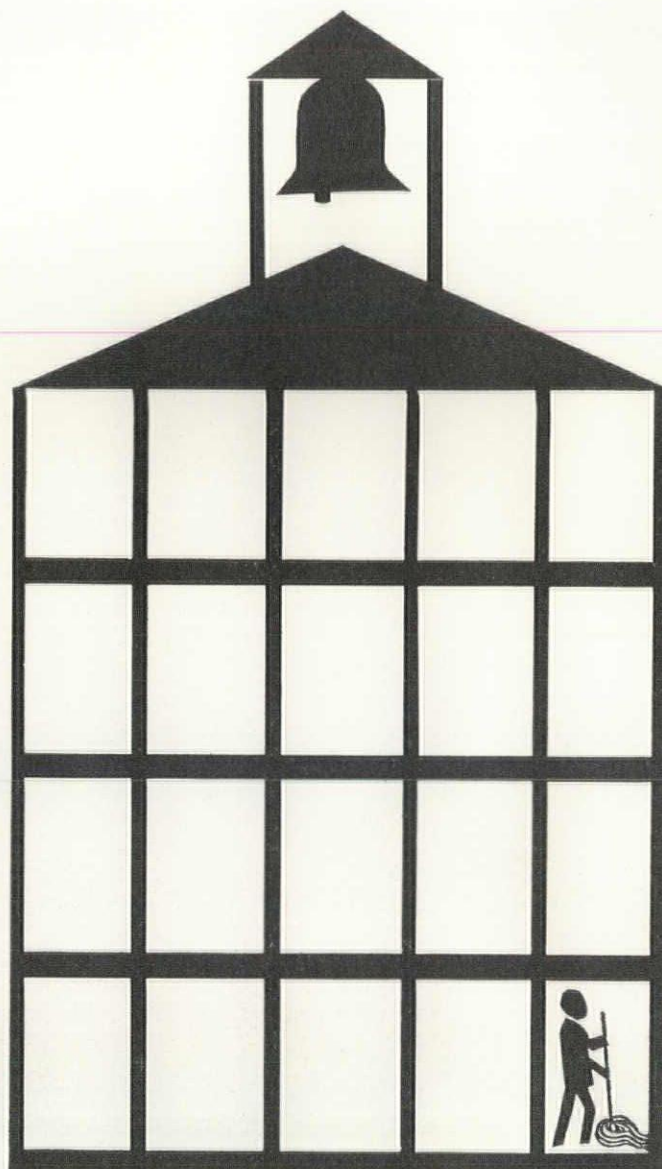


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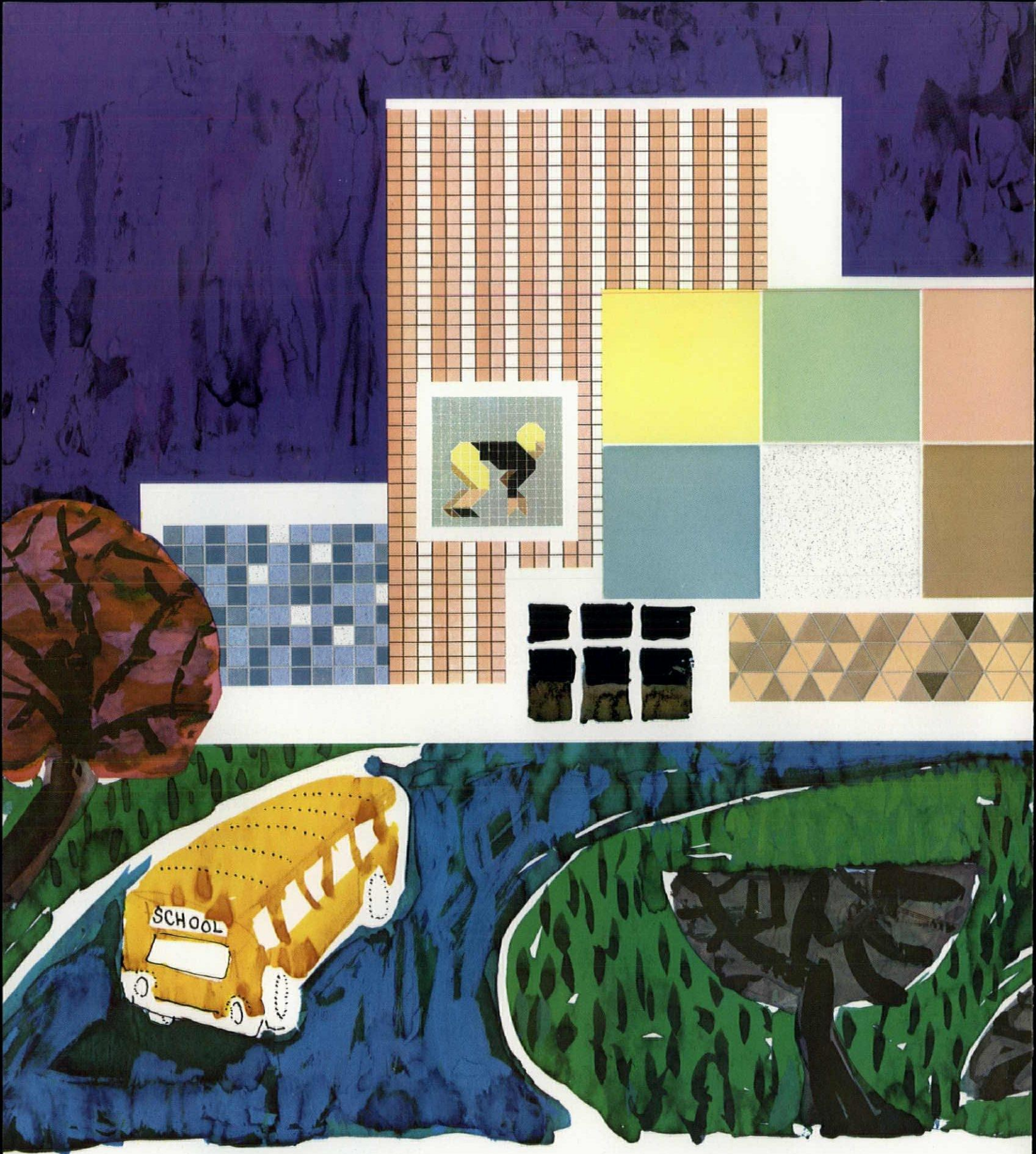
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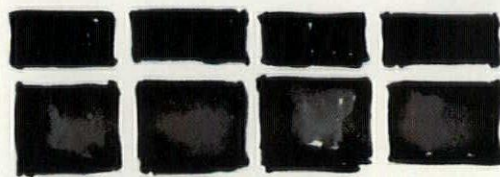
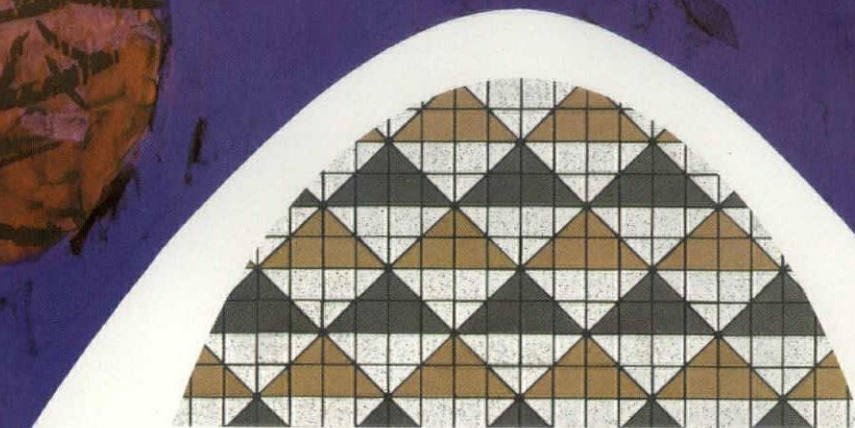
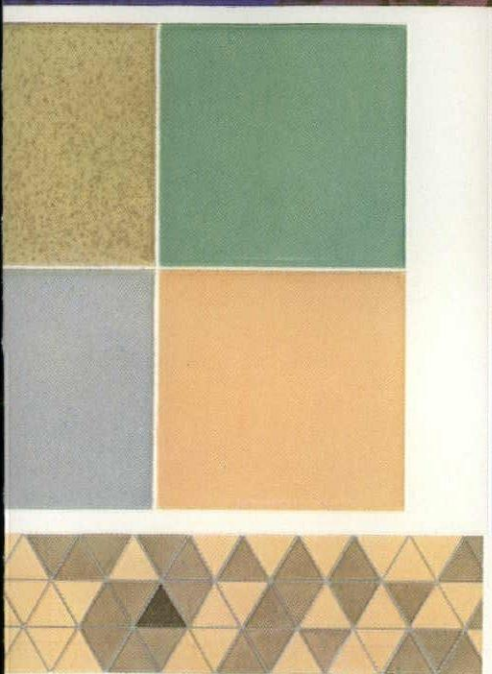
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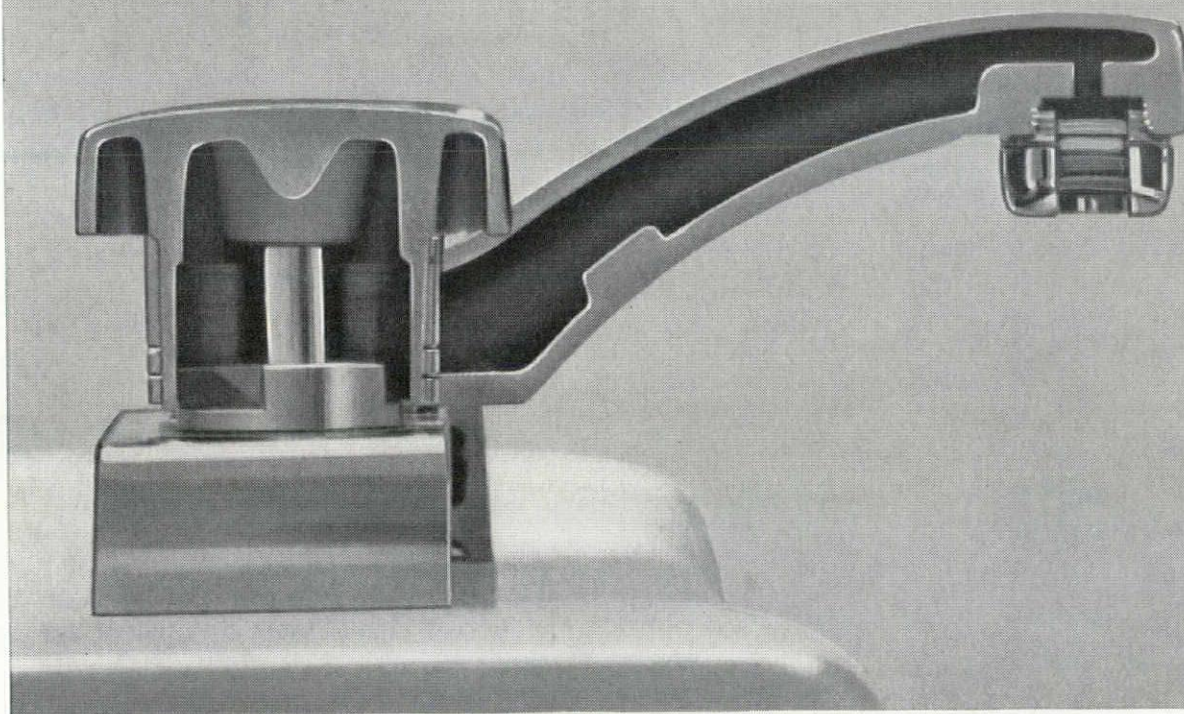


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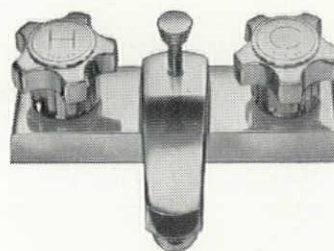


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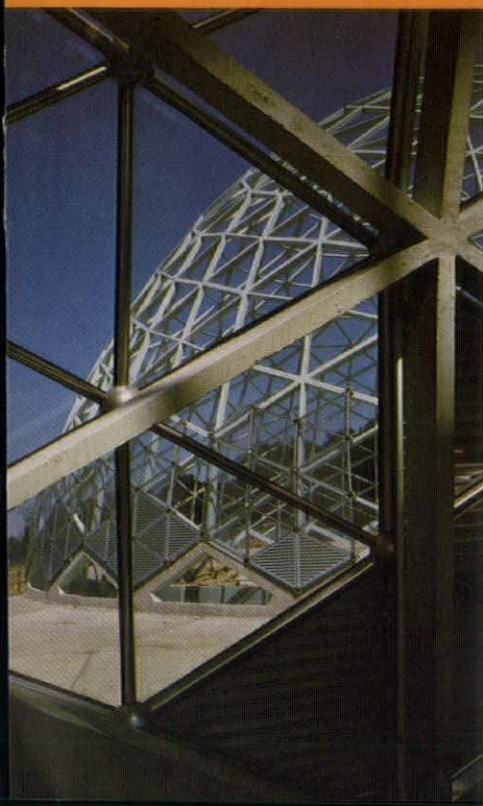


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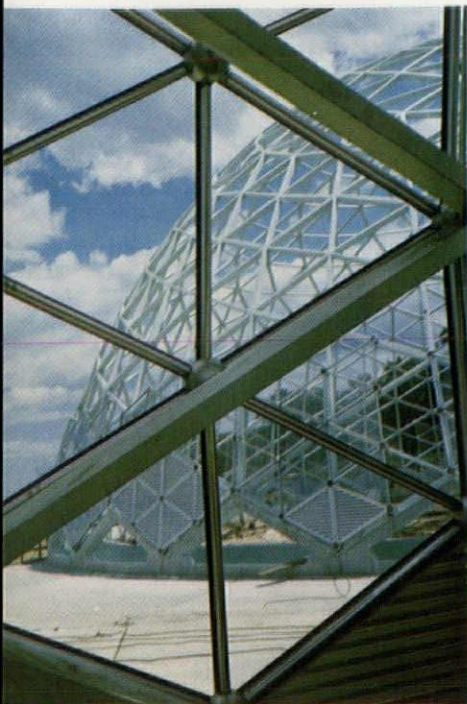


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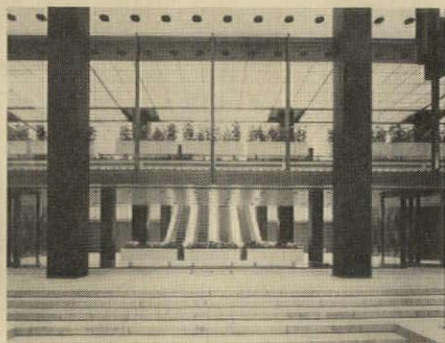
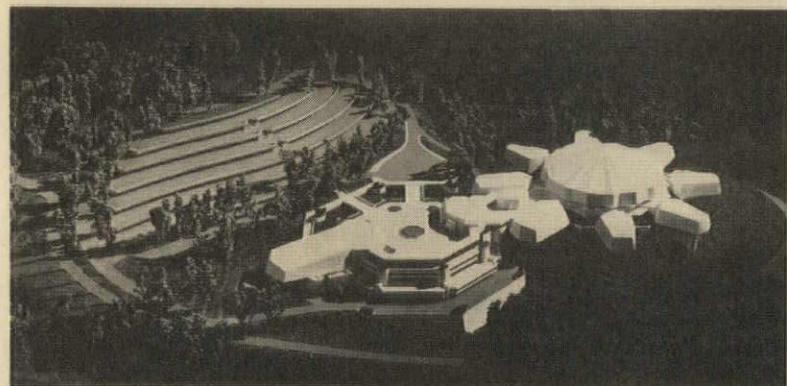
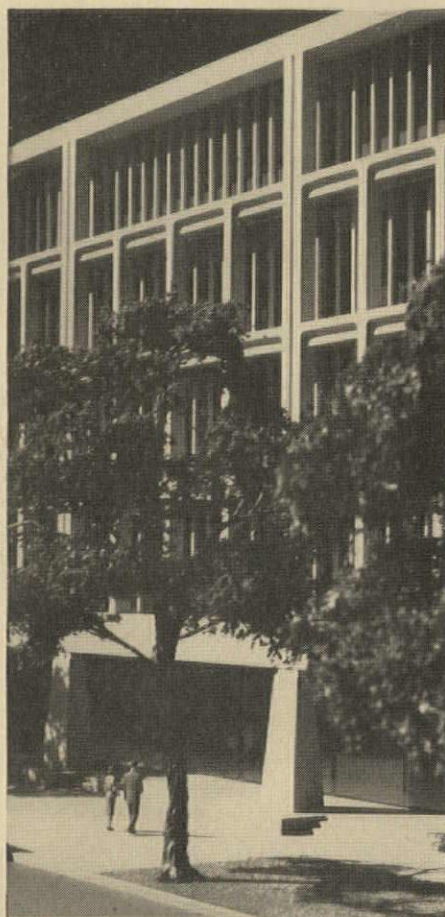
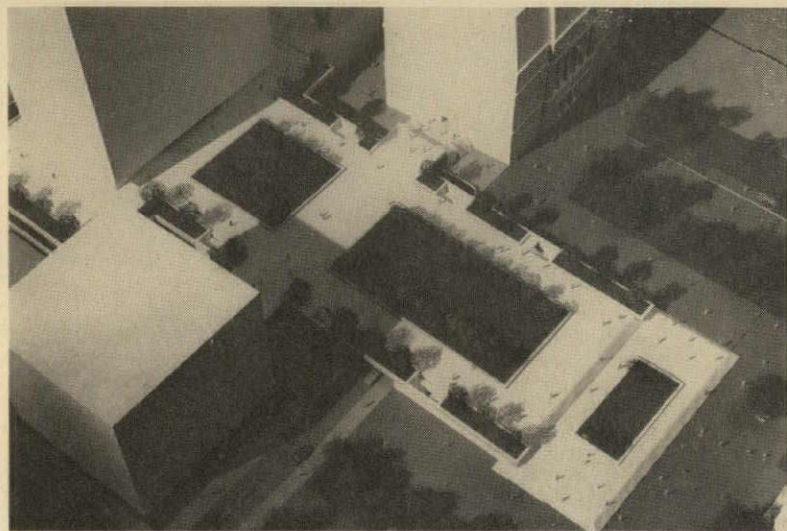
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PROGRESSIVE ARCHITECTURE JANUARY 1963

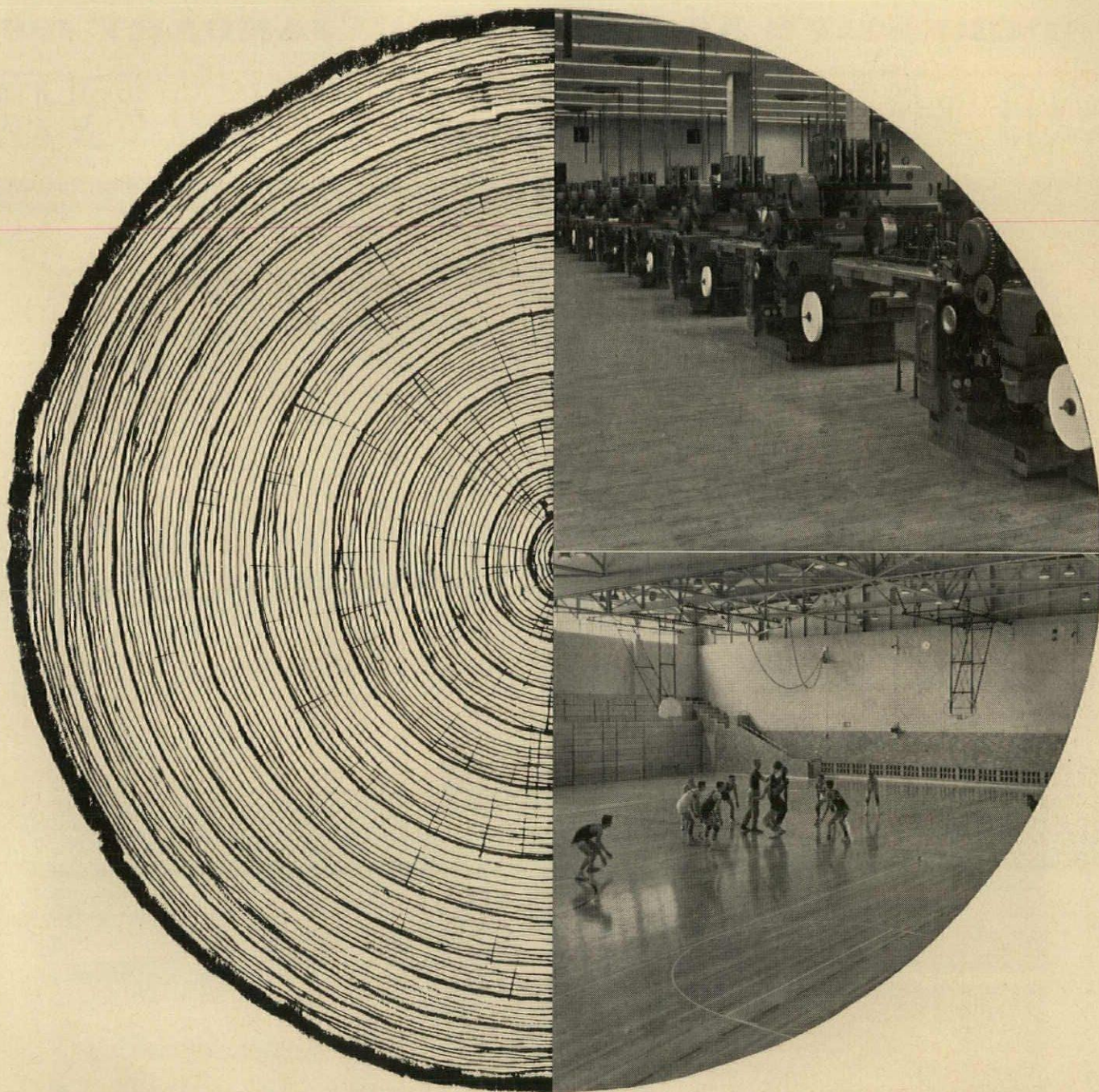
NEWS REPORT

Architecture's Monthly News Digest of Buildings and Projects, Personalities, New Products



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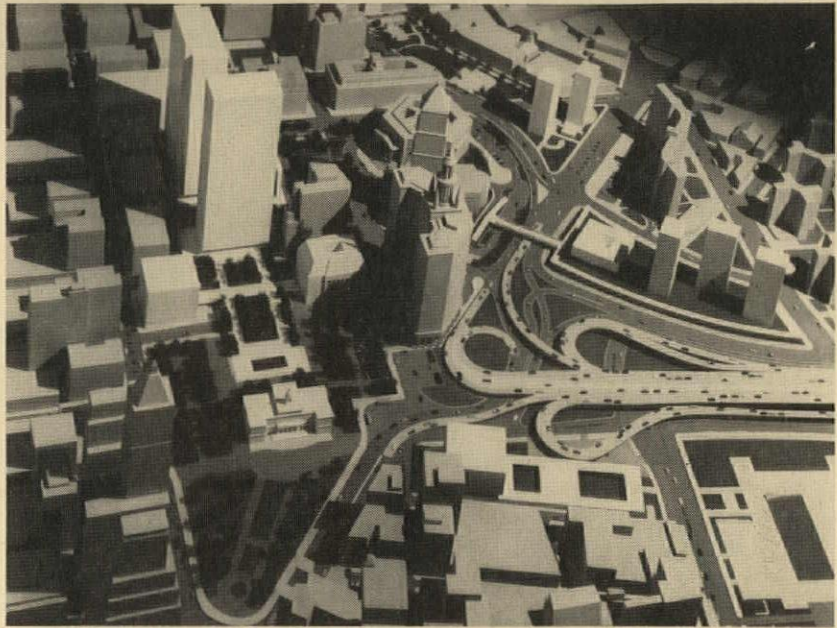
New York Announces Plan for Civic Center

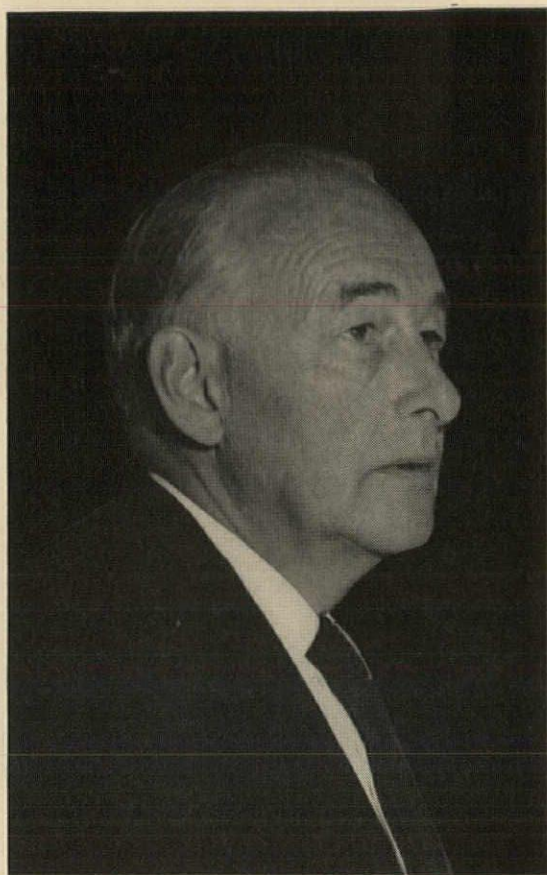
NEW YORK, N.Y. For years architects, notably Nathan R. Ginsburg and the New York Society of Architects, have been agitating for a comprehensive plan for New York's civic center area. Last year, Mayor Wagner appointed a team of architects to examine the problem and propose plans for the future of the section. The architects were Max Abramovitz, Simon Breines, and Robert W. Cutler, and last month they unveiled their plan, which was described by outgoing City Planning Commission Chairman James Felt as "handsome, functional, and economically realistic."

The heart of the scheme is a pedestrian mall system tying together the City Hall Park area, containing municipal buildings, with the Foley Square area, which has mainly Federal and court buildings. The plan would be extended northward in the future to include other city structures, including proposed new Family Court and Police Department buildings. Initially, the proposal would extend City Hall Park, via the mall system built over a shopping and restaurant level and parking and traffic levels, behind City Hall, where the old Boss Tweed Court-

house would be demolished, and between the existing Surrogate's Court and proposed Executive Office Building to the resited, future Municipal Building. Foley Square Park would be bounded by two existing courts build-

ings and the proposed, resited Federal Office Building and Customs Court. Sections of six streets would be closed off to bar the whole area to traffic. Parking for 1100 cars would be provided.





Creighton



Rowan

Progressive Architecture Announces Staff Changes

Jan C. Rowan, Managing Editor of PROGRESSIVE ARCHITECTURE, will move on February 1 to the position of Editor, assuming the post held since 1946 by Thomas H. Creighton. At that time Creighton will join the architectural firm of John Carl Warnecke & Associates as a partner but will continue to serve as P/A's Editorial Director.

In addition to these top editorial changes, D. B. Wilkin, Publisher of P/A, also announced staff alignment under Rowan and the promotion of certain editors.

Burton H. Holmes and James T. Burns, Jr., remain as Technical Editor and News Editor respectively. Ilse M. Reese, formerly a staff member but in recent years a Contributing Editor, rejoins the staff on a full time basis as Associate Editor. John Morris Dixon will continue as an Associate Editor. Ellen Perry, formerly Assistant Technical Editor, and C. Ray Smith, formerly an Assistant Editor, are promoted to Associate Editors. Jean Hatton Duffy becomes Assistant to the Editor. George Lubasz, a former Assistant Editor, becomes Copy Editor. Carol Bowen continues as Art Director. Nicholas Loscalzo becomes Chief Draftsman and Joseph Pappa becomes Draftsman.

Other permanent members of the

P/A editorial staff include: Production Manager Joseph M. Scanlon, Editorial Production Assistant Marion Feigl, and Editorial Assistants June Wetherell Frame, and Anita Rubinstein.

In the near future a new Assistant Technical Editor and other staff members will be appointed.

Contributing Editors are Bernard Tomson and Norman Coplan ("It's the Law"), E. E. Holmes, Jr. ("Washington/Financial News"), William J. McGuinness ("Mechanical Engineering Critique") and Harold J. Rosen ("Specifications Clinic").

The new Editor of PROGRESSIVE ARCHITECTURE, Jan C. Rowan, AIA, received his education at the Architectural Association School in London and at Canada's McGill University. He has worked in the office of Le Corbusier and with I. M. Pei Associates, in addition to having had his own office in Phoenix before joining P/A in 1959. Rowan has taught architectural design at Pratt Institute, Cooper Union, Brooklyn College, and the Rhode Island School of Design. In addition to AIA, he belongs to the Architectural League and is a Director of the Action Group for Better Architecture in New York.

Burton H. Holmes, AIA, P/A's

Technical Editor, received a B.A. at Oberlin College before going on to Yale University for his B.Arch. In World War II, he was a Major with the U.S. Army Field Artillery, following which he was with Lockwood Greene Engineers, Inc. Holmes, who is author of *Materials and Methods in Architecture*, joined P/A in 1949.

News Editor James T. Burns, Jr., got his B.A. at Louisiana State University and his M.A. at Columbia University. Following several years editorial experience at Columbia University Press, he joined P/A as Promotion Manager, taking over the reins of the P/A NEWS REPORT when it was created in 1958. He is an Associate Member of the New York Chapter of AIA and is Information Director of Action Group for Better Architecture in New York.

Ilse Meissner Reese, AIA, who rejoins the staff as Associate Editor, received her B.Arch. from Pratt Institute, where she was the first woman to win Pratt's Medal of Excellence in Architecture. She is also proficient in the fields of industrial design and sculpture. Before joining P/A, she worked with Ketchum, Giná & Sharp and with the Knoll Planning Unit.

Associate Editor John M. Dixon, AIA, won his B.Arch. from Mas-



Holmes



Burns



Reese

sachusetts Institute of Technology, where he was also on the staff of *The Tech*, a school newspaper. His architectural experience includes practice in the offices of Daniel Schwartzman, George Nemeny, and Bernard Kellenyi. Dixon is the author of the recent book, *Architectural Design Preview, USA*.

Associate Editor Ellen Perry received a B.A. at Smith College, and did graduate work in architecture at the Harvard Graduate School of Design and the Architectural Association in London. She worked in the office of Paul James Huston in Palo Alto, then as Research Assistant at Cornell University's Housing Research Center.

C. Ray Smith, Associate Editor, will continue to be in charge of the Interior Design Data section. He is a member of the American Institute of Interior Designers, and the Municipal Art Society, and is a Board Member

of the U.S. Institute of Theater Technology. He has a B.A. from Kenyon College and an M.A. from Yale University. Prior to joining P/A he was assistant to landscape architect Karl Linn, and also was an editor on *Interior Design* magazine.

Jean Hatton Duffy, Assistant to the Editor, has a B.A. in Journalism from New York University. She was married to the late architect John Hatton, and following his death worked with Skidmore, Owings & Merrill in Morocco. There she met and married her present husband, another architect, William Duffy. She came to P/A after three years with the Art and Architectural Department of Reinhold's Book Division.

Copy Editor George Lubasz received his B.A. from Oberlin College, where he was on the literary magazine and also won the Enola Ward Wooster

Prize for Writing. He joined P/A with editorial and production experience from Orion Press, Ronald Press, and Prentice-Hall Publishing Co.

Carol Bowen, P/A's Art Director, attended Cooper Union art school, following which she worked with the art staffs of *Printers' Ink* and *Scholastic Magazine*.

Nicholas Loscalzo, Chief Draftsman, matriculated at Pratt Institute and worked in the architectural offices of Oscar Silvertone and Meyer Katzman.

Editorial Director Thomas H. Creighton, who was the first architectural editor to be made a Fellow of the American Institute of Architects and the first Honorary Member of the Construction Specifications Institute, joined P/A in 1946 after a career with several architectural firms and as Senior Architect for the New York Department of Hospitals.

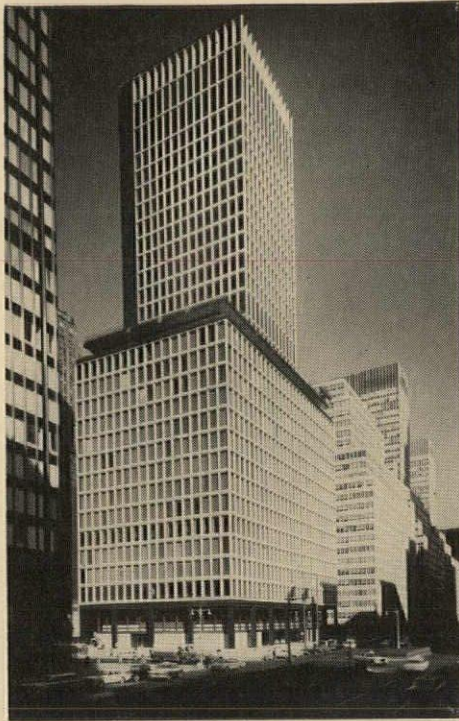
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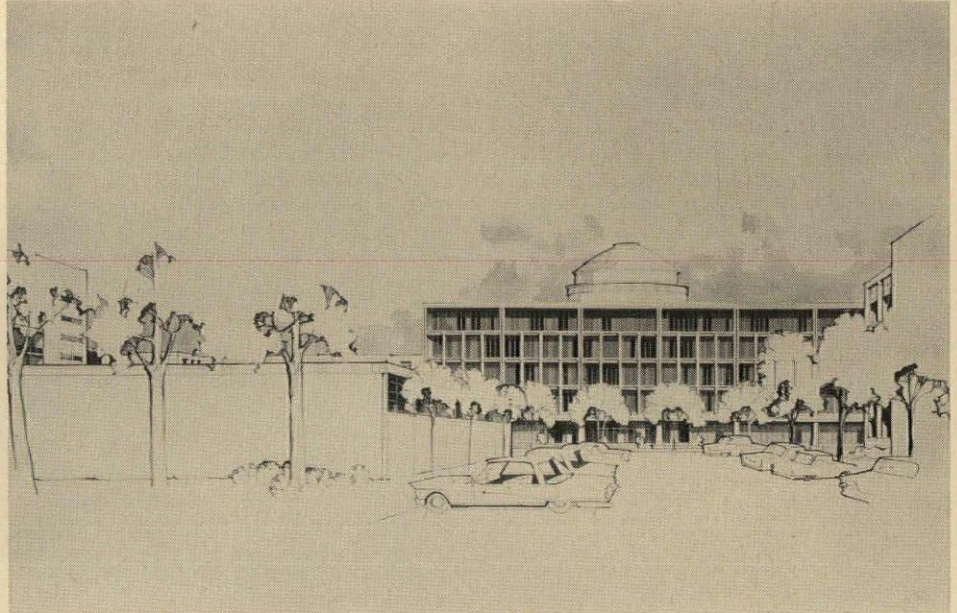
Smith





UNIQUE TEAM CREATES BANK

NEW YORK, N.Y. An unusual team was responsible for the recently opened Bankers Trust Building at 280 Park Avenue. Working under the direction of Industrial Designer Henry Dreyfus were Emery Roth & Sons (building architect), Shreve, Lamb & Harmon Associates (interior architect), artists Harry Bertoia, Stephanie Scuris, Alistair Bevington, and Robert Sowers, and engineers James Ruderman (structural), Weiskopf & Pickworth (consulting structural), Jaros, Baum & Bolles (mechanical), Bolt, Beranek & Newman (acoustical), and Ebasco Services, Inc. (space consultants). Richard Kelly designed an interesting lighting scheme, and landscaping was done by Dan Kiley. The building has an exterior of precast aggregate-embedded cement units framing large window areas. The executive floors are highlighted by such items as Bertoia wall sculpture (*below*).



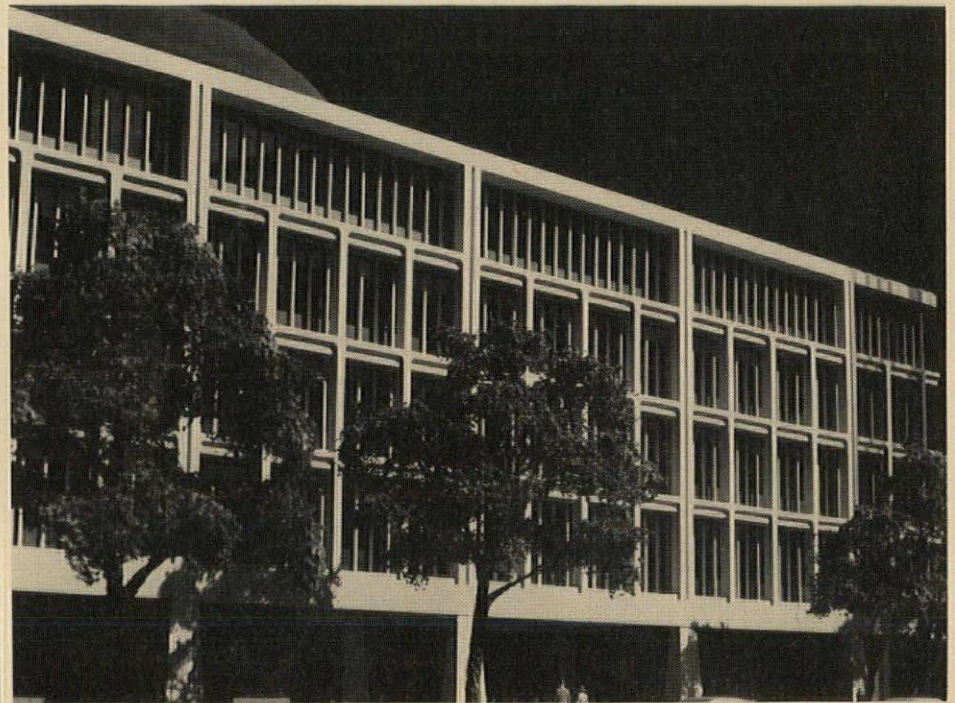
STATELY PROJECT FOR MIT MATERIALS CENTER

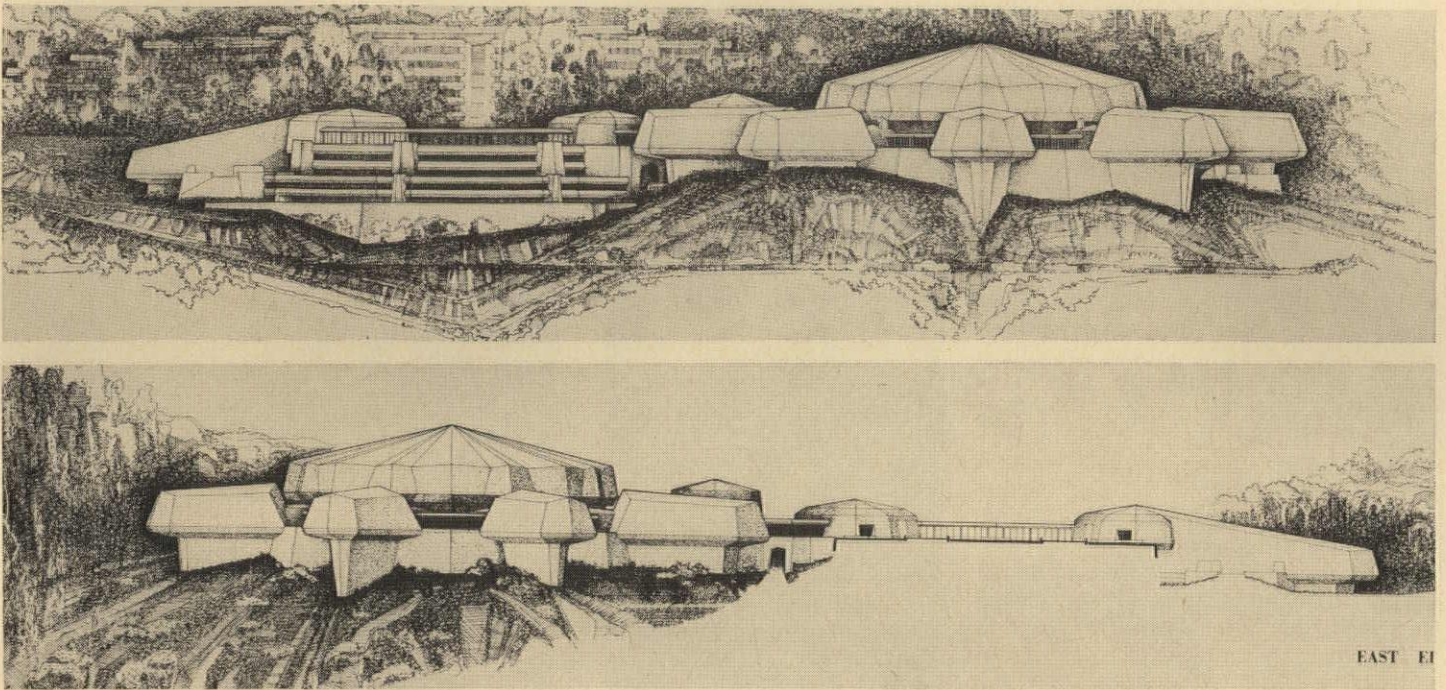
CAMBRIDGE, MASS. Massachusetts Institute of Technology, which is embarked on a long-range program of providing "centers" for various technological education and research programs, has announced the design of the Center for Materials Science and Engineering by Skidmore, Owings & Merrill (Chicago).

A peculiar problem confronted the SOM designers on this project, since it will lie directly behind the eclectic main building of MIT (William Welles Bosworth, 1916). In order to tie in as much as possible with this imposing neighbor, whose dome will be visible over its roof, the new building will be constructed of exposed concrete to harmonize with the concrete and lime-

stone of the older structure, and the façade will feature a juxtaposition of horizontal and vertical structural beams and columns which, while having their own identity, will not "fight" the sedate classicism of the other.

Part of the first floor, which will be recessed behind an arcade, will be taken up with mechanical equipment (other equipment will be below ground level). The rest of the bottom story will contain lobby space and machine shops. A central laboratory core will occupy the upper floors, surrounded by classrooms, conference rooms, and offices serving a variety of purposes. Since this building will cover the main MIT parking lot, a carpark will be built elsewhere.





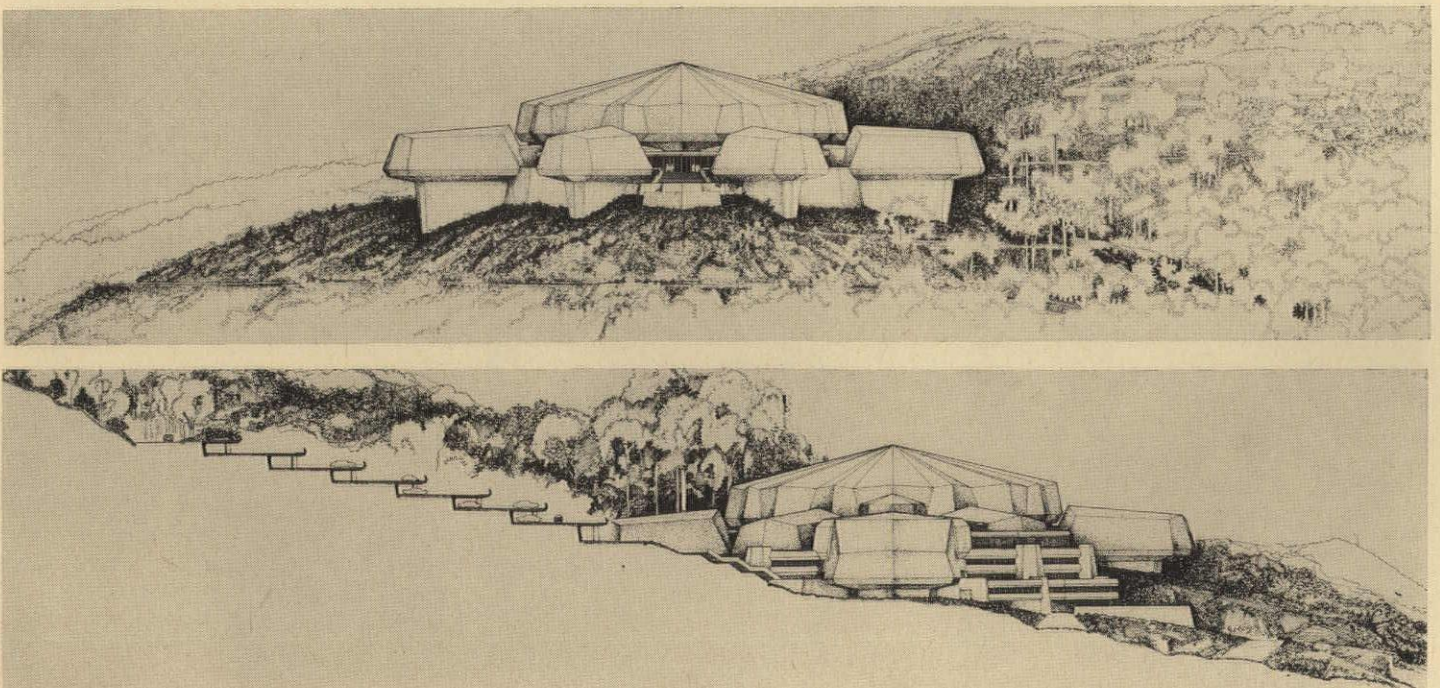
Anshen & Allen Win Invited Competition

BERKELEY, CALIF. Such well-known Anshen & Allen creations as the chapel in Sedona, Arizona, and the visitor's center at Dinosaur National Park may now be regarded as valuable background work for the firm's stunning design which has won the competition for the Lawrence Hall of Science at the University of California. Others participating in the invited program were Louis I. Kahn, Eero Saarinen Associates, Skidmore, Owings & Merrill, and Vernon DeMars & Associates.

The project, named after the late Dr. Ernest O. Lawrence, inventor of

the cyclotron, will occupy a site high on the hills above the university, commanding a spectacular view of the bay across to San Francisco. Seen from the main campus (*top view*) the complex will have at its right a Planetary Space Hall—a great circular exhibition space surrounded by smaller halls for nuclear science, space science, physics, chemistry, biology, geology, mathematics, and astronomy. Across a wide central terrace will be a 600-seat auditorium with a revolving stage for demonstration material. Beneath the terrace will be a science education

center containing model classrooms, teaching laboratories, workshops, preparation rooms, television studios, offices, a cafeteria, and a 300-seat auditorium. Located at the main entrance to the Planetary Space Hall will be a science information center and Lawrence Memorial Hall, displaying mementos and artifacts of the Nobel prizewinner's career. Parking for 750 automobiles will be provided on an ingeniously tiered slope (*bottom*) uphill from the project. Visitors will approach the central terrace over a footbridge from the parking area.

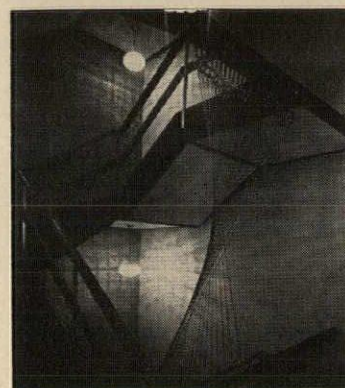
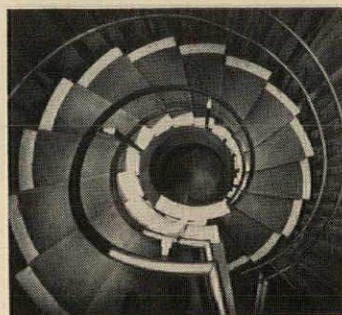


125 BUNNIES FOR NEW YORK

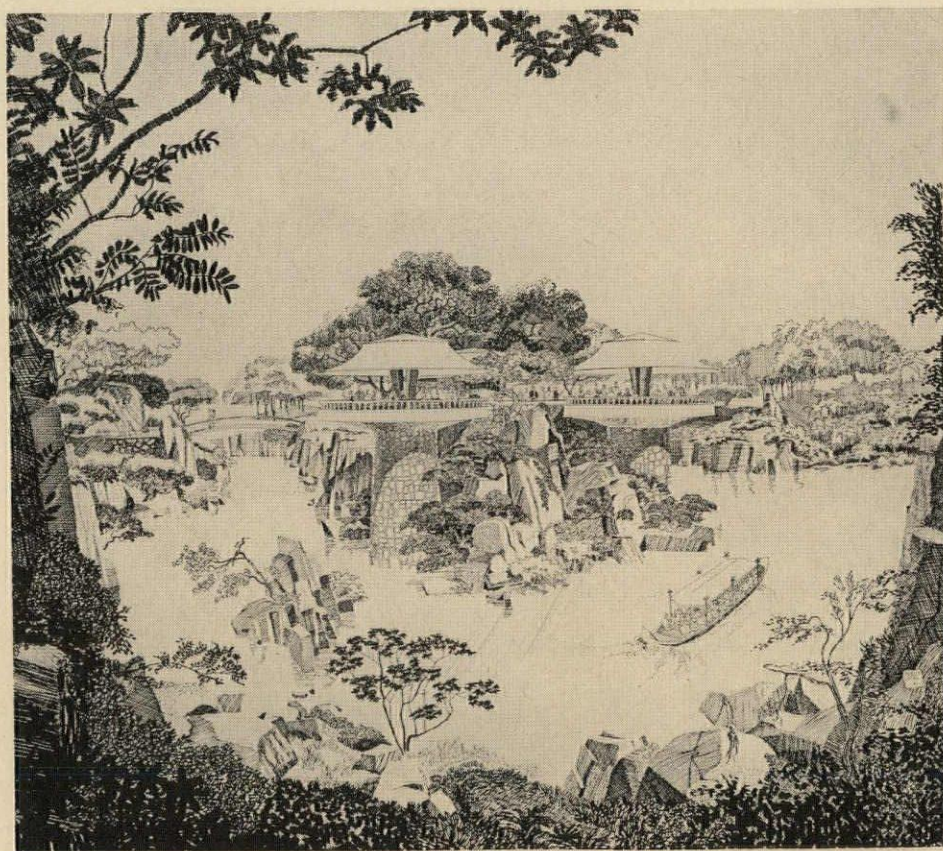
NEW YORK, N.Y. Manhattan finally attained the cultural level of Chicago and New Orleans last month when Hugh Hefner's New York Playboy Club opened on East 59th Street. Designed by Oppenheimer, Brady & Lehrecke, the club contains six different areas in which lucky patrons can be served by 125 "Bunnies." These rooms are: the Penthouse, the Playroom, the VIP Room, the Playmate Bar, the Living Room, and Cartoon Corner. Entertainment of various sorts occurs in most of the rooms, which were decorated by Art Miner, Director of Playboy Design.

Facade of the club is distinguished by a two-story high, glass-enclosed stairwell, up and down which less fortunate passers-by in the street can watch the Bunnies gong on their appointed rounds. The public areas of the club occupy five floors of the building and executive offices are on the top two floors.

Since the exterior of the club was shown on page 60 of APRIL 1962 P/A, we thought that readers would be interested in some of the other design points of interest.



California To Get Latest Thing in Beer Gardens



VAN NUYS, CALIF. Ladd & Kelsey of Pasadena have designed for Anheuser-Busch, Inc., a recreational facility which should put old-style *biertgärten* to shame. Intended to acquaint residents and tourists with Budweiser and Michelob beers, Busch Gardens will feature a brewery tour plus free beer sampling in a parklike setting.

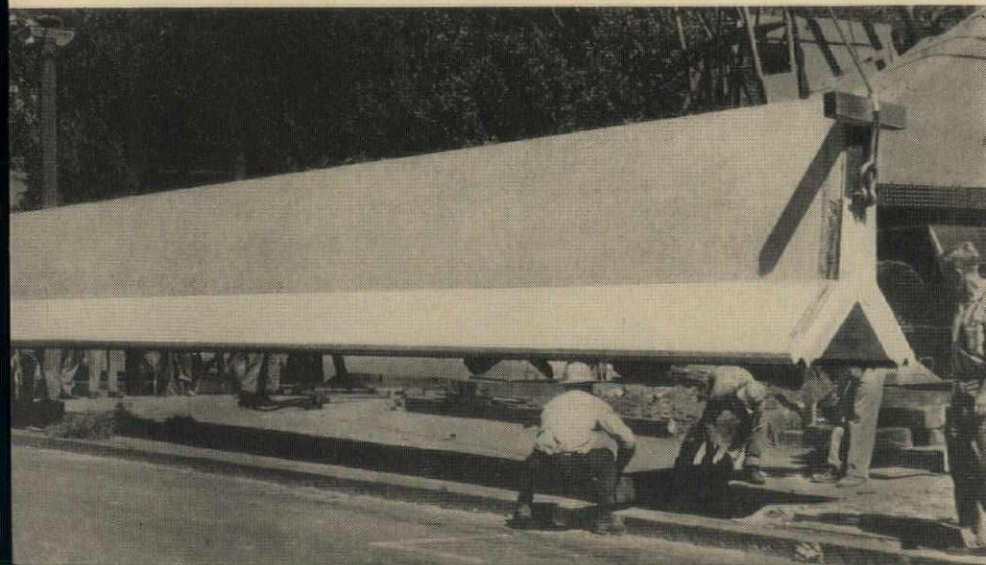
The plant tour will be accomplished by monorail which will stop at five highlights of the brewing process. Then visitors will enter the gardens, to roam at will or take a 15-minute, conducted boat ride.

The gardens will be divided into three areas: the palm island area, the lake pavilions area, and the gorge area (*shown*). The first will have an umbrella-covered terrace set in the midst of palms and other tropical vegetation over which 100 trained macaws will fly and under which long-legged water birds will stalk. The lake pavilions area will have small gazebos where patrons can sit and enjoy their beer. Flamingos and other water fowl will enliven the scene here. The gorge area will recall somewhat the scenery of the Rhine River, with a "Falls Pavilion" atop a rugged escarpment.



ST. STEPHEN'S CHURCH, Washington, D. C. ■ Contractor: VICTOR R. BEAUCHAMP ASSO., CIATES, Washington ■ Architects: JOHNSON AND BOUTIN, Washington ■ Precast Units Fabricated by: FORMIGLI CORPORATION, Philadelphia.

Center section is hoisted into place. The three pieces making up each leg were fastened together by cast-in weld plates, later covered with precast concrete filler strips. Legs were joined by means of cast-in Z-bars fastened together with a continuous welded plate and welded straps.



TOWERING BEAUTY and EFFICIENCY from Precast Concrete and Incor®


One look at the results obtained with precast concrete for this 74-ft. 4½-in. bell tower and the adjacent arched window and you may well ask: "Why not precast concrete for my next job?"

BEAUTY—Strikingly apparent in the smooth, clean lines and surfaces of infinitely-adaptable concrete.

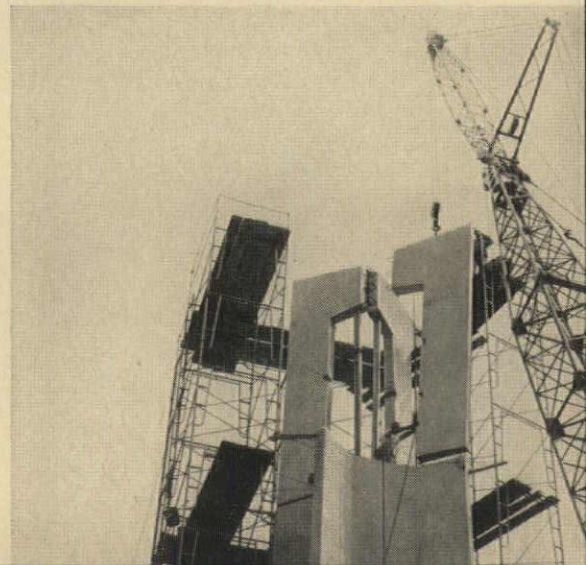
SPEED OF ERECTION—The tower is composed of only twelve precast sections, the arch of three—all easily handled by crane and assembled by simple methods. No expensive on-the-site delays. (Also precast were the ten window mullions supporting the arch, 5500 square feet of Spancrete floor, and 98 lineal feet of fascia beams.)

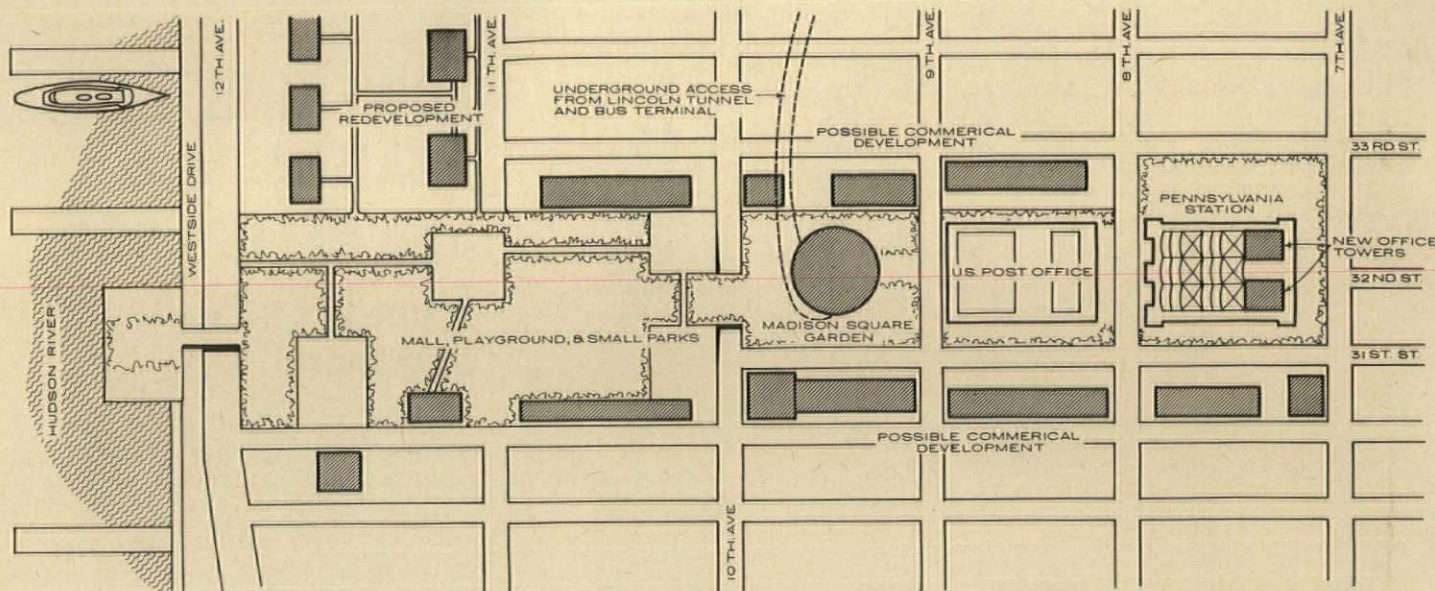
SPEED OF FABRICATION—No delays here, either. The precaster utilized "Incor," the nation's first high early strength portland cement, for all concrete requirements—made most efficient use of forms, time, money and manpower.

LONE STAR CEMENT CORPORATION, N. Y. 17, N. Y.

 **INCOR®**
24-HOUR
CEMENT

Placing of top sections for bell chamber. The four legs were joined at the top by overlapping hairpins which extend from the legs into a poured-in-place joint.





AGBANY Proposes Plan to Save Penn Station

On January 3, the New York City Planning Commission held a public meeting on the capacity variance required for the construction of the proposed Madison Square Garden complex on the site of Pennsylvania Station. In the vanguard of the opposition was the Action Group for Better Architecture In New York, which separately introduced a proposal designed to allow the construction of the Garden and commercial buildings while preserving the Station.

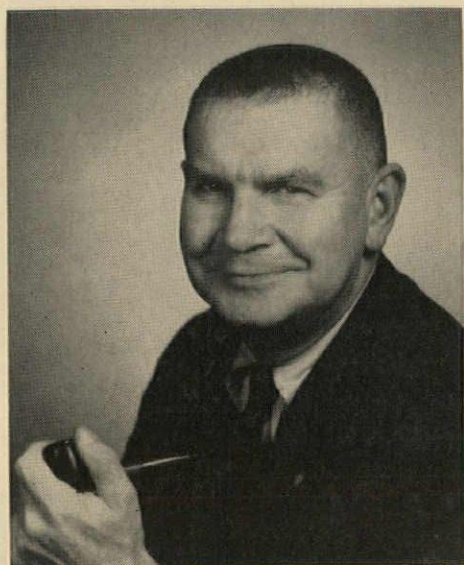
A plan (above) proposed by two members of AGBANY, Jean Pierre Le Gouis and Norman Jaffe, would utilize the two open air wells in the station as sites for two high-rise office towers. A zoning variance would have to be granted to allow these towers

to go high enough to be profitable. The site above the tracks between the Station and the Hudson River would be tied together with landscaping and pedestrian malls connecting four major elements: the Station, the U.S. Post Office, the new Madison Square Garden (which would be separate from the office towers on a site of its own), and a proposed large-scale redevelopment over the tracks near the river. The Garden would be connected to Lincoln Tunnel and the Port Authority Bus Terminal via an existing underground vehicular passage.

Norval White, chairman of AGBANY, stated that the proposed plan would perform several services: it would preserve the great spaces of Penn Station, which could be reno-

vated and returned to their former glory; it would assure the city of increased taxes from the new construction; it would protect most of the investment already made in the project by Madison Square Garden Corporation and the Pennsylvania Railroad; and it would create a well-planned nucleus for an area of New York which is badly in need of such impetus.

Meanwhile, in Philadelphia, Dean G. Holmes Perkins made the amazing announcement that he and the City Planning Commission which he heads would favor a Philadelphia Sports Stadium (perhaps involving the same Madison Square Garden Corp.) on the site of the Pennsylvania Railroad's 30th and Market Street Station.



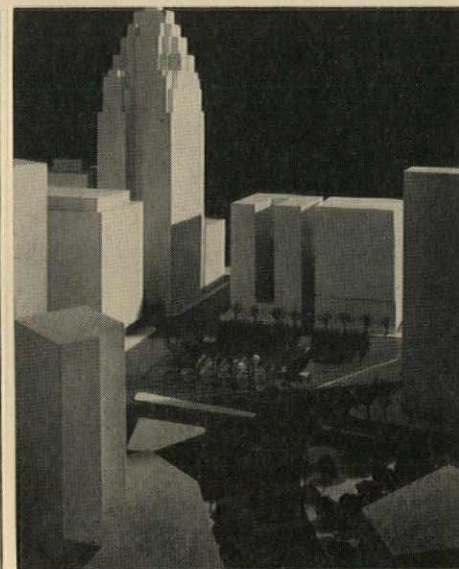
New GSA Design Head

General Services Administration has a

new Assistant Commissioner of Design and Construction in the person of Karel H. Yasko. Yasko was Wisconsin State Architect until his appointment. He's a native of Yonkers, N.Y., and a graduate of Yale. He succeeds L. L. Hunter, who resigned to enter private practice with John Carl Warnecke & Associates.

Disturbance in Detroit

Detroit, which has one of the country's most prominent city planning commissioners in Charles Blessing, not long ago saw fit to ignore the recommendations of that gentlemen and his staff for the development of the old City Hall site and give the nod to a jazzy scheme for a 1930-ish "reception" building in a spot badly needed for an open park area. Civic-minded groups, including the local AIA chapter, leapt into the breach and suc-



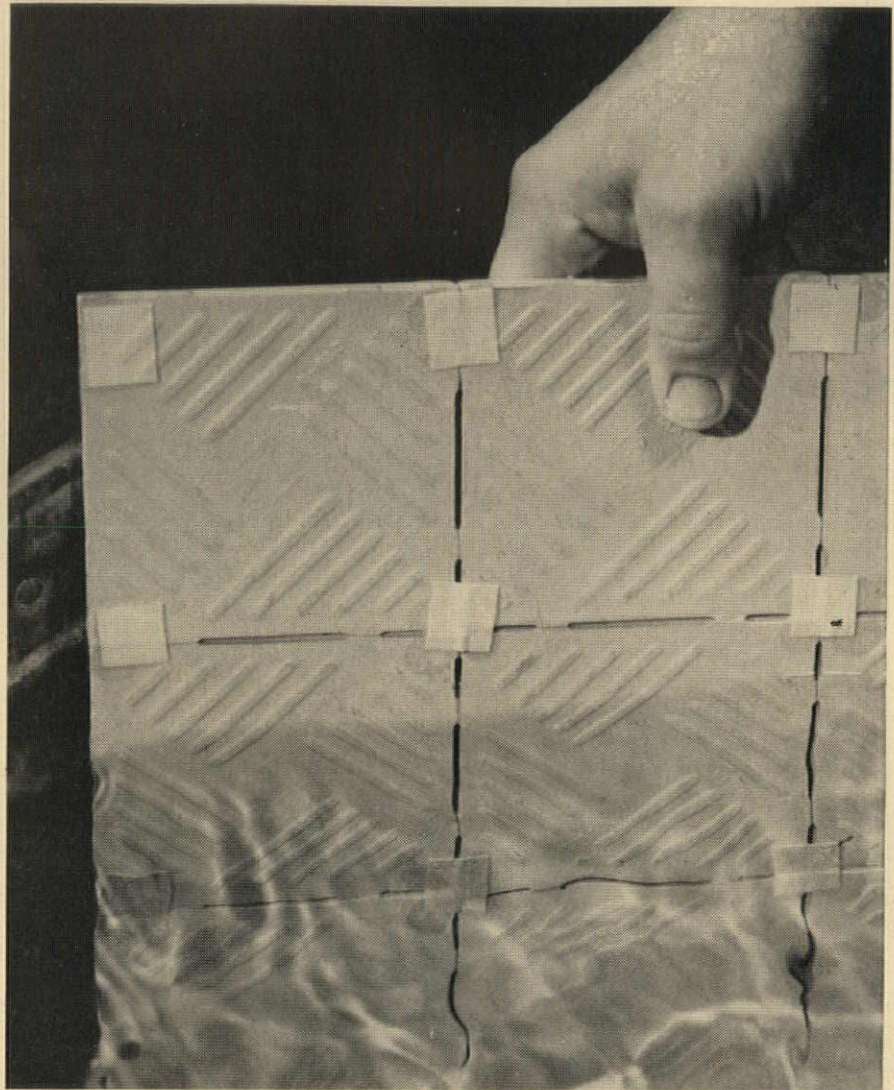
ceeded in having the matter at least delayed and studied by a group appointed by the mayor. What the chap-



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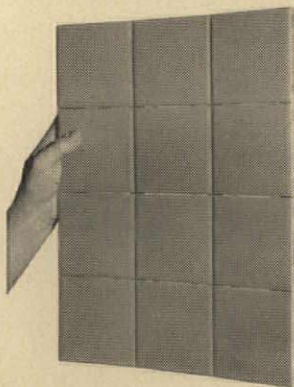
Up goes BETTER-BOND, 12 tiles at a time, with perfect joint alignment and positive bond with setting bed.



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perfect joint alignment...**

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Now, with BETTER-BOND, Romany•Spartan has eliminated all the problems normally associated with the installation of 4 1/4" square ceramic tile, both mounted and unmounted. Here's the *only* glazed wall tile mounting that assures perfect joint alignment—tile to tile and sheet to sheet. It's the *only* mounting that is tear-free—flexible, yet rigid enough for easy handling. And BETTER-BOND mounting exposes 95% of the tile back to the setting bed.

Only the world's finest 4 1/4" wall tile—LEVEL-SET—is BETTER-BOND mounted. Its precise size provides a thin, uniform joint. Grout-lock design and ground edges without glaze flecks provide better grout adhesion and a more permanent joint.

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UNITED STATES CERAMIC TILE COMPANY





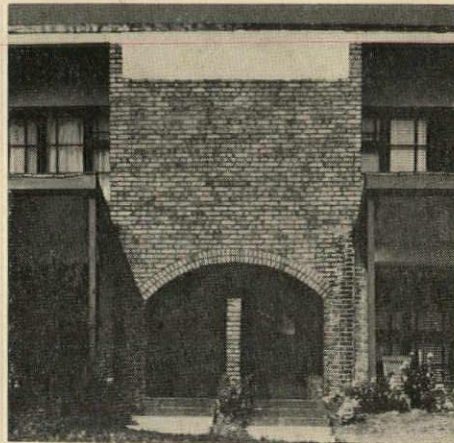
ter would like to see done with the site, which is over underground parking, is the development of an urban park (illustrated) featuring granite terracing and a formal planting of trees. Johnson, Johnson & Roy, Inc., Landscape Architects and Site Planners, did the scheme for the Central Business District Association.

OBITUARY

Henry S. Churchill, FAIA, died last month at the age of 69. He was noted for his planning concepts as published in his 1945 book, *The City Is the People*, and as evidenced in his development and town planning in New York, New Jersey, Virginia, and Pennsylvania.

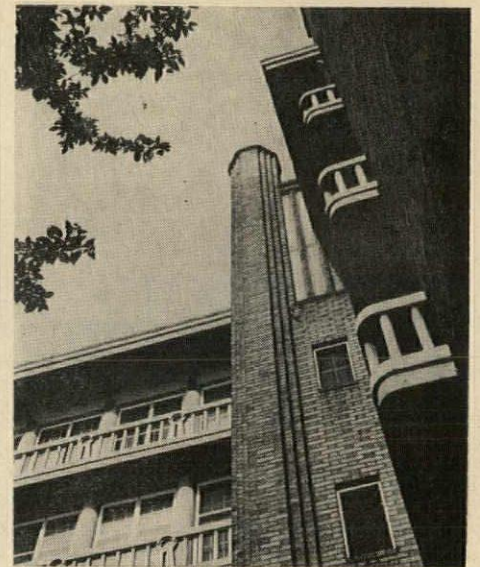
Architect Rediscovered

It is not often that an architect who worked out of the *genre* of his time is "rediscovered" and awarded a posthumous one-man show, but this happened in recent months to Frederick



G. Scheibler, Jr. (1872—1958), a Pittsburgh architect who was, and is, almost unknown to the rest of the profession. In an exhibit at Carnegie Institute organized by James D. Van Trump and James H. Cook, Scheibler's work was shown in a series of giant photographic panels which, in the

words of the catalog, indicate that he was "the most important 'original' architect that Pittsburgh has produced and a pioneer of modern architecture in Pennsylvania." Two of the most interesting buildings shown were (left) Vilsack Row Houses, 1912, and Highland Towers Apartments, 1913 (bottom). His principal works included private residences, row houses, and apartment buildings.



WASHINGTON NEWS

by E. E. Halmos, Jr.

While Washington waited for a new Congress to come onstage this month, it busied itself stirring up matters of prime interest to architects.

In order of importance, here are three things architects should look into very carefully for their effect on upcoming business decisions:

1. New income tax regulations on travel and entertainment deductions that could mean an enormous burden of bookkeeping and record preservation for the self-employed, small firms, and employees.

2. New rules under which the Armed Services must control architect-engineer contracts, with some limitations on amount and frequency of awards.

3. The President's antidiscrimination order on housing.

On tax deductions—you may have heard of a final "interpretation" issued by Internal Revenue Service by the time you read this (IRS was trying hard to get the rules out in time for the start of the 1963 calendar year).

But you can take it that the rules start with an obvious Government distrust of the business community. The new rules are an IRS interpretation of what Congress meant when it passed revisions to tax laws last session. As

usual, it appears that Congress was going after some elephants (big expense-account tax dodgers) but IRS is going to shoot down a lot of gnats (ordinary taxpayers).

In brief, the interpretations put the burden on the employee or small businessman to prove—in voluminous detail—that his expenditures for entertainment and travel really were in line of business; that he be prepared to produce receipts and records to show whom he entertained, where, for how much and for what purpose; and where he traveled, where he stayed, how much he spent on a trip, and so on.

(An interesting sidelight is this: In his attempts to prove the business nature of a meeting, an architect—or any other professional—might be forced to reveal business confidences, some observers feel.)

Protests from businessmen have been heavy, and IRS has indicated it will pull back from some of the more stringent requirements it first put forward. But you'd best have your accountants study any final regulations very carefully: they could vastly increase your accounting and storage expenses, as well as liability to harassment.

On military A-E contracts, a misreading of a paragraph in a new directive from the Secretary of Defense (4105.56) set a lot of architects to

writing and phoning protests to the Defense Department. They feared they would be cut out of any but one small contract per year.

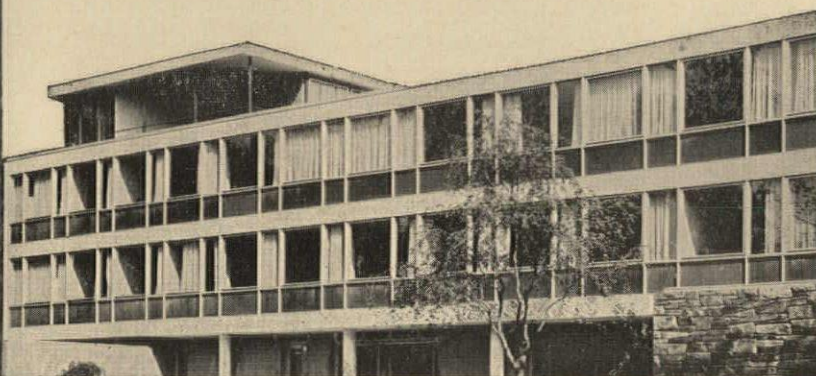
It isn't hard to misread the paragraph. The item in question (paragraph C, 2) is a fine example of murky Government prose.

In a reasonable translation, however, it comes out this way: No A-E firm may be awarded more than a single contract for fees of \$25,000 or more (in the continental U.S.), by the same military contracting agency, within the same year, *unless* the second award is approved by higher headquarters.

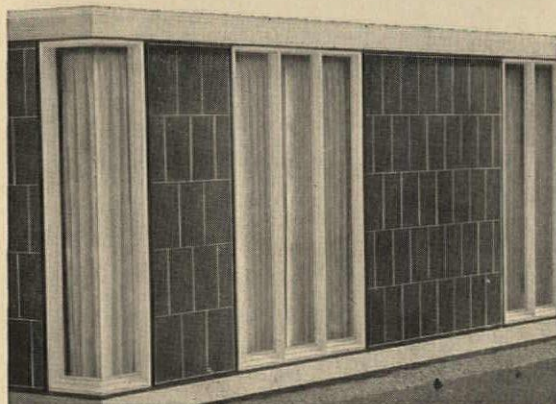
A further translation: The same A-E firm *could* be awarded contracts for fees of \$25,000 or more by a dozen distinct military contracting agencies (Army, Navy, Air Force, various army engineer districts, for example) in the same year, without such higher-headquarters review.

Professional societies (including AIA) which worked with Defense on the basic order, have protested the \$25,000 limit (\$100,000 overseas) beyond which review is required as too low.

But there's a real plus in the order: Registration with any one agency will mean automatic cross-filing with all others.



DANISH EMBASSY Natural Cleft slate panels add dignified zest to the modern lines of the new Danish Embassy, in Washington, D.C. Architect—Vilhelm Lauritzen; Consulting Architects—The Architects Collaborative.



NEAL Cleft Slate tiling accents le motif moderne at the new W. E. Neal office building in Minneapolis. Architect—Donald Hustad.

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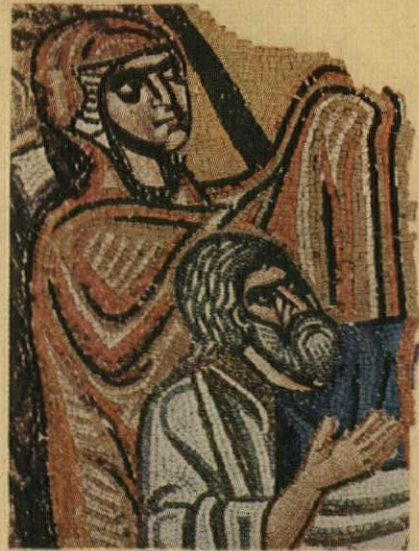
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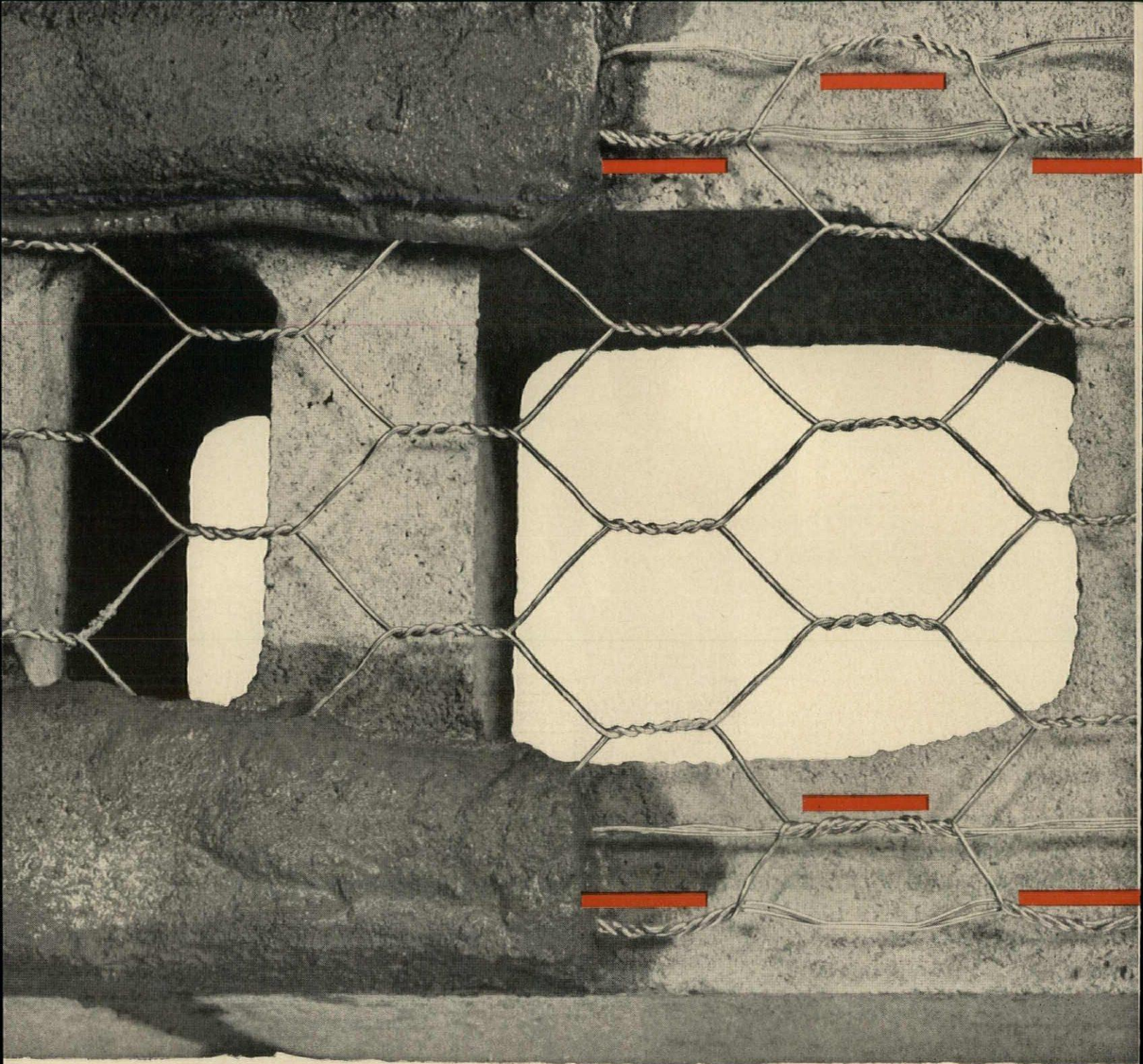
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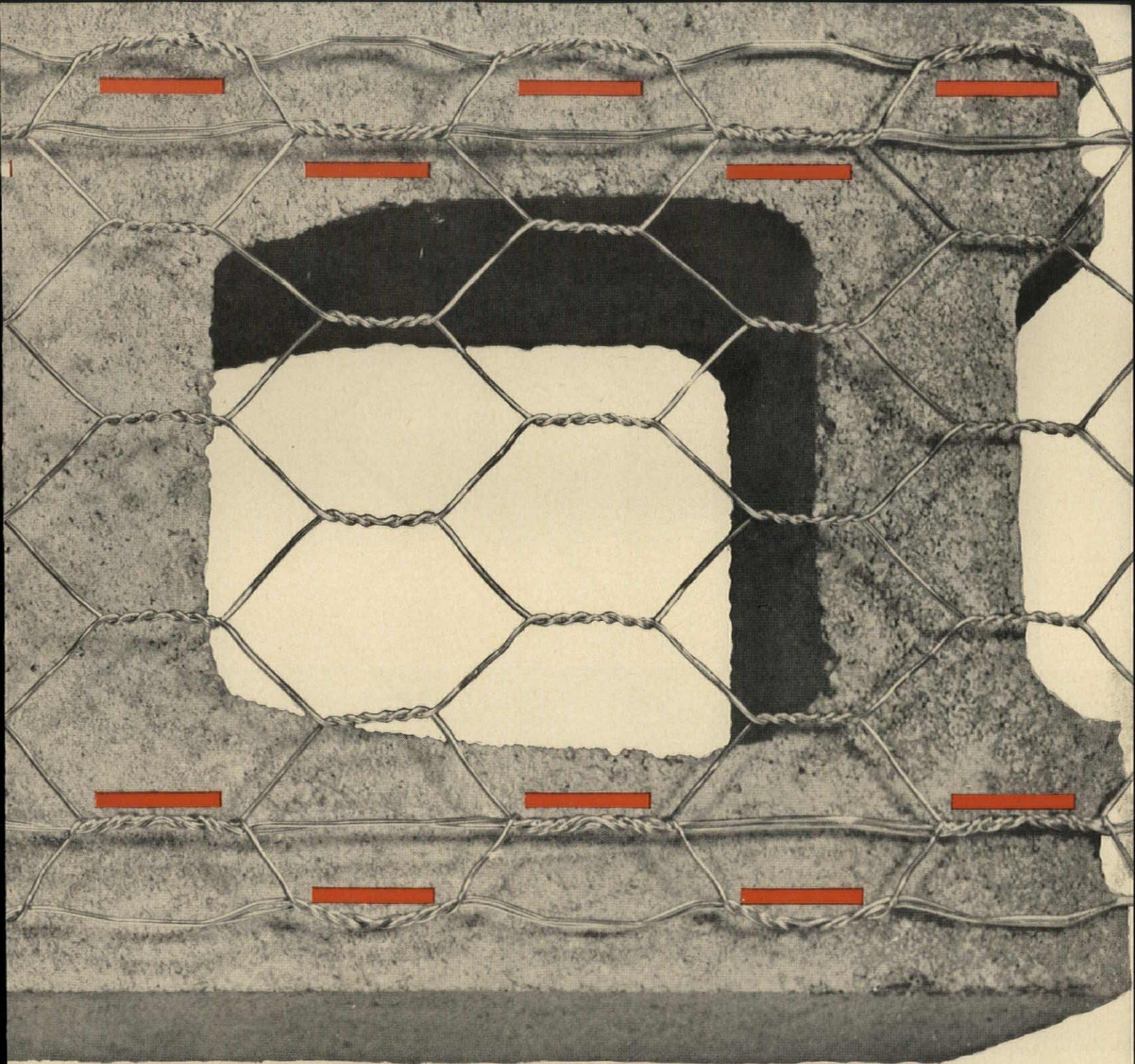
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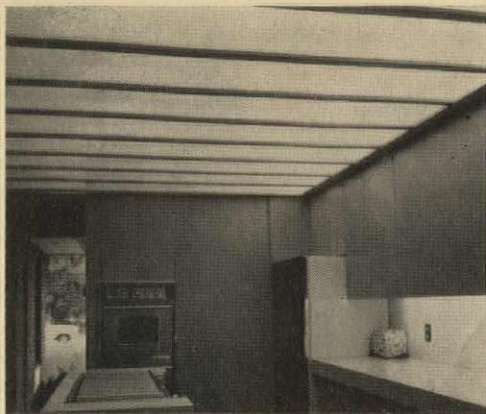
framing. No messy plaster dust. No lingering paint odors. What's more, the Marlite line (styled by American Color Trends) includes an array of beautiful colors, decorator patterns, and authentic Trendwood finishes.

Get complete details before starting your next building or remodeling project from your building materials dealer, or consult Sweet's File or write Marlite Division of Masonite Corporation, Dept. 114, Dover, Ohio.

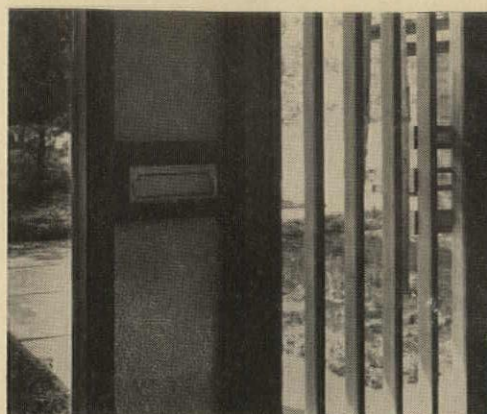
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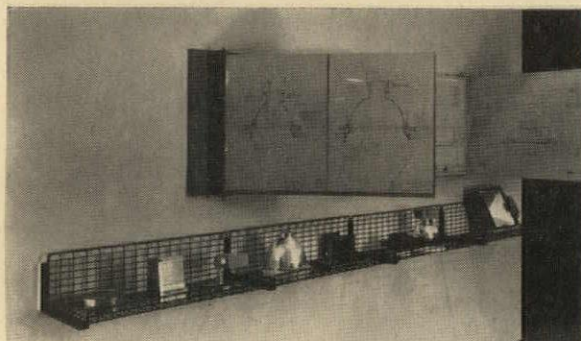


"Styrocel" is a large-cell, rigid foam plastic board with both light transmitting and insulation properties. The material, which has been tested for three years in various field applications, has, in a 1" thickness, light transmission of 65 per cent and a "k" factor of .48 to .52. With glass or plastic facings, this thickness has twice the insulating value of a hermetically sealed, double glazed thermal window. Styrocel is also produced in 1½"



and 2" thick boards, 16" wide and 96" long. A copolymer of styrene and methyl methacrylate, it has undergone 16,000 hours exposure under fluorescent light and 3000 hours of fadeometer exposure without significant change in color. Standard adhesive applications, such as epoxy, acrylic, and polyvinyl acetate, can be used for bonding the sheet to glass or plastic. Dow Chemical Co., Midland, Mich.

On Free Data Card, Circle 100

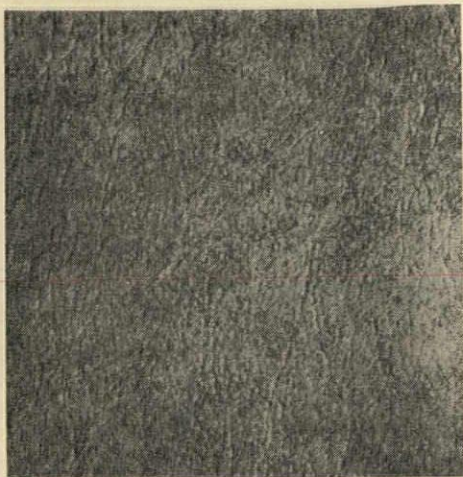


In its new New York showrooms, designed with Architect Oliver Lundquist, Lightolier has devoted a whole floor to architectural application of lighting, concentrating particularly on four areas: small-scale "previews" of effects; synchronizing lighting with mechanical services; installing with different ceiling types; and close-at-hand examination of fixtures themselves. To provide samples of how different lighting schemes will work out, the company has constructed a series

of light boxes with varying controls (top, left) to show the effect of various kinds of lighting on perception of form, color, texture, and ease and accuracy of seeing. To indicate how recessed lighting fixtures go into a project together with other facilities, there are color-coded drawings of these units hinged to the wall for easy reference (top, right). Below, in vinyl-coated wire trays, are the actual Lightolier products, so the architect can examine closely what he is specifying. Finally,

recessed units have been installed in a variety of ceiling systems (above) including plaster and various kinds of acoustical tile supported by different types of exposed and concealed framing. The whole system can be changed to show fixtures in all kinds of ceiling materials. Thus, one can see at first hand exactly how the lighting fixtures will work in the ceiling systems. Lightolier, 346 Claremont Ave., Jersey City 5, N.J.

On Free Data Card, Circle 101



Leather-Like Vinyl Upholstery

A bright-finish, expanded vinyl upholstery material, styled in 13 leather colors, has been introduced by the Fabrics Division of the Du Pont Company. Called "Deep Soft Paddington," the new pattern is very close in appearance to leather; it is pleasant to the touch, nearly approximating leather in texture. Elastic backing permits "Paddington" to be tailored smoothly and to spring back neatly after use. Fabrics Division, E. I. Du Pont de Nemours and Company, Nemours Building, Wilmington 98, Delaware.

On Free Data Card, Circle 102

Central Dimming for 1200 Fluorescent Lamps

According to developers of new "Master-Slave" fluorescent dimming system, it is now possible—for the first time—to control light intensity of up to 1200 fluorescent lamps from one central and compact wall device. Light in an area of several thousand square feet (of ceiling fixtures or illuminated ceilings) can be varied from zero intensity to full brilliance with one turn of the knob. Thomas estimates that the system will save at least 25% over any previously existing dimming system. It is available as a complete system or in combination with fixtures manufactured by the company's Moe and Benjamin Divisions. Thomas Industries Inc., 207 E. Broadway, Louisville 2, Ky.

On Free Data Card, Circle 103

Improvements in Aluminum-Coated Steel

Armco has been granted a patent on a new process that upgrades the finish

on aluminum-coated steel, a material first introduced by Armco in 1939. The process improves both the adherence of the aluminum coating and its surface quality by treating steel strip with sodium vapor prior to hot-dipping in aluminum. Building panels fabricated of the new aluminum-coated steel combine the best properties of the two materials—the strength of steel and the heat- and corrosion-resistance of aluminum. Armco Steel Corp., Middletown, Ohio.

On Free Data Card, Circle 104



Vacuuming System Has Burglar and Fire Alarms

New "Triple-Service" system for homes is offered by H-P Products with their "Vacu-Flo" line of built-in vacuuming systems. Now incorporated into the inlet valve of the cleaning system are a fire-detecting system complete with alarm and a prowler-chasing system. The device utilizes a small, highly sensitive thermostat which, in case of fire, electrically triggers an alarm that is heard throughout the house. The alarm continues to sound as long as the temperature remains dangerously high, or until the alarm is turned off manually. The same warning also operates as a manual prowler-chasing unit. By pressing a button located on the wall valve, the alarm can be sounded to frighten away burglars; it continues to sound until the button is pressed a second time. H-P Products, Inc., Louisville, Ohio.

On Free Data Card, Circle 105

Instant-Setting Concrete

An unusual concrete product has been developed for use in the repair of masonry surfaces, particularly those under water or exposed to temperature extremes. "Perma-Cement" takes its initial set in 4 to 5 minutes, its final set in 30 minutes. The material has three times the bonding strength of ordinary cement grout and will also bond to wood or metal. After a full cure, it develops a compressive

strength in excess of 6000 psi, and it does not expand or contract. Unlike ordinary concrete, it has a very high degree of chemical resistance, and high temperatures will not cause it to crack. The material can be gunited, trowelled, or worked by hand. Although of particular value in the repair of roads, bridges, pilings, and seawalls, Perma-Cement is also suggested for a wide variety of residential and commercial work—sealing cracks or separations in concrete floors, repairing concrete or tile roofs, permanently grouting machinery or ornamental iron in place. L. F. Popell Co., Inc., 2501 N.W. 75th St., Miami 47, Fla.

On Free Data Card, Circle 106



Invisible Legs

Among recent additions to the Helikon line of office furniture, which include occasional tables and case pieces suitable for residential interiors, is the table illustrated. Designed by Hans Krieks, this technically flamboyant piece has a base of tempered glass and a top of rosewood or teak. 66" wide x 21" deep x 15" high. Helikon Furniture Co., Inc., 543 Madison Ave., New York 22, N.Y.

On Free Data Card, Circle 107

Heat-Absorbing Glass in New Warm Color

New "Solarbronze" is described as "the first major heat-absorbing plate glass to be produced in the warm color family." The glass is a tawny shade similar to dark topaz with a slight rose tint. In addition to its heat-absorbing characteristics which meet Federal specifications, and its control of glare and brightness, the glass has a warm softening effect on interiors. Solarbronze is produced in three thicknesses— $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ ", with visible light transmission ranging from 51% down to 28%. Pittsburgh Plate Glass Co., 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

On Free Data Card, Circle 108

A FEW OUTSTANDING BUILDINGS FEATURING POOLS AND PLANTERS LINED WITH LEAD

AMERICAN AIRLINES BUILDING (pool)
Idlewild Airport, New York
Architects: J. Gordon Carr & Assoc.

COBO HALL (pool and planter boxes)
Detroit.
Architects: Giffels & Rossetti

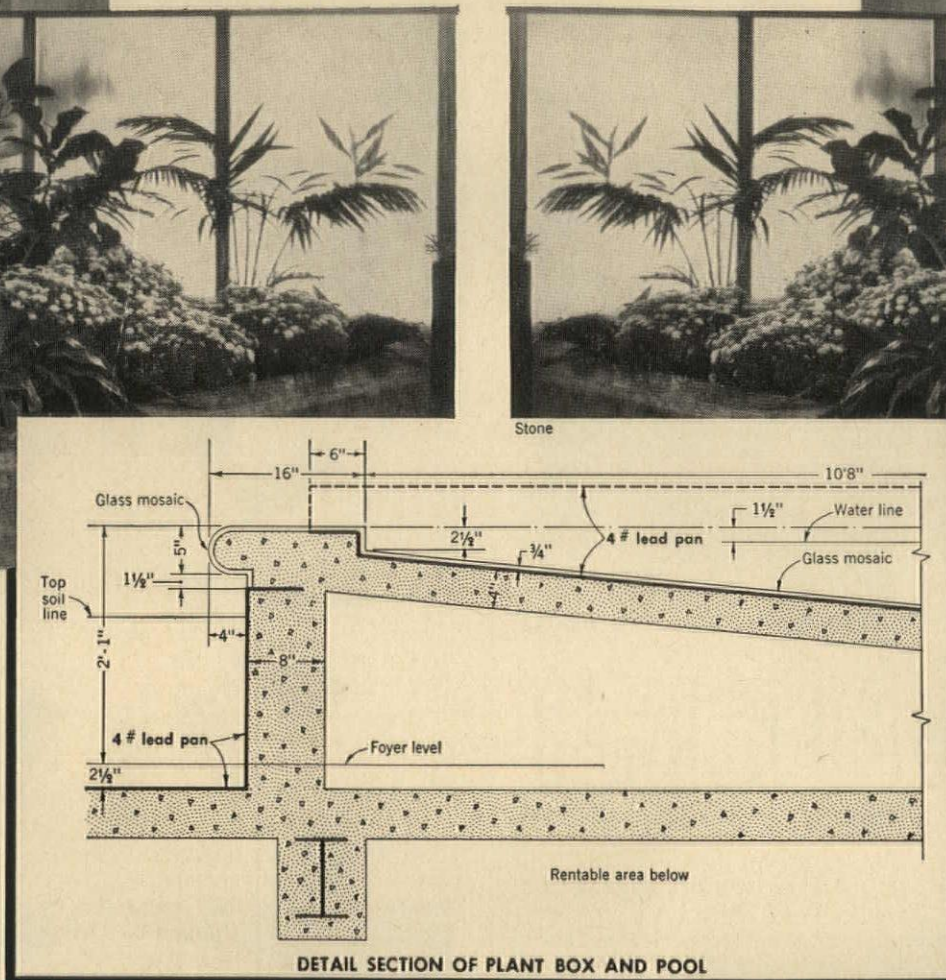
TIME & LIFE BUILDING (pools)
New York.
Architects: Harrison & Abramovitz

BLUE CROSS BUILDING
(pool and planter boxes)
St. Louis, Mo.
Architects:

Heilmuth, Obata & Kassabaum

LINCOLN CENTER (pools)
New York — under construction.

UNITED NATIONS LIBRARY (pool)
New York.
Architects: Harrison & Abramovitz



Enchant the eye...keep downstairs dry

Lead-lined planters and pools add dramatic flair to more and more of the nation's exciting new buildings . . . and assure full protection from leakage to occupants of the valuable space beneath.

Why lead for the linings? Because there's nothing that approaches it in combining easy conformation to any shape, corrosion-free watertightness, low installation cost. And on top of that, lead lasts forever.

How easy lead is to use is demonstrated by the

section detail of pool and planter at the world's largest exhibition building, Detroit's Cobo Hall. Lead-lined pools and planters are aesthetic highlights, also, of the other distinguished buildings listed here.

Architectural uses for abundant and cooperative lead range from footing pads that tame vibration to roofing that defies the centuries. Want detailed technical data on any of these uses? Write Lead Industries Association, Inc., Dept. N-1, 292 Madison Avenue, New York 17, New York.

For more information, turn to Reader Service card, circle No. 317



Look Ahead with Lead

LEAD INDUSTRIES ASSOCIATION, INC.
292 Madison Avenue, New York 17, New York



Now available from Ronan & Kunzl... the only

CONCEALED CLOSER

WITH ALL THESE FEATURES

• **FITS 1 3/4" x 4" METAL HEADER**

(R & K design allows large hydraulic displacement within slim cross section.)

• **FREQUENT ADJUSTMENTS NOT NEEDED**

(New design valve passages are self-flushing.)

• **"LEAKERS" BELONG TO THE PAST**

(Hydraulic system is separate from pivot mechanism — makes both systems function better!)

• **ADJUSTABLE CLOSING SPEED AND TENSION**

• **DOOR WEIGHT SUPPORTED AT BOTTOM**

(Floating arm upper pivot relieves strain on closer and transom.)

• **VERSATILITY — *EITHER MODEL IS —**

- Hold Open or no hold open
- Single or double acting
- Right or left hand

*Model C85—Center hung, 85° opening, 90° hold open.

Model C90—Center hung, 90° opening, 100° hold open.

Both models available with either end or side load arms.

See our files 19E/RON and 19E/RO in Sweet's Architectural File or write direct for literature.

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RONAN & KUNZL, Inc.

Marshall, Michigan

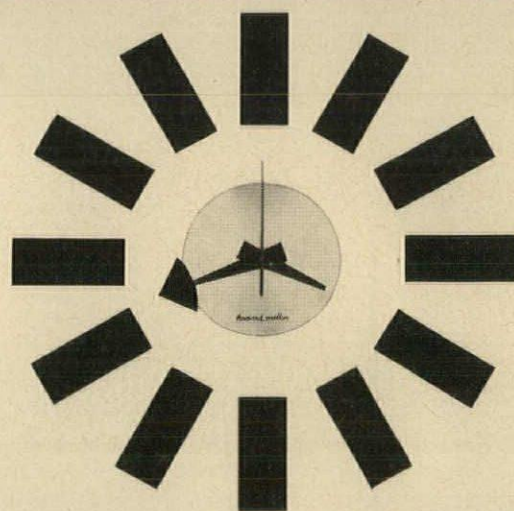
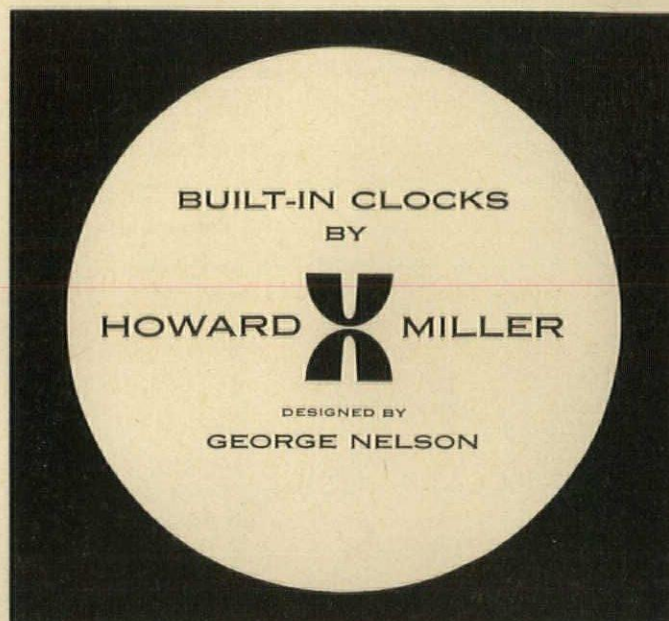
Phone STory 1-2861

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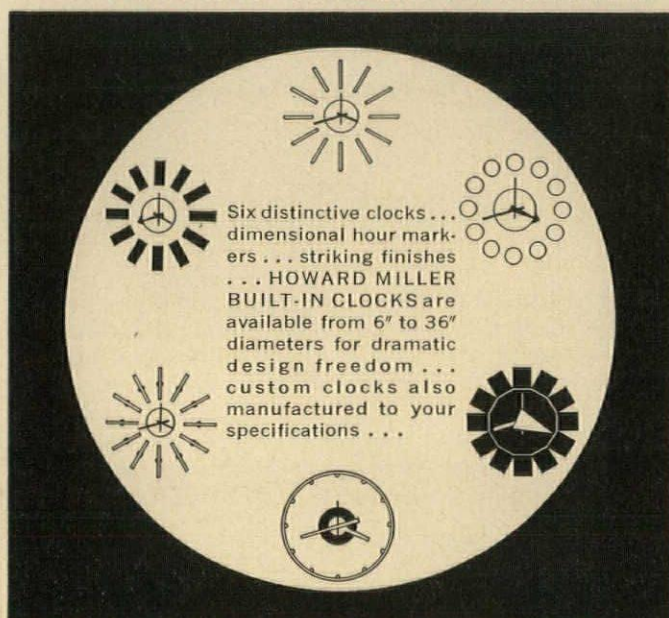
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... Smooth, Silent Electro-Hydraulic
... Extra Rapid Opening



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No. 6772 16" or 23" dia. ... black, white or aluminum hour indicators ... black or white hands ... white or aluminum center disc.



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BUILT-IN DIVISION / ZEELAND, MICHIGAN

For more information, turn to Reader Service card, circle No. 322

AIR/TEMPERATURE

Guide to Sound Levels of Power Exhausters

New 12-page bulletin describes power roof and wall exhausters that for the first time permit selection of both air-moving capacity and sound level to fit specific requirements. A recommended loudness guide helps engineers decide the sound level desirable for any application. In addition to some-value data for every roof exhauster, *Bulletin 2CE* also gives full specifications, performance data, and dimensions. Among the Jenn-Air products are centrifugal wall and roof exhausters, sound-attenuating curbs, and relief vents. Jenn-Air Products Co., Inc., 1102 Stadium Dr., Indianapolis, Ind.

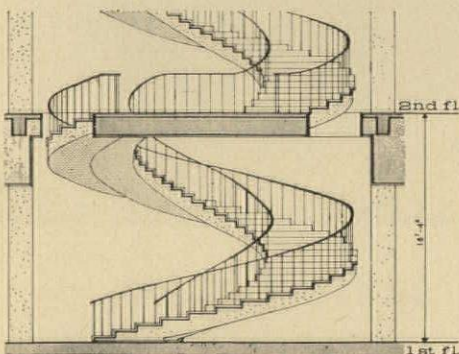
On Free Data Card, Circle 102

Revolving Heaters

Selection and application information on overhead revolving-discharge heaters is provided in new 20-page bulletin available from L.J. Wing. The bulletin illustrates comfort and cost-saving advantages of the revolving-discharge principle, plus construction features of the units. Typical layouts and hanging details are provided, and information is tabulated for both steam and hot water. L.J. Wing Manufacturing Co., Div. of Aero-Flow Dynamics, Inc., Linden, N.J.

On Free Data Card, Circle 103

CONSTRUCTION



Industry Specs for Interior Marble

American Standard Specifications for Interior Marble, published by the Marble Institute of America and approved by the ASA, is a revision of

a standard approved in 1948. The new edition aims to embody the best practices known to the marble trade—fair to both purchaser and contractor—and serves as a convenient reference for architects and specifications writers. The booklet has 14 pages of written specs covering samples, models, carving, measurements, shop drawings, etc. Then follow 19 plates of detail drawings—from floors, walls, and columns, to altars, bank counters, and shower stalls. Write (on letterhead) to: Marble Institute of America, Inc., 32 S. Fifth Ave., Mt. Vernon, N.Y.

Rigid Vinyl Panels

Methods, equipment, and accessories for installing Monsanto's rigid vinyl building panels are detailed in new 6-page booklet. Techniques for cutting, drilling, and attaching the panels are designed to give greatest durability, economy, and speed. A variety of architectural details are shown—for flashing, monitors, and penthouses. The rigid vinyl panels are highly resistant to fire, weather, corrosion, and wear, and are recommended as an economical answer to roof and wall daylighting, decoration, and light distribution. Building Products Dept., Monsanto Chemical Co., St. Louis 66, Mo.

On Free Data Card, Circle 104

Revised Manual on Shapes and Plates

Complete revision of the USS manual *Shapes and Plates* contains properties and dimensions for all currently produced structurals and plates, as well as many associated products. Included for the first time in this book are the chemical and mechanical properties of the constructional steels, plastic design data, T's split from the new lightweight sections, special shapes, and plate tables showing width up to 195". As new revisions are made, additional loose-leaf pages can be added to the manual, which now weighs in at 107 pages. United States Steel Corp., 525 William Penn Place, Pittsburgh 22, Pa.

On Free Data Card, Circle 105

Self-Nailing Clips

Completing a line of self-nailing fastenings are new component clips that have many applications in wood construction—joist to header, gable studs to plates and rafters, truss or rafters to wall, post-and-beam con-

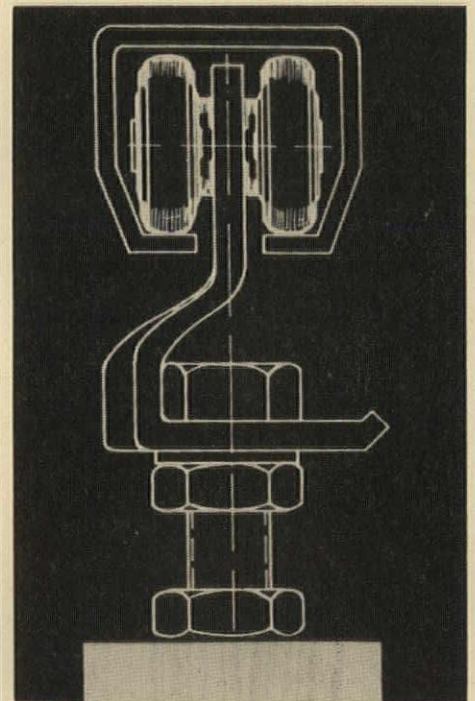
nections, etc. Made of 18-gage zinc-coated steel, clips have integral barbed nails for increased holding power. They are applied with a regular carpenter's hammer, and do not require the "third hand" needed for ordinary fastenings. Catalog, 18 pages, gives data and details on the manufacturer's full line of truss clips. The panel-Clip Co., Box 423, Farmington, Mich.

On Free Data Card, Circle 106

DOORS/WINDOWS

New Hardware Line for Folding, Sliding Doors

New line of hardware for medium or heavy sliding, folding, and accordion doors is presented in 26-page catalog. Unlimited applications are made pos-



sible with less than 30 interchangeable parts and a standard track. Adaptations of the product to meet special conditions will be provided by the engineering department of House & Co. upon request. The various items are shown in photos and half-size details; final section of the catalog gives 12 pages of full-scale detail drawings for typical headroom conditions. House & Co., 219 E. 44 St., New York 17, N.Y.

On Free Data Card, Circle 107

Steel-Door Nomenclature

A new American Standard covering nomenclature for steel doors and steel

Continued on page 66



Our insulation won't soak up a drop from inside.



Or out.

Roofmate FR stays dry permanently!

Not a drop of moisture can work up through Roofmate® FR roof insulation. Nor can outside water soak in and destroy the insulating efficiency of Roofmate FR. So it makes a premium-quality roof that costs your client no more to begin with, much less in the long run.

Each Roofmate FR polystyrene foam board is millions of non-interconnecting air cells. These give it a low "k" factor (0.26!), prevent moisture migration and water absorption.

No more wet, soggy insulation that fails its job. No more roof blistering and cracking caused by waterlogged insulation—not with permanently dry Roofmate FR.

Roofmate FR is easy and economical for any roofing contractor to install. It comes in thicknesses conforming to standard "C" factor requirements. Want more data and specifications? Just write us: The Dow Chemical Company, Plastics Sales Dept. 1000EB1, Midland, Michigan.



For more information, turn to Reader Service card, circle No. 345

Continued from page 63

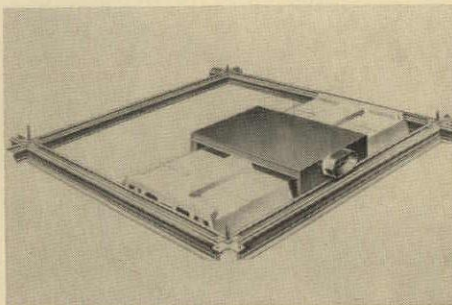
door frames has been approved by the American Standards Association and issued by the Steel Door Institute, the organization sponsoring the project. In addition to an alphabetical listing (and definition) of all common terms in the industry, the 8-page booklet contains 2 pages of drawings illustrating the standard terminology. SDI hopes that the new standard will eliminate some of the problems in specifying steel doors and door frames, and will reduce errors and misunderstandings. Steel Door Institute, 2130 Keith Bldg., Cleveland 15, Ohio.

On Free Data Card, Circle 108

ELECTRICAL EQUIPMENT

Integrated Ceiling

New "Colamar Mark-50" from Westinghouse is designed to control light, sound, and air diffusion from a single modular source. Each module contains a combination lighting fixture and air diffuser, acoustical tile, ceiling joinery, and provisions for movable partitions. Standard modules (all square) are 4'-2", 4'-6", 5', and 6'. Special sizes are



also available. Booklet, 4 pages, briefly describes the system, and illustrates its flexibility. Lighting Div., Westinghouse Electric Corp., Edgewater Park, Cleveland, Ohio.

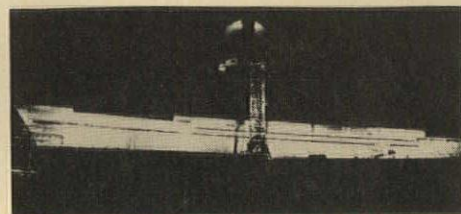
On Free Data Card, Circle 109

Large Selection of Circuit Breakers

Cutler-Hammer's new *Safetybreaker Selection Guide*, 40 pages, describes complete service-control equipment for residential, commercial, and industrial applications. The publication gives dimensional drawings and electrical data on a variety of panels—breaker main, fusible main, split bus, and combina-

tion meter-socket—plus more than 40 load-center devices. Also described are the surface, flush, and raintight enclosures available with the "Safety-breaker." Cutler-Hammer Inc., 332 N. 12 St., Milwaukee 1, Wis.

On Free Data Card, Circle 110



High-Power Floodlight with Advantages, Savings

Infranor's new bulletin describes advantages of the rectangular beam in the high-power INA-10 floodlight. Every fixture is engineered to its application, with adjustments of the multiple mirrors locked at the factory. The high-power floodlight (2000 to 5000 watts) allows placement of fixtures at distances of 500 ft or more. The rectangular beam (with sharp cut-off at all edges) allows exact and uniform

To make roofs of unusual design
WATERPROOF
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Specify ADDEX HEAVY DUTY ROOF SHIELD coated with ADDEX COLOR-SHIELD

Unusual roof shapes often present problems that conventional roofing materials can't handle. That's when to specify Adnex. No joints or lap lines mar the smooth white beauty of Adnex surfaces because Adnex materials feather-edge perfectly. ADDEX ROOF SHIELD has a sixteen-year record for providing highly durable waterproofing while conforming snugly to even the most difficult roof contours. Its combination of chemically-improved asphalt and tough glass fiber mesh provides unique protection against ugly, destructive cracking and blistering. COLOR-SHIELD is a brilliantly white surfacing developed exclusively for application over Roof Shield. Color-Shield resists soil penetration and chalks off at a controlled rate to retain its high reflectivity. And because it permits only one-fifth the amount of heat to enter the roof as a conventional black surface, Color-Shield keeps interiors cool in hot weather and cuts air conditioning costs.

For Adnex Roof Shield and Color-Shield specifications, write Dept. P-4, ADDEX MANUFACTURING COMPANY, WICKLIFFE, OHIO

For more information, turn to Reader Service card, circle No. 301

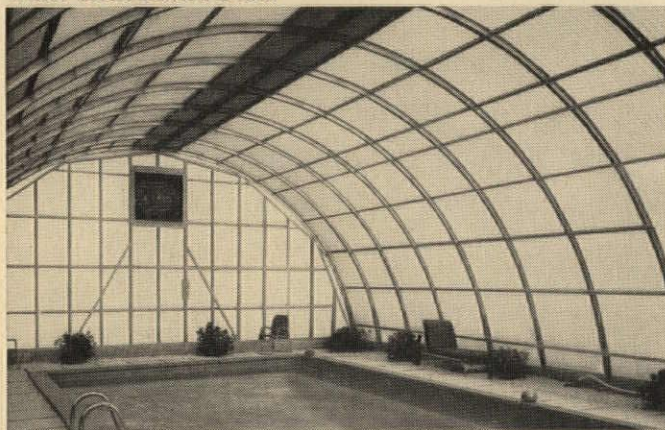
Grace Lutheran Church
Denver, Colorado
Architects: Baume & Polivnick



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FILON FACTS FOLDER: Eight pages of product data, specifications, construction details—full information. Write to FILON CORPORATION, Dept. 3-74, 333 N. Van Ness Avenue, Hawthorne, California.



CONSULT 1963 SWEET'S CATALOGS

Architectural File: 7D / Fil

Plant Engineering File: 11A / Fil

Light Construction File: 2F / Fil

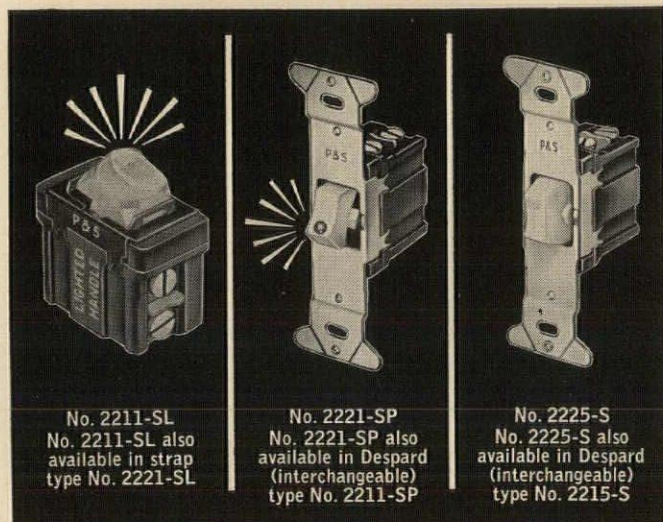


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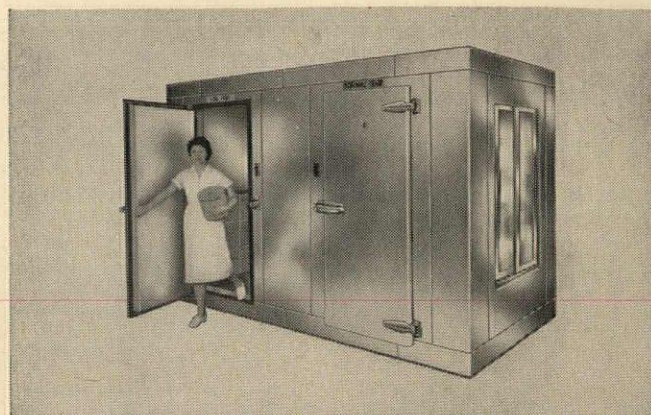
For more information write Dept. .PA-163



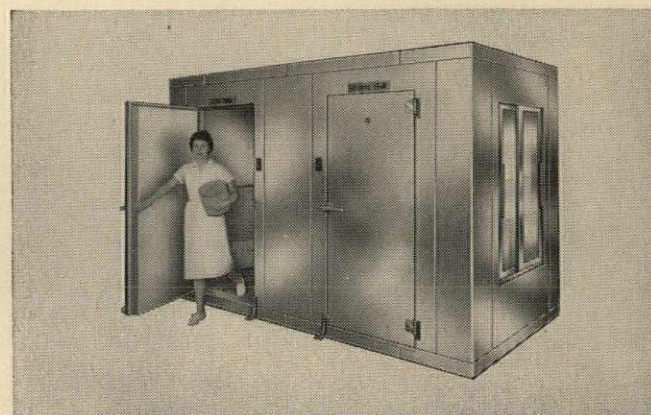
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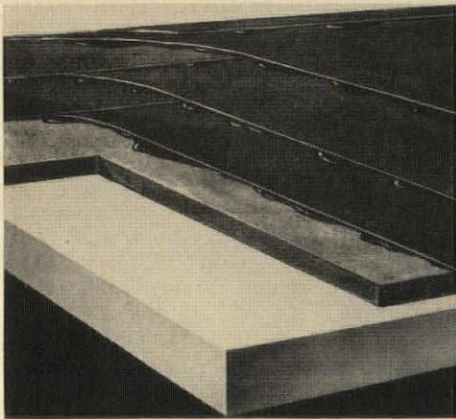
target coverage with a single unit even from this distance or at an angle. Full technical data and specifications are given in 4-page bulletin. Infranor of North America, Inc., 798 Silas Deane Highway, Wethersfield, Conn.

On Free Data Card, Circle 111

INSULATION

Unique Insulation for Built-Up Roofing

New 8-page illustrated folder describes installation methods and performance characteristics of "Roofmate FR," the only expanded-polystyrene insulation board with a high-density skin. Be-



cause of its water-resistance, there is no need for vapor barriers and water cutoffs. The folder discusses specific roofing systems that are compatible with Roofmate FR. In these systems, conventional built-up roofing is installed over a specially designed coated base sheet; both hand and machine applications are discussed. In addition, the folder presents the solution to some unusual roofing problems. Plastics Sales, The Dow Chemical Co., Midland, Mich.

On Free Data Card, Circle 112

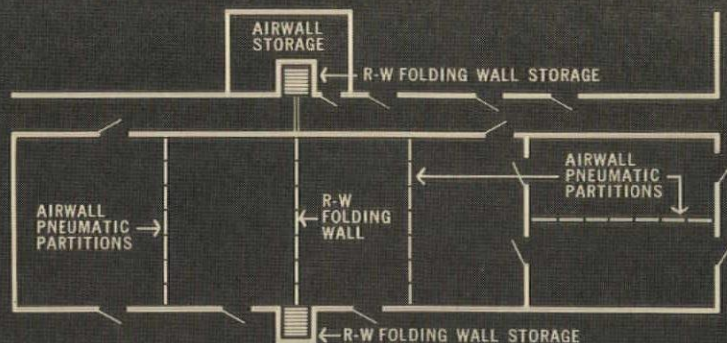
SANITATION/PLUMBING

Hospital Fixtures

Hospital Plans Book, 24 pages, is an informative guide to the type and suggested location of these special-purpose plumbing fixtures. The booklet contains 15 floor plans of various suites in a typical hospital, and shows the appropriate Crane fixtures for each area. Among the areas illustrated are administrative, diagnostic X-ray, outpatient, physical therapy, operating, surgery recovery, patient care, delivery, pharmacy, autopsy, and laun-

R-W FOLDING WALLS

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Floor plan of the R-W Folding Wall installations in the Drake Oakbrook Hotel, Oak Brook, Illinois. Architects: Walton and Walton, Evanston; Associate Architects: Shaw-Metz and Associates, Chicago. This is another excellent example of how R-W Folding and Movable Walls can be utilized to provide quiet, functional flexibility in hotels, motels, restaurants, schools, and institutions.

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For more information, turn to Reader Service card, circle No. 329

dry. Plans were developed by the Division of Hospital and Medical Facilities, U. S. Public Health Service. Plumbing, Heating and Air-Conditioning Group, Crane Co., P.O. Box 780, Johnstown, Pa.

On Free Data Card, Circle 113



ABS Pipe Manuals

In the interest of the ABS plastic-pipe industry, Borg-Warner is publishing a series of noncommercial manuals on the properties and uses of the material. First in the series is *General Information*, a 32-page book that defines the material and describes its advantages (light weight, outstanding chemical resistance, high impact and pressure strength even at elevated temperatures, low cost). This booklet also discusses principal factors to consider in system design and installation. Second man-

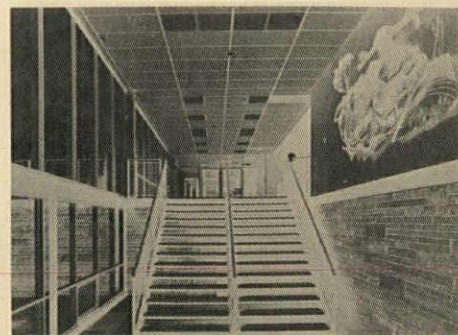
ual, *Water Supply and Distribution Systems*, details the use of ABS pipe for sprinkler systems (lawn and golf course), wells, and swimming pools. Recommendations and typical layouts are given. Marbon Chemical Div., Borg-Warner Corp., Washington, W. Va.

On Free Data Card, Circle 114

SURFACING MATERIALS

Comprehensive Specs on Terrazzo

1962 edition of NTMA's *Specifications and Technical Data*, 32 pages, contains the latest specifications, details, and recommendations on terrazzo in a single source of reference. Details are drawn to scale for tracing; specifications are detachable for direct copying. Booklet includes full discussion of all methods of installation (sand-cushion, bonded to concrete, monolithic), and all types of toppings (standard, Venetian, rustic, conductive, abrasive). Detail drawings show wainscots and partitions, stairs, precast, base, trench covers, and shower stalls. Information is also given on



divider-strip location, care of terrazzo, radiant heating and cooling, resiliency, and ultimate costs. Write (enclosing, \$1.00) to: The National Terrazzo & Mosaic Assn., Inc., 2000 K St., N.W., Washington 6, D.C.

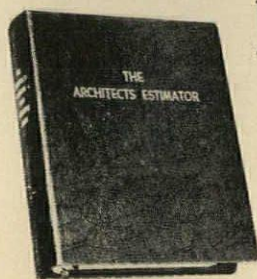
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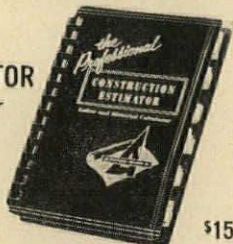


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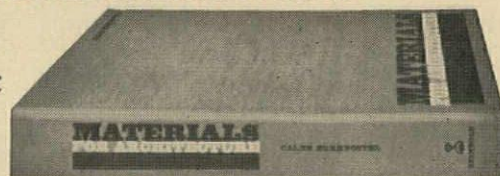
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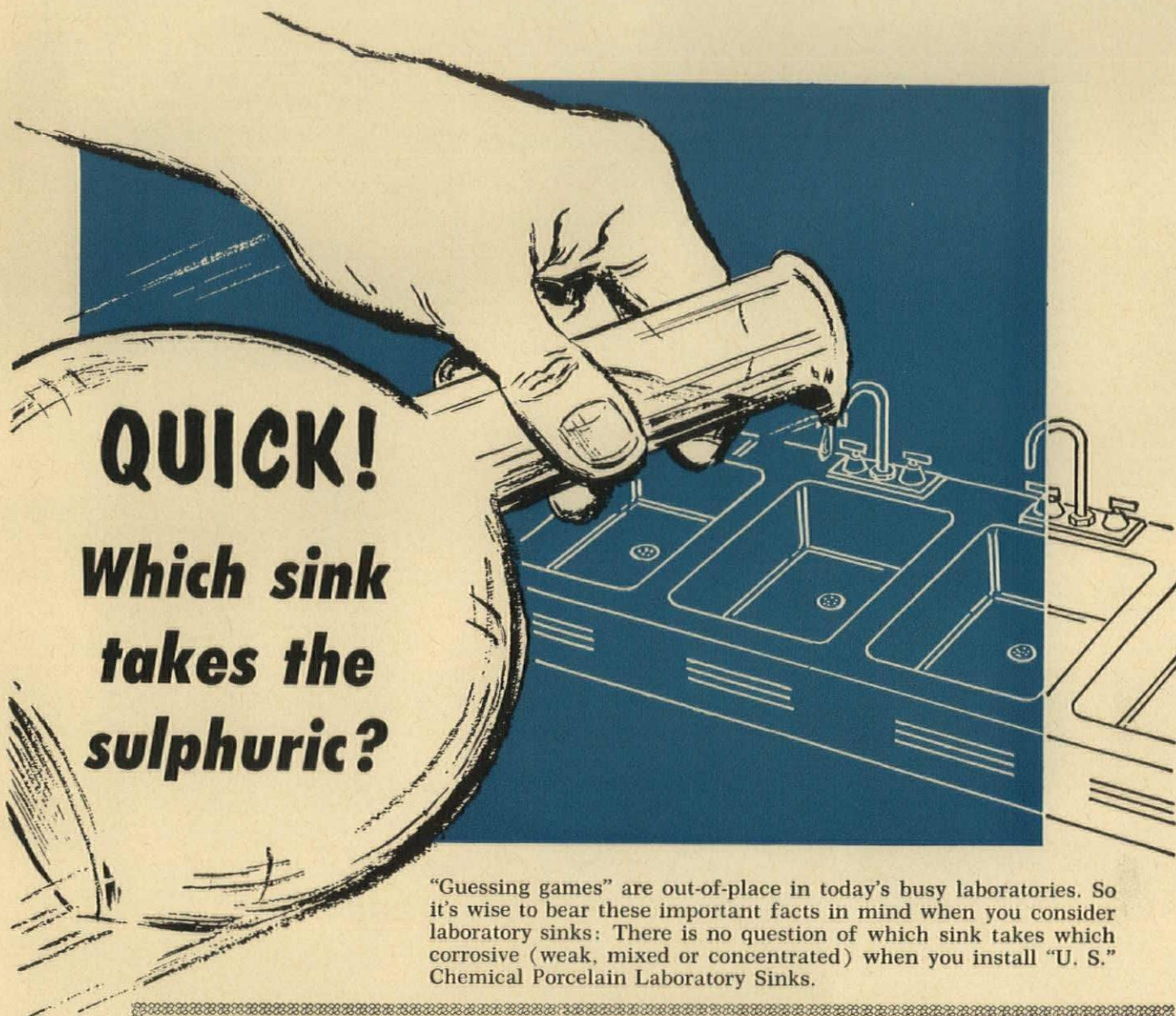
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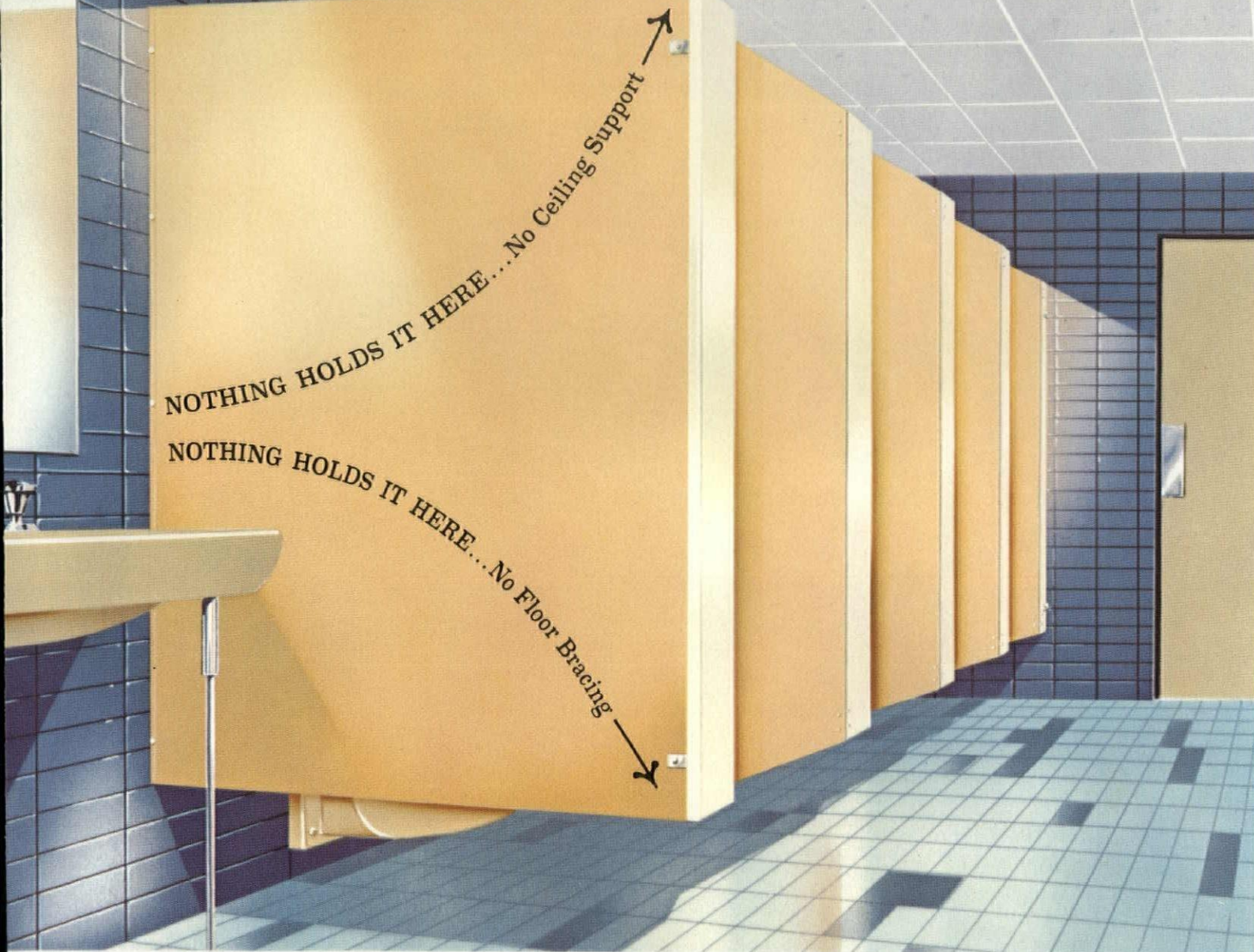
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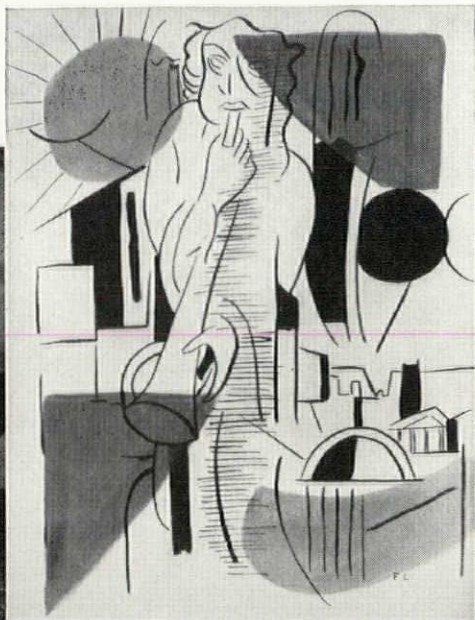
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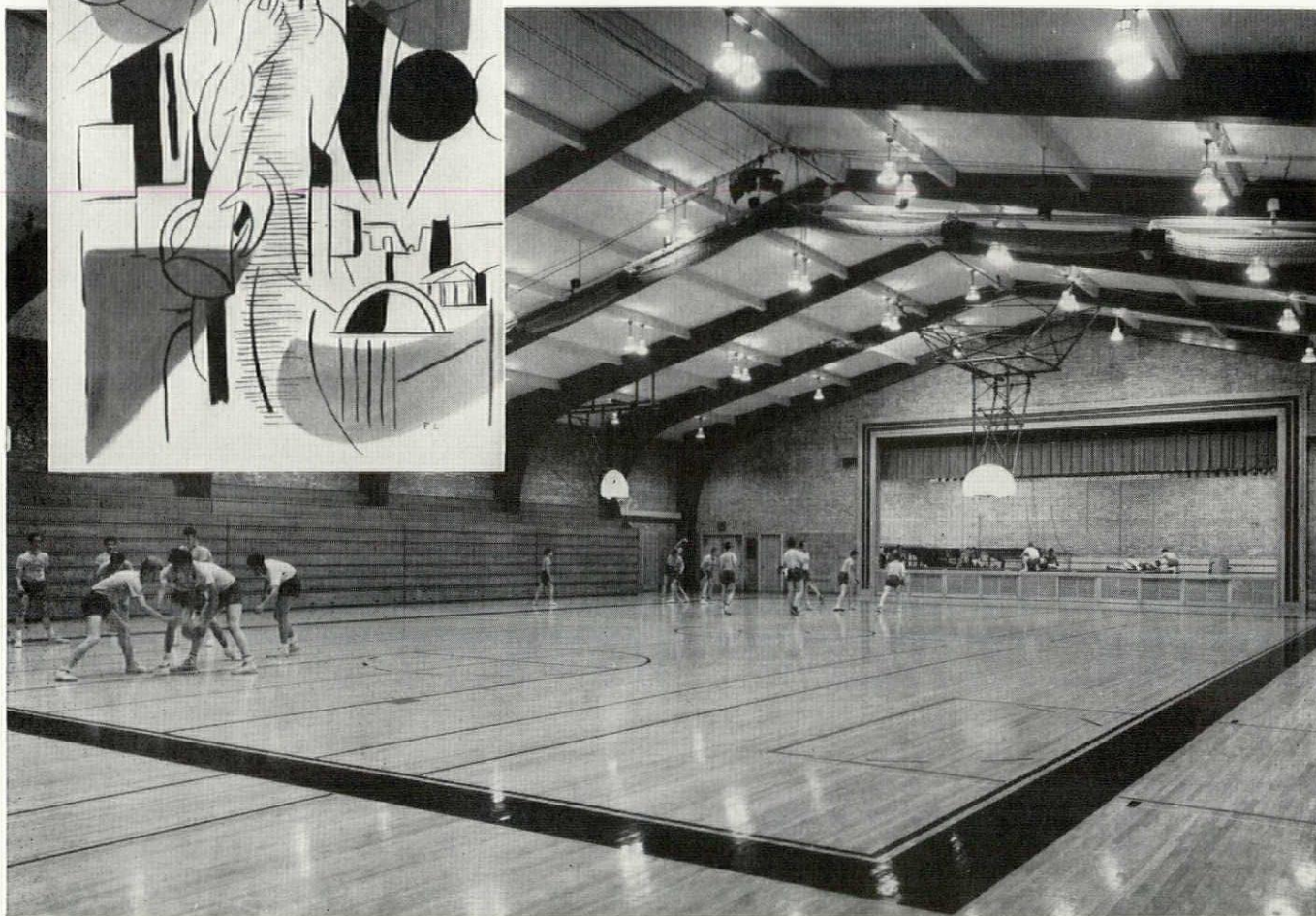
MARTIN MARIETTA

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(Left) "Aurora Bringing Daybreak to the City," composition in color and line by Fernand Léger (1881-1955), disciple of Cézanne, compeer of Picasso and Braque, greatly honored by his country. He's been aptly called "the primitive of moderns as well as the classic."

(Below) Tinley Park, Ill., High School gymnasium. Architects, Nicol & Nicol, Chicago. Photo by Bill Engdahl, Hedrich-Blessing, Chicago.



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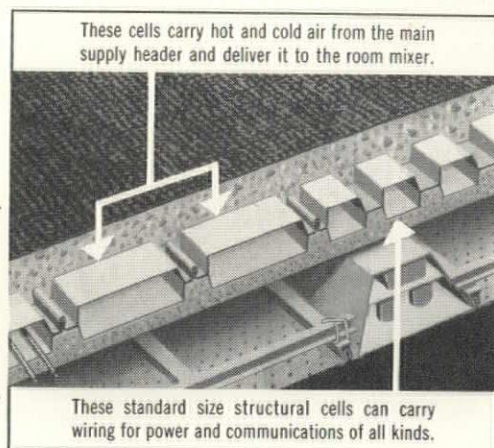
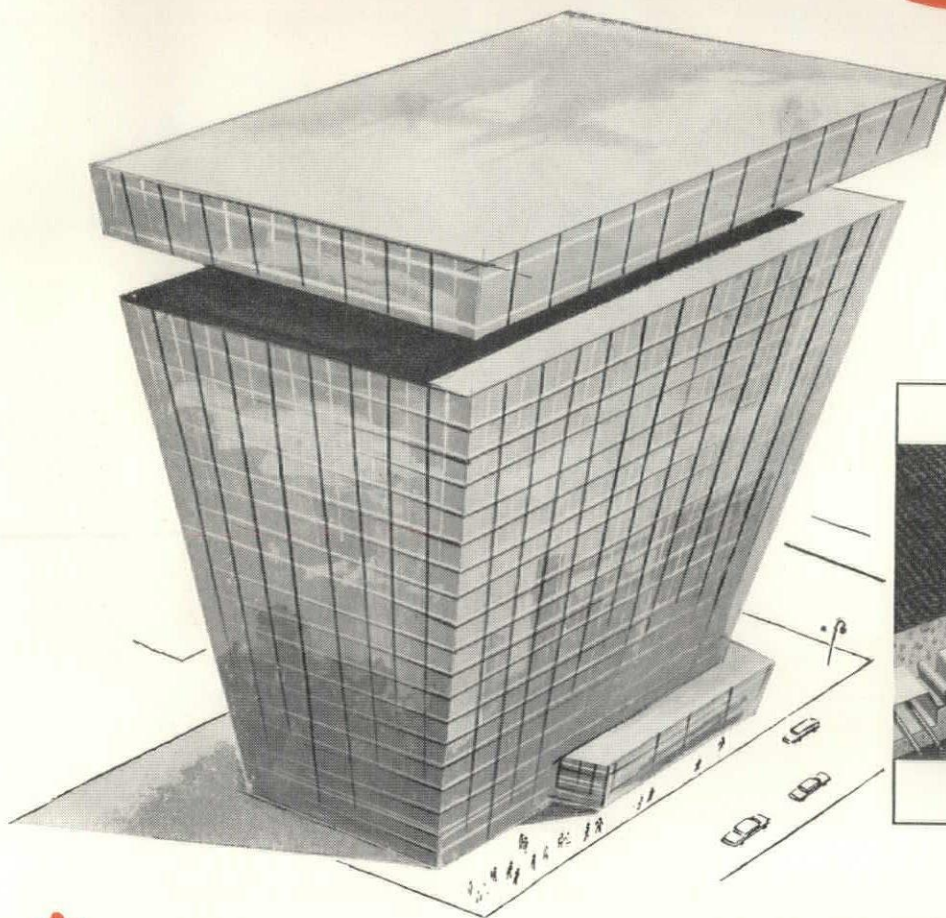
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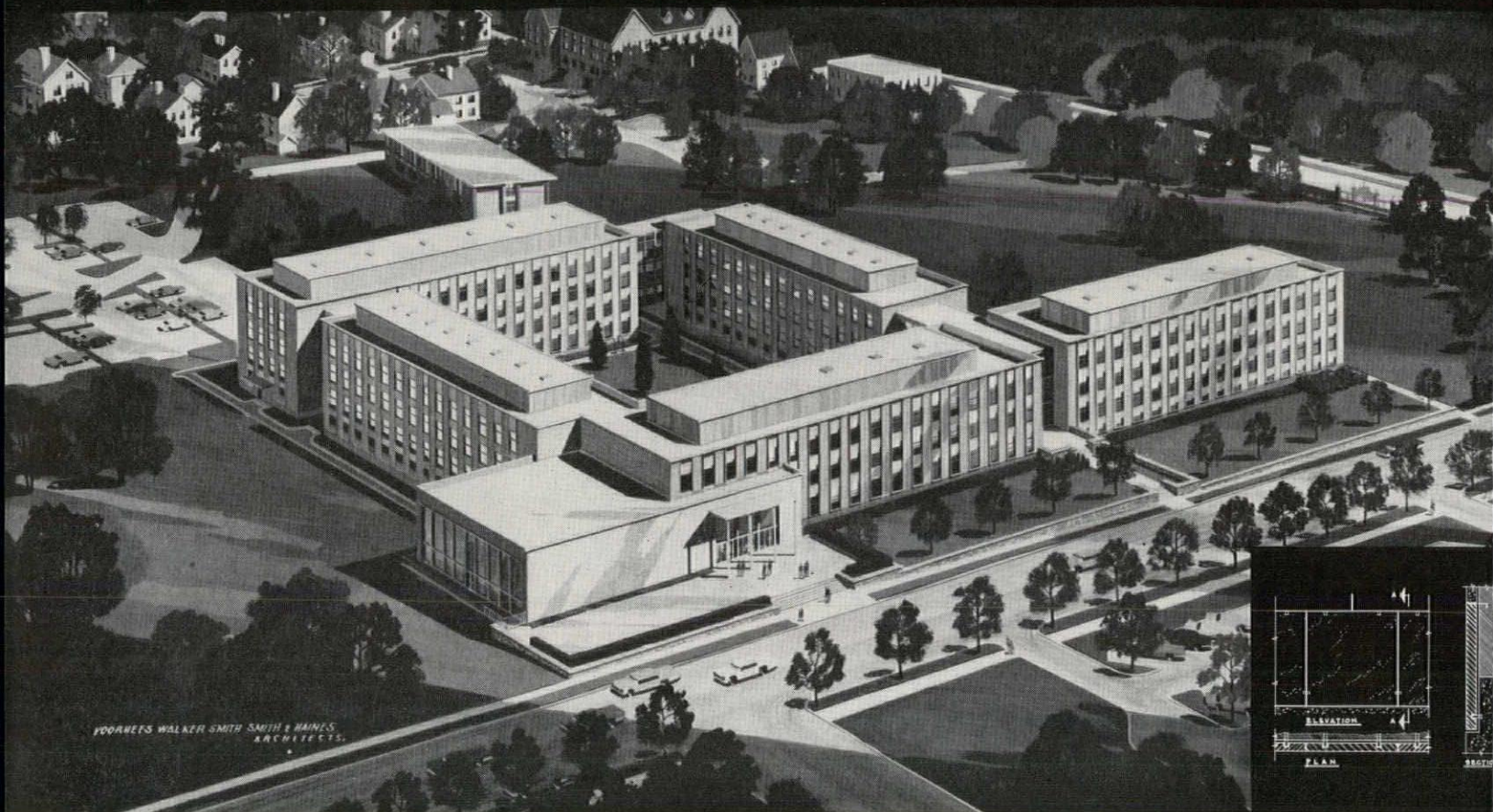
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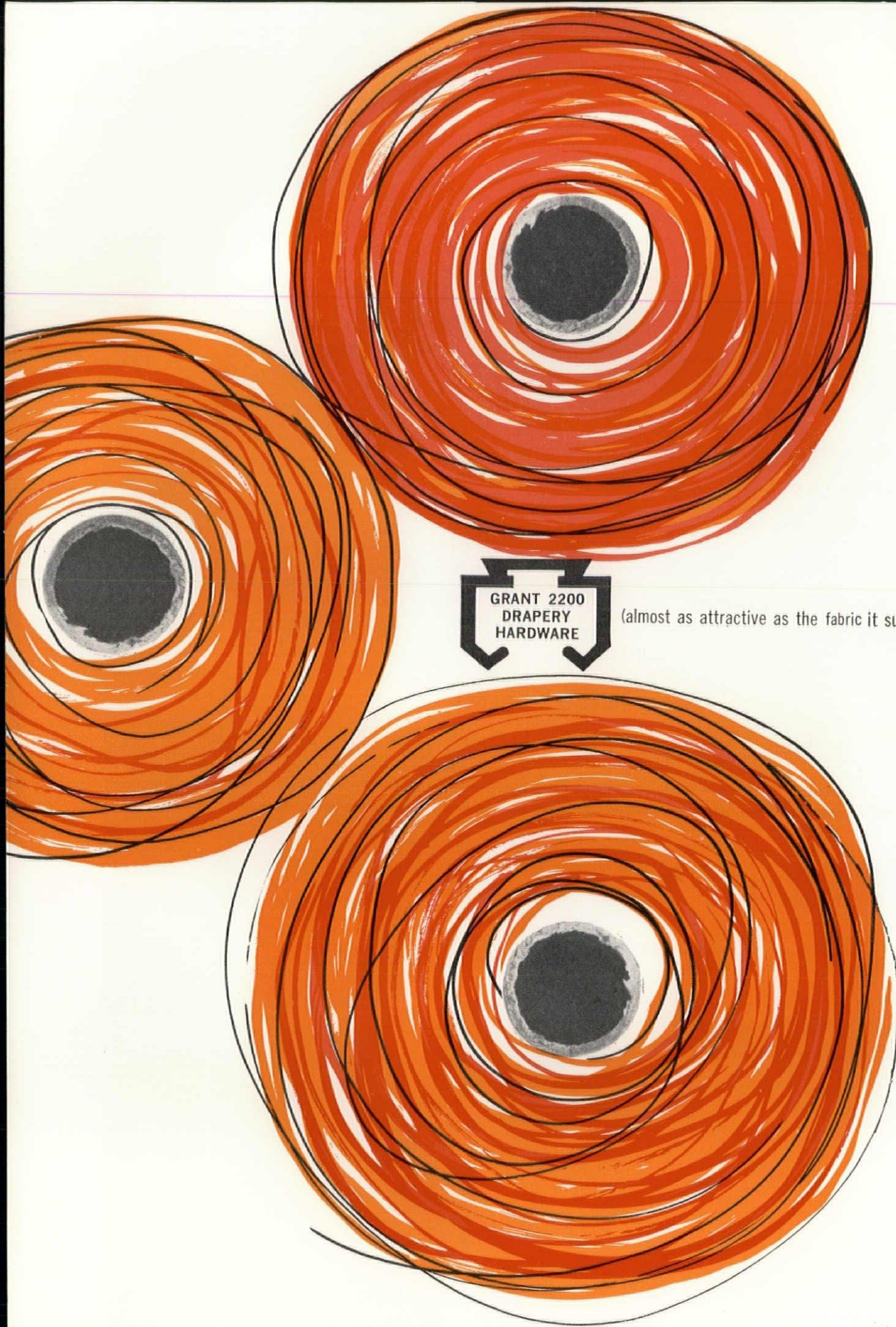


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FOREWORD

Ten Design Awards Judgments are part of history, and it is an indication of the speed of time that it doesn't seem ten years ago that I arrived late (having worked day and night for a week checking and arranging entries) for the first jury meeting. That year we had as jurors two remarkable people who have since passed on—George Howe and Eero Saarinen—and two whose judgment and skills still rank high—Victor Gruen and Fred Severud. In the years since then, the jury roster has included most of the great U.S. architects and engineers of our time; and the entrants (sometimes winners, sometimes not) have comprised the majority of our finest designers—familiar names, or unknown ones “discovered” for the first time. Through the years, the number of submissions to be judged has remained high, and the quality at a level that has always made selection difficult. “There are too many good designs here,” Eero Saarinen complained that first year. “We’re knocking out a lot of good things.” And each year the complaint has been the same: in selecting the *best*, it was necessary to eliminate many examples of the *very good*.

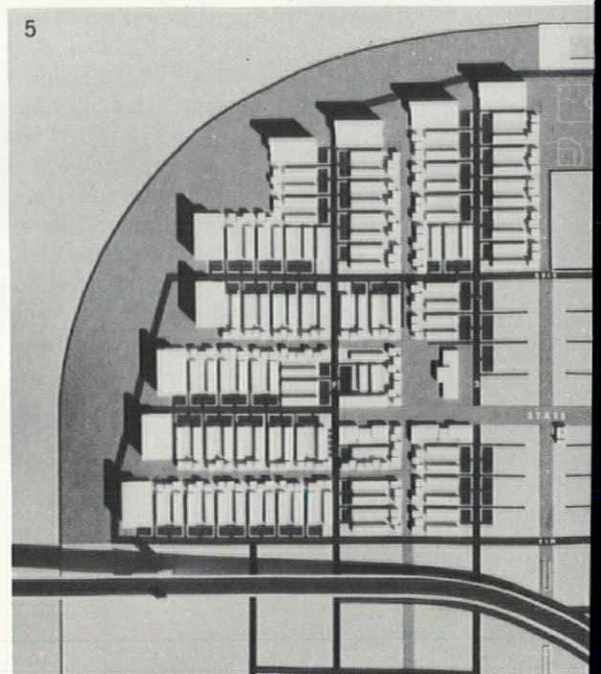
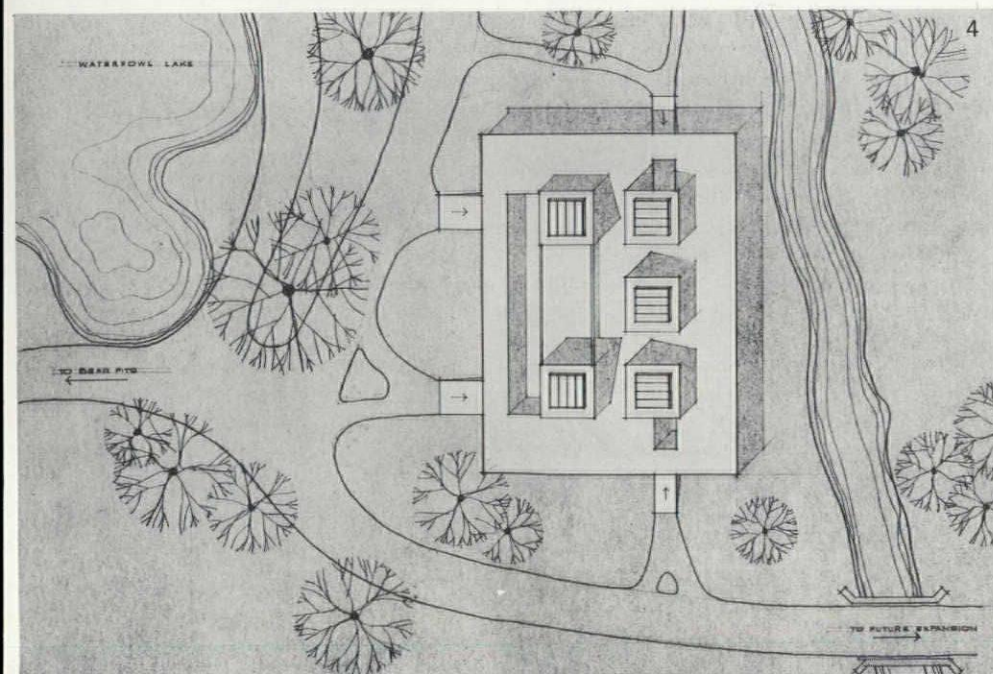
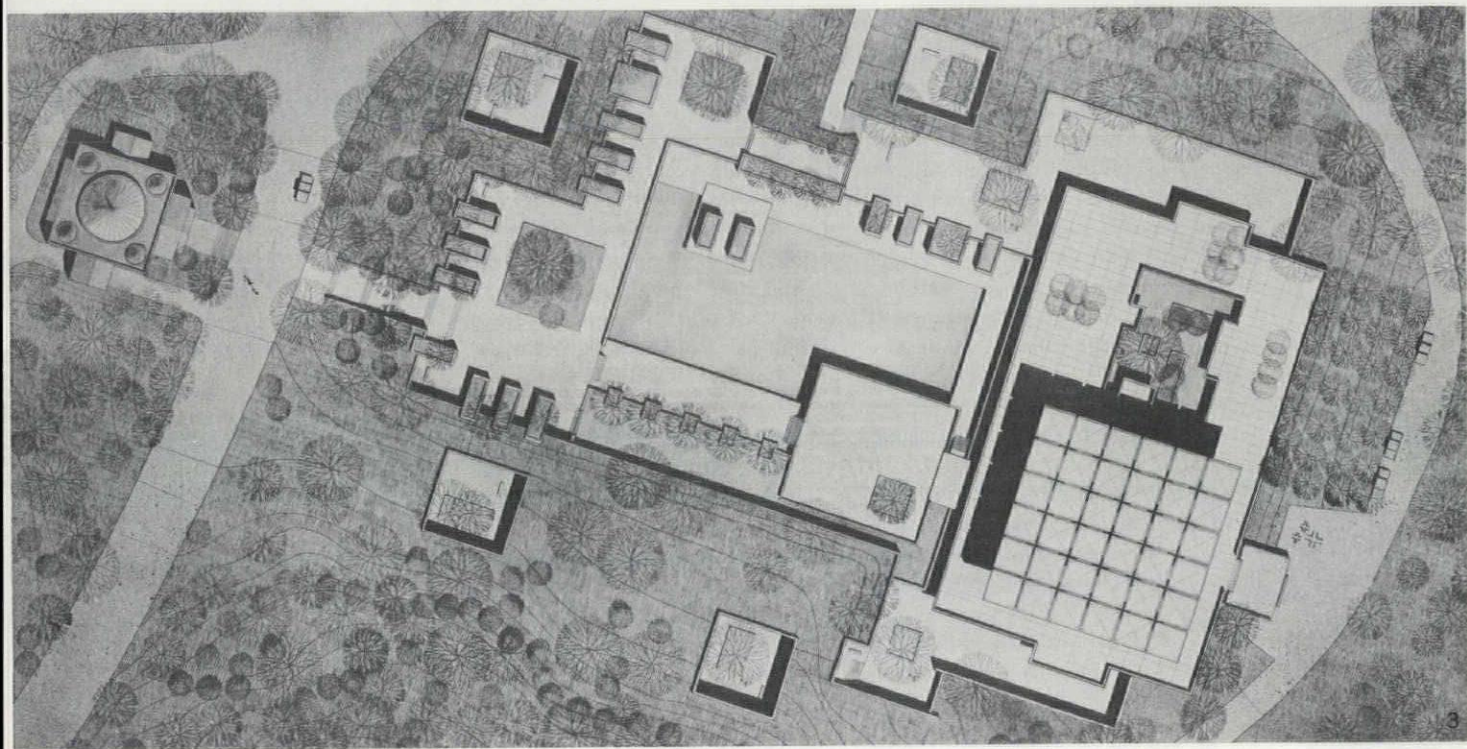
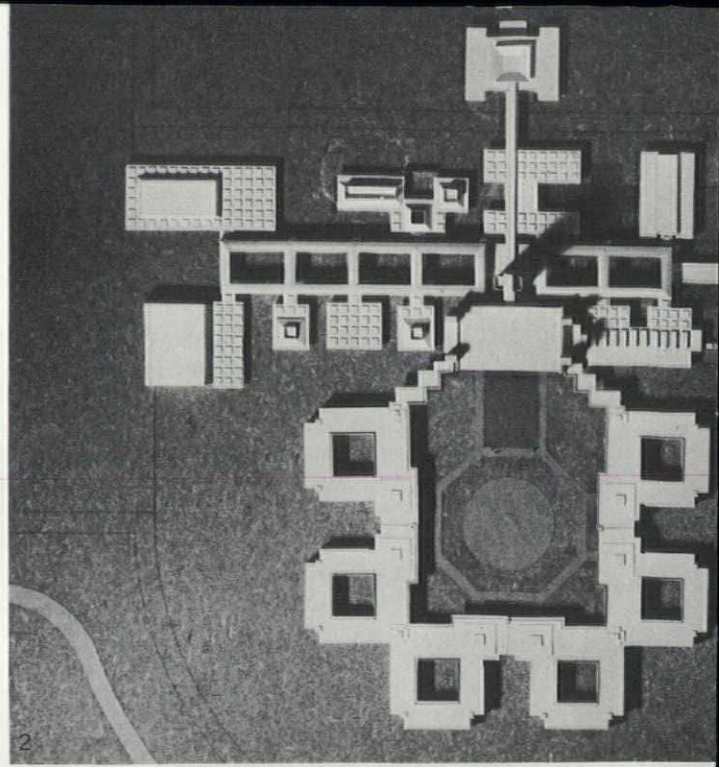
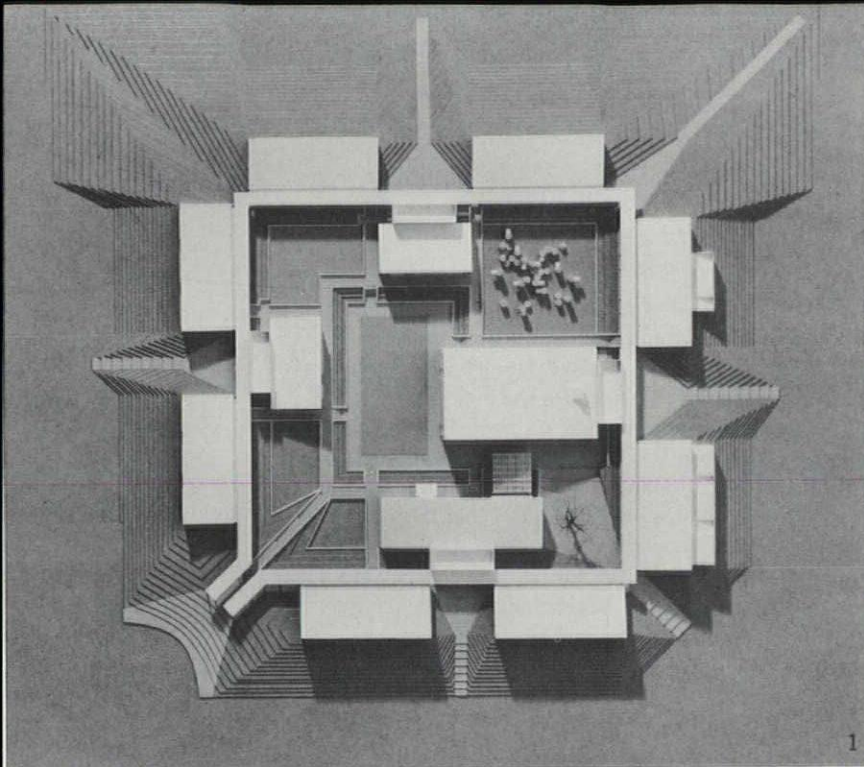
Among the things that might be considered accomplishments during the period of my editorship of P/A, I am most proud of the Design Awards Program. It is pointed out elsewhere in this issue that the Awards results through these ten years have reflected sharply—and at an early time, since these are preliminary designs—the trends and the changing directions within the architecture of the decade. And yet there has been a consistency among the premiated designs; from the very beginning the juries have searched for work pointing beyond the stereotyped, but which showed a sense of discipline within itself. Jury after jury has looked for the imaginative expression of a clear concept, with an articulation that would indicate, as Paul Rudolph put it this year, the manifest organization and relationship among the “various parts, and sizes, and shapes.”

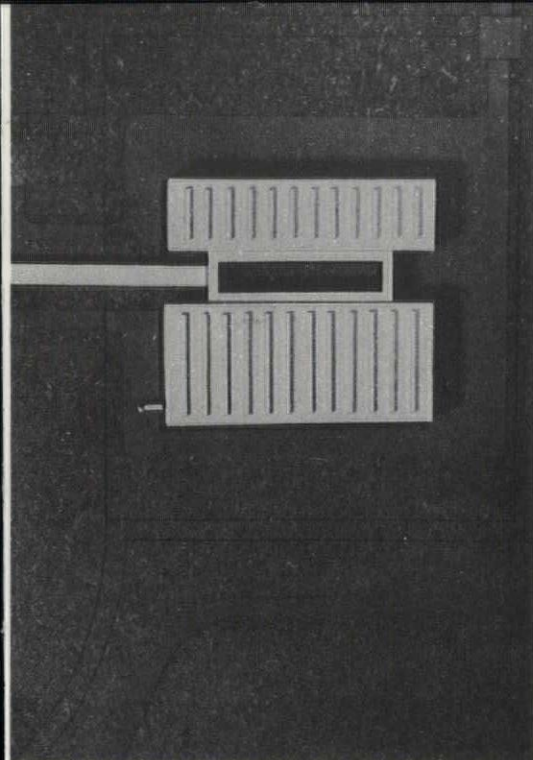
To me, having acted ten times as “conductor” of this annual symphony of architectural ideas, one of the most interesting parts of the experience has been seeing the juries in operation. All—Gropius, Bunshaft, Candela, Kahn, Johnson, Yamasaki, and all the rest—have been intent and thoughtful in their search for excellence. This is also true of this year's group, which included Aline B. Saarinen, John MacL. Johansen, Robert L. Geddes, John Skilling, and Paul M. Rudolph (*from left to right on facing page*). There have been violent, sometimes brilliant arguments in the jury room (though never, in ten years, has there been a serious division regarding top winners, and never a compromise decision); the disagreements have been on broad principles rather than subjective preferences or biases.

We have been often asked how many of the winning designs get built, and we have answered proudly that something like 75 per cent of them have reached or are reaching completion. In this list there are some structures that have gone on, from their first recognition here, to become contemporary classics: SOM's Connecticut General building; Anshen & Allen's Sidonia Chapel; Lundy's Westport Church; Saarinen's Milwaukee Memorial Art Center, and his Concord College; Mitchell & Ritchey's Pittsburgh Auditorium; Kump's Foothill College; Kling's Philadelphia Transportation Center; Curtis & Davis' New Orleans Library; Yamasaki's American Concrete Institute Building; Obata's Priory Church; Rapson's Guthrie Theater; and many more.

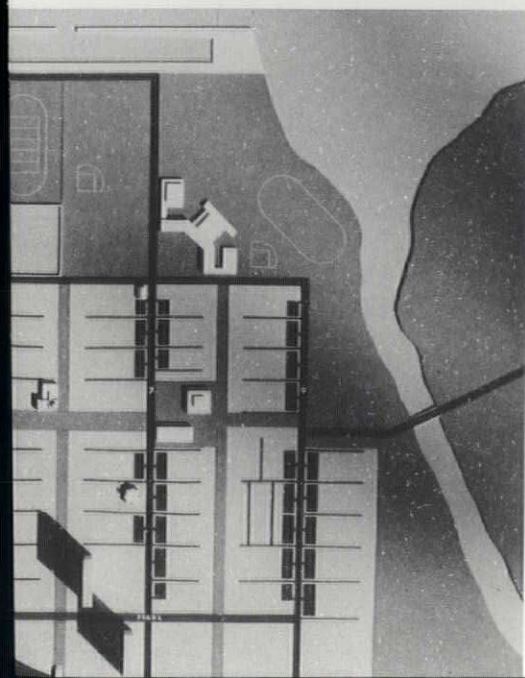
Looking back over the ten years, one is struck by another phenomenon: the appearance and reappearance of certain names, chosen each time by a very different jury. I have often speculated on the qualities that make a consistent Award or competition winner. What seems to be involved is the creative ability to discover a direct, important concept, and then the formative ability to develop and express that concept clearly. And isn't that what the architectural design process really is? ■

Thomas H. Heatherly





P/A TENTH ANNUAL DESIGN AWARDS



In the judgment of this year's P/A Design Awards Program, the jury did not select a First Design Award. The five projects illustrated to the left were given Awards—highest honors in their respective categories, reflecting and rising above the generally superior design level in these fields—but no one of them was judged sufficiently superior to the others to warrant a designation as "First."

The jurors agreed that the categories of education and public use produced by far the most consistently good designs, and it was thus no coincidence that two of the strongest design statements should have been an educational and a public institution: the elementary school by Wallace Holm (1), presented on page 114; and the prison by Kelly & Gruzen (2), shown on page 126. The success of these designs, the jury thought, lay in the fact that each had "an extremely disciplined and well-defined program" and that "the architect had taken a tough attitude toward it and then developed beauty and character out of working with the terms."

The firm hand of a disciplined program was also sensed in the award in the religion category: the mausoleum and garden crypt project by Ralph Rapson (3), shown on page 104. It stood in quiet contrast to most of the entries in this category. "There is a tendency in that field," remarked one of the jurors, "to be so personally expressionistic and heady."

Projects in the recreation category seemed to have much the same shortcomings as those in religion. Here, too, the majority were designed with wild—if not complete—abandon. It was therefore refreshing to find a project of the caliber of the zoo building by Gassner, Nathan & Browne (4), shown on page 102, which had a well-stated program and a solution resolved with simplicity and executed with imagination and restraint.

With the award in urban design by Vreeland, Newman and Regenstreif (5), presented on page 98, the jury, aware of the difficult yet universal problem, wanted to commend the architects' sensible and enlightened approach: their proposal for salvaging the architecturally sound and worthwhile, to merge the new with the old, and to mix, rather than segregate, various building types within their town plan.

Unfortunately, not very much of the work in urban design was considered to be of notable design quality. Compared to submissions in 1958, 1959, and 1960, when urban design projects won top awards, this was a rather disappointing showing. It was felt that this was the direct response of the architect to the challenge given him. The years 1958–60 were ones of great activity in urban design competitions with their promise of great opportunities to come, while this year's designs unquestionably reflected the disillusionment of most architects with design competitions and the progress of the urban design program as a whole.

In this respect, commerce, industry, and apartment housing submissions evoked particularly heavy criticism. These were the fields considered to be most dominated by commercial interests. "In this building area," said one of the jurors, "the challenge to the architect is posed in a way, which, to some extent in our society, is antithetical to architecture." The generally discouraging level of performance in the field of apartment housing, office and even industrial construction made it obvious that no real architectural challenge had been posed, that overriding nonarchitectural considerations had shifted this work into the area of real estate—not architecture. However, it was also demonstrated in the Design Awards Program that wherever a real challenge did exist, as for example in the fields of education and public use, the architectural profession rose to the occasion with enthusiastic and inspired response.



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CITATION

residential design

EDWARD D. DART, ARCHITECT
SAMARTANO & ROBINSON,
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PROJECT: House for Mr. and Mrs. Richard Henrich, Barrington, Illinois.

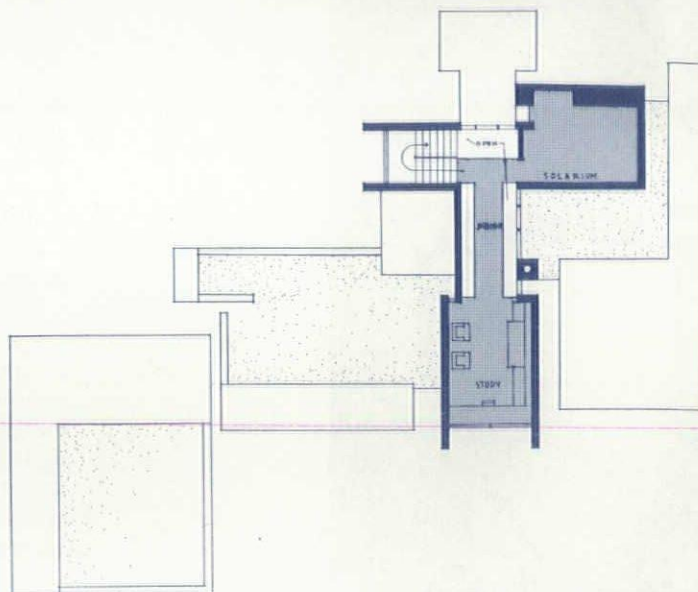
SITE: Tall oak trees cover the building site, which slopes away in three directions. Best views are south-westerly to north-easterly, in the direction of a lake.

PROGRAM REQUIREMENTS: The design of a residence for a family with two small boys. Interior spaces to be distributed to allow for proper separation, as well as interrelation, of functions.

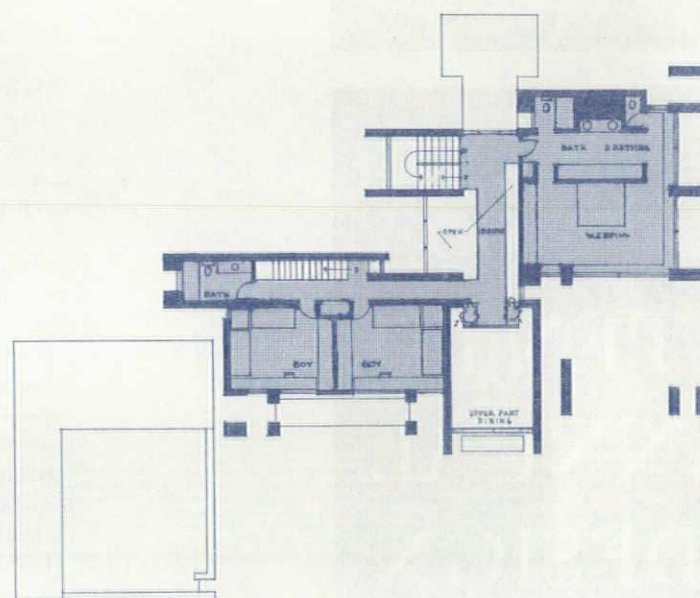
DESIGN SOLUTION: "Because of the restricted table land," explains the architect, "the space needs of the house are planned on four levels: basement—utilities, servant's room, playroom; first floor—entry, living room, dining room, kitchen, and garage; second floor—bedrooms and baths; third floor—study and solarium." In the design, the architect stresses the vertical nature of the house, several axial views, and the solid and void interplay of forms. The entry area is the circulation nucleus, both vertical and horizontal, separating dining and living areas from the kitchen spaces on the first floor; the children's bedrooms from the master suite on the second level; and the study on the third level from the active portion of the house.

CONSTRUCTION AND MATERIALS: Brick and concrete to be the predominant materials. Brick walls will extend above the roof to form parapets. Wherever overhangs are required for sun or weather control, a poured-in-place concrete slab will rest on top of the parapet or the brick piers.

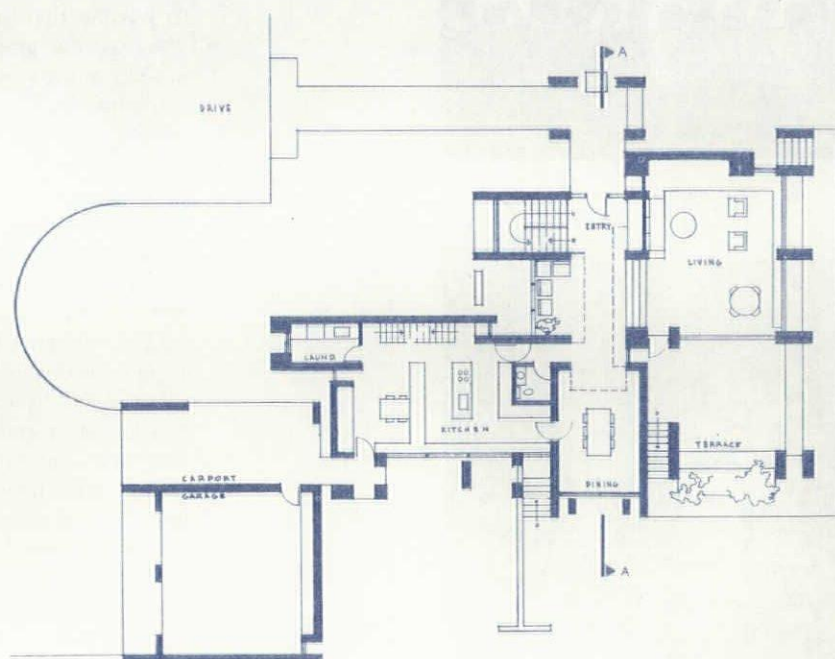
JURY COMMENT: Of the four houses, all judged to be of unusual design interest, this residence was considered to be the most fully realized. The jury particularly admired the "play of volume against volume" within the interior, and the orderly relation of plans and elevations.



THIRD FLOOR

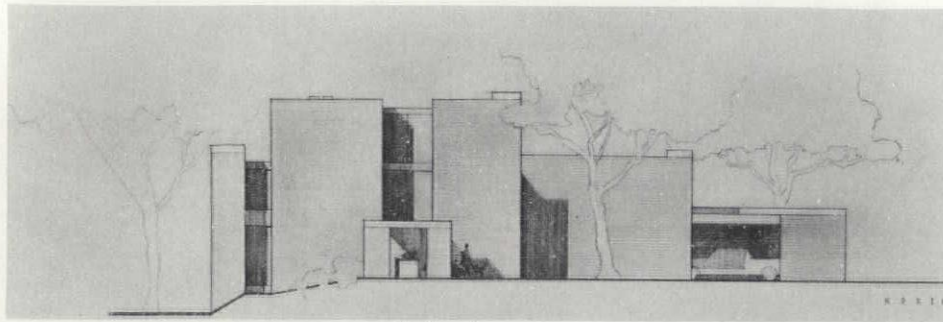


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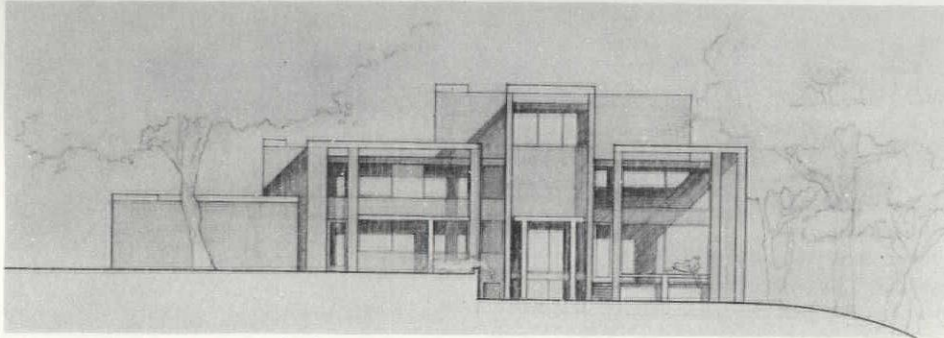


FIRST FLOOR

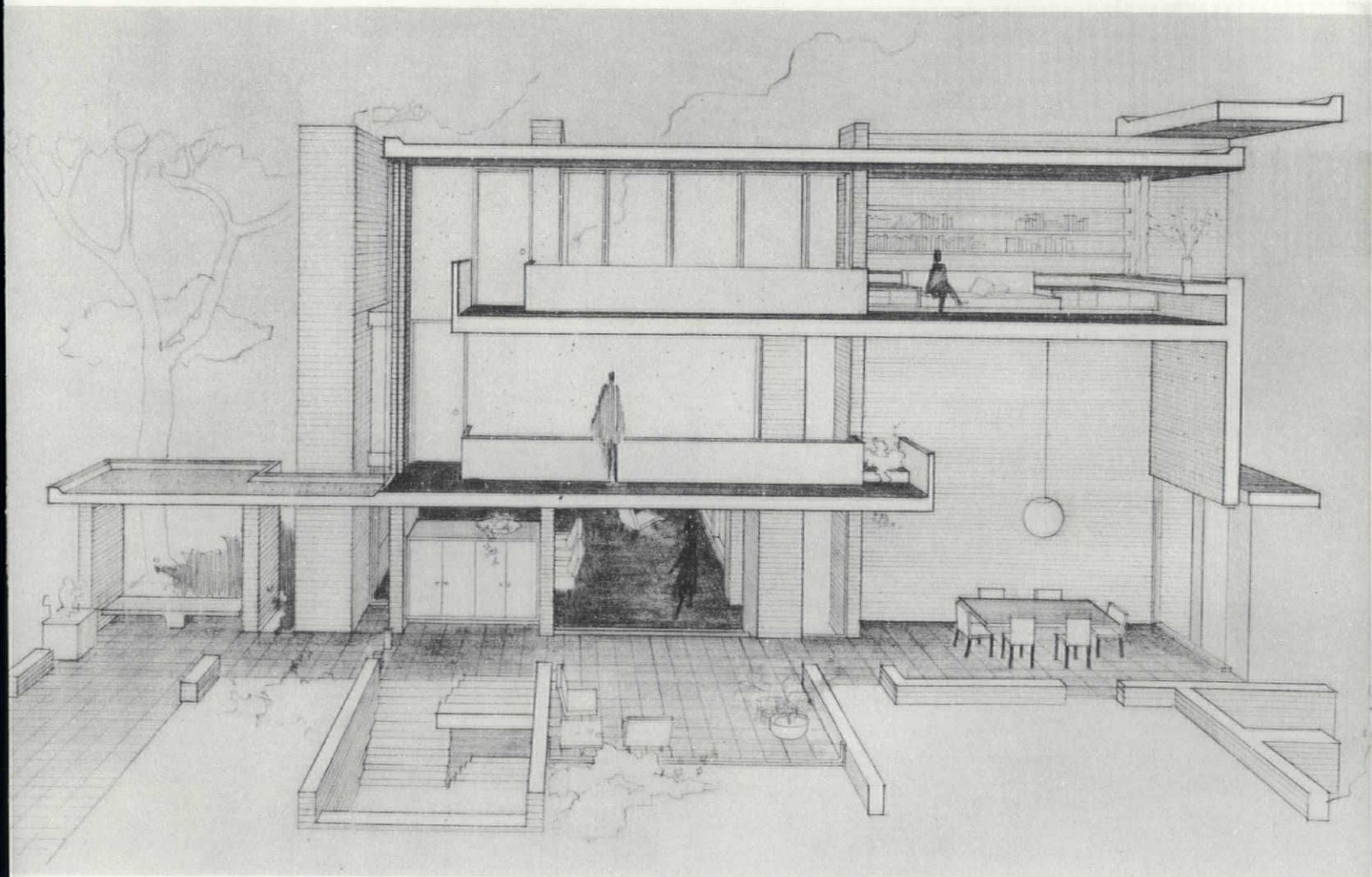




north elevation



south elevation



section A-A



HATAMI

CITATION

residential design

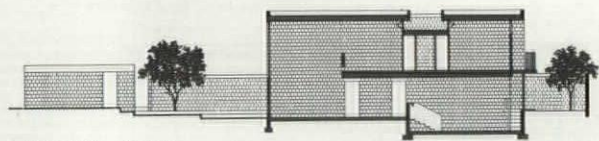
MARVIN HATAMI,
DESIGNER

PROJECT: Town House for Mr. and Mrs. Marvin Hatami, Denver, Colorado.

SITE: Two city lots within an established residential neighborhood.

PROGRAM REQUIREMENTS: The architect wished a house for his own use which would offer complete privacy and the proper setting for formal living. Specific space requirements included: three bedrooms, garages for two cars, studio/library combination, two and one-half baths. Cost to be under \$17,000.

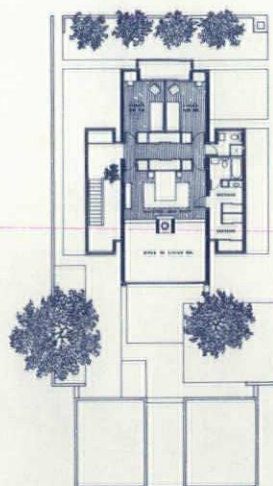
DESIGN SOLUTION: The two garages form a barrier between street and house and serve to establish an enclosed entrance court. Master bedroom, living room, and dining room face west to take advantage of the mountain view. Sleeping quarters are on the second floor to provide separation from the social part of the house and insure privacy. The entire building



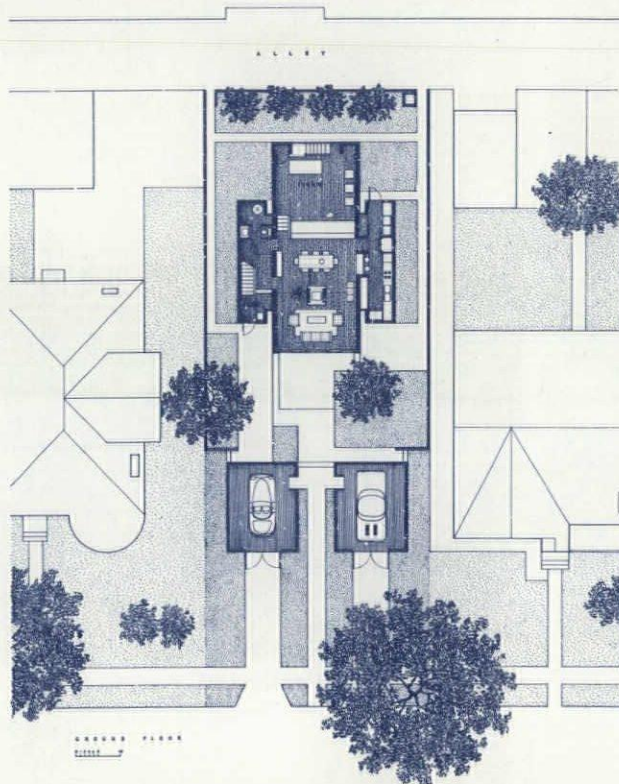
is to be ventilated through clerestory openings above the bedroom hall. Local zoning regulations determine to a large degree the placement of the building and its envelope.

CONSTRUCTION AND MATERIALS: Concrete block bearing walls; floor and roof structure of wood joists with drywall ceiling; precast concrete lintels and parapets; wood block flooring. Concrete blocks are to be left exposed inside and to receive coat of clear silicone waterproofing on the exterior.

JURY COMMENT: An extremely straightforward and craftsman-like solution in the formal tradition.

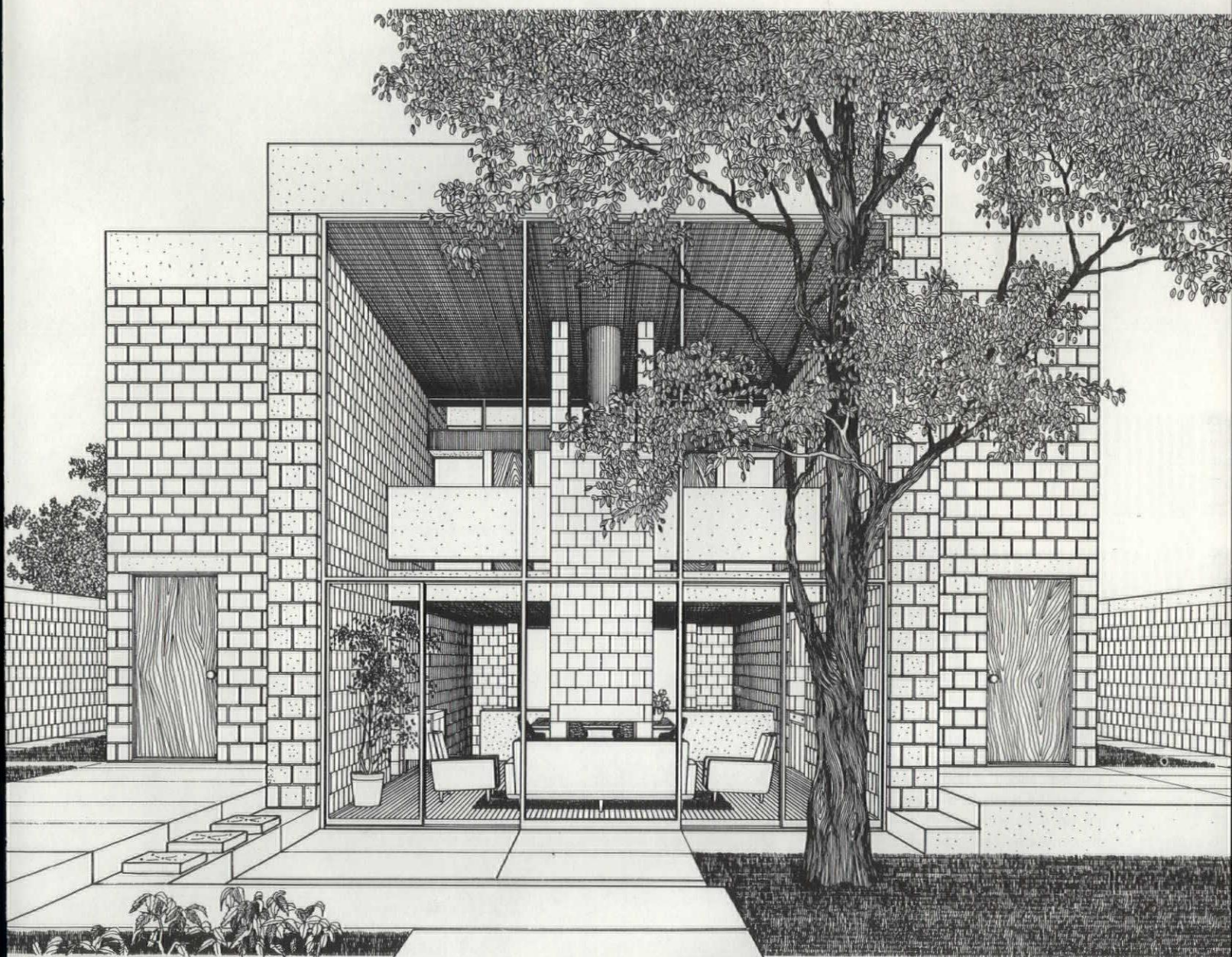


SECOND FLOOR
1/4" = 1'-0"



SECOND FLOOR
1/4" = 1'-0"





V I E W F R O M E N T R A N C E C O U R T



BARNES

CITATION

residential design

EDWARD LARRABEE BARNES,
ARCHITECT
SEVERUD, ELSTAD, KRUEGER
ASSOCIATES,
STRUCTURAL ENGINEERS

PROJECT: Vacation House for Mr. and Mrs. Barklie McKee Henry, Blue Mountain Lake, New York.

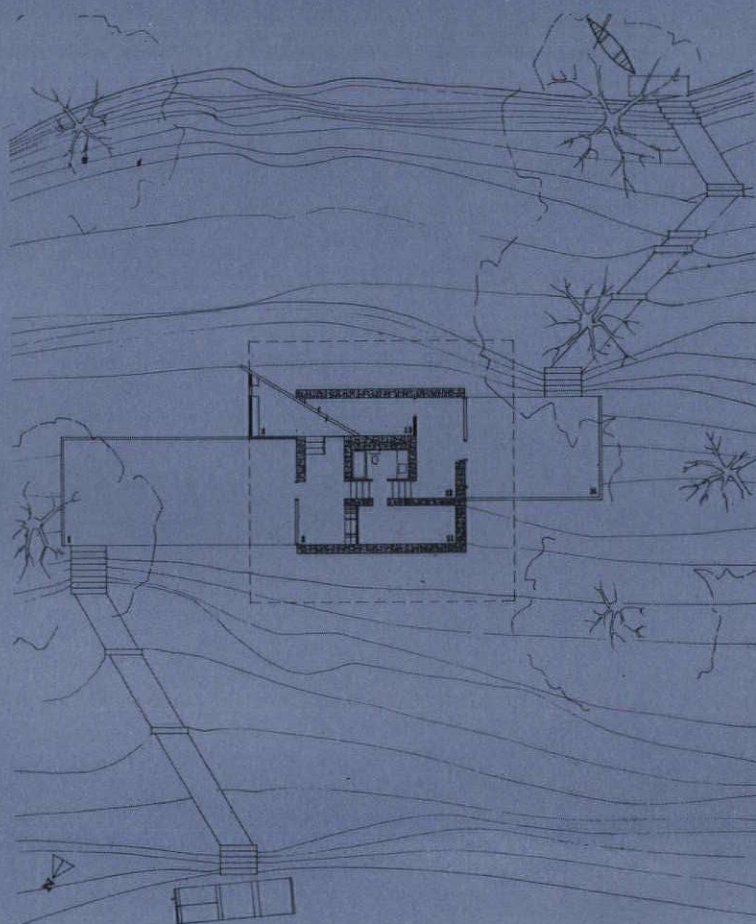
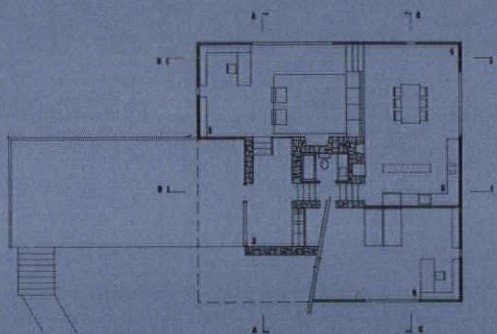
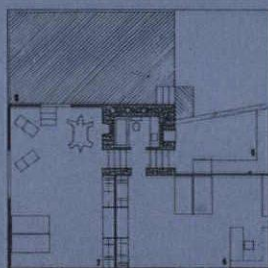
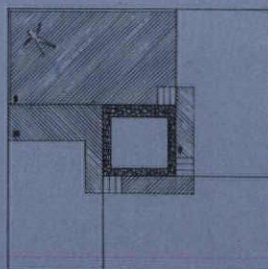
SITE: Property overlooks a lake, scattered islands, and a mountain. Access to house is possible by car or by boat.

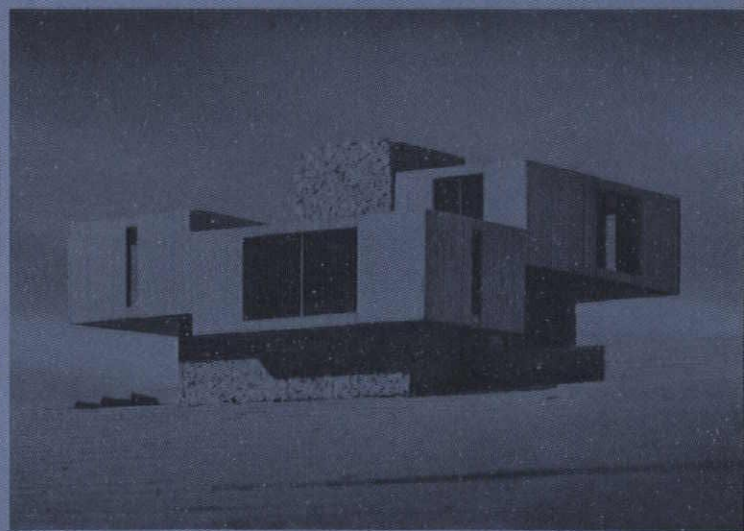
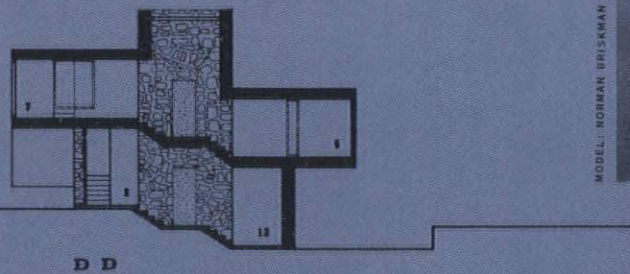
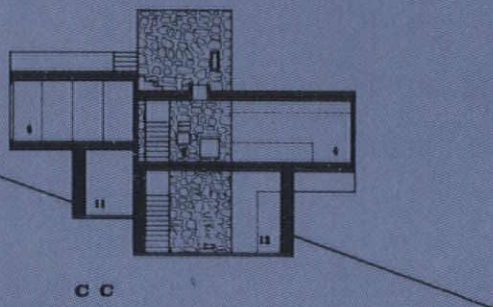
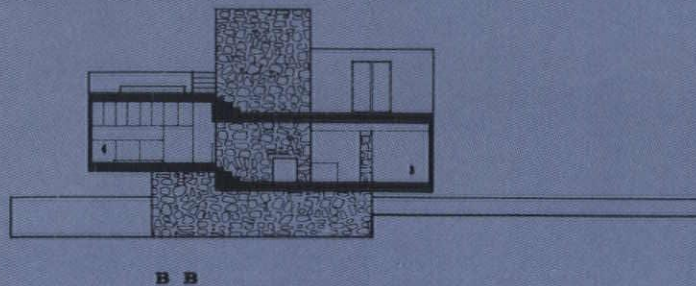
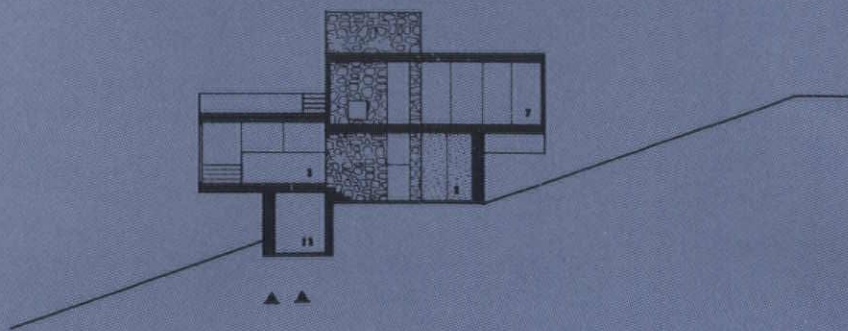
PROGRAM REQUIREMENTS: A vacation retreat for summers and occasional winter weekends for a couple and their two boys.

DESIGN SOLUTION: "Within a square plan," explains the architect, "the rooms step up around the central core so that there is a stairlike progression from the lowest level to the roof."

CONSTRUCTION AND MATERIALS: Stone and wood construction. The boxlike rooms will cantilever at different levels from the base. All flues and vents and utilities to be carried up in the central stone core. A central hot-air heating system will fan out to the various spaces.

JURY COMMENT: Though this was considered an extremely ingenious and competent solution, it was felt that the maximum space effect had not been realized in developing the interior. "All the spaces are too much the same," said one juror. Another added, "If you are going to change the levels in a house, should you not do it in such a way that you vary the ceiling height? Spatially, this is not fully developed." A third felt that Barnes had "destroyed all the space" by putting the solid service core in the middle. However, in spite of the criticism concerning the realization of the interior spaces, the jury commended this project as one that stood high among the entries in the field of residential design.





MODEL: NORMAN BRISKMAN PHOTO: LOUIS CHECKMAN

KEY

- 1 UPPER TERRACE
- 2 ENTRANCE HALL
- 3 LIVING
- 4 DINING
- 5 KITCHEN
- 6 CHILDREN
- 7 PARENTS
- 8 SUN DECK
- 9 WALKWAY
- 10 LOOKOUT
- 11 STORAGE
- 12 LAKE ENTRANCE
- 13 UTILITY
- 14 LOWER TERRACE



WINCHELL



SAUER

CITATION

residential design

WINCHELL & SAUER,
ARCHITECTS
RICHARD CRIPPS,
LANDSCAPE ARCHITECT
LOUIS SAUER,
INTERIOR DESIGNER

PROJECT: House for Mr. and Mrs. Richard Cripps, Lambertville, New Jersey.
SITE: Building to be set within woods near open fields along Delaware River Valley.

PROGRAM REQUIREMENTS: Design must take into consideration immediate and future living requirements of the clients—a landscape architect and his wife and child. House must grow with the family, yet should be three-dimensionally complete at any stage.

DESIGN SOLUTION: A series of volumes related internally to functions of living, and externally to the contours of the land and the views. Construction is expected to proceed according to the diagram (below)—first phase is shown in white, future elements in gray. These later additions, suggest the architects, may be “plugged in” in any sequence

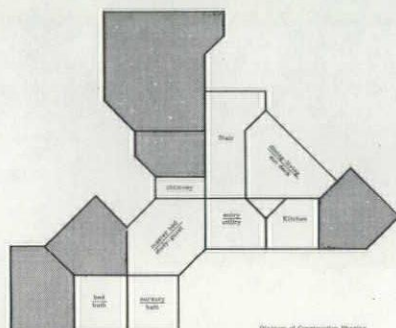
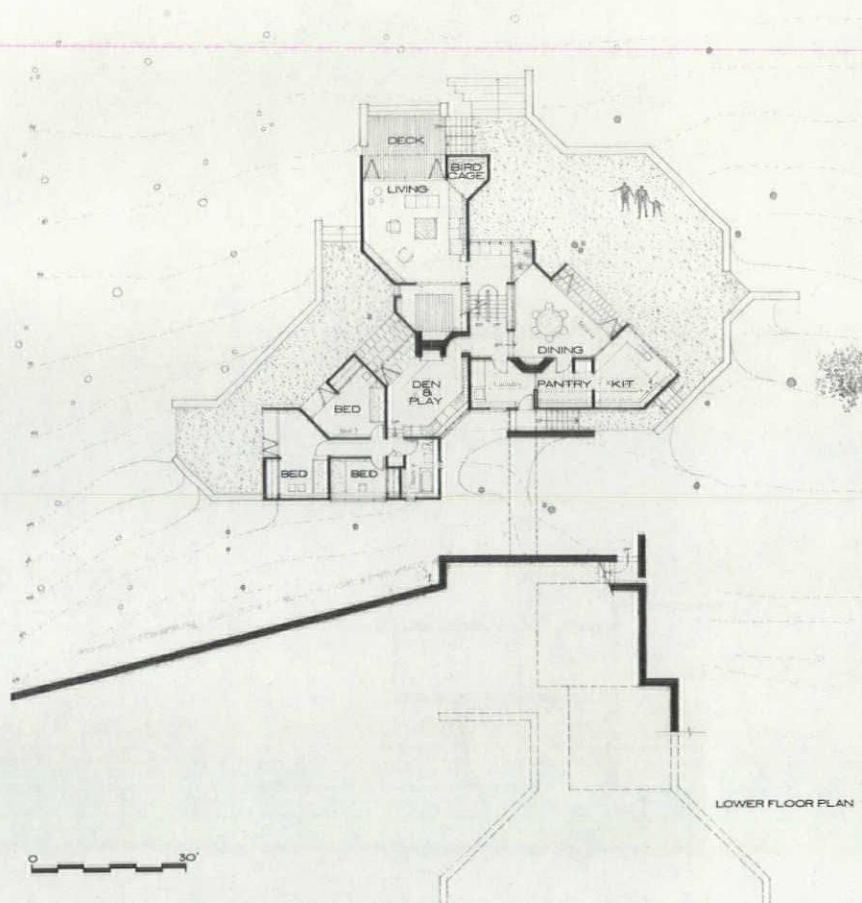


Diagram of Construction Phasing

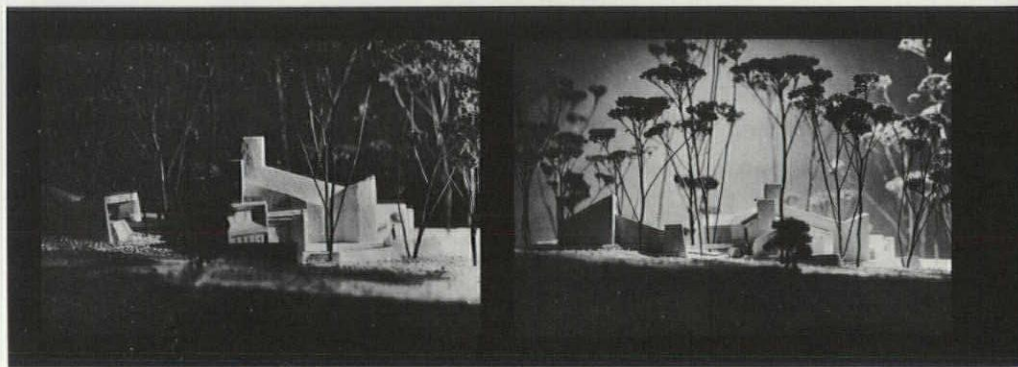
while providing a character of “house” at all times.

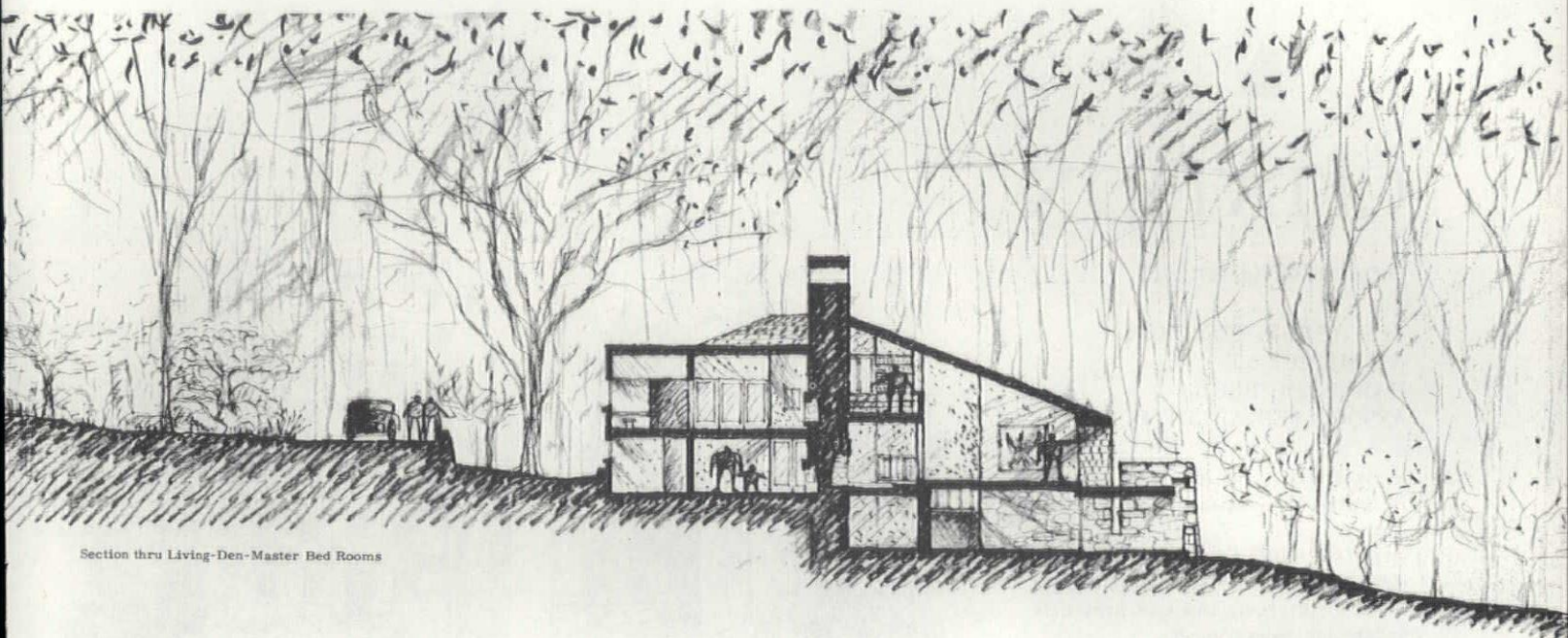
CONSTRUCTION AND MATERIALS: Conventional stud walls. Cedar shake siding and roofing. Natural wood and plaster inside.

JURY COMMENT: The jury was divided on the architectural merits of this project. Two members considered it overly sentimental. The others saw in it a welcome departure from the usual attempt to build a house as though it were a multistory, large-scale project. “Here,” they believed, “is something which suggests that houses grow, that children come and go, and that if you build this much or that much, it really doesn’t matter.” (See also page 131).

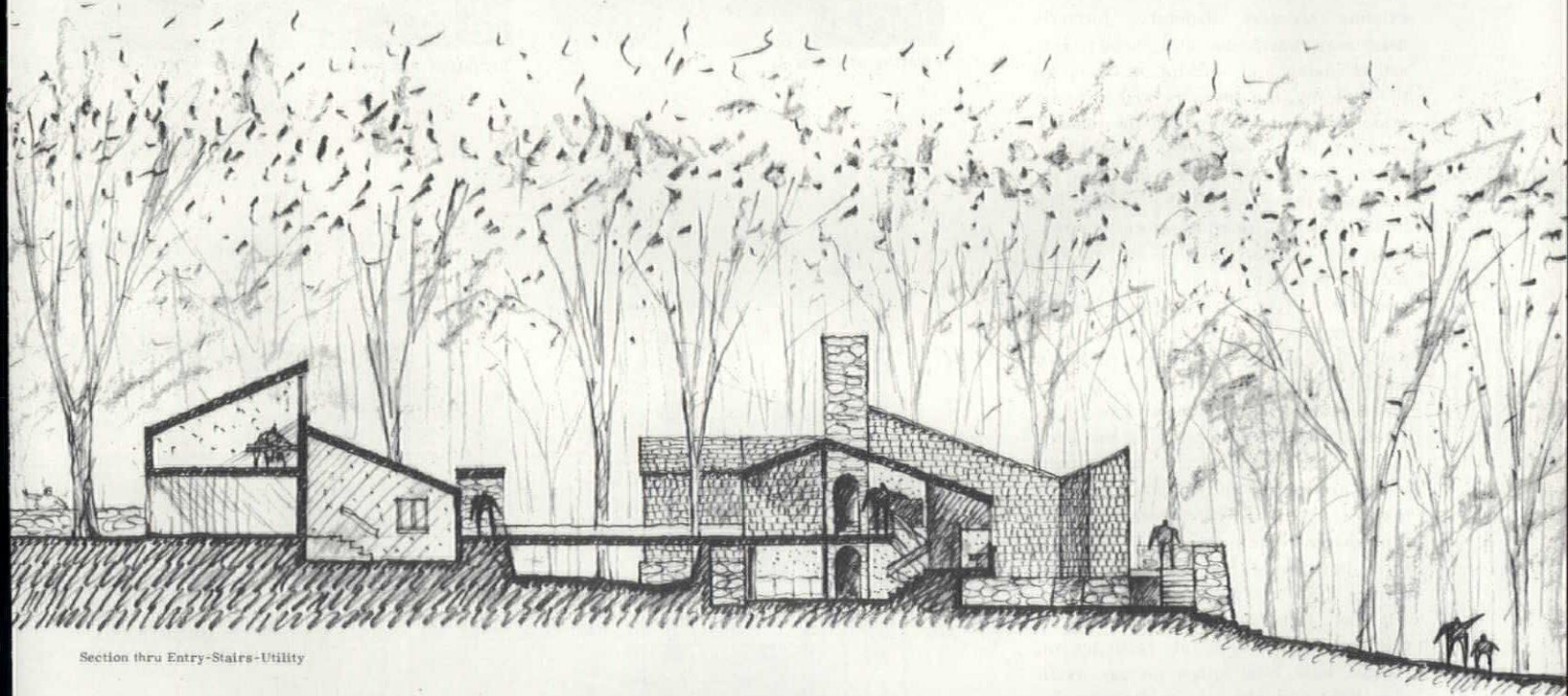


LOWER FLOOR PLAN

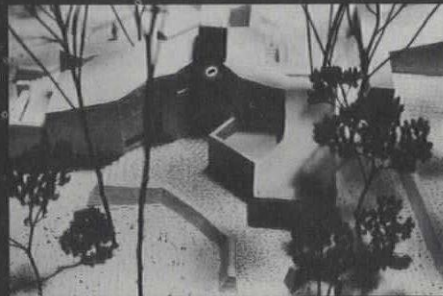
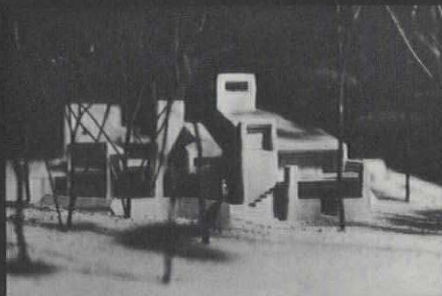




Section thru Living-Den-Master Bed Rooms



Section thru Entry-Stairs-Utility





POMEROY

CITATION

residential design

LEE HARRIS POMEROY,
ARCHITECT
HARVEY A. BERG,
ASSOCIATED ARCHITECT

PROJECT: Henry Street Studios for Alan B. Rattner & Company, Brooklyn, New York.

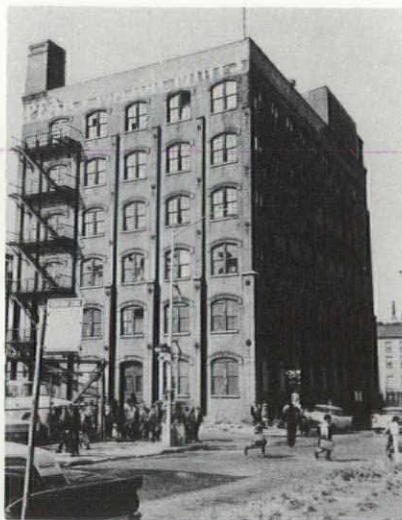
SITE: One third of a block in Brooklyn Heights, an area of historic and architectural interest, and one presently undergoing redevelopment.

PROGRAM REQUIREMENTS: To convert an existing six-story structure, formerly used as a warehouse and factory, into artists' living and working quarters. In the building, the sponsors wished to set aside public areas in which the tenants' work could be displayed. In addition, related shops were to be included for the co-operative use of the artists. The building was to provide a total environment for the stimulation of creative thought and work.

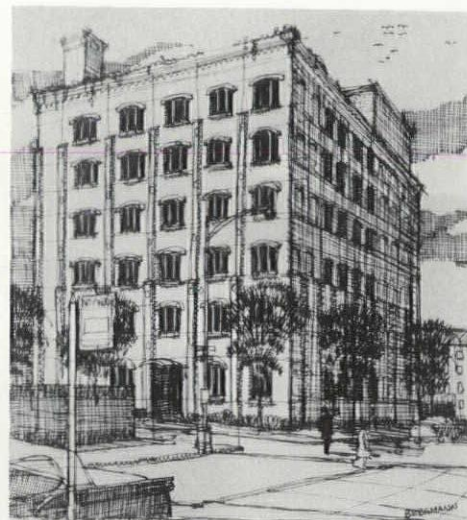
DESIGN SOLUTION: It is the purpose of the sponsors and their architects to prove that salvaging and restoration of similar existing structures in the area are economically feasible and architecturally possible. This building has been found to be structurally sound, aesthetically appealing, and suitable, without major changes, for conversion into loft-type spaces. Within the $8\frac{1}{2}' \times 20'$ structural bays, only kitchens, baths, and storage units will be fixed. Interiors are left open, to be subdivided according to the individual needs of each tenant. Height, bulk, total square footage, available light and air comply substantially with zoning requirements. Grade differential is used to provide a garage for 22 cars. Its roof level, accessible from the lobby, serves as a promenade and open-air exhibit space.

CONSTRUCTION AND MATERIALS: Heavy timber columns and beams spanning between brick bearing walls. Interior wood columns are to be sanded; brick surfaces to be cleaned and left exposed.

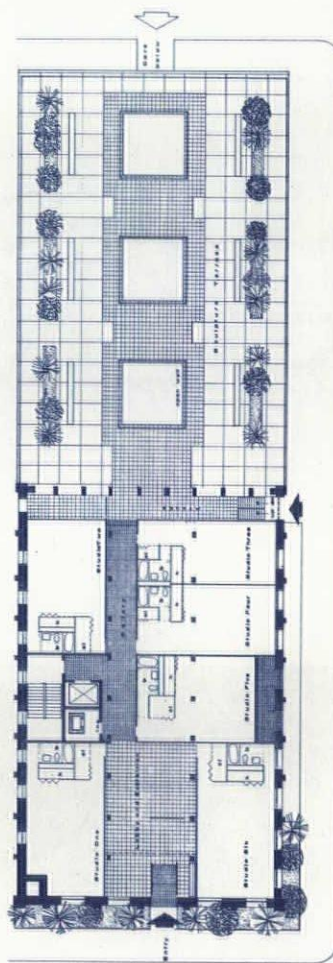
JURY COMMENT: This effort to salvage a worthwhile structure, in an area in danger of wholesale bulldozing, was unanimously applauded by the jury. The architectural work of the conversion was thought to have been done ingeniously and sensibly, and with respect for the existing architecture.



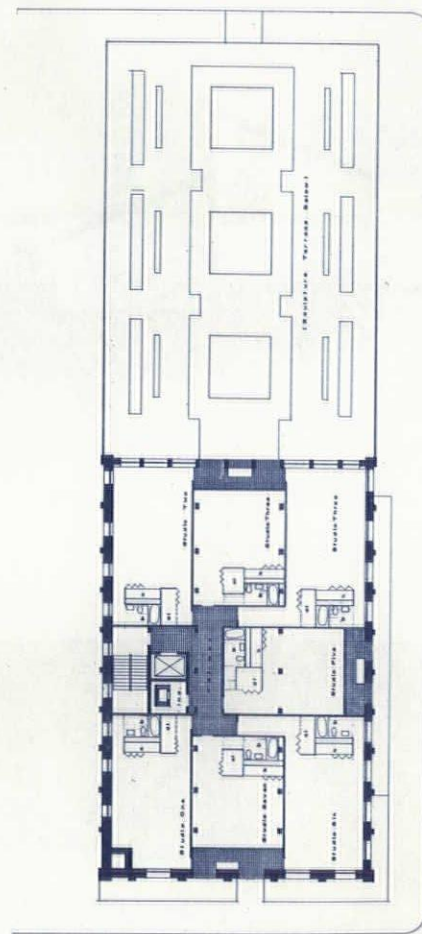
existing structure



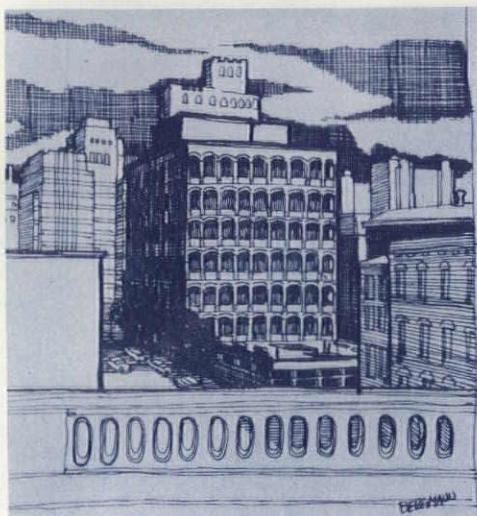
proposed conversion



lobby and promenade level

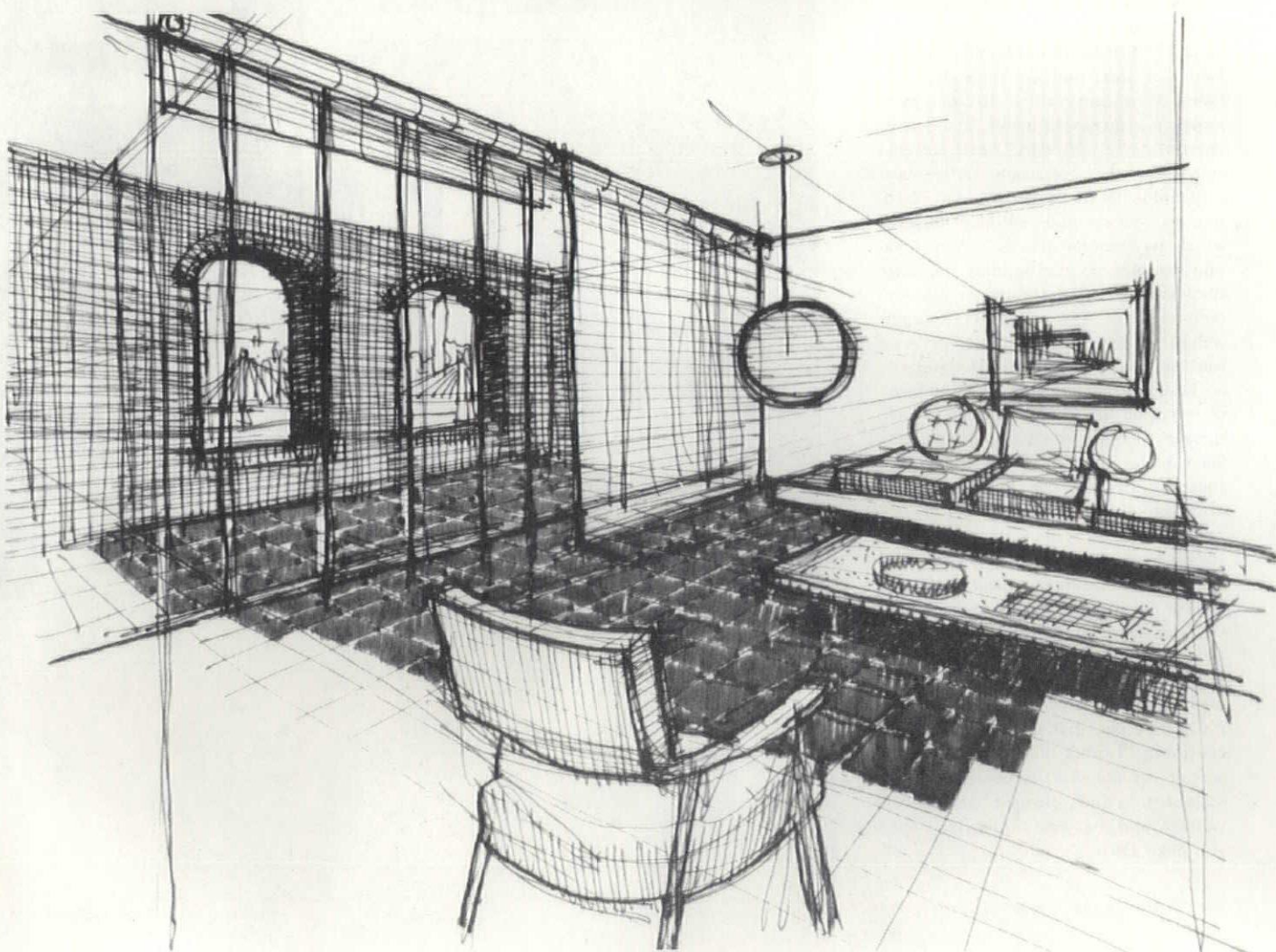


typical floor



North wall (left), originally a party wall with few openings, will be rebuilt with brick arches similar to those on the other sides of the building. Through these arches, residents will have views of Brooklyn Bridge, the East River, and lower Manhattan.

In several of the artists' apartment-workshops (below), glass walls will be set back 5 ft from the face of the exterior wall, to introduce semi-enclosed, private terraces. These will also double as secondary fire exits, thus eliminating the need for exterior fire escapes or additional interior stairs.





MOORE



LYNDON

CITATION

residential design

CHARLES W. MOORE, ARCHITECT
AND DONLYN LYNDON
WITH WILLIAM TURNBULL, JR.,
DESIGNERS

DAVID EISENHauer AND VAN
MAREN KING, ASSISTANTS
ERIC ELSESSER,
STRUCTURAL ENGINEER

PROJECT: West Plaza Condominium
Apartments for Verne E. Geissinger
Associates, Coronado, California.

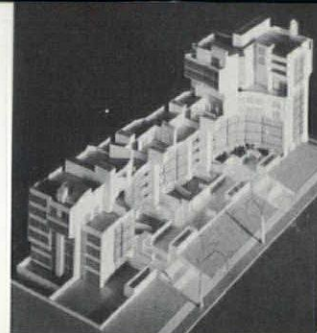
SITE: One acre in the center of the
solidly built-up island, adjoining a park
and palm-lined boulevard.

PROGRAM REQUIREMENTS: To provide 65
condominium apartments of one-, two-,
and three-bedroom size in the \$24,000-
\$40,000 price range. Though the build-
ing would reach ten stories in height, it
was important not to violate the small
scale of the island's buildings—mostly
two-story houses.

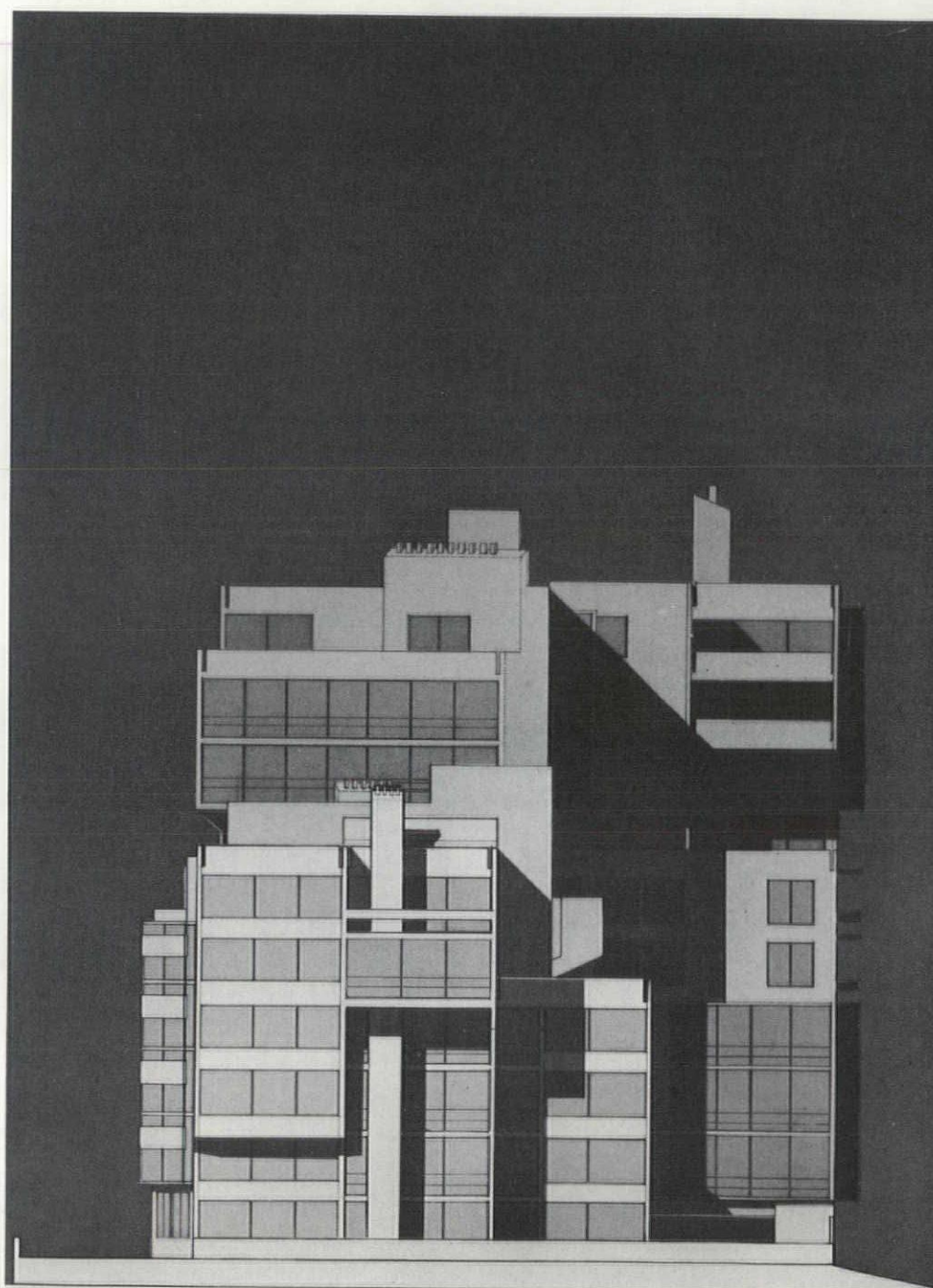
DESIGN SOLUTION: To maintain the resi-
dential scale, the apartment house is set
back 25 ft from the sidewalk. It rises
behind a plaza and private walled ter-
races. Most importantly, the designers
avoid the typical solution of "anonymous
apartments in a slab," and instead
emphasize the "separate units—each
responding to the particular set of ex-
posures, views and outdoor terraces
which its location affords." Four sepa-
rate entrances to the building minimize
corridors and give through-ventilation.

CONSTRUCTION AND MATERIALS: Light-
weight concrete slabs will span between
concrete bearing walls. Exterior walls to
be bush-hammered on the outside face;
plastered on the inside. Ceilings to have
surface of sprayed-on rough plaster;
floors to be carpeted. Windows to have
frames of anodized aluminum and panes
of glare-reducing glass.

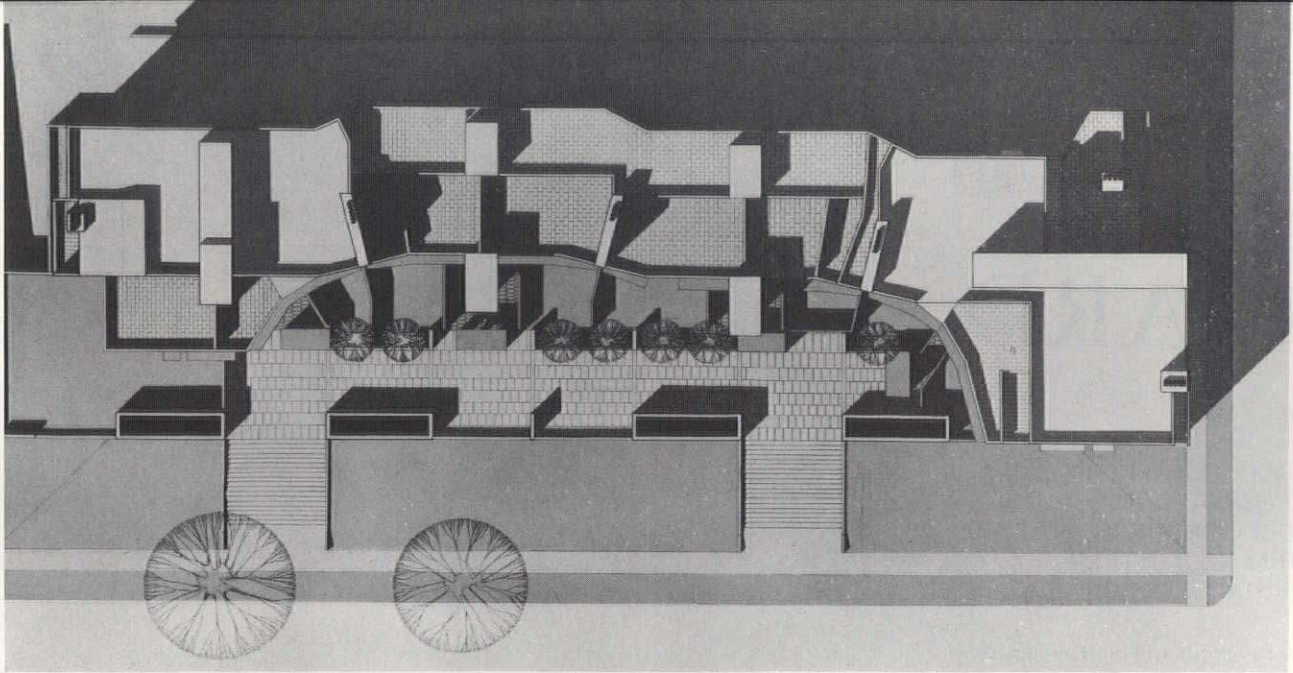
JURY COMMENT: This project had both
strong supporters and serious detractors
among jury members, resulting in ex-
tensive debate and a final decision that
the project be given a citation in recog-
nition of the *principles* stated in the
project rather than its architectural
methods. "It's the principle, not the way
it's carried out, that matters here," said
one juror. "I think this is an attempt to
make a definite effort to break down the
scale, letting every element have its own
validity and its own integrity." (See
also page 130).



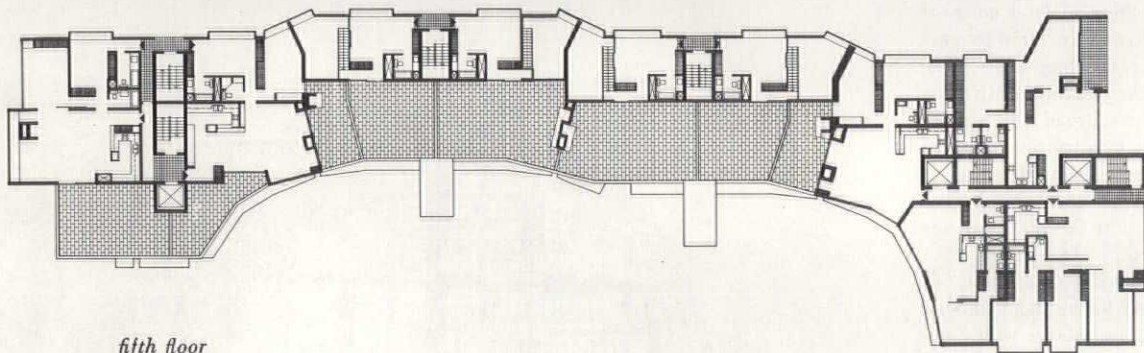
MODEL: DAVID EISENHauer
PHOTO: MORLEY BAER



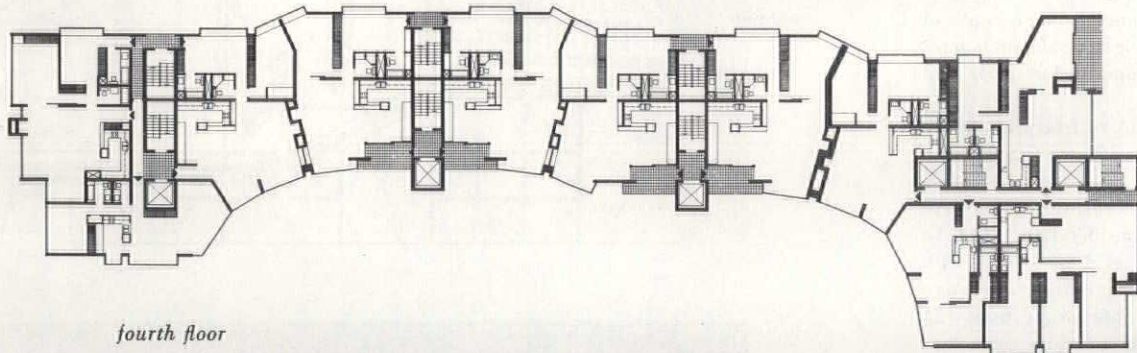
end elevation



ground and roof level

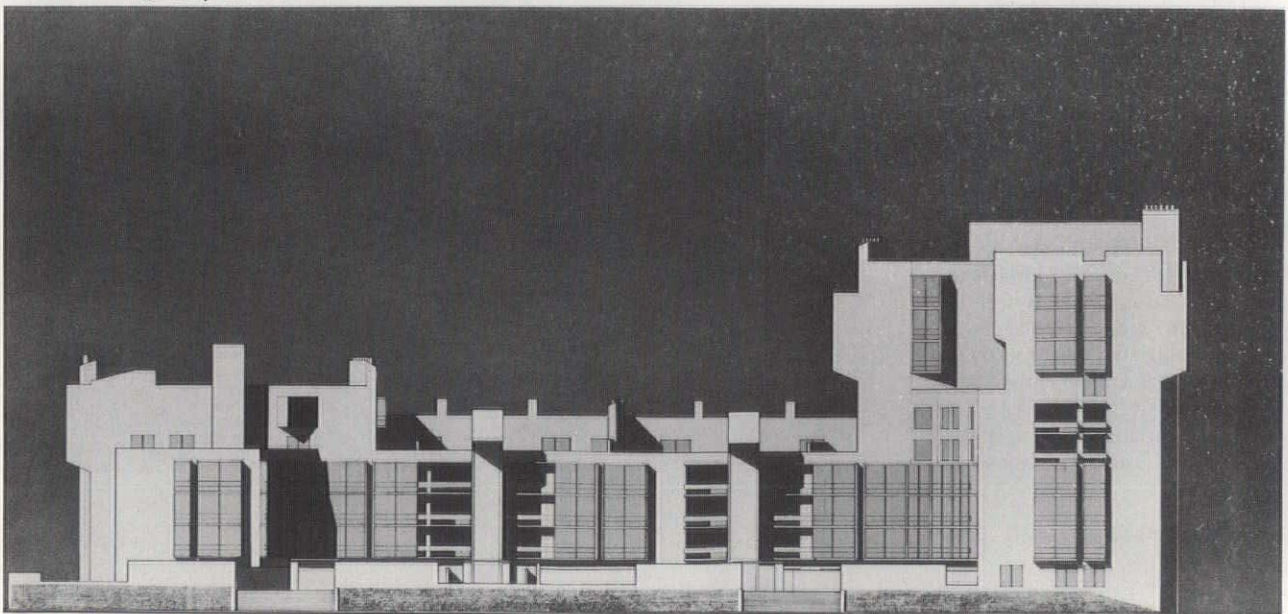


fifth floor



fourth floor

street front elevation





VREELAND



NEWMAN

AWARD

urban design

THOMAS R. VREELAND, JR.,
AND OSCAR NEWMAN,
ASSOCIATED ARCHITECTS
AVRUM REGENSTREIF,
PLANNING CONSULTANT

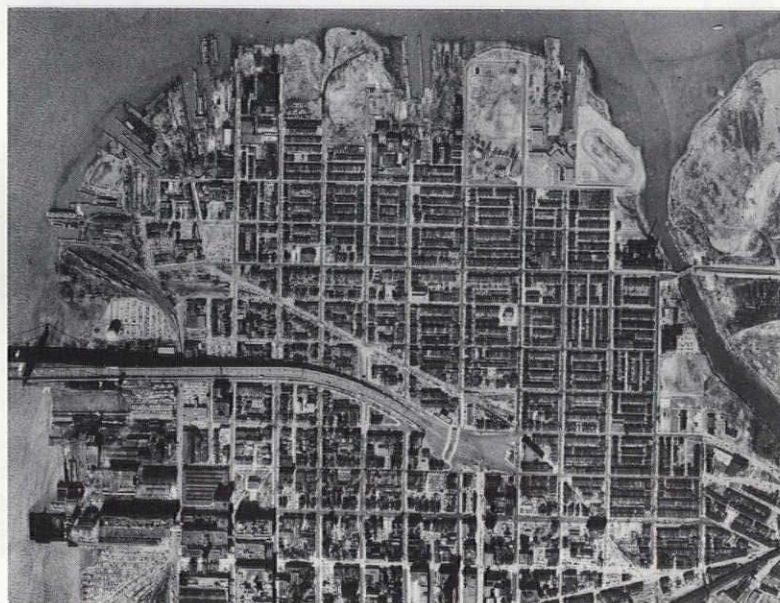
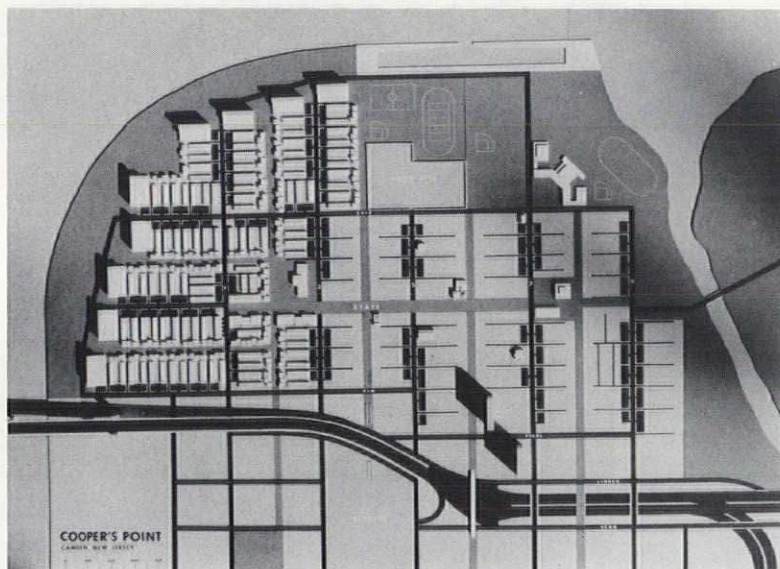
PROJECT: Cooper's Point, Camden, New Jersey, for Department of Planning and Renewal, Camden, New Jersey.

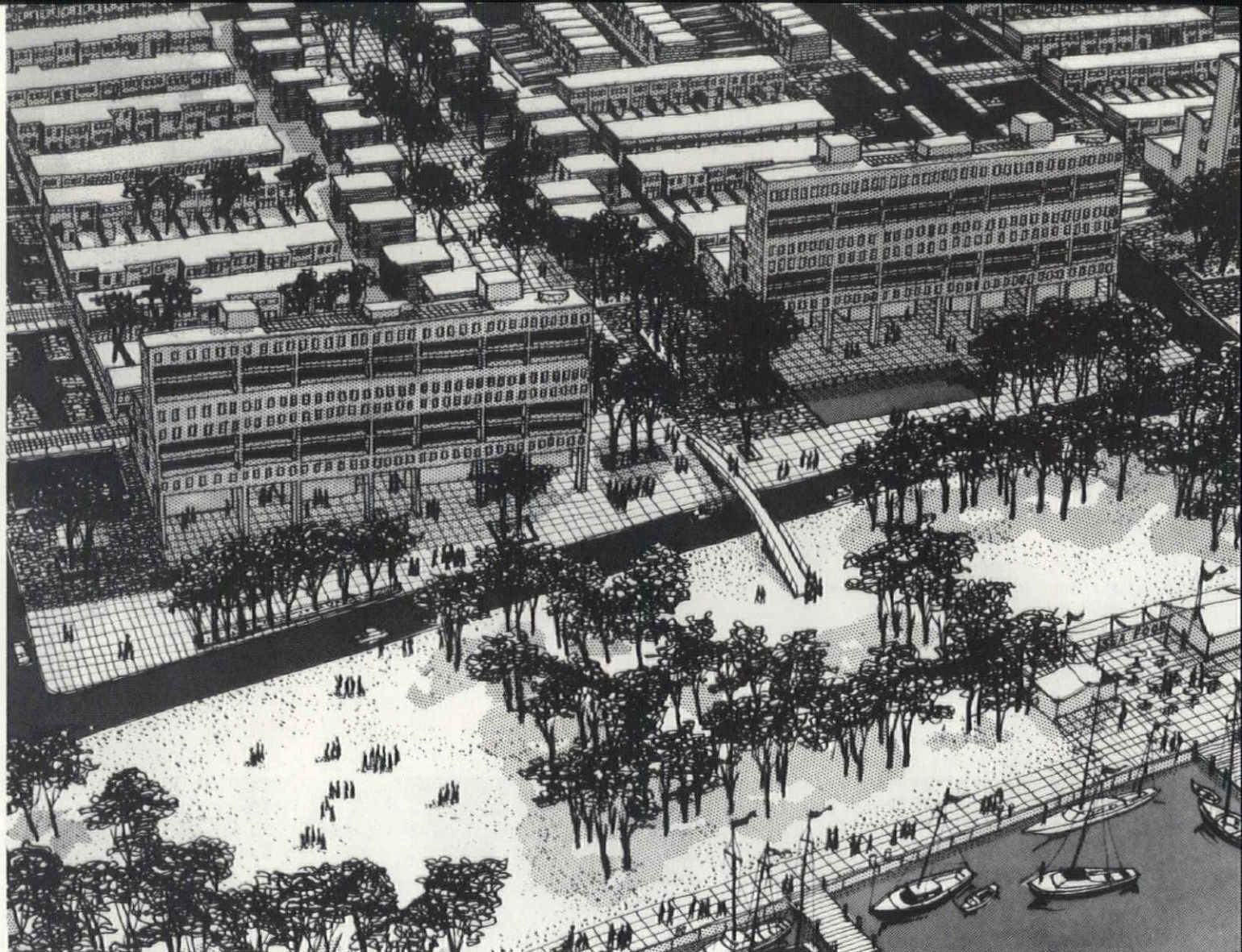
SITE: A flat projection of land north of the Benjamin Franklin Bridge surrounded by water on three sides. The shoreline along the Delaware River is solidly occupied by railroad tracks, ship-building, and other industries, most of them in a deteriorated state. Housing in Cooper's Point is of the typical row-house type, built over 50 years ago for industrial workers.

PROGRAM REQUIREMENTS: To study in greater detail the future land use of Cooper's Point. In accordance with Camden's Comprehensive Plan for 1980, all industry, with the exception of one large plant, will be confined to areas south of the bridge, thus releasing about 80 acres of waterfront property for park and residential use.

DESIGN SOLUTION: A restructuring of the movement systems of North Camden as a framework for the preservation of existing good quality housing. These were major points of consideration: "(1) To keep the present grid of streets with their buried utility lines, but to reassign to each new and appropriate uses. (2) Although this plan provides some new housing, it generally strives to retain existing housing—rebuilding some and only replacing that which is beyond repair. (3) To reverse the process of deterioration along the riverfront by focusing the major investment for the renewal of this area at the edges, in the form of a waterfront park and high buildings for residential uses. (4) State Street will become the 'spine' or 'main street' of North Camden along which supermarkets, professional offices, and movie houses will tend to locate."

JURY COMMENT: The jury wished to commend and encourage "this sort of approach to an urban problem"—in particular, the suggested way of working within the existing street pattern and present utility lines, the merging of many different building types, and the integration of old and new structures.





Major new construction—the waterfront park and the 12-story apartment buildings (above)—is to be concentrated along the fringe of Cooper's Point. The apartment houses have sheer façades toward the river but step down gradually on the town side, to ease the transition from high to low. Pedestrian greenways (below) penetrate between

the housing blocks to connect Central Camden with the river. Alternate streets serve as cartways for delivery, trash collection, and fire access. Parking will be concentrated along sides of major north-south traffic streets. State Street (below)—widened but not a traffic street—is to serve as the new "spine" of North Camden and its center of commerce.





GRUEN

CITATION

urban design

VICTOR GRUEN ASSOCIATES,
PLANNERS

VICTOR GRUEN, PARTNER IN CHARGE
RICHARD BERRY, ASSOCIATE IN CHARGE
LARRY SMITH & COMPANY,
ECONOMICS CONSULTANTS

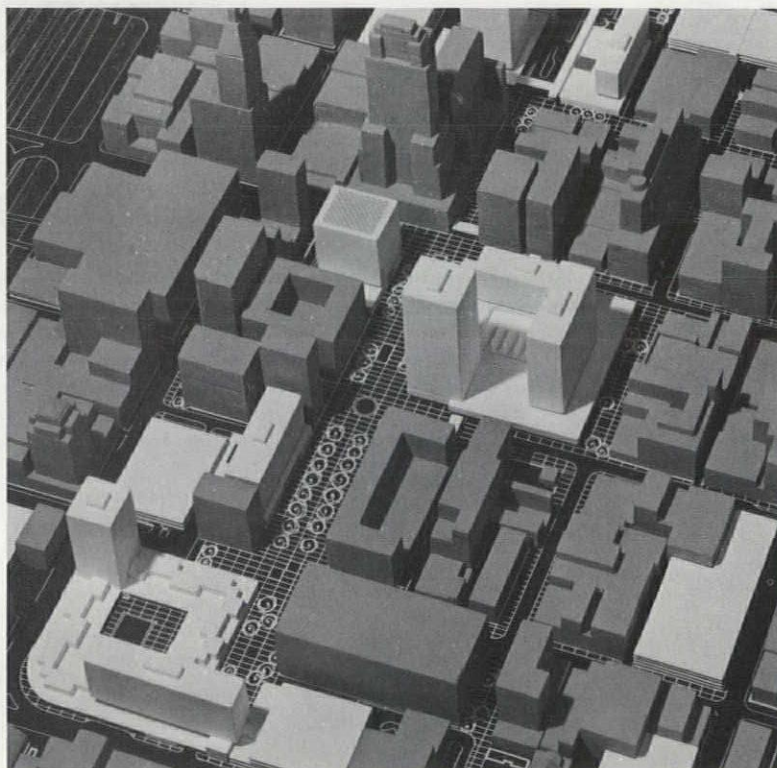
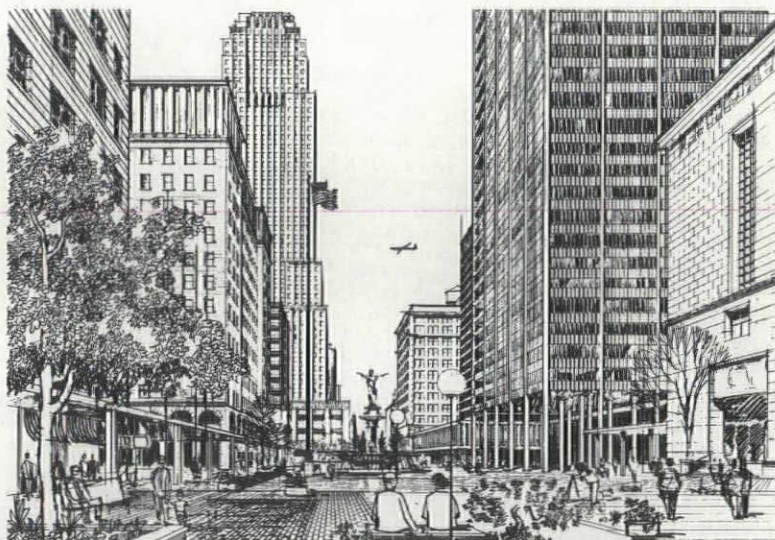
PROJECT: Revitalization Plan for the City Core of Cincinnati, for Citizens Committee, Cincinnati, Ohio.

SITE: Approximately 475 acres representing the central business district.

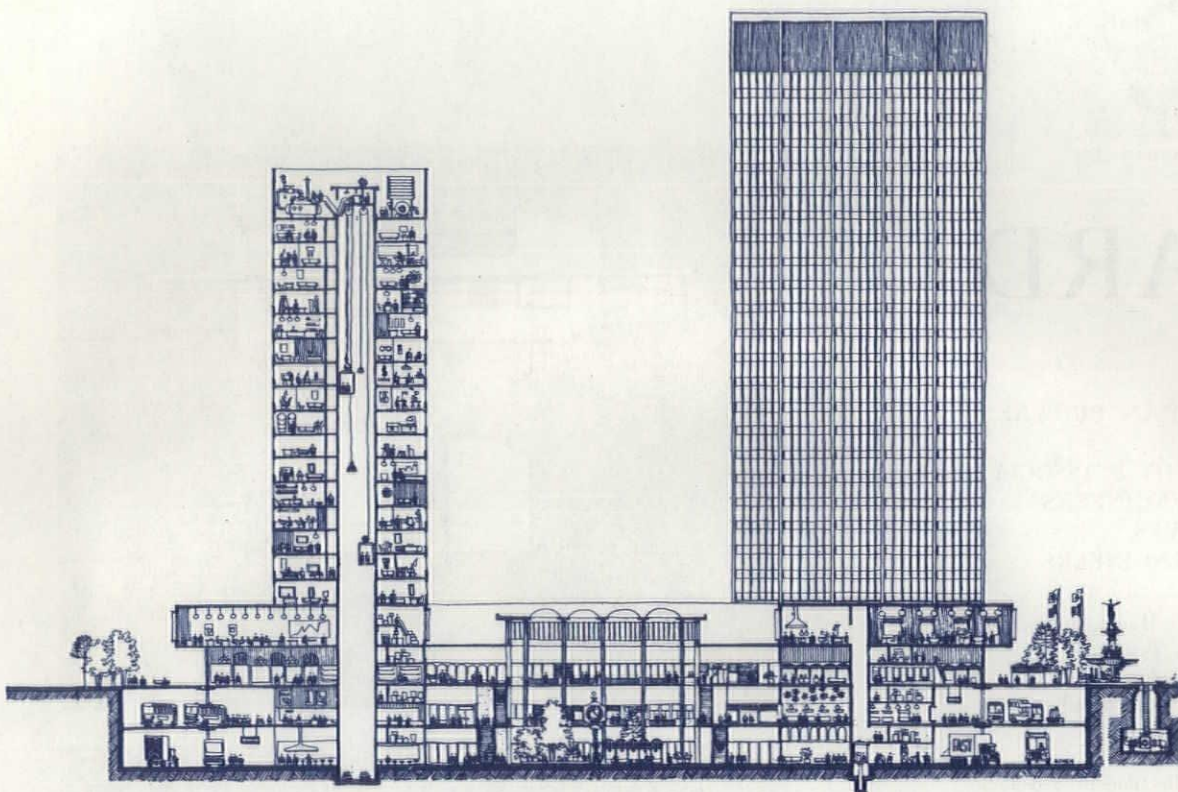
PROGRAM REQUIREMENTS: To develop a realistic, comprehensive plan possible of execution.

DESIGN SOLUTION: "Experience has shown," say the planners of this scheme, "that the demolition of old buildings and their replacement by new ones cannot, by itself, achieve the reversal of the prevailing trend toward the withering of the core area. It is, in fact, highly doubtful whether individual developers could successfully lease and finance new structures within the core area unless significant improvements to accessibility, circulation, public transportation, parking facilities, and to the quality of the public environment of downtown are simultaneously undertaken." Specifically, this plan proposes: (1) extension of the present freeway system to form a complete expressway loop around the core; (2) a double inner surface loop; (3) convenient perimeter parking; (4) direct transit access to the core with the construction of an underground transportation terminal in the center of the core; (5) implementing of a street use classification plan, which would avoid indiscriminate mixing of buses, cars, trucks, pedestrians and emergency vehicles. The Transportation Center is considered by the planners to be one of the most important elements of the Revitalization Plan. It is proposed that this be a multilevel, multiple-use complex. Its focal point is to be a lofty, air-conditioned galleria, which will serve as point of entry for travelers, as lobby for the office towers, and as the center of many commerce and retail facilities.

JURY COMMENT: The strength of this design is in the development of the transportation center; in the idea that the central core can grow gradually in many directions; in the architect's determination to work within the established framework of the city, without recourse to large-scale demolition.

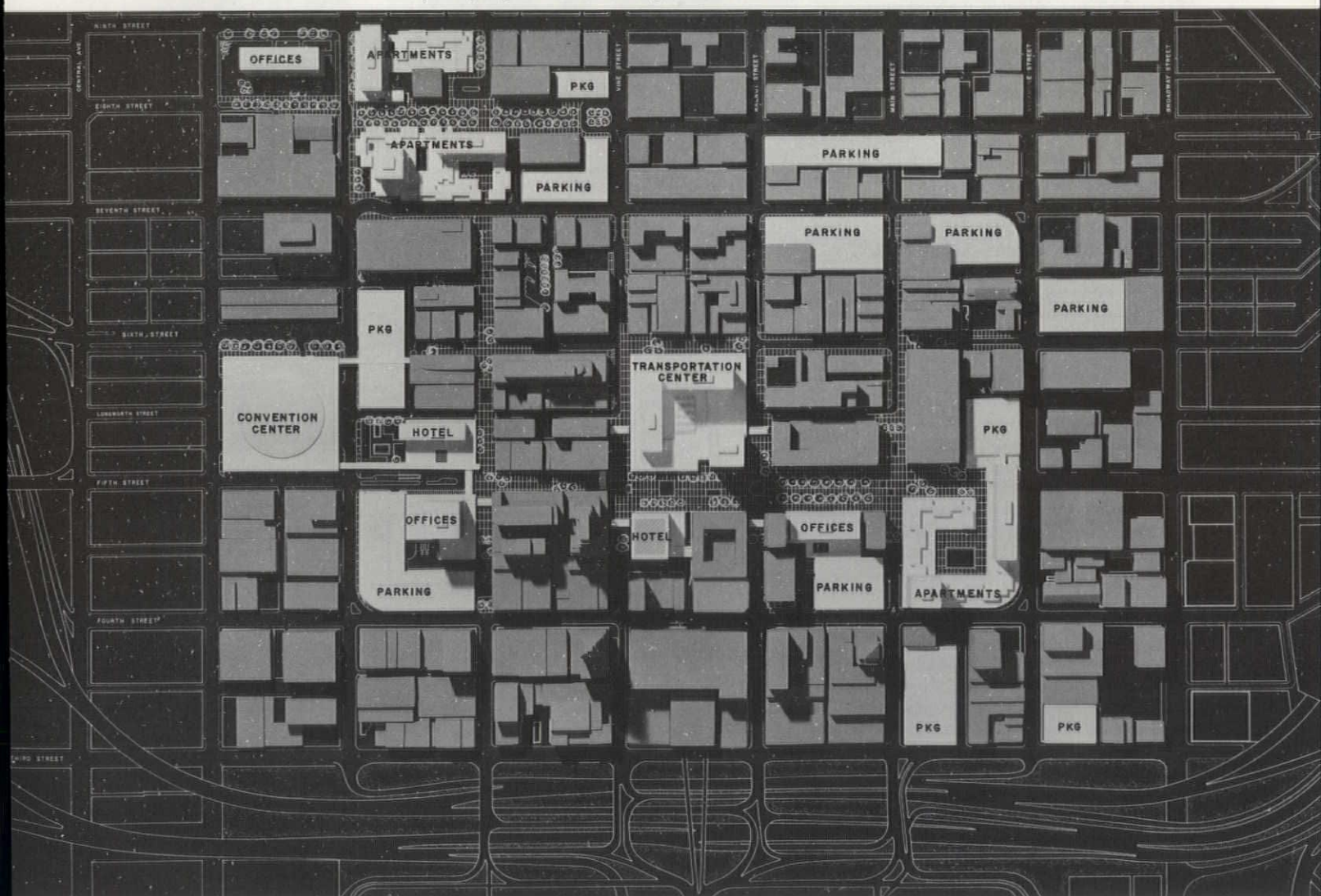


Based on the street use classification proposal, a major portion of the street grid in the center of the core is to be dedicated exclusively to pedestrian use, being transformed into a system of connected and interrelated malls and plazas (above). By means of setbacks and other architectural controls, the former rigid street grid can be transformed into a series of architecturally defined public spaces that will make this area visually more attractive.



section through Transportation Center

plan of city core (new buildings shown in white)





CASSNER



NATHAN



BROWNE

AWARD

recreation

GASSNER, NATHAN, BROWNE,
ARCHITECTS
S. S. KENWORTHY & ASSOCIATES, INC.,
STRUCTURAL ENGINEERS
ELLERS & REAVES,
MECHANICAL ENGINEERS

PROJECT: Great Apes House for Overton Park Zoo, Memphis, Tennessee.

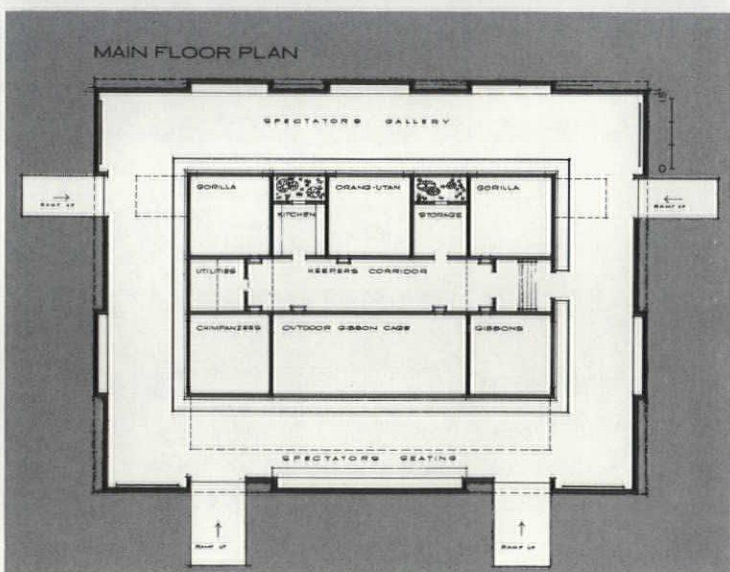
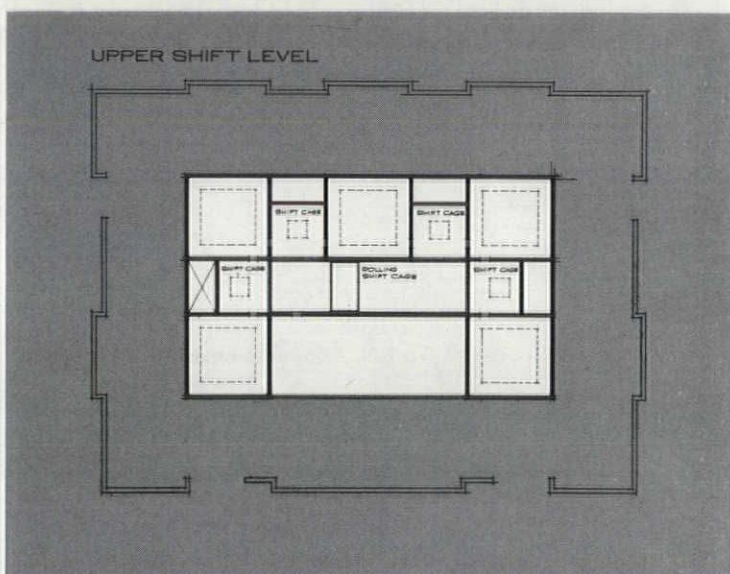
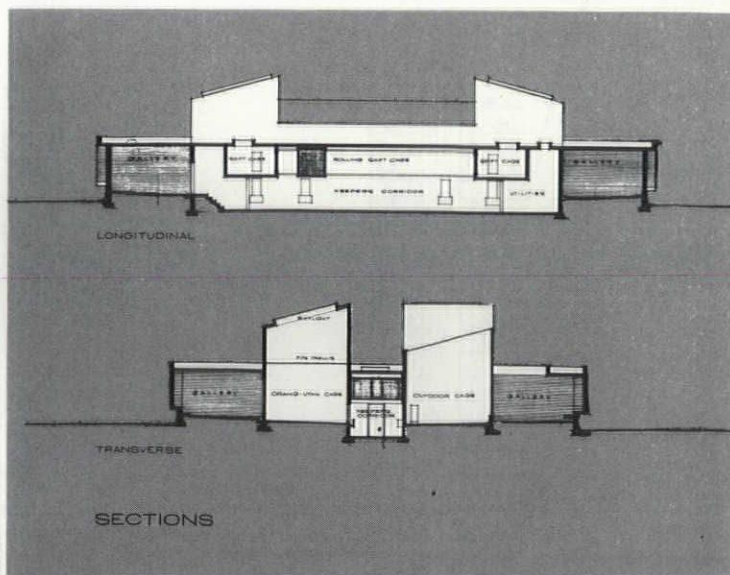
SITE: One-acre meadow in southeast corner of zoo. Building to be silhouetted against wooded background.

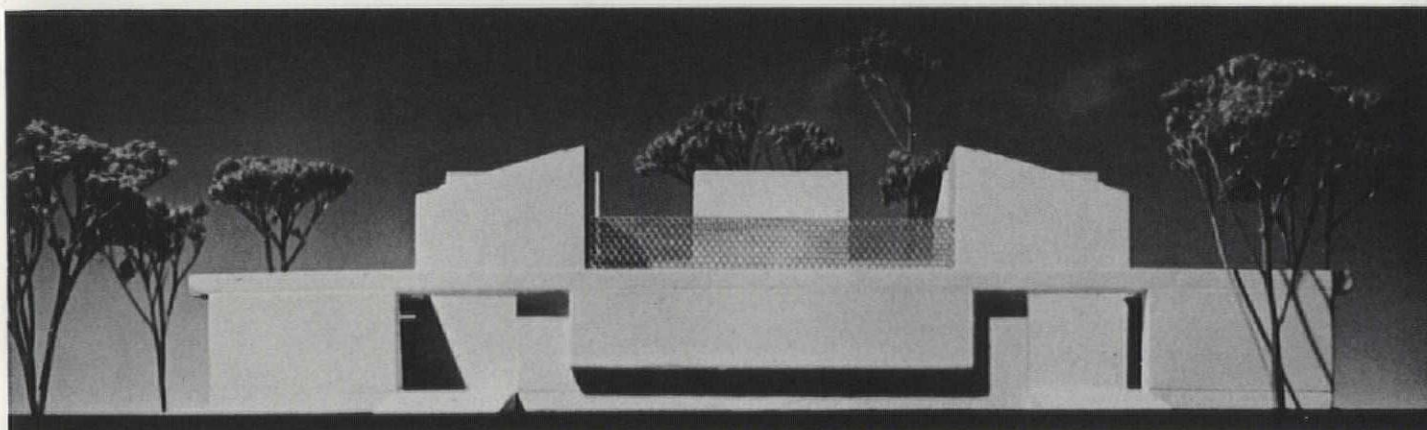
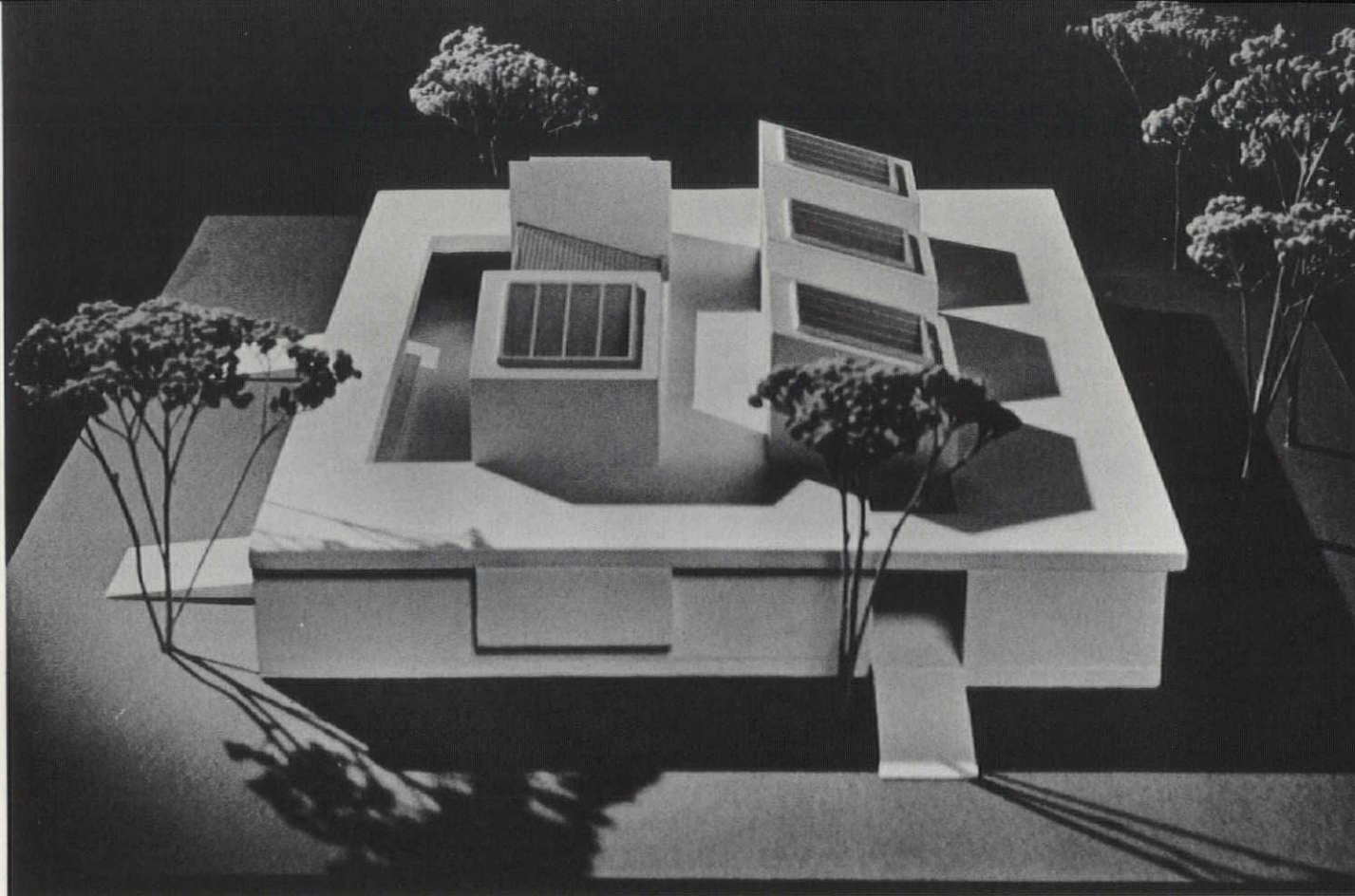
PROGRAM REQUIREMENTS: To house an anthropoid ape collection in a sound biological environment. Plan arrangement to afford best possible observation points for spectators.

DESIGN SOLUTION: All animal spaces are grouped around an interior service core. A spectator gallery completely surrounds this center core. Because of susceptibility to human diseases, most of the animals are kept within glazed cages where contact with humans can be avoided and temperature and humidity controlled at all times. By using the movable, track-mounted cage over the service area, it is possible to transfer animals from one cage to any other without contact with other animals or humans. The Gibbons, able to withstand contact with humans and moderate winter weather, have been given a large open-air space. For the benefit of the spectators, the cages are brightly lighted by means of skylights and supplementary artificial light, while the spectator area is kept darkened, thus avoiding glass reflections. Floors in the viewing area are sloped and provided with benches.

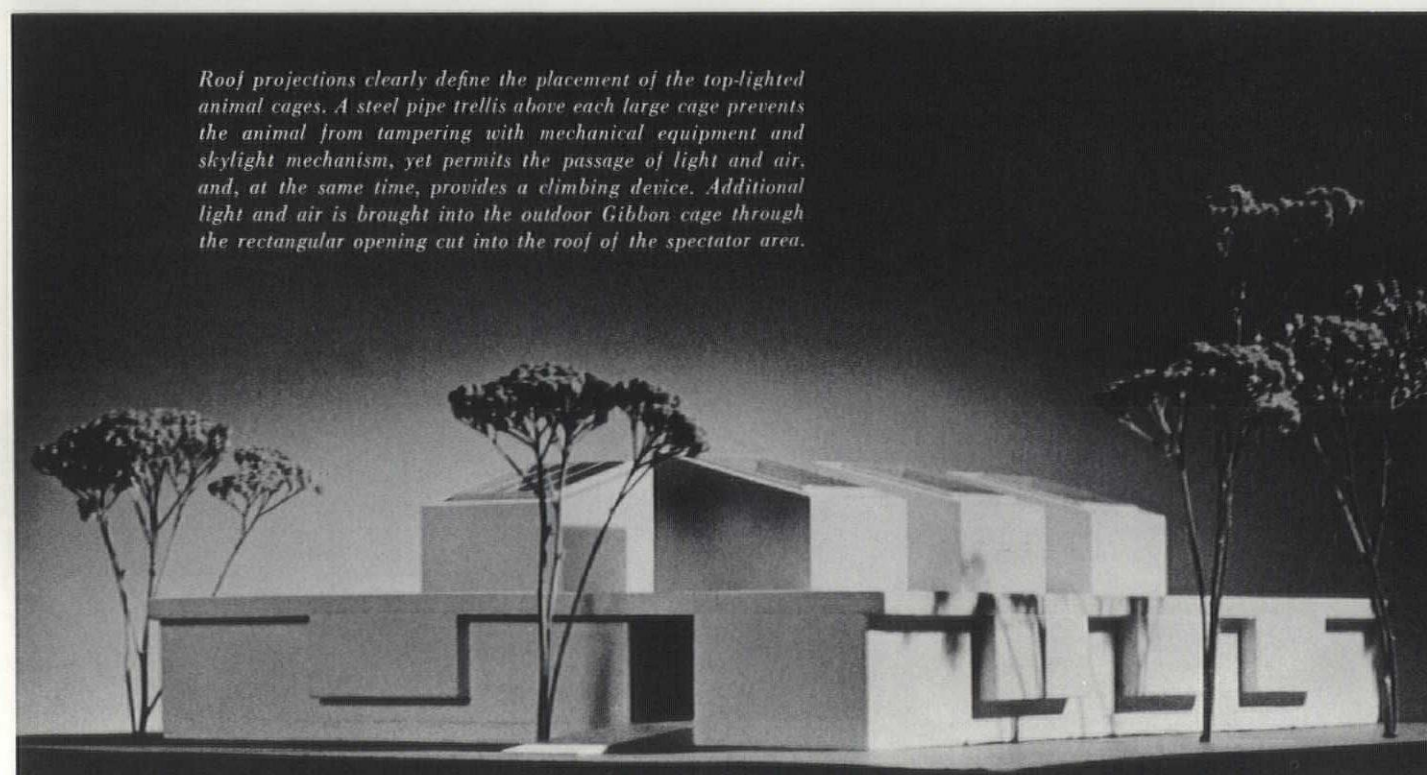
CONSTRUCTION AND MATERIALS: Concrete was chosen for security reasons and to provide a smooth, jointless surface over which an impervious plastic can be sprayed for ease of maintenance. Brick will be used for the exterior walls enclosing the spectator gallery, to contrast with the concrete and to harmonize with the surrounding buildings. Window panels in the cages will be a sandwich of transparent vinyl and two outer layers of tempered tinted plate glass, set into steel frames.

JURY COMMENT: An off-beat problem resolved architecturally with restraint and sensibility and a note of humor,





Roof projections clearly define the placement of the top-lighted animal cages. A steel pipe trellis above each large cage prevents the animal from tampering with mechanical equipment and skylight mechanism, yet permits the passage of light and air, and, at the same time, provides a climbing device. Additional light and air is brought into the outdoor Gibbon cage through the rectangular opening cut into the roof of the spectator area.





RAPSON



AWARD

religion

RALPH RAPSON, ARCHITECT

PROJECT: Mausoleum and Garden Crypt Area for Lakewood Cemetery, Minneapolis, Minnesota.

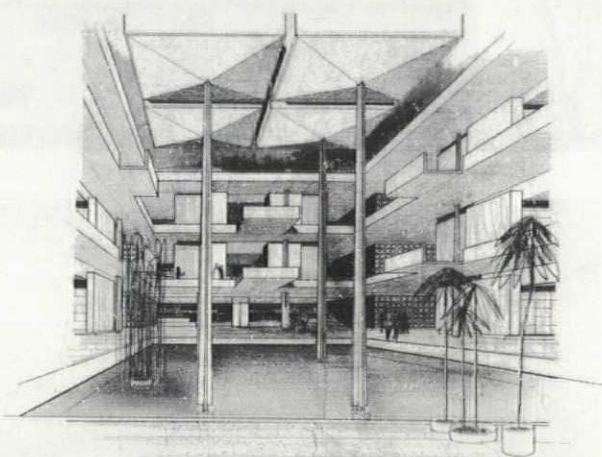
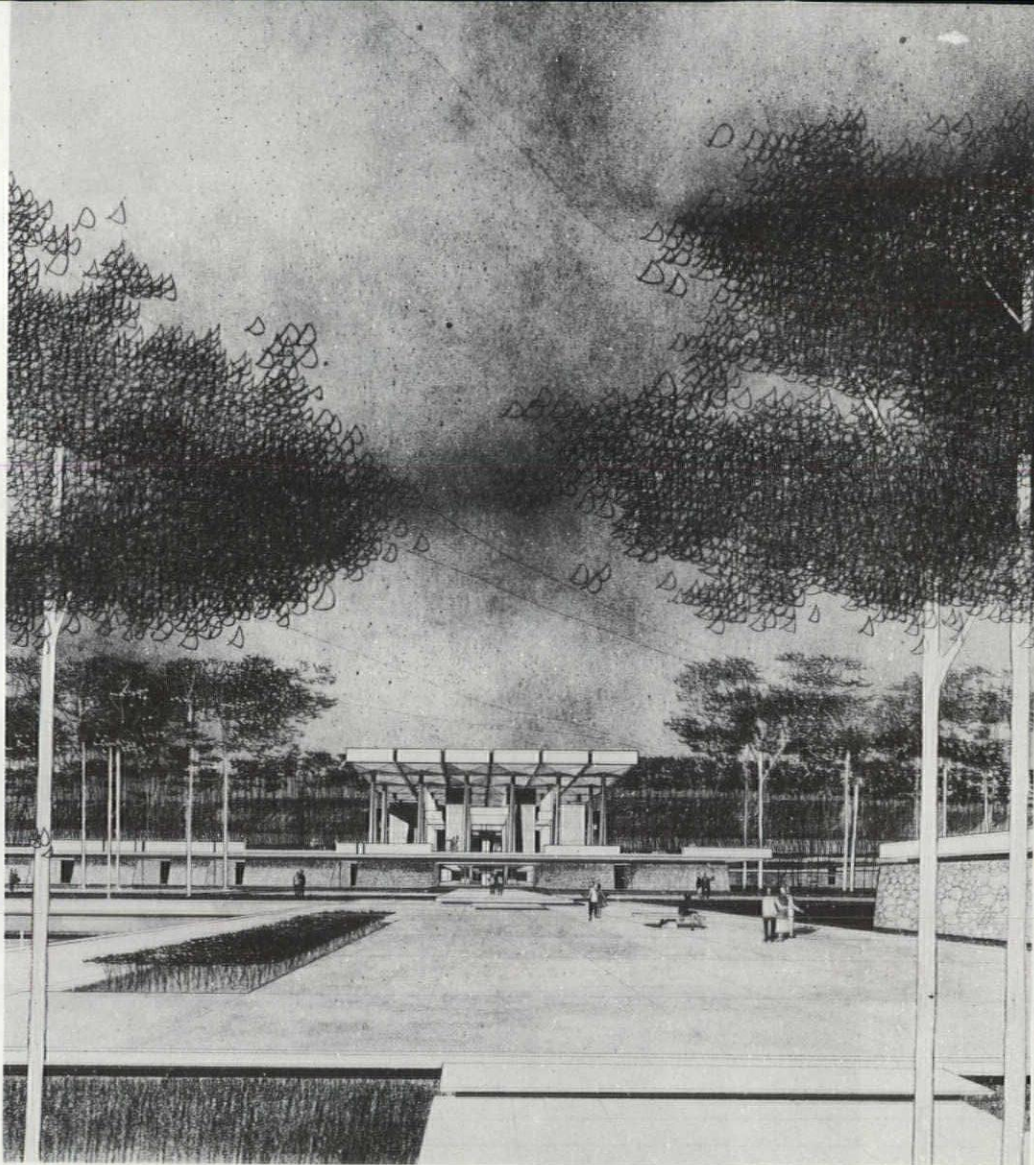
SITE: An area within the confines of the existing cemetery. The land will need considerable grading and landscaping. An administration building and a chapel in the Byzantine style are close by.

PROGRAM REQUIREMENTS: Design of a mausoleum and garden crypt area. In the first phase of construction, the mausoleum is to provide a minimum of 950 interior crypts, and 800 columbarium spaces. In addition to these, about 3000 garden crypts are to be provided. The plan must lend itself to future expansion. It was further required that the general form and exterior treatment of design be in harmony with the present administration building and the existing chapel. Generally, a solution was desired that would function easily and effectively and combine permanence with low maintenance.

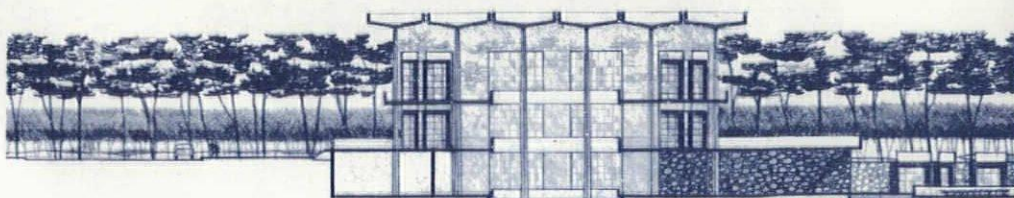
DESIGN SOLUTION: The existing chapel and the new mausoleum form the visual axis of the design. Between these two elements, the various terraces, sunken courts, pools, and garden crypt areas are asymmetrically arranged. The mausoleum, which contains most of the required crypt and columbarium units, is entered either from the garden court level or from the street above. Additional burial crypts are dispersed throughout the gardens, where groups of them form sunken garden courts, niches, or walls.

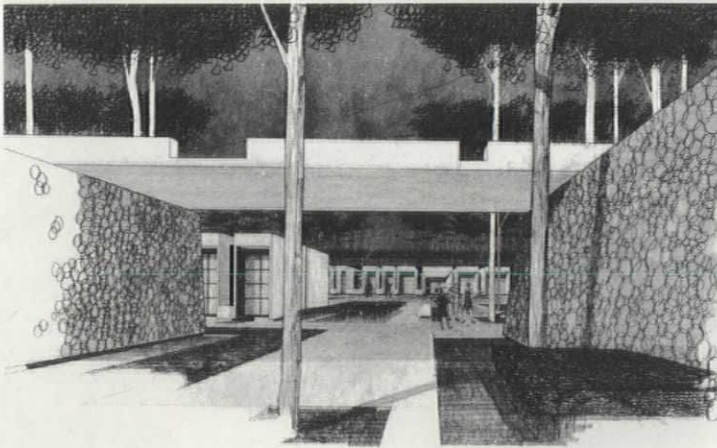
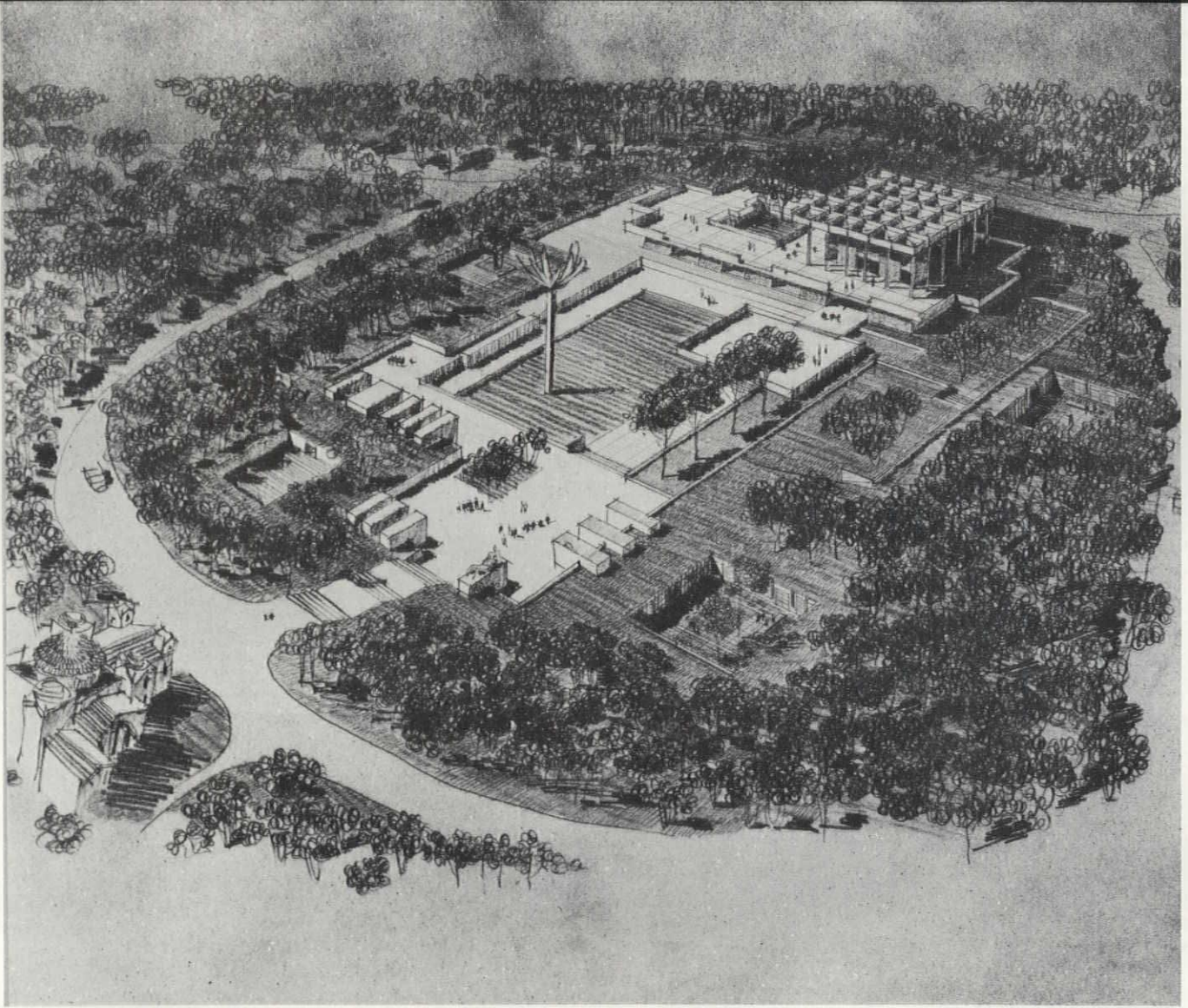
CONSTRUCTION AND MATERIALS: Reinforced concrete construction over concrete piling. Base of mausoleum and garden crypts will be of rough concrete and heavy rubble stone. The upper part of the building is to be of textured concrete with granite facing. White marble facing is intended for the interior crypts and columbaria. Some of the floors are to be surfaced with dark marble, combined with precast units of textured, exposed-aggregate concrete.

JURY COMMENT: Extremely orderly and controlled architectural planning, though termed by one jury member as "too obvious and too axial." On the whole, the jury admired the progression of spaces and the sensitive interplay of architecture and landscape.

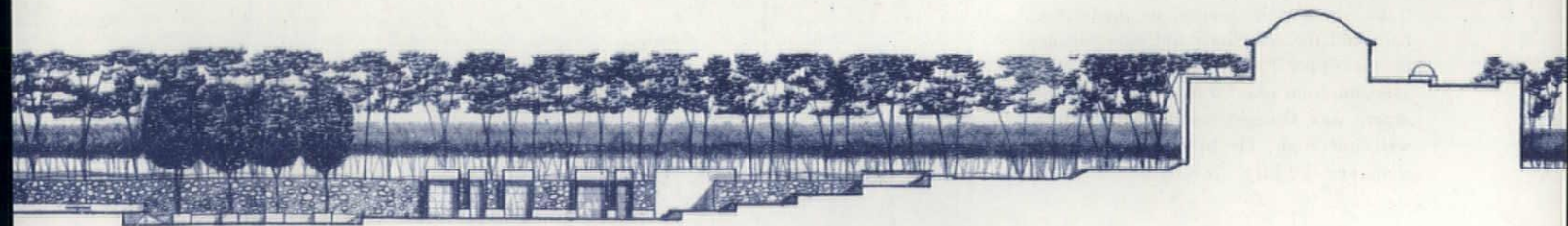


interior of mausoleum





garden crypt area





SELIGMANN

CITATION

religion

WERNER SELIGMANN, ARCHITECT
KENNETH CARSWELL,
ASSISTANT TO THE ARCHITECT
SNYDER & TROXELL,
STRUCTURAL ENGINEERS
EDWARD A. FASSLER,
CONSULTING MECHANICAL ENGINEER

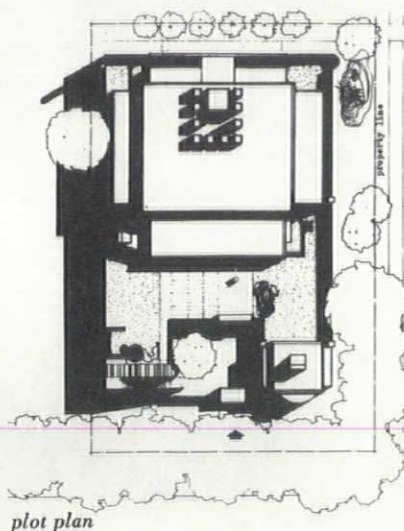
PROJECT: Beth David Synagogue for Congregation Beth David, Binghamton, New York.

SITE: Urban plot among large homes built around the turn of the century. Available building area within setback restriction limited to 80' x 120'.

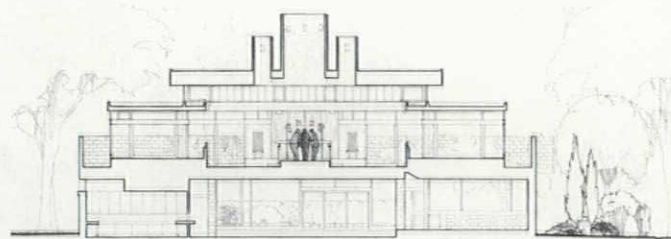
PROGRAM REQUIREMENTS: Design of a synagogue for an orthodox congregation. Specifically required were: a sanctuary for 400 persons; a social hall for 200; a minimum of five classrooms; a daily chapel that will also house the library; offices; a ritual bath; separate cooking facilities for dairy and meat products. Parking space was not considered essential since the building will be within walking distance of most of the congregation.

DESIGN SOLUTION: The architect wished to create a community center that would invite a multitude of activities, making it a vital, active part of the life of its members. At the same time, he wanted to separate the secular functions from the worship center, and to give clear dominance to the religious function. Based on this reasoning, the building has two distinct levels: the street level houses all of the secular functions and the daily chapel, and the upper level is entirely devoted to the sanctuary. On the street level, the spaces are for the most part tight and enclosed, whereas the sanctuary above becomes a glazed open pavilion within its own setting of a roof garden.

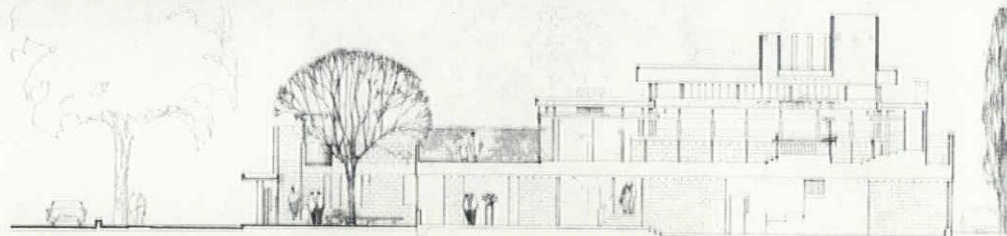
CONSTRUCTION AND MATERIALS: All of the main bearing walls are to be of concrete block, left exposed. Interior partitions will be plastered and painted white. JURY COMMENT: The contrast between tight, small-scale spaces on the street floor and the seemingly unlimited space on the upper floor, as well as the progression from one form of space to the other, was thought to be particularly well conceived. "The basic organization," remarked the jury, "is strong."



plot plan

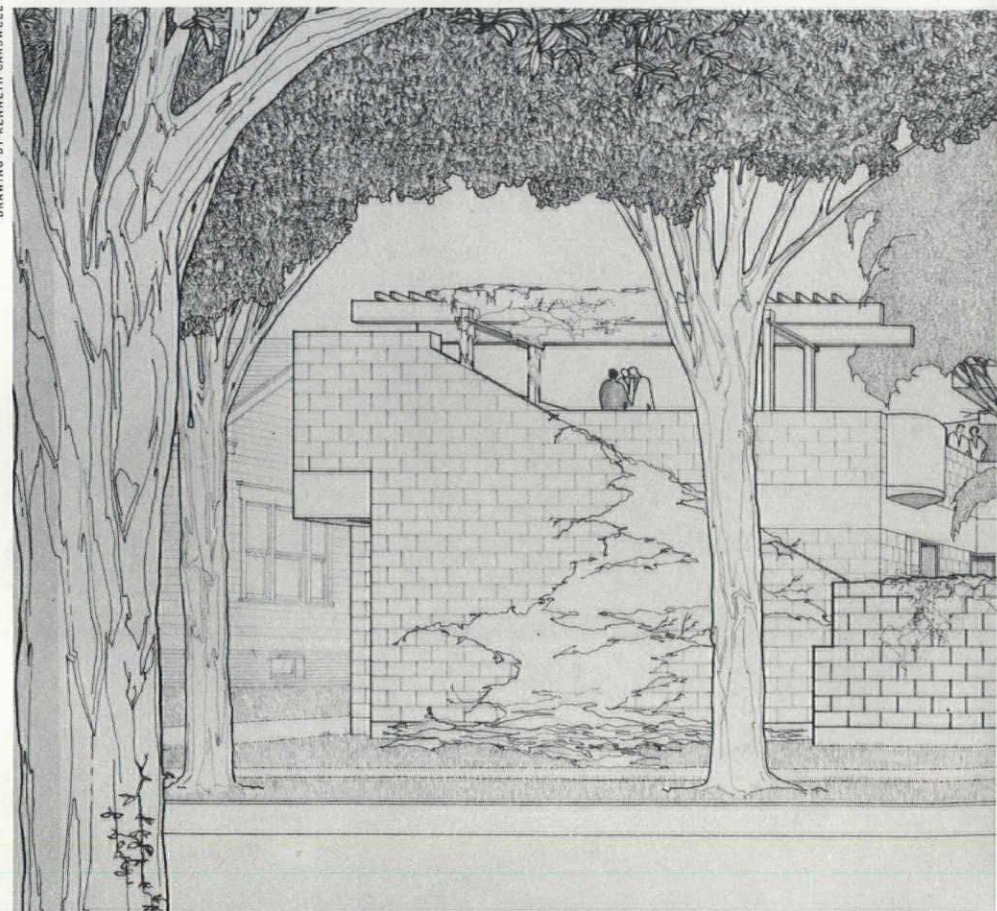


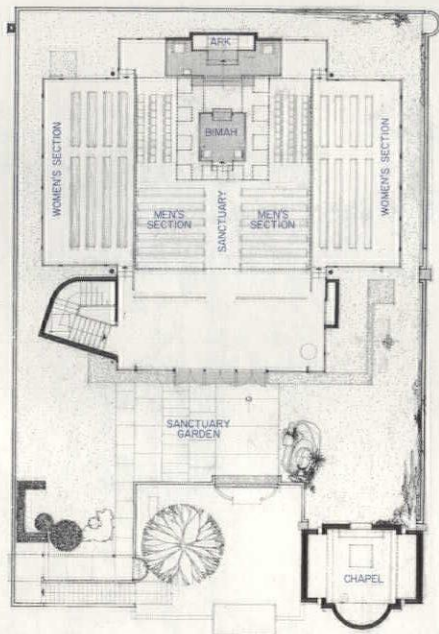
cross section



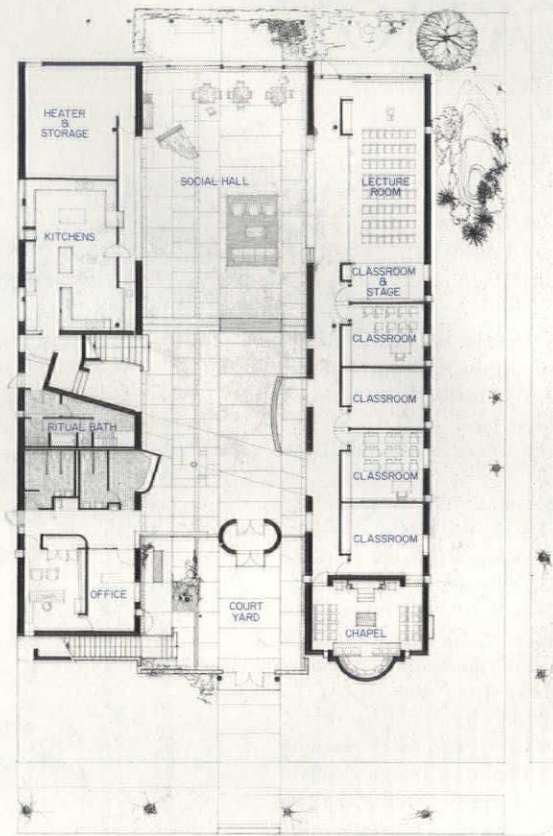
longitudinal section

DRAWING BY KENNETH CARSWELL

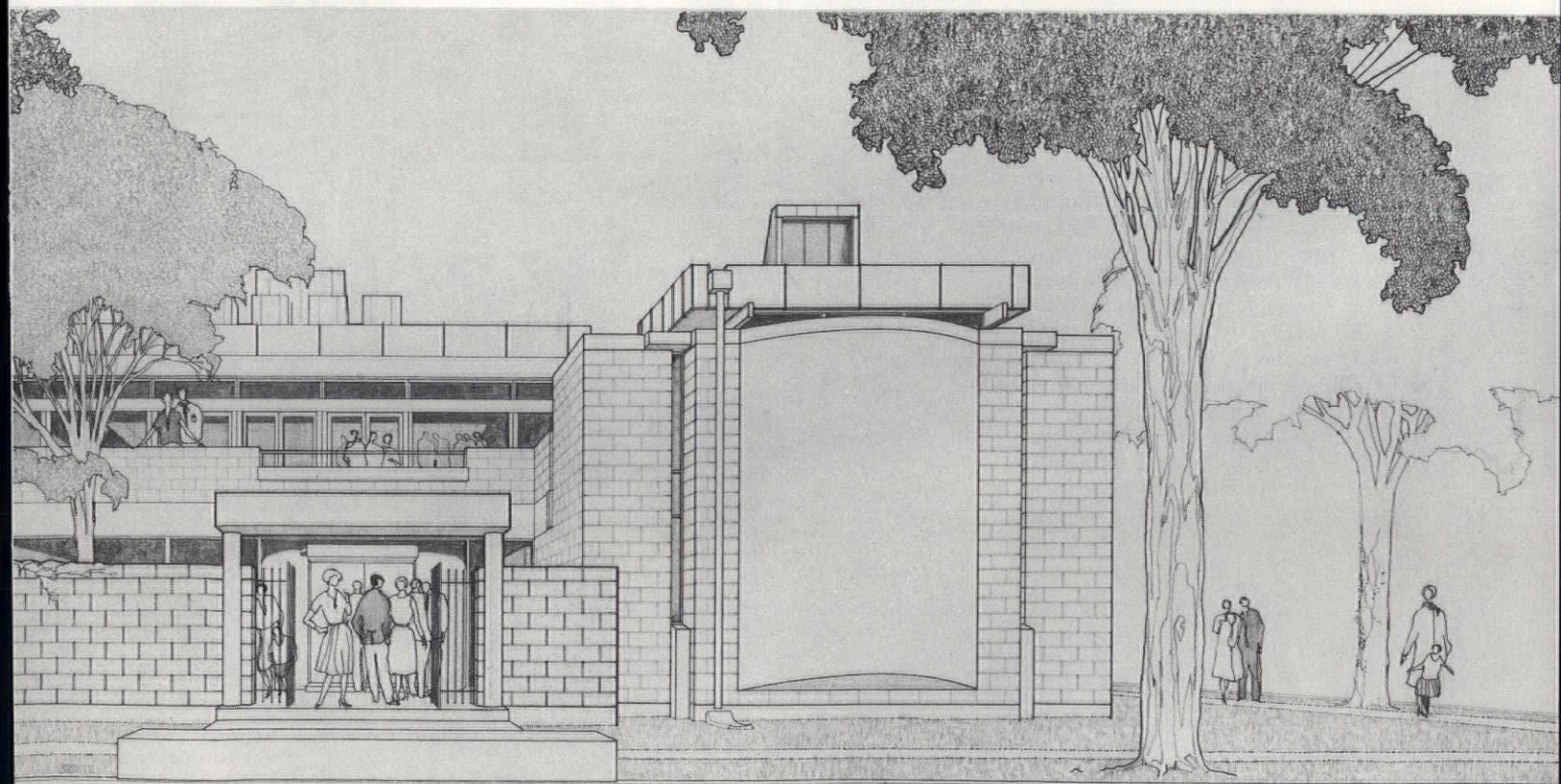




upper level



street level





LARSON

CITATION

religion

PROGRESSIVE DESIGN
ASSOCIATES, ARCHITECTS AND
URBAN PLANNERS
THOMAS N. LARSON,
DESIGN CAPTAIN

PROJECT: St. Thomas Wayfarer Chapel, Ely, Minnesota, for the Episcopal Church.
SITE: Five-acre property in the Superior National Forest area. At its highest point, the site offers a view of Lake Burnside.

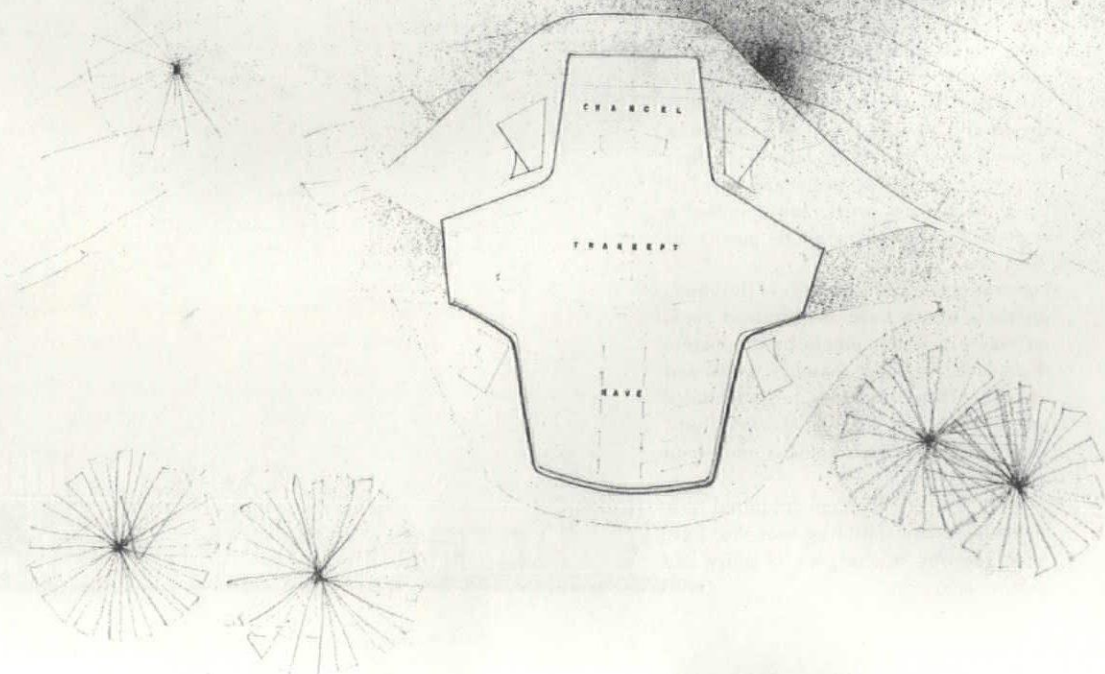
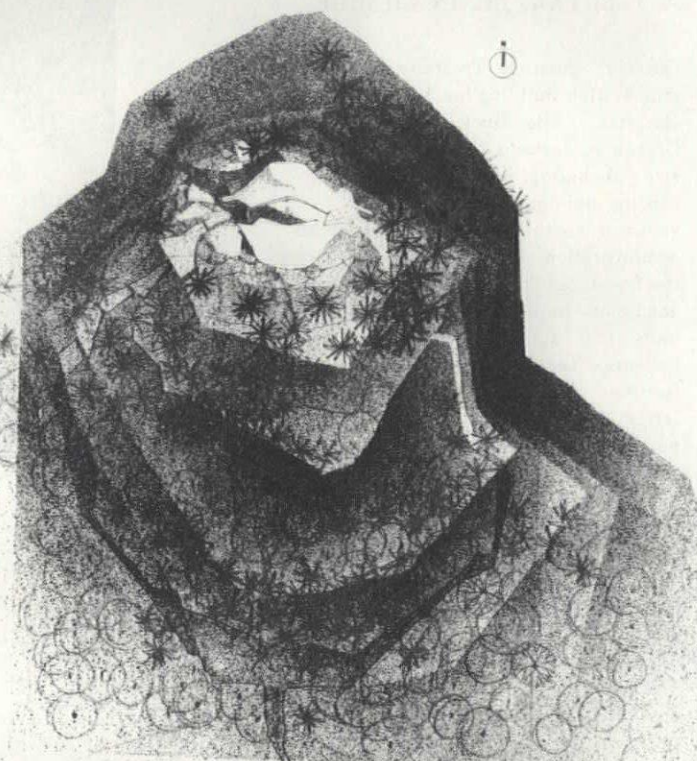
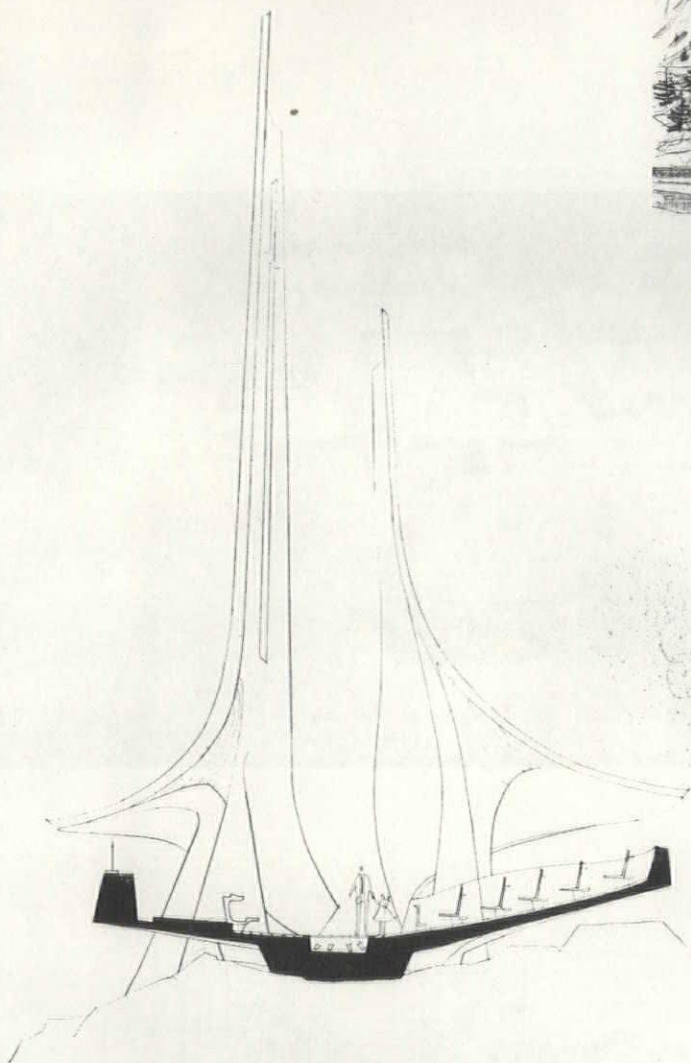
PROGRAM REQUIREMENTS: A chapel to serve landowners in the region, travelers, and vacation campers. Chapel is to be left open and exposed to the weather. Its design is to reflect the rugged and serene qualities of the site. Parking is to be provided off the main road, out of view and away from the chapel by approximately 600 ft.

DESIGN SOLUTION: Two high-reaching vertical shells that grow from a concrete platform held above the rocks. The two shells are continuously separated—the north shield being higher to reflect sunlight down into the transept. A cross made of stainless steel extends 6 in. out from the inner face of the north shield.

CONSTRUCTION AND MATERIALS: The two shells will be constructed of lightweight concrete, poured-in-place. The exterior surface is to be bush-hammered. On the interior, the diagonal form lines, reaching up and out from the center, will become an important part of the design. The cantilevered concrete floor slab is to be surfaced with brick pavers.

JURY COMMENT: In the early stages of discussion, members of the jury had reservations concerning the practicality of this piece of architecture. Several questioned its suitability to concrete construction methods, and also the plausibility of leaving the building unroofed in the climate of the area. Others were concerned with its scale, which seemed to imply a structure of great dimensions. However, on summing up, the jury felt that the design idea was extremely provocative and that, if executed properly, this remarkable little chapel could become a genuinely expressive religious building within this specific setting.







WITTENBERG



ARNOLD



CHURCH

CITATION

health

WITTENBERG, DELONY & DAVIDSON, INC.,
ARCHITECTS, ENGINEERS & PLANNERS
GORDON G. WITTENBERG, PRESIDENT
FRED E. ARNOLD, PARTNER IN CHARGE OF DESIGN
ROBERT B. CHURCH, III, DESIGNER
COURTNEY RENSHAW, JOB CAPTAIN
LEE W. BRANSFORD,
CHIEF STRUCTURAL ENGINEER
LEO L. LANDAUER & ASSOCIATES, INC.,
MECHANICAL ENGINEERS,
A. J. BRYAN, JR., IN CHARGE

PROJECT: Intensive Treatment and Administration Building for Arkansas State Hospital, Little Rock, Arkansas. Dr. George W. Jackson, Superintendent.

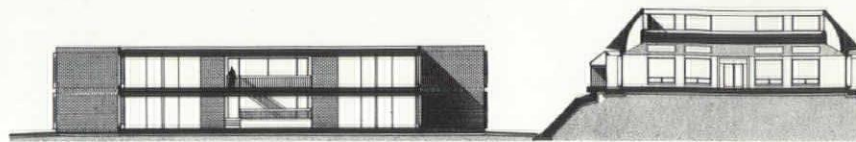
SITE: A hilltop presently occupied by existing buildings.

PROGRAM REQUIREMENTS: Design of an administration building and intensive treatment center comprising: a patient admission unit, living and treatment units (for approximately 400 mental patients), canteen services, staff dining facilities and necessary service auxiliaries. New building complex to make it possible to put into practice two concepts developed by Dr. Jackson: (1) to house patients in regional groups and (2) to have them cared for by the same treatment-team from admittance to discharge.

DESIGN SOLUTION: It was the intent of the designers to provide an architectural solution that is "open and permissive, filled with light and intimately scaled." The many building elements are organized into a coherent arrangement by the device of a podium onto which all of the nonliving functions were placed. The living units, which circle the podium, are planned in regular progression: "Two men to a room; two rooms to a unit, two units to a cluster, about a common activity space. Four clusters make a floor, with two floors sharing the solarium spaces at a median level and comprising a living unit. Two living units with their respective treatment units are grouped about a common court, and compose a regional unit serving a single portion of the state."

CONSTRUCTION AND MATERIALS: Buildings on the podium have steel-framed roofs on masonry walls; others have concrete floors and roofs on masonry walls and columns. Other materials to be included are: precast concrete panels, fieldstone, slate shingles, terrazzo, plaster, and wood panelling.

JURY COMMENT: The many required components of this building complex have been resolved into a plan of unity and coherence.



SECTION THRU LIVING UNIT

SECTION THRU TREATMENT UNIT

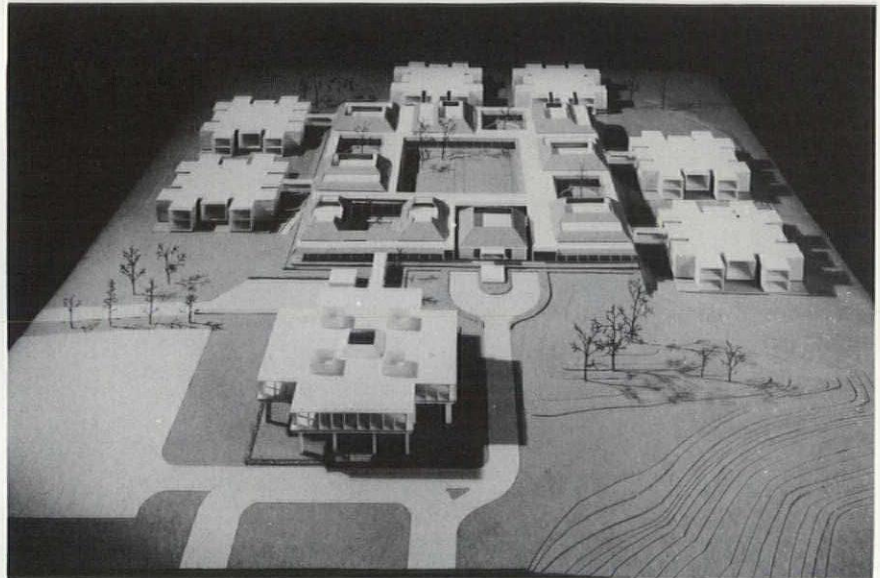
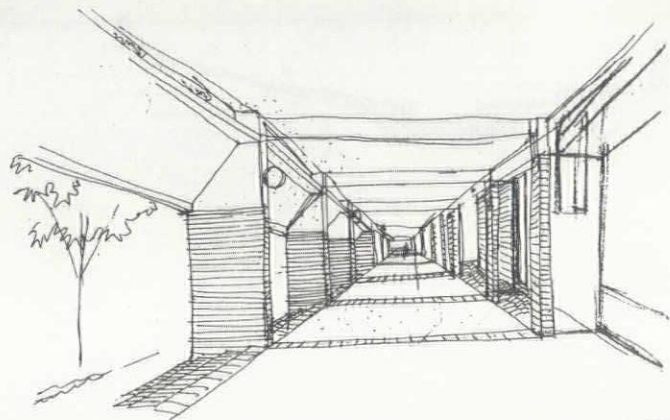
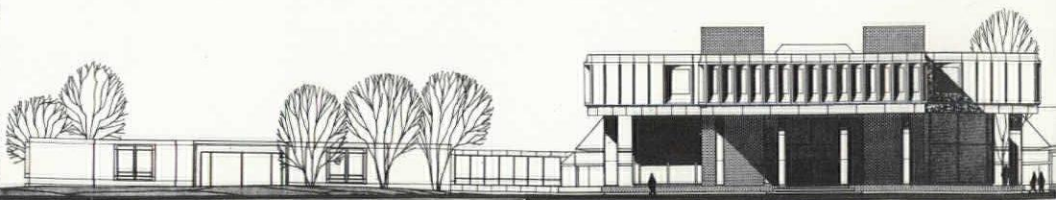


PHOTO: FRANK LOTZ MILLER



CANOPY STUDY



LIVING UNIT

ADMINISTRATION BUILDING



WIELAGE



PRINCE

CITATION

health

ROBERT WIELAGE, ARCHITECT
FRANK R. PRINCE, PROJECT ASSOCIATE
H. JOSEPH DIAZ,
STRUCTURAL ENGINEER

PROJECT: Hibbs Medical Clinic Building for Dr. Samuel G. Hibbs & Associates, Tampa, Florida.

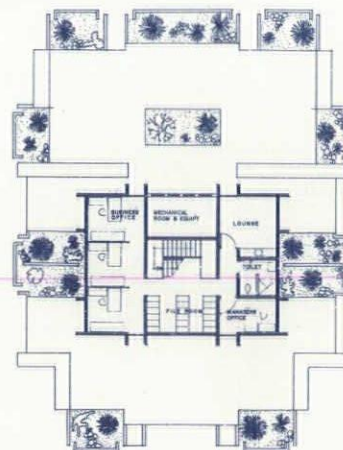
SITE: In a heavily built-up residential area currently undergoing change toward professional, office, and apartment house land-use. Large trees are to be maintained where possible.

PROGRAM REQUIREMENTS: A structure to house an organization of 10 doctors and psychologists engaged in a neuropsychiatric practice. Individual out-patients will visit the building for clinical analysis, neurological examination, and group therapy. Specific requirements were: separate doctor's offices to be used for analysis and consultation; two areas for group analysis; administrative areas; service areas; control center off waiting room; off-street parking for about 30 cars. The doctors recognized the need for a pleasing and tranquil atmosphere within the proposed structure.

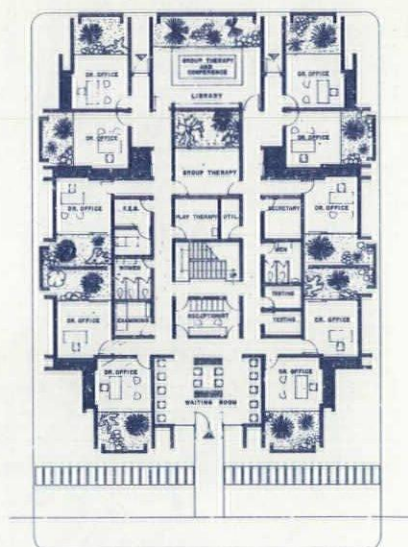
DESIGN SOLUTION: All of the medical and therapeutic functions are confined to the first floor. Offices, mechanical equipment room, and doctors' lounge are on the second floor. Main concern of the architect was the shaping of an attractive, relaxing environment, one that would encourage "the process that heals man's mind and spirit." Accordingly, each doctor's office, which is also a treatment area, has its own garden court. This device insures the privacy necessary for intense concentration yet retains a sense of communication with the world. Mood and intensity of lighting within the room can be adjusted by draperies along the glass doors. To avoid glare all glazed areas are shielded by concrete visors. A secondary light source is directed toward the doctor's work area. In the larger of the two group therapy rooms, also used as conference room and library, a conversation pit is introduced "in an effort to provide a sense of security and fellowship."

CONSTRUCTION AND MATERIALS: A simple two-way concrete slab deck supported on masonry bearing walls.

JURY COMMENT: The functional and emotional requirements of this building type well analyzed. Interesting architectural massing of a tight structure.

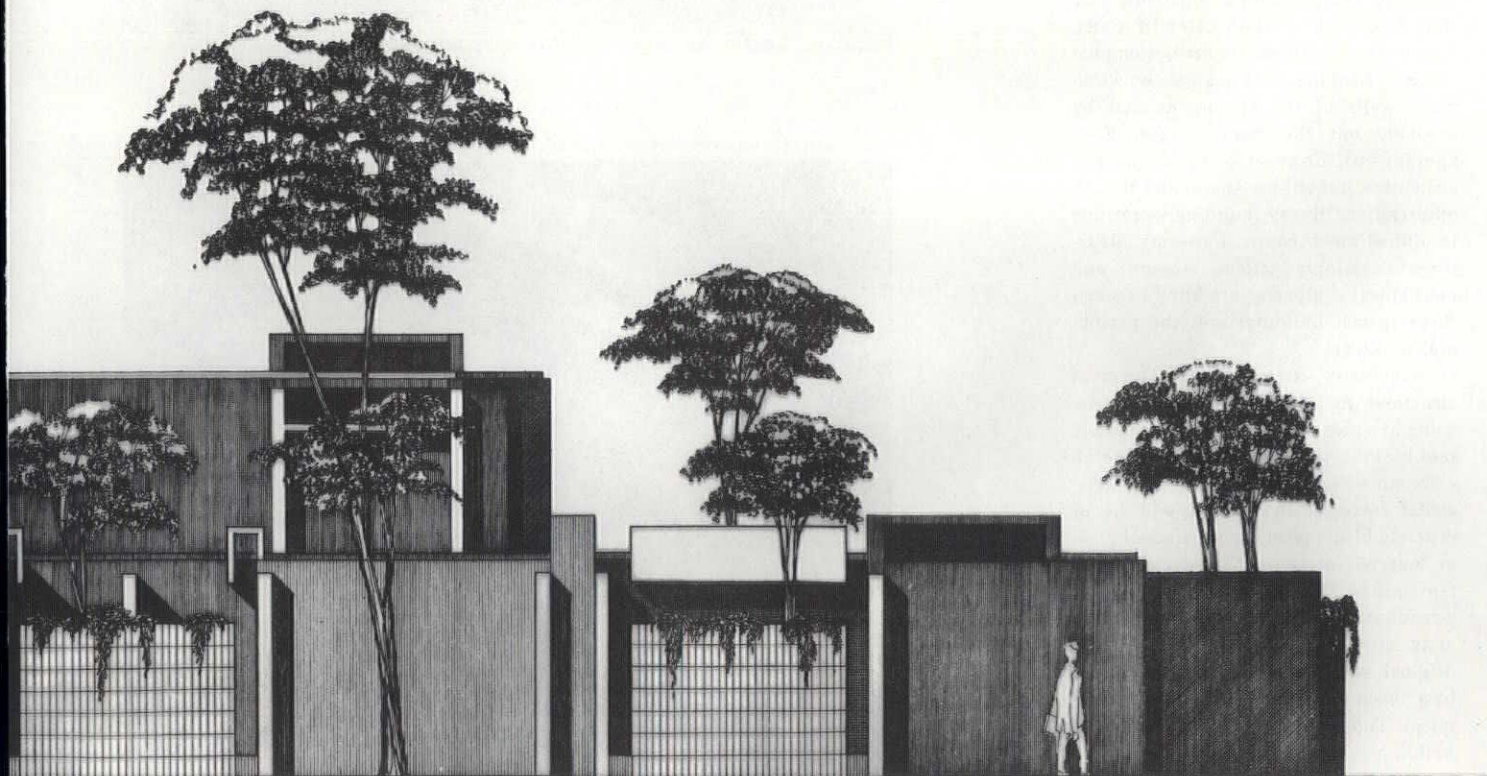
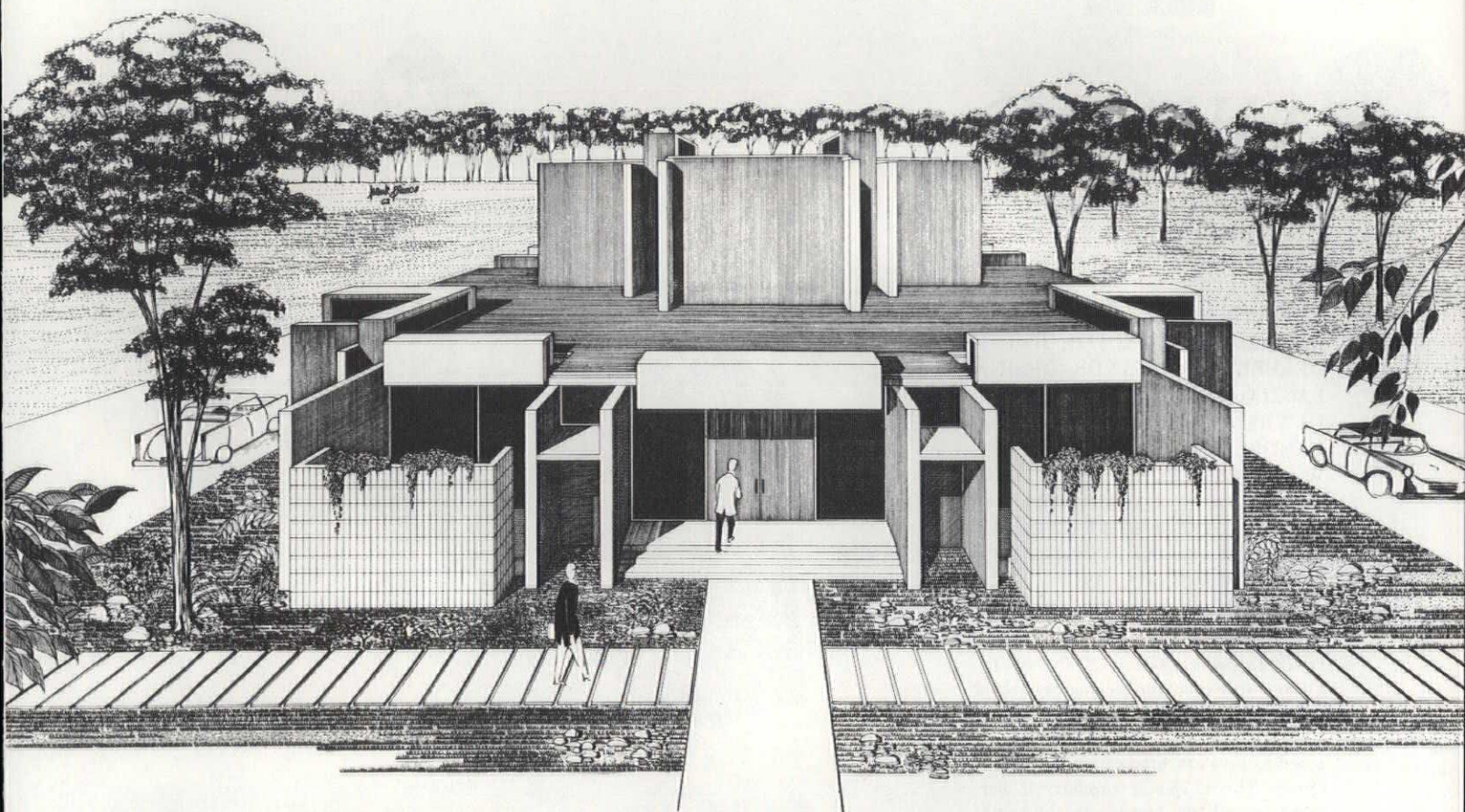


SECOND FLOOR AND ROOF PLAN



FIRST FLOOR AND SITE PLAN







HOLM



AWARD

education

WALLACE HOLM & ASSOCIATES,
ARCHITECTS

EDWARD H. DUERR, ARCHITECT IN CHARGE

RONALD C. MEREDITH, JOB CAPTAIN

DELBERT HIGHLANDS, DESIGN

LASZLO TOLDI, STRUCTURE

LAWRENCE HALPRIN & ASSOCIATES,
LANDSCAPE ARCHITECTS

W. PERRY BAKER,

MECHANICAL ENGINEERING CONSULTANT

WILLIAMSON & VOLLMER,

ELECTRICAL ENGINEERING CONSULTANTS

O. BRIAN WILSON, JR.,

ACOUSTIC CONSULTANT

PROJECT: General George S. Patton, Jr.,
Elementary School for Elementary School
District, Marina, California.

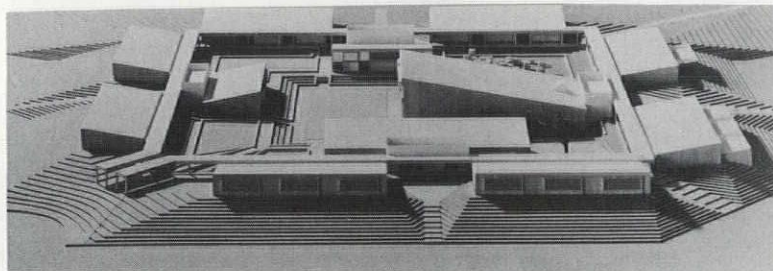
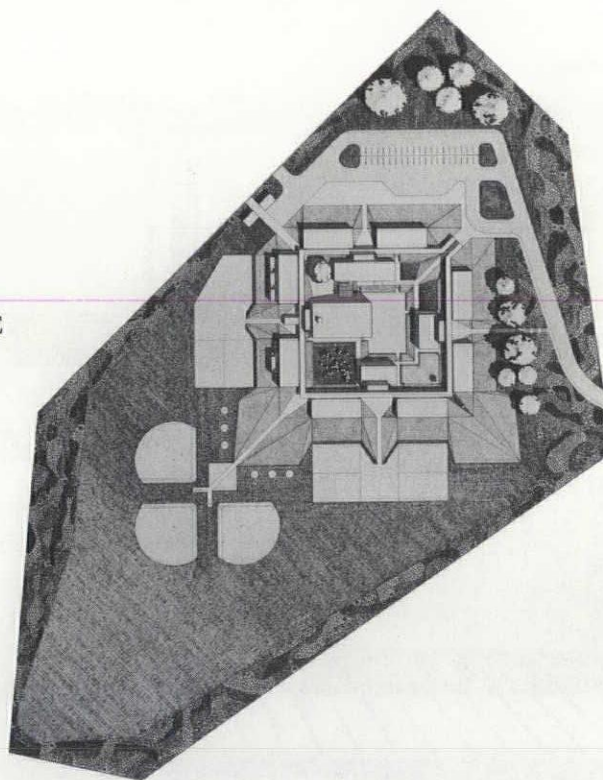
SITE: The top of a large sand dune ex-
posed to constant winds from the Pacific
Ocean. The 17.75-acre property is bor-
dered by military housing to the south,
and a road to the north.

PROGRAM REQUIREMENTS: The design of
an elementary school for 750 children
from kindergarten level to eighth grade.

DESIGN SOLUTION: The classrooms,
grouped in three's in anticipation of
eventual team-teaching methods, are
linked to form a wind-protected court.
The sense of enclosure is further empha-
sized by banking sand against the wind-
ward walls of the classrooms and by
scooping out the center space. Four
special buildings—two kindergarten
structures, a multi-use space, and the ad-
ministration/library building—protrude
into this inner court. Two-story struc-
tures containing toilets, storage, and
mechanical equipment are fitted between
these special buildings and the periph-
eral walkway.

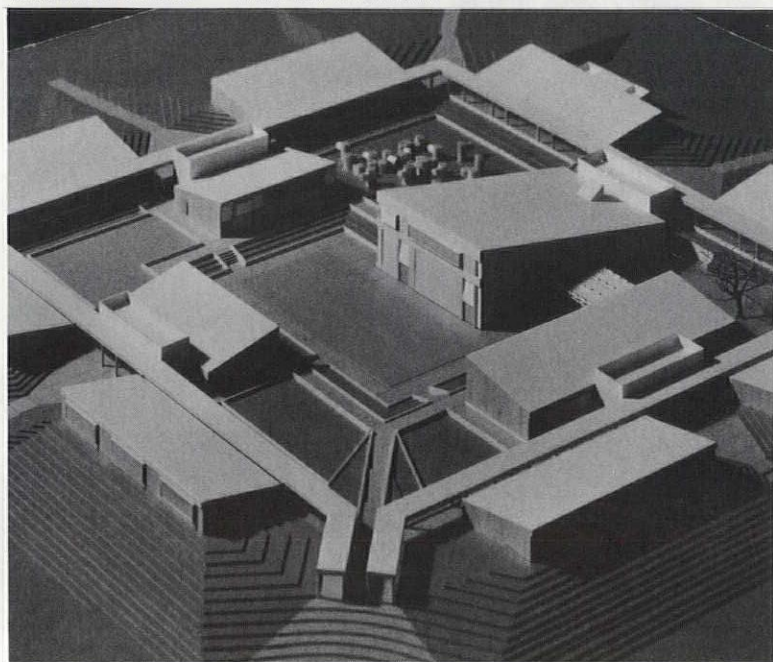
CONSTRUCTION AND MATERIALS: The main
structures to be of reinforced concrete,
using one-way span with single or double
tees between tilt-up frames. The tilt slab
ends stiffen each building against hori-
zontal forces. Filler panels will be of
concrete block, plaster, steel-framed glass
or louvers. Interiors will be painted or
finished with horizontal boards and
cement-asbestos acoustic panels.

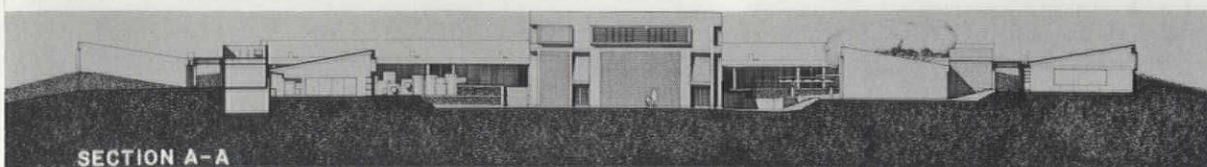
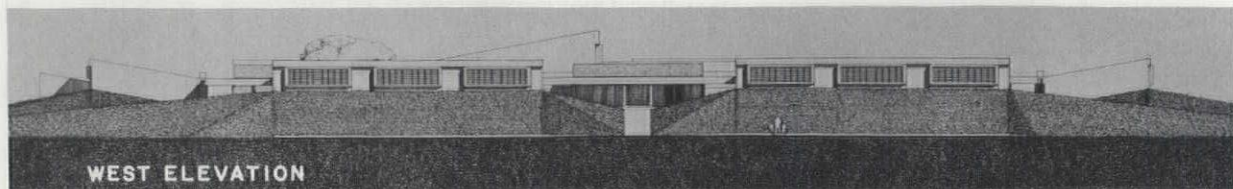
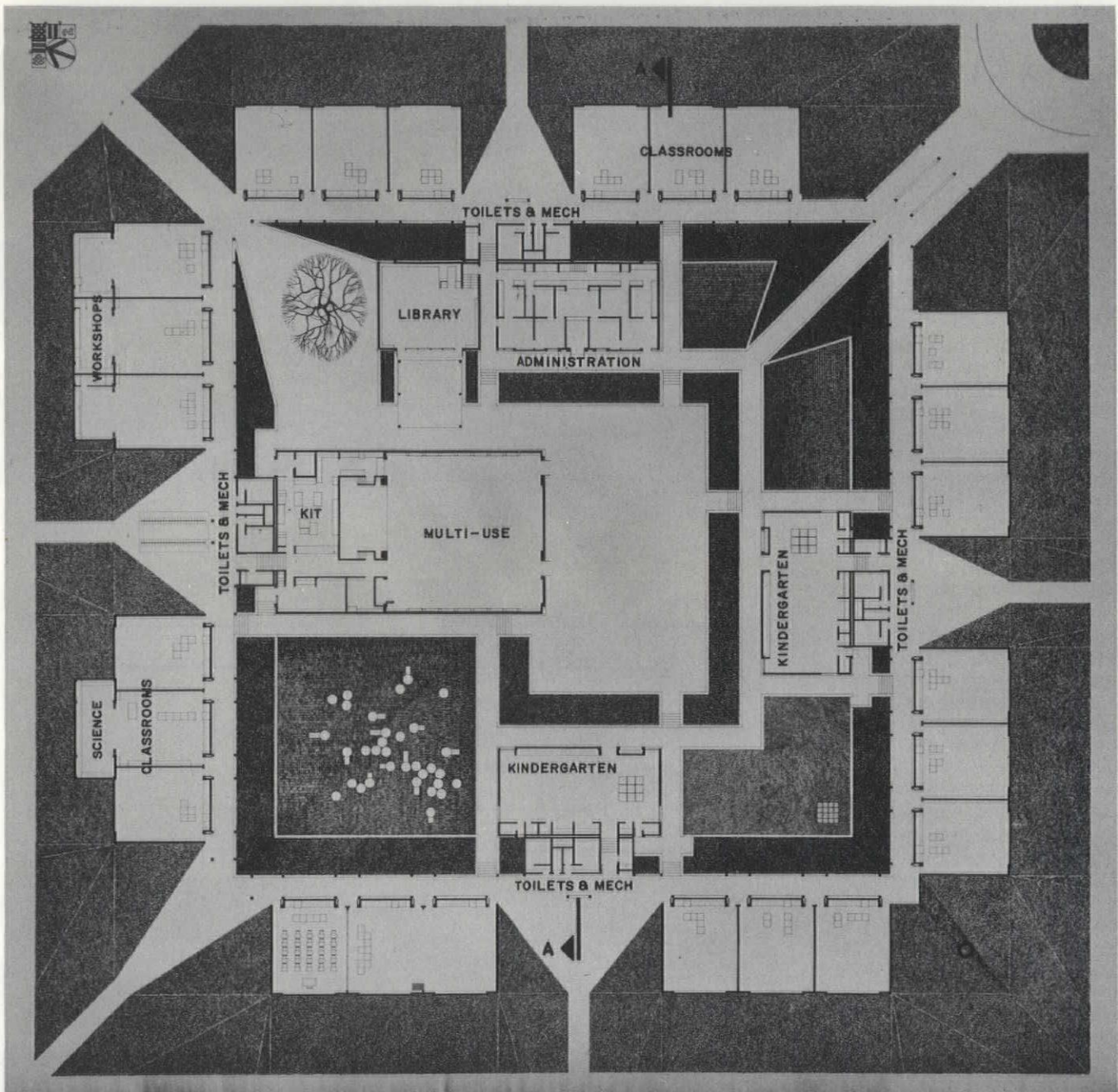
JURY COMMENT: The shaping of the
original sand dune was considered to
have been executed with purpose and
talent. Though the jury thought that the
building complex "may not hold its own
from a distance, it does read very well
close up."



MODEL: WESLEY L. HESSLER

PHOTOS: JOHN H. LIVINGSTONE







RAMBERG

CITATION

education

MEYER & AYERS, ARCHITECTS
WALTER DODD RAMBERG,
PROJECT DESIGNER
J. L. FAISANT & ASSOCIATES,
STRUCTURAL ENGINEERS
MCNEILL & BALDWIN,
MECHANICAL ENGINEERS

PROJECT: Northwest High School for Baltimore Public Schools, Baltimore, Maryland.

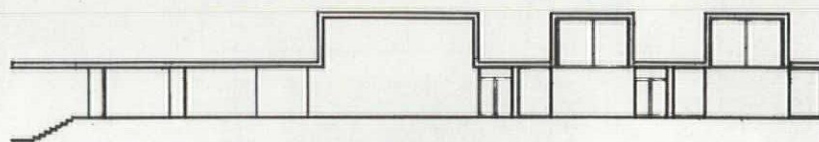
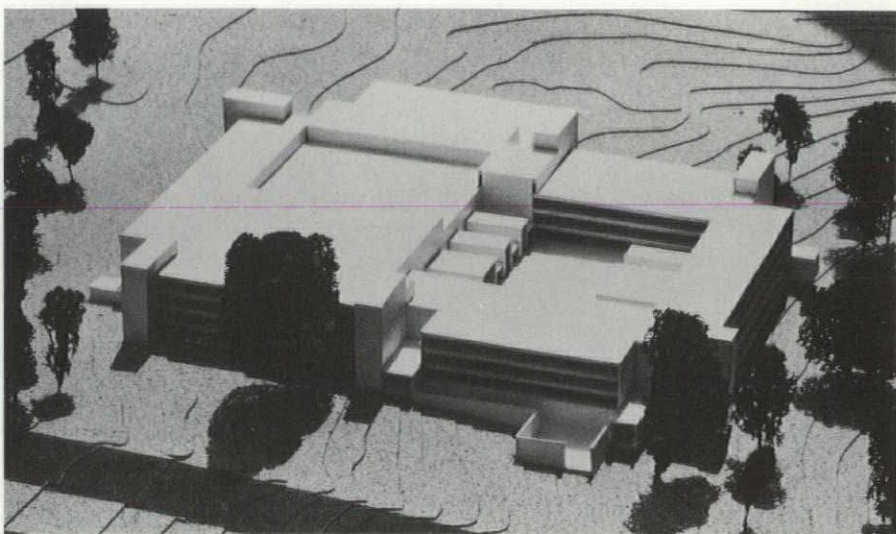
SITE: A 16-acre suburban property between two intersecting traffic arteries. About one-third of the site is heavily wooded.

PROGRAM REQUIREMENTS: To design complete senior high school facilities for 2000 boys and girls.

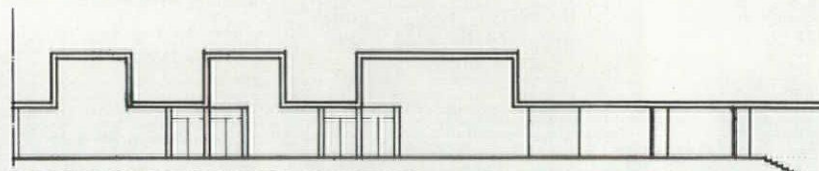
DESIGN SOLUTION: Auditorium and gymnasium are at the center of the building complex; classrooms occupy the periphery. The stair towers are spotted at the corners and in the center of the building in order to keep student traffic dispersed. "This compact arrangement," say the architects, "makes it possible to give unity to a large and complicated building. It gives classrooms the advantage of a pleasant prospect, allows for the necessary playing fields on a small plot, and permits the preservation of the best of the natural site. It promises economies of construction as well."

CONSTRUCTION AND MATERIALS: Concrete framing with precast floor planking. Steel trusses to be used for long spans over auditorium, gymnasium, and swimming pool. Exterior walls, spandrels, and columns will be faced with brick. Windows to be alternately fixed, at the face of the wall, and operable when set back 2 ft from the face of the wall. This separation of fixed and movable sash, and the variation in size of opening, are intended to enliven a repetitive pattern. Heating and ventilating to be accomplished by circulating hot water and fan coil units in each classroom. The fan coil unit to be located under the window wall counter.

JURY COMMENT: The jury found this project "so direct" that it appeared "not styled at all." The elements were simply given the most logical size and shape; they were placed where most appropriate, and erected with standard, accepted construction methods and materials. In spite of a complicated program, the building was found "very clear in its massing" and unified through the use of brick as the only dominant material.

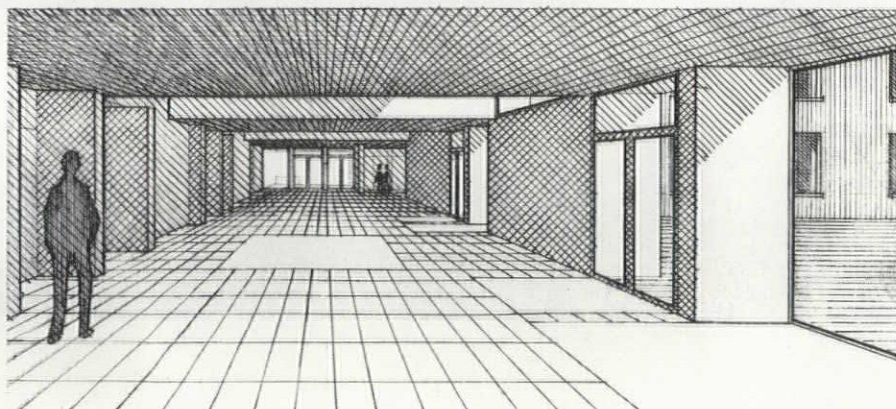


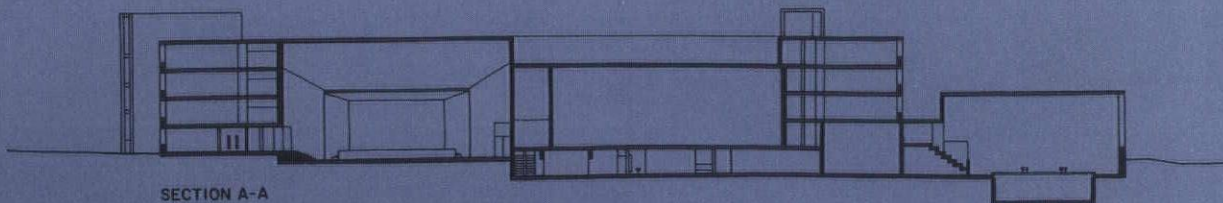
SECTION THROUGH NORTH LOBBY LOOKING EAST



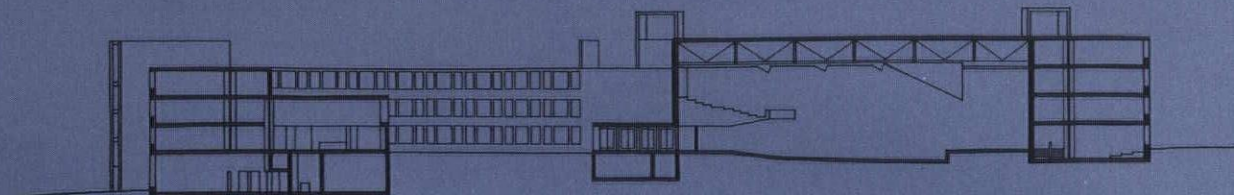
SECTION THROUGH NORTH LOBBY LOOKING WEST

VIEW FROM CENTER LOBBY LOOKING NORTH

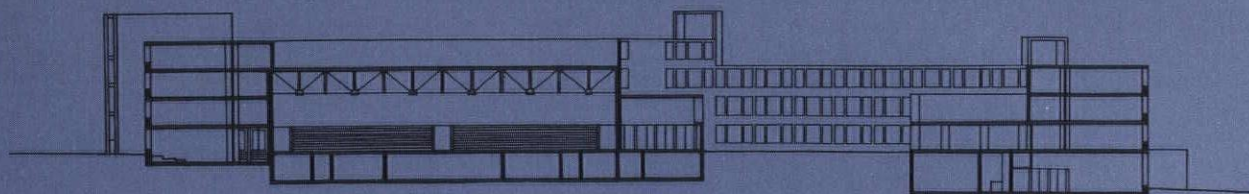




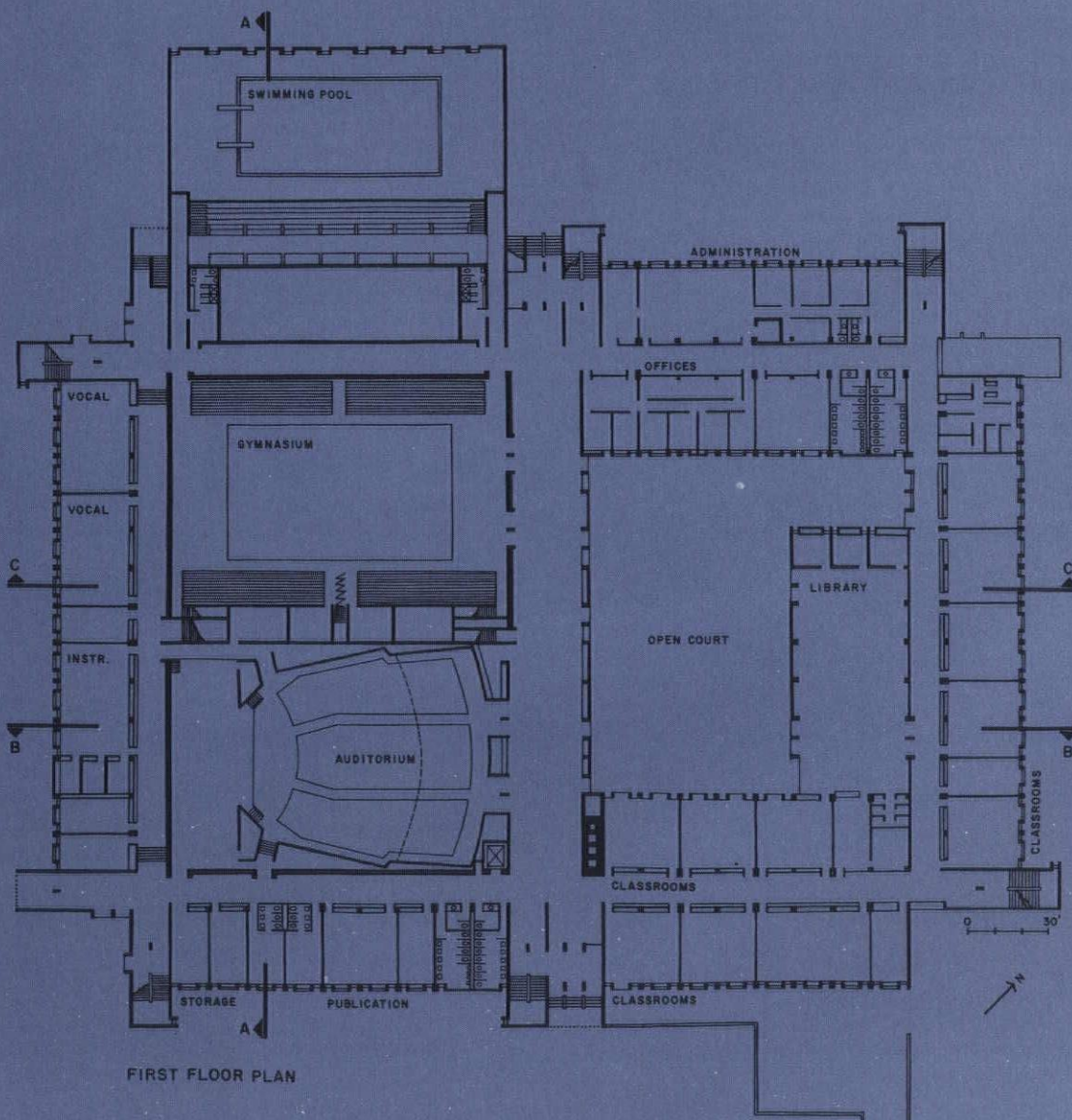
SECTION A-A



SECTION B-B



SECTION C-C



FIRST FLOOR PLAN



MUCHOW



BELLUSCHI



SASAKI



DE MAY

CITATION

education

WILLIAM C. MUCHOW ASSOCIATES, HOBART D. WAGENER & ASSOCIATES, FISHER & DAVIS, ARCHITECTURAL ASSOCIATES OF COLORADO
WILLIAM C. MUCHOW, PARTNER IN CHARGE
PIETRO BELLUSCHI AND SASAKI, WALKER & ASSOCIATES, INC., DESIGN CONSULTANTS
KENNETH DE MAY, DESIGNER FOR SASAKI, WALKER & ASSOCIATES, INC., SITE PLANNERS AND LANDSCAPE ARCHITECTS
KETCHUM & KONKEL, STRUCTURAL ENGINEERS
JAMES H. KONKEL, MECHANICAL ENGINEER
SWANSON, RINK & ASSOCIATES, ELECTRICAL ENGINEERS

PROJECT: Engineering Sciences Center for University of Colorado, Boulder, Colorado.

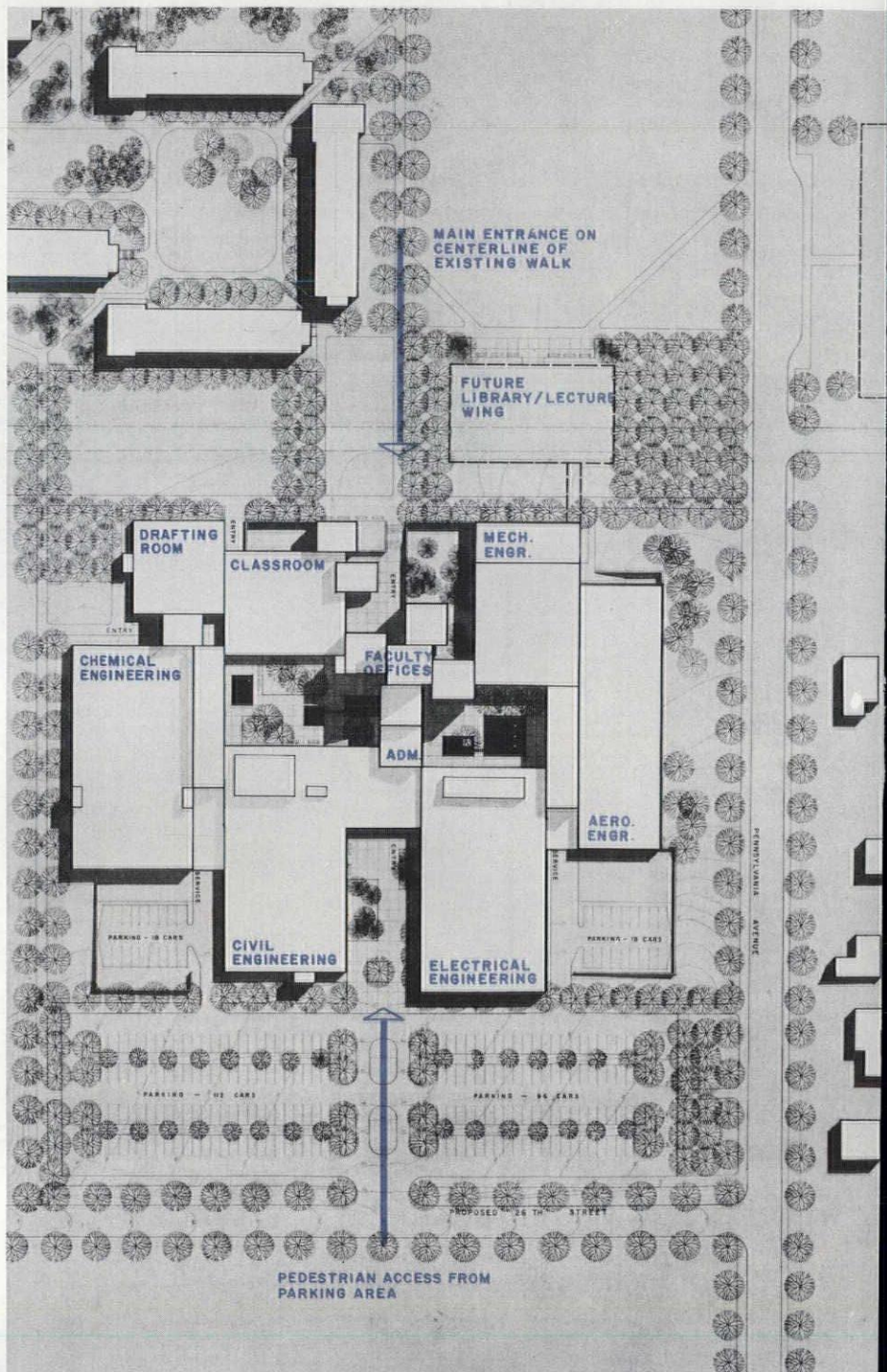
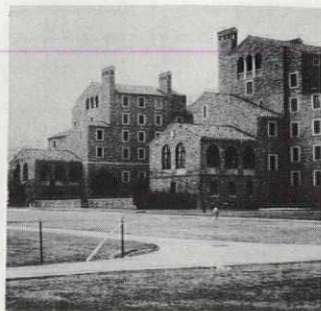
SITE: At edge of university's campus.
PROGRAM REQUIREMENTS: Design of a teaching and research center. The new facilities were to be well organized and architecturally compatible with the existing buildings on the campus.

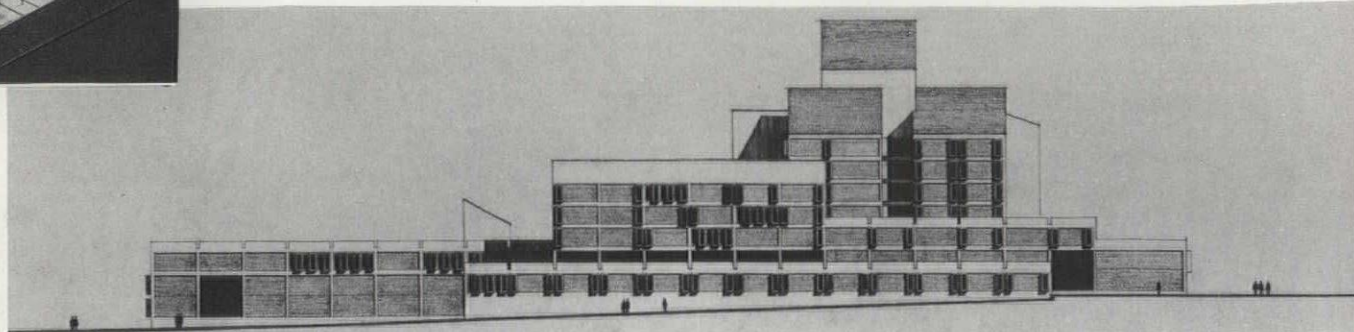
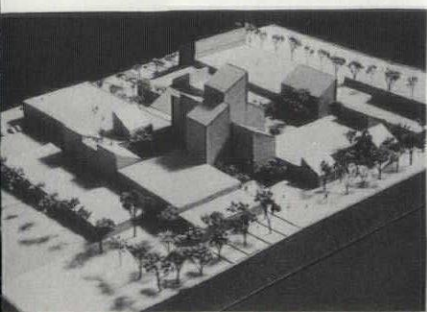
DESIGN SOLUTION: Though the present campus is composed of many individual buildings loosely grouped around open courtyards, the need for closely integrated academic and research spaces, and the limited building site, necessitated a compact, high-density structure. Several interior courts introduce a new variety of architectural space to the campus and provide direct pedestrian linkage between departments, and between parking areas and the central campus. The fulcrum of the plan is devoted to office towers in which rooms are assignable to various departments as needs change. Surrounding these are the laboratories, each capable of independent expansion. The classroom wing and future library-lecture wing are convenient to all units of the center and to the main campus.

CONSTRUCTION AND MATERIALS: Reinforced concrete was specified to satisfy stringent fireproofing requirements as well as unique vibration and concentrated load conditions. A special effort has been made to integrate the exterior mechanical elements—air-conditioning for offices, mechanical ventilation for laboratories—into the design of the roof scape.

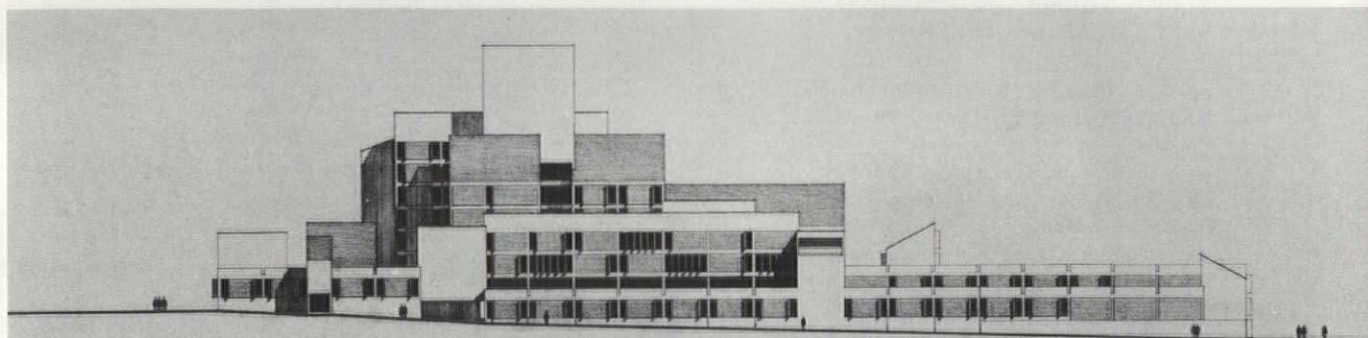
JURY COMMENT: In spite of the high density of the new structure, the architects have succeeded in establishing an architectural continuity between the new center and the existing campus.

The new center is to be constructed of concrete, formed with vertical wood boarding to contrast subtly with the traditional red-ochre, horizontal stone work, used as the in-filling material in the existing buildings (right). Glass to be limited in work areas and shielded by concrete hoods, recalling the heavy limestone trim of the earlier structures on the campus.

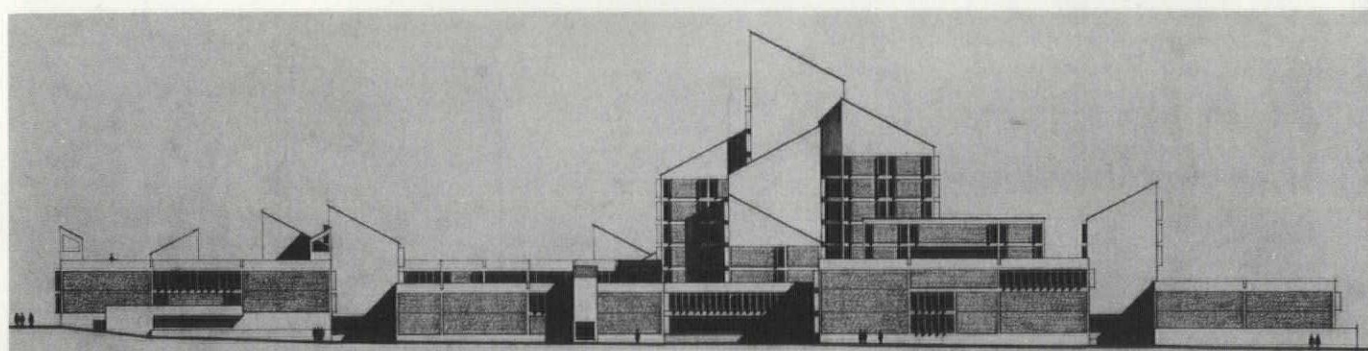




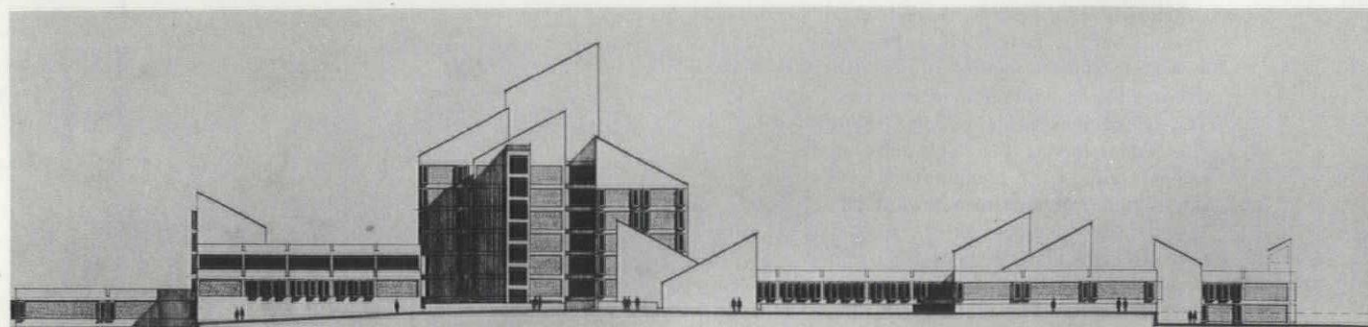
north elevation



south elevation



east elevation



west elevation



FLETCHER

CVIJANOVIC

CITATION

education

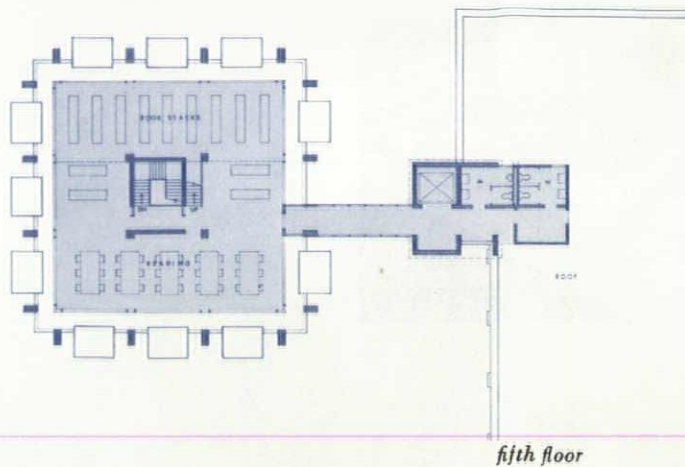
THE ARCHITECTS COLLABORATIVE,
ARCHITECTS
NORMAN FLETCHER,
PARTNER IN CHARGE
ALEX CVIJANOVIC,
JOB CAPTAIN AND ASSOCIATE IN CHARGE
SOUZA & TRUE,
STRUCTURAL ENGINEERS
REARDON & TURNER,
MECHANICAL ENGINEERS
VERNE NORMAN & ASSOCIATES,
ELECTRICAL ENGINEERS

PROJECT: Chemical Research Building
for Tufts University, Medford, Massa-
chusetts.

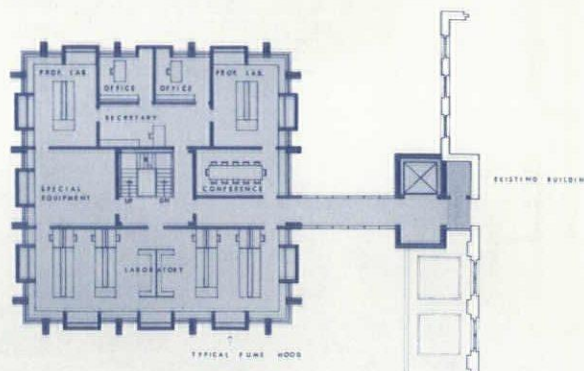
SITE: On the campus of Tufts University.
PROGRAM REQUIREMENTS: To provide the
following facilities: (1) storage and
service areas; (2) an active laboratory
research area for 24 research fellows and
6 professors; (3) a reading room and
book-storage area.

DESIGN SOLUTION: Storage and services
are contained within the walled-in and
recessed ground floor; the main three-
story bulk of the building holds the
active laboratory research area; reading
room and book storage are recessed on
the top floor. "These three space cate-
gories," explain the architects, "are ex-
pressed as distinct masses within the
structural framework and constitute the
basic design of the building." The labo-
ratory floors are connected by ramps to
the floors of the adjoining existing build-
ing. All ductwork, pipes, heating and
ventilating equipment, and fume hoods
are located on the outside walls.

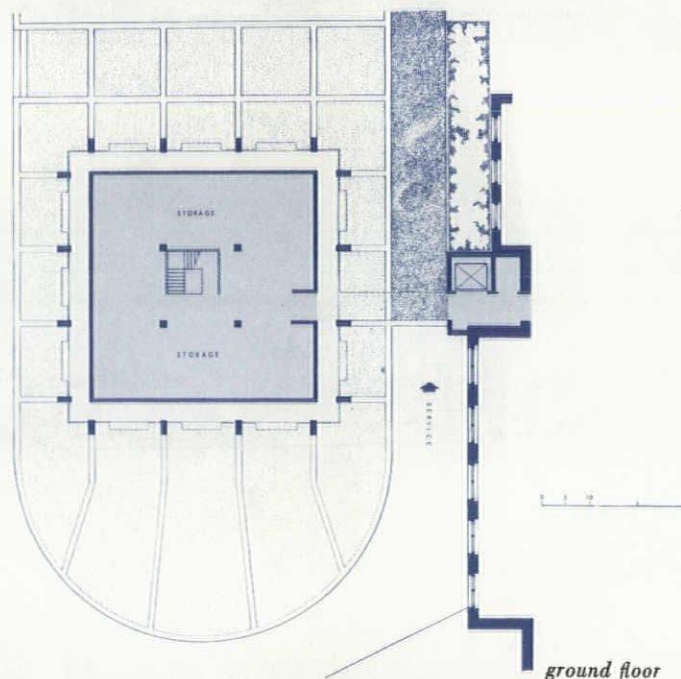
CONSTRUCTION AND MATERIALS: The
structure is to be a poured-concrete rigid
frame. Concrete beams will span from
exterior columns to four interior columns
dividing the floor into nine interior bays.
The middle bay is devoted to vertical
circulation, leaving the outer bays un-
encumbered. At the reading-room level,
the exterior columns turn inward to a
spandrel beam, from which the wall
structure and glass is hung and from
which the mezzanine level is suspended.
JURY COMMENT: The three major func-
tions were found to be well expressed in
architectural terms. Placement of the
mechanical lines to the exterior of the
building offered important advantages.
It was felt, however, that these ponder-
ous exterior elements forced buildings
"into much too big a scale for their size,
their use, their site, and their occupants."



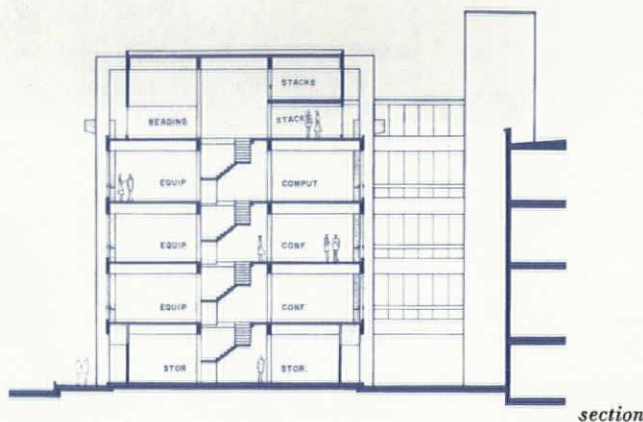
fifth floor



second, third, fourth floors



ground floor

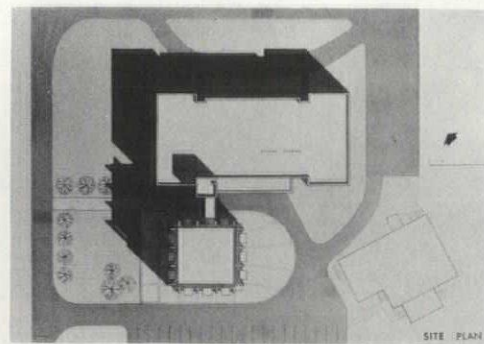


section

EXHAUST AIR

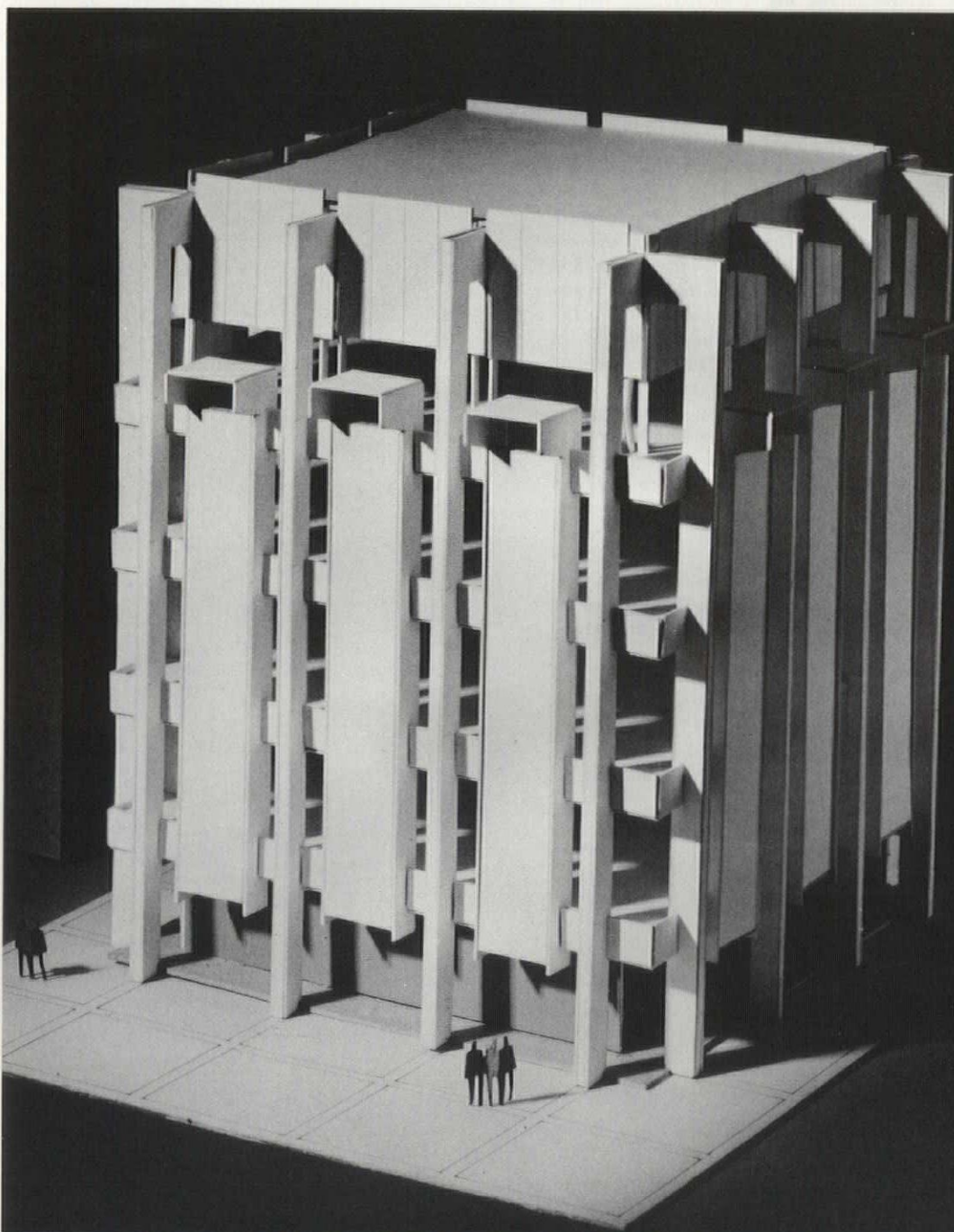
FRESH AIR

CONDITIONED AIR



Removal of all major structural and mechanical elements to the exterior leaves interior space free, facilitates distribution of fluids and gasses to the laboratories, and reduces problems of fresh-air supply and fume exhaust. Exterior ducts (left) are designed to take in fresh air at the ground and to eject the exhaust at the top.

MODEL: MALCOLM TICHNOR PHOTO: PHOXIAN KARAS





FORD



PEERY

CITATION

commerce

O'NEIL FORD AND ALLISON B. PEERY,
ASSOCIATED ARCHITECTS

PROJECT: Commercial Development for San Antonio River for Mr. Nic Catalani, San Antonio, Texas.

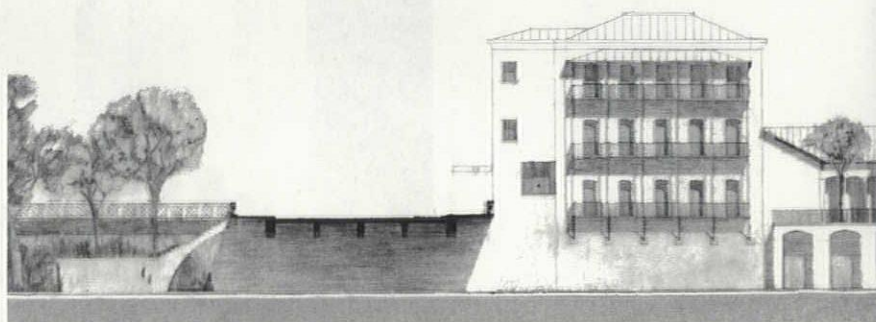
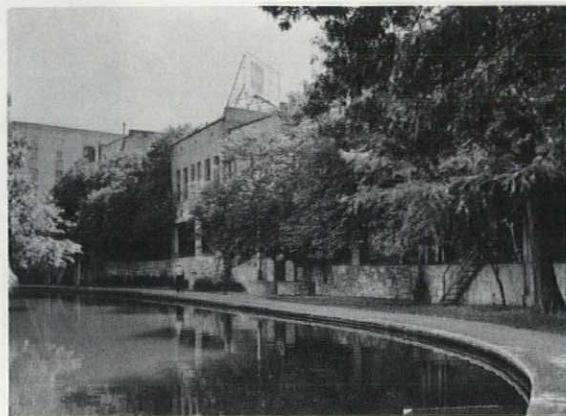
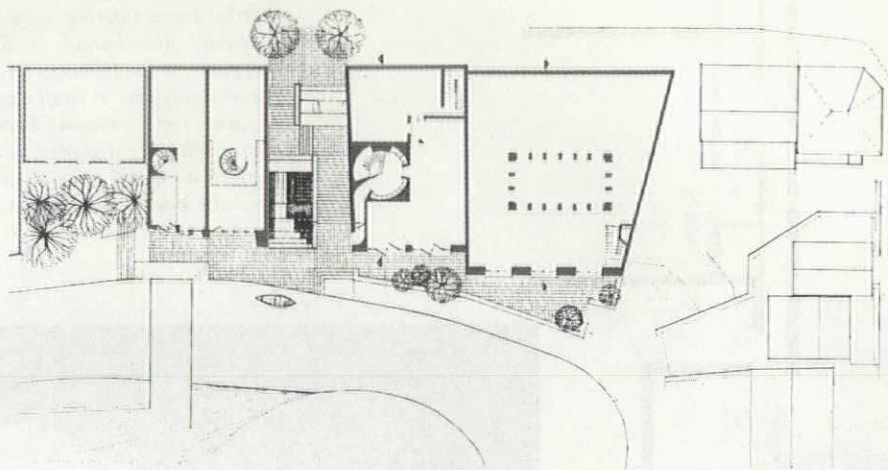
SITE: Property bordering the San Antonio River in the "River Bend Area" of downtown San Antonio.

PROGRAM REQUIREMENTS: A flood control, landscaping, and general beautification project was undertaken by the WPA in the 1930's to develop the river frontage. Planting and wide sidewalks have encouraged limited pedestrian use and have enhanced the general aesthetic image of the city. However, except for one restaurant and a theater, the area is underused and its structures are in disrepair. This project is part of a concerted effort to "bring life to the river," and it is hoped that other such renewal and rehabilitation project will get under way. It is expected that restaurants, shops, and entertainment facilities will lease the spaces and that many downtown apartments with river frontage will be created. This specific project involves four existing structures that are to provide commercial and residential space.

DESIGN SOLUTION: One of the four buildings is completely removed to provide an entrance stair from the upper street and parking areas to the river walk level. The three remaining structures are altered to provide commercial space at walkway and street level. To gain river-front apartments, a top floor has been added to each building. Exterior planting and structures follow the historically derived scheme established by the WPA project. Outdoor advertising of the commercial establishments is controlled, to be in tasteful keeping with the natural and architectural setting.

CONSTRUCTION AND MATERIALS: Load-bearing masonry arches, wood timber floor construction, metal roofs, tile floors, plaster walls, wood sash and doors are to be used to tie in with the original construction.

JURY COMMENT: With this citation, the jury wanted to applaud the architects for having initiated this plan, which would carry to completion the commendable work begun in the 1930's and develop this central city site to its full potential. The jury also commended the fact that the reconstruction is to be carried out in the spirit of the established architecture of the area.

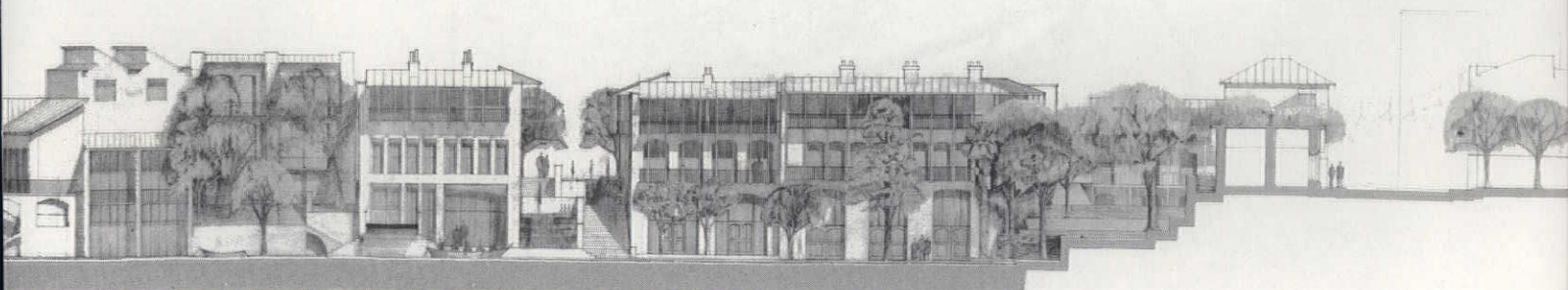


DRAWING: MIKE LANCE



DRAWING: GENE MOBLEY

In accordance with this design proposal, the existing riverfront promenade (acrosspage, left) would be developed more fully. Commercial establishments will face onto the promenade as well as onto the street, which is at a higher level to the rear of the buildings (above and below). Added top floors are to provide floor-through terrace apartments.





WARNECKE

CITATION

public use

JOINT VENTURE OF
JOHN CARL WARNECKE & ASSOCIATES,
ARCHITECTS & PLANNING CONSULTANTS
AND KAISER ENGINEERS
JOHN CARL WARNECKE,
DIRECTOR OF DESIGN
LAWRENCE HALPRIN & ASSOCIATES,
LANDSCAPE ARCHITECTS
T. Y. LIN & ASSOCIATES,
STRUCTURAL ENGINEERS

PROJECT: 23rd Avenue Overhead for City of Oakland, California; Wayne Thompson, City Manager.

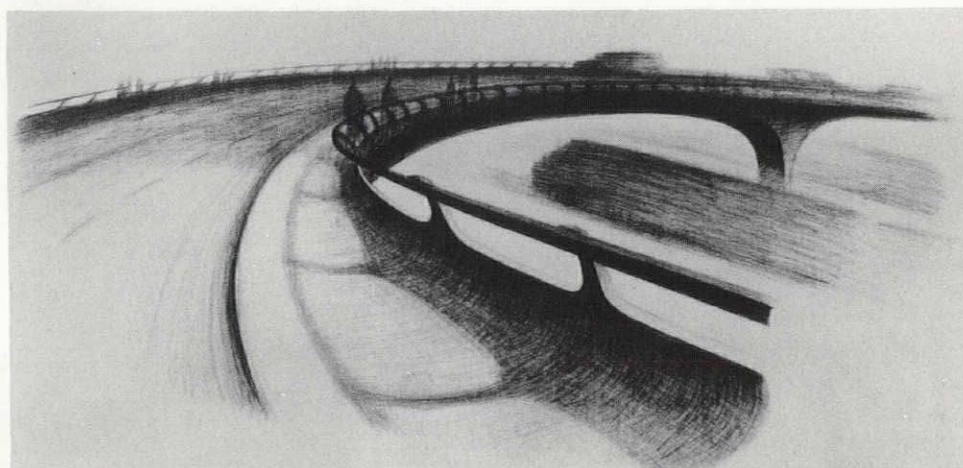
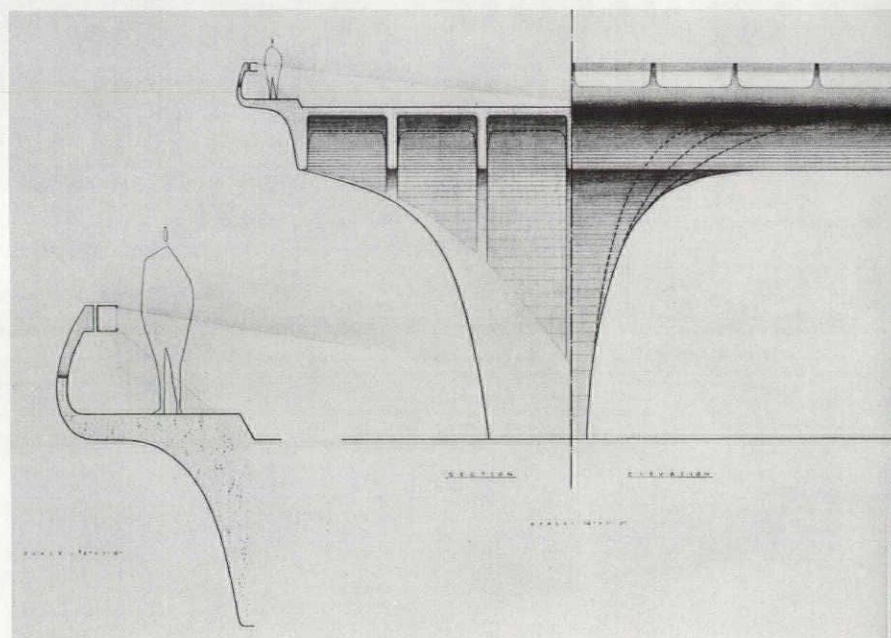
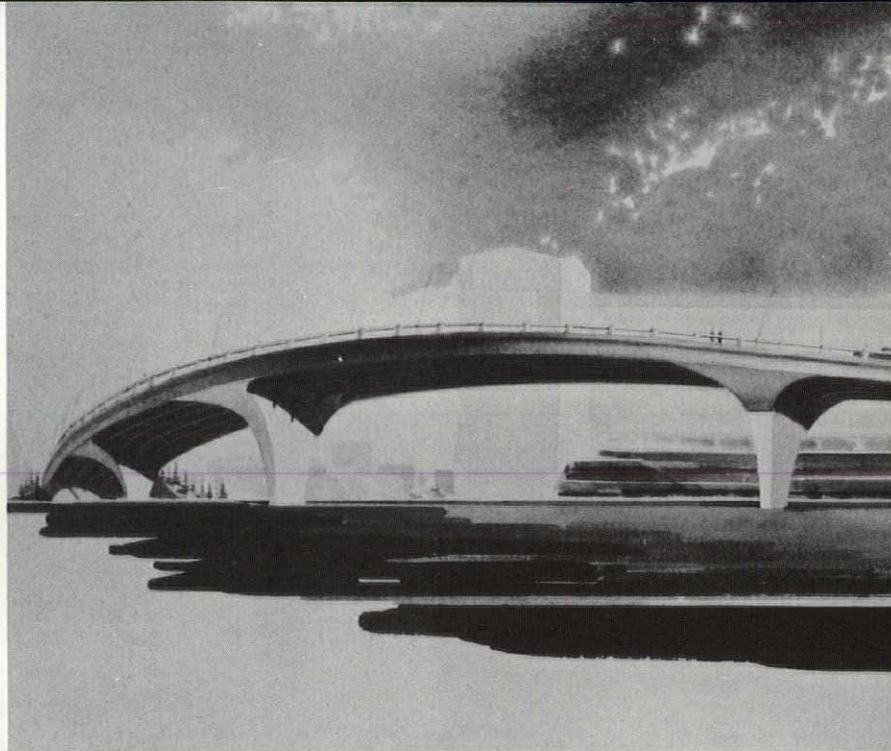
SITE: Railway crossing at foot of 23rd Avenue in downtown Oakland.

PROGRAM REQUIREMENTS: The design of an overpass that would go beyond the merely functional. Toward that end, it was required that the design team include, in addition to the engineers, an architect and a landscape architect.

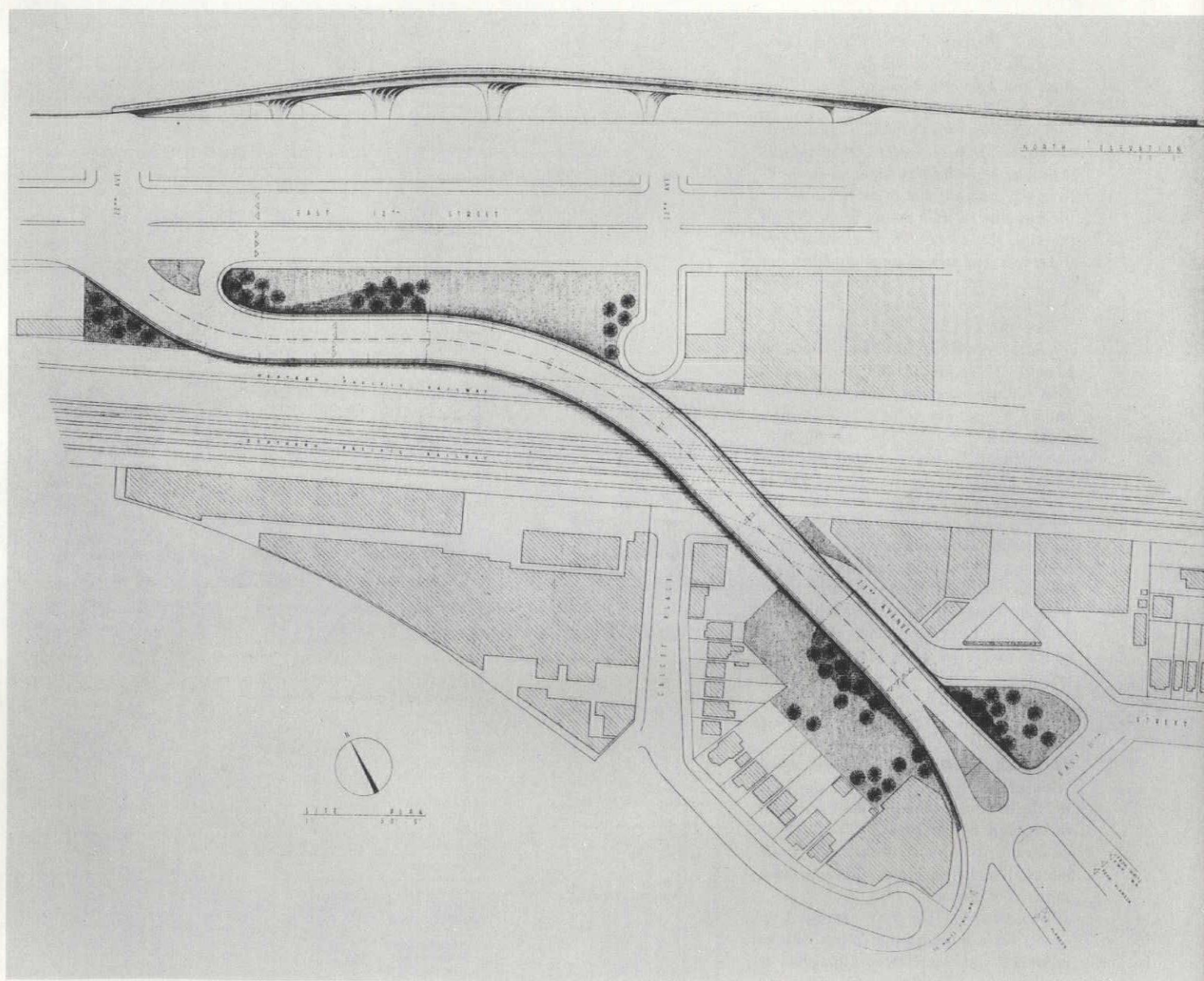
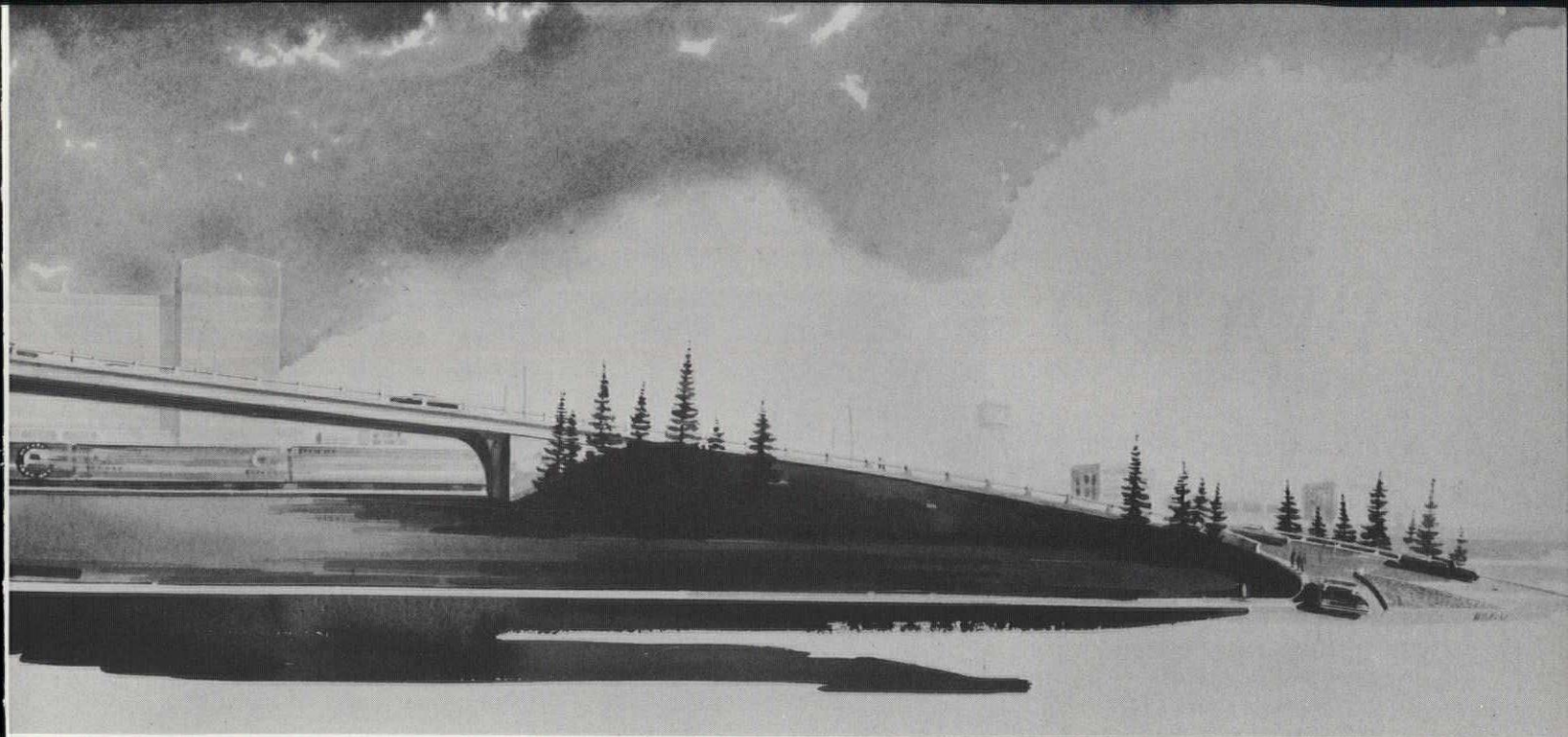
DESIGN SOLUTION: A gracefully curved concrete girder bridge supported on tapered piers that flair into the soffit of the girders.

CONSTRUCTION AND MATERIALS: Various methods of construction explored included prestressed concrete, cast-in-place concrete, and curved composite steel girders. The final concrete girder scheme has four 165-ft spans. Piers and walls rest on pile foundations. Light-colored cement will be used throughout; the finish will be smooth, gained from plastic forms. Handrails and luminaires will be of anodized aluminum.

JURY COMMENT: A commendable design effort by a team of architects, engineers, and landscape architects in an area of construction activity seldom explored architecturally.



RENDERING: HISATA, ISHIMARU, MONTGOMERY & MARSH





GRUZEN



ST. GERMAIN



GRUZEN



SLAVIN



AWARD

public use

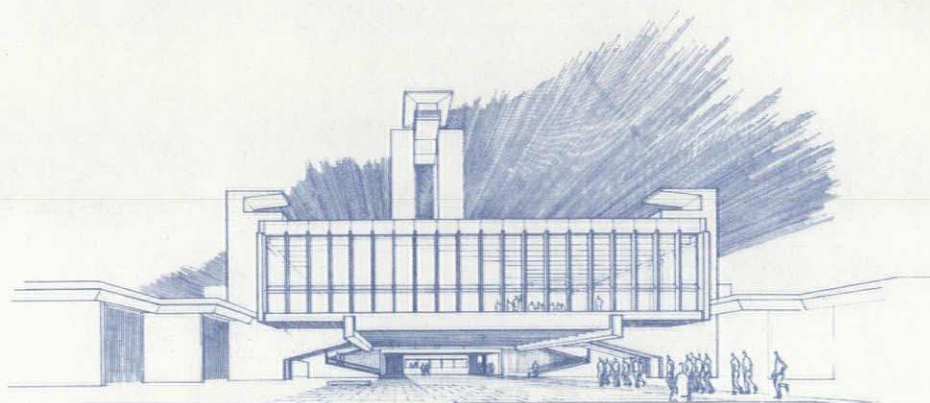
KELLY & GRUZEN, ARCHITECTS
JOHN H. ST. GERMAIN,
ASSOCIATE IN CHARGE
JORDAN L. GRUZEN,
PROJECT DESIGNER
JAMES SLAVIN,
ASSISTANT DESIGNER
PAUL REISS,
PROJECT MANAGER
LEV ZETLIN ASSOCIATES,
STRUCTURAL ENGINEERS
TIZIAN ASSOCIATES,
MECHANICAL ENGINEERS

PROJECT: Medium Security Prison, Leesburg, N. J., for Department of Institutions and Agencies, State of New Jersey.
SITE: A 1000-acre property.

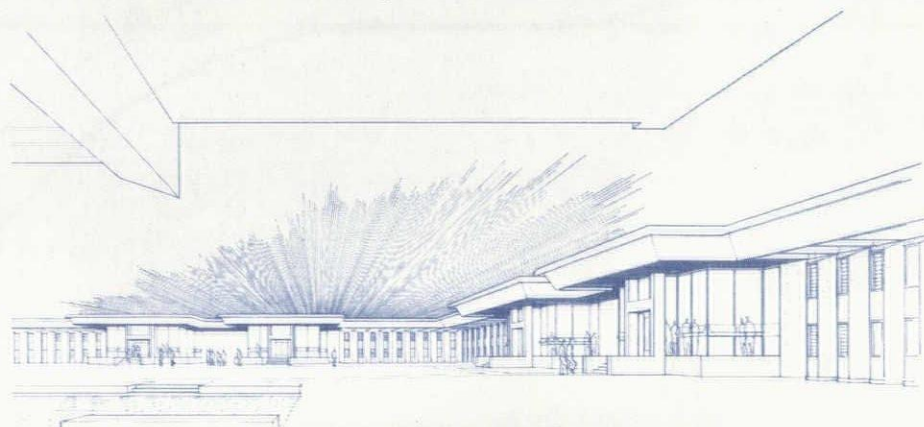
PROGRAM REQUIREMENTS: The new institution, which is to house 500 men, will maintain separate functions and facilities and must be placed as far as possible from the existing prison farm, also on the site. However, both institutions are to be operated under one administration.
DESIGN SOLUTION: The architects based their design on the following reasoning: "Since the function of a prison is to provide effective control of persons who have been committed and at the same time prepare them for responsible community living upon release by providing constructive activities in a constructive environment, we have created a secure prison plan, but one in which there is achieved a unique circulation system for inmates, aimed at eliminating as much as possible an oppressive sense of confinement. Through a pattern of interlocking courtyards formed by a group of separate inmate housing units with their connecting links to service, work and educational areas, the plan, in effect, achieves a secluded and orderly group of spaces similar in character to a monastery. By the strategic location of a control center at the intersection through which all inmate circulation flows, a zoning of all spaces is created, simplifying the control and operation of activities throughout day or night."

CONSTRUCTION AND MATERIALS: The basic material to be concrete, either poured-in-place or precast.

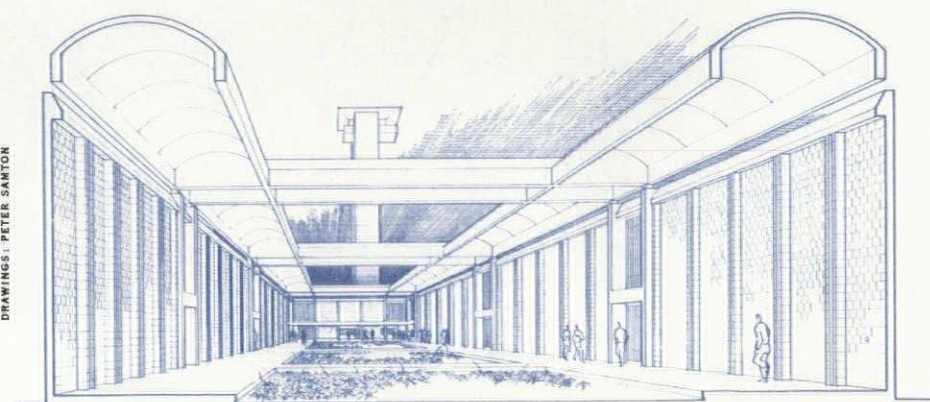
JURY COMMENT: The jury expressed respect "for a building that copes with as restricted and complicated a program as this one, and makes architecture out of it."



dining hall and control center



east mall looking toward center

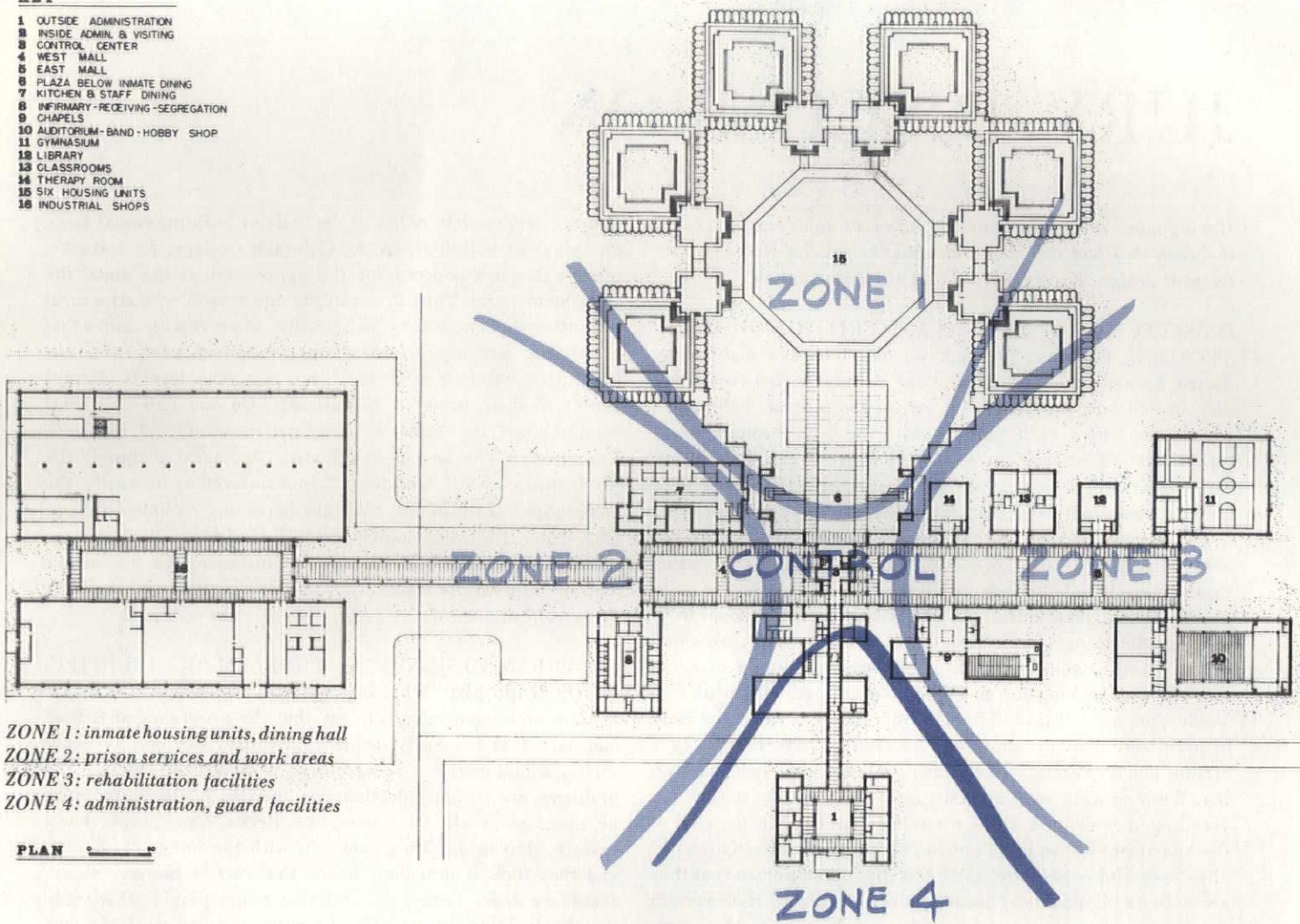


housing quadrangle

DRAWINGS: PETER SANTON

KEY

- 1 OUTSIDE ADMINISTRATION
- 2 INSIDE ADMIN. & VISITING
- 3 CONTROL CENTER
- 4 WEST MALL
- 5 EAST MALL
- 6 PLAZA BELOW INMATE DINING
- 7 KITCHEN & STAFF DINING
- 8 INFIRMARY-RECEIVING-SEGREGATION
- 9 CHAPELS
- 10 AUDITORIUM-BAND-HOBBY SHOP
- 11 GYMNASIUM
- 12 LIBRARY
- 13 CLASSROOMS
- 14 THERAPY ROOM
- 15 SIX HOUSING UNITS
- 16 INDUSTRIAL SHOPS

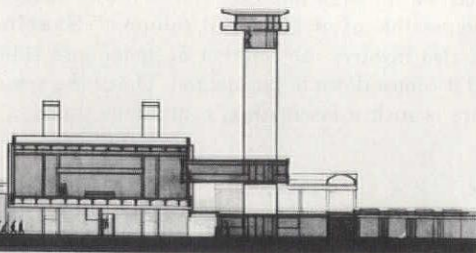


HOUSING UNIT

DINING HALL

OUTDOOR COURT IN HOUSING UNIT

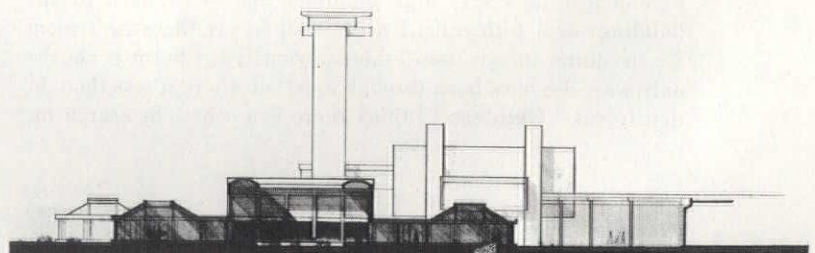
SECTION THRU HOUSING QUADRANGLE



INMATE DINING ABOVE

CONTROL CENTER

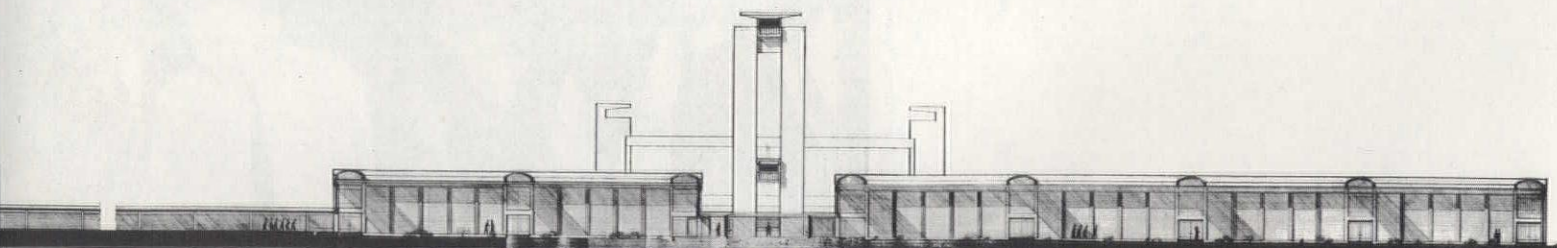
TO OUTSIDE ADMINISTRATION



CHAPELS

EAST MALL

THERAPY ROOM



TO KITCHEN

TO STAFF DINING

CONTROL CENTER

TO THERAPY ROOM

TO CLASS ROOMS

TO LIBRARY

TO GYMNASIUM

WEST MALL

EAST MALL

JURY DISCUSSION

Having made their selections, the jury took some time to review the work they had seen and to discuss the general state of architectural design. Excerpts from this discussion follow:

ON SELECTION OF AWARDS AND CRITERIA OF ARCHITECTURE: **Geddes:** "I think we didn't have a first design award because the jury looked for a balance between *what you do* and *how you do it*. Not one of the projects achieved a balance in which each part would have been strengthened." **Saarinén:** "True, not one of these has every part reinforcing every other, which is what any great work of art is. Many were better diagrammatically than three-dimensionally. A man tends to get carried away by one thing or another." **Skilling:** "True also structurally—all those that had any imagination structurally were handled poorly architecturally. This seems to point up the lack of communication." **Johanson:** "We were all looking for something simple and direct. But we were presented with a lot of pretentious work." **Saarinén:** "I would disagree that we were looking *for* or *against* something." **Rudolph:** "I would put this a little differently: this happens to be the state of architecture of the moment. We tend to have completed a certain phase of architecture, which, to put it crudely, is packaging. We tend to be making stabs at something else, though not yet altogether defined. Quite often the search, as in the case of the apartment house in Coronado, California, isn't architecturally successful—these are stabs. But that doesn't mean that they are without significance, because it does begin to state certain principles: *that things need to be manifest, that they have various parts, and sizes, and shapes*. It can probably be said that we were not very sympathetic to universal-space type of buildings, where everything is finally shoved into a package and none of the various parts of the complex comes through."

ON STRUCTURE AS PART OF THE ARCHITECTURAL PROBLEM: **Skilling:** "We missed imaginative structure combined with good architecture." **Rudolph:** "The structural exhibitionism, which we have had for some time, has proven itself a very bad way to organize buildings. Structure is only one of many considerations. Structural imagination has more meaning whenever you are dealing with a one-story building, a cathedral, or a very high building. But 99 per cent of our buildings deal with cells. I don't want to say there isn't room for structural imagination—there obviously is—but it is not the only way. We have been through a period where it was thought that it was." **Geddes:** "I think there is a conscious search for

means of expression, either of the cells of buildings or of large groupings of buildings. In the Colorado College, for instance, there was much concern for the expression of the units, the component parts. This, in a way, is one reason why structural exhibitionism is no longer 'in,' because when you recognize that a building is composed of many component parts, you can build up a harmony of these; there is a considerable attempt at this in these projects." **Skilling:** "Do you call structural exhibitionism the same as imaginative structural design?" **Saarinén:** "The key to imaginative structural design is the word *appropriate*." **Geddes:** "*Appropriateness* is really the final judge." **Johanson:** "We are becoming technically more modest; we are using simpler means." **Geddes:** "With modern technology we can prefabricate, for instance. We use means that are structurally modest, but that are in tune with the technology of our times."

ON URBAN DESIGN AS A PROBLEM OF ARCHITECTURE: **Rudolph:** "What is sought after is an image of a city. Modern architecture tends to say that the program comes first, and once that is clearly defined, only then can one go about solving a problem. But urban design is almost the reverse. The problems are so multiple that you tend to be presented with no program at all. Of course, the Beaux Arts people knew exactly what to do. They came up with the image of the city and they took it into their heads that *this is the way thing should be done*. Today, the architect is not playing this traditional role." **Saarinén:** "The difficulty is not so much the lack of a program but the lack of values. And I don't mean land values but *architectural values*." **Geddes:** "The real faults we have found here we can't lay at the laps of the planners, the sociologists, or the statisticians—these are architectural faults." **Rudolph:** "And these are problems of scale: the automobile scale, for example, how the automobile finally does relate itself to a building; the fact that it is probably next to impossible to build a garage that is a block and an office building that is a block. All of these things are so closely interrelated that you have to think of them as a continuous whole." **Geddes:** "There must be a greater study made of the harmony and continuity of scale throughout life. The fact of the automobile and the pedestrian, the high building and the low—these are problems not impossible of architectural solution." **Saarinén:** "I think scale also involves the relation of space and solid." **Geddes:** "And it comes down to *façade*, too. That's the reason why architecture is such a fascinating, continuous thing."

Johanson Geddes

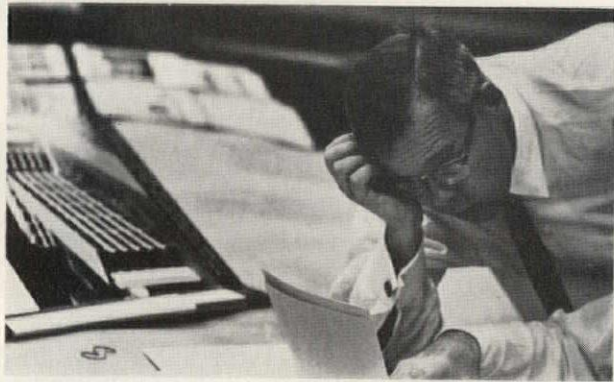
Saarinén

Rudolph

Skilling

PHOTOS: ROBERT LAWRENCE PASTNER





TENTH DESIGN AWARDS: EDITORIAL CONCLUSIONS

The following statement attempts to define more sharply the emerging architectural principles—the “stabs at something new” mentioned in the jury discussion—in terms of the Design Awards Program.

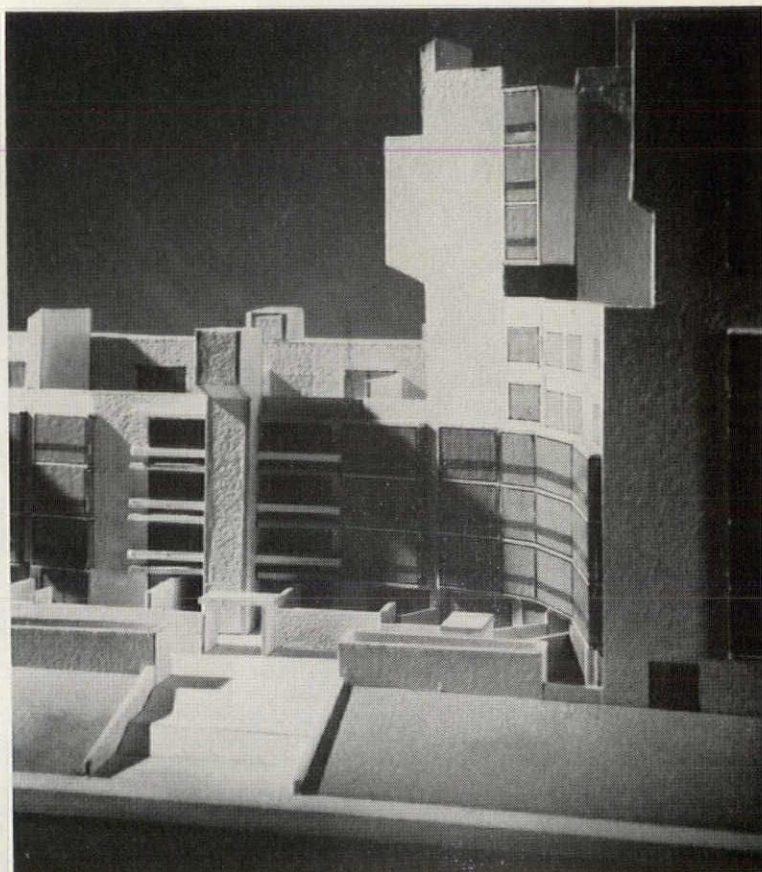
No better means could have been devised to keep a constant finger on the pulse of U.S. architecture than the Design Awards Program, now in its tenth year. Past P/A issues devoted to the Program have already become documents and records of architectural trends; and the present issue projects, to a degree, the probable development of architectural design over the next few years.

The Design Awards Program focuses purposely on projects in the design stages, rather than projects already built, because: (1) Emphasis is on *the architectural idea*, on the philosophy of architecture. We are not affected by the time lag between the emergence of an architectural idea and the execution of a building, which is often several years, and, in the case of urban design, can amount to several decades. (2) The architect's own drawing, rather than the photographer's version of the finished building, tends to bring out *the idea* more distinctly and clearly. (3) Projects are still fresh, architects enthusiastic and not yet compromised by too many nonarchitectural limitations. Again emphasis is on the *main design issue*. (4) Even the jury is not yet overly concerned with architectural details, as it would be in judging the final building. The search, rather, is for the *strength of the over-all solution*. As Mrs. Saarinen said during the course of judging, “There are a great many buildings that can survive had corners. We could have forgiven inept detail if the building had been strong.” (5) In a practical sense, architects and their clients need encouragement at a stage when the *original design idea* is often in danger of being overruled by outside considerations.

Since the Design Awards Program concentrates on honoring and extracting the *essence of the architectural idea*, it becomes invaluable in documenting the state of architecture, and bringing to light newly emerging principles.

This year, there was strong evidence that the architectural counterrevolution, under way for several years now, has gained additional momentum. It was clear from a composite view of all design submissions that architects were consciously moving away from “modern” teachings—from the simple, all-purpose envelope epitomized by Mies van der Rohe—to an architecture that would leave room for the expression of individual functions, an architecture of manifold yet related parts. As Rudolph expressed it so succinctly, “*We are against putting things in packages—Things need to be manifest: that they have various parts, and sizes, and shapes.*”

Unquestionably, the new direction taken by architecture today represents for some architects a mere reaction and rebellion against the strict disciplines imposed by the “Mies” school and provides them ostensibly with the excuse for unlimited freedom of architectural expression, but to most it



1

is a serious attempt at finding a solution to current problems. In urban design, for example, the new architecture permits more sympathetic adjustment to neighboring, existing architecture; it encourages a more human scale by breaking down the large architectural masses; but even more importantly, it permits the architect to give expression to the various functions he is housing, and thus injects greater variety and interest into the architectural environment.

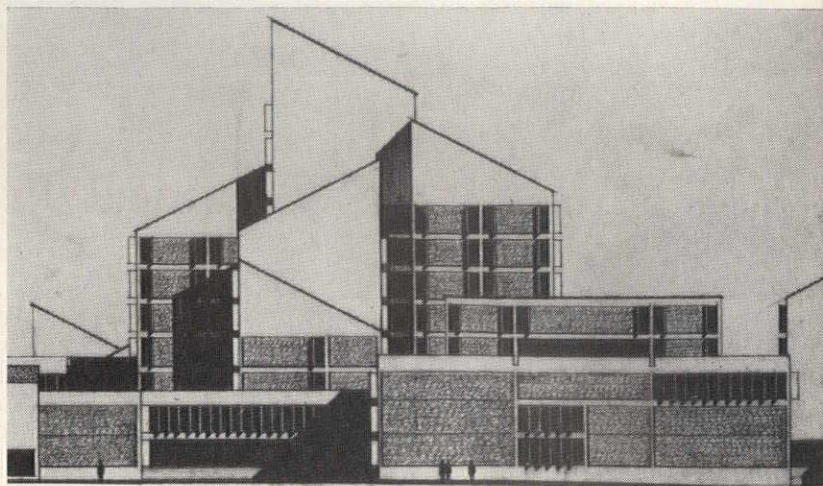
With very few exceptions, this year's awards and citations represent this approach. The apartment house by Moore and Lyndon (1), which Rudolph called “the most eloquent single example,” is a determined attempt to break down large mass in order to adapt it to a neighborhood of houses, and at the same time to give individual expression to each apartment unit. Several members of the jury had strong reservations about this design as a piece of coherent architecture, but all agreed with Rudolph that, in the last analysis, it was *the principle* that made this a significant structure.

The Engineering Sciences Center for the University of Colorado, by Muchow, Belluschi, Sasaki and DeMay (2), is another such attempt to break down large mass into smaller parts, giving individual emphasis to such different functions as teaching spaces, offices, laboratories, and matching the

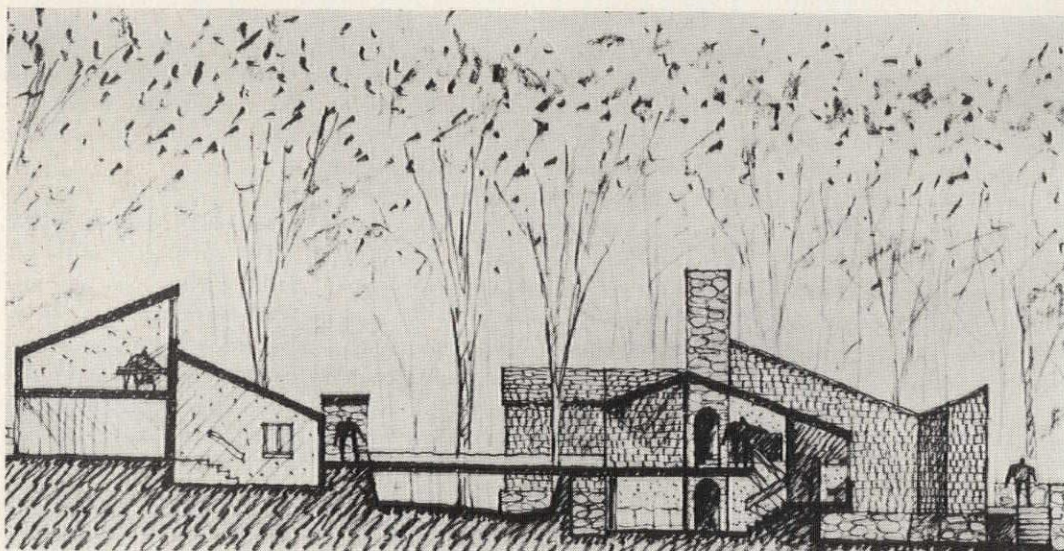
complex more closely to the nearby dormitory units of the existing campus.

On a smaller scale, Winchell & Sauer let the Cripps house (3) grow organically, in a kind of open-end architecture to which elements could be added and subtracted without harming the total composition. But what at first appears to be haphazard planning and do-it-yourself architecture, is really part of this same attempt at dispersal of large mass, recognition of individual functions, and adjustment to environment.

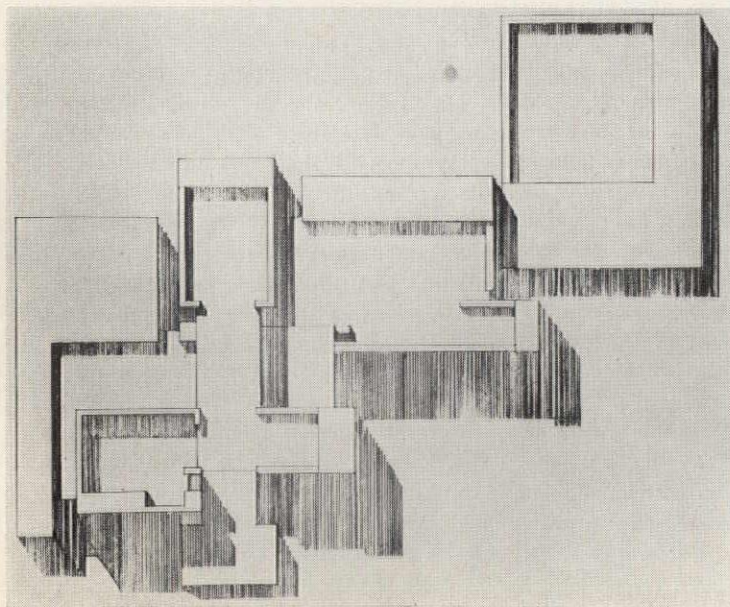
Edward Dart has interpreted these new concepts in a much



2



3



4

more "architectural" way. By emphasizing important spaces within the Henrich House (4), he has achieved dramatic spatial plays that would not have been possible within the confines of "package" architecture.

Though only four examples are shown here, the majority of the projects selected for awards and citations, and, in effect, most of the design awards submissions, followed generally in this path. However, as in 1961, when this trend first strongly asserted itself in the Design Awards Program, this year's jury was again concerned with the resulting chaos that this architectural thinking can bring about if executed without conscience, without discipline, without understanding. It is all right, suggested Mrs. Saarinen, to get away from "package" design, but we must not let "chaotic" design take its place. More than ever, it was felt that discipline and skill were needed to hold together the multiple parts of the composition. The newly emerging principles, it was agreed, would still have to prove themselves architecturally. I. M. R.



Technical Progress in Tile

BY HAROLD J. ROSEN

A review of important new grouts and mortars developed by the Tile Council. Special attention is given to the advantages and uses of dry-set mortars, which were introduced in 1957 and now account for 25 per cent of all ceramic-tile installations. Author is Chief Specifications Writer of Kelly & Gruzen, Architects-Engineers.

The research staff of the Tile Council of America has been instrumental in developing new products for tile installation. One area in which a more suitable and durable material was required was in the setting and grouting of tile, where resistance to acids and alkalis is of prime consideration. Several materials had been tested, including portland cement, which proved to be unsatisfactory, before it was determined that the epoxy resins held the most promise.

After considerable research, the Tile Council's research staff developed what they term AAR-II (Acid and Alkali Resistant-Two Part System). The two parts are a resin portion and a hardener portion, both prepackaged in the proper proportions for batching on the job. This material is recommended for food-processing plants, refineries, metal-treating plants, and chemical plants. It is easily applied and readily cleaned, and does not require special installation techniques such as waxing of tile, solvent or steam cleaning, and wet curing.

For cases demanding only a stain-proof, chemically-resistant tile joint—as in food-preparation areas of hospitals, schools, and hotels, and toilet areas in public places—an epoxy-based portland-cement grout (UG-II) has been developed by the Tile Council's research staff. In addition to being resistant to household acids, it has excellent resistance to heat and will not discolor, crack, or blister when exposed to temperatures as high as 600 F.

One of the most significant developments in the products used for installation of ceramic tile has been the introduction of dry-set mortar. Because of its many advantages, this material, introduced in 1957, now accounts for 25 per cent of all tile installations.

Dry-set mortar consists of portland cement and certain additives that impart a high viscosity to the mixing water. These additives permit the mortar to harden through chemical reaction between the mixing water and the cement, rather than through evaporation of the water. This "dry-setting" property, by increasing the viscosity of the mixing water, prevents loss of water to porous backing or to dry tile, thereby permitting the cement to react with the water.

The advantages of dry-set mortar have accounted for its increasing use over other methods of installation, namely, "mud-set" and organic adhesives. Among these advantages are speed, economy, and lightweight installation. There is no need to soak tiles, saturate block walls, or maintain a damp atmosphere. In addition, dry-set mortar can be leveled from 3/32" to 1/4" over concrete-block walls to produce a plumb, true surface despite irregularities in the block or variations in tile thickness. Inflammable or objectionable solvents are eliminated.

An additional asset is that one coat of dry-set can be used in lieu of three coats needed for mud-set installations. Where a conventional mortar-setting procedure might take nine days, counting one day for scratch coat, one day for setting and seven days for curing, the dry-set installation requires only one day for setting and one day for curing.

Dry-set mortars are available in three forms:

- (1) Dry-set mortar, useable with or without sand.
- (2) Dry-set mortar concentrate, high in water-retentive ingredients, which requires dilution with portland cement.

(3) Sanded dry-set mortar, a mix of sand and dry-set, eliminates the addition of sand on the job.

Since dry-set mortars can develop bonding strengths of over 300 psi, it is possible to add sand where required for thicker beds without danger of inadequate bond strength. The use of a sanded dry-set mortar is recommended wherever vitreous tile is installed, since vitreous tile does not absorb water from the mortar and prevent adequate bond strength from developing. The use of sand increases rigidity and bond strength to vitreous tile, so that a durable installation is assured.

Dry-set mortar is excellent for installation over concrete masonry, brick, portland-cement plaster, and foam-glass insulation. It is satisfactory for installation over gypsum wallboard, except in wet areas, since the gypsum is water-susceptible and will soften if water leaks through.

A standard for dry-set mortar, established through the action of the American Standards Association, is known as ASA A118.1-1959, and provides the specifier with a series of tests by which the fitness of mortars for setting tile can be measured.

The Tile Council's research staff has also tested organic adhesives and found a wide variation in test results. To assure a satisfactory organic adhesive, one should specify that it conform to CS 181-52, and in addition request a current certification by an independent testing laboratory.

The Tile Council is to be commended for its research program. Through such efforts, the architect's responsibility is reduced, inasmuch as he does not have to choose between the diverse products of several different manufacturers. The Tile Council licenses certain manufacturers in the preparations of installation materials developed through its research station at Princeton, N. J.

At the time when the work on his now completed TWA Flight Center was under way, Eero Saarinen said of the design: "The challenge of TWA was twofold. One, to create within the complex of Idlewild a building which would be distinctive and memorable . . . one which could relate to the surrounding buildings in mass but still assert itself as a dramatic accent. Two, to design a building in which the architecture itself would express the excitement of air travel . . . in which the architecture would reveal the terminal not as a static enclosed place, but as a place of movement and transition." The completed building stands as witness to how well Saarinen succeeded in meeting the two greatest challenges he saw in its design.



TWA FLIGHT CENTER
New York International
Airport
Idlewild, New York

**EERO SAARINEN
& ASSOCIATES**
architect

JAROS, BAUM & BOLLES
mechanical engineers

**GROVE SHEPHERD WILSON
& KRUGE, INC.**
general contractor

THE BRANDT CORP.
plumbing contractor

TAGGART CORP.
plumbing contractor

**ELJER PLUMBINGWARE
DIVISION,**

**THE MURRAY CORPORATION
OF AMERICA**
fixture manufacturer

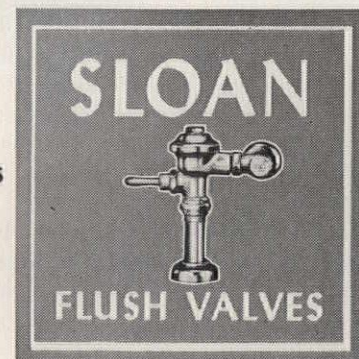
Performance records of millions of Sloan Flush Valves
indicate that

when TWA Flight Center is 50 years old
its Sloan Flush Valves
will still provide dependable service

Moreover, Sloan Flush Valve maintenance costs are likely to be among the lowest in the building maintenance budget . . . (as little as 1½¢ per valve per year).

Because the Sloan ROYAL is acknowledged as the world's most successful flush valve, attempts have been made to imitate some of its most important features. But why gamble with substitutes when you can plan for the life of the building confidently with Sloan? Specify and insist upon performance-proven, time-tested Sloan Flush Valves.

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Insulation Breakthrough

BY WILLIAM J. MCGUINNESS

Economies resulting from a research study in the cost of housing are reported by the Chairman, Department of Structural Design, School of Architecture, Pratt Institute.

A survey of modern practice involving the insulation of buildings indicates that reduction of heat loss in frame residences was easily accomplished. In such structures, already available spaces could accommodate adequate insulation. Almost 4 in. in stud spaces and 6 in. or more in joist construction provided obviously convenient places for batt insulation; with the addition of double glazing, the typical fuel bill could be cut by about 60 per cent.

The insulation of multistory residential buildings of masonry with metal sash, however, has not been an easy task. Such a problem, requiring thought, research, and the force to change established construction practices, inevitably await the intelligence and vigor of a persistent leader. Over a number of years, Joshua D. Lowenfish, Chief of Architectural Research for the New York State Division of Housing and Community Renewal, has devoted himself untiringly to the reduction of heating costs in public housing projects. The materials involved were often necessarily limited to low-cost structural elements that did not lend themselves readily to the solution.

The use of soft, insulating material in masonry walls had long posed a problem for buildings in which hardness and durability were of prime importance. Conventional storm sash in tall buildings is quite impractical and the use of edge-sealed insulating glass is usually too expensive. Success awaited not only the proper insulating material and windows, but also their proper adaptation to the structure.

Full-scale tests at Stapleton Houses, Staten Island, N.Y., have established the effectiveness of the wall-and-window sec-

tion shown in the illustration. The use of expanded polystyrene provided 1 in. of insulation and an impervious vapor barrier on the warmer (interior) side of all masonry (5). Air cavities between withes and within the block added to the thermal resistance. The aluminum windows provided a unique solution to the usual problems of metal windows: two sets of double-hung sliding windows, each pair in its own frame, are completely separate, affording no path of direct heat transmission through metal (7). The inner and outer frame are separated by an extruded thermoplastic vinyl barrier (8). These features increase the thermal resistance of the window, reduce infiltration, and minimize condensation.

The results of these tests indicated that a structure with conventional cavity walls and single-glazed sash requires 2.3 times as much energy to heat as a structure with polystyrene-insulated cavity walls and double glazed sash with thermo-barrier frames. The conventional heating plant is more expensive.

In a public housing project of 1000 apartments, with 4.74 rental rooms in each, the savings in the initial construction are estimated at \$10,150 and the savings in the cost of fuel are rated at \$15,531 per annum.

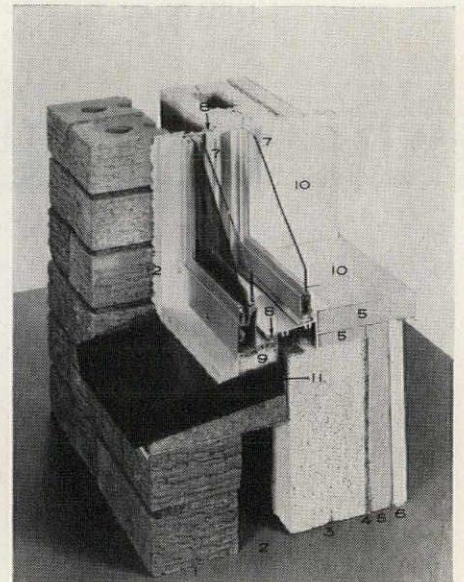
If 250,000 middle-income apartments are built in New York State in the next 10 years, as Governor Rockefeller has proposed, the total economic effect of the above findings, if applied, could save \$2,500,000 in initial cost and a total of \$194,000,000 in fuel savings over a 50-year period.

The proposed new construction techniques provide many comfort amenities in addition to economic savings, and are applicable to more expensive apartment types.

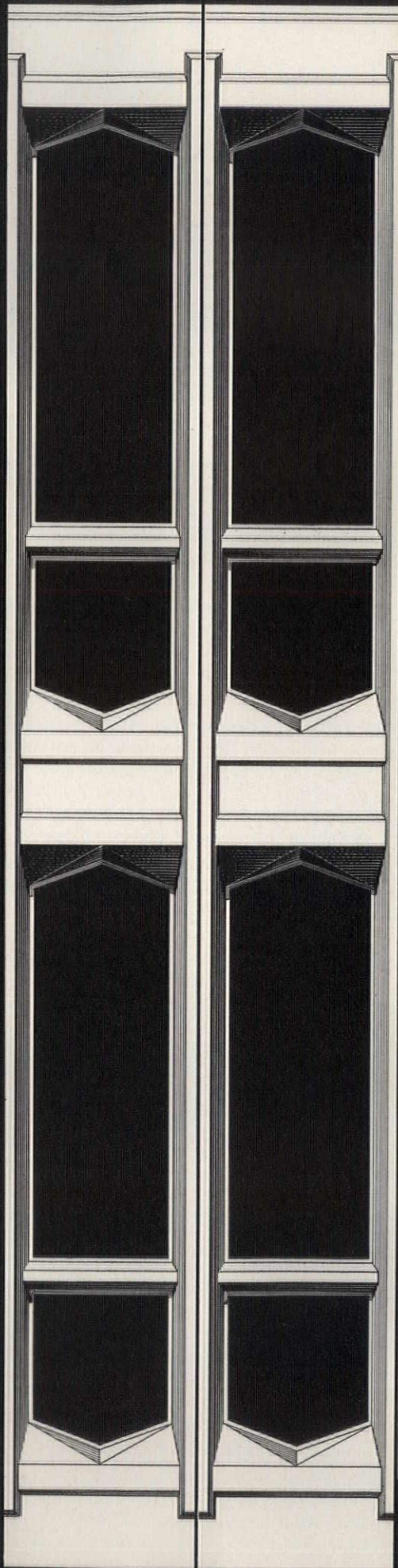
The tests were conducted by Prof. Clifford A. Wojan, assisted by Dr. Murray Imber and Dr. Robert Corry, all of the Polytechnic Institute of Brooklyn. They had also collaborated in earlier tests with the Research Department of the Pratt

Institute School of Architecture. Prof. John Hancock Callender, director of this department, is credited with initiating many of the proposals which have proved successful in these tests and in other phases of the general reduction of housing costs.

The test findings have been put in book form as Volume III of *Research Study in the Cost of Housing*. This volume is published by the New York State Division of Housing and Community Renewal, and may be obtained by writing to Joshua D. Lowenfish, Chief of Architectural Research, State of New York, Division of Housing and Community Renewal, 393 Seventh Avenue, New York 1, N.Y.



Section through insulated cavity wall with dual glazed sash. (1) Facing brick = outer withe; (2) air space = cavity; (3) cinder-concrete block + (4) parge + (5) extruded polystyrene insulation + (6) two coats of plaster = inner withe; (7) double-hung sash + double-hung storm sash = dual glazing; (8) extruded thermo-plastic vinyl barrier in aluminum frame; (9) glass-fiber insulation; (10) aluminum surround; (11) slate sill; and (12) caulking.



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Public Agency Form Contracts: Part 2

BY JUDGE BERNARD TOMSON AND
NORMAN COPLAN

In the second of two articles, P/A's legal team concludes its discussion of ways in which present inequities in form contracts of public agencies can be amended.

The Fees and Contracts Committee of the New York Chapter of the American Institute of Architects has been concerned not only with the level of fees for public work in New York, but also with express provisions of the form contracts of public agencies—in particular, the contract of the New York City Board of Education. It is the Committee's assertion, in its critical review of this document, that the contract displays considerable ignorance of the principles of normal architectural practice.

The Committee states that it must be made clear to public authorities that the architect should not be requested to undertake responsibilities that he is incapable of assuming; that the client make his requirements known and furnish prompt answers to program and policy questions; that the public agency, as any other owner, provide the information upon which the architect may rely relative to boundaries, topography, and subsurface conditions; and that the architect not be penalized as the result of changes made necessary by superior reviewing agencies, when the services rendered to the particular agency involved had been satisfactory and acceptable up to the time of such review. It is contended by the Committee that these and other principles are violated by the contract of the Board of Education.

As an example, one of the provisions of this form contract stipulates that, in the case of alteration, the architect is responsible for "ascertaining all measurements and details of the construction thereof" and that the Board "does not guarantee the accuracy of any information, drawings or specifications which the Board or other City Agency may furnish to the architect." It further

provides that "the architect shall verify at the site . . . all data given to him and the architect shall be responsible for the accuracy of all data incorporated in his plans and specifications." The Committee points out that the architect should not be required to assume responsibility for hidden or buried conditions and can only use his best judgment in analyzing plans and specifications furnished to him. At the very least, suggests the Committee, this clause should provide that the Board will arrange and pay for any test holes or other physical investigations required.

The New York City Board of Education contract provides that, in the event the architect fails to complete his services within the time specified, he will be obligated to pay liquidated damages, at a specified rate, for each day of delay in completing the contract, limited, however, to 10 per cent of the architect's total fee. The burden is placed upon the architect to establish, by documented evidence, that any delay, for which he contends he is entitled to an extension of time, was caused by reasons not subject to his control. The Fees and Contracts Committee is of the opinion that this provision negates the professional status of the architect, stating:

"More than anything else in this contract, these provisions deny the professional status of the architect. The profession should object strenuously to such an approach, which is threatening and demeaning. In practice, this approach contributes little to the Board's justifiable desire for speed in the production of design. The Board has more valid recourse against incompetent architects who are unable to produce work with a sense of urgency. The Board should avoid engaging them in the first place, and if actually engaged, should avoid engaging them a second time."

In respect to the liquidated damage provision of the contract, it is significant that the architect is required to submit preliminary and final drawings and specifications to all agencies and departments of the City of New York and other public agencies that have the right to

require such submission for approval of such drawings and specifications and to "obtain such approvals within the contract time." The contract, however, does not spell out how the architect is to secure such approvals within the contract time if the agencies involved are slow to act, nor does it require them to act within a specified period of time.

An additional provision of this contract involves payments at various stages, but 15 per cent of the fee is contingent upon the Board of Estimate's review. This is not satisfactory, however, since the Board may withhold approval on the basis of factors such as site acquisition, relocation, or other matters of city policy, which have nothing to do with the design itself or other professional services rendered by the architect. To protect the architect in this situation, the Committee recommends that the contract should at least provide that, if the Board of Estimate fails to act within a specified period, the architect's payment shall become due.

The contract under review also provides that the architect shall, without additional compensation and at all stages of the work, "make all changes, revisions and corrections to all contract documents of each division whenever required by all city agencies whose approval is necessary, before all the work of the improvement can be accepted by the Board." Although the Committee makes no comment about this provision, it would seem that it could cause hardship. The Committee does recommend, however, that the proviso of the contract that permits extra compensation for major changes required by the Board after approval by the Board of the architect's final plans, should be compensated at the rate of 2.5 times technical salaries, rather than 2 times technical salaries as is now provided.

Although these points illustrate only a portion of the inequities in the contract under review, it is commendable that the New York Chapter of the AIA has sought to challenge the status quo.

Architects and Engineers: Skidmore, Owings
and Merrill, Inc., Chicago

General Contractor: Power Construction, Inc.,
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EP-26

The Symposium makes for interesting and provocative reading: the subject of Interiors well needs the stimulus of such probing. May there be many more such issues.

A. O. BUMGARDNER
Seattle, Wash.

Dear Editor: The Symposium members had much to say on the subject of separating the interior and architectural design, but none stated this simple fact: that the only separation is really a *wall*, which belongs to both and is an integral part of the same profession—i.e., architecture.

W. ROGER TYSKIEWICZ
New York, N.Y.

Dear Editor: The story on the office by Alexander Girard gives credit for lighting to the equipment manufacturer but not to the office responsible for lighting design, which was our firm.

RICHARD KELLY
New York, N.Y.

Dear Editor: My reaction to the Symposium is that a single unified thought is better than two. That is, the interior designer, whether or not he is actually on the architect's staff, should be completely under the latter's direction. This is not meant to imply any lack of skill on the part of the interior designer; it is simply due to the necessity of having one thought permeate the structural, mechanical, architectural, acoustical, and interior design aspects of a building.

ROBERT ANSHEN
San Francisco, Calif.

Dear Editor: Your presentation of architecture and interior design in the October issue was indeed a superior one. I commend the fullness of coverage it received.

With all the adroitness academic life is supposed to permit, I would prefer to disregard the quibbling the splendid issue has provoked and call to the attention of your readers a new breed of interior designer now being trained at Pratt Institute. As chairman of a new curriculum, I feel confident that we will soon begin to graduate an architect-oriented designer who will earn the respect of members of your panel representing opposing points of view.

important who does them: it is only important how well they are done." May I invite the members of the panel to look in on what we are doing at Pratt and see the work of students whose confidence is rooted in attempts to discipline reason and heighten sensibility. These are individuals trained to understand architecture and to recognize the difference between interior design as a fleeting fashion of the time and as an enduring solution. He believes the creative modern interior is not merely the object of aesthetic pleasure, but the continual deposit of human imagination. And he's right.

HAROLD ELIOT LEEDS
Chairman, Dept. of Interior Design
Pratt Institute
Brooklyn, N.Y.

Dear Editor: Your Symposium on "The Architecture of Interiors" is a broad and comprehensive one. It is not only informative, but serves the useful purpose of making one think. While I'm still formulating some conclusions, I would like to make a few comments.

It seems evident that architects continue, on the whole, to be "stiff-necked," as Moses termed it. However, there are encouraging statements, such as David Campbell's: "My feeling is that the times . . . indicate the need for specialization in interior design."

I may be interpreting the word "catering" in a sense not intended by Mr. Creighton, but his question, "Does it [decorating or design] define itself, perhaps, as catering to individual tastes of the client?" seems patronizing. Who can better determine the taste of an interior than the client himself? This seems to me the essence of the philosophy of dictatorship held by too many architects I have worked with. They know best—and never mind what the client wants.

Unquestionably, the formal training of an architect is more thorough than that of an interior designer, and consequently he provides a more professional service. There is also the element of safety, which requires licensing and permits some control of standards. However, many architects have a long way to go before they are qualified to offer the type of *individual* service required in interiors. That is undoubtedly why

sional service that gets bogged down in commercialism. He needs to tighten his qualifications and raise his standards if he is to compete on the same level with the architect.

Benjamin Baldwin suggests that we need "designers trained in architecture." This plan has been promoted for some years by the Decorators Club, Inc.—which, incidentally, is the oldest professional organization in the field of interior design—in a practical and specific way. We offer a scholarship each year to an interior designer for graduate study in architecture, or to a graduate architect for advanced study in interior design. When this practice is followed generally, it will certainly narrow the gap between the two fields.

MARY JEAN ALEXANDER
President, The Decorators Club, Inc.
New York, N.Y.

Dear Editor: As a student of interior design, I was thoroughly interested in your coverage of the field and completely agree with your conclusion.

The field of interior design today stands on the brink of becoming a profession in its own right, with its theories and goals still young. There is, consequently, a great need for the qualified interior designer today.

However, our schools are poorly equipped to teach a group of future interior designers, which stems mainly from the fact that the profession is so young. We have few if any textbooks to go by, so that our whole education consists mainly of absorbing as much as we can from our professors. This sometimes leads to a rather shallow education, due to the lack of exposure to different points of view.

We need more people who are willing to add depth to our education, especially those in the field of architecture. We need books written by the top designers today. We need universities willing to set up programs with greater depth. And we need guest lectures by prominent men and women in the field. Most of all, we need the guidance provided by good examples. The interior design organizations can help a great deal here by raising their standards to the professional levels.

NANCY BEGLEY
Schenectady, N.Y.



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 General Contractor: Ragnar-Benson, Inc., Pittsburgh, Pa.

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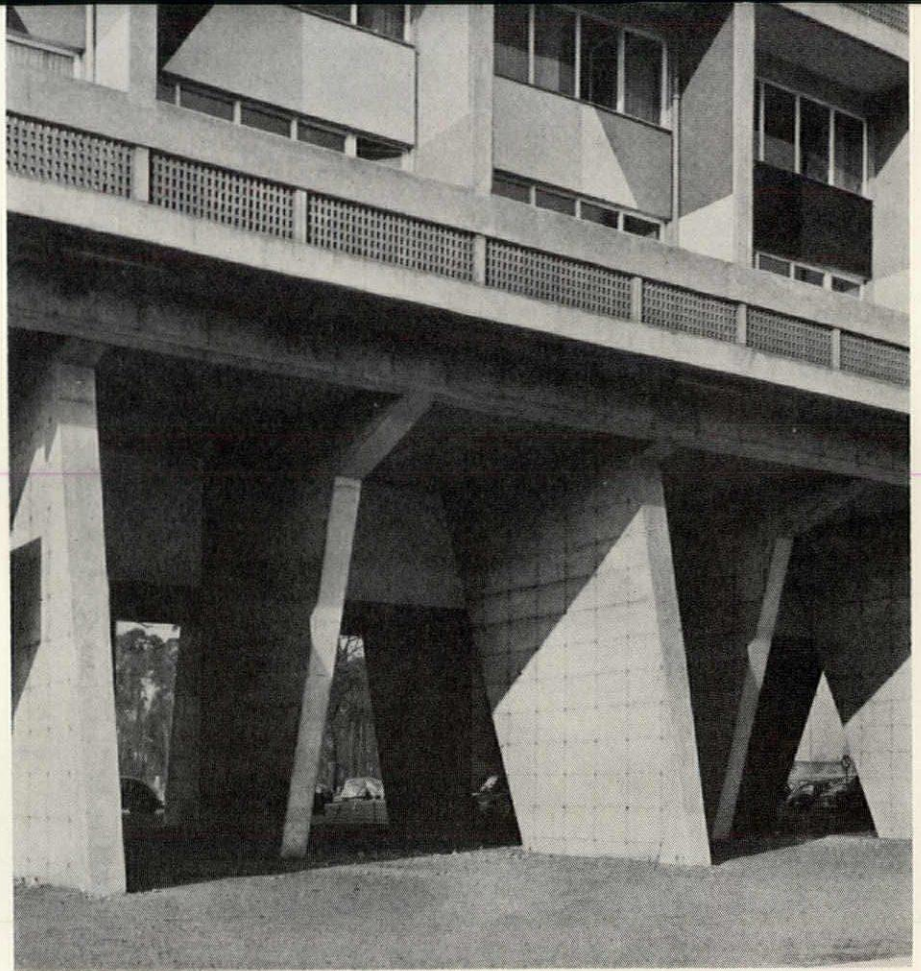
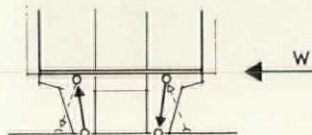
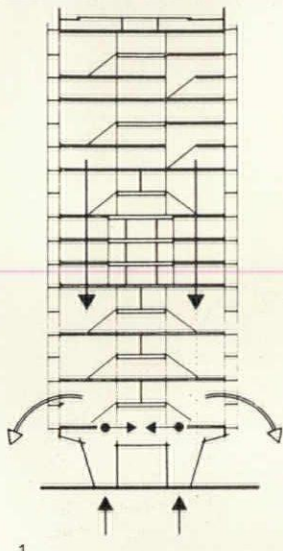
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BOOK REVIEWS



A Stimulating Dissection

BY WILLIAM ZUK

STRUCTURE AND FORM IN MODERN ARCHITECTURE by Curt Siegel. Translated by Thomas E. Burton. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. (1962, 308 pp., illus. \$15). Mr. Zuk is Professor of Civil Engineering at the University of Virginia and has contributed several articles to *P/A*.

The author of this book, Curt Siegel, is a professor in the architectural department of Stuttgart Technical University. His book was originally published in Germany in 1961 under the title *Strukturformen*, and was translated into English by Thomas E. Burton. The volume seems well worth the effort on the part of both men.

Credit too must be given to the publishers for their unusually clear presentation. The reading matter is conveniently presented in small parcels on each page with the related figures and photographs on the same page. The figures are descriptively captioned so that a hurried reader can easily extract the essence of the text almost by means

of the figures alone, which number over two hundred. However, the reading material is also to be recommended. The basic thesis of the author is that when sound, logical structural thinking is faithfully applied to buildings, the forms so evolved produce a true and pleasing architecture of their own.

To many, there seems to be an incompatible abyss between the domains of aesthetics (governed by the vaguest of laws) and technology (governed by the strictest). To Curt Siegel, there is and should be no incompatibility, particularly in regard to architecture, for what is truly faithful to the natural laws of structural science should also appear right to the aesthetic sense. As an extreme case in point, the author calls attention to our future space structures, where our aesthetic values can only be guided by the correctness of our structural solutions. Consider what the Parthenon should look like on Jupiter, where gravity forces are much greater than on earth. The proportions of the building must of necessity be greatly enlarged, or it would collapse under the pull of the increased gravitational force.

Aesthetic values based on earth-bound sense experiences would then be valueless.

The case he builds in this regard, explaining contemporary structures throughout the world, is rather convincing. However, if this philosophy—that structure alone must dictate the form—were applied to architecture universally (please note that this extreme position is not the view of the author), there would be no Taj Mahal, no St. Mark's of Venice, and no works of Frank Lloyd Wright, who, incidentally, is not mentioned in the book. But Nervi, Torroja, and Candela are, with their daring and exciting structural forms, so bold in concept that the structure becomes the architecture itself. It is this reviewer's belief that structure should of course always be as honest as possible, but it need not always be so boldly exposed as to dominate the scene.

Nonetheless, Curt Siegel soundly develops his principle by a stimulating dissection of modern structures, praising and condemning wherever appropriate. As the book is mainly directed toward

Continued on page 144

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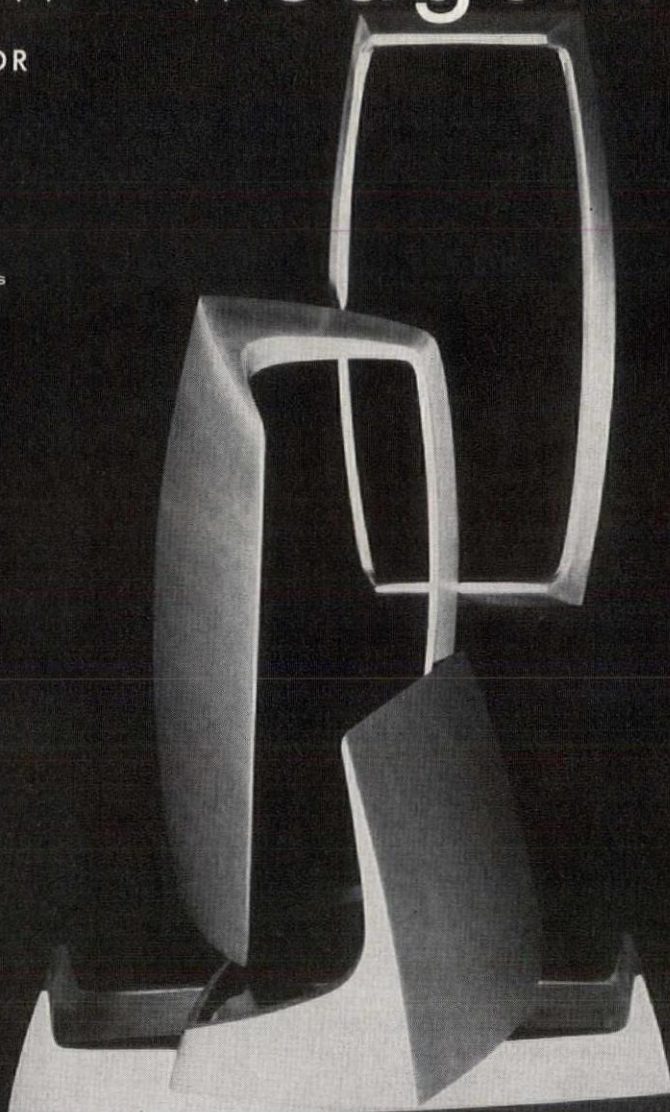


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Continued from page 140

architects, both practicing and student, the analysis is primarily descriptive and pictorial, with no mathematics to bog things down. However, this reviewer (an engineer himself) strongly recommends the volume to the engineering profession as well, particularly to those engaged in structural design. Engineers are often too prone to structure a building uncritically in whatever way the architect wishes, whether or not the structural form is truly consistent with its function. Perhaps study of this book will give the

engineer greater confidence to stand his ground.

To quote from the introduction:

"Since modern architecture rests more heavily on technology than the architectures of the past, it cannot be properly understood without a corresponding knowledge of construction. Or in other words, previously accepted methods of judging architecture solely by aesthetic standards are no longer adequate. . . . We are faced with the need to penetrate, far more systematically and extensively than has hitherto been customary or reasonable, into the mechanical, statical and natural (physical) relationships upon which

the development of structural forms is based. . . . We must be ready to bring architecture as an art right into the middle of a technological world without creating hostility between the two. We shall then see that technology, the nature of which is rooted in natural laws, will give a powerful impetus to modern architecture."

Siegel divides his work into three major chapters. Chapter I deals with **skeleton-type construction**, subdivided into "narrow grid" and "wide grid." A narrow grid is one in which only one window unit lies between each pair of columns. A wide grid is one in which several windows lie between each pair of columns. His discussion and the numerous illustrations show how important the resulting form of the spandrel beam becomes in regard to façade appearance. Although a grid façade is basically quite simple and orderly, the author cites the problem of termination, particularly at the ground and at the ends.

Surprisingly enough, he is not categorically opposed to buildings on stilts, à la Corbusier. Treated as a wide-grid system, the stilts develop into a rational structural system, if not bungled by having the columns too close, or by failing to express the lower spandrel beam according to its true function.

Siegel's conclusions regarding corner columns are also rather interesting. Based on normal vertical forces in a uniform layout, he rightly concludes that the corner columns carry only a fraction of the other column loads. This is due to the fact that the corner columns generally support only one-fourth of the floor area of interior columns and only one-half of the floor area of exterior columns. He omits the offsetting effects of wind forces to make his point more distinctive. Pure structural logic thus requires that the corner columns be considerably smaller than the others. This may come as a shock to those whose aesthetic values rest on old classic principles of ancient Greek temples, where the corner columns were deliberately made larger for purely visual effects. Even today, in modern structures, corner columns generally appear larger than others in the façade; what is even worse, they are often made dishonestly "fleshy."

In the light of practicalities, the author does admit of a dilemma in trying to make the corner column appear smaller, which he feels can only be solved by overhanging the floors beyond

Continued on page 148

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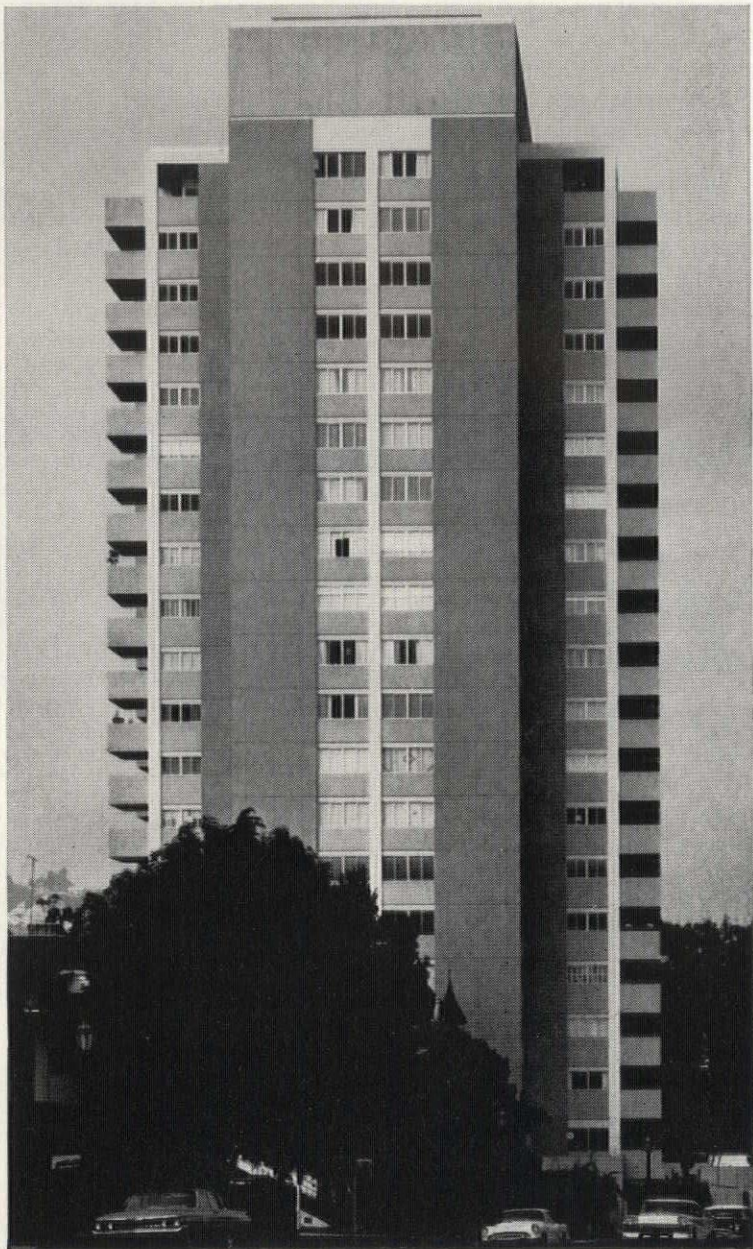
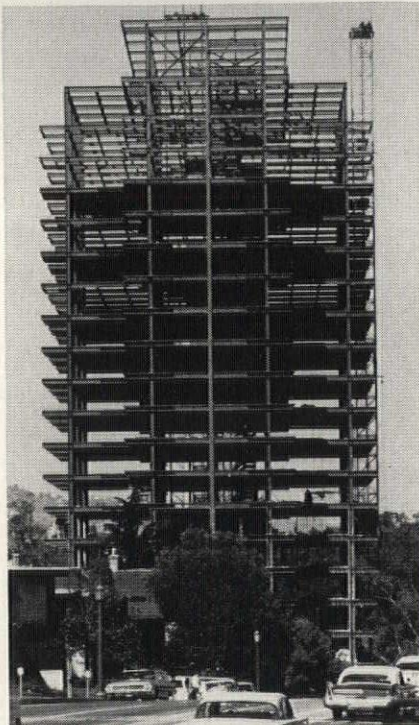
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Each of these buildings has spacious living areas free of cluttering columns. From lobby to penthouse, each is designed for gracious living. Each apartment is equipped with individually controlled air-conditioning, and has its own terrace. Even tenants' automobiles are pampered in a split-level basement garage.

According to the Tishman organization, completion of steel erection for Wilshire Comstock-West one month ahead of schedule (in only 61 working days) represents a corresponding potential in increased rental revenue. Bethlehem crews, even more recently, have completed erection of structural steel for Wilshire Comstock-East.

The steel framing conforms to the seismic code of Los Angeles. Possible earthquake forces would be carried through welded beam-to-column connections which provide a moment-resistant frame. Another interesting aspect of the structural design lies in the use of alternately rotated columns, which help to equalize rigidity in both directions.

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Continued from page 144

the corners. This, however, requires a careful structural balance between the increased floor area carried by the corner column and the size of the spandrel beam cantilevered over this column.

Chapter II is entitled "V-Shaped Supports," a category of structural form that appears to be original with the author. He confesses to having first thought of the V-support as only an incidental in modern structures, but as he plunged deeper into the subject, he came to look upon it as a fundamental characteristic of contemporary design.

This reviewer, however, is not yet convinced that it is of the same basic gender as skeleton frames and space structures. Notwithstanding, his observations and synthesis of the subject are thought-provoking.

Siegel defines a V-support as any supporting member with the tapered shape of the letter V. With the exception of classic examples of inverted V-supports used in masonry buttresses, he traces the origin of V-supports in contemporary structures to the development of rigid frames of steel and reinforced concrete. Since the materials needed to make a

rigid joint have become available only recently, the V-form is identifiable only with modern structures. Motivated originally by economy of materials, the legs in rigid frames were tapered to conform to the general shape of the bending-moment diagram.

However, because of the grace of the shape, the V-support concept spread to a variety of other applications—beams, grandstands, entrance canopies, and gas-station shelters. The author does not hesitate to show the absurdities of some of the applications where cliché or ornament rather than structural logic dictated the shape. In principle, the point of the V should occur where there is a structural hinge, and the wide part of the V should follow the configuration of the bending-moment diagram: where the moment is the largest, the V should be the widest. It is all too common to find this simple principle misapplied and violated. Cited in this chapter are also many properly handled examples of Nervi, Maillart, Le Corbusier, Castiglioni, Niemeyer, and others.

The author ends this chapter with the following interesting observation on V-supports:

"The fact that United States architects have largely ignored such forms raises the suspicion that perhaps the V-support is a rather frivolous device alien to the sober North American. South American architects attribute North American antipathy to lively and dynamic structural forms to the Anglo-Saxon's general distrust of daring plastic invention. . . . In the United States, the predominance of steel construction and the secondary importance of reinforced concrete appear to be the main reasons for the absence of the V-support, which, of course, is a form ideally suited to the latter material. As the use of reinforced concrete becomes more widespread, the V-support will inevitably become an accepted structural form in the United States too."

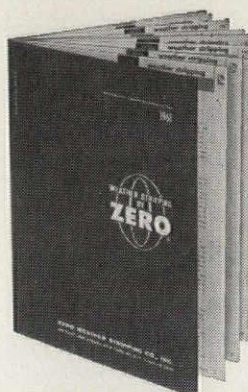
The book says nothing about V-supports in Russia.

The third and last chapter deals with space structures, defined as any structure whose force distributions are not divisible into planar actions. Siegel's four categories of space structures are: (1) space frames; (2) folded plates; (3) thin shells; and (4) suspended roofs.

In regard to space frames, although they are conceptually attractive, the author discusses a number of their practical difficulties. For economic reasons, space frames should be assembled from prefabricated parts, yet to do so would

Continued on page 154

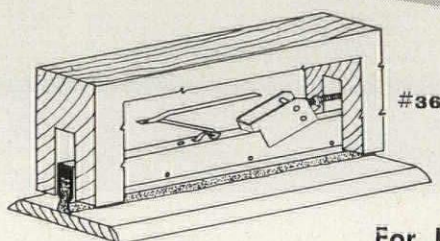
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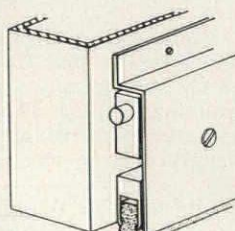
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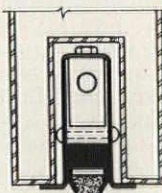
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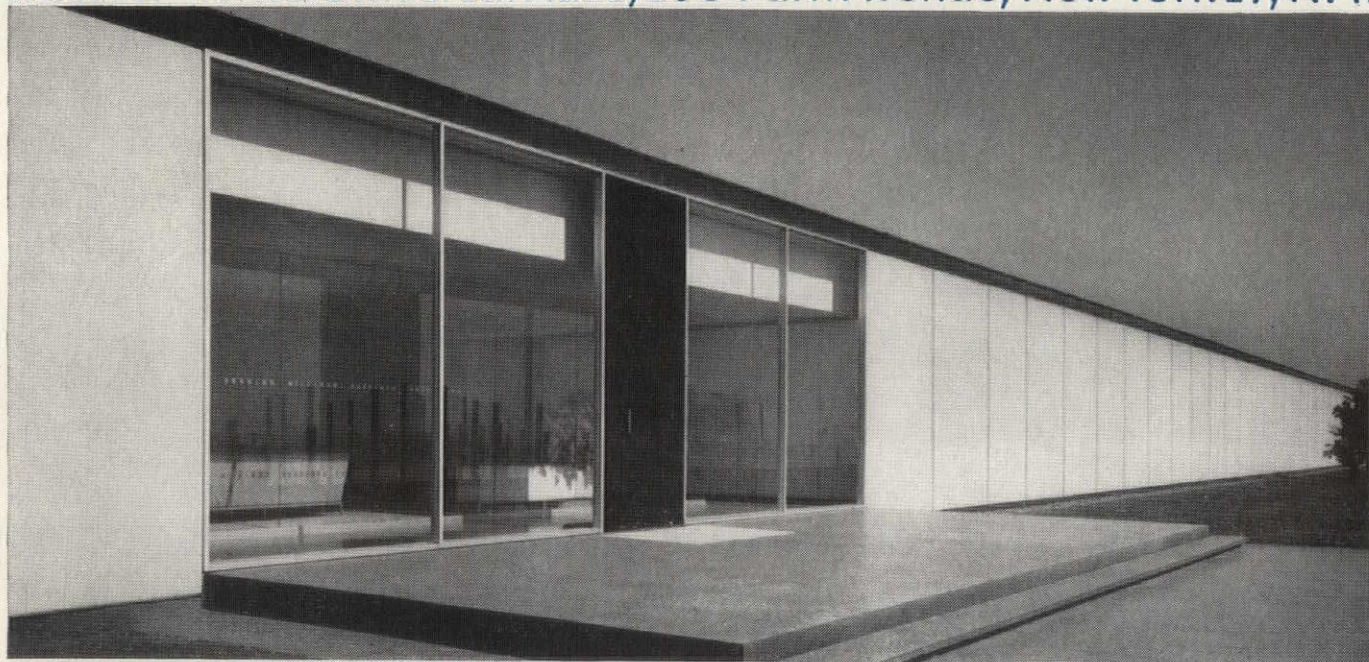
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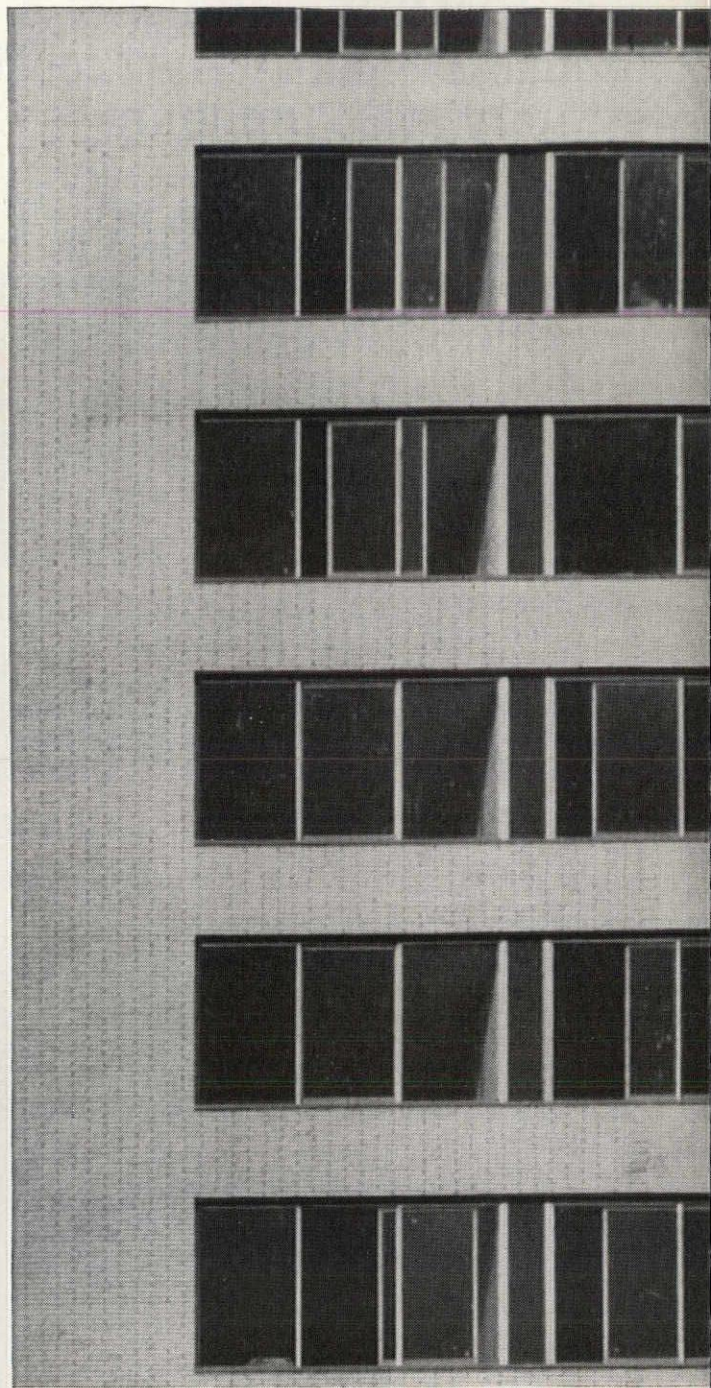
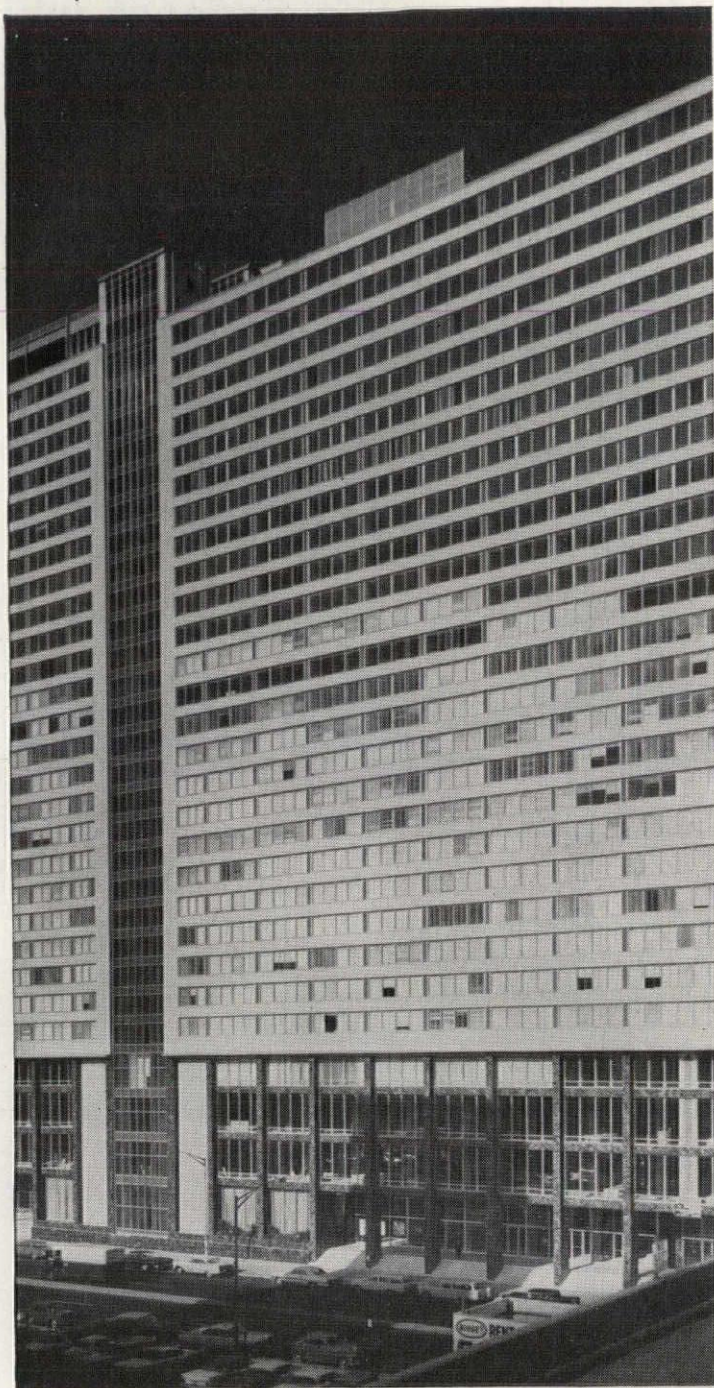
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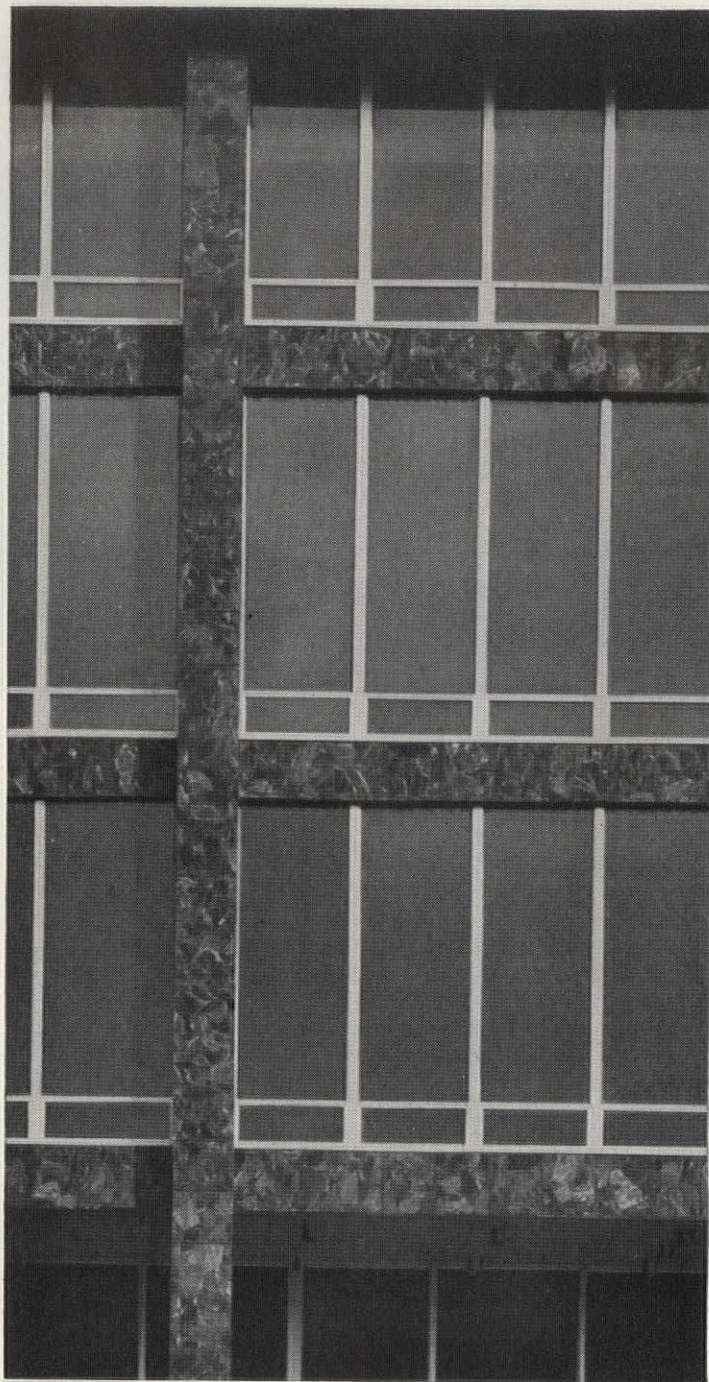
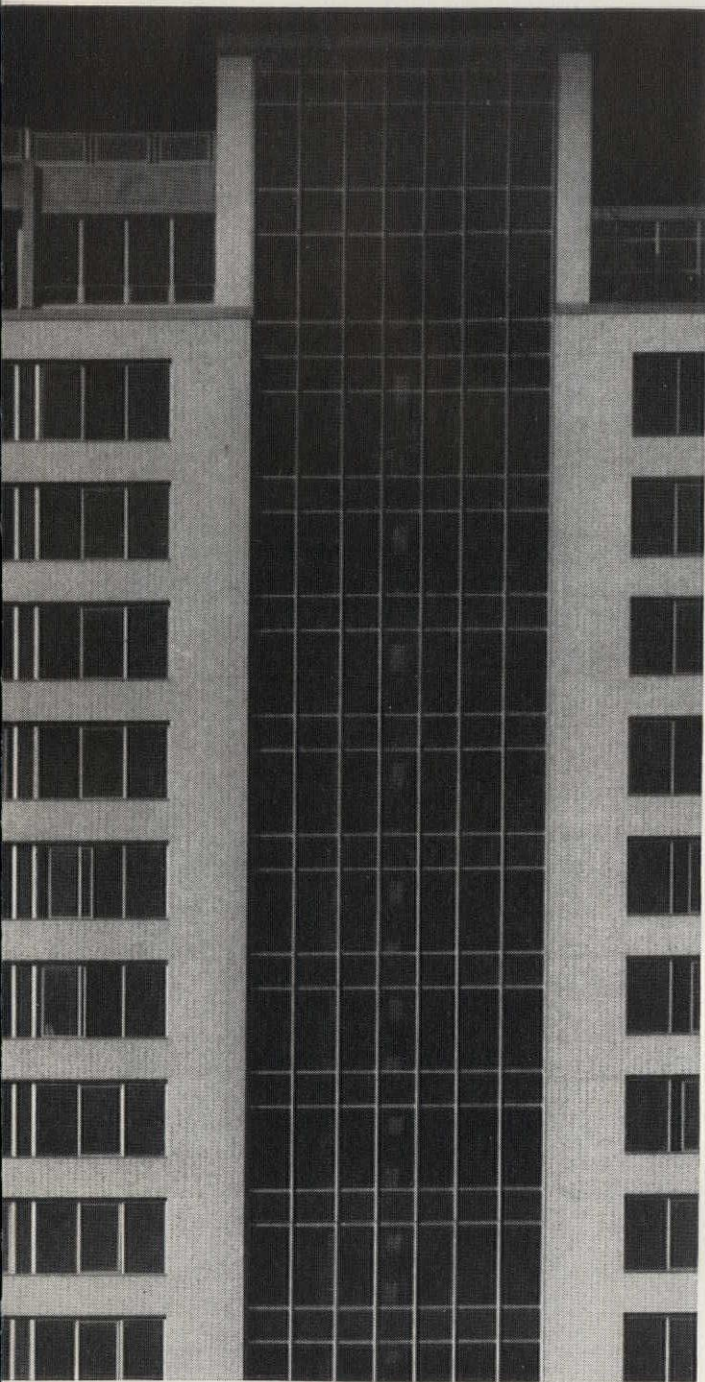


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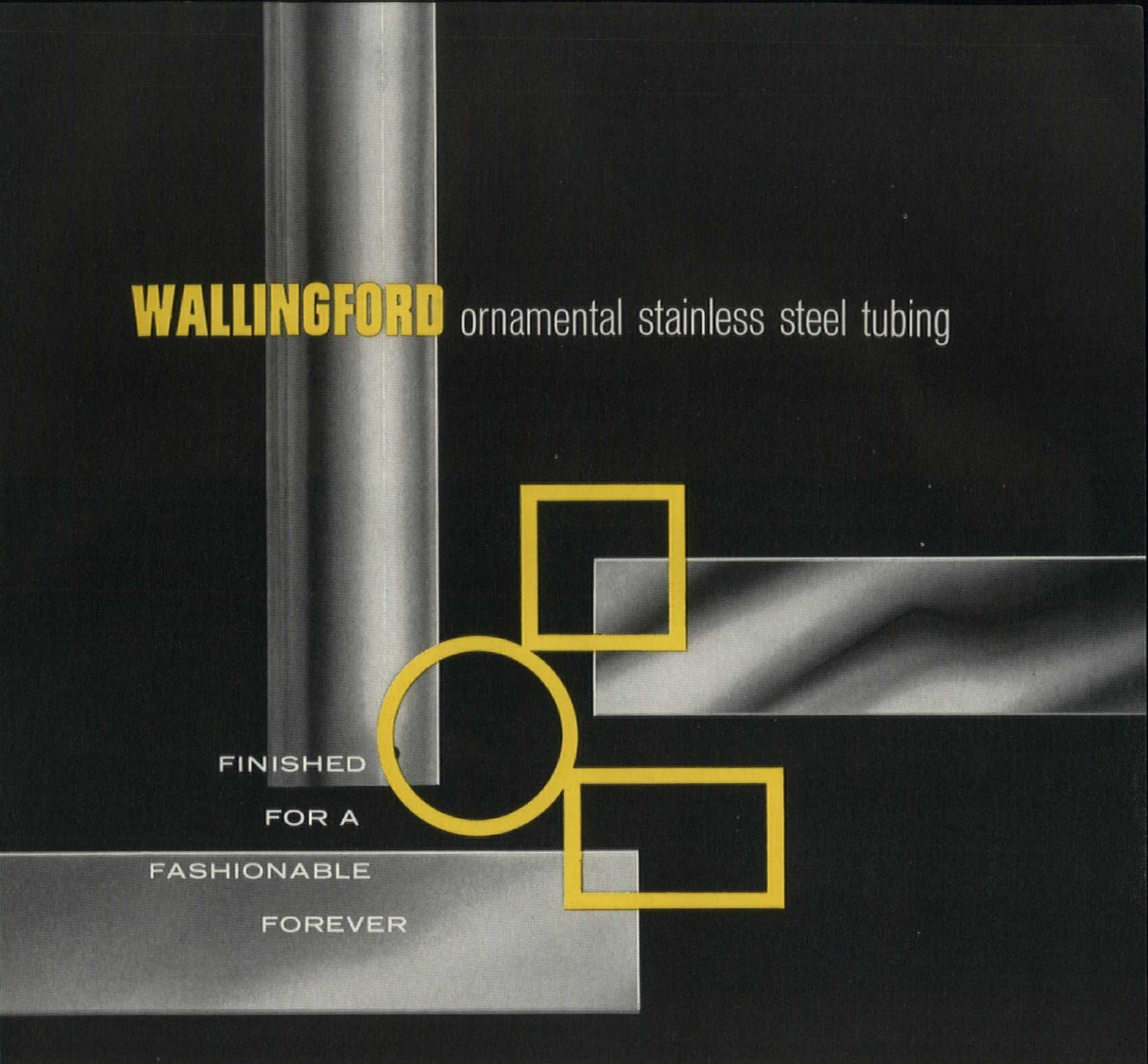
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Continued from page 148

invite troubles—material waste through understressing of many of the components, accurate erection fitting, and the mathematical difficulties of stress analysis.

The treatment of folded plates is also well presented. The author's reference to folded-plate forms as crystalline forms could suggest future forms of great elegance and beauty, although he warns of this form's bold demands and tricky details.

The section on thin shells is one of the best in the book. It is divided into five categories: (1) cylindrical shells; (2) shells of revolution; (3) conoids; (4) hyperbolic paraboloids; and (5) free forms. Siegel deals with each of these topics with fine clarity, not limiting himself only to simple shells, but critically analyzing complex and intersecting shells as well. Man has already far outstripped nature in the domain of thin shells, for the ratio of shell thickness to the span length of an egg is only 1/100, whereas a shell like the exhibition hall in Paris has a ratio of 1/1570. In addition to numerous illustrations, the book presents a list of rules regarding the important characteristics of shells. Such rules should greatly aid a designer in creating a form both pleasing and structurally correct.

There are great temptations for imaginative architects to use so-called "free forms," especially with the free plastic medium of reinforced concrete. Siegel has some valuable words to say in this connection:

"Free form bound by structure sounds almost like a paradox. Yet the free forms we shall discuss are in every respect structurally determined. . . . Free form does not mean the abandonment of all geometrical discipline. . . . The natural laws of structure continue to determine the form, and liberation from the constraint of a non-structural geometry means only that the structural form is freed from extraneous influences so that the nature of the shell can be expressed with even greater purity."

Saarinen's TWA building would be a good example, while Le Corbusier's Ronchamp Chapel would be a poor one.

To the structural engineer, the big catch in free form as well as in many other complex shells is the difficulty of analysis. An occasional pat on the back is given engineers for their assistance in design, but too few architects fully appreciate the mental anguish (and often genius) required to develop and solve the overwhelmingly difficult differential equations of shells. Indeed, a

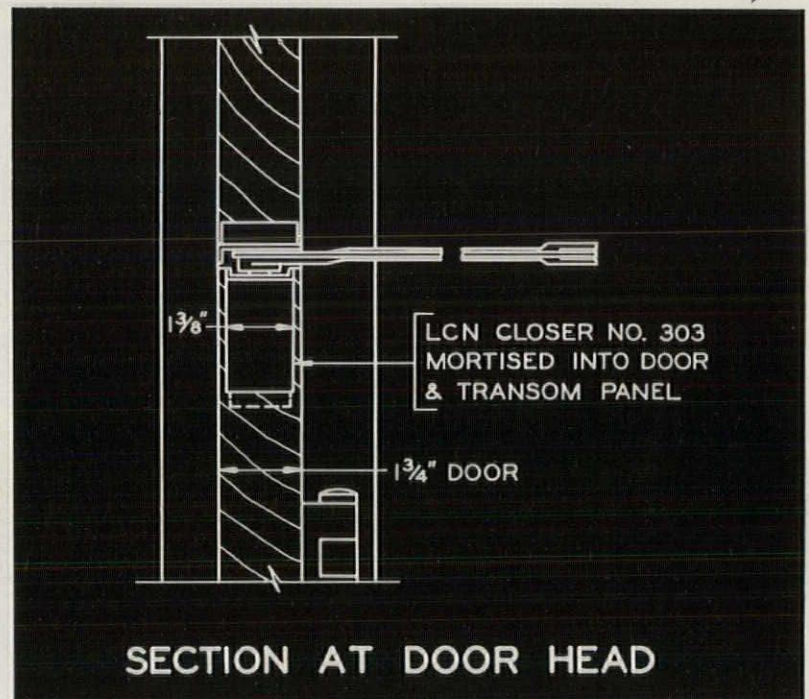
goodly amount of prayer and fasting may also be required.

Some engineers, like Torroja, rely on model testing, but this is not always as easy as it sounds. Siegel speaks of Candela as using only analysis; however, from personal conversations, this reviewer has learned that such analysis is also supported by observations on previously built prototypes of similar structures. It is the reviewer's observation that the full potentialities of model testing have yet to be exploited, particularly in the United States.

The final section of the book—on

cable structures and tents—is the most exciting of all, especially in regard to potentialities. The basic suspension roof is an outgrowth of the suspension bridge. This concept in the hands of modern architects and engineers has in just a few years blossomed into such challenging (if not perfect) configurations as the Raleigh arena in North Carolina, and the American and French pavilions at the Brussels World's Fair. Indeed, it is this reviewer's opinion that suspension roofs will some day cover whole cities.

Consistent with the theme of his book,



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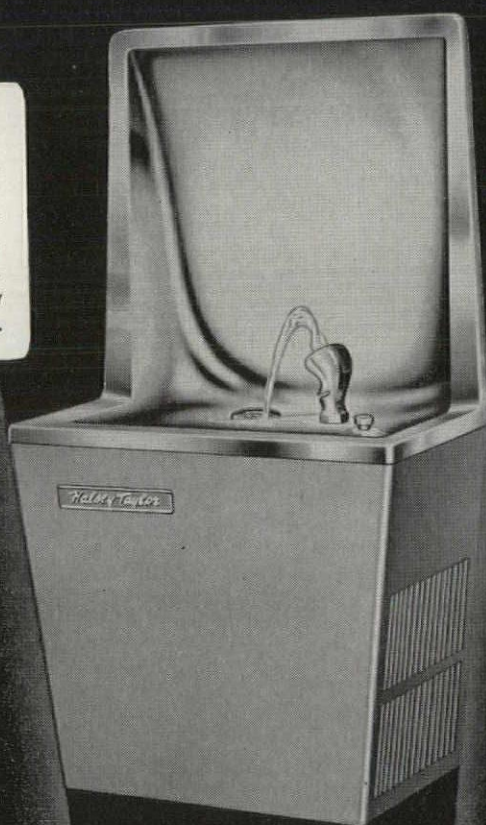
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Curt Siegel again demonstrates the proper use and misuse of cable structures. To be avoided are flat spots in the roof surface, since these regions have no stiffness and are prone to vibration and aeroelastic flutter. The state of the art and science of suspension roofs is still quite young, so that many opportunities for both success and failure are still possible in suspension construction.

Only two minor criticisms may be made of this generally fine book. The first is that weights and measures are in metric units, presumably carried over from the original edition in German. Although this reviewer greatly envies the simplicity of the metric system, there are still many readers who may be bothered with converting centimeters to inches and meters to feet. The second comment, true of almost all architecturally directed books on structures, is that foundations are almost totally neglected. Architectural students in particular stop thinking of structures at the ground line. Yet the hard facts of life demand a substructure as well as a superstructure, even if it is never seen. A consistent philosophy of structure would require that the foundation be as carefully studied and as elegant structurally (although perhaps not visually) as any other part.

A Good Introduction

THE PALACES OF CRETE, by James Walter Graham. Published by Princeton University Press, Princeton, N.J. (1962, 269 pp., illus. \$7.50)

The author is a professor of art and archaeology at the University of Toronto and has received various grants and fellowships to complete this survey of ancient Cretan architecture. He hopes that this volume will be useful to visitors to Crete, which is now only two hours by plane from Athens. While the book is neither a travel guide nor a scholarly work, it will serve as a good introduction to the ruins and reconstitutions of Crete. It will also serve well as supplementary reading in courses on art history or classical literature.

Most interesting to an architect are the similarities between the reconstruction drawings and contemporary houses. A drawing that shows a conjectural restored elevation of part of the west façade of the palace at Knossos might easily be of a garden apartment going

Continued on page 160

For more information, turn to Reader Service card, circle No. 335



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Once on the eighth floor, the firemen trained their hoses on flames roaring through wood partitions that divided a temporary office. After 42 minutes, and after two men had been overcome by heat and smoke, the fire in a temporary office was under control. Under control because the fire stayed put, burning *only* on the eighth floor!

Inspection the following day revealed a number of curious things. The heat was so intense that "incombustible" tiles stored on the floor and in place on the ceiling were burnt to ashes. Typewriters were melted down into metal lumps. Steel stud partitions were warped beyond salvage. Steel channels for the suspended ceiling were completely collapsed.

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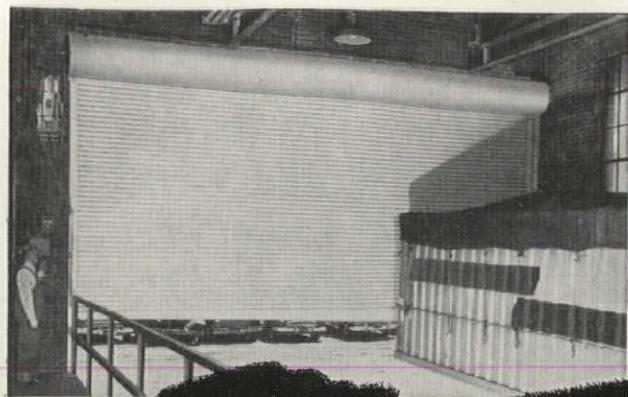
On the eighth floor, less than 1% of the Mono-Kote had come off. This small loss was caused by warping of steel braces which had been sealed to the deck. As the fire warped the braces out of shape they fell and pulled the Mono-Kote that had covered them away. If the braces had been more securely fastened, every bit of Mono-Kote would have stayed in place.

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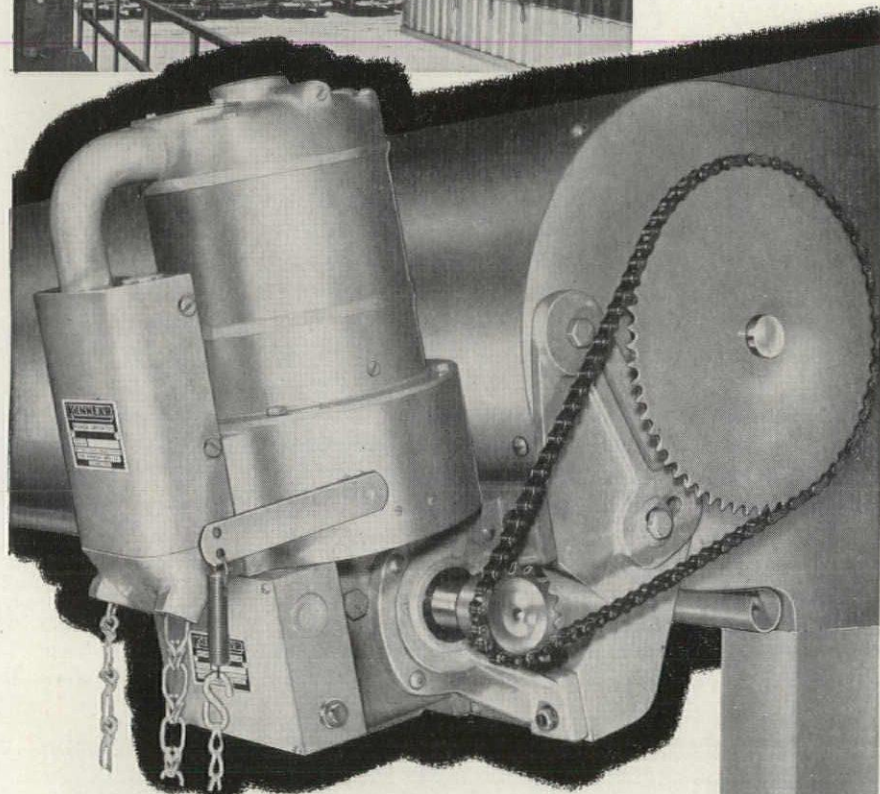
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160 Book Reviews

Continued from page 156
up in Westchester County.

To the architectural historian, the question of whether we are influenced by the past, or can only see the past through the prejudices and patterns of the present, is made more vivid by the illustrations in this book.

Professor Graham writes clearly and with enthusiasm of the Cretan remains. He praises Sir Arthur Evans for the rebuilding which he did when excavating at the beginning of the century; if not for Evans, much would have been lost.

AGNES ADDISON GILCHRIST
Past Pres., Society of Architectural Historians
Mt. Vernon, N.Y.

A Vote of Thanks Is Due

MATERIALS FOR ARCHITECTURE by Caleb Hornbostel. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. (1961, 610 pp., illus. \$20)

Probably the most neglected facet of the profession of architecture is the knowledge and understanding of the physical properties, the characteristics, and the possible and proper uses of the vast array of materials available for the construction of buildings. Caleb Hornbostel has attempted to provide the architect with the means to rectify this. Both the student and the practitioner owe him a vote of thanks, for he has assembled in a monumental but readable tome the essential information on almost every material the architect uses. The task which the author set himself—"to correlate knowledge . . . into one book written from the specific point of view, that of the architect"—is so tremendously ambitious that one should overlook the few omissions that do occur. As one example, neither epoxy nor latex terrazzo is mentioned.

The author describes each material, wherever possible, from four points of view: physical and chemical properties, types and uses, application, history and manufacture. Of great assistance to the architect are the "Do's" and "Don'ts." One suspects that the description of the physical and chemical properties of materials will prove to be the least interesting to the working architect.

Much of the solid practical information the author imparts is presented in the form of tables and drawings. These are clear and readable—tremendous time-savers.

One wonders if some of the effort the author has spent in compiling information on such items as chlorine, chromium,

Continued from page 164



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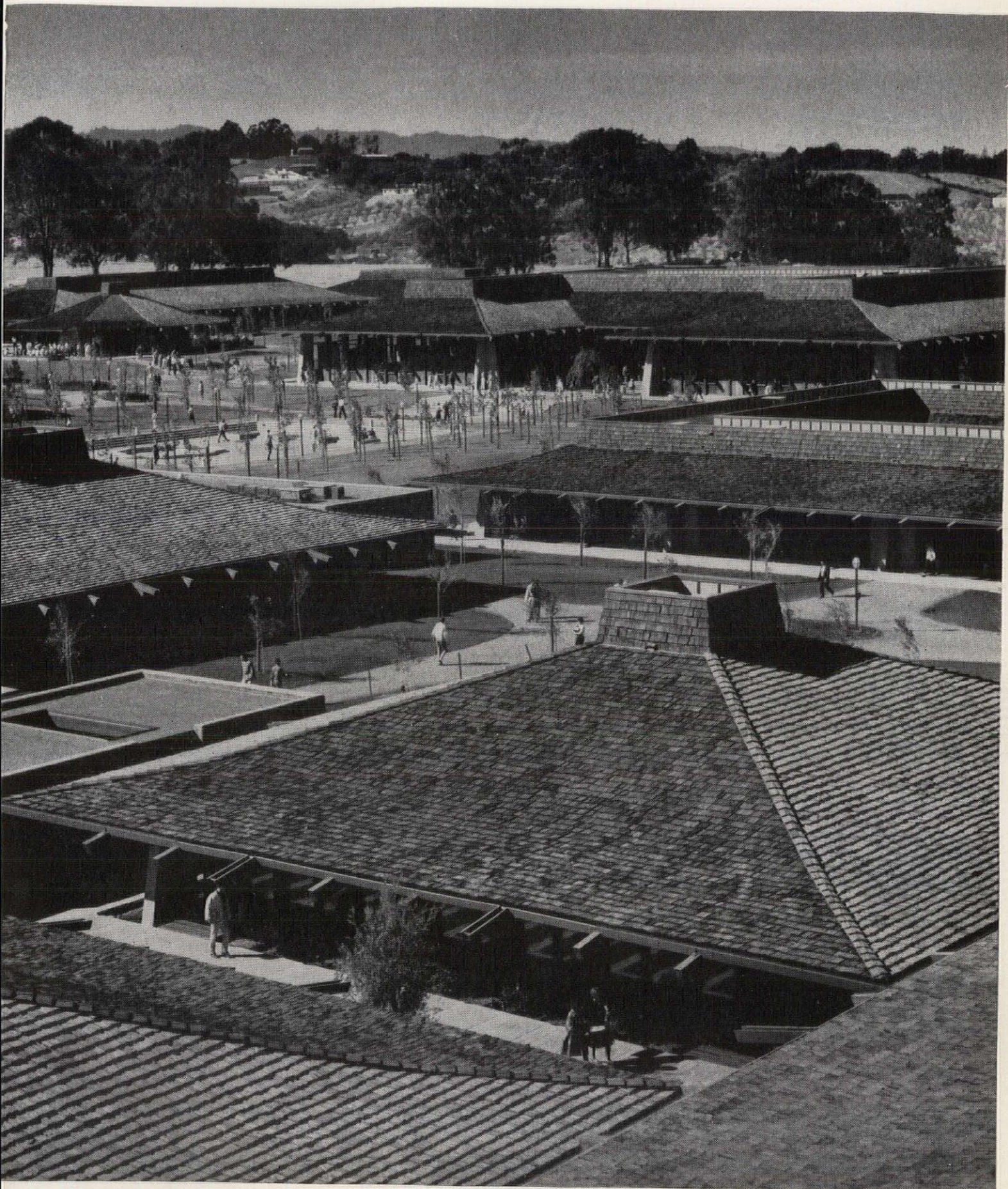
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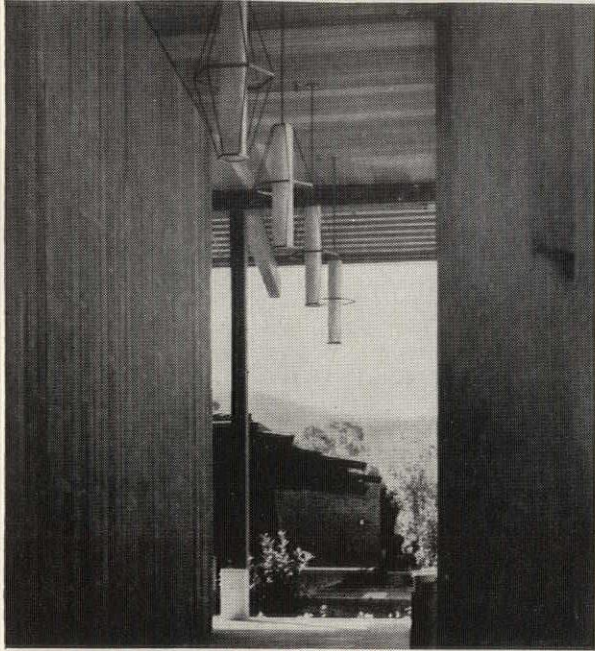
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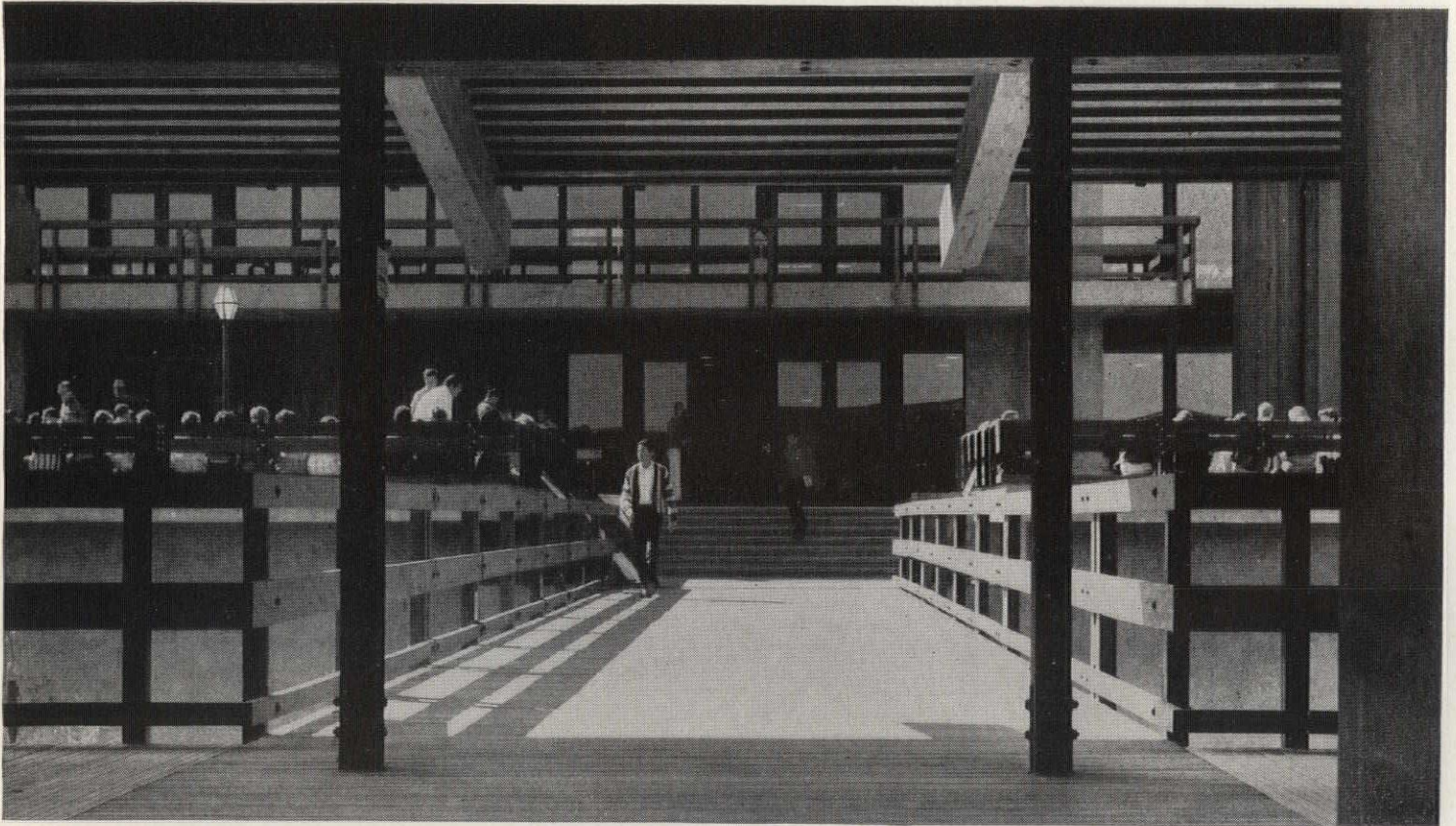
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Continued from page 160

mercury, and sodium might not have been better directed to fuller presentations of some of the building materials, for the author himself confesses that one of the motivations that caused him to write the book was his use of new materials without adequate knowledge of their proper applications. The results were those all-too-familiar "unfortunate experiences."

MAX O. URBACHN
Architect
New York, N.Y.

OTHER BOOKS TO BE NOTED

Anatomy for Interior Designers (3rd Edition). Julius Panero. Illustrated by Nino Repetto. Whitney Library of Design, 18 E. 50 St., New York 22, N.Y., 1962. 146 pp., illus. \$8.95

To be reviewed.

Architecture: Man in Possession of his Earth. Frank Lloyd Wright. With a biography by Iovanna Lloyd Wright. Doubleday & Co., Inc., 575 Madison Ave., New York 22, N.Y., 1962. 128 pp., illus. \$10

To be reviewed.

Contemporary Architecture in Germany. Werner Marchall. Introduction by Ulrich Conrads. Frederick A. Praeger, 64 University Place, New York 3, N.Y., 1962. 231 pp., illus. \$16.50

To be reviewed.

Curtain Walls: Design Manual. Rolf Schaal. Translated by Thomas E. Burton. Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y., 1962. 248 pp., illus. \$16.50

To be reviewed.

Design in Sweden. Ake Stavenow and Ake H. Hult. Stockholm, 1961. Distributed by The Bedminster Press, 257 E. 72 St., New York 21, N.Y. 268 pp., illus. \$15

To be reviewed.

The Eternal Present. Volume I: The Beginnings of Art. (The A. W. Mellon Lectures in the Fine Arts, 1957.) S. Giedion. Bollingen Foundation, New York, 1962. Distributed by Pantheon Books, 22 E. 51 St., New York 22, N.Y. 588 pp., illus. \$12.50

To be reviewed.

From Castle to Teahouse: Japanese Architecture of the Momoyama Period. John B. Kirby, Jr. Charles E. Tuttle Co., Rutland, Vt., 1962. 221 pp., illus. \$12.50

To be reviewed.

Music, Acoustics and Architecture. Leo L. Beranek. Foreword by Eugene Ormandy. John Wiley & Sons, Inc., 440 Park Avenue South, New York 16, N.Y., 1962. 586 pp., illus. \$17.50

To be reviewed.

Streetcar Suburbs: The Process of Growth in Boston (1870-1900). Sam B. Warner, Jr. A publication of the Joint Center for Urban Studies. Harvard University Press and MIT Press, 1962. Distributed by Harvard University Press, 79 Garden St., Cambridge 38, Mass. 208 pp., illus. \$6.50

To be reviewed.

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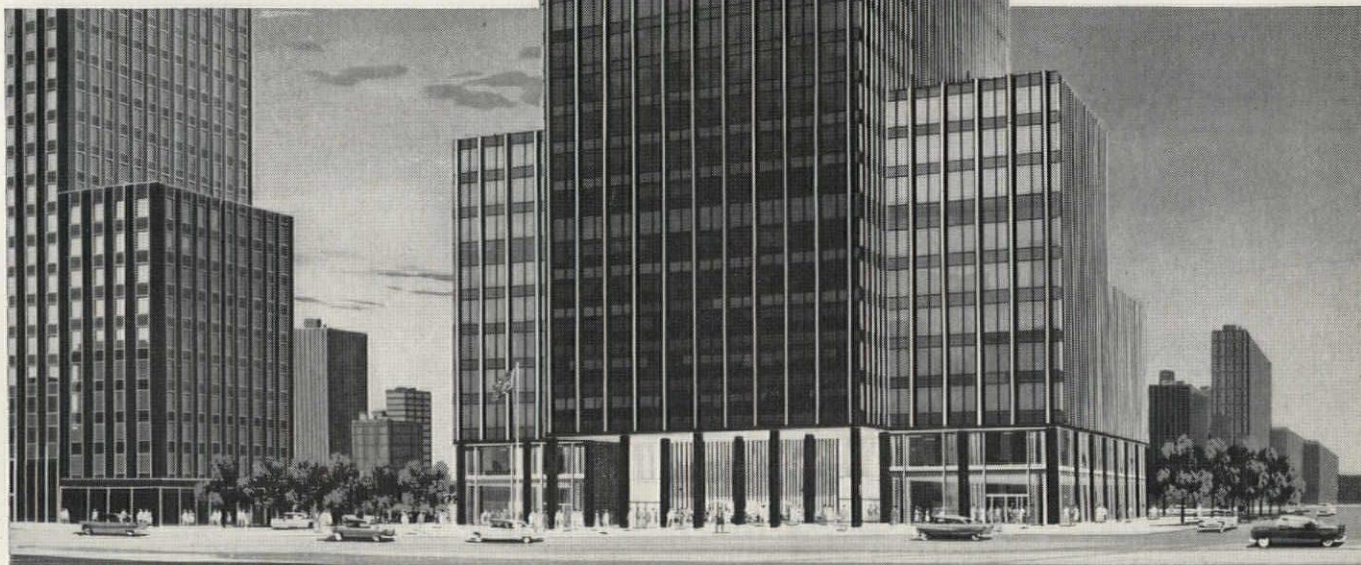
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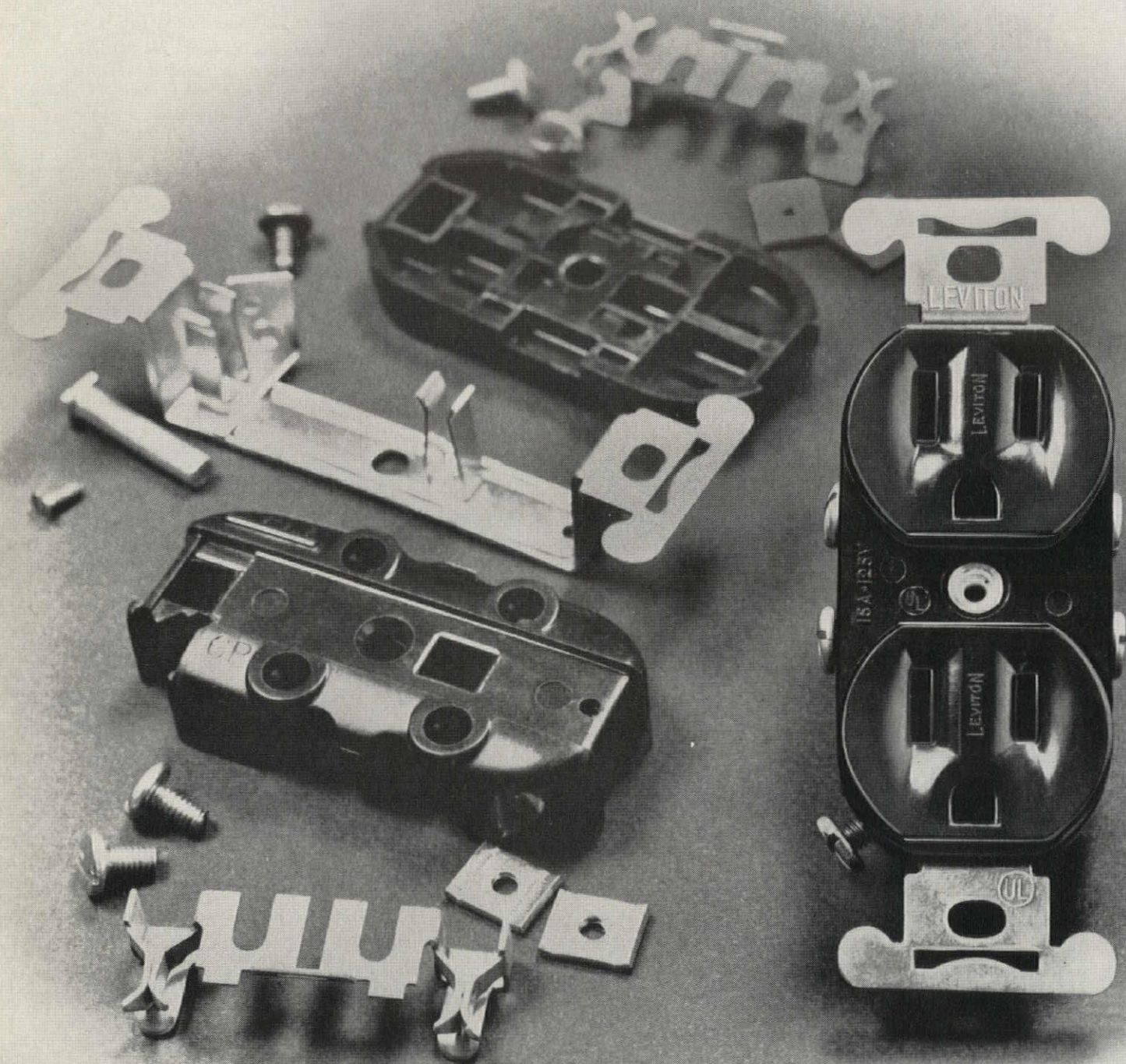
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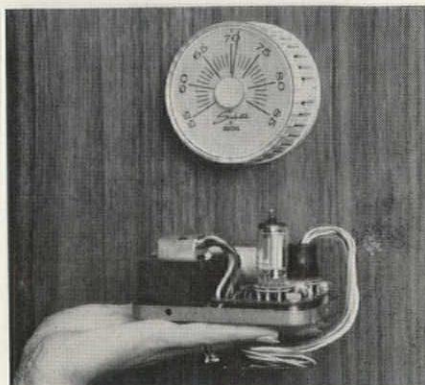
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New Firms

HELMUT AJANGO, CLARK FOREST BUTTS, principals in firm of AJANGO AND BUTTS, Designers, 95 N. Main St., Fort Atkinson, Wis.

PHILIP SHERIDAN COLLINS, HARRISON J. UHL, JR., RICHARD W. HOISINGTON, principals in firm of COLLINS, UHL & HOISINGTON, Architects & Engineers, 82 Nassau St., Princeton, N.J.

ABBOTT HARLE & ASSOCIATES, Architects-Interior Designers, 2212 Biscayne Blvd., Miami 37, Fla.

GERSHON MECKLER, ALFRED E. HOERTZ, principals in firm of MECKLER-HOERTZ & ASSOCIATES, Engineers, 4143 Monroe St., Toledo, Ohio.

EUGENE SCHONWALD, Architect, 78-27 37th Ave., Jackson Heights 72, N.Y.

GEORGE SEMINOFF, WAYNE BOWMAN, ALBERT W. BODE, principals in firm of SEMINOFF BOWMAN & BODE, Architects, Kirkpatrick Oil Bldg., 1300 N. Broadway, Oklahoma City 3, Okla.

EDGAR J. STEELMAN, JR., Architect, Suite 201, Schwehm Bldg., Atlantic City, N.J.

MARVIN E. WILLIAMS, Architecture and Landscape Architecture, Central Plaza Bldg., 41 E. Main St., Mesa, Ariz.

JOSEPH WYTHE, GEORGE THOMSON, principals in firm of WYTHE AND THOMSON, Architects, Casa Guetierrez, Monterey, Calif.

Elections, Appointments

DR. MARTIN GERLOFF, appointed Project Administrator in firm of SANDERS & THOMAS, Inc., Consulting Engineers, Philadelphia, Pa.

HANS U. GERSON, made Head of WILLIAM G. MERCHANT AND ASSOCIATES, Architects, San Francisco, Calif., following the death of Mr. MERCHANT.

E. GARY HAMMOND rejoined ROGERS ASSOCIATES, Inc., Office Space Planners and Designers, as Vice-President.

HOWARD R. MAY, made a Director and Vice-President of T. Y. LIN AND ASSOCIATES, Engineers, Los Angeles, Calif.

IRVING RECTOR, named Director of School Planning and Design in firm of BURKE, KOBER & NICHOLAS, Architects and Engineers, Los Angeles, Calif.

R. JOSEPH REEVES, JAMES W. BEYVL, HARRY HODSON, LAWRENCE DRUCKENBROD, appointed Specialists to the Research and Development Division staff of THE AUSTIN COMPANY, Designers, Engineers and Builders, Cleveland, Ohio.

ROBERT E. RETTINGER, appointed Project Co-ordinator in firm of FRED S. DUBIN ASSOCIATES, Consulting Engineers, Hartford, Conn.

Mergers

MATTHEWS INTERNATIONAL, a public relations firm, has merged with ASHER B. ETKES ASSOCIATES, INC., a New York-based public relations and marketing organization specializing in building, real estate, and industrial accounts. The firm of ETKES, MATTHEWS INC., is located at 16 E. 52 St., New York 22, N.Y.

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JAMES R. DORRIS, appointed as Service Manager of the New York Sales Office of THE TRANE COMPANY.

HAROLD L. HARVEY, appointed to the new post of West Coast Sales Promotion Specialist of DU PONT COMPANY's Fabrics Division.

IRVING SMITH KOGAN, appointed Vice-President of CCI, Division of COMMUNICATIONS AFFILIATES, INC.

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DR. JOEL E. RUBIN, appointed Vice-President of KIEGL BROS.

JAMES SAN JULE, appointed Vice-President for Marketing and Public Affairs of the PERINI LAND AND DEVELOPMENT COMPANY.

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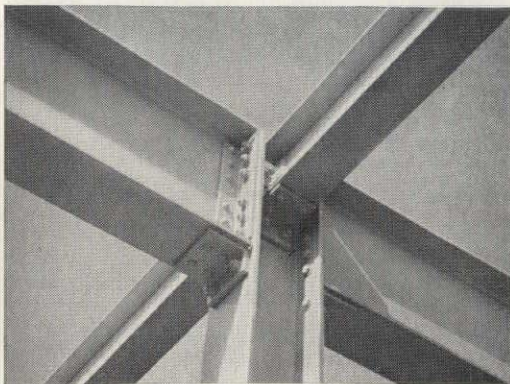
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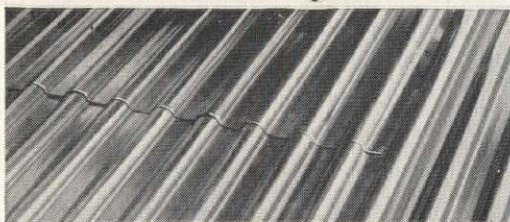
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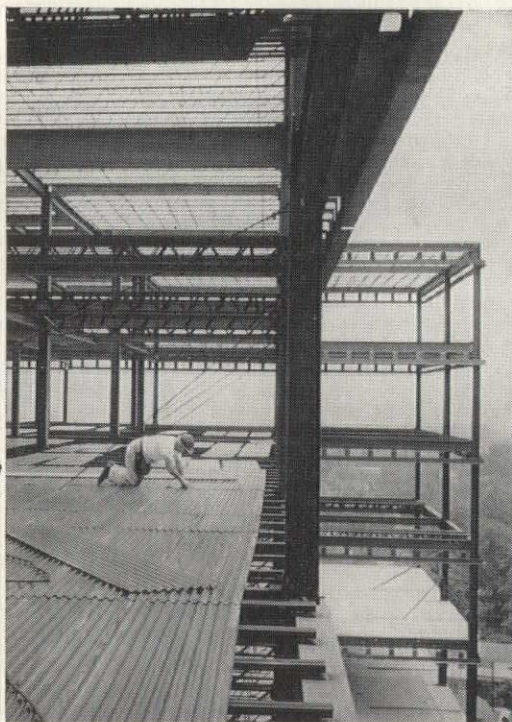


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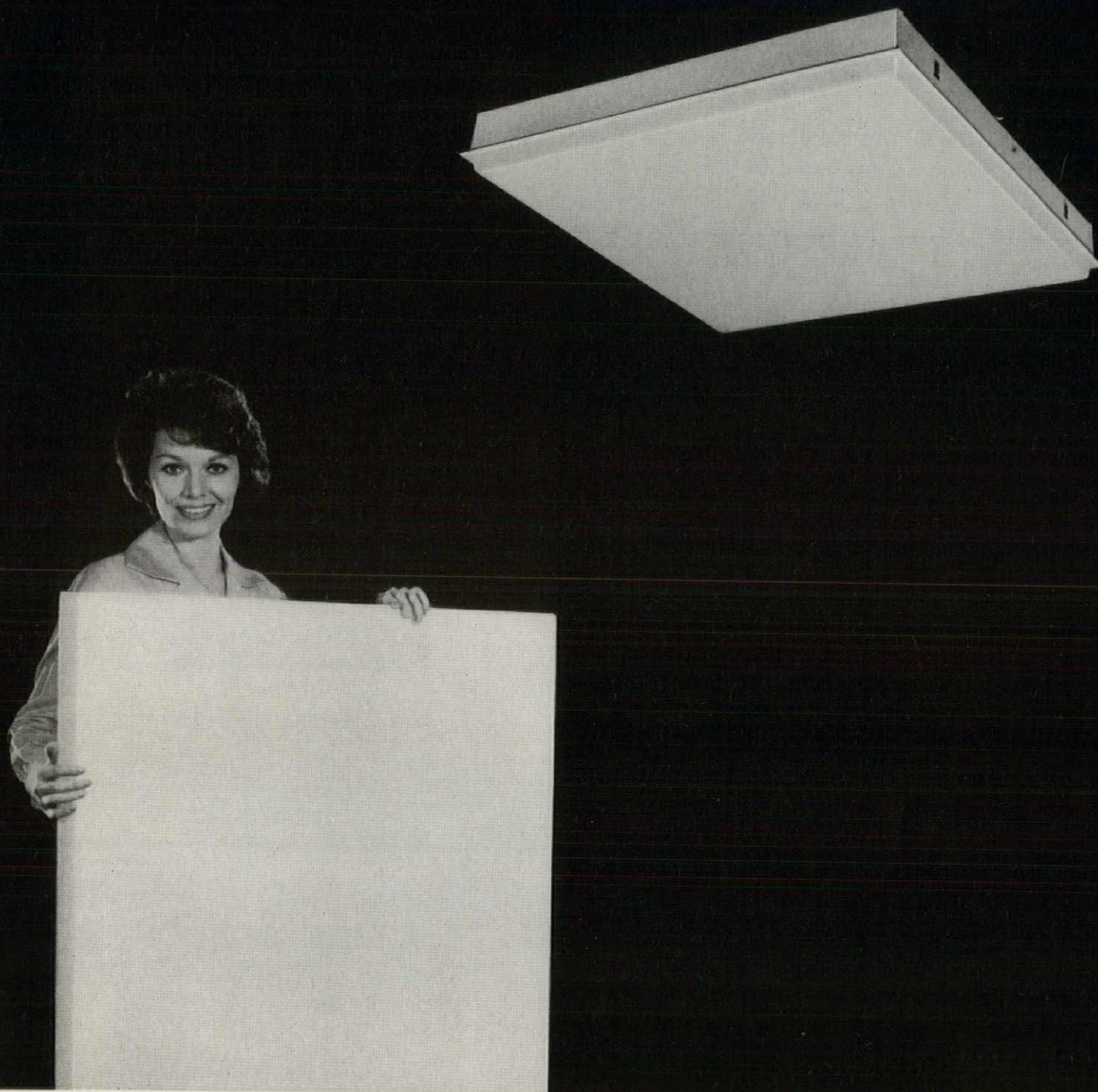
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STRUCTURE AND FORM IN MODERN ARCHITECTURE

by CURT SIEGEL

DESIGN IN HARMONY WITH STRUCTURAL PRINCIPLES

Today's new building materials and their mechanical laws are valid elements of architecture. Fulfilling a long-felt need, this new book covers both the theoretical and practical aspects of all meaningful structural forms used in contemporary design. Along with critical analyses of important forms, the author presents fundamental design principles, and describes behavior under various loading conditions—demonstrating how to avoid common mistakes, and emphasizing ways to prevent unbalanced and impractical systems.

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Technical knowledge has always influenced building forms, and architects of every age have derived inspiration from the properties of materials. Free of all conventions and solidly based on technology, this book encourages critical reflection of present day architecture—pointing out the significance of a growing relationship in structure and form, which is not fully appreciated today. As our present technical knowledge expands the range of possible designs, there is need to recognize the larger role of the engineer, who is essential to modern technical, and hence architectural, design.

THE IMPLICATIONS OF DESIGN BASED ON STRUCTURE

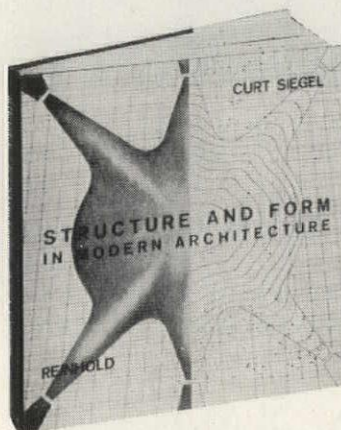
The author expresses sharp criticism of pseudo-structural formalism and other instances of what he considers dishonest design. He discusses the appropriateness of natural forms, as well as the logic of good engineering design for an expressive and outstanding work of architecture. How this fact is increasingly discernible is fully covered in discussions of such men as Maillert, Candela, Niemeyer, and many other architect-engineers.

THE AUTHOR

Professor Curt Siegel teaches at the Stuttgart Technische Hochschule and has devoted many years to a methodical analysis of the structural aspects of buildings in order to isolate the essentials that determine architectural design. His book, therefore, is also geared to students, who will be greatly assisted in their study of problems at the boundary where architecture and engineering meet.

TEXT AND ILLUSTRATIONS

The core of the book features structural analyses supplemented by 100 well-chosen photographs. In addition, 800 appropriately selected line drawings clarify further the text and contents.



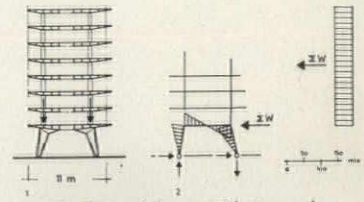
9 3/4 x 10 1/4, 308 pages,
900 illustrations (100 black and
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SUMMARY OF THE TABLE OF CONTENTS

Skeleton Construction: The Grid—Terminating the Skeleton at Second Floor Level and at the Corners—Load-bearing Corner Columns—Corners Cantilevered on One or Both Sides—Terminating the Frame at the Roof—Setbacks at the First Floor—Some Curiosities

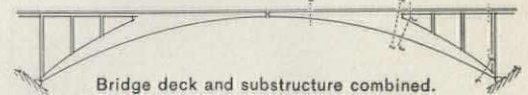
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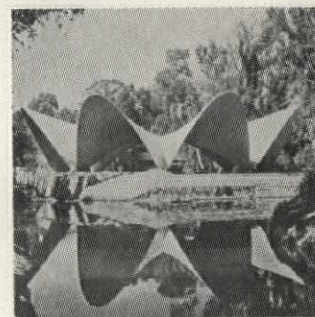


1 Two-hinged frame with tapered legs at the first floor.

2 Bending moments due to the wind.

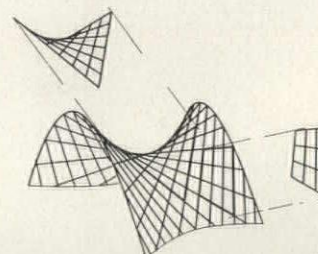


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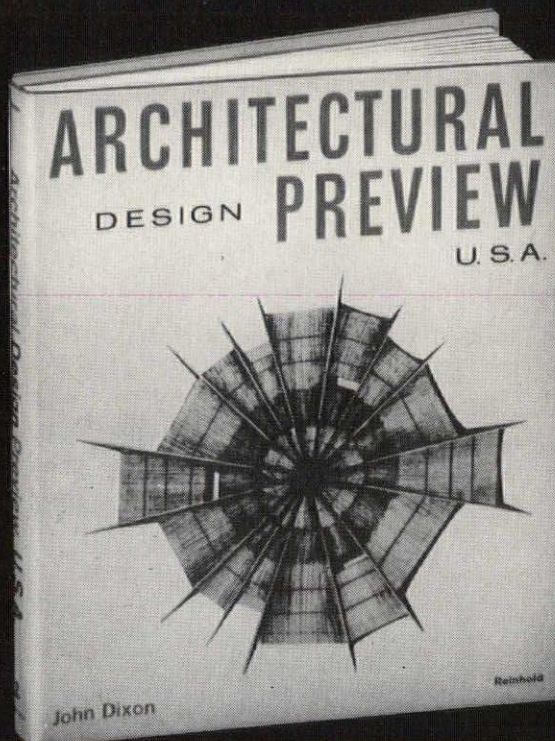
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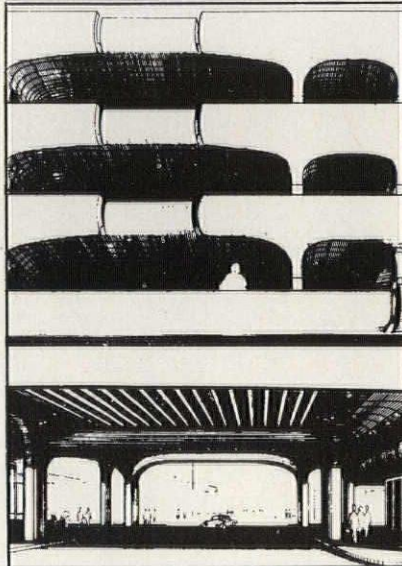
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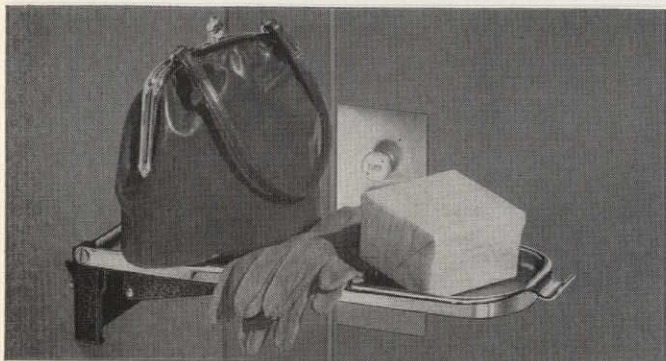
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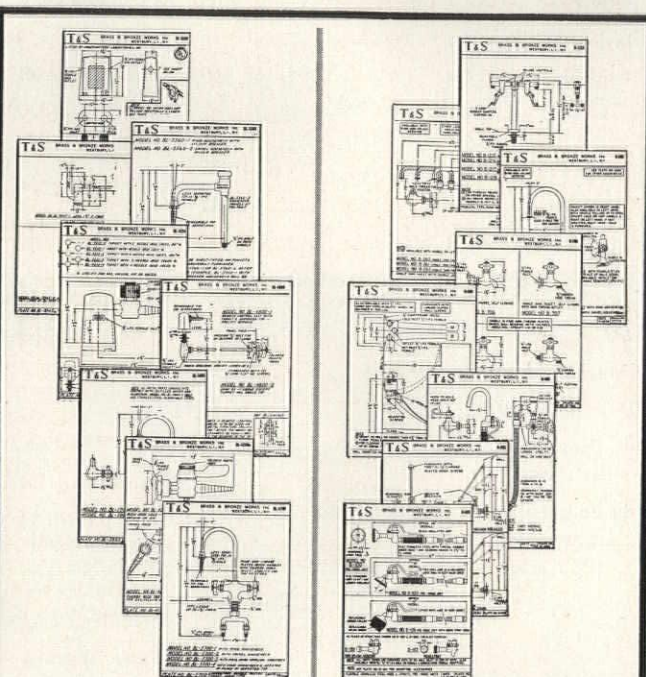
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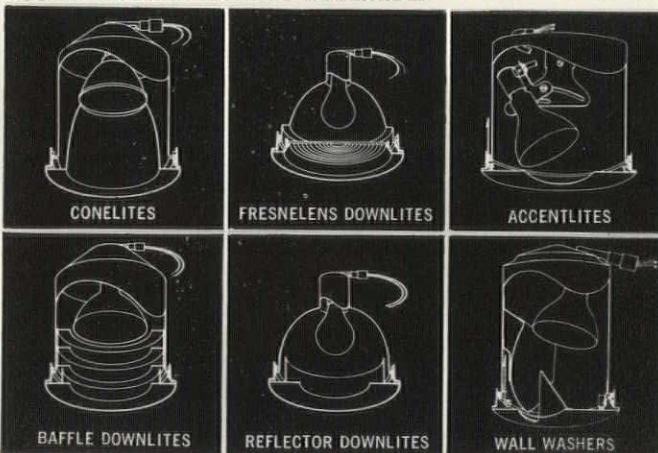
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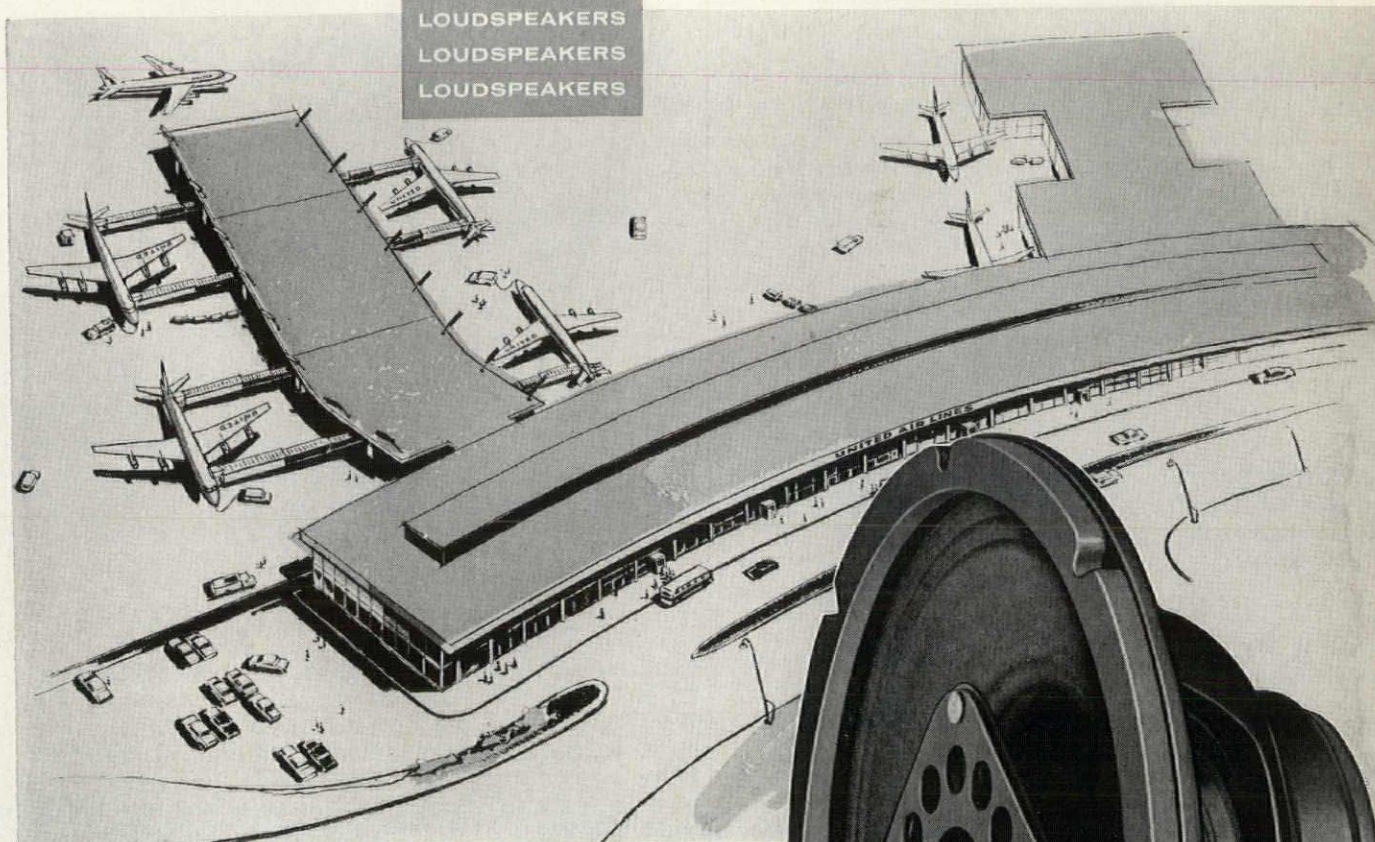


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