PROGRESSIVE ARCHITECTURE *February 1966*







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Close-up of steel hinges of American Republic Insurance Company Building reveals a stark geometry of forms (p. 144). Photo: Ezra Stoller Associates.

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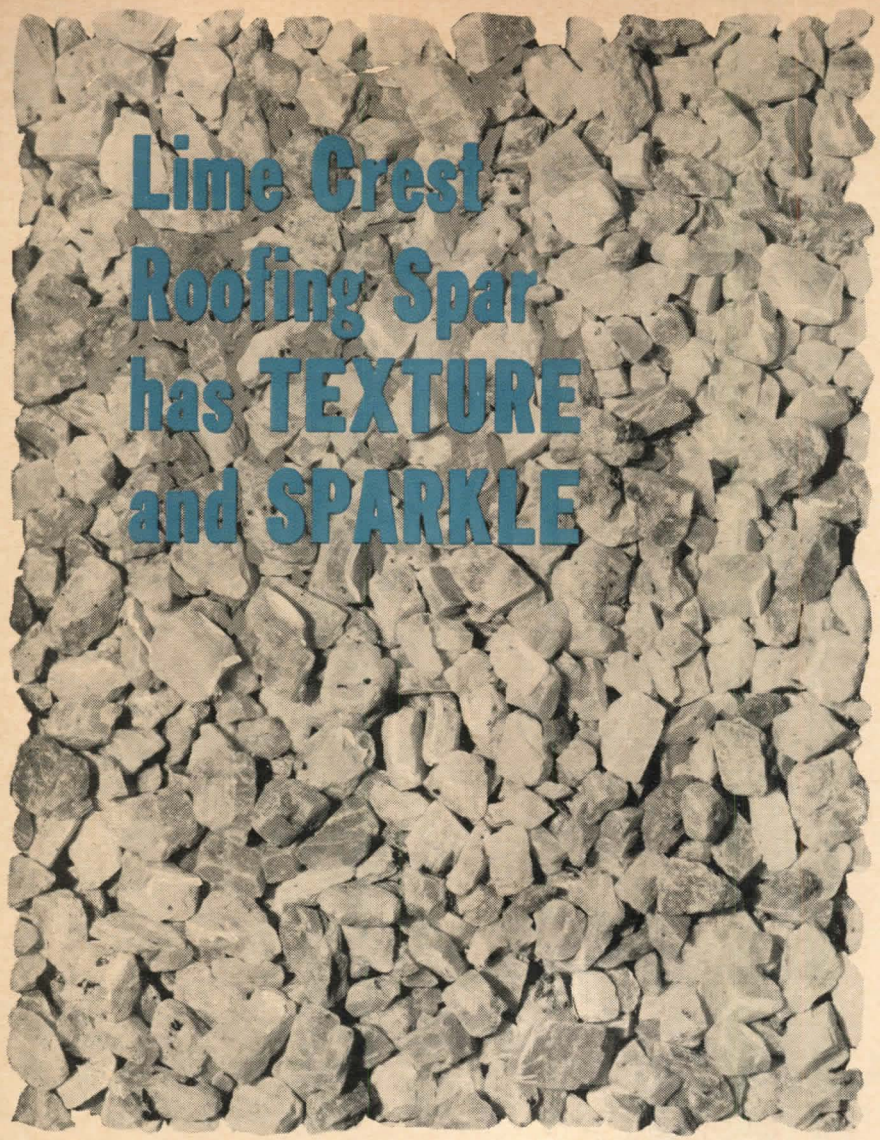

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VIEWS

Seductive Rationale

Dear Editor: The presentation of the rationale of the Hoppner house [p. 143, November 1965 P/A] is indeed seductive and is doubtless meant to lead one to expect a creative solution. On seeing the supposed results of this approach, that rationale appears merely pretentious. The architect wanted the house to be interesting, or, in his own words, "Why do it at all?" More to the point would be, "If it has been done before, why do it at all?" A close look at the Bonham House, Bolder Creek, Calif., by Charles Moore, will reveal that perhaps P/A credited the wrong chairman of Yale's Art & Architecture Department for influencing Peter Hoppner's endeavor. The difference between the Bonham and the Hoppner houses lies in the quality of the interior spaces and volumes and the organization of the plane surfaces. The difference is that between the genuine creative effort and the artful fraud.

GEORGE LAWRENCE
Oakhurst, N.J.

Constitution Plaza: Casting Suspicions

Dear Editor: However sincere Robert A. M. Stern's criticism of Constitution Plaza at Hatford, Connecticut (DECEMBER 1965 P/A) might be, when he begins to superfically evaluate the design of the mall of the Plaza as "not landscape architecture as the great masters of the past have shown us [what] it could be," I wonder if he does not cast suspicion on his entire six-page critique.

Stern's slight(ed) knowledge of landscape architectural design and his own "gimmickry" in the use of landscape verbiage exclude him from acting as any judge of contemporary landscape design. His comment regarding "restraint" in the works of landscape architects Linn and Zion (a characteristic which I fail to recall), leads me to believe that these two gentlemen constitute Stern's entire exposure to present-day activities of the profession of landscape architecture.

Those good old days of "landscaped park" design of the 18th and 19th Centuries are gone, Mr. Stern. A closer look, with substance, Mr. Stern, will allow you more significance in evaluating landscape design.

Stick to architecture; you're better equipped (I think)!

RICHARD J. JULIN
Assistant Professor of Landscape Architecture
Michigan State University
East Lansing, Mich.

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Seeing More Than Meets The Eye

Dear Editor: I am glad to find in the NEWS REPORT of the DECEMBER 1965 P/A the acknowledgement of a "remarkable likeness" between the Norwegian Museum Cultural Center near Oslo and the University of California Arts Center by Architect Mario J. Ciampi.

Since you observe Aalto's influence in both, I would be very much interested in seeing published in P/A the other premiated entries of this particular competition.

I also sympathize with those writers who do not accept a "personal assessment" of the Toronto City Hall by Balthazar Korab.

His critique reminds me of a story about a "composer turned pianist" who was asked to play the music of Maurice Ravel, which he did not particularly care for. As if to prove his dislike of that impressionist composer, he played the music on a piano slightly out of tune. Despite that obvious "detour" from artistic honesty, I could not but re-experience my liking for Ravel, his new sonorities.

ADAM MILCZYNSKI KAAS
New Haven, Conn.

The Environmental Welfare of Tenants

Dear Editor: Even though I do not eat eggs, I did read the article in the DECEMBER 1965 P/A about those Princeton University Faculty Apartments.

This confirms something I have long suspected: that, in addition to women, I will never understand architects.

Having worked myself into a condition of incipient senility in an effort to provide full-time comfort for the occupants of multiroom buildings, I am beginning to suspect that the environmental welfare of the occupants of such buildings is something that architects could not care less about. Certainly there is no evidence of any interest in this subject revealed by the questionnaire you have published. And to think that this questionnaire is the work of a real estate office, the maintenance department of Princeton, and the architects.

One of the possibilities that has occurred to me is that architects become so warmed up simply by thinking of the aesthetic wonders they create, that they need no heat, even in winter. Conversely, they may be so cool to the bothersome subject of sound engineering that they do not need the benefits that cooling equipment is supposed to supply during the sweltering weather of July.

I have lived in hotel rooms—in what was once identified as the British Empire—where it was necessary to have a fire set in the fireplace in the individual rooms (after paying a shilling for a hod of coal) in order to mitigate the bitter cold of winter. I have lived in apartments where the radiator valves were never closed because it was easier to modulate the room temperature by adjusting the amount of window opening than by trying to adjust the steam valves. I would be curious to know whether either of these methods—and if so which one—may be used in these apartments, or whether, perhaps, they have something slightly more modern.

You are to be congratulated for your tolerance in accepting that half-baked questionnaire as a basis for a story, and the delicate way in which you expressed what I sense to be a feeling of disapprobation. Your restraint in withholding a harsher judgment is commendable.

HERBERT L. LAUBE
Auburn, N.Y.

Continued on page 12

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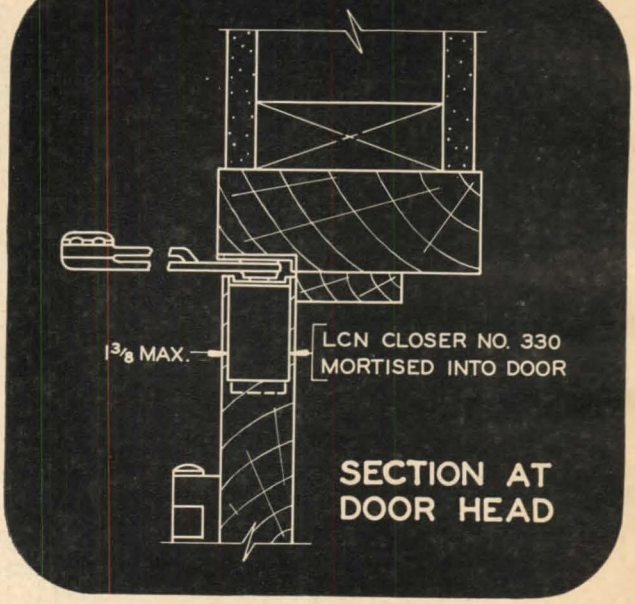

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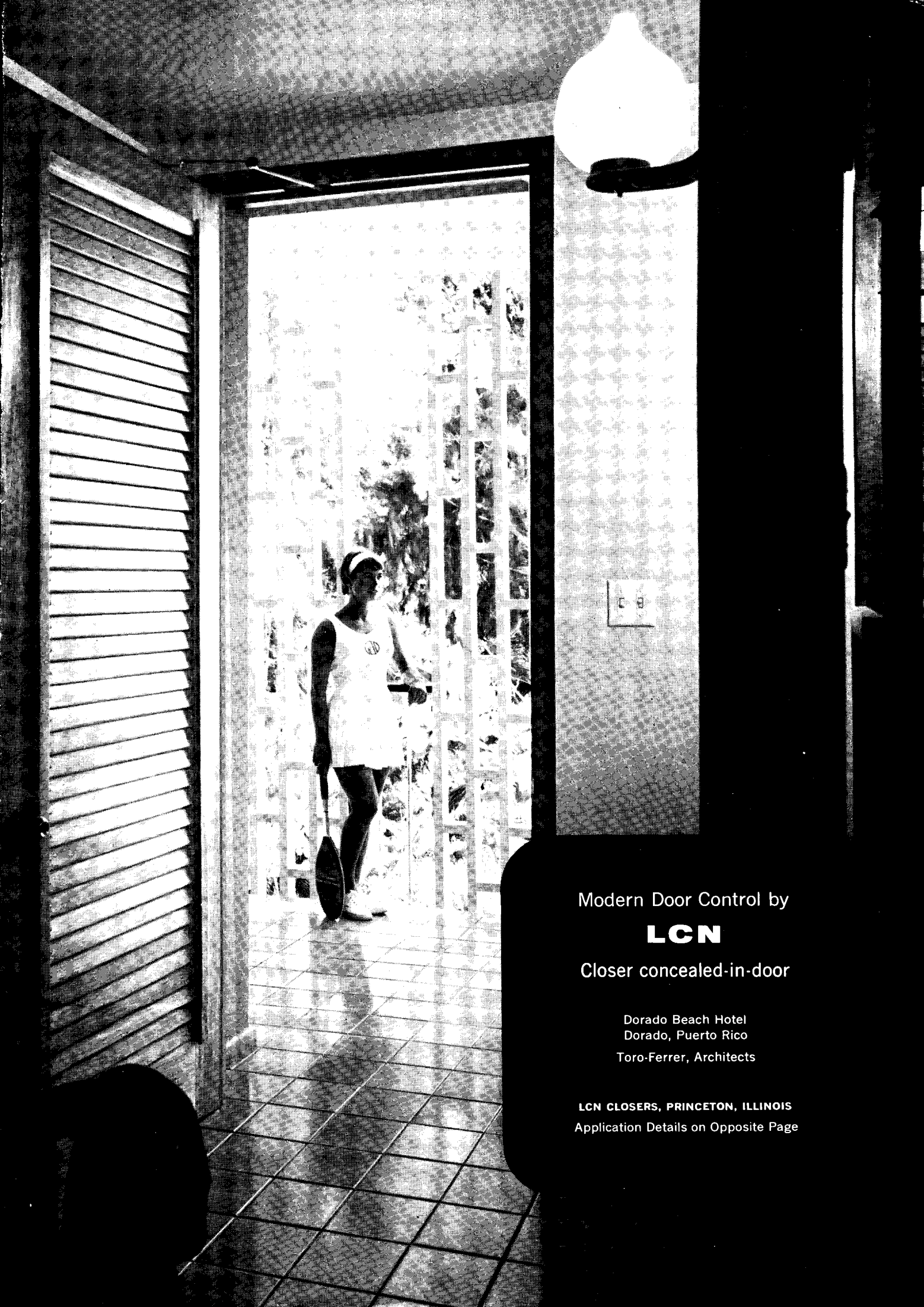

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Application Details on Opposite Page



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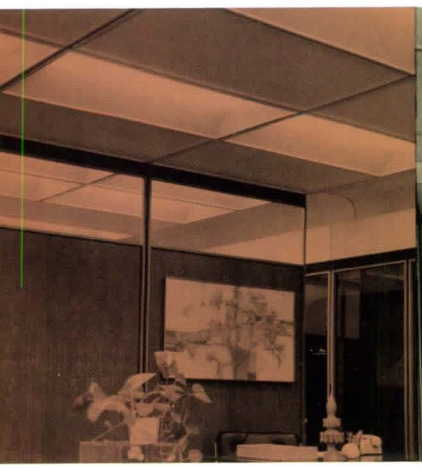

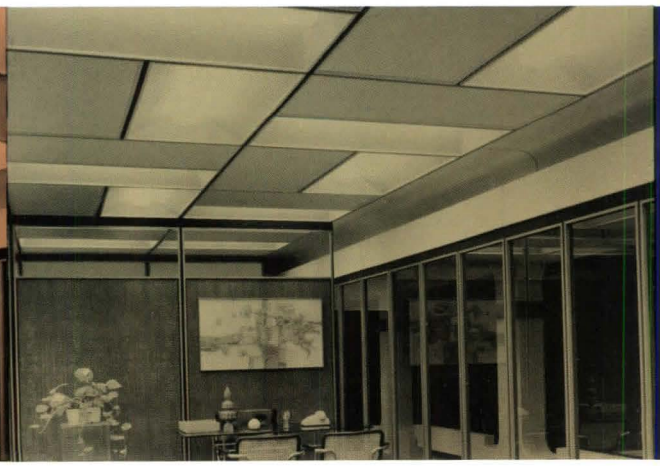

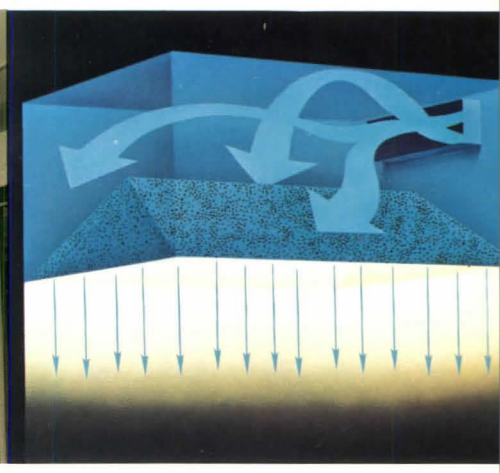

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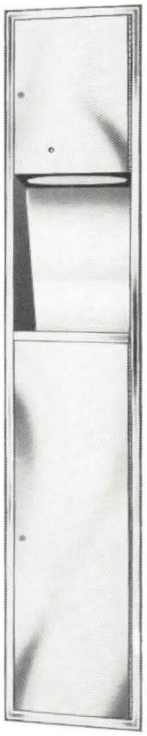

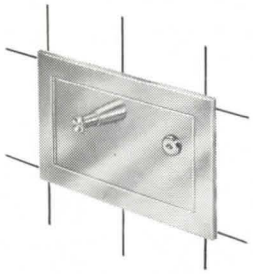

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Continued from page 8

A Matter of Attribution

Dear Editor: I enjoyed the OCTOBER 1965 P/A, particularly the material on "The Changing Theater." I was glad to see that you quoted from *Actor And Architect*, which was published by University of Toronto Press and for which I was the responsible editor, though I notice that you attribute to Tyrone Guthrie some remarks made by David Scase.

STEPHEN JOSEPH
Scarborough, Yorks, England

NOTICES

New Addresses

MORT BARISH ASSOCIATES, INC., 22 Chambers St., Princeton, N.J.

CALLINS & ASSOCIATES, Consulting Engineers, 423 Wilson Building, Corpus Christi, Tex.

DANIEL COMM ASSOCIATES, Architects, 10 S. LaSalle St., Chicago, Ill.

ECKERT & GATARZ, Architects, U.S. Highway 130, S. Brunswick, N.J.

GARDNER & HOWE, Consulting-Structural Engineers, 165 Madison Ave., Memphis, Tenn.

GEORGE, MILES & BUHR, Architects and Engineers, First Shore Federal Building, Salisbury, Md.

New Firms

CHAPMAN & GARBER, Architects and Planners, 29 Claremont Ave., N.Y., N.Y.; and 2109 St. James Ave., Cincinnati, Ohio.

MONSEY-FEAGER-SACHAR, Engineers and Constructors, 2025 S. Brentwood, St. Louis, Mo.

LERDY H. WELCH, Architect, 250 Summer St., Buffalo, N.Y.

WIESINGER-HOLLAND, Structural Engineers, 127 N. Dearborn St., Chicago, Ill.

WILLIAM J. ZAPHIRIS, Architect, 1021 Commerce Building, Erie, Pa.

New Partners, Associates

DANIEL COMM ASSOCIATES, Architects, Chicago, Ill., have named CHARLES M. KRAMER a partner.

CURTIS & DAVIS, Architects, N.Y., N.Y., announce that PETER RANDALL STARK has joined the firm as head of the project development staff.

HOYLE, DORAN & BERRY, Architects, Boston, Mass., have named AUSTIN CRIBBEN, JR., a member of the firm.

MOREHOUSE, CHESLEY & THOMAS, Architects, Corpus Christi, Tex., anounce that PETER A. THOMAS has been named a partner.



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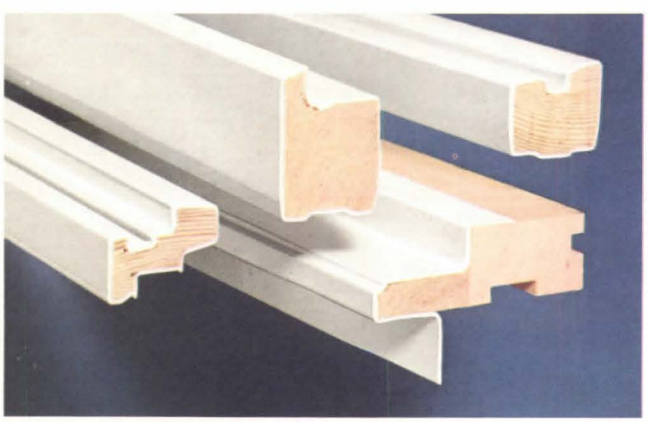


How Perma-Shield Windows are made

Perma-Shield sash are produced by an exclusive process* where thick, off-white rigid vinyl is extruded directly over a preservative-treated wood core. Mitered corners are welded . . . sealing out all weather forever.

Frames are produced by bonding preformed rigid vinyl* to the wood members using a special, long-life adhesive. Preforming eliminates joints at corners of frames.

*Patents pending.







In any kind of wall, any kind of construction, Andersen Perma-Shield Windows will prove to be the most versatile windows ever.

Then, once the stainless-steel hinges and special finish operator and locks are installed, there's just not much to go wrong . . . nor require maintenance. In the remote possibility of a puncture, readily available vinyl filler seals the hole instantly.

Exceptional weathertightness

Wood, a natural insulator, and vinyl, an engineered insulator, work together to minimize heat loss, control condensation and sweating.

And, the rigid vinyl can be manufactured to the same close tolerances that for 35 years have made Andersen the most weathertight window units.

Full range of styles and sizes

Perma-Shield window units come in casement, awning and fixed types, as singles or multiples . . . 21 basic sizes in all. Gliding doors are available in three sizes, with left- and right-hand opening doors (see next page).

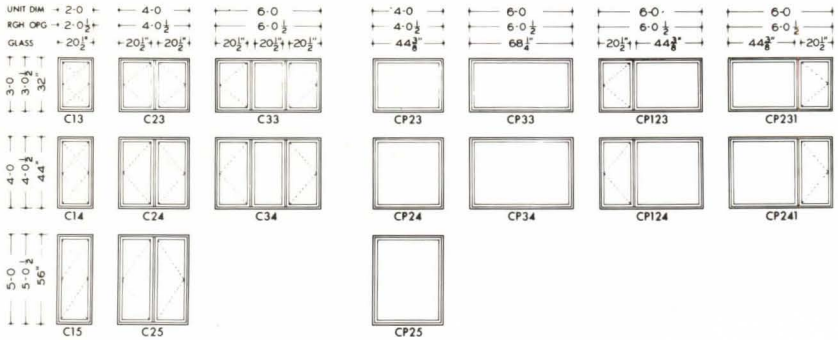
But why leave everything to your imagination? Why not go and see the new Andersen Perma-Shield line at your lumber dealer or distributor's showroom? Let him demonstrate all the features that give Perma-Shield products all the advantages of the other two.



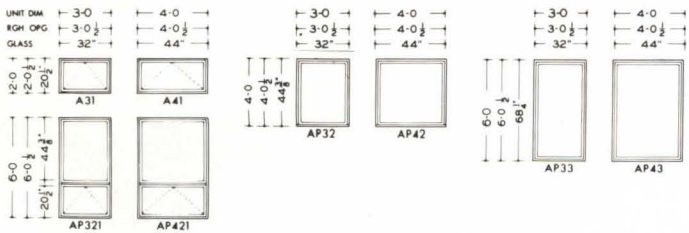
PERFORMANCE-PROVED ON 1,000 UNITS coast-to-coast. This is just one of the test installations where, during the past 7 years, these rigid vinyl/wood windows have been exposed to all environments, every climate . . . the harshest test conceivable. Inert vinyl coating remained problem-free even under the most severe salt-air conditions.

Styled and sized for every residential and commercial design requirement!

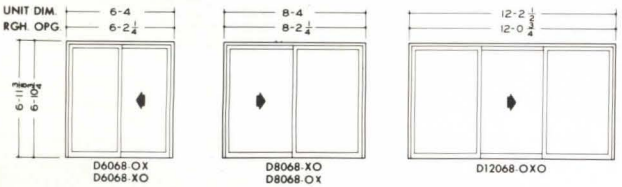
CASEMENT



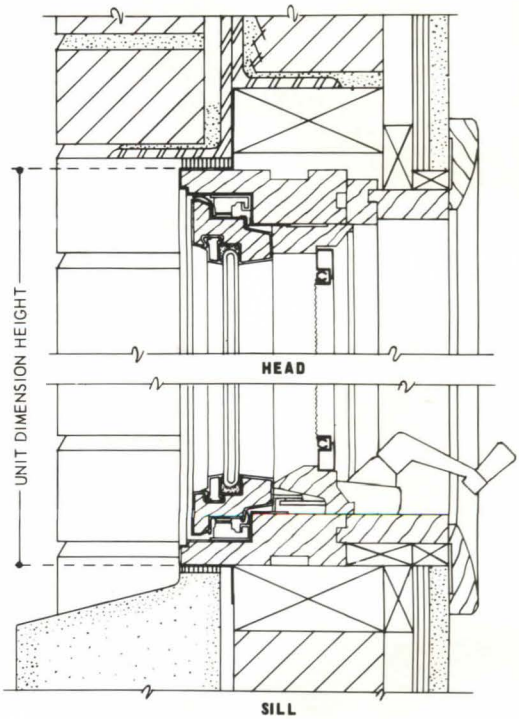
AWNING



GLIDING DOOR



PERMA-SHIELD CASEMENT VERTICAL DETAIL—MASONRY



Andersen Corporation

BAYPORT, MINNESOTA 55003

I want to know more about New Perma-Shield Windows and Doors.

- ☐ Please arrange a demonstration in my office.
- ☐ Please rush complete installation details on the full line.

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FIRM _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

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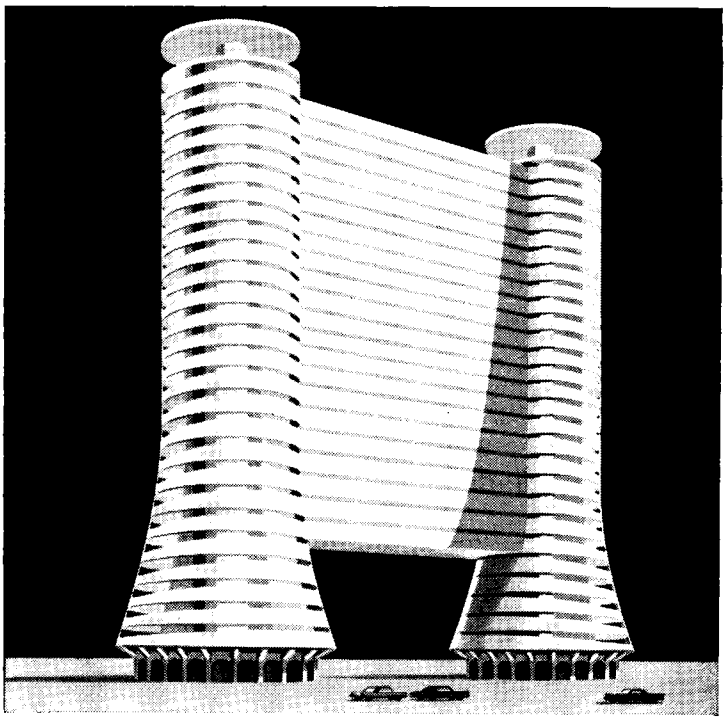

A modern hospital needs modern communications: nurse-patient interphone, closed circuit TV, teletypewriter services, data transmission services.

When they are planned for, costly alterations and unsightly wiring are avoided later. Call your Bell Telephone Business Office and ask for the Architects and Builders Service.

Bell System
American Telephone & Telegraph
and Associated Companies

For further information on communications planning,
see Sweet's Architectural File 33a/Be
and Sweet's Industrial Construction File 19f/Be.

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Judgment at Lauderdale:

SINGLE-SOURCE, COORDINATED LIGHTING WINS APPEAL IN ALABAMA COURT HOUSE CASE!

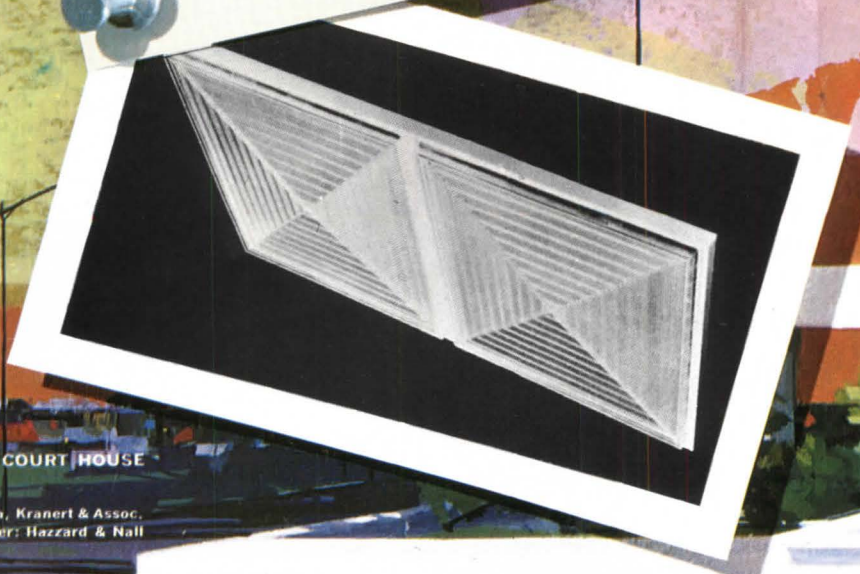
"Melding a variety of fixtures into a functional yet smooth-looking lighting system can get pretty complicated" says Malcolm E. Smith, A.I.A., of Northington, Smith, Kranert & Associates, architects. "Particularly in the Lauderdale County Court House where we had some definite ideas requiring fixtures not available in standard designs. That's where Day-Brite entered the picture. Besides standard styles which met our requirements, they also had the facilities to come up with everything we needed, on a custom basis. I can't say how much time and trouble was saved by having all our needs filled by one manufacturer. But it was considerable. And we achieved exactly what we wanted, with no design compromises. The results add up to mighty convincing testimony in favor of a one-stop source for lighting."

CASE CLOSED

CUSTOM DESIGNING is just one of several ways in which Day-Brite can make a valuable contribution to your lighting needs. To learn more about these services, contact your Day-Brite representative. He's eager to help. For the best solution to any lighting problem, look to Day-Brite...where the creative answers are coming from.

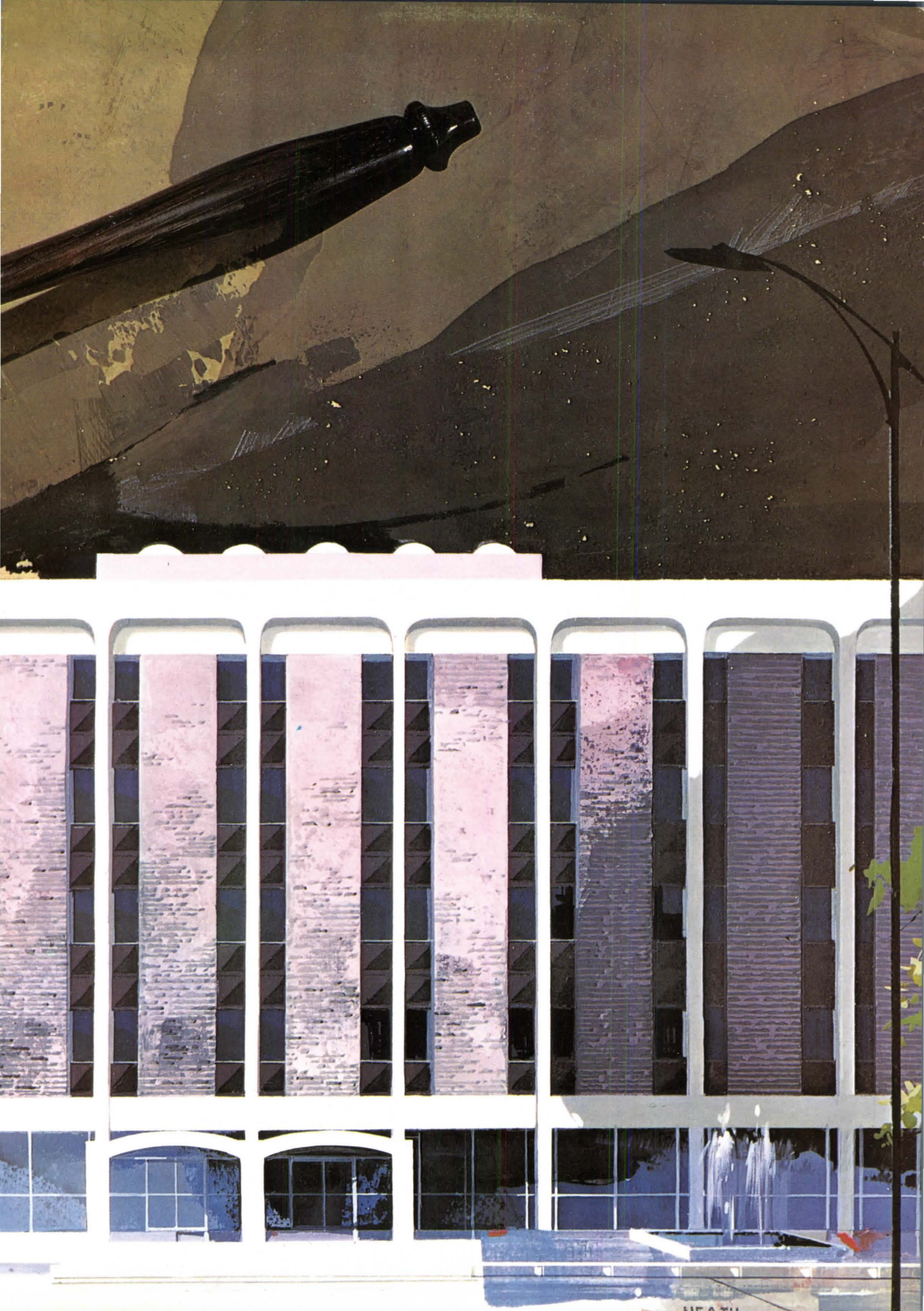
DAY-BRITE®

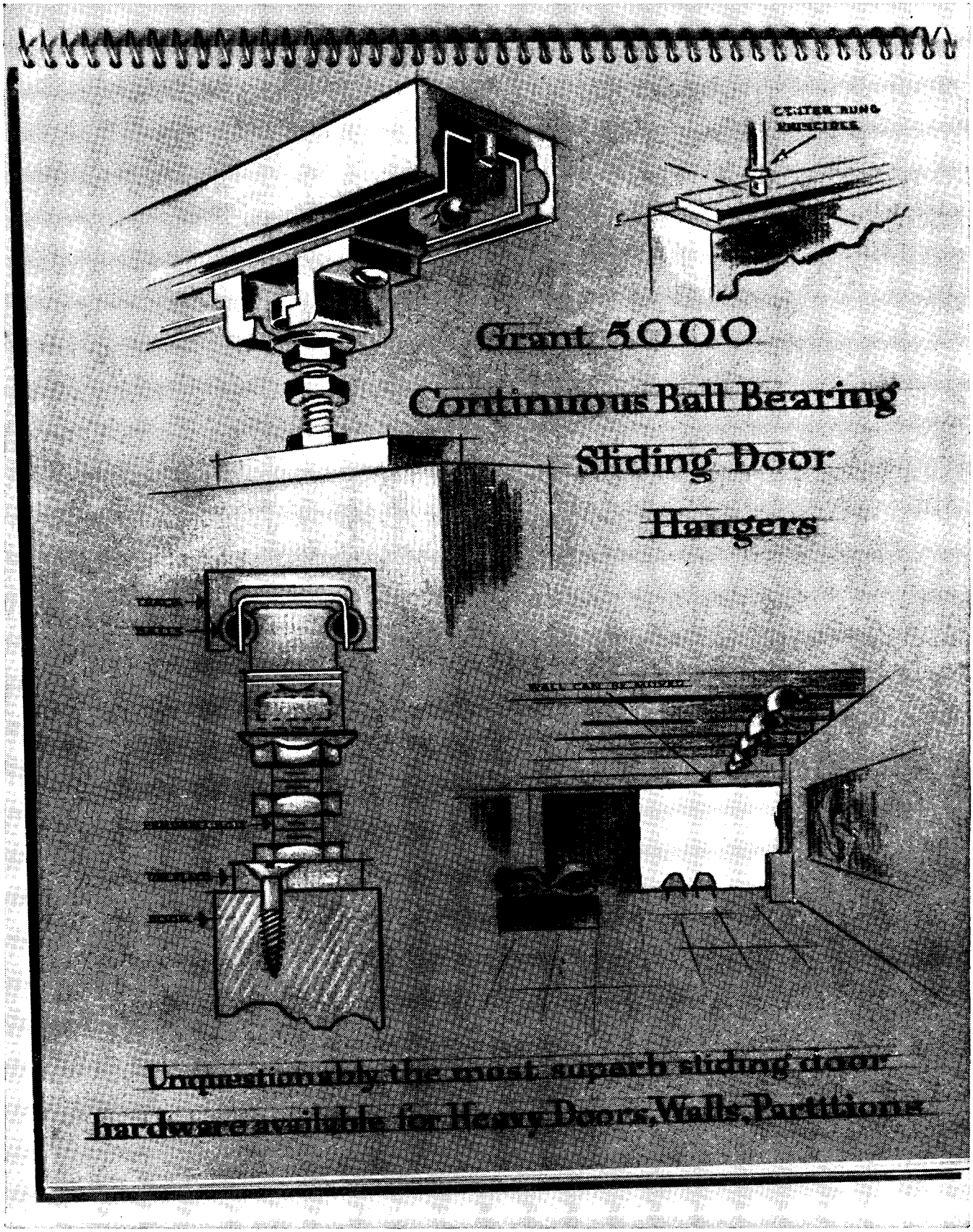
DAY-BRITE LIGHTING A DIVISION OF EMERSON ELECTRIC
5411 BULWER AVE. ST. LOUIS, MO. 63147



LAUDERDALE COUNTY COURT HOUSE
Florence, Alabama

Architect: Northington, Smith, Kranert & Assoc.
Consulting Electrical Engineer: Hazzard & Nall





GRANT HEAVY DUTY SLIDING DOOR HARDWARE

GRANT PULLEY & HARDWARE CORPORATION Eastern Division/ 49 High Street, West Nyack, N. Y. Western Division/944 Long Beach Ave., Los Angeles 21, Calif.

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Freedom to plan imaginatively . . . with versatile Southern Pine



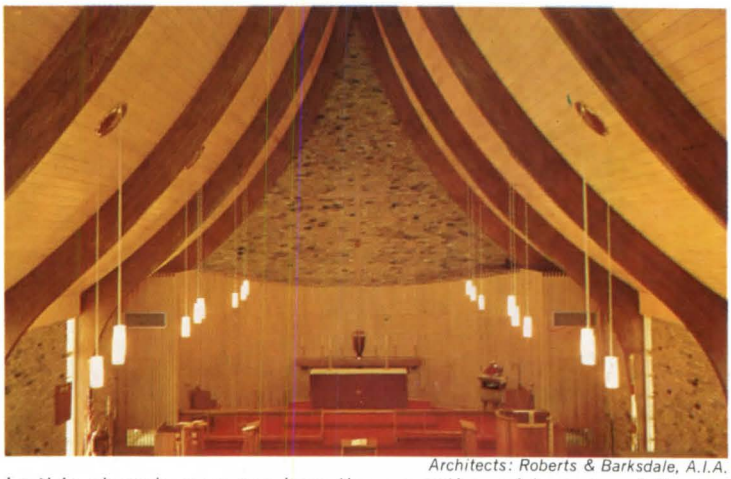
Architects: Desmond Miremont & Associates. Inc.. A.I.A.

The modern applications of Southern Pine laminated beams, decking, siding and paneling open new dimensions for design creativity. Here, in this striking library foyer one immediately senses a promise of tranquility and permanence. The inspiring sweep of maximum spans achieved by the high stress value of Southern Pine affords unique and economical planning latitude.



Architects : Marshall M. Burton & Associates

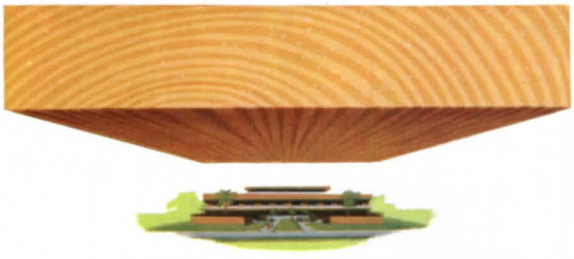
Pre-shrunk to *full* American Lumber Standard sizes, Southern Pine provides stability and precision essential to engineered construction, as in this country club. Standard grades can be utilized for cantilevered and continuous members without special grading.



Architects: Roberts & Barksdale, A.I.A.

In this church, you see how the warmth and beauty of Southern Pine create a truly spiritual feeling in contemporary setting. Its enduring qualities provide economy for today's modern construction programs, with extremely low maintenance cost assured through the years.

Specify Southern Pine



From the member mills of the Southern Pine Association, P. O. Box 52468, New Orleans, La. 70150

This is the lock cylinder that baffles picking...

with the key too tough to duplicate



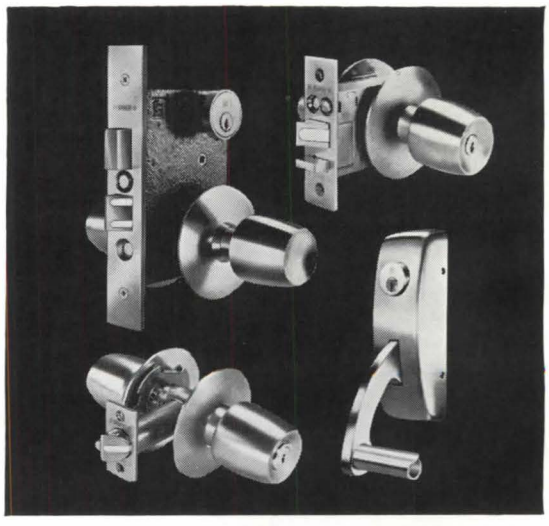
SARGENT MAXIMUM SECURITY SYSTEM

Pats. applied for

The new exclusive lock cylinder shown above baffles picking because multiple rows of interlocking pins bar the way to any picking tool. These new SARGENT MAXIMUM SECURITY SYSTEM lock cylinders can be opened only with unique special keys which cannot be duplicated on conventional key-cutting machines. Building owners, therefore, retain complete and proprietary control of all keys in their systems. And, since every installation is one-of-a-kind, there's never a chance of your keying system duplicating any other.

The SARGENT MAXIMUM SECURITY SYSTEM is particularly suited to installations where future expansion is anticipated, or where many levels of masterkeying are required. The building owner has the benefit of fifty times more safe key changes than in conventional cylinders, as well as four new levels of masterkeying never before available in any system. This means that you can expand the system without the necessity of rekeying or changing cylinders. For complete information see your Sargent distributor, or write: Sargent and Company • 100 Sargent Drive, New Haven, Connecticut 06509 • Peterborough, Ontario • Member Producers' Council.

SARGENT®



SARGENT MAXIMUM SECURITY SYSTEM cylinders are available in all Sargent architectural locks and exit devices . . . whether standard, removable core, or construction core cylinders.



1217 Delaware Avenue Apartments, Buffalo, N.Y.
Architect-Engineer: Backus, Crane & Love.

Something new in apartments

This building may *look* fairly conventional, but it isn't.

The architects' problem was to provide 80 units, with parking underneath, on a lot only 132 feet wide, and with a height limit to boot.

Their solution called for only two rows of columns on 35-ft centers. And those unusually generous balconies are supported by extensions of the steelwork. It saved weight and costs and went up in only 17 days!

"Goalpost" design resulted in a maximum of shop-welded fabrication. Owner-Builder: BCH Construction Corporation.

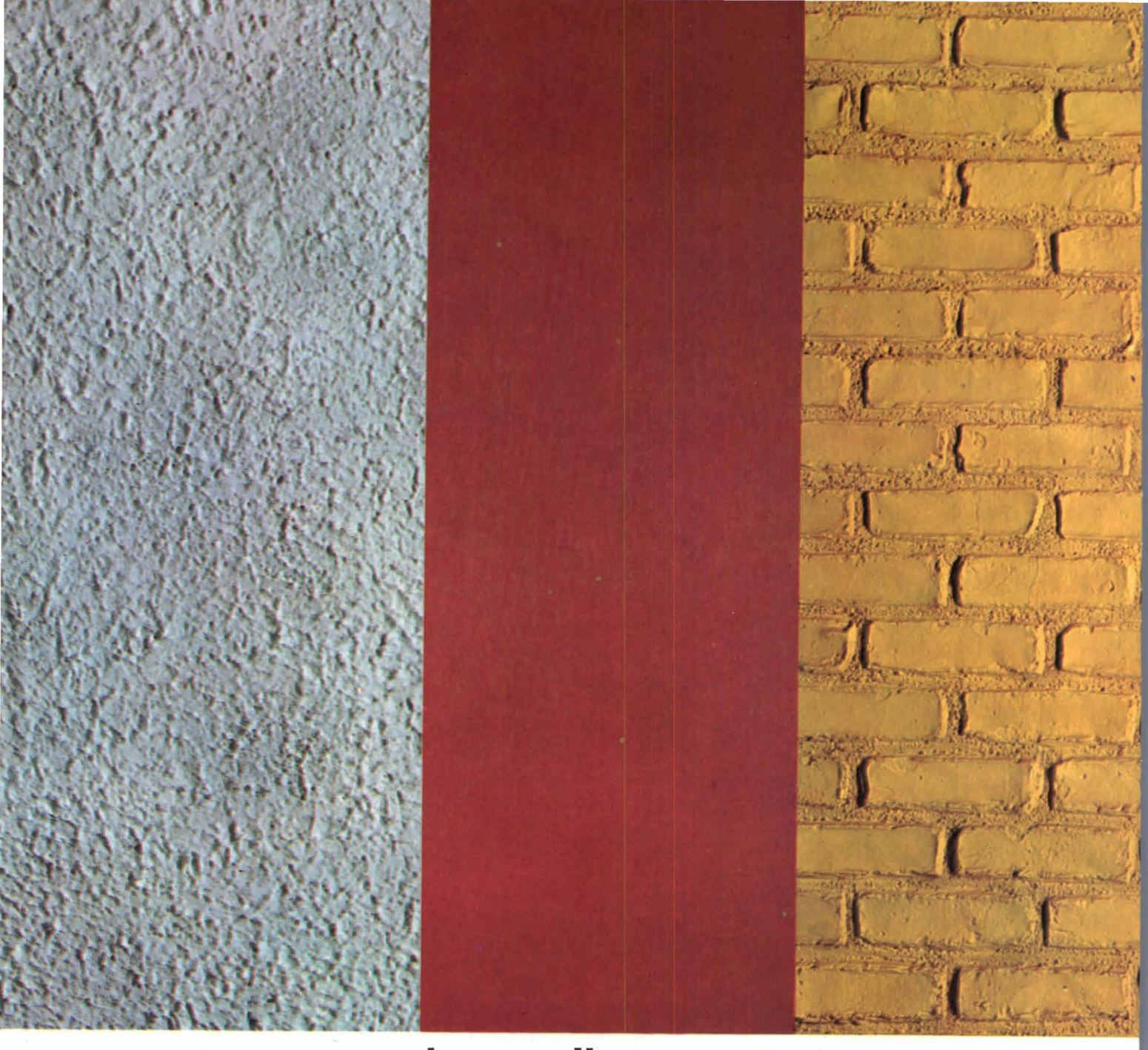


BETHLEHEM STEEL

Steel

BETHLEHEM STEEL

Steel for Strength



Pick a wall. Any wall.



Wallpackette is available, as shown here, with optional Prismascope® automatic on-off control, and a complete line of other accessories.



Then specify the new Holophane Wallpackette, the luminaire styled to complement every wall.

Holophane's new family of outdoor luminaires for mercury and incandescent lighting is designed to be an integral part of contemporary architectural settings.

Wallpackette has the crisp lines, the smoothly modeled planes, the boldly *sculptured* look that blends so well with today's architecture. To achieve this elegantly uncluttered look, all unsightly ballast, latches, hinges and controls have been tucked away *inside* the luminaire. Wallpackette is trimmer, more compact, less obtrusive. And for even greater design flexibility, Wallpackette is available in standard aluminum finish, or in colors custom-mixed to match your sample. There are five Wallpackette models: two for standard incandescent, two for mercury, and one for iodine-quartz lighting. All provide uniform fan-shaped illumination over wide areas. And all are engineered to traditional Holophane standards of dependability and efficiency.

Ask your Holophane representative or distributor to show you the Wallpackette family of luminaires. Or for complete information, write to: Dept. G-2, Holophane Company, Inc., 1120 Avenue of the Americas, New York, N. Y. 10036.

Wallpackette by **HOLOPHANE**

On Readers' Service Card, circle No. 397

All-electric office building means "higher rentals... better earnings" says leasing expert

"I believe the all-electric office building has a distinct advantage competitively and can demand and obtain higher rentals resulting in better earnings than the average standard office building can produce," says Murray Randell, Director of Special Leasing for the Chicago firm of Turner, Bailey and Zoll.

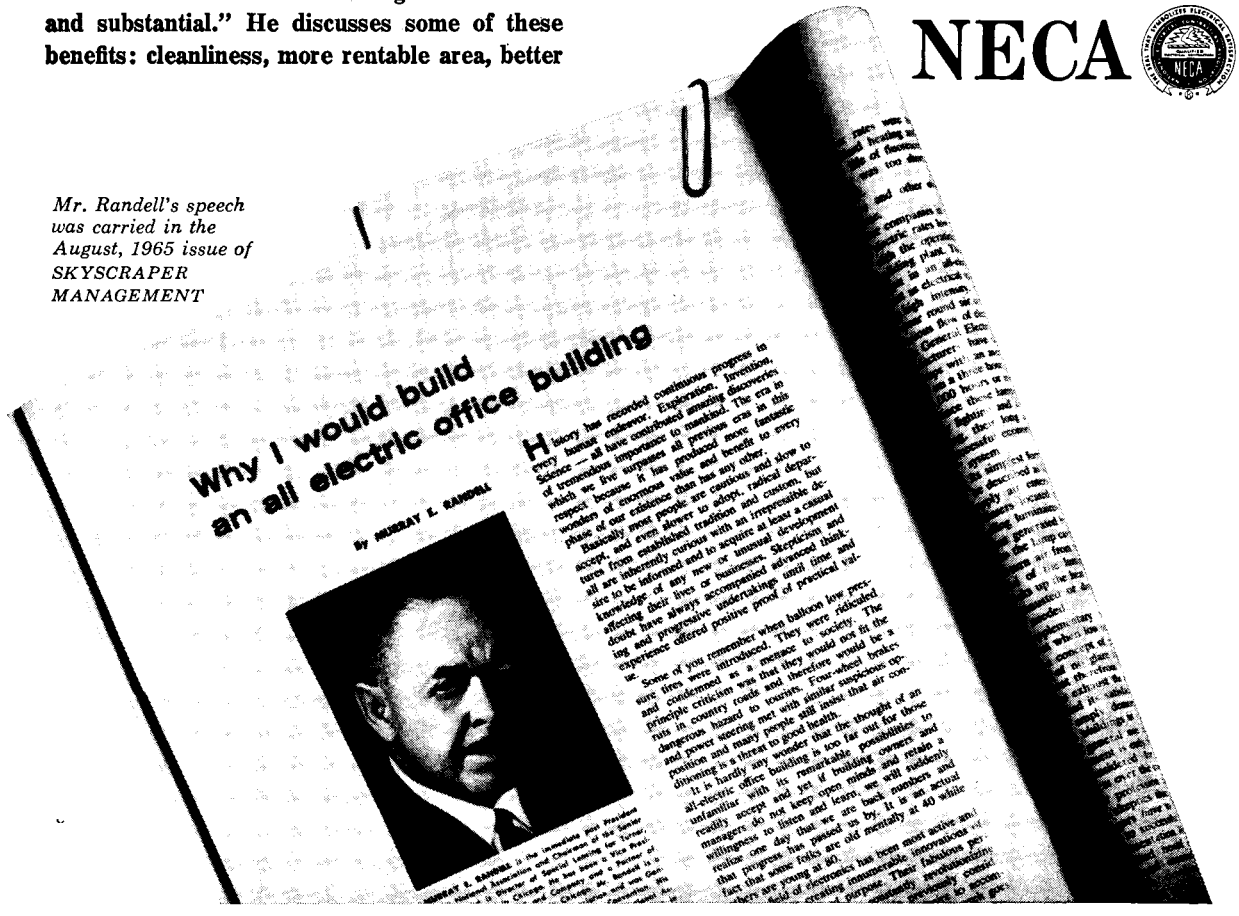
Mr. Randell made this statement in his speech, "Why I Would Build An All-Electric Office Building," given at the annual convention of the National Association of Building Owners and Managers, of which he is past president.

Mr. Randell points out that "the advantages and benefits accruing to the owner, manager and tenants of an all-electric building are numerous and substantial." He discusses some of these benefits: cleanliness, more rentable area, better light, use of light for heating, efficient temperature and humidity control. And he points out how these benefits not only give the building a competitive advantage now but will prolong the economic life of the building. He believes that experience to date indicates that the operating costs of the all-electric building are lower than in a conventional building and cites figures to support his contention.

Because Mr. Randell is an acknowledged expert in his field, and has no connection with any phase of the electrical industry, we believe you will want to read his speech in full before you plan your next office building. For a free copy, write: NECA, National Electrical Contractors Association, 610 Ring Building, Washington, D.C. 20036.

NECA

Mr. Randell's speech was carried in the August, 1965 issue of SKYSCRAPER MANAGEMENT


Why I would build an all electric office building

By MURRAY L. RANDELL

History has recorded continuous progress in every human endeavor. Exploration, invention, Science — all have contributed amazing discoveries of tremendous importance to mankind. The era in which we live surpasses all previous eras in this respect because it has produced more fantastic wonders of enormous value and benefit to every phase of our existence than has any other.

Basically most people are cautious and slow to accept, and even slower to adopt, radical departures from established tradition and custom, but all are interested and to acquire at least a casual acquaintance of any new or unusual development affecting their lives or businesses. Skepticism and doubt have always accompanied advanced thinking and progressive undertakings until time and experience offered positive proof of practical value.

Some of you remember when balloon low pressure tires were introduced. They were ridiculed and condemned as a menace to society. The principle criticism was that they would not fit the ruts in country roads and therefore would be a dangerous hazard to tourists. Four-wheel brakes and power steering met with similar suspicion upon introduction and many people still insist that air conditioning is a threat to good health.

It is hardly any wonder that the thought of an all-electric office building is too far out for those unfamiliar with its remarkable possibilities to readily accept and yet if building owners and managers do not keep open minds and retain a willingness to listen and learn, we will suddenly realize one day that we are back numbers and that progress has passed us by. It is an actual fact that some folks are old mentally at 40 while they are young at 60.

And of electronics has been most active and creating innumerable innovations per-

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Terrazzo installation made with ATLAS WHITE portland cement. The Chas. V. Weise Co., Colonial Village Store, Rockford, Ill. **Architect:** Harold Shafer & Associates, Berkeley, Ill. **Contractor:** John Frich & Sons, Inc., Rockford. **Terrazzo Contractor:** Rockford Central Tile & Terrazzo Co., Inc., Rockford.

This store floor of jointless terrazzo can ring up maintenance savings of $32,500 a year

Because this flooring is of concrete-hard terrazzo—instead of asphalt or vinyl tile—it will save the store up to 50¢ annually for each of its 65,000 square feet in maintenance costs alone. Terrazzo never needs waxing or buffing. And it never curls, lifts or wears thin. Over a 10-year period the total cost of terrazzo, including installation and maintenance, will be lower than for asphalt or vinyl. ■ Later years will make terrazzo an even greater bargain. It gives a lifetime of service with no patching, no periodic replacement. When you plan terrazzo floors, wainscots, counters, stairs for long-term economy, specify a matrix of ATLAS WHITE portland cement. Its uniform whiteness brings out the true color tones of aggregates and pigments. Ask your local terrazzo contractor. Or for a brochure containing additional color plates, write to Universal Atlas, 100 Park Avenue, New York, N.Y. 10017. *"ATLAS" is a registered trademark.*

Atlas
WHITE CEMENTS

Universal Atlas Cement Division of United States Steel

PLATE 238



PLATE 216

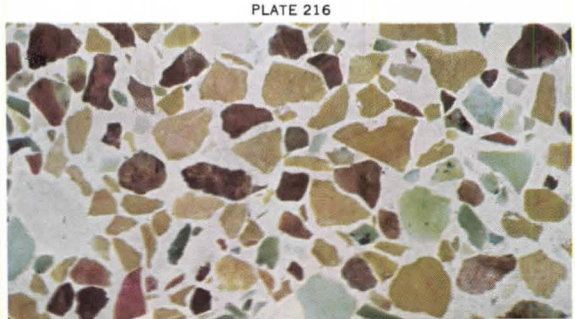
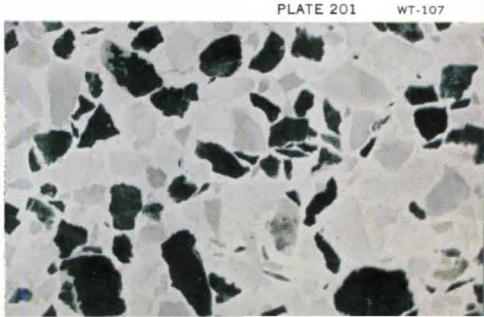


PLATE 201

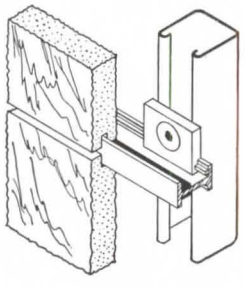


WT-107

REMODEL WITH MARBLE AND SAVE

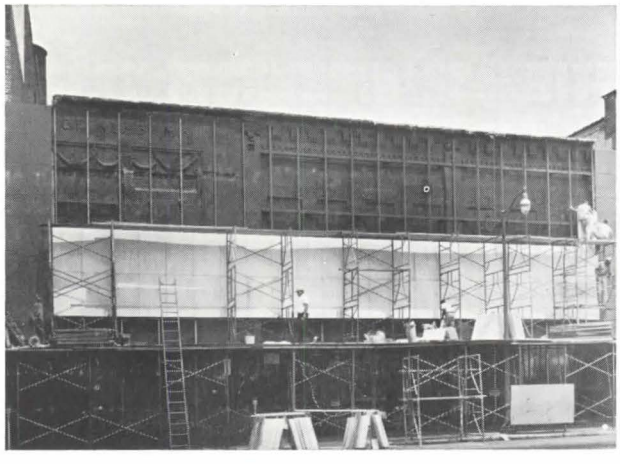
with the new Zibell system for anchoring thin veneers

A unique arrangement of metal struts and special fastenings that provide support and anchoring for marble as thin as 7/8", creating a weather-proof wall with or without structural back-up. That's the Zibell System — for interiors and exteriors, for remodeling or new construction. It offers



substantial economies in construction and affords the architect new design freedom in working with marble, the finest of all facing materials. May we send you the complete details?

WRITE FOR OUR NEW BROCHURE ON THE ZIBELL ANCHORING SYSTEM





In remodeling work, the Zibell struts simply bridge over the projections and recesses in the old wall, obviating much costly remedial work. A Zibell installation is comparatively light which can be critically important in remodeling old structures whose footings and walls might not support the weight of many of the other popular facing materials.

COAST TO COAST CONSULTING SERVICE
Our staff of engineers stands ready to assist you on any project involving the use of marble or limestone. A phone call will put one of our men across the desk from you in a few hours.

The GEORGIA MARBLE® Company

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Now you can specify rugged Republic School Lockers in a variety of types and decorator color styling at no extra cost.

Choose from nineteen high-spirited, student-proof colors in single, double, and multiple tier lockers. Wide range of dimensions to meet your needs.

Plus Republic's famous extra steel tough construction.

You're a winner every time with this combination of quality and color. Ask your Republic MAN FROM MANUFACTURING about "decor 19" lockers, or send today for complete information.

This STEELMARK of the American Steel Industry on a product assures you it is modern, versatile, economical Steel. Look for it on products you buy.

Please send "decor 19" lockers, the folder that tells how to be a big wheel with color at no extra cost.

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SCHOOL OR COMPANY_____

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REPUBLIC STEEL

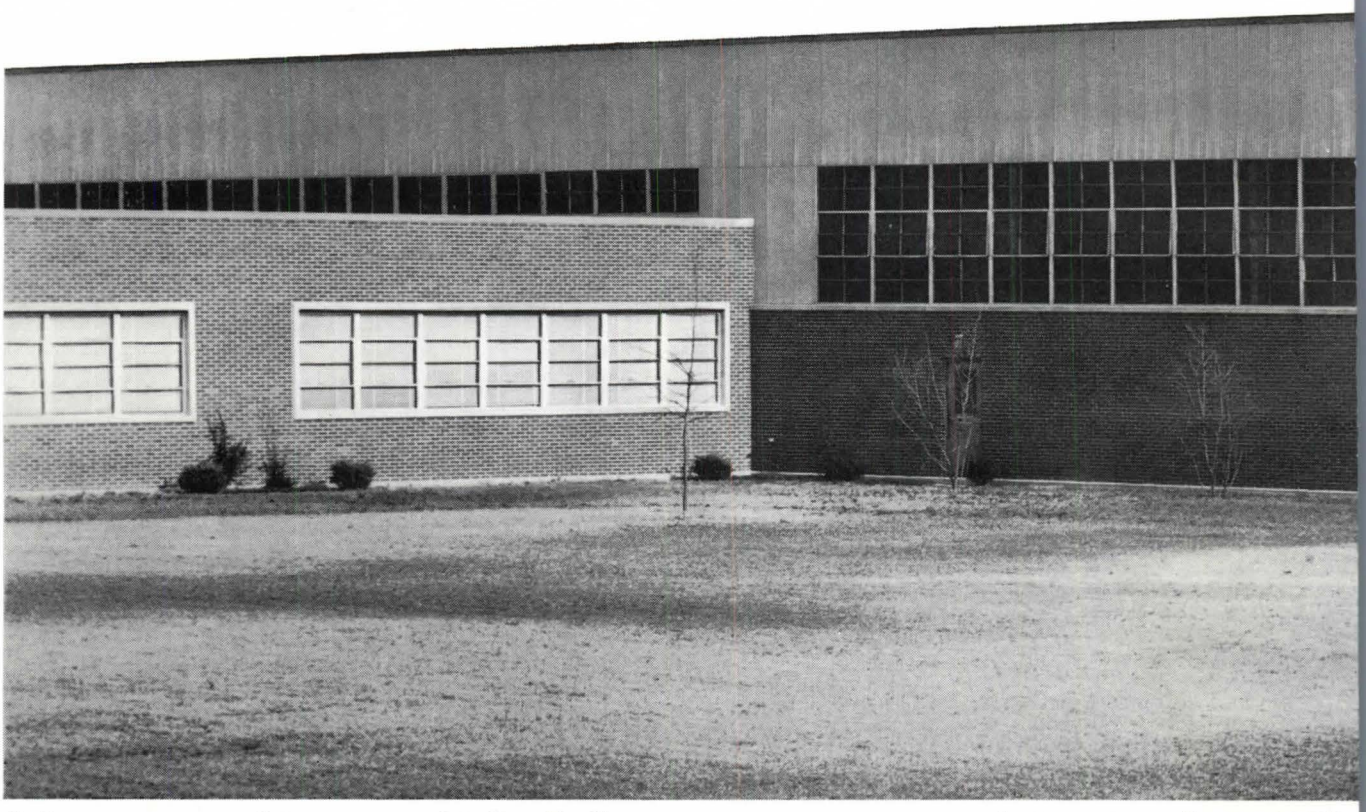
MANUFACTURING DIVISION

REPUBLIC STEEL CORPORATION

Youngstown, Ohio 44505

CALL THE MAN FROM MANUFACTURING!

You're looking at a 10 air conditioning and



You can't see it? Of course not. It's only 44" feature of Fedders' new Adaptopak.

Here are a few more: It's the easiest to install roof-top unit. No flashing, or curbing is needed around the unit. It can even be installed before roofing.

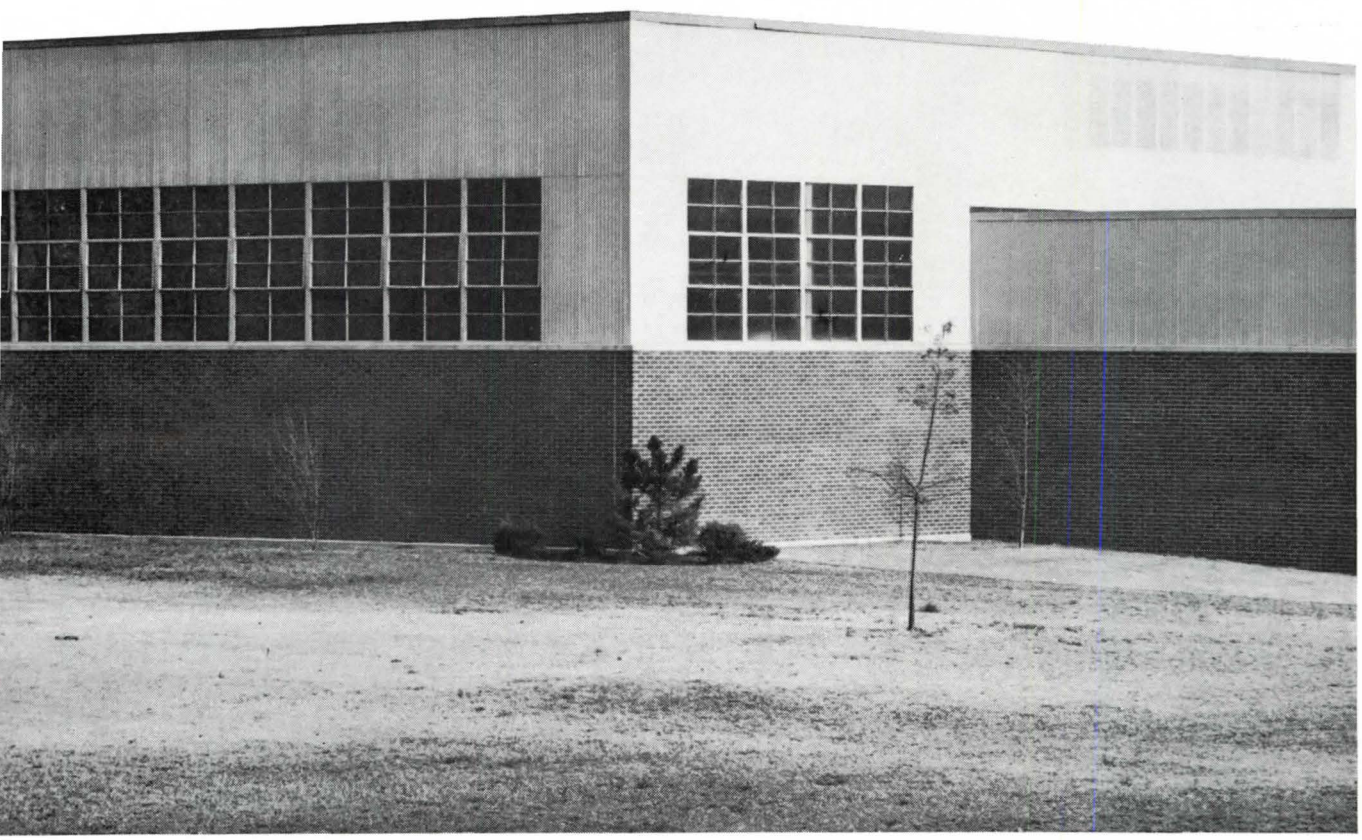
Special isolators reduce vibration to a minimum. Heavy insulation muffles even further the already low operating sound.

A positive combustion blower eliminates unsightly flue stack. Provisions for quick and easy rigging are built into the unit.

And, there's even more: Fedders designed this electric air conditioning, gas heating unit with your requirements in mind. Cooling from 28,000 BTU's to 120,000 BTU's. Heating from 60,000 BTU's to 275,000 BTU's.

Important Note: When specifying roof-top equipment insist that the condensing section be UL listed for outdoor application; insist, too, that the entire air handling and heating section be AGA

ton Fedders roof-top heating unit.



high. But low silhouette is only one great

approved for outdoor application. Fedders Adaptopak carries both these important labels.

We'd like to send you a spec sheet that details why Fedders offers the most outstanding unit available. Don't wait. Mail coupon today!

FEDDERS

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Edison, New Jersey 08817

ATTN: MR. RICHARD E. IRELAND,
FEDDERS CORPORATION,
ARCHITECTURAL INFORMATION SECTION,
DEPT. I—2,
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TITLE _____

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Buy beauty . . . get this . . . with new FORMICA®



Colors and patterns of FORMICA® laminate: Toilet compartments: Mantilla screened print, DA-5009; Concord Blue, 853; Putty Gray, 931. Wall paneling: French Blue, 928. Vanitory: Putty Gray, 931; Butterscotch, 869. Door: Butterscotch, 869. Soffit: Mantilla, DA-5009

Most toilet compartments are sturdy, functional, easy to clean . . . when they're new.

FORMICA® brand toilet compartments are *all that* . . . and stay that way. The designer can select patterns, screen prints, even woodgrains . . . as well as a broad range of solid colors. Color-coordination . . . using the same patterns and colors on walls, vanity, door, furniture . . . is made easy.

FORMICA® toilet compartments are rustproof, impervious to cosmetics, pharmaceuticals, urine, harsh detergents. They inhibit vandals by providing a pleasant environment with decorative surfaces . . . and rugged hardware minimizes costly destruction.

maintenance bonus
toilet compartments



THESE AUTHORIZED TOILET COMPARTMENT MANUFACTURERS are ready to serve you . . . with samples, installation data and estimates. They are qualified fabricators and installers of FORMICA® brand toilet compartments. Located nation-wide. For information, call manufacturer nearest you.

ARIZONA
Phoenix — C. S. Leech Mfg. Co., 2902 N. 21st Ave.

CALIFORNIA
Fresno — Inland Showcase & Fixture Co., Inc., 1473 Thesta
Long Beach — Mc Farland Wood Products, 1351 Orizaba Avenue
Napa — J. W. Rice Co., 952 Third St.
Pasadena — Amco Corporation, 541 S. Fair Oaks Ave.
Riverside — I. J. Pearson Co., 3680 Chicago Ave.
Sacramento — Pitou Fixture Co., Inc., 5681 Franklin Blvd.
San Diego — AABCO, Inc., 808 West Cedar St.
San Francisco — Western Plastics Company, 3355 17th Street
Santa Monica — L & B Mfg. Co., 2144 Colorado Ave.
Seaside — Heinrich Plastic Products, Inc., 689 Frances St.

COLORADO
Denver — Modern Plastic Laminating Co., 1464 South Acoma

CONNECTICUT
Bridgeport — Custom Hall, 35 Spruce St.

FLORIDA
Deland — Moore & Mullen, Inc., 410 North Spring Garden Ave.
Fort Lauderdale — Formacraft, Inc., 4491 N.E. 6th Terrace
Gainesville — Wood Products, Inc., 3230 N. Main St.
Hialeah — AMPCO Products, Inc., 3150 11th Ave.
Jacksonville — Hamon Fixture Co., Inc., 1516-18 East 8th St.
Tampa — Fashion Form, Inc., 2602 North 43rd St.
Tampa — Oleson Industries, Inc., 5021 N. 22nd St.
West Palm Beach — Fetter Co., 928 - 28th St.

GEORGIA
Forest Park — Murphy & Orr Co., 1014 Main St.
Jesup — Peede & Bramblett Co., 586 S.W. Broad St.

HAWAII
Honolulu — Honolulu Sash & Door Co., 755 Sheridan Street

ILLINOIS
Grayslake — Frank Sullivan & Co., 150 Pine St.
Homewood — Homewood Cabinet Co., 17641 South Ashland Ave.

INDIANA
Evansville — The Cottage Building Company, 462 South Governor
Loogootee — Carnahan Mfg. Co., Inc.

IOWA
Holstein — Van Top, Inc.

KENTUCKY
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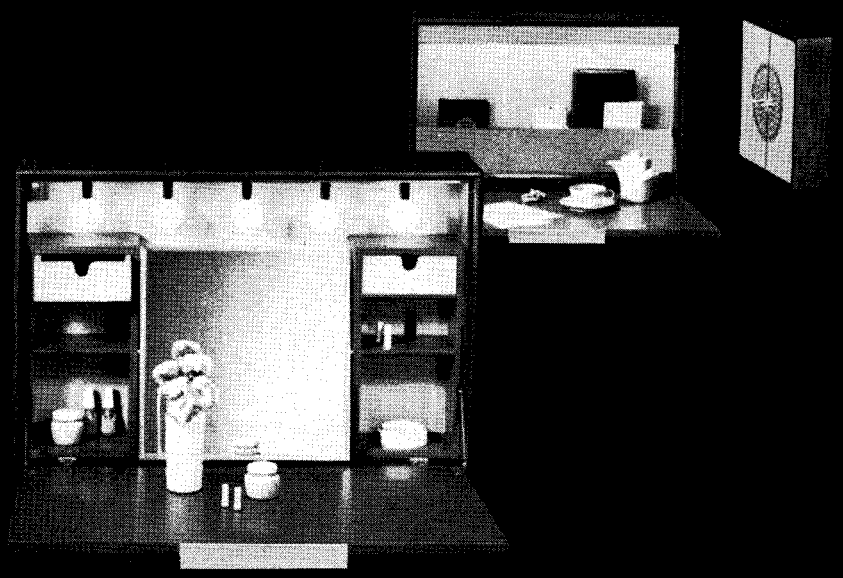

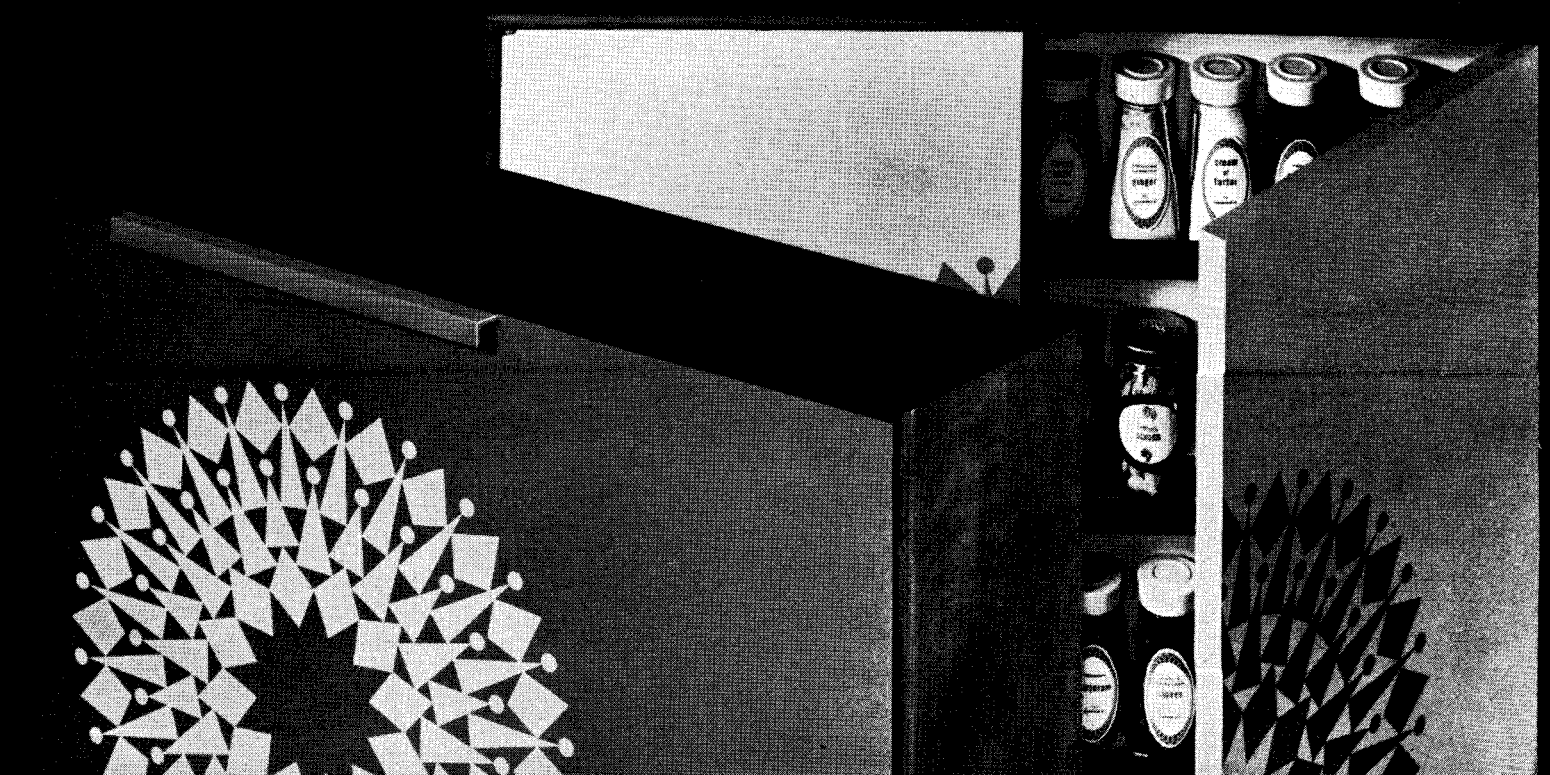



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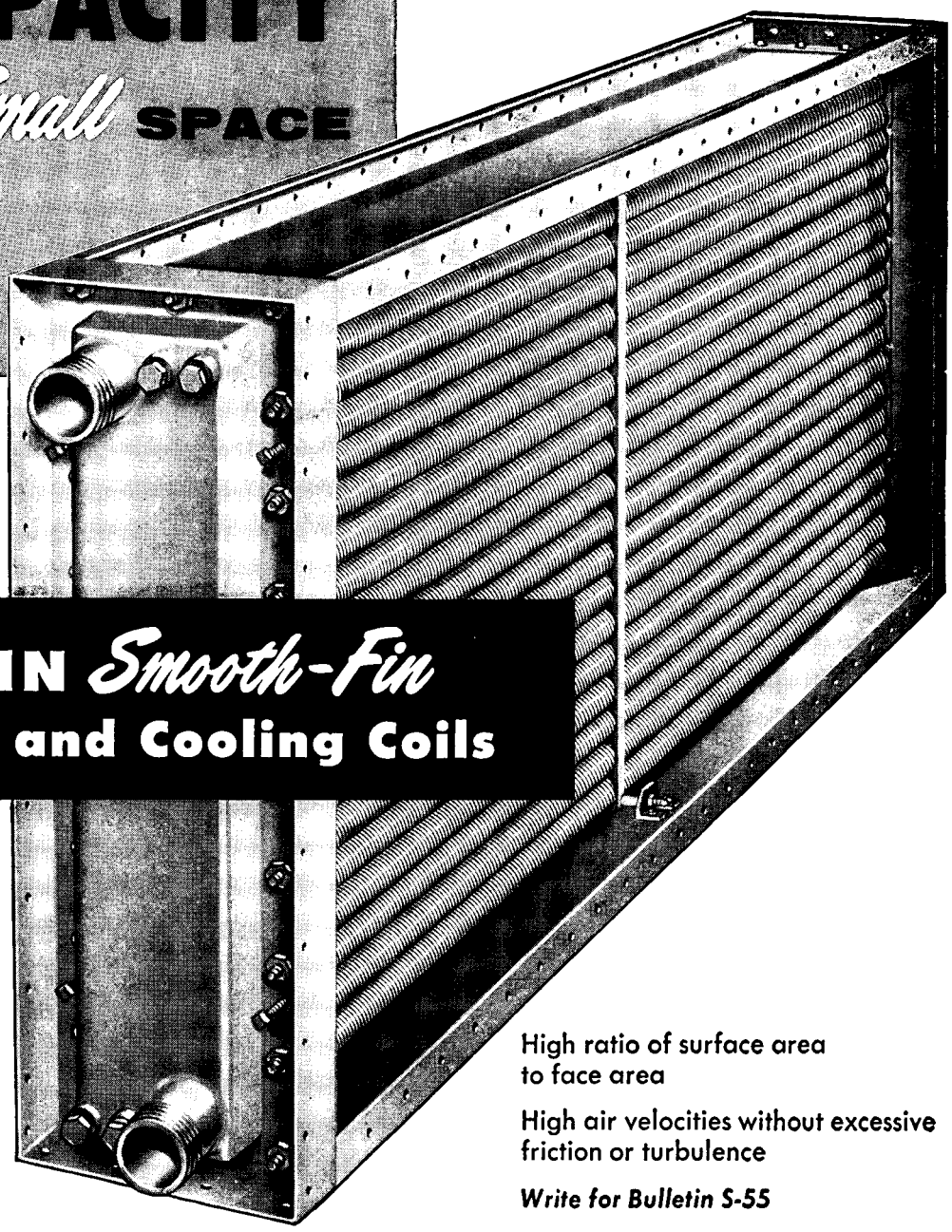

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1. Middle River Jr. High School, Baltimore County, Md. Wall is 8½" x 4¼" glazed tile in 10 colors. Architect: Fisher, Nes, Campbell & Associates. Tile Contr.: Pete Profili & Company, Inc. Plate 418.

2. Drexel Institute of Technology, Philadelphia. Colorful side wall is scored design SD-5 in 321 Cornflower, 345 Cr. Cobalt, 362 Cr. Charcoal. End wall is in contrasting 370 Cr. Mocha. Architect: Baader, Young & Schultze. Tile Contr.: Belfi Bros. & Co., Inc. Plate 545.

3. Boston University, Boston, Mass. Corridor in ceramic mosaics. Side walls: 1" x 1", Dawn Gray, Dove Gray, Smoke, Haze. End wall: 2" x 2", Haze. Floor: 2" x 2", Smoke and Haze. Architect: Edwin T. Steffian. Tile Contr.: Galassi Co. Plate 411.

4. Collingswood High School, N.J. Wall is 1⅜" Tile Gems® in 21 Cornflower, 64 Lobelia, 63 Flax Blue with Knight design in assorted bright, matte and accent colors on a field of 97 Gardenia. Architect: Howell Lewis Shay & Associates. Tile Contr.: Roman Mosaic & Tile Co. Plate 519.

5. W. A. Berry High School, Birmingham, Ala. Walls: scored tile SD-4, 370 Cr. Mocha with stripe of 309 Cr. Yellow. Architect: Davis, Speake & Thrasher. Tile Contr.: Wilson & Daniels Tile Co., Inc. Plate 542.

6. Waterloo High School, N.Y. Tile mural is 2" x 2" ceramic mosaics in assorted colors. Corridor wall and columns: 2" x 2", Haze with accents in seven contrasting colors. Architect: John C. Ehrlich. Tile Contr.: Stearns & Bergstrom, Inc. Plate 543.

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NEWS REPORT

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

Beautifying Columbus

COLUMBUS, IND. Public spirit runs deep in Columbus, and so does a belief in good design. The latest step in a series of ploys (see p. 58, JUNE 1965 P/A) that may make Columbus one of the handsomest small towns (population 20,788) in the U.S., is the donation of the services of Kevin Roche to the U.S. Post Office. Columbus wants a new Post Office building, and the Cummins Engine Company, which has its headquarters here, is paying Roche's fee. Roche, a partner in Eero Saarinen & Associates, was a member of P/A's Design Award jury in 1965. And according to Postmaster General Lawrence F. O'Brien: "As far as we know, this is the first time the services of a nationally prominent architect have been donated to the Post Office Department." It is a welcome move.

Robert Weaver: New Hope for Old Problems



WASHINGTON, D.C. January 13 was not a Friday, and it was not unlucky for 58-year-old Robert C. Weaver. On that day, the President made him Secretary of the new Department of Housing and Urban Design (HUD). As such, Weaver will have been appointed to the highest governmental office ever held by a Negro. But his appointment signifies much more than that. A veteran of 33 years of government service, Weaver has a tremendous backlog of experience: three Harvard degrees (a doctoral thesis on "The High-Wage Theory of Prosperity"); race relations advisor to Secretary of the Interior Harold L. Ickes in 1933; special assistant for the FHA from 1937 to 1940; teaching posts at N.Y.U. and Columbia in New York; New York State Housing Commissioner under Governor Harriman; N.Y. State Rent Administrator, Vice-Chairman of Robert Wagner's Housing and Redevelopment Board; and, lastly, Administrator of HHFA. Weaver's philosophy throughout has been that good housing makes good economic sense. "Perhaps the most difficult task," he has commented, "is to get people in a metropolitan area to realize that [the city] is an area and that a rotten core represents a threat to the whole area. The suburban satellites are dependent on a central city that has a sound economic base and a vibrant, exciting cultural character." With Weaver as HUD Secretary, maybe our cities will be thus transformed.

To Build Or Not to Build

WASHINGTON, D.C. During 1966, about one million families will move into new houses. This prediction comes from the National Association of Real Estate Boards, which also foresees 2.5 million families buying and moving into homes already built and occupied. By the end of the year, the inventory of occupied housing units will reach 59 million; about 62 per cent of these will be owner-occupied.

One factor leading to greater housing unit occupancy has been an increasing inclination of elderly persons to live alone after the death of a spouse, rather than joining a family group. Another unprecedented factor is the increasing frequency with which young unmarried individuals move away from the family home. According to Catherine E. Martini, NAREB's director of research, "Attitudes and values derived from the longest peacetime expansion in history will influence decisions to a growing degree. Choices between buying and leasing, between moving and renovating, between waiting and acting, between investing in fixed yield or equity securities, will be increasingly sensitive to psychological factors."

FAREWELL TO A CREATIVE SPIRIT

NEW YORK, N.Y. Speaking at the funeral, René d'Harnoncourt, director of the Museum of Modern Art, remarked that "for more than 50 years, he moved always in the forefront of his contemporaries." Philip Johnson called him "the greatest non-building architect of our time." Speaking for himself while still alive, Frederick J. Kiesler claimed, "I am interested in life, not architecture." Yet he was the first to design a theater in the round, the first to conceive the spiral concept in architecture (beating Frank Lloyd Wright), and the first to build on stilts (before Le Corbusier). He died last December at the age of 75, his life's book, *The Endless Search,* still unfinished and his lifelong project, the Endless House (photo; also see pp. 104



Photo: Hans Namuth

-123, JULY 1961 P/A) still not built. Friends and devotees of the poet-sculptor-architect gathered to pay tribute to the man. The Julliard String Quartet played, poems and speeches were read. And painter Robert Rauschenberg delivered a Pop Art tire as his silent eulogy.

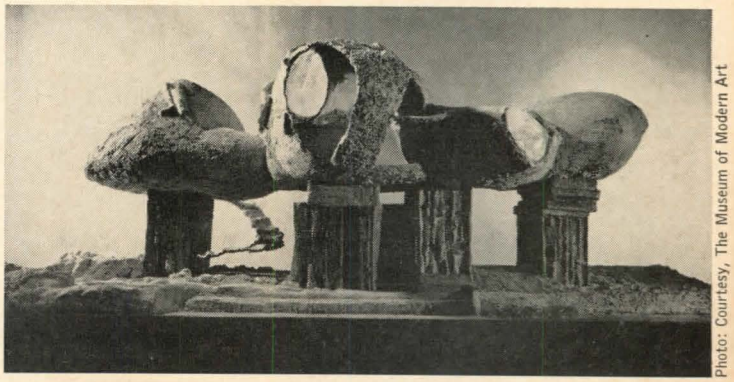

Photo: Courtesy, The Museum of Modern Art

Stone Designs for Arabian Flights

JIDDA, SAUDI ARABIA. The office of Edward Durell Stone has on the boards two airports for this oil-rich desert nation. One at Jidda, a seacoast town 20 miles from the holy city of Mecca; another, specifically for the use of King Saud and his retinue, is in the capital city of Riyadh.

At Jidda, the Stone office is designing two terminals. One will be for the masses of pilgrims who are making the annual journey, or "Haj," to Mecca to kiss the holy stone, shrine of Muhammed, prophet of Allah, whom the devout believe to be the one true god. Although this terminal **(1)** is



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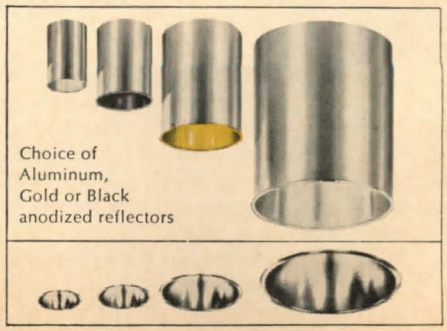
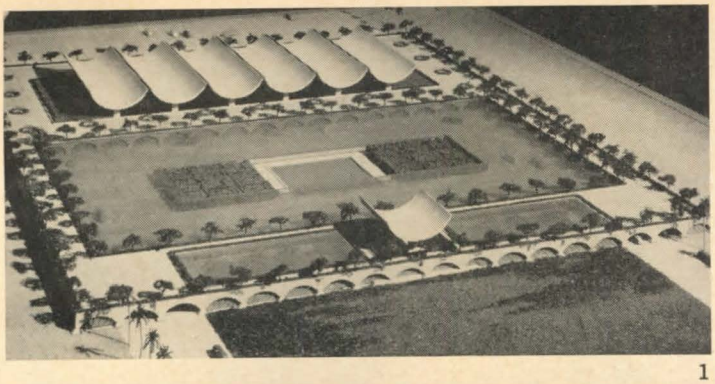


capable of handling 1200 to 2000 persons per hour during the month of Haj, its exterior terminal, buses carry them to Mecca, 20 miles away. Buses and cars enter the terminals on



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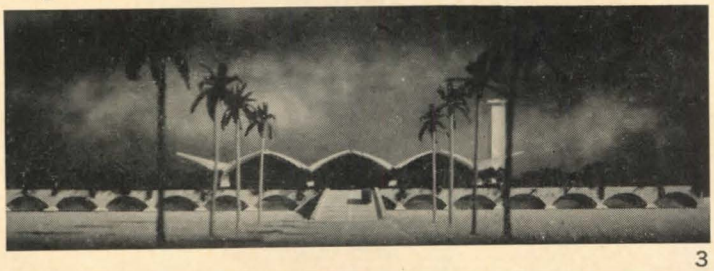
design is identical to that of the terminal for the everyday tourist trade that faces it **(2)** across the landscaped rectangle of earth. The only ostensible exterior difference will be the size of the pools that front the terminals and that stand between each terminal and the small mosques facing them. The pool in front of the Haj terminal is smaller and lacks a fountain. The interiors of the terminals are differently designed, since the one used by the pilgrims is set up to handle masses of persons, much the way supermarkets are, and arriving and departing passengers are processed through turnstiles. From the lower level, where, because of Arabia's searing heat, interior parking is provided. Special provision is also made for the king, who has a private room in each terminal. At Riyadh, of course, the entire terminal is designed with the king's privacy and dignity in mind. There **(3, 4)** the concrete roof sections are convex instead of concave as they are at Jidda. Otherwise, the exterior arrangement of all three terminals, with reflecting pools and mosques, is the same. All buildings will be constructed of concrete, 80′ on center, with arches on the lower level, probably filled with concrete grill work.

Photos: Louis Checkman



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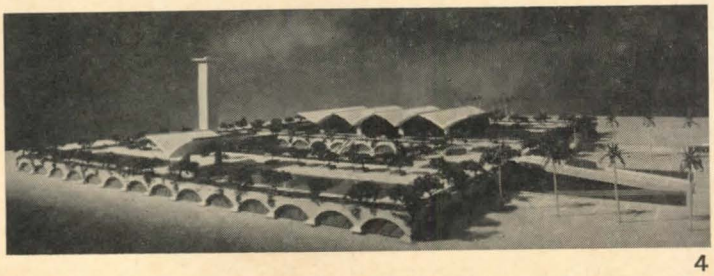

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Thompson Opens His Own Office

CAMBRIDGE, MASS. On January 1, Benjamin Thompson, a founding partner of The Architect's Collaborative and chairman of the department of architecture at Harvard, left TAC to set up an independent architectural practice. He hopes that, in a smaller office, he will have more time for his teaching and administrative duties at Harvard, as well as more time for design.

Thompson is associated with Thomas Green, Joseph Maybank and Eliot Rothman in the new firm of Benjamin Thompson & Associates. Already its string of commissions is impressive. It includes buildings for Kirkland College, a new women's extension of Hamilton College in Clinton, N.Y., and buildings for Williams College, Brandeis University, Bennington College, Amherst College, and Andover Academy.



Want to Buy a Beanery?



NEW YORK, N.Y. For some weeks, gallery-hoppers in this city have had a chance to see Ed Kineholz's version of total-experience-give-a-message kind of art. The artist has built a beanery complete with customers, music, smells, and sweaty beers. To do it has taken him six months, lots of fiberglass and epoxy resin, real live props like a $600 mink stole, a stuffed poodle, canned music featuring Johnny Mathis, and stale bacon grease blown through a fan to simulate the smoky awfulness of close places. His model was Barney's Beanery on Santa Monica Boulevard in Los Angeles, and Kienholz has done his best to recapture its authenticity. He has even gone so far as to buy a new phone booth for the L.A. hangout so that he could have the real thing for his 6′x22′x7½′ wonder. The bar is filled to capacity with 14 clock-headed patrons whose faces read 10:10. "That way they look like eyebrows," he explains. The clocks are meant to emphasize "surrealist time . . . where people waste time, lose time, escape time, ignore time."

After its New York showing, the Beanery will wend its way back to the Los Angeles County Museum, where it will remain on permanent loan—that is, unless someone buys it.

P/A Design Awards Luncheon Held in L. A.

LOS ANGELES, CALIF. Speaking at PROGRESSIVE ARCHITECTURE'S 13th Annual Design Awards luncheon, held in this city on January 10, Louis D. Gill, who represented Los Angeles' Mayor Yorty and is Chairman of the Board of Public Works, told a Frank Lloyd Wright story. According to Gill, when asked what he thought about Los Angeles architecture, Wright replied: "I don't think about it, and I don't think anyone else thinks about it either."

The Wrightian reference was particularly appropriate, for the luncheon was held in a house Wright designed in 1919, Hollyhock House, located in Barnsdall Park, a hill-

top site overlooking downtown L.A. Now owned by the city, the house is maintained as a meeting and show place.

More than 100 architects, planners, and representatives of building product firms ate lunch at tables set up in the living room, saw P/A's Editor Jan C. Rowan present the design awards, and heard a project presentation by Cesar Pelli of Daniel, Mann, Johnson & Mendenhall, winners of the First Design Award for the design of an urban nucleus for Sunset Mountain Park.

Gill's remarks about Wright were additionally apt since this marks the first time in the history of the Design Awards Program that a First Design Award winner has come from southern California.

P/A's publisher, Philip H. Hubbard, Jr., welcomed the guests. Speaking for the jury, William Conklin summed up the jury's feeling about the DMJM design of a mountain-top community by calling it a "brilliant concept." Dr. Grant Manson, Associate Dean of the Department of Architecture at the University of Southern California, spoke briefly on Hollyhock House, which, he said, is the only example of Wright's first California period accessible to the public.

Also present at the luncheon were Dean Sam Hurst of the Department of Architecture at USC; George Dudley, dean of the newly established School of Architecture and Urban Planning at UCLA; John A. Monning, director of the Department of Building and Safety, City of Los Angeles; Donald Hardison, president of the California Council of the AIA; and Kalvin Hamilton, Director of City Planning, City of Los Angeles.

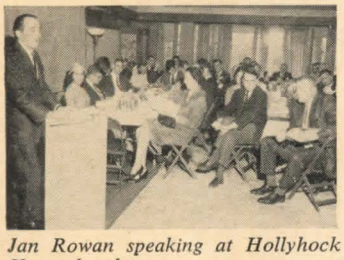
Others present to receive awards, despite the luncheon's West Coast location, included Troy E. West and Richard M. Gensert, whose Lower Hill Development project for the Citizen's Committee for District Renewal in Pittsburgh, Pa., won an urban design Award. George Dudley accepted an education Award for Davis, Brody & Associates for their Science Building No. 2 for State University of New York. And William Turnbull, of Moore, Lyndon, Turnbull, Whitaker, was present to accept a recreation Citation for the Sea Ranch Athletic Club, Sea Ranch, California.

Following lunch, Cesar Pelli, who was director of design on the DMJM Sunset Mountain Park project, made a presentation of the project with the aid of renderings and plans, and juror William Conklin led a discussion of it.

Photos: Rothschild



From left to right: P/A Editor Jan Rowan, Cesar Pelli, Tef Kutay and Anthony J. Lumsden, all of Daniel, Mann, Johnson & Mendenhall, Frank Lyon of Sunset Petroleum.



Jan Rowan speaking at Hollyhock House luncheon.



George Dudley, Dean of UCLA, and Dick Matteson of Daniel, Mann, Johnson & Mendenhall.



Sam Hurst and Harold Hauf.



Louis Dodge Gill, Commissioner of Public Works in Los Angeles.



George Vernon Russell, David Travis, Carl Maston, MacDonald Becket, Edward Killingsworth.



William Conklin, member of P/A Design Awards jury, discussing the First Design Award.

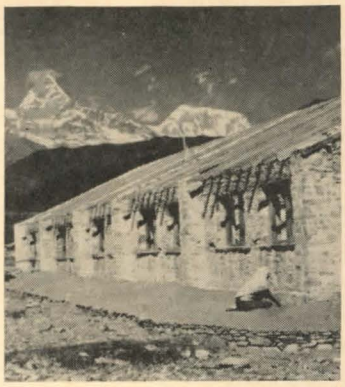
Architectural Midwivery

KATHMANDU, NEPAL Roelf Goetz, who spent two years as an architect with the Peace Corps here, found the Nepalese receptive to good design, but, like many people elsewhere, unwilling to put in the time and expense to translate design into stone and mortar. Goetz was free to accept requests for his services, checking his projects with the Peace Corps director in Nepal.

Before joining the Peace Corps, Goetz had gone through the Graduate School of Design at Harvard, spent a year doing construction work, and a year and a half in an architectural office in Cambridge. His most valuable experience, he feels, was in learning how to muster enough self-confidence to live up to his clients' "image of one who can help them solve all problems: how thick to make a lime mortar stone wall when the strength of the rock is unknown and the lime dubious, or how deep to carry the foundations in soft soil." In short, it seemed a condensed course in how to act like an architect in the field. "If you cannot give them confidence," writes Goetz, "then you have no job."

In at least two of his Nepalese projects, Goetz was more than just an inspirer of confidence. In one project, for instance, a permanent college building to replace a row of thatched huts outside Pokhara, Goetz describes his role as that of "midwife." It was broader than merely being the architect, he says. He was, besides, "advisor on fund-raising and counselor on how to promote new ideas on the one hand and demonstrator of building practices to the masons and carpen-

ters on the other." Not the least of his tasks was convincing the college's dean that a vast multistory building, with pagoda roofs, financed by "gifts from abroad," was im-



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practical. What emerged is an eight classroom building (1), constructed of fieldstone and lime mortar. (What little cement was used, for lintels, had to be flown in.) The roof is of local slate.

Another of Goetz's projects was a dormitory for 150 students (2) set among the rice paddies of the Kathmandu Valley. Here, brick bearing walls in cement support concrete slab floors. His main



2

contribution, he feels, was in showing the Nepalese that an attractive building does not depend on fancy, imported materials. In Nepal, in a variation of a universal attitude, appearance and acceptance depend on a novel façade. "In a new Nepalese building," Goetz writes, "much effort will be used to put on a thin cement plaster veneer to give the impression of a reinforced concrete building, just as in the U. S. we put an expensive brick veneer on a concrete building."

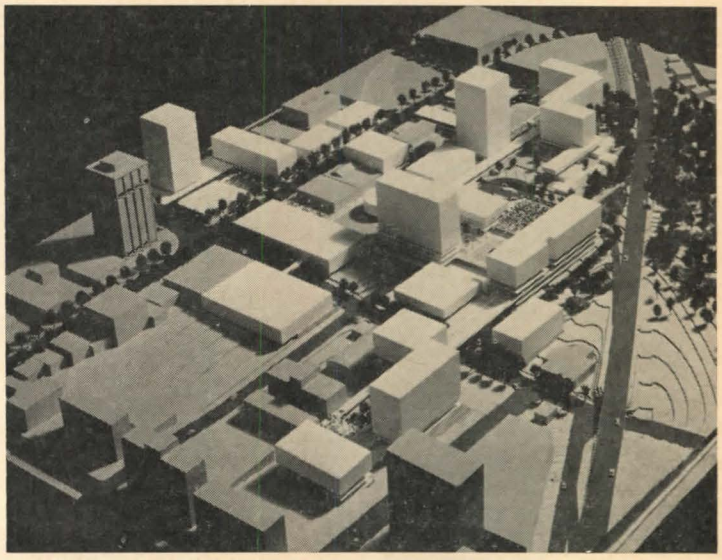
THE CONCERNED CUSTODIAN

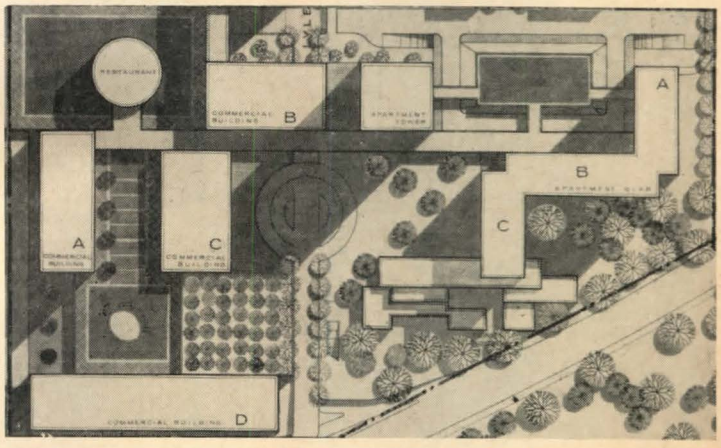
LOS ANGELES, CALIF. For 20 years, Edward Smith has been caretaker of Hollyhock House, the Frank Lloyd Wright-designed dwelling in Barnsdall Park—scene of P/A's 13th Annual Design Awards luncheon (facing page). Smith cares for the house with zeal. "It has been the most meaningful thing in my life," he says, and for the P/A luncheon he displayed the care he lavishes on it by spending six hours placing dining tables in the living room, searching for the arrangement that would show off the room best and accommodate the 100 guests most comfortably. He even personally fitted each flower into the huge speaker's table centerpiece. Because of his duties, Smith has developed a concern for good architecture and become a devotee of the works of Frank Lloyd Wright. His vacations have included trips to New York City to see the Guggenheim Museum, and to Racine, Wisconsin, to visit the Johnson's Wax headquarters. Smith is obviously proud of Hollyhock House and pleased with the attention that architects and students give it. He speaks of it with the same blunt fondness that a husband might use in describing a wife of 50 years. "It's really not all it cracked up to be," he confides; "when it rains, the roof leaks."

Schools

Students in the Architecture and Architectural Engineering Department at California State Polytechnic College have recently acquired $12,000 for student loans. The Cal Poly AIA chapter donated an initial $1000, which was matched 12-to-1 by the United Student Aid Fund . . . Those interested in attending the Seminar for Historical Administrators sponsored annually by the National Trust for Historic Preservation should write the Coordinator, Seminar for Historical Administrators, National Trust for Historic Preservation, 815 17th St. NW, Washington, D. C. 20006. Applications will be accepted until March 15. . . .This summer, the Office of Civil Defense, the American Society for Engineering Education and the Association of Collegiate Schools of Architecture will jointly sponsor a course in nuclear defense design at five universities (Hawaii, Maine, Montana State, North Carolina State, and Colorado). The course will be open to engineering, architectural, and city planning faculty members. For further information write: Project Administrator, ASEE, 1346 Connecticut Ave., NW, Washington, D.C. . . .Cornell University has announced the creation of a new Division of Regional Studies in its Center for Housing and Environmental Studies. Jack C. Fisher, assistant professor of city and regional planning, will be in charge of the new regional studies division. . . . RPI also has announced a new study area within its curriculum: a Center for Architectural Research. Alan C. Green, associate professor of architecture, has been named director of the new center, and Morton C. Gassman, Senior design coordinator.

MIDTOWN SHOPPING CENTER





CLAYTON, MO. A proposal to convert land occupied by single-family houses into a commercial center, with high-rise apartments, may revitalize the center of this small (population 15,245) Missouri town. Clayton draws shoppers from the surrounding area. The plan, designed by Sasaki, Dawson, Demay Associates, Inc., would, in effect, turn part of the downtown area into a suburban type center.

The nine-acre site will accommodate 400 apartment units (to be built in stages)—some in a high-rise tower, some in a Z-shaped slab building facing the tower across a mall. To the south end of the Z, on a slope, will be town houses. Underneath the mall will be parking for 1300 cars on three levels. To the west of these housing units will be a commercial center that includes four commercial buildings, a restaurant, and a theater. These are arranged around open landscaped areas. Retail shops, the restaurant, and theater front on two lower plazas. An upper plaza provides a parklike open

space. Also proposed for this area is a four-story parking structure for 1300 cars. Within the complex will be covered walkways, and someone living in Clayton Center can conceivably walk to work without going outdoors. Just to the south of the development will run a proposed expressway. Developer of the project is the Carondelet Development Company.

Competitions

Those interested in the $6000 Rotch Travelling Scholarship must have their applications in to the secretary—Walter E. Campbell, 711 Boylston Street, Boston, Mass. 02116—by March 3. . . .Applications are also being accepted for the $3000 LeBrun Travelling Fellowship. Information may be obtained from Harvey P. Clarkson, Chairman, LeBrun Committee, New York chapter AIA, 115 East 40th St., New York, N.Y.

Ist Das Nicht Ein Clock Tower?

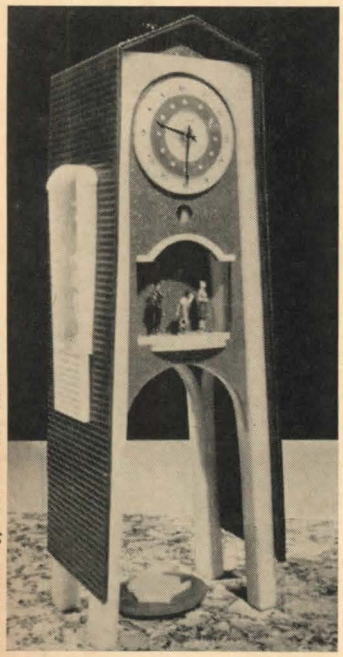


Photo: Courtesy, "The New York Times"

MILWAUKEE, WISC. A little bit more of Old Germany will be brought to this largely German community with the construction of an 80′-high clock tower patterned after one in Munich. Although it looks as if it had been carved by gnomes in the Black Forest, it is the work of Donald L. Grieb, architect for the civic center here, where the tower will stand. Inspiration for the clock was German, but some distinctly native touches will be present. The tower will aim a searchlight at the nighttime sky, for instance, and on the hour play a few bars of "On Wisconsin." Beneath the two clock faces, each 17′ in diameter, will be two turntables, which will revolve on the hour, displaying figures of fur traders, Indians, early settlers, and cows.

Money for the tower was donated by two sisters whose father founded a chocolate company in Milwaukee. They put up the $250,000, they explained, to thank the city for allowing the family to prosper.

Not everyone in Milwaukee is accepting the gift with gratitude. "A glockenspiel or circus attraction," one architect called it at a Common Council committee hearing. But only two other persons objected then and the committee accepted the gift unanimously. Now, however, other voices of protest are being raised. Some object to its placement on the site; others to its design. Good breeding demands that gift horses should not have their mouths examined. But what about 80′ clocks that play "On Wisconsin"?

Architectural Tour of Northern Europe Planned

Harlow, the planned community for 80,000 outside London, Lijnbaan, the redevelopment area in downtown Rotterdam, and Vallingby, the new residential and industrial suburb of Stockholm, will be among the stops made by a group of architects and urban planners taking Alitalia Airlines' spring professional study tour of Europe. Leaving New York City on May 16, the group will visit England, the Netherlands, Sweden, and Finland, returning to New York on June 2. For those who wish to visit Russia, a five-day optional extension to Leningrad is offered. Cost of the tour, excluding the Leningrad extension, is $825, which covers round-trip jet fare, first-class hotel accommodations, two meals daily, all sightseeing and admission fees, as well as special meetings and lecturers. Arrangements are being made to have Alvar Aalto meet the group in Helsinki to explain his plans for the new city center there. P/A's Editor, Jan C. Rowan, is planning to travel with the group.

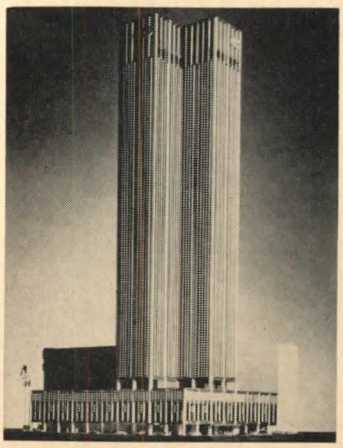
For further information and an itinerary write: Mr. James Branciforti, Professional Program Director, Alitalia Airlines, 666 Fifth Avenue, New York, N.Y. 10019.

Catalano Continuum



CAMBRIDGE, MASS. Construction was begun last month on Eastgate, a 30-story residential tower for married students and faculty at the Massachusetts Institute of Technology. Located next to the recently completed Grover M. Hermann Building (see p. 58, JANUARY 1966 P/A), Eastgate is also the work of Eduardo Catalano of the MIT architectural faculty in association with Crawley Cooper, Robert Brannen, and Paul Shimamoto, Cambridge architects. Eastgate is designed to blend architecturally with both the Hermann Building and with the Alfred P. Sloan Building. Together, the buildings will be known as the Sloan Campus.

THE BIG "C" IN THE SKY



LOS ANGELES, CALIF. Throughout most of the Western world, the initials CC stand for Claudia Cardinale, Italy's entrant in the international sex kitten race; but in California, where sex kittens are more or less taken for granted, CC also stands for Crocker-Citizens (National Bank).

Foundation work started last month on Crocker-Citizen's Southern California headquarters building (Crocker-Citizens Plaza), a 42-story, cruciform tower, which will rise 620′ above the street, making it the tallest skyscraper in this area. Near the top will be four large "C's," one on each point of the cross. Designed by William L. Pereira & Associates, the tower sits on a four-story square podium. Its ground level will include a promenade of shops and offices and a spacious interior lobby from which patrons can proceed by elevator, escalator, or stairway to a two-story-high banking area on the second level. A motor lobby is located just below grade, and below that are four parking levels. In all, the bank will have nine levels of enclosed parking capable of holding 754 cars. It will also have a gross area of over one million sq ft, Crocker-Citizens occupying about one-third of it. Anticipated cost of construction is approximately $30 million.

Peak Year for Engineers

WASHINGTON, D.C. Engineers in private practice across the country are expected to be busier than ever before, according to a poll conducted by the Consulting Engineers Council. Leading to this record activity is continued, unprecedented economic expansion, coupled with the large public projects created by Federal aid programs. Consulting structural engineer Emanuel Pisetzner, of Weiskopf & Pickworth, who is president of the New York Association of Consulting Engineers, maintains that the present boom is characterized by great activity in all fields of practice and types of projects. He noted that at other peak times, the peak may be bolstered by increased activity in only one field, such as office buildings. This year's boom appears to be uniformly munificent in all building construction areas.

Euphoric Eugene

EUGENE, OREGON In December 1965, the Southwest Oregon Chapter of the AIA presented awards to four Eugene buildings. Selected by jurists Robert B. Price of Tacoma, Donlyn Lyndon of Eugene, and Don Knorr of San Francisco (who visited all 17 projects submitted in the competition), the awards went to: Lutes & Amundson of Springfield for the design of Sheldon High School **(1)** in Eugene (First Honor Award); Otto Poticha of Eugene for the design of the Henshaw residence **(2)**, Eugene (Award of Merit); Wilmsen, Endicott & Unthank of Portland for the Westmoreland Medical-Dental Clinic **(3)**, Eugene (Award of Merit); and a special Commendation Award also went to Wilmsen, Endicott & Unthank for the remodeled façade of Rubenstein's furniture store **(4, 5)** in Eugene.

The jury had this to say about the First Honor Award winner: "Sheldon High School is a thoughtful and well-controlled translation of evolving educational requirements into a building of considerable quality. It has a sensible and clear organization and a pleasant circulation system. While retaining reservations about some of the interior spaces, the jury felt that the architects should be honored for their development of an exceptional school plant."

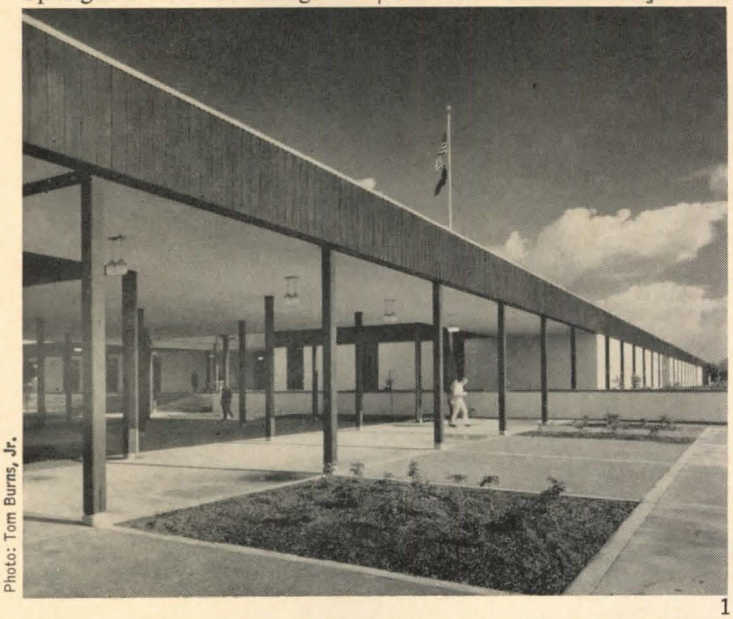


Photo: Tom Burns, Jr.

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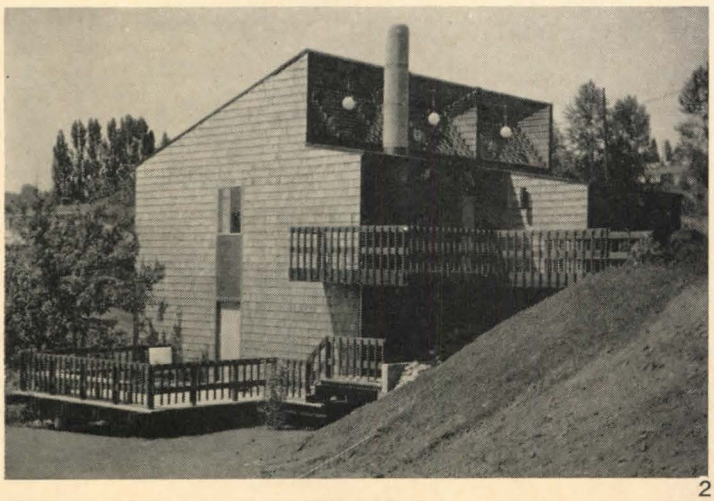

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Photo: Tom Burns, Jr.

3



4



5

Distinctive Bank for Milwaukee

MILWAUKEE, WIS. Most buildings in downtown Milwaukee were constructed more than 30 years ago, when the architectural tradition established by Louis Sullivan was still in vogue. Despite its overhead trackless trolley wires, and despite the remodeled façades of many shops and stores, the downtown area presented a fairly unified, dignified face to Milwaukee's baseball fans and other citizens. In the past few years, all this has begun to change. First came Saarinen's War Memorial Art Center on the lakefront. In the late 50's, Harrison & Abramovitz designed an office building for the Marine National Exchange Bank, the first high-rise office structure in Milwaukee in more than 25 years. Last year, Harry Weese's building for IBM was completed. And now in working-drawings stage is a bank and office building for the Marshall & Ilsley Bank, the city's second contemporary high-rise office structure, which,

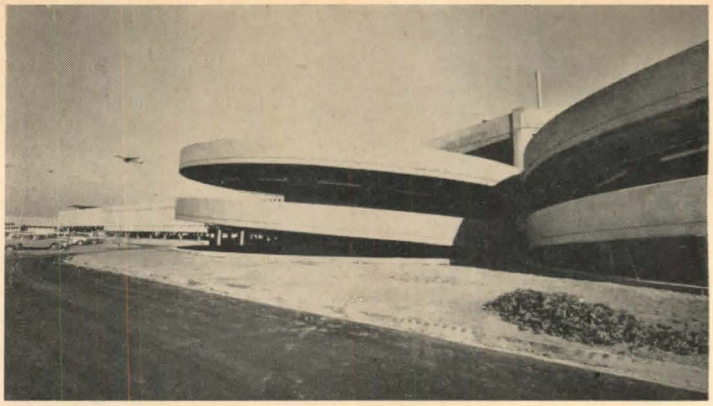


if completed in keeping with its present design, should give future Milwaukee buildings something to emulate.

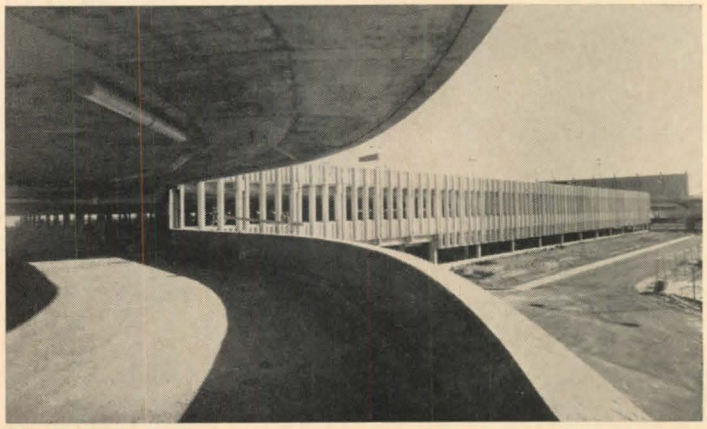
As designed by architects Grassold-Johnson-Wagner & Isley of Milwaukee, the $11 million structure will have 20 stories: nine for the bank; nine for rental offices; and two for mechanical equipment. Adjacent to the high-rise building will be a ten-level parking garage, capable of holding 420

cars, built around and including the M & I's drive-in-banking facilities. Patrons parking in the garage will take elevators and stairs to the *main* banking floor, and elevators from there to the higher floors. Because the bank wanted as much uninterrupted floor space as possible, the service core will be in the building's northeast corner. This will leave the floor area uninterrputed except for a second stairwell, required by the building code. Total gross area will be 358,000 sq ft.

On the exterior, the bank will be distinguished by buff-colored, epoxy-joined, cut stone mullions rising between spans of bronze-tinted glass in bronze aluminum frames. On ground level, the recessed main banking floor is enclosed in glass.







Levitt Headquarters by Stone



Photos: Ezra Stoller Associates

LAKE SUCCESS, N.Y. Levitt & Sons have passed into legend by building more than 70,000 homes throughout the U.S. Last year, the firm recorded over $60 million in sales, offering 34 basic house models.

When Levitt was planning to build a headquarters building for his organization, he called in Edward Durrell Stone to design it. The result is a distinctive "square doughnut" that is vintage Stone. Completed last September, the building totals 70,000 sq ft on two levels, including a 72-ft-square central atrium. Surrounding the atrium, with its five octagonal fountains, are offices that look onto this central court through adjustable aluminum jalousies. Overhead are nine geodesic skylight domes.



On the exterior, windows are divided vertically by glazed white brick; two-story aluminum shutters cover the windows.

At night, the canopy, which overhangs all four sides of the building, is lighted by spotlights from the podium. Shrubbery around the site is also lighted, providing a nighttime setting for the building.

Levitt & Sons now have a shrine worthy of an Oriental potentate.

World's Largest Parking Garage

SAN FRANCISCO, CALIF. To bill a structure as the world's largest parking garage is about as significant as to talk about the world's largest salt-water pool. It's distinctive, but is it meaningful? For the garage at San Francisco's International Airport, which officially began to shelter cars two months ago, the meaning lay in the efficiency and comfort with which passengers could get from cars to planes and from planes to cars.

For one thing, motorists leaving their cars in any of the 2800 parking spaces now available (eventually there will be 8000) have a maximum walking distance to the terminal of only 450′, as compared to the previous maximum of 1500′. There are, in addition, two moving sidewalks in each pedestrian concourse that cut walking distances even further. "They take the walk out of walking," says the manufacturer in a burst of ambiguity. Also, passengers are sheltered from the often unpleasant Bay weather as they leave their cars and trudge with baggage into the terminal. No more slogging through puddles or leaning into the rain and wind, for motorists arriving at the San Francisco airport.

Developers of the garage—a collaborative effort by architect Edward B. Page and consulting engineers J. J. Degenkolb & Associates—found that parking can usually be handled more quickly and economically in a parking lot. They therefore designed the garage to consist, in effect, of four stacked parking lots. Each level is reached directly by curving ramps from the airport roadway system. When completed, the garage itself will be almost circular in form, fitting into the curve formed by the existing South and Central Terminals and the yet-to-be-built North Terminal.

To keep the garage's silhouette from obstructing a view of the terminals, the first parking level was placed underground; height from grade level to the top of the railing on the open fourth level is only 23′.

A precast exterior concrete grill helps support the upper levels and partially shields an outside view of long rows of parked cars.

ON THE BAY



LOS ANGELES, CALIF. Bay windows have never really been far out of style, but only rarely do they have a bay to overlook. As designed by Kurt Meyer & Associates, the bay-window-like projections of the Fisherman and Merchants Savings and Loan Association headquarters provide 180° views of the San Pedro Bay *area,* if not of the bay itself. The buttress-like projections of the windows project from two concrete towers, which form the backbone of the building and hold utility centers and elevator and stairway wells. The five-story building will have a ground-floor loan and savings area, and, above that, floors for both the Association and rental tenants.

Ground-breaking began early this month, and completion is scheduled for this fall.

Kansas City Landmark Threatened

KANSAS CITY, MO. John Wellborn Root's old Board of Trade Building in Kansas City will be demolished if a projected $17,500,000, four-block-long apparel mart is approved.

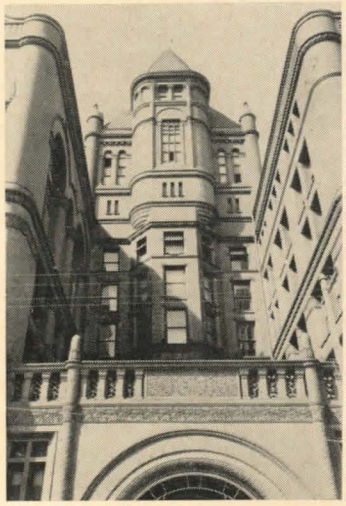


Photo: D. L. Hoffmann

Incorporation papers were filed July 16 by the Mid-Continent Mart Redevelopment Corporation, which announced its intention to ask the city planning commission for approval of the project under urban redevelopment laws.

Ruddy, sturdy, still full of character, the old Board of Trade was designed in 1886, when the Chicago firm of Burnham & Root won a national competition for the building. Among the other competitors were George Post of New York, Peabody & Stearns of Boston, and Solon S. Beman and Irving K. Pond of Chicago. There were 53 entries.

Root, the designing partner, planned a structure comprising two pavilions connected by an arched entrance screen, skylighted entrance court, and a grand tower housing the elevators and lobbies. The U-shaped plan, covering half a city block, thus provided air and light on all sides. The west pavilion was embellished with ornamented pediments and round-arched windows rising high above the fourth floor, where the exchange floor was located. The hall is a single unobstructed space, 58′ x 115′, with an arched and coffered ceiling. The east pavilion is composed entirely of offices.



Photo: George Fuller Green

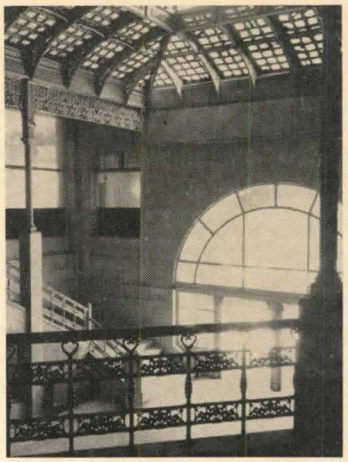


Photo: D. L. Hoffmann

The walls of the old building are of pressed brick and ornamental terra cotta of a matching earth-red hue. The ornament enriches the wall textures and articulates the composition.

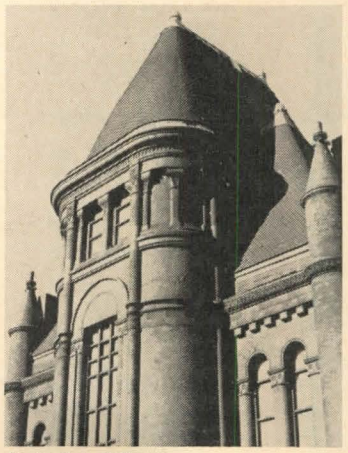


Photo: D. L. Hoffmann

In the Midwest, the Brown Decades might more accurately be called the Red Decades.

Strongly plastic, the building's rounded angle piers give it a heightened sense of huge volumes. Its over-all expression goes far beyond the routine Romanesque of the 1880's. The Board of Trade moved in on June 30, 1888.

"This building," wrote Harriet Monroe eight years later, "is a noble monumental structure, which will speak to the future for this age as eloquently as monuments of the past declare to us the spirit of epochs."

Now somewhat abused and in disrepair, the old building remains a prime architectural landmark of Kansas City. Its feet are firmly planted in the soil, and its tower thrusts proudly into the blue Midwestern sky. It speaks, indeed, for the generation that built it, and for the imagination of a great American architect.

—DONALD L. HOFFMANN

[*As of this writing, no financing or prospective buyer has been found for this Kansas City Landmark—ED.*]

If You Don't Believe it, Look Again



NEW YORK, N.Y. On display this month in Manhattan's Lefebre Gallery are samples of an artistic technique called *cinematization.* Pol Bury, a Belgian artist who invented the art form—if that is what it is—turned to it from sculptures, which he animated with springs and electric motors. Although distinctly stationary (painted on flat canvas), Bury's cinematized pictures have a life of their own. One expects them to snap back into focus any minute—maybe if you just rub your eyes. What Bury does is to take a photograph, cut a series of concentric circles in it, twisting each ring slightly. The distortion this produces is preserved by transferring the photo to canvas and painting over it, maintaining faintly the outlines of the concentric rings. The resulting picture is like a reflection a drunk might see in a puddle. What the technique does to architecture is shown here, a cinematized version of New York's Pan Am building. Perhaps that's the way it ought to look.

Hovering Roof For Midwestern Church

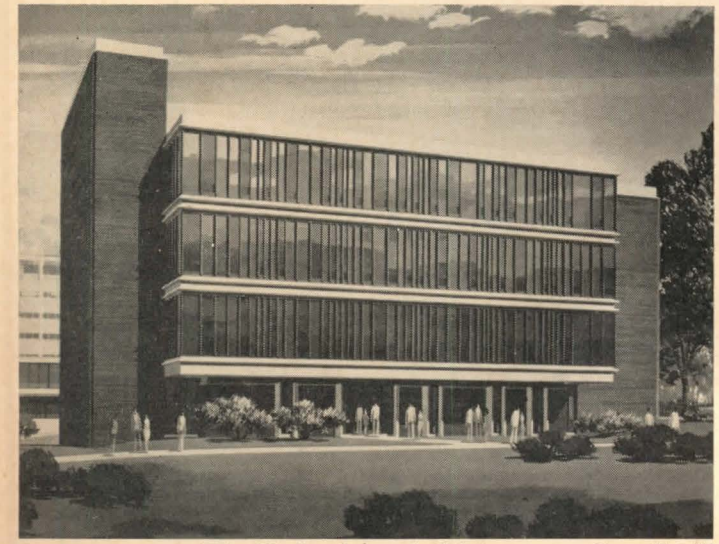


BIRMINGHAM, MICH. Looking a little like the proverbial two hands pressed together for prayer, the roof of St. Regis Church will hover lightly over the congregation within. Formed in a shape that is increasingly popular—it is like half of Saarinen's North Christian Church in Columbus, Ind. —the fanlike spread of the lower structure will house 1200 parishioners, grouped as closely as possible around the altar, which is a requirement of the recent revisions of the Roman Catholic liturgy.

The roof is thin, shell concrete sheathed with copper. Inside, form boards will be left in place over the pews, and, hopefully, will look like large wooden panels between the concrete ridge and perimeter beams. Shaped in hyperbolic paraboloids, the roof sections flow together, rising into a 100′ tower, directly behind the altar. Between the outer walls of brick and dark brown mortar and the roof is a band of gray glass. At night, when the church is lighted from within, the roof appears to float.

Construction is expected to start in early spring. Architects are Begrow & Brown Architects, Inc.

IT MAY BE GREEN CHEESE, BUT YOU CAN EAT IT?



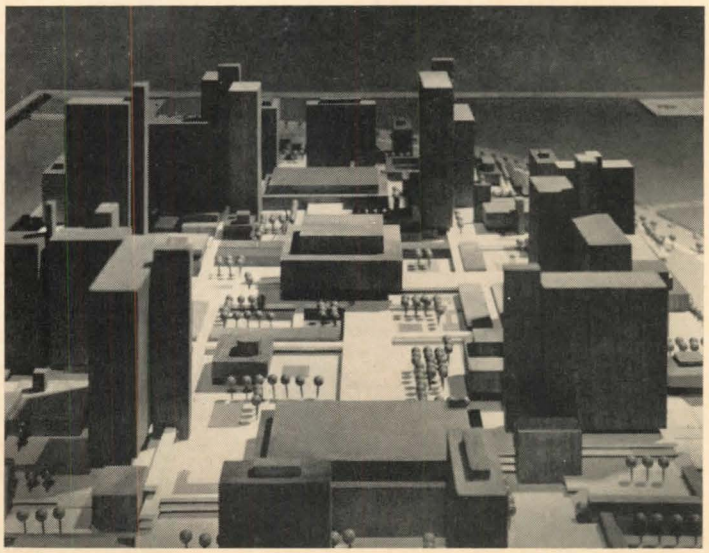
ITHACA, N.Y. The National Aeronautics and Space Administration wants to know what astronauts can expect when they get to the moon, sometime within the next four years. And to help them find out, they are building a radiophysics and space research center on the Cornell University campus. NASA will provide most of the $1.5 million needed to build the center; Cornell will put up $150,000.

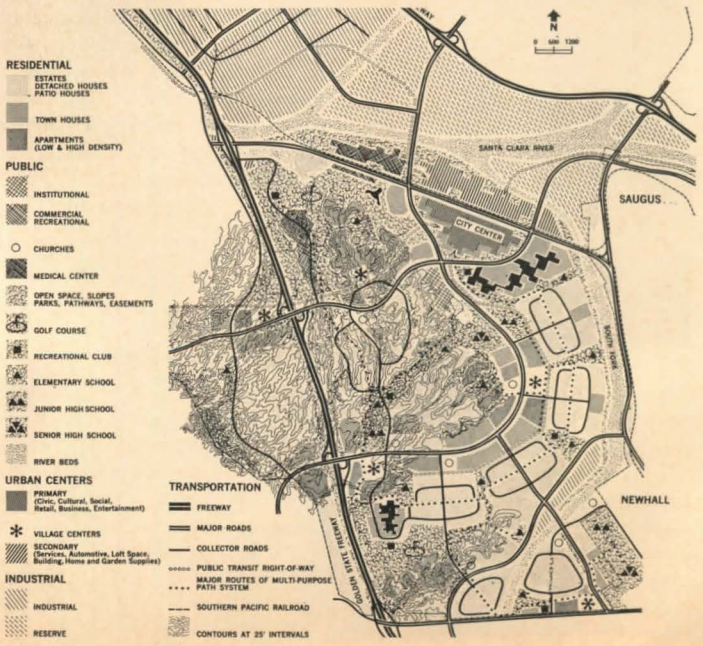
The building, designed by the Ballinger Company of Philadelphia, will be part of a growing complex of science buildings near the center of the Cornell campus. Already under construction are an addition to the chemistry laboratory building, a physical science building, and an agronomy building.

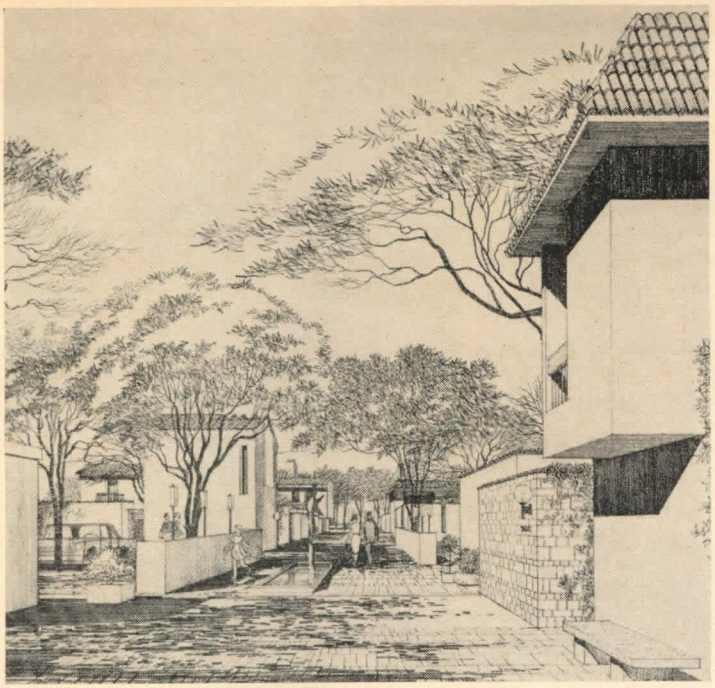
In its four floors and basement level, the space research center will encompass 38,000 sq ft. Because it must accommodate some highly complex equipment such as infrared measuring devices and helium-hydrogen sources, the laboratory is designed for interior flexibility. All mechanical and storage facilities, for instance, will be located in towers on the east and west ends of the building. Laboratories designed on a 10′ module will line a central service corridor, and office and study areas will line the exterior walls on the north and south. Upper floors will be cantilevered 10′ over the ground floor, and bronze-colored aluminum mullions will divide vertical bronze-tinted glass and brown glass spandrel panels. Construction will begin in the spring.

New Town on the Rise

VALENCIA, CALIF. Work was begun recently on what by 1985 will be an addition to the burgeoning list of America's new towns. Located about 30 miles from Los Angeles, just north of the San Fernando Valley, Valencia, as it is being called by its developer, the California Land Company, will provide both housing and employment for some 250,000 persons of diverse age groups and income levels. It already has an 18-hole golf course, designed by Robert Trent Jones. Valencia's master plan, prepared by Victor Gruen Associates, shows a city center standing at the head of a group of five satellite village centers. About one quarter of Valencia's 44,000 acres (it was once the Newhall Ranch) will be



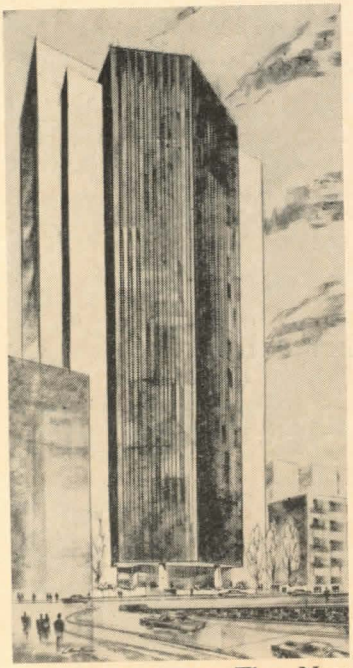




permanent open land—parks, lakes, and recreational areas. Construction is under way on the first area development, a 4000-acre portion, which, when completed in 1970, will include a complete range of housing and recreational facilities for 30,000 persons, elementary and secondary schools, churches, a 600-acre industrial center, and the nucleus of a high-rise central city.

The planners are also providing for a public transit route, separated from roadways and walkways. Although automobiles are not banned, ("an instrument of collective immobility," Gruen once called them), the city will have a network of pathways that can be used by bicycles and electric carts.

Telephone Company Puts Up Another Pole

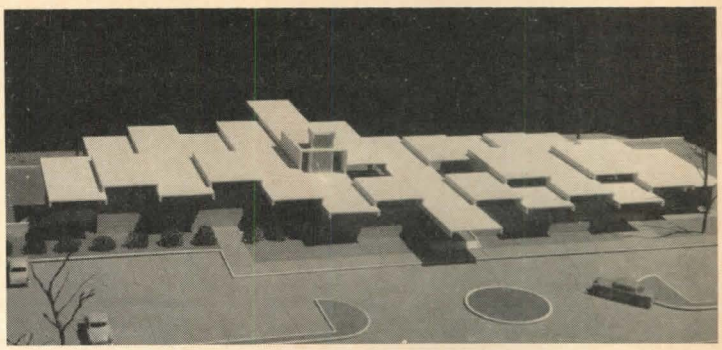


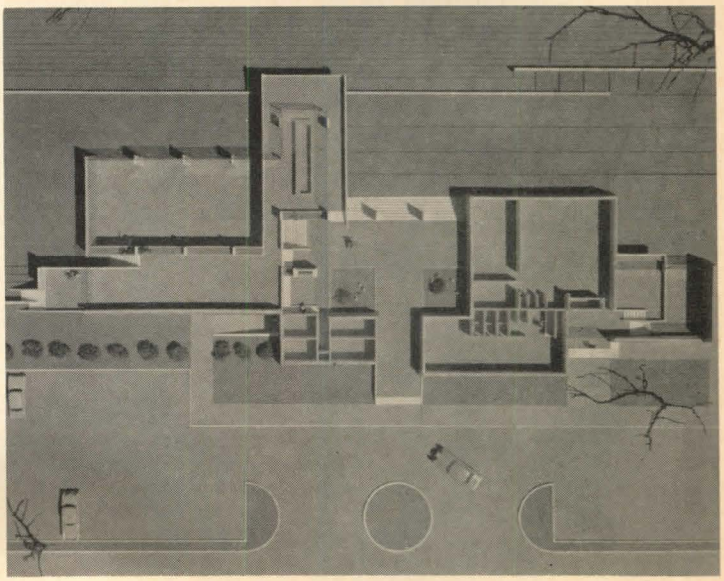
NEW YORK, N.Y. The New York Telephone Company recently announced its newest office addition, to be built for East Side Manhattan, 3000 employees, and $20 million. Designed by Kahn & Jacobs of this city, the building will have a hexagonal design with alternating 3′ wide columns of bronze granite and bronze tinted windows from tip to toe. Entrances footed by landscaped plazas will be on 37th and 38th Streets. Completion is expected by 1967.

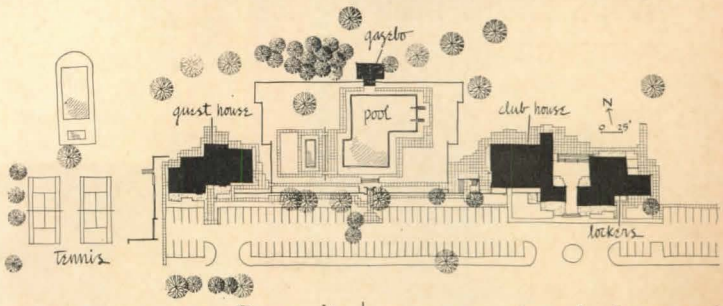
Calendar

A lecture series aimed at architects, entitled **"Space Forms in Steel,"** will be presented in 50 cities by the American Institute of Steel Construction. The development of unusual roof structures will be reviewed in five lectures. In March, the series will appear in the following cities: Philadelphia, Toledo, Grand Rapids, Buffalo, San Francisco, and Oakland. . . . The American Society of Mechanical Engineers will sponsor a conference on the problem of **solid waste disposal** in the modern city at the New York Hilton, May 1-4. . . .On September 21-23, the **international conference on space structures** will be held at Battersea College of Technology, London, England. Papers are now invited from all countries, and a brief summary of the content may be sent ahead to The Secretary of the Organizing Committee, International Conference on Space Structures, c/o Space Structures Research Center, Department of Civil Engineering, Battersea College of Technology, London S.W. 11, England. Preliminary applications for registration forms can now be obtained by writing the Secretary of Registration.

Repetitive Country Club







TOMS RIVER, N. J. On a site overlooking Toms River near the Jersey coast, almost directly east of Philadelphia, work has begun recently on the Toms River Country Club. When completed this summer club facilities will include, in addition to an already existing nine-hole golf course, a clubhouse (which is really two buildings arranged on either side of an open court: locker rooms on one side, and a meeting-room dining-room capable of accommodating 300 persons on the other); a guest house, with suites for visitors; a swimming pool; and two tennis courts. The north side of the clubhouse building will be of solid fieldstone, except for clerestory glass; the south side, overlooking the links and the river, will be all glass. In citing it for an award at the sixty-fifth annual convention of the New Jersey Society of Architects, AIA, the jury commented that "it was remarkably successful in using a simple, repetitive structural system

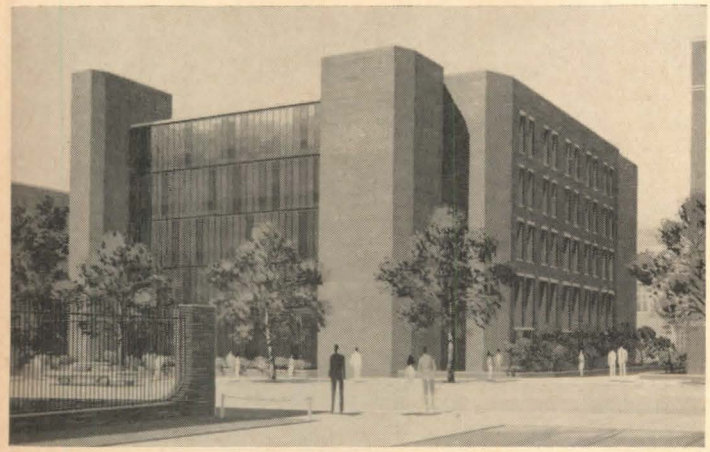
to unify a varied complex of building units. We thought it was beautifully related to the site, and that both open and enclosed spaces under its roof would be equally satisfying to architects and golfers." Composed of 2'x14' channels stacked to give variations in height, the roof system offers a distinctive silhouette, provides varied interior spaces with logical provisions for air scoops and sources of natural light. Architect is Paul Forutne Losi of Toms River, N.J.

Gym For IIT



CHICAGO, ILL. The Illinois Institute of Technology has, since 1947, used a "temporary structure" for its physical education and intramural athletic programs. Now, fitting in with Mies's master plan for the campus, construction will begin this month of a gymnasium-swimming pool on the temporary structure's site. Designed by Skidmore, Owings & Merrill, the gym will have a steel-and-glass façade, with curtain walls consisting of two layers of gray glass laminated to a frost vinyl sheet. "The only glass gymnasium in the world," SOM calls it. And because of the extra strength of the laminated glass, persons who play in the glass gym can throw baseballs. Below ground, the gymnasium has two levels, one of which houses an Olympic-size swiming pool with spectator seating. In all, there will be 72,000 sq ft of floor space, including a basketball court with seating for 2000 spectators, which can be converted into a convention center.

GBOC Design Penn Engineering Center



PHILADELPHIA, PA. Geddes, Brecher, Qualls & Cunningham designed this Graduate Research Center for the University of Pennsylvania's Moore School of Electrical Engineering. Replacing the university's financial office, which previously occupied the Walnut Street site, the new center is expected to cost more than $2,000,000. Part of this cost has already been defrayed by two grants: one from the National Science Foundation ($493,000), and one from the National Institute of Health ($257,000). Penn expects a 50 per cent increase in full-time graduate students in the next 10 years. When completed in the fall, the new building will provide laboratories for research in computer development, solid state electronics, and biochemical engineering, in addition to space for faculty offices and for graduate students working with faculty members.

Applauding the Mall

WASHINGTON, D.C. Late last year, the AIA voiced formal approval of the plans for the Mall in the nation's capital. In its formal commendation, the AIA commented: "These actions chart a course for the comprehensive planning and development of Capitol Hill and other important areas of the nation's capital." The AIA also "applauds its appearance, its daytime and nighttime use by residents and visitors to the area, which has, from its very beginning, been the heart of the nation's capital."

Eavesdroppings

"The national flower in this country today is the concrete clover leaf." *Lewis Mumford.*

"Las Vegas is the only town in the world whose skyline is made up neither of buildings, like New York, nor of trees, like Wilbraham, Massachusetts, but signs. One can look at Las Vegas from a mile away on Route 91 and see no buildings, no trees, only signs. But such signs! They tower. They revolve, they oscillate, they soar in shapes before which the existing vocabulary of art history is helpless. I can only attempt to supply names—Boomerang Modern, Palette Curvilinear, Flash Gordon Ming—Alert Spiral, McDonald's Hamburger Parabola, Mount Casino Elliptical, Miami Beach Kidney.

"It is no accident that Las Vegas and Versailles are the only two architecturally uniform cities in Western history. The important thing about the buildings of Las Vegas is not that the builders were gangsters but that they were proles." *Tom Wolfe in* The Kandy - Colored Tangerine Flake Streamline Baby.

"The character of the Federal strategy for cities has several major facets: It is directed, primarily, at raising the quality of life in American neighborhoods, and particularly for those most disadvantaged groups—the poor, the elderly, the handicapped, and the discriminated against. And it recognizes that the quality of life is not subject to remedies of better housing alone, as important as that element might be. There must also be a broad range of essential, supportive community facilities — neighborhood centers, parks and green spaces, recreation areas, health facilities, better schools, and adequate municipal services of all sorts—as well as those critical services which are needed to mend badly torn social fabric." *Robert C. Weaver, Administrator, Housing and Home Finance Agency, speaking at the dedication of Wurster Hall, University of California, Berkeley, Calif.*

"Figures are already available to prove that beauty is an integral part of good business. Before rebuilding, the blighted district now occupied by Constitution Plaza (Hartford, Conn.) returned $90,000 a year in taxes to the city. The same area now returns $1,456,000 per year, without taking into account the huge revitalization of the surrounding area which this project has sparked." *Morris Ketchum, Jr., speaking to the annual convention of the Pennsylvania Society of Architects.*

"Like the other professions, architecture is imperfect, conscious of cracks and oily stains on its own floor. It is a very small profession, too small to exert pressure directly on U. S. society without first learning new techniques for magnifying itself and mutiplying its effectiveness. There are only 30,000 architects in the U. S., compared with 225,000 lawyers, 430,000 accountants, 975,000 engineers, and 265,000 doctors. There is a total of only about 10,000 architectural firms." *"The Architects: A Chance for Greatness."* Fortune, *January 1966.*

"Architecture has turned into chaos. It is baroque, with buildings by painters, not architects. They try to be as fantastic as possible, not as reasonable. Architecture can only



6625

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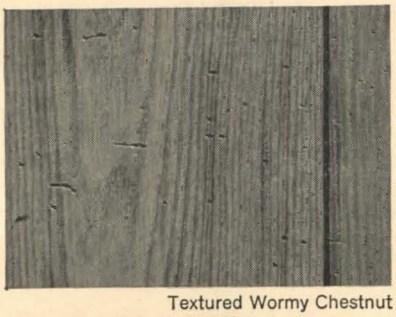

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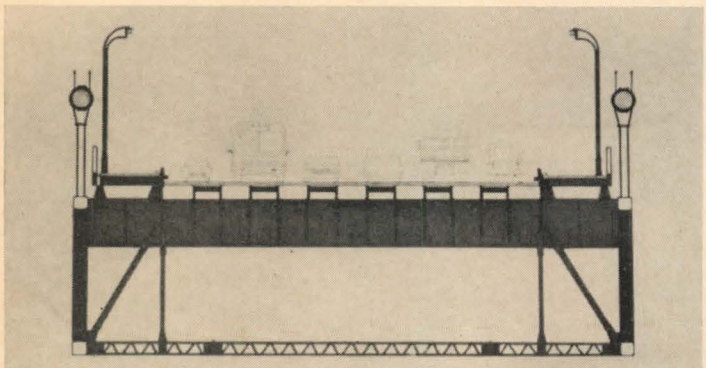
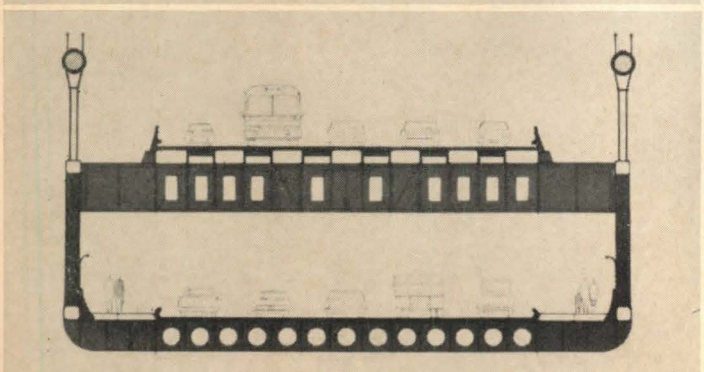
express our civilization. You cannot invent a new architecture every Monday morning." *Ludwig Mies van der Rohe, quoted in* Fortune *magazine, January 1966.*

"Americans are too impatient. They expect instant beauty. But they forget that cities are not built in one day. We may spend years agonizing over a renewal project and then we expect the city to be rebuilt instantly. Can you imagine what Paris must have looked like when Baron Haussmann finished with it? The social and cultural shock must have been tremendous. It's like surgery; it takes a long time for the tissue to heal. The city has to echo life. If our life is rough and tumble, so is the city. I've always felt that ugliness with vitality is tolerable. The great danger our cities face today is that their vitality will be sapped by too much concern for instant beauty. New York is not a beautiful city. It may even be ugly, but it is exciting. It draws beauty from its vitality. If you drove all residents out and made it a gleaming commercial center, it would only be beautiful in a narrow sense. It woud be lifeless, and therefore intolerable." *I.M. Pei quoted in* Life *magazine.*

Opening that Golden Gate



EXISTING SECTION OF CENTER SPAN



PROPOSED SECTION OF CENTER SPAN

SAN FRANCISCO, CALIF. Like most giant structures, the Golden Gate Bridge is many things to many people. For architects, it is a thing of grace and beauty; for airline passengers coming in from the Pacific, it is a stirring landfall; to motorists in the 24 million vehicles that cross it every year, it is a means to an end; and for would-be suicides, it is a place of last resort. But after 28 years of operation, its structure, if not its image, needs, as they say, upgrading. A feasibility study of a proposed design, adding a second deck to the bridge, was recently authorized by the Golden Gate Bridge and Highway District.

Essentially, the design calls for addition of a five-lane lower deck and for reconstruction of the existing deck to lighten the total dead load. As worked out by Norman C. Raab, former chief of the State of California Division of Bay Toll Crossings, in association with the Tudor Engineering Co., the design should double the bridge's capacity and provide greater safety by separating inbound and outbound traffic on different decks, each of which would have five lanes. The designers believe they can use a stronger steel than was available when the bridge was erected in 1937, and substitute a steel deck for the existing concrete roadway on the existing upper roadway. In this way, they hope to reduce the total dead load carried by the structure's cables and piers.

Cost is expected to be about one-tenth that of a completely new crossing, and the work can be financed from bridge revenues.

PERSONALITIES

Allan B. Jacobs, Louis E. Sauer, Richard E. Toth, Sim van der Ryn have joined the University of Pennsylvania's faculty for the Graduate School of Fine Arts. . . . **Fred L. Liebmann** has been elected president of the New York Society of Architects. . . .James E. Lash has been appointed executive vice-president of Urban America, Inc., which has merged with ACTION Council for Better Cities. The merged organization has an annual budget of more than a million dollars to help make cities "more livable, more workable, and more beautiful." . . . **Alvin Boyarsky,** master and lecturer of architectural history at the Architectural Association School of Architecture in London, has been appointed associate dean of the college of architecture and art at the new Chicago Circle Campus of the University of Illinois. . . . **Elliot Noyes** has been elected president of the International Design Conference in Aspen.

Awards

John Carl Warnecke is a 1965 *Sports Illustrated* Silver Anniversary All-America winner. He was a tackle on the Wow Boy football team at Stanford University before his graduation in 1941.

Theater Consulting Group Formed

BOSTON, MASS. Consultation in any phase of theater design and management is the service offered by the new theater consulting group at Bolt, Beranek & Newman, Inc. Under the direction of Thomas DeGaetani, who moves to the job from his position as Managing Director, Theaters and Concert Halls, of the Lincoln Center for the Performing Arts, the group plans to assist architects and others interested in theater construction. Among assistance offered through the firm's offices in Cambridge, Mass., New York, and Los Angeles, will be feasibility and preprogramming studies, fund raising, layout and space investigations, furnishings and equipment specifications programming, staffing, and management and operation.

Obituaries

GILES VAN DER BOGERT, partner in the Schenectady, (New York) architectural firm of van der Bogert, Feibes & Schmitt, died last November at the age of 58.

Top Totem



OMAHA, NEB. The Omaha Indians called their lands "Nebraska" (meaning flat in their language), and the name stuck. And the state grew. And the people grew. And so did the buildings.

Now a 36-story hotel/retail shopping/and office building is being planned that will be twice as tall as any other building downtown. The Central Omaha Tower, designed by Leo A. Daly Co., will have internal parking facilities and underground walkways leading to its neighbors. Materials used will be granite and concrete, with solar bronze glass. Work is expected to start as soon as the GSA releases the land that houses a now-declared-surplus post office.

Judging from the rendering, the building's height may be its only distinctive feature. It looks a little like an old-fashioned

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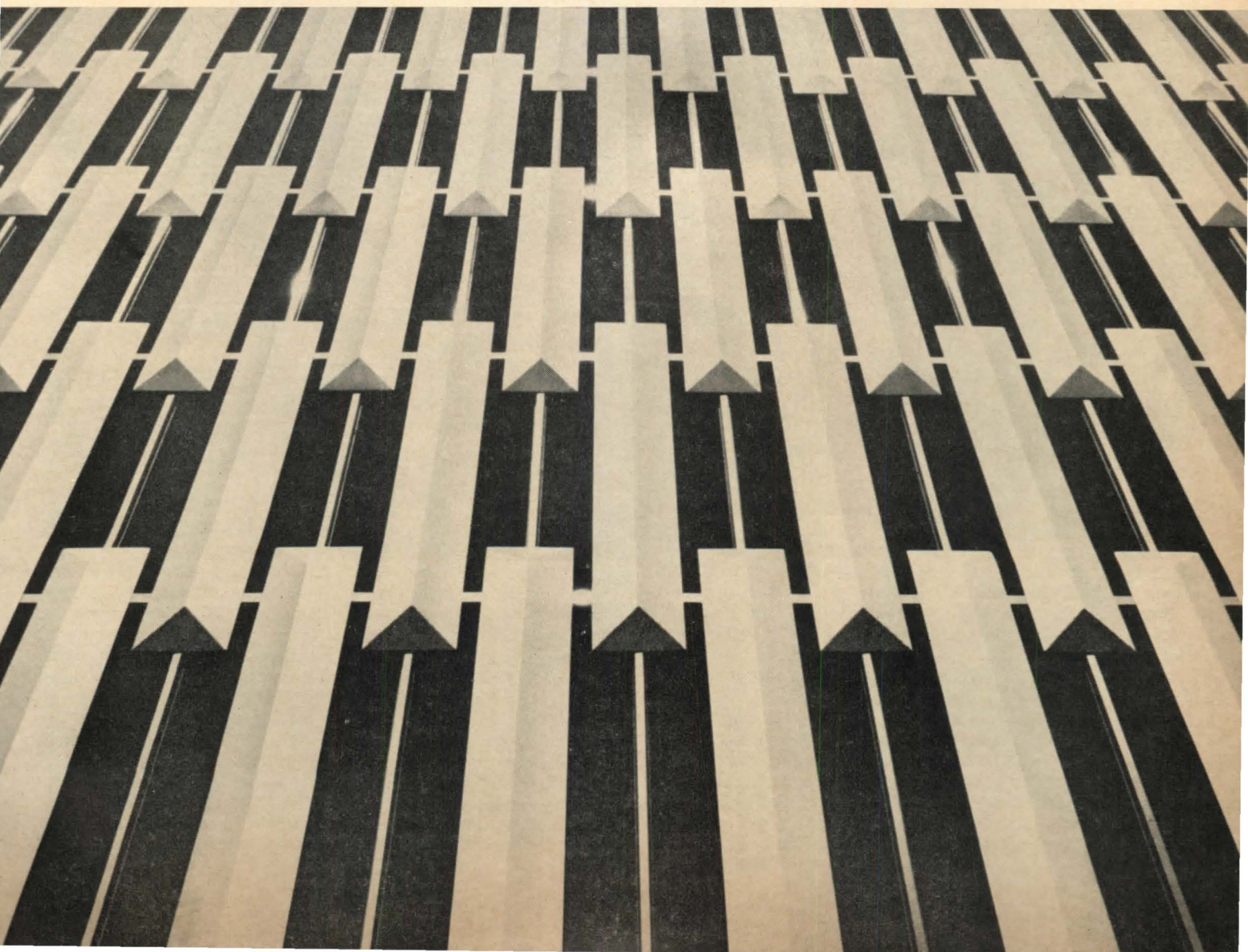


adding machine in modern trim—one that does not add up to much.

More Traffic Hazards



The executive, or anyone else who can afford it and wants to avoid the ignominy of driving a mere single-family automobile into the crowded hearts of our cities, can now have the doubtful distinction of taking up as much room as a commercial bus with the "3500 Series Executive Land Cruiser" put out by the Custom Coach Corporation of Columbus, Ohio. The individual company buses are, as indicated, arrangeable as to floor plan, allowing you to sleep, drink, or dispose of bodily wastes on a custom basis, but they are nevertheless just another blow to the already constipated cities of America. Hence, executives can carry their wastes to the nearest disposal, but what can cities do?

Science in Rotation



BERKELEY, CALIF. Borrowing a device from other performing arts, scientists at the University of California are lecturing in what is billed as "the first rotating stage installed in a major auditorium on a college campus." Housed in an oval-shaped building (the recently completed physical sciences lecture hall), the stage allows professors to set up experiments and demonstrations behind the scenes while the lecture hall is in use. The rotating stage has three podium positions, each complete with laboratory benches, sinks, and blackboards. Suspended from the ceiling within the hall are television monitor screens, which give the audience close-up shots of what is happening on the podium. These 16 screens can be lowered automatically from the ceiling and adjusted for proper viewing. The hall seats 550 persons.

26 Western Homes Win Awards

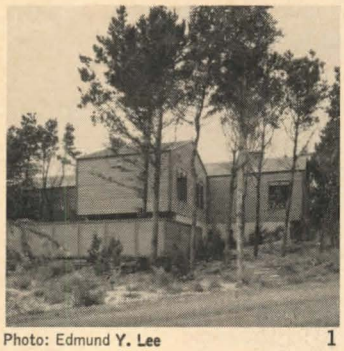


Photo: Edmund Y. Lee 1



Photo: Don Normark 2



Photo: Jeremiah O. Bragstad 3

MENLO PARK, CALIF. *Sunset* magazine's biennial home awards program this year drew 443 entries from architects registered in seven Western states. All 26 winners selected from this group were completed since 1960. Shown here are three of the top winners, which received Honor Awards. They are: a home in Gleneden Beach, Oregon, designed by Fletcher & Finch (1); home in Mill Valley, Calif., designed by Ian Mackinlay & Associates (2); home in Seattle, Wash., designed by A.O. Bumgardner (3). Also winning an honor award was the mountain top home designed in Mill Valley, Calif., by Marquis & Stoller, shown on the cover of the MAY 1963 P/A.

GRACEFUL GRIDS

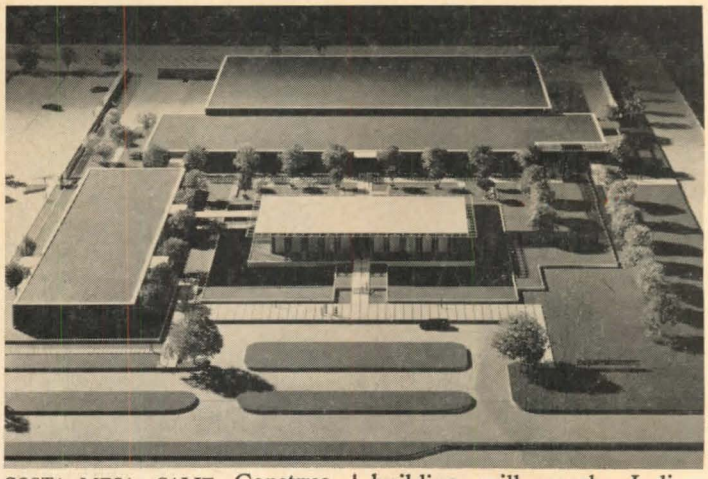


Photo: Julius Shulman

COSTA MESA, CALIF. Construction of Atlantic Research's Missile Systems Division office will be completed by July. Designed by the Long Beach architectural firm of Killingsworth, Brady & Associates, the complex will include four buildings for engineering, manufacturing, and test facilities. The central executive building will perch, Indian-fashion, in a large reflecting pool, whose fountains will set a tone of gracefulness. The 800 employees will also be treated to garden areas adjacent to the cafeteria. Expansion as well as grace has been keynoted. All buildings have been designed to fit into 4′ grids and thereby facilitate future additions.

The Sacred Halls of Ivy

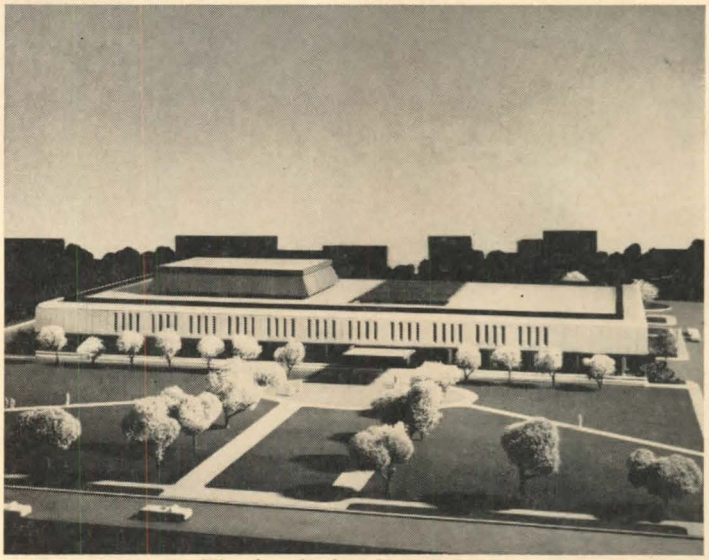
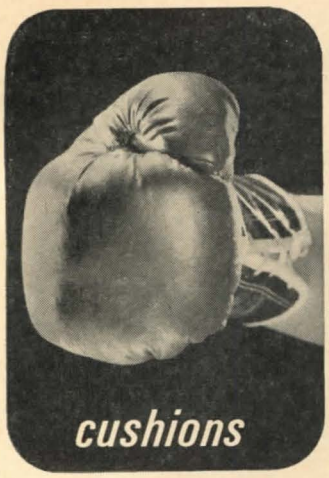
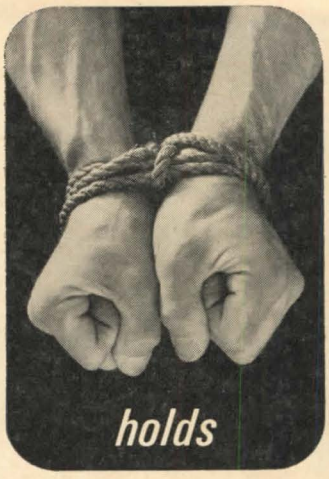


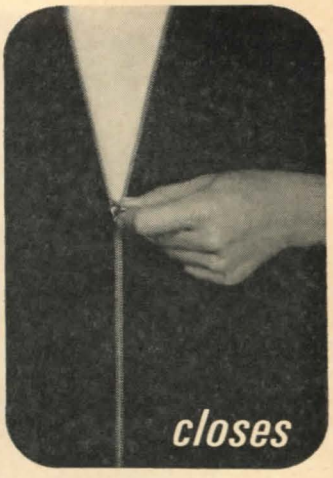
Photo: Paul Peters

HOUSTON, TEXAS. The ivy had to go; it was much too old fashioned. Today's groves of academe demand a fast pace, a clean, uncluttered modern look—and this look is often reflected in what today's educators call a campus center. The campus center no longer is the hall of learning, but the hall of living. The office of George Pierce/Abel B. Pierce has designed just such a center for the University of Houston. In addition to an education, students will be offered: a bowling alley, barber shop, arts and crafts areas, snack bar, lounges, dining rooms, bookstore, activity and meeting rooms, ballroom, music listening rooms, television rooms, post office, billards and table tennis area, and lo, a library. The $5,000,000 facility will open its doors in the fall.

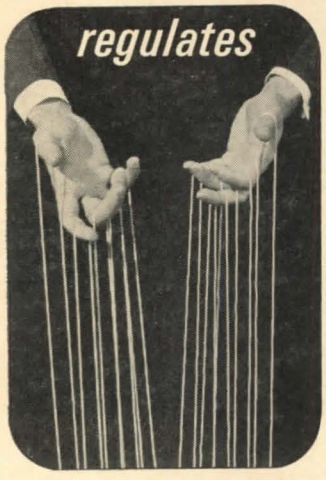


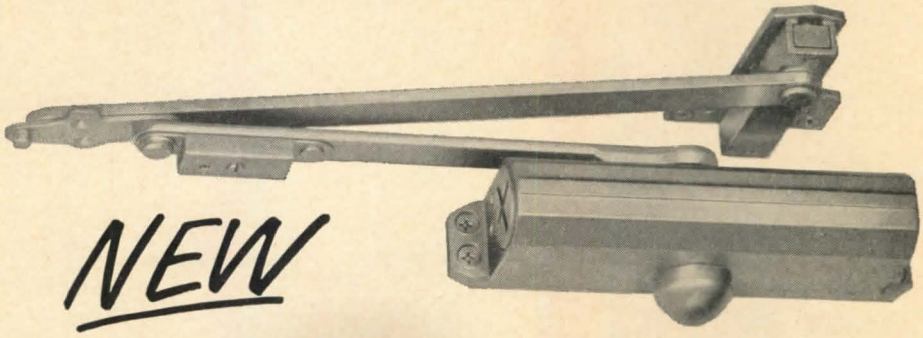






ALL FIVE DOOR CONTROL FUNCTIONS IN A SINGLE UNIT





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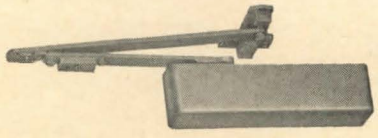
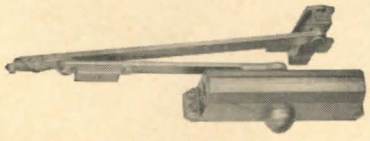


Series 6110



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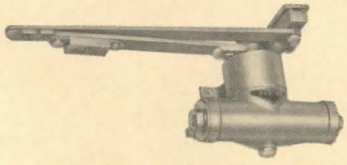

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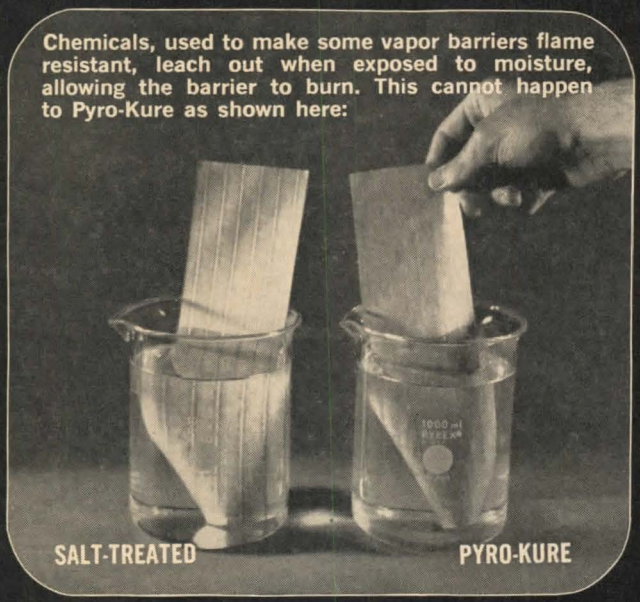

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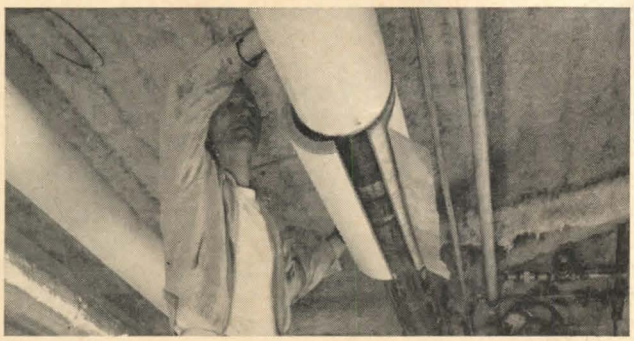

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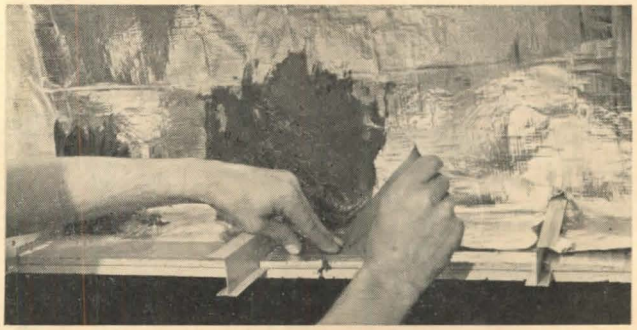

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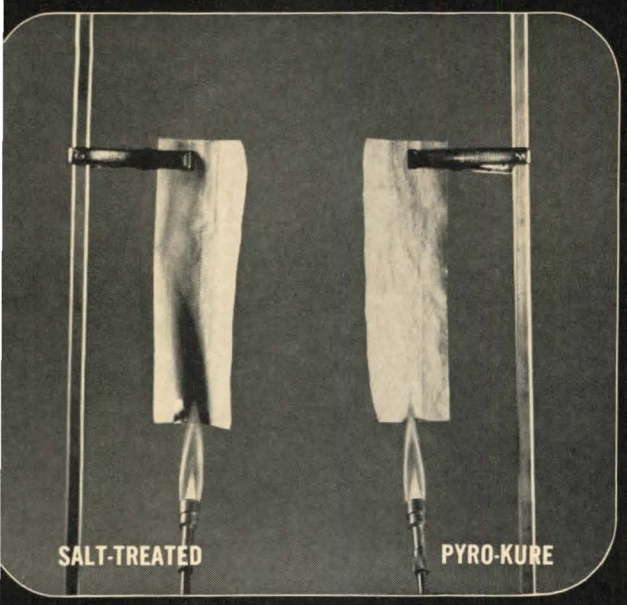
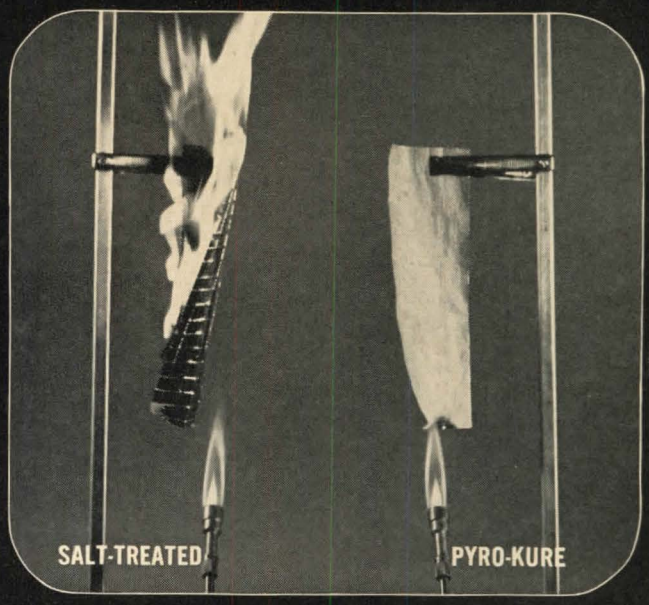
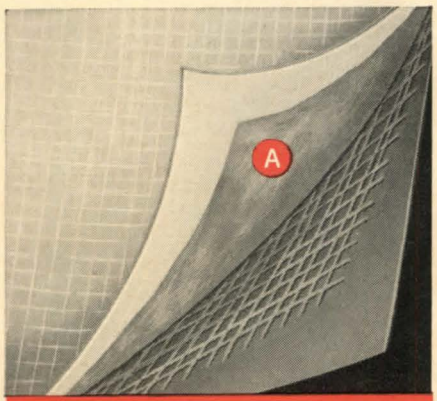


3) Flame is applied, treated barrier starts to burn.



(4) Treated barrier engulfed by flames. Pyro-Kure snuffs out flame, won't burn ever!



A Exclusive Pyro-Kure adhesive provides permanent flame extinguishing property.

This dramatic flame-snuffing ability comes from Sisalkraft's exclusive Pyro-Kure adhesive. It is a patented flame-extinguishing formulation that keeps the Vapor Barrier noncombustible no matter what environments it might be subjected to or how long it is in place.

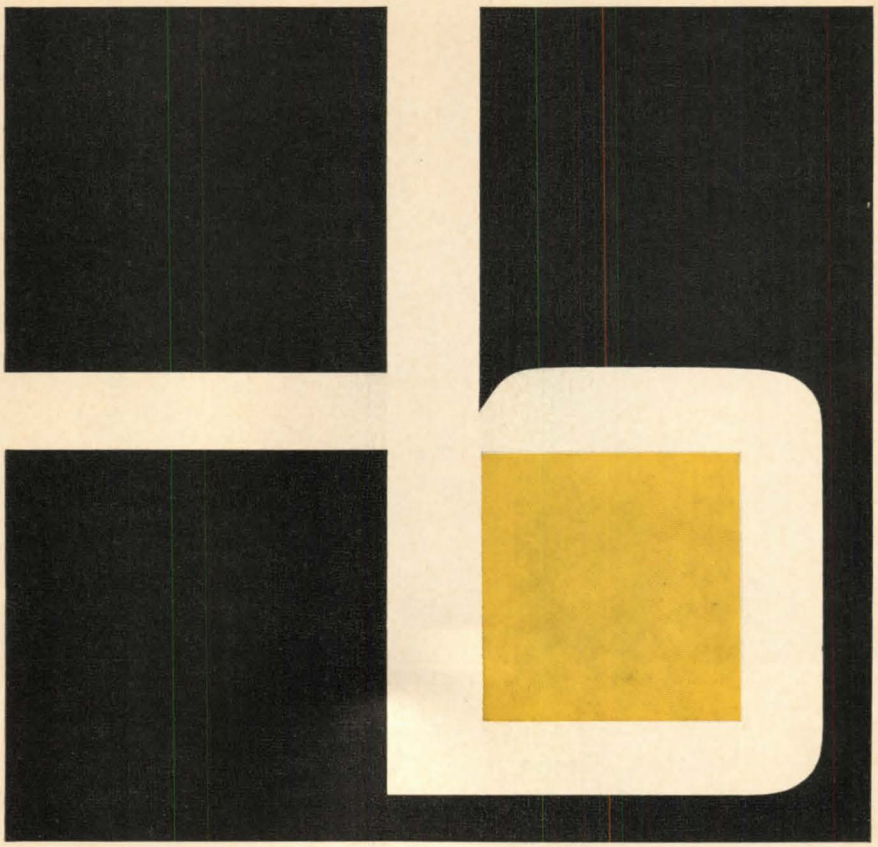
This is not true with other "rated" barriers. Moisture, humidity and aging can cause other types of flame-extinguishing chemical to leach out, or corrode aluminum.

This difference is why Pyro-Kure is called the **permanently noncombustible** vapor barrier. Why its U/L Flame Spread Rating of "25 or less . . ." is not restricted in any way or will never be reduced. It is also why Pyro-Kure Vapor Barriers comply with the National Building Code standard for **Noncombustibility** as defined by the American Insurance Association.

Specify Pyro-Kure Vapor Barriers. Give your clients maximum protection against fire hazard, and against condensation. Various grades are available, including aluminum foil to kraft, vinyl film to foil, and kraft to kraft, from leading insulation manufacturers under their own brand names, or through insulation contractors for local application. All grades are reinforced with glass fibers for strength. Complete specifications are in Sweet's Catalogs.

Send for Samples and Technical Data Kit which includes perm ratings and other physical property information. Write: Sisalkraft, 56 Starkey Ave., Attleboro, Massachusetts 02303.

ST REGIS
SISALKRAFT DIVISION



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On Readers' Service Card, circle No. 329

WASHINGTON/FINANCIAL NEWS

By E.E. HALMOS, JR.

The proposed "document" bringing the American Arbitration Association into construction industry disputes, which was so enthusiastically endorsed by the AIA in mid-December, won't be finally approved by all parties until March or April.

But there's no doubt that it will be approved, and that it can mark a brand new era for all parties in the industry.

Key points include:

Use of AAA facilities (through inclusion in contract documents) to settle disputes, thus eliminating alternate arbitration by an AIA panel;

Establishment of an "Advisory Council" that would represent the construction industry and would set up arbitration criteria.

A probable sharp cut in arbitration costs should make the procedures more attractive to contractors, and, it is hoped, might well eliminate much subsequent court action.

The second point is of most interest to contractors, who are usually the aggrieved parties in disputes with architects and owners. They've long felt that organizations such as AAA try to impose general rules on arbitration procedures that are perfectly suitable for most business problems but don't fit the peculiarities of the construction industry at all. Now, with a carte blanche to draw up their own rules (within the limits of AAA procedures), they feel that arbitration would be much fairer, and that they would use it more.

Of course, the fact that architects are to be removed from the occasional embarrassment of being judge, jury, and prosecuting attorney on their fellow workers' problems is another advantage.

Significance of real arbitration procedures in the industry is very great and could have a decided effect on construction costs. Many lawyers have boasted that they can by-pass any arbitration procedure, if their clients choose, by direct court action. But court records show that when arbitration has been conducted, a majority of cases are solved within the limits of the arbitration awards. Hence, if contractors can be convinced that arbitration is fair, just, and that the arbitrators understand the facts thoroughly, the tendency to charge off to the courtroom will be reduced.

Delay in final approval of the plan is occasioned by dates of annual sessions of the Associated General Contractors and other participating groups, and by a need to work out details of membership and duties of the proposed advisory council.

AIA to Define Criticism

Architects will have to do much soul-searching, and pay careful attention to comments both verbal and written, before AIA promulgates any new interpretation of "criticism," or sets up a recommended program on public information.

Reasons: to avoid the unmistakable charge of sour grapes; and to avoid the implication of any attempt to control or direct press and public criticism.

Problem is that architects—particularly in Washington—have not hesitated to criticize loudly the work of other professions in design and planning (even criticizing their own members, as recent comments on the employment of Mies van der Rohe to design a new library indicated). But when their own carefully selected design for a new headquarters building came under sharp attack in the capital, they had to backtrack on the plan themselves, under the guise of need for more space than originally specified.

To follow such an action with a publicity release stating that the AIA is taking "major steps to develop methods of informed architectural criticism" (announced at the same press conference as the change in plans for headquarters) almost invites the comment that AIA is seeking to prevent general criticism of itself and its members.

Railways in Tubes

The planners who envision rail lines in tunnels to connect great metropolitan areas with very high-speed service have a good idea in terms of the aesthetics and perhaps economics involved, but they may be forgetting an important principle of aerodynamics that could cause a lot of trouble.

The U.S. Department of Commerce stressed the point: A train, moving through a tunnel at 55 to 70 mph, would build up about the same amount of pressure as an airplane diving 5000 to 7000 ft per minute. Such a rate of descent is forbidden by the Civil Aeronautics Board, which figures that, unless the plane cabin is pressurized, anything above 2000 fpm is dangerous to passengers.

On the basis of experiments with a two-car train in New York's Hudson Tubes, Commerce engineers argue that high-speed trains, such as those proposed for the Boston-to-Washington run, would have to be completely pressurized to be safe.

Architects and planners have suggested tunnels for such speedy travel, on the grounds that they would cause the least disruption of surface activities, the least marring of the landscape, the least need for purchase of expensive right-of-way, and would require the least maintenance against weather conditions that might block scheduled service. If pressurization must be added to the costs of construction and rolling stock, however, the whole idea could become astronomically expensive.

Urban Road Beauty Consultants Named

Appointment of that eight-member "Advisory Board of Urban Consultants," to assist the Bureau of Public Roads on urban route locations, reflects an upcoming change of emphasis in the vast Federal-aid highway program, as well as an attempt to scotch growing criticism of highway aesthetics.

The change in emphasis is dictated by the program itself—away from rural areas, where a lot of road mileage could be built in a hurry and where few problems of interchanges and right-of-way are involved, to the highly urban areas, where costs will be enormously greater and progress a lot slower. There's also a political consideration: With the increasing voter power of the urban areas under recent court rulings and legislation, politicians must make suitable bows to them.

At last year's conference on beautification, highway engineers came under heavy attack—much of it from architects and land planners—for their supposed concentration on road mileage at the sacrifice of beauty.

BPR has therefore named an unsalaried group of consultants (including two civil engineers) as the new advisory group. Included are Michael Rapuano (as chairman), a New York landscape architect and engineer; Lawrence Halprin, San Francisco landscape architect; John O. Simonds, Pittsburgh landscape architect; and Kevin Roche, Hamden, Conn., of Eero Saarinen & Assoc.

Financial

Key fact for architects is the continuing prediction of an ever-higher total-business volume (in dollars, at least) for the construction industry for 1966. The Commerce Department made it official with its own forecast, which is in close agreement with industry forecasters, of a $73 billion year for new construction.

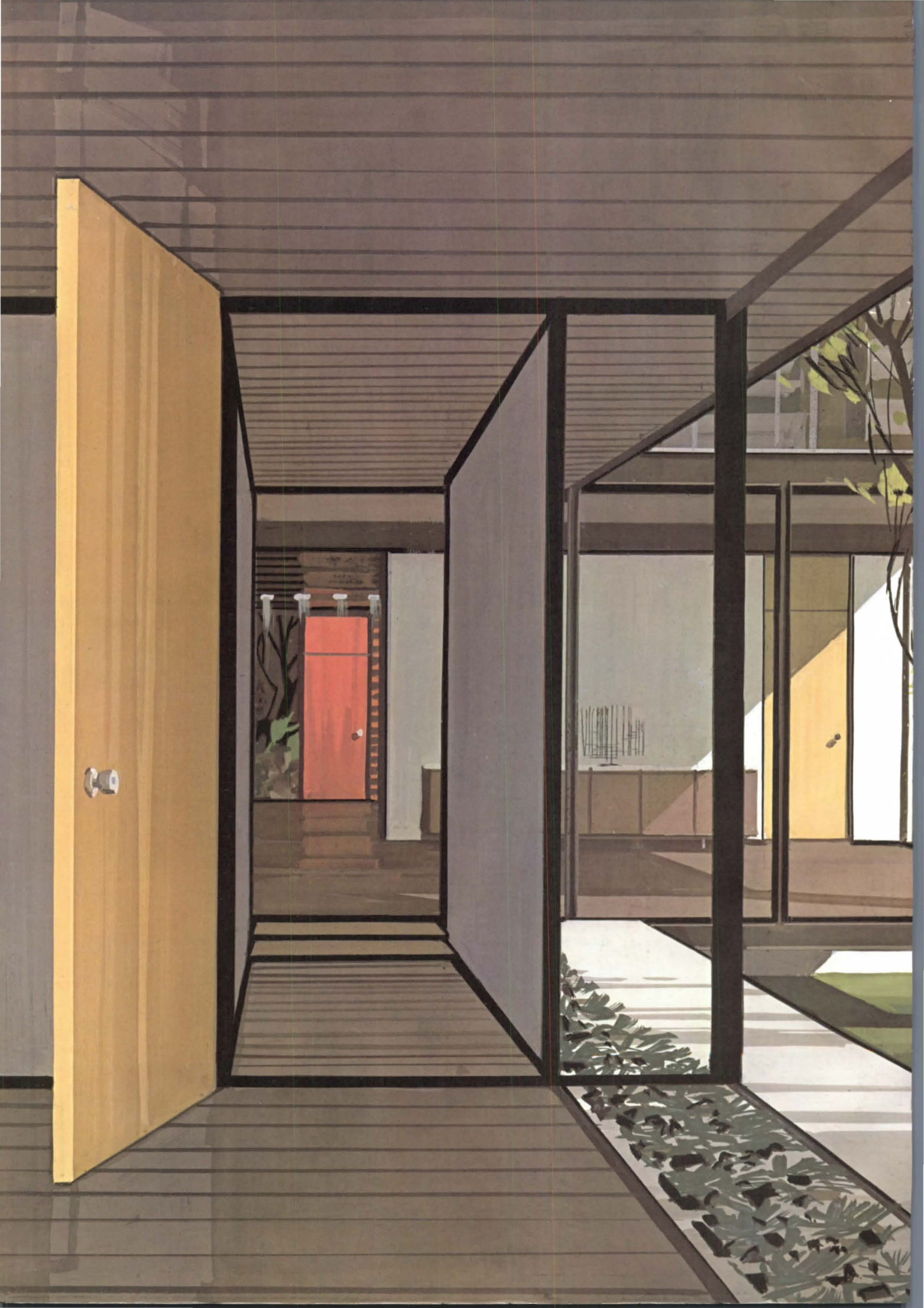
There was, however, a sobering note: just what effect the escalating costs of war in the Far East would have on the domestic economy. Cutbacks in military construction (for family housing and other amenities at U.S. bases), already announced, are one indication. If the Federal Government begins to take large amounts of material and labor out of the domestic construction economy, the final effect could mean a major shift in the type of work available.

Meanwhile, final totals for 1965 indicated a strong finish for the year, and close agreement with predictions of a year ago: In November, value of new construction put in place was set at $6.1 billion—up 5 per cent over the previous year.

There was an encouraging note from the money markets, as average secondary market price of FHA-insured home mortgages dropped slightly for the fourth consecutive month—to $98 per $100 of outstanding loans.

Most encouraging was the continued taxpayer support of public works construction. In November, voters approved 70 per cent (by value) of all such issues presented to them, for a total of $2.3 billion worth of new money for schools, roads, water and sewerage projects.

On Readers' Service Card, circle No. 410 ➤





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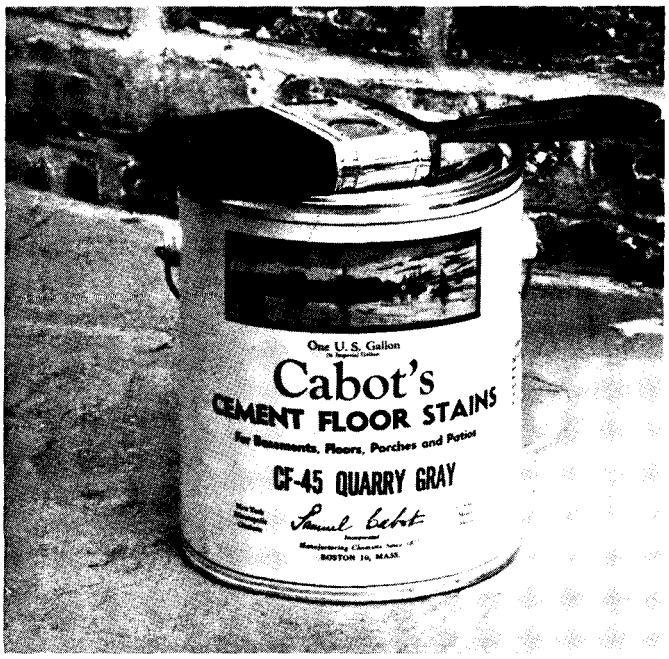

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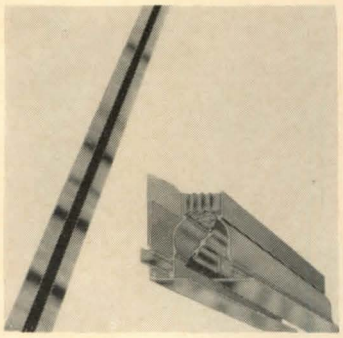
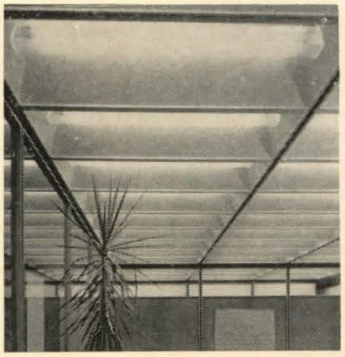


Continuous slot diffuser attaches directly to air ducts above ceiling panels. A concealed vane controls direction and volume of air diffused through slot. Extruded aluminum "Flexiline," with single or multiple slots, is adaptable to tile, grid, or plaster ceilings. Universal Diffuser Corp., 155 Saw Mill River Rd., Yonkers, N. Y.
On Readers' Service Card, Circle 100

Coffered "C-60"

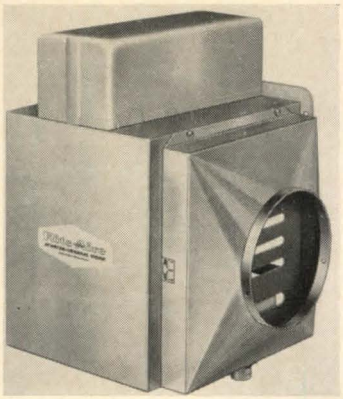


Integrated ceiling system offers alternative to suspended flat ceiling construction. "Luminaire C-60 System" is available in pairs of 30″ x 60″ coffered units. Conditioned air is distributed through perforated acoustical tiles lining the soffit and sloping sides of each coffer. A 4′ lighting fixture fits into a coffer. Armstrong Cork Co., Lancaster, Pa.
On Readers' Service Card, Circle 101

Smoke/Odor Removal

Line of compact, self-heating catalytic reactors remove smoke and odors from exhaust air in food, appliance, and process industries. Unit oxidizes smoke and vapors, and therefore does not require frequent cleaning and changing of a filtering element. Air capacity ranges from about 1 to 15 cfm, depending on whether the circulation is by natural or forced draft as well as on the loading, air inlet temperature, and the required efficiency of operation. Units measure 3″, 5″, and 12″ in diameter and 4″ in height. Custom models are also available. Prototech Co., 50 Moulton St., Cambridge, Mass.
On Readers' Service Card, Circle 102

Simplified Humidifier



Stainless-steel evaporative humidifier fits into all forced air furnaces. "Rite-Aire Model 201" eliminates filter pads or belts, float, solenoid valve, drain, pump, electrical hookup, and humidistat. The humidifier can be mounted on either the warm air plenum or the cold air return. Simple selector control adjusts the output. Capacity: ½ gal per hour. Atwater-General Corp., Watertown, Wis. 53094.
On Readers' Service Card, Circle 103

Doorway Heater

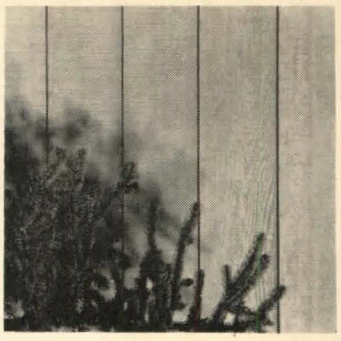
Gas-fired heater, for mounting under a ceiling, directs fan-propelled heat into doorway when garage doors open. Automatic switch starts heater when doors open. Heater, rated at 600,000 Btu an hour, has electronic flame-failure controls. Heat Machinery Corp., 20310 Chagrin Blvd., Cleveland, Ohio 44122.
On Readers' Service Card, Circle 104

Fan-Coil Units

Fan-coil room air-conditioning units with molded glass-fiber-reinforced-plastic fan volutes and a three-speed motor reduce noise and operating expenses, according to the manufacturer. "UniTrane" units with 800-, 1000-, and 1200-cfm capacities are available in eight variations of free-standing, wall-mounted, recessed, or concealed cabinets, plus optional controls and coils. The Trane Co., La Crosse, Wis.
On Readers' Service Card, Circle 105

Construction

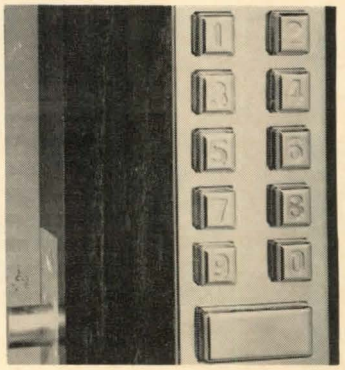
Rugged Outdoor Look



Rough-sawn redwood bevel siding is prefinished and back-primed with a water repellent that seals the exposed lap edges. Finishes are natural, red brown, or driftwood gray. Available in 6″, 8″, and 10″ widths, and 3′ to 20′ lengths. Color-matched aluminum nails also included in siding package. Simpson Timber Co., 2192 Washington Bldg., Seattle, Wash. 98101.
On Readers' Service Card, Circle 106

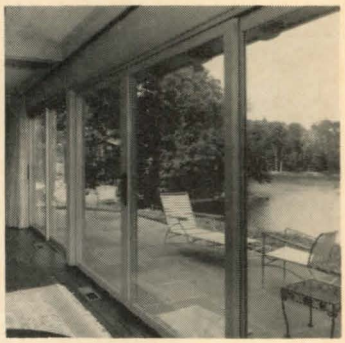
Doors/Windows

Let Your Fingers Do the Locking



Push-button lock has a possible 10,000 four-digit combinations from 10 buttons. Individual combinations are set on a pair of metal slides, which can be replaced with a different combination for slightly more than the cost of a key, claims manufacturer. Preso-Matic Lock Co., Inc., 8228 W. 47 St., Lyons, Ill. 60534.
On Readers' Service Card, Circle 107

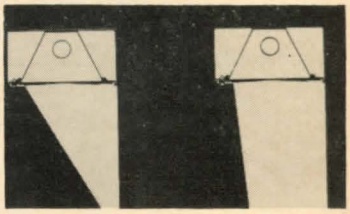
Framed in Wood



Wood-framed sliding glass doors for houses are built to meet commercial requirements, says manufacturer. Wood frames are cured to resist moisture, fungus, and insects. Doors ride on an adjustable ball-bearing mechanism, and are sealed with double weatherstripping. R. O. W. Window Sales Co., 1365 Academy Ave., Ferndale, Mich. 48220.
On Readers' Service Card, Circle 108

Electrical Equipment

Prism Lens Lights Walls



Prisms molded into acrylic lens for flush ceiling fixtures can direct light onto walls at varying angles. By changing the transverse position of the lens in relation to the fluorescent light source, the angle can be fixed anywhere between 0° and 15°. Flutes in the back of the lens keep brightness low and uniform. Holophane Co., Inc., 1120 Avenue of the Americas, New York, N. Y. 10036.
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Finishes/Protectors

Plenty of Paint

A self-priming exterior latex oil-acrylic paint is available in 1500 colors. It combines the durability of latex with the

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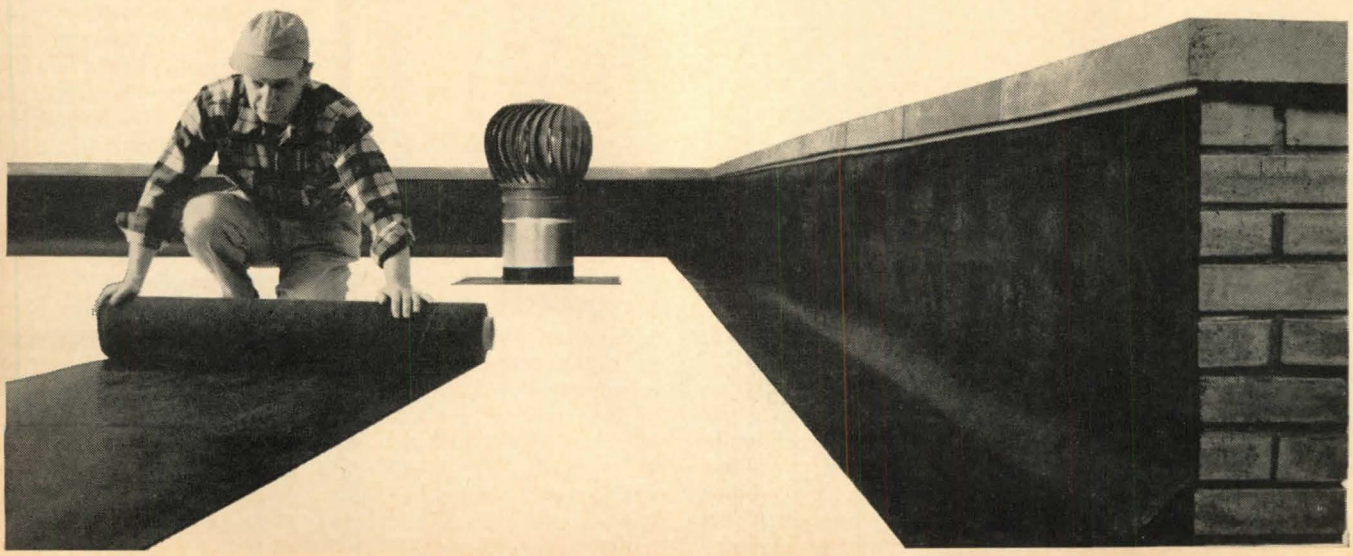
There are only two reasons for not specifying flexible flashing: (1) you've tried it before with mixed results, or (2) you don't like to try new things. Well, now we think we can reassure you on both counts. Early flexible flashings (and a few that are still around) had their faults. These have been corrected in Saraloy® 640R plastic flashing. Second, flexible flashings are not new. They've been some time reaching the state of perfection embodied in Saraloy 640R flashing. Consider the advantages of Saraloy 640R. Since it's flexible, it can adjust to the building movements that occur. It can withstand extreme roof temperatures—either hot or cold—without thinning out or getting brittle. And it lasts and lasts.

It cuts on-the-job installation costs and is a joy for roofing contractors to work with. Doesn't it sound like it's worth a try?

For more information, contact The Dow Chemical Company, Plastics Sales Department, Midland, Michigan 48640, or consult Sweet's Architectural File 8g/Do.

DOW



On Readers' Service Card, circle No. 342

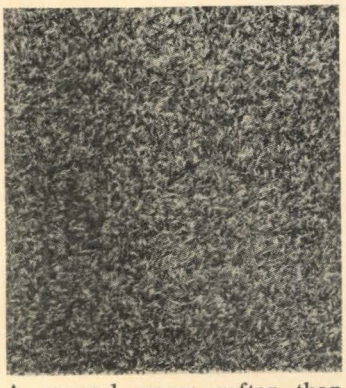
penetration and adhesion of oil, says manufacturer. Paint dries in 1 to 2 hours and is available in "white tint base and deep tone base." Available throughout the West. Pabco Paint Div., Fibreboard Paper Products Corp., 475 Brannan St., San Francisco, Calif.
On Readers' Service Card, Circle 110

Coating Resists Bacteria Growth

A plastic wall coating suitable for hospitals, nursing homes, and institutions, will not support growth of staph bacteria, says the manufacturer. The non-toxic, low-odor coating, "Zolatone 43," also does not support combustion, and has a minimal smoke factor. It resists chipping and scratching and is available in either solid or tonal colors. Coated wall can be washed or scrubbed without impairing the finish or its resistance to staph growth. Zonatone Process Inc., 3411 East 15 St., Los Angeles, Calif. 90023.
On Readers' Service Card, Circle 111

Furnishings

Everything but Flowers



A ground cover softer than asphalt, more durable than grass, is what architects and landscape architects have wanted in playgrounds for years. Now, outdoor rugs by Cabin Crafts offer a perennial spring. Dow Chemical's slim, ribbon-like saran fiber "Rovana" is tufted to produce a pile that is the most realistic of the outdoor-carpet grasses. Adhesives are applied to the rubber-waffle backing for installation at poolsides (nonslip), city terraces (nongrassable), golf courses (nondependable), etc. Manufacturer claims easy care (with a hose), color-fastness (even to pool chlorine), and durability. Countless interior applications are also suggested. Widths to 12′ or area rugs (standard sizes), 9 colors, $9.95 per sq. yd. Cabin Crafts, 7 E. 35th St., N.Y., N.Y.
On Readers' Service Card, Circle 112

Machines on Wheels



Almost any business machine can travel in style with this neat table on wheels. The unit is 26″ high and has a double laminated plastic self-edged top (18″ x 31½″) of textured gunstock walnut with satin or mirror chrome legs. Approximately $60. Cramer Industries, Inc., Kansas City, Kansas.
On Readers' Service Card, Circle 113

Shock Therapy for Rugs

Barwick and Monarch Mills' nylon carpets no longer let the sparks fly because of their new static repellent "No Shock" process, which is said to reduce static level to the point where electrical charges are virtually eliminated. Applied to the back of the fabric, before the latex binder and the final double backing, "No Shock" is a special conductive coating that is permanently locked into the carpet. It is not affected by wear and never needs to be reapplied. Manufacturer also claims a reduction in soiling due to static loss. All the company's nylon carpets are now treated with "No Shock." E. T. Barwick Mills, Inc., Chamblee, Ga.
On Readers' Service Card, Circle 114

Adjustable Library Shelves

Bookcases for offices, classrooms, or libraries combine polished steel tubular corners and the richness of natural wood and grained laminated plastic. Though the solid walnut shelves are completely adjustable, manufacturer claims frame construction is rigid enough to withstand the most demanding weight loads. Top and base frame boards are finished in a choice of enamel colors. Models in 42″, 60″, and 84″ heights, 10″ and 20″ depths; optional back panels in 36″ sections. Haney School Furniture Co., 1600 Berkey, S.E., Grand Rapids, Mich.
On Readers' Service Card, Circle 115

Executive Furniture



The "Officers Collection" by Drexel includes desks, chairs, cabinets, and conference and occasional tables. Post-and-beam structure of the legs makes the cases, in contrasting wood, look suspended from it. American walnut solids and veneers have been given a protective top coating for easy upkeep. Drexel Enterprises, Inc., Drexel, N.C.
On Readers' Service Card, Circle 116

Modern French Furniture



Olivier Mourgue of France has designed two groups of seating. The first consists of eight sculptured pieces—chairs, a loveseat, single and double benches, and a chaise longue (upper photo). Construction is of tubular steel with rubber webbing and molded foam rubber padding covered in stretch fabric of vibrant colors. The other group, which is good for public spaces, is constructed of flat stainless-steel bars with rounded edges; installed over flat suspension springs, the foam rubber upholstery is covered in black leather sewn in horizontal ribbings. This group includes an unusual back-to-back chair (lower photo), a low and a high-backed chair, a small bench/ottoman, and a chaise longue. George Tanier, Inc., 305 E. 63rd St., N.Y., N.Y.
On Readers' Service Card, Circle 117

Snappy Black



JG Furniture is now showing Dave Woods' "I/S" group—chair, settee, and sofa—wherein emphasis is on flexibility as well as appearance. Each piece comes with or without arms, so as to fit many layouts. The designer notes that a 1″ contour separation between the upholstered elements allows for physical flexibility as well as providing subtle visual interest. The understructure is of stainless steel, the upholstery of vinyl or leather. All pieces can be made longer on a 7½″ module. Height: 28″; depth: 30½″. Tentative list prices (leather armless): chair, $788; settee, $1095; sofa, $1495; arms approximately $100 more. JG Furniture Co., 160 E. 56th St., N.Y., N.Y.
On Readers' Service Card, Circle 118

Tip Off on a Tip-up



Lecture-theater chair measuring only 4¾″ from front to back when tipped up is available in a range of woods and upholsteries, along with optional swivel armrests, folding desk shelves, modesty panels, ashtrays, and front row screens. All mechanical devices are hidden; the underside of the seat is upholstered for

maximum acoustical effect. Height: 27½″; seat width: 18 ⅝″; seat depth: 14″, 21″ on centers. Approximate price (F.O.B. factory): $28; three-month delivery on orders of up to 500 chairs. Horace Olaf Limited, First Ave., Queenborough, England.
On Readers' Service Card, Circle 119

Hard-Hearted Desks



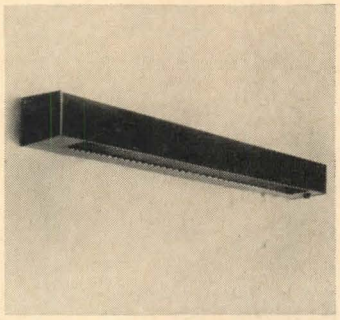
Of three new furniture groups by Croydon, three "Advantus" desks are most original, combining steel interiors with wood cases. Also in the line are two tables and a side cabinet. Interior parts of desks are die-form steel; exteriors are walnut veneers, quarter cut and book matched; tops are mar-resistant. The bright chrome legs come in two variations: wood inlay on the vertical member or a tapered horizontal. Croydon Furniture Corp., a division of Royalmetal Corp., 1 Park Ave., N.Y., N.Y.
On Readers' Service Card, Circle 120

Spaced Frame



For those who want a "residential" feeling about their "office" furniture, the gap has been bridged with tufted, wood-framed seating (settees, sofas, armchairs, and side-chairs) from Jens Risom. A slight separation between backrest and supporting frame is accomplished by means of wood spacers. Frames are of solid white ash or American walnut; angled back legs are steam bent; upholstery fabric or leather is available button-tufted, with or without intervening seams. Dimensions: 30⅞″ deep x 32″ high. Jens Risom Design Inc., 444 Madison Ave., New York, N. Y.
On Readers' Service Card, Circle 121

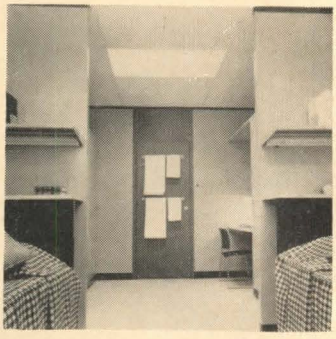
Four-in-One Light



Hospital light fixture, encasing two fluorescent and two incandescent tubes that function separately, can serve four purposes: indirect fluorescent uplight for general illumination; direct fluorescent downlight for reading (baffles control glare); indirect, high-intensity, incandescent uplight for examination (with 200-w reflector flood lamps at either end of fixture optionally included); and low-level, incandescent downlight as nightlight. Functions are individually controlled. All-aluminum case can be enameled oyster white or expresso brown; alternate front can be walnut panel. Designed by Ted Greene and Noel Florence for Lightolier, 346 Claremont Ave., Jersey City, N. J.
On Readers' Service Card, Circle 122

Services

Built-In Rooms



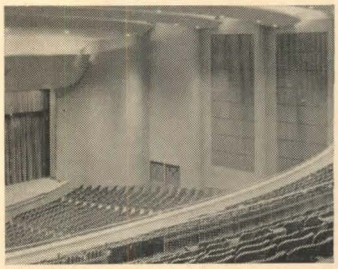
Prefab dormitory room units are designed for installation inside a building shell with exterior walls, floors, and suspended ceilings. Fabricated in a "wide range of designs to meet architects' requirements," the room units contain built-in beds, desks, wardrobes, shelves, and fluorescent lights over the beds. Walls are acoustical panels with a foam plastic core covered by steel skins finished in baked enamel. Standard designs are for single rooms, double rooms, and two room suites. Washrooms are included in package. Rooms are said to be economical to maintain and easy to assemble or disassemble. The General Fireproofing Co., E. Dennick Ave., Youngstown, Ohio 44501.
On Readers' Service Card, Circle 123

The Model Plant



Scale models aid designers and management with problems too complex to be handled adequately by plans alone. For plant layouts, machinery and equipment can be placed in various arrangements to determine the most efficient use of space. Models also assist designers in placing intricate piping systems, and guide work crews in the field. Generally built to ⅜″, ½″, or ¾″ scale, the models are also made for architectural applications. Illustrated is a Plexiglas model of the nuclear steam power plant being built by Washington Public Power Supply System at the Hanford Atomic Reservation, Washington. United Scale Models, Inc., Chester, Pa.
On Readers' Service Card, Circle 124

Adjustable Louvers Alter Acoustics



Custom-designed, pneumatically controlled louvers change auditorium's reverberation time from 2.0 seconds (for music) to 1.5 seconds (for speech). Reverberation time is reduced by exposing panels of acoustic material set behind the louvers. Aluminum-faced panels are filled with urethane foam. Maker says panels can be moved silently during a performance. Conceived by Walter A. Scholer & Associates, architects, and designed by Construction Specialties, Inc., the system has been installed in an auditorium at Ball State Teachers College, Muncie, Ind. (illustrated). Construction Specialties, Inc., 55 Winans Ave., Cranford, N.J.
On Readers' Service Card, Circle 125

Brick Panels

A patented process for bonding brickwork enables manufacturers to prefabricate reinforced brick panels at a factory. Panels can be built to any size suitable for transporting to a job, thus reducing site labor. Panels can be single or double wythe for wall or pier construction. Masonry Panels Inc., 3507 Milam St., Houston, Texas 77002.
On Readers' Service Card, Circle 126

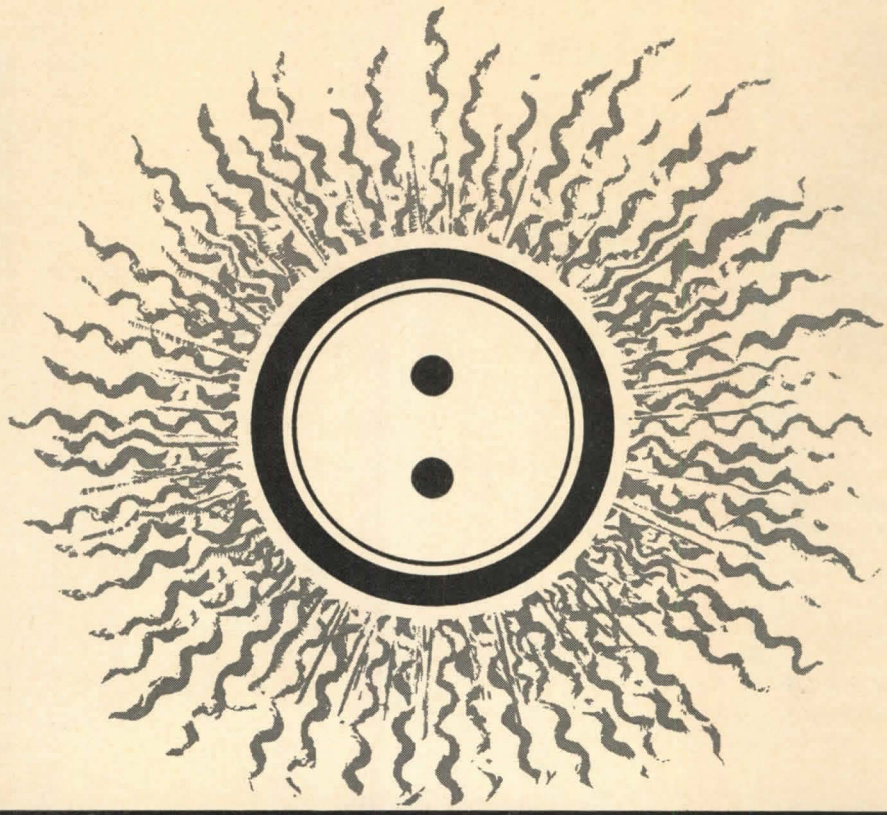
Special Equipment

Bidding On Microfilmed Plans



"Scan" system involves microfilming of architectural plans and mailing them to potential bidders. Subscribers view the microfilms on a patented projection table installed in their offices. Set of plans weighing 50 lbs can be mailed first class in a package the size of a cigarette pack. System benefits include making subcontractor "take-offs" outside regular business hours, bidding in a wider geographical area, and the elimination of blueprint purchase and deposit expense. Subscribers pay a fee for each

Burned up battling the problem of lamp heat?



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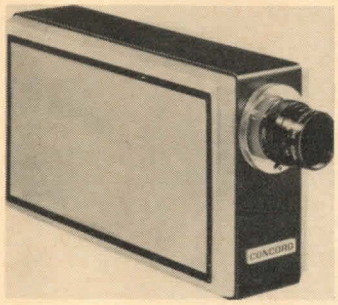
Phone 312-935-8900

film plus a monthly lease fee for the Scan projection table on which the microfilm is viewed. Photronix Inc., 111 South Meramec Ave., St. Louis, Mo. 83105.
On Readers' Service Card, Circle 127

Smile, When You See The Red Light



Economical camera for closed circuit TV can be connected to any television set or video monitor. Compact camera (3″ x 5¼″ x 9⅜″) has automatic light adjustment and is suitable for hospitals, apartment houses, schools, and industrial uses. Concord Electronics Corp., 1935 Armacost Ave., Los Angles, Calif. 90025.
On Readers' Service Card, Circle 128

Pick A Card . . .

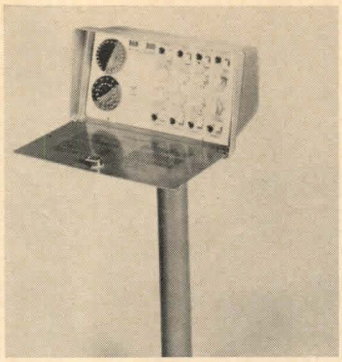


Electronic scanning system retrieves files in 3 to 5 seconds even though folders are not stored alphabetically. System is controlled from an electronic keyboard or operated automatically by punched tape. When machine finds folder, it pushes out material and signals to keyboard operator. The Mosler Safe Co., Hamilton, Ohio.
On Readers' Service Card, Circle 129

Hot from Frigidaire

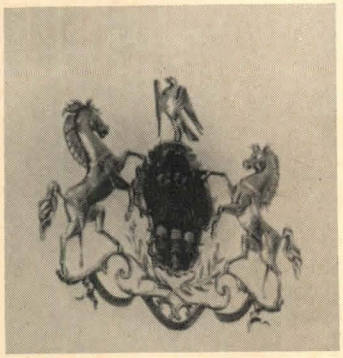
Built-in ovens are now available with "meal-minding" controls that automatically lower oven temperature after initial cooking period. Seven 24″ models have drop-leaf doors; three units with "glide-up" doors are 31″ or 41″ (double oven). Available in colors or copper and brushed chrome, with or without glass doors. Frigidaire Div., General Motors Corp., Dayton, Ohio 45401.
On Readers' Service Card, Circle 130

Push-Button Rain



Automated lawn and garden sprinkler system has an eight-station control clock that can be set to water the eight areas in 1 to 14 day intervals and in cycles ranging from 1 to 30 minutes. Small enough to be hidden behind shrubbery (12″ x 8″ x 8″), the "Rain-Clox" control box can be set for manual operation when additional watering is needed. Or it can be shut off in case of the real thing. A larger model is also available for golf courses. Rain Bird, Glendora, Calif.
On Readers' Service Card, Circle 131

Custom Casting

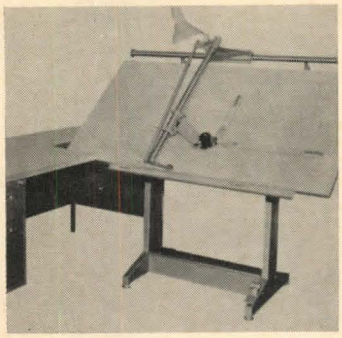


Large, custom-made bronze or aluminum plaques for exterior or interior walls need not be heavy, states manufacturer. Sand-casting techniques for thin sections restrict weight of a 20′-high aluminum bas-relief figure to 1000 lb. Company also casts fascias and spandrel panels. Shown is the Pennsylvania State Coat of Arms, sculptured by Charles Rudy for the William Penn Memorial Museum in Harrisburg, Pa. The Michaels Art Bronze Co., Inc., Erlanger, Ky.
On Readers' Service Card, Circle 132

A Case for Bronze

Store display case framed with bronze members is buffed and coated for protection against wear. Display cases are fitted with a variety of interiors and panel faces, which include wood, plastic or enamel. The 20″-deep by 42″-high cases are 4′ or 6′ long. Custom work available. American Store Equipment Corp., Muskegon, Mich.
On Readers' Service Card, Circle 133

The L-Shaped Drafting Desk



An L-shaped arrangement of a drafting table and a reference desk reduces a draftsman's movement and increases his speed, says the manufacturer of "Valagraph." The metal Valagraph table and desk stand at right angles to each other. The board is available in four standard sizes; the desk in two. Vanlaarhoven Associates, 6692 Mount Lowe, Buena Park, Calif.
On Readers' Service Card, Circle 134

Long Span Sunshade



Extruded, hollow aluminum sunshades with an airfoil-shaped cross-section are available for fixed or operative installations. Fixed sunshades can span 18′ between supports or extend 32′ vertically without bracing. Operated sunshades can span 12′ horizontally or 18′ vertically. Construction Specialties Inc., 55 Winans Ave., Cranford, N.J.
On Readers' Service Card, Circle 135

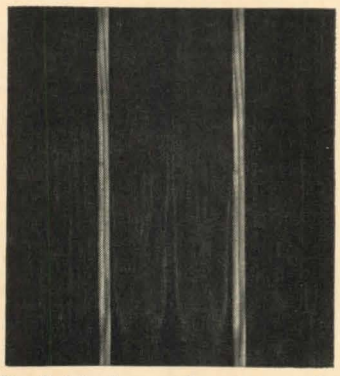
Surfacing

Block Flooring

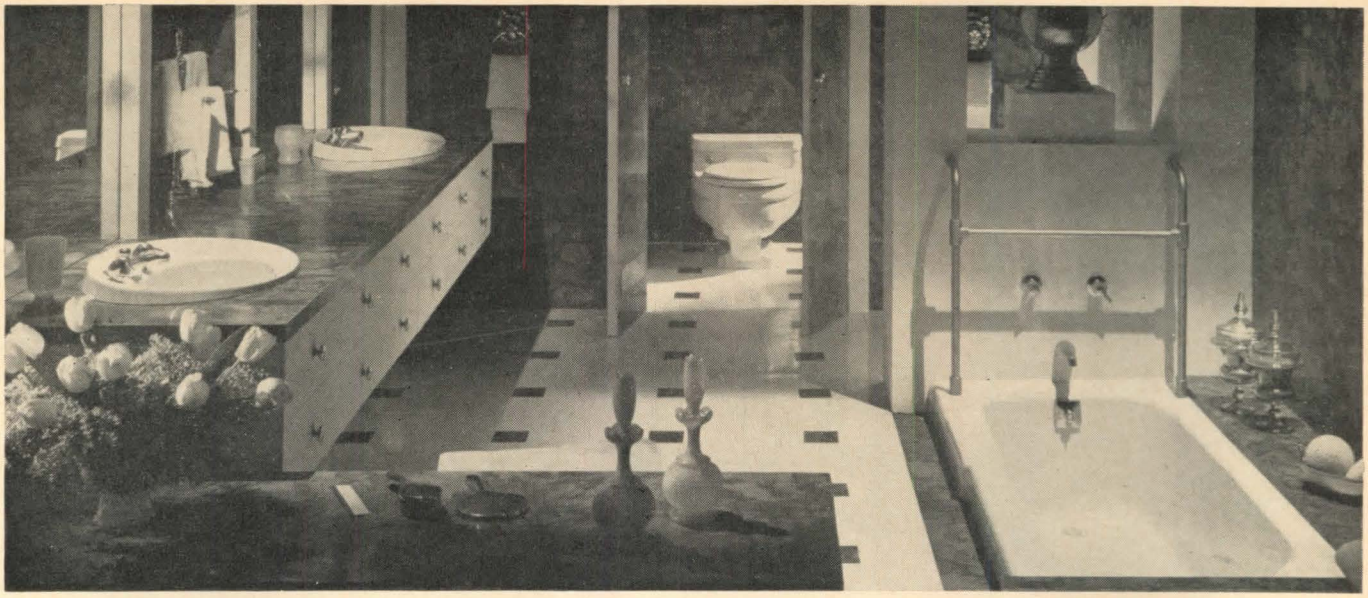


"Monaco" prefinished solid-block flooring consists of 5/16″ x 16″ x 16″ blocks, each formed of four smaller squares. It is available in white oak (either natural finish or toast brown), oak, walnut, cherry, and teak. Contrasting woods can be specified for the composite pieces for interiors that require special effects Since the flooring is solid hardwood rather than laminate, it can be used on suspended concrete or other subfloors and over existing floors. Wood-Mosaic Corp., 5000 Crittenden Drive, Louisville, Ky.
On Readers' Service Card, Circle 136

Inlaid Panels



Prefinished panels are made from 14¼″-wide planks alternating with 1¼″ strips of a contrasting wood. Panels are ¼″ thick, 4′ wide and 8′ or 10′ long. Five combinations are available: rosewood with teak, walnut with teak, teak with rosewood, cherry birch with walnut, and elm with walnut. Evans Products Co., Building Materials Div., P. O. Box 3295, Portland, Oregon.
On Readers' Service Card, Circle 137



Executives who come from homes furnished like this...



...appreciate office lavatories like this

The pictures above make the point. Office washrooms can be as handsomely functional as an executive's own bathroom at home. They can be made just as personal, too—designed to reflect his taste and the dignity of his office.

All it takes is you, the architect, plus a deft application of Eljer Master Crafted fixtures.

Eljer Master Crafted fixtures present an all-new look. You'll find it in the graceful sweep of their lines, the aesthetic appeal of their colors. Their variations in style complement any decor. Their lustrous, acid-resistant finish provides long life and inexpensive maintenance.

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The "6300"

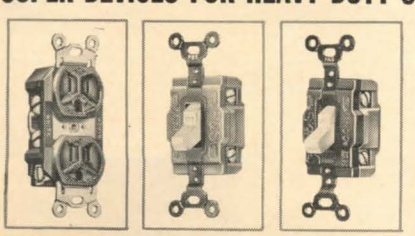
...newest of the P&S super devices

This is the new super "6300" by Pass & Seymour. Made without compromise . . . for the job where only the best will do.

The body and top are molded of high impact Melamine. All contacts are reinforced by plated spring steel clips . . . and each contact is individually recessed. May be side *or* back wired—with up to No. 10 wire. Assembly screws are threaded into the metal strap, not the plastic body.

The "6300" is for installations facing years of rough usage. It looks different because it is a truly different heavy duty outlet.

MORE SUPER DEVICES FOR HEAVY DUTY SERVICE



6200 3-Wire Grounding Outlet Companion to the "6300" with 15 amp. rated Capacity.

1001-I and 1021-I Switches Heavy duty, shallow body switches for installations requiring continuous, dependable service. 15 amp. switches are color coded blue; 20 amp., red.

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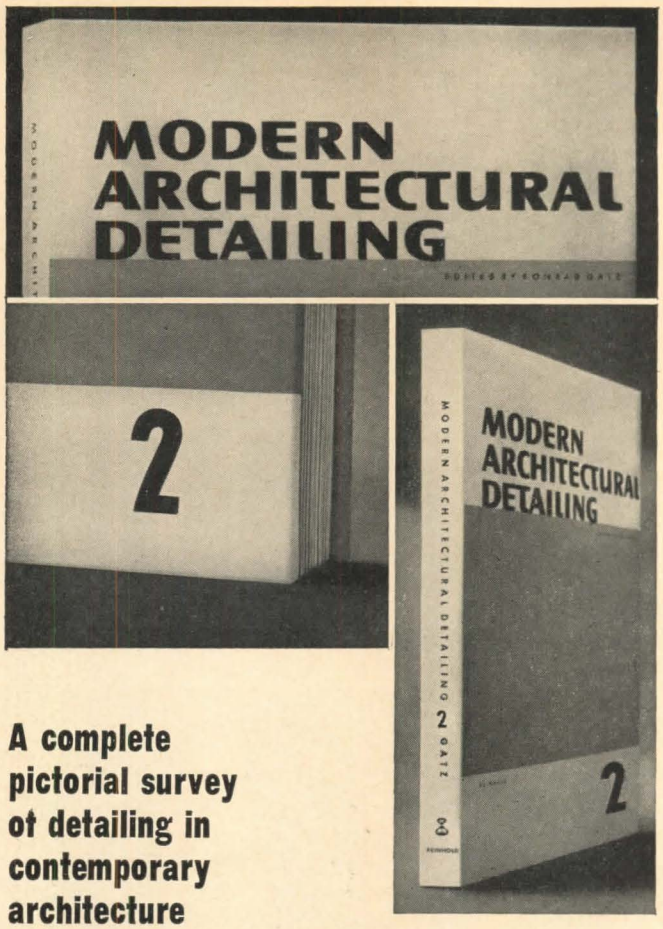

A complete pictorial survey of detailing in contemporary architecture

MODERN ARCHITECTURAL DETAILING: Vol. II

Edited by Konrad Gatz

1965 284 pages 500 illustrations (40 in color) $17.50

This book illustrates how some of today's leading architects have solved the detailing problems which have faced them. It is divided into three main sections: (1) Structural Details which covers everything from details found in steel-framed and reinforced concrete buildings to garden pools and fountains; (2) Details Of Interiors and Fittings; (3) Unity Of Detail which deals exhaustively with five complete building projects notable for their excellent design. The detail work of more than 250 American and European architects is examined with a view toward aesthetic quality, technical soundness and originality. The value and uses of both new and traditional materials are discussed in relation to structure, exteriors, interiors and landscaping, providing a wealth of ideas and information for the architect, draftsman, designer, building contractor, and interior decorator.

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MANUFACTURERS' DATA

Air/Temperature

Blowing Hot and Cold

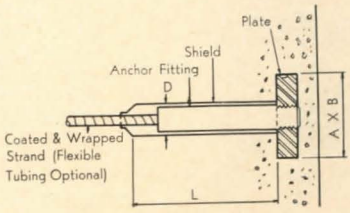
Through-the-wall heating units can be converted to air condition a room without piping or wiring changes. Booklet illustrates units and controls, lists dimensions, connections, and capacities, and offers suggested specifications. 16 pages. American-Standard, Industrial Div., Detroit, Mich. 48232.
On Readers' Service Card, Circle 200

Unit Heaters

Brochure of gas-powered unit heaters gives dimensions of three models and illustrates the heating coverage for several types of air deflectors. Brief specifications tabulate optional and standard equipment. 6 pages. Modine Manufacturing Co., 1500 De Koven Ave., Racine, Wis. 53401.
On Readers' Service Card, Circle 201

Construction

Stressing Tendons



Pamphlet describes a French strand tendon now available in the U.S. Chart indicates available sizes and loading capacities; simplified drawings show fixed and free anchorage details. Also included are pictures of a few applications, brief specifications, and table of jack dimensions. 8 pages. Stressteel Corp., 221 Conyngham Ave., Wilkes-Barre, Pa. 18702.
On Readers' Service Card, Circle 202

Steelwork Exposed

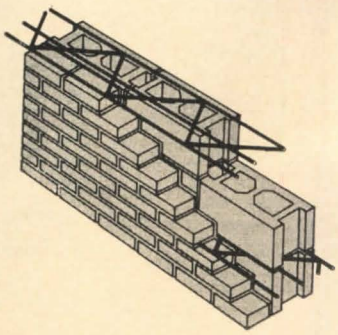
A new manual, "Exposed Steel, Architectural Design Details," covers the history, properties, availability, and appearance of structural steels that can be painted and left exposed, or can be exposed without protection against atmospheric conditions. The book offers specifications for these steels and for finishing and protecting them. Well-produced details illustrate applications for several types of buildings. United States Steel Corp., 525 William Penn Place, Pittsburgh, Pa. 15230.
On Readers' Service Card, Circle 203

Fold and Glue



Design manual for plywood folded-plate roofs spanning from 24′ to 100′ simplifies design procedures with selection tables for slopes, bay widths, plywood sizes, contact area for gluing, bearing areas, and, where necessary, tie rod sizes for wide range of spans and loading. Connection details and construction photos are also included. American Plywood Assn., Tacoma, Wash. 98401.
On Readers' Service Card, Circle 204

The Tie That Binds



Booklet about welded steel reinforcement for masonry wall construction illustrates typical applications for several types of walls, recommends reinforcing sizes and placement, and shows how and where to use ties to strengthen walls. 16 pages. Dur-O-Wal, National Inc., P.O. Box 150, Cedar Rapids, Iowa 52406.
On Readers' Service Card, Circle 205

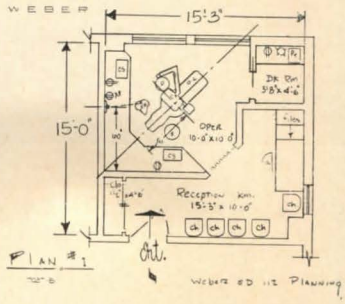
Vermiculite Concrete

Reprint of American Standard Specifications for Vermiculite concrete covers materials, properties, mixing, placing, and curing of lightweight concrete for roof decks and slabs on grade. 12 pages. Vermiculite Institute, 4725 Olson Memorial Highway, Minneapolis 22, Minn.
On Readers' Service Card, Circle 206

Specs for Stainless-Steel Curtain Walls

A guide for specifying stainless-steel curtain walls or stainless-steel components used in curtain walls. Notes clarify items that vary with different projects. These specs, which follow the AIA format, are produced with the cooperation of the Committee of Stainless Steel Producers and the American Iron and Steel Institute. The International Nickel Co., Inc., Reader Service Dept., 67 Wall St., New York, N.Y. 10005.
On Readers' Service Card, Circle 207

Dental Planning



Book illustrates layout plans for dental offices. Plans include dimensions of laboratories, darkrooms, operatories, and reception rooms. Plans range from 147 sq ft to 3600 sq ft for multiple operatories. Publication "SD-112 Office Planning." 134 pages. Weber Dental Mfg. Co., 2206 13 St., N.E., Canton, Ohio. 44705.
On Readers' Service Card, Circle 208

Extruded Shapes . . .

. . . in stainless steel, carbon and alloy steel, nickel-base alloys, and titanium in many profiles, both hollow and solid. Stock shapes and made-to-order designs are available. 18-page booklet includes photos, profiles, technical information, and a specifications table listing chemical composition and mechanical properties. The H. M. Harper Co., 8200 Lehigh Ave., Morton Grove, Ill. 60053.
On Readers' Service Card, Circle 209

Steel Roof Deck

Two profiles of ribbed decking are available in 18- to 26-gage steel. Leaflet lists physical properties, safe load tables, and dimensions of decks. 4 pages. Penn Metal Co., Inc., Parkersburg, W. Va.
On Readers' Service Card, Circle 210

Air Structures

Brochure describes air-supported shelters suitable for warehouses and recreational use. It briefly shows what the shelters are made of, how they are anchored, how they are inflated, and how doors are built into the shelter. 8 pages. Birdair Structures, Inc., 1800 Broadway, Buffalo, N.Y. 14212.
On Readers' Service Card, Circle 211

Doors/Windows

Sliding Glass Doors



Revised catalog is divided into four series of aluminum sliding glass doors: lightweight 600's for volume project construction; the sturdier 700's; 800's for "monumental type" installations (stock or custom); and 715's, which have been designed for high-rise buildings and have compensating jamb and head. Twelve-page catalog includes installation details, windload charts, sizes, and specifications. Northrop Architectural Systems, 999 So. Hatcher Ave., City of Industry, Calif. 91745.
On Readers' Service Card, Circle 212

Panel Show

Fir and hemlock panel doors are available in variety of de-



NEW from Crawford

STEELMASTER

low-cost, all-steel industrial door for any opening—any budget

Steel is the best material for many industrial door installations. STEELMASTER gives protection, strength, rigidity, durability under heavy usage. Use it in remote locations, wherever possible intrusion may be a consideration, wherever valuable equipment, products, or materials are to be safeguarded or hard, daily usage is a factor. Here are some of the features that make the STEELMASTER a great door and a great buy.

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8. STEELMASTER accepts all commonly used ACCESSORIES such as electric operators and control systems.

For prices and other information, call your local Crawford Distributor listed in the Yellow Pages under DOORS. Write for BULLETIN CD-3762.



Crawford Door Co.

signs, with and without lights. Louvered doors are also shown. Catalog illustrates doors and lists sizes of components. 48 pages. St. Regis Forest Products Div., Libby, Mon. 59923.

On Readers' Service Card, Circle 213

Walls to Match Your Doors

Custom-made, solid-core wooden doors and matching plywood wall panels (custom or stock) are available in any hardwood veneer required. Two 16-page booklets (one for doors, one for panels) each include photos, construction details, and suggested specifications. Eggers Plywood Co., Two Rivers, Wisconsin.

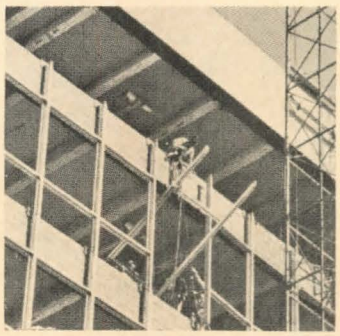
On Readers' Service Card, Circle 214

Out of the Woods

Folding doors with laminated cores bonded to veneers of Philippine mahogany, oak, birch, pine walnut, or ash. 8-page pamphlet gives photos, details, size charts, and specifications. Rolscreen Co., Pella, Iowa.

On Readers' Service Card, Circle 215

On the Face of It



Fenestration and curtain walls in aluminum and stainless steel for large installations are available in various types and sizes. 28-page catalog gives details, specifications and photos. The Adams & Westlake Co., 1025 N. Michigan St., Elkhart, Ind. 46514.

On Readers' Service Card, Circle 216

Electrical Equipment

Shielded Ceiling

Pamphlet describes suspended ceiling system that prevents radio frequencies emitted by fluorescent lamps from inter-

ARCHITECTS: SHORE & MOFFAT AND PARTNERS, TORONTO, CANADA LEAD ROOFING: HEATHER & LITTLE, TORONTO, CANADA





laboratory test puts lead on top

The new Cominco Product Research Centre in Sheridan Park near Toronto, Canada, has put lead quite literally on top. On top of the laboratory roof, to be exact. Only time will tell if this particular lead roof will pass all the tests of long use. However, many lead roofs have served for over 500 years, so no one is very worried.

Cominco's reasons for choosing lead roofing may well relate to your needs, too: 1) Lead will outlast the building it shelters. 2) With modern thinner, lighter, stronger lead-alloy sheets, lead installation costs are competitive with other metals. There's no "spring-back". Lead conforms easily to the workman's will and the roof's irregularities. 3) The beautiful natural grey patina of lead only improves with age. 4) There's never any staining of adjacent stone, concrete, or light-colored painted surfaces. 5) Lead has high sound-proofing performance. 6) If building becomes outmoded, lead has high salvage value.

Want a roof you can install and forget? Then look into long-lived lead. Send for free illustrated Roofing Handbook with complete specifications and installation procedures for lead roofing. Write: Lead Industries Association, Inc., Dept. N-2, 292 Madison Avenue, New York, N. Y. 10017. 2414

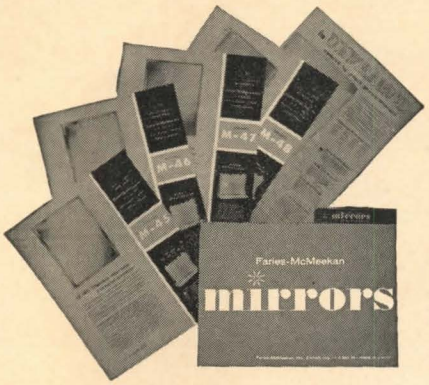
On Readers' Service Card, circle No. 415

LEAD INDUSTRIES ASSOCIATION, INC.

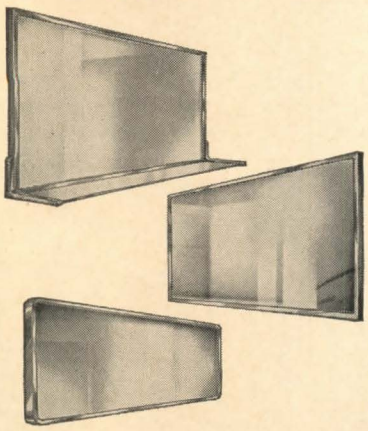
Look Ahead with Lead



THIS FILE BELONGS *in your* FILE



if you specify mirrors



NEW file folder shows complete mirror line

For selecting and specifying mirrors, this easy-to-use file folder can serve as a quick, convenient reference. Each FM mirror model is illustrated, carries complete size range, and includes specification information. Write today requesting the number of file folders needed for your office.

fm

Faries-McMeekan, Inc.
P.O. Box 35 Elkhart 2, Indiana

On Readers' Service Card, circle No. 345

fering with sensitive electronic equipment in the room below. Expanded aluminum honeycomb ceiling panels fit into suspended T-bars. 4 pages. Nova Industries, Inc., P.O. Box 1731, San Leandro, Calif. 94577.

On Readers' Service Card, Circle 217

Low Brightness Fixtures

Brochure catalogs complete line of ultra-low-brightness downlighting fixtures. Diagrams show how various lighting designs can be achieved by specifying combinations of fixtures, cones, lamps, and colors. Specifications are given for standard equipment and aperture matched, integrated equipment. Lighting & Electronics, Inc., 81 Prospect St., Brooklyn, N.Y. 11201.

On Readers' Service Card, Circle 218

"Give Me Some Light"



For Shakespeare in any medium, theater, TV, or movies, an extensive catalog of lighting equipment: quartz and quartz-iodine lights in spot-to-flood, fill, backlight, strip, etc., accessories, dimmer systems, and converters. Catalog gives charts, photos, and specifications. Price lists also included. ColorTran, 1015 Chestnut St., Burbank, Calif.

On Readers' Service Card, Circle 219

Furnishings

Goodyear's Plastic Laminates

Samples of Goodyear's "Videne" plastic laminates are displayed in a fold-out book. Entire collection, one of the most impressive marketed, includes approximately 14 woods (with convincing texture), 35 colors (ranging from muted

STANLEY®

Automatic Sliding Entrances

Call your nearest Stanley Magic Door Distributor.

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Hay Agency
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Stanley Door Operating Equipment
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B. R. Johnson & Son, Inc.
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Murray R. Womble Co.
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918, LU 4-2414

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Bohm Automatic Door, Inc.
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503, 282-4547

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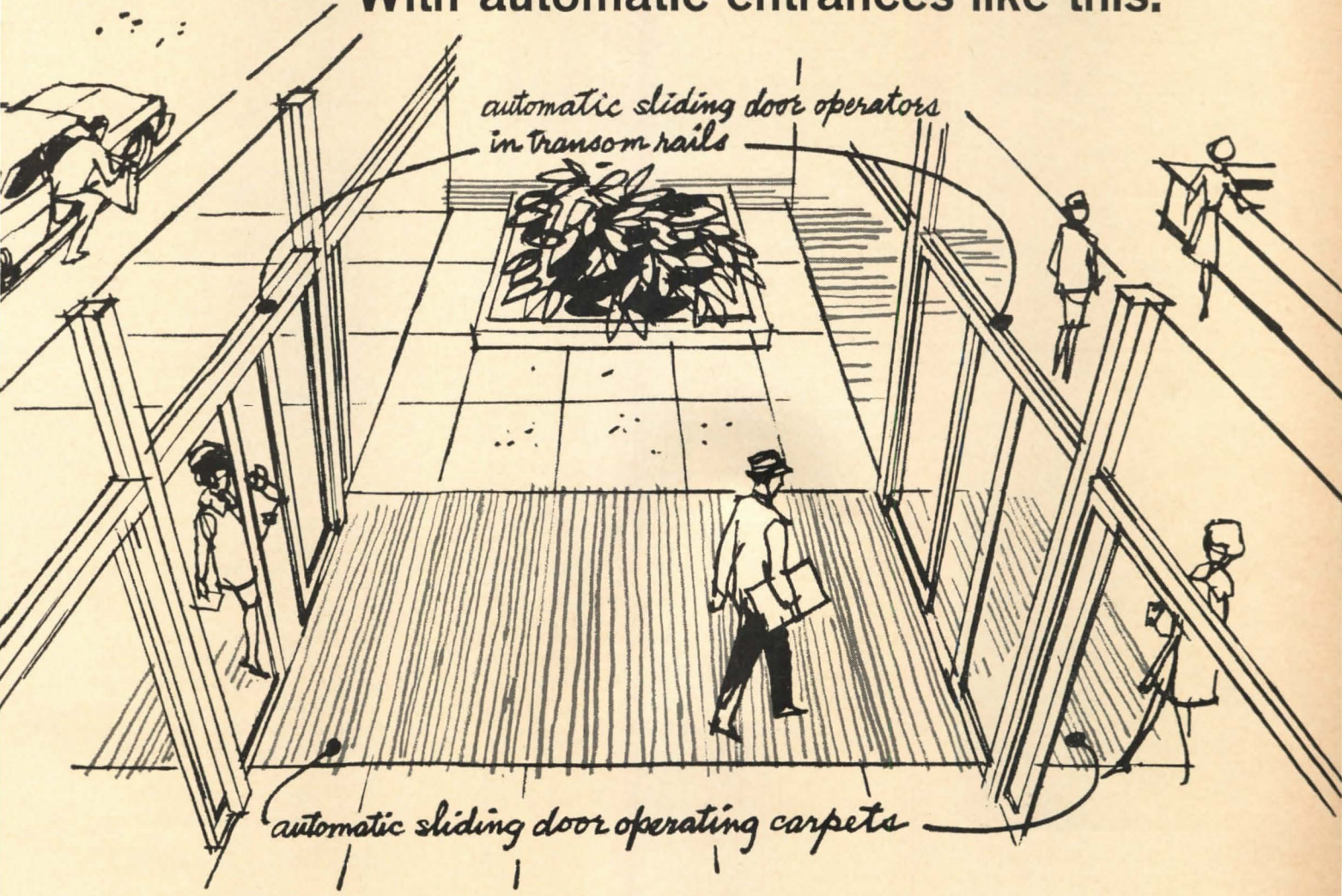
Who is moving two-way traffic most efficiently through doorways?

Stanley is.

With automatic entrances like this.



You can eliminate doorway traffic jams by design! Get information on Stanley automatic sliding entrances. Write us for Folder No. M67-COM. Look us up in Sweet's. Or check under "Door Operating Devices" in the Yellow Pages. Stanley offers a complete line of famous MAGIC-DOOR® operators (pneumatic, hydraulic, electric), controls and accessories for doors that swing, slide or fold. Stanley Door Operating Equipment, Division of The Stanley Works, New Britain, Connecticut.

THE STANLEY® WORKS

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Another Webster installation
Our Lady of the Angels Franciscan Seminary Quincy, Illinois

This extensive complex is tied together with a network of 98 Telecom phones.

FROM WEBSTER: all the advantages of a custom installation with standard components

Telecom® private dial systems can be tailored to your client's specifications, whether he needs 2 phones or 500. Or more. And if there's a need for dictation service, automatic code call, conference circuit, area paging, hands-free speaker phones—you can provide it with Telecom.

But we're not talking about an expensive custom installation as such. It's all done with standard Telecom modules that fit in, adapt or modify the system as required. No need to compromise—tell your Webster representative what your specifications call for and he can plan it in.

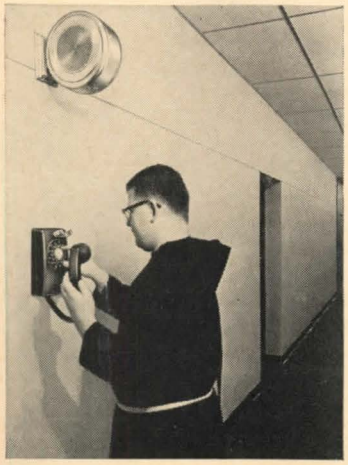
Webster Telecom offers more than component versatility. It assures exceptional dependability because it's American made . . . built to the same high standards as your utility phone. All-automatic switchboards, for example, have solid state circuits. There are fewer moving parts—diode circuitry replaces line and line cutoff relays for trouble-free operation.

Talk to your local Webster Electric distributor* — he can offer you expert planning counsel and installation. Or, write direct.

Free—portfolio of case history reports covering large and small installations. Illustrates and describes intercommunication problems solved with modern Webster equipment.

*Listed in Yellow Pages

Telecom—Webster Electric's trade name for private dial telephone systems



Telecom intercommunications plus Webster area sound control are part of the extensive Quincy installation.

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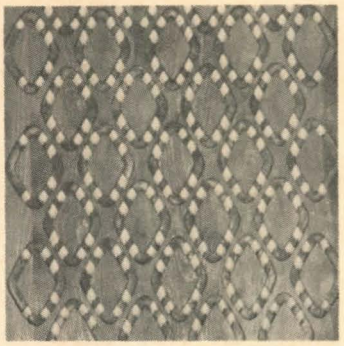
In Canada: Webster Electric (Canada), Ltd., Kitchener, Ontario

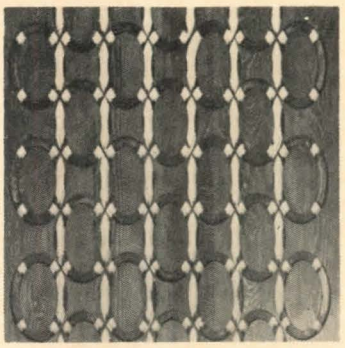
PRIVATE DIAL TELEPHONE • LOUD-SPEAKING INTERCOM • SOUND & PAGING SYSTEMS • TEACHING LABORATORIES
5057

On Readers' Service Card, circle No. 423

to bright tones in a fairly distinctive color range), 3 leathers, one travertine, a shantung, a white onyx, 3 arbitrary patterns, and a partridge in a pear tree. Pamphlet giving specifications also available. The Goodyear Tire and Rubber Co., Akron, Ohio.
On Readers' Service Card, Circle 220

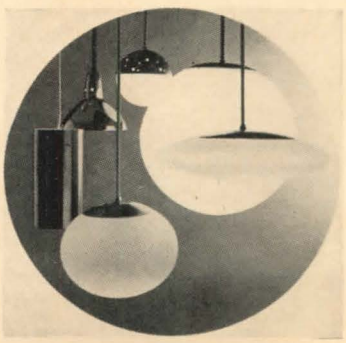
Panels and Stuff





Comprehensive catalogue illustrates all sorts of "decorative" panels to be used in screens, closet doors, windows, and case pieces. Of particular interest among much debris are some three-dimensional wood panels available in geometric, oval, free-form, and other intricate wood designs. 64 pages of color and black and white photos, charts, prices, specifications. Pinecrest, Inc., 2710 Nicollet Ave., Minneapolis, Minn. 55408.
On Readers' Service Card, Circle 221

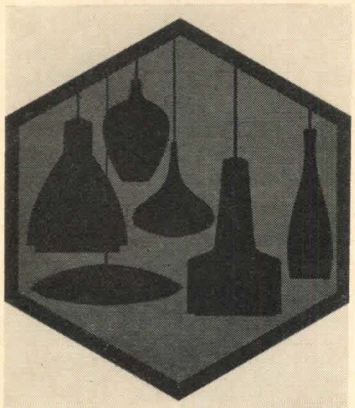
A Little Light Laughter



Items of use in varied and uneven 90-page catalogue include spherical and ellipsoidal

pendants and ceiling fixtures, metal cylinders, and a variety of ceiling- and wall-mounted reflector-shades in metal and glassfiber. Also shown is a good selection of outdoor, garden, and walkway lighting. Besides, you will get a laugh out of a sleazy group of "Original Tiffany Designs"—a claim that might be good cause for legal action if the illustrated *tiffanesque* "multi-color glass shades" were not so pitifully meager. EJS Lighting Corp., 921 East Pico Blvd., Los Angeles, Calif.
On Readers' Service Card, Circle 222

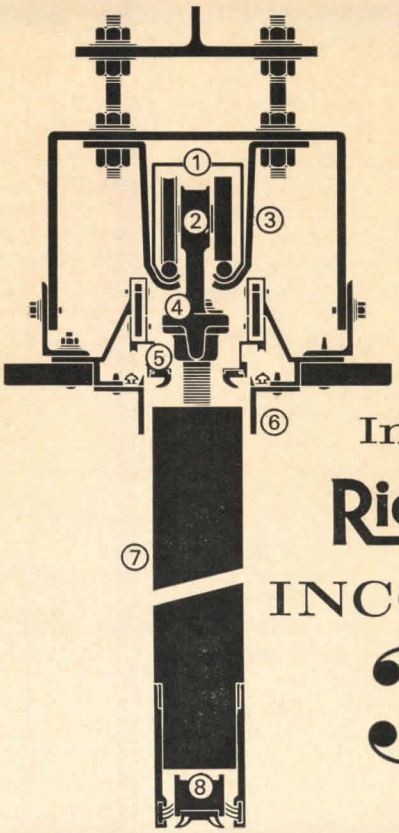
Northern Lights



Four-page full-color brochure describes the "Danlite" line of imported Danish, metal, pendant light fixtures. Ten designs include glass globes in a (bakers) dozen colors and metal shades of satin aluminum, copper, and brass in free-form and geometric shapes. Complete specifications, including sizes, colors, electrical data, and accessories, are included. Art Metal Lighting Division, Wakefield Corporation, 1814 40th St., Cleveland, Ohio.
On Readers' Service Card, Circle 223

Wheel of Color Fortune

A three-section portfolio, 10½" x 11½", presents Jens Risom's new all-nylon upholstery fabric, which is produced in 65 spectrum-planned colors. The fabric, a simple weave of two-plied yarns, has a good texture and is finished with Scotchgard and also with a butyl-acrylic backing, preventing seam slippage and pilling. The first two sections of the portfolio contain 2" x 3" swatches of all 65 colors, which slip out for matching and presentation (replaceable on request). The third section contains a booklet with the



Introducing the
Richards-Wilcox
INCOMPARABLE
380

A NEW DIMENSION IN OPERABLE CLASSROOM WALLS

The ultimate in simple operation and sound control

1. Sturdy R-W special design No. 888 track made of 9-gauge steel—the strongest track being used by any maker of movable walls.
2. R-W special design hanger for ease of operation. Four sealed ball bearings, plus thrust bearing, virtually eliminates starting or rolling friction.
3. Cold-rolled bar runways minimize friction. Self-cleaning track, no maintenance.
4. Friction-free thrust bearing makes folding action of panels easy.
5. Continuous retractable 4-point top sound seal locks into place.
6. Durable aluminum top guides eliminate maintenance.
7. Sound retardant wall ratings as specified. Choice of panel surfaces.
8. Fully retractable floor seals. No floor track, dragging seals, motors, electrical fixtures, pneumatic or hydraulic operation.

All mechanical . . . and yet, it opens and closes so easily even a 90 lb. teacher can do it . . . effortlessly.



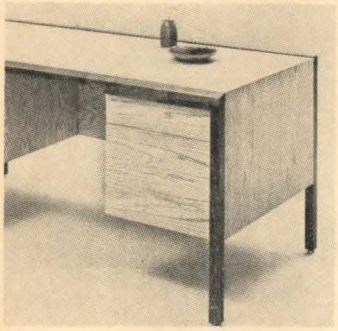
WRITE FOR BULLETIN F-266

HUPP
CORPORATION
RICHARDS-WILCOX DIVISION
120 THIRD ST. • AURORA, ILLINOIS 60507

On Readers' Service Card, circle No. 429

"Chroma 1 Color Wheel", a guide in selecting effective color combinations of the fabric (either chromatic, related, or contrasting schemes) by a code method. The wheel simplifies color selection and ensures accuracy. $5.25 including postage, deductible from first order. Jens Risom Design Inc., 444 Madison Ave., New York, N.Y. 10022.
On Readers' Service Card, Circle 224

Another Furniture Brochure



"Memo #7 from Helikon", a four-page, black-and-white brochure, presents, among other neat, serviceable designs, a white oak desk trimmed with walnut, which was designed by Robert Benham Becker. Furniture by the firm and five companies it represents also includes sofas, chairs, and occasional tables. Helikon Furniture Co., 315 East 62nd St., New York, N.Y.
On Readers' Service Card, Circle 225

Combination Pieces

Fold-out color brochure describes "Kopenhavn" line of free-standing and wall-hung shelf units, designed by Noral Olsen. Available for incorporation into units are desks, bars, tables, chests, and file-drawers. Manufacturer claims unique locking system for easy and permanent assembly. Both groups available in nine finishes; custom finishes upon request. Brochure includes measurements and prices. The Northwest Chair Co., 2201 South Tacoma Way, Tacoma, Wash.
On Readers' Service Card, Circle 226

Special Equipment

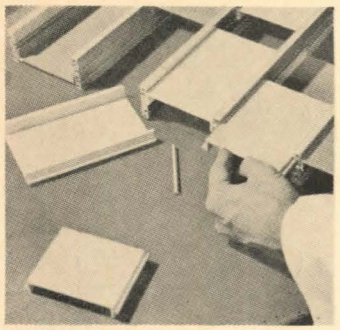
Hinge Binge

Concealed overhead door closers, checking floor hinges and pivots, double action, single action, center-hung and offset-hung hinges; hinges with springs and hinges without springs; many hinges for many types of doors; brass, bronze, zinc, nickel, chrome, and aluminum finishes—some bright, some dull. Data sheets in ring binder illustrate the hinges, tabulate available sizes, and show shop drawings. Bommer Spring Hinge Co., Inc., Landrum, S.C.
On Readers' Service Card, Circle 227

Keep It Clean

Cloth bag filters and electrostatic precipitators are described in two booklets. Solutions to typical industry air pollution problems are discussed briefly and photos of representative installations are shown. Wheelabrator Corp., 760 So. Byrkit St., Mishawaka, Ind.
On Readers' Service Card, Circle 228

On Your Metals



Metal screens and railing systems, as well as bars, shapes, and tubing, are covered in 40-page catalog. Screens: Aluminum and plastic extrusions in two profiles, slip-fit together for making façade or interior modular screens; aluminum or black plastic finish or walnut laminate. Open-work screening is also shown.

Railing systems: "Colorail System" has aluminum posts

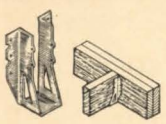
Look to TECO

. . . for the finest in wood fasteners and building systems

TECO U-GRIP JOIST HANGERS

½ the cost of old style hangers

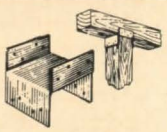
Available for 2x4's to double 2x14's



TECO POST CAPS

Provide economical post and beam framing

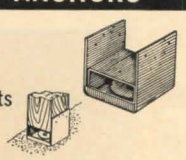
Available in two types



TECO POST ANCHORS

Adjusted easily for correct positioning

Keeps bottom of posts off concrete slab



Look at TECO's product diversity

Joist Hangers
Framing Anchors
Floor Bridging
Split Rings
Shear Plates
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Spike Grids
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Siding Fasteners
Pneumatic Nailers
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. . . all designed for use with wood

Send for FREE Catalog



Over 150 national distributors

TIMBER ENGINEERING COMPANY
1619 Mass. Ave., N.W., Washington, D. C. 20036

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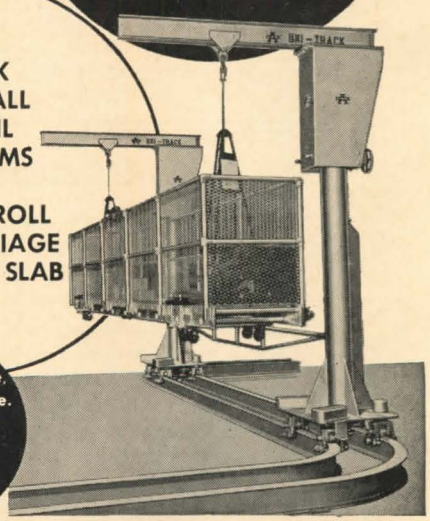
ALBINA ®

"UNI-TRACK"® and "CLIMBER"® POWERED WINDOW WASHING SYSTEMS

• Illustrated
ROOF DECK
PARAPET WALL
GUARD RAIL
TRACK SYSTEMS
and
FOUR WHEEL ROLL
AROUND CARRIAGE
FOR CONCRETE SLAB



Write for 12-page, illustrated brochure.
ARA W—54—CC
AIA-35-J7
Specifications included

ALBINA ENGINEERING & MACHINE WKS.

2100 N. Albina Avenue • Portland, Oregon 97227

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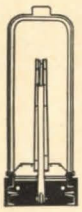
NOW...a handy PULLDOWN SHELF

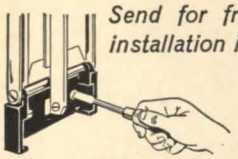
for restroom booths



A safe place for purses, gloves, packages, hats, coats, and briefcases. Attractively designed . . . quality built . . . self-clearing. Easily installed with just 2 bolts. A plus-factor in any building with public restroom facilities.



$11.95* F.O.B. Indianapolis
Finished in lustrous chrome
*Slightly higher in the west



Send for free specifications, price list and installation instructions.

The **NIK-O-LOK** Company
422 East New York Street
Indianapolis 2, Indiana

On Readers' Service Card, circle No. 369

A Fresh New Idea to Complement Your Designs



If you think asphalt pavement has to be dull, drab and uninteresting . . . or that it restricts your design capabilities, you will like the new concept offered by Vynatex 23. This is a new vinyl protective coating for blacktop that enhances over-all appearance by providing pavement colors which blend into or contrast with building designs or decorative schemes.

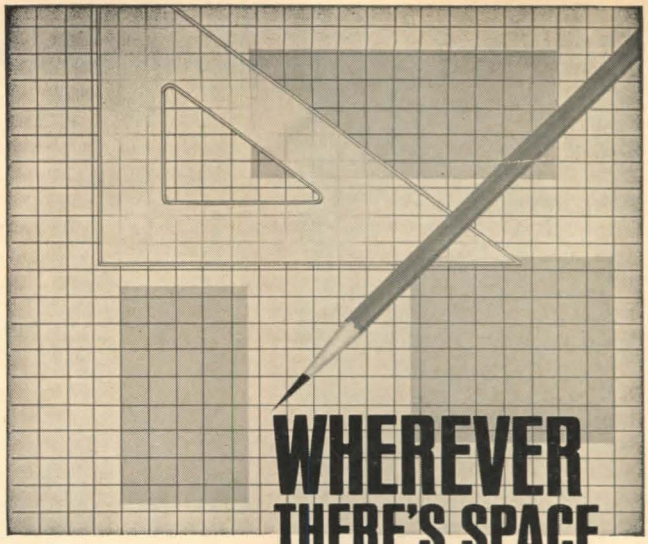
Vynatex 23, in grass green, brick red and concrete gray, offers release from blacktop color limitations. It provides a way for you to improve the decor and tone of almost every project you design.

In addition, Vynatex 23 is remarkably practical. It protects asphalt pavements against premature old age . . . keeps them free of loose stones . . . makes them easy to clean.

See our catalog in Sweets. Or write for Bulletin 1828.

Maintenance Inc., Wooster, Ohio

On Readers' Service Card, circle No. 359



WHEREVER THERE'S SPACE

there's a Norris Walk-In to fit

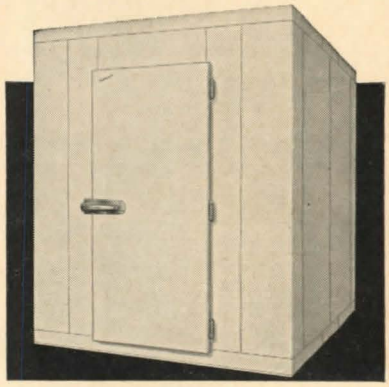
Wherever there's space, there's a Norris walk-in cooler, freezer, or cooler-freezer combination to fit, for Norris walk-ins provide complete installation flexibility. Available with or without floors, Norris walk-ins are pre-fabricated in two- and three-foot wall sections, four-foot door sections (7½' high), and can be set up in one-foot increments in any size—in almost any space—in new or existing buildings. The only tool necessary is a light hammer.

The modular panels of Norris walk-ins are all-metal—no wood to absorb moisture—and extremely light-weight. Standard exteriors are bonderized steel finished in white baked enamel, interiors are 22-gauge galvanized metal, with custom exteriors or interiors optional at extra cost. Ideal for every industrial, commercial or institutional refrigeration need, Norris walk-ins can be supplied with the proper self-contained or remote refrigeration equipment to meet any application.

WRITE FOR DESCRIPTIVE LITERATURE!

LIGHT WEIGHT

as low as
4½ lbs.
per sq. ft.
—reduces
freight costs



Norris

NORRIS DISPENSERS, INC.
2720 LYNDALE AVENUE SOUTH
MINNEAPOLIS 8, MINNESOTA

NORRIS—THE FIRST NAME IN MILK SERVING AND STORAGE EQUIPMENT

On Readers' Service Card, circle No. 370

Attention: You users of T-Squares and Straightedges

See How VEMCO V-TRACK Drafting Machines Pay for Themselves in the Very First Month of Use

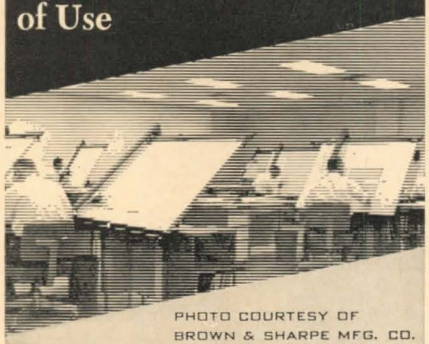


PHOTO COURTESY OF BROWN & SHARPE MFG. CO.

FACT: Documented time-and-motion studies reveal time and money savings of 40% to 50% when VEMCO V-TRACKS replace outmoded T-Squares or parallel straightedges and triangles. If used on a steeply inclined board, both space savings and fatigue reduction are bonus benefits.

RESULT: VEMCO V-TRACK DRAFTING MACHINES CAN PAY FOR THEMSELVES in the first month of use.

SIMPLE ARITHMETIC:

Draftsman's Rate: per hour	$3.00
40% Profit using VEMCO V-TRACK	1.20
8 Hrs. Per Day @ $1.20	9.60
22 Working Day Month @ $9.60	$211.20
Typical List Price VEMCO V-TRACK	$169.00

PROJECTION: Conservative estimate of useful life span is 20 years . . . each $169. invested in a VEMCO V-TRACK will return $50,688.00. Quantity prices for volume purchases produce still greater savings.

CONCESSION TO SKEPTICS: If a mere 10% increase in efficiency could be achieved, they would pay for themselves in three months!! (30 c per hour; $2.40 per day; $52.80 per month; $633.60 per year; $12,672. conservative lifetime).

CONCLUSION: Do something about it. (1) Send for a catalog with price list. (2) Arrange for a demonstration. (3) Order a **VEMCO V-TRACK. DO IT NOW ! ! !**

VEMCO

V & E MANUFACTURING COMPANY
766 South Fair Oaks Avenue
Pasadena, California 91105
Telephone: (213) 681-6796

On Readers' Service Card, circle No. 436

sheathed in colored plastic and plastic handrails in various profiles and colors. Railing systems also available in bronze, stainless steel, and aluminum. Catalog lists wide range of fittings and accessories. Julius Blum & Co., Inc., Carlstadt, N.J.

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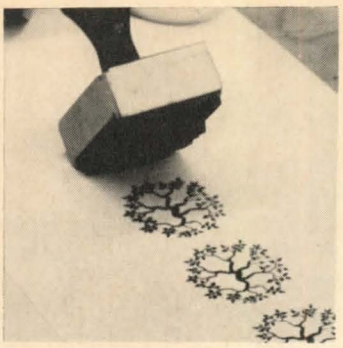
Stamp-Out Drafting



Rubber stamps provide "Instant Landscape" for architectural draftsmen. Instant trees, shrubs, people, cars, buses, trucks, planes, and even birds are made in scales from 3″ to 1/16″. Stamps are available in both plan and elevation; a selected group of vehicles is made in perspective. Extensive catalog, showing the many available designs, costs $1. Instant Landscape, 520 Capitol Mall, Sacramento, Calif. 95814.

On Readers' Service Card, Circle 230

In a Whirlpool

Booklet gives cutaway construction detail, description, and illustrations of small self-contained, hydro-massage pool available in a package that includes fiberglass shell, heater, pump, filter, and three adjustable air inlets. The 92″ x 52″ 38½″ tub, with molded steps and bench, is mounted in a steel frame. Jacuzzi Research, Inc., 1440 San Pablo Ave., Berkeley 2, Calif.

On Readers' Service Card, Circle 231

PROGRESSIVE ARCHITECTURE
NEWS REPORT

REINHOLD PUBLISHING CORPORATION
430 Park Avenue, New York, N.Y. 10022

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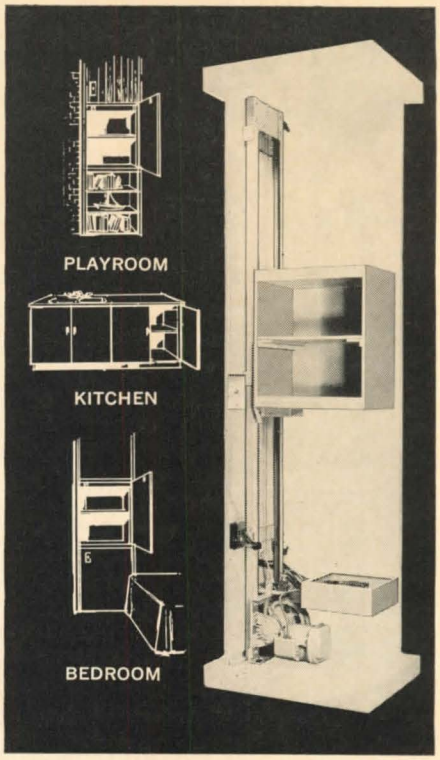
MATOT LIFT-AID

NEW RESIDENTIAL AND LIGHT COMMERCIAL DUMBWAITER



saves homeowners:

- **carrying heavy loads**
- **walking upstairs**
- **risking injury**
- **wear-tear on stair carpeting**
- **permits convenient service**

New automatic Lift-Aid has been developed by a 77-year manufacturer of dumbwaiters for home and light commercial use. Easy to install in a new or existing dwelling. A complete package, 90% pre-wired with low voltage control circuit. Motor is ½ hp, power supply is 115/230 volt, single phase, 60 cycle. To keep the price down, no doors are furnished, hinged door interlocks are provided.

Plywood car for standard kitchen cabinet, 17 x 17 x 30; general purpose car 24 x 24 x 30. The rate of travel is 25 fpm loaded, serves 2 or more levels — maximum travel 30 feet. Capacity is 200 lbs. Car is suspended from steel cables and runs on steel guide rails. Key operated for safety. Write or call for prices and more information!

D. A. MATOT, INC.
1533 W. Altgeld, Chicago, Illinois 60614
312 - LI 9-2177

See our catalog in Sweet's 23a Mat S

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NEXT MONTH IN P/A

■ ***PROGRESSIVE ARCHITECTURE in March . . . a provocative discussion of the designer's impact on religious buildings—How much does he influence religious rites? Professionals with church commissions in their present and future will find this of vital interest.***

■ ***The pages of the March P/A are alive with the vibrant color that has swept through Braniff International Airlines. Next are two startling examples of the psychological effects—good and bad—of interior decoration. And you'll be interested in a look at the unique architecture of the CBS Ground Floor Restaurant.***

■ ***PROGRESSIVE ARCHITECTURE in March . . . it's yours! Plus eleven more exciting issues when you fill in the "Subcriptions" section on the Readers' Service Card bound in this issue. (See Table of Contents for page number of Readers' Service Card.)***

Bradley Washfountains save over 25% in washroom space



THEN THE REAL SAVINGS BEGIN!

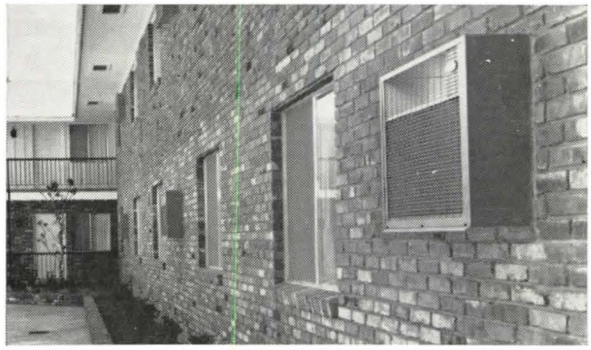
On an average, Washfountains require 25% *less* floor and wall space than lavatories. Result: with Bradley's complete line of types and sizes, you can use *any* space to best advantage.

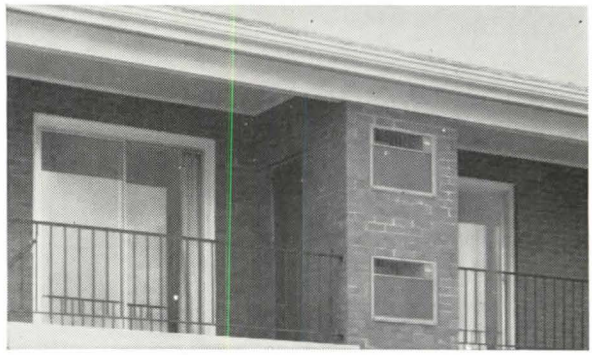
But that's just a sample of the savings. Bradleys cost less to install: one set of plumbing connections serves up to 8 people, cutting installation costs as much as 80%. What's more, Washfountains use less water, cut water heating costs, and reduce maintenance time.

Available in compact 2-person Duos, and 36″ and 54″ diameter circular and semi-circular models. All are foot-operated, so hands touch only clean, tempered water — never soiled faucets. For design flexibility, plus sanitation and savings, specify Bradleys!

For details, see your Bradley representative. And write for latest literature. Bradley Washfountain Co., 9109 Fountain Drive, Menomonee Falls, Wis. 53055.

Bradley





Flush inside...or flush outside!

Each of these Carrier condensing units powers a central ducted heating and cooling system—a system ideal for garden-type apartments.

Why? It gives each tenant individual control of heating and cooling—with quiet movement of clean, conditioned air—to each room all year long.

It offers the owner low first cost, takes up no land space and no floor space, either.

It teams with a gas- or oil-fired furnace, or with an all-electric fan-coil unit indoors.

And the architect can work them into his building design in a number of unobtrusive ways. Let them project a few inches from the wall . . . and they disappear from view on the inside. Fit them flush outside . . . and let them project into a closet, utility room . . . or, as in the picture above, into a brick buttress that serves other purposes.

Other parts of this Carrier system? Refrigerant tubing with quick-couples at both ends for a fast, clean connection to fan-coil or furnace.

An all-electric fan-coil that can power air through long duct runs—does it quietly from any spare space—above a closet, in a furred-down ceiling, a crawl space or attic.

Only 13⅛ inches high, it heats with electric strip heaters or a hot water or steam coil.

Or, Carrier furnaces can provide heat and air movement from a closet, attic or crawl space location.

Details? Your Carrier dealer will be glad to give them to you.

You'll find him listed in the Yellow Pages. Carrier Air Conditioning Company, Syracuse, New York 13201. Represented in Canada by Carrier Air Conditioning (Canada) Ltd.

Carrier Air Conditioning Company

More people put their confidence in Carrier air conditioning than in any other make

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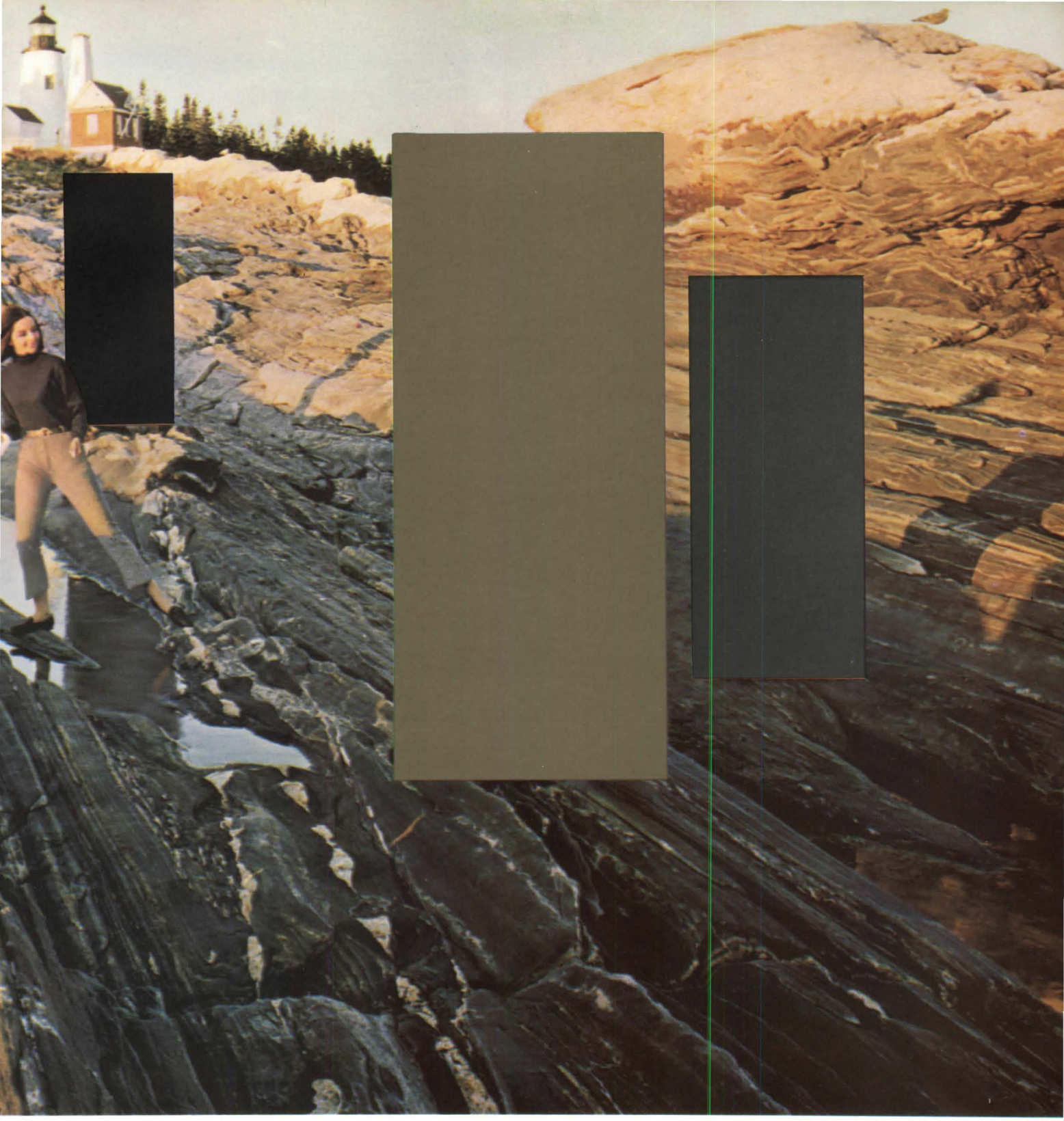
Change for the better with Alcoa Aluminum



The unforgettable beauty of New England is reflected in Alcoa Duranodic finish

As dramatic as nature's primitive handiwork, Alcoa® Duranodic* 300 finish for aluminum has a wide variety of construction uses. With good reason.

The elegant colors—gray, bronze and black—produce either compatible or contrasting definitions. You have a choice of closely matching color ranges, or delicate variations of dark tones, each designed to accentuate the natural beauty of its environment.

Specially controlled alloys and a specialized anodizing technique are used to produce Duranodic 300 finishes. The resulting surface is superior: It's thicker, tougher and longer-lasting than other anodic finishes. On panels, solar screens, windows, mullions, trim and framing, indoors or out, Duranodic 300 finish will withstand the worst of time and wear.

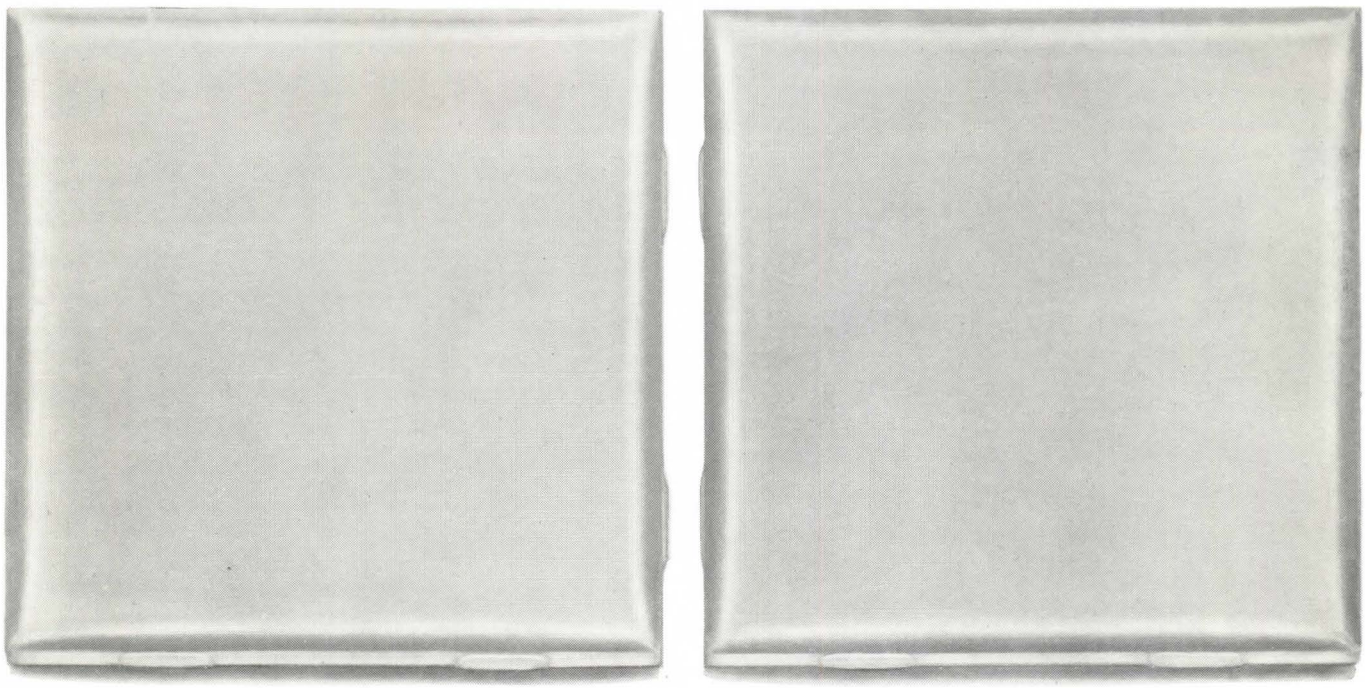
And, like so many other singular achievements in aluminum, Duranodic 300 finish comes only from Alcoa.

For a complete descriptive brochure on Duranodic finishes, call your nearest Alcoa sales office. Or write Aluminum Company of America, 1001-B Alcoa Building, Pittsburgh, Pa. 15219.

Alcoa Brings You Action Drama At Its Best . . . "THE FBI," Sunday Evenings, ABC-TV.

*Trade Name of Aluminum Company of America

ALCOA



You can easily tell which tile was tested for

craze resistance
surface appearance
facial dimensions
edge uniformity
diagonal uniformity
thermal shock
water absorption
wedging
thickness
thickness uniformity
bond to mortar
...and passed.

But not by looks alone. Because there's more to ceramic tile than meets the eye, the Tile Council developed *a quality* testing and certification program. Each carton of certified quality ceramic tile bears this triangular certification mark that tells you it meets all requirements as tested by an independent laboratory. (It's the easy way to tell which tile passed.) To be sure of getting the qualities you look for in ceramic tile, specify Certified Tile. For more information about it, write: Tile Council of America, Inc., 800 Second Avenue, New York, N.Y. 10017.

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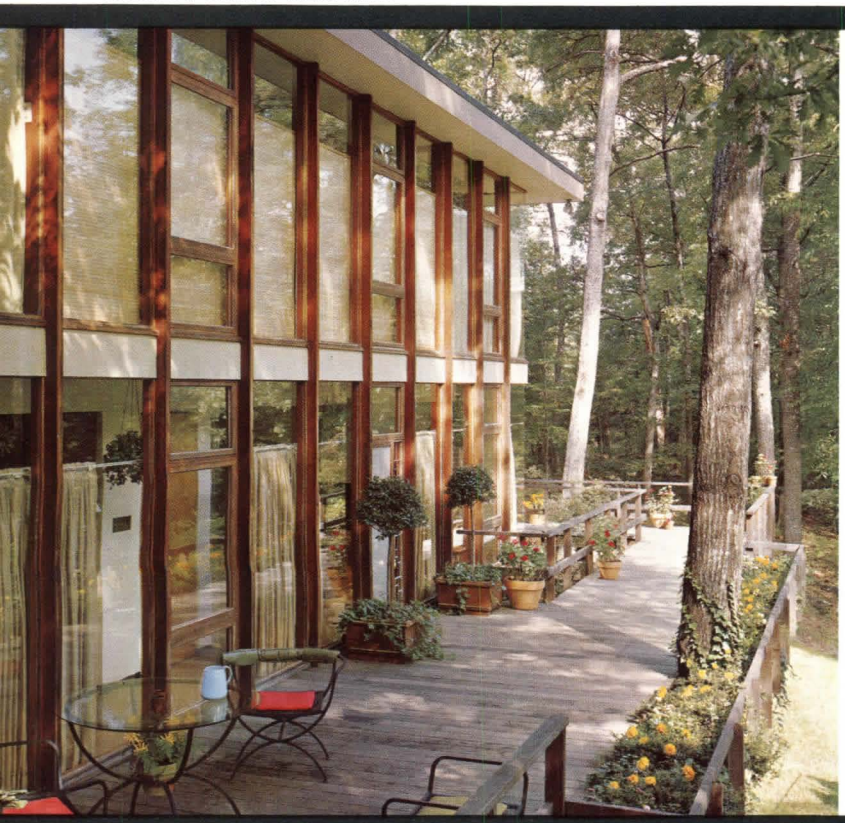

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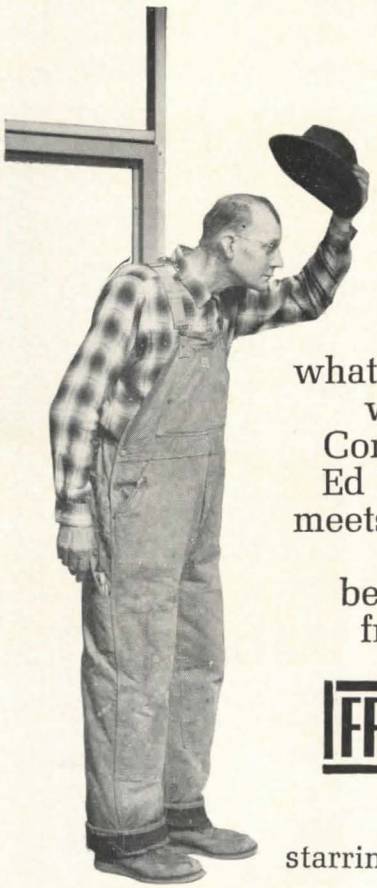
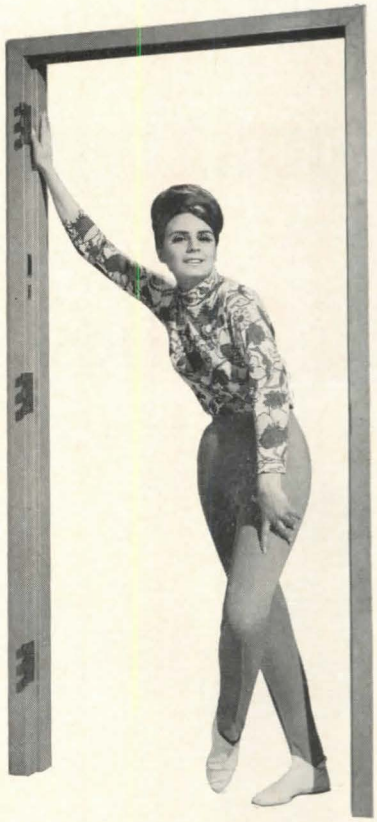


See what happens when Contractor Ed Krygier meets up with one beautiful frame!

FRAMED



starring sultry

Heather Browne

See Heather install a new FenDry "Clamp-On" frame, complete with a flush-seamless Executive door in ten minutes, fifty-four seconds ...while Ed puts up a conventional frame in the conventional way. FenDry (U. S. patent applied for) is the fastest Drywall frame with a UL Label—and the Executive door is the first standard flush-seamless to earn the UL "B" Label. Send for this new film to show at your next architectural or contractor meeting. Just phone your local Distributor or write Fenestra Door Division, 4040 West 20th Street, Erie, Penna.

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by Troy®





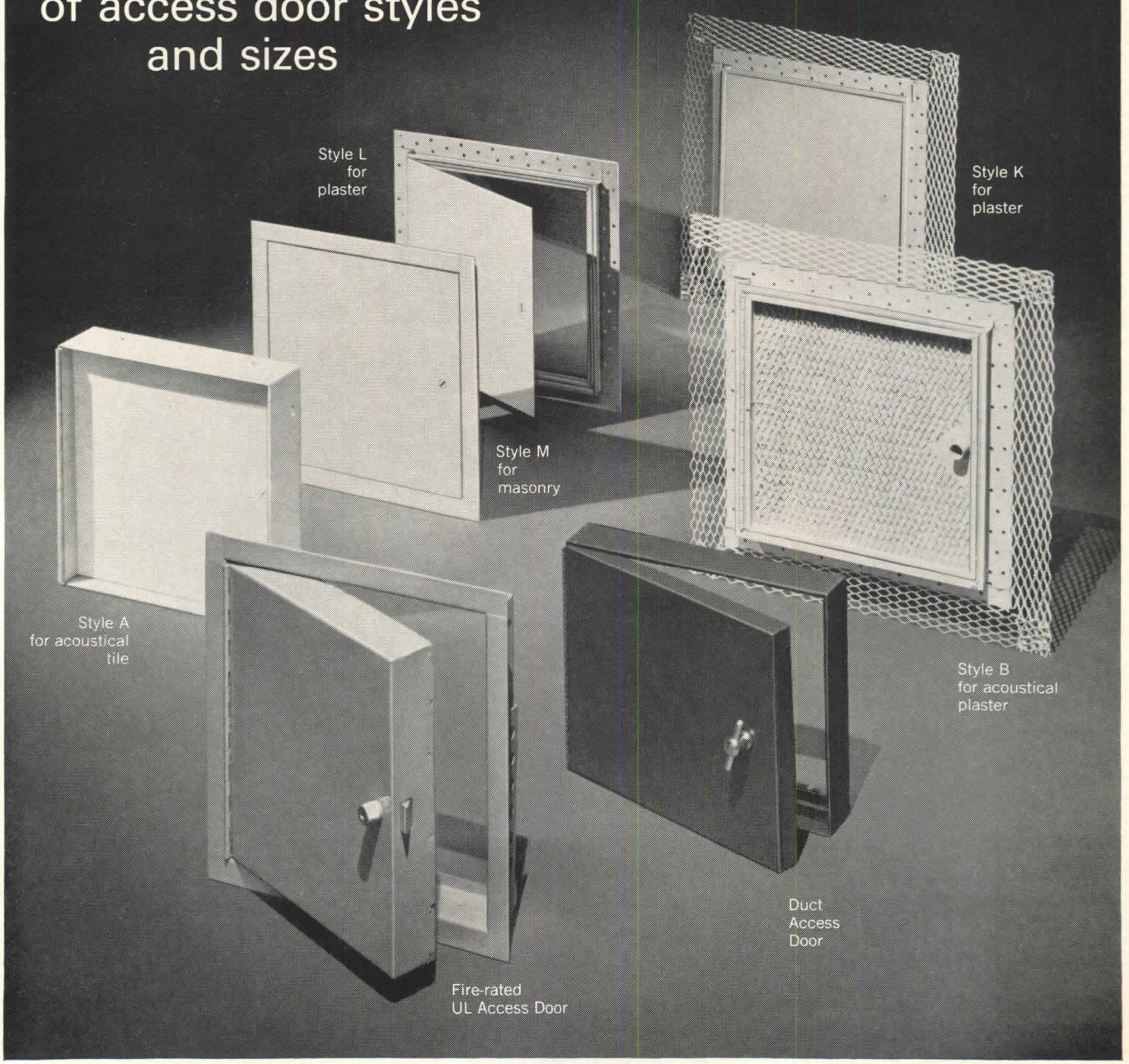
Designed by Herbert C. Saiger, A.I.D.

SYSTEM '70 ARCHITECTURAL DORMITORY FURNITURE by TROY is indeed a big package. Wardrobes, desks, chests, study carrels, chairs, tables and headboards. SYSTEM '70 is designed with such versatility that large and small requirements, as well as dimensional and design specifications, can be met by using our many components. The Troy Sunshade Company, Division of The Hobart Manufacturing Company, Troy, Ohio.
Show rooms: One Park Ave., New York/Merchandise Mart, Chicago/612 Grant St., Troy, Ohio / Dallas Trade Mart, Dallas, Texas / Miami, Florida

Troy®

COMPLETE SELECTION

of access door styles and sizes



In buildings everywhere, Milcor Steel Access Doors provide service openings in any surface without encroaching upon design. They are carefully made and rigidly constructed for minimum maintenance—economically installed, without on-site cutting and fitting—readily available in seven styles and a wide range of sizes. See Sweet's, section 16K/In. Write for catalog 210-6.

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BS-18

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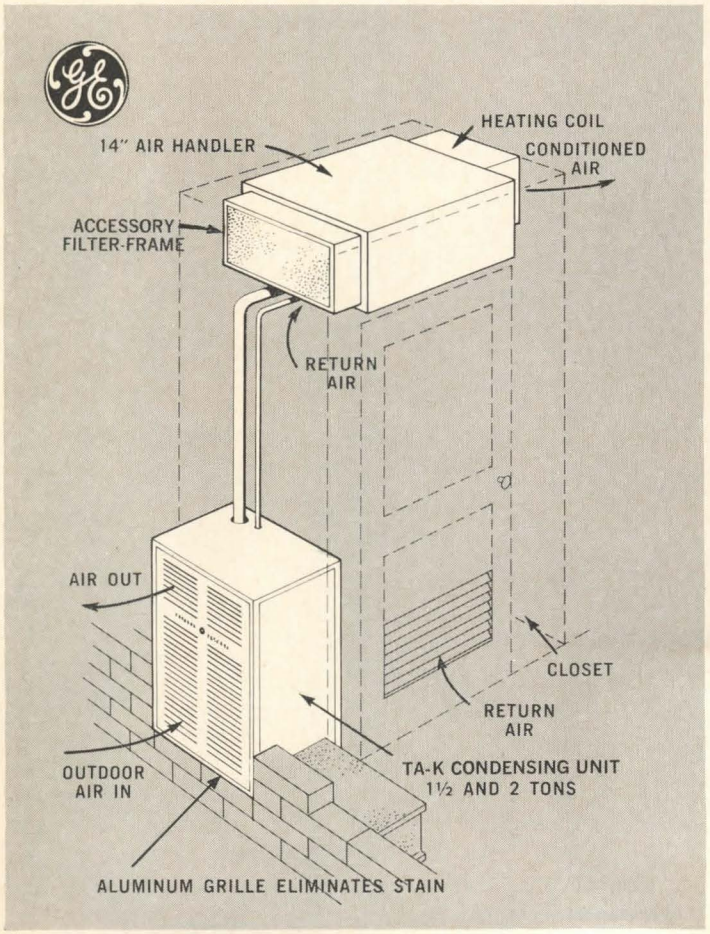
WHATEVER YOUR AIR
GENERAL ELECTRIC

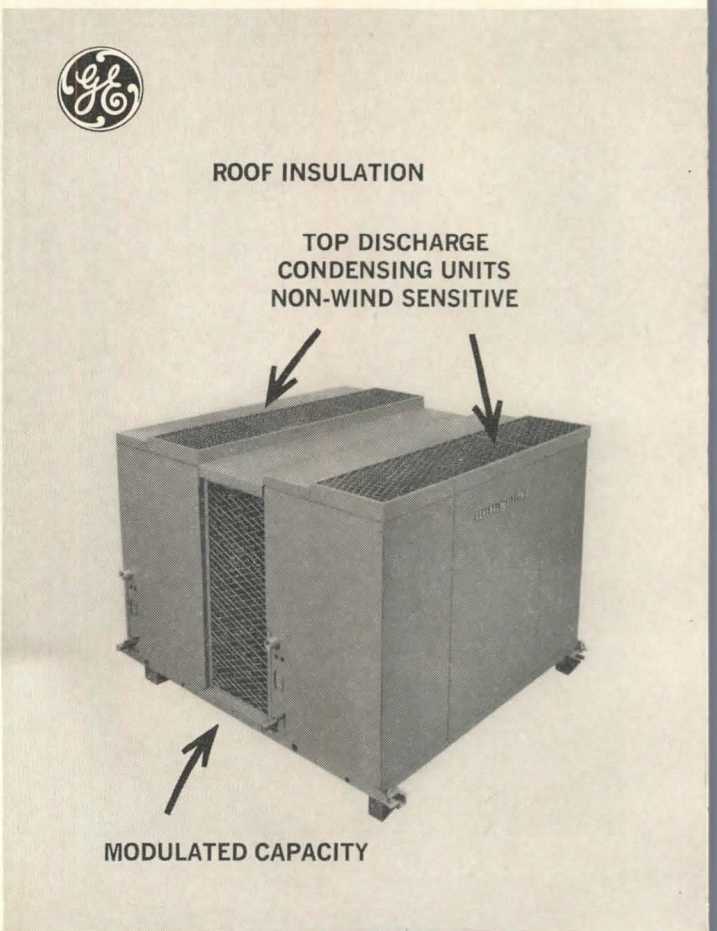
NEED: "...a flush-mounted condensing unit for high-rise apartments . . . compact . . . that won't stain exterior walls."

ANSWER: New through-the-wall, air-cooled unit couples with compact vertical or horizontal air handlers that fit in a closet or furred-down ceiling.

NEED: ". . . top-discharge condensers . . . for split system application . . . small residential to large commercial installations."

ANSWER: The *new* G-E line, ranging from 1½- to *full* 16- and 20-ton units, with choice of vertical or horizontal air handlers.

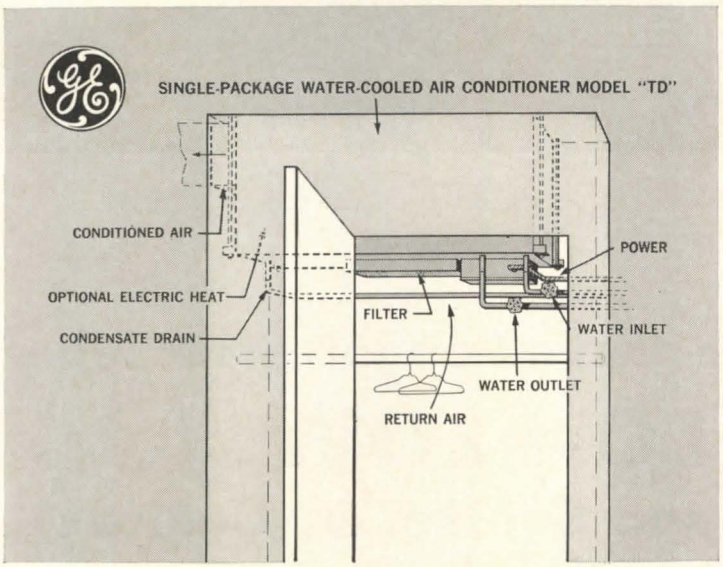


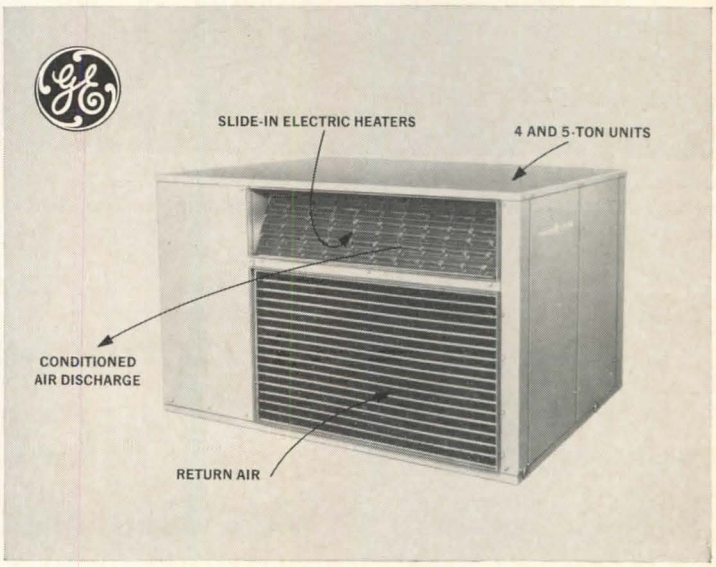


CONDITIONING NEEDS, HAS THE ANSWERS

NEED: ". . . a water-cooled air conditioner . . . for high-rise apartments . . . existing office buildings . . . compact . . . with individual control."
ANSWER: The new "closet oriented" General Electric water-cooled single-package air conditioner that provides individual metering, too.

NEED: ". . . single-package air conditioners and heat pumps . . . with resistance heating . . . for commercial and large residential jobs."
ANSWER: New 4- and 5-ton model single-package air conditioners and new *High Reliability* Weathertron® heat pumps with slide-in electric heaters.





General Electric offers architects and engineers a line of air conditioning and heating equipment to meet any requirement.

Shown above are just a few of the units most recently developed to satisfy specific needs.

For full details on these—or on any other type of equipment—contact your local General Electric distributor. Or write direct to Air Conditioning Dept., AP6-208, Louisville, Kentucky.

Your one source for every air conditioning and heating need.

GENERAL ELECTRIC

On Readers' Service Card, circle No. 347



The First National Bank of Hialeah
Architect: A. Herbert Mathes • Consulting Engineer: H. J. Ross Associates, Inc. • Acoustical Contractor: Acousti Corp. of Miami, Florida

Performance proved on job after job

CELO-FLOW®

Air Distribution System by Celotex

The First National Bank of Hialeah, Florida, is just one of hundreds of highly successful Celo-Flow System installations throughout the country.

The Celo-Flow ceiling was installed in this magnificent new building because of its proven cost savings, efficient air distribution, high acoustical qualities and the classic beauty of Natural Fissured pattern.

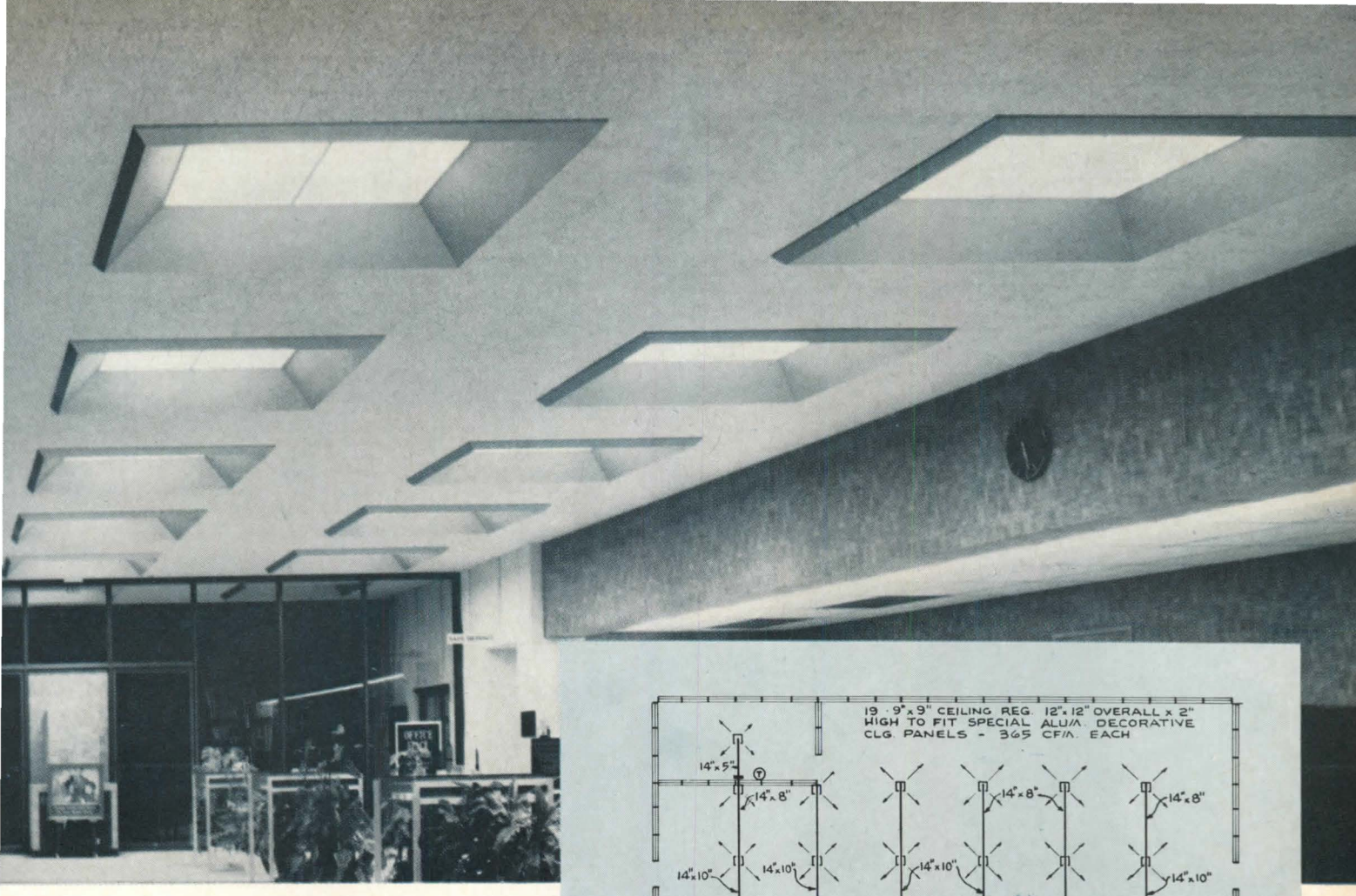
When the Celo-Flow System is specified, tenants get these documented benefits:

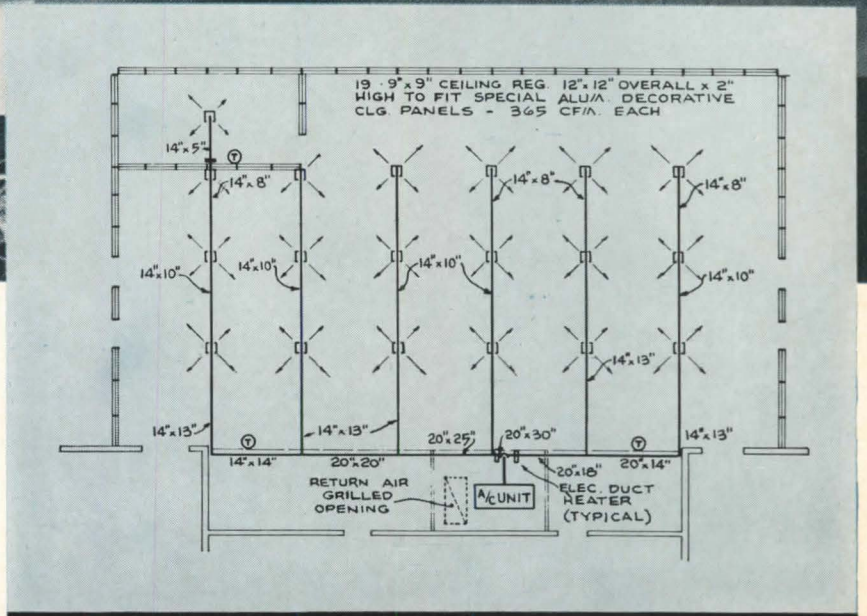
Draft Free Operation — uniform blanket of air; Noise Free Operation — eliminates diffuser noise; Reduced Maintenance — no diffuser or slot "streaks" or unsightly ceiling stains; Space Flexibility — partitions may be relocated without modification of the ventilating system.

Exclusive patterns — miniature perforated and fissured mineral fiber tile and lay-in panels. Identical patterns in both Safetone® Class A incombustible and Protectone® UL time rated products.

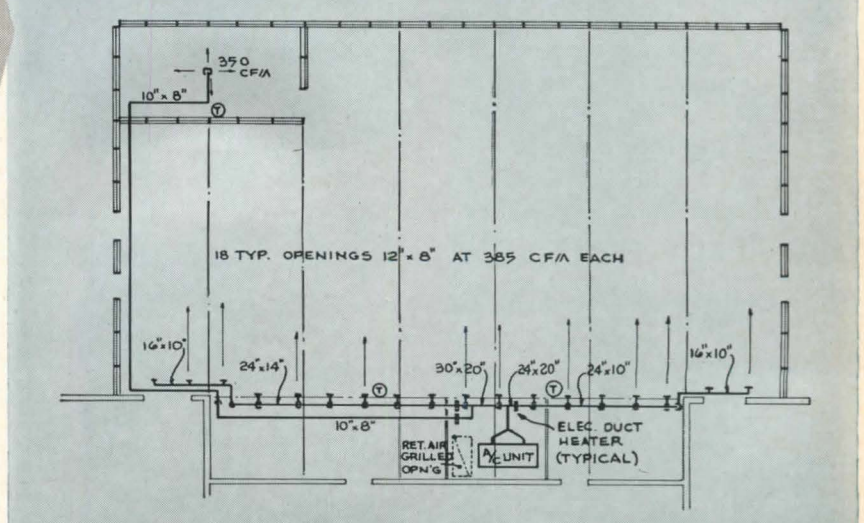
Matching appearance of Celo-Flow clear-thru perforated and surface-perforated units achieves a "single pattern" effect, regardless of the number and location of the ventilating panels or tile.

FOR YOUR FILES — Comprehensive Guide Specifications, Design Procedures and Air Dispersion Test Report. Write The Celotex Corporation or call your Acousti-Celotex distributor (see the Yellow Pages "Acoustical").





Layout if ordinary air distribution system used



Layout for Celo-Flow air distribution system

$2,472 SAVINGS IN THIS ONE AREA

These air conditioning take-off drawings show the ceiling of the bank's 3,465 sq. ft. main public area: (top) if ordinary air distribution system had been used, and (bottom) using the Celo-Flow system. The savings in ducting, insulation and installation amounted to $2,472.

ACOUSTI-CELOTEX REG. U. S. PAT. OFF. PRODUCTS

THE CELOTEX CORPORATION
120 North Florida Ave., Tampa, Fla. 33602

On Readers' Service Card, circle No. 438

Her boss is burning up.



He never heard of solar control, but he knows something's wrong when a building's temperature runs hot and cold. You avoid lopsided temperatures and lopsided cooling bills by specifying "FLEXALUM" Venetian Blinds. FLEXALUM aluminum takes the heat off air conditioners, lowers operating costs when the temperature climbs. And, of course, controls glare, light and solar radiation.
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Write for the study, "Cost Analysis of Solar Controls".

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URETHANE FOAM PROJECT REPORT

Builder News

Part of a series of product-use bulletins published by Mobay to keep architects, engineers, builders and contractors informed on new developments in urethane foam materials for the commercial and residential construction industries.

MOBAY

BN-2

URETHANE FOAM CUTS BUILDING COSTS OF 16-STORY STRUCTURE, IS EXPECTED TO REDUCE HEATING-COOLING BILLS BY 10 PERCENT

A unique wall construction, utilizing rigid urethane foam and chicken wire in place of the traditional insulating materials, is saving up to 10¢ per sq. ft. in the insulation costs of a 16-story, 444-unit apartment house within view of the nation's capital in Alexandria, Va.

The building, called the 4600 Duke, also marks the first commercial use of urethane foam as a base for plaster, according to Bryan Gordon, Jr., the owner and builder.

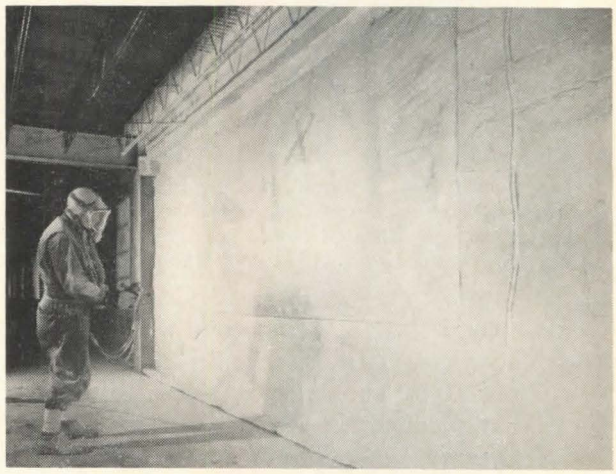
Urethane foam has twice the insulating ability of glass fiber, the next-best commercial insulating material. A local gas company estimated that heating and air-conditioning costs at 4600 Duke would average about $20,000 annually if exterior walls were constructed conventionally. The company predicts the superior insulating ability of urethane foam will cut fuel costs by at least 10%.

But the big savings appear to be in time, labor and materials. To complete a 5000 sq. ft. wall section in one day, using standard wall construction, requires 20 men from three crafts—waterproofing specialists, carpenters and latherers, according to Gordon. He found that four men can insulate an equal amount of wall with urethane foam in the same time.



Use of rigid urethane foam as structural insulant for $8-million apartment complex, reduced construction costs, could shave $2000 a year from heating and cooling bills.

Standard wall insulation reportedly costs about 23¢ per sq. ft. in the Washington area. This includes 2¢ for the application of the asphalt vapor barrier, 15¢ for furring and 6¢ for rock lath. These three materials were eliminated by urethane foam.

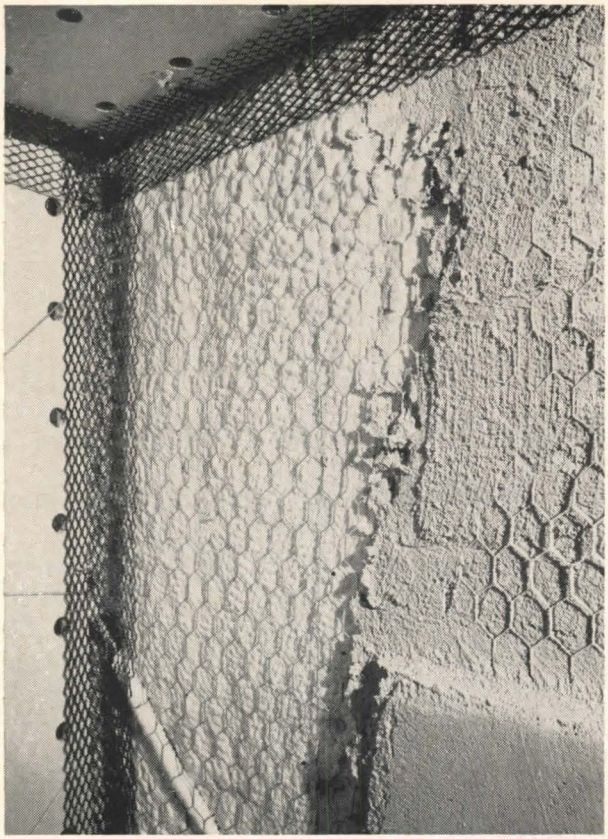


Urethane chemicals are spray-applied to cinderblock wall by technique similar to paint spraying. Windows and electrical outlets are masked prior to spraying, but wiring, pipes, steel supports are completely covered with foam.

The estimated cost of applying urethane foam and installing the reinforcing wire for the plaster is 14-15¢ per sq. ft. Based upon the 171,260 sq. ft. of wall insulation in 4600 Duke, the minimum savings is $13,700. Until final cost figures are compiled, Gordon prefers the more general estimate of 5-10¢ savings per sq. ft.

The exterior wall of 4600 Duke has four-inch-thick split rock on the exterior with four-inch-thick cinder block on the interior. Urethane foam was sprayed directly on the cinder block to a depth of < 1 inch. Fine mesh wire was fastened to the hardened foam and cinder block with 1¼-inch roofing nails. This wire serves as a mechanical bond to hold the plaster to the foam.

In the last wall-finishing operation, two coats of plaster were applied to a ⅝-inch depth. The



Seamless surface of sprayed-on urethane foam is covered with fine wire which provides excellent plaster base. First rough coat of plaster is shown upper right; second finishing coat produces smooth interior wall surface, lower right.

first was a rough, filling coat while the second provided a smooth, interior finish.

Applied by the spray-in-place technique, the urethane chemicals leave the spray gun as a liquid, begin foaming immediately and reach 30 times original volume in seconds. The urethane foam chemical system, formulated and supplied by the Callery Chemical Company, was applied at the rate of 3-5 lbs. per minute under 1500-3000 psi.

The spray application bonds urethane foam insulation permanently to substrate surfaces, fills every crack and crevice creating a seamless, virtually airtight seal. Urethane foam will not shrink; resists mildew, mold and age deterioration; is vermin-proof.

Conventional walls require installation of a vapor barrier, wood furring strips and rock lath prior to plastering. One disadvantage of this construction is that condensation tends to form within the walls, particularly in air-conditioned buildings where interior and exterior temperatures can vary widely, accelerating moisture collection. This causes the furring to rot, sometimes resulting in water seepage through the wall.

A completely air-conditioned luxury apartment building, 4600 Duke required a material with high insulating ability, excellent resistance to dampness, good sound-absorbing qualities and one that would serve as a good plaster base.

"Sprayed-in-place urethane foam insulation provided all these advantages, plus a saving in construction costs," Gordon says.

In selecting an insulating material, Gordon rejected glass fiber mats because "they have a tendency to absorb moisture which destroys insulating properties." Urethane, on the other hand, is a cellular plastic material with a rigid, monolithic surface that seals out moisture.

The T-shaped 4600 Duke has three wings, each 60 ft. wide and ranging in length from 194-250 ft. The first two floors of the building provide parking space for tenants with apartments starting on the third floor. Apartments rent for up to $245 a month.

Bryan Gordon, Jr., whose headquarters are in Alexandria, Va., started his business career as a real estate salesman in 1937. He built the first split-level subdivision in the U.S. in 1944 and during the late forties pioneered the country's first low-cost FHA housing project.

His next project will be a $20 million, 1700-unit apartment building in Mt. Holly, N. J., which will also utilize urethane foam insulation.

For further information on this project, please contact any of the following sources:
Architects—Vosbeck-Vosbeck & Associates, Alexandria, Va.
Owner/Builder—Bryan Gordon Associates, Alexandria, Va.
Urethane Supplier—Callery Chemical Co., Callery, Pa.



M. Tulou, who supervised installation, and owner B. Gordon examine cured urethane foam section from wall surface.

For additional information on the use of urethane foam in other insulation and construction jobs, write on your letterhead to:

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For additional information on S. W. Barbanel's approach to the 'ALL-AIR' split-system, write Connor Engineering Corporation for "A Dual Duct Approach for Office Buildings." Danbury, Conn.

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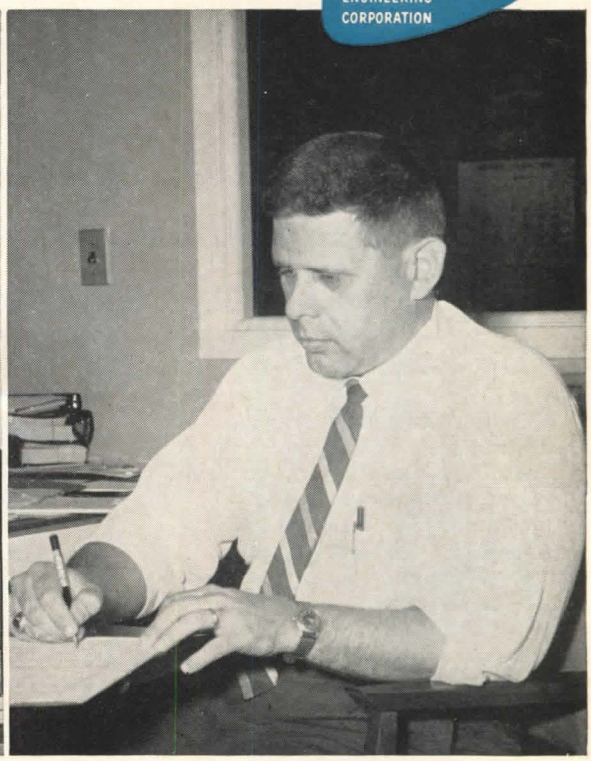

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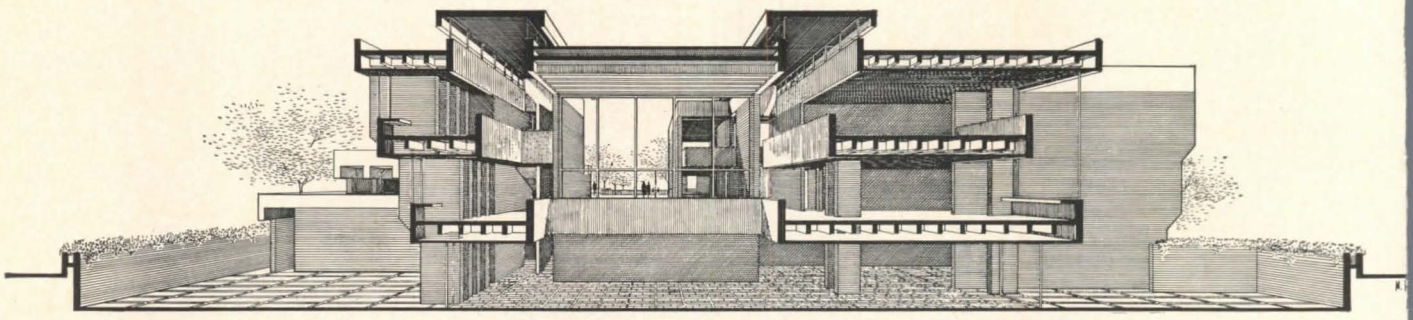
Zonolite prototype building #9: A college library



Marvin Hatami designs a college library.

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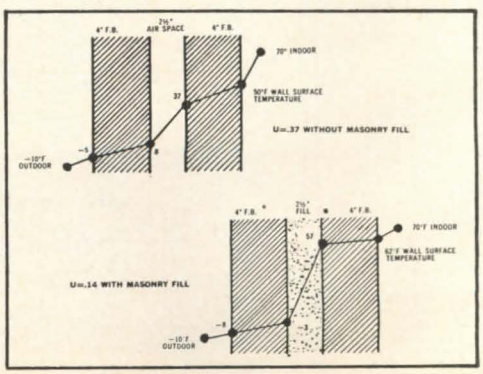

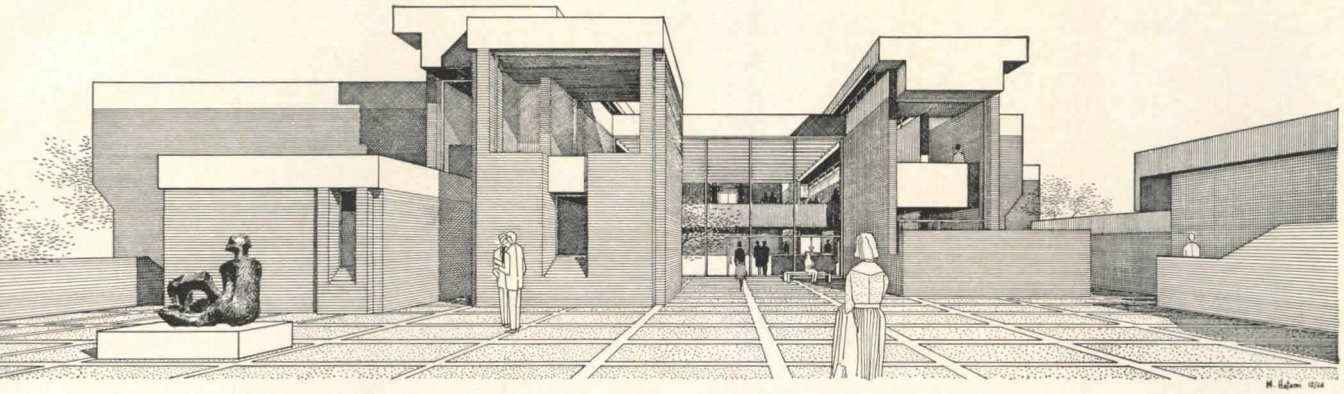

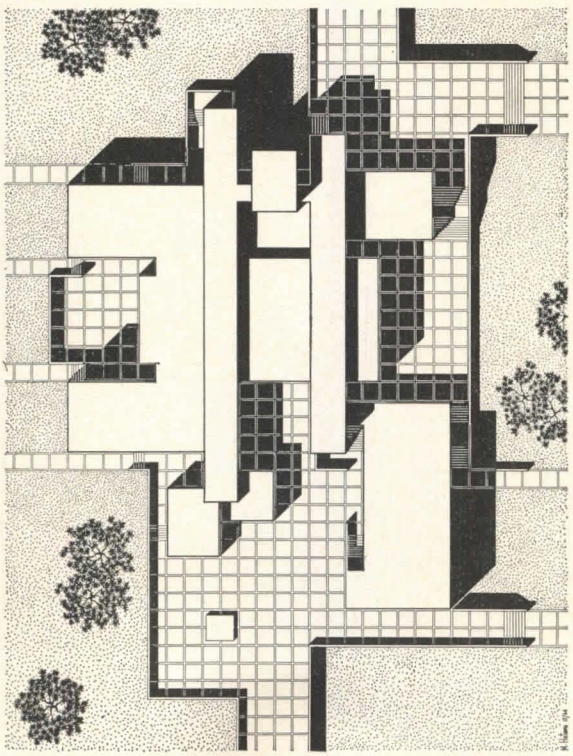

DESIGN CONDITIONS			Winter Heat Loss in BTU/Hr. Assuming 70°F Indoors —10°F Outdoors		Summer Heat Gain in BTU/Hr. Assuming 95°F, DB 64°F, WB Outdoors 78°F, DB 65°F, WB Indoors	
	Without Masonry Fill	**With Masonry Fill**	Without Masonry Fill	**With Masonry Fill**	Without Masonry Fill	**With Masonry Fill**
alls	4″ Face Brick 2½″ Air Space 4″ Face Brick	4″ Face Brick 2½″ Zonolite Fill 4″ Face Brick	962,000	**364,000**	201,000	**76,000**
oof	Roofing, 3½″ Concrete		225,000	**225,000**	107,000	**107,000**
oor	4″ Concrete on Grade		56,000	**56,000**	—	—
ass: Solar & ransmission	¼″ Heat Absorbing Plate		730,000	**730,000**	443,000	**443,000**
entilation	15,000 DFM		1,080,000	**1,080,000**	229,000	**229,000**
ghts	175 Kilowatt		—	—	596,000	**596,000**
eople	500		—	—	200,000	**200,000**
otals			3,053,000	**2,455,000**	1,776,000	**1,651,000**
Savings with Masonry Fill			$\frac{3,053,000-2,455,000}{3,053,000} \times 100 =$ **19.6%**		$\frac{1,776,000-1,651,000}{1,776,000} \times 100 =$ **7%**	

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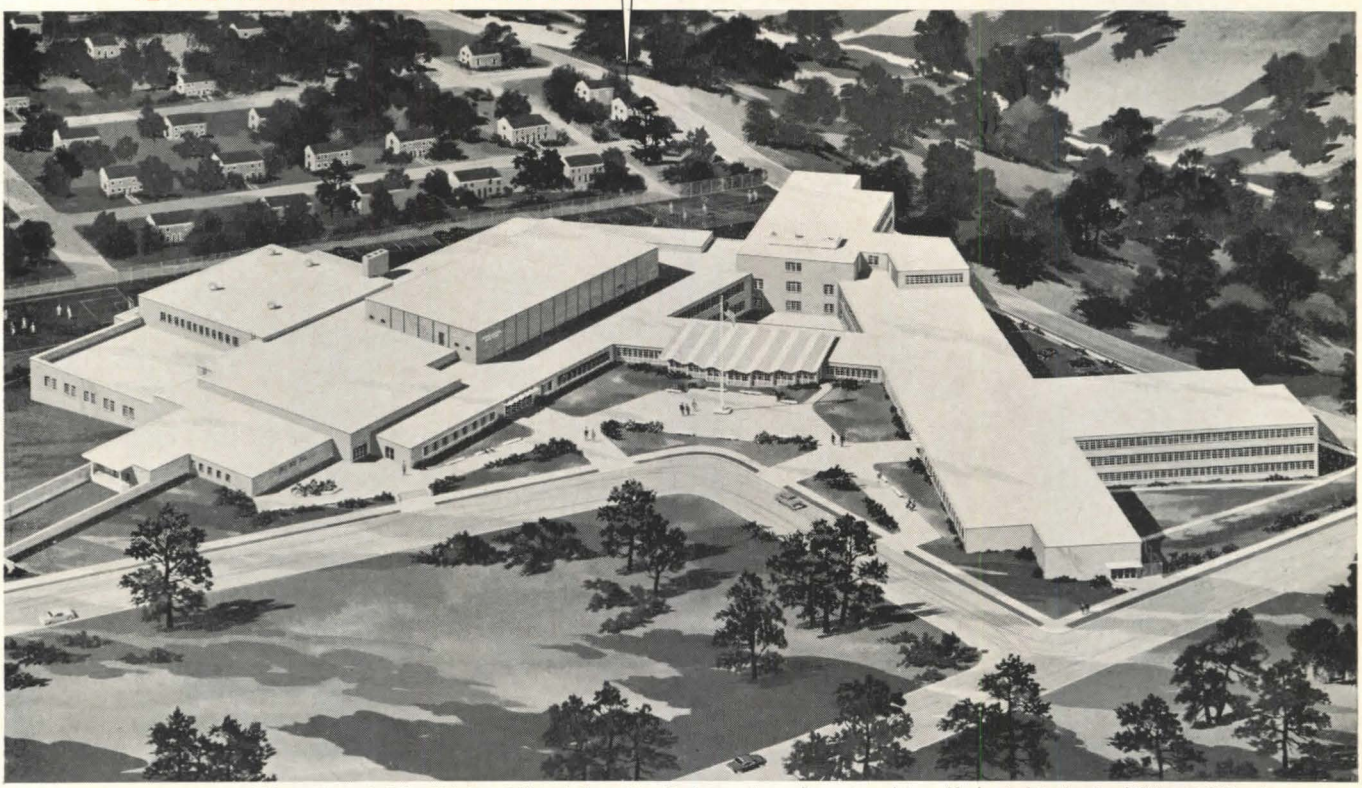

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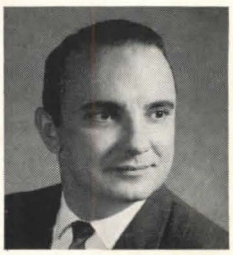

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$20,000 SAVING: 19,000 sq. ft. Den-Mar Nursing Home, Rockport, Mass. *chitect:* Di Meo Associates, Stoneham, Mass. *Engineer:* Joseph Sestito & As ciates, Malden, Mass. *Contractor:* Feldman Construction Co., Rockport, Ma



$10,000 SAVING: 5,200 sq. ft. Home Federal Savings and Loan Association of Cincinnati Building, Wilmington, Ohio. *Architect/Engineer:* Richard R. Grant, A.I.A., P.E., Wilmington, Ohio. *Contractor:* A. P. Eveland and Sons, Wilmington, Ohio.



$13,700 SAVING: 120,000 sq. ft. Wachovia Bank and Trust Co. Building, Raleigh, N.C. *Architect/Engineer:* A.G. Odell & Associates, Charlotte, N.C. *Contractor:* T. A. Loring Co., Goldsboro, N. C.



$10,000 SAVING: 18,500 sq. ft. Gloria I Lutheran Church, Forestville, Conn. *Ar tect:* Jeter & Cook, Hartford, Conn. *E neer:* James S. Minges & Associates. *C tractor:* Wadhams and May Co.



$63,000 SAVING: 675-student, 60,000 sq. ft. Hampshire High School, Romney, W.Va. *Architect:* Robert J. Bennett, Morgantown, W. Va. *Engineer:* Ballard & Mayfield, Canton, Ohio. *Contractor:* Baker & Coombs, Inc., Morgantown, W. Va.



$7,000 SAVING: 9,400 sq. ft. McIntosh Stamping Corp. pla Berne, Ind. *Designer/Builder:* David Poor Construction C Warsaw, Ind. *Engineer:* Berne Electric Co., Berne, Ind.

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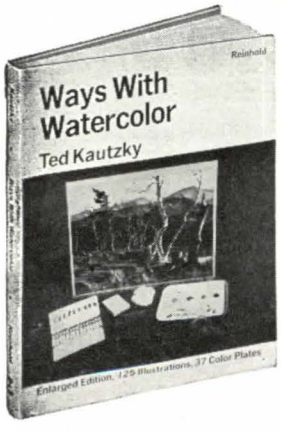

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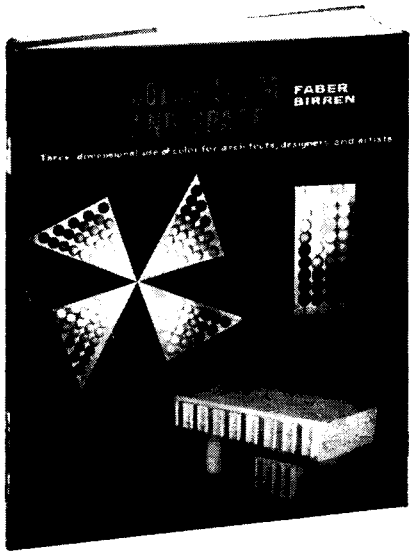

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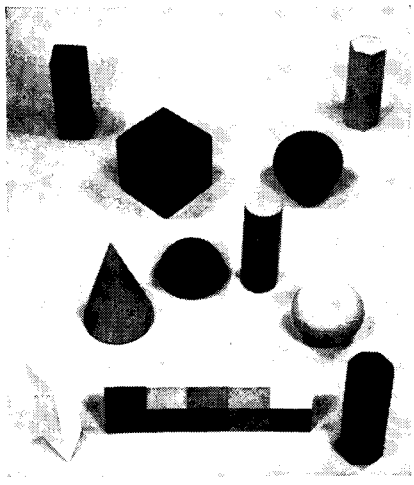

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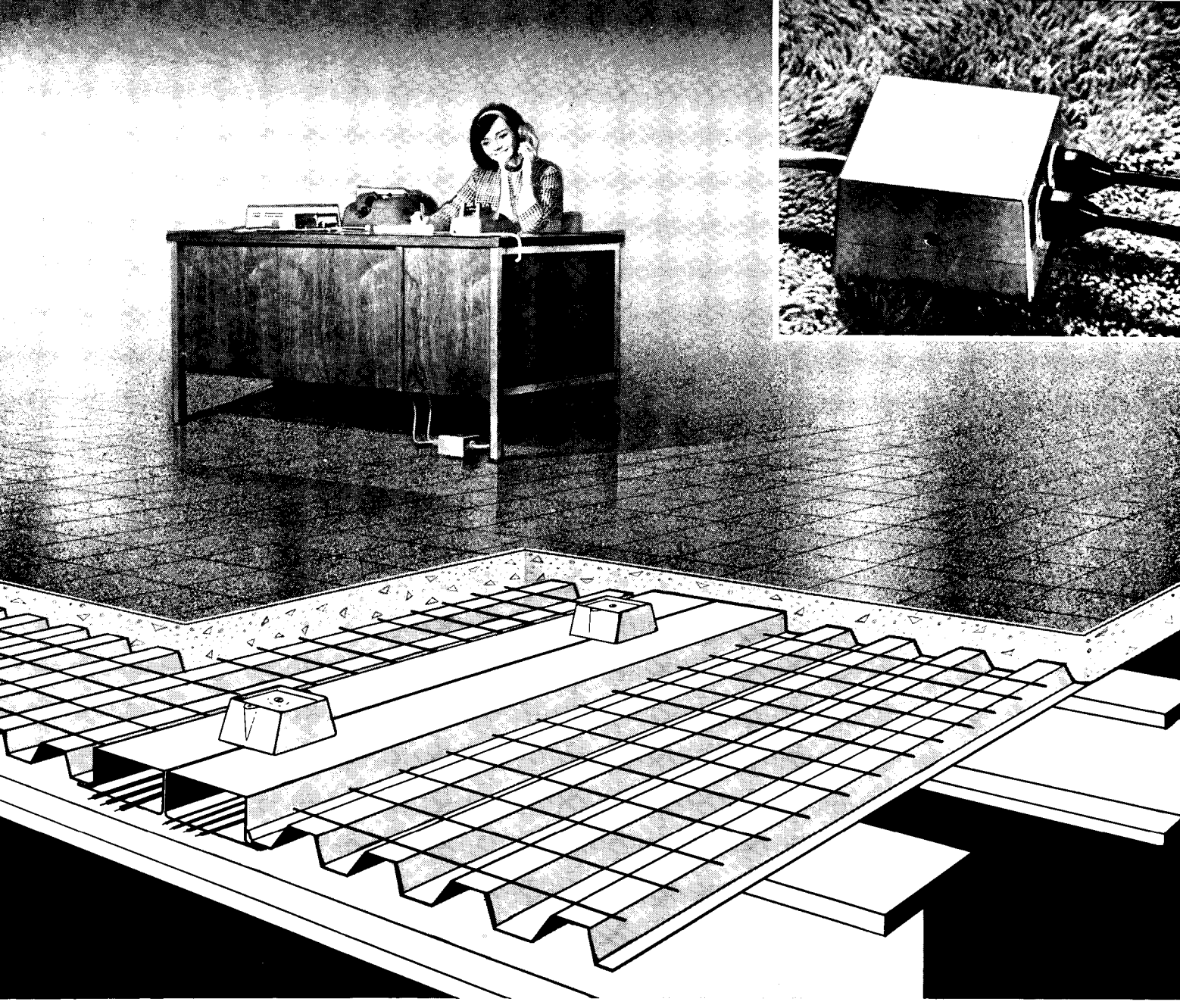

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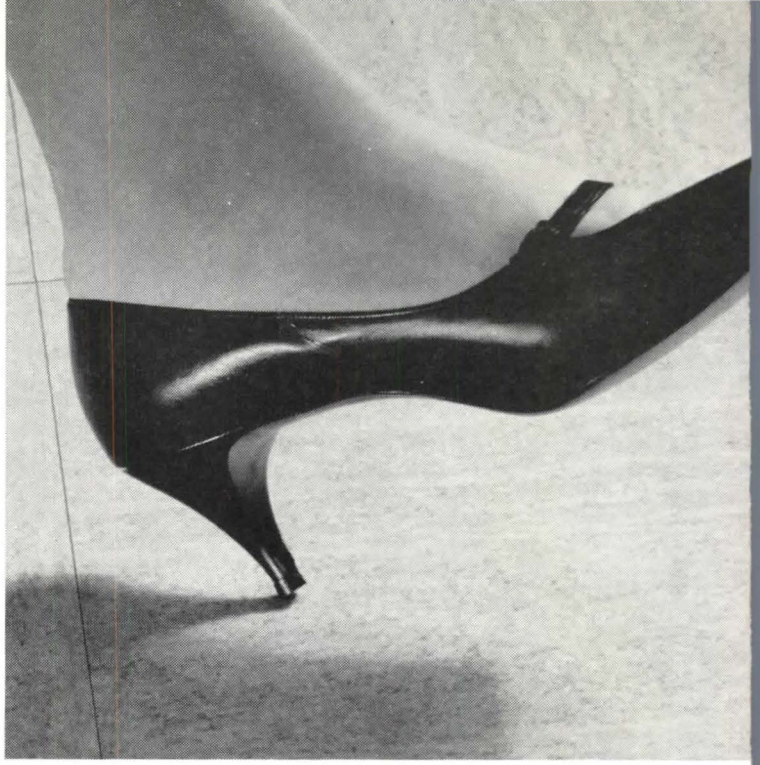

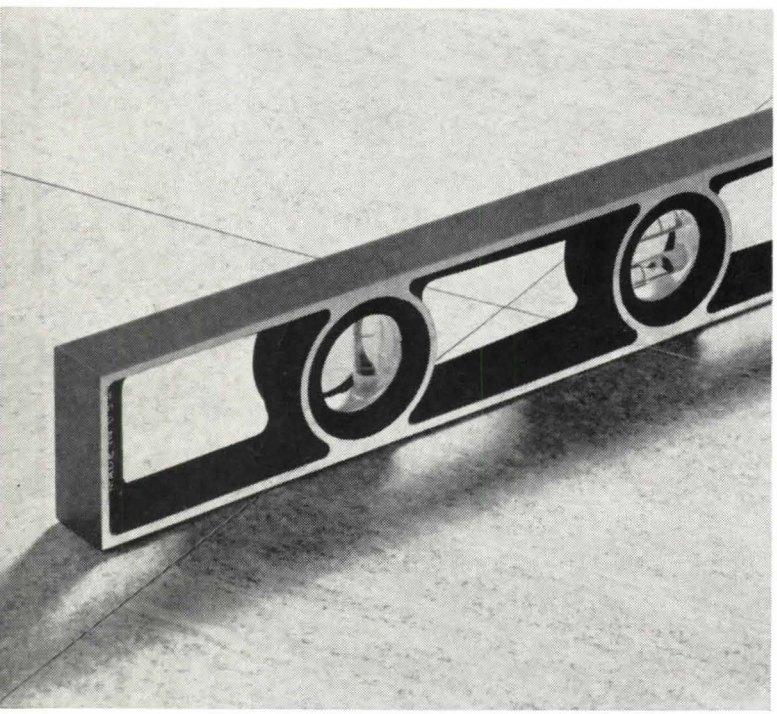



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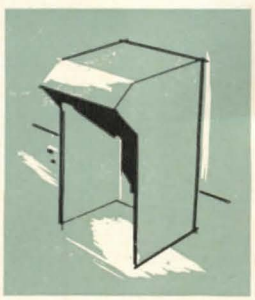

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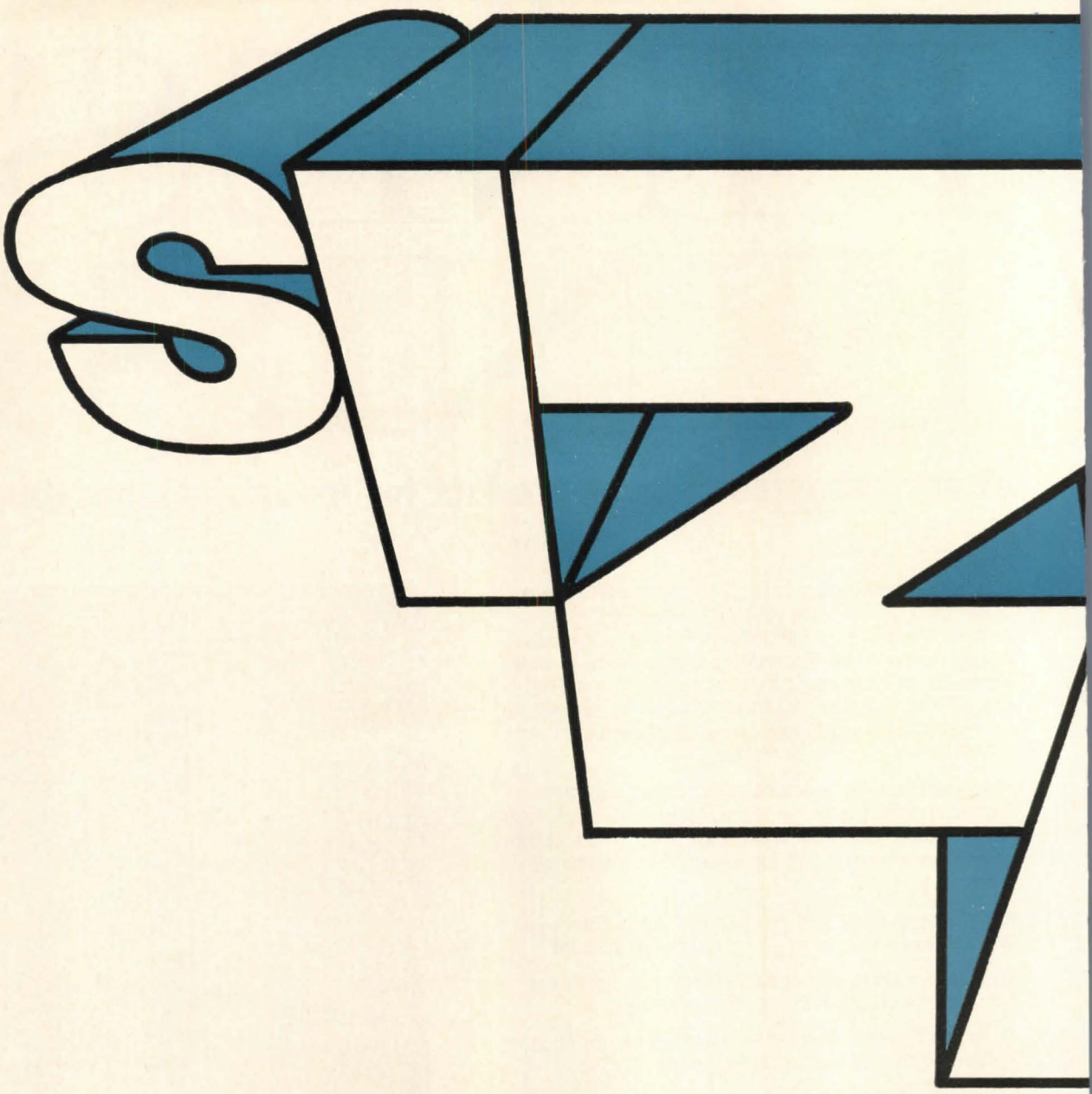

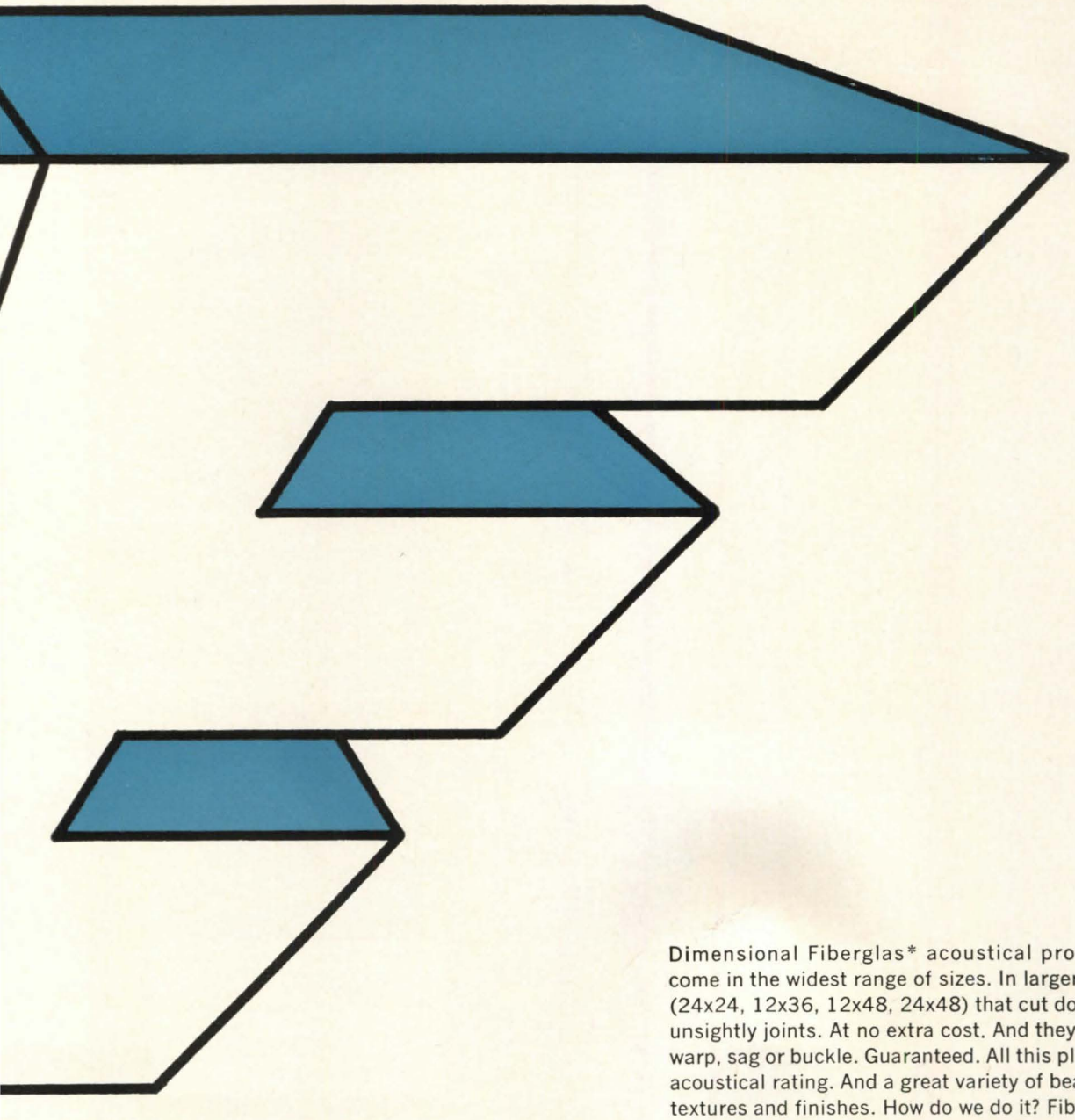

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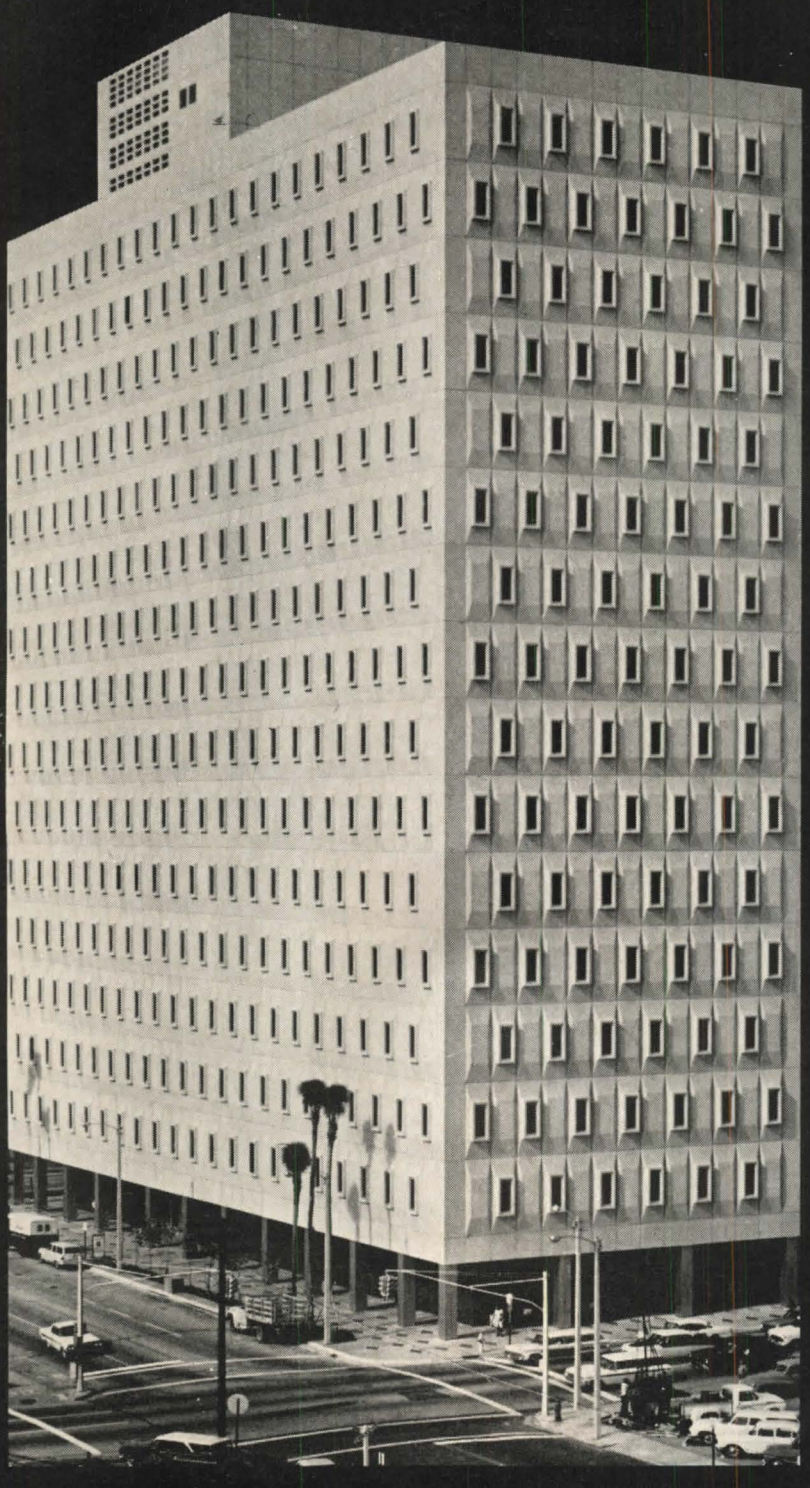

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The new Federal Office Building in Miami, Florida is a fine example of the use of precast white concrete panels. The entire exterior utilizes these units . . . 2156 in all . . . made from Trinity White Portland Cement.

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CREDITS: Architect: Steward-Skinner Associates and Charles Giller & Associates, Architects & Engineers, Miami, Florida. Contractor: John A. Volpe Construction Co., Inc., Miami, Florida. Panels by: Mabie-Bell Schokbeton Corp., Peachtree City, Georgia and Greensboro, N. C.

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EDITORIAL

Problems beset us all. Architects have their share of them, and so do architectural editors. In one of the first issues of P/A's predecessor, *Pencil Points*, dated October 1920, appeared this item:

> THE ODOR HAS DEPARTED.
>
> YOU know what we mean, if you received a copy of the September issue. An expert from the paper mill is investigating the cause. We don't envy him his job, do you? Anyhow we have secured a new shipment of paper and the present issue of PENCIL POINTS can be read without the aid of a gas-mask.

I hope that neither *Pencil Points* nor P/A has been odorous ever since, although I must admit to some trepidation when we shifted several months ago to gluing the magazine rather than stapling it, a method called in the trade Perfect Binding. The reason we have not done this before is because Perfect Binding was, until recently, not too perfect, and pages would fall out with alarming frequency. Since nobody complained lately either that P/A smells or that it is shedding, the "perfect" binding must have really improved and so at least one of our problems is finally solved.

A completely different problem, and a troublesome one, faces foreign editors when they decide to lift items from our pages. Last May, P/A pointed out, in an article titled "Kevin Go Bragh," that Kevin Roche of Eero Saarinen Associates is another son of Eire to achieve international distinction in a creative field, joining such notable countrymen of his as James Joyce, Sean O'Casey, Oscar Wilde, and George Bernard Shaw. In relaying this news, *l'Architecture d' Aujourd'hui*, with typical French literalness (if not typical French literary knowledge), in its September-November 1965 issue, gave architectural credits for the University of Massachusetts Art Center and the Air Force Museum as follows:

KEVIN ROCHE JOYCE O'CASEY WILDE SHAW ARCHITECTES DE L'AGENCE † EERO SAARINEN ET ASSOCIÉS

This, one of my colleagues tells me, opens a whole new field of speculation: the writer-architect. To pay the editors of *l'Architecture d'Aujourd'hui* a return compliment, we might imagine some French literary lights turning to the drafting board and coming up with such masterpieces as: the largest building in the world by Rabelais; a cooky bakery by Proust; an inverted plan by Gide; a prison by Genet; a sidewalk café by Sartre; an Algerian sanatarium by Camus; a restaurant project by whoever writes the Guide Michelin. The possibilities are endless. Our imagination could go even wilder because the same magazine reproduced one of Bruce Goff's houses in Oklahoma, which we published some time ago, and gave credits: Goff and Oklahoma, Associated Architects.

So problems we all have, but I still think that the English experts at *l'Architecture d'Aujourd'hui* should either wake up or give up. Unless, of course, one takes seriously a recent study reported by the *Journal of Marketing Research*.

This study, conducted by Donald Auster, an associate professor of sociology at St. Lawrence University, asked the question: "Which has more lasting impact on the public—factual or emotional communication?" Professor Auster answers, in an article called "Attitude Change and Cognitive Dissonance," that "ideological rather than factual propaganda is more persuasive." This conclusion is based on a reaction of 400 students who viewed two films: one contained "technological (true) propaganda"; the other was a "much criticized ideological film." Apparently, the latter film was received more favorably. Which proves, according to the article, that "people wish to accept a message they seemingly dislike because they do not care to experience internal dissonance or conflict."

So now I have a new problem: Since I would hate to be responsible for anybody's internal dissonance or conflict, should P/A from now on concentrate on "emotional communication" and ignore the facts? Perhaps *l'Architecture d'Aujourd'hui* was right after all. ■

Jan C Rowan

MIDDLE INCOME PROJECT IN LOWER MANHATTAN

The twin towers in the Chatham Square area are a major focal point in the new skyline of Lower Manhattan. An example of an urban housing project with a strong architectural form, Chatham Towers nevertheless raises some important questions.

CHATHAM TOWERS, *New York, New York.* ***Architects:*** *Kelly & Gruzen: George G. Shimamoto, Associate in Charge; Raymond P. Tuccio, Project Architect; Salvatore Caltabiano, Jordan Gruzen, Richard Kaplan, Edwin Paul, Mario Romanach, Melvin Smith, Design Team.* ***Consultants:*** *Weinberger, Frieman, Leichtman & Quinn, Structural Engineers; Herman Scherr, Mechanical Engineer; M. Paul Friedberg & Associates, Landscape Architects.* ***Photography:*** *David Hirsch.*

There is upper-class living for middle-class incomes in a new Lower Manhattan project. The 240-unit Chatham Towers, just completed in downtown Manhattan, is actually for the "upper-middle" segment of the middle-income group; it joins a 420-unit "middle-middle income" cooperative nearby (the serpentine block called Chatham Green), and will soon be rounded out by a third section comprising some 800 lower-middle-income apartments several blocks to the north.

The new broom that is sweeping this area clean is the Association for Middle Income Housing, Inc., a "nonprofit sponsor and developer of cooperative housing for families of moderate means." In its eight years of existence, AMIH has initiated two other cooperative developments (one in the Virgin Islands, one in Yonkers); has converted already built developments into coops; is acting as agent for several projects, including one building of the I. M. Pei apartments for N.Y.U. in Greenwich Village, New York; and is currently extending its activities to middle-income rental developments in Puerto Rico and the Virgin Islands. (Even among housing experts, there is no precise figure for "middle income," but the category usually includes those with incomes ranging from $5000 to $15,000.)

Thus far, the most sizeable development initiated and built by AMIH is in the changing Lower Manhattan area. The brochure by AMIH locates Chatham Towers "right in the heart of the city." And a heart, of sorts, it is—if perhaps a transplanted organ. This reactivated downtown area is where the World Trade Center is to be located, on the west side of a narrowed Manhattan; on the east side, there are plans for an extensive housing renewal around the Brooklyn Bridge and a recreational development along the shore. In between is the long-debated civic center.

Among these large-scale monuments to progress are located the small-scale monuments of the city's history—an old church, a cemetery, a shopping street. Chinatown (although not mentioned by name in the AMIH brochure) is directly across the street from Chatham Towers; Worth Street has apparently been a dividing line, as impenetrable as the Great Wall of China itself, between the Chinese community that began to gather there in the 1880's and the alien world outside.

This is not the first "renewal" for the site that is now Chatham Towers. The Five Points intersection, at one extremity of the site, has had an uneven history for almost 200 years. It was marshland in the early 19th Century, until the city chose to fill it and thereby give work to the unemployed during the depression of 1808. The houses did not take long to sink back into the swamp, however; and what had become a tawdry entertainment section soon became a jungle of "wickedness, filth, and woe." Dickens, in 1842, described one of the appalling tenements located on a lane called Murderer's Alley. By the 1850's, a group of women had built the elegant Old Brewery Mission House (on the site of the Old Brewery), for the "sober, industrious poor," and, by 1869, a writer found that "comfortable tenements" had replaced the previously "reeking blasphemy." (The process by which this regeneration took place is missing from his description.) It was these tenements that were demolished in the 1960's to make way for the newest renewal.

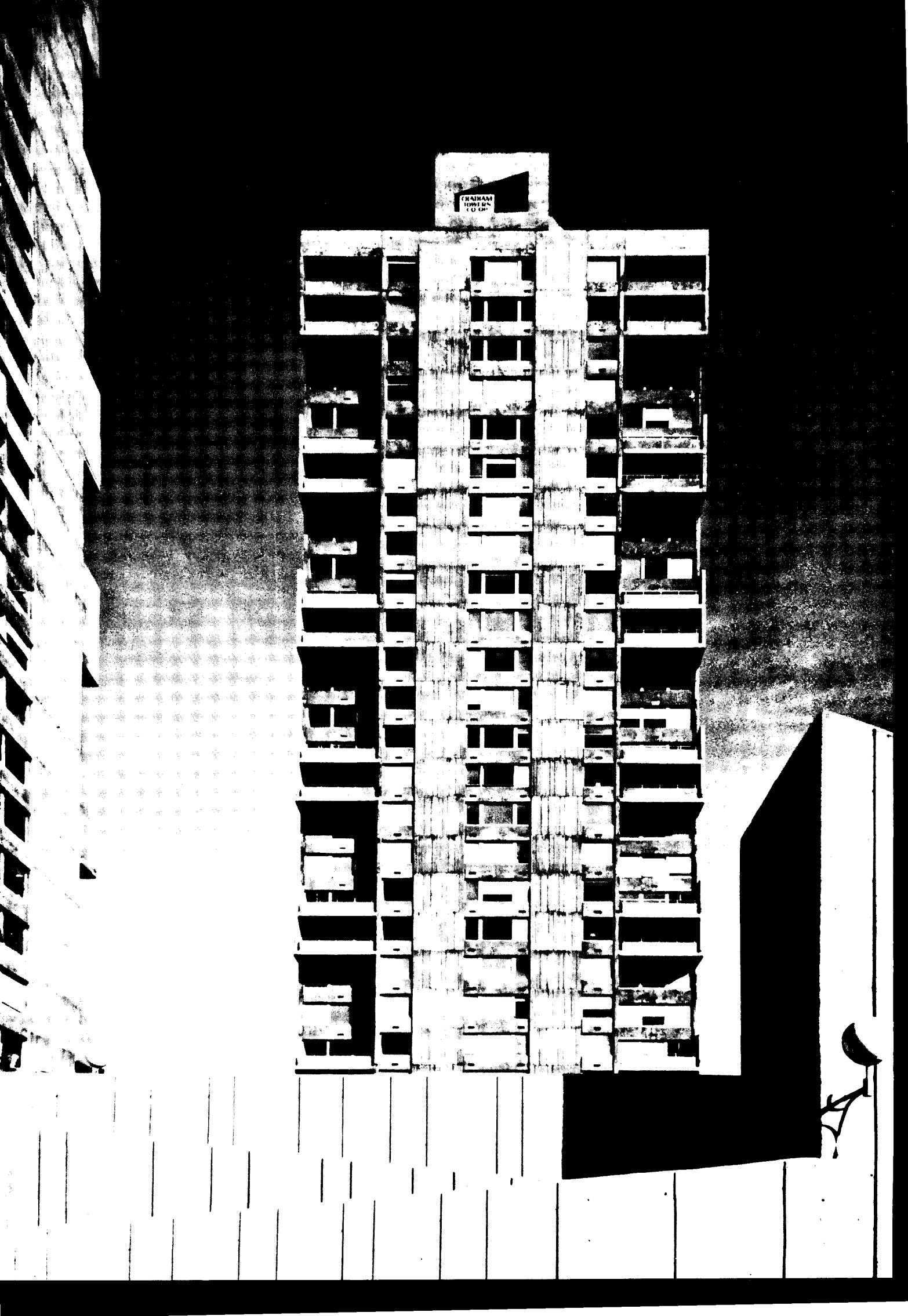
There were 31 buildings on the two-acre site in 1961. Fifteen tenements (no longer "comfortable") housed 189 families. Three-quarters of the households were without heat, or without heat and hot water; two-thirds had only partial or shared bathroom facilities. Average apartment rent was $21 per month. Also on the site, according to AMIH, were "run-down rooming houses, deteriorating commercial properties, empty lots, abandoned buildings with boarded-up windows."

Through Title I of the Federal Housing Act, Chatham Towers was able to purchase the site at its re-use value, in accordance with the formula established by the act. The difference between the price paid by the housing corporation and the actual cost of the land and the buildings on the site was shared by the Federal Government and the City of New York on the usual two-thirds/one-third basis. However, Chatham Towers had to pay for the cost of relocating the tenants and demolishing the buildings on the site, a sum listed as $409,000 of the total budgeted cost of $7,080,000. According to AMIH, some of the relocated tenants went to Chatham Green, and a few to Chatham Towers itself; many who were eligible for public housing moved to Smith Houses, just behind Chatham Green to the east; and many of those now in private housing are across the river in Brooklyn.

In a public project, it is a lengthy procedure from the earliest planning to the moving in of new tenants. As AMIH describes it, Chatham Towers originated in 1958. Because it is under Title I, and because it operates under a limited-dividend program of the state, the city, state, and Federal governments are involved. The project went through the Board of Estimate twice, through the Planning Commission twice, back to Washington twice. "Then there was relocation—which takes time, if you're sensitive about it—then demolition. When it was finally time to build, the construction budgets were no longer valid." (By administrative decision of the Housing and Redevelopment Board, monthly carrying charges were to be kept under $40 per room. The apartments require an equity investment ranging from $3980 for a studio to $8930 for three bedrooms with terrace, and monthly carrying charges ranging from $105 to $270.)

Despite having to keep to a strict budget, the architects, Kelly & Gruzen, have given to the development a high degree of built-in luxury. It is luxurious in the openness of the site, only 15 per cent


TO MODEL



of which is covered with buildings. It is luxurious in the underground parking and in the extremely gracious outdoor areas above—a sophisticated plaza, and a well-supplied playground. It is luxurious in the interior layout, which has only five apartments per floor. All apartments except studios, therefore, have corner exposures, and half of these corner apartments have terraces. It is luxurious in the exposed concrete, which has a more elegant look than much of the surrounding architecture, brick or stone.

Kelly & Gruzen had begun designing these towers at the same time they were working on Chatham Green, and in their earliest thinking had envisioned two towers here. Since so many streets come together here, at Five Points, the focal nature of the site seemed to require a strong vertical, and this too was established early in the design stage. The structural system was not firmly established until later; it was originally a steel and glass design. But within the budget of $1.50 per cu ft (excluding air conditioning and garage), it became possible to design for reinforced concrete, cast in place, and with exposed surface. The result, says Jordan Gruzen, is somewhat more expensive than conventional construction—about $1 per sq ft more. Among the advantages, aside from the "attractive" appearance cited by AMIH, are that the structural system eliminates beam and column projections within the building and makes possible a more flexible layout. The exterior surface of the unfinished concrete was handled with great care. Forms were specially designed, specifying random widths of rough fir boards. All ties are in the vertical grooves, to minimize any pattern from them.



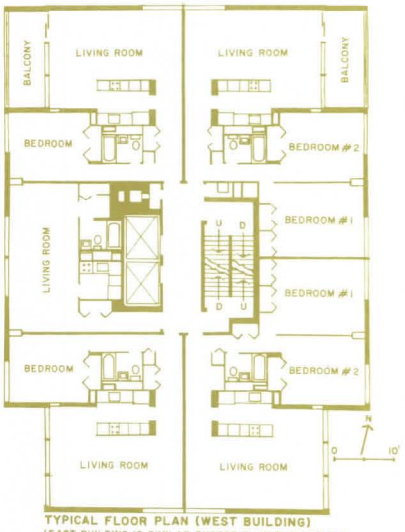


There are other unusual aspects to the construction. Chatham Towers has been hailed (by the Gypsum Drywall Industry) as the "first all-drywall high-rise project on Manhattan." The strength of the Plasterers' Union, combined possibly with the uncertain response from the public to newer products, has led to the persistence of plaster as interior finishing. ("Keep New York Plastered" ads have appeared in local papers, questioning the sound-resisting properties of wallboard with the words "People can listen through wallboard apartment walls. And they will.") Raymond R. Tuccio, project chief for Kelly & Gruzen, cites as among the benefits of wallboard that no time is lost in clean-up and no temporary heating system is needed for drying out. Walls between apartments have two 1-in. layers of gypsumboard, with air space between.

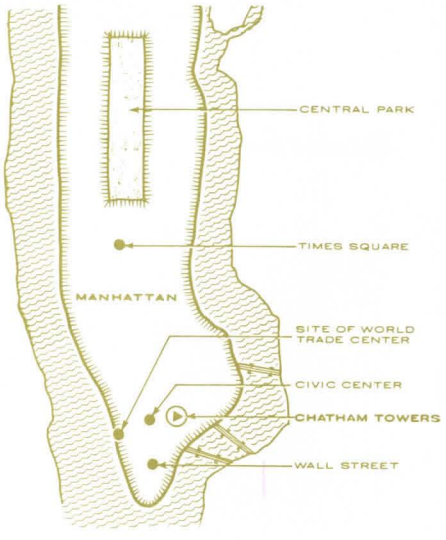
Chatham Towers is the first high-rise apartment in the city to use urethane insulation on its exterior walls; the closed-cell urethane foam was not previously permitted by the building code.

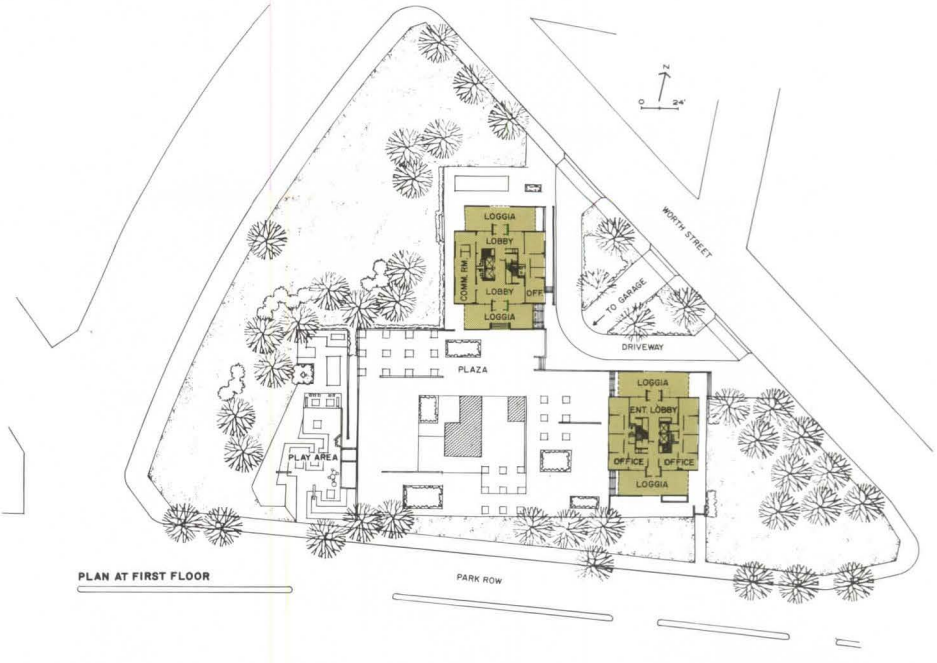
Another "first" for Manhattan is the use for an apartment building of a Swedish-designed window (used in Europe for 20 years and now manufactured in the U.S.); it has a double thickness of glass with a Venetian blind between, and the whole unit can be opened for ventilation and pivoted for cleaning. Because of the high insulation value of the window, it is expected that savings in heat loss will offset the increased cost of the window in only three-and-a-half years.

By comparison with some of the "luxury" items, the building lobbies are small and unadorned—as perhaps they should be in a city where there are already too many new entrance foyers frenzied with an overdecorated "tastefulness." At Chatham Towers, space is more important: Each ground floor has offices for pro-



TYPICAL FLOOR PLAN (WEST BUILDING)
(EAST BUILDING IS SIMILAR, EXCEPT THAT THERE IS ONE THREE-BEDROOM APARTMENT ALONG WEST WALL.)





PLAN AT FIRST FLOOR

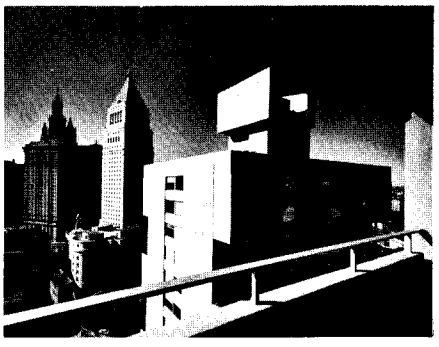
fessional tenants, and in one building there is a room for the community. Commercial facilities were to have been provided elsewhere on the site, but because the city may take back approximately one-quarter of the housing site for a road required by the new Civic Center, these facilities were dropped. Parking for 125 cars is underground.

The link between underground and above-ground is a shed-roofed concrete bulkhead. It brings light into the garage, and, at the same time, its colored glass provides almost the only touch of color to the monochromatic architecture—that is, until the tenants put in drapes (unnecessary) or paint their balcony ceilings (also unnecessary). A frequent reaction to the wood-grained concrete is, in fact: "Looks great, but when are they going to paint it?" The architects are thinking of having a session with all the tenants, explaining the buildings to them.

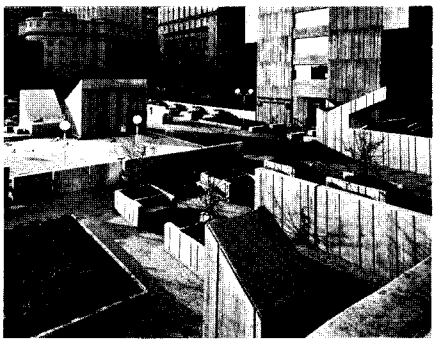
There are amenities in the paved and landscaped area, however, that need no explanation, and can be appreciated by the tenant no matter what his "aesthetic persuasion." It is an oasis in the city. It may indeed be hard to keep the neighboring tribes out, although as the landscape architect says, "Any public building or large building has a responsibility to the community," and perhaps the responsibility of Chatham Towers will include a policy of not asking too many questions of the stranger who comes parched to their well. Paul Friedberg explains the design: "It is for sophisticated people, and for individual or small-group relaxing, not so much for the large-group activities that a lower-income level would have. The entertainment patterns at Chatham Towers will be away from home more than for a lower-income group." In the plaza development, visual considerations were very important to the landscape architects: the strong pattern of the fish-scale paving, visible from above, or the illusion of bottomlessness created by lining the shallow reflection pool with black coal. (Structural considerations made it necessary to maintain a differential of only one step.) "We wanted the planting to be strong enough for the buildings, but there is a very human scale to the deciduous trees and the ivy; they move with the breeze. All that the plaza needs is some sculptural focal point—some strong piece—although actually it is *all* sculpture even now. But what is wrong with the whole thing, and it's a major point, is that it is an insular development, focussing in on itself. This plaza should open out and link up with others."

The playground is even more contained than the plaza, but for the purpose of providing control over the children (ages 2–7, approximately). It has been contained without fences, however; the land has been built up, then the play area sunk within. There are ramps up, and slides down, and in addition a series of play sculptures. Throughout the playground, the emphasis is on natural materials; even the "bought pieces" are in regular, not whitened, concrete. The site development, as a whole, makes considerable use of concrete. There is thus a unity of design to the project, and because the concrete contractors could do much of the site work on the building contract, there is a lot to show for a low landscaping budget.

It is Friedberg's opinion that the entire project would not have been possible without a receptive client, and an architect able to educate him. And one of the officers of AMIH comments: "We didn't know what we wanted, when we began. It just happened. It turned out well."















What type of person lives at Chatham Towers? A survey of 100 tenants yielded an interesting profile. Of 42 responding, 17 have an annual income of $15,000 or more. Most had previously lived in high-rise apartments (in New York City, although outside Manhattan). Typically, they now pay more in monthly charges for the same (or fewer) number of rooms; an additional $80 per month is not unusual. Many apartments are owned by single persons, by young couples without children, or by couples with grown children. What is it that these tenants generally like most about Chatham Towers? The location (close to place of work); and the interior layout and details—although some have reservations about the vinyl floor ("too institutional-looking"), bathrooms ("too small"), and storage space ("inadequate"). Some tenants complained about sound control. Ironically, the windows are so effective in shutting out street noise that sound transmission from neighboring apartments becomes more noticeable. The exterior has been praised as "forceful"; one dissident, however, calls it a "cement factory."





Chatham Towers: The Seen and the Unseen

First things first, it is said. But it is only after one becomes familiar with a project like Chatham Towers, and its neighborhood and tenants and economics, that its place in the fabric of New York City becomes clearer—and the whole question of new housing in any city becomes clearer. The following questions, then, are not so much specifically related to Chatham Towers as they are questions that come to mind as one walks through the Chatham Square area, looks out at the view from a Chatham Towers balcony, sits among the planting boxes in the plaza of Chatham Towers.

From most points of view, the architecture of Chatham Towers is impressive. As a form, and in its detailing, it makes a strong impact. The world around Chatham Towers cannot help but take note. Whether it "likes" the project or not is perhaps beside the point, although this is precisely the point where the architect gets bogged down in the antediluvian argument about form.

The architect used to be able to think of his buildings as discrete forms, as finite things. Life was always more complex, of course, but no one worried too much about what could not be seen. Buildings had their public façades, and the rear was nobody's business. So, too, cities had their officially approved sections, and no one worried too much about what was half a mile distant, except the people unlucky enough to live there.

It is different today, but is it different enough? Architects are speaking about a more inclusive scope than the single building; nothing short of the whole urban environment should be under the purview of the architect. But what the larger scope means to many is only more external form—a beautification of the entire city, just as once it was only certain sectors that were so favored.

Form, however, is only one aspect of the environment. It may hardly be a decisive aspect in providing meaning to people's lives. We know very little about what people respond to, and want, and need, in their environment. It may be that form is quite irrelevant. A block from Chatham Towers, the phone booths on the sidewalks have elaborate pagoda roofs, gilded and painted. What if Chatham Towers were overlaid with such chinoiserie at every balcony? The profession might laugh at it, or ignore it, or might gather to celebrate the "blend of old and new," but what would it mean to the people who live there? Many buildings, today, are being built with chinoiserie and its aesthetic (or ethnic) equivalents. Are such buildings necessarily, and by that fact alone, worse to live in than Chatham Towers?

It is what is unseen that is likely to be far more important. The quality of living that is built into Chatham Towers derives from other things than from the exposed concrete or the Corbusier aesthetic. It stems from the possibilities for privacy and neighborliness, the convenience of play space, the unobtrusiveness of parking space, the pleasure of breathing space, the wind, the view, the open sky. Compared to other renewal efforts, there are more amenities here than in many luxury housing projects, certainly more than in most low-rent projects. In many luxury projects, money goes into show that serves no real human purpose; in low-rent projects, money is withheld and the result is not even interesting enough to be ugly—the quality of living has neither an aesthetic nor an unaesthetic character; it is just inhuman.

The fault of urban renewal, Herbert J. Gans has written, is that it is essentially "a method for eliminating the slums in order to 'renew' the city, rather than a program for properly rehousing slum-dwellers." There are many people—not only in official positions—to whom the appearance of progress and the increase in taxable properties take precedence over more human considerations in housing. The architect becomes an all-too-willing accomplice by his concentration on the form of the single finite project.

In his book *The Federal Bulldozer*, Martin Anderson notes that the net result of the first 12 years of urban renewal in the U.S. was the creation of 28,000 dwelling units, and the demolition of 126,000, a fact that raises further questions about the unseen. Where are the people who once lived in an urban renewal area? (There are various figures, depending on whose side you are on, to suggest the trauma or ease with which people are dislocated or relocated.) Where, elsewhere in the city, are there new single-room occupancies, with apartments being subdivided to make room for relocatees—new areas that have become dumping grounds for urban renewal? Blight may not be so much erased as pushed into a tighter corner where it does not yet show.

Here, then, at Chatham Towers, there is a playground, underground parking, sitting plaza, and 240 apartments for "families of moderate means." Aside from the fact that few are actually "families," and many are not of "moderate means," it is a major achievement. But it is a small part of a total housing program. (It is also a small part, in fact, of New York City's housing program, only 0.4 per cent of which, during the past 10 years, has been constructed under this limited-dividend program. Another 8.2 per cent was built under the limited-profit Mitchell-Lama program; a total of 14.0 per cent received some form of public assistance—Federal, city, or state.) The same subsidies that went into Chatham Towers are urgently needed in housing for the poor, and the same imagination is urgently needed in housing for the wealthy. Perhaps most urgent, however, for any housing program, is the new thinking that would redefine adequate housing as a necessity, not a luxury. There must be rethinking of whether housing can remain a profit-producing commodity to the extent that it now is, and still fulfill the objectives that a mature and moral society knows to be essential. In a total housing program, one would have to ask about the people who do not fit the income limitations of the lower-rent projects and who cannot afford the prices of the higher. Where, too, are the young families, for whom the city generally offers few practical choices? The poor have notoriously little choice, today, as do the nonwhites.

These questions should be basic to architects in their new concern for the whole urban fabric. Unfortunately, the pressures on an architect, and the incentives, tend to force him to become what James Marston Fitch has termed "the agent and spokesman for an élite." But if our cities are not to become increasingly unfit for the majority of human beings living in them, and if renewal is not to take place at the expense of those already deprived, we must look to the larger context. Goals in housing must go beyond form. It cannot hurt to have a "beautiful" building, but only if the unseen is not neglected. We are past the time when a façade is the most important part of a building, or a city. The city will only be beautiful when people are living easily, living richly and freely—not necessarily when they are in "beautiful" buildings.

It has been suggested that it is almost embarrassing—considering the tax abatement that Chatham Towers receives from the city, and its other forms of assistance—to have so luxurious a development. If first things truly came first, then the "luxury" of Chatham Towers would be abundantly available in an affluent society that can well afford it.—EP

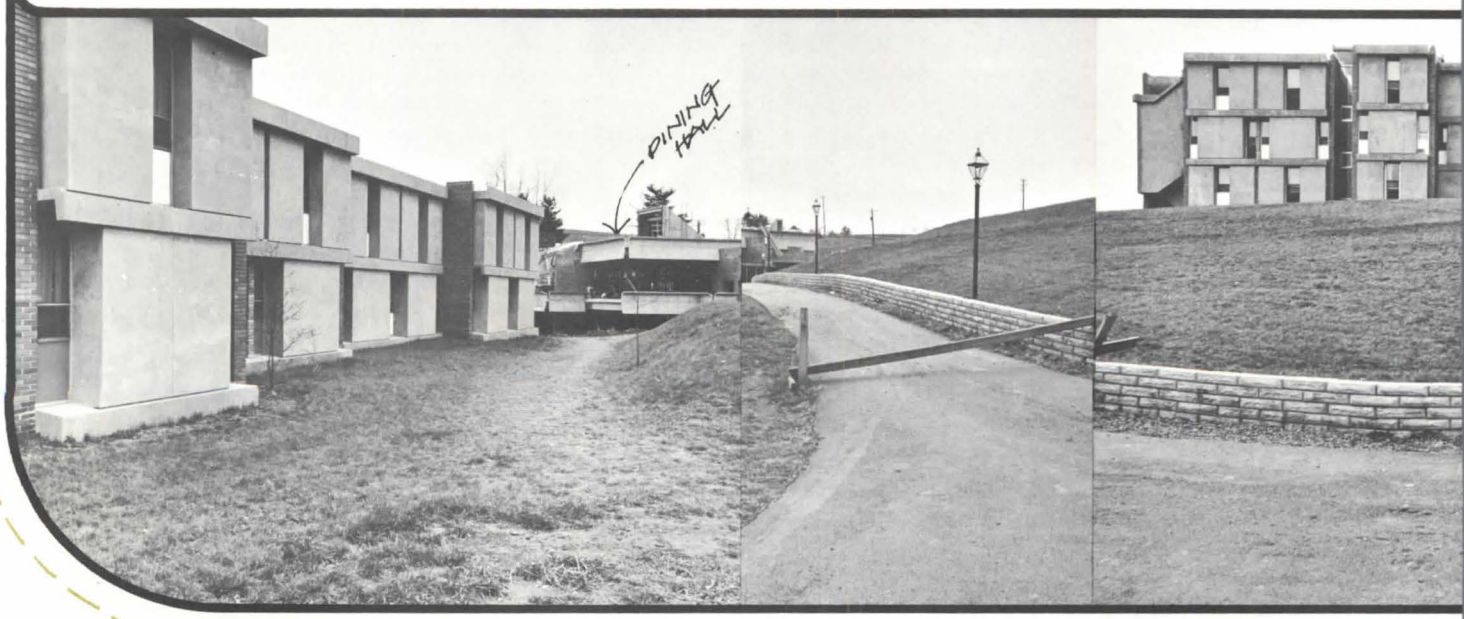
CAMPUS IN MOTION

Tasso Katselas' new campus for the Robert Morris Junior College near Pittsburgh is laid out for the pedestrian. The basis of the plan is a mesh of walks that creates not only a network of pathways — a social system where people meet and mix — but also a framework for a type of architecture that derives its variety from the movement of the observer within it rather than variations in the design. The dormitories ($14.30 per sq ft) change only slightly in configuration but are arranged in a casual manner that makes the most of the accidents of topography. The effect from various vantage points (panoramas 1, 2, 3) was to be that of a village — a pedestrians' town.

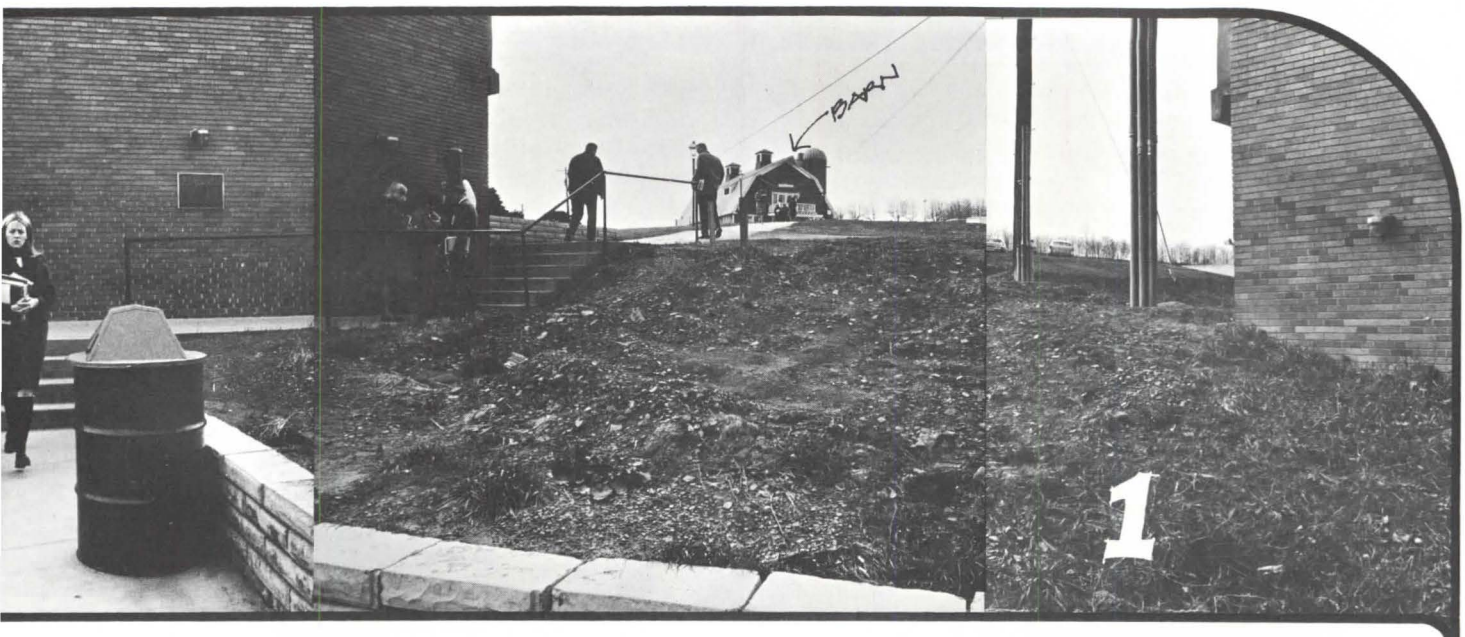








PHOTOGRAPHY, EXCEPT AS NOTED: MAUDE DORR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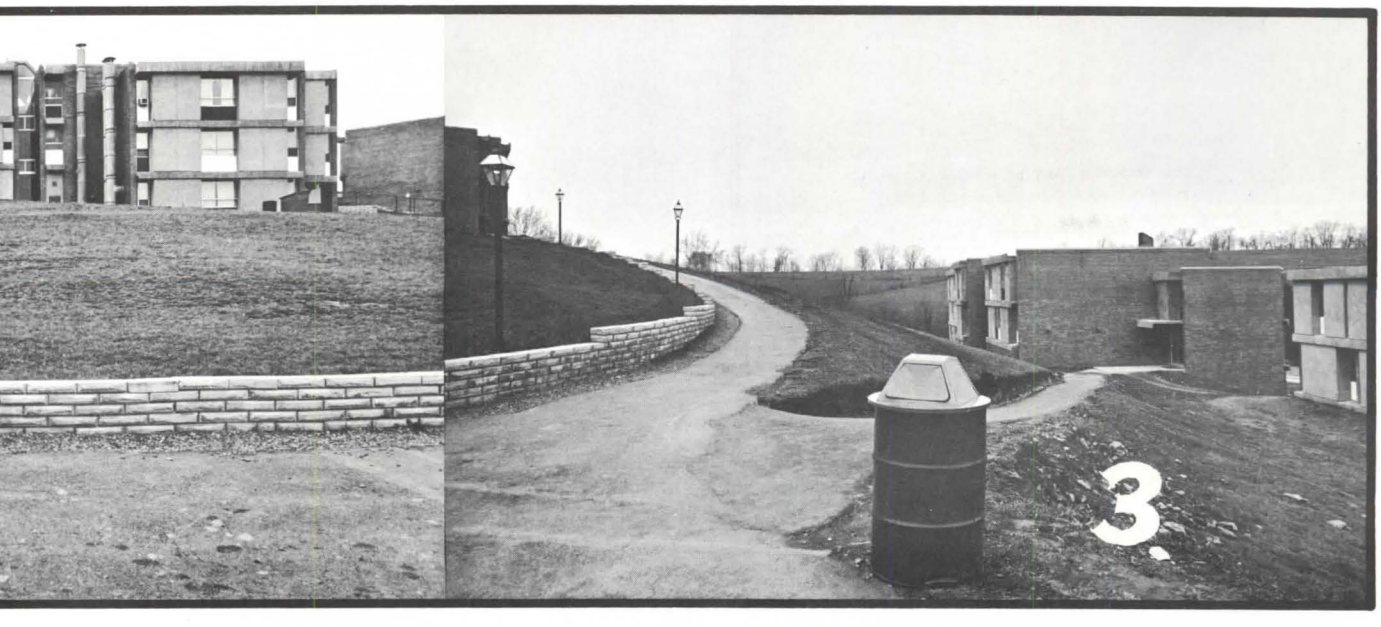
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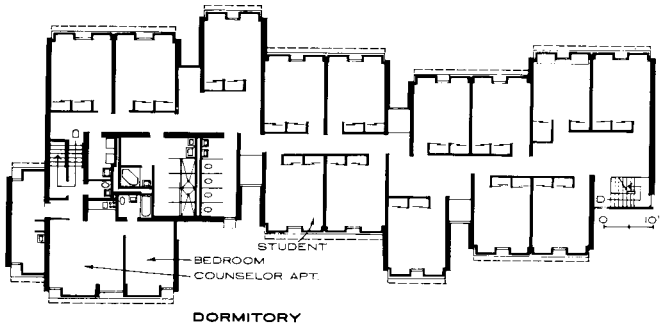
The country campus of the Robert Morris Junior College is an extension of a downtown Pittsburgh business school founded in 1921. In 1959, the school purchased a 230-acre estate 10 miles outside the city—an estate that included a large country house, a barn, and a few other small buildings. In 1962, when the Pennsylvania State Council of Education authorized the school to give degrees in liberal arts, business administration, and secretarial work, planning for the new Junior College went ahead full scale. By 1963, the first three dormitories and a classroom building were finished on schedule; by 1966, the campus had grown to a total of six dormitories, one classroom building, with a dining hall and utility building under construction.

The objective of the administration and the architect was to provide a relatively intimate and small-scale campus for students who are, for the most part, away from home for the first time. It was to be a campus that encouraged people to mix and provided an imaginative background for education. Furthermore, the buildings were to require little maintenance, and had to be constructed quickly to meet the tight deadline. It had to be an "instant campus."

The result, according to Katselas, is "a playful manipulation of similar units, rather like a village in which you see rooftops below you and walls up above." The buildings are staggered on the hillside and shift and change their aspect according to the approach. It is a type of architecture and planning that achieves more variety from the movement of the observer than from changes in the design of the buildings themselves. It could be called a rudimentary architecture of motion, whose principal rule, says Katselas, "is to use man's movement to create a dynamic space." The human body is capable of far more intricate maneuvers, of acute-angle turns, ups, downs, and arounds, than the pattern adopted for the expediency of the automobile. At Robert Morris, the automobile has been restricted to the fringes of the campus, the student cafeteria will be situated in a small valley overlooking a pond, and over the hill is a utility building under construction.

It is a campus for pedestrians, a maze of carefully planned walks and spaces that construct a pattern of social living. Walks are arranged so that people from adjoining dormitories are brought together and pass by each other on the way to classes or the dining hall. There are open areas where groups can pause and talk, and the dormitories themselves are grouped in threes—in small clusters to form small units within the campus. Inside, the floors are planned so that there are no long thoroughfares, but only short corridors connecting small groups of rooms. Occasionally, the passageway widens to hold a small group of students gathered together to talk. At the end of some corridors, there are windows overlooking outdoor pathways so that the life of the campus is visible from inside.

From a kinetic viewpoint, the plan works well in creating a lively, friendly campus, but, at first glance, the architecture itself seems anything but heartwarming. The massive concrete slabs and brick walls seem brutally articulated and uncompromising. In the eyes of the architect, however, the buildings are relatively small in scale and the treatment of materials is frank, direct, and economical. It is his intention that people should not be overly conscious of a building; they should be free to put their feet up on a wall, place signs in the window, and do what they like to change and modify it, without being inhibited by some expensive finish. In addition, there is a touch of whimsey in a design that makes chimney clusters out of sewer pipes, and modern-picturesque skylines out of skylights and drainpipes. As a group, the buildings succeed in forming a background that can absorb a host of accidents and absurdities with a dose of humor; a knot of exposed wires draped outside a dormitory does not seem out of place with sewer pipe chimneys, and the old-fashioned light fixtures donated by the Columbia Gas Company are not quite what the architect would have chosen, but are absorbed with a kind of tolerant good humor.



DORMITORY

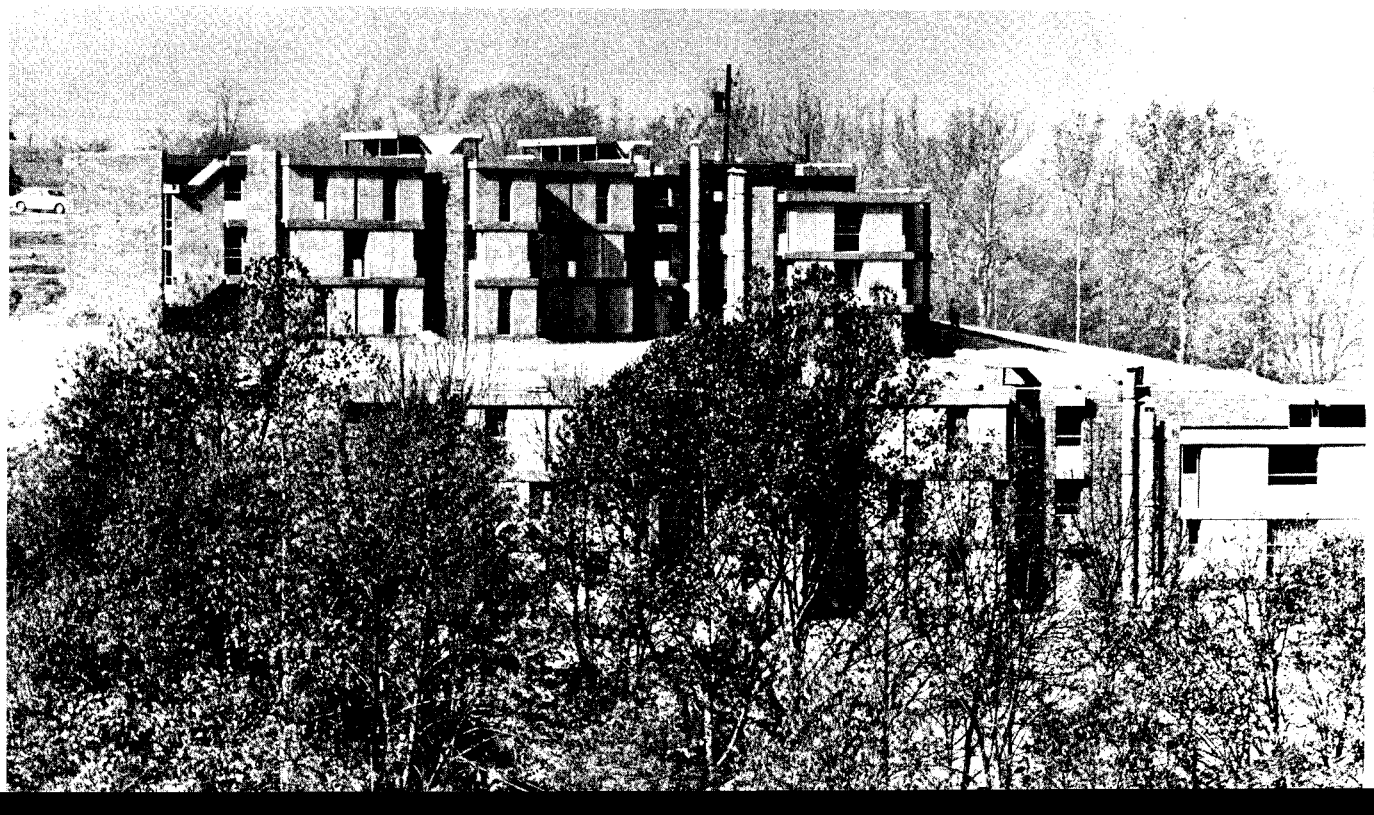
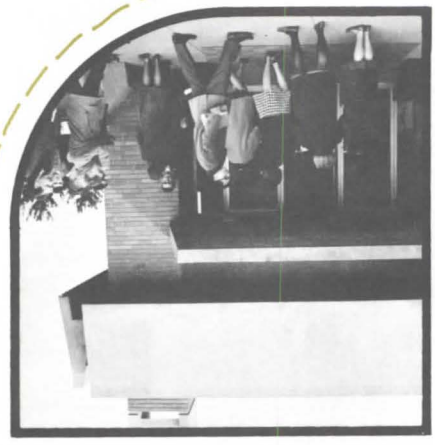
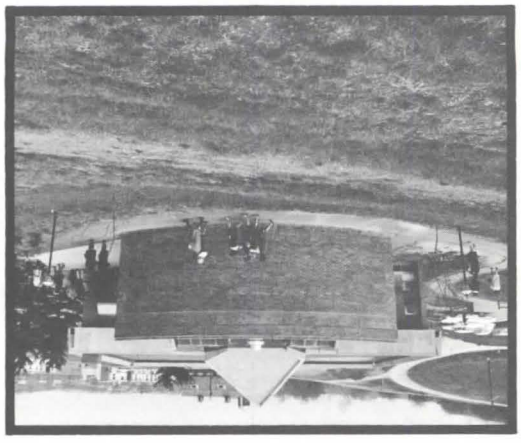
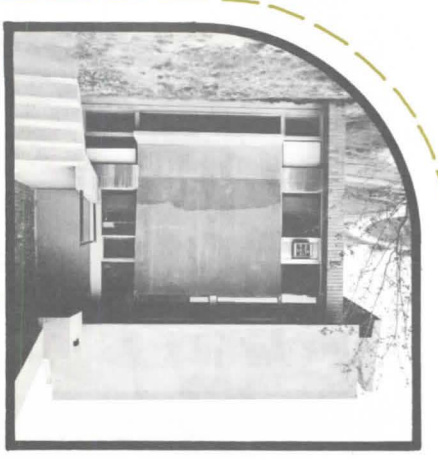


PHOTO: JOHN L. ALEXANDROWICZ

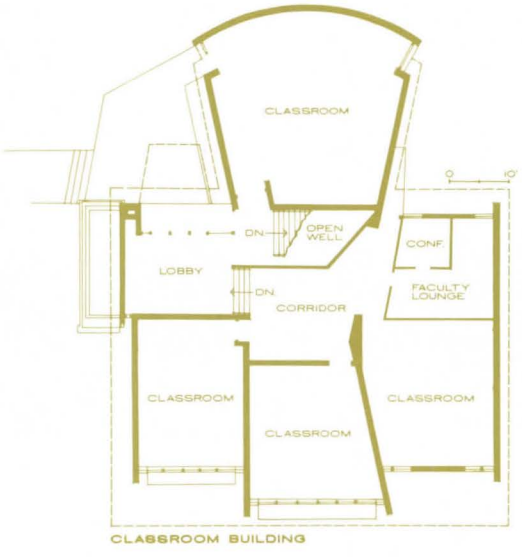






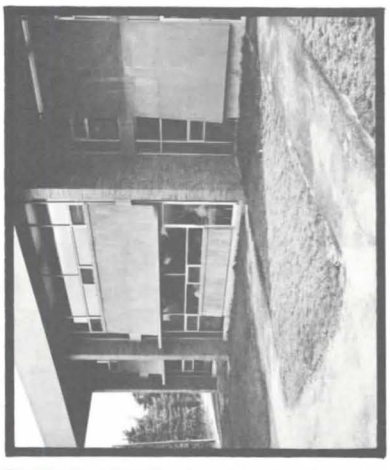






CLASSROOM BUILDING







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The classroom building ($16 per sq ft) is a good example of what might be called "pedestrian" architecture. The building changes character at each elevation, has several entrances, several kinds of surfaces, and, like the rest of the campus, cannot be summed up in a single photograph: It must be walked around. . . .

NO CORN IN IOWA

An architect who gets into the client's business, an enthusiastic and increasingly aware client, and structural and mechanical research and testing produce an office building that means — and shows — what it says.

AMERICAN REPUBLIC INSURANCE COMPANY NATIONAL HEADQUARTERS, *Des Moines, Iowa.* ***Architects:*** *Skidmore, Owings & Merrill, New York: William S. Brown, Partner in Charge: Gordon Bunshaft, Partner in Charge of Design; Roger N. Radford, Project Designer: Walter A. Rutes, Job Captain.* ***Structural and Mechanical Systems:*** *See text.* ***Major Materials:*** *Exposed granite aggregate concrete, precast prestressed concrete floor beams, heat-absorbing gray plate glass and clear, polished plate glass, marble, vinyl-coated steel hinges, carpeting in all office areas.* ***Cost (General Construction):*** *$4,645,778.* ***Consultants:*** *Paul Weidlinger, Structural Engineer; Syska & Hennessy, Inc., Mechanical Engineer; William M. C. Lam, Lighting Consultant; Arthur H. Neumann & Brothers, Inc., General Contractor.* ***Photography:*** *Ezra Stoller Associates.*

"There's no fat on this building," says William S. Brown, partner-in-charge for Skidmore, Owings & Merrill.

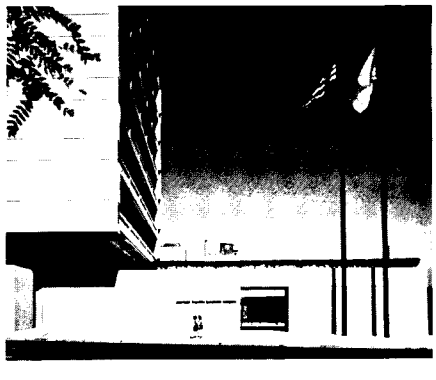
"It has no cosmetics," says client Watson Powell, Jr., president of American Republic Insurance Company. "If Louis Sullivan was right, this is a pure expression of form following function."

The latter comment is very architectural talk from a man who originally approached SOM to design his company's new headquarters because he had seen the job they did for Connecticut General and thought the approach would be efficient for the ex-urban "clerical factory" he had in mind. Several years later, he emerged as the owner of an extremely sophisticated eight-story office building in downtown Des Moines and a growing collection of modern art (now over 100 pieces) to go in it—and, in addition, as one of the most enthusiastic clients we have talked to for some time.

The American Republic headquarters, which, because of its form, has been called "the load-bearing Lever House," originated when the architects, examining the client's requirements for a building largely devoted to clerical and processing operations, saw that relocation to a spread-out, one-story structure in the country would bring about a dislocation of the staff, many of whom live in different areas in and around Des Moines and who have a tradition of intercompany car pools for getting to and from work. The next step was to find a good central city location, which turned out to be the site of an old hotel on the periphery of the central business district. The architects wanted a full block, but had to settle for the present long, narrow plot (two company-owned parking lots nearby solve the parking problem for the present). Taking the building to five open working floors and executive floor plus two base and communal levels solved the client's restated demand for what Powell calls a "suburban office building downtown with an unconstipated work flow."

After an initial study that included small windows breaking into the east and west load-bearing walls and a massive masonry treatment ("Corbuesque," the client now dubs it) of the eight supporting members, the design was refined and became the simple but forceful structure that was built: base containing entrance court, lobby, consulting offices and computer area slid beneath the tower supported on visible steel joints atop concrete piers, and, between the two, an inset, glass-walled area containing lounge and eating space for employees (the lounge opening onto a terrace above and around the entrance court). East and west cast-in-place, reinforced concrete walls are blank (except for scoring to express floors) sand-blasted gray-granite aggregate concrete; north and south walls are of glass, set back from the covered edge of prestressed concrete T-members that span 98 ft between the walls. Third through seventh floors are open floors for clerical operations; the eighth floor houses the executives. Added stiffener comes from the concrete transportation and toilet core. A great deal of research went into the final decision to use sand-blasted granite aggregate. The client had seen the concrete work at Dulles International Airport, did not like it, and was for a time against such a use of concrete in his building. Many tests later, the present aggregate was selected. Brown of SOM says that the treatment finally used in Des Moines "doesn't look like hamburger, as bush-hammering might." Powell is less restrained: "I doubt there will ever be a concrete sandblasted wall that is as beautiful as this."

Concurrent with client Powell's burgeoning expertise in architecture as the project progressed was a growing fascination with and enthusiasm for contemporary art. At a date about midway through the design process, a fancy fountain in the marble forecourt gave way to a great Calder stabile called "The Spunk of the Monk" (Des Moines means "of the monks," and evidently Calder thought an advanced sculpture in an advanced building way out there was an act of bravery). On a trip to Paris, Powell acquired a tapestry by Le Corbusier that now hangs in his office, and, since completion, the entire building has been graced with works by Hans Hoffman, David Hockney, Joseph Albers, Jean Dubuffet, Leonard Baskin, Barbara Hepworth, and many others. In a master stroke, Powell had the inspiration to commission an Andy Warhol multiple silk screen of his founder-father, instead of the usual, somber hand-painted-portrait-in-oils. "The art is not just in officer country," Powell says. "It is throughout the building."




DE CARLO'S
RESTAURANT



Aside from the obvious hierarchies of work space and especially designed executive furniture, the employees of American Republic have a very good life of it. The working areas are carpeted, the acoustical-lighting systems of the ceilings reportedly are a fantastic success, there is art, air, and a sense of spaciousness despite the fact that most people are working in what used to be called "pool" areas. "Our people look different; they dress differently. The increase in efficiency has been just terrific." Powell glows. He says that many employees come to work 45 minutes early and gather for coffee in the lounge. "The individual becomes important, rather than his surroundings—a wonderful, wonderful thing!" he exclaims. "We hadn't realized this would happen."

The client is unstinting in praise of the architect who brought him an aesthetic and environmental richness of which he no doubt little dreamed when he first saw Connecticut General as a good sort of thing to do years ago. This "no fat" building, which has evidently become a very human one, elicits from its owner the comment, "We are a better insurance firm for working with SOM on this. They're *tough* for a client to work with, but clients wind up more efficient for the experience. They really get into the client's business!"

Refinement Through Research

The lean look of the building stems partly from the interplay between the structural and mechanical systems. The sophisticated mechanical system, built integrally with the structural framing, could not have been installed in a conventionally framed building, and the structural system would be wasted on a conventional heating and air-conditioning system.

The building is composed of two structures. A six-story elevated structure supported on pairs of short columns straddles a two-level, windowless podium that, because of a sloping site, is partly underground. The top of this podium serves as a plaza at one end of the site, and because the superstructure spans across the podium, the plaza extends through the



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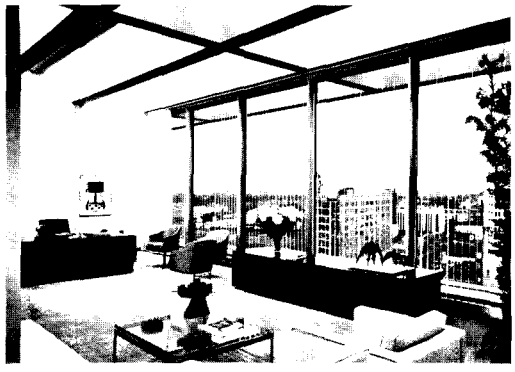

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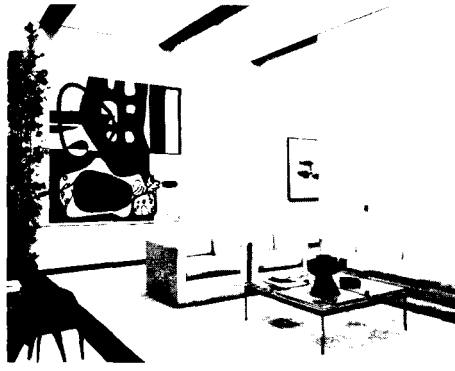

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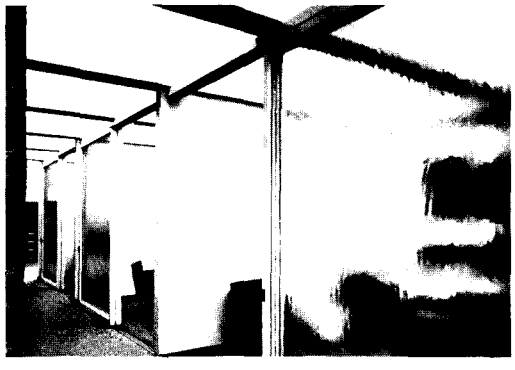

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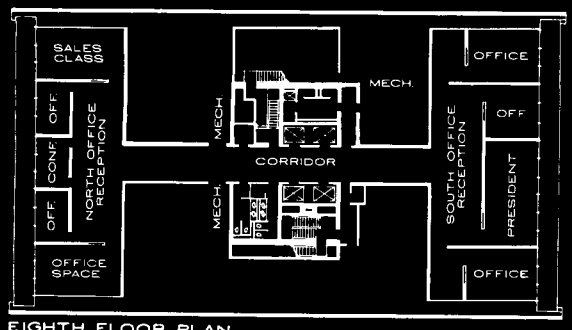
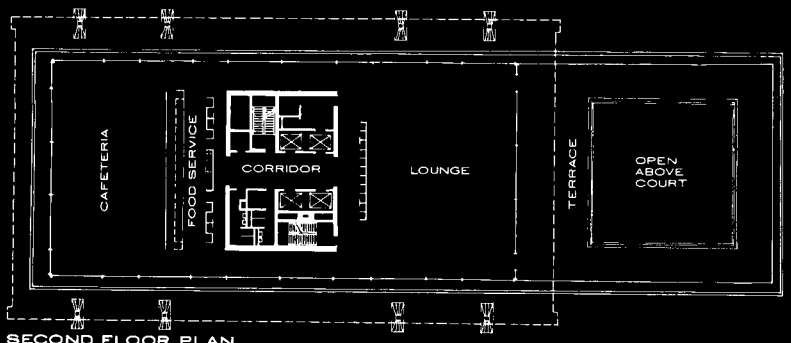
Andy Warhol screen print of Watson, Sr., replaces time-honored portrait of the founder in executive reception room **(1)**. *President's office* **(2, 3)** *is embellished with furniture especially designed by SOM and contemporary art works that include a Corbu tapestry. Departmental offices* **(4)** *occur at middle of each floor between large clerical spaces (facing page). Vice-president's office* **(5)** *also has blocky, strong furnishings. Cafeteria* **(6)** *is serviced by vending machines behind partition at far left of photograph.*



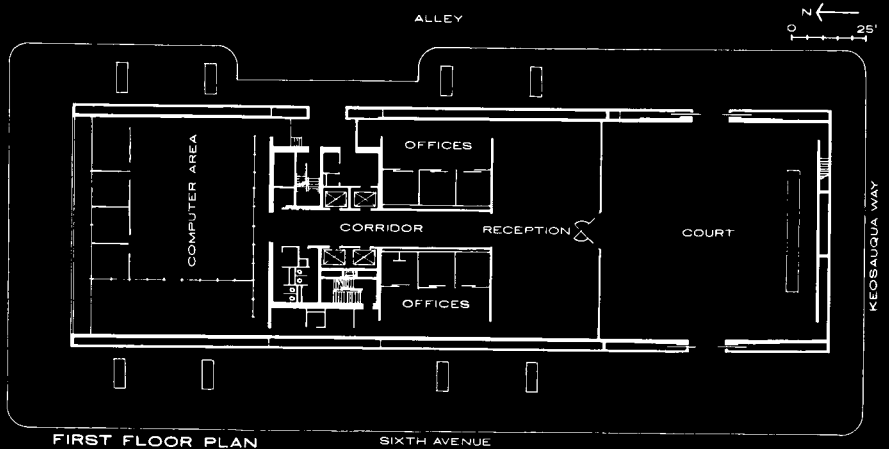
EIGHTH FLOOR PLAN



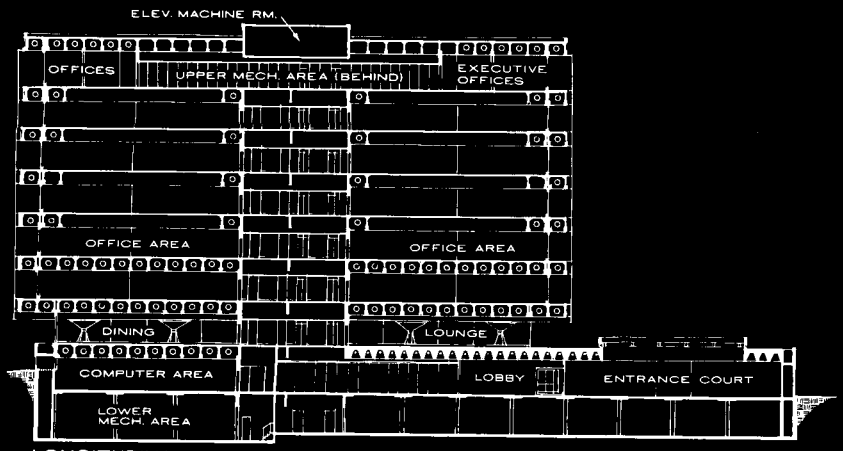
TYPICAL OFFICE FLOOR



SECOND FLOOR PLAN



FIRST FLOOR PLAN SIXTH AVENUE



LONGITUDINAL SECTION

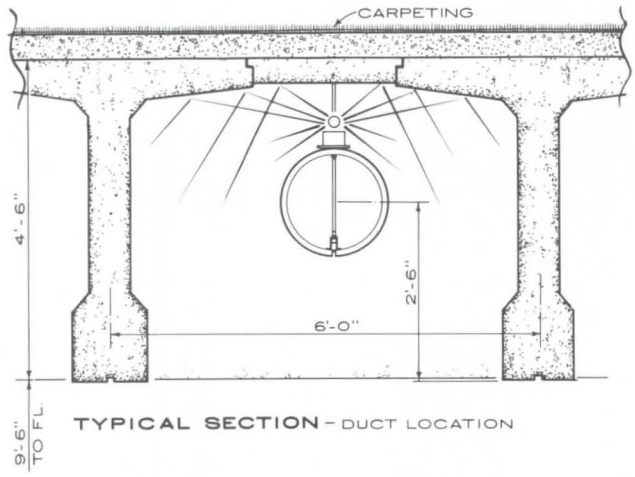
building. With no loadbearing exterior walls between the two structures, the architects were able to enclose the area with glass walls and create a terrace floor for a cafeteria and lounge. To enhance the spaciousness of the terrace floor, the designers called for hinges atop the columns to reduce the cross-section of these supporting members.

The hinges, of course, do more than enlarge the view from the terrace floor and provide a dramatic transition from column to solid wall. They also make a flexible joint that will move sufficiently with thermal expansion to prevent the concrete wall cracking. Both 185-ft-long side walls of the superstructure carry loads from the roof and six floor slabs. But despite their appearance, these walls do not span directly between pairs of columns. Instead, each wall is divided into three sections with a 38-ft-long center section spanning between two cantilevered sections bearing on the columns.

The loadbearing wall tapers from 4 ft at hinge level to 21 in. at the top. A partition built behind each wall provides space for the air-conditioning ducts. These perimeter partitions are located in vertical alignment so that the duct space decreases from top to bottom, which is the direction of air flow from the air-conditioning plant on the top floor. At each floor, the conditioned and exhaust air branches into horizontal, circular ducts suspended between precast, prestressed concrete T-beams spanning 98 ft between the side walls. To restrain lateral forces, this structural system has been reinforced with a concrete service core centered in the building. Cast-in-place concrete slabs transfer wind forces from the side walls to the core.

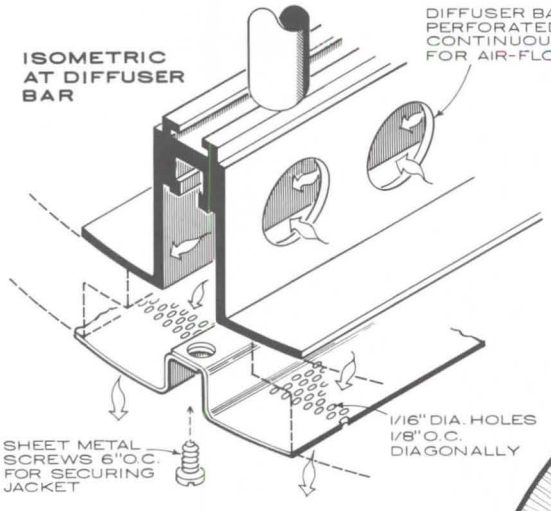
The ceiling system surprises visitors to the building. Instead of the customary suspended, acoustic-tile ceiling, the offices expose the underside of the concrete T-beams and the air-distribution system. The air ducts hang in the spaces between the stems of the T-beams, and, with lighting fixtures mounted atop, the ducts deflect the light upward (see Selected Detail, facing page). To improve light reflectance, the exposed concrete has been painted white.

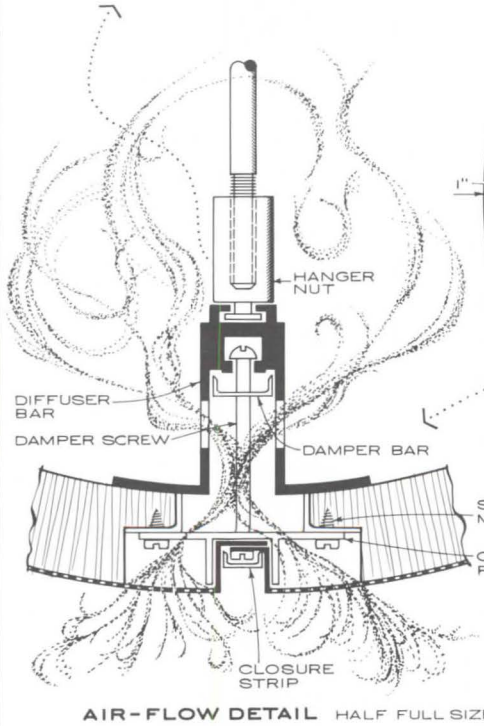
Ducts are lined with glass-fiber insulation, except along the bottom of the 18-in.-diameter tube, where a diffuser passes air into the office below. With no acoustic treatment to the concrete beams, the office areas remain quieter than a typical flat, tiled ceiling. The noise reduction can be attributed to the coffered effect of the concrete ceiling between the T-beam stems and a carpeted floor.



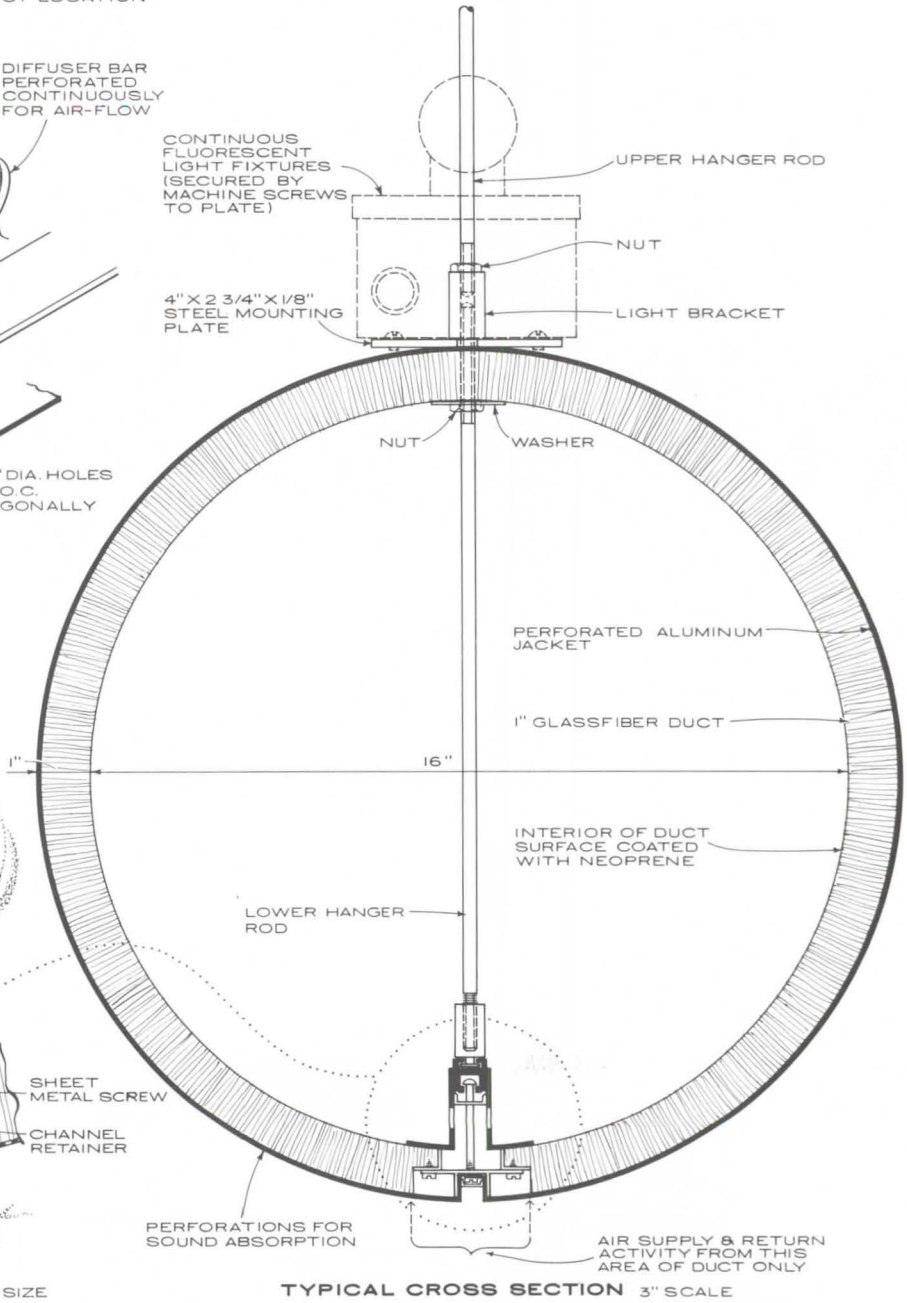
TYPICAL SECTION – DUCT LOCATION







AIR-FLOW DETAIL HALF FULL SIZE

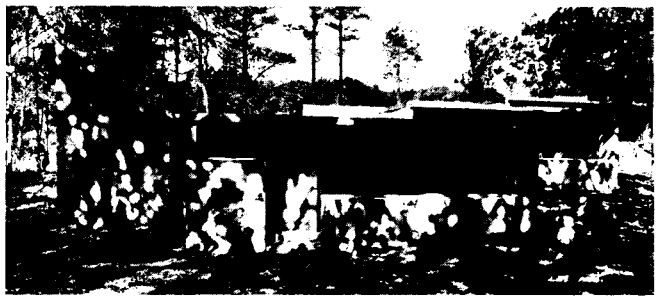


TYPICAL CROSS SECTION 3" SCALE

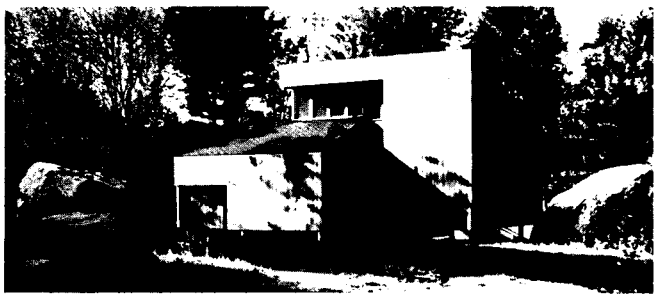
AMERICAN REPUBLIC INSURANCE COMPANY BUILDING: Des Moines, Iowa
SKIDMORE, OWINGS & MERRILL, Architects
Ceiling system developed in co-operation with Engineering Dept., Owens-Corning Fiberglas Corp.

SELECTED DETAIL
CEILING SYSTEM

IN THE TRADITION OF YANKEE BUILDING: TWO DESIGNS FOR STUDENTS



Little Harbor Country Day School



Barrington Hills Dormitory

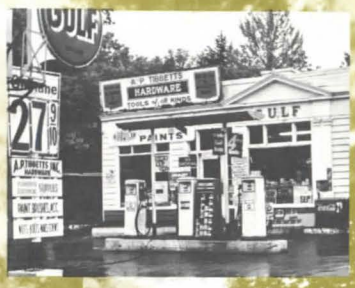
For a New England architect, the statement made on the facing page by Ralph Everett Harris can be both a proud and a bitter one. Architects are not needed when good building is universal, or when good building is unknown. The early New England builders thought of building as a fine craft, and, in putting something of themselves into their work, arrived at a result very close to architecture. The speculative excrescencies that now blanket the region barely tolerate building as a necessary evil. They thus engender a condition that makes architecture almost impossible. It is here, within this tradition and this condition, that some of our best young architects have chosen to work.

Harris has designed two modest buildings in New England. His forms and the spaces they enclose are asymmetrical and additive, and can accommodate the changing needs of human occupancy in the tradition of the early builders. His school (p. 154) is a succession of classrooms set on a rocky ridge that could continue growing on its stone spine. His dormitory (p. 157) is one of a succession of proposed structures that will move from an open clearing down to the edge of a lake. The house Harris designed for his family at Hampton Beach, fronting the sound, was designed to grow in a succession of pods toward the ocean at its back. In a kindlier architectural climate, it might conceivably expand and encompass, in formal regeneration, the entire area of Hampton Beach. This would return that blighted area of indigenous beach conglomerate cotton-candy-building to the architecture of New England.

A less desirable although not inhibiting comparison between Harris and his predecessors concerns the frugality of his commissions. His five-classroom, year-round school was built for $7.50 a sq ft, and the first of the series of summer camp dormitories for $4.50. In both instances, he produced architecture through an economic use of materials that would have aroused admiration in his Yankee predecessors.

Harris is a young architect with a lot of work before him. His goals are deceptively simple: "You can't handle all of the problems, solve a few . . . solve your design through limited factors . . . orientation of light and space. . . . People can adapt to anything; therefore, you want to make it good--good for them and good for the community." These are modest ideals for a flamboyant age. They are not intended to make headlines, but they may well make some fine buildings.

"Anyone can put a building together; they don't need an architect."



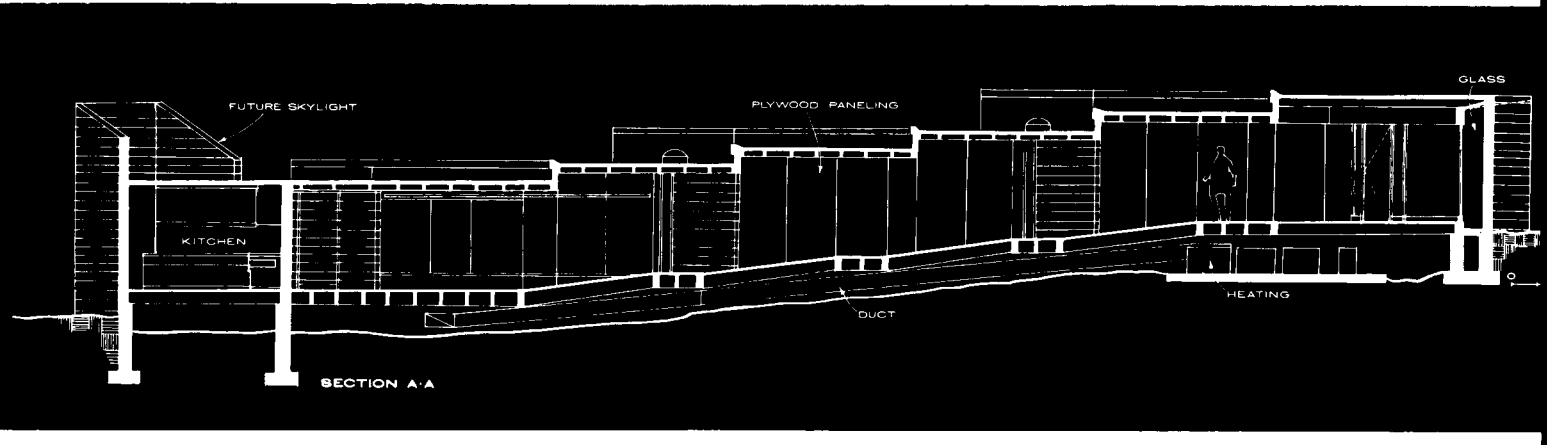











FUTURE SKYLIGHT
PLYWOOD PANELING
GLASS
KITCHEN
HEATING
DUCT

SECTION A-A



Rich Idea + Slim Budget = Low-Cost School

LITTLE HARBOR COUNTRY DAY SCHOOL, *Rye, N.H.* ***Architect:*** *Ralph Everett Harris.* ***Site:*** *School sited for privacy and protection against New England climate on a rock spine between mounds in a heavily wooded area. Drop in grade of 1 to 10 from entrance to rear of building. Classrooms drop successively in elevation from landings off the center ramp, which moves down the slope. School located one-half-mile from community center.* ***Program:*** *Full service pre-school facility including nursery school, kindergarten, and all-day care. Basic program set to include five classrooms of fifteen students between the ages of three and five years. Toilet and lavatory in each classroom. Small kitchen and administrative space consisting of private office, secretarial office, and reception area.* ***Structural System:*** *Concrete block, wood joists, Tectum 2-in. deck and 3-in. rigid board built-up roofing.* ***Mechanical System:*** *Electric unit heaters and baseboard.* ***Major Materials:*** *Exposed silicone-coated concrete block, leaded copper facia, troweled reinforced concrete sills, painted wood exterior doors, thermopane glazing throughout.* ***Cost:*** *$7.50 per sq ft for total area of approximately 4000 sq ft.* ***Photography:*** *Maude Dorr.*

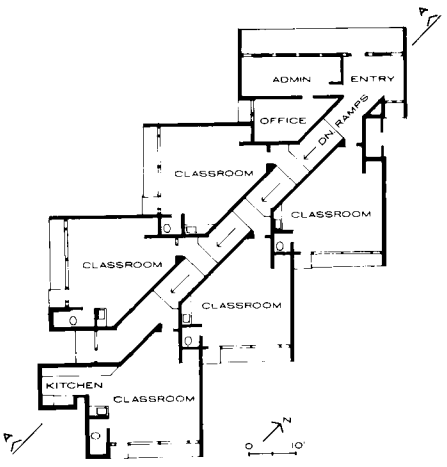
P/A'S COMMENTS

The school is a pleasant place, but, due to its siting, almost impossible to photograph. It flows down the rocky ridge in gradually descending levels working off its center corridor spine. The center corridor breaks in landings that lead off to the classrooms, keeping an interest and variation for the children to enjoy. The plan is admirable. The under-sill storage spaces are intelligently utilized for equipment safekeeping. They also provide secure, child-sized nooks for the students that allows them to pull in after them the part of the world they want.

The scale of the building is right for children, and the three-dimensioned geometric diversity of plan keeps the interest within the building instead of throwing it away on a cute roof treatment.

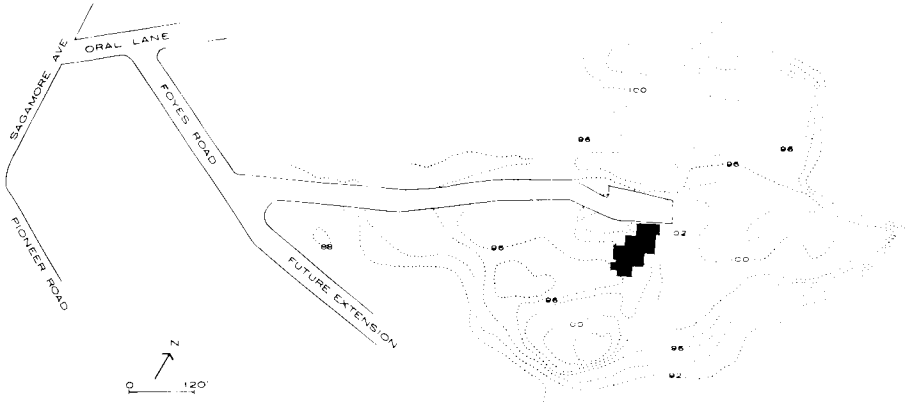
There were two elements this observer found disturbing. First, the module of the entrance, with its pitched canopy, gives the appearance of a wide multiple entrance not in keeping with its function or the world within. Secondly, at the rear of the school, the pitched form over the kitchen for a future skylight seemed out of scale with the horizontal, moving shapes of the descending classrooms. Its interior function as a kitchen skylight seems beyond its importance as a building shape. Harris says about this form: "I feel that you are condemning me for the wrong reasons. This is a direction giving form for form's sake, to mark the entrance of the school from the playground. It did not have to relate. It had nothing to do with the interior."

The problem of budget plagued the completed work but it is not necessarily final. When additional money is available, some of the design concepts that had to be held in abeyance will be realized. Harris plans triangular skylights at the landings over the classroom entrance doors. This will mark them and bring much-needed daylight into the corridor. Although the exposed wood framing has been carefully handled, it would be better if it were painted to eliminate knots and kiln stains, which are disturbing, given the low ceiling elevation. These are comparatively minor improvements, which do not diminish the cries of the romping children in a happy building.



ARCHITECT'S COMMENTS

"I chose to place the building nestled into small rolling mounds to give the child a feeling of natural enclosure, and to reduce the vastness of the forest. . . . I hoped to fulfill one primary objective: the development of an environment brought to life through orientation to the sun . . . to be the product of a scale achieved through an expression of space and function and void of superficial decoration. . . . The child-occupied spaces had to respond to the full range of daylight. . . . Each classroom has its own definable play-space leading to a common playground. . . . To prevent the form—the realization of my basic intention—from becoming anathema by the restriction of cost, I chose to build in the simplest way possible."







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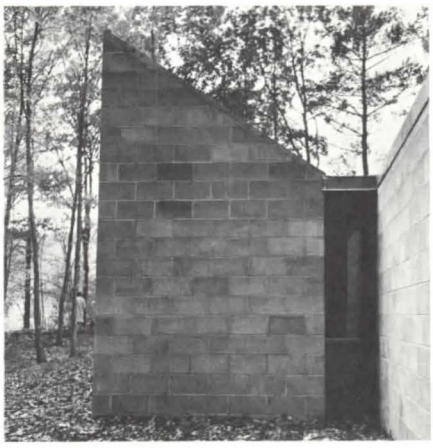

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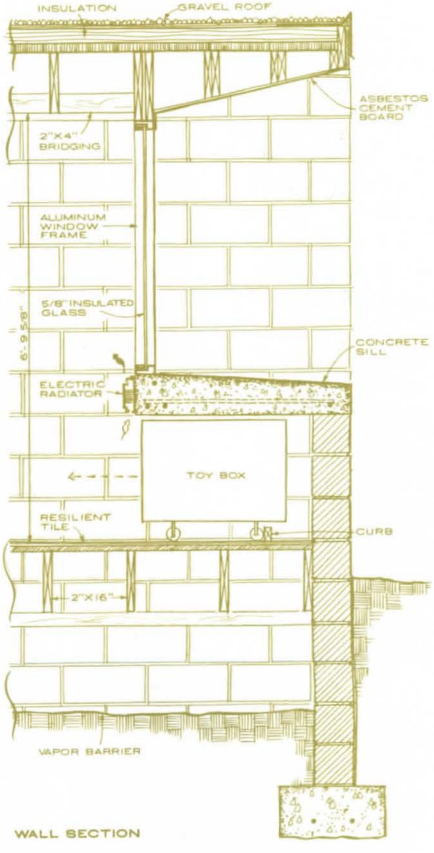
Typical classroom ***(1)****; classroom and corridor* ***(2)****; corridor "skateboard alley"* ***(3)****; glazing and kitchen skylight at school exit to playground area* ***(4)****; school entrance* ***(5)****.*



3



WALL SECTION

Dormitory for Young Indians Scalps Costs



BARRINGTON HILLS DORMITORY, *Barrington, N.H.* ***Architect:*** *Ralph Everett Harris.* ***Site:*** *Assembly area on the crown of a steep slope extending down to the water covered with granite outcroppings surrounded by dense woods. Existing buildings to be removed, leaving dining hall and kitchen.* ***Program:*** *Four individual dormitories, each sleeping 30 students in double bunks in a co-educational camp. Toilet facilities to be included within each unit.* ***Structural System:*** *4" x 4" posts set modularly on 2'-8" centers to allow bunk placing in alternate bays. Intermediate truss closed on four corners rings assembly area. Horizontal ties at outside corners only. Purlins on wall and roof members to receive 1" x 4" shiplapped pipe sheathing. Building set on 8-in. circular concrete piers.* ***Mechanical System:*** *None required. A field-made steel fireplace supplies heat and focal center in pit.* ***Major Materials:*** *Wall surfacing 1" x 4" shiplapped rough sawn pine. Roof ¾-in. fir plywood, black asphalt shingles. Circular fiber forms.* ***Cost:*** *$4.80 per sq ft, exclusive of architectural fee.* ***Photography:*** *Maude Dorr.*

P/A'S COMMENTS

The first of the Harris dormitories stands in the Barrington Hills clearing surrounded by the defunct but not yet demolished bungalows of the former boys' camp. The contrast is that of a pagan Indian standing proudly among a bewildered troop of cub scouts. They do not belong in the same forest.

It is this contrast that accentuates what Harris has accomplished. The cottages were thrown together in the usual boys' camp fashion, which traditionally holds that crowded, poorly ventilated housing possessing the architectural charm of plastic picnic plates constitutes an enjoyable summer of camping out.

Harris, in his design, has realized the paradox of the individual who, to find himself, must identify with the group. He has built a lodge for clan-living in the woods. Its forms are those of New England, with the roof its prime expressive form. Yet there is present a joyful pagan quality, if a building can be said to have such a thing, that is foreign to puritanical New England simplicity. The roof reaches up to the light, and the unpainted wooden walls enclose the occupants around the tribal pit with its ritualistic fire.

There is a lot of difference between camping out and living in the woods. This is a building that Indians would enjoy.

ARCHITECT'S COMMENTS

"My approach to the problem was an attempt to translate the educational philosophy into physical reality. I wanted to develop an environment of interaction among students. I grouped the double-bunk beds around a sunken assembly area. . . . This area gives each unit an internal focus that students can continually identify with.

"Three main factors were responsible for determining the individual form: orientation to sun, internal orientation to the focus, and the relationship of one unit to another. The roof rises to a light monitor facing south, to draw in light over the internal assembly area. . . . I was concerned with the problems of ventilation, natural illumination, and privacy. . . . I developed a kind of light box at each corner that would allow available light to enter and would not have to be adjusted to gain privacy or protection from the elements. Floors were held away from the walls to provide continuous ventilation by each bunk. This device, combined with the roof slope terminating in an open monitor, serves to propagate natural air movement by convection. . . .

"Although this project was severely limited by economic considerations, the quality of the workmanship remained high. It is also one of the rare cases, where, if given twice the budget, I believe I would have done precisely the same thing."



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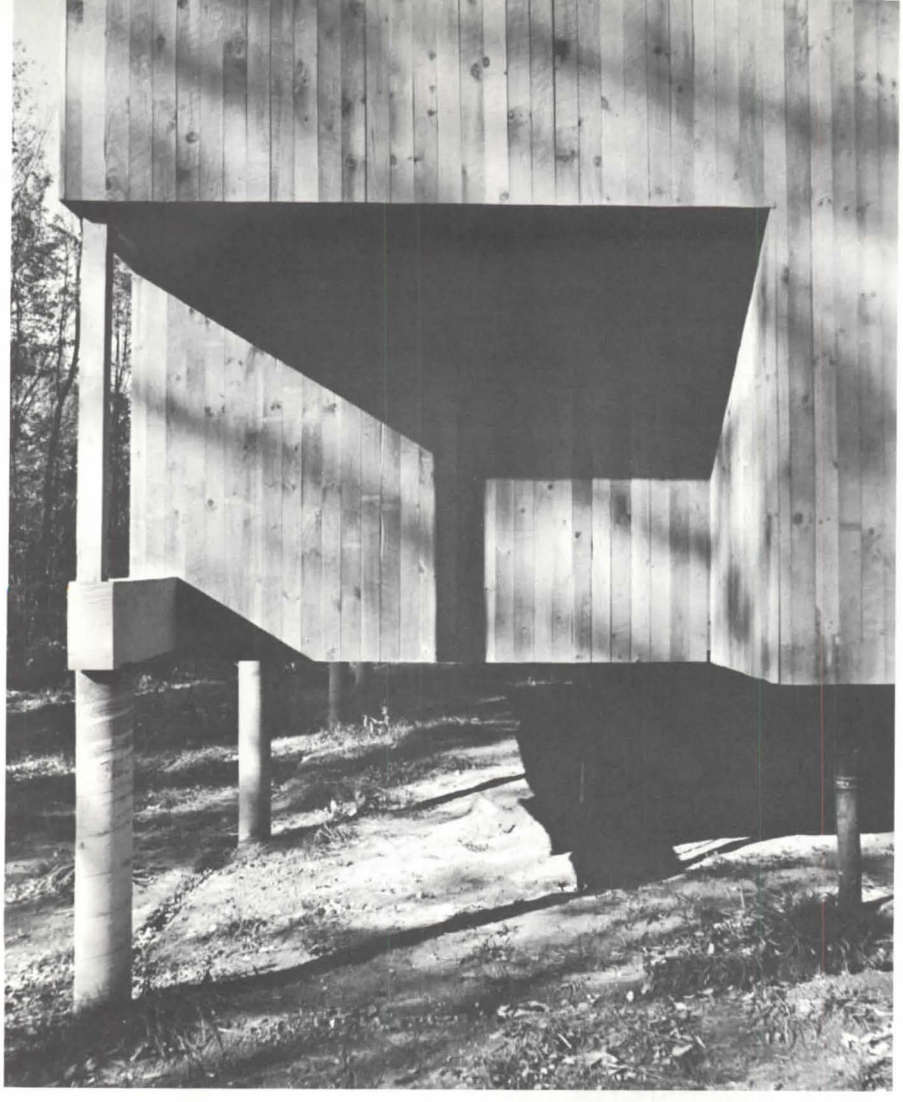

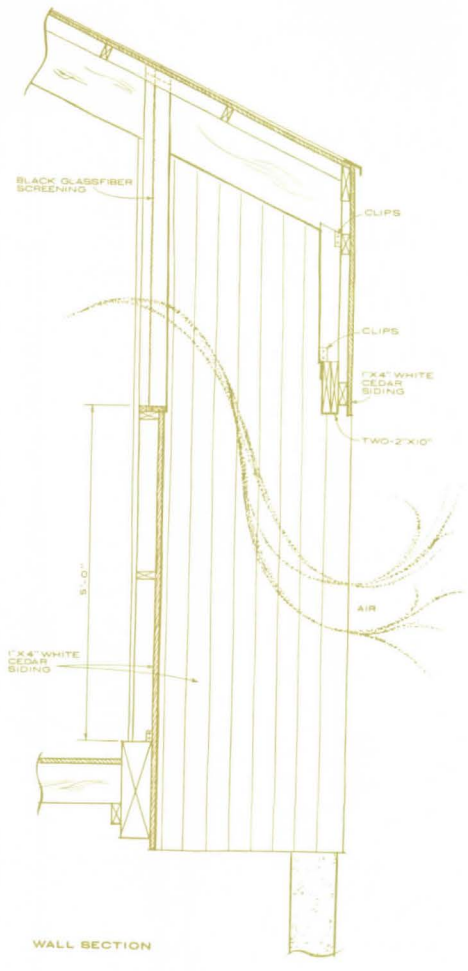

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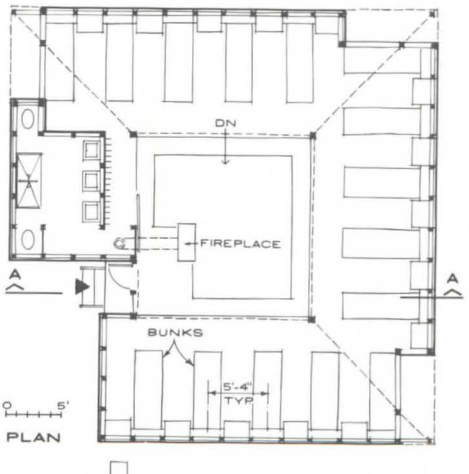
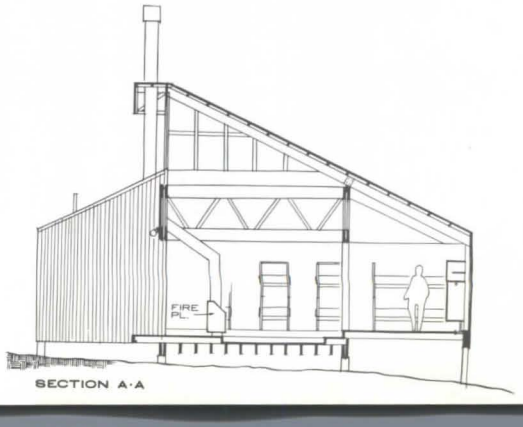
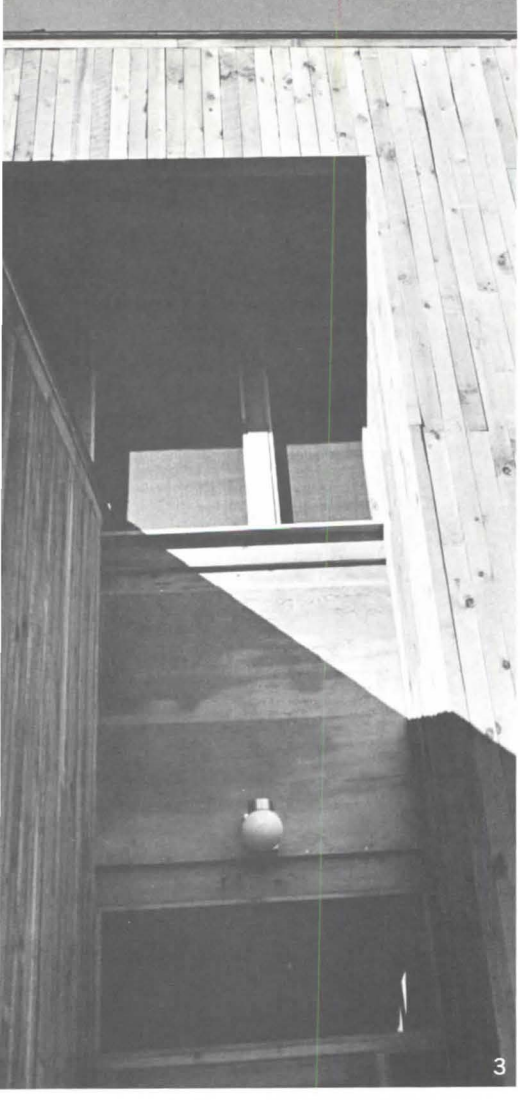
Open corner treatment for light and ventilation ***(1)****; dormitory entrance showing light and ventilation monitor and ventilation corner* ***(2)****; detail of light monitor over entrance* ***(3)****; interior of existing cabin* ***(4)****; interior showing corner treatment and ventilation opening at floor* ***(5)****; interior showing pit and fireplace* ***(6)****.*



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STRUCTURAL AESTHETICS FOR BOSTON GARAGE

CHILDREN'S HOSPITAL MEDICAL CENTER PARKING FACILITIES, *Boston, Massachusetts.* ***Architects:*** *The Architects Collaborative. Partners in Charge: Jean B. Fletcher, John Harkness.* ***Site:*** *120' x 220' lot on Blackfan Street on the fringe of the hospital complex.* ***Program:*** *A multistory garage for 600 cars for attendant or self-parking, and a helicopter landing area on the roof.* ***Structural System:*** *Concrete columns support 18-in.-deep waffle-slab floors with ribs post-tensioned in two directions. Pans omitted from column strips allow space for prestressing tendons without dropping beams below slab soffit.* ***Mechanical System:*** *Hot-air heating system in waiting room and attendant's kiosk.* ***Major Materials:*** *Concrete.* ***Cost:*** *$1,009,000—cheaper per sq ft than Boston's city garages.* ***Consultants:*** *Sepp Firnkas, Structural Engineer; Reardon & Turner, Mechanical Engineer; Parking Associates, Parking Consultants.* ***Photography:*** *Phokion Karas (facing page and* ***1****); Maude Dorr* ***(2, 3, 4)****; and Robert Damora* ***(5)****.*

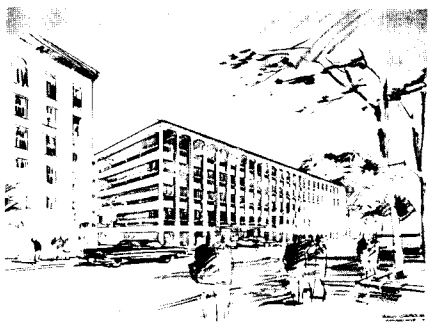
A unique engineering solution—a daring postensioned cantilever system—leads to an architecture of rare simplicity and gutsy beauty.

After all the proud and thundering proclamations about architectural honesty in the 20th Century, it is always somewhat surprising to find the architect and the engineer still at opposite ends of the pole: one hears even the most prominent architects proclaim they do not give a fig about structure, just as one hears it rumored that architectural students are bored to tears with structural courses and are more interested in the glories of "design." Even without being a structural purist, one can suspect that some of the dissatisfying qualities of modern architecture stem from their candybox-like decorations and perforations that are no more than scribblings and fiddlings upon the post and lintel.

It is somewhat of a relief, then, to find a building that has been engineered first; where some new structural thinking has solved a problem and a new simplicity emerges out of a seemingly complex and impossible set of prerequisites—in short, where the architect and engineer have worked together on an equal footing.

The parking garage at the Children's Hospital in Boston seems to be such a building. It went through a design sequence that seems a case history of a successful collaboration between architect and engineer, and where a design emerged out of a unique structural solution.

In the beginning, the sketches for the garage showed a conventional precast concrete building whose appearance was rather "fussy" and whose structural system required a forest of columns and walls, which would have consumed valuable floor space and head room. Several variations were explored, with slight stylistic differences (below). When it was finally decided to look at the site in detail, investigation revealed that a precast structure was unfeasible: A tunnel along the street ruled out any perimeter columns, and a right-of-way to another parking area at the rear of the structure had to be kept clear at ground level. To take full advantage of the site, it became obvious that some sort of cantilever system would be required, rather than a conventional beam and column structure. On the basis of this belated research, more precise requirements were drawn up by the architects and the engineer, Sepp Firnkas: first, a minimum of space was to be wasted in columns and dropped beams; second, there were to be minimum rises between levels; and third, cantilevered decks were to project over the right-of-way and over the tunnel to the building lines.

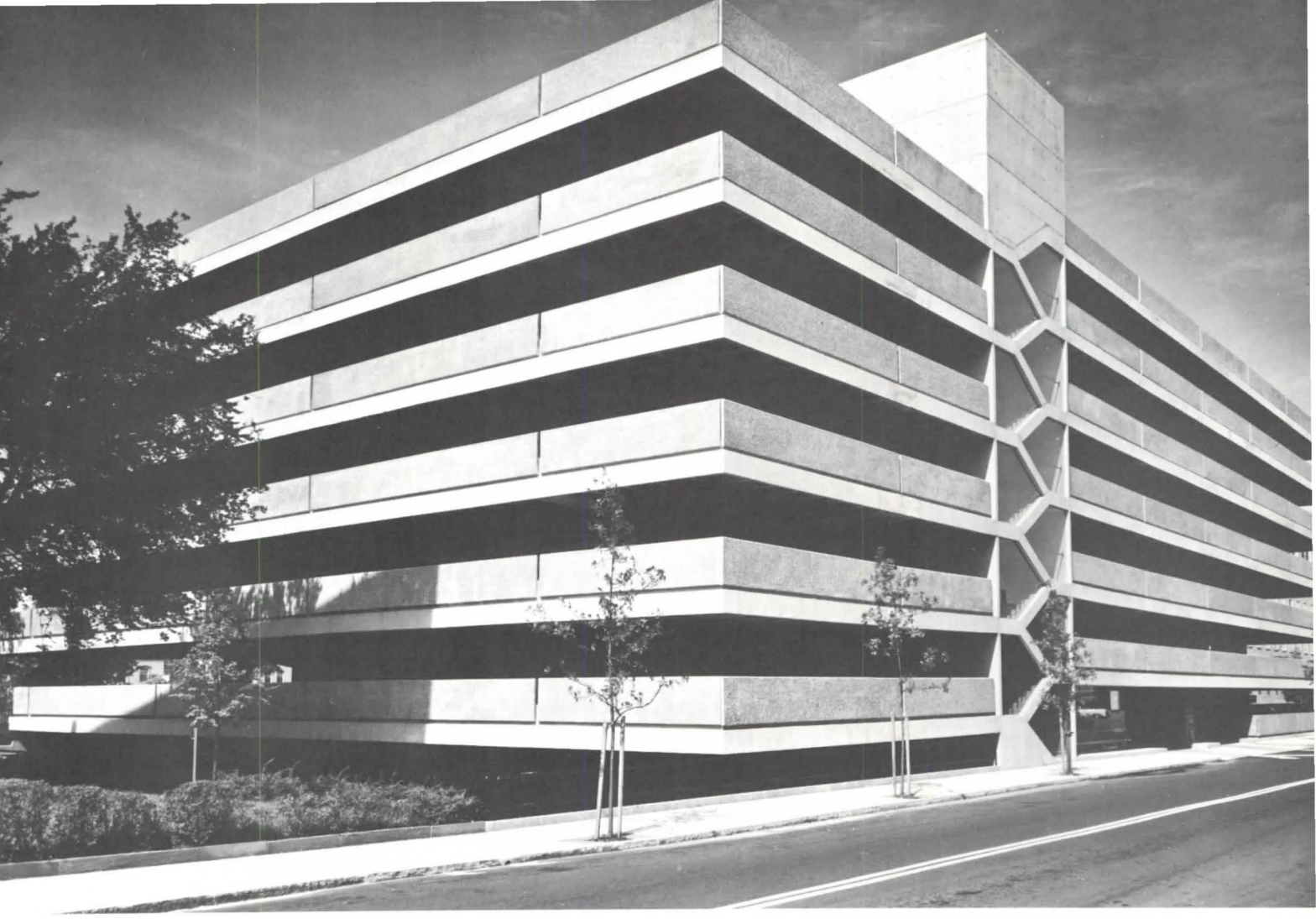


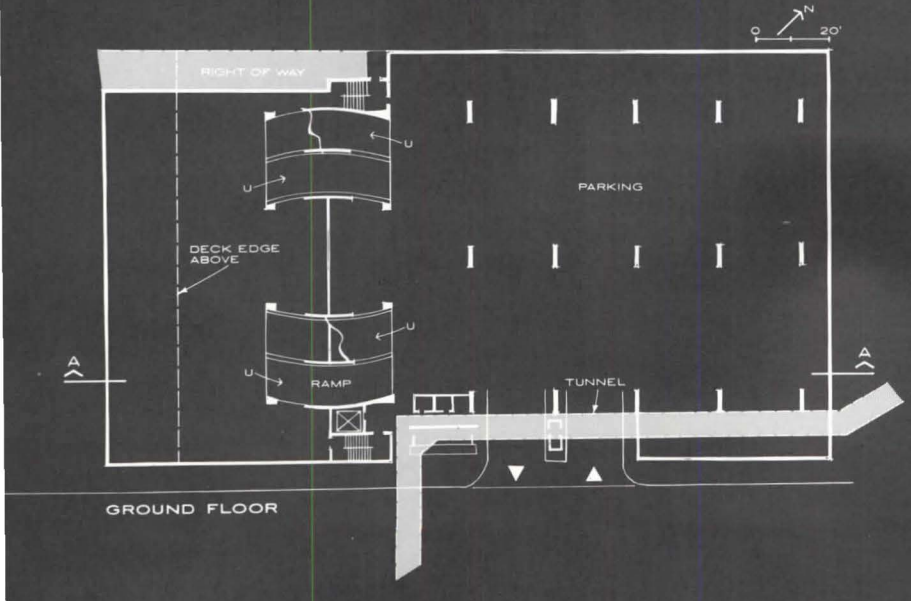
To eliminate unusable dead space created by dropped beams and girders, a cast-in-place grid-slab system of 18-in. depth was devised and maintained throughout the building. The beams are within the 18 in. slab, taking the place of one row of the waffles in the transverse and longitudinal sections. An unusual post-tensioning system (see details, facing page), devised by Firnkas, made it possible to pack the required strength into the shallow area.

In planning the building, circulation patterns and right-of-way requirements led to placing the ramps toward the southwest end of the building, and the floor levels on either side of the ramp were staggered to create a gentle 4'-6" rise between them. The larger area to the northeast measures 134' x 120'; the smaller one, to the southwest, contains the ramp and subsidiary parking spaces.

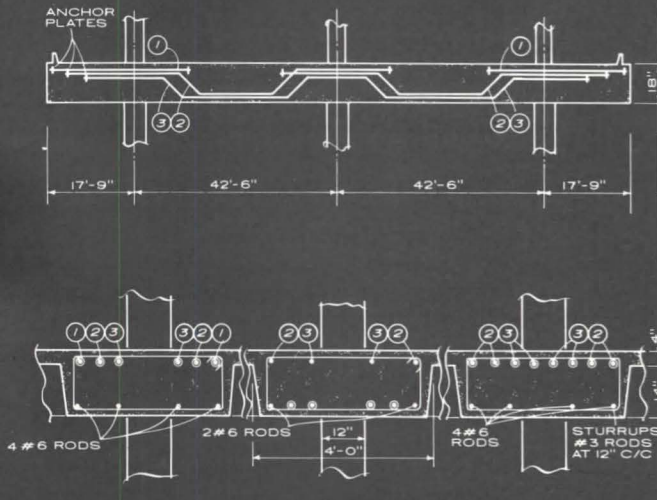
The position of the ramps and the right-of-way at the southwest end of the building demanded a rather spectacular cantilever of 24 ft, to carry a 100 psf live load. Even in this section, the floors were to be kept at an 18-in. thickness, and the problem was how to offset shrinkage, creep, and deflection. Post-tensioning again solved the problem. By carefully calculating the curve of the post-tension lines over the supporting column, the varying forces of tension and compression could be balanced to attain a uniform compression throughout the beam **(6)**.

From the engineering standpoint, a cantilever of 24 ft became possible; the main parking area is also relatively free of columns and wasted space, and the design became very simple. A final engineering-architectural touch was given to the building as a result of Firnkas' unique system of anchoring the cantilever. Instead of offsetting the upward thrust of the cantilever with a heavy wall, which would have been bulky and awkward, Firnkas transferred the thrust into direct tension and compression forces acting through diagonal members on the floors on the other side of the ramp. The architects found these diagonal members to be a logical place for the stairways, and so neatly fit them into the structural pattern of the building. As Firnkas points out, "It was the architects who suggested that we continue the beam out to the middle of the stairwell, so that the line could be used to tie the two sides of the building together visually. That kind of consideration is architecture; an engineer would not have thought of it."

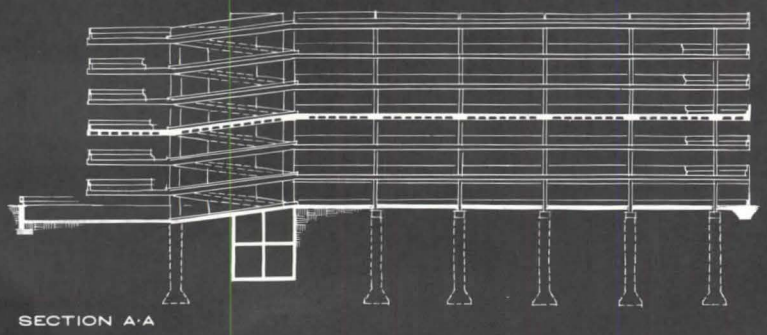




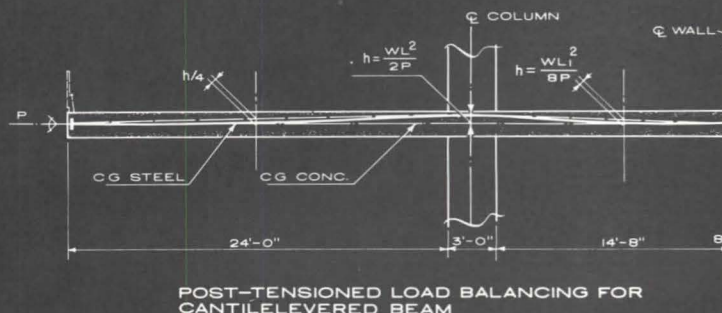
GROUND FLOOR



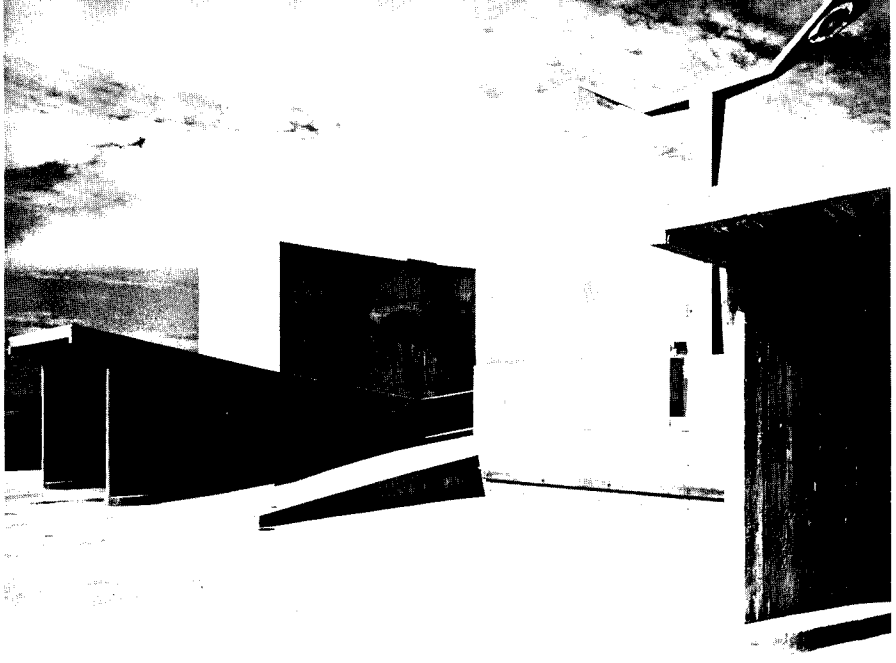
ELEVATION & CROSS SECTION OF POST-TENSIONING SYSTEM IN TYPICAL BEAM



SECTION A-A



POST-TENSIONED LOAD BALANCING FOR CANTILELEVERED BEAM



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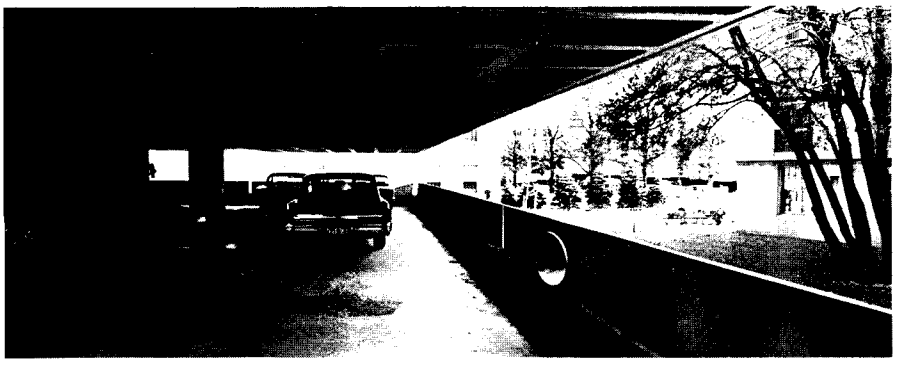

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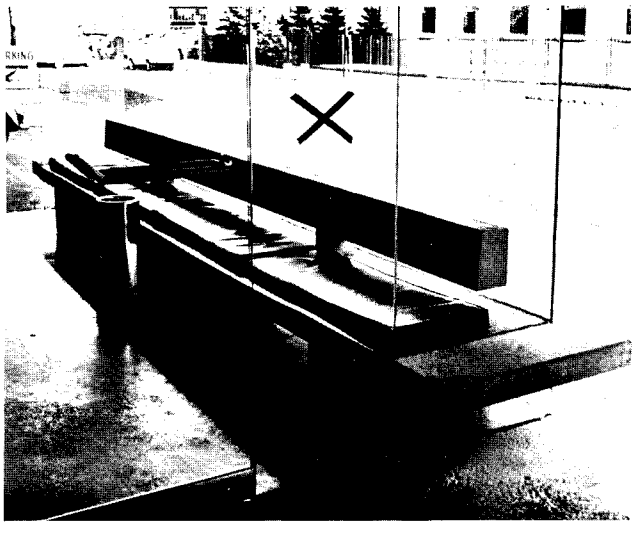
Tailored concrete: precast lamposts at roof level ***(1)****: 24-ft cantilevered floors* ***(2)****: stairway wall* ***(3)****; concrete bench in waiting room* ***(4)****: wall light* ***(5)****.*



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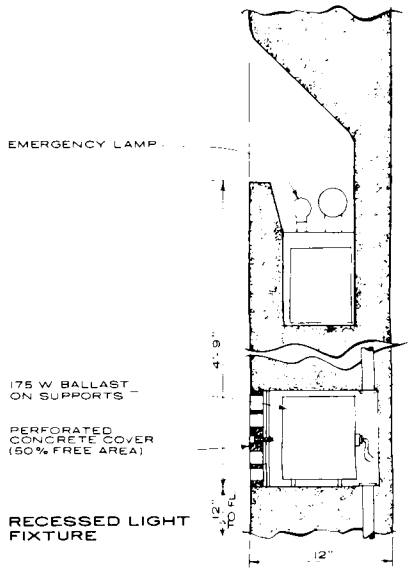
From the architect's standpoint, the fever of simplicity seems to have been catching. The overriding consideration became to make as much of the building "concrete" as possible: a precast manufacturer was persuaded (after much objection) to make concrete lamp posts for the roof of the building; lights on the floors below were hidden in the concrete walls; and metal heating grilles were eliminated in favor of simple holes-in-the-walls. If the architects could have found a concrete drinking fountain, and a concrete telephone casing, they would have used them. The only other material permitted was glass: a sort of nonmaterial, which conveniently disappears—especially when the concrete bench in the waiting room sails through the window as if it were not there. The architects may have gone a little too far when they put a glass clerestory between the Men and Women's Rooms; later, it had to be plugged up with wood.

But the overriding impression is of a simple, well-tailored concrete structure, and when one sees a concrete block wall recently erected around the attendant's booth, the result is a shock—so thoroughly is the viewer conditioned to the cast concrete surfaces.

As a result, the building emerges as a simple structure in which the "design" is inseparable from the "engineering."



LESS IS MORE, MORE OR LESS

Are bare essentials enough? Contemporary architectural woodwork detailing, in denuding itself of moldings, stiles, rails, and all evidence of traditional covering, finds itself stripped to the bare essentials. The fact that more hair ribbons are sold in nudist colonies than anywhere else in the world would seem to indicate that bare essentials are not enough.

There is the possibility that unadorned simplification in contemporary interior woodwork will become as bare of interest in its limited ingenuity of imagination as the sporting gambols of the contemporary sunshine clubs. Are the aesthetics of Less Is More economically justifiable, or is the naked fact that unadorned design concepts expose an indecent aesthetic ingenuity?

Bareness must derive from aesthetic connotations, for, economically, it is unfeasible. The simplicity of adornment in the nudist colony requires a complexity of architectural enclosure never dreamed of to shield the bikini. Comparably, the chaste taste of modern woodwork detailing forces the woodworker to employ the ingenuity of a Rube Goldberg to get it on the wall. It seems questionable that the display of bare essentials should outprice decorative rainment or decorative moldings, and therefore the principle of naked facts might bear examination.

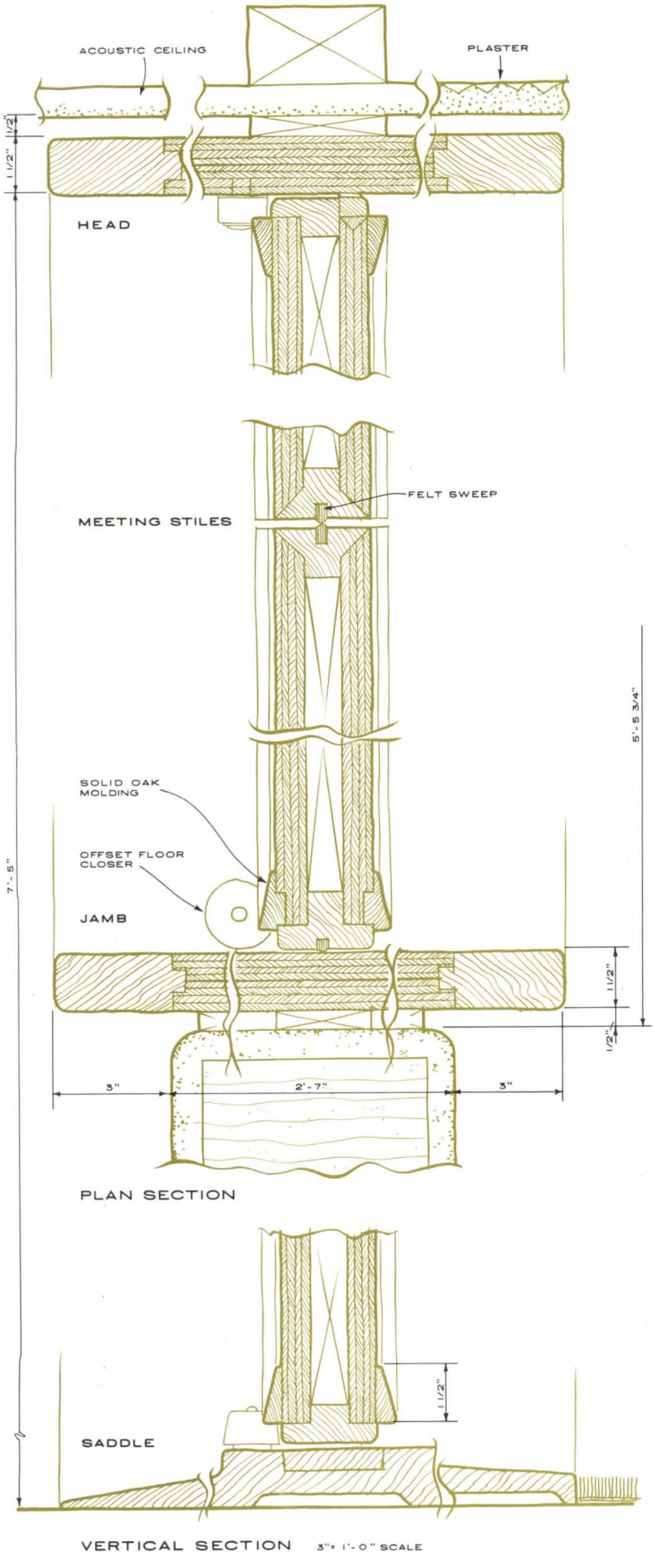
The traditional molded raised panel woodwork undoubtedly reached an extremely reasonable standardization. Its moldings sensibly covered wood movement, and the joinery of dissimilar materials was modestly clothed. Aesthetically, the designer found that traditional moldings were always in style. Moldings copied from the Greeks, regurgitated by the Renaissance, and thoroughly digested throughout the classical revival could hardly be out of fashion. However much traditional woodworking forms are derided, the fact remains that traditional woodworking concepts functioned and functioned well. Which raises the question: Are bare essentials any better?

We have employed the contemporary standards ad infinitum. The influence of Less Is More detailing has persisted long enough for it to more or less have formed an academic tradition of its own. The molding has been replaced by the feature strip, the quirk by the raised panel, the back band by spackle. We have attained a standardization of nakedness that would bore an adolescent.

The question might now well be asked: Are the traditions of contemporary woodworking any more functionally justifiable than the old cover molding concepts? If not, should contemporary nakedness seek within its design framework to adjust to the indecencies of modern building conditions? If less is shown, it would seem obvious that more adjustability be designed. Hair ribbons might be considered, if for no other reason than to cover up the gaps in joinery.—FW

The following two door and buck treatments—by Earl Pope, Jr., architect, and Angelo Abbate, interior designer with Planned Office Interiors—are an attempt to examine the bare essentials and stimulate discussion of contemporary detailing and its tradition. Is less more, or are we more or less evading bare functional necessities in our stripping naked the classic forms?

The solutions shown here are both similar, although one has a 3-ft buck and the other no buck at all. This is what has been called the Stop-Gap School—that is, in eliminating the stops, the gaps become apparent. The door is conceived independently of the buck swinging on pivot hinges. Abbate put his door in a box and Pope placed his unadorned in the masonry enclosure. The primary issue is in stopping the swing without the traditional rabbeted buck. Abbate cut the head molding and Pope made the strike a stop. In both instances, the doors offer security but are not light or sound barriers. The obvious danger, in both instances—more so in Pope's door—is the head, in not being offset from adjacent materials, must ark over them. This presupposes a little better plaster work than the tolerances to which most of us have become accustomed.







PHOTOS THIS PAGE: DAVID HIRSCH

ABBATE'S COMMENT

"The doors [leading into private bank offices in a commercial building] bring to mind a vault door and the use of the 3-ft-deep buck gives one a feeling of 'security' (plus a little apprehension) when entering under it and over the 3-ft-deep saddle."

P/A'S COMMENT

Abbate's doors in a box operate successfully. The saddle seems vulnerable to steel heels, as is every known material, although it exhibits no indentations as yet. The difficulty of any double doors without an astragal is the emission of daylight through the meeting stiles, in this instance aggravated by the depth of the doors and their facing a window. The rigidity of the jamb allowed it to be installed as a unit, but its depth required nailing, although concealed and minimal.

Data: *Saddle of solid oak, buck and head two ¾-in. stock oak veneered panels glued back-to-back. Doors 2¼-in.-thick built up of two ¾-in. panels and blocking. Door face veneer "Venge" with oak moulding, oil finish. Hardware-Rixon pivots with G.J. stay arms.*

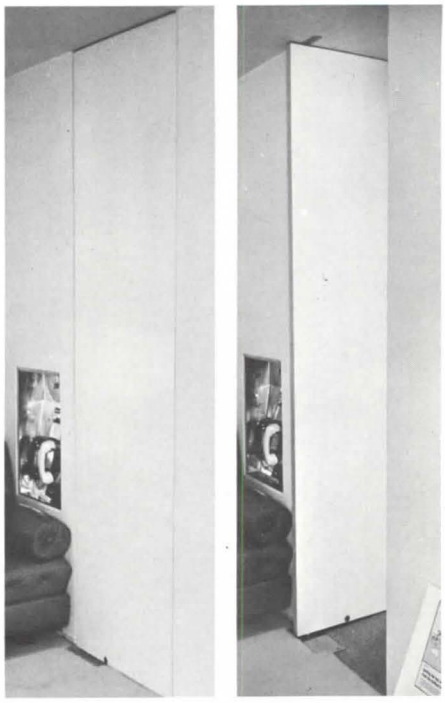


PHOTO: FORREST WILSON

POPE'S COMMENT

"This bathroom entrance door in an executive presidential suite was designed without a buck, so that it would not ruin the scale of a limited entrance space.

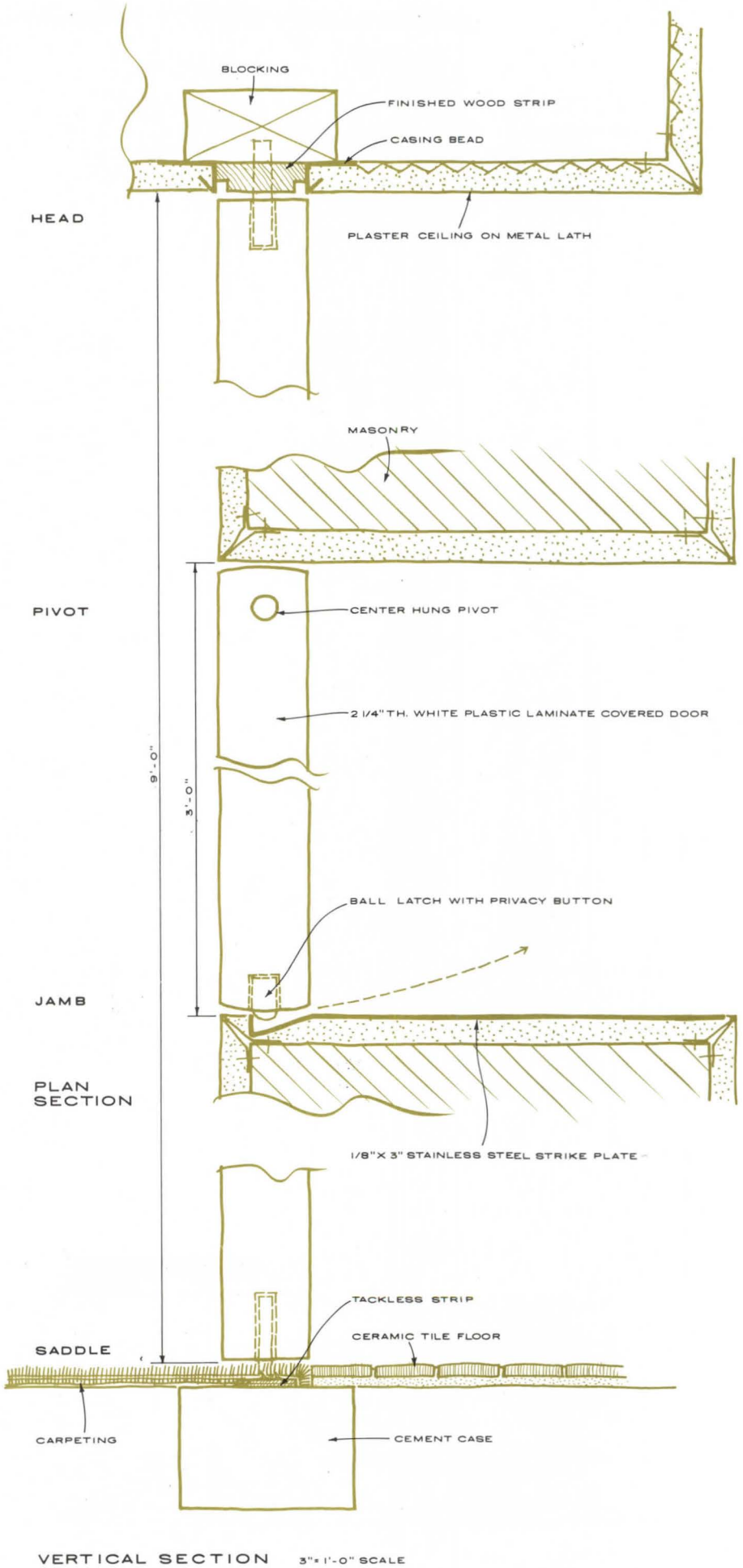
"It worked, but I would never do it again. I wouldn't have the courage—all the abuse I took on that job."

P/A'S COMMENT

This detail did take a lot of courage. It works through ingenuity of detail and excellence of woodwork. The 9-ft-high white plastic laminate covered door has been in operation for three years and operates as it did when first installed. A tribute to Pope the detailer and Bartos the woodworker.

The only criticism is in not including a device for emergency entrance to the bathroom.

Data: *Hardware: Rixon center pivot check with HO device. The stopping mechanism is a heavy duty ball latch with privacy button. The strike was specially designed.*



VERTICAL SECTION 3"= 1'-0" SCALE


ecce signum A.I.A.
gott
m.i.t.
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AIA
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ars
WILSON ZOUK
amor
nummi
medium rare

AIA/AMA

OR, BLOOD-LETTING AS PRACTICED BY THE 20th-CENTURY ARCHITECT

"Cosimo Medici is probably the first who called a painter, in recognition of his genius, divine. Later this became the attribute universally given to Michelangelo. And he, sculptor, painter, and architect, a fanatical worker and a man who never spared himself, was deeply convinced that it was his due." NIKOLAUS PEVSNER, "OUTLINE OF EUROPEAN ARCHITECTURE"

That the social importance of a profession can be assessed by the respect accorded its professionals is axiomatic. That the respect given the professionals is in direct proportion to their social effectiveness easily follows.

Witness the humble role of the medieval physician, as indicated in these instructions to the doctors of the Medical School of Salerno, probably founded in the 10th Century:

"He [the doctor] was to approach the patient with humble mien; to punctuate his remarks at table with frequent inquiries about the patient's condition; to regard the patient's illness as grave in order that a favorable outcome might reflect to his credit as giving good treatment, or, in event of an unfavorable outcome, as giving good prognosis. The Physician was not to lessen his professional dignity by staring at the patient's wife, daughter, or servant. The giving of harmless but unnecessary medicine was permissible, since otherwise the patient might not feel that he was getting a return for his money and a recovery without any treatment might reflect upon the necessity of having a physician. It was even suggested that if the patient, after recovery, exhibits ingratitude, it might be wise to sicken him temporarily by some harmless medicine."

The menial position of the medieval medical practitioner afforded him no more opportunity of combating cancer than it did of his building a cathedral. Similarly, the ambiguous position of the contemporary architect allows him as little opportunity of constructing a meaningful building as it does of permitting him to prescribe a cure for environmental ugliness.

The magnificent architecture of the Middle Ages and the Renaissance was accomplished by builders who were the peers of lords and Popes at a time when the barber surgeon was practicing blood-letting during lags in the tonsorial business. The 20th Century, however, finds this position of physician and architect reversed: The omnipotent doctor's unquestioned opinion is often the sole arbiter on decisions affecting his client's life, while the architect slavishly builds to order for clients and is overruled by people with the aesthetic sensibilities of shoats. This switch in professional standing, which has taken place over a period of 500 years, bodes well for medicine and ill for architecture. Today's architect finds himself in the same relationship to the AIA's War on Ugliness as the medieval surgeon did in his war on the bubonic plague.

To underline the contrasting positions of the two professions, we present the following brief excerpts drawn from histories of architecture as these might historically have represented the official positions of the AIA and AMA in their day. [The "AMA" quotes are taken from Howard W. Haggard's *Devils, Drugs and Doctors*, published by Harper & Bros., 1929; the "AIA" quotes, from Nikolaus Pevsner's *An Outline of European Architecture*, Penguin Books, 1960.]

AMA: From the writings of the surgeon Thomas Gales: "I remember when I was in the war at Montreuil (1544) . . . there was a great rabblement there that took upon them to be surgeons. Some were sow-gelders, and some horse gelders, with tinkers and cobblers. This noble sect did such great cures that they got themselves a perpetual name. . . . They were called dogleechers."

AIA: "The civic authorities responsible for the appointment of a new master-mason to the cathedral and city of Florence decided to elect Giotto, the painter, because they were convinced that

the city architect should be a 'famous man' (1336)."

AMA: "Pope John XII burned an unsuccessful surgeon of Florence; after the Pope's death, his friends flayed the surgeons who failed to keep him alive."

AIA: "When he [Michelangelo] felt slighted by some of the Pope's servants . . . he fled Rome, deserting his post without hesitation and leaving a message that the Pope could look for him elsewhere."

AMA: "The practice of surgery in Europe was relegated to barbers, bath-house keepers, sow-gelders, executioners, and any strolling vagabond who cared to try his hand at the art. Surgeons were looked upon as menials."

AIA: "Great artists were honored and admitted into positions outside their craft simply because they were great artists."

Within this historical context, let us examine the contemporary AMA/AIA patient-to-doctor, client-to-architect relationship.

The patient summons the doctor and diagnoses his own illness. He has pains in his lower abdominal region but would rather have a frontal lobotomy to correct his receding hairline. The patient's wife, however, insists on optic surgery, since she likes him in Hathaway shirts. A compromise is reached: the patient has his ears pierced. The doctor then specifies alternates to adjust his fee, should the operation threaten to exceed his original estimate, and the job goes out to bid.

For those patients who do not desire to purchase "Custom Medicine," there is a mail-order alternate. A diagnosis with full prescription can be clipped from a periodical and a local development doctor hired who mass-produces illness. The patient here is privileged to purchase a ready-made malady, such as split-level pulmonary lesions, ranch-type streptococcus or Early American carcinoma. The client with a flair for social ostentation can purchase social diseases.

Next, we examine the client in the architect's office. The client, displaying symptoms of construction, waits nervously sandwiched between a culvert patient and a cathedral hemorrhage. After a prolonged delay, he is finally ushered into the architect's office to be examined for a building. The client thinks he has symptoms of speculation. The architect's examination discloses not only speculation but hereditary manipulative capital with damaged aesthetic bordering on compound ugliness. To prevent contagion, the client is isolated and quarantined. Treatment proceeds under the following stipulations: the client embarks on a kayak trip to Borneo two days preceding design conferences, while his wife becomes the first woman in space. All plans and commitments are within the ethics of sanitation of the AIA War on Ugliness, enforced by the full authority of the Architect-General of the United States.

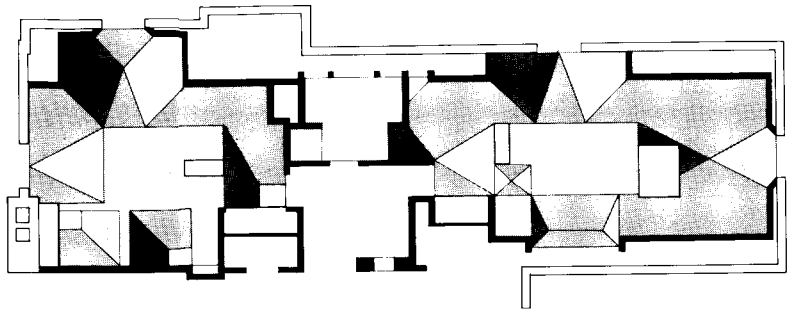
In our renaissance of architecture, we find building materials such as structural steel, yards of concrete, and cubes of masonry sold on architectural prescription only. Home craftsman materials are sold without prescription, but local dealers are prohibited from giving architectural advice. Commercial centers bordering populous highways are quarantined and their owners held criminally liable for motorist mortality attributable to their distracting effects. The entire industrial region of northern New Jersey is closed, fenced in, and decomposed to serve as a national environmental penance.

For a return to the doubtful reality of the 20th Century: The architect today finds himself in the same relationship to the AIA's War on Ugliness as the medieval surgeon battling the plagues of his day. In losing his power to act in the manner of the contemporary surgeon, the architect has lost his power to deal effectively with the contemporary blight of our diseased environment.

We are witness to a society that mobilizes immediately at any indication of an epidemic and facilitates the work of the medical profession, but which, faced with an epidemic of ugliness in our urban centers that has reached catastrophic proportions, fails to allow the architect any weapons save the aspirin of high ideals and the physic of resolution. Unless the architect can reassume his Renaissance authority in the 20th Century, he will be as effective in his war on ugliness as the 16th Century barber surgeon was in the treating the buboes.—FW


vive le roi
design award
merit
project
honorable mention
DR. LE ROI
ZONK
STONED GAUL
BRONCHIAL
GALL STONE
PANCREAS
NODES
TIE
CITY
AM-FM
R.I.P.

HIP CEILING FOR TWO MODS



Hugh Hardy & Associates create a series of ambiguous spaces that have strong visual and disciplinary effects.

"A picturesque, almost gothic, almost Tudor" house in Princeton is flipping its lid these days, not only because of the two swingers (aged 9 and 11) who rule the top floor, but also because of a new ceiling that resembles one of those folded paper swans that flaps its wings.

The far-out aesthetic essence of this hip children's area, which was remodeled by Hugh Hardy & Associates, is the multifaceted plaster ceiling, which goes up and down in pyramidal and trapezoidal shapes of various dimensions—some steep and high to negotiate dormers **(3, 4)**, some low and wide to "contain" various functions **(6)**, others high and irregular to accommodate monitors, which the architect labels as "light grabbers" **(2)**.

The game in designing the ceiling "was a question of accepting the restriction that the multigabled roof already went down around your ears and straight up over your head," Hardy explains. "We could have tried to erect neat rectilinear boxes, an arcade, or something else, but we accepted the interior of the house as it was and decided to mess with it harder. We said that if the ceiling is something that goes up and down, and it does, we'll make it go up and down as much as we conceivably can. The amusement was in knitting all of this stuff together."

One shallow pyramid—there just for the fun of it—was justified by the contractor, whom the architects describe as "a superb guy from whom we demanded the kind of craftsmanship that you have no right to expect in 1964 or 1965." (And they got it. In one area, six different planes meet at an exact point.) Contractor John Secoolish lucked into the purpose of that shallow pyramid as being "perfectly plain: that's for the boys to jump up and down in" **(5)**.

Not all of the ceiling is pitched, though. "The joker is," Hardy notes, "that if you didn't understand, you would make everything go up and down, but the reason that the ceiling, doing all of that, is as interesting as it is, is that there are flat places in it." The architects placed these horizontal planes at 7 ft over the passageways and sitting areas so as to emphasize the 16-ft and 17-ft heights of the "light-grabber" monitors.

Intriguingly, one of those monitors, which faces north, is adjacent to one that has a south exposure; together, they provide a cool-fire demonstration of the difference in color between light from the north and south, both of which the sculptural shapes seem to grab and pull into the space **(1)**.

Hardy comments on why many young architects are turned on today by achieving the kind of sculptural effect that this floor of rooms has. "What interests me," he notes, "is that we were able to take a space that was not considered an architectural space in the late 20's, when the house was built (it was left as an unfinished attic), and, because our notion of how spaces should be manipulated has shifted so enormously since then, we were able to produce something in today's idiom that coincides with what was considered merely as unnecessary and utilitarian when the house was built—necessary only to hold up the profile on the outside. Now, we don't give a damn about that per se (although we tried not to destroy it); we were most curious about the fact that the inside was peculiar. And we made it more peculiar.

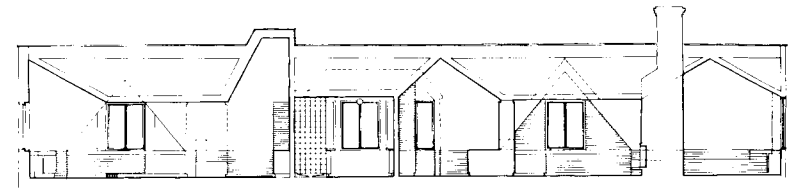
"If there's one thing people are doing now who are seriously interested in making those bizarre shapes, Hardy reasons, "it's not the bizarre shapes themselves, it's that this generation is trying to get out of boxes. The generation that preceded us stripped a lot away, which was a destruction of the box, but the limits within which they did it always included the floor and ceiling. This generation is doing it much differently: the world now is made entirely of diagonals. What we're trying to do is to bust out of the confinement of a static space—to go as far as we can to create spaces that are ambiguous, that don't end, that become something else. With the monumental—the static stuff—we're bored; it telegraphs to us, because when you come to the middle you can see the end.

"Here, we bent over backwards to exploit something that is constantly shifting and moving and changing," Hardy concludes, "and the reason we could do it is that we had that throw-away space from another point of view about space and architecture."

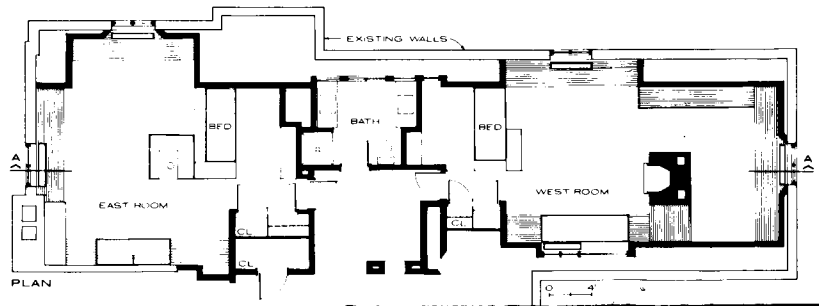
Insofar as the space itself and the feeling of environment are concerned, there is a major difference between the downstairs and the flowing, ambiguous maze of nooks and crannies, both horizontal and vertical, that is constantly shifting and moving and changing underneath the gabled roof. Yet the new spaces of the top floor do not seem to violate the consistency of the series of "static, contained rooms" in the original downstairs, primarily because the forms of the ceiling had been anticipated in the gable of the stairwell and also because the same oak and plaster are used throughout.

The consistency of the exterior—the picturesque profile of the roof against the sky—is also preserved. Even though the new trapezoidal monitors pierce the roof line, they only reduplicate the original, multigabled effect.

But the purpose of the boys' new rooms



SECTION A-A



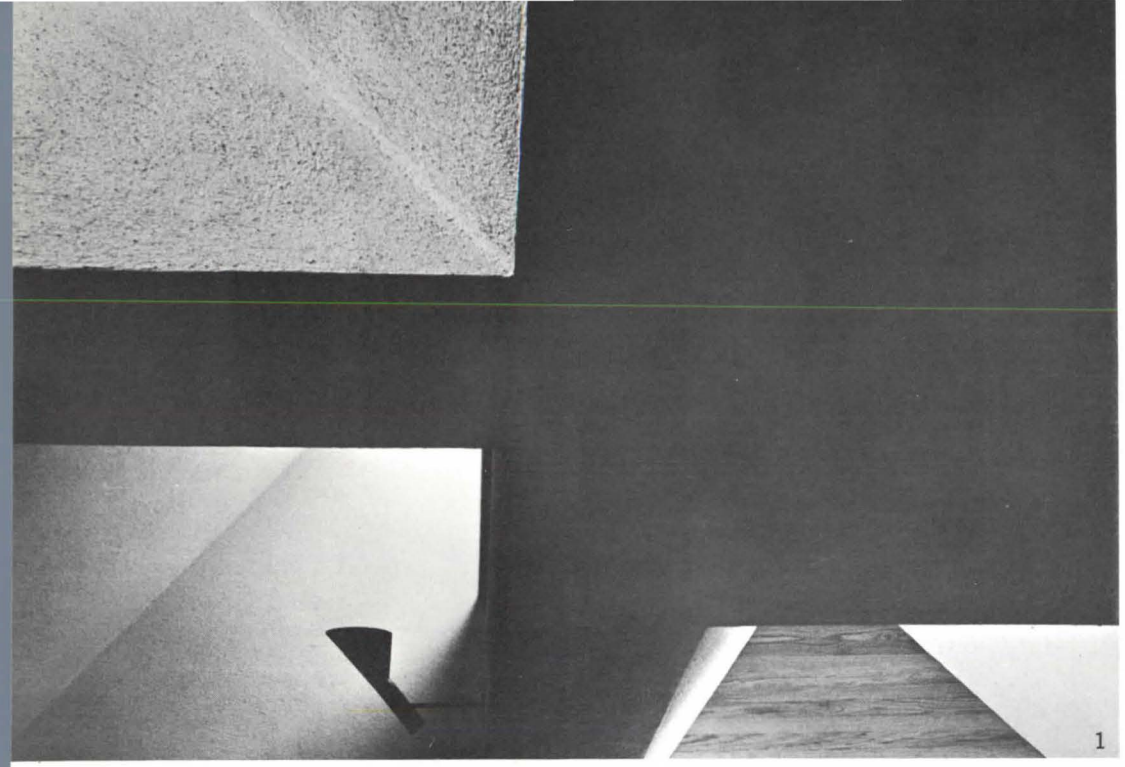


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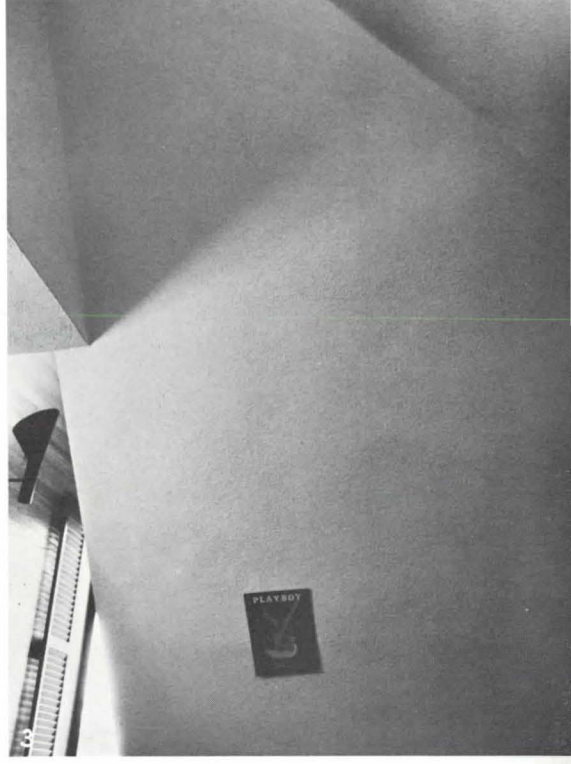
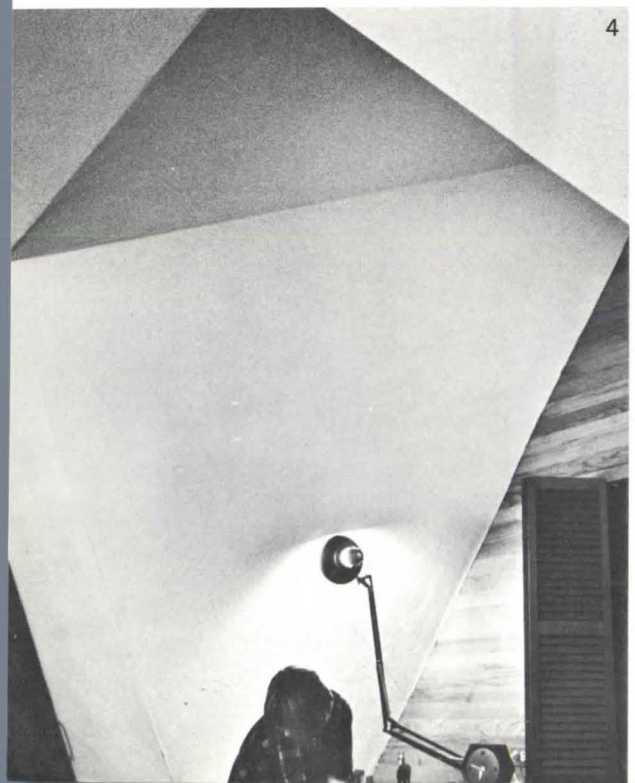
PHOTO: GIL AMIAGA





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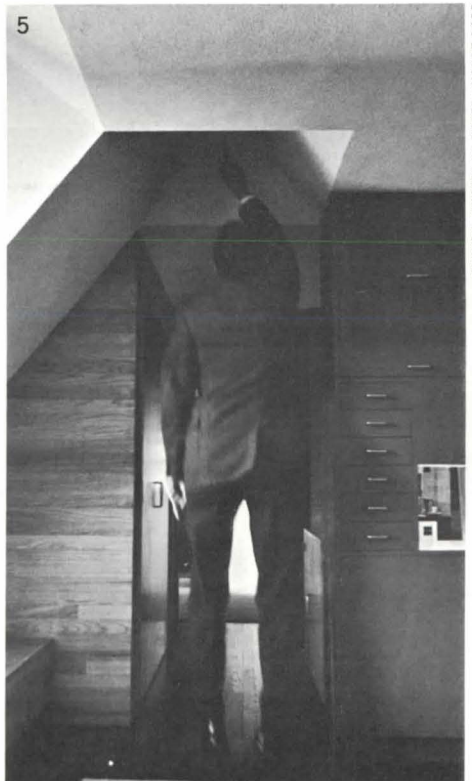

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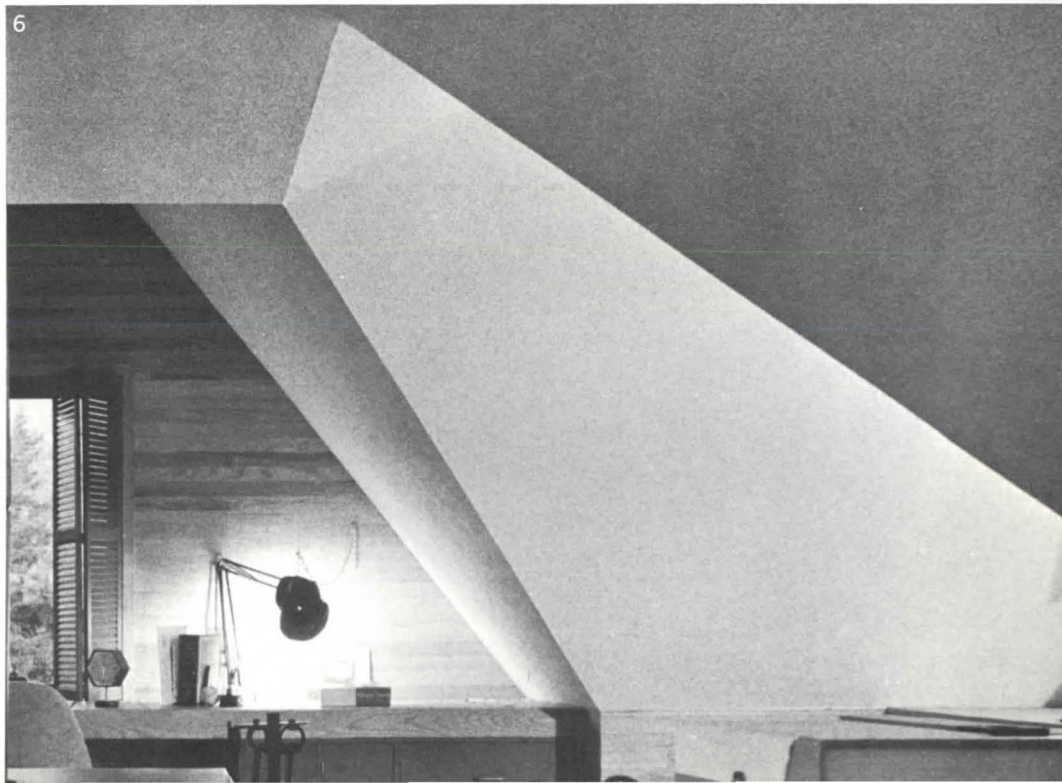
PHOTOS, EXCEPT AS NOTED: MAUDE DORR



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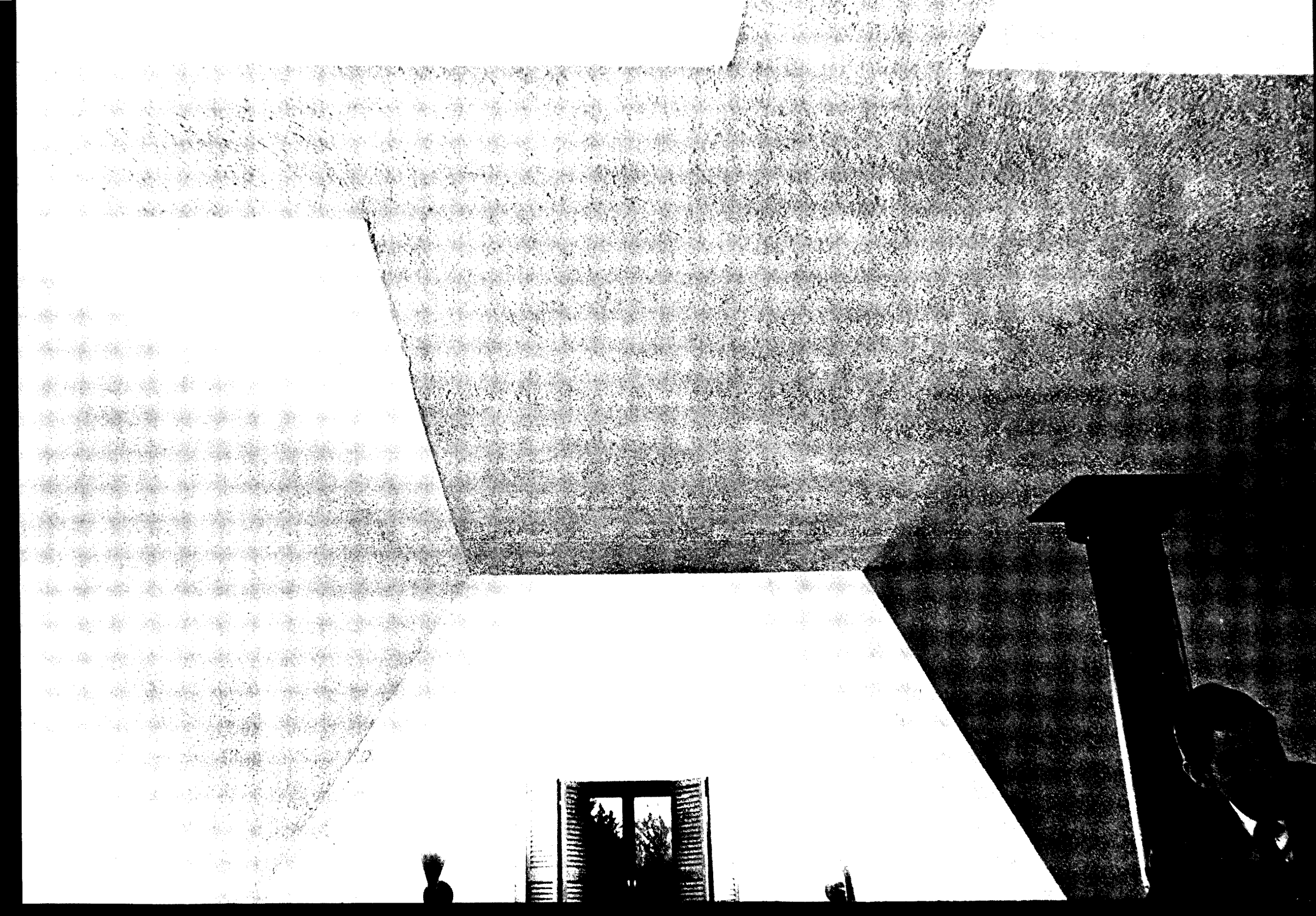
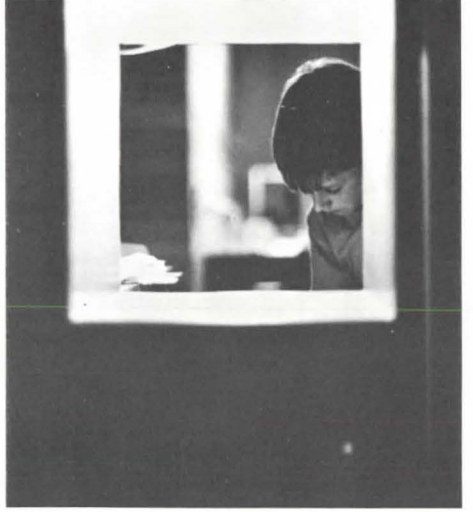
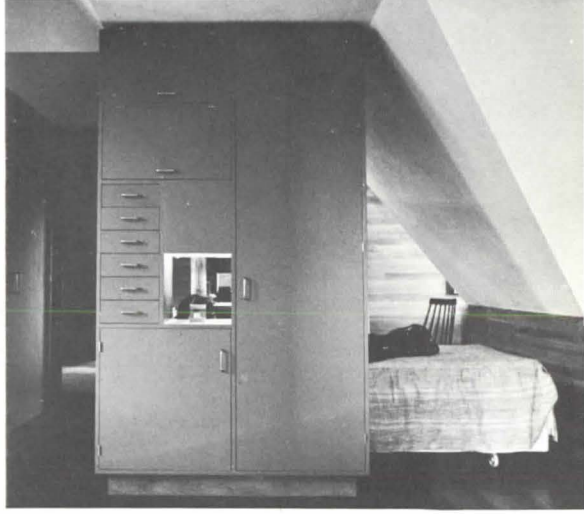










was not solely to provide an aesthetic game. They are designed for kids to have a ball in. Each of the two rooms contains areas for sleeping, conversation, study, and play. Furthermore, there are psychological dimensions to the planning. "We wanted to shape the areas so that they taught the boys where to put things," Hardy says. The design is sophisticated enough so that, as the boys grow up, the space will not become a drop-out, and the transition from photos of model planes to photos of not-so-plain models will be accomplished in flying style.

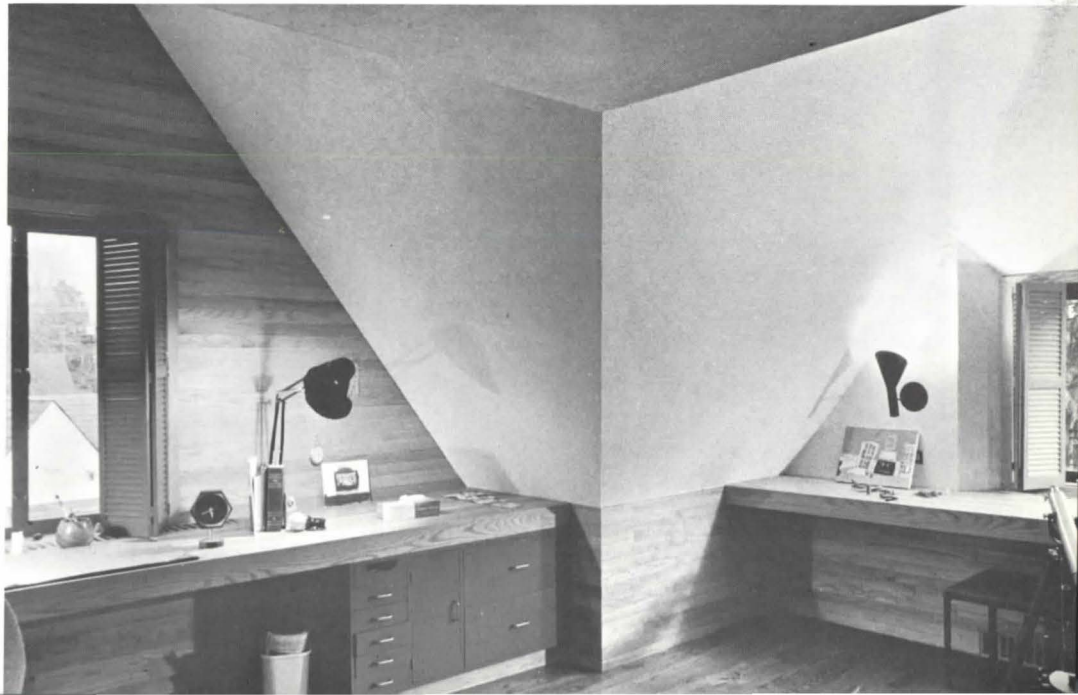
In addition to the aesthetic game that the faceted ceiling affords, attention has been paid to the cabinetwork, which is designed to function psychologically as a disciplinarian—providing a place for everything the boys collect so that they will feel some compulsion to be neat.

Part of the cubistic cabinetwork, such as the desk spaces, seating, bureau, and wall areas, is of oak flooring so as to be virtually indestructible and to give no cause for alarm about model-building or pinups. Furthermore, it rises up to meet the ceiling—as high as 30 in. in some places —to make lower wall areas kickproof.

Other areas of the cabinetwork—drawers and closet doors for example—are painted green-blue in order to set off the light orange of the oak flooring.

In addition to the discipline toward tidiness that the cabinetwork performs psychologically, the faceted ceiling also orders the space visually, and does it so strongly that, no matter what modicum of mess is manufactured, the encompassing visual order seems to overcome it prominently. This is not to say that the boys are inordinately disorderly (far from it, and perhaps the discipline of the cabinetwork is effectual), but rather that the scheme relies on a vigorous architectural envelope for its visual organization instead of on any fixed, compulsive arrangement of furniture or accessory ornaments. For the ceiling is flapping its folded wings so repetitively that the observer sees only that sweeping motion.

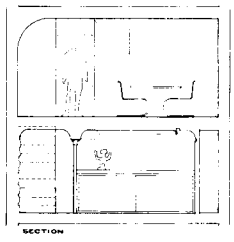




ILLUSIONARY ART GALLERY

Abstract sculptural effects by designers Charles Gwathmey and Richard Henderson produce a strong gallery design that, paradoxically, has spatial ambiguity.

The light beyond draws one past a somber black wall in the hallway entry to Marjorie Neikrug's by-appointment gallery, which is located in a New York townhouse. That light, white-plaster room **(1, 2)** is composed of abstract, almost balletic, "three-dimensional, sculptural articulations," as 27-year-old designer Charles Gwathmey calls them.

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PHOTOS: DAVID HIRSCH

3





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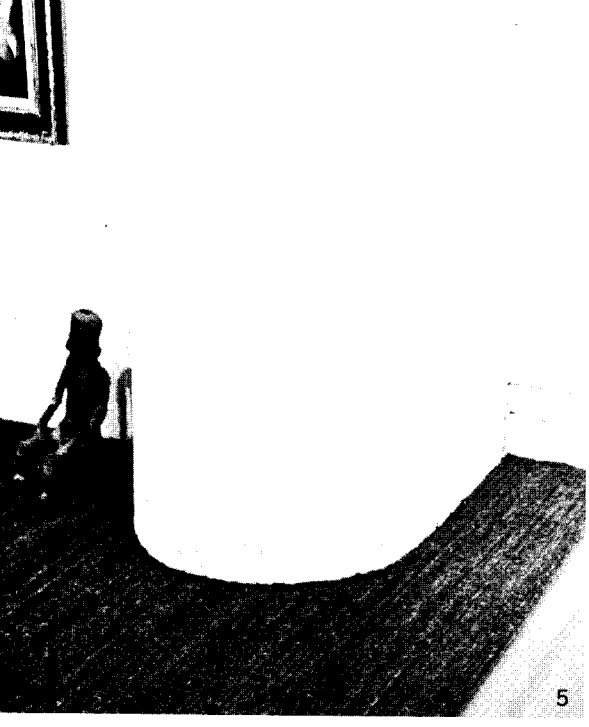
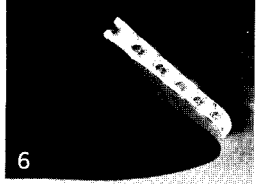
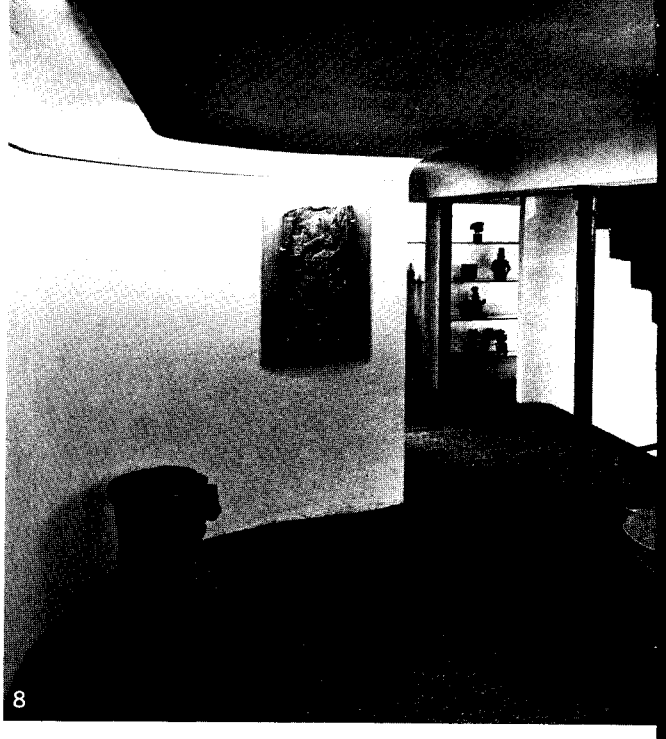
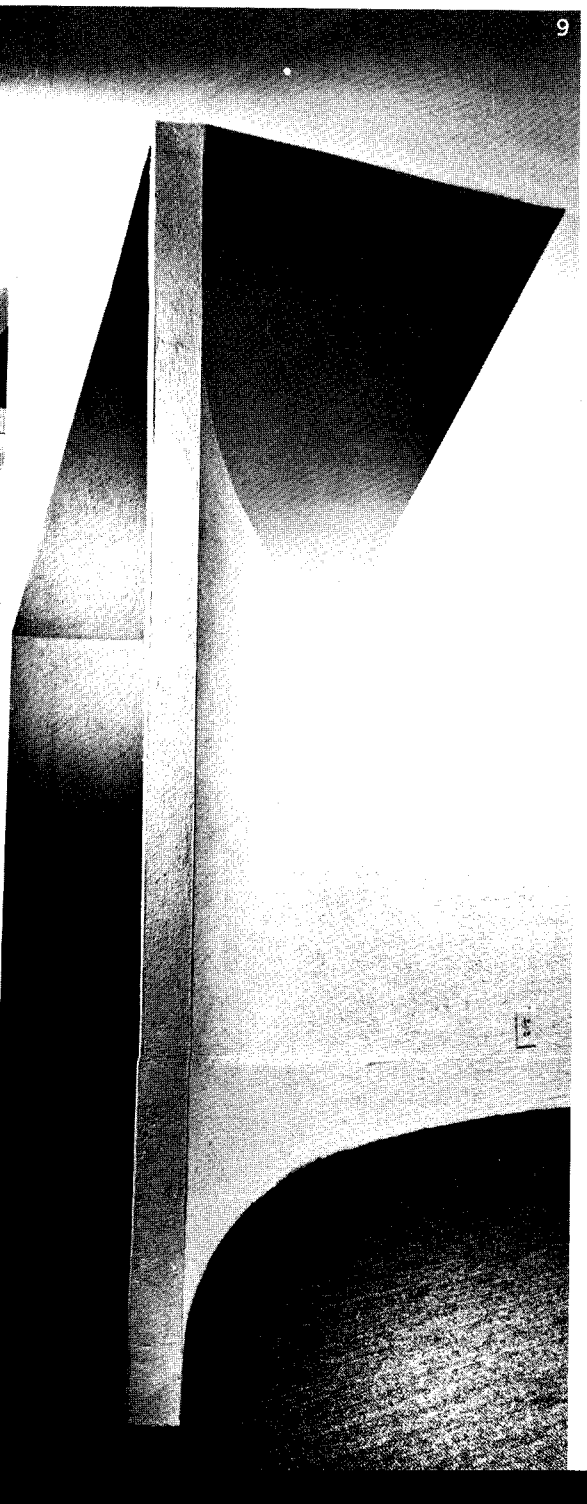
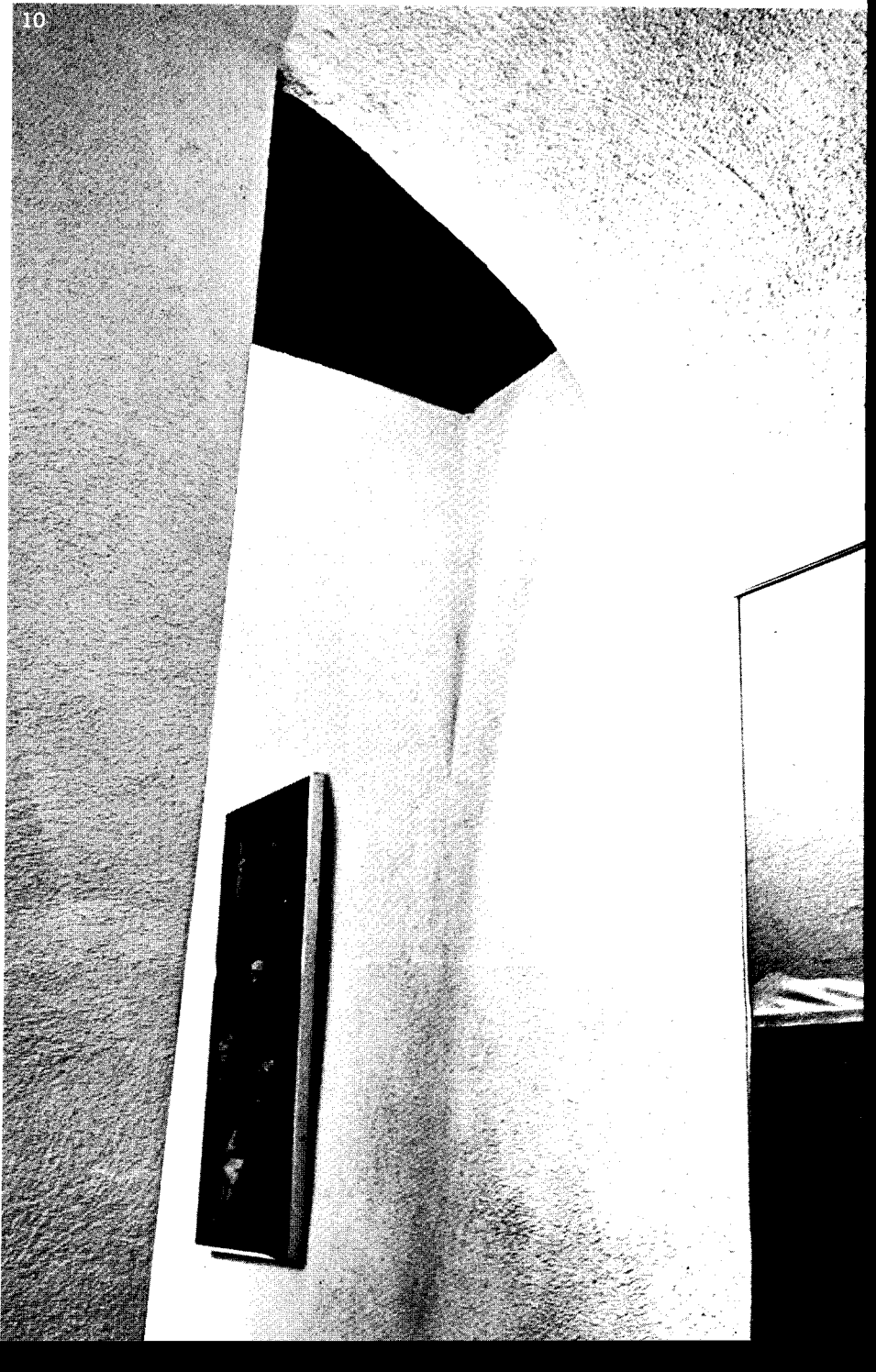












"I am very interested in deceiving the eye," Gwathmey maintains. "I think that you can make a mood, a spirit, an idea happen visually when, in fact, it is difficult to perceive."

In the renovation of the two stories, his interest has produced a kind of reduplicated Le Corbusier, to whom the spaces owe much more than the SOM atmosphere of the photographs would indicate. A consistent motif of white plaster with cove corners is punctuated at various points and by various elements to achieve different visual and functional effects on both floors **(1, 2)**.

The upstairs serves as a living and reception area, which includes a dining nook at one end in a semicircular shell; it also houses a study-library, which is behind a garden-level-high cabinet at the rear of the space.

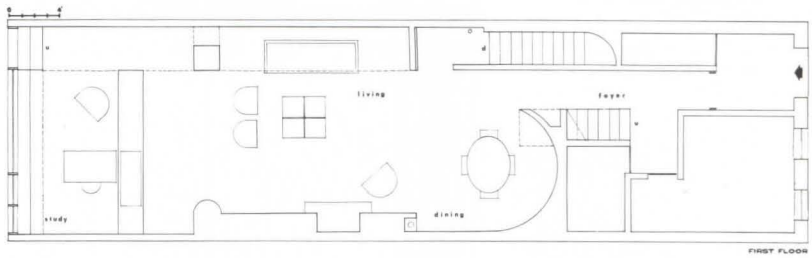
The basement contains the Neikrug Gallery proper: its display shelves for pre-Columbian sculpture, its hanging space for paintings and carvings, and the office, storage areas, and mechanical system **(3, 4, 8)**.

"If you can give an illusion of greater space," Gwathmey continues, "you have solved a very real problem that goes much beyond the idea of this gallery. It goes into apartments, into all kinds of spaces for living. Psychologically, a small area can become a more compatible thing" **(7)**.

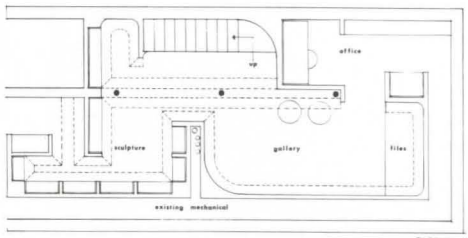
The basement gallery is certainly small —both in plan and in height. The ceiling was 6′-3″ before renovation; 6′-6″ was obtained by removing the old and reinforcing the new. (A longitudinal girder and three lally columns had to be retained.) The original plan (18′ x 27′) was reduced in width by an interior wall, which had to be set out from the party wall on the east to provide access to pipes and ductwork.

Still, the tiny gallery appears larger, since various visual phenomena are employed to create a deceptive scale. Though a standby cliché of design aims, the sensation of greater space seems actually achieved here, and the means of achieving it are explicitly delineated by the architect.

Gwathmey's method was "to take those horizontal elements that the human being relates visually and throw them into a dimension that was unfamiliar. That is the reason for coving all the ceilings. Table heights at 30 in. and ceilings hitting the walls at right angles—relate to your eye level and give you a dimension. Not having vertical planes meet with a line at the ceiling joint, and situating all structural horizontal lines at levels unfamiliar to the common visual situation, makes the space completely unarticulated and continuous. The picture-hangar reveal, which was the one horizontal that had to be, is located at the springing of the cove—neither at wall height nor at ceiling height."



FIRST FLOOR



BASEMENT

Other applications of the fluid line also contribute: first, the vertical corners, which are similarly curved "so as not to accentuate vertical lines." This reinforces the continuity of the coves at the ceiling, including the coved lighting **(6)**. Second, the cabinet for drawings at the north end of the gallery **(4)** is placed so that "the space above it seems sculpted out beyond the volume, thereby extending it." Here, too, all joints are curved. By way of contrast, the designer has used sharp corners only on elements that appear as something set into the structural background: in the display shelves, for instance, which he sees as "becoming pieces of high furniture but lower than the cove in the ceiling."

Upstairs, the curves and materials are consistent in feeling, but the sculptural effects are put to work differently so as to solve different problems. What had been something of a corridor-like room is now more intimate, even though one can see the whole space.

Here, the sculptural play is most balletic in its effect, producing a Balanchine-like arabesque: From the sweeping turn of the dining room wall, which slips behind the chimneybreast with a hesitation of color, attention leaps to the ceiling and glides across the room, where the cove on the opposite side, in another turn, carries the eye down to the floor and completes the movement. The circular pilaster element punctuating the right of the chimneybreast **(5)** is a tighter turn, recapitulating the arc of the dining area. The square, free-standing column, which was isolated from a previous partition at the longitudinal girder to permit light to spread uninterruptedly along the west wall, is a vertical repetition of horizontal, garden-level-high cabinet, which closes the room off from the study yet seems to bring light from the garden further into the living area.

The curved wall of the dining area **(9)** continuing behind the chimneybreast is separated from it by a low, dark-green wall with a bright yellow lighting niche above it **(1)**. The ceiling cove does not run through the square column but is broken and used as a light source **(10)**. The back of the column is painted black. Bold colors on these elements and on pipes, risers, columns, and pipe handrails are now associated with Pop artifacts, but they owe more to Le Corbusier.

"I approach colors on a formal level," Gwathmey asserts. "They become very abstract, but they work much as architectural sculpture works. You use colors to make a point stronger or less strong."

What is puzzling is that the sculptural elements that articulate the space are so strong that they dominate not only furniture, which the client already possessed (except for the architect's chrome X-base coffee table design), but also the appearance of functional requirements. Initially, they seem purely abstract rather than related to function; yet they do, in fact, define areas. This ambiguity, which may intentionally be unresolved, is illumi nated by Gwathmey's comment, "I think really pertinent space is that kind of space that reacts in all cases differently to the activity which is happening. If it can react favorably to two people and also to a hundred, then it's a successful space." The client appears to agree.

There is a formal, detached air of the abstractionist in Gwathmey's approach. The resulting spatial ambiguity, which is a product of this abstract formalism as well as of more romantic approaches, seems to give proof that this ambiguity is a major design direction of our day.

CURTAIN WALLS REVISITED

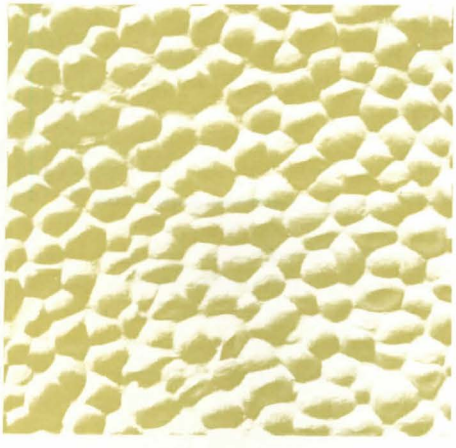
Casting techniques lower the cost of textured aluminum panels and offer a way to improve the appearance of curtain-wall construction.

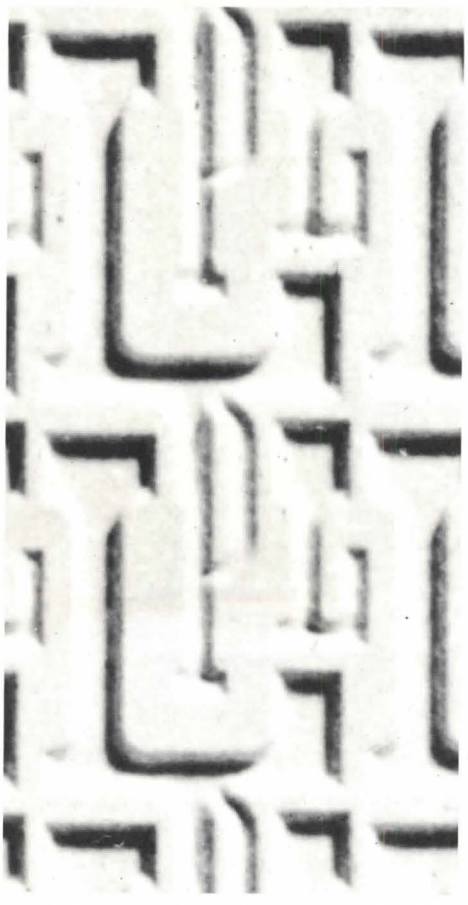












A lack of concern with design burdened the metal curtain wall with the stigma of monotony from which it has been a long time escaping. During the 1950's, manufacturers and architects both neglected to improve metal curtain walls, and eventually designers turned to other materials that could provide sculptural depth for the walls of a building. Now, industry is making a bid to recapture interest in metal walls by marketing textured and sculptured aluminum panels. These new panels can be produced at an economical cost with recently developed techniques for stamping and casting aluminum.

In addition, the material has been improved, and aluminum is available in many alloys not produced 10 years ago. These alloys have been developed especially to meet the requirements essential in architectural applications. Some alloys, such as Alcoa's Anoclads 5, 10, 20, 30, and 40, are designed to provide certain integral streak-free color characteristics when anodized by conventional processes. Other alloys have been developed to give uniform nonfading bronze and gray colors in Alcoa's Duranodic 300 process. Some new alloys combine the advantages of several properties, and are easier to form or extrude, and require less time for anodizing. Still other alloys have been specifically developed for use as porcelain enameling stock, both in sheet and extruded form, and have better enameling properties than alloys previously recommended for this use.

Conventional aluminum curtain-wall components are extruded, but apart from increasing the size of extruded shapes, no radical improvements have been made in this process recently. In 1955, the largest cross-sectional dimension was about 12 in.; today, it is 22 in.

Stamping metal panels to create a three-dimensional effect is not a new process, but it has not been widely used because the cost of panels is too high. The conventional stamping process requires expensive matching steel dies, and unless a large number of identical panels are made, the die cost burden per panel may be prohibitive.

Experimental work, based on stamping methods developed in the aircraft industry, however, has shown that high die costs

are often unnecessary in architectural work. By using a confined rubber pad in place of a female die, or by using hydraulic pressure, heavy-gage, annealed aluminum sheet can be formed around a male die or an assembly of form blocks positioned on a steel palette. For the relatively small quantities and generous tolerances of decorative building panels, these forming dies or blocks often need not be made of steel; they can be hard wood, plastic, or any other more easily shaped material. Thus the cost of dies can be reduced up to 75 per cent, which makes the cost of sculptural stamped panels competitive with other types of panels.

Casting Becomes Cheaper

While manufacturers improved stamping techniques, they also developed a cheaper process for casting thin-wall aluminum components, which is now ready for commercial use on a limited scale. Since the early 1930's, architectural aluminum has been cast in sand-molds. The spandrel panels of the buildings in New York City's Rockefeller Center were cast this way.

Most sand-cast aluminum panels are at least ¼-in. thick, and the metal costs over $1.00 a pound. The new technique will produce castings only ⅛-in. thick, even in large sizes, with a metal cost of only about 70¢ a pound—a cost reduction, per unit area, of about 65 per cent. At present, the depth of a casting cannot exceed 6 in., nor can the panel size exceed 4′ x 8′. However, manufacturers expect to produce larger sizes.

Corrosion resistance and weldability of the cheaper castings are good, and they can be colored by patented processes or with applied coatings such as porcelain enamel, paint, or fluidized bed coatings. Surface textures are practically unlimited in variety.

Over-all economics remain an important consideration with thin-wall castings as well as with stampings. The process is an adaptation of the permanent mold casting process, and mold costs are quite high, ranging from $400 to $800 per sq ft of casting area. Thus, large castings produced in this way are likely to be prohibitively expensive for walls if only a small number is required. In such cases, sand castings will still be cheaper, in spite of their higher material cost. But in large quantity, the cost of even large thin-wall castings will be attractive.

For example, consider a 20-story building requiring 3,000 5′ x 8′ units. The mold cost for such a unit might be as high as $25,000. This would amount to only $8.33 per unit, however, or about 21¢ per sq ft of wall. And since these units would weigh only about one-twenty-fifth as much as concrete units of similar outward shape and character, such differences would be more than offset in handling charges alone. Typical examples of these new thin-wall castings are shown on the facing page.

Finishes for Panels

In recent years, significant advances have been made in architectural finishes for aluminum. Developments in anodizing have led to artificially formed oxide surface films that are hard, dense, and resistant to fading. They are produced by a special process of electrolytic anodizing, and require careful control of alloy composition, current, timing, and temperature. Colors range from light gold through amber and the bronzes to jet black; in general, the depth of color shade is proportional to the immersion time, which ranges from 20 to 50 minutes.

Porcelain enamel finishes on aluminum have been used successfully on architectural components for over 15 years. Recently, however, manufacturers made some radical improvements in this field. The deficiencies, notably spalling, which were occasionally found in some of the earlier porcelain-on-aluminum work, have been variously ascribed to the use of inappropriate alloys, inadequate or improper surface preparation, or inferior enameling frits. Now, special new enameling alloys with carefully controlled constituents have been developed for both sheet and extrusions. Surface preparation techniques and procedures have been carefully studied and improved, and better low temperature frits designed for use on aluminum have been perfected. Porcelain-enamel finishes cost no more than some of the anodized finishes, but they cannot provide the metallic sheen of those finishes.

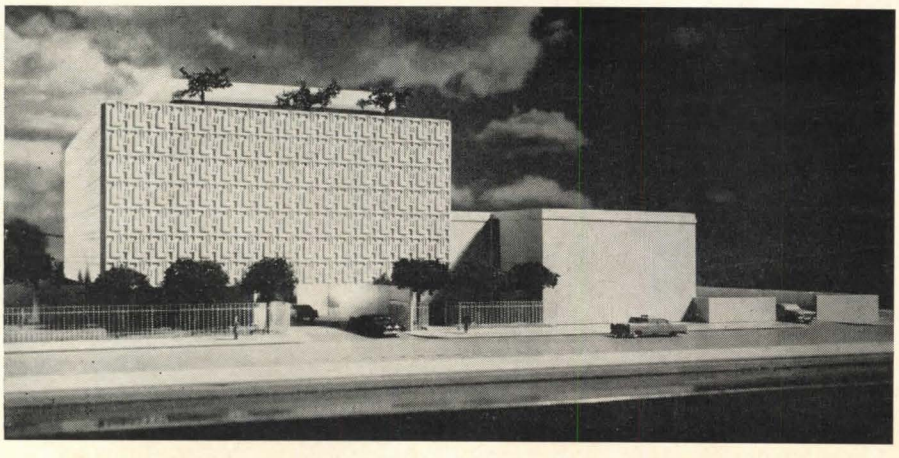
The organic coatings constitute another type of finish introduced in the last decade with very satisfactory results. Several types of organic coatings are applied by various means to sheet and strip stock for fabrication into siding, louvers, and other architectural products. Liquid coatings of the acrylic- and vinyl-base types are commonly used, as well as laminated films of the polyvinylchloride and polyvinylfluoride types. A forthcoming entrant in the coating field is a liquid form of polyvinylfluoride, which, though more expensive than other liquid coatings, promises exceptional performance characteristics.

Better Seals and Joints

Improvements in related products assist the general upgrading of aluminum curtain walls. Notable among these products are the newer sealing materials. Ten years ago, sealing joints constituted a major problem because appropriate materials were unavailable. Today, however, a number of suitable elastomeric bulk compounds designed specifically for this purpose are available. There are now on the market preformed structural gasketing systems that were unheard of for architectural use in 1955.

Although none of these are miracle materials, they have contributed to the improved quality of metal wall construction. Another contribution is the realization that leakage through a curtain wall can be prevented by equalizing the pressures inside and outside the wall. This is accomplished by forming a chamber behind a narrow face joint. This chamber reduces the pressure of wind forced through the exterior joint. When designers find more ways to apply this basic principle, the problems of leakage will be minimized.

Cast aluminum panels with a monogram of the Louisiana Power & Light Co. (facing page) enclose the building (below) designed by Curtis & Davis of New Orleans.



SWISS SET PACE IN BRICK BEARING WALL STRUCTURES

A report of a trip to Europe to find out just how thin, and how tall, masonry can be built in loadbearing-wall structures.

By Clarence B. Monk, Jr., Structural Research Specialist, and James G. Gross, Director, Engineering and Technology, at the Structural Clay Products Institute.

The Swiss are making an art out of the science of building high-rise structures supported on thin masonry walls. But it is by no means art for arts' sake. The nation that invented the numbered bank account also looks for financial security in building innovations, and Swiss loadbearing masonry construction usually lowers the over-all cost of a multistory building 5 to 7 per cent.

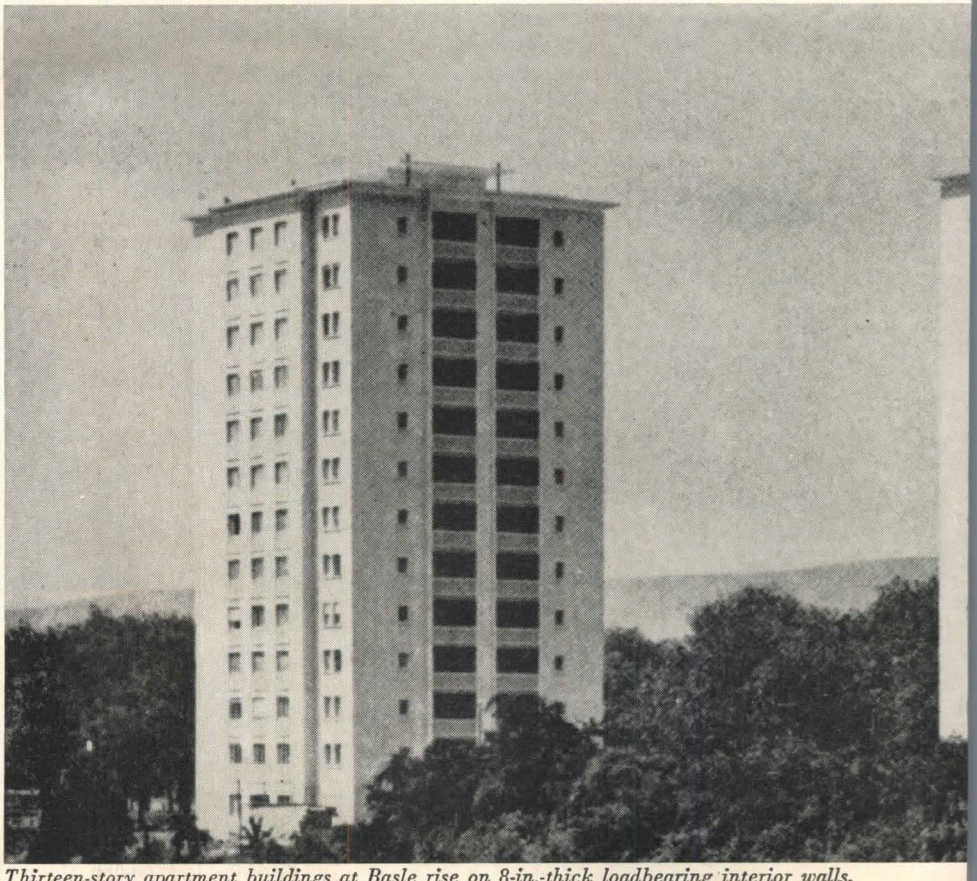
Not all buildings will show this saving, but the same types of building proving economical in Switzerland can also be built economically in the United States. The main criterion for thin, loadbearing masonry wall construction is a floor plan with repetitive interior partitions. This includes hotels, apartments, dormitories, and schools. For these types of structures, the Swiss achieved a 10 to 15 per cent savings in the cost of a building shell—about half the total building cost.

This significant lowering of construction costs is attributed by the Swiss to two factors: first, the greater structural efficiency of thinner floors spanning short distances, making structural use of walls, simplified mat foundations, avoiding the concentration of stresses in beams and columns; and second, faster construction schedules. However, construction schedules in Europe tend to be slower than in the United States. Swiss contractors build loadbearing masonry walls and cast-in-place concrete slabs at the rate of one complete story a week. Contractors building concrete frames also complete one story a week, but the concrete frames do not include walls. Thus the total structural-wall system erected in the same length of time as a concrete frame proves to be a better proposition.

Some high-rise projects in Europe set precedents for loadbearing masonry construction. The outstanding achievement of carrying 16 stories on 6-in.-thick walls at Biel, Switzerland, is a significant landmark. By comparison, the 16-story Monadnock Building erected 75 years previously in Chicago in 1891 is supported on masonry walls 6-ft thick at the base.

What's in It for Us

The European achievement in high-rise masonry construction should demonstrate to American architects and engineers that clay masonry can be analyzed and



Thirteen-story apartment buildings at Basle rise on 8-in.-thick loadbearing interior walls.

designed with the same facility as steel, concrete, or timber. The test data (particularly on bearing walls), the allowable working stresses, the method of analyzing wall bending, stability, differential movements, the detailed plan preparation, and the field quality control used by Swiss engineers can all be applied to American engineering practices. Using European and U.S. data, engineers should be able to proceed with rational design.

The European experience should also give U.S. building officials greater confidence in permitting this form of construction. The Government bodies responsible for public safety in buildings are justified in taking a conservative viewpoint in appraising construction innovations. While the concept of loadbearing masonry is not new, the precise engineering of it for efficient, economical use of materials is. Most masonry codes are based on empirical rules of experience and were not devised for the full application of engineering technology in the same sense as steel, wood, or concrete.

Architects and engineers in Switzerland supervise the activities of the mason, and often insist on field tests of materials. Special training sessions for the mason have also proved their worth. There is no reason to assume that U.S. professional building interests would provide less attention to this matter.

To clay masonry manufacturers, the demands of high-rise loadbearing buildings should not present any new challenge that cannot be met with available manufacturing processes. On the contrary, for several years clay masonry manufactured in the U.S. has generally been of higher strength than foreign products. In general, large clay masonry units will contribute to greater economy for this form of construction. For exposed masonry in this country, face sizes of 4″ x 12″ appear to best satisfy both aesthetic and economic criteria. Units of this face size are widely available in 4-, 6- and 8-in. bed widths. However, 5⅓″ x 12″ face size clay units have been used and accepted in parts of the U.S. for years. For laying efficiency, through-the-wall single wythe units are preferable.

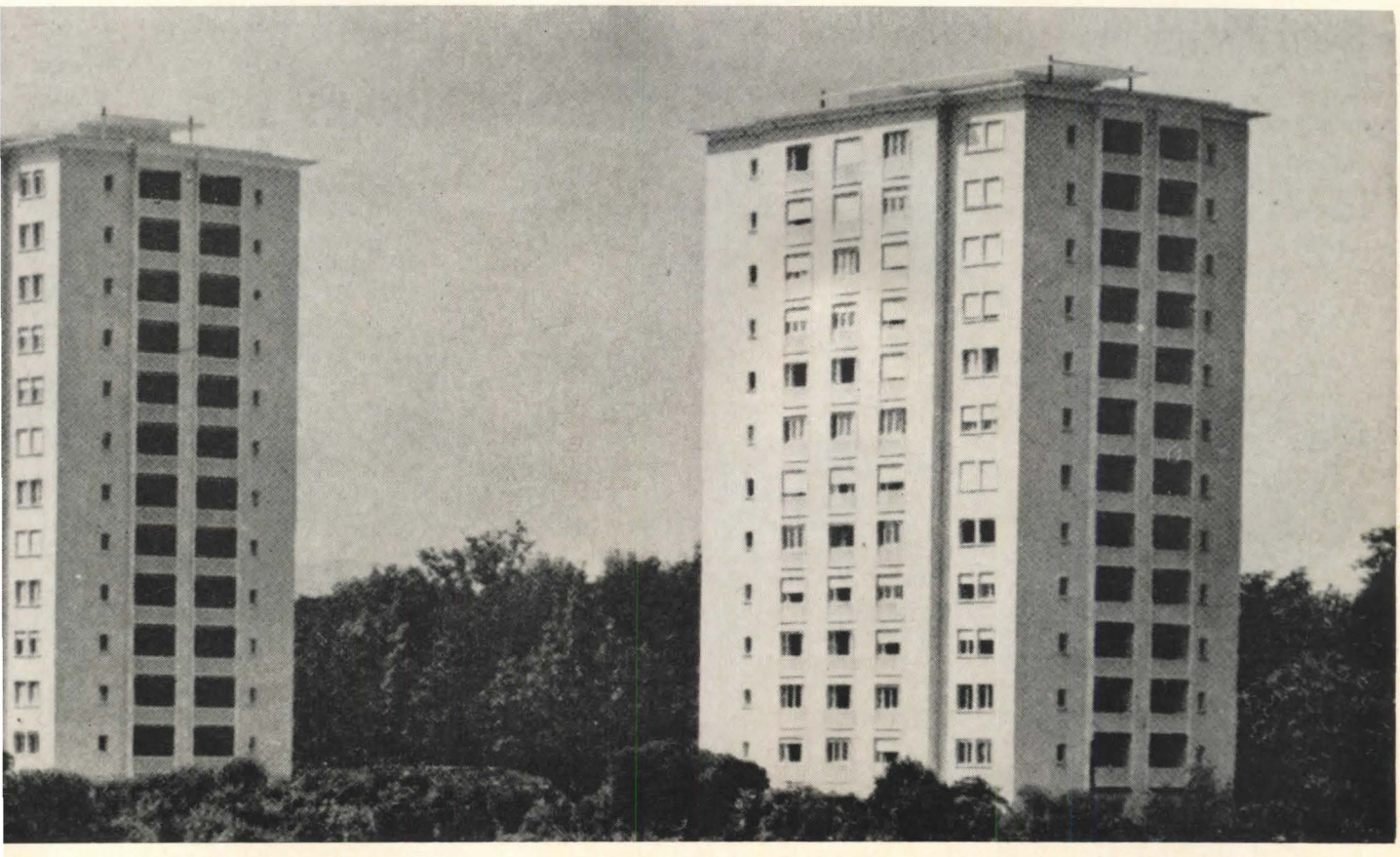
For structural and construction efficiency, a wide variety of wall thicknesses should be available, ranging, say, from 4 in. to 8 in. For interiors, both faces may be exposed, one face only, or both faces plastered. Both faces exposed with through-the-wall units demands high dimensional control. For variation in structural strength, fire, thermal, and acoustical resistance, selected coring patterns should be possible. Until a more complete analysis is made, there seems to be no reason why manufacturers cannot meet these requirements.

Why The Swiss Lead

Switzerland's sophisticated development of high-rise masonry construction stems from a comprehensive research and testing program carried out at national and local levels. The start of significant testing originated in 1946 with a 20-ft-high press capable of exerting a force of 550 tons on materials to be tested. This machine is owned by EMPA (Swiss Federal Material and Testing and Research Institute) which is located in Dubendorf, near Zurich. EMPA's masonry testing program is directed by P. Haller, and supported by Swiss tile and brick manufacturers.

The result of EMPA's first investigations were the basis for the design and construction of three 13-story apartment buildings built in Basle between 1951 and 1953. Recently, EMPA installed a new 26-ft-clear-height testing machine with a 2200-ton capacity for testing full scale wall systems up to three-stories high. Supplementing EMPA's laboratory work, individual Swiss tile and brick manufacturers pursue their own research and development programs, and send 20 field engineers to travel across the country, giving technical advice and promoting clay products.

One EMPA test program showed conclusively that clay masonry wall systems are not crushed by compressive stresses



but are torn open by tensile forces. This was no revelation to the construction industry, but the comprehensive EMPA tests resulted in a greater understanding of this phenomenon, and led to the publication of guidelines for sizes and quality of materials.

The anomaly of bricks subjected to vertical loading failing by tensile forces can be explained by considering a block of elastic material being compressed from top and bottom. The elastic block would bulge outwards at midheight, and this stretching action inside the block is the cause of masonry failing in tension.

Why Swiss Masonry Is Cheaper

The Swiss building economy favors the development of loadbearing, clay masonry construction. Switzerland is not a major steel producer, and the nearest supply of steel is the Ruhr Valley in Germany. Consequently, steel is relatively expensive due to high shipping charges, and structural steel frames are practically nonexistent. The relatively high price of steel also affects the cost of reinforced-concrete construction. Also adding to the burden of concrete structures is the price of timber for formwork, which jumped a decade ago and continues to rise.

These economic factors favor clay masonry loadbearing walls even for low-rise, three- to five-story buildings. However, despite the favorable relative economics for clay masonry, there are other factors that can be commended to the construction industry in the U.S.

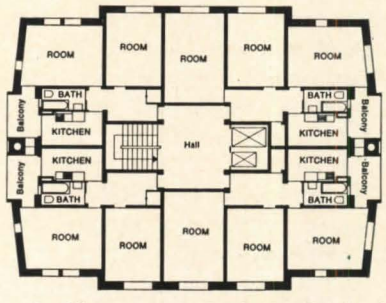
The first major Swiss brick structures built after World War II showed a dramatic cost saving. Before any major clay masonry structures were built, three identical reinforced concrete frames were built in 1947, at a unit cost of 79¢ per cu ft. Then three brick bearing-wall buildings were constructed at 67¢ per cu ft, which is about 15 per cent less. Additionally, masonry also saved time because a bearing-wall structure was built 47 days faster than a concrete building, which took 154 days to build. About 50 men were employed daily on this project, which used the equivalent of 1,750,000 U.S. bricks.

A record-height masonry structure in Schwamendingen is claimed to be 14 per cent cheaper than if it had been supported on a concrete frame. Clay masonry for the 18-story tower cost 84¢ per cu ft, but concrete was estimated at 98¢ per cu ft. Adding to the bonus, the structural engineer spent less time designing and drafting clay masonry than for a concrete project of the same size. This reduced the engineering costs, but this practice is reflected in the Swiss fee schedule, which lowers the percentage for masonry loadbearing design below the fee percentage for concrete frames.

The engineers did more than inspect construction at the Schwamendingen building. Early in the contract, the engineer who made the coursing plans was sent to the site to help the mason foreman lay out the work. Before bricklaying began, the masons were shown the quality of workmanship expected. At the Basle project, the masons were personally instructed by Haller of EMPA. The Swiss believe that, if the masons know what is expected of them and they have the detailed coursing plans, the job will proceed smoothly and quickly.

Brick Building Baedeker

• *Basle*—Based on the initial results of the testing at EMPA, the first high-



rise buildings were built in Basle between 1951 and 1953. Three 13-story structures were built on a 50′ x 75′ plan, with floor layouts typical of many tower buildings throughout Switzerland. A single stairway and elevator shaft services all floors, which each contain four apartments. Rooms are oriented with their long sides perpendicular to the outside walls, so that floors spanning between interior bearing walls seldom exceed 12 ft. All four walls of a room, including the exterior walls, support floor slabs.

The relatively compact plan, with only four apartments per floor, reflects the high cost of land in Switzerland. Thus, there is an economic justification for the tall-tower solution to apartment construction. Floor-to-floor heights, as in this country, are about 8′-8″ for apartment construction.

The exterior walls are laid in English bond with 5-in.-wide by 4-in.-high by 10-in.-long bricks. The exterior walls are slightly over 15-in. thick, and the thickness of the interior walls range from between 6 in. and 8 in. The exterior walls are thicker, mainly to provide thermal insulation. For structural reasons, the minimum pier width, i.e., the space between windows, is restricted to about 3′-3″. Similarly, to avoid excessive loading from lintels, the maximum opening is about 7′-3″.

The 4-in.-high bricks depart from previous Swiss practice of using 3-in.-high units. The 4-in. units were shown by Haller to yield wall strengths slightly higher than for masonry built with the 3-in. units.

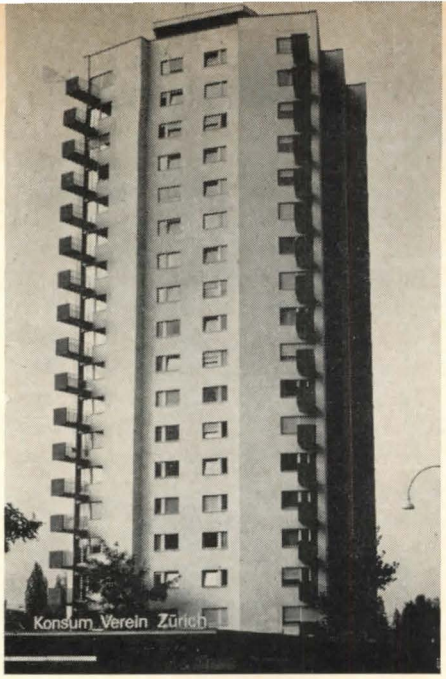
One structural consideration not fully resolved in these buildings was the nonuniform loading of all walls. Theoretically, walls that intersect and are bonded together at their vertical line of juncture should shorten equally to avoid differential shearing strains. Two areas of weakness occurred in the Basle buildings. First, at the intersection of 8-in. interior cross walls with 15-in. exterior cross walls; and second, at the relatively thin concrete walls used around the elevator shaft. At the wall intersection, differential shortening between the interior and exterior walls could result in shearing at the junction. And, not only were the exterior walls very thick (for insulation purposes), but they also carried less floor load because of the shape of the rooms.

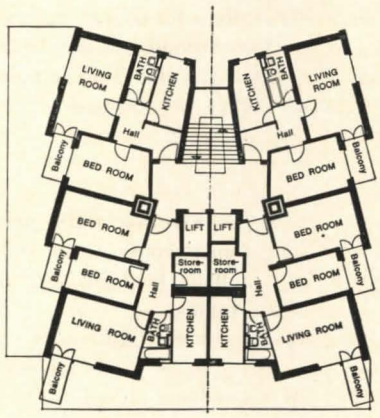
Despite this apparent difference in strain between interior and exterior walls, no adverse effects were observed in any of the Basle buildings. Two factors contribute to this: One, the windows in the exterior walls reduce the wall cross-section and increase the intensity of loading in the piers between the openings; and two, the relatively low intensity of design loading never exceeds 500 psi. Because the walls are designed for an ultimate strength of 2310 psi, a safety factor approaching five exists, which, in itself, makes some allowance for the condition discussed.

At the concrete elevator shafts, a change in elastic modulus plus creep in the concrete affect the differential vertical movement. However, the concrete walls carry only light loading because the floors are broken into short spans by many interior masonry walls located in the area. This probably accounts for the lack of distress in the concrete walls.

Another factor influencing the differential deformation between interior and exterior walls is the thermal movement in the outside skin due to diurnal and seasonal temperature changes. However, observers have noted no significant distress due to such movement.

• *Schwamendingen* — An 18-story building in this town is probably the tallest thin-wall, loadbearing masonry





structure in the world. The elevation and plan of this building are shown. Like the Basle towers, the four apartments on each floor are serviced by one stairway and two elevators. To break the monotony of a flat exterior wall, the designers staggered the walls and so turned all the apartment balconies in the same direction.

Floor slabs bear directly on the full width of the 12- and 15-in.-thick exterior walls. This brings the edge of the slabs flush with the exterior wall face. Because heat loss at the edge of the floor slab could cause condensation, an 18-in.-wide strip of the floor slab soffit is insulated at the exterior walls.

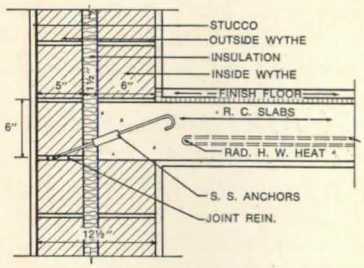
With loads distributed along walls instead of columns, the designers called for a 40-in.-thick mat foundation with a bearing pressure of 5-tons psf. Because of a build-up in dead load, the 6-in. space between the two 5-in. wythes at the lower stories is reinforced with concrete. A 485-psi allowable compressive stress for this composite wall uses a factor of safety of four based on EMPA tests.

For this masonry, the architect specified 1:0:4 mortar with a 28-day strength of 2850 psi. The strength of the masonry units ranged from 5900 psi to 8600 psi. The masons were required to keep the bed joint thickness between 0.47 in. and 0.59 in. and not to exceed 0.59 in. at head joints. To maintain the wall thickness in areas of heavily stressed masonry, no chases were cut for ducts. Chases for heating, plumbing, and electrical distribution systems had to be established at the design stage and provided for in the coursing plans.

As at Basle, the Schwamendingen building is designed to avoid excessive stresses due to uneven shortening of any wall. Where the wall diminishes in thickness, the masonry is stepped in concentrically to avoid eccentric loading. Typical of most Swiss buildings, the exterior is rendered in stucco. Since the stucco shows no signs of major cracking, it suggests there is no significant nonuniform shortening of walls, excessive bearing concentrations or uneven settling.

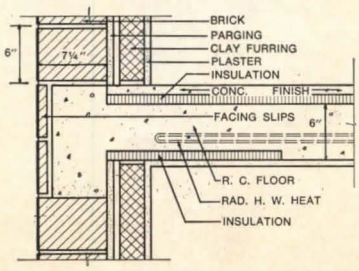
• *Lucerne*—A 14-story building, with concrete spandrels on the side walls, is supported by exposed brick gable walls built with 8-in. thick units parged on the inside with a three-coat rendering. A small cavity is formed next to the parging by a separate wythe of clay-tile furring that is plastered on the interior face. Because the loadbearing wall is solid, floor slabs bearing on the brick walls are masked by clay slips. The apartments are built with 7800-psi clay units and 3800-psi mortar. Like many high-rise Swiss buildings, the Lucerne project's basement and first story walls are built with reinforced concrete.

• *Biel-Mett*—The walls of most of the high-rise brick buildings in this town are stuccoed. Some structures, including 16-









story apartments, are built with floor slabs bearing on the inner, 6-in. wythe of exterior walls. The outer, self-supporting 5-in. wythe is tied back at each floor level with stainless-steel anchors.

Two typical building types, a 16-story tower structure and long, multistory apartments rising five to nine stories are shown. With floor spans between 10 and 14 ft, slabs do not exceed a 6-in. thickness. The floor slabs transfer less than 500 psi to exterior and interior walls, which are carried on mat foundations varying from 18- to 26-in. thick.

Higher Percentage Have Cavities

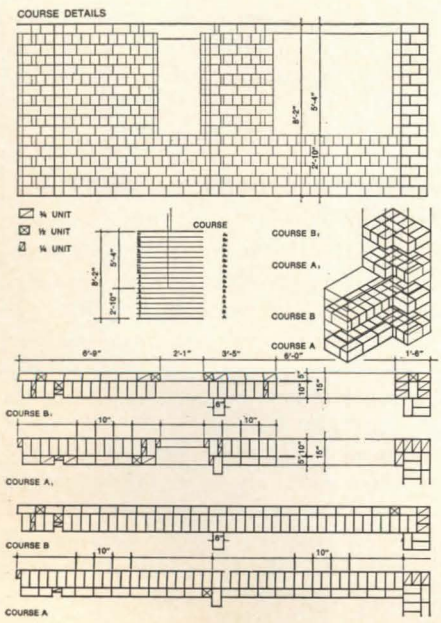
Most Swiss designers prefer cavity-wall construction to solid walls for high-rise buildings. Cavity walls can equalize the loading intensity of interior and exterior walls. This is accomplished by carrying floor slabs on the inner wythe, and building interior bearing walls the same thickness as the inner wythe. Uniformly stressed walls are more likely not to settle or deform unequally. But in solid wall construction, a floor slab usually stops short of the outer face of the wall, causing an eccentric bearing that is al-

ways a troublesome design problem. Bearing fully on the inner wythe of a cavity wall reduces this eccentric condition. Also, since the free-standing exterior wythe is only flexibly tied to the structure, it will be relatively unrestrained when thermal movement occurs.

The outer wythe acts as a temperature shield for the inner loadbearing wythe, and the complete cavity construction provides better insulation than a solid wall with lightweight furring tiles on the inner surface. If heavier insulation is necessary, the cavity can be filled with batts or foam.

Swiss architects and engineers pay minute attention to details for improving construction of brick buildings. For tall loadbearing masonry projects, architects prepare 1:50-scale drawings and 1:20-scale engineering details. An engineer, in addition to making a structural analysis, prepares detailed masonry drawings for coursing the brick units both horizontally and vertically. Because field-cutting chases in walls is banned, special masonry units for chases and ducts are specified by the architect.

Special ties and reinforcement may also be specified for a particular project. At Biel, for example, a 3/16-in.-diameter stainless-steel tie, partly covered with a plastic sleeve, anchors the concrete slab to the outer wythe of the wall. The plastic sleeve is embedded in the concrete to allow the anchor a little freedom to accommodate vertical and horizontal movement. Anchors are spaced about 20 in. apart, and often are cast into a special stretcher unit if the masonry is not exposed. When clay units are exposed, bed joints with ties in them are also reinforced.



At the corners of a cavity wall, 3/16-in.-diameter double hair-pin bars reinforce every third course. This corner reinforcement extends about 20 in. in each direction. At interior wall intersections and at exterior T-junctions, a single hair-pin bar reinforces the masonry bond at each story.

Bricks and Mortar

Bricks should be as flat-faced as possible in order to keep the joint thickness to a minimum. If bricks have uneven surfaces, local stress concentrations tend to occur. Bricks must also remain true to size so that the width of head joints remains constant.

With greater brick height, there will be fewer bed joints per unit area of wall. This diminishes the chances of building the wall out of vertical alignment, and with fewer opportunities to misalign courses of bricks, there is less tendency for unaligned bricks to bear unevenly on the course below. This in turn decreases the chances of splitting bricks. The tensile strength of bricks must not be reduced excessively by making the hollow core too large, or allowing the bricks to crack during manufacture and delivery.

Constant height is important. A high brick projecting above shorter ones is more heavily stressed and therefore liable to shatter more easily. For this reason, a minimum variation in the height of the brick is desirable.

Tolerances for Swiss loadbearing masonry units are shown in table below. Most current work is built with 6-in.-high by 10-in.-long, perforated units that are 5-, 6- or 8-in. wide.

Whatever the size of the units, their ability to absorb moisture must meet certain requirements. For the strongest masonry system, the initial rate of absorption (suction) of the units should be limited to about 30 grams per minute per sq in. at a depth of 0.4 in. Preliminary investigations at SCPI-SCPRF indicate that Swiss values at 0.4 in. are approximately 20 per cent higher than United States values at 1/8 in. Thus suction of 30 g (Swiss) is about 25 g (United States).

MAXIMUM PERMISSIBLE DIMENSIONAL VARIATIONS (±)			
QUALITY OF UNIT	NORMAL	HIGH	SUPER
LENGTH (IN.)	15/64	13/64	5/32
WIDTH (IN.)	9/64	1/8	3/32
HEIGHT (IN.)	1/8	3/32	5/64

For high-quality masonry, the thickness of bed joints should not exceed 1/2 in. Joints that are too thick increase the transverse tensile stresses in the clay units. Similarly, the head joints must not be too thick because excessive flexural strains will occur in the wall immediately above the joint. If mortar of high compressive strength is used, it compresses less and its lateral elongation is less. This results in lower tensile strains in the masonry units.

For high-strength masonry, a cement mortar of low lateral elongation is needed. The compressive strength of the mortar should exceed 2840 psi after being moist cured for 28 days (see chart). In Switzerland, the compressive strength of mortar is determined from one-half of a 1½″ x 1½″ x 6″ specimen that has been broken in a flexure test.

Traditionally, the Swiss stucco the exterior of most buildings to resist rain penetration and protect nondurable clay units. Today, many designers prefer to expose clay masonry. Not surprisingly, this trend is being encouraged by the structural clay industry.

RINGING THE CHANGES

Cast bronze bells ring best, but electronic equipment can substitute the sound of music from a church tower.

By James Verdin, I. T. Verdin Co., Cincinnati, Ohio.

A call to worship can almost be a call to arms when an architect decides where to install cast bronze bells in a church tower. For centuries, carillonneurs have argued about where to hang the bells, and the controversy is not yet settled. Many authorities claim that placing the large bells on the top bank and progressing downward to the small bells provides a better sound. Others insist that the large bells should be in the low ranks, with smaller bells at the top.

Actually, it depends completely on the size of the bells, tower height, and location of the tower. But both schools of thought agree that the maximum volume of sound from a stationary bell travels down and outward at about a 45° angle from the lip edge. Therefore, the balls should be placed well above the bottom of tower openings.

Also, bells should never be overcrowded, or the sound may bounce from one bell to another, causing dissonance. Nor should they be too near the outer walls of the tower, since this will cause the concert to have a different sound in each direction; the near bell would sound too loud in relation to the others. Small treble bells are usually arranged close to the clavier action, since they are most often used in playing the melody and their nearness makes the connections less bulky and easier to operate.

Bells are played from an electric-powered keyboard similar to a piano, or from a manual, clavier keyboard. The clavier allows a carillonneur to express his music with more delicacy because the manual keyboard more completely controls the impact of a clapper and bell. For absent players, a rollplayer similar to a piano-player can be switched on and off automatically to ring bells at preset times.

Carillons do not have to be played from bell towers. Stationary bronze bells can be hung from a canopy or from eaves. These bells are struck by a clapper activated by a solenoid switch.

Whatever the driving force, groups of bells have their own particular names. Any combination of bells that number between two and eight are called peals, with the three- and four-bell peals leading in popularity. The three-bell peals can sound a harmonious call to worship or a jubilee for High Mass. An added octave bell produces a four-bell peal of greater body and harmony.

The universally known Westminster Chime is played on a four- or five-bell peal. It is struck on four bells and the following hour is struck on the largest bell of the four, or a fifth, deeper-toned, bell.

A chime consists of between 8 and 22 perfectly tuned bells. Most church hymns can be played, as they are written, on a chime of 12 bells. A chime of 14 bells is needed to play the national anthem. Next in size is the carillon, which consists of 23 or more perfectly tuned bells.

If tuned bells are beyond church budgets, tuned rods can sound the call to worship or mark the passing hours. A tuned metal rod electronic carillon or chime is ideal for ringing the Westminster Chime every quarter hour because the metal rods can withstand the wear and tear of repeated operation. The resulting sound, which closely resembles ringing bells, is amplified over speakers. Metal rod installations can also be equipped with a keyboard, enabling them to be played manually.

The components of an electronic carillon, with the exception of the speakers, are generally contained in a small metal cabinet that can be located in a closet, organ chamber, corner of the usher's room or anywhere that is dry and reasonably dust-free. Speakers can be boxed in, placed in a roof overhang, installed in a belfry, mounted on a rooftop, or placed on a tower ring around a chimney or flagpole.

If a keyboard is used, it can be easily attached to an existing organ or in a small console of its own. Contrary to some theories, additional notes in an electronic carillon do not necessarily add to its value. Twenty-five notes are sufficient to reproduce any musical composition, and the additional notes merely produce more and different effects.

Tape recorders allow endless effects. Prerecorded magnetic tapes can relay the sounds of cast bronze bells at a lower cost than electronic carillons, or, of course, real bronze bells. Cartridge tapes simplify operating the system because they do not have to be rewound. With two or three tape decks and time switches, peals, chimes, and carillons can be played at will, and without rehearsal.

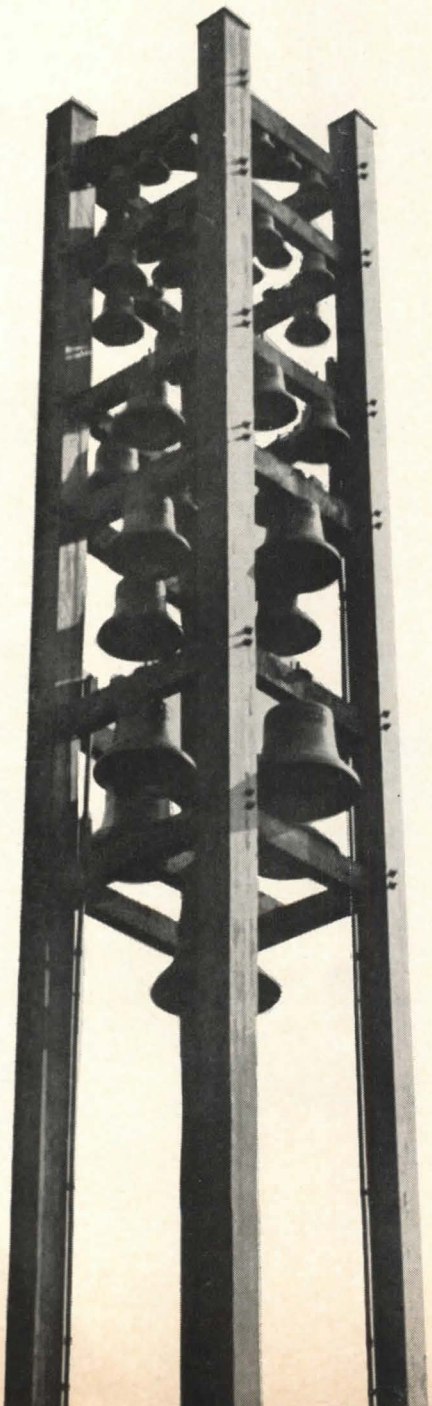
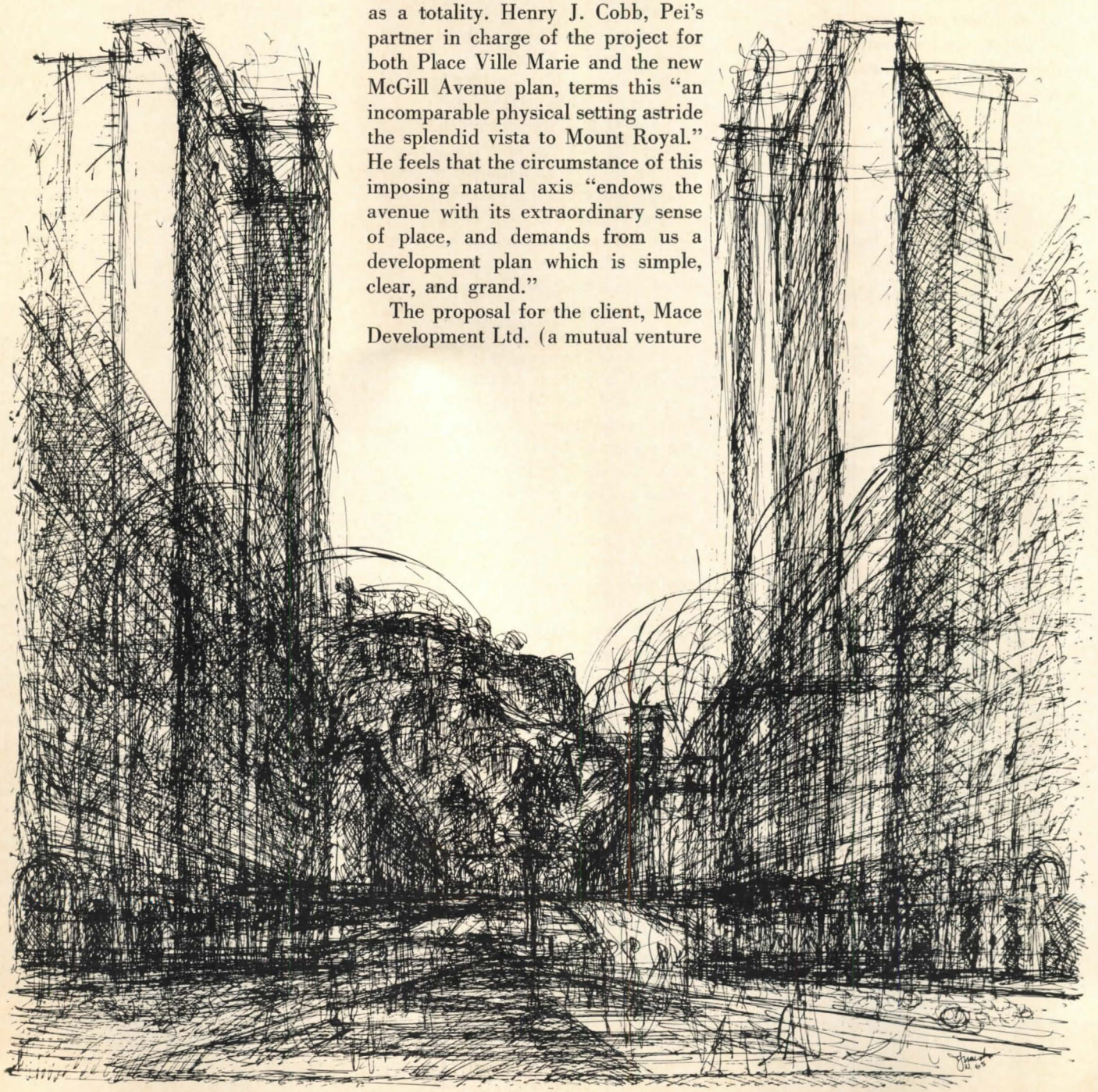


Photo: Schulmerich Carillons, Inc.

"A SENSE OF PLACE"

When the plans by I. M. Pei & Associates for Montreal's Place Ville Marie were unveiled six years ago (see pp. 123–135, FEBRUARY 1960, P/A), there was indication of the need for continuation of the renewal onto McGill College Avenue toward the McGill campus. This thoroughfare represents the logical continuation of the redevelopment that will reach from Place Victoria and Place Bonaventure through the Canadian National Central Railroad Station and Place Ville Marie in the next few years. Another prime consideration is that it provides a majestic prospect of the profile of Mount Royal rising behind the McGill campus. Now, a definite proposal has been advanced to develop this area as a totality. Henry J. Cobb, Pei's partner in charge of the project for both Place Ville Marie and the new McGill Avenue plan, terms this "an incomparable physical setting astride the splendid vista to Mount Royal." He feels that the circumstance of this imposing natural axis "endows the avenue with its extraordinary sense of place, and demands from us a development plan which is simple, clear, and grand."

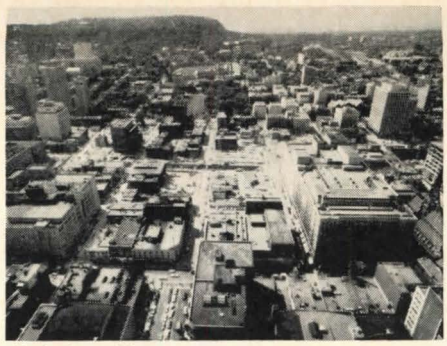
The proposal for the client, Mace Development Ltd. (a mutual venture of First National Property Corporation and The T. Eaton Company Ltd., owner of Eaton's, a leading department store adjacent to the site), *is* simple and forthright: two long, rather low mixed-use commercial buildings facing each other across McGill Avenue (widened to 115 ft) lead to La Place du Mail, circumscribed by twin 33-story office



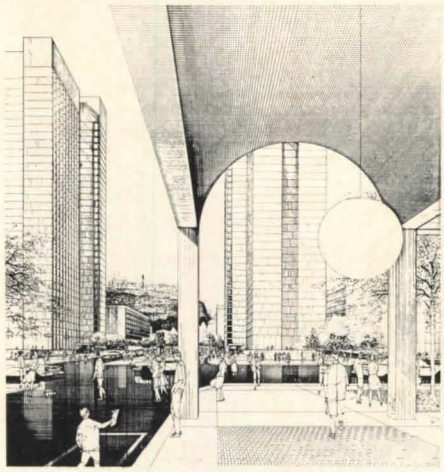
towers; two other low buildings, not a part of the Mace property, could complete the scheme across from McGill (see site plan). Design will not necessarily be all by Pei's office, but Cobb feels that the plan possesses enough cohesion to result in an integrated urban fabric if it is followed by designers of individual buildings.

An unusual factor greatly favoring the success of this plan is the forthcoming establishment of two subway (or Metro) stations on the site, serving lines that cross below La Place du Mail. This has enabled the architect and planner to propose a great underground connecting space between the existing department stores in the area and the proposed new buildings (see section). In this manner, a super-complex of the following elements will emerge: Eaton's Department Store (at street and basement levels); Simpson's Department Store (basement level); Morgan's Department Store (basement level); McGill station of Metro Line 1 (east-west); St. Catherine station of Metro Line 3 (north-south); commercial office space totaling 1,500,000 net sq ft; and parking for 1600 automobiles. An 80-ft-high, air-conditioned mall will connect the Eaton store to the complex. Victoria Gallery, as the mall will be known, will link to the places mentioned above through a system of shop-lined pedestrian routes on two levels. Above the shopping and pedestrian areas will be space for any number of commercial uses—offices, hotel, cinema, restaurants, showrooms—in two buildings of similar heights and profiles that will complement and highlight the two high-rise office towers at La Place du Mail. Trucking and parking facilities have been arranged so as to cause the least disturbance to pedestrian and automotive through-traffic.

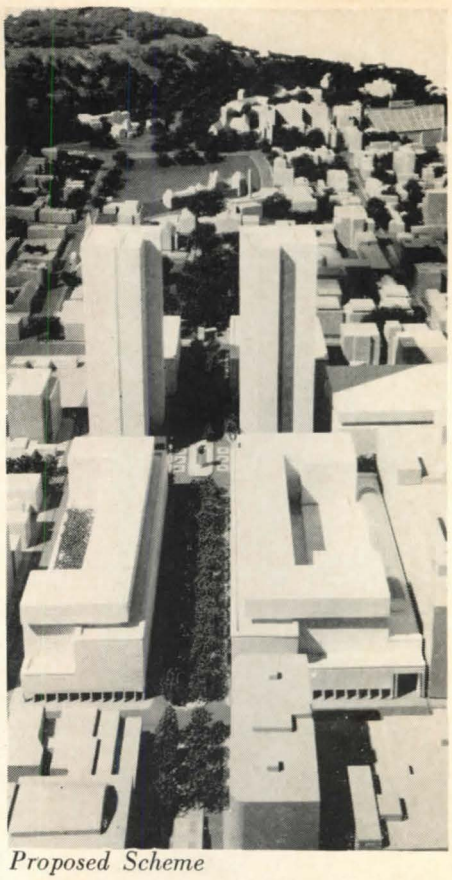
As one approaches La Place du Mail, there is a slight upgrade, which emphasizes the sense of progression along an important thoroughfare (facing page). One will, in an imaginary journey, leave the CN Central Station, cross Dorchester Avenue, traverse Place Ville Marie, and, after a walk past an older group



Existing Site



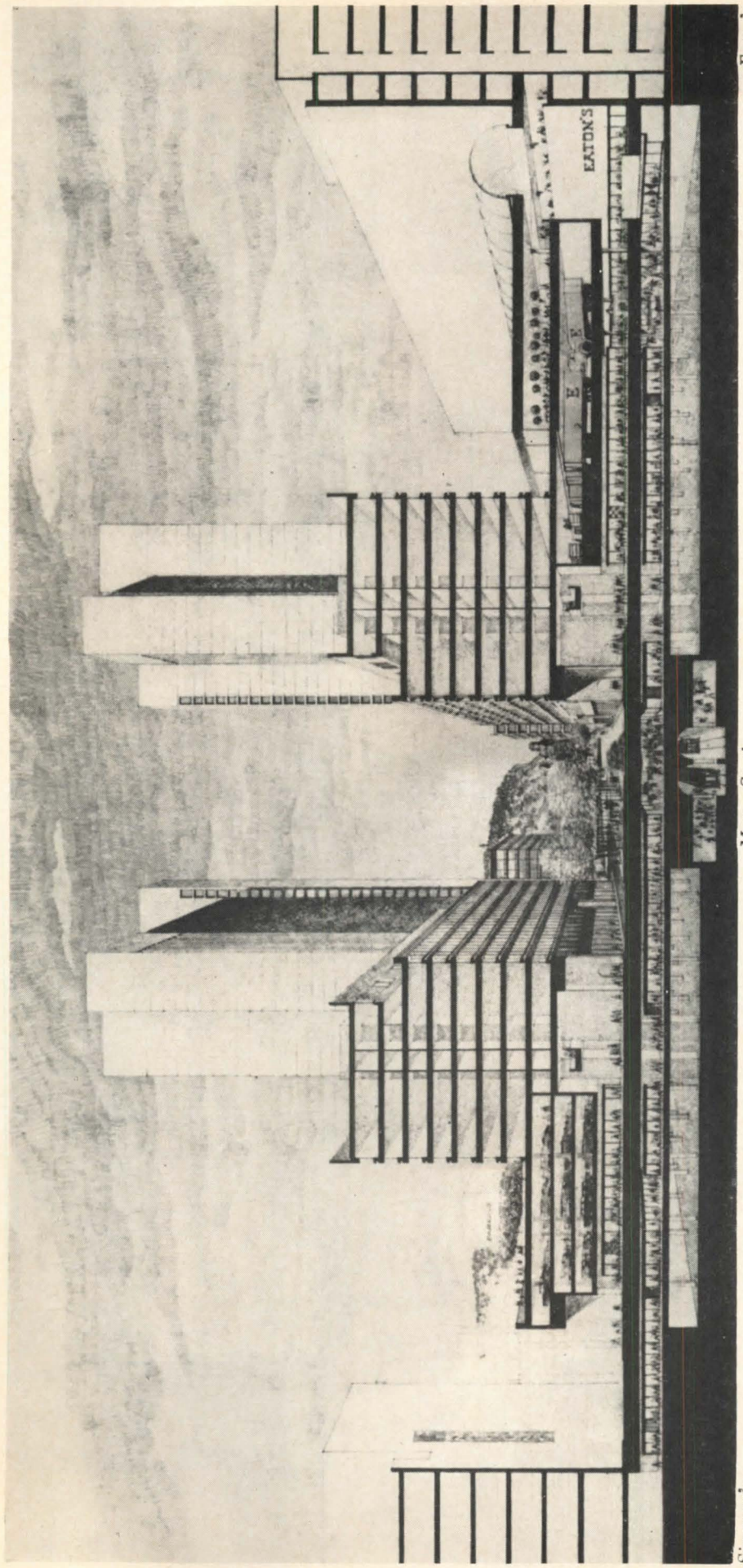
Arcade



Proposed Scheme

Over-all Site Model (below)





of buildings, find oneself in the McGill complex. Proceeding with an eye on Mount Royal in the distance, one will experience the passage between the walls formed by the commercial buildings, then emerge on the plaza formed by the "embracing" office towers. From there, one will continue past two suggested lower residential or office buildings to arrive at the McGill campus. This is the sequence of spaces traversed on ground level; if desired, the pedestrian will be able to cover the same distance (at least to the office towers) under cover. This entire feeling of movement from one place to another has been very consciously sought by the architect. Cobb describes the aim as a "processional" series of spaces.

Among the few "architectural" controls in the plan are Victoria Gallery, which will certainly tend to dictate what an architect will do with it and its adjoining building; the arcades at the ground floors of the commercial buildings on either side of McGill Avenue, which bring the building line all the way out to the edge of the sidewalk and create a sheltered pedestrian promenade somewhat reminiscent of the Rue du Rivoli; and the rather decisive forms of the office towers, which bend round their own forecourts to describe Place du Mail.

The McGill Avenue plan appears a logical and even inevitable extension of Ville Marie and the other redevelopment work in midcity Montreal. The tender-loving-care given by Cobb and Montreal planner Vincent Ponte to provide a meaningful urban precinct will go far to insure that Montreal will remain in the forefront of imaginative private revitalization of downtown.

Developer: *Mace Development Ltd.* ***Development Planners:*** *I. M. Pei & Associates, Architects; Henry N. Cobb, partner-in-charge.* ***Planning Consultant:*** *Vincent Ponte, C.U.Q.* ***Real Estate Consultant:*** *Larry Smith & Company.* ***Traffic Consultant:*** *Travers Associates.* ***Consulting Architect:*** *Donald H. Gorham & Associates.* ***Consulting Engineers:*** *I. A. Semenic & Associates, Mechanical; R. R. Nicolet & Associates, Structural.*

Longitudinal Section

Site Plan

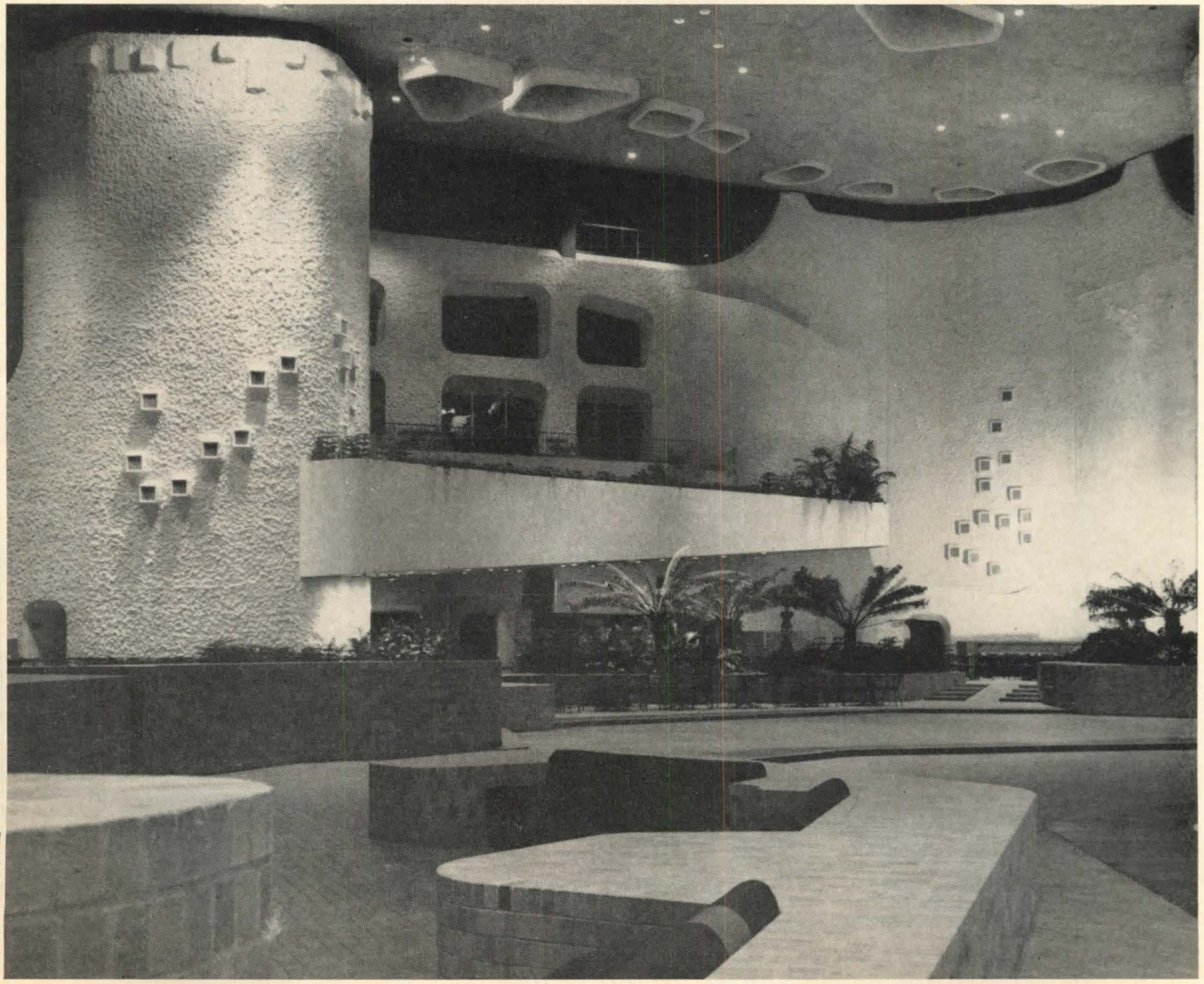
CONSPICUOUS CONFECTION

When buyers in the Dallas fashions market see shows in the huge new hall designed for the Apparel Mart by Pratt, Box & Henderson, they will not suspect that they are in the sateen and sweat of New York's Seventh Avenue. Here the architect has created a huge (42,000 sq ft; 60-ft high) space that is kind of a hybrid between the Le Corbusier of Ronchamp and Chandigarh and the fantasies of Alex Raymond, creator of the "Flash Gordon" cartoons.

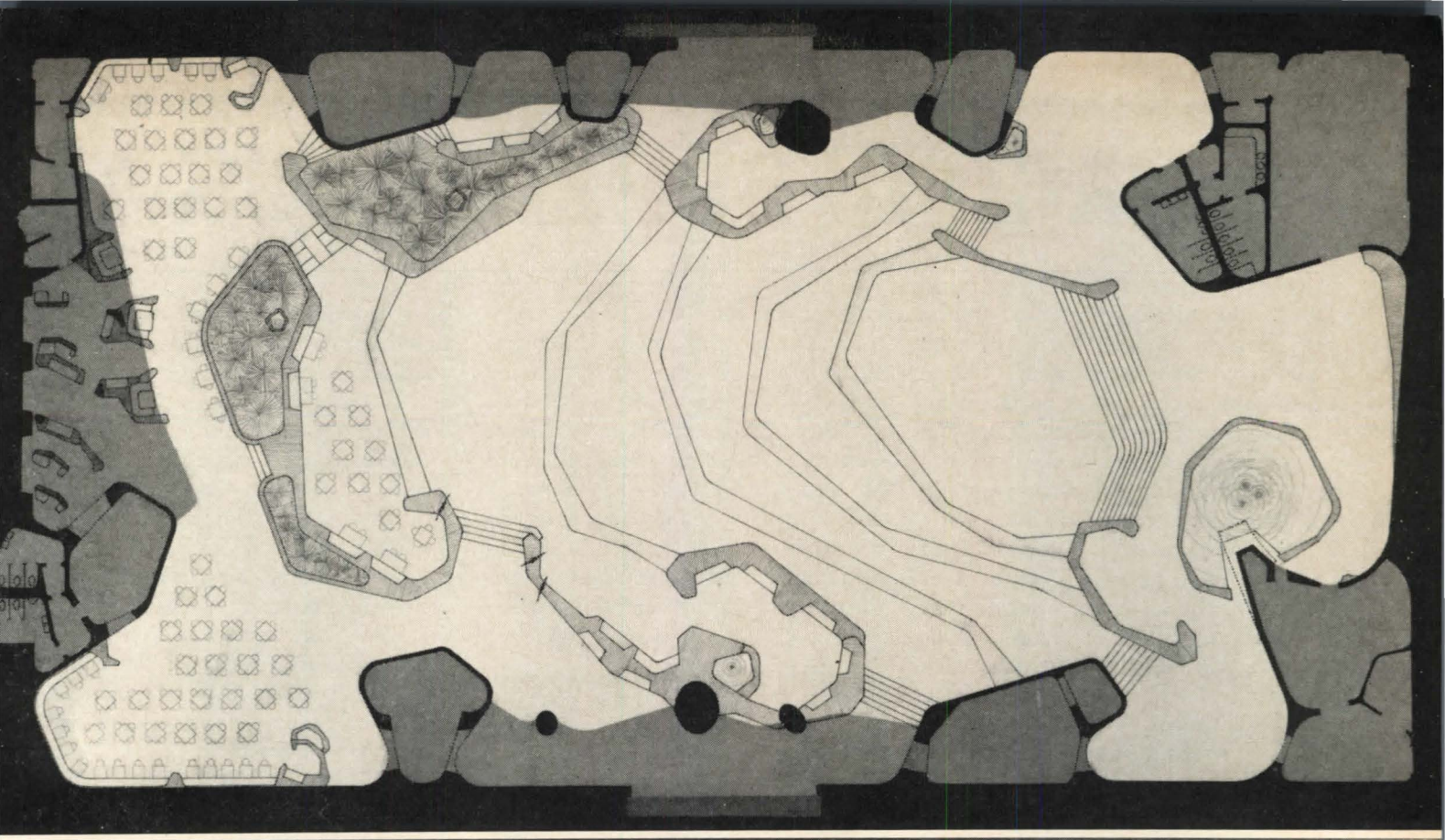
The room will accommodate, in addition to market fashion shows, fashion museum displays, concerts, great dinners, and balls. At the west end, there are provisions for lounging and cafeteria dining on terraces. The room will hold 6000 fashion show attendees—and should certainly be able to find them among the style-conscious rich ladies of Texas.

Pratt, Box & Henderson state that the undulating, heavily-textured white walls, built-in lounge seating, balconies, surprising level changes, generous landscaping, and nine fountains are all used to define but take the deadliness out of the single huge space and at the same time create a number of more intimate sub-spaces. The stage for shows at the east end is a complete one with gridiron and special lighting. When the stage is not in use, the curtain can be drawn to one side, the gridiron concealed, and fountains highlighted in the stage area.

The architect notes that, in addition to being a real Texas-size space, it was designed and built with a dispatch rivaling the swift actions of our most famous Texan—eleven months. It surely is something to goggle-eye your average Easterner, using all that to show off the latest in duds for the missus!



Photos: Balthazar Korab





PACIFIC SUPERBLOCK

Just a few blocks from where tourist steamers are sent on their way with the traditional strains of "Aloha Oe," a new superblock development called The Financial Plaza of the Pacific is scheduled to rise in downtown Honolulu. Design and planning for Oceanic Properties, Inc., is by an island-mainland association of Leo S. Wou, who has done other planning for his home town (see p. 73, APRIL 1964 P/A), and Victor Gruen Associates, whose plans for such cities as Fort Worth and Fresno are well known.

The development will consist of three structures on a landscaped block with subsurface parking. Reason for three separate buildings is that three prime members of the joint venture—two savings and loan associations and the Bank of Hawaii—wished distinct identities. Thus, there will be a 22-story office tower with a savings and loan office at its base, a 12-story high-rise with the other loan association at plaza level, and a separate, lower bank building. All three buildings will be individual in design also, although visually compatible in the over-all sense, the architects hope.

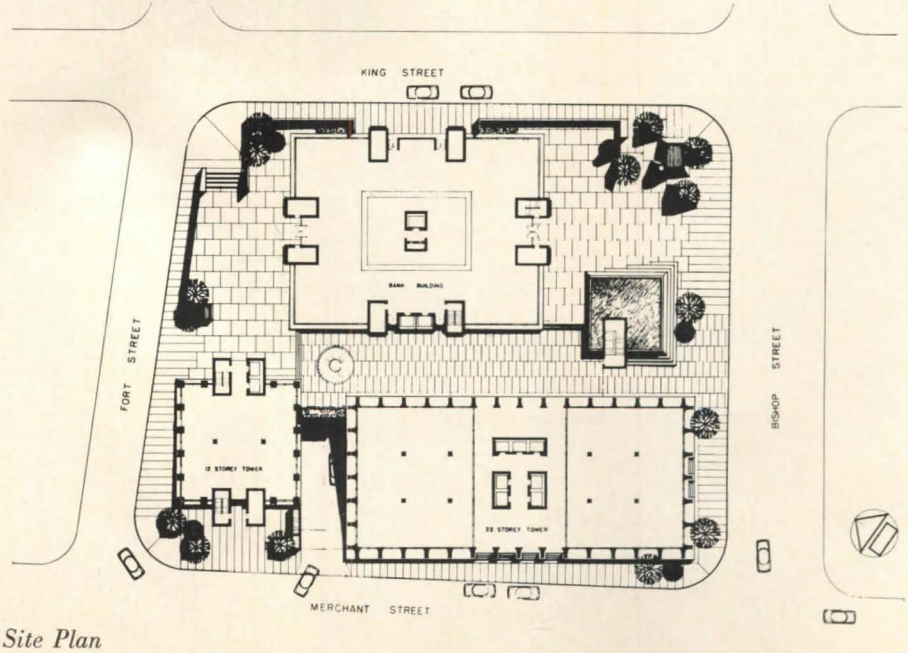
The five-story bank is the most powerfully expressed of these designs, recalling superficially the overhanging forms of the Boston City Hall or the Shapero School of Pharmacy at Wayne State University. The 22-story tower, on the other hand, might be gratuitously compared in silhouette to Milan's Torre Velasca. In another bid for separate identity, Castle & Cooke, Inc., the other financial member of the venture, will occupy the three imposing top floors of this unit. The 12-story building is far the most retiring of the three, with vertical facilities expressed on the east and west of a subdued wall treatment.

The quality of prestressed and post-tensioned concrete work on the island of Oahu is high, and consequently concrete is the major structural system throughout Financial Plaza of the Pacific. Most exterior structural elements will be precast with a permanent acid etched finish. Generally, these elements will serve as forms for cast-in-place columns and beams; together, they are expected to form an economical composite structural system. The use of three basic exterior materials on the three buildings — precast concrete, tinted brown glass, and dark bronze anodized aluminum—is expected to add to the visual integration of the complex.

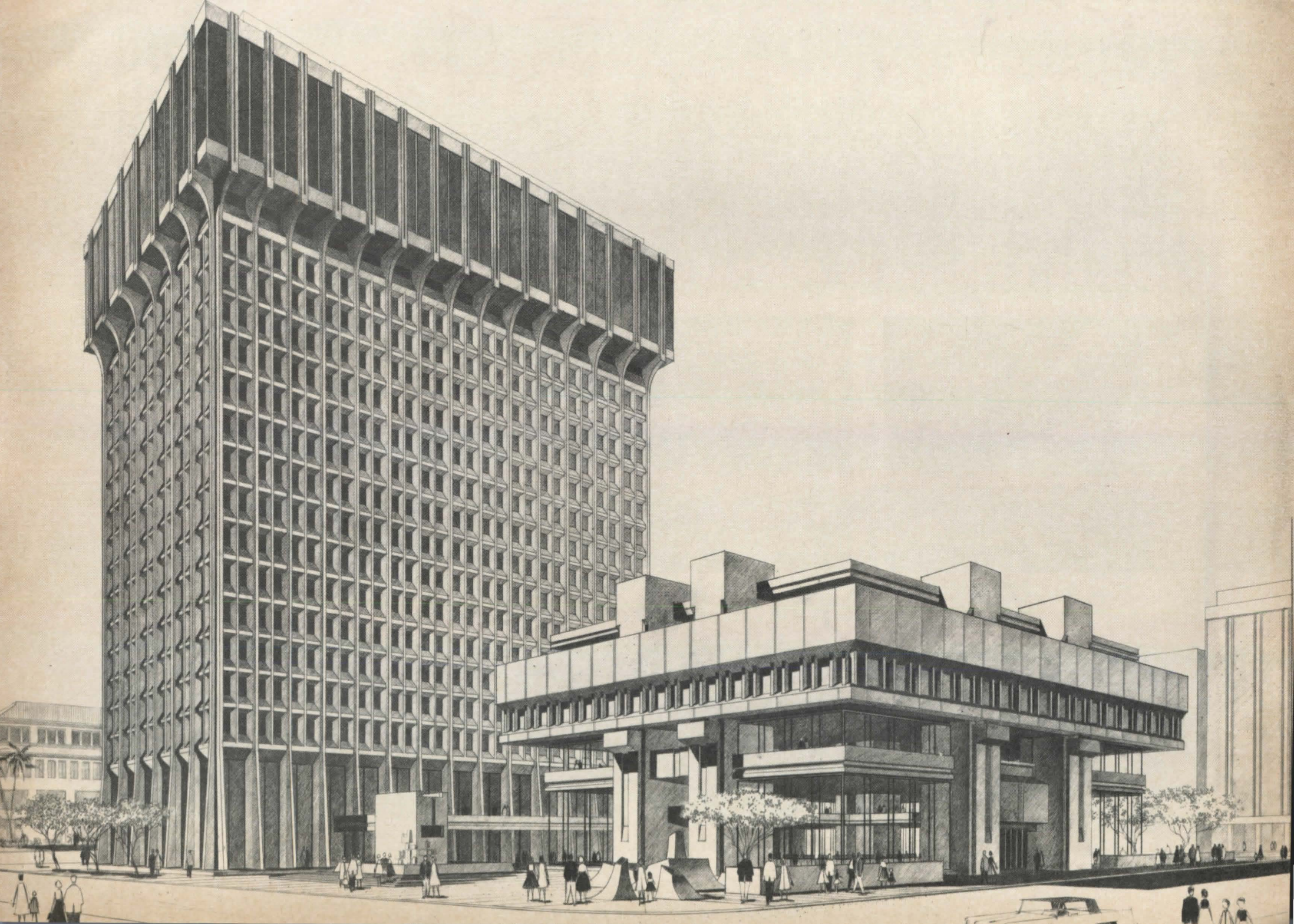


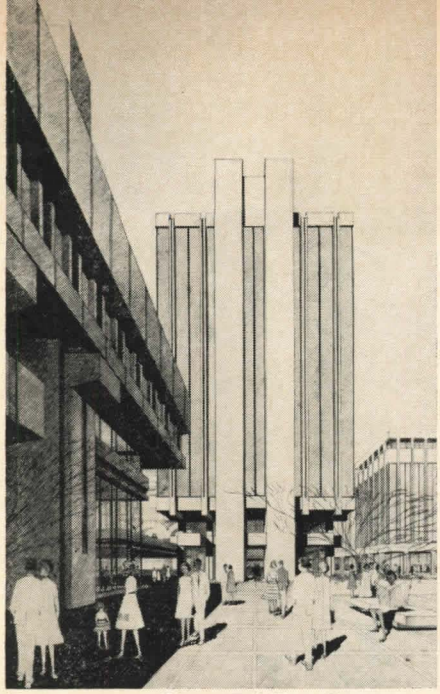
The bank is perhaps the most interesting of the three buildings structurally, although overdesigned. Vertical service facilities—stairways, elevators, air conditioning, etc.—will occur in shafts supporting the five floors and a mezzanine. Exterior walls of the third and fourth floors will be post-tensioned, to create four Vierendeel trusses to support three floors at the perimeter. Connecting the two pairs of external shafts and the central elevator shaft, four major prestressed girders will provide interior support of the double-"T" structural floor systems. Trusses and spandrel girders will cantilever from the supporting shafts.

The exterior and connecting spaces between the buildings have been given considerable attention. An above-grade "promenade deck" or "arcade" will connect the three structures, and the plaza level will consist of three elements: a main plaza at the corner of King and Bishop

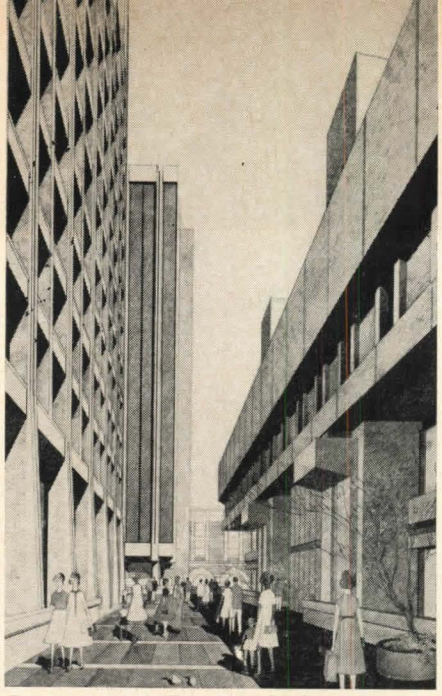


Site Plan

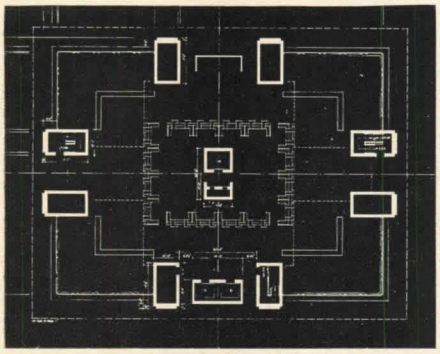




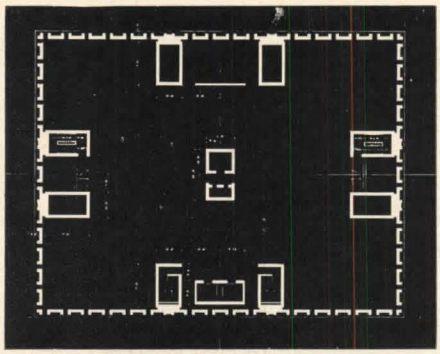
Perspective at King and Fort Streets



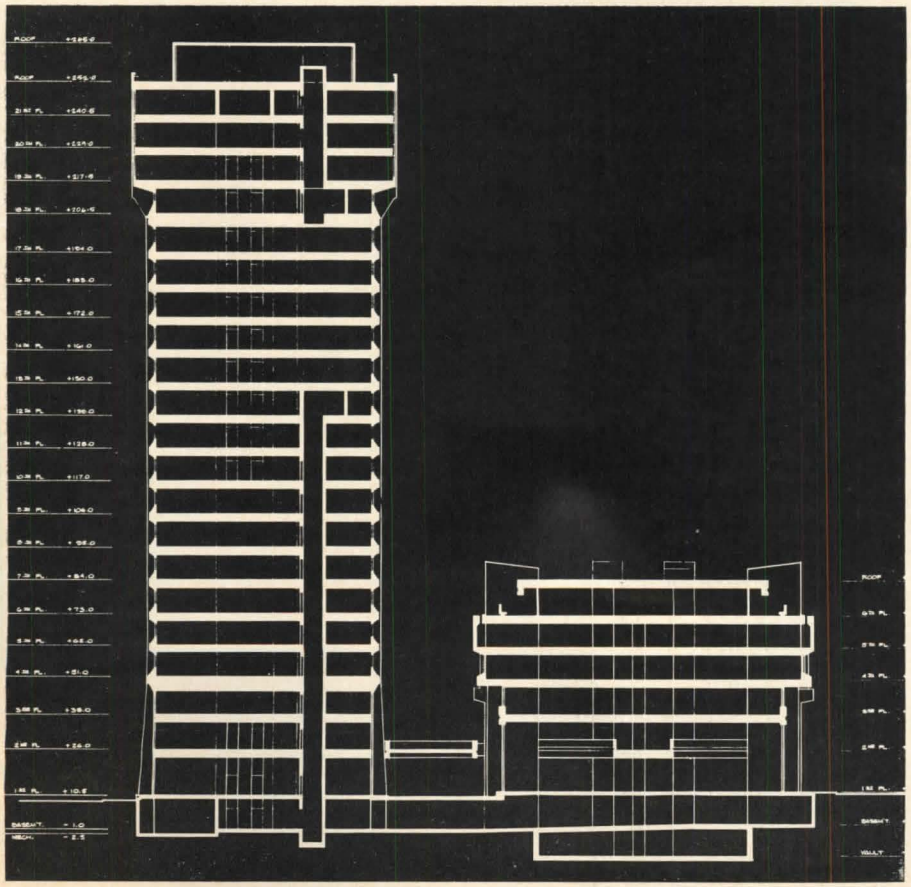
Perspective at Promenade Deck



Bank Building: Plaza Level



Bank Building: Lower Truss Floor



Section of 22-Story Building and Bank

Streets, a smaller court at Fort and King Streets, and a connecting mall between the bank and the taller office building. A stair shaft set in a large fountain and embellished with sculpture will provide a focus in the larger plaza. A 7-ft change in grade diagonally across the site will provide the architects an opportunity to introduce minor changes in level for pedestrian variation. Trees and the shadows of the buildings will shade strollers and businessmen from the hot Hawaii sun.

Although this project could logically have been built anywhere on the mainland as well as on Oahu, so could most of Honolulu's business center. The architect working in Chicago or Minneapolis, daydreaming of languorous maidens beneath the palms and heady tropic nights, would be better advised to hie himself to one of Hawaii's less businesslike islands. The Financial Plaza of the Pacific, along with a number of other commercial projects and redevelopment programs, announces Honolulu's place as the Bourse of the mid-Pacific.

Developer: *Oceanic Properties, Inc.* ***Associated Architects:*** *Leo S. Wou and Victor Gruen Associates; principal in charge of design, Leo S. Wou; principal in charge of engineering, Edgardo Contini.* ***Landscape Architects:*** *Lawrence Halprin & Associates.* ***Mechanical Engineers:*** *Ayres & Hayakawa.* ***Electrical Engineers:*** *Frunhoff & Cohen.* ***Special Consultant:*** *T. Y. Lin International.*

OUT OF THE ASHES

Photos, except as noted: Peter Moore



One of New York's most knowledgeable and active pursuers of the avant-garde in painting, sculpture, and various other, more abstruse, forms of today's art is Ivan C. Karp, director of the Leo Castelli Gallery, birthplace of most of the well-known Pop and Op artists. Another side of Karp is revealed as founder and leader of the Anonymous Arts Recovery Society, a tax-exempt, nonprofit organization devoted to the salvage of carvings, sculptures, bas reliefs, and other ornamentation that now-forgotten artisans lavished on New York's buildings in the last quarter of the 19th Century and the first decade of this one. Some of these pieces can be very respectable Pop Art in their own right: the tennis players on the capitals of the Shelton Hotel, horses' heads proclaiming that here once was a livery, and the like. Most examples, of course, tend to be classical ornamentation: simpering caryatids, pug-cheeked minor gods, or laboring Atlases. Most of them were wrought in the popular brownstone of the period (in reality New Jersey red sandstone). More massive façades bore work in gray granite and tan and red terracotta. Some carvings



are obviously representative of particular persons—owners, popular figures of the day, even architects. Their identities for the most part have been long forgotten.

What is done with the sculptures Karp and his devoted fellow preservers save from the juggernaut of building demolition? Answer: A specially designed sculpture garden is being finished at the Brooklyn Museum specifically to house them. Here they will reside as reminders of a time of architectural ornamentation we are not likely to witness again. Along with the most humble garlanded cupid will be an occasional really historic piece such as six capitals that were rescued from one of the periodic bastardizations of the façade of Louis Sullivan's Bayard Building. The climate for preservation of entire buildings being what it is, perhaps we should be grateful for the small chestnuts this dedicated band can pull from the fire.

As an inducement for funds, Karp lets it be known that generous donations or grants might very well be rewarded with a handsome old cartouche or lintel support. One could have a worse decoration to join his Robert Rauschenbergs.



Photo: Rudolph Burckhardt

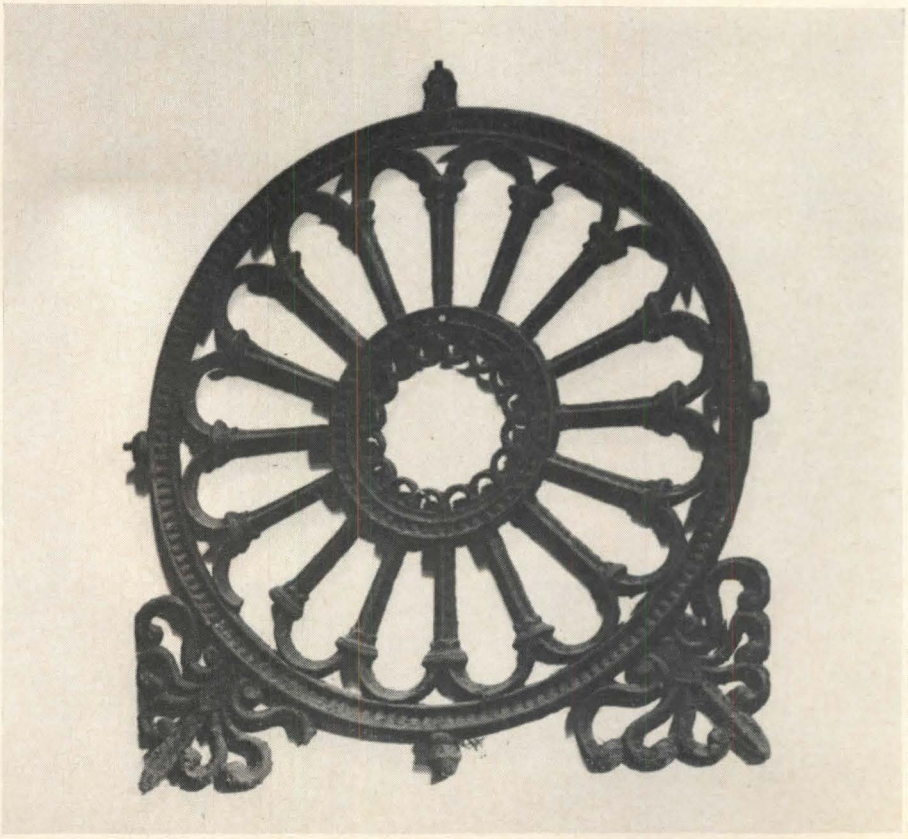
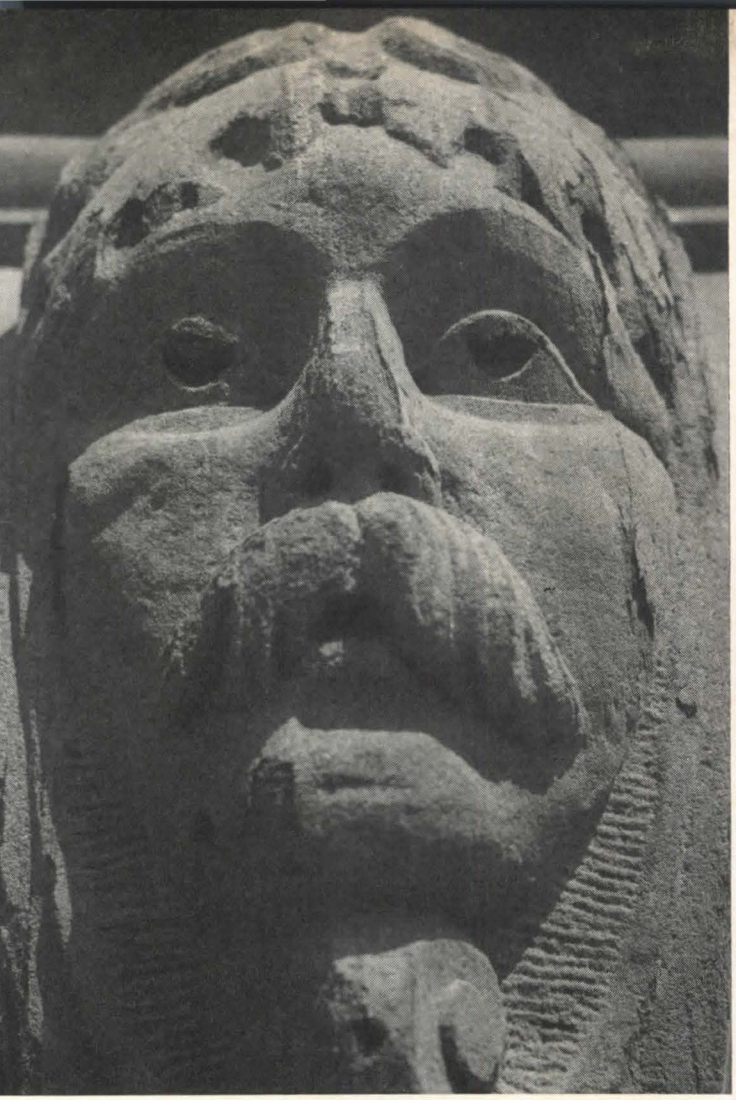
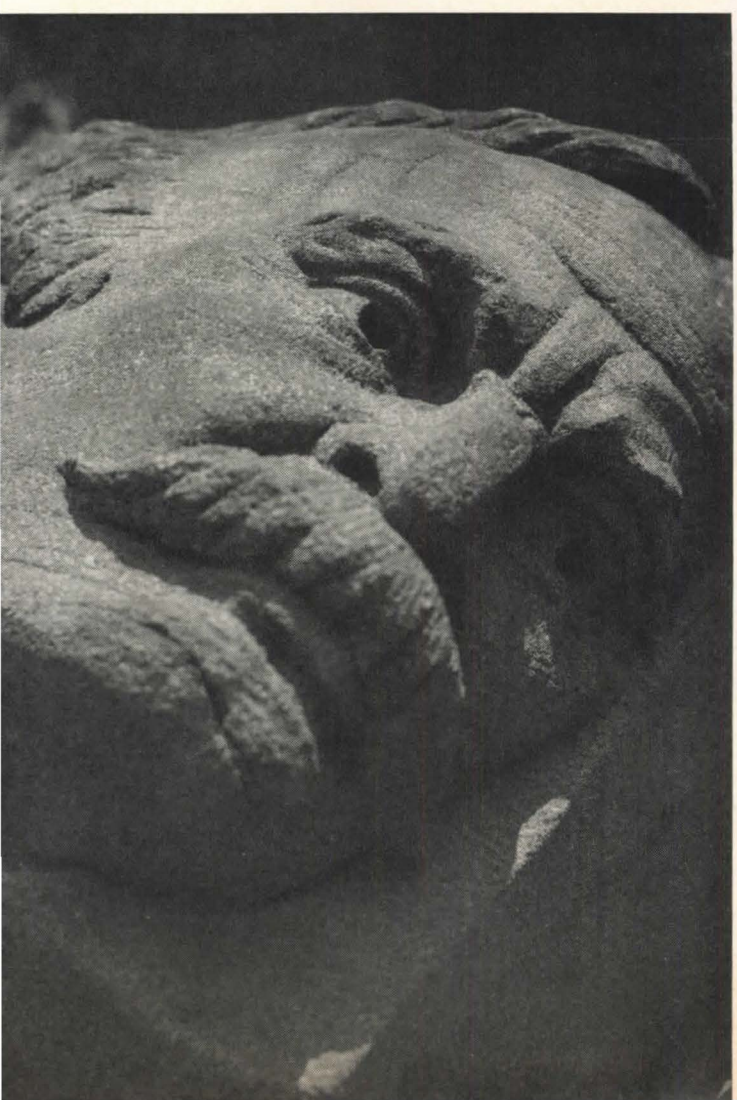


Photo: Rudolph Burckhardt

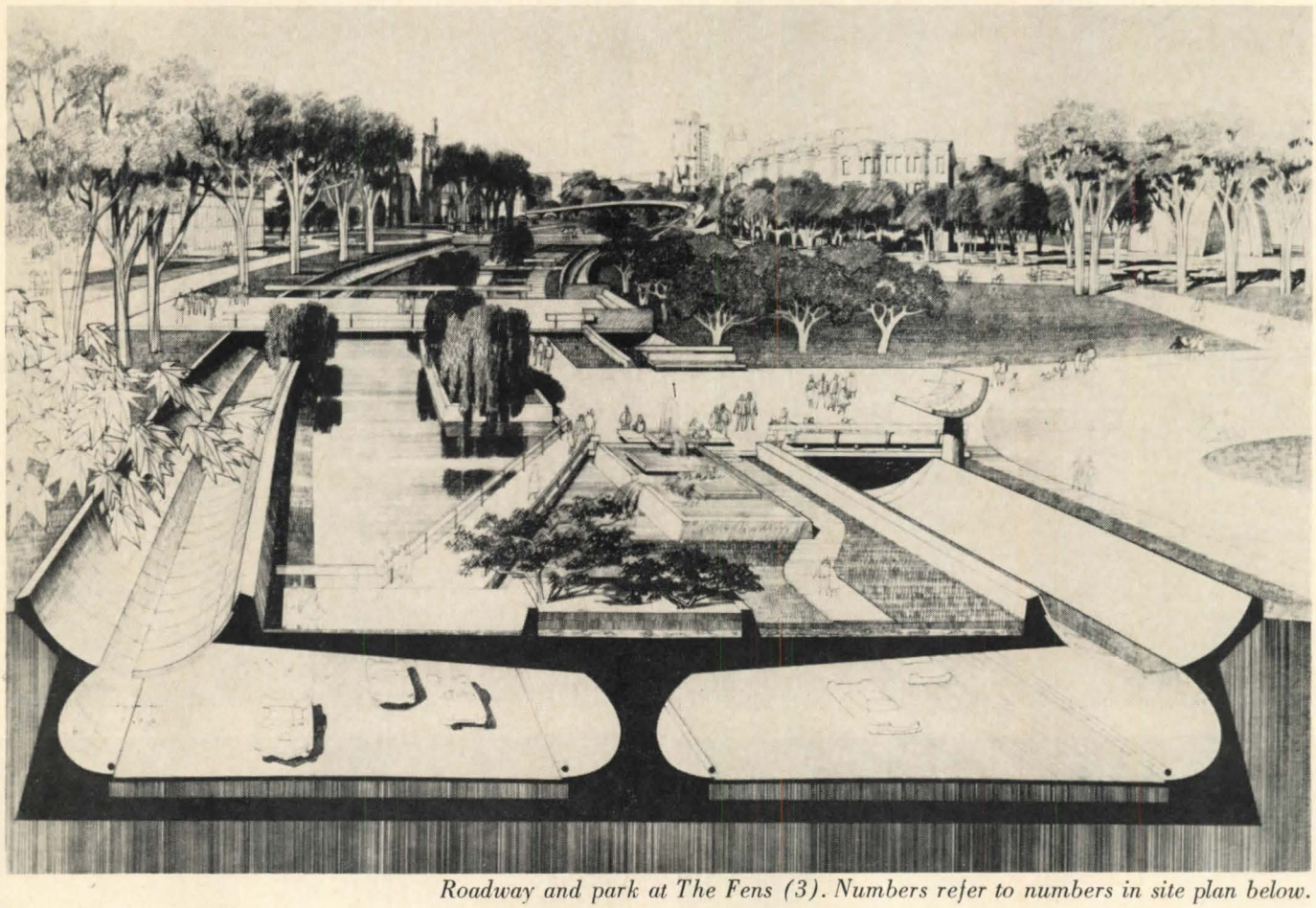








THE ROAD TO STAY ON



Roadway and park at The Fens (3). Numbers refer to numbers in site plan below.

Massachusetts, having had miserable luck in entrusting its highways strictly to highway engineers (cf., Boston's city-slashing Fitzgerald Expressway), has, after the horse is halfway outside the stable, turned to design and planning talent to make some of its planned roads program easier to live with. Boston architects Campbell, Aldrich & Nulty, and Wellesley traffic engineer John Clarkeson, were chosen by the Massachusetts Department of Public Works to submit proposals for 2½ miles of the new 12-mile Boston Innerbelt Highway. The highway, after its scheduled completion in 1972, will carry an estimated 120,000 vehicles daily through Boston to the Cambridge area—faster and safer than present conditions allow.



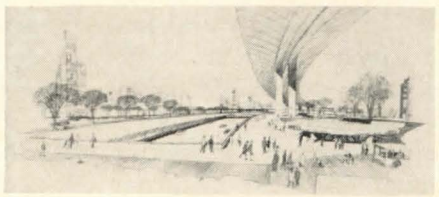
The CAN-Clarkeson team has designed a section of the road going from Massachusetts Avenue to Beacon Street—a portion cutting across a new expressway, a redevelopment area, and The Fens, an historic but little-used park. This was the problem. The solution was obvious enough—lots of concrete and paint, bridges and tunnels, elevated and depressed roads, signs and lights, radar and cops.

Yet this is a road that will be built with a difference. It will be a road for cars *and* people, for motor *and* foot. If the hopes and plans of the architects and engineers materialize, this will be a "park way," a road that will free the land for people to shop, eat, park, walk under, around, or over it. The cantilevered overhead structures in

much of the 2½ miles will free 72 ft of land beneath each span for pedestrian use. At The Fens area, where the highway cuts through the park, architects have put the road underground and placed a cantilevered land- and water-scaped haven above.

This is also a road for those behind the wheel. At the interchange, road alignments will insure a sustained view of the Boston skyline, allowing for the "imageability" that Bostonian Kevin Lynch is always calling for. The walls of the tunnels will be rounded in an effort to discourage wall-hugging and crashes. And on the sides of these depressed roads, continuous slits, one-third the width of the actual roadway, will supply open-air ventilation and eliminate tunnel claustrophobia. The architects also see these slits as a safety device: They will dissipate the blast of any possible explosion, and, by allowing light to filter in, will serve as a psychological bait to the driver to keep to the right.

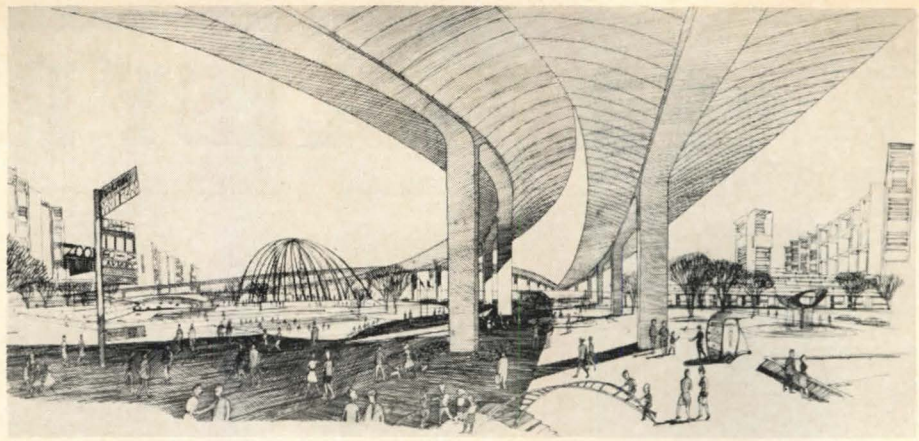
Cost on the CAN-Clarkeson proposal has not yet been determined, but construction is due to start this year. If the preliminary designs appear a bit Disneylandish, they at least contain a lot of automotive and pedestrian sense. Perhaps by the time the 2½-mile segment is completed in 1972, the design will have been toned down. Anyway, one hopes that the remaining 9½ miles of the Boston Innerbelt Highway will be similarly worthy of the land it stands on.—JCE



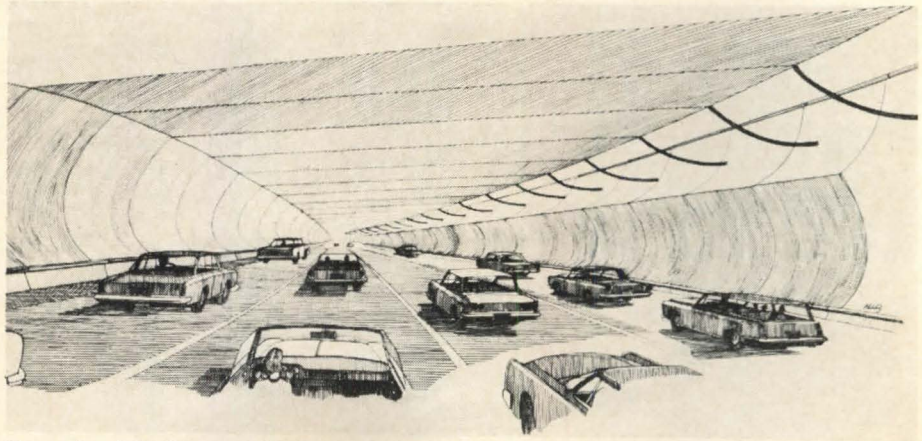
View from Harrison Avenue looking northwest (1).



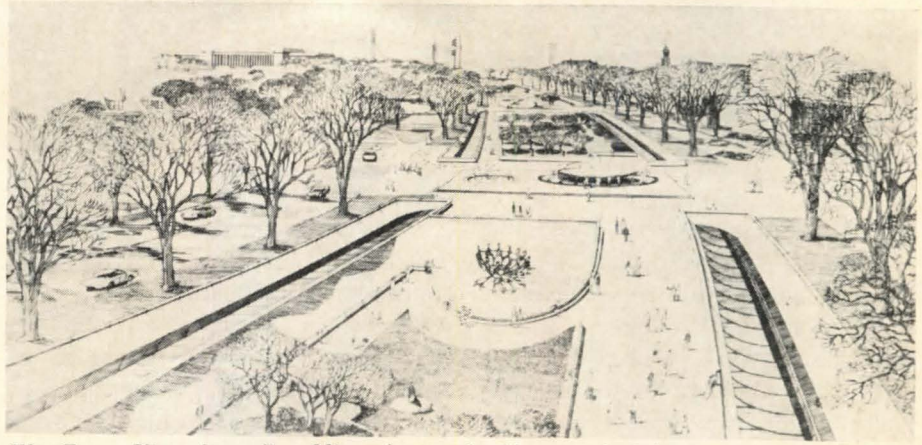
View from interchange approaching Boston (2).



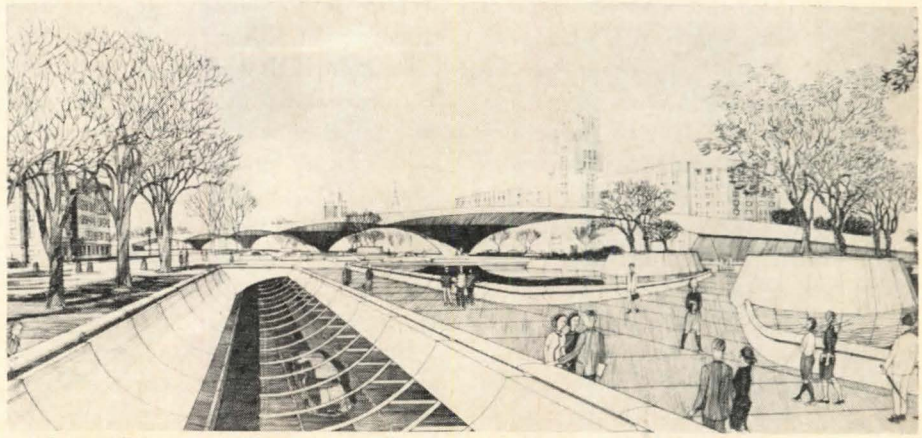
View from underneath interchange (2).



Tunnel, with slits, at The Fens (3).



The Fens: View from Brookline Avenue looking south (4).



Bridge at Riverway: View from The Fens looking north (5).

POST-BETSY PEP-UP



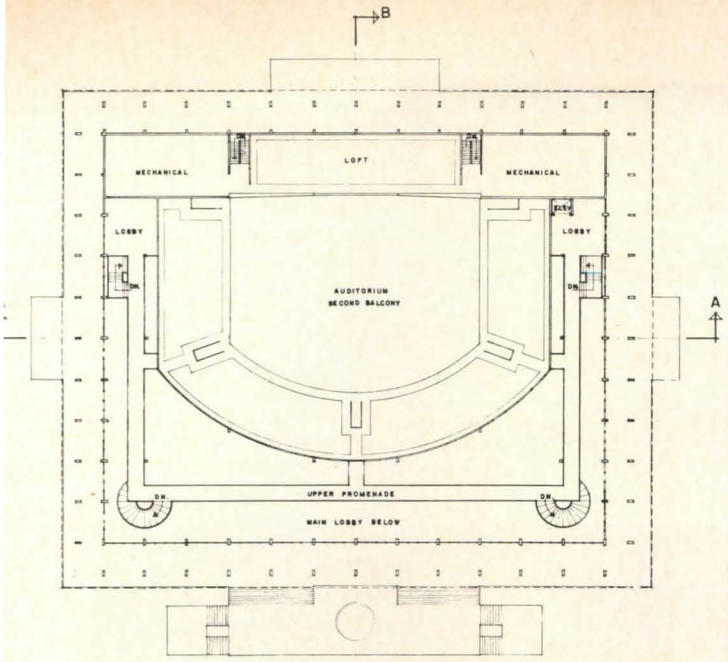
For more years than this observer can remember—and he grew up in the region—New Orleans has been limping along with an inadequate, superannuated Municipal Auditorium housing everything from the Metropolitan Opera to the Ice Capades in an unsatisfactory manner.

Although the Crescent City continues to make do with her ancient barn, St. Barnard Parish (County) across the Mississippi River has announced plans for a new Civic Auditorium by Simoni, Heck & Associates of New Orleans that, while reminiscent of the New York State Theater and Philharmonic Auditorium in Lincoln Center, still represents an advance in an area so bereft of cultural facilities. St. Barnard Parish was badly hurt by Hurricane Betsy—some of the damage can still be seen—and the new auditorium is expected to boost morale as well as providing needed amenities.

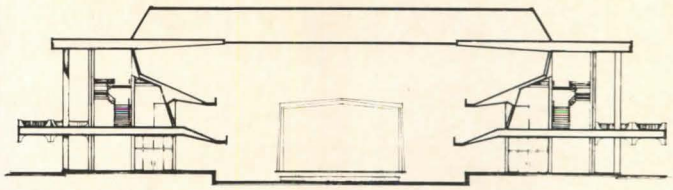
Provisions for meeting rooms convertible to small theaters and banquet rooms, kitchen, dressing rooms, and toilets will be situated on the ground floor, at the core of which will be the ground floor of the auditorium. The entrance plaza and main lobby will be on the second level, leading to the first balcony. On either side here will be exhibition halls and meeting rooms. The third level will contain the second balcony and the upper promenade looking down to the main lobby below. Reason for the emphasis on the importance of balconies is that the permanent seating will be here, the seats of the orchestra to be removable for Mardi Gras balls.

Structure is to be steel frame clad with cast stone panels surfaced with white quartz exposed aggregate. The architect says that the strongly expressed fascia of the second level gallery "helps to relate the mass of the structure to the plane on which it rests." It appears to this viewer rather aggressively busy: Would not a simple fascia band suffice to state the same point?

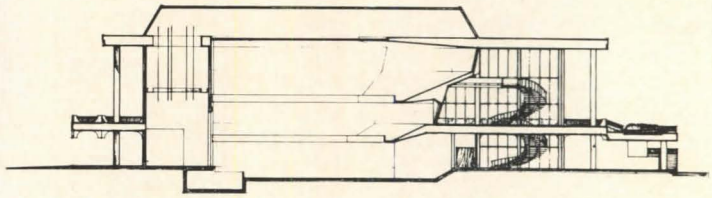
After the glossy cultural showcases at Lincoln Center and Los Angeles, one wonders about the growing inclination to display these facilities behind glass, like prime beef in a butcher shop. There is no need to think that such buildings cannot be designed just as "invitingly" in more opaque structures, and at the same time avoid this supermarket-for-culture tendency. In addition, particularly in a public building such as the St. Bernard Civic Auditorium, less pervading transparency would create more wall space to house additional municipal activities. Something to think about, anyway.—JTB



Third Level



Section A-A



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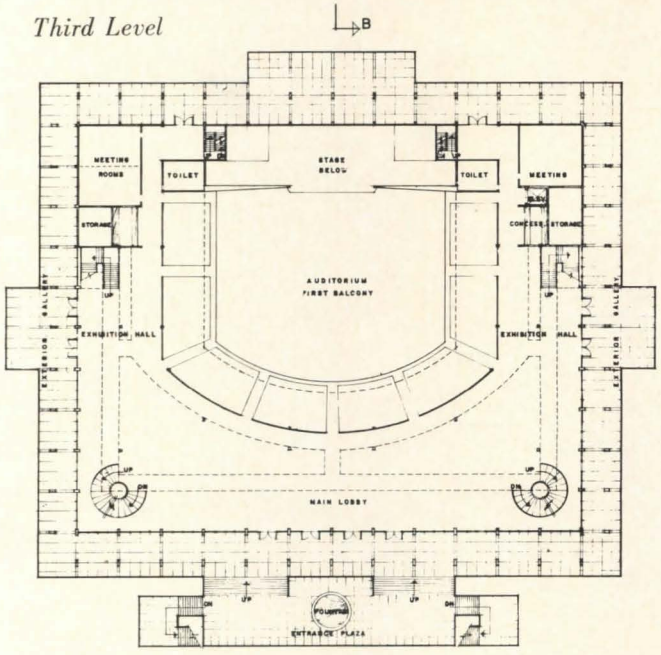
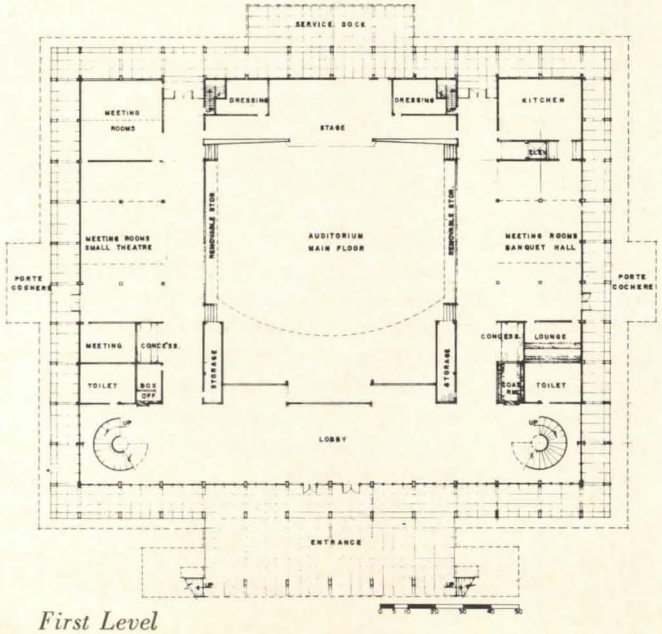
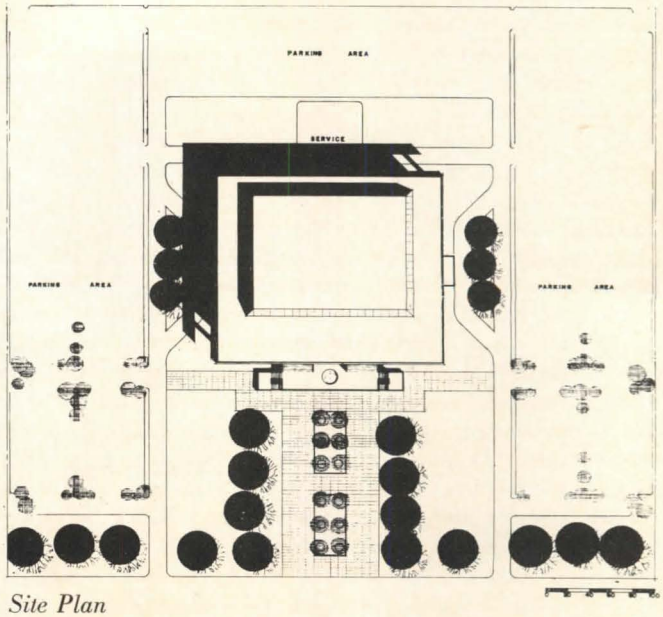


Second Level



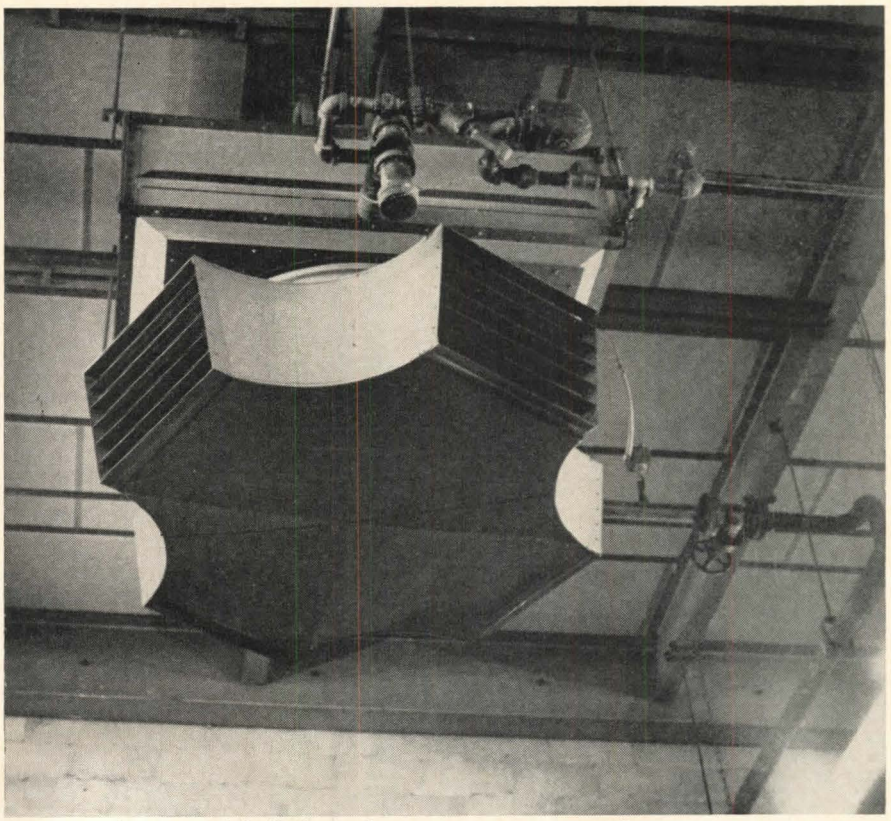
First Level



Site Plan

Revolving Heaters Eliminate Cold Spots

BY WILLIAM J. McGUINNESS
A utility company heats its warehouse with eight revolving discharge heaters instead of 24 conventional unit heaters. McGuinness is the Chairman, Department of Structural Design, School of Architecture, Pratt Institute, Brooklyn, N.Y.



Motor revolves steam-fed discharge heater once every two minutes.

Revolving discharge heaters mounted under the ceiling of industrial buildings offer two advantages over conventional unit heaters: fewer revolving heaters are required to heat a building; and the movement of air created by the revolving heaters distributes a comfortable supply of warmed air that can eliminate hot and cold spots in a building.

A large utility company with wide experience in supplying heat to industrial buildings selected revolving discharge heaters for its own 250,000-sq-ft distribution warehouse. The company, Consolidated Edison, supplies gas, electricity, and steam to New York City. With its new warehouse, Con Edison wanted to set good standards for industrial climate control.

It built the new plant without windows to reduce heat loss at the perimeter and thereby eliminate the necessity for installing heating units close to the walls. Interior heating for the 250,000 sq ft is supplied through eight revolving discharge heaters. Four units, each supplying 1,200,000 Btu per hour at 15,000 cfm, are installed under a 20-ft-high ceiling, and four smaller units, each supplying 550,000 Btu an hour at 8,200 cfm, heat the plant area under a 14-ft-high roof. A thermostat in each of the eight zones controls the heaters.

Engineers estimate that the eight revolving heaters supply the same coverage of heat that 24 stationary heaters would supply. The heating system also has to heat a 80′ x 400′ trucking court inside the building that receives about 100 shipments daily. (This court is located inside because the warm working conditions in winter increase efficiency for loading and unloading vehicles.)

This heavy traffic causes a heat loss from the building, since the three overhead rolling doors are opened and closed frequently. To overcome this loss, the designers called for extra heaters located above each door. These direct hot air inside the building, but operate only when the doors open. An electric circuit switches the heaters on automatically when the automatically operated doors open, and conversely, switches them off when the doors close. Doors and heaters are triggered by trucks breaking a beam from an electric eye installed inside and outside the three truck entrance doors.

When the doors are open, the downward blast of hot air prevents all but a little cold air entering the building. Air that does enter is warmed by the blast, and serves to freshen the inside air, making additional ventilators unnecessary. Exhaust fumes from trucks moving in and out of the courts are conducted through 22 suction plenums (situated below the shipping platforms) up through ducts and out to the roof.

In summer, the eight revolving heating units are disconnected from the steam supply and are operated to circulate air. Warm air is removed from under the ceiling by six exhaust units mounted on the roof. To increase circulation, louvers are opened in the walls to provide cross-currents of fresh air.

Consolidated Edison Company's planning and engineering division designed the heating system. L.J. Wing Manufacturing Co., Linden, N.J., supplied the heaters.



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Preparing Steel for Painting

BY HAROLD J. ROSEN

Good surface cleaning must precede the application of protective coatings described in last month's column. Rosen is Chief Specifications Writer for Skidmore, Owings & Merrill, New York.

Before protective coatings are applied to steelwork, the surface of the steel must be properly cleaned to insure that the paint adheres to the metal. The steel can be cleaned chemically or mechanically. Structural steel is usually not cleaned with chemicals. The most common mechanical cleaning method is an abrasive blasting technique suited to field work on construction sites.

There are several abrading techniques, each suited to the amount of cleaning action required to prepare steelwork for coating. The choice of techniques is based on the cost, the painting system, and the environment that the steel will be exposed to—mild atmospheric, industrial, or immersed in water.

Surface preparation performs two distinct functions: one, to provide a better anchor for coating adhesion; and second, to lengthen coating life. An improved anchor pattern insures against the coating delaminating. This lengthens the coating life, since corrosion products will not form at the interface and contribute to failure of the coating through pitting.

Studies indicate that the life of some coatings can be shortened by as much as 50 to 75 per cent if surface cleaning prior to painting is inadequate. Although the best performance will result from completely clean surfaces and the most thorough metal preparation obtainable, such meticulous cleaning measures may not always be economical.

This apparent contradiction may be illustrated by comparing the degree of surface cleanliness required for steel exposed to a mild atmosphere with steel immersed in water.

Experience shows it is not necessary to remove all scale, rust, and other foreign material down to base metal if the steel will be exposed only to a normal atmosphere. However, steel for this exposure should first be coated with primers based on vehicles that perform a wetting action, and the steel must be free of heavy, stratified rust. Some oil-type primers can effectively wet the surface and penetrate to base metal beneath the edges of semi-adherent mill scale and also penetrate through residual and tightly adherent rust.

Steel surfaces subject to water immersion should be abrasive-blasted to base metal. This high degree of surface preparation for severe exposure conditions such as industrial chemical fumes and water immersion is necessary because the paint materials suitable for this service are generally deficient in wetting properties, and are not generally suited to any but meticulously cleaned surfaces.

Blasting with Sand

The most effective method of preparing a steel surface is sand-blast cleaning, which is also called abrasive blasting. Blast cleaning consists of cutting, chipping, or abrading the surface with abrasive particles carried in a stream of high-velocity air.

Four types of abrasives are used for blast cleaning: metallic, siliceous, synthetic, and agricultural. Metallic abrasives can be chilled cast iron, cast steel, malleable iron, or crushed steel. The siliceous types are garnet, quartz, silica, and decomposed rock. The synthetic materials are silicon carbide, aluminum oxide, refractory slag, and rock wool by-products. Agricultural products, such as coconut or walnut shells, are not usually used in blast-cleaning structural steel.

Abrasives can further be classified by shape, and each shape produces a different anchor pattern. Spherical shot produces a uniformly clean surface by impact. Angular grit cleans by gouging or cutting. Semisharp abrasives clean by a combniation of impact and gouging, and create a smoother surface.

Blasted Metal Standards

Four standards for abrasive blast cleaning are governed by specifications prepared by the Steel Structures Painting Council. These specs are: "White Metal Blast Cleaning" SSPC-SP5-63; "Near-White Blast Cleaning" SSPC-P10-63T; "Commercial Blast Cleaning" SSPC-SP6-63; and "Brush-Off Blast Cleaning" SSPC-SP7-63.

White metal blast cleaning removes all corrosion products, all mill scale, all paint, and all other foreign matter from the surface, thus exposing the white metal. The end result is a light gray steel of uniform appearance with a good anchor pattern. This type of blast is generally used for steel exposed to very corrosive atmospheres, or steel immersed in water.

Near white blast cleaning removes mill scale, rust, corrosion products, oxides, paints, and other foreign matter from the surface except for very light shadows, slight streaks or slight discolorations caused by rust stain that may remain. This type of blast cleaning may be used for high humidity or chemical atmospheres where white blasting may be overly expensive.

Commercial blast-cleaning removes all rust, paint and mill scale, but does not remove the gray mill scale binder that leaves a streaky appearance. This method results in a high degree of cleaning and will be satisfactory for most cases where blast cleaning is considered necessary.

Brush-off blast-cleaning removes loose rust, loose paint, and loose mill scale. This method is not intended for severe exposures and is generally used to implement hand-tool cleaning.

Costs of cleaning by these four methods will vary, but on an average, white blasting costs about 30 cents per sq ft; near white about 25 cents; commercial blast about 15 cents; and brush blast about 5 cents.



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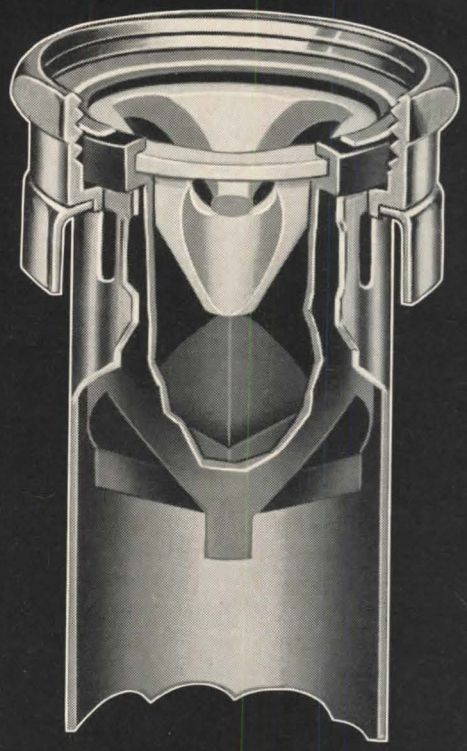
V-500-A
Vacuum Breaker



Here's the "Inside Story" of the New Sloan Vacuum Breaker for Flush Valves

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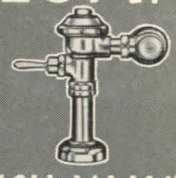

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Claims of the Subcontractor: Part 3

BY BERNARD TOMSON AND NORMAN COPLAN

In the last of three articles, P/A's legal team questions the policy conclusion implicit in many legal decisions that it is more socially equitable for the property owner or lending institution to bear the loss resulting from a defaulting general contractor than unpaid subcontractors or materialmen.

Under the law of New York and other juridictions having similar statutes, monies borrowed by the owner of real property for the improvement of that property, and monies received by the general contractor from the owner as payment under the general construction contract, are deemed trust funds to insure the payment of subcontractors and materialmen. As pointed out in last month's column, the inhibition in the use of monies designated as trust funds may come as an unpleasant surprise to those who are not conversant with the prevailing law or who do not fully understand its application.

A banking institution that lends money to a contractor must take great care when repayment is made, to be certain it cannot be charged with participation in the diversion of trust funds by the contractor. If the bank is repaid with funds received by a contractor on a project where there are unpaid subcontractors or materialmen, the bank may be assessed with liability if it knew such fact or should have made inquiry. However, under New York law, if a lending institution, at the time of making a loan to a contractor on a particular project, has filed a "notice of lending," indicating the amount loaned for such project, and can establish that monies loaned were in fact *utilized* by the contractor to pay subcontractors and suppliers on that project, this will constitute a defense to a claim of participation in the diversion of trust funds. However, most contractors have several projects in progress simultaneously, and the filing of such "notice of lending" on one project would not protect the lending institution if it was repaid with the proceeds of another project.

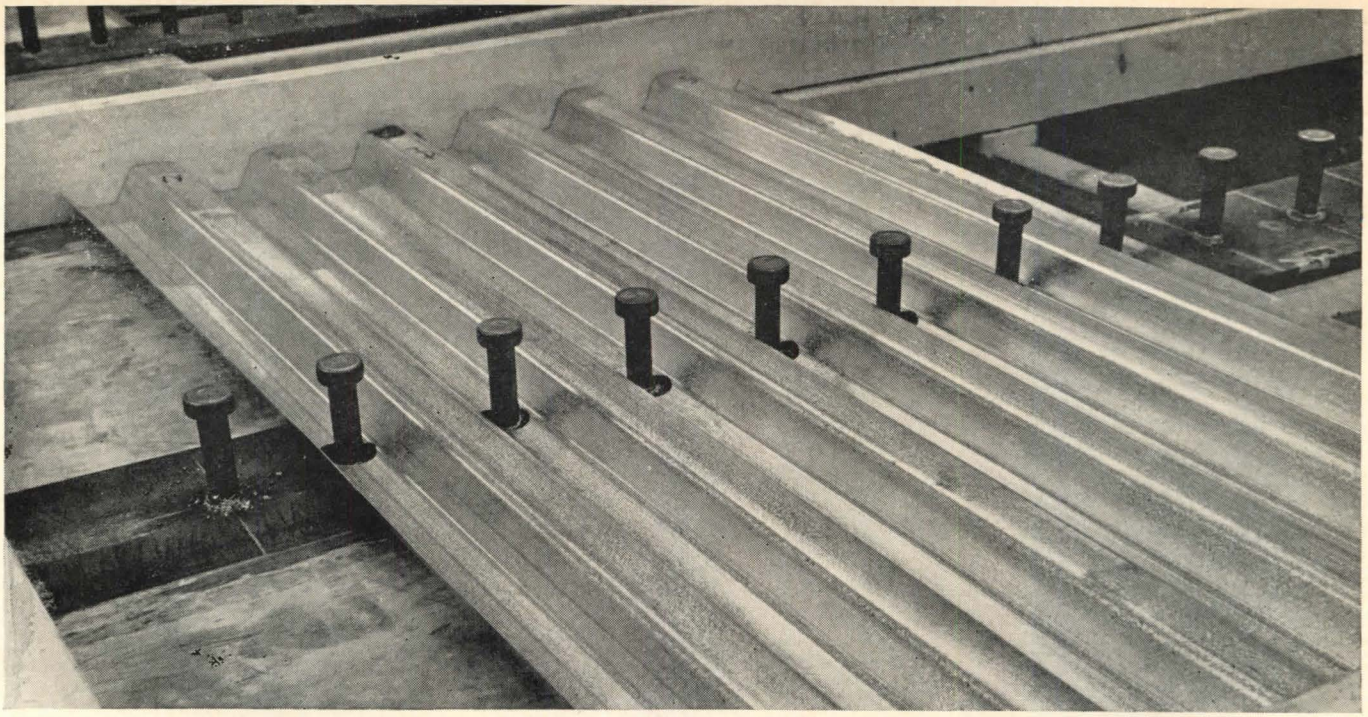
The hazards that the owner and lending institution may be faced with, under the trust concepts provided under the New York Lien Law, suggest that their best protection would be to secure, if possible, waivers of lien or releases from subcontractors or materialmen, before, in the case of the owner, completing payment to the general contractor, or, in the case of the lending institution, advancing monies. This procedure, however, even if available as a practical matter, may not suffice to afford the protection the owner or lending institution seeks.

In most states, a waiver of lien or release will not be legally enforced unless something of value was furnished to the subcontractor or materialman furnishing the waiver or release. This something of value is termed "consideration" in legal parlance, and the necessity for "consideration" to support a binding commitment or promise is a traditional element of the law of contracts. It is quite commonplace for a general contractor to lack the funds to make periodic payments to subcontractors. If, for example, he requires waivers of lien to secure a loan, he may secure them from the subcontractors by promising to pay them as soon as his loan is obtained, or furnishing postdated checks. If he uses the monies borrowed for other pressing obligations and fails to satisfy his promise to pay the subcontractors or to honor the postdated checks, the subcontractors, having received nothing of value for furnishing the waivers of lien, will be in a legal position, in most jurisdictions, to assert a lien against the property of the owner, despite their having furnished the waiver of lien.

The requirement of "consideration" for the validity of a waiver of lien or release has been criticized as a legal concept and as a matter of policy. It is argued that a lien is a statutory right to be asserted against property, not a right based on contract, and therefore contract law should have no application. Most property rights may be waived without consideration, and just as a mortgage lien can be settled without consideration under the principles of real property law, so it is contended the written waiver of a mechanic's lien should be binding in the absence of consideration.

Implicit in many of the legal decisions that require consideration for the enforcement of mechanic's lien is the policy conclusion that it is more socially equitable for the owner of property or a lending institution to bear the loss resulting from a defaulting general contractor than unpaid subcontractors or materialmen. However, upon analysis, it is doubtful whether this policy consideration is sound. If a subcontractor is willing to furnish a release of lien even though, in fact, he has not been paid, and others rely upon his waiver, it is not only disruptive of normal business operations to permit him to escape the consequences of furnishing such waiver, but he is, in fact, excused from the consequences of a decision he presumably made in his own economic interests. The usual motive of a subcontractor who has furnished a waiver of lien to a general contractor despite the fact that he remains unpaid, is to maintain the favor and good relations of the general contractor for future work. If a subcontactor determines it is in his best business interests to waive a statutory right for the benefit of the general contractor, it would not seem equitable to permit him, at the expense of others, to escape the consequences of such determination because his judgment was faulty or his trust misplaced.

The history of the construction industry would seem to support the desirability of laws that strictly regulate the use and disposition of monies received for the improvement of real property. There does not, however, appear to be sufficient justification to furnish the beneficiaries of such laws additional protection where they waive such rights.



Slabform with 1½ in. holes for stud connectors welded to steel beam.

Tests prove Bethlehem Slabform structurally sound in composite design

In order to prove that Slabform, Bethlehem's solid steel centering, achieves maximum effectiveness in composite beam design, a number of tests were conducted by our Homer Research Laboratories using Slabform and composite beams.

Three T-beams, all with shear connectors, were used. One supported a reinforced slab cast on Heavy-Duty Slabform, the second had a reinforced slab cast on Extra Heavy-Duty Slabform, and the third had a conventional slab in direct contact with the steel beam.

The test results proved that Slabform in no way interfered with the desired steel-concrete interaction. The tests also showed that the Slabform corrugations could be ignored and the beam designed as if the slabs were solid and no openings existed over the beam. (Bethlehem does not supply punched Slabform sheets.)

We'd be happy to give you full details on these tests. Just write or call the nearest Bethlehem sales office. We're at your service. *Bethlehem Steel Corporation, Bethlehem, Pa.*

Steel

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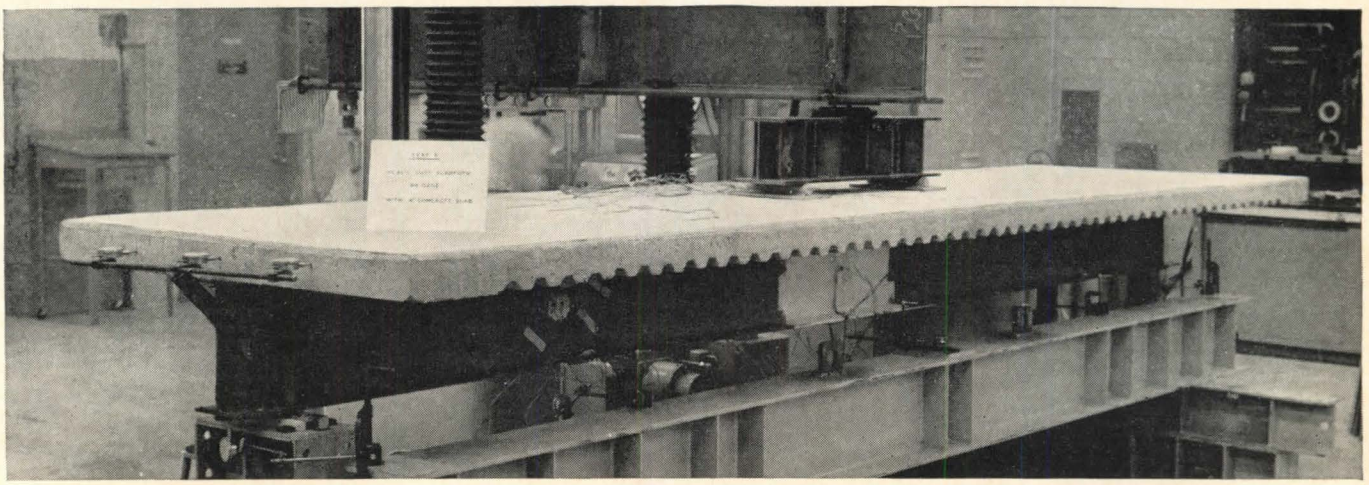
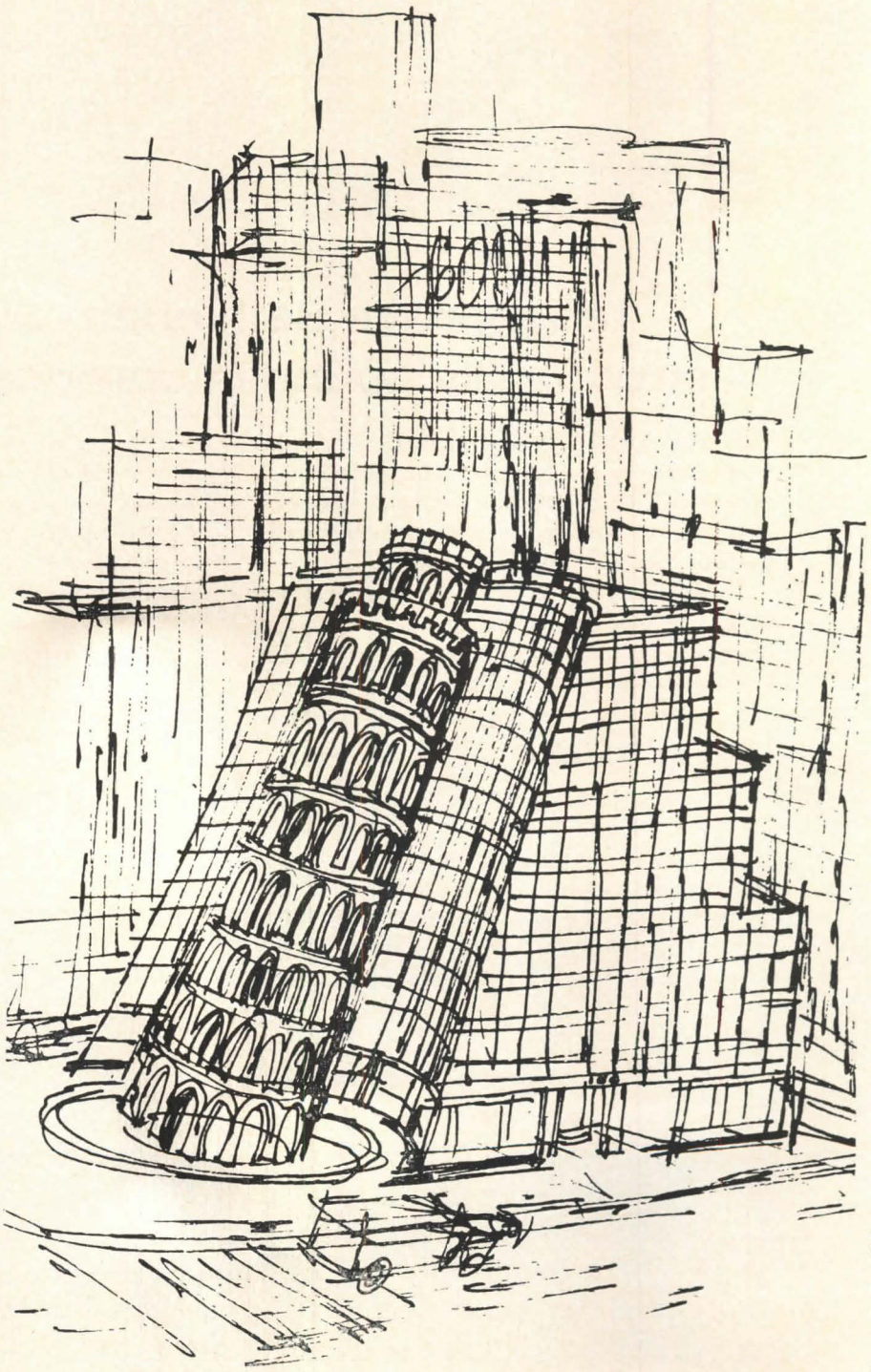
BETHLEHEM STEEL

Test set-up contains concrete slab 18 to 26 days old over Slabform. Loads were applied by a 300-KIP, hydraulic testing machine.



The Urban Crisis: Some More Recent Books

The following reviews round out our survey, begun last month, of some of the significant books that present an attack on the problems and directions of urban planning.



Drawing by Gary Fujiwara

The Motif of the Single Tree

BY LEONARD K. EATON

CITY PLANNING ACCORDING TO ARTISTIC PRINCIPLES. By Camillo Sitte. CAMILLO SITTE AND THE BIRTH OF MODERN CITY PLANNING. *By George R. Collins and Christiane Crasemann Collins. Both books published by Random House, 457 Madison Ave., New York, N.Y., 1965. $2.95. #2 and #3 in Columbia University Studies in Art History and Archeology. The reviewer is Professor of Architecture at the University of Michigan.*

These two small paperbacks, beautifully printed and well illustrated, constitute one of the most significant contributions in many years to our literature on the history of city planning. For students of this field, Camillo Sitte (1843–1903) has long been a rather elusive figure. Professor Collins and his wife have given back to us a major figure in the history of the art of planning, and they have done so in a most impressive manner.

Who was Camillo Sitte? In brief, he was a Viennese architect, art historian, and educator who became alarmed about the rebuilding of his native city under the Emperor Franz Joseph II and published a book in an attempt to put matters right. The Collinses quite properly place primary emphasis on his role as an irate citizen; from his concern with the botching of the famous Ringstrasse development, encompassing the old fortifications of the city, flowed all sorts of momentous consequences. What did Camillo Sitte say? He put his own con-

Continued on page 214

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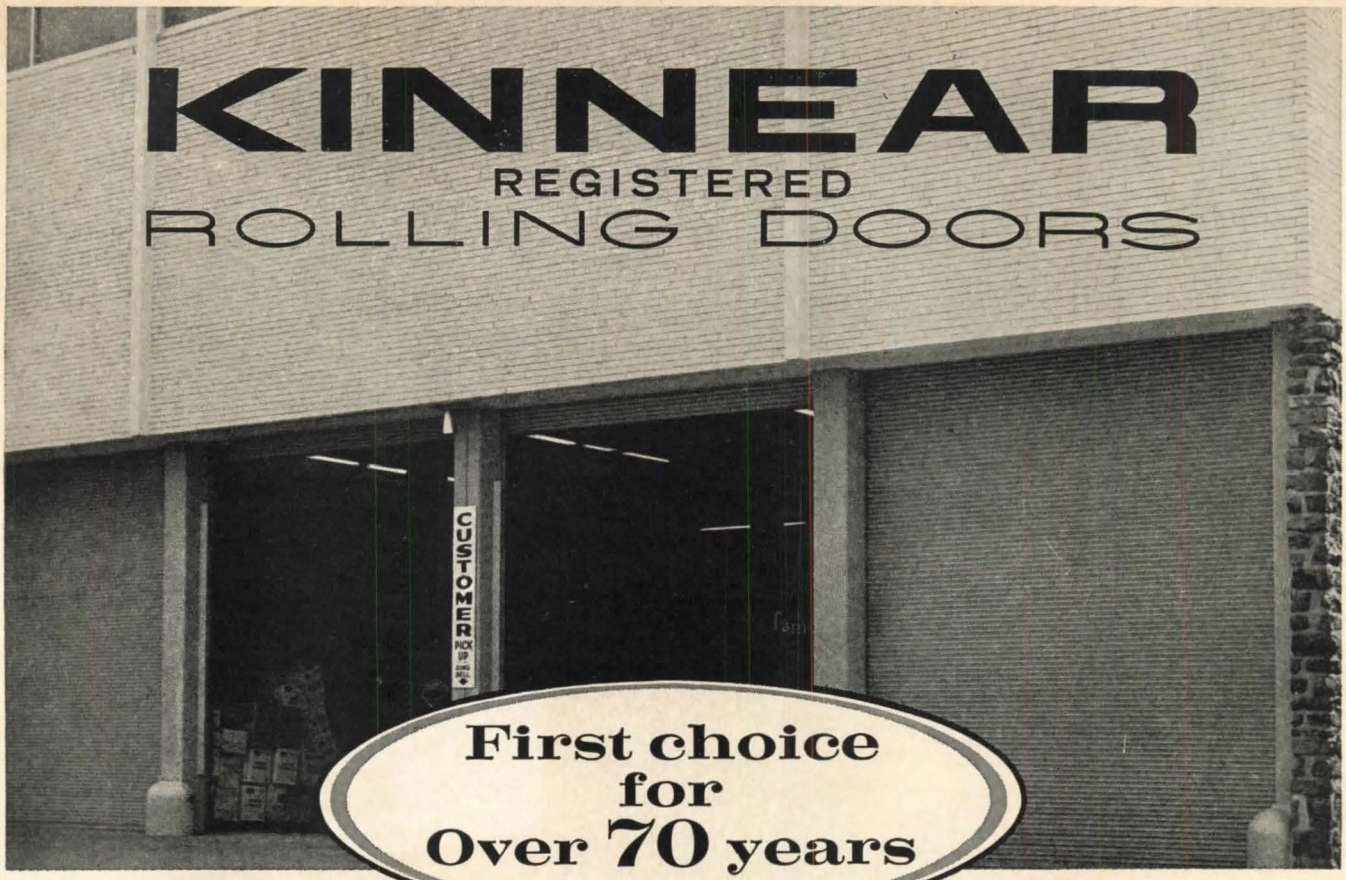

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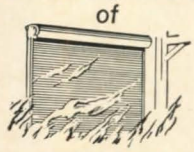
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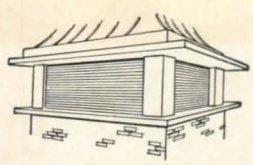
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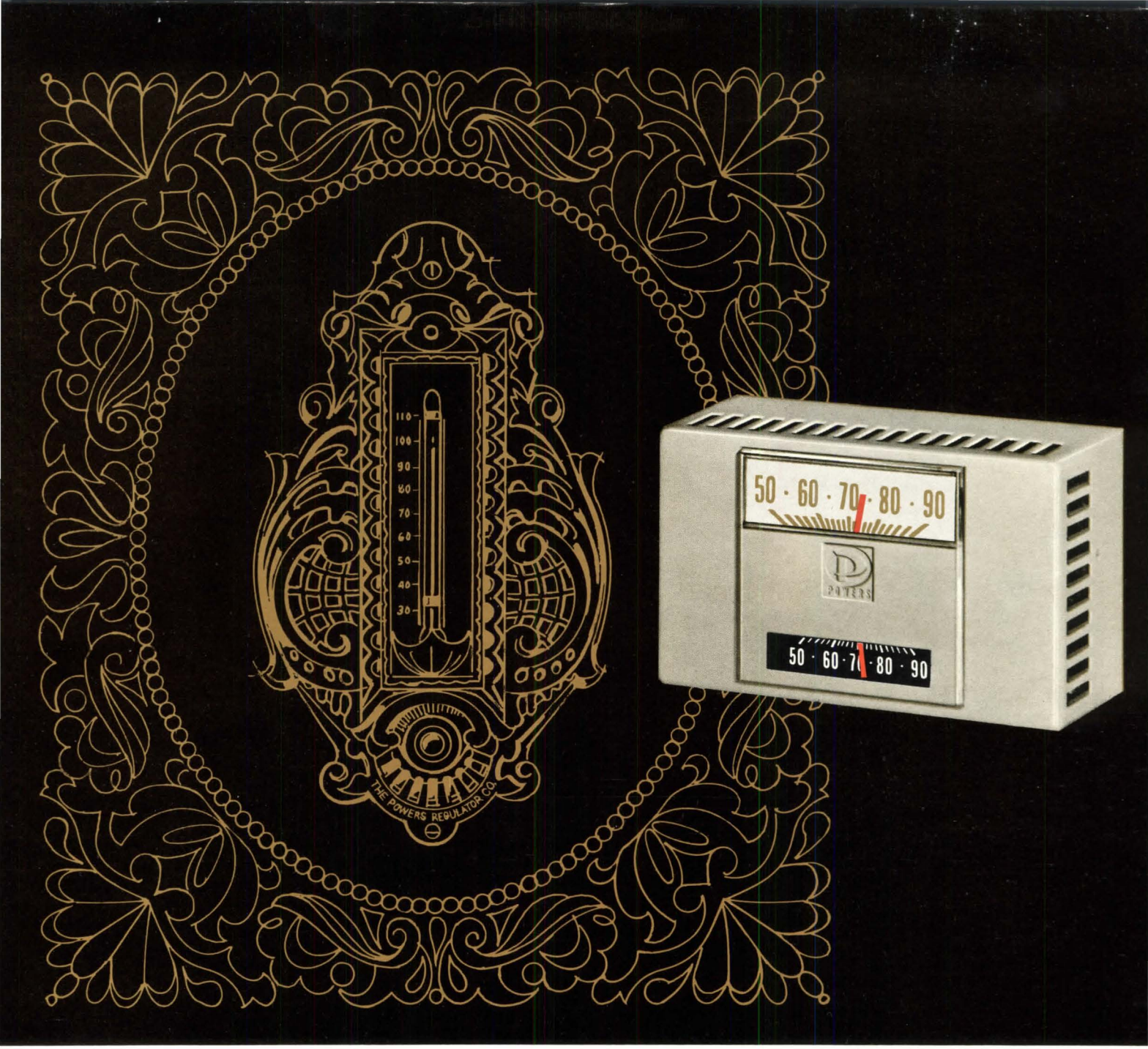

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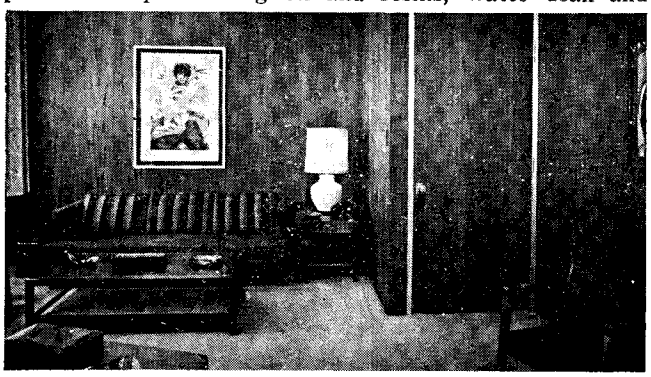

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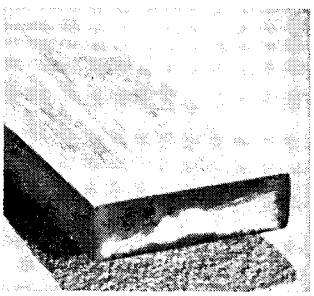

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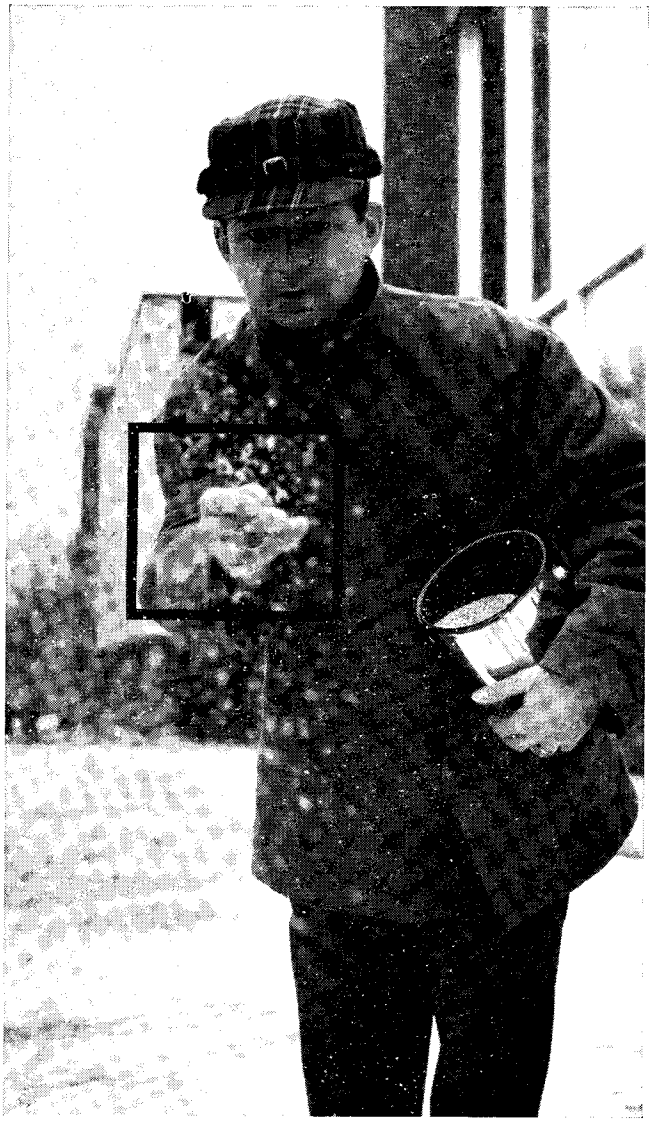

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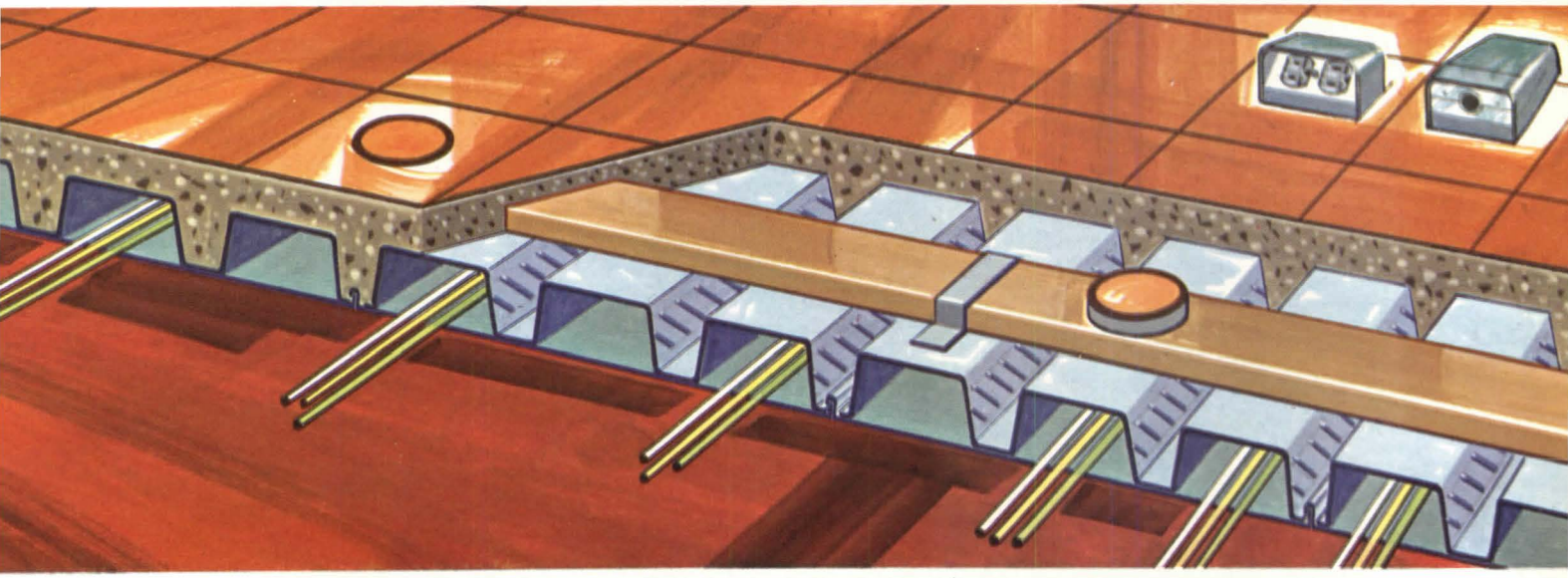

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tention very directly when he wrote that, "City planning should be in the truest and most elevated sense an artistic enterprise." As the Collinses point out, in taking this position he single handedly gave planning back to the architectural profession. Furthermore, he backed up his contention with a huge number of convincing illustrations taken from the famous cities of the ancient, medieval, and baroque periods. For Sitte, any sort of humanized urban existence was impossible without the kind of urban (and urbane) plaza which has traditionally existed in Italy and the German-speaking lands.

When we have stated that Sitte based his book on an analysis of historic European cities, we have only begun to suggest the richness of his thought. In two superb chapters on the sources of Sitte's ideas and on his analytical procedures, the authors make clear that he owed a great deal to Vitruvius, to Alberti, and to various contemporary German art historians, architects, and planners. With regard to their research, this reviewer can only say that it is incredibly thorough. They have apparently gone over every European and American book and periodical published in the 19th and 20th Centuries for references to Sitte, and in the process they have turned up a huge amount of valuable information on Sitte's adherents, such as Werner Hegeman, Theodore Fischer, Albert Brinckmann, and many others. The bibliography alone is worth the price of the book; to say that it is an impressive performance is an understatement. The authors are unquestionably correct in claiming that many of the men they have discovered are themselves worthy of biographies.

On the question of Sitte's method, we can hardly do better than quote from an account of his procedures that appeared in a Chicago newspaper at the time of his death:

> "[Sitte's] study of towns, especially of medieval cities, was encyclopedic in scope, and there is an agreeable suggestion not only of practical sense and thoroughness, but also of good living in the following programme, which he followed on visiting a strange town. Alighting at the station, he would bid the cabman drive immediately to the central square. There he would ask for the leading bookstore, and there he would inquire for three things, namely: First, the best tower from which to view the city; second, the best map of the city; and third, the hotel where one could eat the best dinners. Then, having cut the map into small squares, easily handled in the wind, he would betake himself to the outlook tower, and there spend several hours analyzing the plan of the town. Later, he would study in detail and make sketches of the cathedral square, the market place, and perhaps other capital points in the city's organization."

In this reviewer's opinion, this method of urban analysis makes a good deal of sense. The Collinses correctly note that a view of a town from a tower is one that is primarily concerned with its present morphology, not with any past incarnations. Sitte has often been accused, quite unjustifiably, of a romantic medievalism. On the contrary, he was very much a man of his own day, actively involved in the problems generated by the transformation of his native Vienna into a modern metropolis. The main thrust of his argument was directed against the engineers, who were responsible for most of the dehumanized planning that had been carried out in the German empire up to that time. His own approach to planning was extremly eclectic, and his solutions for the various problems involved in the Ringstrasse stemmed from his acquaintance with the late Baroque, a period about which he was both knowledgeable and enthusias-

Continued on page 220

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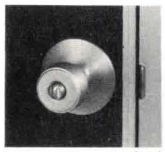

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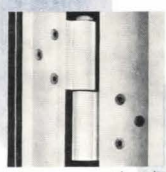

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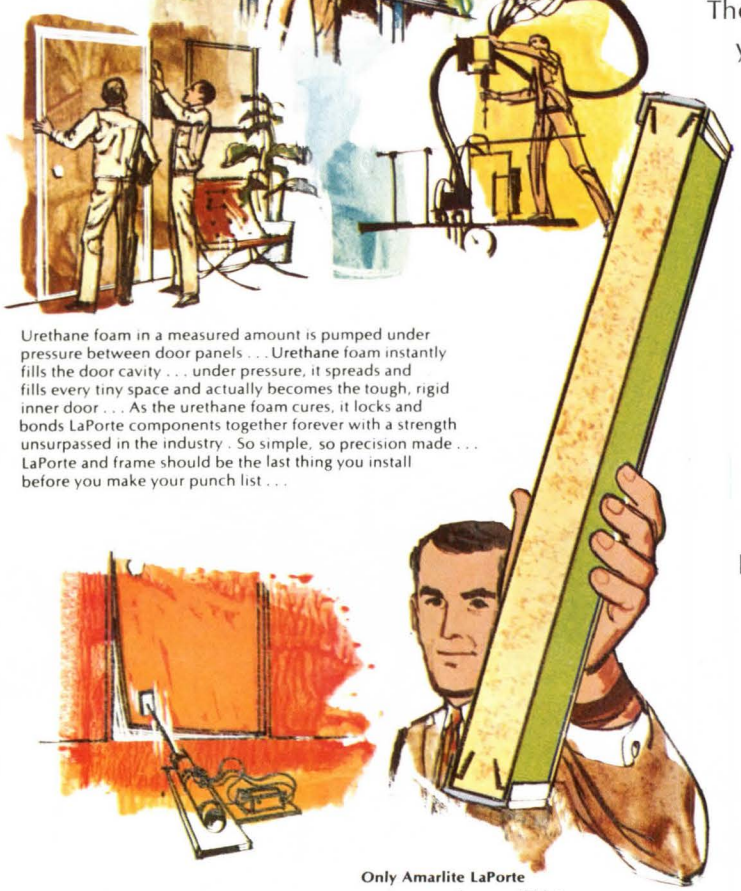

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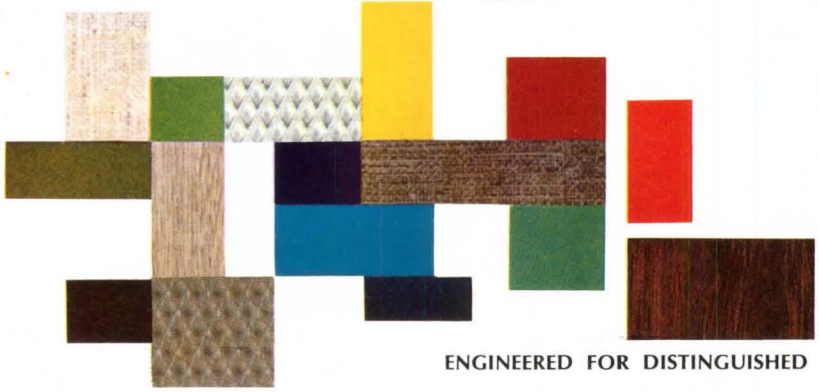

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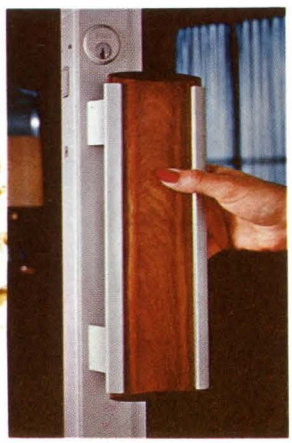



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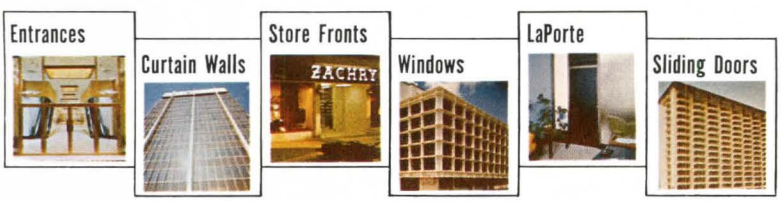

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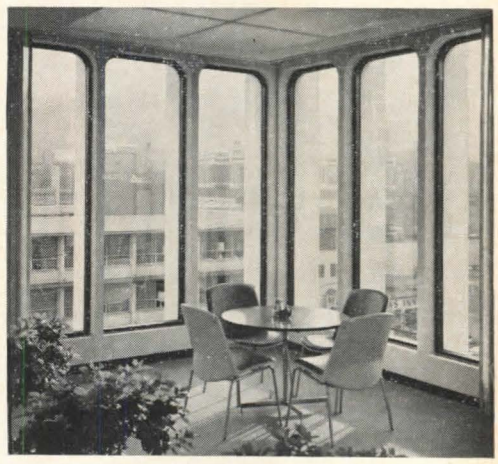

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tic. Its superb command of spatial design on a grand scale made it, in Sitte's view, the only possible point of departure for the solution of metropolitan problems.

Part of the importance of Sitte's book lies in its overwhelming impact on the modern city planning movement. The first printing appeared in May, 1889, a second was called for in June, and reviewers found themselves in the odd position of commenting on a work whose principles were already being put into practice. After the early 1890's, it is probable that very little city planning was done in any German-speaking country without reference to Sitte. This amazing popular acceptance had several causes. In the first place, people were obviously ready for Sitte's message. Secondly, he wrote with great verve and indignation; in the Collins' excellent translation, much of this quality comes through. An exposed building with space all around it is, he says, "like a cake on a serving platter." Sitte used phrases that stick in the mind. Although somewhat repetitious, his arguments are inevitably forceful and well stated. Finally, there is the extraordinarily high graphic quality of the book. Sitte's diagrams of European squares were easy to comprehend and immediately recognizable for anyone with the slightest knowledge of the subject. They were, in fact, so good that they set a fashion that has prevailed to the present day. Such modern analysts of urban space as G. E. Kidder-Smith and Sir Frederick Gilberd are very much in the tradition of Camillo Sitte.

American readers will, of course, be interested in the impact of Sitte's ideas on this side of the Atlantic. For a variety of reasons, it was not extensive. While Sitte had his American admirers, such as Sylvester Baxter, an English translation of his book was not available until 1945, and even that was based on the French text, which completely distorted the original meaning and overemphasized Sitte's medievalism. Additional factors were the publicity given to Otto Wagner, whose ideas were at variance with those of Sitte, and to the achievement of Baron Haussman in Paris. In Chicago, for example, D. H. Burnham was a great admirer of Haussman. Sitte himself seems to have had little knowledge of American planning and to have thought of it largely in terms of the gridiron and the checkerboard. He was evidently unacquainted with the work of Olmsted, Eliot, and Jensen, and was generally unsympathetic to the landscape school. His essay on "Greenery Within the City" was published as an afterthought in 1900, and is here included by the Collinses as an appendix. While condemning the baroque allée, he advocated "the motif of the single tree" and, as his choice for a city with excellent use of greenery, picked Constantinople—a somewhat surprising selection.

The history of Sitte's international reputation is, indeed, a curious affair. While Theodore Fischer admired him enormously, he evidently failed to pass on his feelings to his disciples, who at one time or another included Gropius, Oud, Paul Bonatz, and Bruno Taut. Hence there is little or no evidence of Sitte's thought in the great German planning schemes of the 1920's. Although he was well acquainted with his work, Siegfried Giedion also tended to dismiss Sitte as a romantic medievalist who had lost contact with his period. The paradox is that Gropius discussed his planning of the Harvard Graduate School complex in 1950 in terms which can only be described as Sittesque. The architect who most profoundly understood Sitte was,

Continued on page 226



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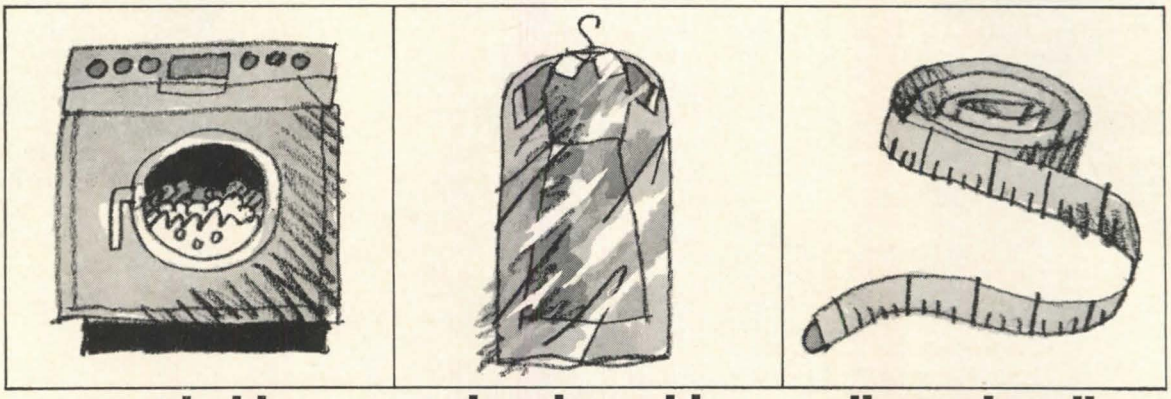

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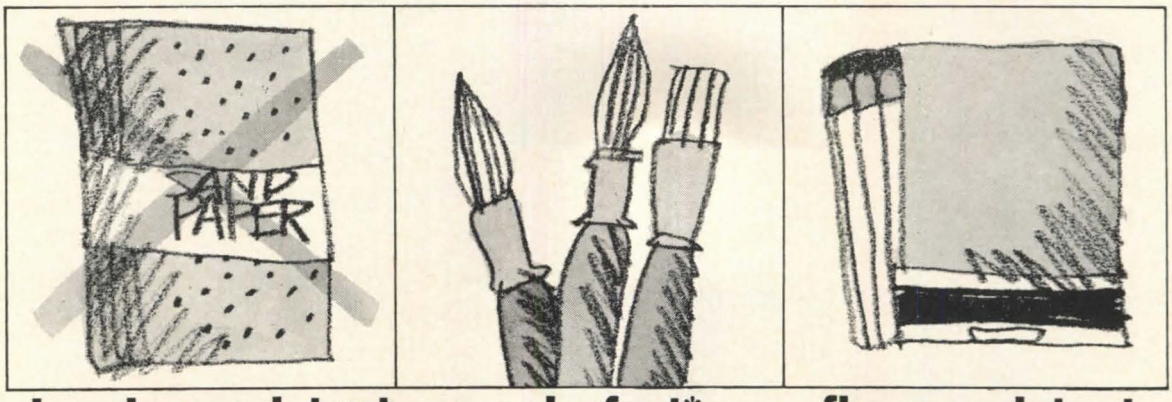

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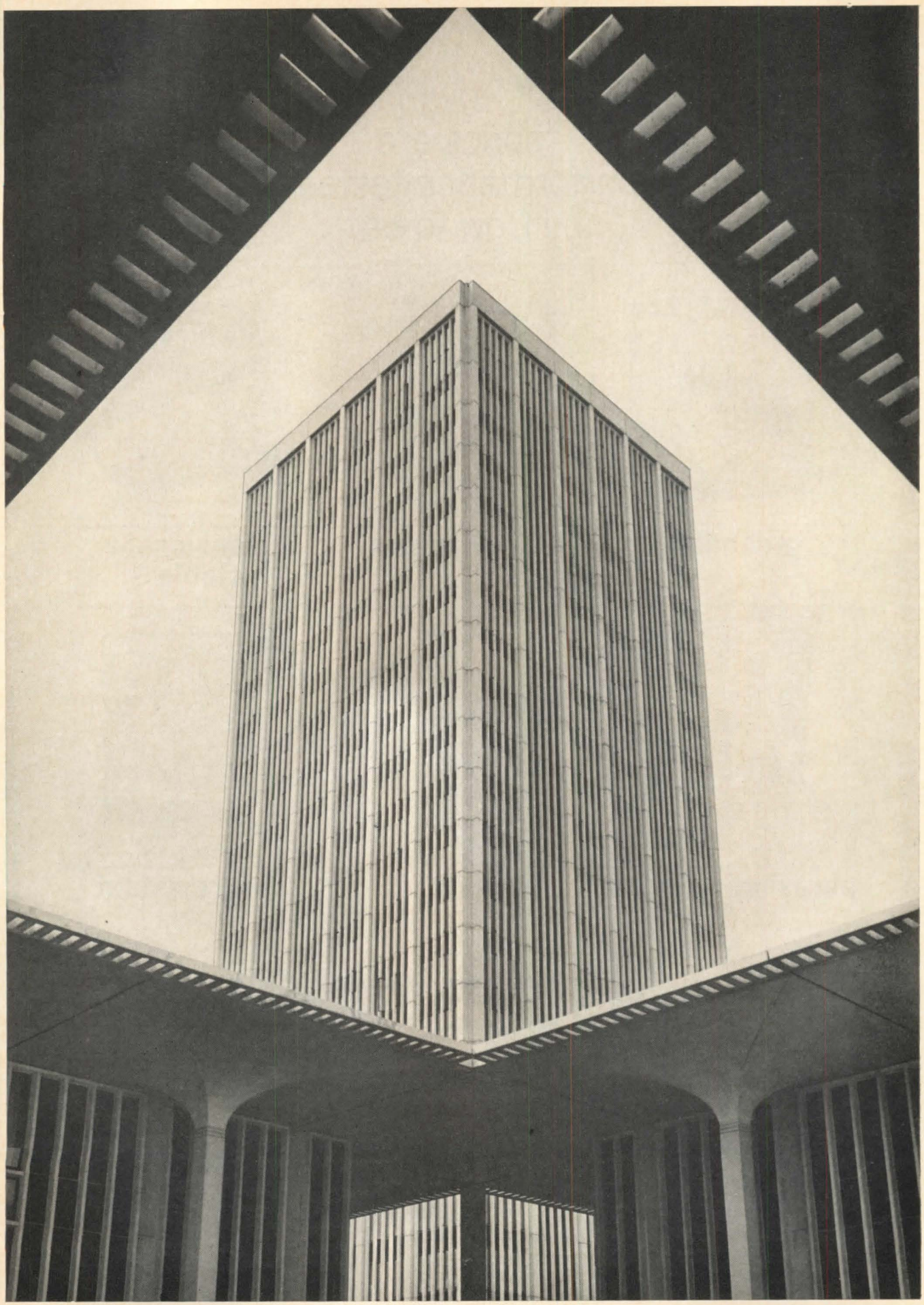

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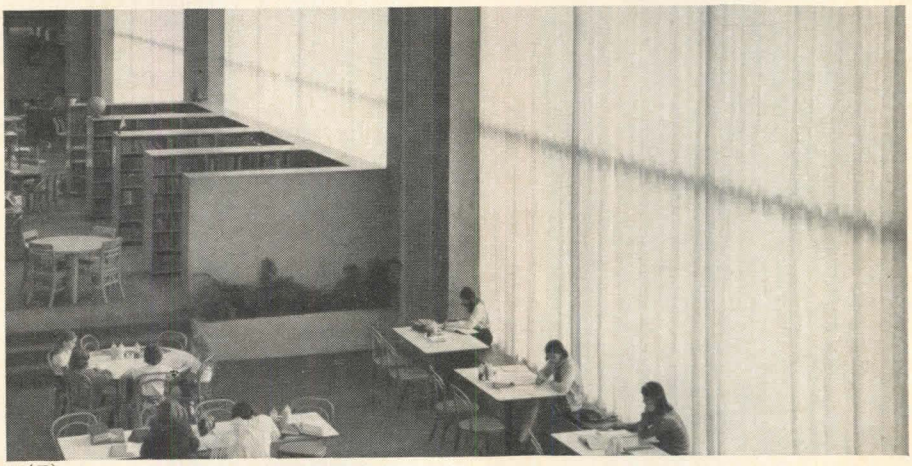

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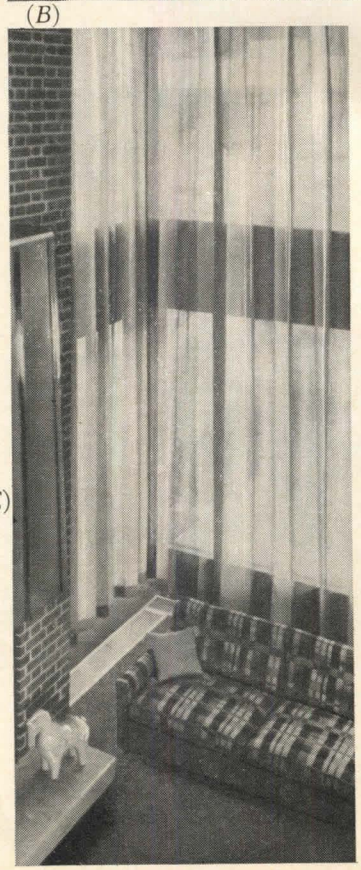

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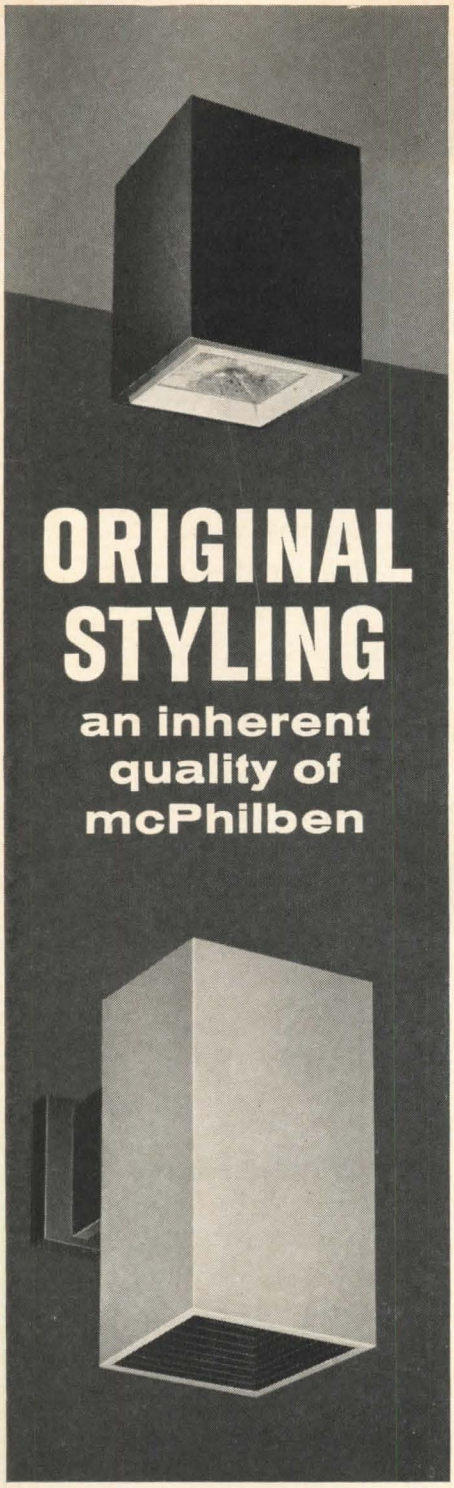

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Continued from page 220

however, undoubtedly Eliel Saarinen. He penned an eloquent tribute to the great Viennese in his book *The City* (1943), and anyone who has experienced the magnificently scaled spaces of Cranbrook will understand the depth of his comprehension. More recently, another Viennese, Victor Gruen, seems consciously or unconsciously to have adopted Sitte's principles in the planning of his shopping centers.

What is the relevance of Sitte to the practice of city planning in our day? On this point, the Collinses make modest claims. They suggest that the extended dimensions of the present century may actually have invalidated his point of view. He may, of course, still remain a useful guide to the past. The present reviewer would go further. He would contend that unless our architects and planners incorporate Sitte's principles of organic, three-dimensional design into their plans for urban renewal of old cities and for the building of new towns, they are doomed to failure. And if they fail, it will, as Percival and Paul Goodman have pointed out, be "a grievous and irreparable loss." In giving Sitte back to us, the Collinses have pointed a way out of our dilemma. They have restored him in all his grand dimensions, and anyone who is concerned with cities is in their debt.

Premise and Promise

BY RICHARD P. DOBER

PICCADILLY CIRCUS: *Report of the Working Party. Ministry of Housing and Local Government, London, 79 pp., $2.* WHITEHALL: A PLAN FOR THE NATIONAL AND GOVERNMENT CENTRE. *By Leslie Martin. Accompanied by a* REPORT ON TRAFFIC *by Colin Buchanan. 171 pp., illus., $10. Her Majesty's Stationery Office, London. Distributed by British Information Services, 845 Third Ave., New York, N.Y. The reviewer is a planner and landscape architect with the firm of Dober, Walquist & Harris, Inc., Cambridge, Mass.*

In quality of achievement and intensity of endeavor, no urban area in the world has been embellished with as much deliberately conceived urban design as Westminster, the core city of London. The root reasons for the opportunities that designers have magnificently grasped read like a doomsday inventory: fire, pestilence, revolution, monarchical caprice, speculation, warfare and, most recently, technical obsolescence. From these sad beginnings, a great deal of human satisfaction has emerged.

From my favorite hotel on Dover Street, I have in all seasons and at all hours traversed in never-diminishing interest the four centuries of architecture, parks and squares, processional streets, mews, shops, hotels, boat landings, barracks and parade grounds, museums, hospitals, railroad stations, courts, colleges, churches, slums and sovereign places that together comprise this central place.

It cannot be said that all the elements that make up this rewarding urban context have been consciously connected to one another. But, in the main, they hold together so well that one wonders if some aspects of the organizing principle, which is increasingly being promulgated by public decree for the American city, might not be challenged.

I refer to the concept that a super-design can be established for the central city, a design that attempts to organize all the individual elements of city building into an art form greater than the sum of its parts. Disguised as social purpose and aesthetic morality, this approach has these possible, inherent dangers: monotony in execution, bureaucratic taste in detail, administrative restraints on innovation and invention in creative departures from the norm—the last being self-evident virtues from an historic point of view.

Accepting as inevitable dramatic increases in urbanization patterns by the end of the century, it is clear that the common good will demand urban design controls. For reasons stated, now is the time for searching out alternatives to the idea of super-design—if that super-design contains the dangers mentioned above. In this light, the new Whitehall report suggests a worthwhile option. It discloses how one can undertake the fitting of the new into the old and achieve continuity, variety, and delight.

Whitehall lies next to Westminster Abbey and the Palace of Westminster. Enlarged and better accommodations for the government are needed in this picture-postcard environment. The general proposals of Leslie Martin and his study group, for redeveloping Great George Street, the Foreign Office, and adjacent blocks are sensibly rooted in a comprehensive analysis of the existing site's special characteristics and a projection of future requirements. Due respect is given to history, without compromise to function and contemporary technology. In his contribution, the traffic engineer, Colin Buchanan, again demonstrates the

Continued on page 234



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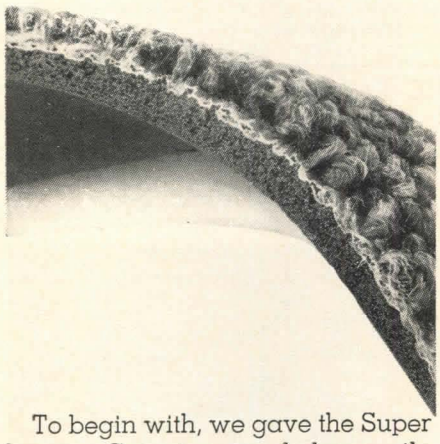

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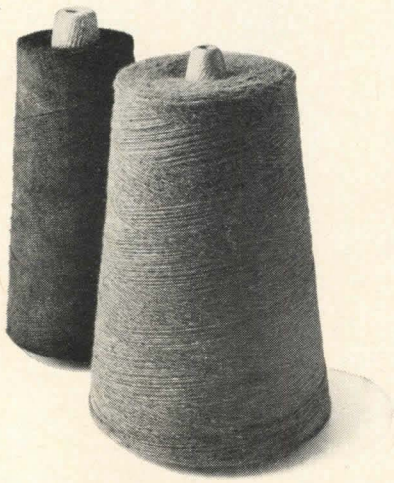

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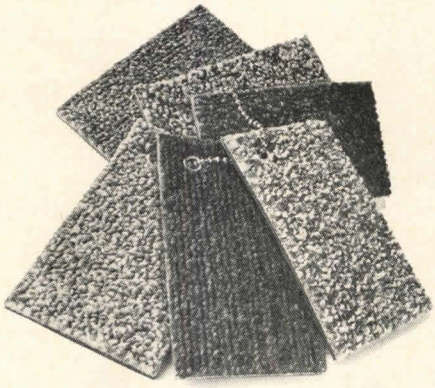

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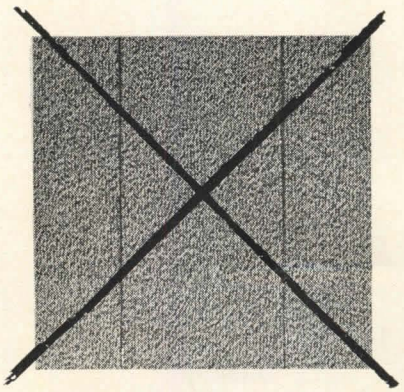

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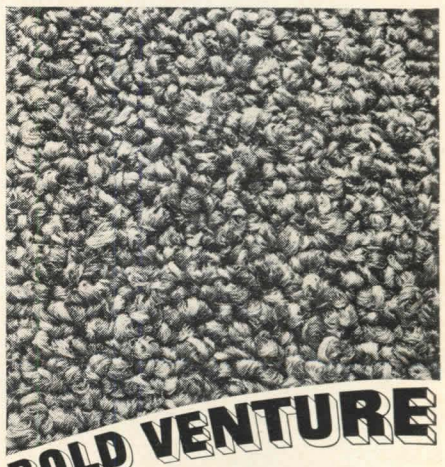

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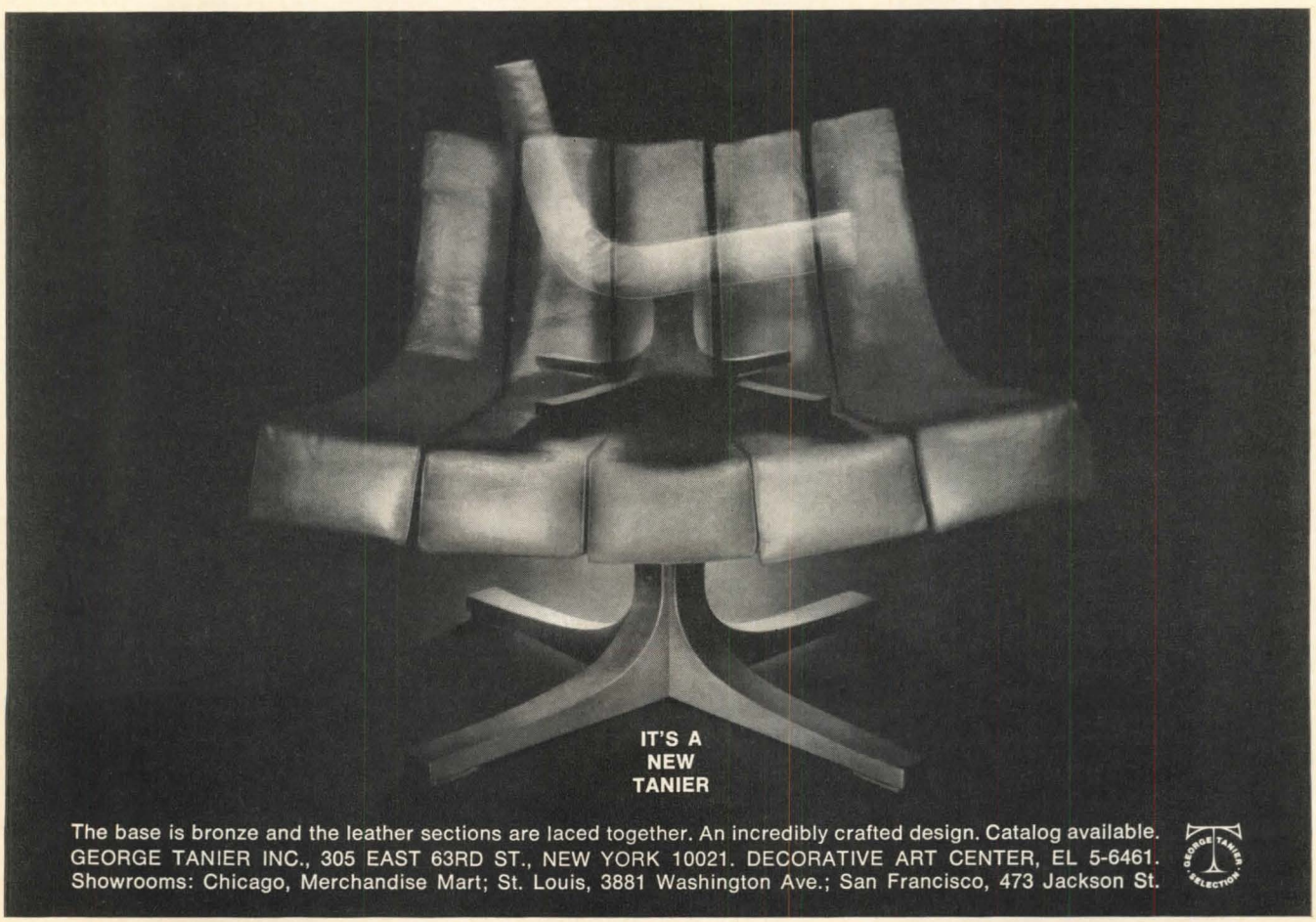

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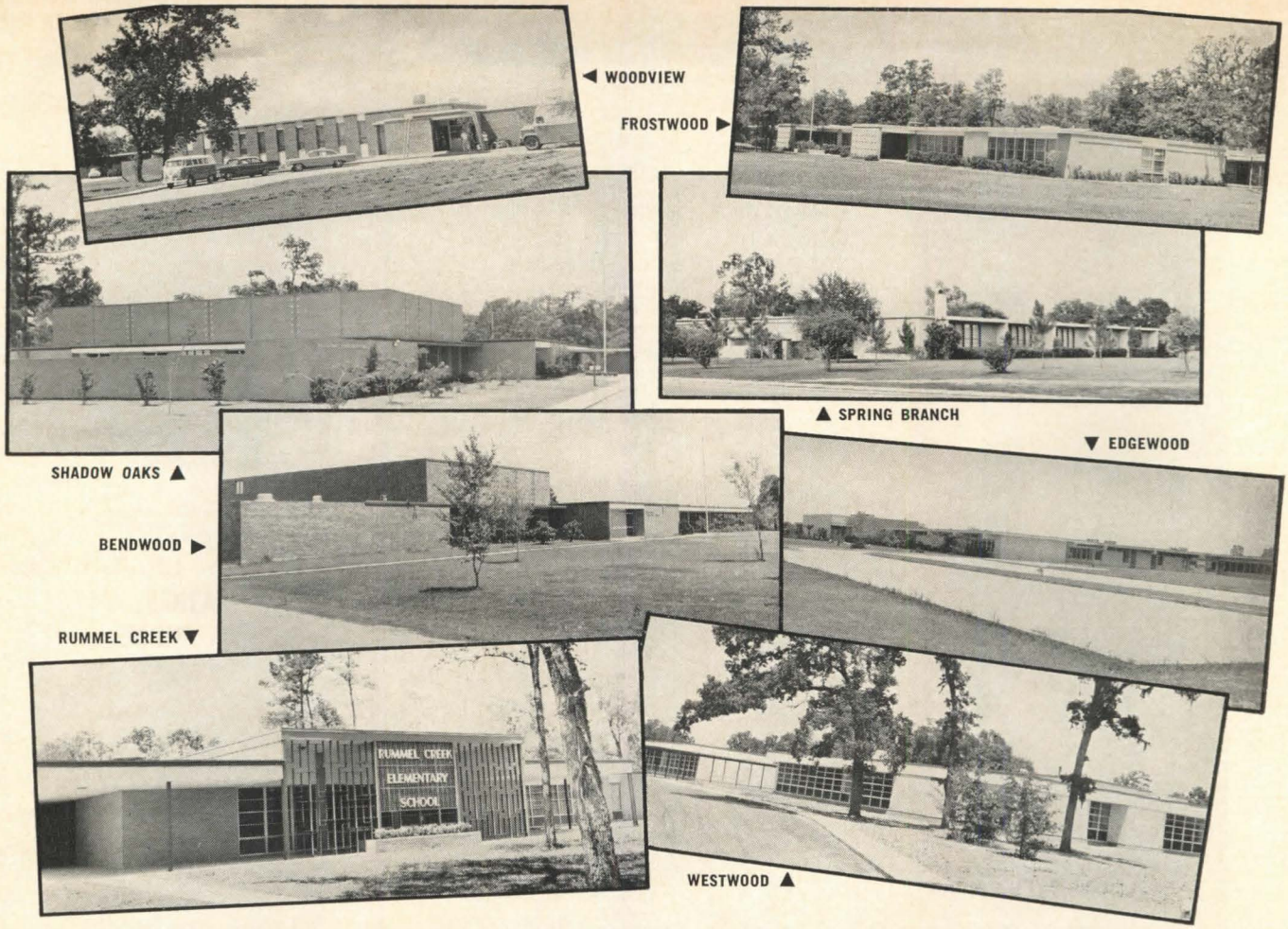

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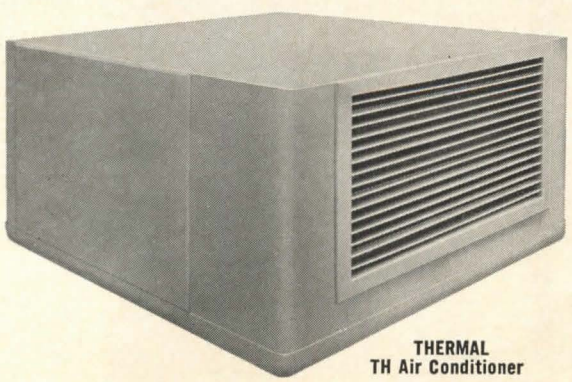

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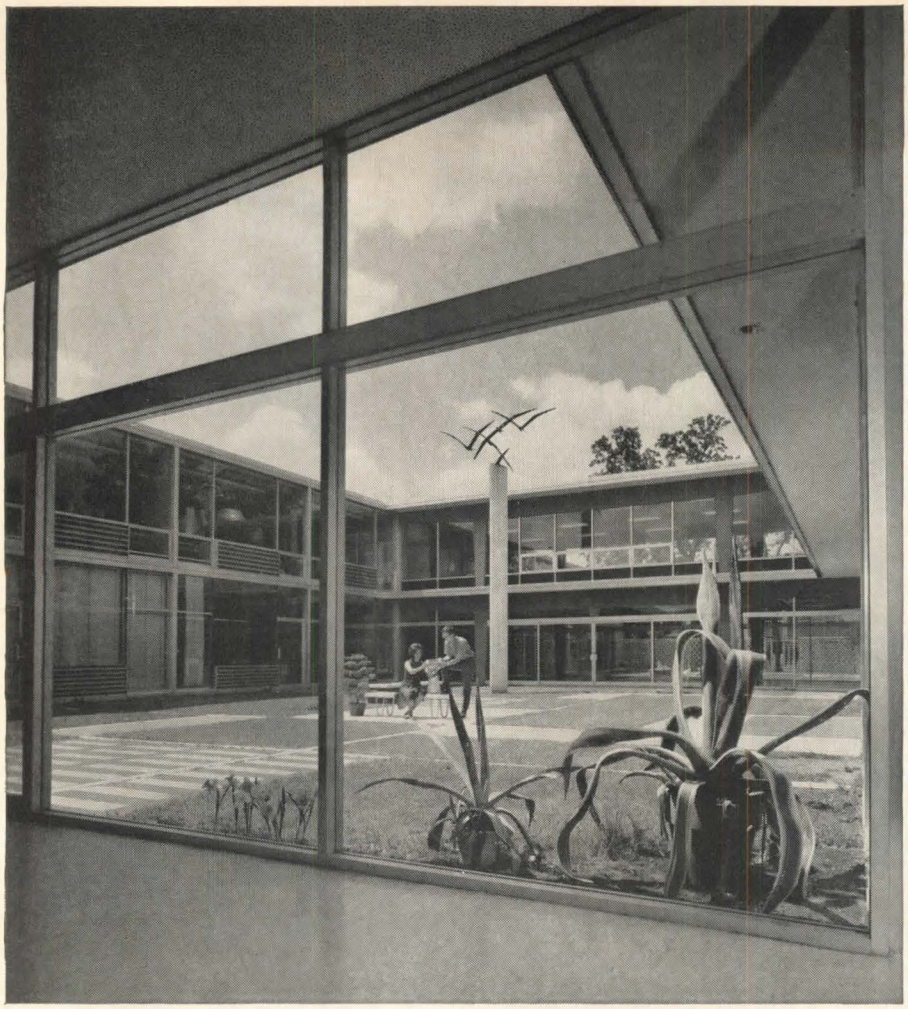

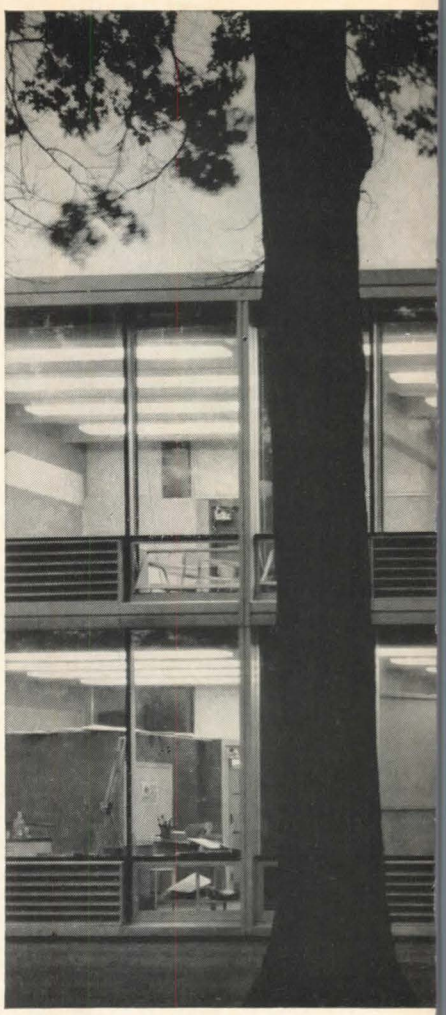

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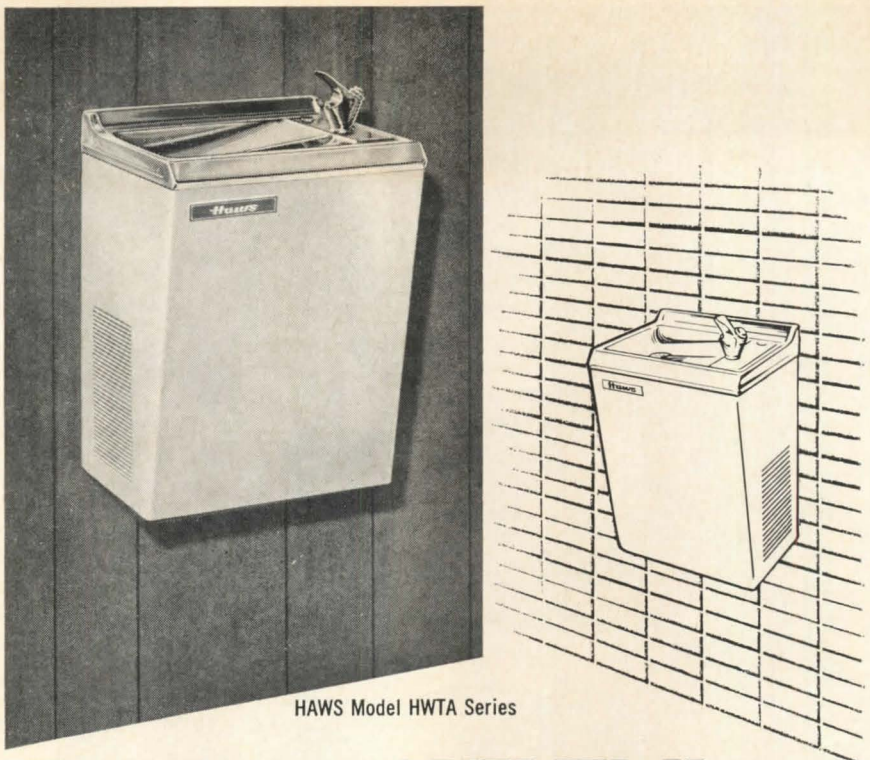

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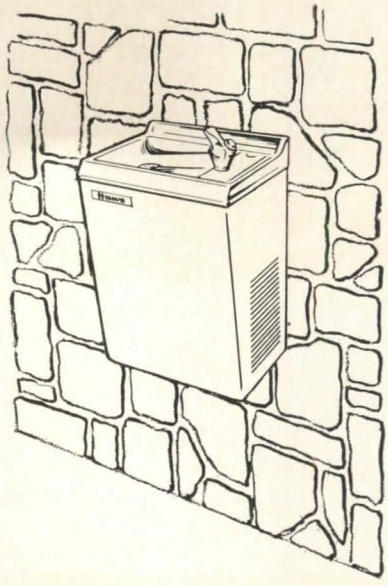

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Continued from page 226

potential offered by treating traffic as a utility, putting it underground to create new urban spaces.

To me, however, the architectural solutions shown in the report are heavy-handed-Mayan in first glance appearance. Scotland Yard is *preserved* by three-dimensional embalming. Like a corpse, it is enclosed on all sides by unsympathetic new construction. But these are matters that detailed final designs may well resolve. One hopes that the over-all concept will not loose its vitality in execution, as did the St. Paul sector scheme. London has not done well in its postwar reconstruction; another failure in Whitehall will be disastrous.

In the Piccadilly report, we can sense another kind of urban design problem: public obsession and indecision in solving the problems of an historic urban space. The English have been tinkering with Piccadilly Circus since 1886, when the Metropolitan Board of Works constructed Shaftesbury Avenue and destroyed a segment of the symmetrical circus, which John Nash had designed as part of a sequence of urban spaces that connected Regents Park to St. James Park. Attempts to restore architectural unity were made in 1905, 1910, 1925, 1937, 1943, 1946, 1958, 1959, 1960, and 1962. The latest attempt aimed "to make Piccadilly Circus as attractive in reality as it obviously is in the imaginations of people from every quarter of the English-speaking world."

In this latest document (1965), a working party has directed its resources toward testing the feasibility of Sir William Holford's traffic solutions as published in the 1962 report. It concludes that another study is needed, for it seems quite clear now that separation of vehicular traffic from pedestrian traffic is essential to the re-creation of viable urban open spaces. Read Piccadilly (1965) for insights as to what we may well face in North America as we undertake similar redevelopment.

City Planning and Our Social Ills

BY RUTH BEINART

URBAN LAND USE PLANNING. *2nd Edition. By F. Stuart Chapin, Jr. University of Illinois Press, Urbana, Ill., 1965. 487 pp., index, $7.95. The reviewer is the Editor of* Tenant News, *the monthly publication of the Metropolitan Council on Housing, a citywide federation of housing and tenant organizations in New York City.*

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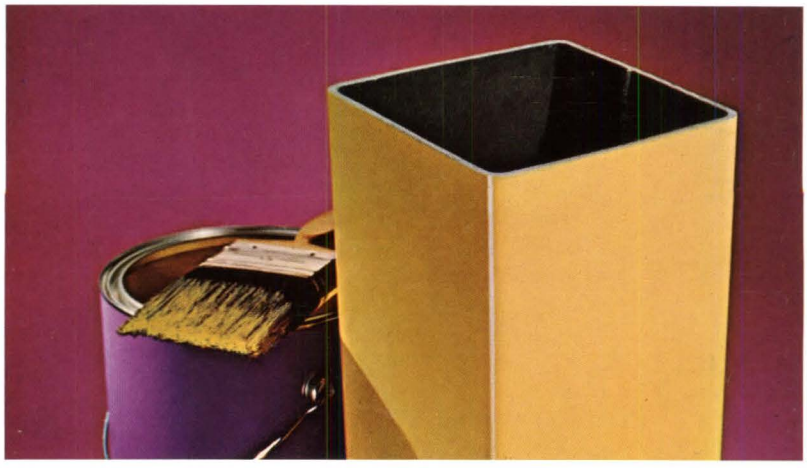

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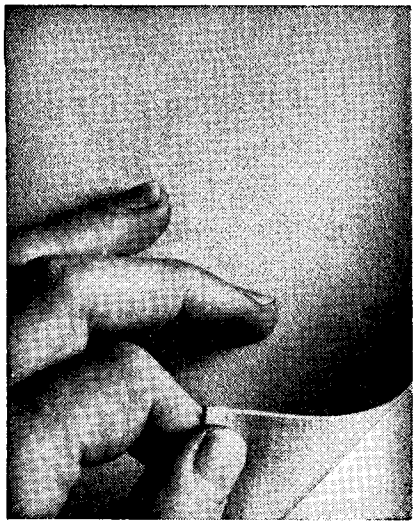

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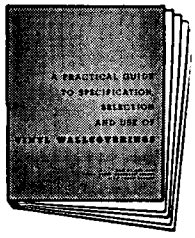

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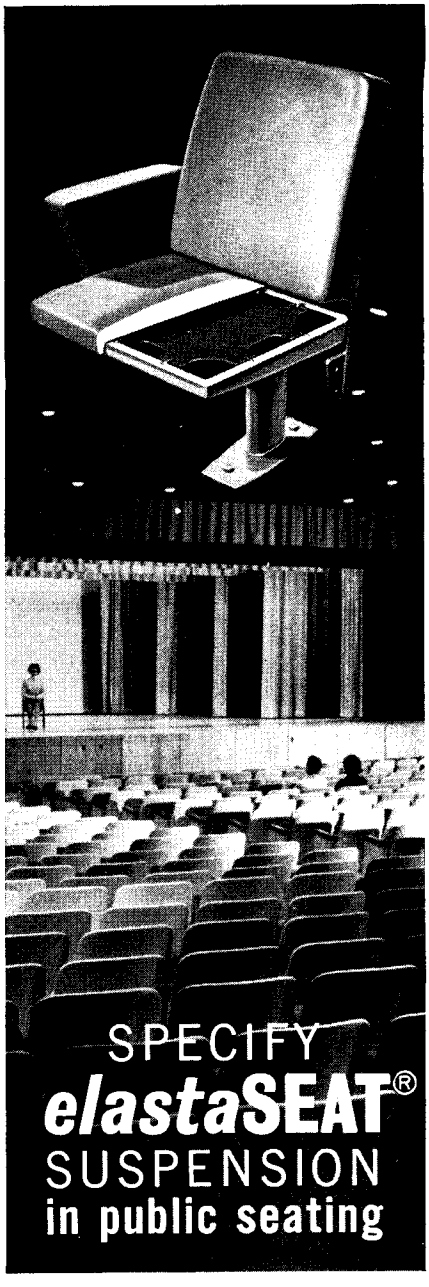
dweller than a real live city planner. Whether he is driving around on a windshield survey, or noting crumbling cornices on his clipboard, or trying to justify his plans to a suspicious neighborhood meeting, the planner is the man who is going to tear down the neighborhood. To tenants in an ill-fated tenement or to the Puerto Rican *bodega*-groceryman, he is The Villain. They do not know much about city planning but they do not like what it is doing to them.

To the surbanite or the resident in a building that is sound enough to escape the bulldozer, the planner is a fair-haired boy. Somehow or other they feel that planning is Good, like World Government or Motherhood, although they, too, may know little about it.

With such widespread lack of information about city planning, Stuart Chapin's newly revised book on land-use planning is a valuable publication. It is divided into three parts: The first deals with planning theory and its historical development, determinants of land use, and theories of land use patterns. The second and third parts get down to the specific problems of urban planning. Planning decisions are dependent, to a large degree, on projections into the future—on forecasts about population, economic growth, urban activity, and transportation needs, among other factors. Chapin shows how analyses are made and forecasts drawn from them. He explains in detail the studies used by planners and by specialists (such as demographers and economists) who are often hired by planning agencies and then he relates what a planner does with these studies and how the final plan is evolved.

The one big gap in the book is its irrelevance to what is really going on in urban areas. In a crowded built-up metropolis, planning essentially entails replanning. It means urban renewal in one form or another. And urban renewal means the displacement of poor, minority families. Urban renewal planning necessarily involves decisions on relocation, sources for rehousing displaced families, housing versus commercial or institutional construction or a combination of these on the cleared site, rent levels in the new housing, and other questions that will determine whether or not the site-families will be rehoused in the urban renewal area. The alternatives of rebuilding a community or creating a new community must be studied by the planner. None of these questions are adequately considered in the book. Chapin deals competently with almost every

Continued on page 248



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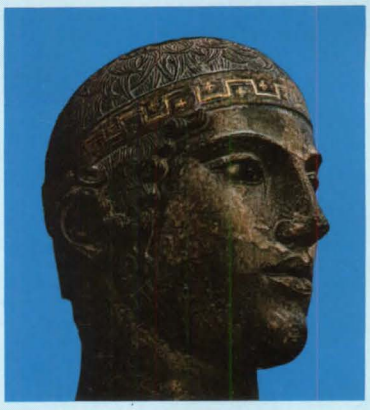

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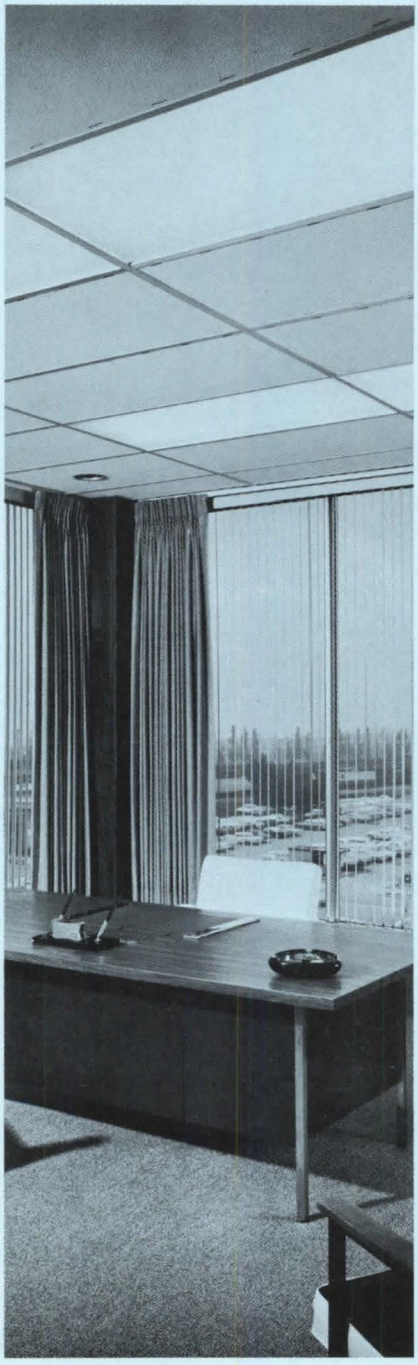



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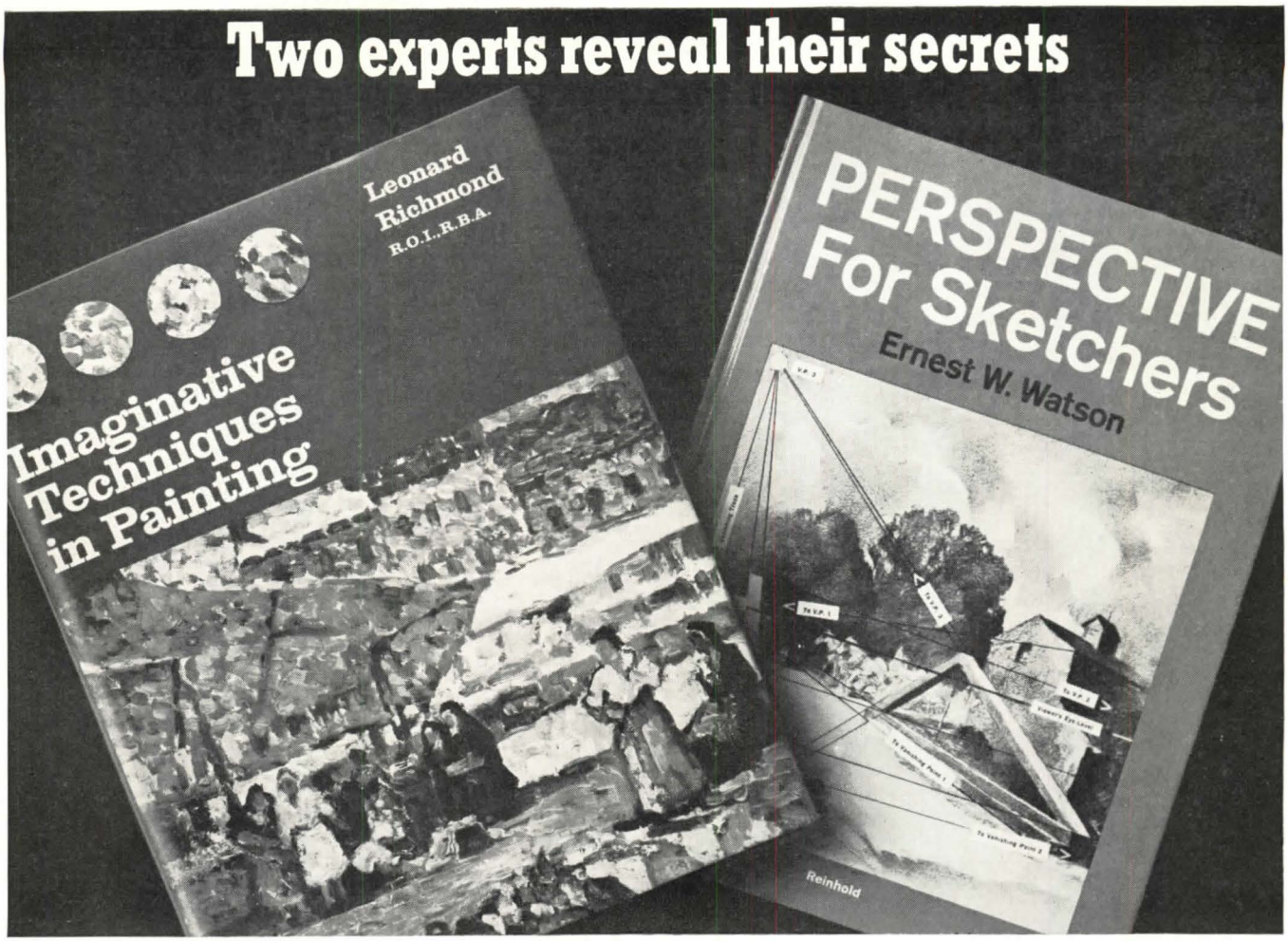

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A new and different kind of art instruction book, by Leonard Richmond, Editor of "The Artist."

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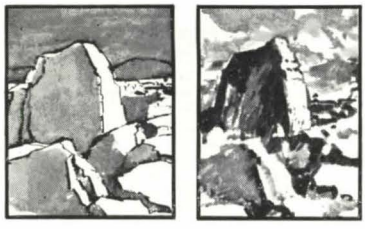

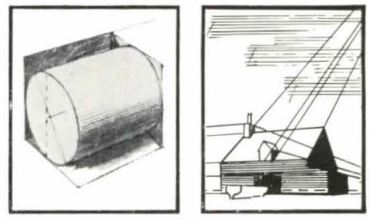

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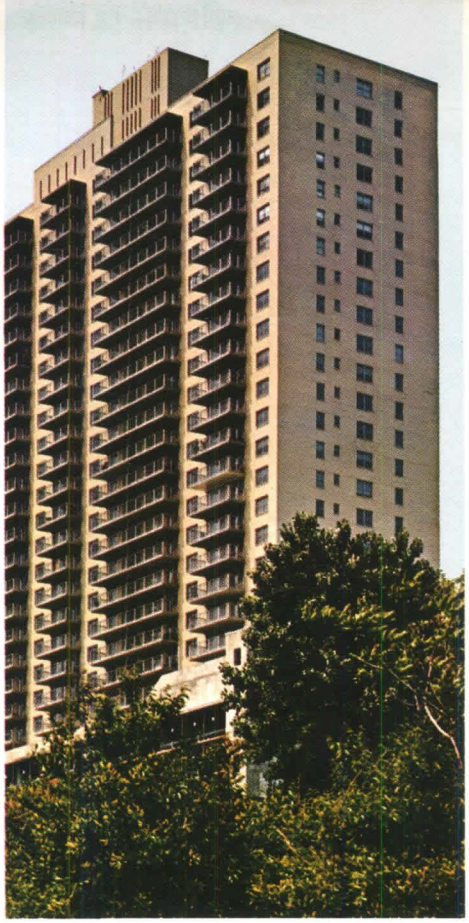

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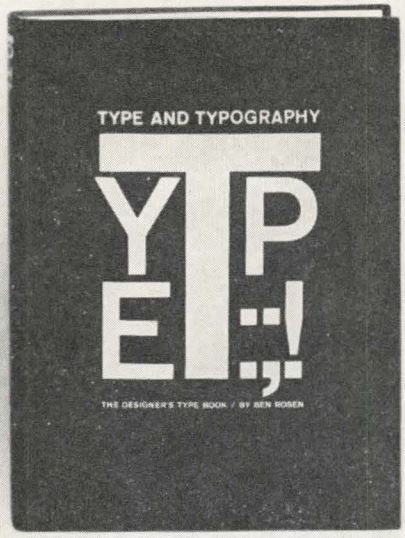

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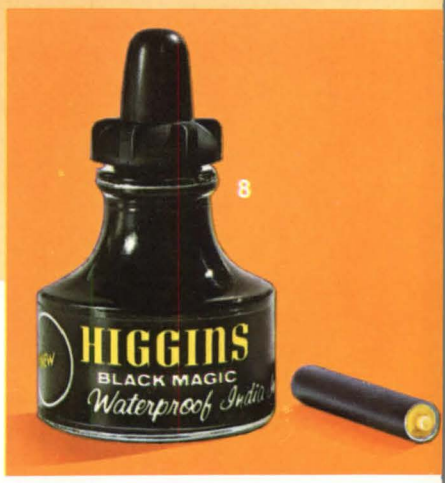

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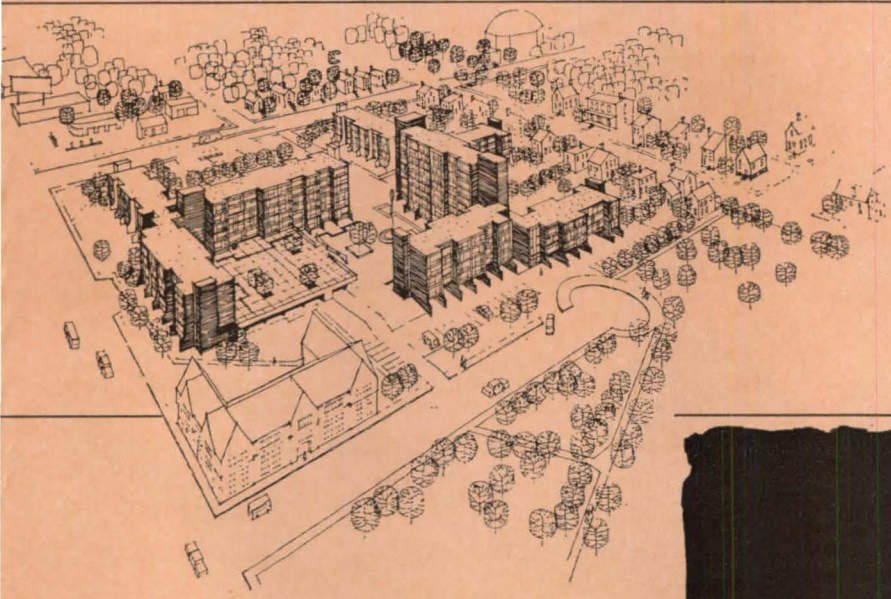
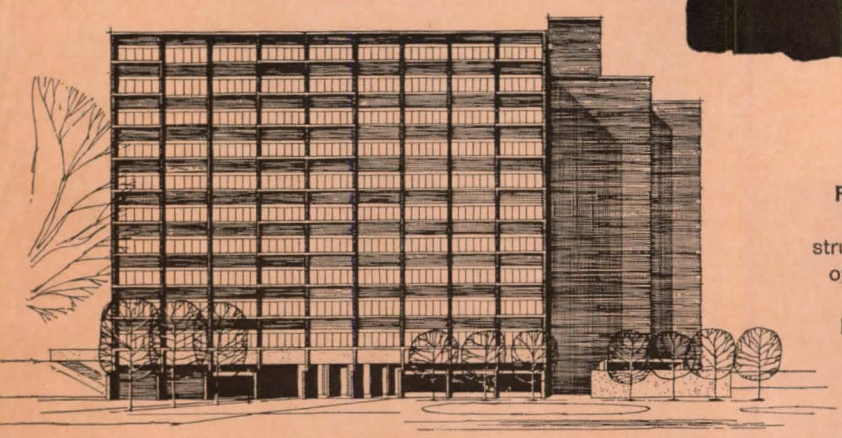


Pennley Park Urban Renewal Project, Pittsburgh: Designed by Tasso Katselas. Eight apartment buildings, ranging from four to 10 stories in height, are supported by 12-inch, solid brick transverse bearing walls and a floor system of precast beams.



Apartment Community of Our Lady of Snows, Belleville, Ill.: Designed by Gyo Obata, AIA. The top four floors of this five-story building are supported by 12-inch, structural clay tile bearing walls and poured-in-place concrete floor slabs.



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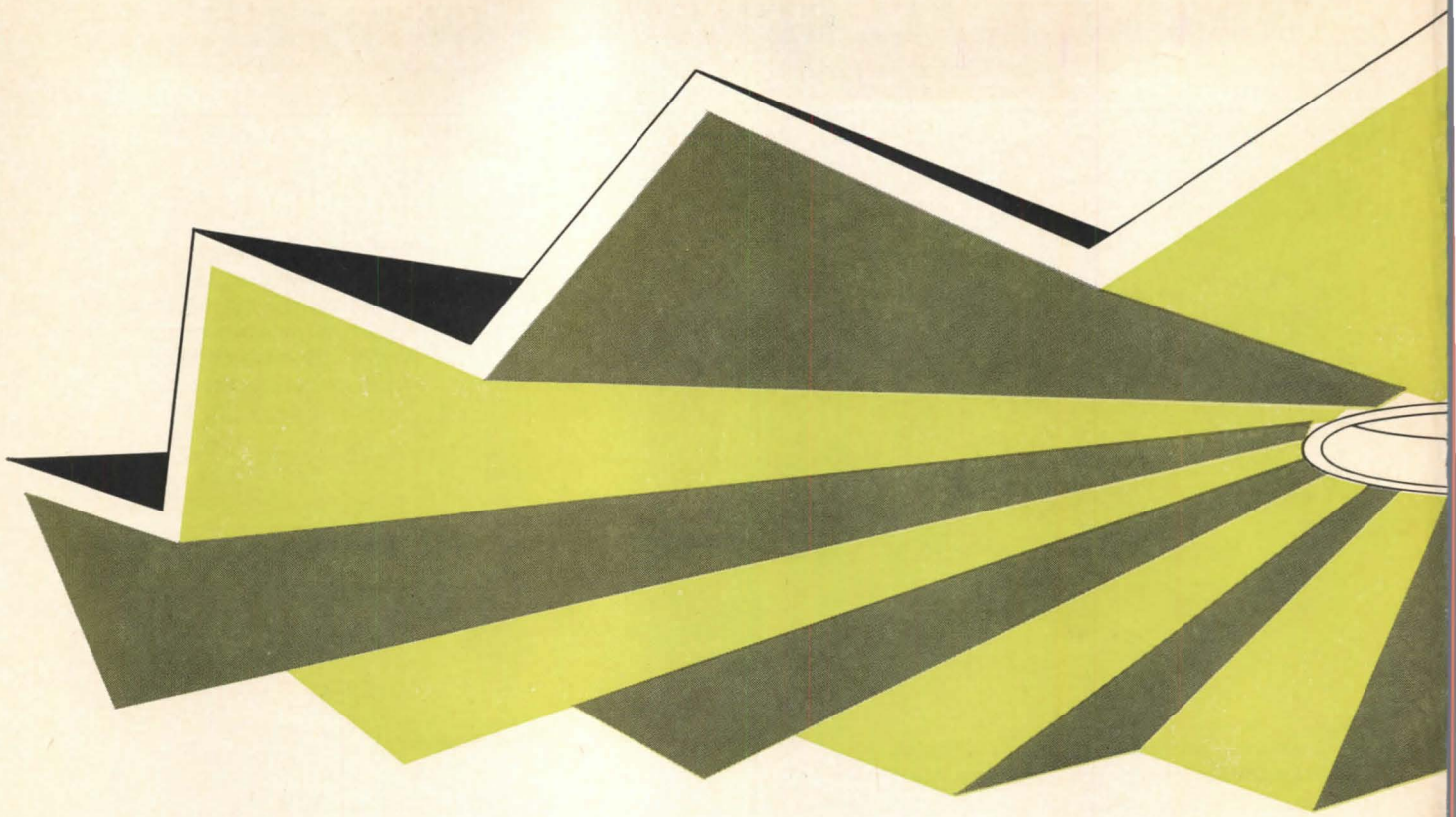
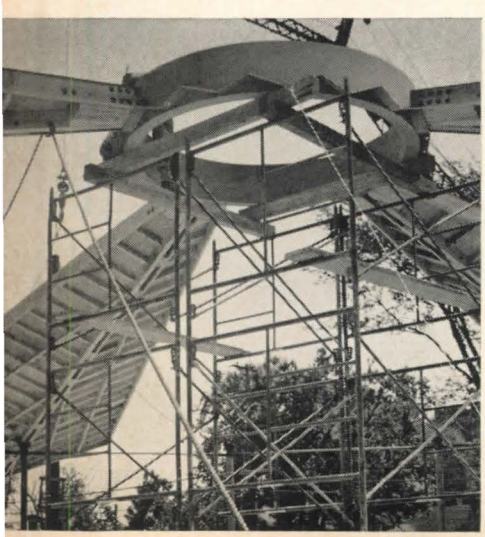
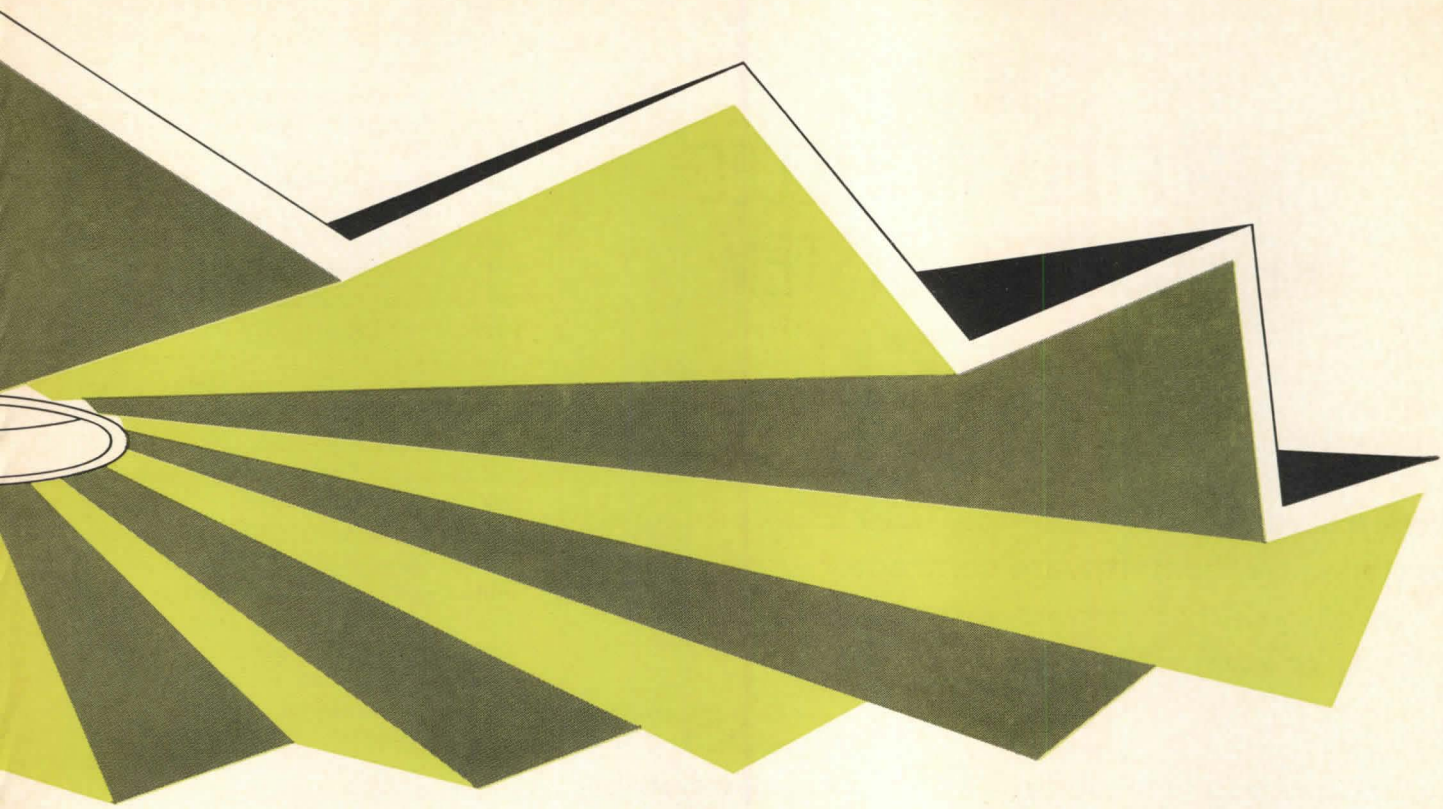


the most exciting ideas take shape in plywood







Whirlpool Employees Credit Union Building, St. Joseph, Mich./Edward R. Duffield, Architect/Holland Construction Co., Contractor/Plywood Components Corp., Fabricator

The jaunty cap on this glass-walled office building is a plywood radial folded plate. Its use here proves the versatility of the design idea, more often seen in the august context of churches and public buildings. This plywood roof cost less than any alternative and went up faster. Besides saving money, radial folded plates give large clear-span interiors because no center supports are needed. For more about this and other time-saving, high-strength plywood building systems, send for the new, free booklet "Plywood Construction Systems." We're at Tacoma, Wash. 98401 (USA only).

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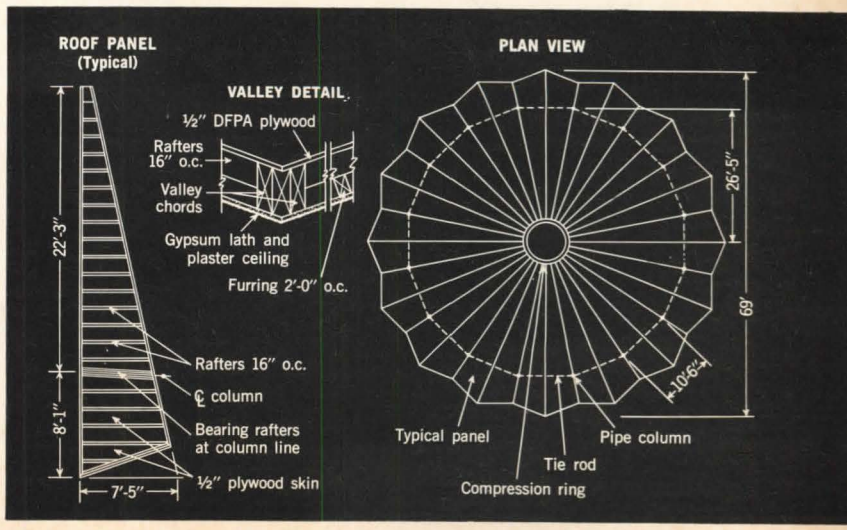

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Continued from page 236

other phase of planning but gives scant attention to the social and human problems of urban renewal. For example, he describes the urban renewal process and the studies used to identify blight, but he manages to do this without once mentioning the site residents.

Do the planners really understand what is happening to cities today? Central cities are shrinking and metropolitan areas are expanding. A larger and larger percentage of the central city population is made up of Negroes and other minorities. The whole urban scene is one of movement involving not only mass shifts of population but also social and economic changes. Chapin does not reflect any of this ferment.

A key question is: Who lives in the central cities today? According to the authors of *The Exploding Metropolis*, it is the minorities, the very poor, the very rich, and the "kooks." Planners are aware of this fact but they manage to ignore it. They overlook the city-dwellers in their planning and concentrate almost exclusively on luring the white middle-class back from the suburbs. Instead of designing liveable low-rent housing, working-mothers' nurseries, community centers and small parks, mass transit and localized cultural facilities—instead of trying to preserve already integrated neighborhoods—most planners are still using their slide-rules and drawing boards to plan for the ideal city dweller, the middle-income, stable, white family. Look at the results of urban renewal across the country: They are middle-income and luxury apartment enclaves along with even more expensive town houses, plazas and shopping centers, municipal auditoriums and commercial structures. There has been no urban renewal for the benefit of people who live in slums, for those who want their communities rebuilt for *themselves*.

Is it possible, with the financial means and governmental aid available, to plan for existing communities? Chapin does not even consider this possibility, but it has been done. One plan, the Alternate Plan for Cooper Square, drawn up by an aroused Lower Manhattan community and a professional planner, demonstrates the enormous potential of urban renewal. The plan provides for staged demolition and relocation within the site. It includes a large proportion of new low-rent housing along with attractive middle-income units and studios for artists and it offers a welcome diversity of housing types.

The Cooper Square Plan and other re-

Continued on page 252

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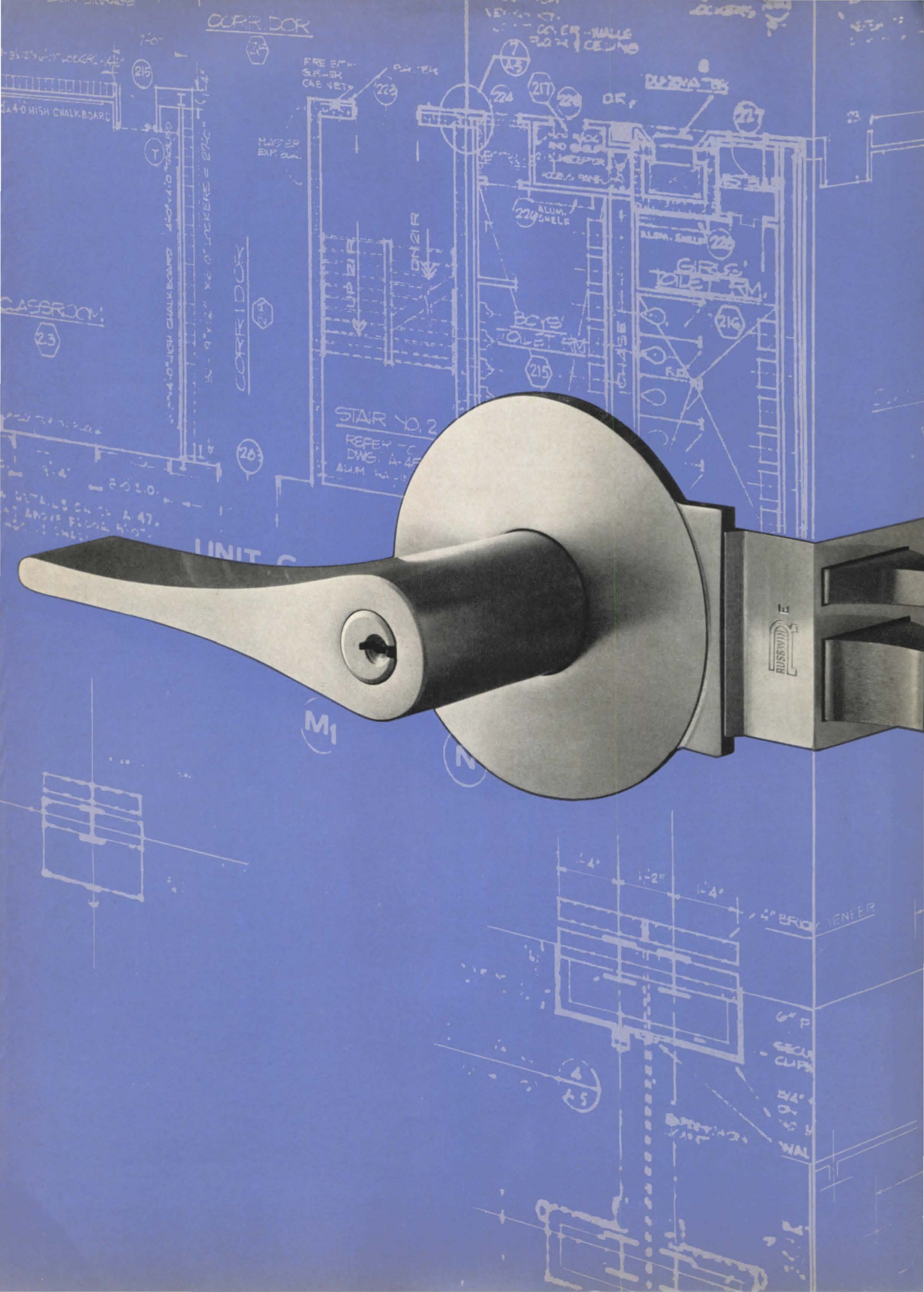
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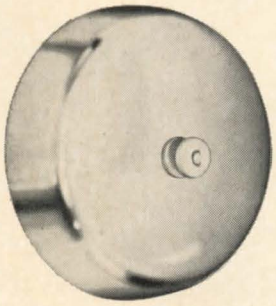

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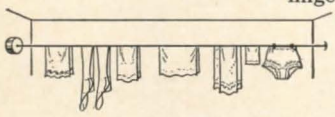

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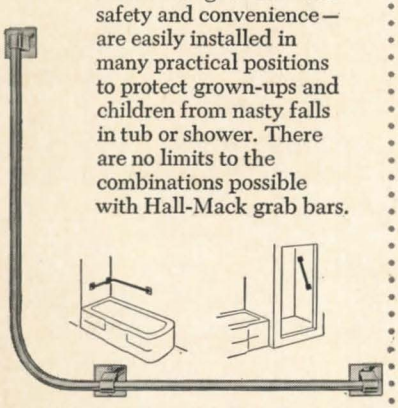

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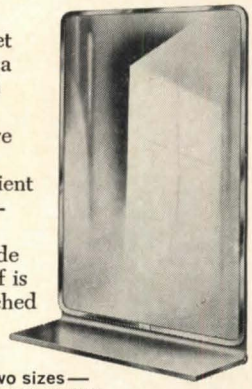

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Continued from page 248

cent developments in New York and other major cities indicate that urbanites are beginning to fight back. They have latched onto a new idea—citizen participation in urban renewal—which is now a Federal requirement in the planning process. Although it generally receives only token observance from government agencies, more and more neighborhood committees, tenant and civil rights organizations, and concerned citizens are getting involved in planning.

For the citizen-participator, Chapin's book is useful reading and provides a good summary of city planning as practiced today in most cities. There are other planners as well as many citizens who think planning could be much more, that it could be both vital and relevant to the urban problems of today.

OTHER BOOKS TO BE NOTED

Modern Artists on Art. Ten Unabridged Essays. Edited by Robert L. Herbert. Prentice-Hall, Inc., Englewood Cliffs, N. J., 1965. 149 pp., $4.95 (hardbound) $1.95 (paperbound).

Essays by Gleizes, Metzinger, Kandinsky, Boccioni, Le Corbusier, Ozenfant, Klee, Malevich, Gabo, Mondrian, Beckman, and Moore are presented in chronological order of their writing—dating from 1912 through 1941. Corbusier's and Ozenfant's "Purism" is here translated for the first time.

New Architecture in Boston. Joan E. Goody, The M.I.T. Press, 50 Ames St., Cambridge, Mass., 1965. 120 pp., illus., $5.00 (hardbound) $2.95 (paperbound).

Excellent photographs, fine architecture, glossy pages, floor plans, maps of Boston and environs, index of buildings=a little book, 5½ in. square.

100 Most Beautiful Rooms in America. Revised Edition. Helen Comstock. The Viking Press, 625 Madison Ave., New York, N. Y., 1965. 210 pp., illus., $12.95.

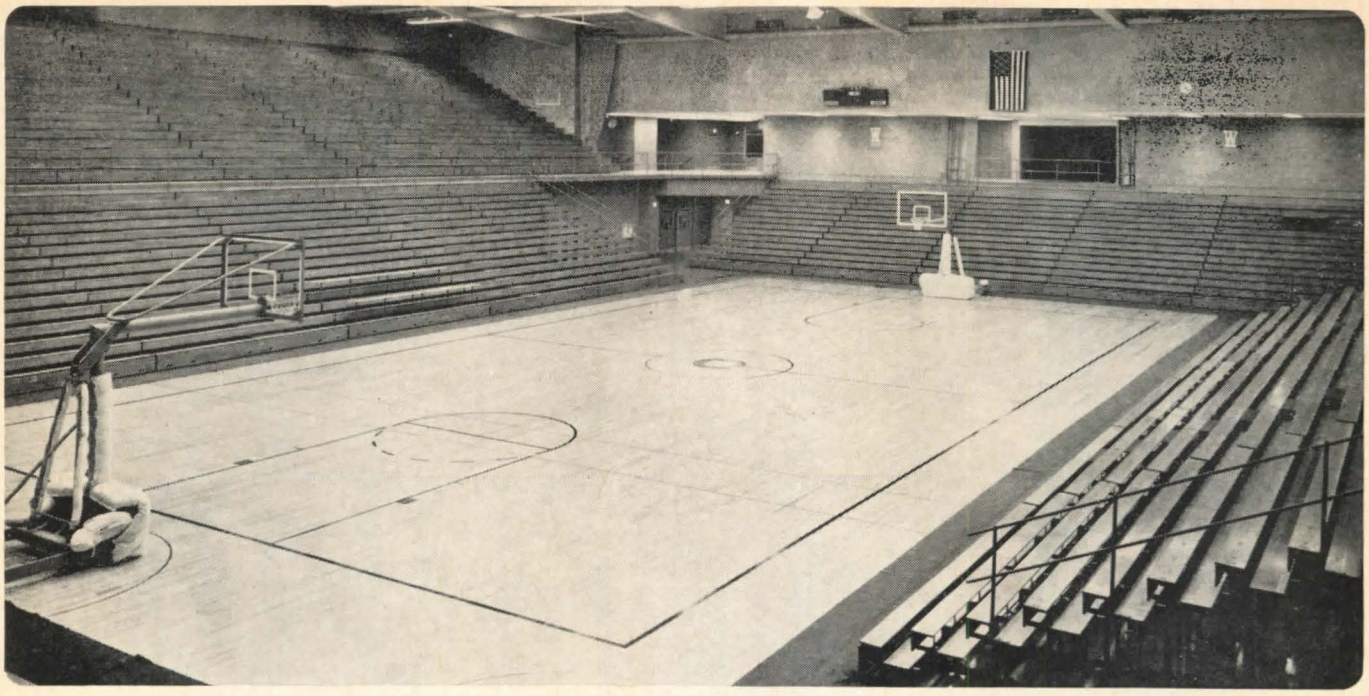
Depending on your taste, your skin will either crawl or not crawl as you realize that most people in this awesome land of ours still crave to live in the Victorian, Queen Anne, or Georgian splendor and overstuffed pomposity celebrated in this volume.

The Splendors of Asia. Dorothy Hales Gray and Robert Payne. The Viking Press, 625 Madison Ave., New York, N. Y., 1965. 157 pp., illus., $12.50.

The only value of this book is in the many black-and-white photographs of artefacts in India, Thailand, and Japan.

Western Heritage: A Study of the Colonial Architecture of Perth, Western Australia. Ray and John Oldham. Paterson Brokensha Pty., Ltd., Perth, W. A. Distributed by Australian Book Center, P. O. Box 634, New Rochelle, N.Y. 1965. 102 pp. illus. $8.50.

The subject, perhaps one of the most narrowly defined subjects ever mentioned in these columns, is given in the title.



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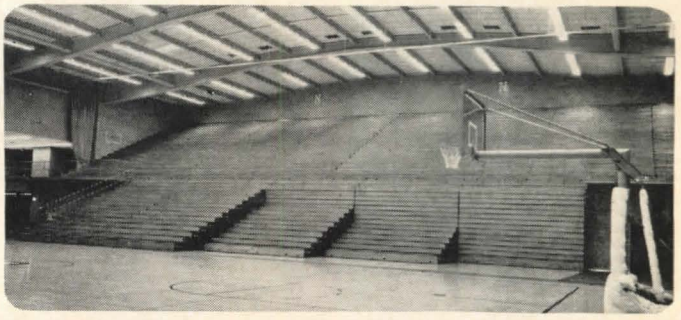

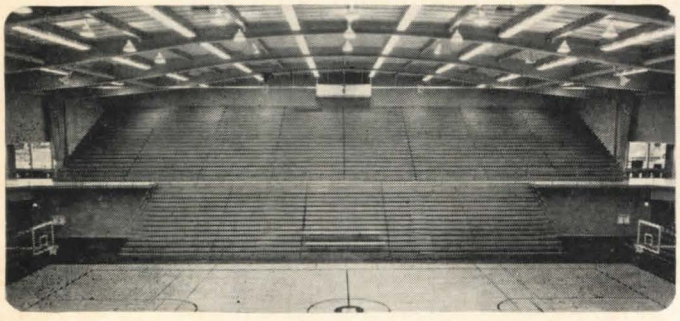

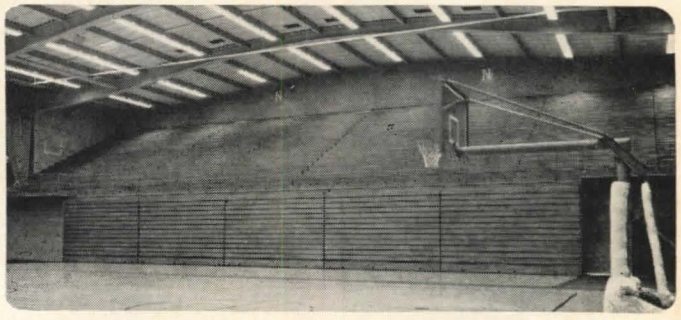

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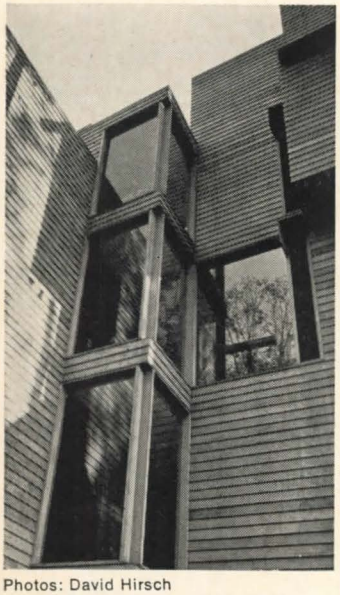

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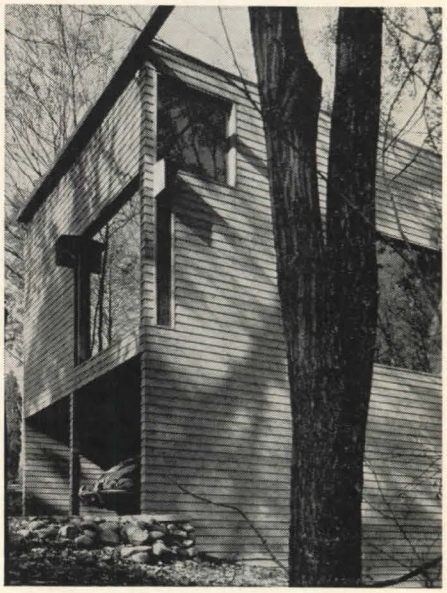

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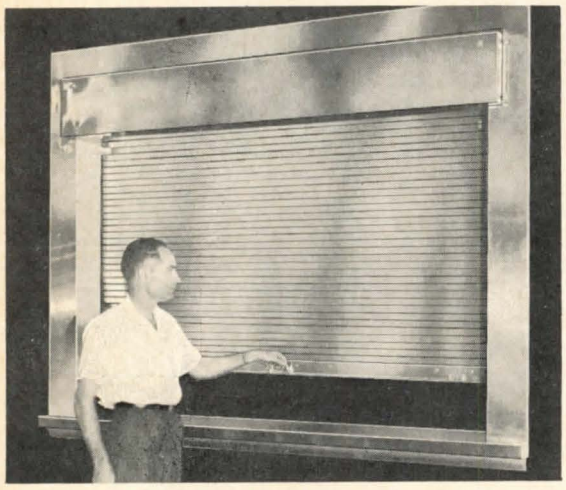

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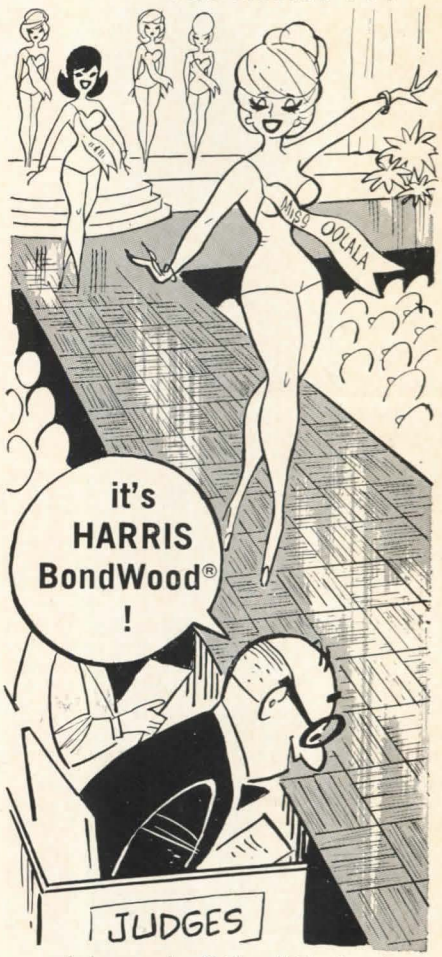

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