



FORUM

IN ACCT.
WITH

[illegible]

MEMBER FEDERAL RESERVE SYSTEM
MEMBER NEW YORK CLEARING HOUSE ASSOCIATION
MEMBER OF THE FEDERAL DEPOSIT INSURANCE CORPORATION

WORLD® CARPETS

DALTON, GEORGIA 30720

URBAN AMERICA, INC.

STEPHEN R. CURRIER
FIRST PRESIDENT 1965-1967

PRESIDENT

Terry Sanford

VICE PRESIDENTS

C. McKim Norton, AIP
Lelan F. Sillin Jr.

EXECUTIVE VICE PRESIDENT

William L. Slayton

TREASURER

Alfred S. Mills

SECRETARY

Walter F. Leinhardt

BOARD OF TRUSTEES

HONORARY CHAIRMAN

Harland Bartholomew, AIP

CHAIRMAN

Andrew Heiskell

VICE CHAIRMAN

James W. Rouse

Mrs. Vincent Astor
Edmund N. Bacon, AIP, AIA
Robinson F. Barker
George T. Bogard
Dr. Kenneth B. Clark
Albert M. Cole
Jack T. Conway
Roscoe P. DeWitt, FAIA*
William D. Eberle
Edwin D. Etherington
Ben Fischer
John W. Gardner
Mrs. George A. Garrett*
Robert L. Geddes
Lawrence Halprin
August Heckscher
Leon E. Hickman
Thomas P. F. Hoving
Charles C. Johnson Jr.
Lewis E. Kitchen*
Ferd Kramer
Martin Meyerson, AIP
Alfred S. Mills
John H. Muller
Quigg Newton
C. McKim Norton, AIP
Robert B. Pease
J. Stanley Purnell
Frank C. Rabold
Henry R. Roberts
John H. Rubel
Arthur Rubloff
George Russell
Terry Sanford
Lelan F. Sillin Jr.
John G. Simon
Julian H. Whittlesey, FAIA
Joseph C. Wilson
Whitney M. Young Jr.

*Honorary

NATIONAL ADVISORY COUNCIL

CHAIRMAN

Terry Sanford

URBAN AMERICA, INC., including its National Advisory Council, is a nationwide nonprofit educational organization combining the programs and resources of two national organizations with the common goal of improving cities—Urban America (formerly American Planning and Civic Association) and the ACTION Council for Better Cities.

LETTERS

14

FORUM

35

A monthly review of events and ideas.

BOSTON'S CITY HALL

39

A critique by Sibyl Moholy-Nagy; and four new projects by city hall Architects Kallmann & McKinnell.

GHETTO ON THE UPSWING

58

The Urban Workshop is what's happening in L.A.'s riot-scarred Watts.

FOCUS

64

A monthly review of notable buildings.

DIALOGUE IN TENSION

68

Sculptor Kenneth Snelson's "push and pull" in New York's Bryant Park.

WHAT TO DO ABOUT CITIES

70

Two dissimilar panels have come up with remarkably similar solutions.

MINNESOTA MALL

74

Minneapolis' Nicollet Ave. is for meandering buses and moseying people.

BOOKS

82

John Wellborn Root; José Luis Sert.

MILL ON THE MERRIMACK

84

Eulogy to an unknown city: the Amoskeag Millyard in Manchester, N.H.

MINIVILLAGE IN FLORIDA

92

A four-family, lowrise village on a 60 ft. by 110 ft. lot is no easy trick.

TOWARD LOW-COST HOUSING

96

Lancaster's mayor hurdles all obstacles to get three prototypes built.

BANK IN A BRIDGE

100

The Federal Reserve scores a breakthrough for buildings and for banks.

PREVIEW

112

Metro Centre, Toronto, Canada.



Cover: Design by Charlotte Winter based on Boston's City Hall (p. 39)

THE ARCHITECTURAL FORUM

Vol. 130 No. 1. Jan/Feb. issue.

Published 10 times a year, combining

Jan./Feb. and July/Aug. issues,

by Urban America, Inc., 111 W. 57 St.

New York, N. Y. 10019.

Sent without charge to architects

registered within the U.S.A. and Canada.

Qualified persons are invited to write the

Circulation Manager on company

letterhead. Please give your principal

state of architectural registration,

your title, and the kind of work you do.

Correspondence regarding service,

change of address, etc., should be sent

to the Circulation Manager.

Subscription rate is \$12 within the

U.S.A., possessions and Canada.

Elsewhere, \$20. College Rate for students

and faculty members of U.S. and

Canadian accredited schools of

architecture, \$6. Single copies, \$1.50.

Member of Business Publications

Audit of Circulation, Inc.

Controlled circulation postage paid

at New York, N.Y.

© 1969 by Urban America, Inc.

All rights reserved.

PUBLISHER'S NOTE

When, as the year just past was about to finish its course, astronauts Anders, Borman, and Lovell settled down inside Apollo 8 and left the environment of Earth behind them, they put too big an exclamation point to the 1968 sentence for us to ignore the event—or avoid conjecture about what it meant for our future.

The moon is ugly beyond earth's experience; bone-dry, pock-marked with craters, and smothered in dust. It has no water, no forests, no wind, no sound, no movement and no life. Yet this bleak globe is inspiring man to create a highly efficient environment.

The space program is a technical triumph. 300,000 engineers, technicians and workers, 20,000 contractors and 33 billion U.S. dollars went into Apollo 8, and much more effort and money will go into building lunar space stations.

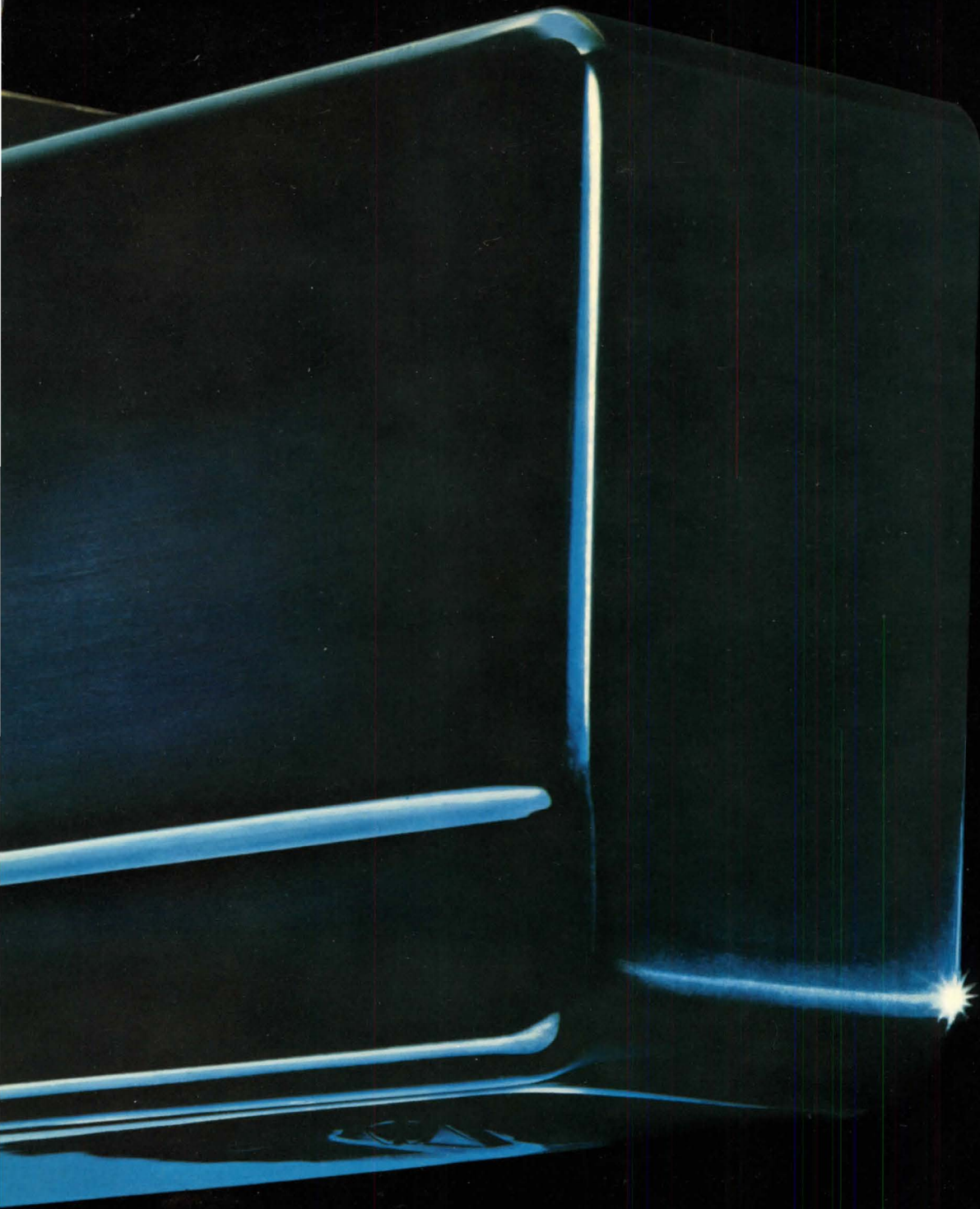
This means that 250,000 miles from home the astronauts can drink unpolluted water and breathe an atmosphere free of ash, soot, sulphur dioxide, carbon monoxide or any of the other eye-watering pollutants that threaten us here. NASA has even solved the sewage problem. On manned lunar stations, all organic matter will be re-cycled and put to new uses.

It seems as though in creating a new environment where none exists, we will care for it better than the one Created for us here. Maybe Apollo 8 is really man's first practical probe for an escape from the desolation he is creating on earth through his own folly.—

L.W.M.

A close-up photograph of a dark, glossy car door handle and trim. The handle is a sleek, horizontal bar with a small, rectangular push-button in the center. The trim consists of two parallel lines running along the side of the door. The lighting is dramatic, highlighting the curves and reflections of the polished surface.

top of any line



the Powerglide® 150 door closer

No point in superlatives. Let's just say that now all the features you want in a door closer are on tap in one smooth, good looking package. The ultimate refinement of the tested Powerglide line, the top of any line.

For one thing, the 150 series closer will handle any door. It can be inverted, even on a corner bracket, and comes complete with a special backcheck selector valve for standard or parallel arm applications.

The new closer is designed to control effectively a full range of door sizes. Its adjustable spring can be tuned to give a minimum of 50% extra closing power to compensate for any conceivable installation, location, or air flow pattern. For hospitals and other special installations, your customer can "dial" delays in its

closing cycle. Finally, the trim, heavy-gauge cover that conceals the massive machinery of the 150 series closer blends in and belongs. The nonferrous bronze or aluminum cover is available in all standard plated and sprayed finishes.

For full details on this product of more than 80 years of door closer experience, write: Sargent & Company, 100 Sargent Drive, New Haven, Connecticut 06509 • Peterborough, Ontario • Member Producers' Council



SARGENT®

A complete line of advanced architectural hardware, including the Sargent Maximum Security System.

Moentrol[®] prevents sudden temperature extremes in showers and baths.

For pure comfort and convenience, there is nothing like Moentrol. This shower valve has a unique pressure balancing system. It precisely balances hot and cold water pressures. As a result, other water uses on the same supply lines will not affect the bather's desired water temperature. That remains constant throughout the shower or bath.

With Moentrol, people don't have to bother adjusting two handles. Moentrol is a single control for both water flow and temperature.

Moen, inventors of the single-handle faucet, designed Moentrol especially for motels, hotels, apartments, schools, clubs—everywhere a bath or shower is on the same water line as a lavatory, a water closet, or washing appliances.

For specifications and information on how Moentrol pressure balancing works, just write: Moen, Elyria, Ohio 44035, a division of Standard Screw Co., 216/323-5481.

The faucet that turns
people on. **MOEN**



WSBP-6814



LAKE POINT TOWER, Chicago, Illinois/Architect: Schipporeit-Heinrich/ General Contractor: Crane Construction Co./Glazing Sub-Contractor: National-Hamilton, Div. of Bienenfeld Glass Corp.
1" Polarpane glazing manufactured by Polarpane Corporation

Glaverbel Bronze...Outfaces the sun!

Glaverbel Bronze drawn sheet glass is magnificent in appearance, practical in application. Like other Glaverbel window glass, it has greater surface regularity, fewer defects. But even more—it *controls the sun*, by filtering solar light and heat! Prevents eyestrain, subdues reflected light; temperature control systems work more efficiently, more economically, the year round. And Glaverbel Bronze provides unusually attractive decorative effects for interiors as well!

Glaverbel

For additional information, please contact:

GLAVERBEL (USA) INC. EMPIRE STATE BUILDING
350 FIFTH AVENUE, NEW YORK, N. Y. 10001

DRAWN SHEET GLASS / TINTED GLASS / CAST GLASS / FLOATED PLATE GLASS
ENAMELED GLASS / DIFFUSE GLASS / DIFFUSE NON-REFLECTING GLASS

See Sweet's Architectural File 4a/GL



Recent Heugatile installation in the Office of the Dean of the School of Architecture at The University of Toronto.

**When you make
the world's only loose-laid,
totally-interchangeable
carpet squares, you can
let beauty speak for itself.**

Because there are things other than beauty to talk about.*

- * **INSTALLATION.** Heugatile carpet squares are loose-laid. They remain securely in place without adhesive, without tacking, and without underpad.
- * **WEAR & TEAR.** As a chain is only as strong as its weakest link, conventional carpet lasts only as long as its heaviest traffic area. But Heugatile guarantees longer life two ways. First, Heugatile is more durable, more stain and burn resistant than most conventional carpeting. Second, Heugatile carpet squares can easily be rotated periodically from heavy-traffic areas to light-traffic areas to prevent the development of the wear patterns that ultimately ruin conventional carpeting.
- * **SPILLS & DAMAGE.** Ordinary spills? No problem. If you spill something on your Heugatile carpet, simply pick up the carpet square and wash it off under the nearest faucet. Most foods and liquids that spell doom for conventional carpets can be washed off under lukewarm water with mild detergent. If a carpet square is permanently stained or damaged beyond repair — by acid, for instance — a single square can be replaced in seconds.
- * **BURNS.** Are cigarette burns the death of your present carpet? Then you need Heugafelt, one of the three fine Heugatile carpet products. Heugafelt is *totally unaffected* by lighted cigarettes that might accidentally be dropped on it! Thus, Heugafelt is ideally suited for installations in hotels, motels, dormitories, retail stores, banks, and offices.
- * **EXCELLENT ACOUSTICAL PROPERTIES.** Heugatile establishes an acoustical barrier that makes it ideal for use in work areas where noise is a problem.
- * **GUARANTEE.** Heugatile carpet squares are *unconditionally guaranteed* to remain in place . . . *will not curl* . . . *will not buckle* . . . *will not shift* under foot, wheel, vacuum or cleaning machinery when installed according to the laying and maintenance manual. See Heugatile specifications in Sweet's 1969 Architectural and Interior Design Files.



HEUGATILE®

... totally interchangeable loose-laid carpet squares

OFFICES

VAN HEUGTEN U.S.A. INC., 185 Sumner Avenue, Kenilworth, N. J. 07033 • (201) 245-3480
VAN HEUGTEN U.S.A. INC., 2555 Nicholson St., San Leandro, Calif. 94578 • (415) 483-4720
VAN HEUGTEN CANADA LTD., 107 Orfus Road, Toronto 19, Ontario, Canada • (416) 789-7546

SHOWROOMS

NEW YORK — 979 Third Ave., Decoration & Design Bldg. • (212) 355-2089
LOS ANGELES — 516 West 4th Street, Santa Ana, Calif. • (714) 547-6413
SAN FRANCISCO — 2555 Nicholson St., San Leandro, Calif. • (415) 483-4720



Workwall Movable Partitions

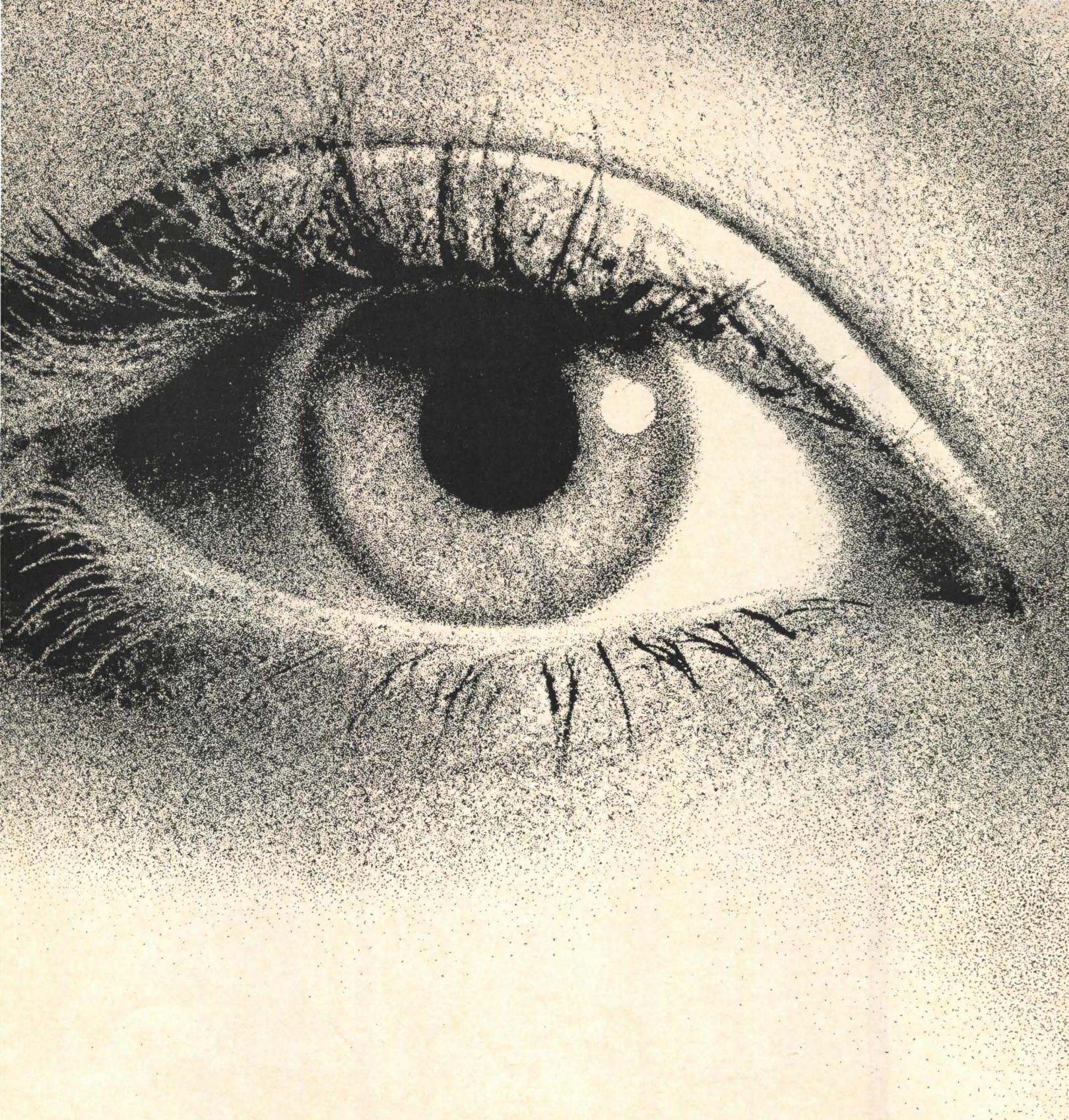
*Action Walls
that Move!*

Initial ease of installation is only part of the Workwall story. Movability to meet changing space requirements is also a most important feature . . . and Workwall Partitions are 100% salvable when rearrangements become necessary. This, combined with the soilproof beauty of Marlite paneling, easy maintenance, and complete flexibility makes Workwall a truly "successful formula for busy buildings".

Write for details or see us
in Sweets $\frac{13a}{W0}$

 **WORK WALL**
MOVABLE PARTITIONS

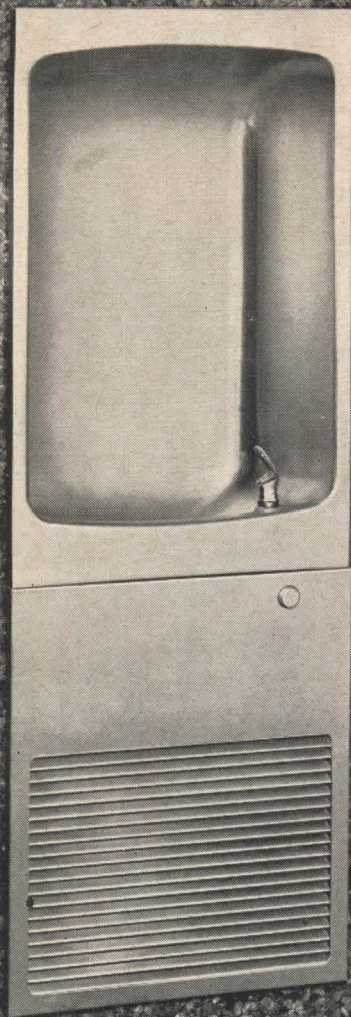
Division of the Marmon Group Inc. / Box 130, Bronson, Mich. 49028



Watch FolDoor

It's time to take a new look at folding walls and partitions. FolDoor has new ideas on the boards. New products in the lab. New fabrication techniques on the production line. And an *exclusive* ten year warranty on the suspension systems of FolDoor fabric covered partitions. Get full details from your FolDoor distributor or write to Holcomb & Hoke Mfg. Co., Inc., 1545 Calhoun Street, Indianapolis, Indiana 46207.





THE CRISP, CLEAN, CONTOURED LOOK IS

Halsey Taylor®

There is a touch of elegance in this new sculptured design from Halsey Taylor. The RC 8A fully recessed electric water cooler features a one-piece contour-formed receptor and basin. Corners are gracefully rounded instead of square-welded—for easy cleaning. Receptor and louvered access panel are of type 304 stainless steel, polished to a subdued satin finish. Push button control and exclusive 2-stream projector are matching satin finish.

The fountain and cooling unit can be flush mounted in any type wall — requires only 12" back recess.

Recommended for hospitals, schools and public lobbies or other applications where uninterrupted corridor space is required.

THE HALSEY W. TAYLOR CO.,
1564 THOMAS RD. • WARREN, O.

SUBMITTAL INFORMATION KIT

Information on the Halsey Taylor RC 8A fully recessed electric water cooler is not contained in Sweet's or the Halsey Taylor product information catalog. If you need specification sheets, roughing-in drawings, full product description, and photographs for a current job, please fill in this coupon and mail.

I am submitting a proposal on _____ (please describe)

When would you require delivery? ☐ 1-3 months ☐ 3-6 months ☐ over six months

What quantity do you anticipate using? _____

Comments _____

NAME _____ TITLE _____

COMPANY or INSTITUTION _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

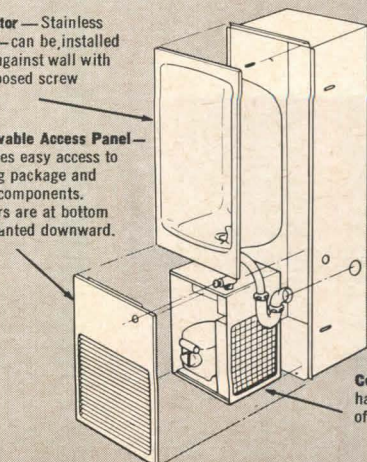
NEW FULLY-RECESSED ELECTRIC WATER COOLER COMPLETE PACKAGED UNIT IS EASY TO INSTALL

Receptor — Stainless steel — can be installed flush against wall with no exposed screw heads.

Removable Access Panel — provides easy access to cooling package and inner components. Louvers are at bottom and slanted downward.

Mounting Box — Sturdy steel box can be quickly secured in any type wall. Permits roughing-in of electric and plumbing connections prior to mounting of receptor fountain and cooling unit.

Cooling Unit Package — has capacity of 8 GPH of 50° F. water.



Cotswold by Brian Yale; selected from designs submitted by Students of the Royal College of Art, London



Pilkington Patterned Glasses put a new dimension into design.

Pilkington patterned glasses are as up-to-date as the newest design ideas. Pilkington exclusive patterns, like Cotswold seen here, have been specially designed to

match the modern idiom in interior design. For details of the full Pilkington range, both exclusive and standard patterns, write to our U.S. representative: Mr. J. Baldry, Pilkington Brothers (Canada) Limited, 55 Eglinton Avenue East, Toronto 12, Canada.

**PILKINGTON
GLASS**



plaza one

Tomorrow's plaza system is in use today! There are seven other systems to complement number one—all developed for different purposes—all designed with All-weather Crete insulation. "System One" has wearing slabs sloped to drain.

These systems are being used today by leading architects throughout the nation. Why? Because no other type of insulation offers so many advantages in plaza construction. Heavy density All-weather Crete acts as an insulating cushion to protect the waterproof membrane, thus solving a failure problem often encountered in other systems. The K Factor is .46; it has excellent load bearing capabilities and can be sloped or applied level. There's other advantages too.

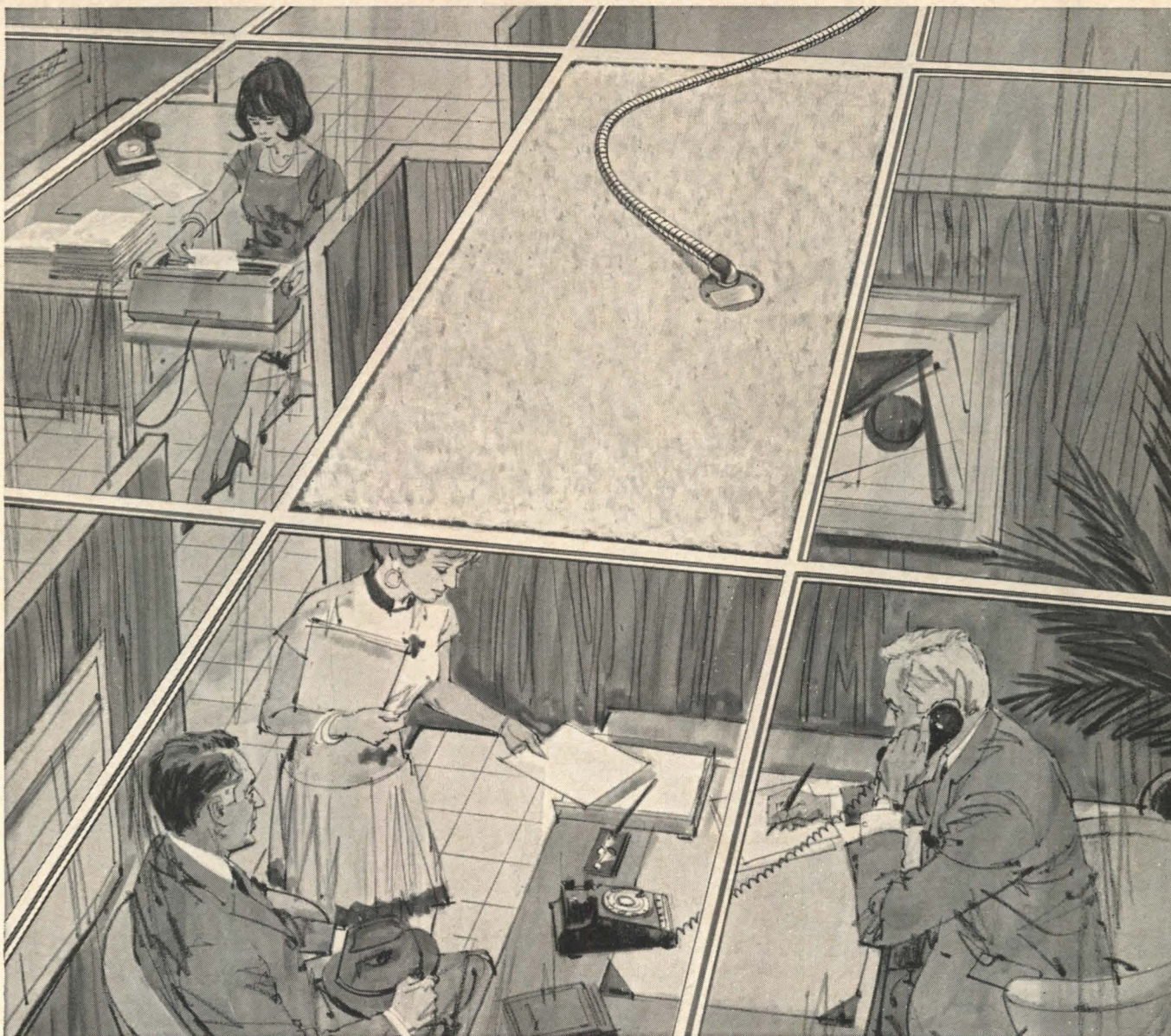
Check out "Plaza One"—Two—Three—all Eight! Write for a full color brochure complete with diagrams and specifications. (You may want to design "AWC Plaza Nine" yourself.)



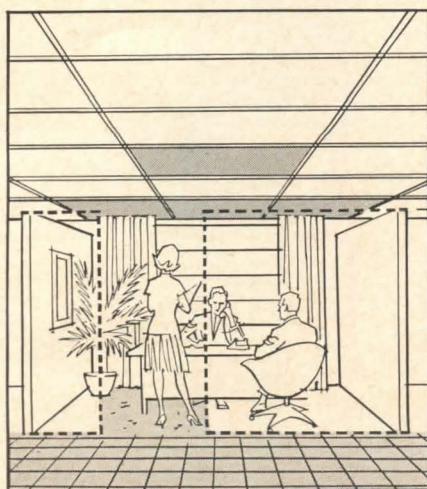
SILBRICO
CORPORATION

6300 RIVER ROAD • HODGKINS, ILLINOIS 60525

CHICAGO PHONE (312) 735-3322



Office needs can change overnight, so drop in a heating system that can change, too.



3M Brand Radiant Electric Heating Panels, in T-bar ceilings, combine comfort...flexibility

3M Heating Panels are designed specifically for drop ceilings. They radiate gentle, comforting, warmth from above like the sun. There are no drafts. The floor stays warm. Each room is thermostatically controlled to suit the activity.

And 3M Heating Panels give you complete freedom of design. Won't interfere with ductwork, utilities or structural members. Only one-inch thick, the panels fit into standard 2' x 4' T-Bar modules. To install, simply drop them in and wire them up. Removal and relocation is just as easy.

Safe, practical and efficient, 3M

Heating Panels have no moving parts to whir, rattle or wear out. Cycle on and off without a sound. Ideal for use as a total heating system or for supplementary heat in high heat loss areas.

3M Heating Panels are supplied in an off white color to blend with surrounding acoustical or translucent lighting panels. They can also be painted to suit decorating needs.

For more information, write: Dept. ABC-108, 3M Company, 3M Center, St. Paul, Minn. 55101.

3M is a registered trademark of 3M Co.

Electro-Products Division **3M**
COMPANY

WE CALL IT "ZONED" COMMUNICATIONS



PROVIDES CONVENIENT EXTRAS It may be as simple as a conversation between two people or as complex as a group conference. It may also include paging, time and emergency signals, and music distribution. Requirements for private conversation, hands-free operation, remote answering, direct or automatic dial connection can all be met with Teletalk equipment.

WIDEST CHOICE OF SYSTEMS You have a choice of Teletalk® loudspeaking intercom, private and automatic dial equipment, and sound. They may be used in combination in a zoned network to provide the best communications tool for each zone.

EXPERT COUNSEL Only Webster offers such a variety of methods and such a full range of special features. Only Webster, too, offers such expert counsel. Webster consultants are highly skilled at planning and installing communications systems tailored to meet the immediate and future needs of business and professional offices, industry, schools and churches.

Teletalk — Reg. T.M. of Webster Electric Co., Inc. for communications equipment.

COMMUNICATIONS DIVISION

WEBSTER ELECTRIC COMPANY, INC.
RACINE, WISCONSIN 53403

subsidiary of Sta-Rite Industries, Inc.

Please send me complete information on Webster communications

Name.....
Title.....
Firm.....
Address.....
City..... State..... Zip.....

5723

GET ALL THE FACTS

Send coupon for the new "ZONED COMMUNICATIONS" brochure. Or, call your Webster Distributor*. Either way, there's no obligation, of course.

*See Yellow Pages — "Intercommunication Equipment"

LETTERS

PARK-MALL PLANNING

Forum: I should like to call your attention to a few errors and omissions in W. Joseph Black's Park-Mall study review [Dec. '68 issue]. Mr. Black erroneously grouped my job as Director of the Urban Renewal Design Center with Director of the Master's Program. The Master's Program in Urban Design has traditionally been under the direction of the Dean of the School of Architecture, although, in fact, the program was coordinated for the past five years by Roger Montgomery, now at Berkeley.

The cultural facilities Mr. Black finds lacking in the proposals, from jazz and community centers to schools, colleges, and adult education facilities have been amply provided, in particular see pages 25-28. It is the nature of things that a baseball field occupying 18 people is large enough to house a school for 300. This is not to say the schools and cultural facilities are not there; they simply take up much less space and so are much less evident.

I would not, however, like to detract from Mr. Black's use of the study to make the point that we intentionally stereotyped Negro development into a direction of athletic versus "cultural" achievement. The issue obviously is of community involvement in planning decisions. In either case, I doubt that the one-sided provision of facilities of either athletic or "cultural" content could result in the creation of a new generation of Olympic champions versus cultural esthetes—would it were that easy.

I am also somewhat dismayed that he did not mention my associates in the study, particularly Brian Kent. Where I enjoyed statements talking of "Newman's farsighted thinking," it would have been easier to have been able to have spread the criticism.

OSCAR NEWMAN
Architect

White Plains, N.Y.

MR. BLACK REPLIES

The one error mentioned was typographical. That sentence should have read "He was formerly director of the Master's Program in Urban Design at [rather than and] the Urban Renewal De-

sign Center at Washington University in St. Louis."

While the interdisciplinary team did provide educational, institutional, and commercial facilities as vital components of the "Center," and recreational facilities as essential features of the "Spine," cultural facilities were not provided on the basis of a first-hand knowledge of the area, nor did the research and design team manage to form an appreciation of the cultural values and life style of residents of the Lawndale community.

One of the major failures of the school systems is that they tend to ignore the cultural achievements of non-European people, and Americans suffer from a culturally biased education. One way to correct this educational imbalance is to provide a range of cultural facilities which express the value system of the community and which satisfy user requirements. For instance, "Transition Zones" could be developed as cultural crossroads. As public open spaces, they could provide creative recreational facilities, cultural festivals, and art fairs. Even neighborhood gangs such as the Blackstone Rangers, whose members appeared before a Congressional hearing, have become interested in cultural affairs and should be encouraged to do something positive for their community. Where the schools have failed, cultural institutions could succeed. A jazz center could be a key cultural facility, for instance, and a "Group Dynamics Center," unlike the traditional community center, could provide for a variety of activities responsive to changing conditions.

Those involved in the Park-Mall Lawndale Study, in addition to Messrs. Newman, Kent, and Montgomery, were Robert Boguslaw, sociologist; George Dickie, landscape architect; Kevin Lynch, planner; and the following graduate research assistants and students of Washington University's Urban Design Program: Albert Lerch, William Albinson, Jurgen Aust, Keith Carney, William Chan, Larry Ellis, Leonard Feinberg, Louise Nystrom, T.F. Peng, and Douglas Taschi.

CREDIT

We neglected to credit Ann Douglass for the photographs of Marian Miller and her oriental rugs which accompanied Walter McQuade's column in the Dec. '68 issue, page 90. Our apologies.—ED.

(continued on page 24)



SANTA CRUZ COUNTY GOVERNMENTAL CENTER, Santa Cruz, Calif.; Architect: REID, ROCKWELL, BANWELL & TARICS, San Francisco; Structural Engineer: NICHOLAS FORELL AND ASSOCIATES, San Francisco; Contractor: JASPER CONSTRUCTION INC., Santa Cruz; Precast Concrete: BASALT ROCK CO., Napa; Ready-Mixed Concrete: CENTRAL SUPPLY CO., Santa Cruz.

All-Concrete County Courthouse

Handsome Governmental Center for Santa Cruz County, California, uses 11,400 precast elements—achieves substantial cost savings

The \$6-million Santa Cruz County Governmental Center in the city of Santa Cruz, California, is a striking example of contemporary design expressed in economical concrete. This impressive complex—consisting of a 5-story Administration Building, a 1-story Courts Building and a connecting bridge—was erected at a cost of only \$24.16 a square foot—\$4.00 less than the average for comparable county buildings in the state.

The secret lay in the Center's intricate repetitiveness on a 5-foot module, which permitted precasting of some 11,400 concrete elements. These included Vierendeel

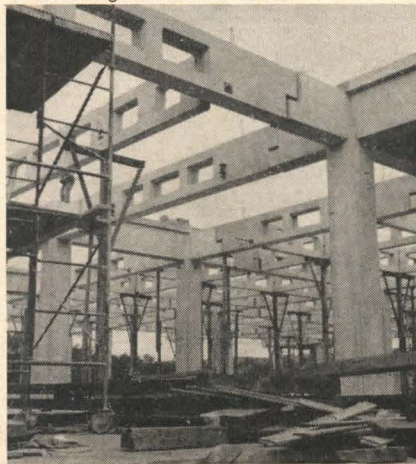
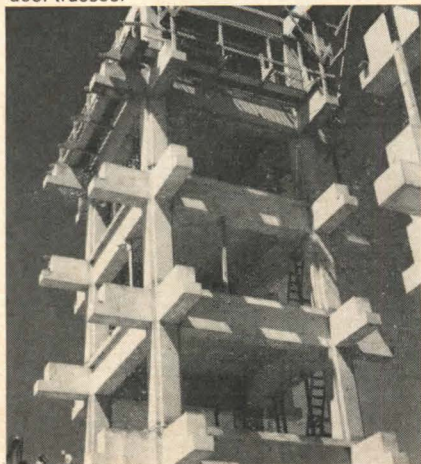
trusses and beams, wall panels, floor and roof slabs, stair steps and stair landings, eave panels and sun-screens.

The trusses and beams were also left exposed, eliminating the need for suspended ceilings.

To enhance the concrete in this handsome, money-saving Center, a uniform light-colored cement was used throughout—popular Santa Cruz Cement, produced by Pacific Cement & Aggregates, a division of Lone Star operating in California and Hawaii. Lone Star Cement Corp., 100 Park Avenue, New York, N.Y. 10017.

For the Administration Building, 5-story cast-in-place tower bents were designed with cantilevered stubs, to carry precast Vierendeel trusses.

Vierendeels were also used in the Courts Building, to frame and cross frame nine contiguous bays. Both structures were designed to resist high seismic stresses.





PRO BASKETBALL

**demands the best in hardwood flooring . . . and that's
MFMA HARD MAPLE**

Playing basketball is one of the toughest ways to earn a living. And the pro teams don't gamble on the basketball floor they use!


It's a fact — each NBA and ABA team competes on a hardwood floor — either a permanent or portable installation. A hardwood floor — such as a MFMA hard maple floor — has greater resiliency for faster "live" action, assures better footing, helps minimize injuries, provides greater peripheral vision for better accuracy in shooting and passing.

It pays to join the pros when choosing your next basketball floor — and get savings too with annual routine maintenance costing about 7c a square foot per year.

Look for the trademarked MFMA millmark impressed on the underside, and imprinted on the face that identifies genuine MFMA hardwood flooring of maple, birch, or beech. For details see Sweets Catalog or write . . .



Maple Flooring Manufacturers Association
424 Washington Avenue
Oshkosh, Wisconsin 54901



**A tenant can't do much about elevators
that make him wait and wait...**

until his lease is up.

Perhaps he's on a lower floor and gets bypassed when everybody else is trying to get down. Or he rents several floors and can't get from one to another. Or up from the basement after he parks his car. Or he simply can't get an elevator when he wants one. Rush hour. Off hour. Any hour.

Westinghouse Mark IV Elevators can make the difference. They cut waiting time at least 30% over conventional systems. A Mark IV System scans the building for each car independently. It watches calls and keeps track of other cars. As soon as an impatient tenant touches a button, Mark IV assigns a car to pick him up fast. All floors get equal service. Twenty-four hours a day.

Keep the tenants in your new building from moving out. Give them elevators that keep them moving: Mark IV Elevators. Westinghouse Elevator Division, 150 Pacific Avenue, Jersey City, N.J. 07304.

You can be sure...if it's Westinghouse





The number is Corbin 110

Your number for dependability. Strong, functional and stylish. One of many utilitarian door closers from Corbin. It typifies the beauty, quality and dependability built into all Corbin products.

Your Corbin distributor can furnish you with complete data on this design, or write P. & F. Corbin, Division of Emhart Corporation, New Britain, Connecticut 06050. In Canada—Corbin Lock Division.



Everybody in this picture is an old pro at upsetting your ideas about classroom walls.

You wouldn't think it to look at them. Pretty young teacher, bright, happy kids.

But they're making shambles of old notions about what kinds of space and environment help teachers teach, students learn. Where they have walls today, they may not want them tomorrow. And maybe they won't need walls at all.

The result has been more and more open-planning in new schools, and more emphasis on walls that can be moved.

Like the Hauserman Double-Wall system.

Hauserman Double-Wall is meant to be moved. We can take down the interlocking steel panels of Double-Wall and relocate them for you over a weekend.

But while Double-Wall is in place, it's a teaching aid with floor-to-ceiling chalkboards, magnetic tackboards and so on. And, of course, it's engineered to take utilities, stop sound and fire.

The cost? Only slightly higher initially than a typical fixed wall. After that, Double-Wall begins to pay for itself.

Oh, it takes some planning to get all the advantages of our Double-Wall into your new school. But we'll work with you every step of the way to make sure you get them. All it takes is a call or letter to 5711 Grant Ave., Cleveland, Ohio 44105, and we'll send a Hauserman man right over.

Now, he may not be young and pretty. But you can be sure he'll be a pro about movable classroom walls.



Hauserman Double Wall:

Wall systems you can change
as your schools change.

Think tile is the only way to moisture-proof a wall? Look again.



Here's how with FORMICA® Panel System 202

Now with FORMICA® Panel System 202 you can specify a moisture-proof wall and create an entire new look at the same time. Panel System 202 features a smooth surface with no grout lines to get dirty. It won't chip, crack or crumble, and goes over any structurally sound wall. Panel System 202 comes in 18 appealing patterns and woodgrains. Best of all, it *keeps* its beauty for the life of the installation.

Send for our new 8-page folder of application and product data on Panel System 202. Write Dept. AF-19.

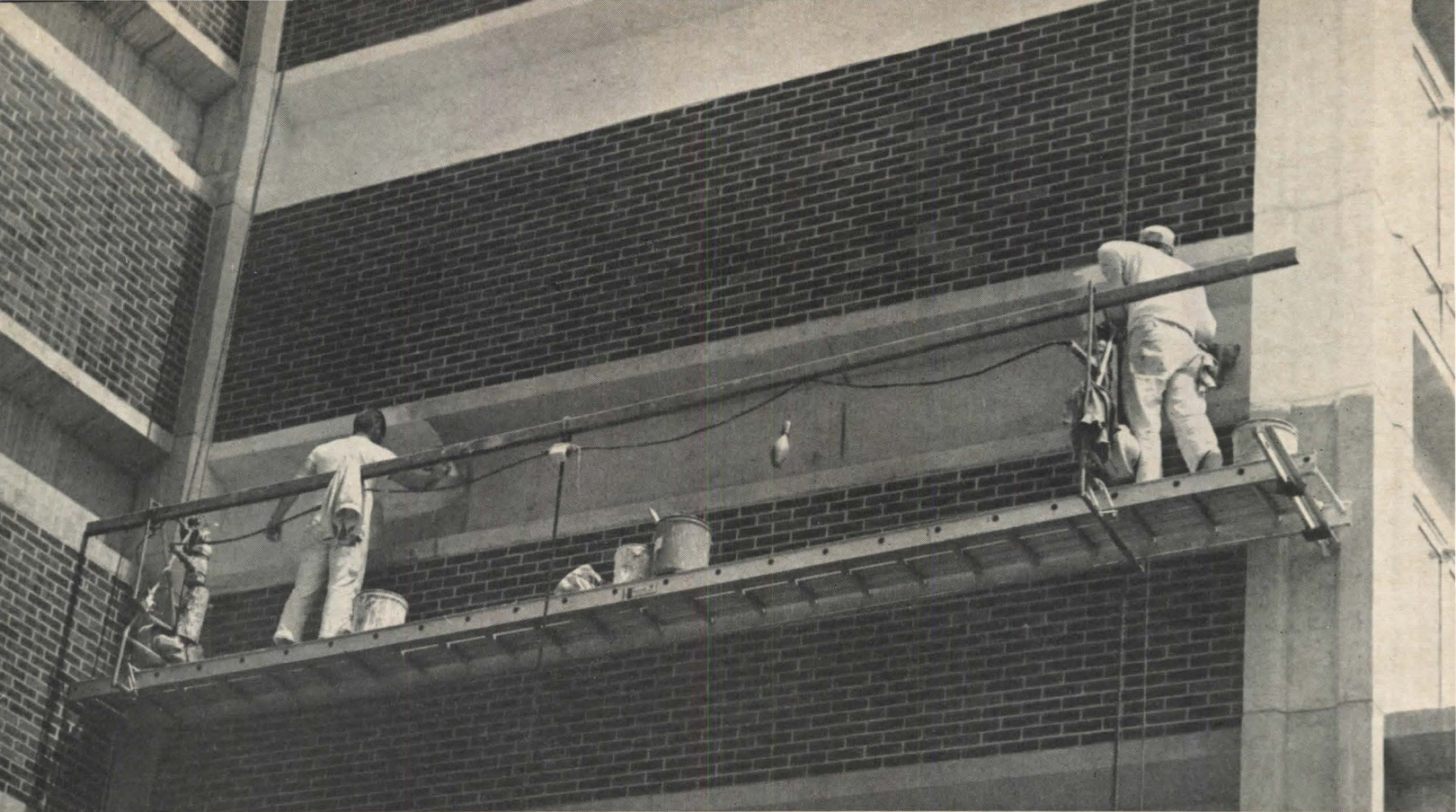
There are other brands of laminate but only one

Leadership by design



Formica Corporation • Cincinnati, Ohio 45232 subsidiary of





*Marquette Manor, Cincinnati, Ohio; H. M. Garriott & Assoc., Arch.; Frank Messer & Sons, Inc., Gen'l Cont.; The Nurre Co., Dist.
(all in Cincinnati, Ohio)*

There's no secret to the benefits builders everywhere are discovering about the time-and-money saving qualities of Thoroseal plus Acryl 60. Brush on two coats of this cement-base coating (as they did in this Cincinnati apartment) and the rough, concrete surfaces are filled and sealed, decorated and waterproofed for as long as the building stands—and in a beautiful color choice, too. Write for further details and specifications about Thoroseal and its uses.

STOP RUBBING CONCRETE!

THOROSEAL finishes and waterproofs masonry with amazing speed at a fraction of the cost!



STANDARD DRY WALL PRODUCTS, INC.
DEPT. 69-AF-1, NEW EAGLE, PA.

Who's responsible for all this?

Northwestern University Biological Center, Illinois:

Concrete reinforcing steel for slabs and walls.

Westinghouse Nuclear Components Plant, Florida:

Steel wall panels with Duofinish 500™ polyvinylidene fluoride coating.

First National Bank of Chicago Office Building, Illinois:

Hi-Bond® cellular steel floor deck (installed).
Post tensioned tie beams.
Fabricated structural steel.
Milcor® steel access doors.
Stainless steel rail for window washing apparatus.
Concrete reinforcing steel.

Aircraft Taxi Strip, O'Hare International Airport, Illinois:

Fabricated structural steel.



**Point Beach Nuclear
Power Plant, Wisconsin:**


Post tensioning assemblies
for prestressed concrete
containment structure.
Long life Duofinish 500
steel wall panels. Steel
roof deck. Steel floor deck.

**Salt Lake County Civic
Auditorium, Utah:**


Steel roof deck and
Acoustideck® (erected).
Steel floor deck.
Milcor® metal lath, corner
beads, wide flange studs.
Milcor steel access doors.

**H.K. Porter
Company, Inc. Plant,
Arkansas:** Slope Beam
structural steel framing
system. Steel wall and roof
panels with Duofinish™
factory baked-on finish.
Roof drainage system.
(Building erected).

Inland-Ryerson. These two leading
construction industry suppliers are now
combined to help you design and build tomorrow's
projects. Inland-Ryerson can offer you a unique
combination of products and skills never before
available from a single company. We'd like to give
you some specifics about who we are and
what we can mean to you. Write for a colorful booklet.
Inland-Ryerson Construction Products Company, Dept. A,
4031 W. Burnham
Street, Milwaukee,
Wisconsin 53201.

INLAND 
RYERSON

SYSTEMS / COMPONENTS / SKILLS
TO HELP YOU BUILD

A member of the  Steel Family

LETTERS

(Continued from page 14)

CHICAGO CIRCLE

Forum: One of our architecture faculty members just brought his Dec. '68 issue of Architectural Forum into my office and proudly showed me the magnificent section on the Chicago Circle campus.

This is a superb piece!

GROVER E. SHIPTON
Director of Public Information
University of Illinois at Chicago Circle

YES AND NO

Forum: Re: two California banks by Honnold & Rex [Nov. '68, page 64]: Very interesting—but true.

SAM CARSON
Chief Design Architect
Honnold & Rex
Los Angeles

Forum: The two Honnold & Rex buildings work best climatically where they are, the glass-walled one in Los Angeles and the introverted one in Yucaipa.

The temperature in Yucaipa in the summer hovers for weeks on end during the day at 110-115 degrees Fahrenheit. Los Angeles is typically overcast: ocean fog or mist meets warm air to form a haze at best and smog at worst; Los Angeles is sparkling only when a strong Santa Ana wind from the desert blows the fog out to sea.

I have an idea that if you were to set the glass-walled building in Yucaipa you would open up a view to a string town street with an unsightly jumble of commercial activities—certainly not the sylvan scene you imply. I'd like to see it tried: get a view of the Yucaipa site which takes in the surroundings and impose the glass-walled building on it and see how it works.

ESTHER McCLOY
Architecture Critic
Los Angeles

Next time we're in Yucaipa.—ED

UNDERSTANDING PEOPLE

Forum: It was very refreshing to see the article on LaClede Town in the November issue. I think that the more effort that we, as a profession, can put into understanding people and how they live where they live, the better off we will be.

The attitude that all environment must yell of the ego behind

it will get us exactly nowhere today. People are very sensitive and they are beautiful because of it, and we tend to forget it, being covered by professional blinders.

Who cares how "Down Home" the environment looks? It's people who count, and if they respond to it, it has got to be successful. I'm sure that one could argue "esthetics" all day about LaClede Town, but while we were arguing, the people would be running, laughing, singing, and digging life in an environment that we were criticizing.

I think much of the credit for a lively community must go to management. It is significant that Mr. Berger participates and contributes to the community, for in that act he is saying he is more than a rent collector. He is saying he cares. Perhaps in public-private projects this is what really counts, form being relegated to a rather minor role.

The architect must, if he is to survive professionally, extend a hand to people and show that he too cares—really cares.

JERRY V. FINROW
Assistant Professor of Architecture
University of Oregon

SHOTGUN BLAST

Forum: Does it matter where the AIA convenes? If the AIA were interested in democratic process, wouldn't it simply poll its membership? Even if such a symbolic disavowal of police riots were effected, what next? Do you think the AIA as a professional body would be ready to make sacrifices for an environment for human renewal?

If Forum proposes as much, why not use *your* resources in writing substantive position papers to the profession? Isn't Forum just a magazine oriented to the registered architect, an audience for which you may encourage esthetic standards, as well as a pathology of "publicity" architecture? Are not pretty buildings too often the velvet glove for human manipulation or dislocation? If a particular institution is oppressive, can its buildings be otherwise?

If Forum were interested in something more, for example, an enlarged theoretical or technical content, why must one look to magazines such as *Landscape*, *Daedalus*, and mimeographed newsletters for key articles on environmental design? If Forum were interested in extending its audience, say, to the young archi-

(Continued on page 32)

For more information,
write or call any of the
Institute members listed below:

MO-SAI INSTITUTE, INC.



110 Social Hall Ave.,
Salt Lake City, Utah 84111
Members, Producers' Council

ALLIED BUILDING SYSTEMS, INC.

260 Tolland Turnpike
Manchester, Connecticut 06040
203 646-0124

A wholly owned subsidiary of

PLASTICRETE CORPORATION

1883 Dixwell Ave.
Hamden, Connecticut 06514

BADGER CONCRETE COMPANY

P.O. Box 1068
Oshkosh, Wisconsin 54902

BEER PRECAST CONCRETE LTD.

110 Manville Road
Scarborough, Ontario, Canada

BUEHNER & COMPANY, INC.

P. O. Box 1370
Mesa, Arizona 85201

CAMBRIDGE CEMENT STONE COMPANY

P. O. Box 41
Allston, Massachusetts 02134

ECONOMY CAST STONE COMPANY

P. O. Box 3-P
Richmond, Virginia 23207

FORMIGLI CORPORATION

Suite 1208, 6 Penn Center Plaza
Philadelphia, Pennsylvania 19103

GOODSTONE MANUFACTURING CO., INC.

470 Hollenbeck Street
Rochester, New York 14621

GRASSI AMERICAN CORP.

111 South Maple Avenue
South San Francisco, California 94080

HAMILTON CONCRETE PRODUCTS COMPANY

1401 East 39th Street
Chattanooga, Tennessee 37407

HARTER CONCRETE PRODUCTS, INC.

1628 West Main Street
Oklahoma City, Oklahoma 73106

JACKSON STONE COMPANY, INC.

P.O. Box 4355
Fondren Station
Jackson, Mississippi 39216

OLYMPIAN STONE COMPANY, INC.

P. O. Box 685
Redmond, Washington 98052

OOLITE INDUSTRIES, INC.

P. O. Box 877, Ojus Br.
Miami, Florida 33163

THE GEO. RACKLE & SONS CO.

Newburg Station
Cleveland, Ohio 44105

READY-TO-POUR CONCRETE COMPANY

P. O. Box 5025
Boise, Idaho 83702

SEKIGAHARA STONE CO., LTD.

2-11-1 Takara-Cho, Chuo-Ku
Tokyo, Japan

SOUTHERN CAST STONE COMPANY, INC.

P. O. Box 1669
Knoxville, Tennessee 37901

TEXAS INDUSTRIES, INC.

P. O. Box 400
Arlington, Texas 76010

WILSON CONCRETE COMPANY

P. O. Box 56
Red Oak, Iowa 51566

P. O. Box 7208
South Omaha Station
Omaha, Nebraska 68107



Structural window units with the unique beauty of sparkling Mo-Sai®

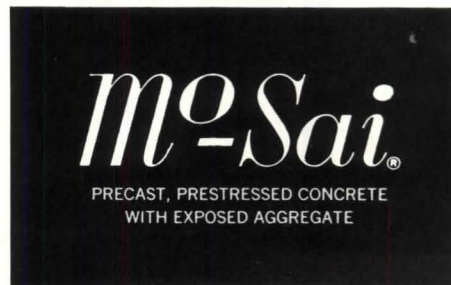
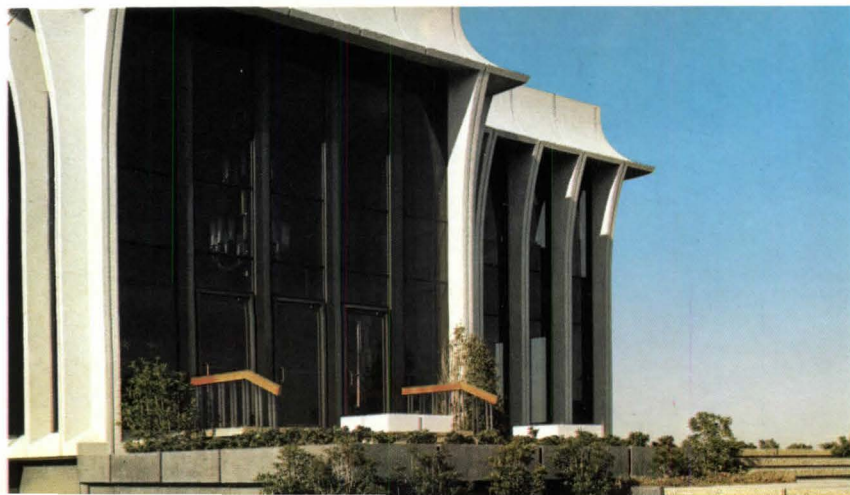
Large window unit panels were used as structural elements on the National Farm Life Building in Ft. Worth, Texas.

Plates cast in the panels provide tie-back anchorage at the roof, second and first floor levels, and also support beams.

The Mo-Sai units have a white crystal quartz exposed aggregate finish, with units as high as 31' 9".

You can do **more** with versatile Mo-Sai . . . factory-made, quality-controlled precast concrete with exposed aggregate.

National Farm Life Insurance Co. Home Office Building / Architect: Gayson/Gill / General Contractor: Cadenhead Construction



Marlite answers the Burning Question.

"How can we meet building codes for fire safety and still have beautiful, low-maintenance walls?"

Answer: New Marlite Fire-Test Panels

Walls in any building can have fire safety and beauty, too—with new Marlite Fire-Test Panels. These fire-retardant panels are impregnated under pressure to retard flame spread. Fuel contribution is negligible and these panels greatly reduce the smoke of a fire.

All the benefits of Marlite

Marlite Fire-Test Panels give you the soilproof beauty and durability of regular Marlite, the famous plastic-finished hardboard paneling that stays like new for years, wipes clean with a damp cloth.



Tested and proved performance

Marlite Fire-Test Panels are certified by Underwriters' Laboratories, Inc., through exposure to the ASTM E84-61 Tunnel Test, standard for determining fire safety of building products. Choose from three tested flame-spread ratings: 25 or under, 50 or under, 75 or under.



Fast, easy installation

Unlike many fire-retardant products, Marlite Fire-Test Panels go up fast without special preparation. They can be cut and fitted on site without losing their fire-retardant qualities. Non-hygroscopic, they remain dimensionally stable under normal conditions.

Send coupon below for complete details on new Marlite Fire-Test Panels—the answer to the Burning Question.



Available in a wide range of Marlite colors and woodgrains.



Marlite®
plastic-finished paneling

6831



FULL-COLOR LITERATURE ON MARLITE FIRE-TEST PANELS
Send coupon for information and specifications to
MARLITE DIVISION OF MASONITE CORPORATION
Dept. 107, Dover, Ohio 44622

NAME _____

TITLE _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

I am (please check one): ☐ Architect ☐ Designer ☐ Builder ☐ Building Manager





* Of course it's a Haws drinking fountain

...a beautiful drinking fountain shouldn't be too obvious. Agreed? Carefully-sculpted to enhance your ideas ... clad in the native splendor of cast stone (five colors, two finishes). The Haws Model 30 outdoor drinking fountain stands exquisitely in harmony with its setting ... any setting. A fountain? It could almost pass for a work of sculpture. Yet this sly harmonizer is incomparably rugged—a fountain for all seasons, kid-proof, weather-proof, freeze-proof! Write **Haws Drinking Faucet Co., 1441 Fourth St., Berkeley, Calif. 94710.**

The drinking fountain that looks better than a drinking fountain—Haws Model 30 in vivid stone.



DRINKING FOUNTAINS



SMITH WALLS

in place...by design

This Smith Wall is used in a distinctive canted design. It is equally suitable for an industrial building . . . office . . . school . . . or store. Its versatility, as with any Smith Wall, is limited only by the imagination of the architect.

Design freedom in Smith Walls starts with the metal configurations. Twenty different basic profiles are available, including flat panels. And that's only the beginning. You can add Smith decorative mullions to your design to provide unusual and interesting architectural

Graphic Systems Division Plant of RCA, Dayton, New Jersey
Architect: Vincent G. Kling and Associates, Architects, Philadelphia, Pa.
General Contractor: Hughes-Foulkrod Construction Co., Philadelphia, Pa.

effects. And you can choose from a wide range of colors and finishes to blend or contrast with the surroundings.

When you specify Smith Walls in place you get more than just design freedom. You get a Single Responsibility installation. Smith personnel design, fabricate, deliver and erect Smith Walls . . . to your specifications . . . to your customer's satisfaction.

For complete information, consult your Sweets' File or write today to:



ELWIN G. SMITH & COMPANY, INC. Pittsburgh, Pa. 15202 / Atlanta • Boston
Chicago • Cleveland • Cincinnati • Dallas • Detroit • Philadelphia • Toledo • New York



One man's roof is another man's floor!



When we installed Auto-Gard over 75,000 square feet of retail space in the new Los Angeles Greyhound Terminal, we guaranteed we'd keep that space waterproof. That was quite a guarantee because one man's roof was another man's floor. Those same 75,000 square feet were also a bus traffic and passenger boarding area.

So, we guaranteed that dripping grease, oil, gasoline, hydraulic fluid, battery acid, other corrosive chemicals, seasonal heat and cold wouldn't deteriorate Auto-Gard's protection.

Then, for good measure, we promised skid, cut and stress resistance, low maintenance, noise reduction, safer traffic flow and durability.

With a new \$11 million

building you don't need problems. That's why Auto-Gard was specified for Greyhound's Los Angeles Terminal.

Send for "Coast-To-Coast Case Histories." The Neogard Corporation, 6969 Denton Drive, Dallas, Texas 75235.

AUTO-GARD a Neogard fluid-applied elastomeric system reinforced by Archilithic* process.

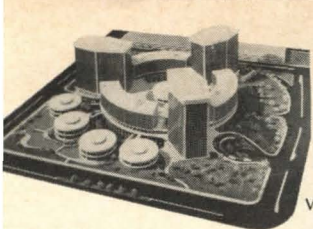


Welton Becket & Associates, Architects and Engineers Johnson & Turner Company, Auto-Gard Applicators

*Registered trademark of Archilithic, Inc.

"Wall Street, West"—
banks on Pozzolith concrete





Manhattan's Wall Street has an alter ego in Torrance, California. It's Del Amo Center — the new financial focal point of the communities clustered within megalopolitan Los Angeles.

In the 20-acre concrete "city" three crescent-shaped, five-floor buildings form a segmented circle punctuated by three 13-story towers. Within the ring: a scenic circular concourse. And outside: four pavilions flanked by a landscaped mall.

In all, more than a million square feet of office space — complete with indoor parking — accommodate an entire financial community in functional style.

Aesthetic appeal, economy and quake-proof construction were achieved with an exposed, reinforced-concrete framework throughout the \$30-million complex.

Universally proven POZZOLITH water-reducing, set-controlling admixture was specified and used to provide improved workability for easier placement around reinforcing elements. No less vital, POZZOLITH helped produce 3000-, 4000- and 5000-psi concrete with exceptional uniformity (excellent coefficient-of-variation ratings), superior formed surfaces for glass-smooth exteriors, and minimal shrinkage for reduced cracking.

For further information about concrete performance control, call your Master Builders field man or write Master Builders, Cleveland, Ohio 44118 and Toronto 15, Ontario.

POZZOLITH[®]

manufactured by

MASTER BUILDERS

**POZZOLITH is a registered trademark for Master Builders' water-reducing, set-controlling admixture for concrete.*



Owner: Del Amo Properties Co. Architect-Engineer: Victor Gruen Assoc. Contractors: Henry C. Beck Co. and Macken Construction Co. Pozzoloth Ready-Mixed Concrete: A and A Ready Mix Co. and Transit Mixed Concrete Co.



LETTERS

(Continued from page 24)

pects who have not a snowball's chance in hell of ever applying the lessons of Walter or Kevin, then why not read the handwriting, or better, the notices on the walls of architecture schools, for example, the proposal of Yale students that they be offered the choice of a non-accredited degree, to be free of what they see as the deformation of the accredited course mentality. . . .

Let's face it, yours is an elite magazine for an elite professional, and as such you deny yourselves the opportunity for proposals more relevant than that of moving the AIA convention upwind.

To the young people concerned about the human environment, the established professions have as much chance of reforming themselves to the real challenges represented by Chicago as the Forum does of extending its intellectual scope, its audience, and its editorial risks, which in turn carry the same odds that I.M. Pei and other master planners use simulation techniques and community decision processes; that established offices withhold political contributions; that public buildings be commissioned on the basis of design competitions; that registration exams be offered in whole or in part immediately upon graduation; that the "name architects" give design discretion and credit to their staff; and that the writers of your December "Chicago" letters read the meaning of F.L.W.'s *Autobiography*.

DONALD WATSON
Architect

Guilford, Conn.

We love bouillabaisse, but Mr. Watson has thrown too many ingredients into his.—ED.

DOWN WITH CONTROVERSY

Forum: I have kept my cool, I have counted to ten, but now I must react with my pen. For the first time in my life I am upset enough to take time to rebut to a very disturbing trend.

I refer to your October issue, page 31. It would do very little good to list my reasons for resenting your EDITORS position and comments regarding the proposed AIA Convention in Chicago. However, I can only say that an important Architectural Publication like FORUM has no busi-

ness expressing opinions and comments about political items such as Mayor Daley's method of dealing with dissenters' or other items of highly controversial nature.

If your publication continues to relate similar political commentary, I shall disassociate myself from your services and at the same time notify your advertisers of my reason for doing so.

Trusting that my comments are received constructively, I remain,

W. W. SHANNON

Pasadena Calif.

Architect

About as constructively as we would receive a bomb.—ED

UP WITH DISSENT

Forum: I am a student of architecture and urban history and try to earn a buck in this town by working at and writing about the problems here.

You name several reasons why the AIA Convention should not be in Chicago; but they are the best reasons for having it here. You bring up the dissent of Sullivan and Wright; but part of their legacy is an audacity that demands that problems be faced on their own ground, not sanctioned by withdrawal to a safer field.

In the fight to save England on the battlefields of France, Shakespeare's Henry V challenged his men: "Those who have no stomach to this fight, let them depart." I think this profession must have the stomach. The AIA would indeed be an "arbitrary institute of appearances" if it chose to depart. Departure is incompatible with dissent.

WILLIAM MARLIN

Chicago

SHALLOW SENTIMENTS

Forum: I hope that the embarrassment I felt on reading the three "Dissent on Chicago" letters in your December issue was shared by most other architects. If it wasn't, and if those shallow sentiments from the Detroit, Jackson, and Chicago readers represent the thinking of most U.S. architects, well, then I guess we're in even worse trouble than I'd thought.

Is it possible that the Gestapo tactics that so shocked the rest of the world last August were actually endorsed by most AIA members? If they were, well, then I'm glad I never joined (the AIA, not the Gestapo).

Your italicized put-downs were beautiful, though; never give up.

MALCOLM B. WELLS

Architect and Conservationist
Cherry Hill, N.J.

SPANCRETE

PRECAST, PRESTRESSED CONCRETE HOLLOW CORE PLANK FOR ROOFS AND FLOORS



Spancrete Manufacturers

EAST

Formigli Corporation
1700 Market Street
Philadelphia, Pennsylvania 19103
Phone: 215 561-0505

San-Vel Concrete Corporation
Littleton, Massachusetts 01460
Phone 617 486-3501
Boston Phone 617 227-7850

Spancrete Northeast, Inc.
General Office
South Bethlehem, New York

Sales & Plants
South Bethlehem, New York 12161
Phone 518 767-2269

P. O. Box 4232
Rochester, New York 14611
Phone 716 328-7626

P. O. Box 236 (Treat Road)
Aurora, Ohio 44202
Phone 216 241-2346

MIDWEST

Pre-cast Concrete Products Co.
P. O. Box 215
Marysville, Michigan 48040
Phone 313 364-7451

Spancrete Illinois, Inc.
4012 Route 14
Crystal Lake, Illinois 60014
Phone 815 459-5580

Spancrete Industries, Inc.
10919 West Bluemound Road
Milwaukee, Wisconsin 53226
Phone 414 258-4110

Spancrete, Inc.
Valders, Wisconsin 54245
Phone 414 775-4121

Spancrete Midwest Company
P. O. Box 308
Osseo, Minnesota 55369
Phone 612 339-9381

WEST

Spancrete of California
13131 Los Angeles Street
Irwindale, California 91706
Phone 213 962-8751

SOUTHWEST

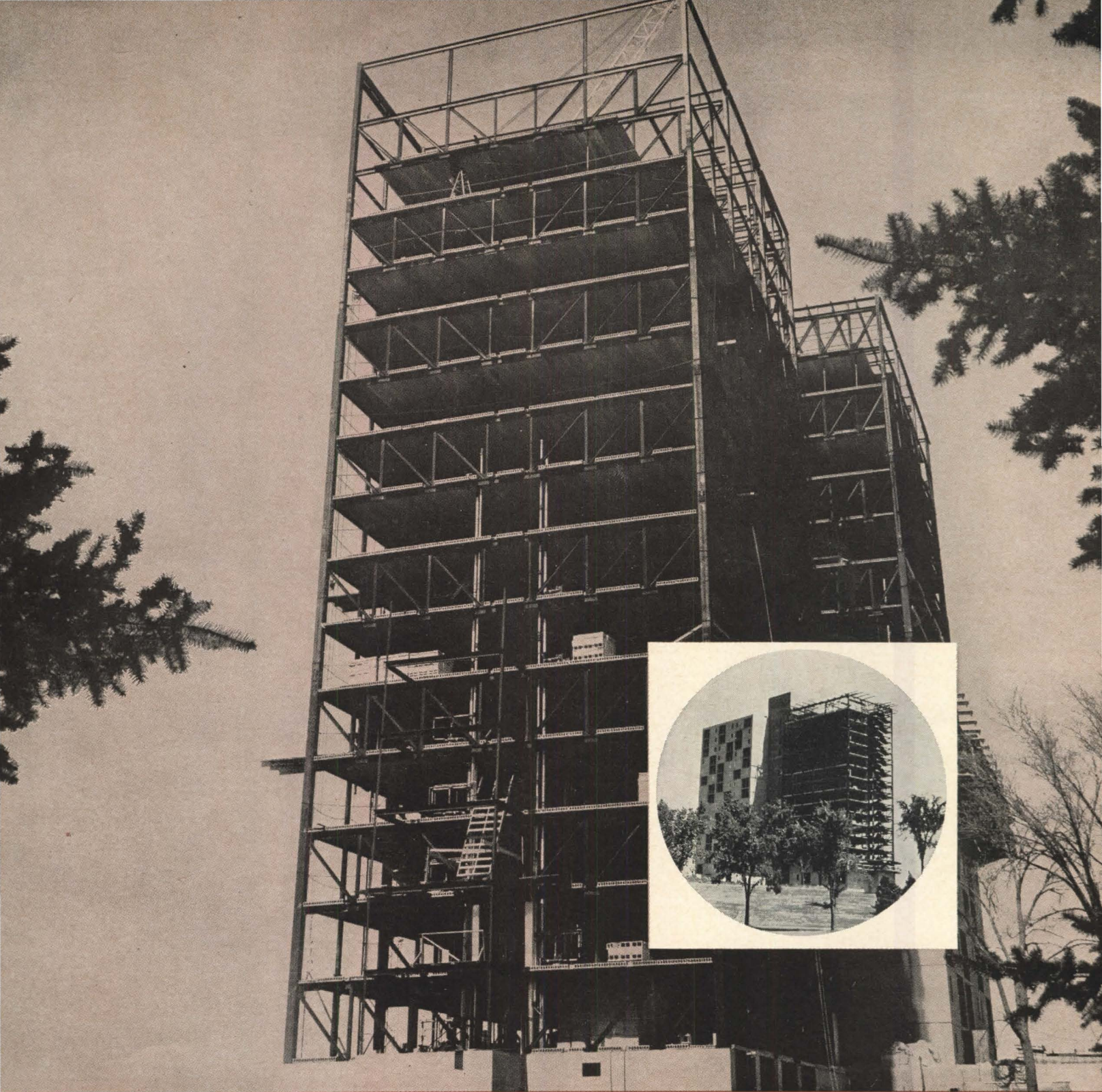
Arizona Sand & Rock Company
P. O. Box 959
Phoenix, Arizona 85001
Phone 602 254-8465

CANADA

Spancrete, Limited
P. O. Box 20
Longueuil, Quebec
Phone 514 677-8956

UNITED KINGDOM

Truscon Limited
35/41 Lower Marsh
London, S. E. 1, England



Spancrete...working part of structural system

Spancrete precast concrete planks become an integral part of the structural system on this apartment for the elderly. A steel framework with a unique system of staggered trusses required a thin, rigid flooring system that would transfer wind loads on a horizontal plane from one truss to the other. Six-inch-thick Spancrete planks with

only eight inches between floor and ceiling proved to be the answer. The Spancrete planks span a 23-foot area, allowing for flexible apartment plans. Low sound-transmission qualities, fast erection, and lower fire insurance are other advantages of Spancrete apartment construction.

St. Paul Housing & Redevelopment Authority
Project — 17-story, 187-unit apartment
St. Paul, Minnesota
Architects: Bergstedt, Wahlberg and Wold, Inc.
Structural Designer: Bakke & Kopp, Inc.
Structural Engineer: Schuett-Meier Company
General Contractor: Knutson Construction Co., Inc.

SPANCRETE

PRECAST, PRESTRESSED CONCRETE HOLLOW CORE PLANK FOR ROOFS AND FLOORS



Earth Sciences Building, MIT
Boston, Massachusetts
Architect: I. M. Pei & Associates, New York City
Contractor: Turner Construction Co., New York City
Photograph: George Cserna

SEALED *securely through* **Thiokol's Seal of** **SECURITY**



*The manufacturer warrants by affixing this label that this product is a duplicate of materials independently tested and approved by, and in accordance with standards established by Thiokol Chemical Corporation

Industry's first and only full service quality assurance program...represents *products* of proven weatherproofing capability

With its far-reaching Seal of Security program, Thiokol has taken the lead in meeting sealing requirements brought on by changing structural forms and materials.

Built on quality and performance standards far more demanding than those generally accepted, the Thiokol approach goes to greatest lengths to assure complete weatherproofing protection. Only sealant products based on Thiokol LP® polysulfide polymer measuring up to the specifications in tough lab testing can wear the Seal. And only by proving quality continuance in follow-up monitoring can the same sealants retain the Seal.

The material must provide steel-grip bonding, rubbery flexibility, highest resistance to weather, wear and aging—or Thiokol won't put on the Seal. That's security.

Thiokol
(Chemical)

THIOKOL CHEMICAL CORP., 780 N. CLINTON AVE.,
TRENTON, N.J. 08607

THE ARCHITECTURAL FORUM

PUBLISHED BY URBAN AMERICA, INC.

EDITOR

Peter Blake, AIA

MANAGING EDITOR

Paul Grotz, AIA

SENIOR EDITORS

James Bailey

Ellen Perry Berkeley

John Morris Dixon, AIA

ART DIRECTOR

Charlotte Winter

ASSISTANT

Ruth Gosser

ASSISTANT TO THE EDITOR

Ann Wilson

EDITORIAL ASSOCIATES

Marie-Anne M. Evans

Lynn Haney

Don Peterson

BOARD OF CONTRIBUTORS

Robin Boyd, FAIA, HON. FAIA

Donald Canty

Ivan Chermayeff

Rosalind Constable

George A. Dudley, AIA

Henry Fagin, AIP

C. Richard Hatch

Lady Barbara Ward Jackson

Edgar Kaufmann Jr.

Burnham Kelly, AIA

Leo Lionni

Kevin Lynch

Walter McQuade, FAIA

Sibyl Moholy-Nagy

Charles W. Moore, AIA

Roger Schafer

Vincent Scully Jr.

Bernard P. Spring, AIA

Douglas Haskell, FAIA

CORRESPONDENTS

Francoise Choay (Paris)

Philip H. Hiss (Southeast)

Benita Jones (London)

Donlyn Lyndon, AIA

Roger Montgomery, AIA

PUBLISHER

Lawrence W. Mester

FORUM

Architect Romaldo Giurgola has been appointed to an AIA committee to select a new architect for the AIA headquarters building in Washington. Giurgola, after winning a national architectural design competition for the job, revising his scheme twice, and having it rejected all three times, might well have wished he were rid of it, as might the AIA itself.

(Others on the committee: Rex W. Allen, Edward Charles Bassett, both of San Francisco; G. Harold W. Haag, Jenkintown, Pa.; Morris Ketchum Jr., I. M. Pei, both of New York City; Willis N. Mills, Stamford, Conn.; Philip Will Jr., Chicago.)

The AIA's simultaneous announcement that restoration of its historic Octagon House would begin January 1, with completion scheduled for the end of the year is, at least, some progress in this episodic saga (see our issues of July/Aug. '65; Dec. '65; Jan./Feb. '66; June '67; July/Aug. '67; Sept. '68, and Oct. '68).

PROSPECTS

THE FUTURE LIES AHEAD

Millions of words and tons of paper have been consumed on prognoses of what the new men in Washington will or will not do about the urban crisis. We find the whole process tedious and almost totally unenlightening. After all, it is usually the job that shapes the man—not the other way around.

So we will resist the temptation to be soothsayers. Instead, we will let the men speak for themselves, and for their jobs:

THE PRESIDENT

"What we need is to get private enterprise into the ghetto, and get the people of the ghetto into private enterprise—not only as workers, but as managers and owners."

"I think what has really happened here is—and that is not criticism of either previous administration—these [urban] problems have now become so urgent on the American scene that they require the same kind of direction that we give to the problems that confront us internationally." (By way of explaining why he had created a cabinet-level Committee on Urban Affairs, which he indicated would elevate urban problems to the same "crisis" level as those of national security.)

"I would not put it that way." (When asked if his appointment of Daniel Moynihan as assistant to the President for urban affairs meant that he would try to develop a Marshall Plan for cities.) "Dr. Moynihan has a broad perspective. He recognizes both the responsibility of government and the limitations of government. To describe a program as a Marshall Plan is to suggest vast amounts of federal money."

THE VICE PRESIDENT

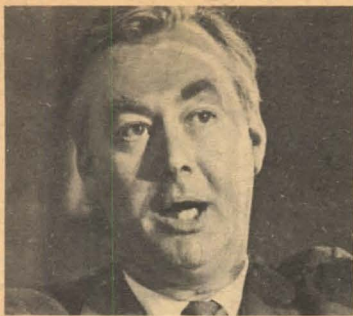
"All too often participation of the poor has been construed to mean playing both patient and doctor; when all too often the unhappy result has ranged from protracted delay at best to prolonged extravagant boondoggling at worst."

DANIEL P. MOYNIHAN, ADVISER

"The effort is obviously going to be an experimental one, and it is a necessary and proper one, and we ought not now to freeze ourselves into solutions of problems we only half understand."

"It is simply not enough to want to do good. You have to know





how. We have outgrown our ability to deliver on our promises."

"Liberals must divest themselves of the notion that the nation, especially that the cities of the nation, can be run from agencies in Washington."

"Advisers have no views. Only the President has views."



GEORGE ROMNEY OF HUD

"A lot of people are very frustrated and bitter, and it's time to do something because there's tinder in the cities that will make Vietnam look like child's play, and I mean just that."

"I happen to believe there's too much emphasis on solving [urban] problems through public money."

"Government's greatest role should be as stimulator, clearinghouse, and catalyst in helping release the energies of the private, independent, and voluntary sectors of the American community."

"A [tax credit for businessmen who participate in slum redevelopment] is a tool we ought to take a good hard look at, but I think it's only one of many tools."



ROBERT H. FINCH OF HEW

"I regard myself as a pragmatist. We have, as John W. Gardner points out, a massive amount of

legislation. Our job is to rationalize and implement the legislation now on the books. We must make them as workable as possible. Improve the delivery system and avoid proliferation and duplication. We all know the rhetoric. Now we have got to deliver."



JOHN VOLPE OF DOT

"I shouldn't use the word concrete; everybody will say I am still a concrete highway man." (After using the phrase "concrete answers" to reporters.)

LEGACIES

EXIT THE FIRST LADY

Even as Lady Bird Johnson's Committee for a More Beautiful Capital was placing its final report on her husband's desk in mid-December, Lady Bird was dedicating a fountain in her honor off icy, windswept Hains Point—on the Potomac River, near National Airport.

Workmen, who had toiled tirelessly the entire day before to free the floating fountain from the river bottom where it had become stuck in the mud (below), managed to make it presentable for the First Lady's good wishes.

The foundering fountain is designed to float on a circular arrangement of buoyant steel tanks, from which a central jet spray spews river water, pollution and all, 250 ft. into the air. It, and smaller jets encircling the base, will be illuminated at night with



gold and blue lights.

"When I fly back to Washington from time to time," said Lady Bird, wistfully, "I'm sure this will be the first thing I see in this lovely city."

Then, transferring to a private car from a bus which had become stuck in the mud, she was whisked off to the White House.

ONLY 25,999,990 TO GO

"This is the beginning of 26 million homes in ten years," said President Johnson on December 14 as he dedicated a grand total of ten new houses on a two-acre site (top photo) in Austin, Tex.

Numerically, it was a small beginning, but the HUD-sponsored project could well be one of the most significant housing achievements of the Johnson Administration. Its purpose is to test out, in real-life situations, the ten most promising low-cost housing systems (\$5,000-\$7,000, exclusive of land) selected by HUD from proposals offered by 88 builders.

The University of Texas is conducting an exhaustive analysis of the houses, including their costs, construction techniques, engineering and architectural quality, and sociological and psychological impact. The houses are being sold to low-income families who have agreed to serve as guinea pigs for the university experiment.

Some of the houses were con-



structed in place, some were prefabricated in a plant and trucked to the site, and some combined both techniques. Examples (pictured above in the following order):

The CTX House, 591 sq. ft., about \$6,000. It employs posts and panels of extruded asbestos cement assembled atop a concrete slab foundation.

The Dicker Stack-Sack Home, 676 sq. ft., about \$5,000. Its walls are composed of bags of concrete which have been submerged in water, stacked, and sprayed with a coating of cementitious material. The result is a modern version of the *adobe hacienda*.

The Mitchell Framing System, 653.6 sq. ft., about \$7,000. Its frame is composed of precast, lightweight concrete columns, beams, and floor slabs, and its wall panels are non-structural. It is easily the best-

looking house of the ten. (For another application of the system, see page 97).

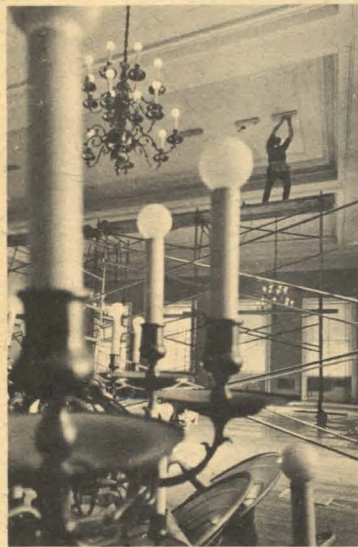
When the university completes its study of the houses (in about two years), HUD will have exacting and comprehensive data on ten low-cost housing schemes, which will be ten more than it has now. Presumably, those that pass the test will be backed by HUD for construction on a mass basis throughout the country. It could mean a major breakthrough in the low-income housing field.

HISTORY

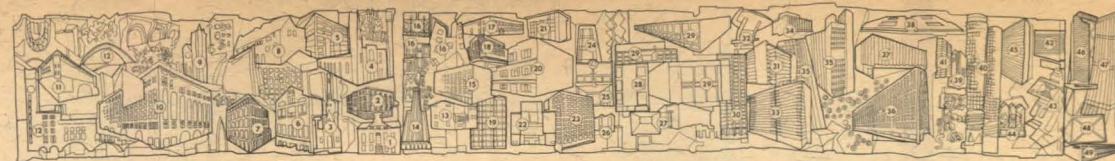
WHO TO THE RESCUE?

While the new Vice President was attending to the pre-inaugural activities of his post, Maryland's House Speaker Marvin Mandel and Senate President William S. James—who had both announced for Agnew's job as governor—were chipping away at a National Historic Monument and were announcing it to no one. They were remodeling Maryland's 189-year-old statehouse, where the Continental Congress once met and George Washington resigned his commission.

It was only through telegrams from indignant Marylanders that the state Historical Trust—charged by the legislature with "preserving and maintaining historical, esthetic, and cultural properties"—learned that antique paintings and chandeliers were being removed from the



Old House Chamber; plaster was falling; and partitions were rising to provide new offices for two house committees (above). In a magnanimous and also prophetic gesture, the flag room—where the oldest American flag in existence



is on display—was being transformed into offices for House Majority Leader Thomas Hunter Lowe, himself a rival for the governor's office.

When the trust determined that work in progress could not be stopped, it wired Agnew. "He was perfectly furious about it," said Elizabeth Williams, trust chairman.

Agnew swiftly appointed a committee to make recommendations for the complete renovation and restoration of the statehouse when new state office buildings are occupied in about five years. And *this* time it will be done with architectural supervision, based on archaeological research.

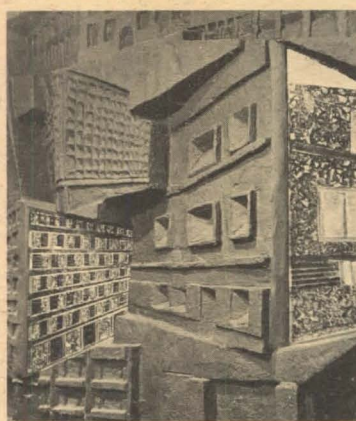
CHICAGO'S GREAT WALL

Architects and preservationists visiting Chicago from now on may want to stop at the Sherman House (circa 1911, plus additions; Holabird & Roche, architects) to play the hotel's groovy new game. It's called "Form-Makers"; it stretches out over 100-plus ft. of a lobby wall; and it tests your knowledge of Chicago's architectural history from the Clarke House of 1836 (oldest in Chicago) to the John Hancock and First National Bank buildings, now nearing completion.

Sculpted in concrete by Artist Henri Azaz, "Form-Makers"—49 buildings in all—is in three sections: 1836-1890, 45 ft. long; 1892-1965, 55 ft. long, on the flip side; and a short connecting end panel for the late 1960s, now being completed.

In "selecting only those buildings which were a major contribution to architectural progress," Azaz proves himself an independent thinker. Adler & Sullivan, of course, tops out with seven buildings (if you include the Charnley House, for which Frank Lloyd Wright is considered the probable designer, and the Krause Music Store, for which Sullivan designed the facade only). SOM follows with six (if you count Civic Center); Mies with five (but *not* 860 Lake Shore Drive); Frank Lloyd Wright with three (but *not* the Robie House, now a National Historic Landmark); Burnham & Root with two (but *not* the Monadnock or Reliance buildings).

And, from the early days, those scoring singly include William



LeBaron Jenny, Solon S. Beman, H. H. Richardson, Edward H. Bennett, and Holabird & Roche—but *not* (out of modesty?) the Sherman House.

Part of the fun will be in penetrating Azaz's somewhat impressionistic renderings (above). To check your score, a printed cue sheet (top) will supply the buildings, dates, and addresses, but *not* the architects.

HYBRIDS

OFFENSE IN THE FENS

Some 20 legislative proposals to build a new stadium for the Boston Red Sox have struck out in the last few years. In mid-December,

three new bills were added to the lineup.

Of the three, the most controversial (perhaps of any to date) was filed by the Massachusetts State Turnpike Authority. Its \$91-million stadium would be built on public parkland in the Back Bay Fens (A in photo below).

Immediate protests came from almost every quarter beginning with Mayor Kevin H. White, whose own proposal for a South Station site—Bill No. 2—had been filed the same day. Members of the Boston Center for Older Americans demonstrated; many of them live nearby the Fens and have planted and cared for "victory gardens" on the land since World War II.

The Fens bill calls for the city of Boston to turn over the parkland for \$1, and asks Red Sox owner Thomas A. Yawkey to deliver the present Fenway Park stadium in exchange for a promise to name the new ball park after him. (Fenway Park—nearby, but not in the Fens—would be demolished to make way for a 5,000-car, six-tiered parking garage—B in photo.) The package also includes a third traffic tunnel under Boston Harbor and a new toll road in Worcester County.

Financing would be accomplished by pooling revenues from



all these projects, and would postpone by ten years the turnpike's scheduled reversion to the public, toll free. (City Councilman Thomas I. Atkins has branded the stadium a "frivolous coverup" for the expensive tunneling proposed under Boston Harbor.)

Most important, the state need not pledge its credit—the cause of all former failures—and, consequently, the bill does not require a two-thirds vote, but a mere majority. For that reason, says Turnpike Authority Chairman John T. Driscoll, several legislators, who have opposed stadium plans in the past, have pledged him their vote.

HASSLES

LAME DUCK FLAP

In November, Federal Highway Administrator Lowell K. Bridwell proposed a new set of regulations that would transfer substantial power over design and location of highways from the highwaymen to the people (Dec. '68 issue). In December, he held hearings to give everybody a chance to reply.

In January, after the air had cleared, Bridwell issued the regulations in their final form. In effect, he threw out the bathwater from his original proposals, but he saved the baby.

The "baby," in this case, is the regulation that, henceforth, state highway departments must hold two public hearings, first, on corridor locations, and, second, on highway design. (In the past only one hearing has been required, and that was a rubber stamp affair often held ten years before a highway was built.) Both hearings must be advertised 21 days in advance, and all official transcripts must be available to any interested party. (Withholding crucial information has been a classic evasion method employed by state highway departments.)

The corridor location hearing must include discussion of alternate routes which have been considered, and reasons for their rejection. The design hearing must present such highway specifics as the number of lanes, location of bridges and interchanges, where elevated sections occur and how high they will be; and discussion of the social, economic, and environmental impact of the highway. (Last month, incidentally, New York's new environmental protection administrator announced that the proposed Lower Manhattan Expressway would tend to pollute

its environment with "extraordinarily high levels of carbon monoxide.") Rejected design alternatives must be accounted for, and the design must prove its "relative consistency" with the goals and objectives of any urban plan a city has adopted. No more than three years may elapse between the design hearing and construction.

The "bathwater" that Bridwell eliminated from his final regulations consisted of two proposed changes: (1) that any interested person may appeal the final decision of the state highway department and federal division highway engineer by writing directly to the Federal Highway Administrator; and (2) that highway hearings must explore whether "alternative methods of transportation would better serve the public interest."

On the surface, both would appear to be Good Things, but Bridwell threw them out for perfectly sound reasons. The first would probably not have held up in court, since it would have violated the legal authority of the states; and the second is already in effect, in the sense that highway plans must be based on comprehensive master plans which have taken other modes of transportation into account.

By eliminating the two proposed provisions, Bridwell neatly countered the major objections voiced by the powerful highway lobby, while at the same time preserving the real object of their wrath: the two-hearing provision. If he had left the other provisions in, it would have been tantamount to giving the highwaymen an axe which they could have used to demolish the entire set of rules.

Bridwell caused some consternation by issuing the new rules in the form of a memorandum of policy, rather than as formal regulations. Actually, for all practical purposes, the effect will be the same. The memorandum is binding, and it cannot be set aside except by the issuance of another Departmental regulation.

At this point, it seems highly unlikely that the new Administration will attempt to undo Bridwell's action, even though John A. Volpe, the new Secretary of Transportation, expressed strong objections to the new regulations just before he took office.

If Volpe does succeed in overruling Bridwell, the regulations will go out with a bang, not a whimper. During the public hear-

(continued on page 107)

BOSTON'S CITY HALL

Seven years ago, Gerhard M. Kallmann, Noel M. McKinnell, and Edward F. Knowles won the competition for the new Boston City Hall. This February, the \$26.3 million building will be formally dedicated. On the next 15 pages is a description, in words and pictures, of the completed structure—including a critical analysis by Prof. Sibyl Moholy-Nagy, a member of FORUM's Board of Contributors. And on pages 54–57 is a report on some of the most recent work of the firm of Kallmann & McKinnell—a talented partnership that has flourished ever since the Boston City Hall competition was won.





Bird's-eye view of Boston's Government Center, seen from the east, shows new City Hall, Faneuil Hall to its southeast, tall New England Merchants Bank Building to its south (Edward L. Barnes, architect, Emery Roth & Sons, associated architects), long and curved commercial office building to its west (Welton Becket & Associates, architects), with square State Office Building (by Emery Roth & Sons, and Hoyle, Doran & Berry) behind it. The twin towers and the long, rectangular building to their east are the John F. Kennedy Federal Office Building (by The Architects Collaborative and Samuel Glaser & Associates). To the north of this complex is the parking garage by Kallmann & McKinnell now under construction (see page 54). Site plan (right) shows some of these structures, plus ultimate development of City Hall plaza now nearing completion.

TWO CENTER PLAZA

JOHN F. KENNEDY FEDERAL OFFICE BUILDING

CITY HALL

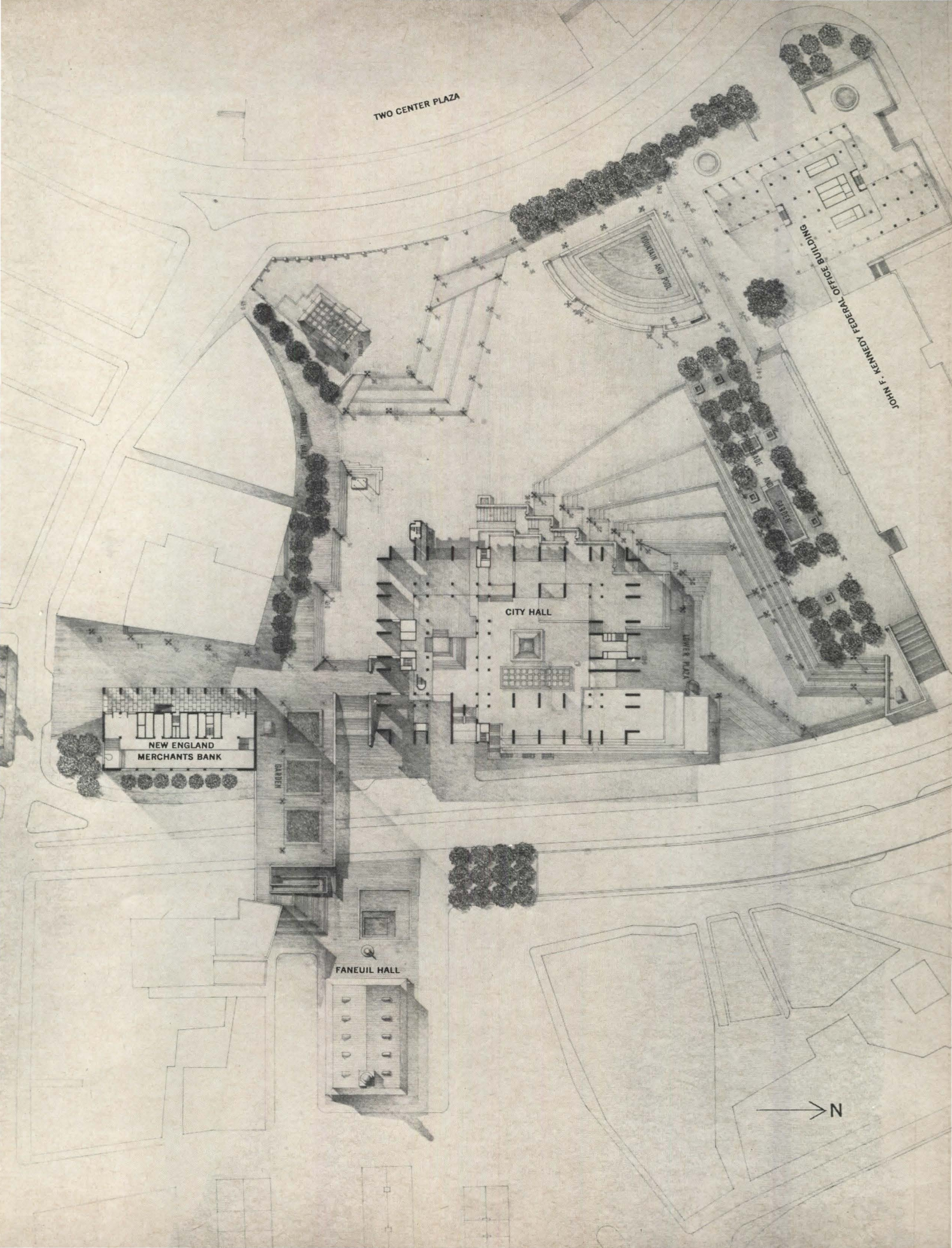
NEW ENGLAND
MERCHANTS BANK

GARDEN

FANEUIL HALL

LOWER PLAZA

N



BOSTON'S CITY HALL

It binds the past to the future

BY SIBYL MOHOLY-NAGY

Gerhard M. Kallmann, Noel M. McKinnell, and Edward F. Knowles won the competition for the Boston City Hall in 1962. During the seven years that their building was in the making, comments by the architects and by critics have flowed through magazines and lecture halls. This prenatal word-fencing will be disregarded here. Architecture is pure pragma, the thing done. It is the salvation and sometimes the tragedy of the architect that the accomplished fact obliterates the fictitious image that preceded it. The only justification of any building is its impact on the user who is willing to understand its intentions and solutions.

The significance of the new Boston City Hall lies in historical continuity made contemporary. The building and its ambience, meaning the totality of its supporting motives, is neither a compendium of precedents nor a new beginning. It is a next link in the chain that binds past to future, the way the Periclean acropolis linked the monumental beginnings of Delphi and the Altis with Tivoli and Baalbek. The austere eclecticism of the 1912 edition of the Boston City Hall (Fig. 1) with standardized bays and modular piers at the side elevations provides a tie between the First Town House of 1657 and its latest successor, dedicated this February (Figs. 2 & 3). From the earliest to the most recent design, the emphasis is on a triple chord of base, body, and attic as the most ancient harmonious canon, and on a modified verticality. Historical continuity does not depend on style;

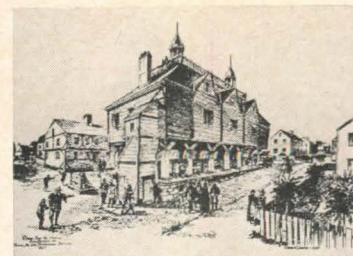
it consummates concepts. Le Corbusier contributed, as he does to all true architecture of this century, scale and modulation held together by the visible ligaments of structure. Wright's kaleidoscopic light and shadow modulations of a building designed quadrilaterally, and his mastery to adjust building and site to each other can be felt. Admiration for the directed centralized movement of mediterranean city plazas comes through, and so does the influence of pre-Columbian ballecourts in the geometric clarity of the brick walls. But the user is not turned around in time; he is tuned-in.

I. M. Pei's 1960 Master Plan for Downtown Boston (Fig. 4) predigested 60 cleared acres around Scollay and Dock squares as to placement, plans, and height of future buildings. It was an attempt to provide a concentric core for a city which for over 300 years had been proliferating like barnacles on a ship's bottom. As commercial interests implemented the plan, the sector around the city hall became chaotic and depressing, lacking clarity of communication and any architectural excellence. It is a permanent reminder of the folly of our time that separates planning from architecture, as if a building, its site, and its impact on the whole, were unrelated aspects of the urban landscape. To the north looms the TAC-Glaser-designed Federal Office Building. It is an elephantine inarticulate mass that signals its presence across Boston Harbor not with a lamp in each window but with a square column in each rounded corner (Fig. 5 & 7). To the south rises a bank tower by Edward L. Barnes and Emery Roth & Sons whose elevation looks like a two-dimensional cardboard stencil (Fig. 6) to be crowded shortly by "at least ten" more commercial highrise buildings, among them the latest product of the Belluschi-Roth team which gave to New York its Pan-Am Building.

The curious aspect is the ameliorating impact exerted on this ill-conceived perplexity by the new City Hall and its plaza. Even banalities next door, such



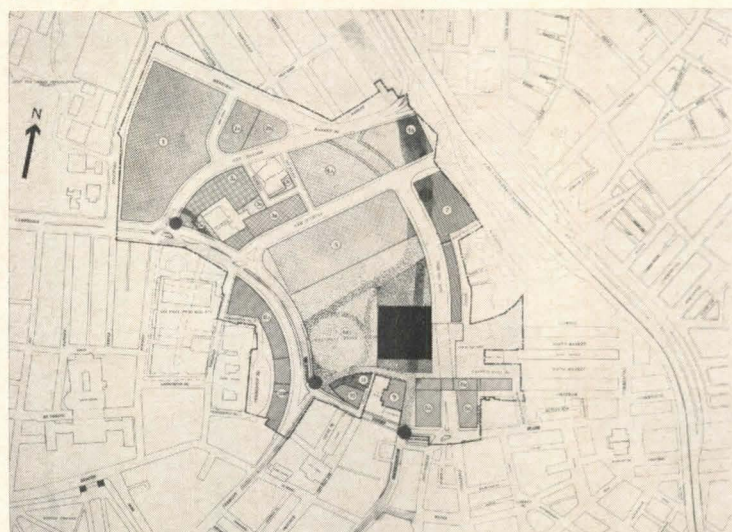
1



2



3



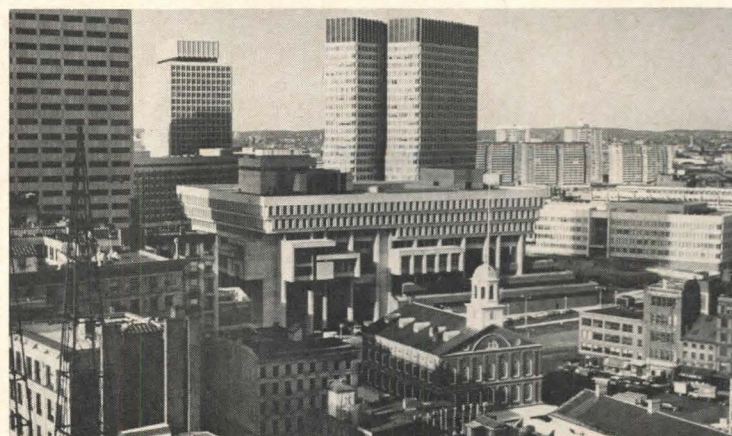
4



5



6



7

Mrs. Moholy-Nagy is professor of architecture at Pratt Institute and a member of the Forum's Board of Contributors.

as Becket's Two Center Plaza, sharpen one's awareness of a unique architectural experience. From any approach the four dissimilar facades of the free-standing structure and their strongly designed terminations transmit a concept of harmonized contrast. The flaring, light-reflecting wings of the southeast corner (Fig. 8) act as space-divider between the mayor's offices, dramatizing at the same time the contrast between the 94-ft. height of the free-standing slab column on one end of the east elevation, and the density of the 57-ft. high brick mound wrapped around the northeast corner on the other. The south elevation is underplayed to give full range to the stepped entrances, except for the extravagantly sculptural hoods on the south and east corner that locate the most important administrative offices on the elevations. We look almost automatically for reciprocally functioning elements. The depth of these cantilevered composites will be identified with and immediately questioned as *brises soleil* in a climate that rarely provides sun glare and in a building air conditioned throughout. In fact their only function is a frank homage to the constructivist heritage from Rietveldt to Le Corbusier and Kahn, brought into the contemporary fold by Venturi's canonization of complexity and contradiction.

The diversity-in-harmony between the east elevation and the north and west elevations is dramatic. It expresses the dichotomous relationship of the building to the city. In the east the new building belongs to the street and the markets by forming their western enclosure (Fig. 9). Scollay and Dock squares were for generations the nadir of Boston's social fabric in contrast to Beacon Hill, its summit. The east elevation of the new hall reflects something of this combination of expediency and entertainment which, one would hope, will survive even after the city hall architects have redesigned the market approaches. The high vehicular portal draws the street-life

into the building; the hoods and the sharply profiled brick mound invite comment by the populace which is already abundantly forthcoming. In complete contrast, the north and west elevations ignore the street and relate only to the plaza.

There are 417,000 sq. ft. of open area to 513,000 sq. ft. of enclosed space—a ratio which would be generous in any setting but is a unique gesture of fiscal munificence in a high-tax-yield development area. The two outstanding characteristics of the plaza concept are total separation of the space from any vehicular traffic and definition by motion rather than by the traditional static elements of sculpture and seating areas (page 43).

There is no false pretense that this is a bigger and better toddler playground or retreat for elderly chessplayers. It is a kinetic outdoor space whose purpose is initiation into the city hall spaces. Flat-terraced steps, unfolding like a fan, connect the lower plaza and third floor levels of the City Hall with the stepped approach to the subway station. The brick enclosure of the station entrance (Fig. 10), designed by the same architects, blends into the red brick carpet of the plaza. Other broad shallow steps, always designed in units, connect the subway exit with Dock Square and the markets and, on the opposite side, with a promenade and garden.

Since the fateful day in Savoye, 1929, when Le Corbusier outlawed visible gravity by abolishing supporting walls, buildings have been ready to march off their indifferent sites if only they knew which piloti to lift first. The Boston City Hall accepts the stilt concept but transforms it in two directions. The very bulk of the solid brick forms roots the superstructure to its site, and the elongation of the "pilotis" into columns expands the rhythm of solid and void to the entire height of the building body (Fig. 11). This spacing at 14 ft. 4 in. and 28 ft. 8 in. intervals is the counterpoint to a rather stiff metric on the three-story cornice. It reconciles the unequal but equivalent



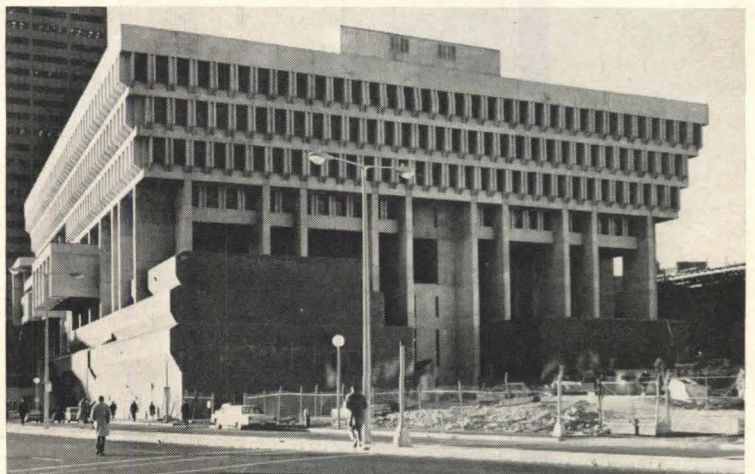
8



9



10



11

elements of form in a unified interplay that is maintained throughout the building interior as a definition of space units and a visualization of stability. Through this exterior-interior correlation of the column rhythm all spaces are related to the exterior form (Fig. 12).

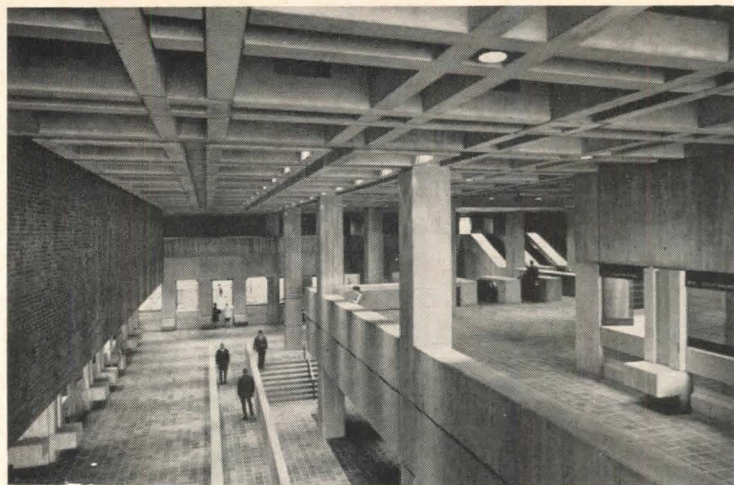
The three interior space zones correspond to the exterior triple division: the north lobby and the plaza level; the so-called ceremonial middle section; and the office floors, forming the three topmost stories. It is easy enough to be convinced by the lower and upper space arrangements. The north lobby is accessible at the base of the north elevation which derives an almost classical harmony from the rhythmic bays (Fig. 11). At one and a half floor level, ramps lead into the departments used by the largest crowds, and connected with the third floor by escalators and steps. The architects have been emphatic in their hope that these two levels, permitting new perspectives into communicating spaces from every angle, will become a true concourse making a passage through their City Hall a daily experience for citizens on the way to other business. Illumination is not uniform but a mixture of daylight, filtering through the glazed entrance and the skylight, and fluorescent and incandescent fixtures recessed throughout the building into the precast inserts of the Vierendeel trusses. This unconventional, undiffused light modulates the columns and horizontal parapets into a chiaroscuro that defines effectively the descending scale of the north lobby toward elegantly subdued linear patterns on the glass partitions.

Offices in the cantilevered top floors have a clean simplicity. The plan avoids the claustrophobic effect of lightless corridors, typical of public buildings. The desk arrangements are open and continuous, and floor-to-ceiling windows on the exterior and interior perimeter bring in sunlight (Fig. 13). This airy spaciousness is heightened by recessed terraces accessible from the offices (Fig. 14). They are

grouped around an interior court, reached from plaza level by a stepped ramp, and curiously unconvincing as the public space it is meant to be. Its most evident function is as a skylight mound repeating the design concept of the subway station (Fig. 15), and as access to an almost accidental portico that stirs grateful memories of Hellenistic stoas (Fig. 16). Taken together the kinetic variability of the concourse spaces and the quiet permanence of the office floors are a highly successful differentiation of shapes that influence the mood of the user.

The ceremonial center part of the new City Hall, which focuses on the mayor's and the councilmen's offices, the council chamber, and the library on the fifth floor (see page 51), is the hardest to describe and assess. The elusiveness comes from the decision of the architects to combine symbolism and expediency through a combination of actual and virtual space experiences. A monumental staircase in red brick leads from the south lobby on the third floor to the fourth floor whose assigned spaces have no particular importance (Fig. 17). All pre-elevator ages knew the self-expressive importance of monumental stairs without fixed destination. Versailles' Cent Marches and Rome's Spanish Steps are disproportionate to their terminations—they are vertical space art. This is true of the Boston City Hall stairs which receive a virtually inaccessible and purely perceptive dimension from a vertical light shaft above which penetrates the height of the central hall (Fig. 18). Wall openings like loopholes divide air intake units whose staggered form pulls the eye upward toward daylight reflecting on an inclined plane. The same superb awareness of spatial depth enhanced by darkened foreground elements that is so effective in the north lobby uses other structural elements as articulating forms of this dramatic verticality.

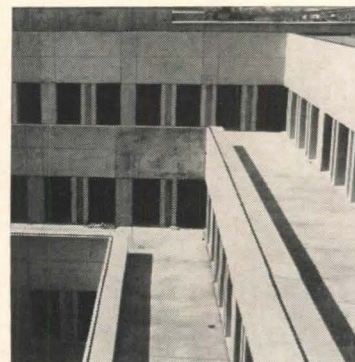
The objection to this combined effect of actual ascent to a ceremonial level and a purely conceptual verticality extended into



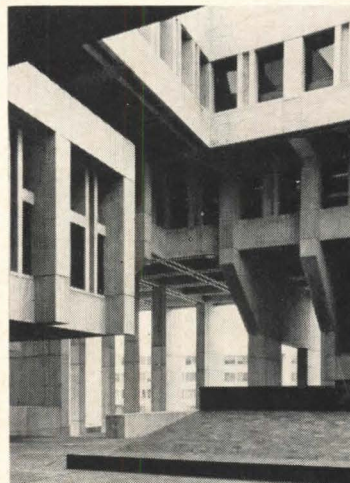
12



13



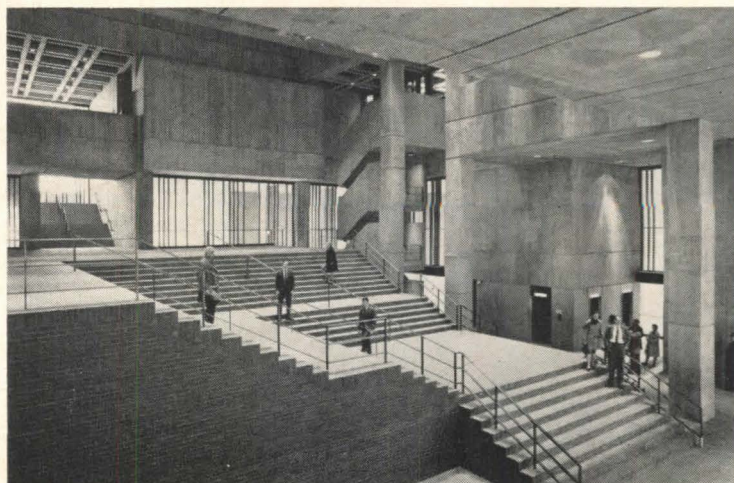
14



15



16



17

the sky, is not a criticism of design but of intended purpose. There is no connection, except a purely mechanical one, between the grand stairs and the fifth or ceremonial floor. Access to that floor is either by a one-run staircase, which is not likely to attract stair-shy citizens, or by elevators. The sense of admittance into a special area is missing. The emphasis of the government core comes from ceiling heights of 14 ft. as against 8 ft. 10 in. plus the 4 ft. 4 in. recesses in the Vierendeel trusses on the other floors, and from the wall treatment (Fig. 19). The corridors are sheathed in bronze paneling and doors are African mahogany. The effect is not so much ceremonial as ostentatious. It is a curious lesson in the unalterable nature of materials that the combination of poured concrete and water-struck brick in all other areas works well through the basic relatedness of aggregates while the combination of reflective metal, oiled wood, and raw concrete is much less successful. In the chief executive offices the hard-edged artistry of the hooded forms on the exterior creates a gloomy twilight and competes rather uncomfortably with the functional aspect of an office, as if the father of the city were continuously compelled to show himself at the Appearance Window like an Egyptian Pharaoh (Fig. 20).

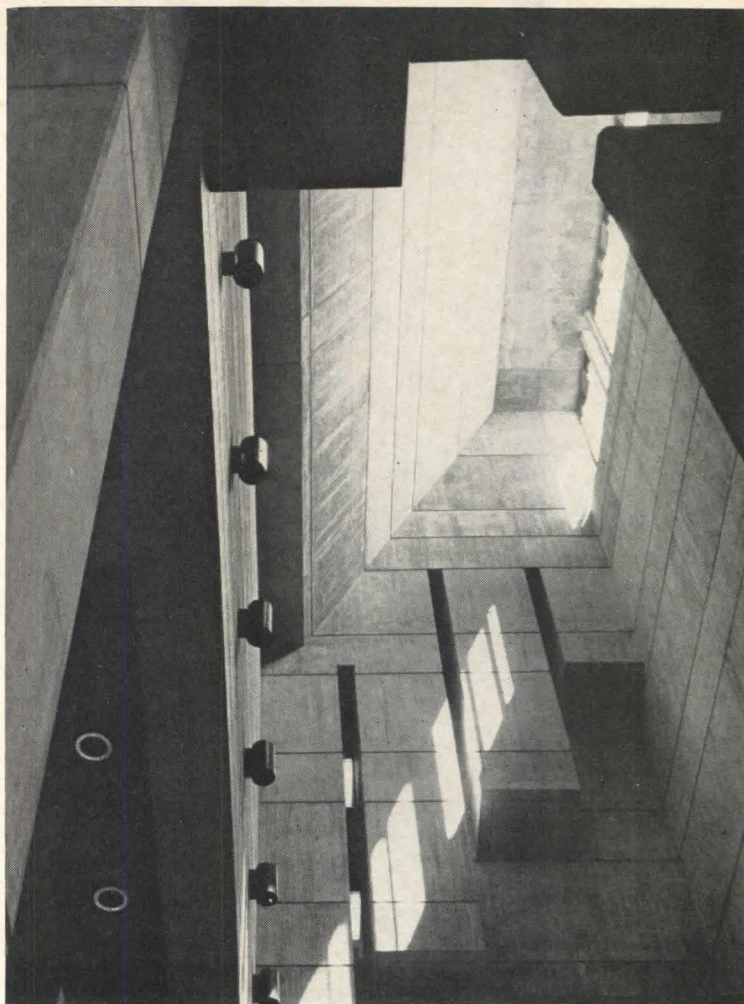
The architects have stated their case as "making the process of government so meaningful that it becomes monumental, involving everybody. . . . It becomes monumental because it is meaningful."

Perhaps it is permissible for a fellow European to point out to the architects the contradiction between involving everybody and monumentality. The dignity and aloofness of public office and its paradigmatic quality are Old World traditions that have fallen short of an architectural solution in Boston because they are meaningless in the U.S. The expressed expectation that the people will become involved through visits to their city hall, the way a pedestrian becomes involved with a loved city through meaningful

landmarks, is doomed. This is a society notorious for its contempt for government, and its inclination toward violence. The new City Hall, the first major one built in the era of the Welfare State, will work if its participation spaces work. Its life will flow around the symbolic seat of power, ignoring it.

The highest meaning of the new civic center will come not from monumentality but from a gradual awareness of its profound humanism by the citizens. This City Hall is not a building of the Electronic Age and therefore impervious to obsolescence. The 318,000 sq. ft. of office space have an elastic timelessness that is meaningful because it is eternally serviceable. The claim to historical continuity of a traditional building in traditional materials might restore the dignity of a great past to the Old State House and Faneuil Hall, now no more than traffic obstacles. The roughness of the new structure, the refusal to be decorative, confesses to the absence of a formal esthetic in a period without shared visual standards. But it is this very plainness that proclaims the supremacy of space experience over form experience. A visitor standing on the highest interior level experiences a kinetic continuity. He can follow the flow of space down the grand staircase into the urban microcosm of the passages and intersections of the concourse and outward toward the plaza. He will experience a freedom of perception in all directions (Fig. 21) that imparts a new visual dimension. City people are unschooled in environmental observation and it might need systematic guidance to make them aware of the many delights that this new civic center provides. These delights, lifting anonymous men above the stupefying spacelessness of their habitat, justify a repetition of the advice old Goethe gave to his contemporaries 150 years ago:

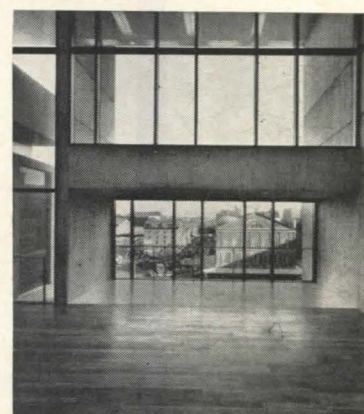
The useful advances itself because the multitude produces it and cannot do without it. The beautiful must be advanced because only a few can create it and the multitude needs it.



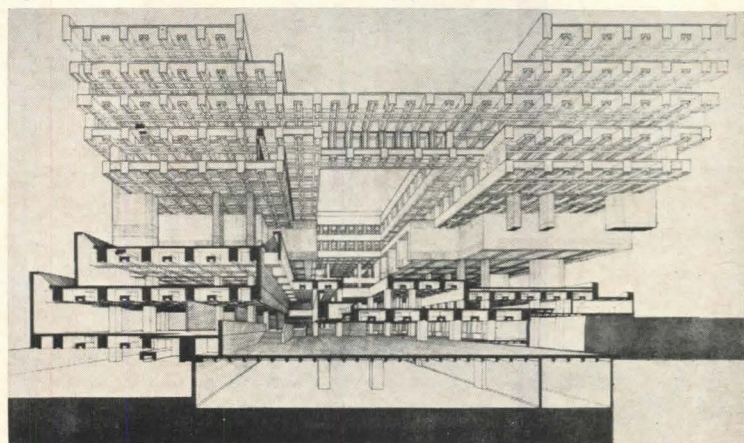
18



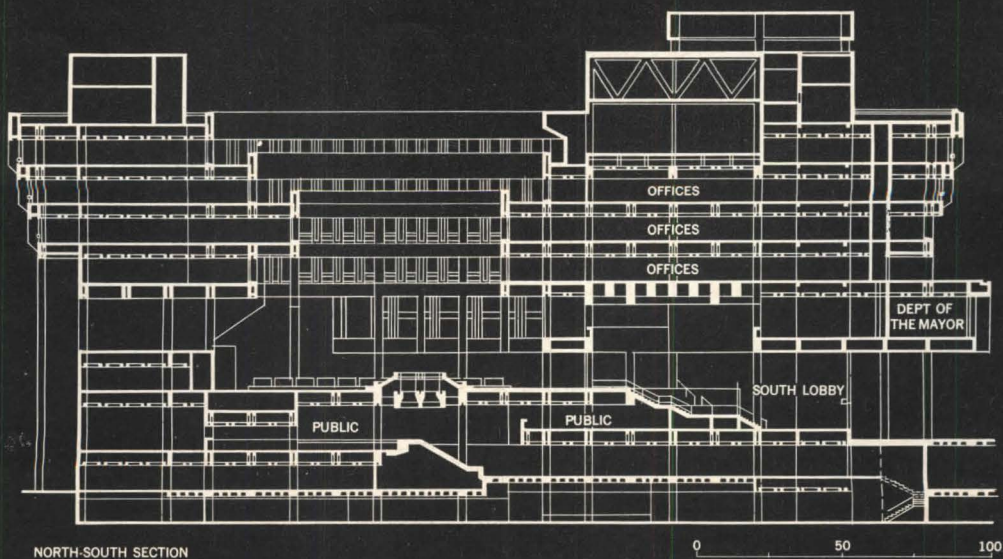
19



20

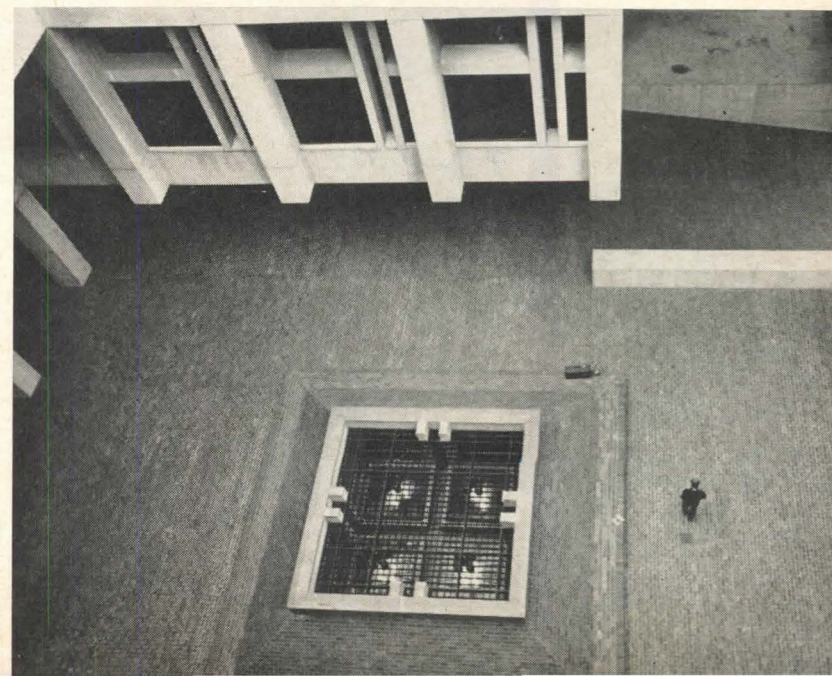


21





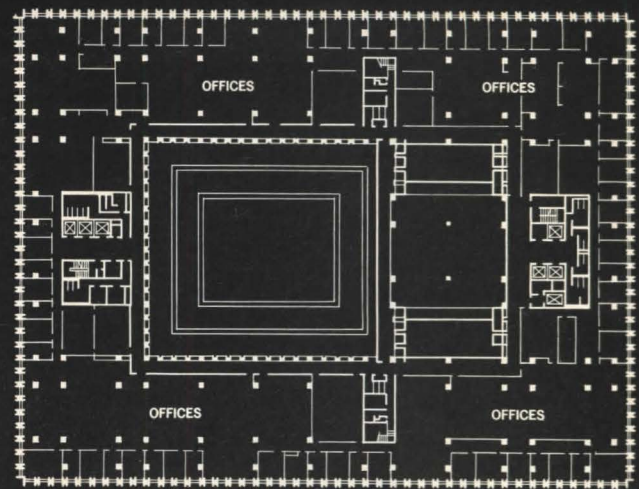
Left: view from the southwest, showing main entrance portico at corner leading into south lobby. Massive frames to the left of portico mark the council chamber, which is located in this corner of the building. Councilmen's facilities are to the left of the chamber; mayor's office and related spaces are at the extreme right in this photograph, overlooking Faneuil Hall. The frieze that continues around the perimeter of the building contains three top floors of departmental offices. Section is taken from north to south, through central court and south lobby. Right: southeast corner of building, with automobile entrances. Mayor's offices are located above this corner portico. View down into central court shows skylight above part of the north lobby—a large public area reaching into the center of the building.



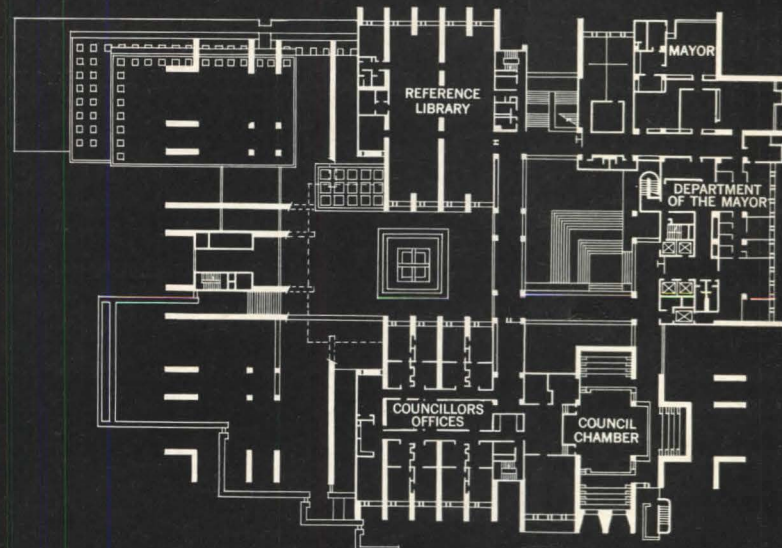




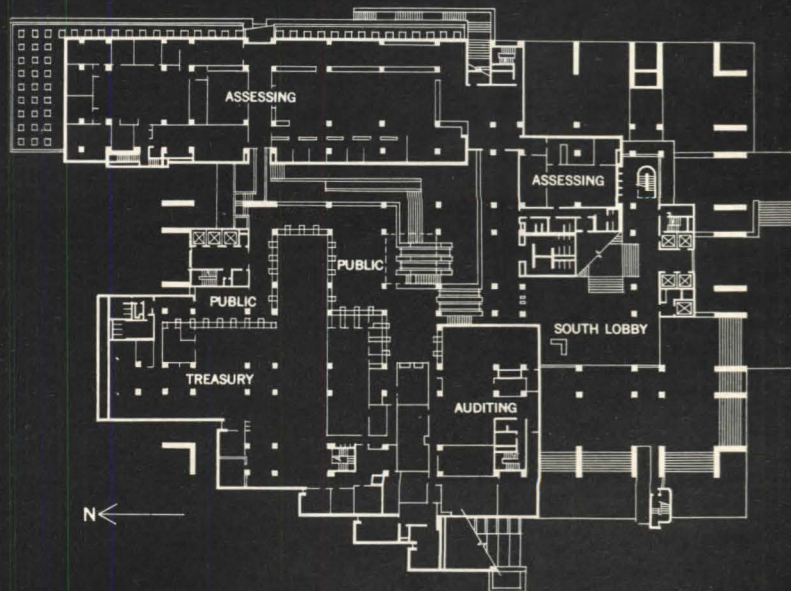
Left: view from north entrance into north lobby and the major public spaces arranged on several levels. Counters visible along perimeter of these spaces serve citizens wishing to apply for licenses, registration, etc. from various city departments. Skylights within the deep concrete ceiling structure (actually Vierendeel trusses) illuminate the public areas. Right: plans of the principal levels show, from top to bottom, a typical office floor contained within the deep roof-frieze that caps the building; the principal ceremonial floor, with the mayor's offices, the council chamber, and the councilmen's offices; and the principal public floor, with the two public entrances from the north and southwest, and the large, centrally located public spaces pictured at left.



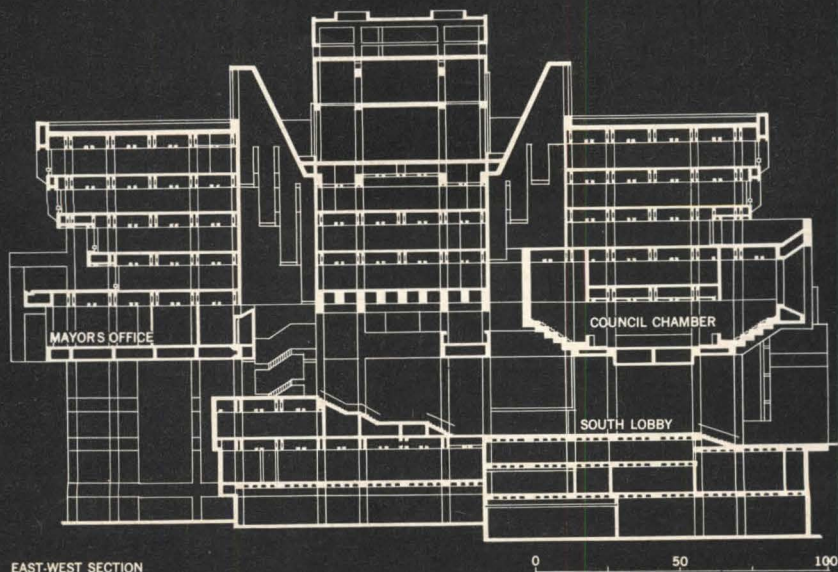
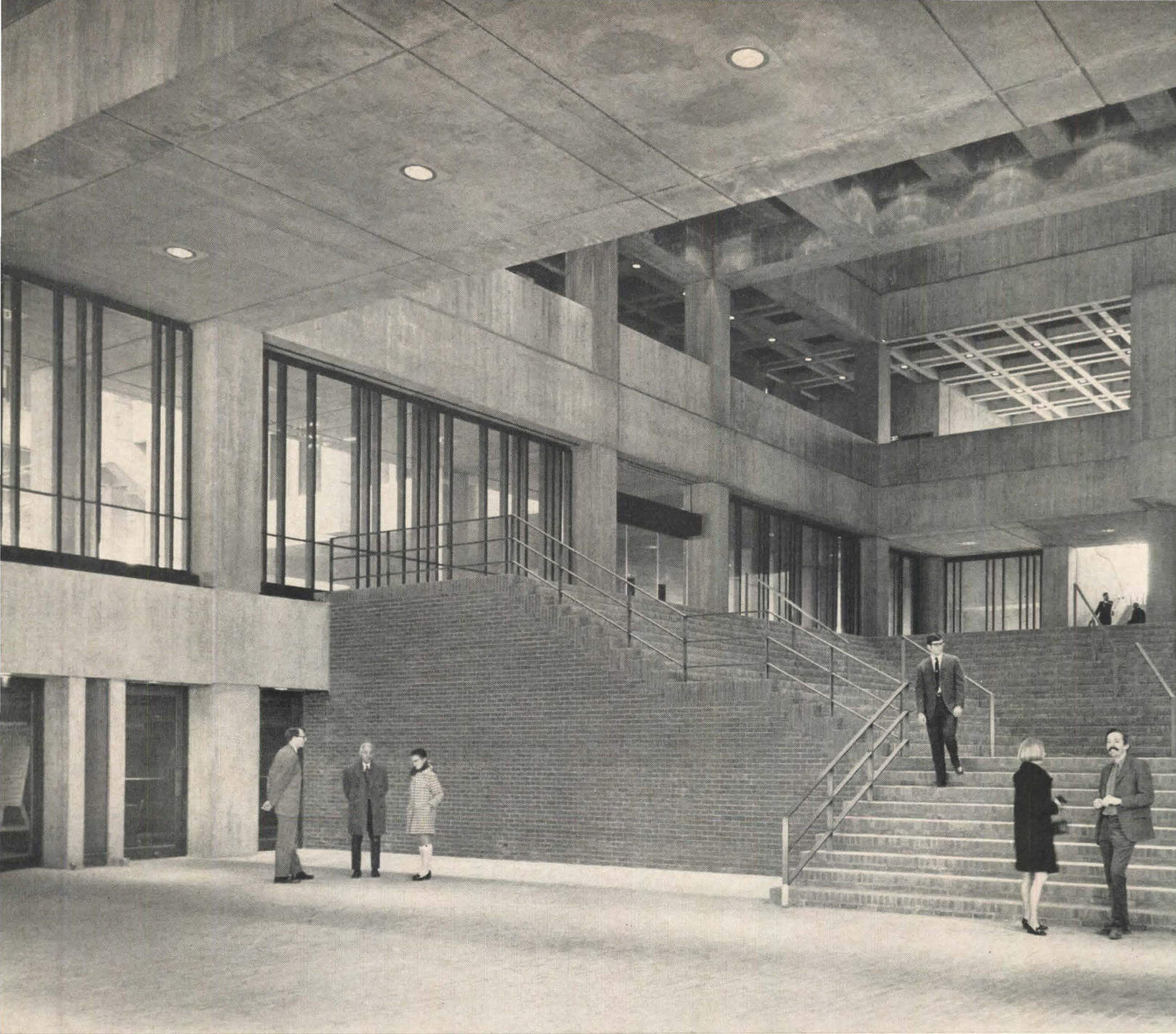
NINTH FLOOR PLAN

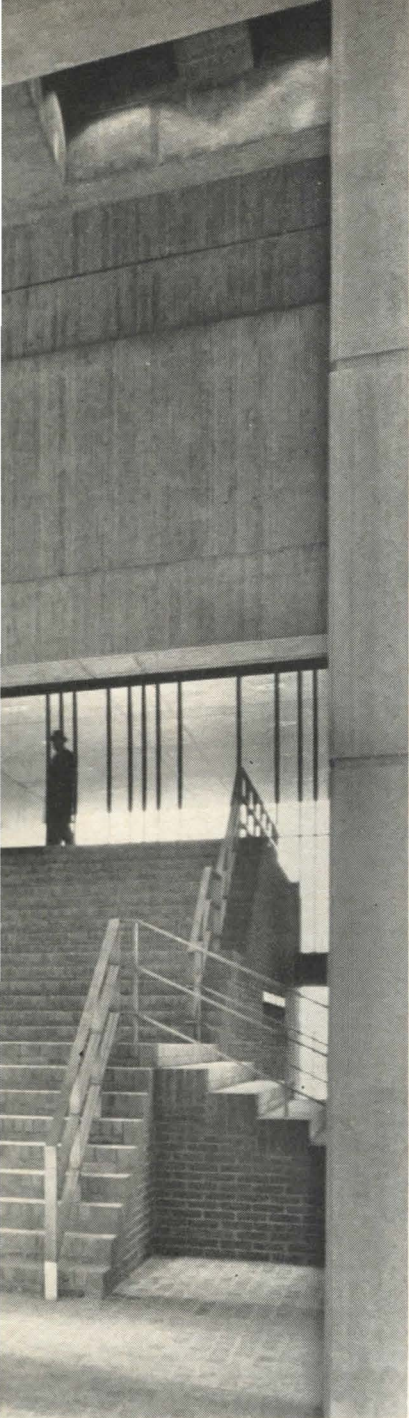


FOURTH FLOOR PLAN



THIRD FLOOR PLAN





Left: south lobby as seen from the southwest entrance. This is one of two principal public entrances, the other one being from the north. At the level of the south lobby, visitors can continue into the central public areas through doors visible at left; or they can walk up the stairs to the ceremonial floor, with its council chamber, mayor's office, municipal reference library, etc. The form of the council chamber is reflected in part of the ceiling over the south lobby. Section, taken from east to west, shows tall light-shafts that penetrate the building to illuminate the south lobby. One of these shafts is shown at top, right. Bottom right: elevator landing in south lobby, next to stairs shown also at right; and view into southwest portico, showing the soffit under the council chamber floor.

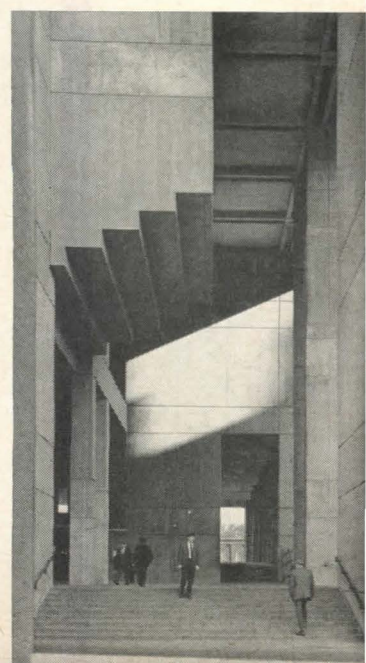
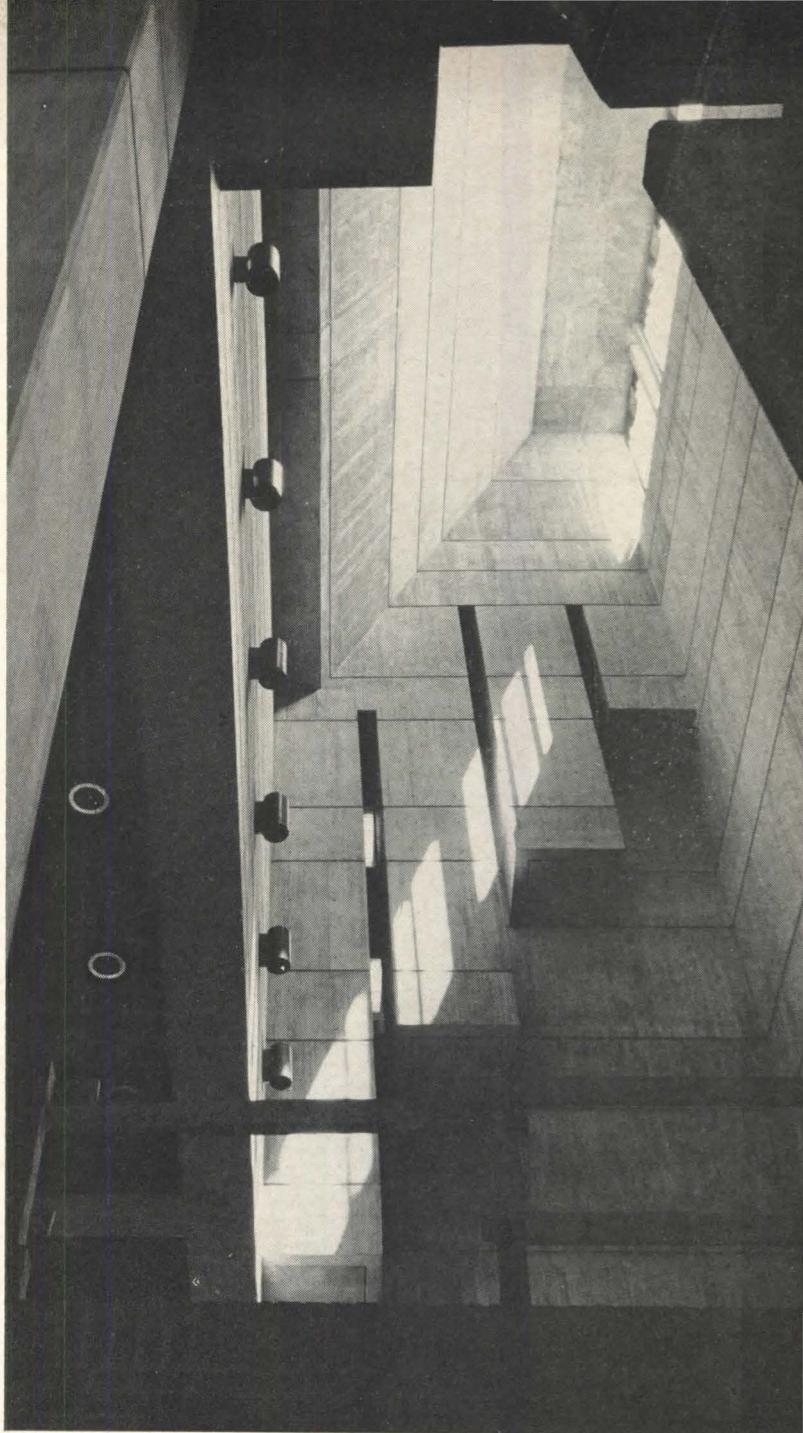
FACTS AND FIGURES

Boston City Hall, One City Hall Square, Boston, Mass. Owner: City of Boston, acting by the Government Center Commissioner (Robert M. Morgan, chairman). Architects: Kallmann, McKinnell & Knowles; Campbell, Aldrich & Nulty; Le Messurier Associates Inc. (Project managers: Robert C. Abrahamson, Henry A. Wood. Design coordinator: Gordon F. Tully.) Engineers: LeMessurier Associates Inc. (structural); Greenleaf Associates (mechanical); Cleverdon, Varney & Pike (electrical); Robert W. Sullivan Inc. (plumbing). Lighting consultant: Thompson Engineering Co. Acoustical consultant: Bolt, Beranek & Newman. Concrete consultant: Herman G. Protze. Space Planning: Becker & Becker Associates. Furniture & Graphics: I.S.D. Inc. General Contractor: J. W. Bateson Company Inc.

Building area: 513,000 sq. ft.

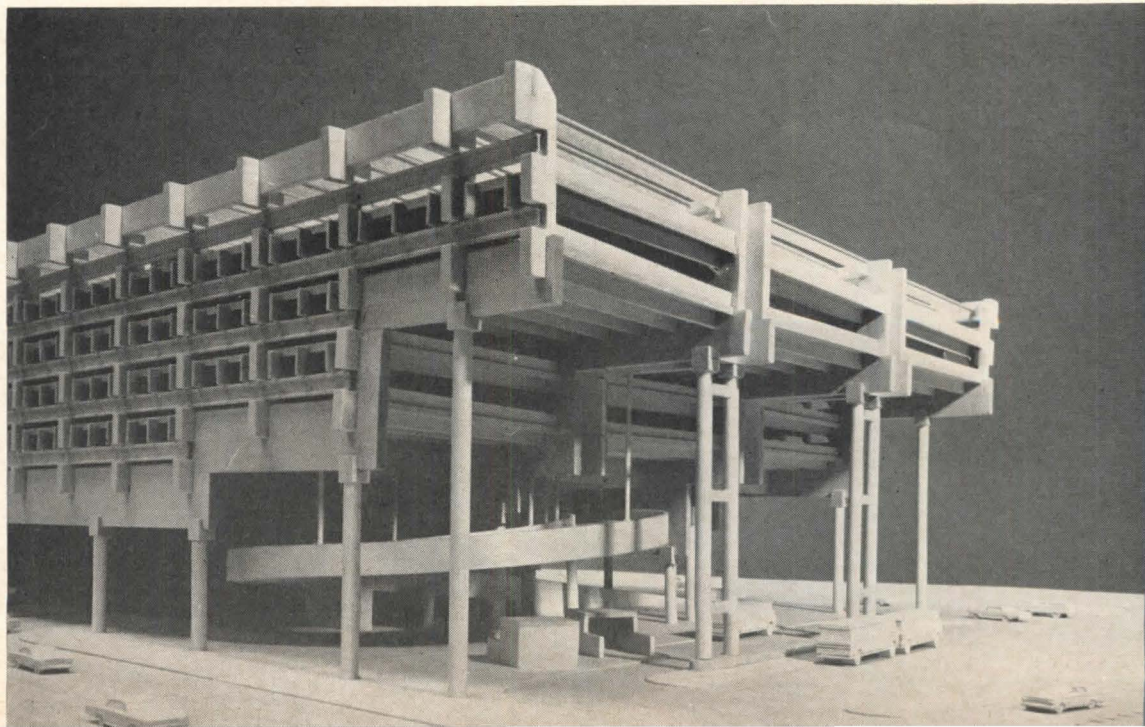
Cost: \$21,600,000 (excluding land, fees, financing, furnishings).

PHOTOGRAPHS: George Cserna, except page 42, Aerial Photos of New England; page 47, Nos. 14, 15, 16, 18, 19, page 53 (top), Randolph Langenbach.

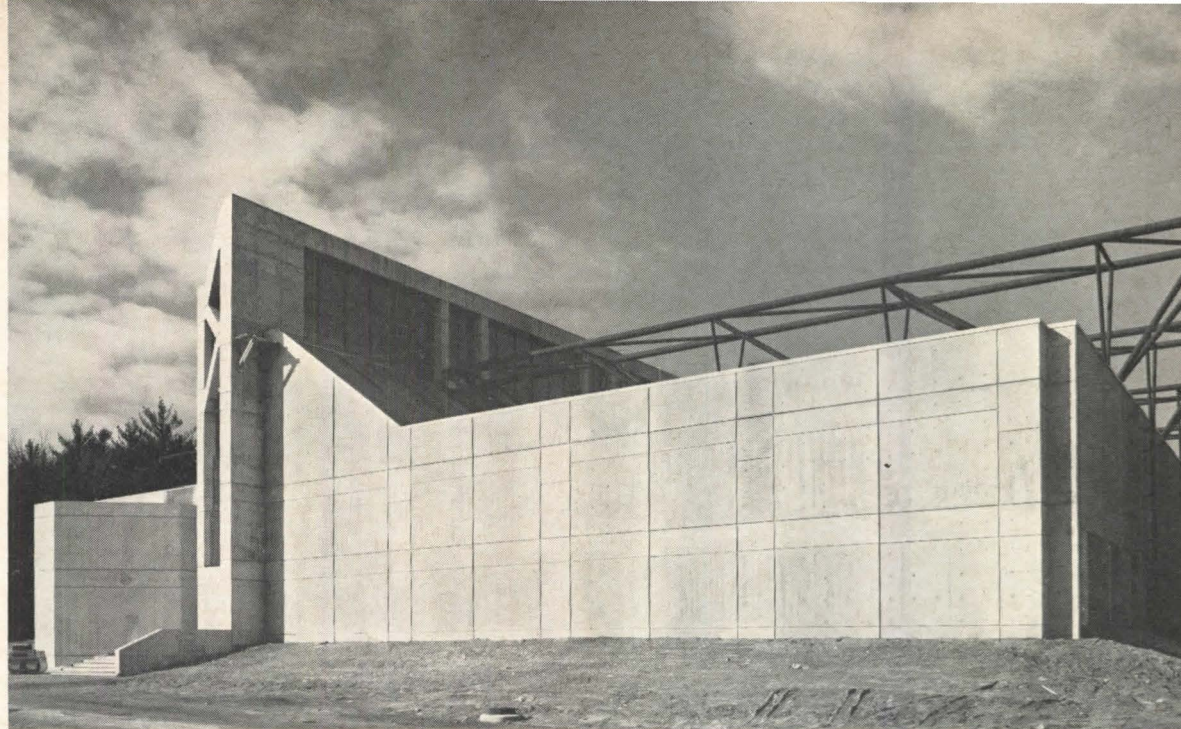


AFTER THE BOSTON CITY HALL

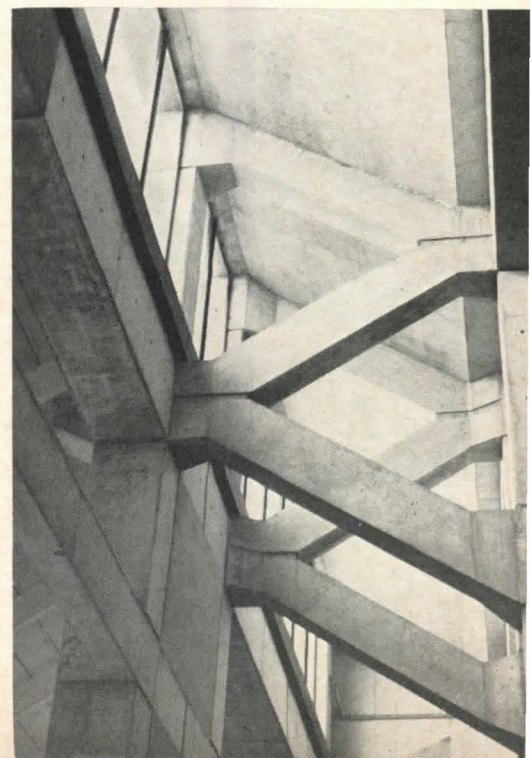
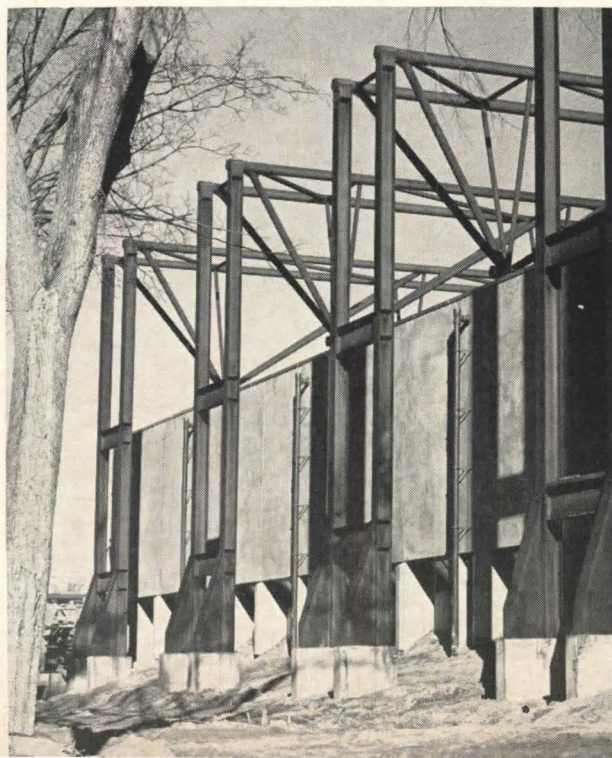
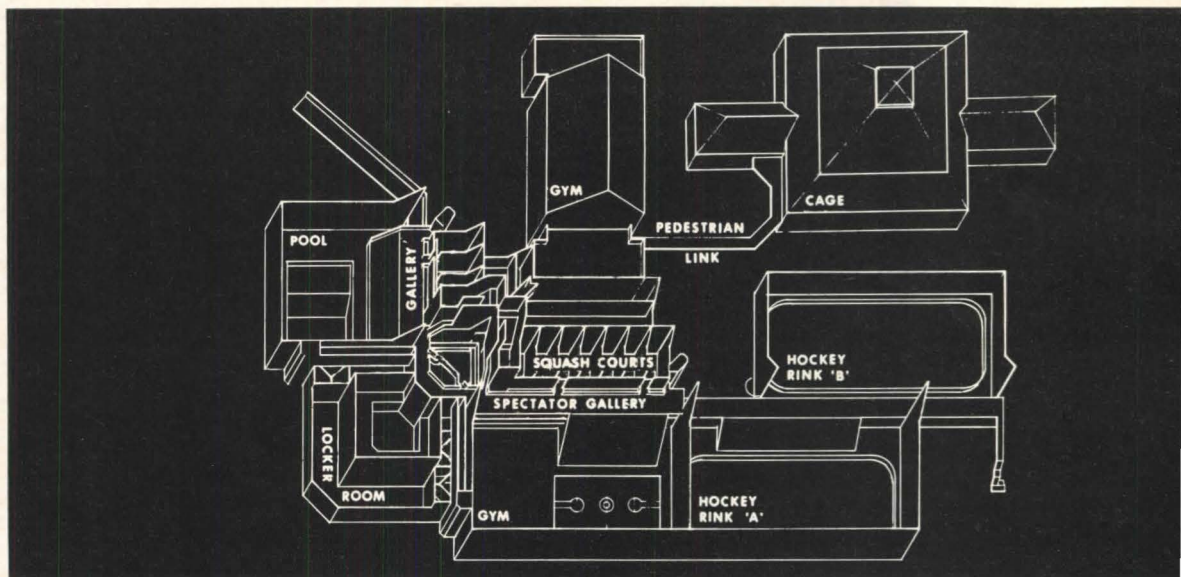
Kallmann and McKinnell, who carried out the Boston City Hall commission, which they won in association with Edward F. Knowles, are now a successful and established Boston architectural firm. (Knowles remained in New York.) Among the projects in their office at present are four of unusual interest: the Boston Government Center Parking Garage, the New Athletics Facility at Phillips Exeter Academy, the Roxbury, Mass. Civic Center, and the Boston Five Cents Saving Bank. They are in various stages of design or construction.

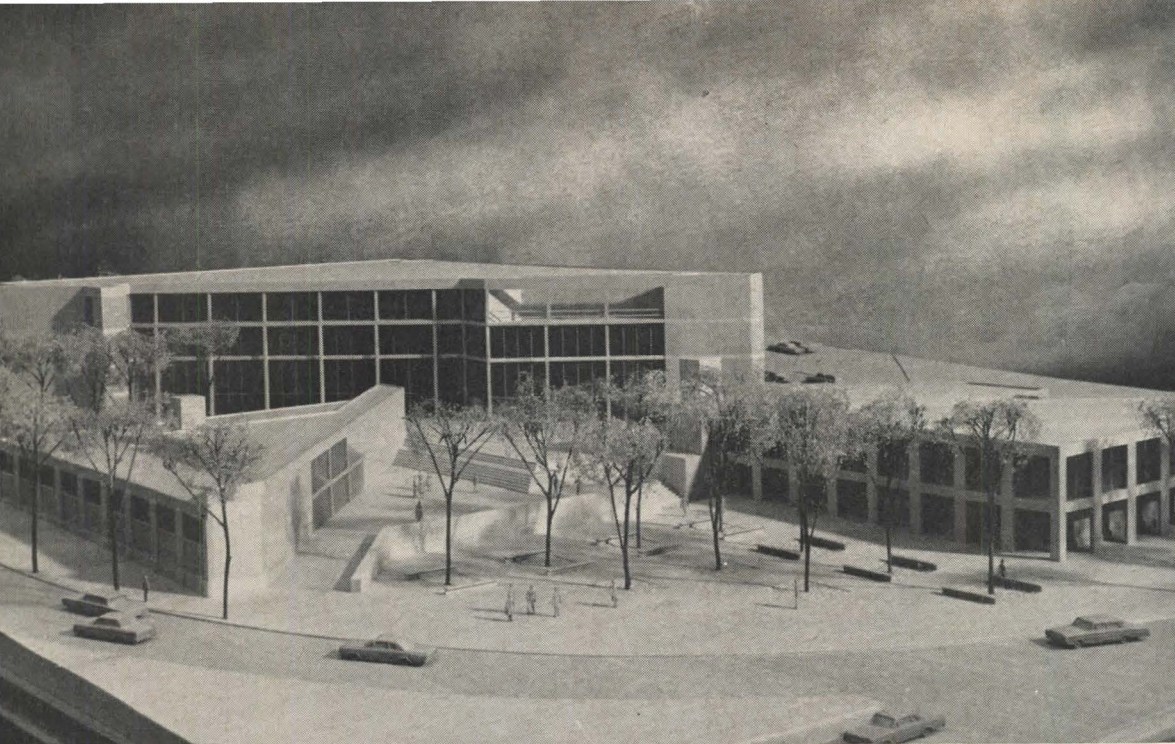


THE 2,000-CAR PARKING GARAGE (left) next to Boston's Government Center is scheduled for completion in early summer. It is a dramatic structure—largely of precast/prestressed concrete—with all columns, girders, and beams expressively interlocked. When completed, the garage will be 600 ft. long, 200 ft. wide, and nine stories high. (Only the top two stories will be filled in with parking docks at one end—see model photo, below left—to leave room for a 96-ft. diameter spiral access ramp.) The T-shaped prestressed concrete planks used to form the floors are 62 ft. long, 9 ft. wide, 3 ft. high, and weigh 22 tons. They are hoisted onto the girders (and onto rubber pads to dampen vibration), and then locked into position with steel tabs that are welded together in situ. (Samuel Glaser Associates and Kallmann & McKinnell, architects; Albert Goldberg & Associates, structural; Cleverdon, Varney & Pike, mechanical; Herman G. Protze, concrete technologist; Joseph Rugo, general contractor.)

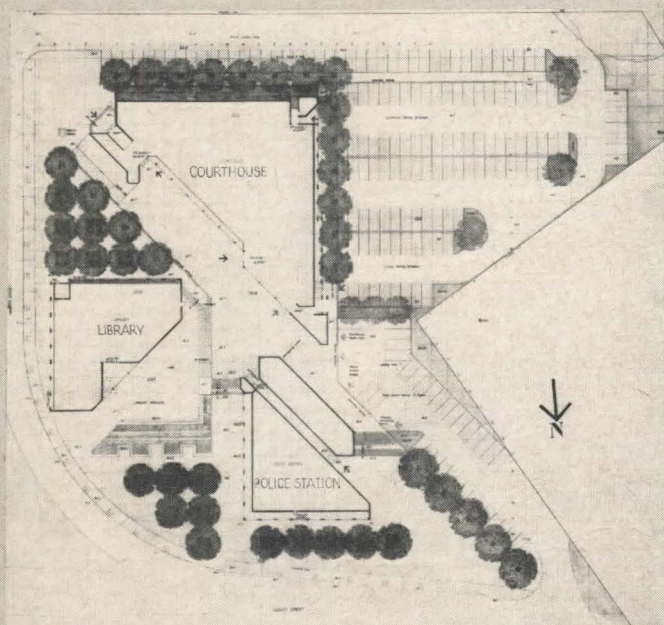


THE NEW ATHLETICS FACILITY (right) at Phillips Exeter Academy is also under construction now and should be completed this fall. In principle, this is a series of buildings—pool, gym, hockey rinks, etc.—“plugged into” a pedestrian spine or street. The spine has three levels: entrances are at the second level, from which participants go down to lockers, spectators up to seats. The spine is framed in concrete (photo far right), but the various facilities served by the spine are framed with self-oxidizing steel trusses—fifteen of them, each weighing between 15 and 22 tons. The steel trusses are kept outside the enclosed spaces, and form a structural articulation as powerful as that of the parking garage. The scale of the facility is deceptive in these views: the steel frames, for example, are about 50 ft. tall. (Kallmann & McKinnell, architects; LeMessurier Associates Inc., structural; Francis Associates, mechanical, electrical, plumbing; Herman G. Protze, materials technologist; George B. H. Macomber Co. Inc., general contractor. PHOTOGRAPHS: George Zimberg.)



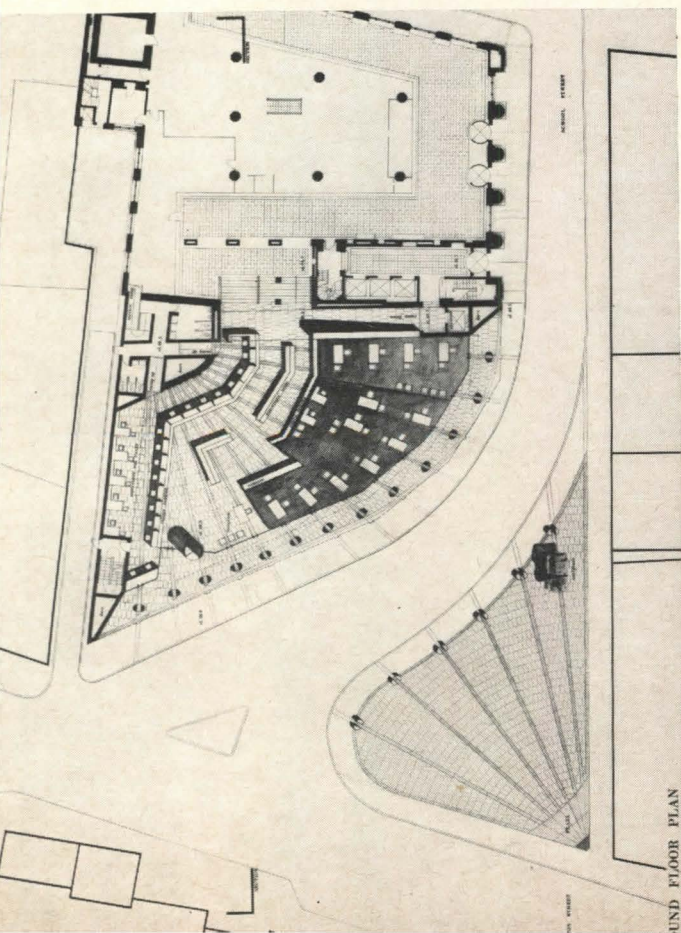
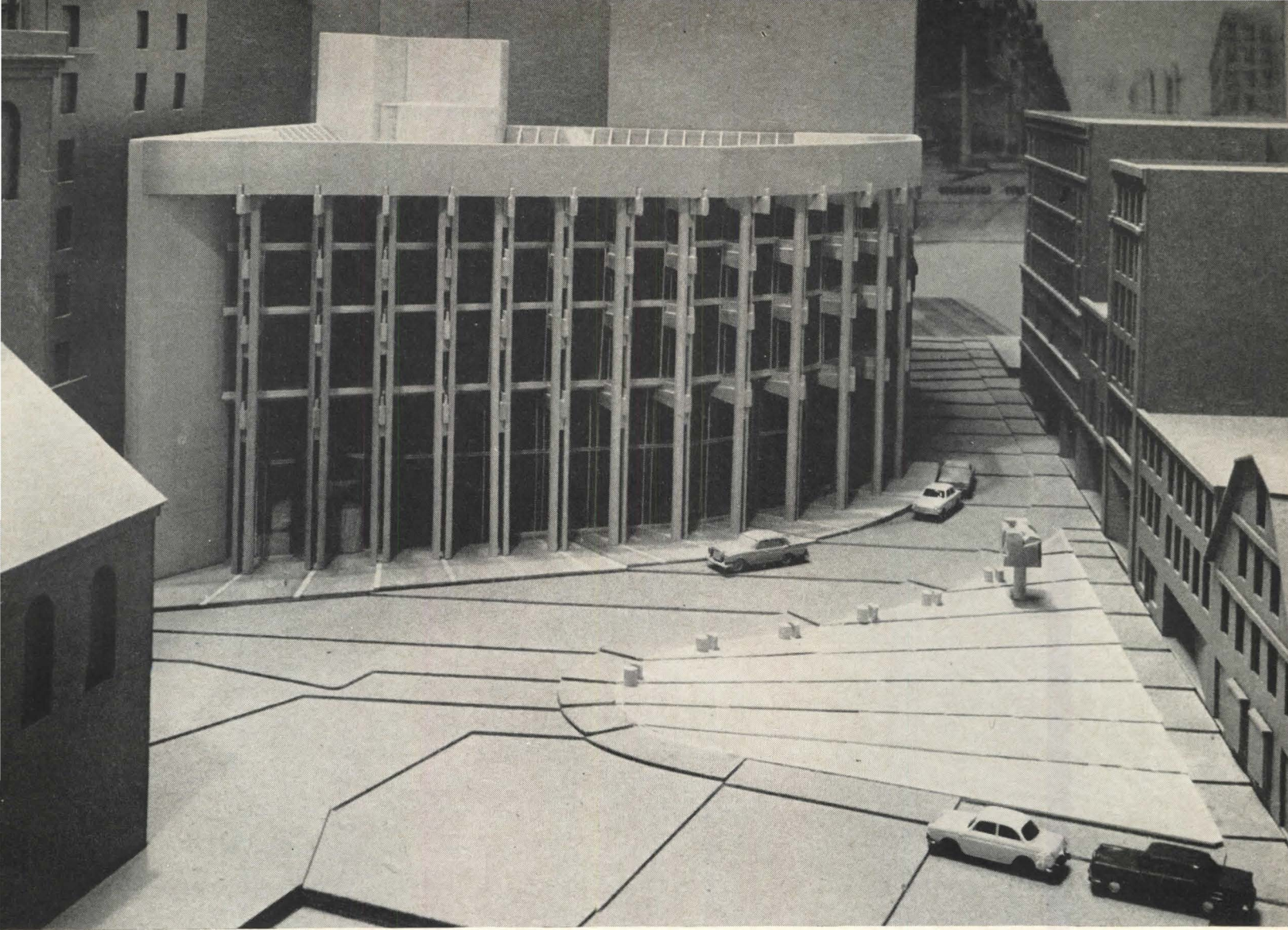


THE CIVIC CENTER for Roxbury, Mass. (left), the major ghetto of Boston, will not be completed for another two years or so. The project consists of three buildings—a 4-story courthouse, a 2-story police station, and a 1-story library—arranged along a diagonal pedestrian mall that cuts across the block. A fair amount of redevelopment has already taken place in the Civic Center area, and the new buildings will be faced with brick to match a nearby boys' club, designed by TAC. Unlike the other projects now on the architects' drawing boards, this one emphasizes spatial manipulation rather than structural drama. The spaces between the four buildings will be carefully shaped by changes in level, surfaces, formal planting, etc. (Hoyle, Doran & Berry/Kallmann & McKinnell, architects in joint venture entitled "Roxbury Civic Center Associates"; Hoyle, Doran & Berry, structural; Buerkel & Co., mechanical; Thompson Engineering, electrical; Robert W. Sullivan, plumbing.)

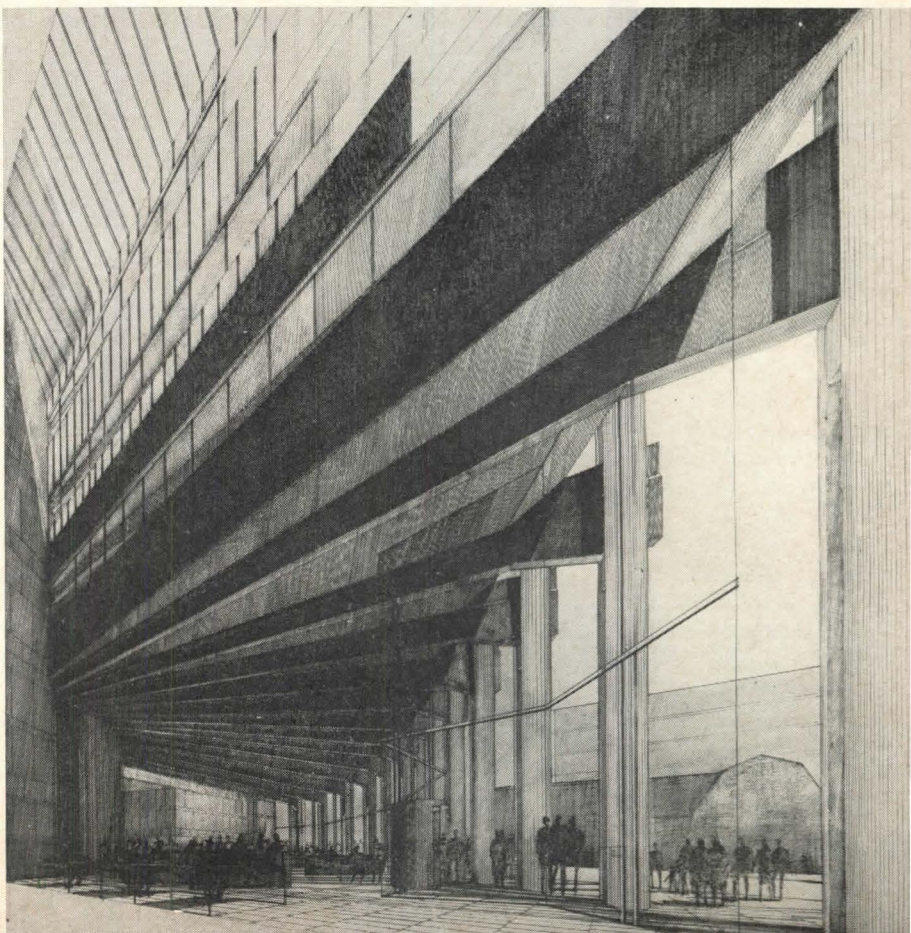


THE BOSTON FIVE CENTS SAVINGS BANK (right) should be completed in about one year. The irregular corner site clearly helped shape the building—a 25 ft. tall banking hall at street level (bottom right), plus offices on three upper floors. The structure will be poured-in-place concrete, post-tensioned, with double columns holding beams that radiate outward from the core of the building. (Some of these beams will be 90 ft. long.) The columns will stand outside the building to form a colonnade along the entire street frontage. The total area is about 42,000 sq. ft. (Kallmann & McKinnell, architects; Albert Goldberg & Associates, structural; Francis Associates, mechanical and electrical.)





GROUND FLOOR PLAN





WORKSHOP IN WATTS

Judging from its ordinary name, the Urban Workshop could be anything and anywhere. But it is an extra-ordinary organization, started by black professionals (now, however, including both black and white persons), and it is located in an extra-ordinary place—Watts.

The Urban Workshop, almost without funds, has survived for three years in a location and in activities where survival is never easy. Three years after the riots, the Workshop remains the only group of black architects and planners in the Greater Watts riot area, and it has neither been hired away nor turned away from its original aims. It has designed what will be south-central L.A.'s first 221d3 housing since 1962; it has already carried out several smaller projects in the community. It is trying to have an impact on the many proposals for rebuilding Watts and "Greater Watts." It is on its way to linking up with the well-known Arthur D. Little firm to form an independent research organization, and is giving major attention to one of the most acute problems in planning today:

communication between black and white, communication between professional and nonprofessional.

Home of the Urban Workshop is an abandoned lumber yard, along the railroad tracks of the former Pacific Electric "Red Car" route. In one direction, several blocks away, are the Watts Towers; in another direction is the once burned-out 103rd Street, called "Charcoal Alley" since 1965.

The building used by the Workshop is a garage-like studio, a double-height space with a working loft at the rear, drafting space under the loft, and meeting places on both levels. On its walls is a graphic introduction to the Workshop—a poster announcing discussion of a shopping mall, another poster for a professional seminar called "Soul and T-Square," petitions protesting the threatened sale of a city-operated camp in the High Sierra, a placard saying "Involvement is the Name of the Game," a poster for "Intercom 68" (a Workshop project doing black missionary work in the white community).

There are also maps at every

scale—from a guide drawn by the Workshop for the several annual Watts Festivals, to the study of a Workshop-proposed shopping plaza on 103rd Street, to Workshop-produced maps of land use in all of Watts, to an enormous map of the enormous Los Angeles County (which includes almost 40 per cent of the state's population, 74 incorporated areas, and uncounted miles of freeway).

The Workshop logo appears on its own output (and, greatly enlarged, on the rear of the building). The logo is a large black square around a smaller square, and came about one day when a member of the Workshop looked at it and said, with a note of discovery, "Whitey is a square when he's in our thing, but we're a square when we're in his thing."

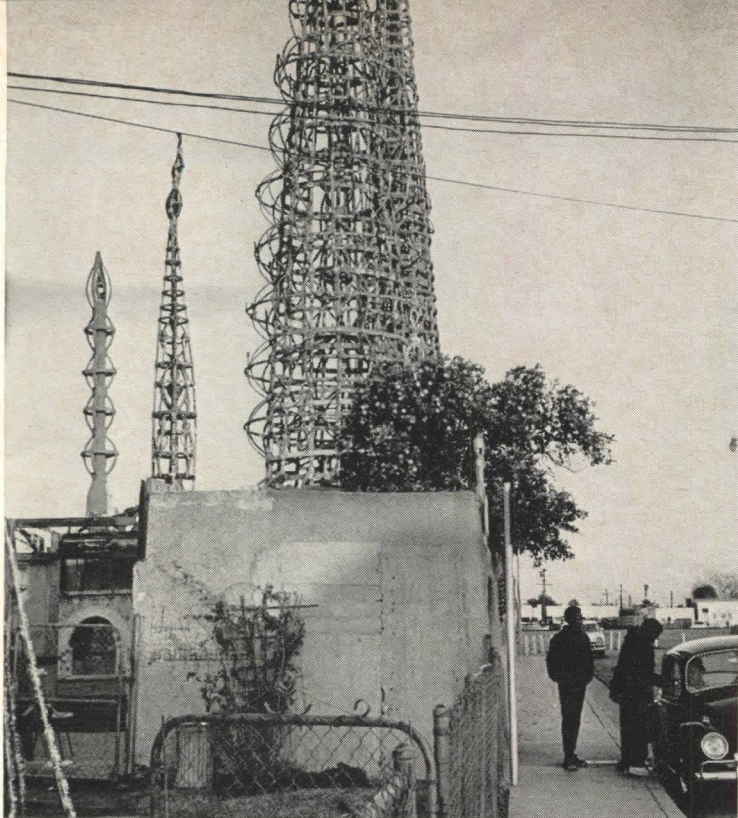
This may define some the concerns of the Workshop, but does not define its politics. Any attempt to put the group into one "bag" or another is utterly confounded by the upstairs meeting area, which has posters of John F. Kennedy, Leroi Jones, Malcolm X, Adam Clayton Powell, Albert

Einstein, and the Indian who loves Jewish rye bread.

"We don't find it necessary to be political," explains one member of the Workshop. And the Workshop remains its own man, unattached to any of the community's more politically motivated spokesmen. (Actually, says Edgar Goff, one of the Workshop's founders, no one person speaks for the community. Black community leaders are those who live and survive and create in the best way they can.) The Workshop has been dubbed "The Quiet Militants" and it is proud of the distinction.

Origins and aims

The Workshop began soon after the riots. Ed Goff recalls that the intention of local people to do something in (and *with*) the community had prompted a visit to the L.A. city planning department only two days before the riots. In the week after the riots, the group organized further—professionals and nonprofessionals—and put together a synopsis of what they felt was important in any rebuilding. "You're going to need some



Watts Towers (above) and echoing pole sculpture by the Workshop (left).



Home of the Urban Workshop is a former lumber yard along the tracks.

help," they said to the downtown agency. Two months went by, with no reply. By this time, the city had opened an office in the riot area, and their man in Watts—himself black—replied that he didn't need any help. "That was the night the Workshop began," says Goff.

Co-founder of the Workshop was Eugene Brooks. Both Goff and Brooks are trained in architecture—Ed Goff studied architecture at USC, after his B.A. in political science at UCLA; Eugene Brooks did graduate work in planning at USC after his B.Arch. at USC. Before the Workshop came about, both were working in large offices—Brooks at Bechtel Corporation, as a senior planner; Goff at General Electric, as a research analyst (with emphasis on housing and development in racial ghettos). The "come back home" movement of these two successful black professionals is a return home in more than symbolic terms. Both had grown up on L.A.'s East Side—Goff's family had been in L.A. since 1812, and Brooks' father had been minister at a local church (incidentally, de-

signed by R.M. Schindler).

"It is difficult to describe the organization of the Workshop," states one of its papers, "since it is by design a very flexible, fluid arrangement." The founders are its "backbone"—in direction and (until recently) in financial support—but they declare themselves "open to suggestions from anyone willing to work and be involved." During the day, community people stop by; during the evening, technical people are on hand. The Workshop has a roster of 32 professionals (economists, sociologists, social workers, anthropologists, educators, etc.) to call upon as needed. Design students come to help and learn; last summer, in steady attendance, were six students from the newly formed NASPA (National Association of Student Planners and Architects).

For a "prideful" community

But, if the Workshop's structure is flexible, its aims are firm. Through direct involvement and visible improvement, it hopes to break up the pattern of hopelessness and despair that characterizes depressed communities.

The Workshop wants to provide, from within the Watts community, "those critical skills and commitment" necessary for the development of a strong and "prideful" community.

A vital aim of the Workshop is to develop the reservoir of undeveloped "creativity, skills, and leadership" in the community, providing ways for local people to have an effective say in the public policies affecting so much of their lives—policies in housing, welfare, health, education, etc., now almost universally imposed from an outside bureaucracy. The goal of the Workshop is for "community-based, community-oriented" services (we were here *already*, Goff and Brooks say; "we are not a dropped-in group"). "The guiding spirit will be the logic of what people consider to be their own needs; the criteria will be their values of themselves and the community."

The program is probably 80 per cent social planning, 20 per cent physical planning, and thus broader than is implied by the original name of the group (Urban Design Workshop). The geographic focus is broad, too. The

commitment is to the entire "spacious ghetto" of Los Angeles, which numbers almost 1.5 million black people, and to its counterparts across the country. By necessity, the focus is on the larger metropolitan community, as well. "We can't plan for the black community unless we know what's going on in the white community, and vice versa," says Goff. It is necessary to look at the larger area's zoning, freeways, rapid transit, even air routes, all of which—and more—affect life within the black community.

The concerns of the Workshop thus extend far beyond Watts. Actually the Workshop deplores the attention the world has given to Watts since 1965, an attention that has seen the number of private and public agencies increase astronomically, with many of them performing as ineffectively and wrongheadedly—even destructively—as ever. Believing that it is a disservice to view Watts as a place of destruction, not as a place with its own lifestyle and vitality, the Workshop is developing a "community tourist guide" to the entire black area,



The Workshop uses a double-height studio, one of two buildings on the site.



Walls are lined with maps, posters, petitions, memorabilia.

which will emphasize its history and will point out its places of strong social importance, not its burned-out storefronts.

In its enlargement of the McCone Commission map, the Workshop seeks to correct a misconception created by the mass media in their initial naming of the "Watts" riots. Actually, the riots did not begin in Watts, and only 10 per cent of the activity took place in Watts. The Workshop feels that a map showing destruction in many places in L.A. other than Watts has profound implications in showing the difference between how a community like Watts sees itself, and how it is viewed from outside. (The community, in fact, calls the events of 1965 anything from a revolt, to a manifesto, to a demolition, but *this* difference cannot be dealt with on a map.) It is probably fair to say that the discrepancy between the white community's view of the black, and the black community's view of itself, is apparent in everything the Workshop does.

The Workshop has many ideas of what needs to be done in the minority community. It defines

some of its work as a "Project Now" series ("what happens in the meantime") and some as a "Ghetto Beautiful" program. In addition, there are projects (of which more later) that fall between or outside these two categories, and may well have a greater impact than any of the more visible efforts.

Short-term projects

Among the Project Now ventures: 1) clearing and preparation of riot-damaged lots for the annual Watts Festival, held each August since 1966; 2) fixing up the Workshop's own place; 3) creating a half-mile "linear park," of which little now remains, along the debris-laden Southern Pacific right-of-way; 4) clearing a vacant lot and putting up a small pavilion as a rest center for alcoholics (this project was stalled for lack of funds); 5) continued remodeling of a burned-out furniture store for the Watts Happening Coffee House (Workshop directors are members of its Board of Directors); 6) plans for a new 103rd Street Teen Post, a center sponsored in part by the Workshop;

7) plans for a "play pad" and a visitors' center near the Watts Towers.

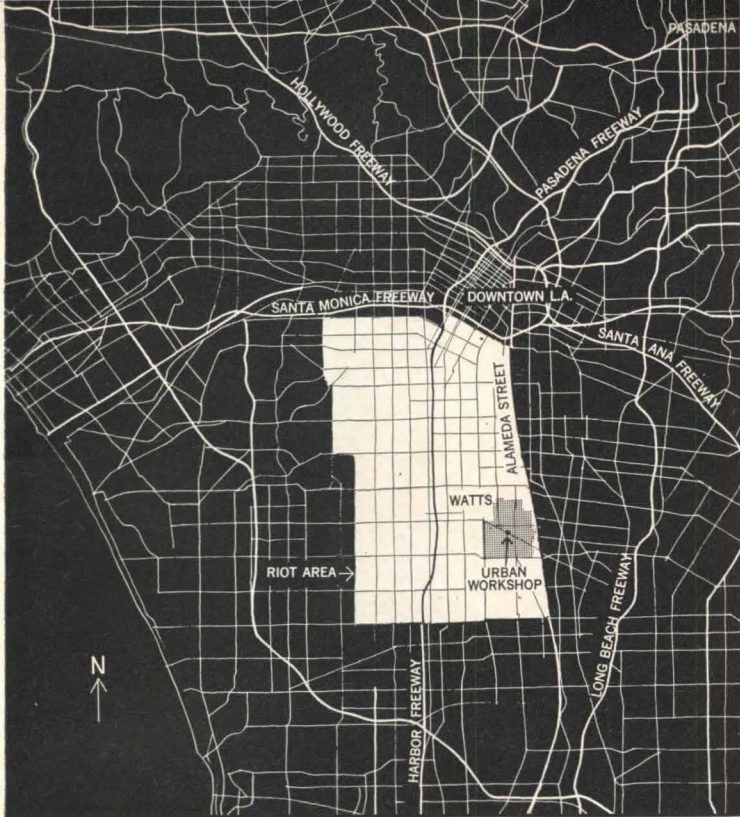
"One must be part of the community to identify the needs that generate these projects," says a Workshop paper. Funding from the inside is difficult, though. The city gave \$3,600 two years ago, for a series of immediate projects (mostly connected with the forthcoming Festival) recommended by the Workshop as those having the greatest potential for conveying the city's concern. "It showed that the city can move if it wants," says Goff. The money didn't arrive until several months after the work was done, though, and after the Workshop had laid out funds from its own pocket. And the man who arranged the grant, an assistant to the mayor, lost his job not long afterward. He had believed in action, so the story goes, and it got him into trouble in various places—particularly among the local agencies which should have thought of some of his ideas themselves.

The Workshop supports itself through architectural services and consulting work. Thus far it

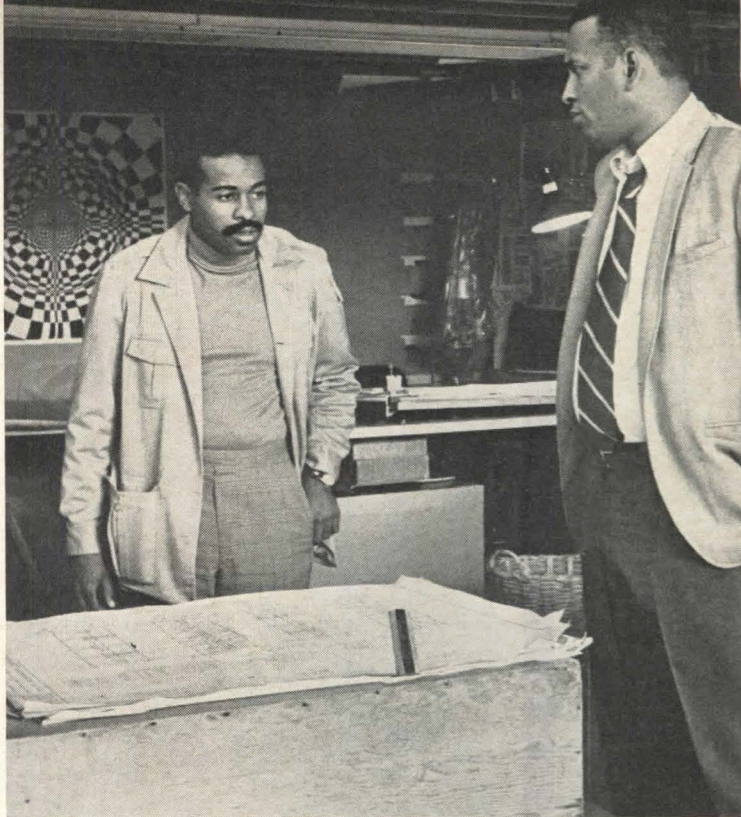
has renovated 40 houses in Greater Watts, under the 221h program (rehabilitation of existing dwellings under sponsorship of limited-dividend or nonprofit groups). But its major architectural work to date is for 36 units of moderate-income housing (under 221d3), to be built as a cooperative by Mead Housing Trust. The project is not innovative; "our next housing will be," says Brooks, "we just wanted this one to be accepted, and built." A building permit has been obtained, and the project is now awaiting FHA action. It is a pleasant development, with patio, lawn, and four bedrooms for each duplex. The plans are the first to be drawn in Watts. Black contractors are being invited to bid on the \$500,000 job.

A new look at ghetto needs

Another major project, for which a contract has just been signed, is an eight-months study for United Way (L.A.'s Community Chest). United Way raises \$28 million a year for its 240 groups, of which only 20 are concerned with the black community, and only six are located in



The Workshop is the only black architect-planner group in the 1965 riot area.



Co-founders Gene Brooks and Ed Goff are both trained in architecture.

the ghetto. The Workshop's study will take a completely new look at the ghetto's needs; it will develop new ways to ask questions, and will propose new ways of meeting needs where traditional ways have failed. Goff believes that the study could become a national model for analyzing a community because this time the black community is studying itself. Also in the contract with United Way is the programming of a 24-hour service center, to provide information, advice, and resources of both an emergency and non-emergency nature.

Among other projects that the Workshop has worked on:

- *Pico-Union*: (in cooperation with UCLA) advice to the Pico-Union Neighborhood Council on establishing a neighborhood development corporation, and on planning for future development.
- *Ujima project*: preliminary design analysis for a 115-acre site that Urban America had wanted to develop (Urban America ran into trouble as "outsiders" and dropped the project).
- *Community Justice Center*: physical planning for a newly

funded organization that will give 24-hour legal assistance and bonding to arrested persons.

- *USC Health Center in Watts*: alteration of existing space for a 24-hour clinic funded by OEO.
- *Stockton*: comprehensive planning study for the predominantly minority south area.

Plans from outside

Funded by no one, but prompted by its own conscience and the requests of residents, the Workshop plays a responsive role in relation to outside plans, analyzing the many proposals that will impinge on the minority community. These include urban renewal, Model Cities, and freeway location, each of which will have a major effect on Watts.

The Workshop's involvement in the urban renewal of Watts goes back more than a year. In the 1967 preliminary plan developed by L.A.'s Community Redevelopment Agency, some industrial development was proposed. The Workshop (and most people in the area) objected, charging that the notion of benefits flowing from simply increasing the employment base is

"overly simplistic." Existing industry doesn't employ the low-skilled Negro as it is, they argued, and the way to attack Negro unemployment is by changing the hiring and training practices. "We're not against renewal, just against bad planning. We dig Watts. We want to stay here; we want to rebuild here. . . . We reject the notion that the future will take care of itself if only something or anything is started now. This is the antithesis of sound city and community planning." The upshot of their struggle was a new renewal plan, *without* industry, which was approved in November, 1968 by the L.A. city council, and was forwarded to the federal government for funding.

The entire 107-acre site is slated for demolition, an action approved by Goff (and a majority of site residents). No housing there is more recent than the immediate post-war days, and more than half of the housing was built before 1939. In addition, the lack of serious code enforcement since the early '60s (the city now inspects only those buildings where a complaint is

received) has meant that the housing stock is steadily, and rapidly, deteriorating. In the rebuilding, Goff believes, "We'll probably see three- and four-story units, and six-story units would be OK if they're well done. But before it's all wiped out, let's try to understand what's here, why people gather where they do, what places are important to them. There is a vitality and awareness in the black community. Anything and everything can happen here. We don't want this place turned into something cold and antiseptic.

Project director for the renewal, Edgar Law, says, "it is a community-based agency, for once." And Goff, who is part of that community, says, "We're watchdogging the renewal agency, but the community is watchdogging us." The Workshop wants to be more than a watchdog, however; it hopes to be hired to plan the renewal area's plaza and shopping mall at 103rd Street.

Model Cities

The Workshop's involvement in Model Cities is less successful. In



103rd Street, called "Charcoal Alley" since the 1965 riots, has a few new things happening.

an analysis they were asked to make of the city's proposal (for a local assemblyman), they state clearly that they are in favor of the city's application, and support favorable action by HUD. HUD's action was to grant only \$284,000 for two Model Cities in the city—one in the northeast, predominantly a Mexican-American population, and one in the south-central area, predominantly black. (The original request was for \$613,359 for the "Greater Watts" program alone.) HUD refuses to make the specific division between the two areas, and a local struggle described in terms of Browns against Blacks is currently in progress.

The Workshop asserts that the application did not adequately involve local people either in the process of generating the application or in the planning activities proposed in that application. As described by Attilio G. Parisi, who is project coordinator in the mayor's Office of Community Development, the city didn't know it had a second chance for Model Cities (its first was rejected in 1967) until mid-February, 1968, and the application was presented

to the city council on April 1st. "There was no time for a grass-roots operation," says Parisi. Preparation of the application was assigned to the Los Angeles Technical Services Corporation, which came into being at the time of the first Model Cities application (a document it also prepared). That application was denied, at least in part, some say, because of inadequate citizen participation. Parisi says this may not be the whole truth.

Asked if there is validity to the charge that persons representing the community were not adequately involved, Parisi says no, and tells of a meeting in Watts where those contributing to the proposal, and living in Watts, were asked to raise their hands. Some 40 hands went up. Not so easy to discover, at least by a show of hands, is whether the 40 represent the many "communities" in Greater Watts.

Local participation was funneled through the Watts Labor Community Action Committee (WLCAC), a nonprofit corporation conceived just before the riots, and funded now by 12 labor unions, various founda-

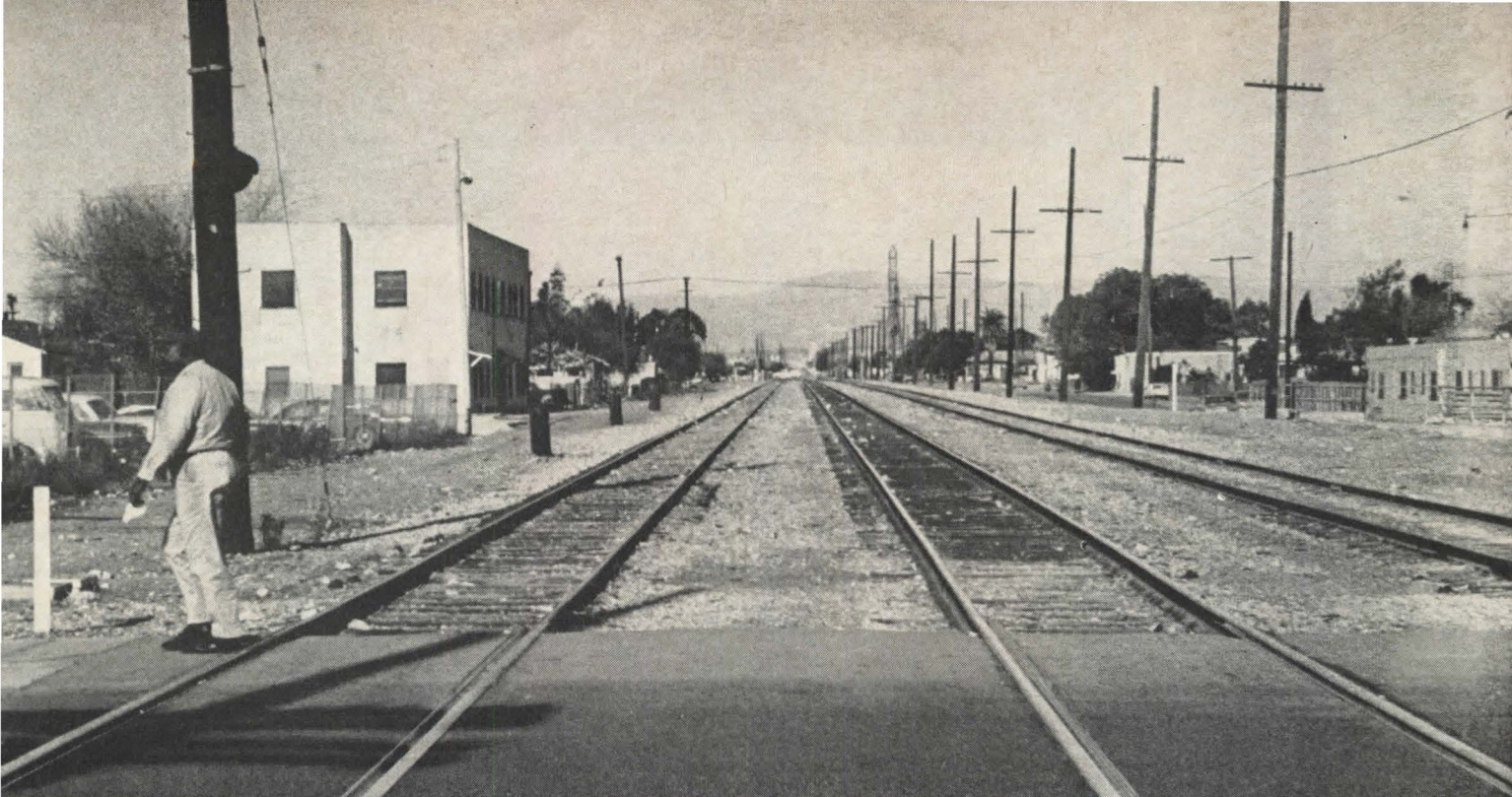
tions, and the federal government. Its impact on the community can be measured in its program of work experience for young people, its 15 vest-pocket parks, and its campaign for the new hospital going up in Watts. Its chairman, Ted Watkins, is widely reputed to be "Mayor Yorty's man in Watts, very well wired-in uptown," and, as Parisi reports the feeling, there is "some question as to what Ted Watkins is running for." WLCAC was written into the Model Cities proposal for \$279,868 of community participation. And the Workshop says, "They all know we're here, but they don't use us. We must be doing *something* right."

Conditions in Greater Watts

There is much that needs attention in Greater Watts. According to the Model Cities application, 44.5 per cent of the families earn under \$4,000; almost 20 per cent of all males over 14 are neither in the labor force nor attending school; unemployment actually worsened between 1960 and 1965 (and "progress since 1965 is at best uncertain and is frequently a

matter of controversy"). Raising skill levels isn't enough, the proposal states, since graduates of some training programs find that the jobs for which they were trained "no longer exist or remain inaccessible" because of discrimination. Transportation is utterly inadequate—only 20 of the 91 work shifts of major employers in the L.A. area are served by public transit. In Greater Watts, fewer than 20 per cent of the businesses have nonwhite owners (who tend to be non-residents), and these are mostly "marginal endeavors with highly limited work force potentials." Education is so bad that high school graduates are often as "disadvantaged" as the 66 per cent who are dropouts.

If these are the conditions that prevail, and are worsening, the Workshop reasons, why are some of the same planning techniques being employed as have previously proven ineffective and harmful? They criticize the application's failure to mention segregation and to think in terms of the larger metropolis, its arbitrary setting of area boundaries, and its failure to establish coordina-



Looking north from 103rd Street: "We can see City Hall, even when they can't see us," is a local saying.

Photographs: Ellen Perry Berkeley.

tion in the planning process (this last has now been insisted on by the federal government).

The Model Cities application says that within the next ten years, through the construction of three new freeways, "the community of Watts will be completely surrounded by freeway systems." Although the state has new procedures for obtaining replacement housing (including lump-sum grants, to be used when the available housing is more expensive than the existing housing to be traded), and although there is a brand-new trailer sitting on a major road in Watts, open to local people for information (another innovation), the freeway program itself seems to move ahead unquestioned. The Workshop is particularly opposed to the location being put forth for the north-south Industrial Freeway, now recommended for a location to the west of Alameda Avenue. This major barrier, Alameda Avenue, is already bordered by junkyards, and locating the freeway further to its west would only allow this "industrial" area to expand into the strip between the freeway and

Alameda. The Workshop has not yet begun its campaign against this location, which it believes is a way for industrial interests to expand industry along the tracks.

Communication

As a link in the chain of communication, the Workshop may have most to say. Communication is a large part of its work. The NBC-TV documentary "Many Shades of Black," for instance, was instigated by the Workshop, and pointed out, among other things, that of the 44 persons who founded Los Angeles in 1781, 26 were black.

To L.A.'s Urban Coalition (whose position paper on housing was written by the Workshop), the Workshop speaks of the need to stop relying on white people as experts, to start looking at the existing and potential skills in the black community. To systems-minded firms like A. D. Little, the Workshop brings out its step-by-step approach (modeled on the critical path method) for entering a community to develop a specific project. To planners, the Workshop suggests its own organization as the buffer

between citizens and power structure. Ed Bacon is exploring the possibility of having the Workshop perform this function in Philadelphia.

For the community around it, the Workshop provides a place where ideas can be exchanged and explored. Its analysis of the Kerner Commission report is a matrix that pairs black and white institutions (the report leaves out, however, the many aspects of ghetto life with no parallel in the white community). The traditional ways of communicating in architecture are not direct enough, Goff believes. "We need more than drawings," he says. "We need exhibits, and the techniques used in fairs, and science museums, and movies. We haven't yet begun to explore this."

Survival

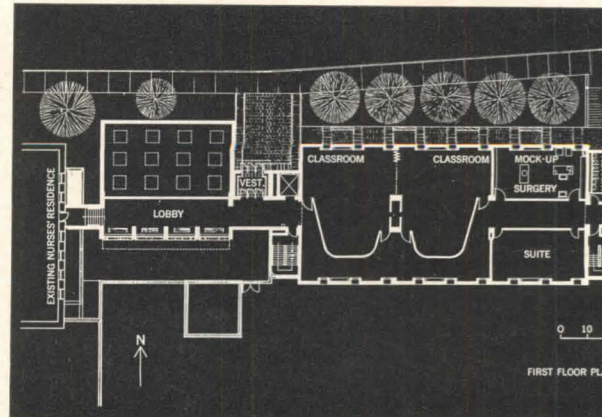
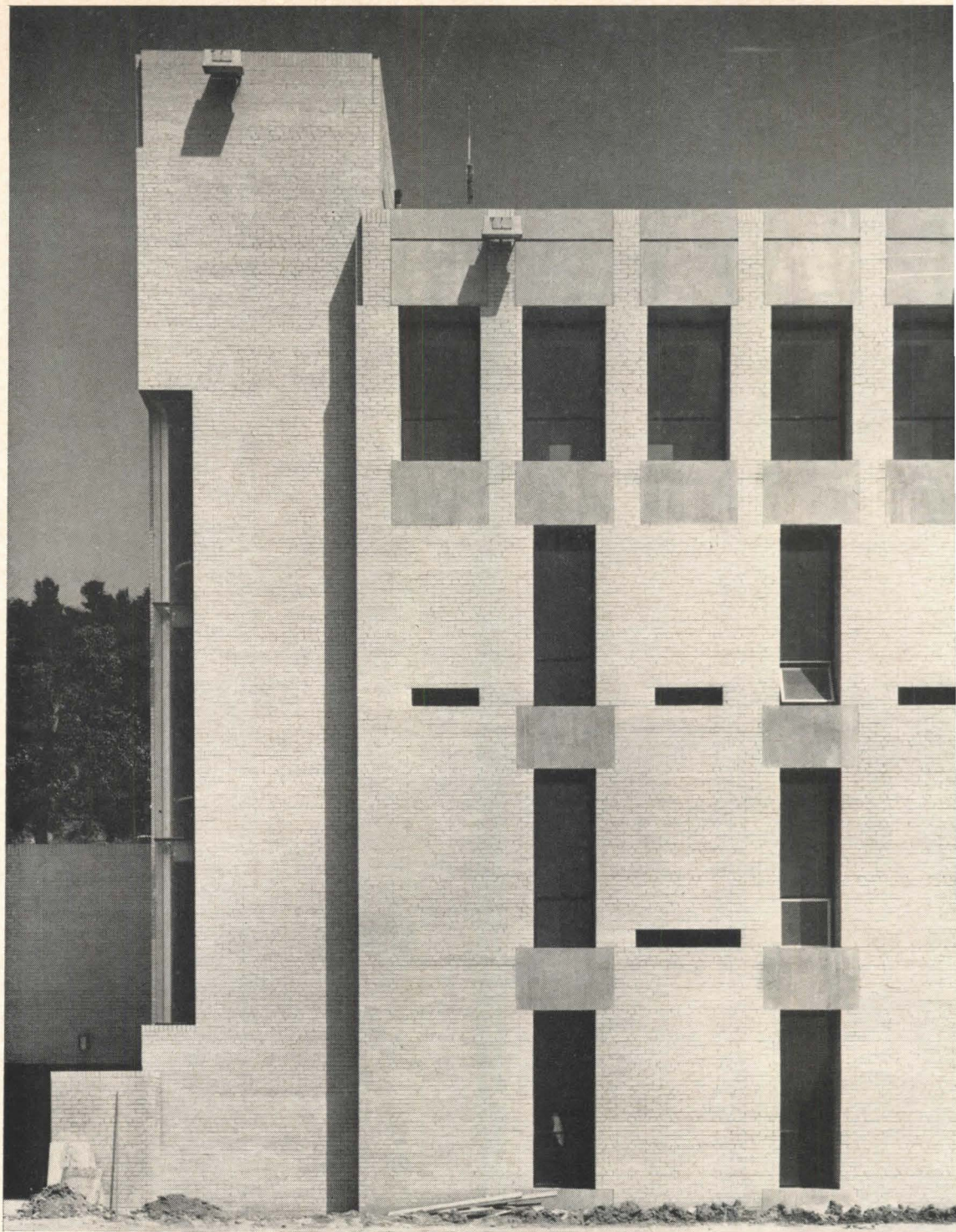
The Workshop shares, with its community, the daily struggle for survival. Some of the "biggest architects" came around to pick their brains—without pay, of course. "The AIA could have helped, but they didn't. They could have set up a competition for the riot area, or started an

educational project for people here—poor people of any color just don't know what a shopping center is; they don't know any of the planning possibilities. We exist, in a sense, because of the noncommitment of architects and planners."

There are problems simply in existing. The Workshop has been broken into no less than 12 times, although almost nothing was taken. Sightseers drain the energy, and missionaries, both white and black, circle around like buzzards. Then too, "the motives of everyone in a low-income area are suspect. We don't want to be tagged as hustlers."

But they *have* survived. And, as he looks toward downtown Los Angeles, from the tracks on 103rd Street, Goff tells of an expression in the area: "We can see City Hall, even when they don't see us." Watts is undoubtedly more visible to City Hall because the Urban Workshop exists. And through the Workshop, the larger Watts—"Watts, to the white person, is anywhere we live"—may become more visible to those outside it.

—ELLEN PERRY BERKELEY



LITTLE BRICK SCHOOLHOUSE

Winner of the Pennsylvania Society of Architects' first honor award for design is the School of Practical Nursing at Allegheny General Hospital in Pittsburgh (opposite). Architects Deeter, Ritchey, Sipple have put teaching, study, and faculty areas in a neatly detailed, four-story structure of gray brick, partly below grade on the sloping site. It is compatible with an existing ten-story nurse's residence (at far end in photo, bottom left) and connected to it by means of a two-story, skylit library and passageway (see plan). Narrow, recessed windows simplify shutting out natural light when closed-circuit TV is used in teaching. Eventually, all instruction will convert to remote programming with only a few highly trained supervisors on hand.



NONCITY HALL

Competition-winning city halls (see also pages 39, 67, and 109) are very much in the news. The one above, though it doesn't appear to be in a city at all, was designed by Robert Mittelstadt. It lies on the east side of San

Francisco Bay in the geographic center of five communities that incorporated in 1956 and called themselves Fremont. The building's inverted pyramid of upper floors, its sturdy concrete piers, and projecting council chamber

are reminiscent of Boston's (page 39). But a fortress may have more immediate validity here: it rests between two parallel branches of an active earthquake "creep zone" known as the Hayward Fault.



UPBEAT IN HARLEM

The eight duplex and two simplex apartment buildings of Riverbend Houses, by Architects Davis, Brody & Associates (seen above from across the Harlem River) are now mostly tenanted by moderate-income Negro fami-

lies. The \$14 million cooperative project has exterior entrance corridors and "front porches" for floor-through duplexes, private terraces for simplexes, connecting plazas for tenant use only, and spectacular river views. It

will be an extraordinary exception to most other, dreary Mitchell-Lama projects when landscaping and furnishing of outdoor areas are completed and ground-floor shops are occupied, with the advent of warm weather.



... DO NOT A PRISON MAKE

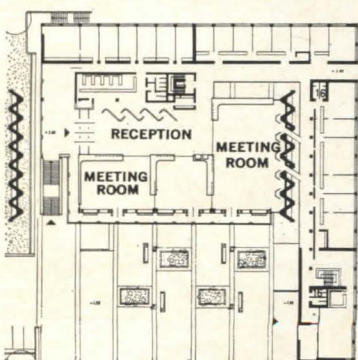
Architects Albert C. Martin & Associates have designed a jail for Orange County, Calif., that replaces the old-fashioned "bars-and-stone" look with concrete grilles (left), and it has been called the most modern in the country. But, inside, bars are still the thing. Here, prisoners living in another "modern" ap-purtenance, a split-level cell block, are secured by means of electro-mechanical locking devices, automatic doors, and electric door interlocks, all operated from a protected control station on the intermediate-level guard corridor (below). The four-story men's wing, pictured here, connects to a two-story sheriff's headquarters and a two-story women's wing on the Santa Ana Civic Center site.



SPACE-AGE THEATER

Houston closed out 1968 by launching men to the moon and by opening its spectacular new home for the Alley Theater company (right) by Architect Ulrich Franzen. With astronauts in attendance, the company, under Director Nina Vance, performed *Galileo* in the larger of the building's two theaters. The play, about the man who opened up the heavens and met his match in the medieval impregnability of the Pope, couldn't have been more appropriate if it had been written for the event. The theater is an innovator if for no other reason than that it breaks with the Lincoln Center neo-classicism currently synonymous with "Culture" around the country. Yet, for all its medieval strength there are virtually no right angles to be found, inside or out, thereby softening the overall effect. The theater's smaller, arena stage opens in mid-February.





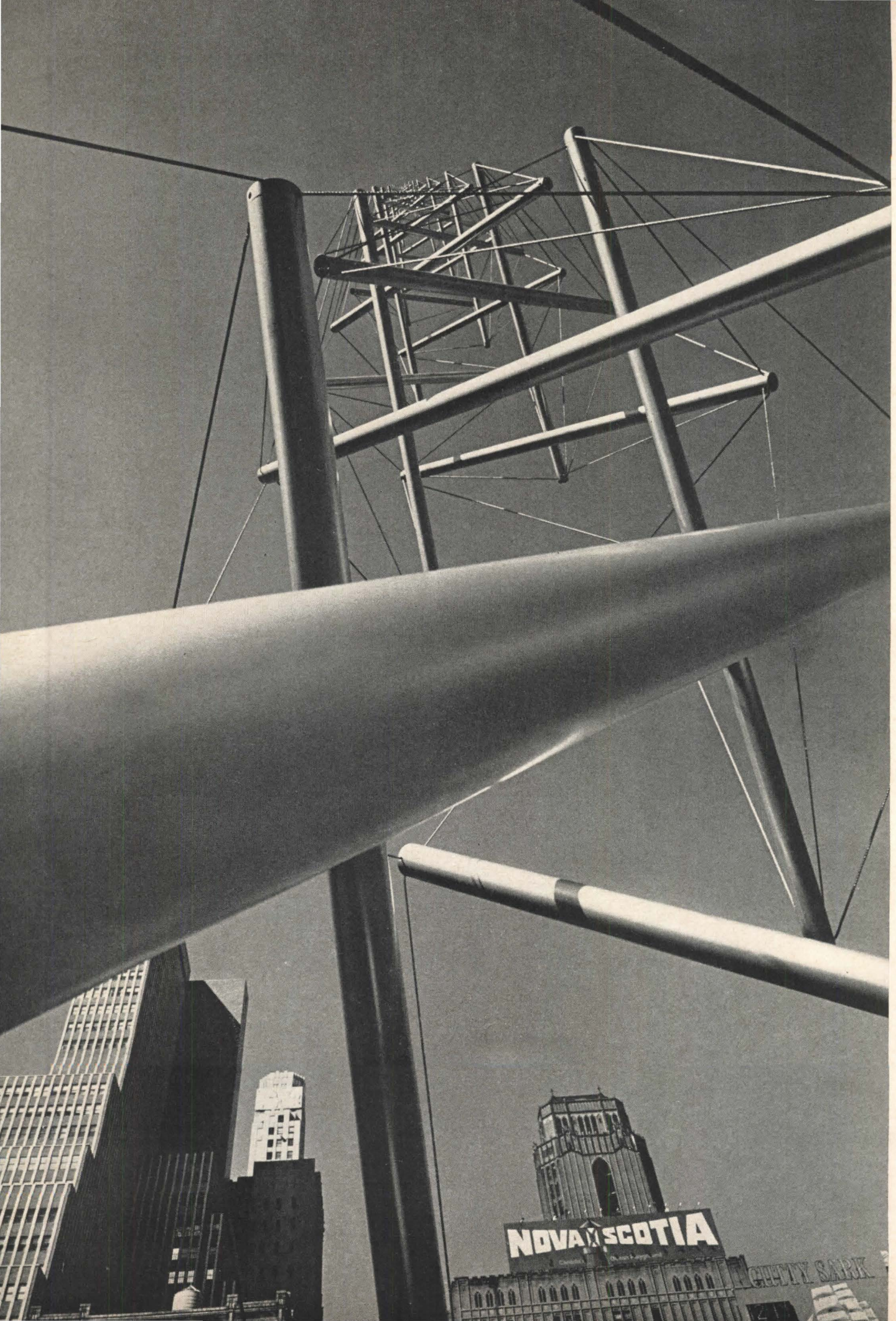
EXPLODED CITY HALL

The competition-winning city hall in Marl, West Germany, by Architects Van den Broek & Bakema, abandons the single, massive structure in favor of dispersing its functions in separate, interconnected towers and low-rise structures. The accordion-like folds of the executive building (at left in the photo above,

and floor plan) provide a dramatic light source for assembly and council chambers (top). Wrapping around one corner of it is an L-shaped wing containing the mayor's and other administrators' offices. Four towers of varying height, housing government departments, are each constructed around a single col-

umn-core topped by a "mushroom cap," from which floors are hung. If necessary, the columns may be extended upward for additional floor space. Connecting all buildings is a low-rise public hall with two green interior courts. A canteen, underground parking, and a police station complete the center.

PHOTOGRAPHS: Page 65 (top), Jeremiah O. Bragstad; (bottom), John Morris Dixon. Page 66 (bottom), © Ezra Stoller (ESTO).



PUSH AND PULL IN THE PARK

New York City's Bryant Park is at the back door of the main Public Library on Fifth Avenue and adjacent to the pornography shops of 42nd Street. People attracted to both find their way into the park at different hours, as do office workers, tourists, and panhandlers.

To keep the balance weighted toward respectability, the city's Department of Cultural Affairs now frequently uses the park as a sculpture garden.

From October to mid-January, Bryant Park green (bottom right), bordered with shrubs and shade trees along the street, proved to be an excellent forum for a "dialogue between push and pull." That is how Kenneth Snelson describes structure, and "structures" are what he calls his sculpture.

Their maze of aluminum tubes—the "push"—and stainless steel cables—the "pull"—succeeded, by their size and height, in being intermittently visible through the trees (top right).

The tapered tower in the center of the green (opposite), 18 ft. wide at the base and 60 ft. tall, could be seen for several blocks down West 41st Street; and arranged around the tower were four low-lying constructions, their spidery appendages bobbing slightly in the blustery winds. Like some of the park's habitués, they seemed to have little or no visible means of support.

"The nature of structure" was an admirable quest amid the architectural diversity of neighboring streets. "The conflict between tension and compression resolved in a closed system is concisely what it is all about," Snelson has said. He might have been talking about the city itself.

PHOTOGRAPHS: Ann Douglass



NATIONAL COMMISSION ON URBAN PROBLEMS

Paul H. Douglas, former Senator of Illinois (chairman); David Baker, supervisor of the Second District of Orange County, Calif.; Hugo Black Jr., lawyer; Lewis Davis, architect; John De Grove, professor, political science, Florida Atlantic University; Anthony Downs, treasurer, Real Estate Research Corp.; Ezra Ehrenkrantz, architect and president, Building Systems Development Inc.; Alex Feinberg, lawyer; Jeh V. Johnson, architect; John Lyons, general president, International Association of Bridge, Structural & Ornamental Iron Workers; Richard W. O'Neill, editor, House & Home; Richard Ravitch, vice president, HRH Construction Corp.; Carl H. Sanders, former Governor of Georgia; Mrs. Clothiel Woodard Smith, architect and city planner; Tom J. Vandergriff, mayor of Arlington, Tex.; Coleman Woodbury, professor of urban affairs, University of Wisconsin.

PRESIDENT'S COMMITTEE ON URBAN HOUSING

Edgar F. Kaiser, chairman of the board, Kaiser Industries Corp. (chairman); Graham Morgan Jr., president and chief executive officer, U.S. Gypsum Co. (vice chairman); Joseph Barr, mayor of Pittsburgh; S.D. Bechtel Jr., president, Bechtel Corp.; Gaylord A. Freeman, vice chairman of the board, First National Bank of Chicago; R.V. Hansberger, president, Boise Cascade Corp.; Joseph D. Keenan, international secretary, International Brotherhood of Electrical Workers; Charles Keller Jr., president, Keller Construction Corp.; Peter Kiewit, chairman of the board and president, Peter Kiewit Sons Inc.; John A. McCone, chairman of the board, Joshua Hendy Co.; George Meany, president, AFL-CIO; J. Irwin Miller, chairman, Cummins Engine Co.; Raymond D. Nasher, president, Raymond D. Nasher Co.; Walter P. Reuther, president, United Auto, Aerospace & Agricultural Implement Workers of America; Walter A. Rosenblith, professor of communication biophysics and chairman of the faculty, Massachusetts Institute of Technology; John H. Wheeler, president, Mechanics & Farmers Bank of Durham, N.C.; Leon Weiner, president, Leon N. Weiner Associates Inc.; Whitney M. Young Jr., executive director, National Urban League.

221 WAYS TO SAVE OUR CITIES

Though that was not its intention, the Johnson Administration has bequeathed to the Nixon Administration two remarkable documents on the urban crisis.

The more far-reaching of the two is the report of the National Commission on Urban Problems, a 1,500-page, six-volume work that diagnoses and prescribes treatments for most of the multitude of ills that plague our urban areas. The other, a report prepared by the President's Committee on Urban Housing, is less voluminous and necessarily less broad in scope, but no less thorough in covering its territory. A grand total of 221 specific actions are proposed by the two panels.

The reports were prepared independently of each other by panels of sharply different makeup, yet they are notable more for their similarities than their differences. On the one subject which both reports have in common—urban housing—they agree substantially, not only on what the problems are but, more remarkably, on how they can best be solved.

Both reports single out housing as the nation's number one urban problem. Both call for massive federal subsidies so that all of the nation's poor families can be housed decently. Both propose measures for opening up the suburbs to low-income families and minority groups, for reducing housing costs, for reforming building codes and zoning regulations. And both contend strongly that the nation will have to spend much more money in the future than it has in the past if the crisis is to be overcome.

Separate mandates

The National Commission on Urban Problems, headed by former Senator Paul H. Douglas of Illinois, was established by Congress in the Housing Act of 1965 and appointed by President Johnson in January of 1967. It was instructed to "conduct a penetrating review of zoning, housing and building codes, taxation, and development standards, and to recommend solutions, particularly . . . to increase the supply of low-cost decent housing." Its membership was drawn from the

fields of education, business, labor, law, government, journalism, and, to a surprisingly large degree, architecture (four of the 16 members were architects).

The President's Committee on Urban Housing, appointed in June of 1967, had, as its major mandate, "the study and exploration of means by which the private sector of the American economy can be encouraged to play a more active role in the rebuilding of urban housing." Its membership reflected the nature of its task: the committee's chairman was Edgar F. Kaiser, chairman of the board of Kaiser Industries Corp., and 15 of its 18 members were either businessmen or labor leaders.

A penetrating look

The Douglas commission's two-year study of urban problems was probably the most exhaustive of its kind ever undertaken for the federal government. The commission held public hearings in 22 major cities across the country, gathering testimony from 347 witnesses. It personally inspected the ghettos as well as the suburbs in all of these cities. It ordered more than 40 detailed research projects and studies from its staff and outside consultants. And it met in working session on more than 70 days.

"We found conditions much worse, more widespread, and more explosive than any of us had thought," states the report—and it describes the conditions in unvarnished terms:

- "The people in the slums are the symptoms of the urban problem, not the cause. They are virtually imprisoned in slums by the white suburban noose around the inner city, a noose that says 'Negroes and poor people not wanted.'"

- "Most [suburban] communities want all cream and no skim milk. They want the best, not only in physical structures and facilities, but also in the economic levels of people who will become their future citizens. . . . The community rigs its master plan and accompanying zoning ordinance, making sure that it is almost impossible for low- and moderate-income families to

move into the community by requiring large lots and reduced density, by prohibiting multi-family apartments, and by other excessive standards that price out poorer people."

- "Metropolitan local government is Balkanized, a patchwork, and a wilderness. . . . In 1967, our metropolitan areas were served by 20,745 local governments, or about one-fourth of all local governments in the nation. This means 91 governments per metropolitan area—an average of about 48 per metropolitan county. If all these units of government were laid out on a map, every metropolitan area in the country would look as if it had been 'nonplanned' by a mad man."

- "It is significant that we use the word 'jungle' in talking about our cities. For this scene, this setting for city life is not an urban setting for urbane citizens. The city has become a crude and ugly place and those who can do so flee to the urban countryside, to houses set in the green valleys and along the forested hills. The city has become the place where the poor and the discouraged cling together in neglected houses along dreary streets."

"No single remedy will solve the urban problem," says the report, in a model of understatement. The commission proposes 149 separate remedies in four broad categories: government structure, finance, and taxation; codes and standards; improvement of the environment; and housing.

Sharing the wealth

In the most far-reaching of its recommendations, the commission calls for a system of federal revenue sharing with states and large urban governments that would provide an estimated \$6 billion a year in new monies for urban projects. Under the plan, a specified proportion of the federal income tax base would be set aside as a trust fund for distribution to state and local governments, with few strings attached.

The population of each "state area" (embracing all the govern-

ments within the boundaries of a state) would be the chief determinant of the amount it receives, *but the funds could be dispensed directly to urban governments without being subject to state discretion.* To encourage the consolidation of local governments (thus reversing the "Balkanization" which the commission found to be one of the main causes of the urban crisis), the formula would be more generous with urban governments of 100,000 population or more. It would also reward bonuses for state-local tax effort, with double weighting to state income tax revenues.

The revenue sharing plan is one of a series of commission recommendations designed to (1) encourage the streamlining of state and local governments, and (2) produce the money needed to meet their responsibilities.

In the first category the commission urges the states to take the lead in bringing order out of the governmental chaos—first by studying and formulating plans for accomplishing this, then by providing the legislative framework within which it can take place. The commission also proposes a greater use of councils of governments to put local political decisions and actions in a broader perspective, and the modernization of urban county governments to make them more effective in dealing with city problems. To prod such developments along, it recommends that the federal government cut off all money grants to metropolitan areas which have not made sufficient progress toward pulling themselves together.

As for the second category—money—the commission recognizes that not even the extra billions generated by a revenue sharing program would be enough to do the job, and it proposes a number of federal, state, and local efforts aimed at producing more money.

At the federal level, the commission admonishes Congress to be more generous in funding ongoing federal programs for cities. "One major purpose of this recommendation," it states, "is to make it emphatically clear

that the revenue sharing system should be an addition to, rather than a substitute for" existing programs.

"But most of the action needed must be at the state-local level," says the commission. Among the actions it proposes: "significant use" by states of a personal income tax and a general sales tax; a "piggyback" arrangement through which metropolitan areas could levy their own income tax and have it collected for them in conjunction with the federal income tax; higher user charges on such local public services as parking facilities, highways, and sewers, to put them on a self-sustaining basis; removal of state limitations on local debt and tax levels; and state assumption of all nonfederal public welfare costs.

Inherently defective device

These fiscal measures, notes the commission, would not only raise much-needed revenue for cities, but would enable them to begin downgrading the property tax, which now accounts for five-sixths of all local tax revenue. The property tax, says the commission, is an inherently defective device: it operates regressively, hurting the poor proportionately more than the rich; it imposes a heavier burden on housing; and, as presently administered, it is seldom levied uniformly in relation to value.

But, as the commission points out, "replacement of even one quarter of present local property tax yields would require a three-fold increase in federal grants to local government." Given this hard fact, the commission contents itself mostly with offering recommendations for smoothing out some of the more blatant inequities of the property tax system: (1) "limit its coverage, at most, to real estate, tangible personal property used for income-producing purposes, and motor vehicles"; (2) provide property tax relief for poor families; (3) conduct frequent reassessments to take note of changing values; (4) improve appeals procedures to encourage community self-policing of property tax operations; and (5) move "as fully

and rapidly as possible" toward 100 per cent of market value as the property tax base.

Timid majority

In a chapter on land-value taxation, the commission's members engage in a public debate over a crucial question: "the possible desirability of increased use, in the federal-state-local revenue system, of taxes upon the value of land or upon increases in land value, or both." These approaches could, of course, add billions of dollars to city coffers, but the commission majority stops short of endorsing them. Instead, it takes the easy way out by calling for "further study" by the Treasury Department and state governments.

But, in a "minority report" appended to the chapter, Chairman Douglas and three other members are not so timid. They advocate taxing "a large share" of the future increases in land values. Noting that bare land values rose from \$270 billion in 1956 to \$520 billion in 1966, they state: "The owners of the land received these enormous gains without strain or effort on their parts. The progress of society created these values; the owners of the land received them. . . . Just below the surface of American life, therefore, there lies the question of whether we should allow this to happen without let or restraint, or whether we should try to take at least a portion of these socially created gains for the benefit of the society which created them." If the increase in land values of the 1956-66 decade had been taxed at a two-fifths rate, the minority points out, "this would have produced around \$60 billion of revenue."

Patching is not enough

The commission puts up a solid front, however, on another crucial question involving land: government control of land use in urban areas. In a section devoted to codes and standards, it notes that over the next 30 years 18 million acres of land will come into urban use for the first time. "We have come this far in our urban civilization in a haphazard way, and the result

surrounds us," the commission declares. "We cannot afford to let our future urban growth occur in the same way. The present irrational, piecemeal approach to local regulations is retarding progress in urban development. The profusion of regulatory instruments which have developed one at a time for specific purposes cannot be added to or patched up." Thus the commission recommends a series of actions designed to bring about dramatic new approaches to urban development. Among them:

Two new superagencies

- The creation of two new national agencies to develop rational and scientific standards for construction and environmental control. Both would be non-governmental components of the National Academy of Sciences-National Academy of Engineering, and they would join forces to form a Council for Development Standards. Each would receive a \$5 million federal grant.

One agency, a National Institute of Building Sciences, would "first, review existing standards regulating the construction of buildings, and, second, prepare and issue uniform building standards based on current knowledge and the most advanced technical criteria for application in federal, state, and local regulations." The other, a National Institute of Environmental Sciences, would conduct a study of "minimum conditions for human habitation (including needs and comfort levels in terms of temperature, acoustics, and privacy); the facilities required for daily living; the development and conservation of the urban environment of land, natural resources, and facilities such as schools, parks, recreation areas, and utility systems; and the protection of man from negative environmental factors such as noise, odors, and other factors which are nuisances or detrimental to daily living."

- State-level legislation that would: (1) give counties or regional governments exclusive control over land use in small municipalities; (2) deny powers to all local governments that lack

a "development guidance program"; (3) establish "holding zones" for postponing urban development in inappropriate areas; (4) create government land banks in advance of development; (5) allow Planned Development Districts, both in built-up and undeveloped areas; and (6) impose "substantive limitations" on zoning variances.

- Federal legislation to require that all communities receiving federal grants for water, sewers, and other facilities have a building code that is "not more restrictive than nationally recognized model code standards and subsequently the building code standards to be developed by the National Institute of Building Sciences." (The report notes that only about 15 per cent of the nation's municipalities and townships with populations of 5,000 or more now have a reasonably up-to-date version of one of the national model codes.)

In a chapter entitled "Design and the Quality of Cities," the commission contends that "quality is achieved by a thoughtful process of design—the careful study of every part of a building or city." But, it notes, there is rarely enough money available to support this "thoughtful process." "What we need most of all is working capital for *ideas*; that is for *design*," says the commission. As a start, it recommends that a Design Development Bank be set up to provide such working capital.

Under the proposal, the Bank would supply funds for the development of prototypes, and in some cases for specific "brick-and mortar projects," in low- and moderate-income housing, neighborhood redevelopment, urban renewal, or a combination of these. But the commission is vague about who should set up the Bank. It says only that it should be "in an appropriate public, quasi-public, or private agency." And the commission offers no suggestion of where the Bank might get its funds.

Top priority for housing

"We must put housing on the front burner," says the commission, and it devotes the bulk of

its report to the problem. The starting point for its housing recommendations is the Housing Act of 1968, in which Congress established a ten-year national goal of 26 million new or rehabilitated housing units, including 6 million federally subsidized units for families of lower income (Sept. '68 issue). The commission pays homage to the Act as a "landmark" in housing legislation, but it considers the goal itself unrealistic.

Instead, the commission proposes an open-ended program of 2 million to 2.25 million new housing units a year, 500,000 of which would be subsidized units for low-income families. "This is an attainable goal," the commission asserts. "It can be met without overstraining the resources of the economy."

How to do it

Although the commission's goal is less ambitious than the Housing Act's, it is far more specific in dealing with the housing needs of low-income families. "The program should be aimed primarily at the poor," it states. "Up to now they have largely been left out. We propose that 100,000 units a year be built for the abject poor—for the family of four with an income of \$2,200 or less. Another 100,000 units should be built for the near-poor—for those with incomes between \$3,300 and \$4,500 a year. These groups have the greatest needs. . . . The remaining 200,000 units can be built for those with incomes above \$4,500 who cannot afford to buy or rent decent housing on the private market."

That is still a tall order. It adds up to 5 million units of low-income housing within the next ten years alone, yet in the past 30 years federal programs have succeeded in producing only about a million such units.

To "put housing on the front burner," the commission offers a number of recommendations directed at all levels of government. Among them:

- An annual President's Housing Message having the same level of prominence as his Economic Report, State of the Union, and Budget Messages.

- The requirement that the Executive Branch "consciously, deliberately, and in full public view" consider the effects that all major changes in economic policy will have on housing construction goals, and that it state specifically what the effects will be. This, says the commission, would "move housing construction policy to the forefront of the nation's economic priorities."
- Federal efforts to bring about a reduction in the general level of mortgage interest rates.
- Congressional funding of housing programs three years into the future. "Housing takes time to build. We need long-range programs. We need continuity in the programs. We need the authority to make pledges which will be honored."
- Amendments to the National Housing Act to "change drastically" the federal government's "passive approach" to low-income housing. "Cities with staffs skilled in 'grantsmanship' often get a sizeable portion of the available [federal] assistance, while those in greatest need are left behind. Thus, the decision as to who receives help is often made not in direct but in inverse relationship to the need."
- A complete rewriting of federal housing statutes. "At the national level we would be setting general policies as to what needs to be built, by whom, and where. The day-to-day detailed decisions should be left to the builder and the localities."
- The requirement of an enforceable state or local open-housing ordinance as a prerequisite for any political subdivision to receive HUD grants or loans.
- The elimination of the provision that allows local governments to veto rent supplement projects within their jurisdictions.
- The enactment of state laws to (1) create multicounty housing agencies capable of carrying out low-income housing programs throughout entire metropolitan areas; (2) establish the state's power of eminent domain over land needed for low-income housing; and (3) permit local housing agencies to lease privately owned units anywhere in the

metropolitan area. The three actions, says the commission, would provide "means whereby a reasonably affluent suburban community can take its share of the problem without inundating itself with large numbers of low-income tenants requiring large immediate outlays for public facilities."

- An additional federal subsidy to reach the abject poor.
- An across-the-board attack on housing costs, including land costs, construction costs, financing, closing costs, the use of industrialized production, and the improvement in work practices. This is essential, says the commission, for two reasons: "It will make it possible for far more people to buy or rent decent housing on the open market without direct federal subsidies; and it will reduce the amount of subsidies necessary to house those who cannot possibly rent or buy decent housing at their present levels of income."

Why not tax incentives?

Conspicuously absent from the commission's recommendations is a proposal for providing tax incentives to lure private enterprise into slum rebuilding—a device which President Nixon has repeatedly advocated. The commission studied the idea, and concluded that "such an approach would be inefficient and ineffective. It is frequently forgotten that tax incentives may cause a drain on the Treasury as great or greater than direct subsidies."

Surprisingly, the private-enterprise Kaiser committee also abstains from recommending any large-scale program of tax incentives for businesses. The most it proposes in that regard is a rather modest 3 per cent tax credit to limited-dividend sponsors of low- or moderate-income housing projects.

Not new, but better

Moreover, the Kaiser committee offers no dramatic or expensive new programs aimed at getting private-enterprise into the slums. Instead, it recommends a series of measures designed to overcome barriers to private enterprise imposed by existing pro-

grams and practices:

- The removal of maximum monthly rent levels and "unrealistic" cost limits in the rent supplement program. "These make the program generally unworkable for new construction in major cities outside the South and Southwest."
- An increase from 6 per cent to 8 per cent in the maximum profit allowed to limited-dividend sponsors.
- Creation of a "seed money" fund to encourage more limited-dividend sponsors.
- Recognition by the Internal Revenue Service of a shorter useful life for depreciation of federally subsidized housing developments. "The 40-year period fails to take into account the likelihood that subsidized housing may depreciate more rapidly than housing developed for occupants with higher incomes."
- The preemption, by federal statute, of usury and foreclosure laws as they apply to federally insured or guaranteed housing mortgages. "The 50 states of the Union have 50 different laws covering usury and foreclosure. Many states with comparatively unattractive usury and foreclosure laws are thus deprived of adequate mortgage funds."
- Greater use of the turnkey approach to public-housing construction, under which a private developer sells the site and completed building to a local housing authority.
- The elimination of federal ceilings on FHA and VA mortgage interest rates. "For many years Congress has refused to face the facts of the money market; namely, investors will seek the highest yield in conformance with their investment policies."

Significantly, the Kaiser committee asserts that government, not private enterprise, must bear the major responsibility for producing low-income housing. Most of its recommendations are directed at federal, state, and local governments, and most of them parallel closely those of the Douglas commission: a massive federal program of subsidized housing for low-income families, including new subsidies to reach the poorest families; a broad at-

tack on housing costs; the vigorous enforcement of open-housing laws; and the elimination of zoning restrictions against low-income housing in the suburbs.

Give it a try

Given its private-enterprise makeup, the Kaiser committee might have been expected to take a more conservative tone than the Douglas commission, but its 72 recommendations are often more liberal. One of its proposals even calls for a federal program of direct housing allowances for low-income families. This device, says the committee, would give families greater freedom of choice in location and type of housing, would enable the free market to operate in the "traditional manner of supply and demand," and would free homebuilders from most federal administrative restrictions. But the committee had one major reservation: such a program might "inflate the housing economy by interjecting too much new purchasing power too quickly." So its recommendation calls only for an experimental program, "subject to full and careful analysis of its results."

A matter of priorities

It would cost billions of dollars to implement the recommendations made by the two panels, but both groups state emphatically that the nation can well afford the expense. And the Douglas commission asks: "Can we afford not to?"

The Kaiser committee puts it another way: "Comparing the multibillion-dollar demands with other recent federal expenditures may help place the budgetary impact in perspective," it states. "From fiscal 1962 through 1967, \$356.3 billion was spent for national defense, \$33.2 billion for stabilizing farm prices and income, \$24.2 billion for space exploration, and \$22.2 billion for federal highway construction. In contrast, \$8.1 billion was budgeted for all programs under housing and urban renewal, and only \$1.25 billion for federal housing subsidies."

The statement speaks volumes.

—JAMES BAILEY



NEW STREET SCENE

Minneapolis pedestrians come into their own, but business has increased and traffic is better, too

Pedestrian malls may be a boon to pedestrians some of the time, but pedestrians are not fully ambulatory all of the time. Nicollet Mall in downtown Minneapolis is a first of its kind, created for the pleasure of pedestrians once they are in this concentrated commercial center, and for their convenience in getting to it in the first place. The eight-block mall is actually a narrow transitway for buses (and taxis, which must travel the full length and cannot pass any bus); the remaining width of street is saved for pedestrians.

The upgrading of Nicollet Avenue was proposed as far back as 1957, when downtown interests saw their market shrink as retail business began moving out to the suburbs. Barton-Aschman of Chicago was hired by the Downtown Council to investigate the possibilities of improving Nicollet Avenue. Five alternatives were suggested: a transitway, a modified street, a pedestrian mall, a string of plazas, and a series of concourses over or under intersections. A later study by Barton-Aschman in 1961 recommended the transitway as most feasible. Actually, the overpass idea, now called a "Skyway," is being carried out several blocks to the east (Jan./Feb. '68 issue).

Traffic was a primary concern. It was necessary not to block the cross streets, not to exclude emergency vehicles, and not to interfere with the operations of the retail establishments. Fortunately, only five shops on the avenue would have no other access if Nicollet Avenue were closed, and these were small stores with correspondingly small supply traffic. Fortunately, too, a traffic survey showed that 80 per cent of the cars using Nicollet Avenue were through traffic.

Barton-Aschman was asked to refine the concept in 1961, when the merchants of Nicollet Avenue had given the full go-ahead. At this stage, a curving transitway was suggested, to give changing vistas and varied spaces to the eight-block length. In 1962, Lawrence Halprin was chosen for the landscape design.

The city liked the idea, but would give no money. (The federal government provided a transportation grant of \$384,500 and a beautification grant of \$483,000). The \$3,875,000 mall was financed by a \$2,751,785 bond issue, to be redeemed by assessments on property located within 330 ft. of the mall. The assessment formula is complicated, based partly on frontage, partly on square footage (depending on east-west distance from the mall), and partly on nearness to the mall's center along its north-south axis.

Traffic and business improved

In use, the mall has lived up to all expectations. Downtown traffic is much improved, where it was previously stacked up from turns on and off Nicollet. Bus traffic on Nicollet is also better, since the buses do not have to fight cars. Business is up as much as 14 per cent, and the mall has generated some \$49 million in new construction and rehabilitation, in the area including one block on either side of the mall. The Northwestern National Life Insurance Co. headquarters, designed by Minoru Yamasaki, for instance, would not have located here if it had not been for the mall proposal. The Federal Reserve Bank designed by Gunnar Birkerts (page 100) will also be on the mall.

Some retailers would like to get rid of the buses altogether; others see them as essential. (Actually, the 39,736 downtown parking spaces are probably the essential factor in the continued survival of the area.) The city has applied to the federal government for a grant for minibuses.

There is talk of extending the mall, south or southeast, but the lack of businesses in this area would make financing difficult. A study is also under way to upgrade nearby Hennepin Avenue.

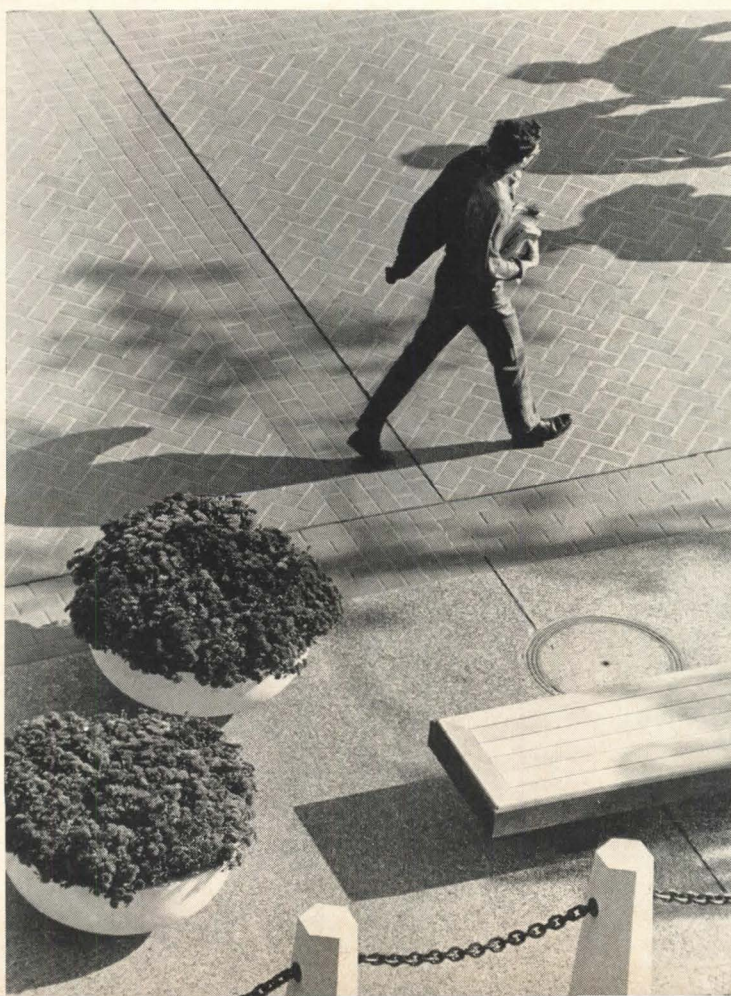
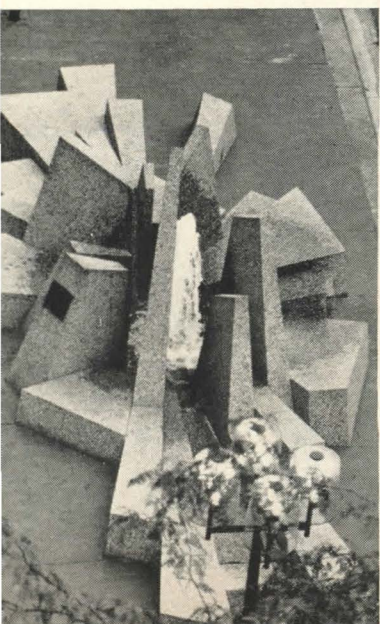
The tangible impact of the mall is impressive. Its intangible impact, on the people who use it, is large too. Except for the buses they share it with, the street belongs to the people, and both they and the street are thriving on the arrangement.



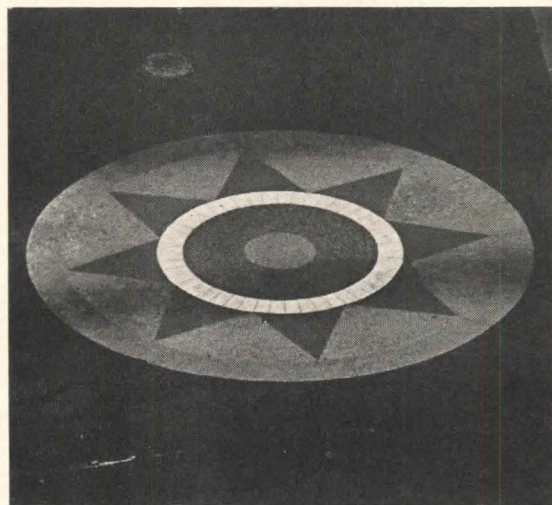
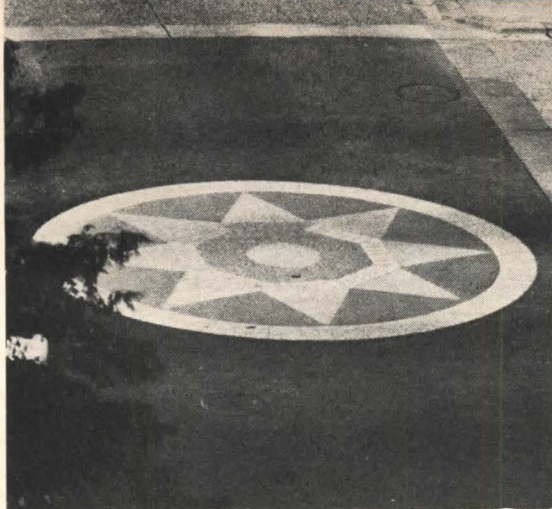


Halprin wanted unity of design along the mall. All the "micro-architecture" and street furniture (bus shelters, kiosks, benches, bollards, curbs, paving, planters, lighting, drinking fountains, traffic signals, litter baskets) are the same for the eight-block length. But there is variety, too, in "special events" like the self-service post office (above center) and several one-of-a-kind fountains (center left). There are also special events in less permanent form—Swedish dancers made an appearance, and during the recent Christmas season there were festive banners on each lighting standard, and drawings by local high schoolers on the kiosks. The 16 bus shelters (top right) are heated by infrared radiation, and incorporate controls for the snow-melting equipment embedded in all sidewalks. Of the \$3,875,000 total cost, only \$1.3 million is visible above ground.

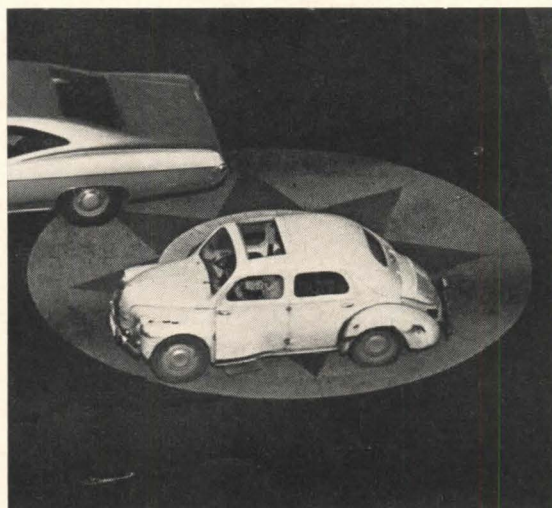




Halprin calls the design a conscious effort to preserve the street's present character. "We wanted the new elements to relate, to feel as if they grew into the street in a natural way, not as a superimposed design." He wanted the place to be urban, urbane, elegant—not suburban. Surfaces are therefore hard, materials durable (copper, bronze, granite), planting sparse. He wanted involvement by people—places to sit, art objects to enjoy. A four-sided clock draws interest (center left); a granite fountain doubles as a walk-in sculpture (bottom left). Siting of most elements—benches, a specially commissioned Calder mobile (top right), fountains, planters—seems arbitrary and often clumsy. Patterns at smaller scale are more pleasing—tree grating and paving (opposite). Sitting areas have paving of granite and brick; walking areas have special textured terrazzo made to withstand extremes of temperature.



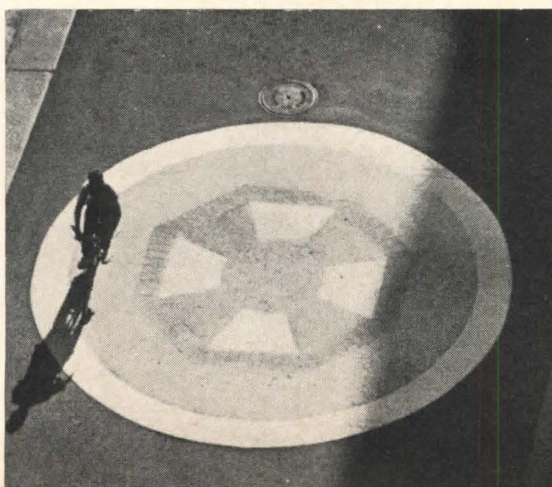
Some design elements show variety within unity—the decorative “hex” symbols at every intersection are similar but different (four photos, near right). But the major variety comes from the street itself, and the meandering curvature of the transitway. The curve was intended to mitigate the “endless vista” of the typical American street, as Halprin describes it, giving changing views as one progresses, and changing spaces as the width varies. For Halprin, the Mall represents a return to the liveliness of the medieval street. Instead of the customary 60 ft. for traffic, Nicollet Mall uses only 24 ft. The remainder is for pedestrians, in strips that are occasionally as wide as 36 ft. on a side.



FACTS AND FIGURES

Nicollet Mall, Nicollet Avenue between Washington Avenue and Tenth Street, Minneapolis, Minn. Urban Design: Lawrence Halprin & Associates. Urban Planning and Engineering: Barton-Aschman Associates Inc. Engineers: K. M. Clark Engineering Co. (structural); Evans, Michaud, Cooley, Hallberg & Erickson (mechanical and electrical). Consulting architects: Larson & McLaren Inc. Lighting consultant: Seymour Evans. General contractor: Department of Public Works, City of Minneapolis. Building area: eight blocks in length, approximately 270,000 sq. ft. Construction cost: \$3,875,000.

PHOTOGRAPHS: Paul Ryan.





THE MEANINGS OF ARCHITECTURE: BUILDINGS AND WRITINGS BY JOHN ROOT. Edited and Introduction by Donald Hoffmann. Published by Horizon Press, New York, N. Y. 238 pp. Illustrated. 8¾ x 11½ in. \$15.

REVIEWED BY
HENRY-RUSSELL HITCHCOCK

A few years after the early deaths of two of America's major nineteenth-century architects, books were published devoted to their careers. Mrs. Schuyler van Rensselaer's book about H. H. Richardson, an oversize quarto with splendid heliogravure plates and many linecuts, appeared in 1888, two years after Richardson died at the peak of his career. Harriet Monroe's life of her brother-in-law, John Root, came out in 1896, five years after he died at the comparable peak of his career. Richardson was 48 at his death, Root only 41. But with his partner, Daniel H. Burnham, Root had built 27 buildings, mostly very large for their day, in the Chicago Loop alone. It is characteristic of the attrition of our architectural heritage that only three of these survive. Happily one of them is the Monadnock Building on which Root's revived reputation in the mid-twentieth century is largely based.

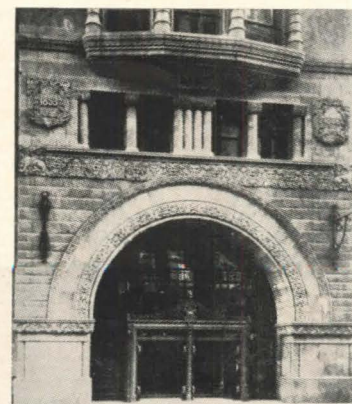
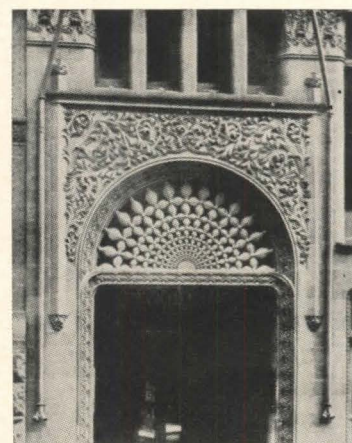
Both of these major documents of American architectural history have lately been reprinted by the Prairie School Press, making more readily available much significant material that was often hard, or impossible, to find. (The original edition of Mrs. van Rensselaer's book was of 500 copies only.) The plates in the Richardson book, also reproduced in the new edition, remain the finest illustrations of Richardson's work, and to its text all students of Richardson must recurrently return.

The Root book was perhaps never so rare an item; but its illustrations, though profuse and including some reproductions of Root's own drawings, were predominantly small linecuts made

from etchings and drawings by Charles F. W. Mielatz. These could not, to twentieth-century eyes, carry the conviction of the plates in the Richardson book. Moreover, while Mrs. Van Rensselaer wrote as an experienced architectural critic, Miss Monroe was no critic but a close personal friend, and relative by marriage. She was, of course, a poet of considerable reputation and a force in American literature, but the Root text does not rate highly in the roster of her writings.

One can only be grateful to the Prairie School Press for bringing out a new edition—identical except for an Introduction by Reyner Banham—of the original Monroe book. But its limitations, especially as regards the illustrations in contrast to those in the Van Rensselaer book, remained daunting to anyone who wished, after the destruction of the majority of Root's oeuvre, to reassess his architectural contribution.

The new book, subtitled "Buildings and Writings by John Wellborn Root," collected, edited, and briefly introduced by Donald Hoffmann of the *Kansas City Star*, is nothing less than a revelation, even to those who thought they knew something of Root's achievement. The 21 articles, etc., mostly reprinted from the *Inland Architect*, provide an interesting balance, in the words of the most relevant protagonist of the day, to the tendentious writings of Louis Sullivan, which have too often colored later impressions of the Chicago architectural scene in the crucial years of the 1880s. But it is the plates, illustrating nearly a hundred of the buildings erected by Burnham and Root from the mid-1870s through the early 1890s, that are of inestimable value. A considerable number are new photographs, many of them of buildings long familiar, such as the surviving Rookery and Monadnock buildings in Chicago, but also including some in other cities that are not so well known. At least as many are taken from the *Inland Architect*, a periodical not available in any East Coast library. Others evidence



Top to bottom: stairway, The Rookery, Chicago; lobby, Board of Trade, Kansas City; entrance, Phenix Building, Chicago; entrance, Rand McNally Building.

Prof. Hitchcock, architectural historian, lecturer, author of many books on architecture, is professor of art at Smith College, Northampton, Mass.

Hoffman's assiduity in seeking out early photographs in the collections of the Chicago Historical Society and other similar sources. The result is a roster of illustrations, admittedly of varying technical quality, such as exists for no other architects of the period, except Richardson and Sullivan.

The reassessment of Root's achievement that this book makes possible will not displace Sullivan as the greatest designer of the early heyday of the skyscraper or Jenney as the greatest technician. But the material, literary and pictorial, that Hoffmann has brought together broadens enormously our historical picture of those great days in the Middle West when the skyscraper came to early maturity. It also makes evident that distinguished commercial buildings were not rising then only in Chicago, but in several cities whose architecture has never had the prestige of Chicago. One may mention the Santa Fe Railroad's office building in Topeka, Kans., of 1883-84; modest railway stations in Fort Scott, Kans. and Kewanee, Ill.; the Board of Trade Building and the Midland Hotel in Kansas City, Mo., both of 1886-88; and above all the American Bank Building (Kansas City, Mo.) of 1887-88, the finest surviving work of Root outside Chicago. There are also the Western Reserve Building and the Society for Savings Bank in Cleveland, the latter still the finest skyscraper in that architecturally unrewarding city, earlier in date than Knox & Elliott's very Sullivanian Rockefeller Building. The Chronicle and the Mills buildings in San Francisco, of 1888-89 and 1890-91, respectively; and the Equitable Building in Atlanta, Georgia, of 1890-92 are illustrated also. Of the splendid Mills Building Hoffmann properly notes that "the design was conceived a few months earlier than that of Adler & Sullivan's Wainwright Building in St. Louis," their first real skyscraper.

Such notations, most particularly the larger one comprised of the long and complicated his-

tory of the designing over the years 1884-89 of the Monadnock Building (which Hoffmann first read as a paper at the annual meeting of the Society of Architectural Historians in Cleveland in January, 1966, and later published in the Society's *Journal*), lead one to hope that Hoffmann will follow up this admirable, but somewhat special, compilation of Rootiana with a detailed study of Root's architectural career. It is evident there are few chapters of American architectural history whose further investigation would be so rewarding.

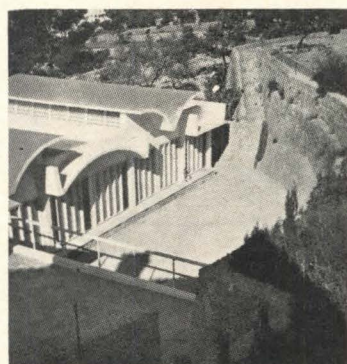
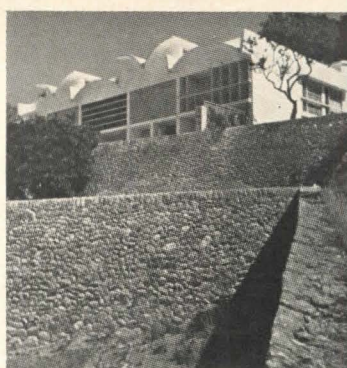
JOSÉ LUIS SERT: ARCHITECTURE, CITY PLANNING, URBAN DESIGN. By Knud Bastlund. Introduction by S. Giedion. Frederick A. Praeger, Publishers, New York, N. Y. 244 pp. Illustrated. 9 by 11 in. \$20.

REVIEWED BY S. VON MOOS

José Luis Sert, born in Barcelona, Spain, in 1902, has become one of the leading representatives of what is now called the second generation in modern architecture. This book, a rich documentation of his work with plans and photographs (in both black and white and color), was created in close collaboration with Sert himself.

In 1927, while studying architecture in Barcelona, Sert invited Le Corbusier to lecture there. In 1929-30 Sert worked in Le Corbusier's studio in the Rue de Sèvres, and it was there that the first sketches for the Barcelona "Master Plan" (1933-35) were drawn. The famous "Gratte-Ciel-Cartésien," a key formula for all the Corbusian town plans of the 1930s, appeared for the first time in this Barcelona plan. In these years, Sert worked with the Barcelona CIAM group ("GATE-PAC") for the renewal of an architecture that was closely connected with another renewal: that attempted by the young Spanish Republic. GATE-PAC opened its club and exhibition rooms in Barcelona

S. von Moos, a historian and freelance critic of art, is the author of a book (in German) on Le Corbusier.



Studio for Joan Mirò, Mallorca, 1955

on April 14, 1931, the day the Spanish Republic was proclaimed.

This relation of the GATE-PAC group with the Spanish Republic, a very hopeful one that ended tragically, was one of which everybody involved in can be proud—especially today, at a moment when architectural trends, all too reminiscent of a fascist past, seem to prepare a glamorous comeback.

In 1937, Sert moved to Paris. Here he gave, once more, testimony for the Republic, which, by then, was already mortally wounded. He built the Pavilion of the Spanish Republic at the World's Fair, where Picasso showed his "Guernica" for the first time. These heroic monuments of resistance against the Nazi bombers were further supported by works of Calder, Mirò, Gonzales, and others.

After the end of the Republic (in 1939), Sert moved to New York, where he founded the Town Planning Associates with Paul Lester Wiener and Paul Schulz. The planning of *Cidade dos Motores* (1945-47), *Chimbote* (Brazil; 1948), *Bogotá* (1949-53, with Le Corbusier) was the result of this teamwork.

In 1953, Sert (who was president of CIAM from 1947 to 1956) became professor of architecture at Harvard University and dean of the Graduate School of Design, a position he holds today. In Cambridge he entered partnership with Huseon Jackson and Ronald Gourley, with Joseph Zalewski, associate.

In the eyes of a European observer, today's architecture in the United States appears to be a rather puzzling jungle of progressive ideas, on the one hand, and of feelings which can only be qualified with that adjective "reactionary," on the other. Many try to bring back to architecture what "rationalism" seems to have excluded: "tradition," as a repertory of forms, and, above all, an easy ground for communication between architect and client. In the context of present architectural activity, one may notice how Sert's ar-

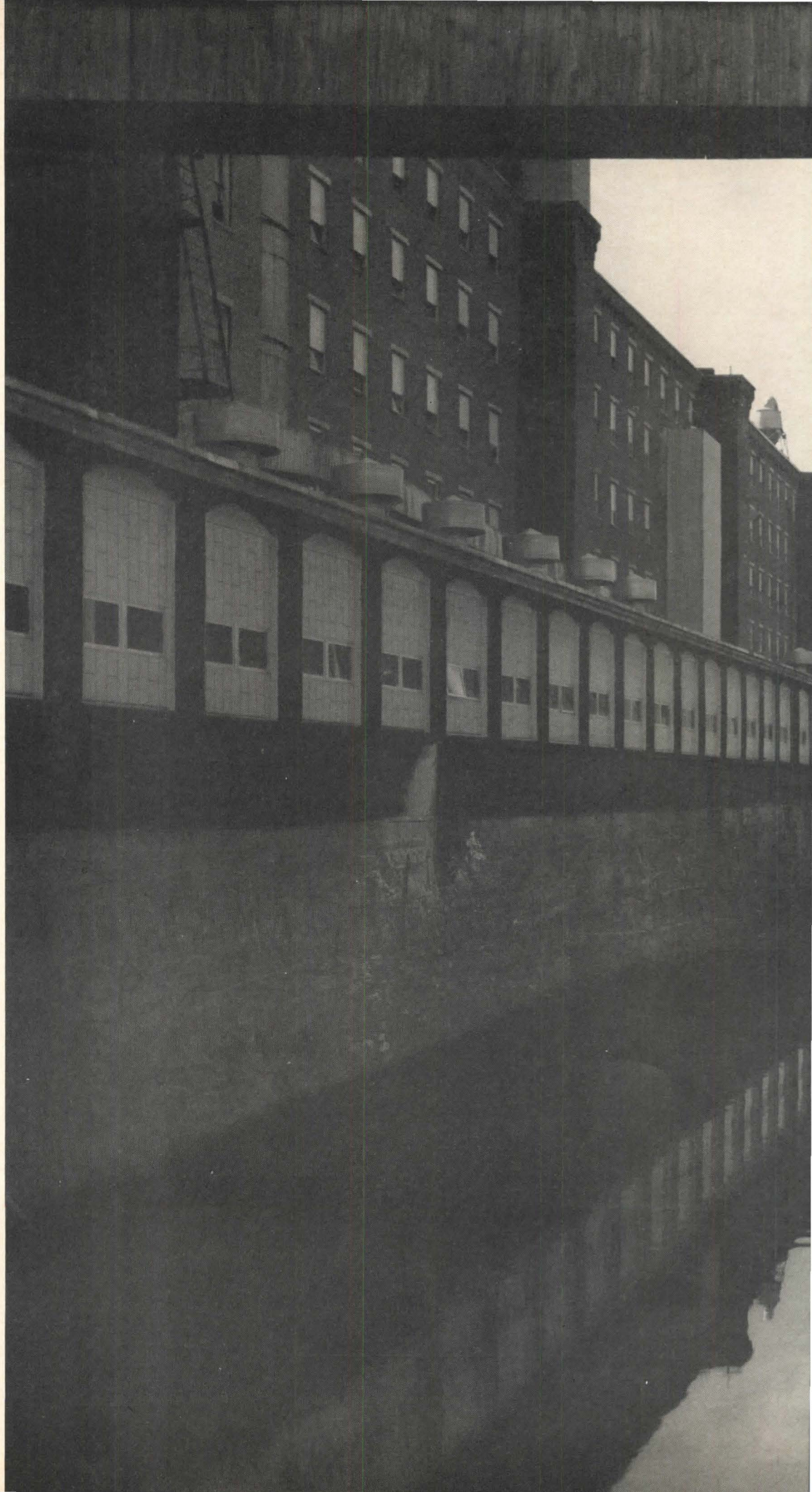
Continued on page 134

A CITY NO ONE KNEW

The Amoskeag Millyard in Manchester, N.H., is a "megastructure" constructed between 1838 and 1915, and now being destroyed in the name of urban renewal.

BY RANDOLPH LANGENBACH

Mr. Langenbach, a 1968 graduate of Harvard College, has documented and photographed the Amoskeag Millyard over the last two years as an independent study project and as part of a survey undertaken by the Smithsonian Institution and the Historic American Buildings Survey.





Those who look at the chaotic cities of today and dream of a new kind of order—"megastructures" to fit megaproblems—should take note of one area where urban design did take place on a level of competence unmatched elsewhere in the nation—an area which is now being destroyed in an ill-conceived urban renewal effort.

The Amoskeag Millyard in Manchester, N.H., was built and rebuilt over a period of more than 75 years—1838 to 1915. It bridges the Industrial Revolution, tying the simplicity and classical unity of the New England colonial town with the dynamic intensity of the modern industrial city, combining in its fabric the pastoral dignity of great barns with the urban density of a European marketplace. The millyard design segregates rail, truck, and pedestrian access with an ease and clarity that makes some of our more celebrated contemporary efforts in this direction seem confused.

The millyard plan is a simple one: two canals, parallel to the river, with the mills between the waterways and housing for the workers on an adjacent strip farther from the river. The nucleus of the design was the single mill on one side of a canal and six rows of housing directly opposite. These units acted as links in an ever-lengthening chain as the millyard expanded in both directions along the canals. The complex remained open at both ends, allowing trains and trucks to run unrestricted between the mill buildings without interfering with city streets. The workers crossed bridges into the millyard directly from their houses.

Continuous buildings

The whole development became the great urban design that it now is when the secondary buildings along the canals were joined together to form a regular and continuous wall between the millyard and the city. The millyard's internal spaces are defined by these long, low buildings facing the moatlike canals. Penetration is provided by archways and bridges in much the same way as in an English cathedral close.

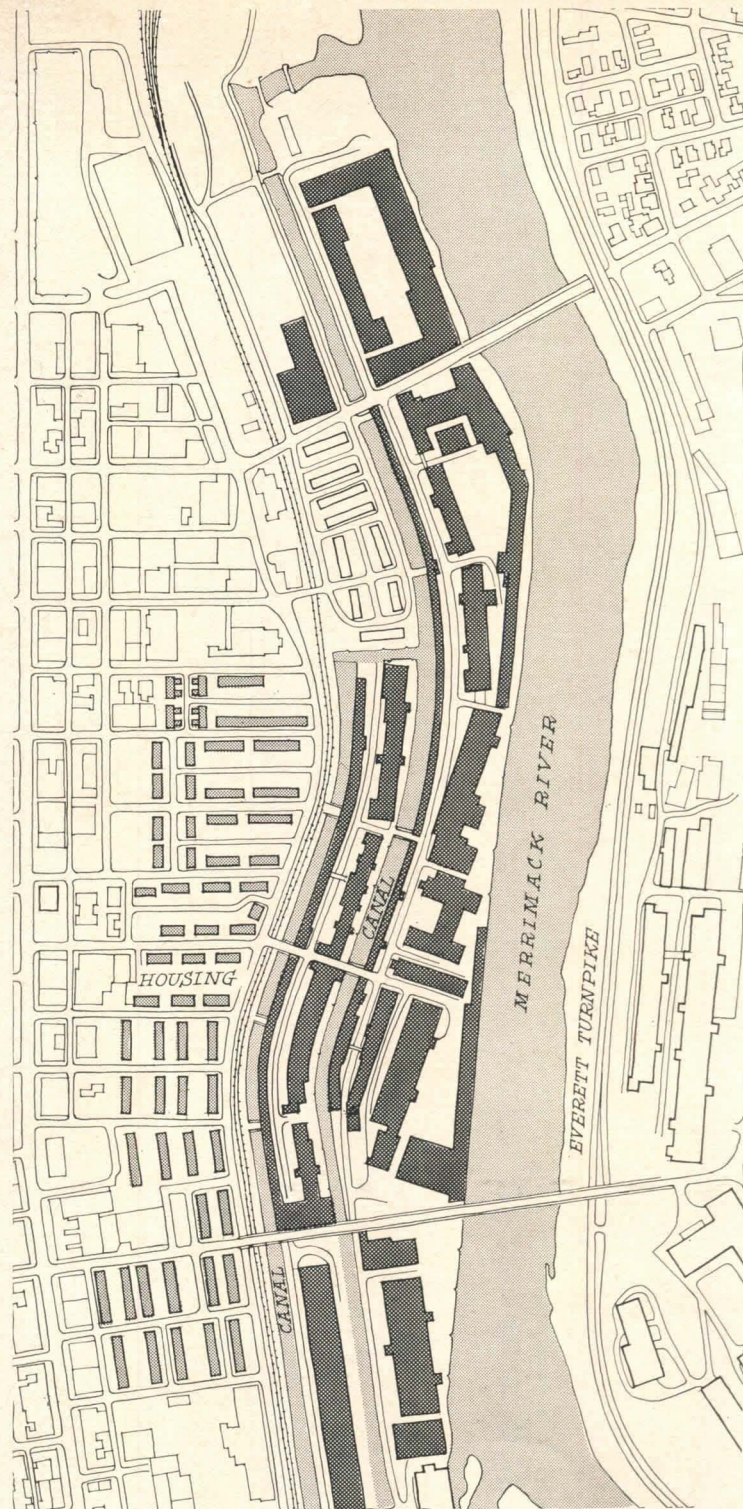
Both the mills and the workers' housing are stylistically conservative for their times. Except for a few examples of High Victorian fantasy in the towers and gateways, the buildings are remarkably plain. The reason for this restraint in the design of individual buildings becomes apparent when one enters the complex. No structure stands isolated; instead, the dense, continuous mass of red brick buildings flows together into an organic whole. Highlights are provided by the towers which rise above the complex, acting as focal points not for single buildings, but for the whole group.

What distinguished the mills in Manchester from those in other New England towns was that they were all planned and built by the engineering department of one company, and it is this unified planning control that is the key to its great design. Its architecture is a corporate architecture, using the design elements of an age, rather than one individual's creative expression.

Design by evolution

It is hard to say how much of the millyard's quality is the result of chance, and how much is the product of conscious design. But it is known that those who built the millyard had an uncommon pride in the fabric of the plant, and a surprising respect for the value of what had come before their time. Progress for this industry was not marked by a repeated scrapping of the earlier buildings and a total remaking of the environment. Instead, it involved a continual adaptation of earlier buildings to new needs.

In 1961, Arthur D. Little Inc. issued a report to the Manchester Housing Authority after a detailed study of the "economic problems and possibilities" in Manchester. A major portion of this report was devoted to the millyard, because of its importance in the city's industrial base. Several alternatives were studied and discussed, and recommendations were made for renovation of some buildings and the removal of others. Sound economic reasons were advanced for these actions, but there was



The plan (above) shows how the curves of the canals, which follow the original curve of the river, determined the shape of the millyard in contrast to the gridiron of the city. The enormous bulk of the larger mills, as seen both from within the millyard (bottom right) and from among the workers' housing (bottom left), is impressive, but not formidable, because of the long, low, gently curved buildings along the canals which enclose the millyard—separating its internal spaces from the residential areas.



also a statement that "even with extensive improvements and upgrading, the millyard will never be an asset from an aesthetic point of view."

Armed with this report, Urban Renewal is now carrying out a project which they describe thus: "The Amoskeag Millyard Project is a simple and sensible solution to this city problem. . . . Urban Renewal has carefully assessed the repair cost and location of each mill building and of the canals. Those buildings found either likely to be too expensive to repair or far too narrow for modern manufacturing will be cleared. Their space will be used for the creation of adequate streets for off-street parking and loading facilities. In addition, the canals which exist as open sewers will be filled."

Selective destruction

When this project is carried out, the large, rectangular mills will stand isolated and characterless in a sea of trucks and automobiles. The dramatic continuous wall along the river bank will no longer face the highway on the other side, and the quiet spaces along the canals, divided from the bustle of the millyard by the continuous three-story canal buildings, will be swallowed up in the bustle. The buildings that will be lost are not the largest ones, but in terms of the millyard environment they are the most important.

Throughout history the "simple and sensible solution" has rarely been the most creative solution, but frequently it has been the "final solution," and so it is for Manchester. The shallow observations on which this solution was based were vividly paraphrased by one person on the Urban Renewal staff who said, "What person have you seen who will walk more than 100 ft. to wherever he is going?" This seems to be the kind of observation which is determining the development of our cities.

The Amoskeag Renewal Project is proudly mentioned as the nation's first industrial area renewal and rehabilitation project. Why is it that an Urban Renewal first is always an Urban

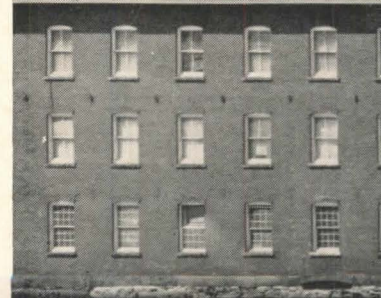
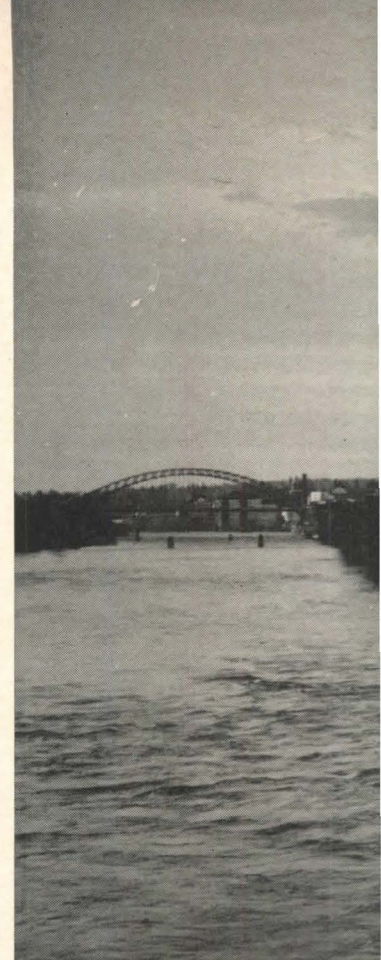
Renewal worst? (Remember Boston's West End.) Why do we so often have to learn from disastrous mistakes rather than creative ideas?

Manchester is a rare example of a city that grew according to a master plan. The town was completely laid out on paper before a single building was built or a single lot sold by the controlling company. In 1807, when Samuel Blodget announced the establishment of the "Manchester of America" in what was then the town of Derryfield, N. H., it is doubtful that even he had any idea of the scale of the complex which would eventually be built.

In 1838, the laying out of the New Town and the construction of the first mills began. The magnitude of this effort can be sensed when one observes that the two granite-lined canals were constructed to their entire one and one-half mile length before the first mills were put into operation. At the very start, water power was provided for a strip of land large enough for a half century of growth—until the introduction of steam and electric power made the canals unnecessary. The Amoskeag Company turned a village of 125 inhabitants into a city of 10,000 people in ten years, and went on to become the largest textile manufacturer in the world, turning out cloth at the staggering rate of 50 miles per hour by 1915!

Corporate achievement

The history of Manchester, however, is not simply one of superficial greatness. It is not like that of Williamsburg, the real lives of whose early figures have been buried beneath the volumes of schoolboy textbook rhetoric, and whose town center has been embalmed and manicured into something which is more Rockefeller baronial than real colonial. Like its immediate predecessor, Lowell, Mass., the community of Manchester was founded on early 19th-century utopian principles of providing for the complete life of the millworkers within a closed and carefully set-up community, in reaction to the squalor of earlier industrialization in Eng-



The wide sweep of the mills on the river bank (above), facing the highway on the opposite bank, contrasts with the more domestic scale of the main entrance to the millyard from the city. The buildings along the canals housed the mail offices and counting rooms of the company, as well as shops and storage for the mills.



land. Accordingly, for most of its life, the Amoskeag Company was unabashedly paternalistic. Later, when competition from the South cut into revenues, early ideals were forgotten, and both company and city began an agonizing decline.

When the huge company was liquidated in 1936, it left behind a legacy which encompasses a total scope of human experience. The mills are important not only for their great design, but also because in them we can capture some of the meaning of the lives of those who worked there during a whole century of growth and decline. It is for this reason that the destruction of the Amoskeag Millyard is such a profoundly tragic act.

Despite its revived economic vitality, Manchester is still, psychologically, in the midst of the Depression. Instead of making any effort to produce farsighted plans befitting a growing city center, Manchester's Urban Renewal Agency has carried out several stop-gap projects, wiping out whole city blocks for parking lots and cheap, suburban-style supermarkets, while the separate City Planning Board across the street has produced pretty drawings showing banal glass boxes surrounded by the "ample parking" characteristic of everywhere else in America.

Urban vision needed

The real tragedy of the demolition is that the ends sought by the Urban Renewal planners could be achieved without the destruction of the millyard design. Congestion has been caused primarily by the lack of any traffic control within the millyard or at its entrances, rather than because of the millyard's density; the need for parking space could be met with better results by building garages compatible with the urban center Manchester should be, rather than by paving over that center.

When the enclosed spaces of the millyard are gone, and the winter wind whips across the river and over the acres of asphalt, those who work there will discover in one way how unthinking the planners were.

The fact that a major part of the space in the millyard will have to be vacated under the plan leads to another observation. The University of New Hampshire, which is currently planning a new Merrimack Valley branch, had the opportunity to create here what would certainly have been the finest urban campus in the country. Instead, with all of the powers available to a large university, they felt unable and unwilling to surmount the mundane problems of parking and renovation. It is ironic that while the millyard is being destroyed, the university will be building a campus on open land which will probably be yet another paved-over field surrounding unrelated buildings.

Opportunity forfeited

Instead of making the millyard an integral part of the commercial and business core of the city by creative re-use of buildings and solving of its problems, Manchester has chosen to trade its chance to become a metropolitan center with a visual identity for short-term improvement of conditions for a few selected industrial plants.

What Manchester really needs is bold creative planning instead of short-range plans which are obsolete before they are completed, and which add nothing new which might expand the lives of people or cause the city to grow. The goal of city planning should be to leave something which can endure in the midst of rapidly changing times, and which can provide continuity to the growth of a community instead of contributing to the chaos which may eventually destroy it.

The millyard is one of those rare instances when the social, economic, and technological characteristics of an age, combined with the shape of the particular site, produced a unified work of art. City building rarely reaches the level of art, and when it does, it becomes as priceless as the work of the most famous painters, sculptors, or composers—and more universally meaningful to the peoples of the nation and the world.

The ornate tower, which was designed to be seen from a distance over the smaller structure in front of it, sits astride a much earlier and more simply designed building. Demolition of the canal building has left this focal feature standing stark and incongruous above the rectangular box of the mill.







FLORIDA MINIVILLAGE

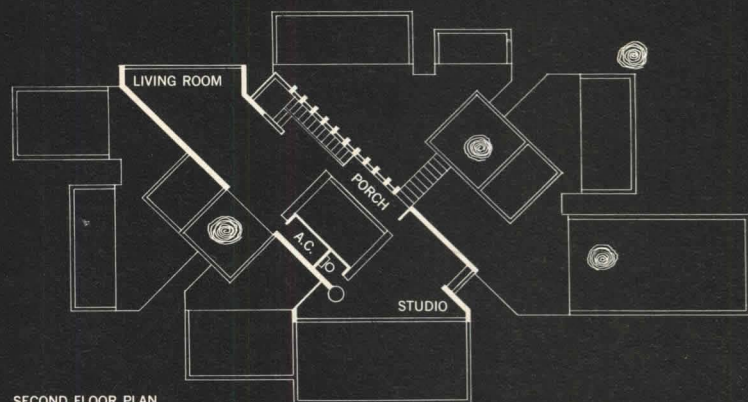
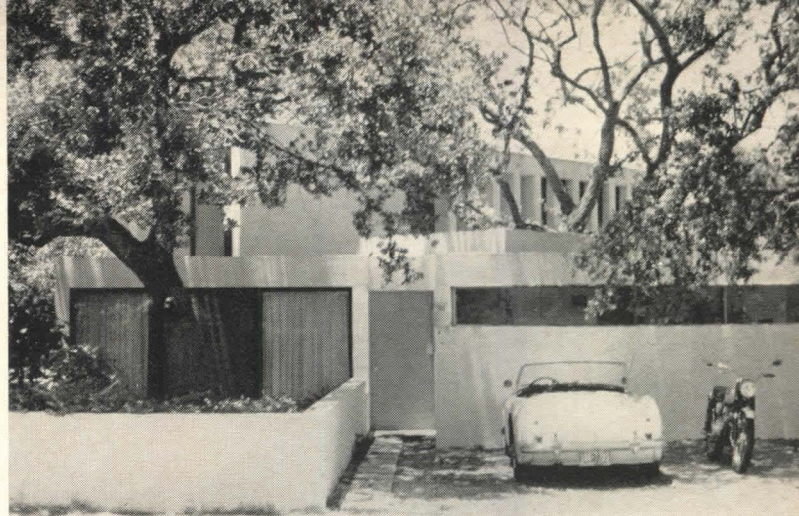


Each of the four living units is entered from a different side of the basically rectangular complex (plan, right). The door to the owner's apartment is reached from the west side (left), through a diagonal passage that leads in under his second-floor studio. The rental unit at the south end of the building (top right) is approached along a walk between its two walled gardens. Parking spaces are located outside the high walls of bedroom courts at the two ends of the site (plan, right).

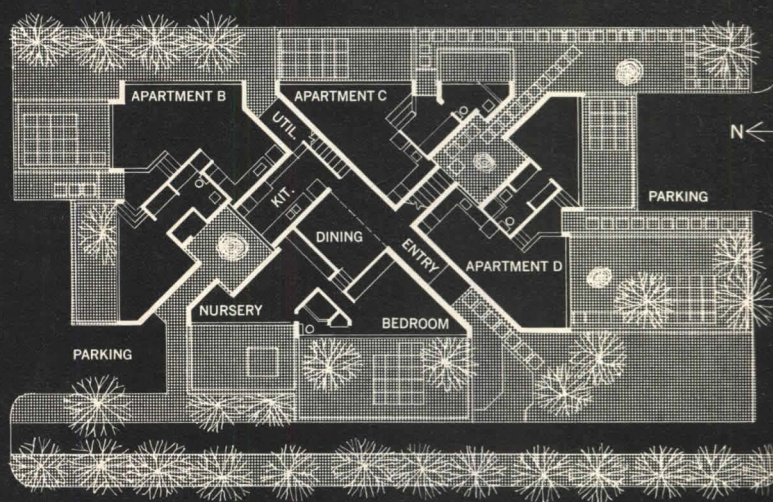
Fitting four living units and an architect's studio onto a 60 ft. by 110 ft. lot is a prosaic little problem, and the odds against solving it in an interesting way are enormous. Architect Donald Singer of Fort Lauderdale has not only come up with an in-

teresting solution; he has created a four-family village, with an intriguing interplay of angular building forms, walled gardens, and shady passageways.

He has manipulated the geometry of his floor plans with such ingenuity that each of the



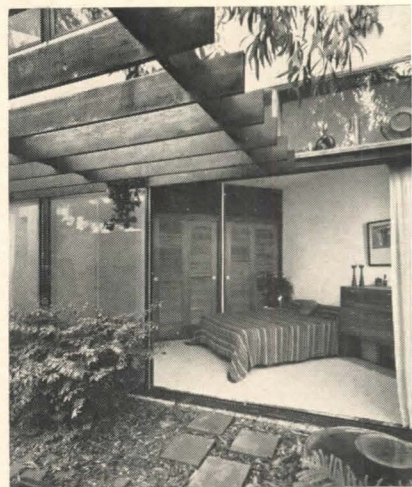
SECOND FLOOR PLAN



FIRST FLOOR PLAN

four units seems like a private dwelling, with its own facade and entrance and its own private gardens. And he has dovetailed everything onto the site so neatly that the canopy of live oak foliage that shades it has hardly been disturbed in any way at all.

Although the geometry of the building's plan (above) is quite unconventional, its outer boundaries were determined—almost to the last inch—by the local zoning board. Singer built right out to the edges of the 36 ft. by 70 ft. "buildable" rectangle,



The second-floor penthouse (top left) contains the owner's architectural studio and his living room. A view from a second-floor window into one of the tree courts (bottom left) shows how narrowly the spreading live oak branches clear the first-story roof. The architect's studio is linked to ground level by a stair (top right) which leads down into this same oak court (facing page). Courts outside the bedrooms are enclosed with 5-ft.-high walls (middle and bottom right). Since the courts are 2 ft. lower than surrounding grade, the trellis over the owner's bedroom garden (middle right) is below the top of the surrounding wall (top left).

mainly so that he could preserve the four huge live oaks on the site. Saving them involved not only leaving wells for their massive trunks, but keeping the roof level around them low enough so as to allow for their low, spreading branches.

Since many of these branches were so low that they would not even clear a conventional one-story structure, the first floor had to be sunk down into the ground. At the entrance to each of the units, the ceiling height is only 7 ft.; steps lead down

2 ft. from these entrances to each of the major rooms, which have 9-ft. ceilings. A partial second floor, fitted between the volumes of two big oaks, contains the owner's living room and studio.

Because the small corner site

is exposed to passersby and close-by neighboring houses, outdoor spaces for all of the units had to be walled in for privacy. Singer put a 5-ft. wall (the maximum height allowed under the zoning ordinance) around each bedroom garden and de-



fined the living room gardens (maintained by the individual tenants) with 30-in.-high walls. The owner's second-story space is planned so that none of its windows overlook any of the tenants' gardens.

There are no surprises in the

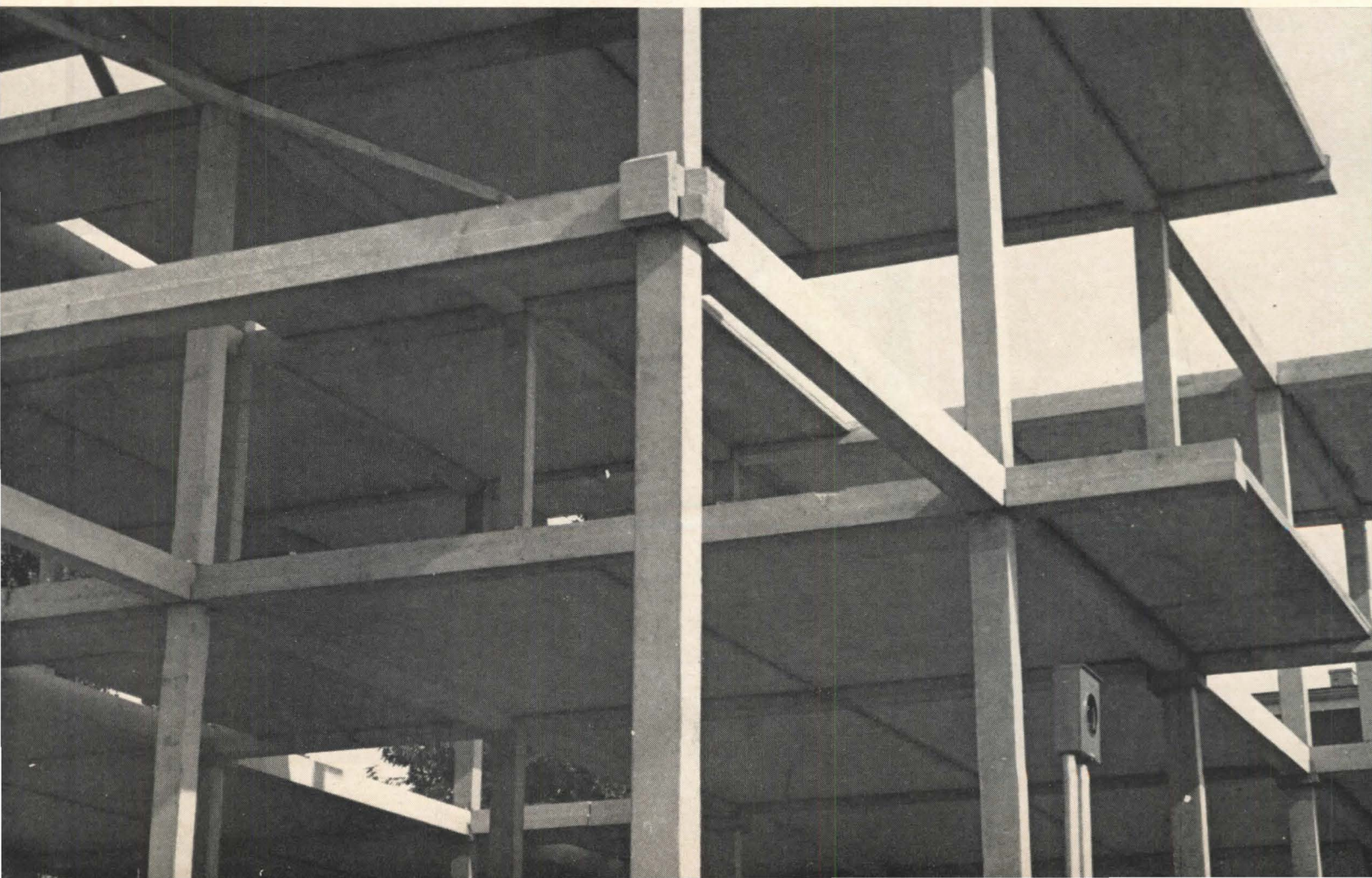
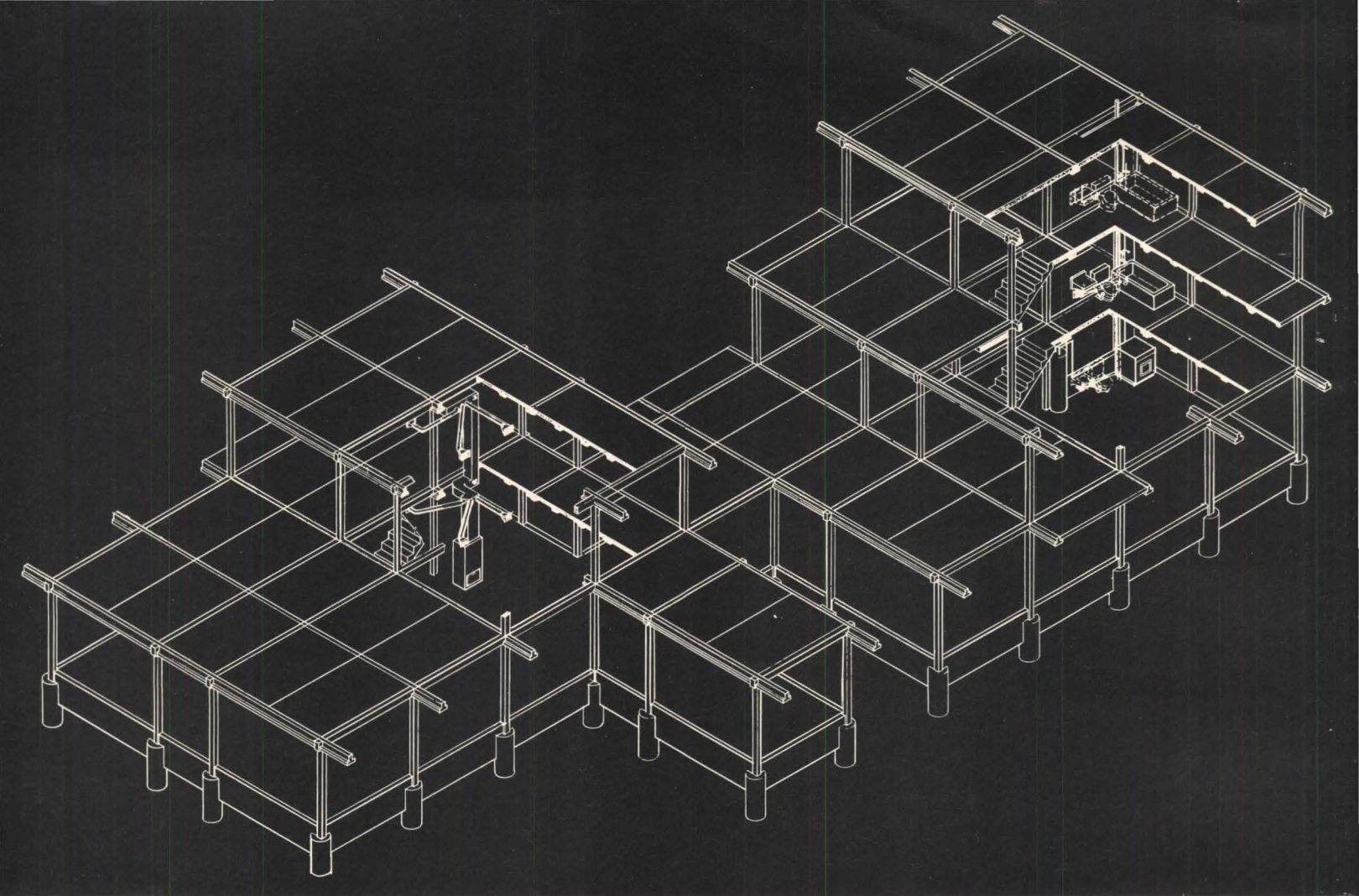
construction of the building; it has the same kind of stuccoed concrete block walls and wood-framed roof as the typical tract house of Southern Florida. But Singer has exploited the visual possibilities of white stuccoed walls, shaping them into angular,

prismatic forms with punctured openings and using them as a backdrop for the silhouettes and shadows of subtropical foliage. Without consciously trying, he has produced an environment very much like a fragment of an old Caribbean town.

FACTS AND FIGURES

Garden apartments, Fort Lauderdale, Fla. Architect: Donald Singer. Structural engineer: Walter C. Harry. General contractor: John Dec. Building area: 3,586 sq. ft. Construction cost: \$44,961.50.

PHOTOGRAPHS: page 92 and 94 (middle right) Peter Bromer; others by the architect.



TINKERTOY HOUSES

Thomas J. Monaghan, the mayor of Lancaster, Pa., didn't seem to know that it couldn't be done, so he did it. Without even asking for federal aid, and treating all insurmountable barriers as though they didn't exist, he brought off a demonstration of a low-cost housing construction system that could help to revolutionize American housing production.

In mid-December workmen were putting finishing touches on the three demonstration town houses pictured on these pages. They are prototypes of the Mitchell Framing System developed by Neal Mitchell, a professor of construction at Harvard's Graduate School of Design and head of Neal Mitchell Associates Inc., a Cambridge team of architects, engineers, planners, systems analysts, and social researchers.

To get the units built, Monaghan spurred on his city departments, whipped up support from community leaders, got around the city's prohibitive building codes, won the cooperation of local trade unions, negotiated a site, and secured a \$40,000 construction grant from the Pennsylvania Power & Light Co. He made it all look easy, yet he accomplished what few others have been able to do.

In recent years literally scores of schemes have been devised for producing vast quantities of low-cost housing through the use of mass-production techniques and systems technology, but only a mere handful has ever been built. The problem has been, and still is, a combination of bureaucratic red tape, archaic building codes, union opposition, and the high initial cost of producing prototypes.

Most of the industrialized housing schemes tested out in recent months have been box systems, usually employing units produced by mobile-home manufacturers. Mitchell's is a component system, using factory-produced parts that are fitted together on site like a giant Tinkertoy set. It consists of three basic structural elements: columns, beams, and floor-roof slabs

precast of lightweight "foam" concrete which Mitchell developed under a grant from the Cement & Lime Div. of Martin Marietta Corp. The foam (or cellular) concrete is produced by introducing a preformed hydrolyzed protein foam to the concrete slurry. It is about half as heavy as regular concrete.

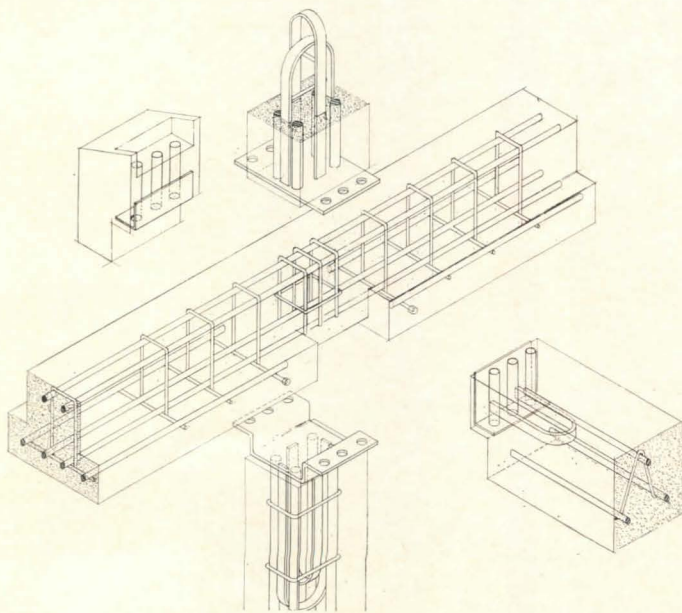
The frame is constructed on site by locking the columns into pockets embedded in precast cylindrical footings, fitting the beams into the connecting hardware on the columns, placing the floor-roof slabs atop the beams, and pouring a 2-in. layer of cellular concrete over the precast slabs.

The partition walls are then fastened to the concrete frame. They can be of any material, depending on the climate, the budget, and the owner's taste. "They can even be tar paper," says Mitchell, "if that is all the owner can afford."

Mitchell's Tinkertoy set can be put together, by unskilled workmen, in an almost infinite variety of designs. The structural components are assembled in modular bays, which can be added to both vertically (up to four stories) or horizontally. Thus a family could start with a small house, like the one-story, one-bedroom unit of the Lancaster demonstration models, and later add new rooms as its needs increased. Moreover, the walls, heating system, and plumbing system can all be easily replaced when they wear out; or they can be upgraded when a family's income rises.

"It's like the automobile," says Mitchell in describing the system. "If you had to throw your car away every time the tires wore out, you would think it was a silly design. But houses are designed on the assumption that all their parts will wear out in 40 years, because that's what the FHA mortgage is for. Our assumption is that since the parts wear out at different rates, you ought to be able to uncouple them, so that they can be replaced or upgraded."

Mitchell foresees the day when the components of the system will be available in local retail



The precast concrete columns and beams of the Mitchell Framing System interlock (joint detail above) to form a three-dimensional grid; then floor-roof slabs are laid on the beams and topped with a 2-in. coating of poured concrete. The structural system produces modular bays (10 by 12 ft.) that can be added to horizontally or vertically (up to four stories).

outlets. "A guy could remove a wall, take it down to the hardware store, and trade it in for a better wall. Then somebody else could buy the second-hand wall. It's like buying a second-hand car. We insist that everybody has to have new housing, yet we don't insist that everybody has to have a new automobile or television set."

Mitchell is an optimist, but he knows as well as anyone how agonizingly difficult it is to make a breakthrough in industrialized housing. Two years ago, his system was selected by the Archdiocese of Detroit for a 500-unit development on the city's near-east side (before the 1967 riot). Seventeen demonstration units, financed by a \$203,000 HUD grant, were to have been built initially, then the remainder if the system proved feasible. Despite HUD's moral and financial support, the proposal ran into all the familiar roadblocks: the labor unions, the building codes, the hostility and foot-dragging of city administrators.

Ground was finally broken for the first 17 units in November, but not until HUD itself had fought the project through the entire power structure of Detroit. To placate building officials, HUD even got the National Bureau of Standards and experts from the National Academy of Sciences and the Army Corps of Engineers to conduct a full-scale structural test of the system. It exceeded every requirement.

"Low-cost housing in the big cities is going to be an extremely difficult thing to do within the foreseeable future," says Mitchell. "What excites me is that cities the size and scale of Lancaster can make major inroads into low-income housing. They have flexibility of management, and are small enough so that the mayor can still control things. Lancaster has a swinging mayor, and he approached the problem elegantly—with a real desire to initiate honest solutions."

(As one example of Monaghan's elegance, he disposed of the building code problem simply by declaring the prototype units "experimental." Thus his city departments were free to work with

the designers, rather than against them.)

The Lancaster houses will be furnished and opened for public inspection. Monaghan's hope—and his primary reason for taking on the project—is that local developers will see the merits of the system and decide to build Mitchell units on a large scale, thus alleviating the low-income housing problem in his city. He claims that some developers have already expressed interest.

The Lancaster houses are not an exhaustive demonstration of the Mitchell system. Some of the subsystems had to be installed by more or less conventional methods. The wall panels are not the sophisticated bolt-on units that Mitchell envisions. And the \$11-per-sq.-ft. cost of the units does not put them within the reach of the lowest of low-income families. But all these shortcomings can be overcome by volume production, Mitchell claims. Given sufficient volume, he estimates that a three-bedroom unit, for example, could sell for about \$8,000, exclusive of land costs.

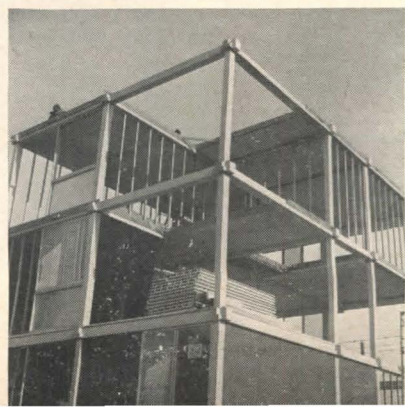
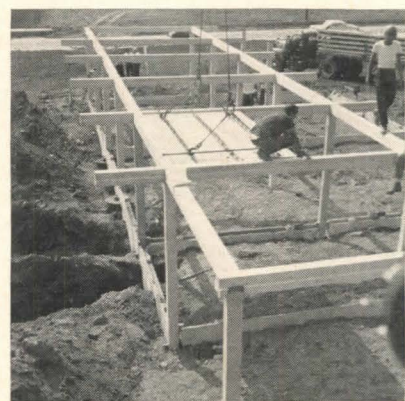
"A lot of people are very enthusiastic about the idea, and a lot are skeptical," says Mayor Monaghan. "I don't know who is right, but somebody has to start somewhere. I think we have waited long enough. The problem of providing good, low-cost housing has got to be solved."

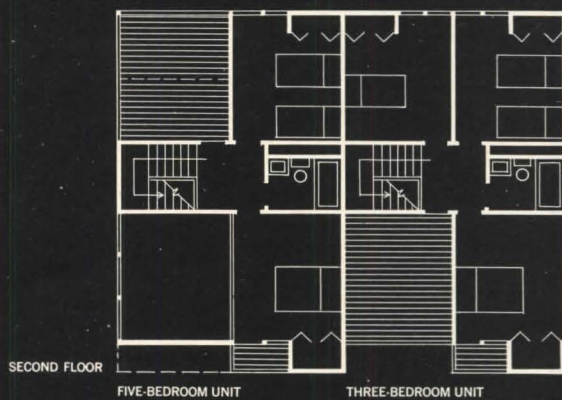
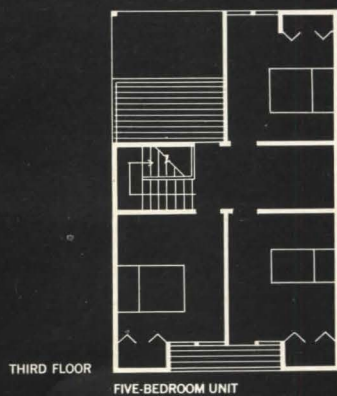
If more Thomas J. Monaghans would come along, perhaps it could be.

FACTS & FIGURES

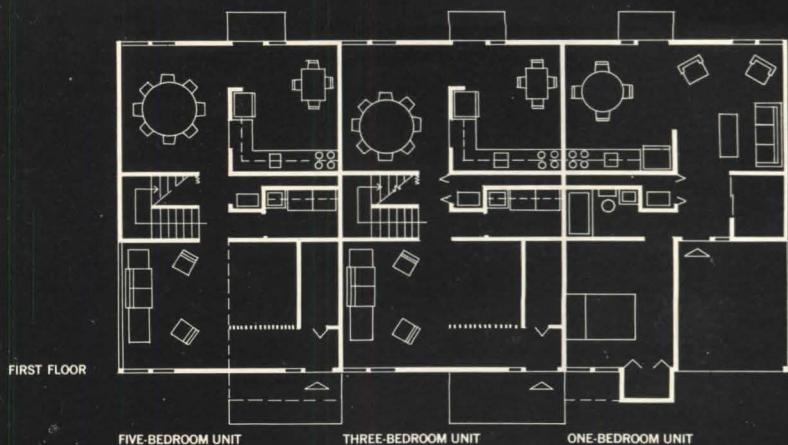
Demonstration Units, Mitchell Framing System, Locust and Rockland Streets, Lancaster, Pa. Developer: City of Lancaster (Thomas J. Monaghan, mayor). Sponsor: Pennsylvania Power & Light Co. Architects and engineers: Neal Mitchell Associates Inc. (Robert Mayers and John Schiff, partners in charge of design; Jonathan Warburg, field supervisor). Precast concrete components: Kurtz Precast Corp. Gross building area: 3,590 sq. ft. (one-bedroom unit, 615 sq. ft.; three-bedroom unit, 1,275 sq. ft.; five-bedroom unit, 1,700 sq. ft.). Construction cost: \$40,000.

PHOTOGRAPHS: Martin Marietta Corp., except page 99, George Pohl.





Mitchell's modular system (erection sequence opposite) is adaptable to an almost infinite variety of shapes and sizes. The three Lancaster town houses have amenities not usually found in low-cost housing: generous decks, balconies, large closets, and spacious kitchen-dining areas. The five-bedroom unit has a two-story-high living room.



FEDERAL RESERVE IN SUSPENSE

Up to now, the nation's 12 Federal Reserve Banks, like central banks the world over, have been securely sealed behind inscrutable Renaissance facades. The new Federal Reserve at Minneapolis—the first completely new head office in the system since its first round of building (circa 1920)—will be a complete break with that tradition.

Architects Gunnar Birkerts & Associates have literally broken the bank into two distinct parts, which house the two very different kinds of activities that go on inside. The "secure" portion of the bank's operation—the areas where valuable securities are transferred and stored—will be hidden under a 2.5-acre sloping plaza. The visible portion of the complex will be an office structure unlike any other ever built—a bridge 11 stories deep with a clear span of 275 ft., almost the full width of the site. The purpose of this structural feat was to avoid putting columns down through the intricate complex vaults and truck ramps below the plaza.

The structural system that makes this span possible is a braced catenary scheme worked out by Engineers Skilling, Helle, Christiansen, Robertson, which uses the entire area of the major facades as rigid frames.

A plaza as big as the site

Between the cave-like treasure house below and the suspended cage above, virtually the entire site will belong to the public. (The "coverage" of the building, by zoning definition, will be only 2.5 per cent!) Unlike the typical office building "plaza," this open space will not lead into the building at all; it will be strictly a public square.

The location of this plaza, at the north end of Nicollet Mall (page 74), makes it a particularly valuable asset to the Gateway Center Renewal Area, which links the downtown core to the Mississippi riverfront. The renewal plan called for a wide plaza at this point, just before the linear mall passes under the portico of the Northwestern National Life Insurance building by Yamasaki (Sept. '62 is-

sue). Birkerts has given powerful emphasis to this sequence of expanding and contracting space.

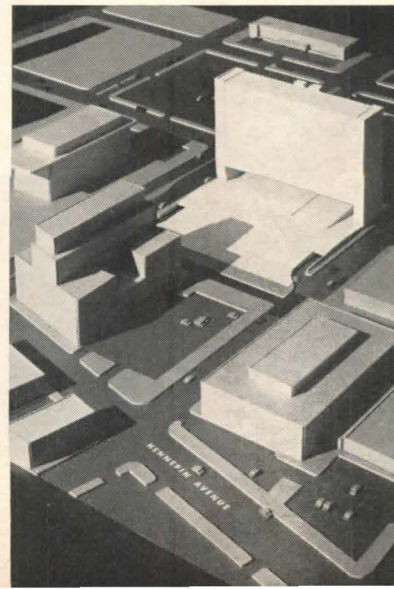
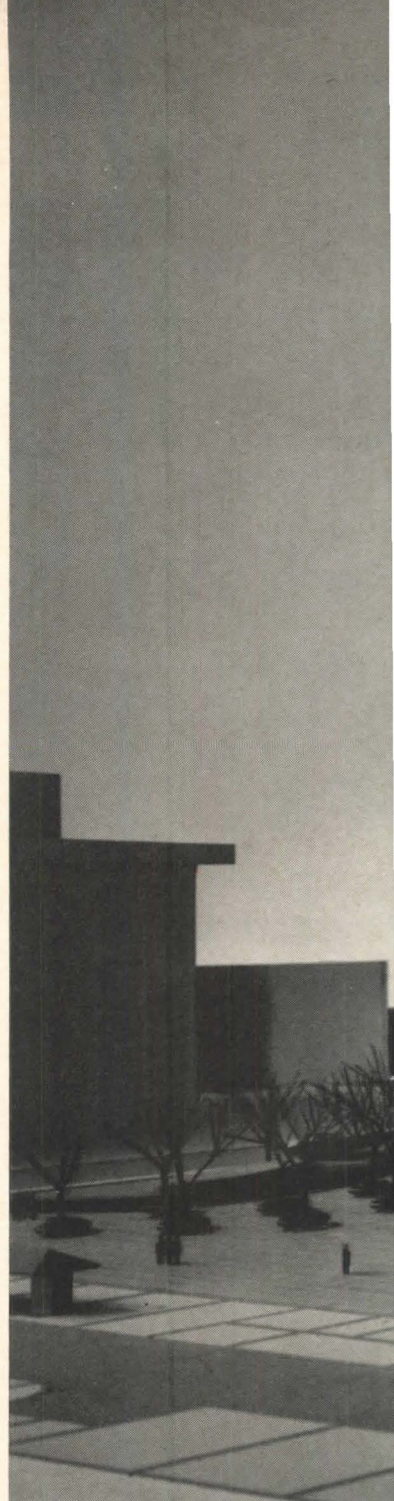
The meticulous client

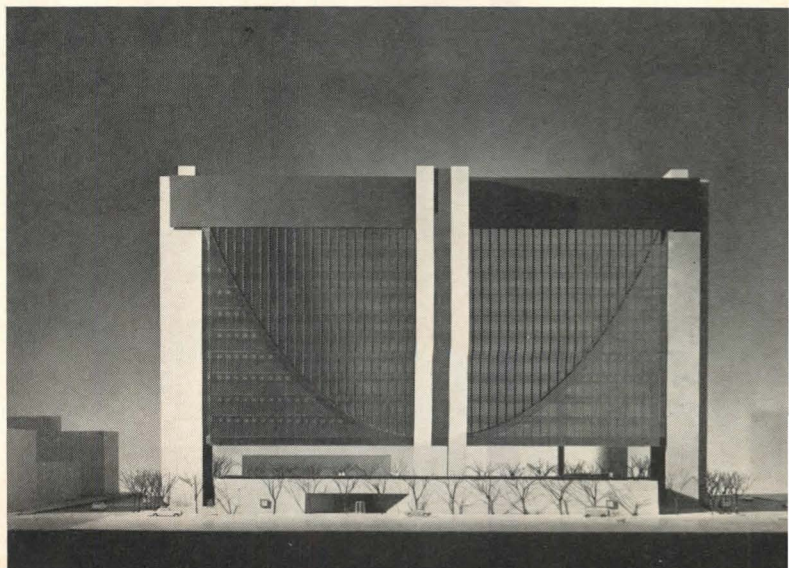
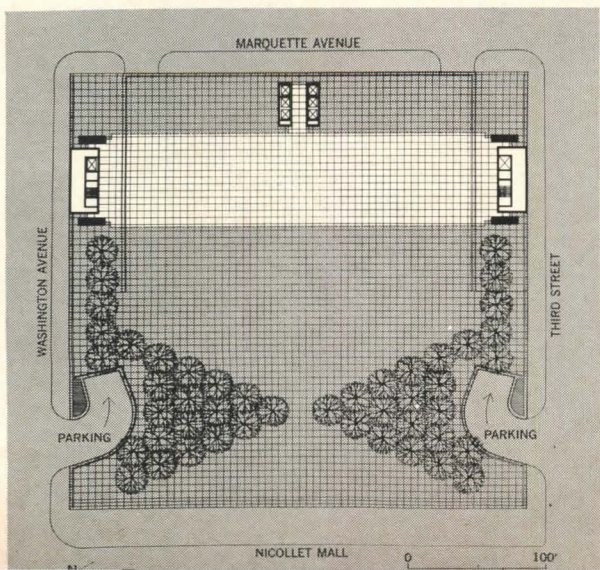
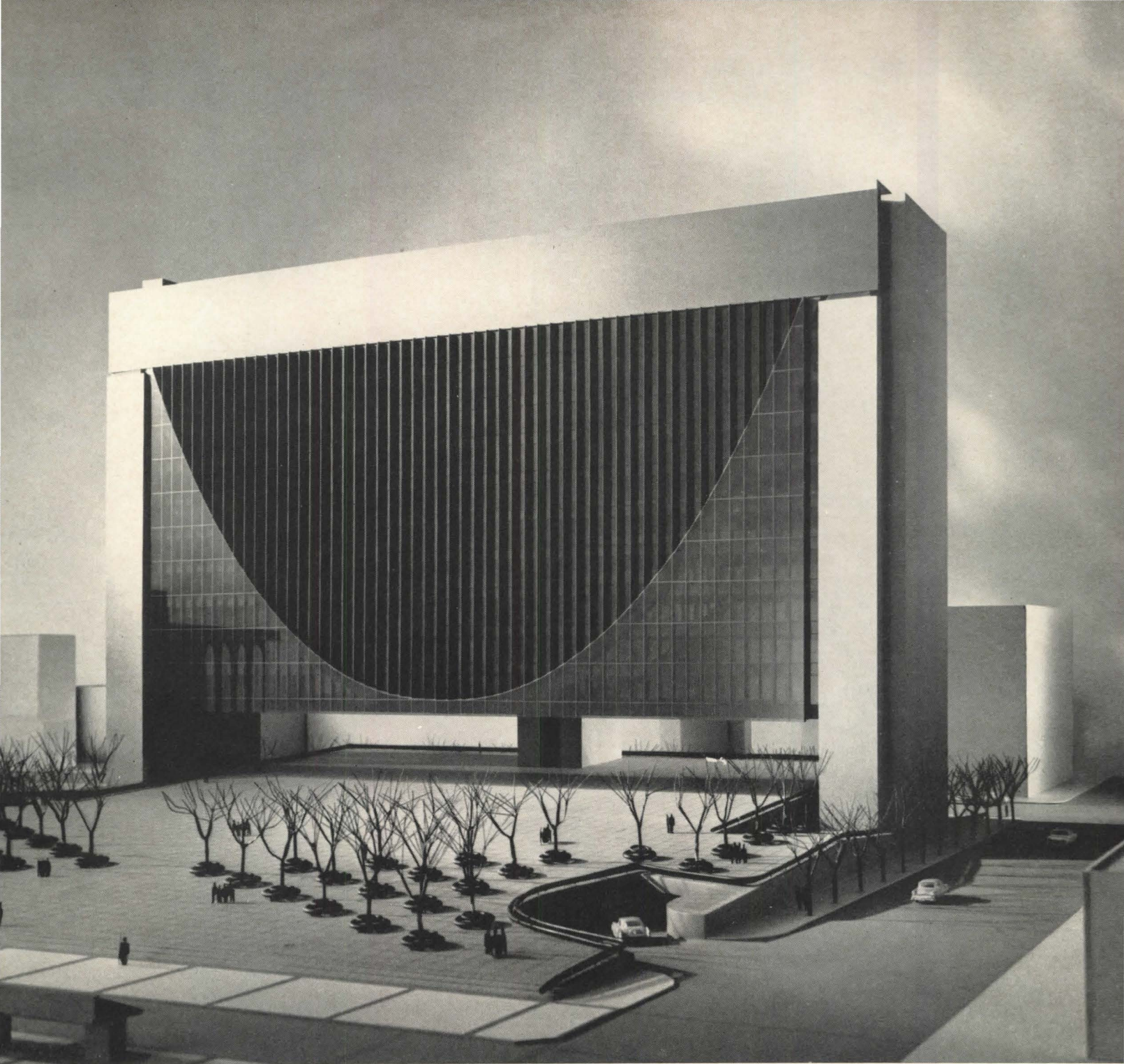
When it became clear that the present Minneapolis Federal Reserve Bank could not be expanded enough to handle expected loads, the bank's officers went about planning for a new building in a way that could serve as a model for other clients. (The Federal Reserve system is not subject to many of the design and building regulations that ensnare most Federal agencies.)

As a first step, the bank president, Hugh D. Galusha Jr., brought in an architect (Ellis Kaplan of San Francisco) to advise on the choice of a building architect. With his participation, the building committee considered a competition, and dismissed the idea (too much of the client's role in "conceptualization" would have been surrendered to jurors).

The selection of an architect began with a list of 14 firms (four from within the bank's district). After preliminary interviews, the field was narrowed to five firms (from five different states, all outside the district). Galusha, Kaplan, and the chairman of the building committee visited all five offices and many of their completed projects. They were looking for recognized design excellence, of course, but they had a number of other revealing criteria, such as the caliber of the firm's middle-echelon personnel and its willingness to relate design to the community.

The office block of the proposed Federal Reserve Bank in Minneapolis will span 275 ft. clear across a city block in the Gateway Renewal Area (photo below right). The granite-paved plaza below this structure will slope gradually up from Nicollet Mall (foreground, above right). Groves of trees will define the mall (plan, right) and form a gateway to the main portion of the plaza, a setting for outdoor concerts or other gatherings. Railings around the trees and at the elevated edges of the plaza will double as benches. On the Marquette Avenue front (bottom right) entrances through the 20-ft.-high wall beneath the plaza will lead to the "secure" lower levels and to the banks of elevators that run up the center of this facade.





A cage hanging over a hidden stronghold

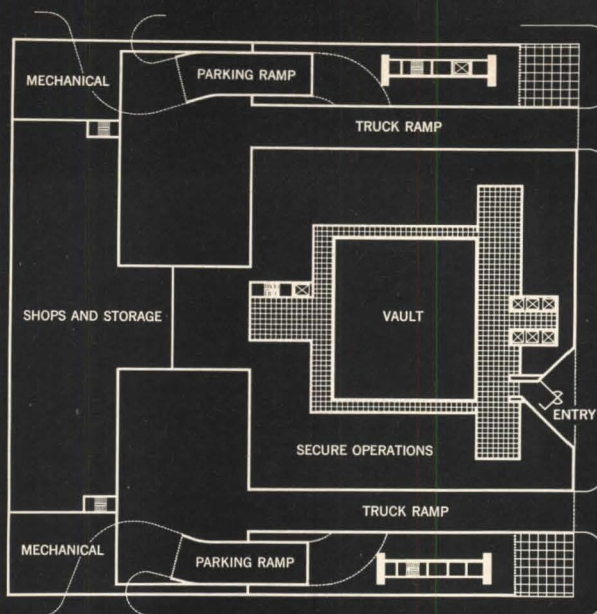
The unique two-part design of the building is a direct expression of the peculiar organization of a Federal Reserve Bank. The two distinct parts of its operations, the administration and the handling of valuables, need hardly any physical connection at all.

The administrative part is much like any office building, except that very few people other than employees ever enter it. The other part, the secure area, must be literally a fortress, yet readily accessible to streams of trucks full of priceless cargo. The exterior must be designed as much to *discourage* would-be attackers as to actually repel them. (That was, of course, the purpose of the massive stone walls around the original Federal Reserve Banks.)

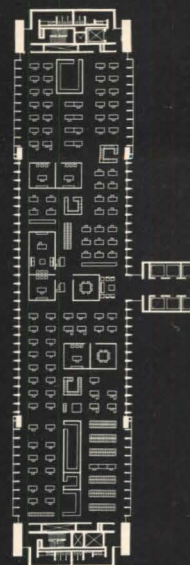
Here, the secure area will be hollowed out of a granite-clad mass shaped like a natural bluff, which will rise gradually from the level of Nicollet Mall on the west, then drop sharply to the level of Marquette Avenue on the east, where a single pedestrian entrance will be carved out of its 20-ft.-high face. The glass-enclosed administrative block above will look more vulnerable, but it will be out of reach—20 ft. above the plaza.

The plans of the lower portion were determined largely by the patterns of truck ramps, which wrap around the core of store-rooms and vaults. The trucks will reach their loading docks through portals along Marquette Avenue, which provides a direct link to a nearby expressway. A totally separate set of ramps will serve the parking garages.

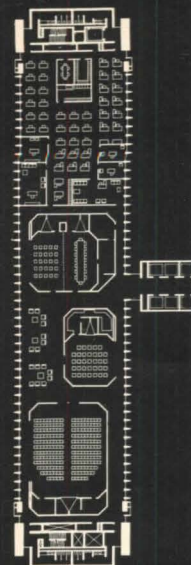
Each of the ten floors of the administrative block will provide 22,000 sq. ft. of office space—completely uninterrupted by columns or service risers. On many of these floors, almost the entire area will be visible as one enters from the adjoining elevator tower. Private offices will be enclosed islands, partially glass-walled, scattered as needed across the clerical spaces, so that each employee will enjoy views out through heat-absorbing glass on either side of the building.



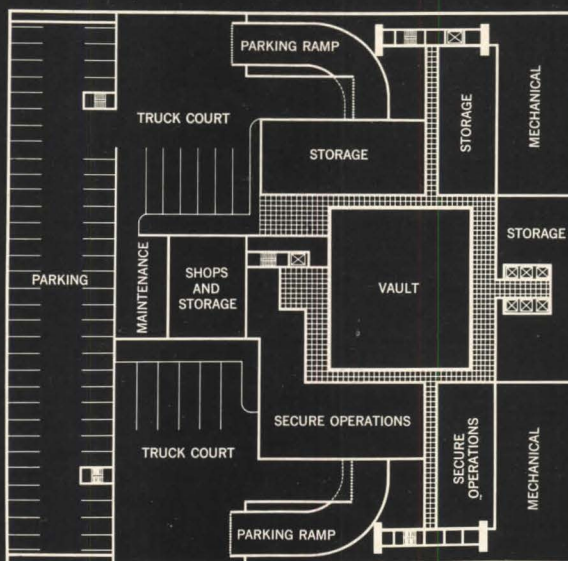
LOBBY LEVEL



TYPICAL OFFICE FLOOR



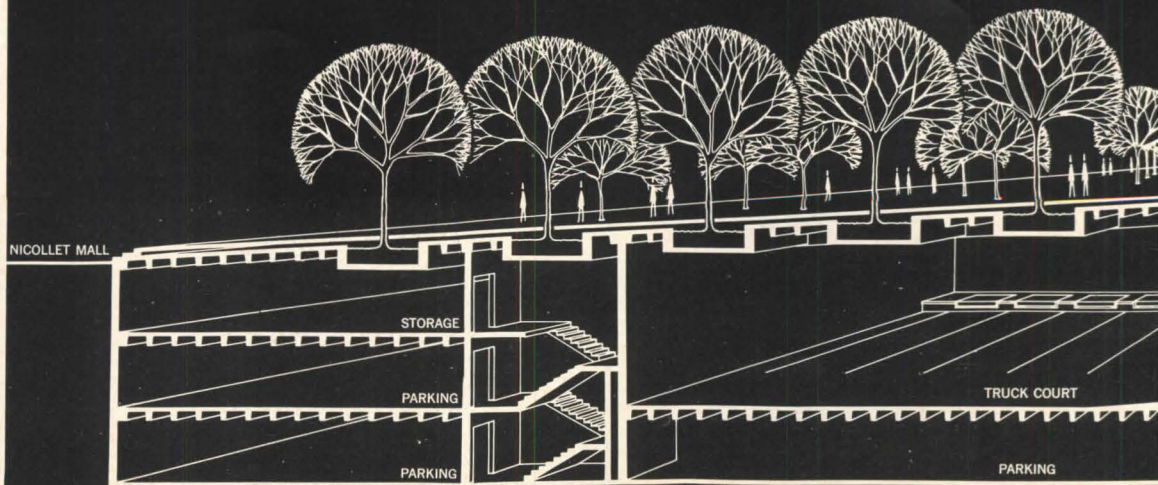
CONFERENCE ROOM FLOOR

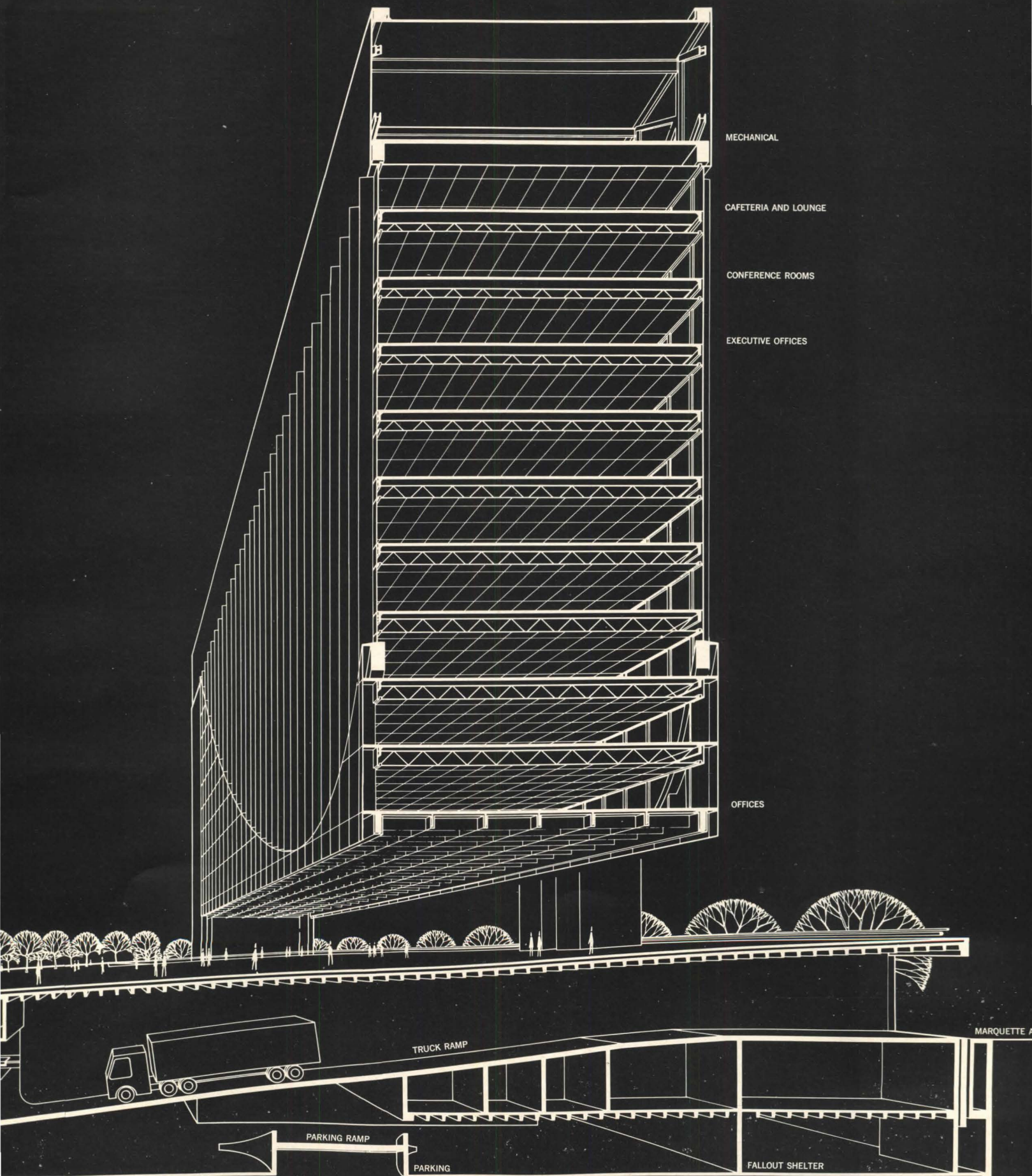


TRUCK COURT LEVEL

0 100'

The two levels of the bank's "secure area" (schematic plans, left) lie below its sloping plaza and above a bottom layer of employee parking (section below and right). Each floor of the bridge-like administration structure above the plaza (plans above) has an unobstructed area 60 ft. by 275 ft., accessible by way of a free-standing elevator tower.





An unprecedented structure with growth potential

There was no prototype for the bank's structural system; no occupied floors had ever spanned 275 ft. before. In order to get the necessary stiffness (much greater than that of a roof or a highway bridge, for instance), the engineers had to use the full ten-story height of the two side walls for rigid structural frames.

Several types of truss were considered, but the system that turned out to be the lightest and most economical was a braced suspension system. The primary supporting members will be catenaries composed of cable and welded steel plate. All floor loads will be transferred to these catenaries, which will be braced against unsymmetrical loads by a 28-ft.-deep truss at the roof.

A virtue of this unique structural system is that it will allow potential 50 per cent expansion of the office portion of the building (in conformity with Federal Reserve guidelines) by adding six more floors to the top of the initial structure (photo right).

Obviously, a structural system with a clear span of 275 ft. is more expensive than one with ordinary bay dimensions. The engineers believe, however, that they have minimized the cost. The additional cost will be small compared with the cost of the whole bank—which requires much massive construction beneath its plaza, as well as costly, fail-safe mechanical and communications systems.

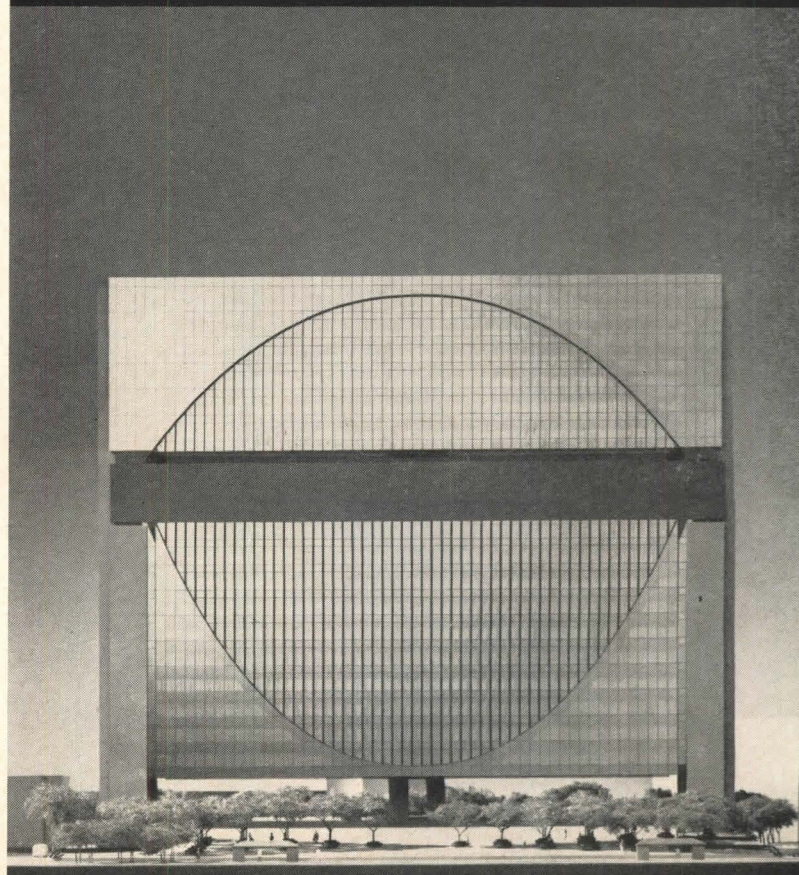
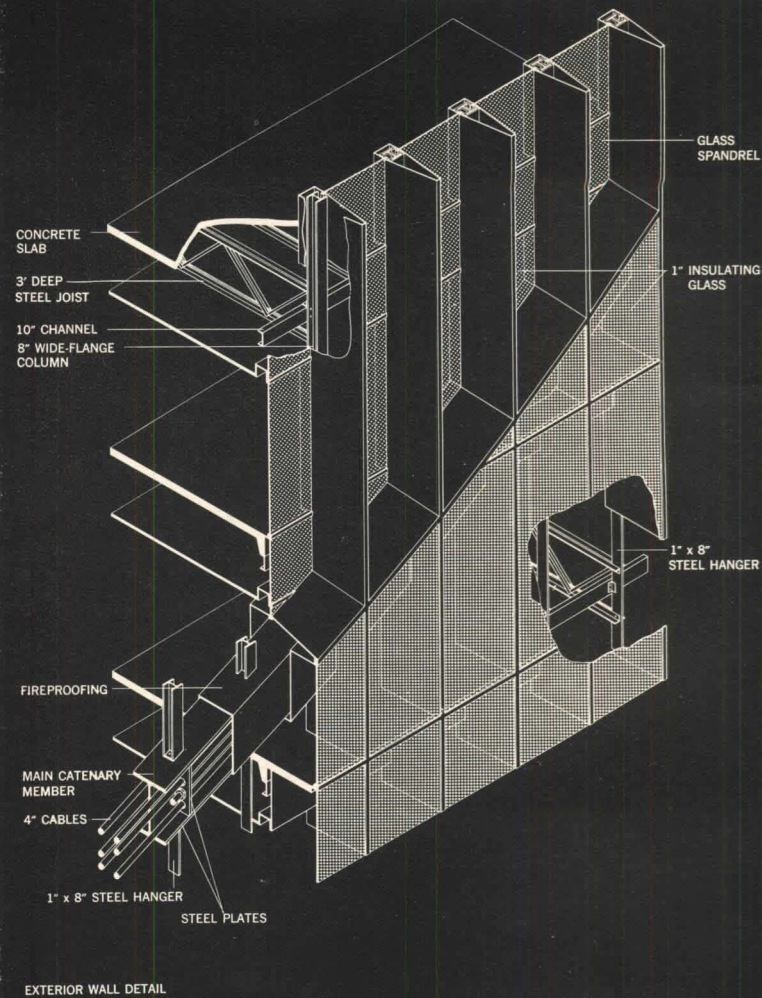
Given the task the architects and engineers set for themselves—to make the office block span almost 300 ft. without touching down on the plaza—the design is a powerful one, carried through consistently. It would be hard to put a price tag on its functional and esthetic values.

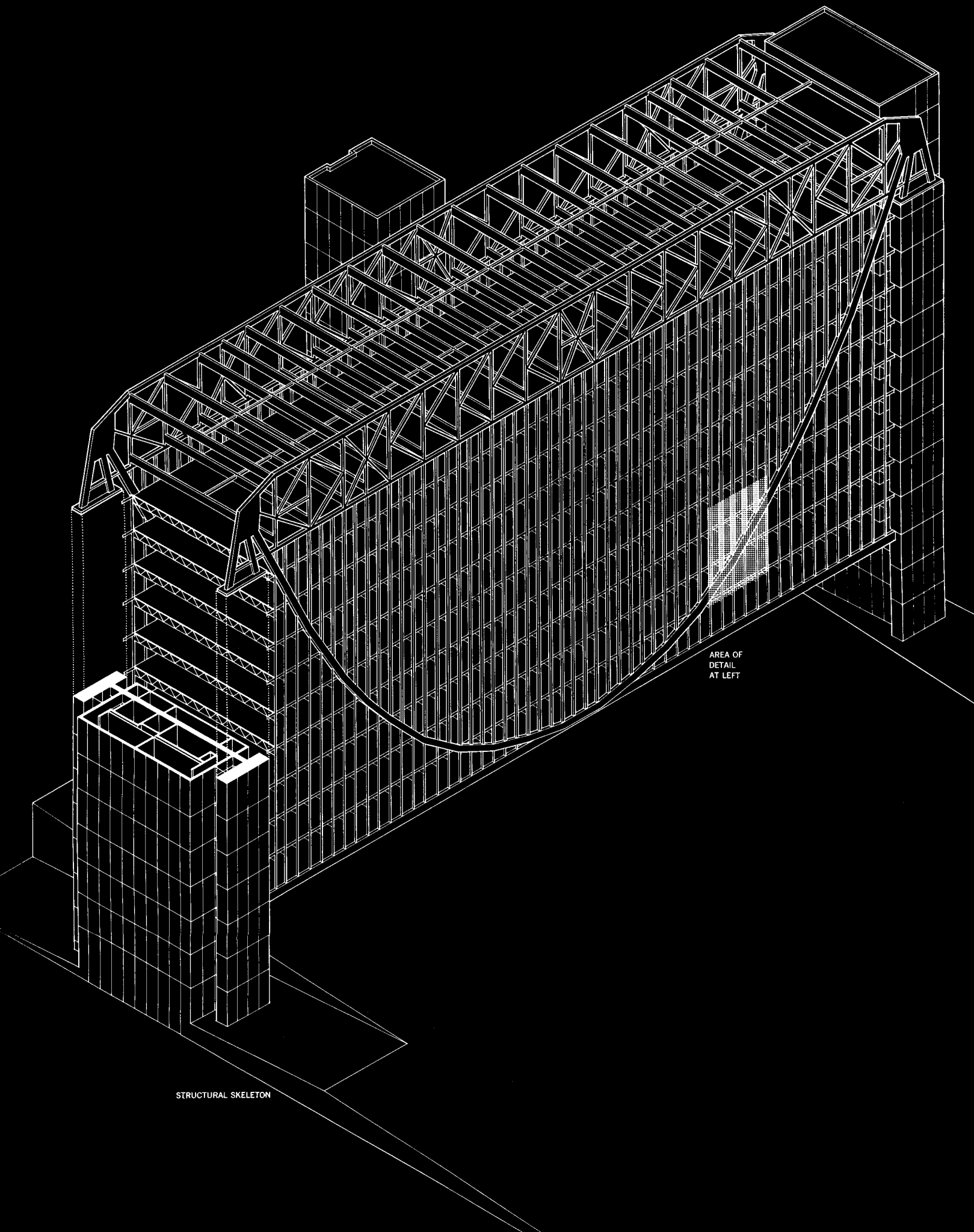
FACTS AND FIGURES

Federal Reserve Bank, Minneapolis, Minn. Architects: Gunnar Birkerts & Associates (Charles Fleckenstein, project director; Algimantas Bublys and John Mueller, designers). Engineers: Skilling, Helle, Christiansen, Robertson (structural); Jaros, Baum & Bolles (mechanical). Model: James Smith.

PHOTOGRAPHS: Balthazar Korab.

Except for the main catenary member, the structural frames that will form the long facades of the upper building will be made up of relatively light steel sections (detail, right)—wide-flange columns supporting the floor areas above the catenary and flat steel hangers carrying those below. Above the catenary, the glass walls will be recessed behind deep fins and framed into the columns; below, they will be set out in front of the hangers. The entire rigid frame (isometric, facing page) will be supported on granite-clad concrete towers at either end, which have been designed as huge H-columns to resist wind loads imposed on the long facades. The structure will be able to carry six additional stories (photo right), using an arch system that will transfer all loads to the end towers.







FORUM CONT'D

ings, conservation groups, civic associations, city governments, and major metropolitan dailies drummed up considerable support for the proposed regulations.

As the last flap of a lame duck, Lowell K. Bridwell's memorandum may have attained for him his finest civic hour.

COUNTY VS. COLONY

Antagonism between the Marin County (Calif.) Board of Supervisors and the slapdash—mostly dash—houseboat colony of Sausalito (below and March '67 issue) has heated up with the board's passage of a building code for floating homes.

The code is painstaking: plastic pipe, which it allows for sewage, "shall bear (1) company name or registered trademark of the manufacturer (2) Nominal pipe size ABS-DWV (d) W.P.O.A. seal of approval . . ."

The code is firm: "A sewage receiving tank and ejector device must be installed aboard every floating home. . . . Said device must connect to the local sewerage lateral system."

And, at least in this matter of sewage, the code is visionary. Supervisor Peter H. Behr, who, in December, voted aye in the four-to-one decision to enact the ordinance, had been quoted one month earlier in the *San Francisco Chronicle*: "I feel that houseboats should be connected to a shoreline sewer, but it's hard to ask them to connect to *non-existent* lines [italics ours]." But, said Michael F. King, deputy director of the Department of Public Works, "they have a year in which to find something."

(In a separate action, 37 house-

boats were ordered removed from Richardson Bay for "squatting" on county streets. The streets, like the sewage lines, are and are not there—"paper streets," says King, platted under water in the bay in 1905.)

Other code regulations deal with: space (220 sq. ft. for two people, 100 sq. ft. for each additional person); height limit (2 1/2 stories); allowable list, with and without loading; wiring (similar to the mobile homes code); ramps; materials; construction; power supply; fixtures and appliances; mooring; fire prevention; and life-saving gear.

To the county, the code "is intended to protect the health, safety, and welfare of floating home occupants." To Dean M. Jennings, spokesman for the Marin Houseboat Association, "their standards are way out of whack and they keep pushing them up beyond what a houseboat owner can afford."

APOLOGIA

IN DUBIOUS REBUTTAL

• Harold Ostroff, executive vice president, United Housing Foundation, at the dedication of Co-op City (top right) in The Bronx, N.Y. (Nov. '68 issue, page 96):

"Critics of various kinds have had a field day regarding the impending completion of this new community. . . . They don't like the site plan, the architecture of the buildings, the lack of transportation, the tremendous cost to the city for the improvements needed, and the lack of what some have called human scale in the design. . . . How many children will die this winter in fires in slum tenements while the city planners continue to haggle over inconsequential elements like esthetic designs . . .?"



• Robert Moses, upon being presented with a plaque during National Co-op Month, for his efforts in making Rochdale Village (another United Housing project) possible:

"New York is the world's fanciest rabbit warren of critics. If the subject is cooperative, multifamily building on vacant land, the location is wrong, the plan faulty, the architecture box-like, unimaginative and contemptible and the approaches woefully inadequate, reflecting incredible engineering ineptitude and criminal official neglect. Co-op City will still rise from the swamps and lift people from the slums when the critics have flung their last rotten eggs and gone to their reward. Pay them no mind."

IN DEFENSE OF MEGABUCKS

When peace comes to Vietnam the giant defense and aerospace firms will apply their awesome managerial and technical skills to our urban problems. Right?

Wrong. According to a recent article by Bernard D. Nossiter in the *Washington Post*, military and space expenditures will continue to dominate the post-Vietnam federal budget. Why? Listen to Samuel F. Downer, the financial vice president of LTV Aerospace Corp., as quoted by Nossiter: "It's basic. Its selling appeal is defense of the home. This is one of the greatest appeals the politicians have to adjusting the system. If you're the President and you need to sell this factor, you can't sell Harlem and Watts but you can sell self-preservation. We're going to increase defense budgets as long as those bastards in Russia are ahead of us. The American people understand this."

And the people who run the defense and aerospace firms understand a thing or two about sell-

FOOTNOTE

Technological revolution — "Elegance supreme describes this living area of Avion Coach Corporation's newest design study 31-ft. travel trailer," the press release explains. "Free standing love seat is flanked by cultured [sic!] marble table tops. Drapery swags match the upholstery material. The crystal chandelier and wall mounted globes add a regal touch." This experimental job, by the way, is packaged in a streamlined, gold-anodized aluminum capsule, straight out of science fiction, Archigram, and Bucky Fuller!



ing their own self-preservation. "The companies," says Nossiter, "can be expected to use their influence to make their prophecies self-fulfilling. By no mean coincidence, their views of the world outlook usually coincide with conditions that would maximize their military orders."

With the federal government all but guaranteeing the firms fat profits on military and space contracts, they are not interested in exchanging "megabucks" for the peanuts that are available in the high-risk domestic arena. Nossiter quotes Dwight K. Warner, manager for market analysis of General Dynamics' Convair Division, on the subject:

"It's hard to get a handle on this. With a military system, you can analyze the threat, the mission, the required speed and firepower. These are measurable, tangible things. But how do you measure the goals for New York City or Washington? . . . What could we sell? Mass transportation? General Motors and the others have it locked up. The customer we have, we understand him and he understands us."

So the companies are convinced that they would have nothing to gain and much to lose by "converting their electronic swords into social ploughshares," as Nossiter puts it. Their attitude is expressed succinctly by James J. Ling, head of Ling-Temco-Vought. "Our future is based on visible contracts," says Ling. "One must believe in the long-term threat."

ARTS

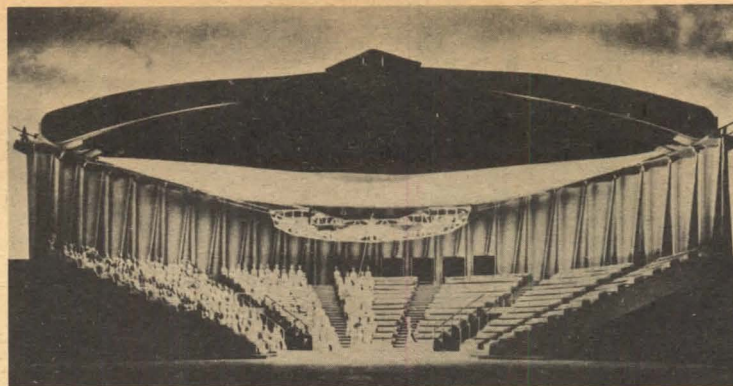
PORTO DEBUT

"Fit tab A into slot B," approximates how unskilled laborers, in three days time, could assemble a portable theater (below), weighing 80 tons, seating over 1,000 spectators, and designed for either temporary or permanent installa-



tion. (Models and drawings are on view through January 31 at New York's Lincoln Center Library and Museum.)

The prefabricated system was developed for the Arts of the



Theater Foundation—with an assisting grant from the Ford Foundation—by Edward F. Kook, lighting expert, Donald Oenslager and Jo Mielziner, stage designers, and Cyril M. Harris, acoustical engineer, all of whom donated their services. These men, under the group acronym KOHM, retained Dr. Lev Zetlin, structural engineer, and Syska & Hennessy, electrical and mechanical engineers.

The collaboration, sans architect, resulted in "Porto," a theater "in the round," measuring 112 ft. in diameter, and made up of acoustic wall panels of glass-fiber-reinforced plastic; a circular stage; stadium-type seating, under which box office, lobbies, dressing and storage rooms, orchestra, offices, and toilets are accommodated; a canopy suspended over the stage for light and sound equipment; and an inflated, domed roof (top photo).

For what is, essentially, a glorified tent—complete down to wiring, ventilation, plumbing, and power plant—the system is well engineered for efficiency and economy (cost as low as \$550,000, if produced in quantity).

What has been sacrificed—unaccountably—is good looks. KOHM has decided the play's the thing. But, as Messrs. Oenslager and Mielziner should very well know, applause for the set has never killed a good play.

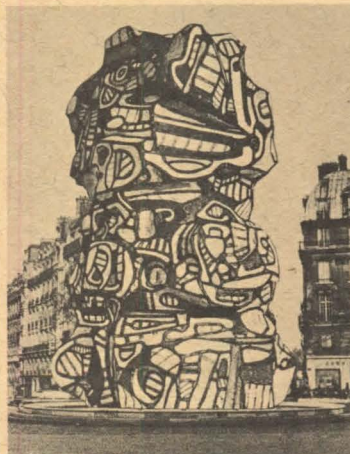
ARCHITECT DUBUFFET

French Artist Jean Dubuffet's *Tour aux Figures* (above right) is a house, not for living in but for "occasional retreat and contemplation." Inside, the contemplative would negotiate a series of landings about a continuing spiraling ramp, like a mollusk in its shell. To date he has built only an 8-ft.-tall model in cast polyester resin and vinyl paint.

Now, thanks to the Los Angeles County Museum and the American Cement Co., Dubuffet will build

it, or a variety thereof. The museum, in an unusual sponsor-patron setup, will place 20 artists in residence at a variety of industrial plants, mostly in California. Curator Maurice Tuchman has—at last—contracted some inevitable matches: Claes Oldenburg, creator of "soft sculpture," and Walt Disney Productions; Op Artist Victor Vasarely and IBM.

American Cement will contribute \$7,000 to the museum and commit its Riverside, Calif. facilities—computers, electron mi-



croscopes, X-ray diffraction, high-temperature furnaces, autoclaves, rotary kilns, materials—to Dubuffet. Dubuffet will contribute a 26-ft.-high and, for now, hollow

house-tower, which will come apart for transport and reassembly, and will require new techniques for casting or molding irregular shapes in concrete.

He will be paid by the museum—\$250 per week; \$140 per diem expenses, plus air fare—and will work at Riverside for six weeks, beginning in mid-February, and again for at least six weeks later in the year.

His and the other artists' works will be on exhibit in the museum's two-story exhibition building, sculpture plaza, and park in the spring of 1970.

TRIUMPHS

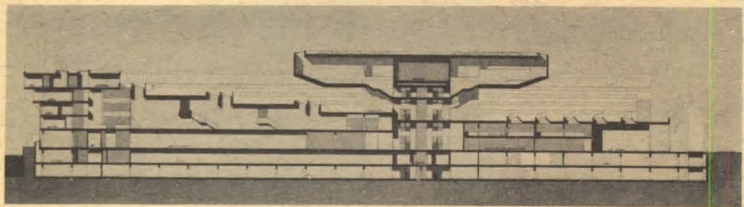
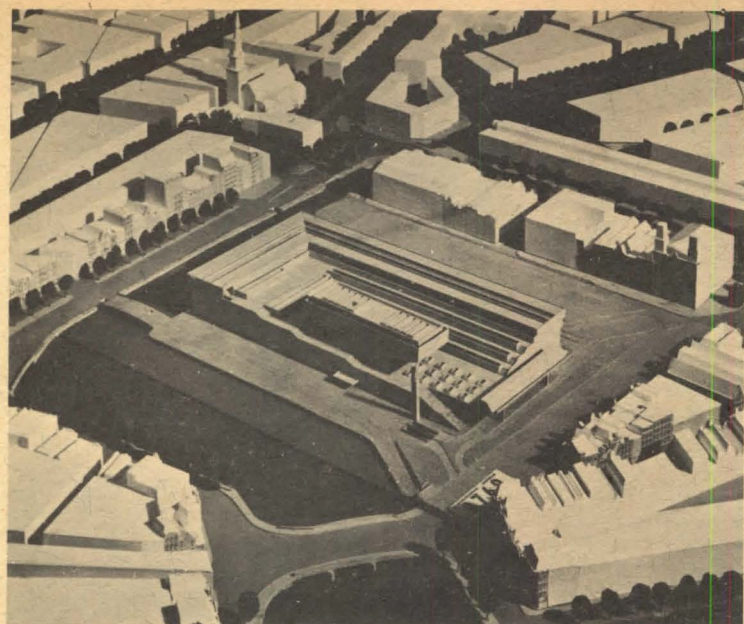
GULLIVER FREED

The New Jersey legislature celebrated its 300th birthday in joint session in late November, then did what it has fought to avoid for the last century: passed a Hackensack River Meadowlands bill, which will give control over 18,000 acres of swamps and garbage dumps, with a view of the Manhattan skyline (bottom), to a T. V. A.-like state commission for reclamation and development—said to be the largest such undertaking ever attempted in the U.S.

Angered by an earlier rejection, Governor Richard J. Hughes described his state as "a giant in its potential, being tied down, like Gulliver, by the bonds of local and special interests." The bill overcomes this parochialism by guaranteeing the mayors of the 14 municipalities veto power over the commission. The municipalities will not contribute to the project's cost, even from the expected increase in property tax revenues which will accrue to them equally under a tax-sharing plan.

Cost for the reclamation alone





is projected at \$300 million, and the Army Corps of Engineers, on the basis of its studies of the area, is expected to recommend it to the Congress this summer for Public Works appropriations on a year-to-year basis.

Meanwhile, the commission is drawing up a preliminary master plan. Its chairman, Commissioner Paul N. Ylvisaker of the Department of Community Affairs, envisions a new kind of urban complex, on an unprecedented scale, for the burgeoning North Jersey population.

Also under way is a survey by the Department of Conservation and Economic Development to determine which properties are tide-flowed and thus owned by the state, according to a recent State Supreme Court decision (Dec. '67 issue, page 83). Companion legislation has provided for the appointment of six new justices to help expedite title claims.

The rest awaits the patronage or penury of a new Administration and Congress.

WINNERS

DUTCH TREAT

A two-stage international design competition for a new city hall in Amsterdam, which drew 803 initial entries, has been won by Mega I Ltd., a triumvirate formed

two years ago by Architect Wilhelm Holzbauer of Vienna, Gerald McCue, chairman of the department of architecture at the University of California in Berkeley, and Donald D. Hanson, chairman of the department of architecture at the University of Illinois at Chicago Circle.

The city hall (top) lies within a curve of a major canal, the Waterlooplein. The building's boldest element is a T-shaped tower with council chambers in the cross-bar (see section). Its base, a public plaza, is two stories above grade. Stepped outward and upward from this plaza are three L-shaped roof-terraces culminating at the five-story level. Here, light is introduced into offices from both sides of the L. Long trough sky-lights separating the terraces introduce light to the spaces below.

In addition to the usual administrative offices, chambers, and ceremonial spaces, one extraordinary requirement was met.

Since the city performs as many as 150 marriages a day, the building contains a goodly number of small "matrimonial chambers."

"We wanted a low, quiet silhouette," says Hanson, "to be consistent with the character of this city." But low and quiet is far from modest. At 75 million guilders, its cost is comparable—give or take a million—to Boston's (see page 39).

GADGETRY

SCAVENGER HUNT . . .

How would Buck Rogers rescue the American consumer from burial in his own garbage? (The average American disposes of 5.3 pounds of refuse daily, an increase of 60 per cent over 1950, while the population has gone up only 30 per cent in the same period.)

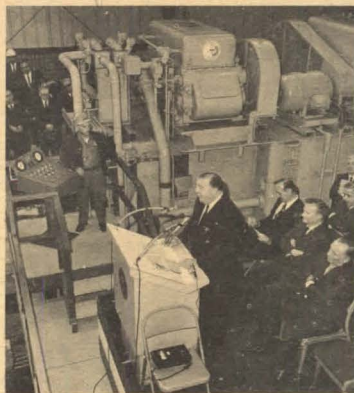
A New York industrial engineer, Alan G. Motz, predicts that laser beams will one day disintegrate waste material, leaving no residue; Dr. Samuel F. Hulbert, a materials engineer at Clemson University, has already developed a self-destruct bottle that, when broken, dissolves in four days into a tiny puddle of sodium silicate; and Dr. Frank P. Dee of Rutgers would rocket our trash to the sun—"an excellent incinerator"—which, of course, would destroy the rockets along with the trash.

Other, more serious, proposals are aimed at rescuing the garbage as well as the consumer. The Glass Container Manufacturers Institute believes that glass may be salvaged for reuse in paints, insulation, and building materials. And researchers at the U.S. Bureau of Mines' Solid Waste Research Labs in Edmonston, Md., are seeking ways to reclaim the estimated \$7 million in gold and silver discarded each year in such items as gold-embossed credit cards—surely the perfect symbol of affluent consumers in a "throw-away" culture.

. . . AND THE ROUNDUP

Some immediate and down-to-earth solutions being sought to the garbage explosion:

- An experimental garbage compactor (below), donated by the



Fisher Body Co., is being tested by the city of Chicago under a public health grant. The giant machine presses garbage into easily handled bales, made odorless and

bacteria-free by the intense heat generated in the process. Bales can then be easily transported to abandoned strip mines and other land-fill projects.

- Denver's National Metal processing Co. will build a new hammer mill on the Platte River that will reduce an auto or truck body to fist-size chunks of scrap in 60 seconds.

- Though final contract approval must be given, San Francisco has agreed to the Western Pacific Railroad's proposal to haul that city's 1,500 tons of garbage daily over a 375-mile scenic route to the desert in Lassen County. Garbage will be hosed down and sealed in covered cars. Winner in the San Francisco *Chronicle's* contest to name the train: "The Excess Express." It nosed out "The Raw Trash Cannonball."

STROBOSCOPICS

A new kind of "movie" advertising, in which the viewer does all the moving, is being tested on a tunnel wall of the Montreal Metro (below).

Eighty advertising panels—3 ft. by 3 ft. each, in a continuous band nearly 250 ft. long—are affixed to the wall of the unlighted



tunnel. Strobe lights over the panels are activated by photoelectric cells sensitive to the lights inside the train cars. Each panel is triggered independently by the light from a single car window—the viewer's movie screen—and "cuts-out" in the space between windows. As the train passes at 40 mph, the message is conveyed at cinema speed: 16 frames per second.

The pilot commercial, lasting five seconds, was produced for the McDonald Tobacco Co. by the Katimavik Agency, patent holders of the process developed by Jean Antoine Bloc, an electrician, and Nicolas Sollogoub, a stage designer for CBC.

The agency has awarded concession rights in London, Brussels, and Paris, and inquiries have been made by other subway cities, including New York.

WALTER McQUADE

HOW HARRY HELMSLEY SPEARED PARKCHESTER

The American Institute of Architects is not the only AIA. There is also the American Institute of Certified Public Accountants, with three times as many members. Every architect has an accountant, but does every accountant have an architect? There is, as well, the American Institute of Real Estate Appraisers. Every building gets appraised, even those that are not designed.

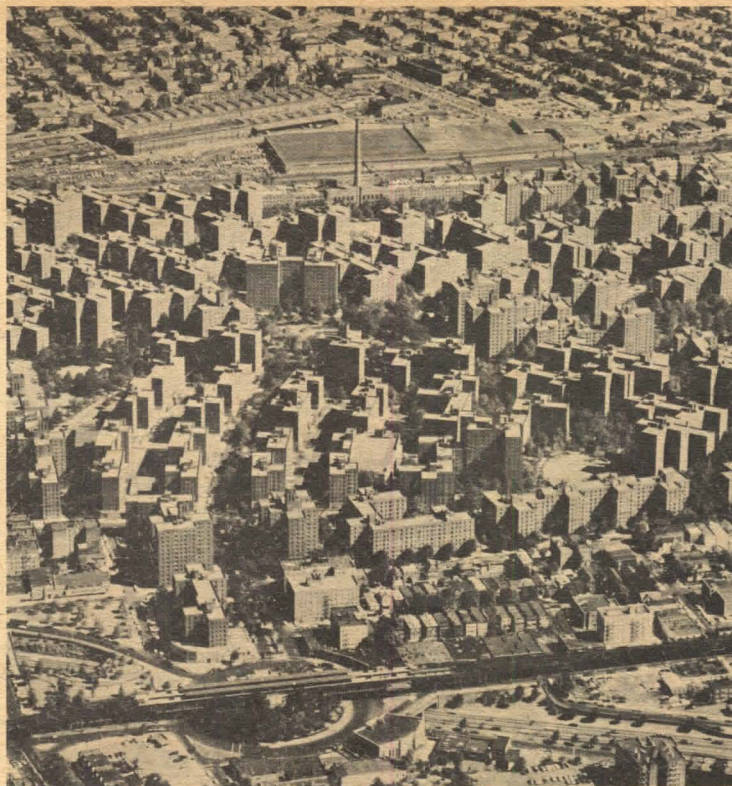
The appraisers have a monthly newsletter which I have never read without being rewarded, whether it is to be taught the lawful meaning of "mean high tide," or some other pertinent fact. The newsletter is edited very well by Stephen G. Thompson, a former FORUM news editor, who has also been made executive vice-president of the appraisers. In a recent issue, Steve reported a real-estate transaction that was not only instructive, but which qualified as pure entertainment—first rate financial escapism.

It was about the latest exploit of Harry Helmsley, 59, a famously



agile New York real-estate man, and a superior appraiser. His firm is Helmsley-Spear, and his biggest deal until lately had been buying the Empire State Building in 1961 for some \$83 million, or slightly less than a million a story. Then last fall he made another buy in New York City for \$90 million, probably the highest price ever negotiated for a single property.

The seller was the Metropolitan Life Insurance Co., and the item



was Parkchester, a complex including 171 apartment houses on a 129-acre site in The Bronx, with more than 38,000 tenants inhabiting 12,271 dwelling units. Parkchester was built for Metropolitan Life as an investment in 1942; in addition to the legion of apartments, it has a shopping center with more than a hundred stores, a 2,000-seat theater, five parking garages stowing 3,500 cars, a post office, banks, and its own power station. Buildings cover 35.5 acres and streets take 27.4 acres, which leaves 66.6 acres open in greenery and recreation areas. In 1942 it cost Metropolitan Life a total of about \$73 million. Today, after a quarter of a century of inflation, duplicating Parkchester would cost at least \$171.5 million, say the appraisers.

Why, then, in 1968, was the insurance company willing to sell it for a mere \$90 million? One answer is that Parkchester, being a pre-war project, is still rent controlled under New York City law, and the net operating income to the owner, after maintenance, taxes, etc., was about \$4.3 million a year which is low, just about 4.7 per cent on selling price. For another reason, insurance companies have learned with some pain that apartment equities are terribly visible investments; they don't really enjoy being landlords and fighting with tenants who may be policy holders as well. It is bad for that shining image, no matter how the

janitor polishes the doorknob and the elevators.

The advantages to Helmsley are manifest. For one, as owner, he can apply to the Rent Control Commission, with some confidence, for a 15 per cent increase in the rent roll, based on the \$90 million price he has paid. (When properties switch hands, in such legitimate manner, the law in New York will permit increases to guarantee the new owner 6 per cent profit on acquisition cost plus 2 per cent for depreciation.) Not less important, Mr. Helmsley and his cohorts can begin to depreciate the property for federal and state tax purposes, no small carrot. And there is probably the possibility in his mind of adding still more buildings on all that open 66 acres of real estate.

On the other hand, \$90 million is a painful amount of financing to have to arrange in a tight money market. Or is it? Not if the Metropolitan Life Insurance Co. is willing to give you a 90 per cent mortgage.

So Harry Helmsley owns Parkchester; and the Met Life holds a mortgage yielding about 7 per cent to them, so their income has gone up almost 50 per cent from what they realized as owners—from a net of about \$4.3 million to about \$6.3 million. The inscrutable thing about real estate is how much happiness it emits for both buyer and seller when it is massaged just right.

PHOTOGRAPHS: Page 35, UPI. Page 36, UPI (cabinet portraits); Bob Burchette—The Washington Post (bottom). Page 37, Matthew Lewis—The Washington Post (bottom left); Joseph Jedd (top) Aerial Photos of New England (bottom right). Page 107, Michael E. Bry (bottom). Page 108, © Ezra Stoller (ESTO) (bottom left); courtesy The Museum of Modern Art (center right); The New York Times (bottom right); J. G. Chamberland (center right).

START
WITH
WOOD

FINISH WITH
OLYMPIC
STAIN

Costs less than paint.
Lasts longer than paint.
Easier to apply than paint.
Protects wood with P.M.O.
Guaranteed not to crack, peel or blister.
66 Colors, solid or semi-transparent.



Wood: Redwood. Architect: Daniel G. Volkman, A.I.A. / For color samples on wood and A.I.A. Manual write Olympic Stain, 1118 N.W. Leary Way, Seattle, Washington.

PREVIEW

TORONTO CONFRONTS THE LAKE

A billion-dollar development called Metro Centre (model below) has been proposed to bridge the gulf between downtown Toronto and Lake Ontario (aerial photo, right). The project is sponsored jointly by the Canadian National and Canadian Pacific companies, which now use virtually the entire 190-acre tract for their railroad operations. The plan, drawn up by Architect John Andrews, working as

one of a team of specialists, would be carried out over a 15-year period, with the participation of city, province, and national governments (all of which are now reviewing the proposal).

Most of the site lies in a strip $1\frac{1}{4}$ miles long, between Front Street and the lakefront Gardiner Expressway (below). In the plan, a two-block addition extends beyond Front Street into the present

downtown area. Removal of the railroads' freight and maintenance operations allows for construction of new commuter and long-distance passenger stations adjoining the expressway, freeing acreage near Front Street for intensive, multilevel development.

At the crossroads of Metro Centre is a transportation interchange and a broadcasting complex. The transportation hub includes the



new railroad stations, connected to a bus terminal, an extension of the subway system, and parking garages for 1,300 cars. Television and radio communications are served by a complex of offices and studios and a 1,575-ft. transmission tower—a new headquarters for English-language broadcasting in Canada.

East of the transportation center is a hotel-convention-trade mart complex and an office build-

ing cluster of six octagonal towers, 18 to 36 stories in height, joined by lowrise office-commercial structures—adjoining the present downtown office district.

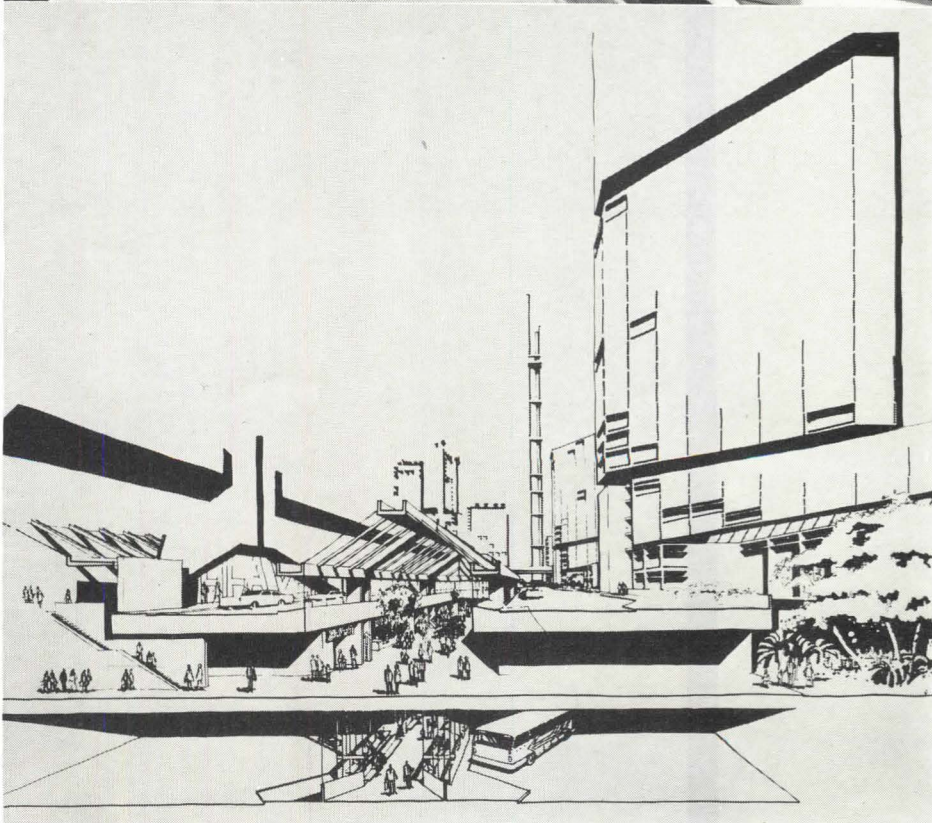
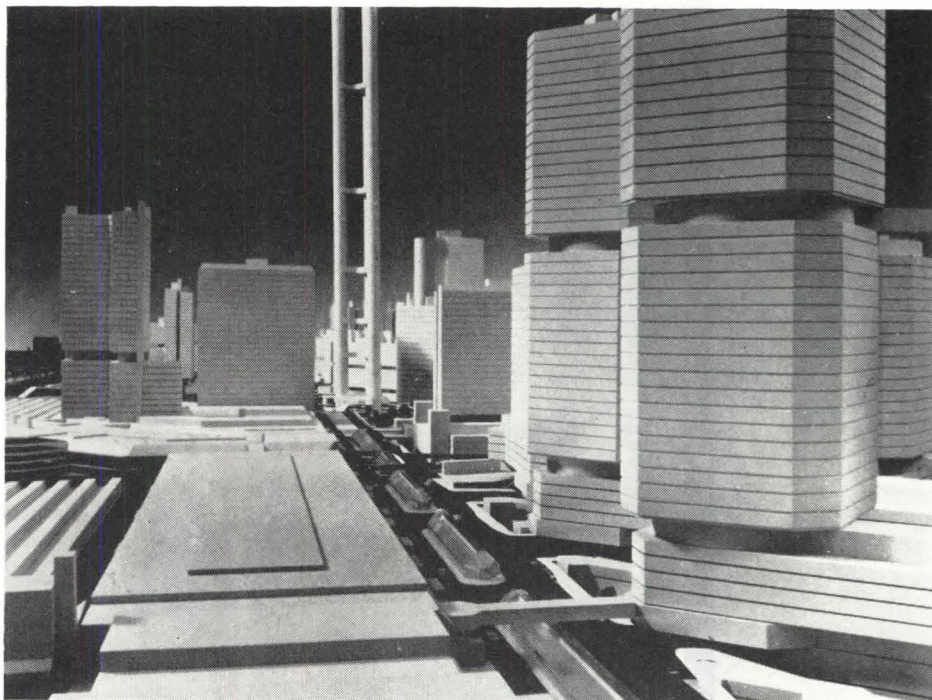
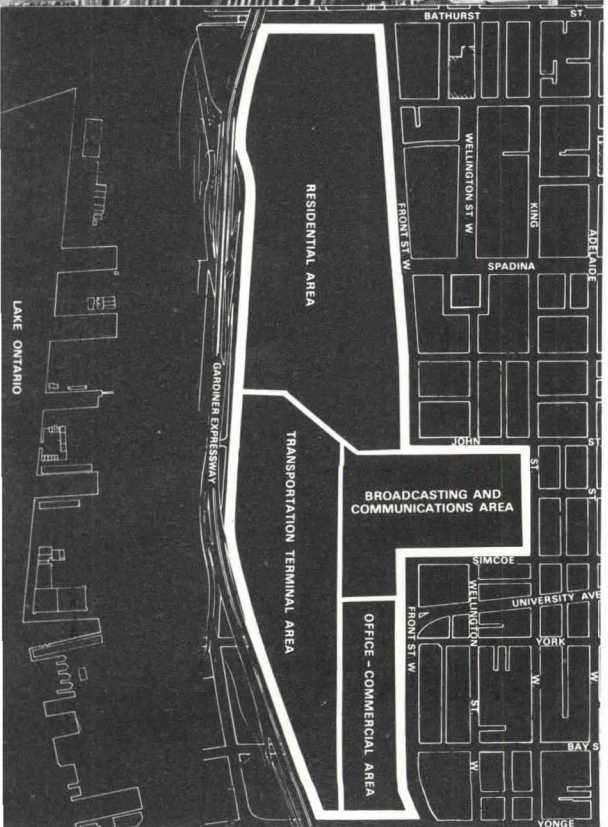
West of the broadcasting center is a residential development which will house an estimated 20,000 people in 9,300 units. Tall apartment slabs with sweeping views of the city and the lake rise from multistory platforms containing

parking, social, and commercial facilities. Terraced row houses on the south sides of these lower structures face out across open green spaces toward the lake.

The spine of the entire project will be a new east-west thoroughfare to be known as the Esplanade (model photo and section below). This multilevel street consists of a pedestrian concourse linked to train and bus terminals below, and

roofed by a divided boulevard for local automobile traffic.

Both of the sponsoring companies have already had solid experience in urban development. Canadian National was one of the participants in the development of Place Ville Marie and Place du Canada in Montreal; Canadian Pacific is now involved in plans for renewal on the Vancouver waterfront and in downtown Calgary.





Have we spread our "Bubble" too thin?



We've simply made more of its well-rounded shape. We did it with new pedestals, new materials, even a new molding technology for shaping rigid urethane to the seamless Bubble form. And a new, wider, price range—starting much lower to fit more contract situations. It's all in our new catalog at all our galleries New York, Chicago, Los Angeles, Dallas, Grand Rapids or write Stow/Davis, Grand Rapids, Michigan 49502. Dept. 411

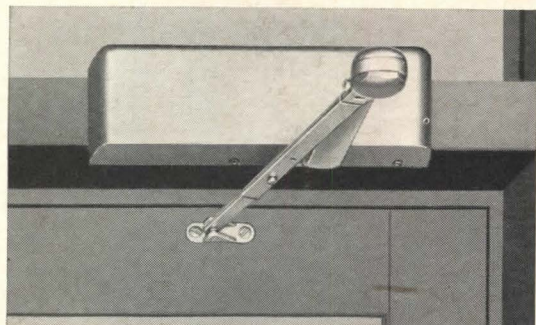
SD
STOW/DAVIS

At fifty below "x" can't be an unknown

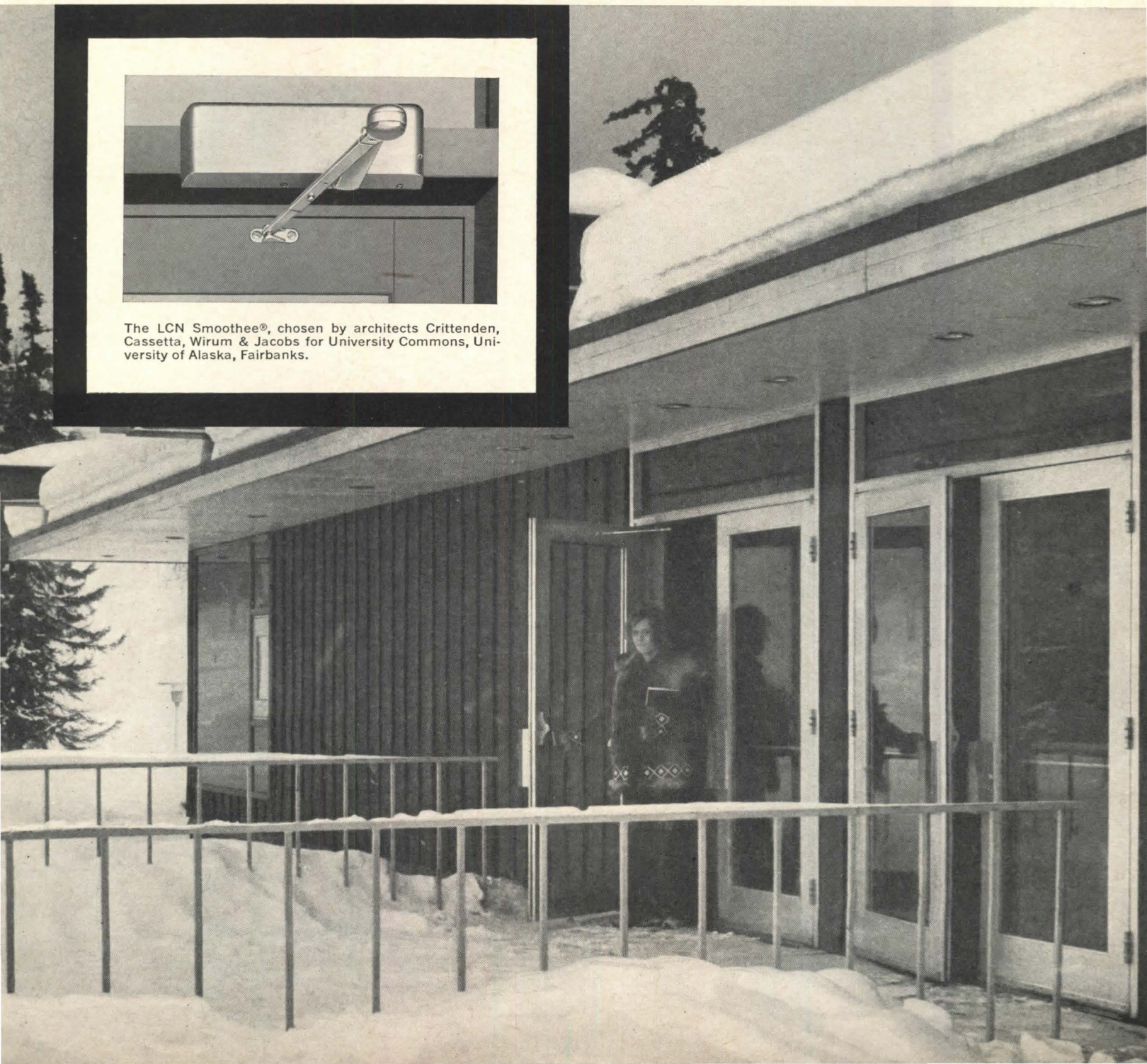
The temperature sometimes drops to fifty below at the University of Alaska in Fairbanks. When it does, it is imperative that their door closers work and work right. LCN "Smoothees" are doing the job.

The hydraulic fluid LCN uses is called "X" Liquid but it is not an unknown quantity. It maintains its fluidity at all temperature extremes; keeps LCN Closers operating as smoothly in Fairbanks as they do in Florida. "X" Liquid in itself could be reason enough for specifying "Smoothees." Add good looks, superb engineering, simple installation. It all adds up to the surface-mounted closer favored by architects and owners alike. Look up LCN in Sweet's. Or write: LCN Closers, Princeton, Illinois 61356.

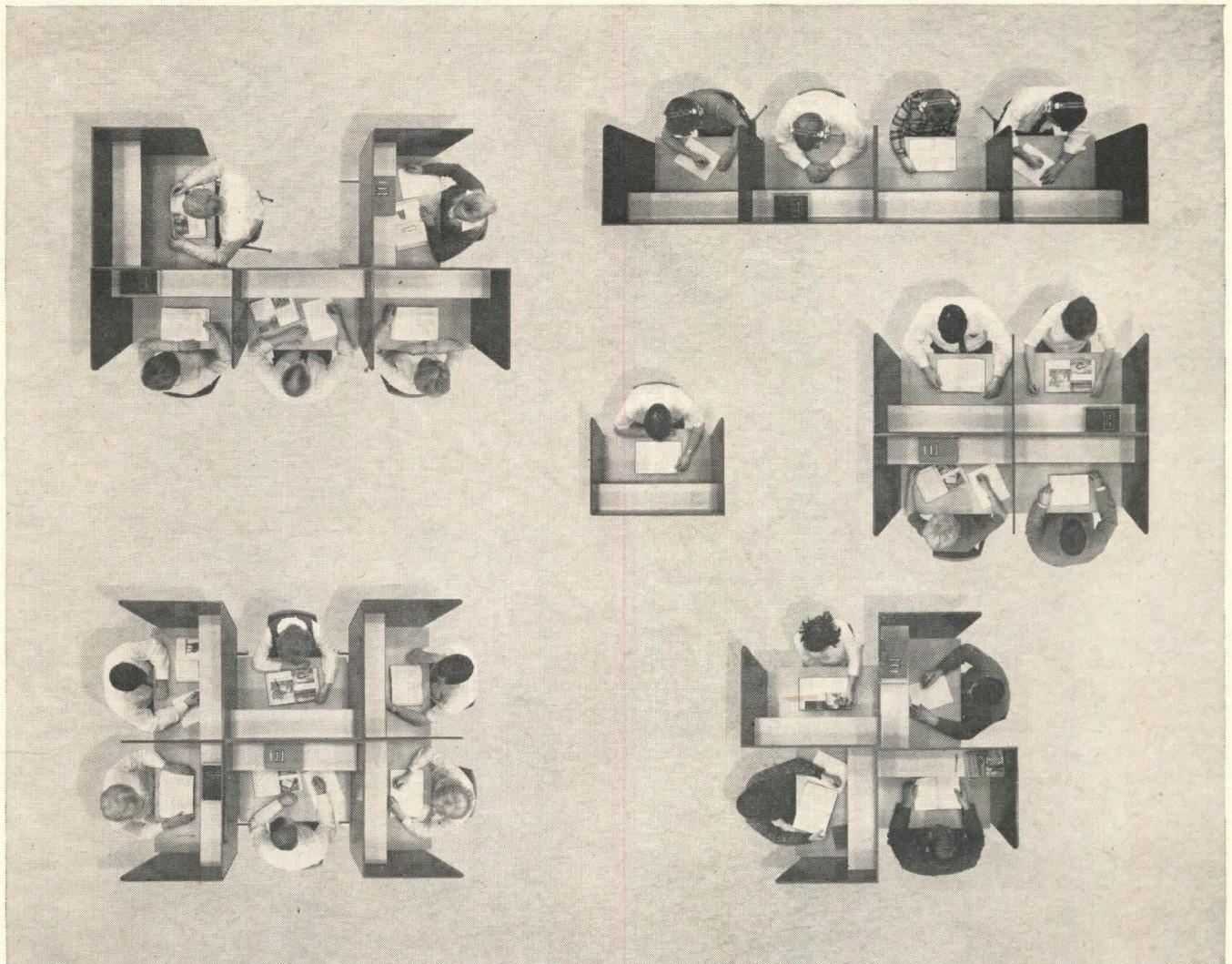
LCN
DOOR CLOSERS



The LCN Smoothee®, chosen by architects Crittenden, Cassetta, Wirum & Jacobs for University Commons, University of Alaska, Fairbanks.



How to be alone in a crowd.



Just before that English mid-term, trig final, or any time the situation calls for "booking it", a student studies best when he's alone. But around test time, libraries and study lounges are mighty popular and crowds form fast. That's where the American Seating Study Carrel comes in — to shut out noises and distractions. Why American Seating? The big plus is flexibility. Name the study situation — then arrange our Study Carrels to fit it.

There's more: an attractive Amerex® side and front panel and a durable, easily cleaned Corktone Amerex writing surface. The offset pedestal standards let a student slide in and out with ease, and give him more leg room once he's seated. Carrels are available in a variety of models and may be equipped for communication with electronic resource centers.

Help students get out of the crowd with our easily installed Study Carrels. Talk to your American Seating educational equipment specialist or write to **Department AF-658-A, American Seating Co., Grand Rapids, Michigan 49502.**



You want your building at the lowest possible cost.

It may take our most expensive glass to do it.

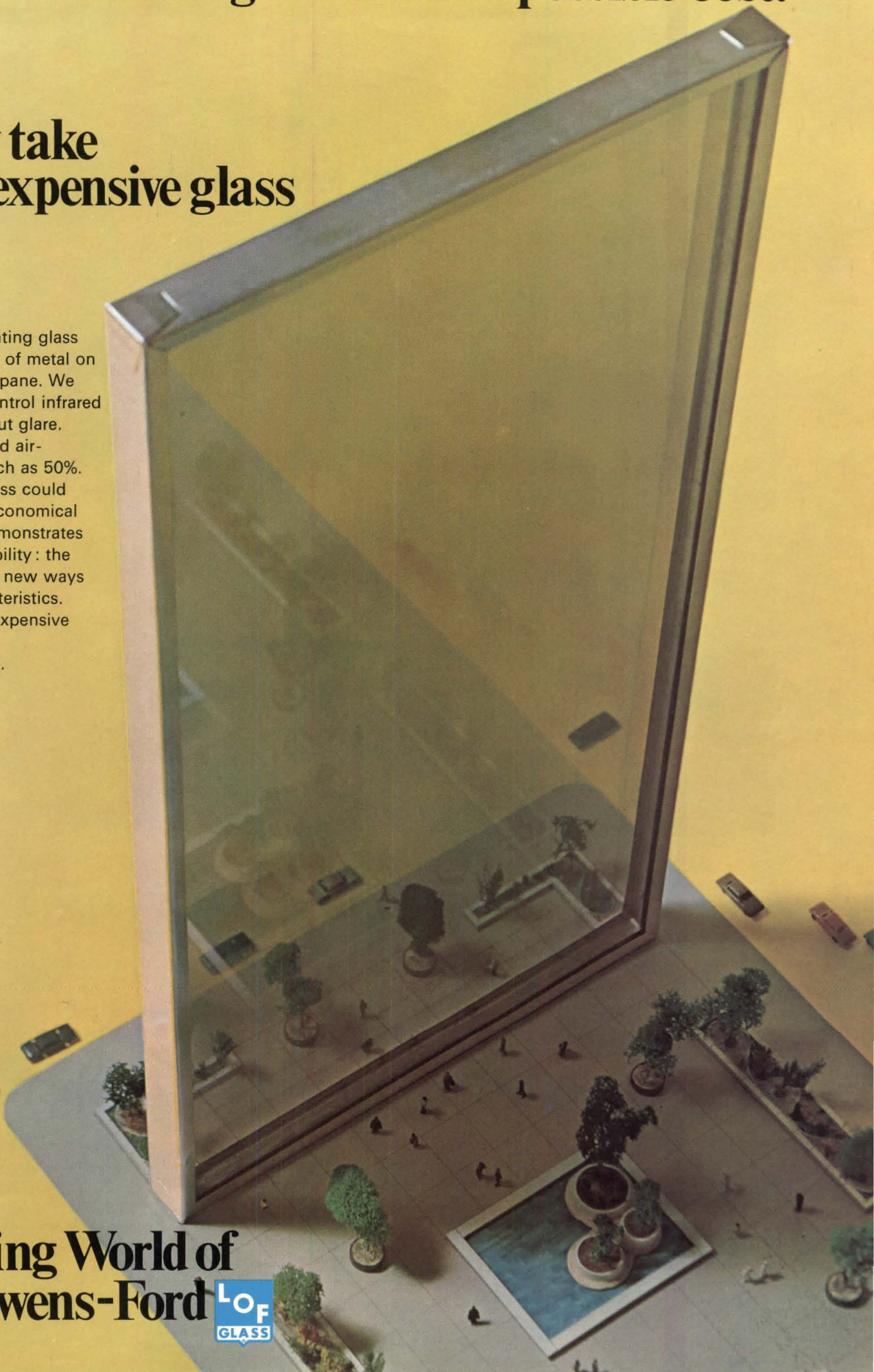
It's more than glass.

It's Thermopane® insulating glass with a micro-thin coating of metal on the air-space side of one pane. We control this coating to control infrared and ultraviolet rays and cut glare. And to reduce heating and air-conditioning costs as much as 50%.

Our most expensive glass could turn out to be the most economical you can specify and it demonstrates an important L-O-F capability: the combining of materials in new ways to achieve desired characteristics.

Incidentally, our most expensive glass isn't that expensive.

Libbey-Owens-Ford Co.
Toledo, Ohio 43624.



The Growing World of Libbey-Owens-Ford





Kern Plaza, El Paso, Texas

Architects: Fouts, Langford and Associates, El Paso, Texas

Create an oasis with PLEXIGLAS®

A tranquil oasis for weary shoppers was created practically and with economy in this shopping center with a series of transparent domes of PLEXIGLAS acrylic plastic.

A new solar control color of PLEXIGLAS filters the sun's heat and glare from the daylighted area. The bronze PLEXIGLAS used transmits 27% of visible light and filters 65% of total solar energy, providing maximum comfort.

The skylight assembly spans 26' and is 104' long. It consists of 104

individual domes, each measuring 4' by 8'. The light weight and rigidity of PLEXIGLAS plus sound engineering of the frame permit the assembly to be self-supporting.

PLEXIGLAS has year-round resistance to weather, breakage and discoloration. It is an approved safety glazing material.

PLEXIGLAS offers many advantages for daylighting any type of building. For more ideas and data on PLEXIGLAS, send for our brochure, "Transparent PLEXIGLAS Solar Control Series".

Plexiglas
is made only by
ROHM
AND
HAAS
PHILADELPHIA, PENNSYLVANIA 19105





Ask Me about LOW COST movable walls!

"The products I specify must be quality because our clients demand that they provide long-lasting service with minimum maintenance. In movable walls, this is particularly significant because the wall must provide required sound control, yet open and close easily, have an attractive appearance and operate many times a day, week after week."

That's why Richards-Wilcox movable walls are specified for so many schools. The wall opens and closes effortlessly on heavy-duty ball bearing hangers in heavy-duty ceiling track. Maintenance is

almost completely absent because of the total mechanical design without troublesome hydraulic, pneumatic or "gadget" systems. And the wide selection of attractive panel finishes and accessories provide a wide degree of decorative and functional flexibility.

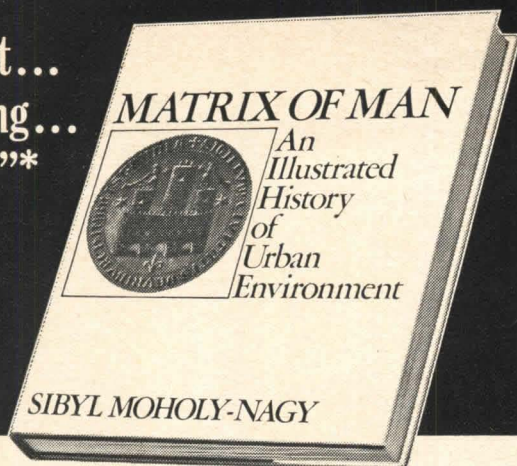
So, if you're considering a movable wall for your next school job, write us! Your R-W Sales Engineer will contact you and assist you where possible. In addition, he'll deliver our latest movable wall information—including Bulletin A-600.

MAKE NO PRICE CONCESSION WITH QUALITY... CONSULT



Richards-Wilcox
MANUFACTURING COMPANY
110 THIRD STREET • AURORA, ILL. 60507

"Brilliant...
sparkling...
erudite."*



In this magnificent volume, the Professor of Architectural History at Pratt Institute traces 7,000 years of urban environment, from man's first large settlements to the satellite cities of the future.

"Demonstrates with passion and great imagination the deep needs of people (even in the 20th century) to organize their surroundings into a meaningful whole." — PAUL RUDOLPH.

"A brilliant tour de force, an erudite, always sparkling, often outrageously subjective, kaleidoscopic view of cities. . . . Superbly illustrated." — *WOLF VON ECKARDT, Staff Architecture Critic, *The Washington Post*.

307 pages, 343 illustrations, bibliog., plans, maps, index.

\$15.00 at your bookstore

FREDERICK A. PRAEGER, Publishers
111 Fourth Avenue, New York, N. Y. 10003

CHANGING YOUR ADDRESS?

We need those numbers on the address label. They help speed up the change—for which please allow up to six weeks.

(Affix old address label below—or fill in former address)

| |
|--|
| |
| |
| |
| |
| |

(New Address)

| | |
|---------|-----------------------------|
| NAME | _____ |
| FIRM | _____ |
| ADDRESS | _____ |
| CITY | _____ STATE _____ ZIP _____ |

Also, if you write us about your subscription, be sure to give both old and new addresses, the type of subscription and your ZIP code.

Cut out and mail to: Circulation Manager, Architectural FORUM
111 West 57th Street, New York, N. Y. 10019

Free 16 page industrial door catalog!



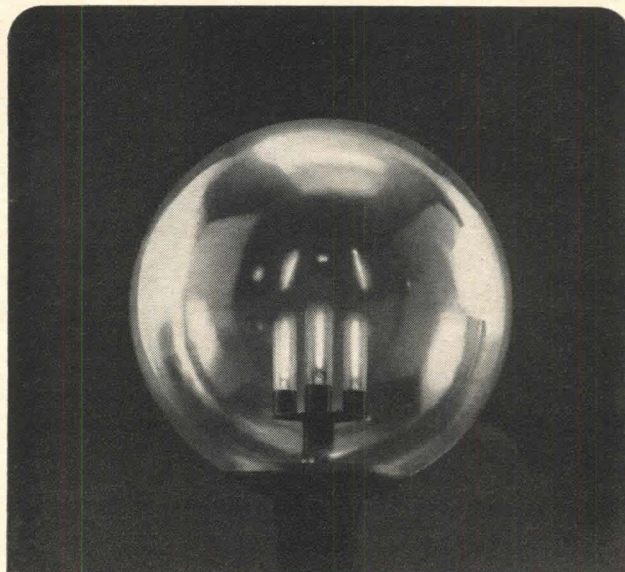
Yours for the asking

A must for your files . . . this is the most comprehensive industrial door catalog ever issued! It contains descriptions, specifications and diagrams of power-operated and manual, single and double-horizontal sliding, bifold, vertical sliding and double-swinging and industrial doors for the control of traffic, handling of material and the elimination of drafts and noise. Write or call for your FREE copy now!



Dept PE-1
69 Myrtle St.
Cranford, N. J.
(201) 272-5100

Doorway specialists since 1878



outdoor chandelier

Capture breakproof elegance with Triad, the glitter of crystal with Ice, the aura of topaz with Amber, the illusion of torchlight with Fire. CHANDELIER post-tops from Stonco. Let us help you select.

STONCO ELECTRIC PRODUCTS CO.
KENILWORTH, NEW JERSEY 07033 © 1969



Ask Me

about
QUALITY
in
movable
walls!

"When I call for a vote from the school board on any purchase, I want to be sure that I get 'real value'. In movable walls, it's not just the initial cost that must be considered, but all the hidden costs of repairs and maintenance over the years that might be necessary to keep the movable wall working. In the long run, the quality product has the lowest overall cost."

That's why R-W movable walls are specified for so many schools. They're quality built. The R-W Wall

rides free and clear on ball-bearing hangers that glide in heavy-duty ceiling track. It's completely free of any floor contact; no floor track, guides, slides or "gadgets." Maintenance costs are the absolute minimum semester after semester.

So, if you're considering a movable wall for your next school job, write us! Your R-W Sales Engineer will contact you and assist you where possible. In addition, he'll deliver our latest movable wall information—including Bulletin A-600.

MAKE NO PRICE CONCESSION WITH QUALITY . . . CONSULT



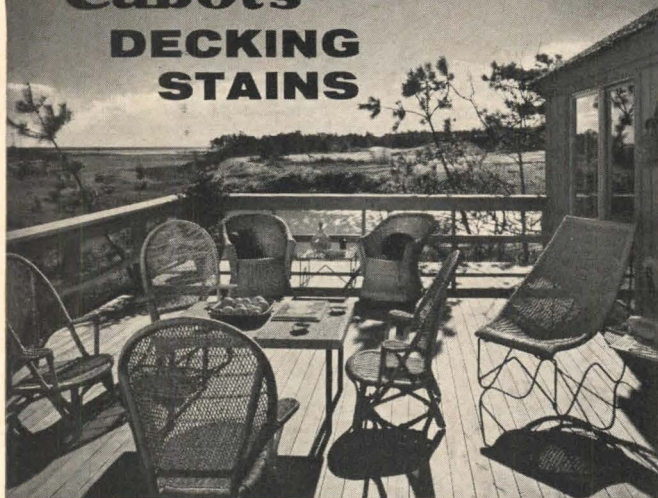
Richards-Wilcox

MANUFACTURING COMPANY

110 THIRD STREET • AURORA, ILL. 60507

New ... for Wood Decking

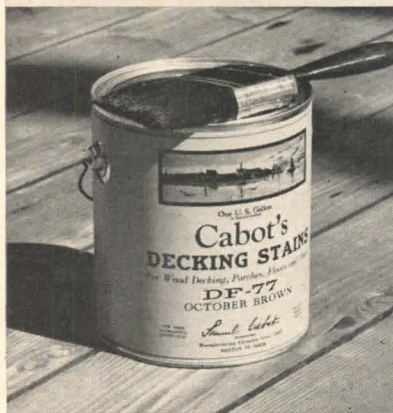
Cabot's DECKING STAINS



Home at New Seabury, Cape Cod, Mass.; architect: Royal Barry Wills & Associates, Boston, Mass.; developer: Emil Hanslin Associates, Melrose, Mass. Cabot's Stains used on Interior and Exterior.

A finish that stands up to heavy foot traffic and severe weathering.

The popularity of wood decking, in demand now as never before for porches, sun decks, patios, etc., requires a finish both durable and decorative. Samuel Cabot Inc. answers this pressing need with a new product, Cabot's Decking Stains. It is a product with a specific purpose . . . protecting, preserving, and beautifying wood surfaces under difficult conditions. Now, for the first time, it is possible to obtain a durable stain finish for wood decking.



- Economical: easy to apply and maintain.
- Will not rub off or track off.
- Alcohol and detergent resistant.
- Suitable for all types of wood.
- Resists cracking, peeling, and blistering.

Available in ten colors: Bark Brown, Smoke Gray, Chelsea Gray, October Brown, Forest Green, Farallon Gray, Presidio Red, Cordovan, Redwood, and Black.

SAMUEL CABOT INC.

231 S. Terminal Trust Bldg., Boston 10, Mass.

Please send color card and information on Cabot's Decking Stains.

Is Your Blood Pressure HIGH?

Most cases of high blood pressure, leading cause of heart attack and stroke, can now be controlled.

Protect yourself two ways: visit your doctor, and support your Heart Association's lifesaving program of research education and community service.



GIVE
so more will live
HEART FUND

Contributed by the Publisher



Harmonious
base for the
Philharmonic.

Terrazzo with MEDUSA WHITE.

Harmony and beautiful music are synonymous with Philharmonic. And at the Philharmonic, Medusa White provides the harmonious base for the terrazzo floor. When you design with terrazzo in mind, specify Medusa White for aesthetic, enduring, economical floors, walls, wainscots, and stairways.

Write for 12-page color brochure.
Medusa Portland Cement Company,
P. O. Box 5668, Cleveland, Ohio 44101.



© 1968 Lincoln Center for the Performing Arts, Inc.

PHILHARMONIC HALL, LINCOLN
CENTER FOR THE PERFORMING ARTS,
New York, N. Y. Architect: Harrison
and Abramovitz, New York, N. Y.
Gen. Contractor: Turner, Walsh,
Fuller & Slattery (Joint Venture),
New York, N. Y. Terrazzo Contractor:
Foscato, Inc., Long Island City, N. Y.



MEDUSA

 PORTLAND CEMENT COMPANY

White and Gray Portland Cements • White, Gray and Custom Color Masonry Cements • "CR-85 Series"® ChemComp® Cement

Ace Corspan[®] sidewall panels

Rugged elegance and goes up fast, too.

Economical, distinctive Ace Corspan sidewall panels have the look and feel of natural stone, but without the veins, stratifications or weak spots. The hollow core feature of Ace Corspan combines the advantages of high strength and relatively low weight. Two men can handle most panels easily. The hollow core also affords insulating value which can be still more effective by filling the cores

with standard insulating material. Tongue and groove joints require caulking on the outside only, allow fast, simplified modular construction. And

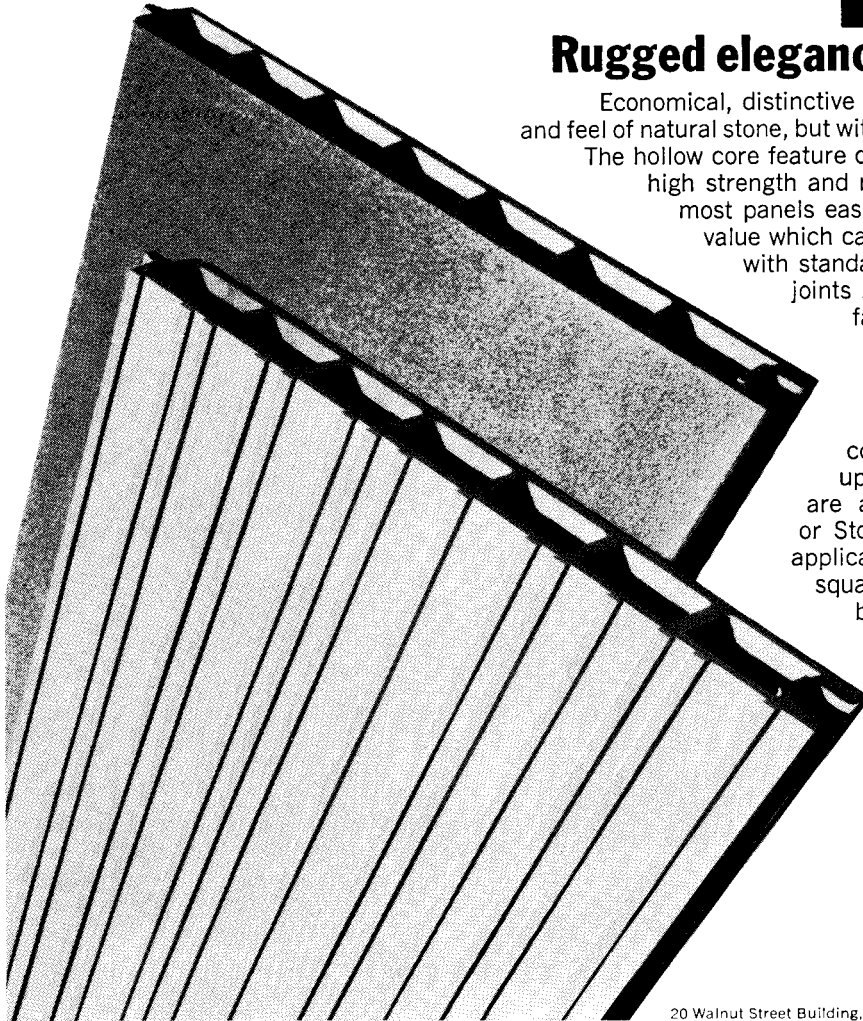
vertical spans to 15 feet are practical without intermediate girts. And because

of their asbestos-cement construction, Ace Corspan panels resist fire, weather, rot and corrosion. Result? Long service with little upkeep. Smooth or ribbed surface patterns

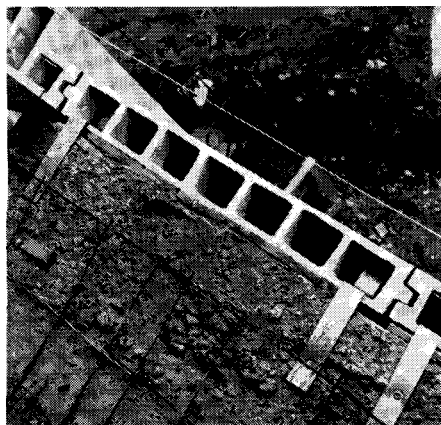
are available in sand-blasted in Meerschaum or Stone Gray or in sand finish in Smoke. For applications such as fins or mullions, panels with square edges in lieu of tongue and groove can be supplied. For more information on Ace

Corspan sidewall panels, write: Johns-Manville, Box 290BI, New York, New York 10016. Also available in Canada. **JM**

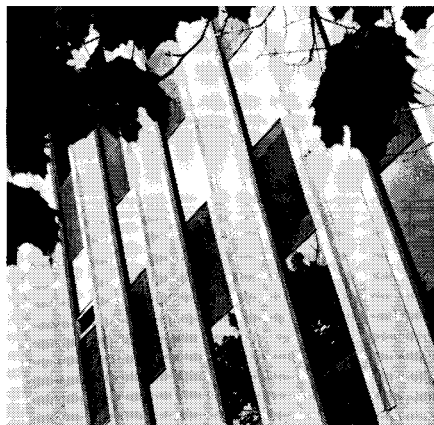
Johns-Manville



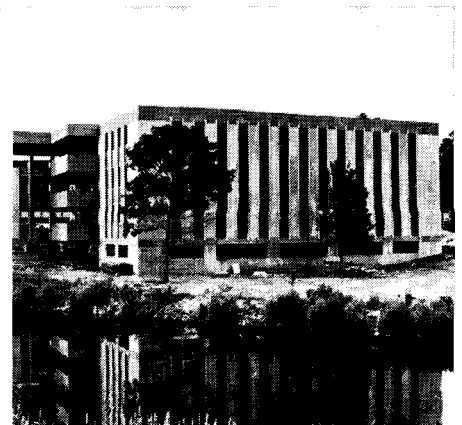
20 Walnut Street Building, Wellesley, Mass. Architect: Donaldson Ray McMullin Associates.



Construction photo shows tongue and groove arrangement of Ace Corspan panels and specially extruded Corspan mullions.



Thermal pane glass was inserted directly into the mullion slot using glazer tape and a neoprene wedge gasket.



Over-all view of structure reveals pleasing contrast between Ace Corspan panels and Ace Colorlith[®] window spandrels.



Literature illustrating and describing Republic lockers and colors available sent promptly.

The "wish to learn" starts here

The important thing is not so much that every child should be taught as that every child should be given the wish to learn.

John Lubbock*

A school is an institution, right? Wrong. Nor should it look like one. Stultify a promising young mind with drab, oppressive surroundings? Never. Leading educators and architects and Republic progressed to this philosophy years ago. Today, Republic "Decor 19" school lockers *in colors* are as exciting as the new audio-visual teaching aids, the open study areas, the carpeted classroom. Use them with imagination. Mix colors and

styles. Box lockers as "vanities" in girls' dressing rooms. As dividers in multipurpose open areas. In your choice of 19 decorator-selected colors everywhere, to help the children *want to be there*.

Isn't that where the "wish to learn" begins?

*1st Baron Avebury, British archaeologist and man of science (1834-1913). Author of numerous books and essays, including a compilation known as "Lubbock's Hundred Best Books."

**REPUBLIC STEEL
MANUFACTURING DIVISION**

YOUNGSTOWN, OHIO 44505



Mr. and Mrs. T. J. Ryan, Residence, Columbus, Ohio
Architect: McGee and Albert, AIA
Builder: Rankin & Thoman



If you're looking for quality get Malta's price first

Compare Malta Wood Windows with any name brand you've used. Feature for feature, Malta equals or exceeds any window on the market. Then check the competitive price. You'll know why we're celebrating a 270% growth in ten short years.

Check the quality, the service behind our product and the favorable central location that eliminates long distance shipping when you're in a jam. Get to know our growing family of qualified distributors and dealers. Find out what Malta can do for you.

Malta offers a complete line: double hung, casement, awning and hopper type vents, glide and a variety of picture window units; patio doors with velvet smooth action. Malta's popular insulating glass seals out noise and climate conditions. Vinyl boot glazing typifies the quality Malta incorporates in these windows.

Write for free catalog. Malta Manufacturing Company, 261 Johnstown Road, Gahanna (Columbus) Ohio 43020.

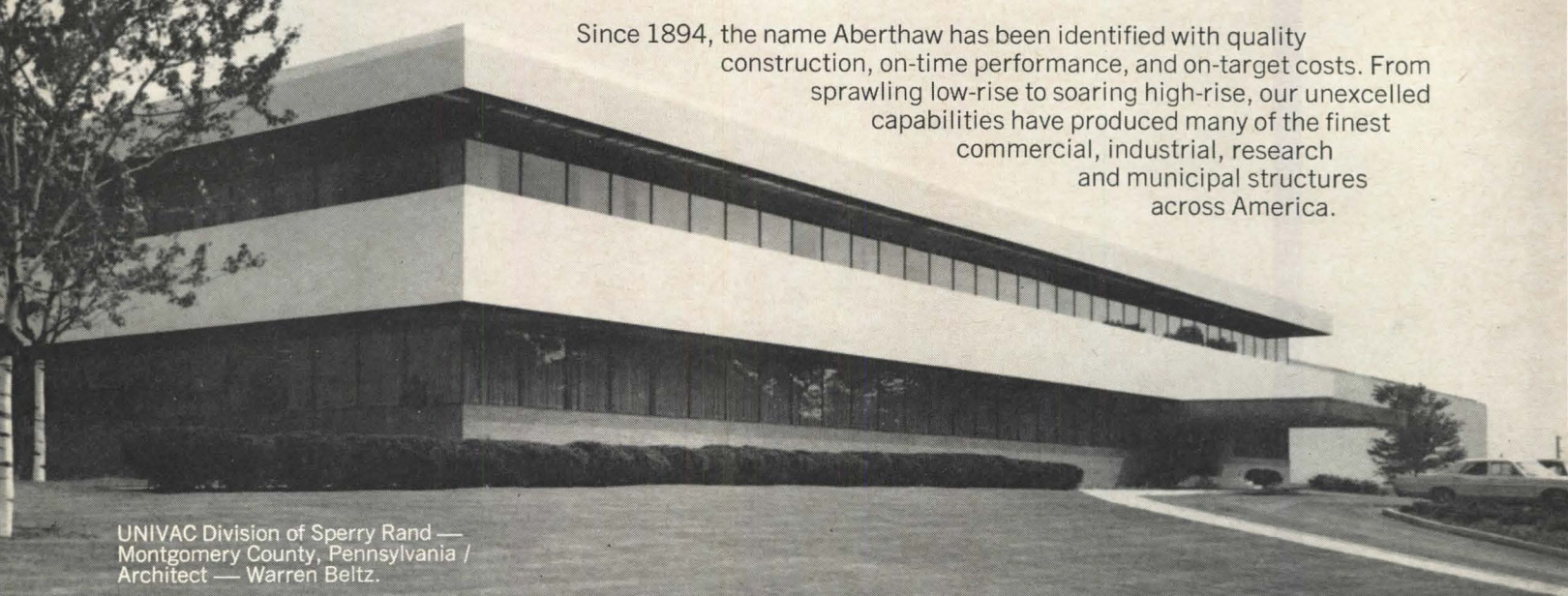


Washington Square Apartments, Columbus, Ohio • a CONVEST community • Architects: Liebersbach Swiatek & Grutsch, Columbus, O.

Malta

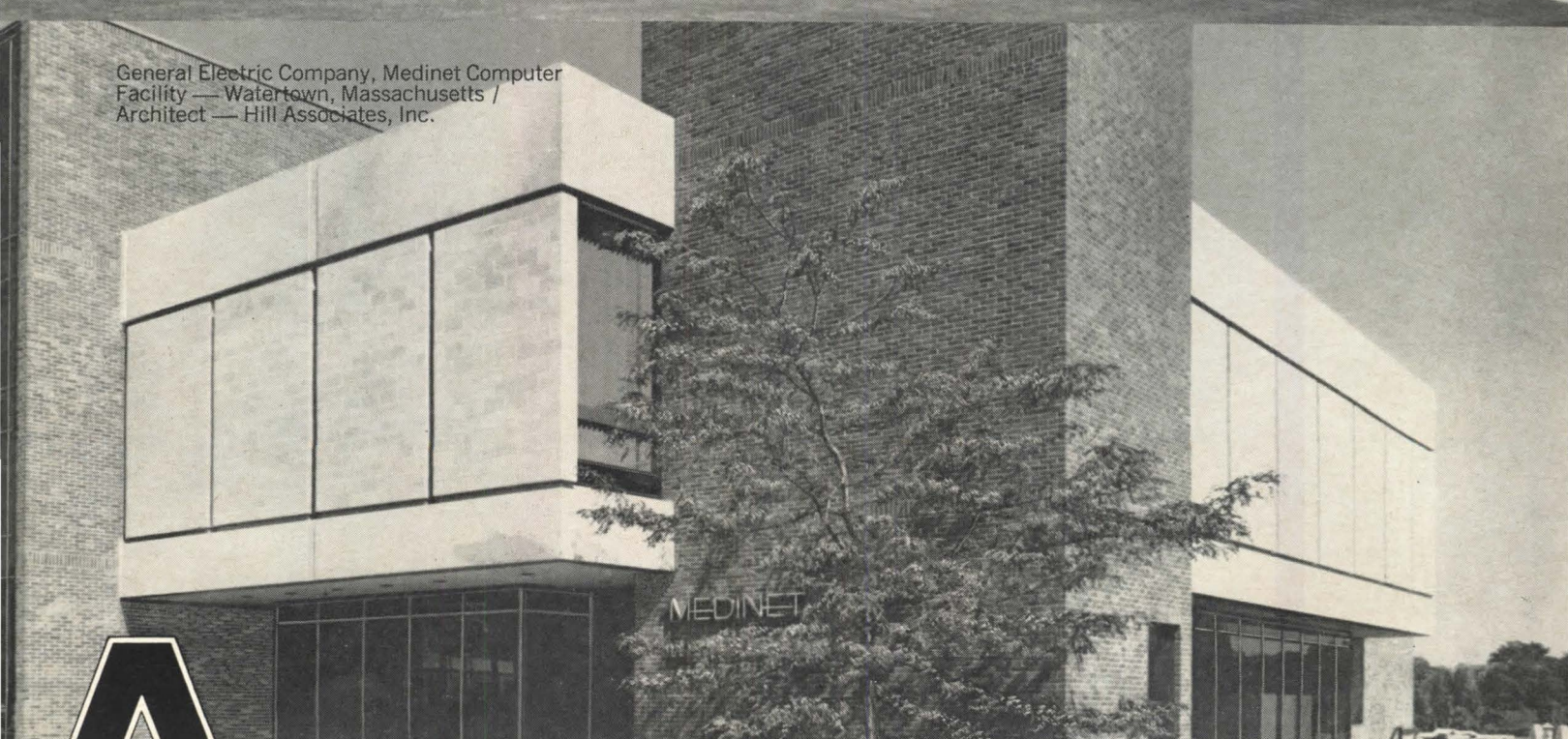
Celebrating ten years of consistent growth

Technically speaking, we've made a science of construction



Since 1894, the name Aberthaw has been identified with quality construction, on-time performance, and on-target costs. From sprawling low-rise to soaring high-rise, our unexcelled capabilities have produced many of the finest commercial, industrial, research and municipal structures across America.

UNIVAC Division of Sperry Rand —
Montgomery County, Pennsylvania /
Architect — Warren Beltz.



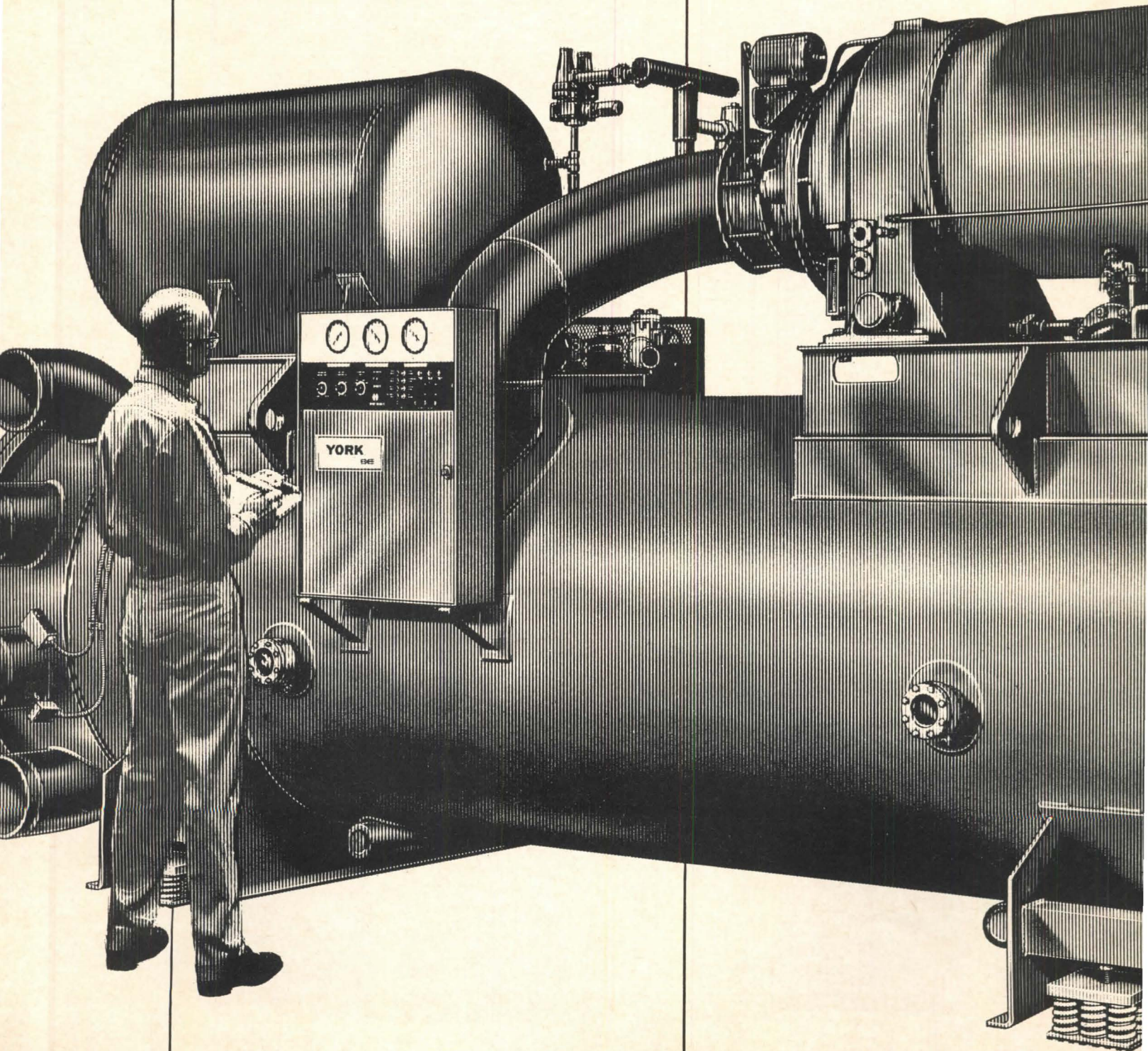
General Electric Company, Medinet Computer
Facility — Watertown, Massachusetts /
Architect — Hill Associates, Inc.



ABERTHAW CONSTRUCTION CO.

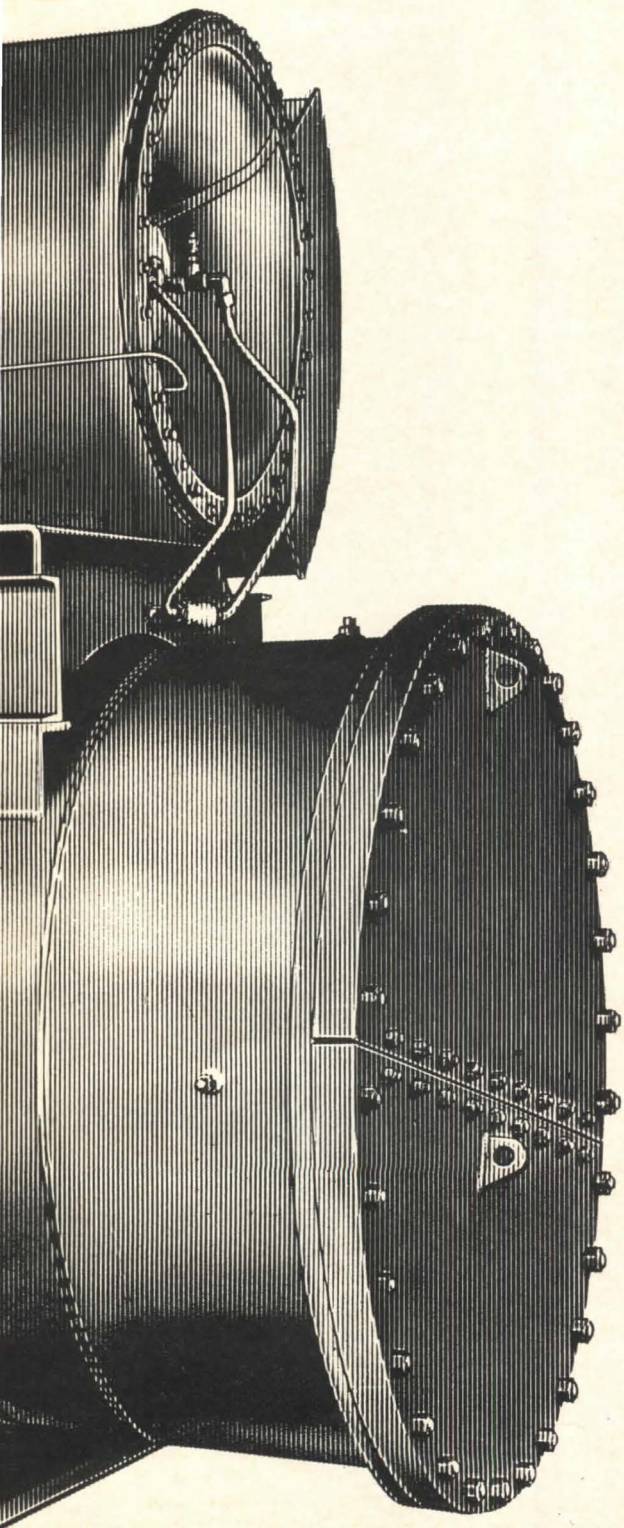
60 State Street, Boston, Massachusetts 02109 / South San Francisco, California / Philadelphia, Pennsylvania / Washington, D.C.

The York Turbopak: First factory-packaged liquid
Yet it takes less than half the space required by



chiller up to 1,000 tons! comparable competitive units.

YORK BUILT THE INDUSTRY'S FIRST FACTORY PACKAGE—and the newest hermetic and open Turbopaks represent another major "first" for York. These superbly engineered machines have been available in 19 smaller capacities—both hermetic and open—from 90 to 600 tons.



8 new models—from 670 to 1030 tons. Completely factory assembled, piped, wired, evacuated and tested—with a holding charge of refrigerant.

When you specify a centrifugal liquid chilling system, the York Turbopak—now offered in capacities to 1030 tons—assures you of dependable performance... as its forerunners, the smaller units, in capacities to 600 tons.

More importantly, York's latest Turbopak gives you the advanced design features... the careful and precise use of space... that puts over 1000 tons of capacity in a chiller that takes *half the space*... in floor area or in cubic feet... required by comparable machines!

Size alone is not the entire York Turbopak story! Rigging is simplified; no structural or concrete bases needed. The electronic control center is simplified. And *all* interconnecting control and auxiliary power wiring is factory-assembled. There's an absolute minimum of job-site work. And, York's advanced engineering assures you of years of trouble-free service, optimum performance under all job conditions. Mail the coupon today for specification data on York's newest, large capacity centrifugal liquid chillers. York Division of Borg-Warner Corporation, York, Pennsylvania 17405.

YORK

DIVISION OF BORG-WARNER CORPORATION



YORK DIVISION, BORG-WARNER CORP.
York, Pennsylvania 17405

AF 19

Yes, I'd like Specification Data on York's hermetic and open Turbopak chillers in the 670 to 1030-ton capacity range.

NAME _____

COMPANY NAME _____

STREET ADDRESS _____

CITY _____ STATE _____ ZIP _____

Textured Steel



+



Super- Core

Get the benefits of both with Amweld's New Textured Steel Super-Core Door



It's here...in time for use in your next apartment building, motel, nursing home, office building, or anywhere a good-looking high-frequency door is required! Amweld introduces the new **Amweld Textured Steel Super-Core Door**... a new door that couples beauty with outstanding performance and durability.

Embossed Leather Grain Texture, deeply patterned in flat 18-gauge cold rolled steel face panels, provides additional strength and rigidity... superior mark and scuff resistance... and excellent finish-paint adherence. The result: an unusually attractive door for high-frequency applications.

Amweld's "Super-Core", the new pre-cured expanded foam core (immovably bonded to the textured steel face panels), is rated as self-extinguishing... resistant to moisture, vermin, rot and mildew... low heat transmission... and superior sound retardation.

Available in full-flush or absolutely seamless 1-3/8" or 1-3/4" thicknesses with enclosed top and your choice of hardware preparations. A wide variety of standard sizes and designs (for both single and double openings) is available from your Amweld Distributor, who can easily and accurately adapt any standard design to your specifications.

Want complete details and specifications? Call your local Amweld distributor. He's listed in your Yellow Pages under "Doors-Metal". Or write Amweld direct for a prompt reply!



AMWELD [®] *"clean line"*
METAL DOORS AND FRAMES

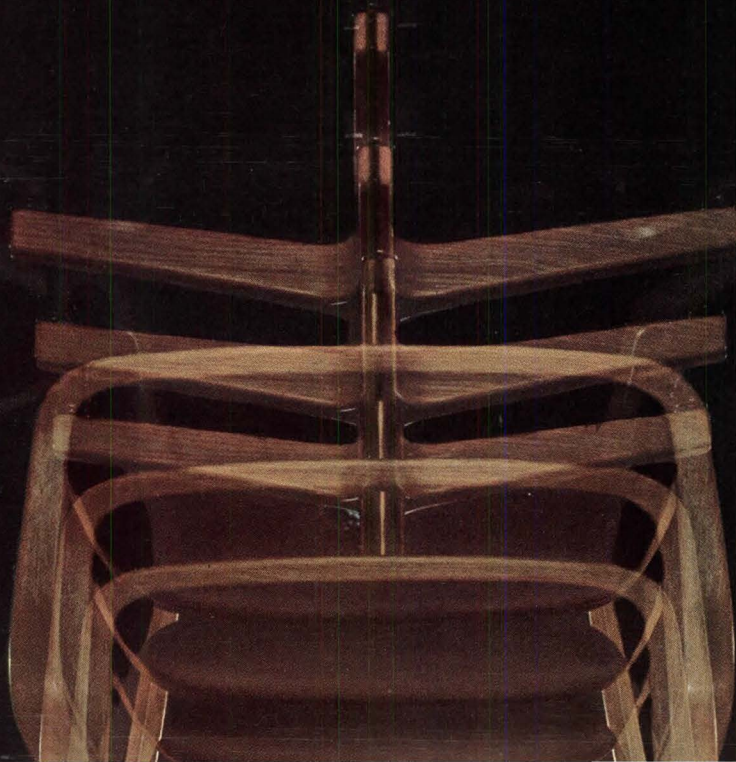
720 Plant Street, Niles, Ohio 44446

A division of

The American Welding & Manufacturing Company, Warren, Ohio



**Variation on a theme.
Knoll's original Petitt Chair is comfortable,
versatile, and a masterpiece of design.
The new one also swivels.**





Underneath it all, the strong, silent kind

Specify structural sub-flooring and resilient carpet underlayment, all in one product, one fast application.

With rubber pad and 44-ounce carpet, lab tests proved an Impact Insulation Class of 72. Sound Transmission Class of 50. This is superior sound-control construction.

And—it's insulating, draft-free construc-

tion. All edges are matched tongue and groove. Panels are nominal 2' x 8', weigh only 48 pounds.

Made with three plies of wood-fibre Homasote building board, laminated with a waterproof glueline and sanded on the bottom side, 4-Way Floor Decking is installed directly on joists 16" o.c.

It's stocked at building material suppliers from coast-to-coast.
For free samples and literature, call your local supplier,
or write Homasote, Dept. AF-2.



homasote *Company*

The Seven Arts Book Society offers you these beautiful books on the arts—veritable treasures whose value grows through the years—at considerable savings.

If you appreciate and want to own the finest books on the arts you will find membership in THE SEVEN ARTS BOOK SOCIETY rewarding.

Each month the illustrated *Seven Arts News* will keep you informed about the most important new books published in a number of fields: Painting, Sculpture, Drawing, Design, Architecture, Music, Cultural History, Urban Design and

others—a wide range from which you can choose books in the particular area that most interests you. Each volume is lavishly illustrated, handsomely printed and bound, and comes to you at substantial savings.

You are invited to join THE SEVEN ARTS BOOK SOCIETY now with any one of the books or sets pictured here and listed below at the special introductory price noted.



Choose any book or set—retail up to \$75—at savings as much as 70%

ANY OF THESE—\$7.95

770. **THE MASKS OF GOD**, Joseph Campbell. Four vol. history of world mythology: Primitive, Oriental, Occidental, and Creative. 2300 pp., illustrated. **Retail \$33.40**
766. **BEYOND MODERN SCULPTURE**, Jack Burnham. Effects of science and technology on sculpture of this century. 416 pp. 7 3/4" x 9 1/4". 135 ills. **Retail \$15.00**
755. **WILLIAM BLAKE'S SONGS OF INNOCENCE AND SONGS OF EXPERIENCE**. All 54 original plates reproduced in full color. **Retail \$20.00**
767. **THE WORLD OF MARC CHAGALL**, Roy McMullen. Photographs by Izis Bidermanas. 268 pp. 10" x 13". 69 reproductions, 35 in color. 92 documentary photos, 13 in color. 8-page foldout. **Retail \$25.00**
768. **NEW DIRECTIONS IN ARCHITECTURE**. First 4 volumes in new ongoing series. British, German, Italian and Japanese architecture. Over 500 pages. 6 1/2" x 9 1/2". More than 400 photographs and plans. Texts by practising architects. **Retail \$23.80**
769. **PLANNING AND CITIES**. First 4 volumes in new ongoing series. *Village Planning in the Primitive World; Urban Planning in Pre-Columbian America; Cities and Planning in the Ancient Near East; Medieval Cities*. Authoritative texts. Over 500 pages. 6 1/2" x 9 1/2". Profusely illustrated. **Retail \$23.80**

ANY OF THESE—\$9.95

771. **THE ROME OF BORROMINI**, Paolo Portoghesi. 464 pages. 9 3/4" x 11". 650 ills. **Retail \$25.00**
772. **AFRICAN ART**, Michel Leiris and Jacqueline Delange. Edited by Andre Malraux and Andre Parrot. 340 pages. 8 1/2" x 11". Over 440 plates, 91 in full color, 11 drawings in 2 colors. **Retail \$29.95**

773. **EGYPTIAN PAINTINGS OF THE MIDDLE KINGDOM: The Tomb of Djehuty-nekht**, Edward L.B. Terrace. 4000-year-old masterpiece of Egyptian art. 224 pages, 11 1/4" x 12 3/4". 91 ills., 51 in color. **Retail \$25.00**
774. **DRAWING: History and Technique**, Heriburt Hutter. **PRINTMAKING: History and Technique**, Kristian Sottriffer. 2 vols., each 10 3/4" x 9". 295 pages. 33 color plates, 43 line ills., 57 photogravure plates, 78 monochrome. **Combined Retail \$25.90**
741. **THE FLOWERING OF ART NOUVEAU**, Maurice Rheims. 450 pages, 8 1/2" x 12". 615 ills. **Retail \$22.50**

SPECIAL OFFERS

717. **THE WORLD OF MUSIC**. Over 1500 pages. 7 3/4" x 9 3/4". More than 5500 entries with over 2000 ills. **Four volume set, retail \$50, yours for only \$15.00.**
775. **PICASSO: THEATRE**, Douglas Cooper. 360 pp., 9 1/2" x 11 3/4". Over 500 ills., 54 in color. **Retail \$25, yours for only \$11.95.**
716. **VISION + VALUE**
I. EDUCATION OF VISION: THE NATURE AND ART OF MOTION; STRUCTURE IN ART AND SCIENCE. 3 vols. ed. by Gyorgy Kepes. Over 450 ills. **Retail \$37.50**
II. THE MAN-MADE OBJECT; SIGN, IMAGE, SYMBOL; MODULE, PROPORTION, SYMMETRY, RHYTHM. 3 vols. ed. by Gyorgy Kepes. Over 500 ills. **Retail \$37.50**
All 6 vols., retail \$75.00, yours for only \$19.95.
718. **GREAT AGES OF ARCHITECTURE**
I. ROMAN, GOTHIC, BAROQUE AND ROCOCO, and MODERN ARCHITECTURE. 4 vols. **Retail \$23.80**
II. GREEK, MEDIEVAL, EARLY CHRISTIAN AND BYZANTINE, and RENAISSANCE ARCHITECTURE. 4 vols. **Retail \$23.80**
All 8 vols., retail \$47.60, yours for only \$15.95.

The Seven Arts Book Society

One Park Ave., New York, N.Y. 10016

You may enroll me as a member of The Seven Arts Book Society and send me the book or set I have indicated, by number, in the box below. Regardless of regular retail price, I will be billed at the special introductory price plus a small charge for postage and handling. In all, I need only purchase four more books in the next year from the many that will be offered at prices substantially less than retail—then I may cancel my membership at any time. My membership will also entitle me to receive free books by responding to the offers explained in my monthly copy of the *Seven Arts News*.

S69-1ARF Indicate, by number, your choice of book or set

Mr. _____
Mrs. _____
Miss _____ (Please print plainly)

Address _____

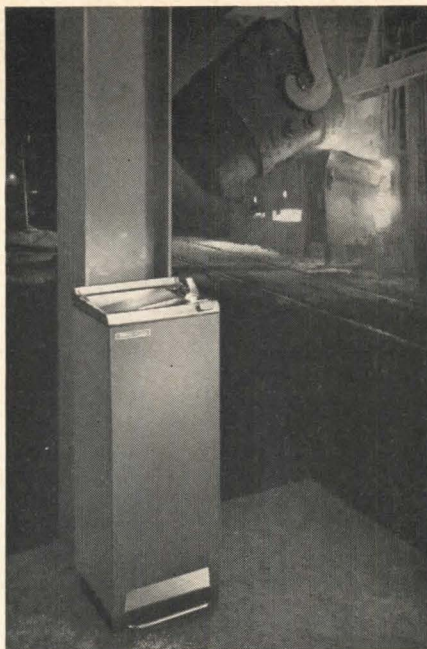
City _____ State _____ Zip _____

Yours FREE
if you enclose payment
with your coupon

MARC CHAGALL THE JERUSALEM WINDOWS
Retail \$7.95

☐ Payment enclosed. Send me Chagall's *Jerusalem Windows* free. (In N.Y.C. add 5% sales tax; in N.Y.S. add 2%.)





(Left) Cordley Water Coolers fit into a school like an "all-A" student; smaller companion fountains serve the little fellows. (Right) Heavy-duty model serves hot and heavy industry.

School, Hospital, Office or Factory... there's a Cordley Cooler that fits!

ANY TYPE of busy building is a better place to be in . . . a better place to work in . . . with a Cordley Cooler close at hand. Select from more than 50 styles, many sizes, many types, and be as meticulous as you will. Plan for today's traffic or for the years ahead. Plan for style-hungry clients or "nuts and bolts" executives. You can do more with a Cordley than you may have dreamed of. The Cordley lends itself to creative planning.

You'll find detailed specifications on the complete line of Cordley quality water coolers in Sweet's Architectural and Industrial Files. Or, we'll send you our complete new Catalog No. C-150.



Over 75 years of specialized water cooling experience

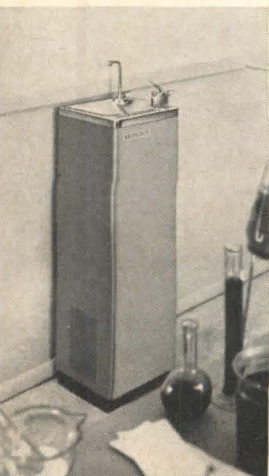
CORDLEY & HAYES

2345 West Maple Road • Troy, Michigan 48084 • Telephone 313/644-5700

Compact units fit small space.
Budget priced, light weight.

"Wall-hung" in all stainless
steel is an ideal hospital unit.

"Semi-recessed" water cool-
ers save space, look smart!



BOOKS

(continued from page 83)

chitecture, although rooted in tradition in its way, does not take part in the *Liebesbund* with historicism; nor does it solidarize with the brutal "facts" of the present urban scenery, which is determined by technology and advertising.

Sert is a European, and his vocabulary was established by modern architecture in the 1920s. The Mediterranean Sea is his origin; this means that the technology of building and the forms of architecture are still a phenomenon closely connected with the laws of nature, i.e., with physical space as illuminated and made visible by the sun, just as he works with the winds and climates of nature rather than with the air currents blown from the air conditioner.

Thus his concern for placing volumes in space, for articulating walls with concrete screens, which, as Giedion points out in his introduction, often recalls the wooden screens of Moorish Spain rather than Corbusier's massive sunbreakers.

While Sert seems to work under a Mediterranean sky, he is standing on the ground of modern art. He has almost as many friends among the leading artists of our century as had his aunt, Misia Sert, whose memoirs are still fascinating reading for everyone interested in the Parisian art world between 1900 and 1930. He built a house for Braque in Venice, in the South of France; Mirò's atelier in Mallorca (1955) may be his most beautiful; and the *Fondation Maeght* in St. Paul de Vence (1959-64) is undoubtedly the most famous proof of Sert's concern for a creative *synthèse des arts*.

In addition, Sert knows the ecology of towns and the laws of urban growth. In his projects he does not offer radical solutions, which look very nice on paper but which seldom have a chance to become reality. For the renewal of towns and urban regions he offers proposals drawn

from the data peculiar to an individual situation, permitting the possibility of future change. An idea which plays a particularly important role in Sert's urban design is the idea of the patio-house, familiar to him from Spain and South America. His own house in Cambridge (1958) with its modest outer appearance and its generous handling of the interior spaces is, in fact, a viable prototype for the regeneration of American suburbs.

If there are in architecture, to usurp the title of one of Paul Klee's paintings, "*Hauptweg und Nebenwege*," Sert's architecture certainly lies closer to the *Hauptweg* than many works done by the public's present favorites. Some of his buildings must be seen by everyone who is concerned with architecture. In the United States, there are, above all, the dormitories for the married students at Harvard (1962-64)—one of the best and most significant building complexes in recent American architecture. The outlines of the three towers may seem, at first sight, haphazardly shaped. One has only to compare these towers with the nearby Carpenter Center by Le Corbusier to see how far the design is rooted in Corbusian concepts and how far it transcends these roots. In addition to its imaginative spatial organization, an important merit of this complex is its demonstration of the possibility to create with purely modern means outer walls which have a surface texture of richness similar to the nearby New England cottages. Sert realized here a group of buildings which suggests the idea of an architecture and an urban planning focused on variability and change.

These are contributions which have much more weight than the question whether, at closer examination, all of Sert's buildings, with their decorative screens on their facades and the concrete hats or umbrellas, are great modern landmarks. It may be that a part of Sert's work will one day be recognized as a contribution to what one could call the colonial style of the U.S. in the 1950s and 1960s.

What this country needs is a good \$12,000 college education.

We've got it, but we're only charging \$4,000.

\$4,000 is an average 4-year college tuition bill, exclusive of living and other expenses. A bargain for the student.

\$12,000 is the average of what it actually costs the college to educate him—and to build the new facilities and the faculty needed to educate millions more like him in the years ahead. A burden for the college. And it might become a crisis.

Because the \$8,000 deficit must be made up by gifts and grants. More help is needed from more businesses, and from individuals like you, people who believe that the future of this country lies in the potential of its young.

What this country needs are fewer bargains like this.

Give to the college of your choice.



Advertising contributed for the public good.

EDITORIAL INDEX

JULY TO DECEMBER, INCLUSIVE 1968

VOLUME 129

ARCHITECTS, DESIGNERS AND PLANNERS

- Abbott, Richard Owen, Pilgrimage Church Sunday school, Plymouth, Mass., July/Aug. 93
- Aldington, Peter J., National Health Service clinic; Oxfordshire, England, Sept. 66
- Andrews, John, Housing, Univ. of Guelph, Ontario, Dec. 76
- Architects Collaborative and Hermann H. Field, Tufts-New England Medical Center, Boston, Sept. 44
- Barnes, Edward Larrabee, Wye Camp, Maryland, July/Aug. 88
- Barnes, Edward Larrabee, State Univ., Potsdam, N.Y., July/Aug. 74
- Becket, Welton, Park Plaza, renewal project, Oshkosh, Wis., Nov. 101
- Berman, Peter, Berman house, Peru, Vt., Dec. 50
- Bloc, Andre and Claude Parent, house, Cap d'Antibes, France, July/Aug. 94
- Bobrow, Philip David, housing, Nun's Island on St. Lawrence, Nov. 65
- Booth & Nagle, Kemper Hall School for Girls, Kenosha, Wis., Nov. 99
- Breuer, Marcel, proposed office building over Grand Central, N.Y., July/Aug. 72
- Cadman & Droste, State Univ., Cobleskill, N.Y., July/Aug. 74
- Candela, Felix, Sports Palace, Mexico Olympics, Oct. 66
- Carew, Colin "Topper", The New Thing, director, Washington D.C., Oct. 72
- Carson, Lundin & Shaw, State Univ., Canton, N.Y., July/Aug. 74
- Chermayeff & Geismar, with Rudolph DeHarak, and Davis, Brody & Assoc., design for U.S. pavilion at Osaka Fair, Oct. 52
- Conklin & Rossant, State Univ., Syracuse, N.Y., July/Aug. 74
- Curtis & Davis, and Franz Mocken, Free University of Berlin Medical Center, Nov. 62
- Daly, Leo A., and Chloethiel Woodard Smith & Assoc., LaCleda Town, St. Louis, Nov. 57
- Damaz & Weigel, Banco do Brasil, N.Y. office, construction barricade graphics, Nov. 64
- Damaz, Pokorny & Weigel, State Univ., Stony Brook, N.Y., July/Aug. 74
- Daniel, Mann, Johnson & Mendenhall, Teledyne Systems Co. research facility, San Fernando Valley, Calif., July/Aug. 102
- Davis, Brody & Assoc., with Chermayeff & Geismar and Rudolph DeHarak, design for U.S. pavilion at Osaka Fair, Oct. 52
- Davis, Brody & Assoc., State Univ. New Paltz, July/Aug. 74
- DeHarak, Rudolph, with Chermayeff & Geismar, and Davis, Brody & Assoc., design for U.S. pavilion at Osaka Fair, Oct. 52
- Elia, Ramos, Agostini & Testa, Bank of London, Buenos Aires, Argentina, Sept. 67
- Farrell/Grimshaw, service tower, International Students Club, London, Sept. 62
- Field, Hermann H., and The Architects Collaborative, Tufts-New England Medical Center, Boston, Sept. 44
- Fordyce & Hamby, State Univ., Plattsburgh and New Paltz, N.Y., July/Aug. 74
- Franzen, Ulrich, Agronomy Building, Cornell Univ., Ithaca, N.Y., July/Aug. 40
- Friedberg, Paul, playgrounds, NYC, Nov. 78
- Goldsmith, Myron, of Skidmore, Owings & Merrill, with Morton Goldscholl Design Assoc., design for U.S. pavilion at Osaka Fair, Oct. 52
- Gruen, Victor & Assoc., Gateway Urban Renewal Project, Newark, N.J., July/Aug. 116
- Gruzen & Partners, design for U.S. pavilion at Osaka Fair, Oct. 52
- Halprin, Lawrence, "Inquiry Into Open Space," West Side Renewal Area Report, NYC, July/Aug. 96
- Haid, David, Abraham Lincoln Oasis, Tri-State Toll Road, S. Holland, Ill., Sept. 76
- Hardy Holzman Pfeiffer Assoc., Muse, children's museum, Brooklyn, N.Y., Sept. 86
- Hardy Holzman Pfeiffer Assoc., Robert S. Marx Theater, Cincinnati, Sept. 65
- Harkness & Geddes, with Perkins & Will, and Robinson, Green & Beretta, R.I. Junior College, Warwick, Dec. 95
- Hellmuth, Obata & Kassabaum, with Ronald Beckman, Research & Design Inst., design for U.S. pavilion at Osaka Fair, Oct. 52
- Herrey, Hermann, proposal for Manhattan, N.Y., Nov. 48
- Hollein, Hans, Austriennale for Milan Triennale, Sept. 40
- Honnold & Rex, two California banks, Nov. 64
- Horowitz & Chun, East Nassau Medical Building, L.I., N.Y., Oct. 99
- Howell, Killick, Partridge & Amis, University Centre, Cambridge, England, Oct. 78
- Johnson, Philip, Bielefeld Art Gallery, Germany, Sept. 66
- Johnson, Johnson & Roy, Nun's Island, on St. Lawrence, Nov. 64
- Kramer, Kramer & Gordon, Bluebeard Hill Apartments, St. Thomas, Virgin Islands, July/Aug. 60
- Lee, Tunney, The New Thing, cultural center for children, Washington, D.C., Oct. 72
- Legorreta, Ricardo, Camino Real Hotel, Mexico City, Nov. 86
- Meatke Kessler & Assoc., State Univ., Stony Brook, N.Y., July/Aug. 74
- Meier, Richard L., "Metropolitan" game, Dec. 58
- Mies van der Rohe, and C. F. Murphy & Assoc., IBM office, Chicago, Sept. 97
- Mies van der Rohe, apartment complex, Nun's Island on St. Lawrence, Nov. 65
- Mies van der Rohe, National Gallery, Berlin, Oct. 34
- Mocken, Franz, and Curtis & Davis, Free Univ. of Berlin Medical Center, Nov. 62
- Morrison, Recamier, Bringas, Garces, pool and gym, Mexico Olympics, Oct. 66
- Mouton, William J., with Philip Johnson, and Harper & George, design for U.S. pavilion at Osaka Fair, Oct. 52
- Murphy, C. F. & Assoc., and Skidmore, Owings & Merrill, Chicago's proposed Crosstown Expressway, Sept. 68
- Murphy, C. F. & Assoc. and Mies van der Rohe, IBM office, Chicago, Sept. 97
- Myller, Snibbe & Tafel, State Univ., Geneseo, N. Y., July/Aug. 74
- Nelson, George & Co., design for U. S. pavilion at Osaka Fair, Oct. 52
- Newman, Oscar, Park-Mall Lawndale, Chicago, housing plan, Dec. 44
- Noguchi, Isamu, with Pavilion Assoc., design for U. S. pavilion at Osaka Fair, Oct. 52
- Palacios, Salinas and Bravo, Olympic Stadium, Mexico, Oct. 66
- Parent, Claude, and Andre Bloc, house at Cap d'Antibes, France, July/Aug. 94
- Peery, Allison B., HemisFair '68, San Antonio, Tex., Oct. 84
- Pei, I. M., Everson Museum of Art, Syracuse, N. Y., Dec. 66
- Pei, I. M., State Univ., Fredonia, N. Y., July/Aug. 74
- Perkins & Will, Harkness & Geddes, and Robinson, Green & Beretta, R. I. Junior College, Warwick, Dec. 95
- Perkins & Will, State Univ., Buffalo, N. Y., July/Aug. 74
- Portman, John, Blue Cross Building, Chattanooga, Tenn., Oct. 97
- Prentice & Chan, library, Teaneck, N. J. Sept. 99
- Rechter & Zarhy, housing for Israel's Workers Union, Haifa, Dec. 64
- Rechter & Zarhy, apartment building, Weizmann Inst., Israel, July/Aug. 95
- Robinson, Green & Beretta, Perkins & Will, and Harkness & Geddes, R. I. Junior College, Warwick, Dec. 95
- Roche & Dinkeloo, redesign of Metropolitan Museum of Art, NYC, Dec. 93
- Roth, Emery & Sons, State Univ., Stony Brook, N. Y., July/Aug. 74
- Saenz de Oiza, Javier, Torres Blancas Apartments, Madrid, July/Aug. 92
- Saks, Arnold and Ward, James S., with James S. Polshek, design for U. S. pavilion at Osaka Fair, Oct. 52
- Samton Assoc., consultant, demountable playgrounds, NYC, Nov. 78
- Sargent, Webster, Crenshaw & Folley, State Univ., Cortland, N. Y., July/Aug. 74
- Schafer, Flynn and Van Dijk, Blossom Music Center, Cleveland, Dec. 67
- Seidler, Harry, apartments in Sydney, Australia, Dec. 65
- Skidmore, Owings & Merrill, and C. F. Murphy & Assoc., Chicago's proposed Crosstown Expressway, Sept. 68
- Skidmore, Owings & Merrill, Univ. of Ill., Chicago Circle Campus, Dec. 28
- Skidmore, Owings & Merrill, (Myron Goldsmith), design for U. S. pavilion at Osaka Fair, Oct. 52
- Skidmore, Owings & Merrill, and Wurster, Bernardi & Emmons, Bank of America, San Francisco, July/Aug. 94
- Skidmore, Owings & Merrill, State Univ., Oswego, N. Y., July/Aug. 74
- Smith, Chloethiel Woodard & Assoc., and Leo A. Daly Co., LaCleda Town, St. Louis, Nov. 57
- Smotrich & Platt, Exodus House, NYC, Oct. 62
- Stevens & Wilkinson, and Toombs, Amisano & Wells, Atlanta Memorial Arts Center, Georgia, Nov. 62
- Stirling, James, History Faculty Building, Cambridge Univ., England, Nov. 36
- Stone, Edward D., State Univ., Albany, N. Y., July/Aug. 74
- Stone, Edward D., Garden State Arts Center, New Jersey, July/Aug. 93
- Tigerman, Stanley, housing, Nun's Island on St. Lawrence, Nov. 65
- Todd, David & Assoc., State Univ., New Paltz, N. Y., July/Aug. 74
- Toombs, Amisano & Wells, and Stevens & Wilkinson, Atlanta Memorial Arts Center, Georgia, Nov. 62
- Urbahn, Max O., F. D. R. Post Office, NYC, Dec. 66
- Vazques, Pedro Ramirez, Aztec Stadium, Mexico Olympics, Oct. 66
- Vazques, Pedro Ramirez, Mexico Olympiad at Milan Triennale, Sept. 64
- Weese, Harry, John M. Fewkes Tower, Chicago, July/Aug. 94
- Weese, Harry & Assoc., Chicago Circle Campus, proposed gym and educ. bldg., Dec. 28
- Woolen, Evans, John J. Barton Apartments, Indianapolis, Ind., Nov. 70
- Wurster, Bernardi & Emmons, and Skidmore, Owings & Merrill, Bank of America, San Francisco, July/Aug. 94
- Yaar, Frenkel and Mandel, urban renewal project, Jaffa, Israel, Nov. 66

ARCHITECTURAL DESIGN PROCESS

"Antiarchitecture," an article by Robin Boyd, Nov. 84

"The New Gamesmanship," article on new urban games, Dec. 58

BOOKS

Bataille, Michel, *City of Fools*, rev. by A. S. Brook Mason, Sept. 75

Downing, A. F. and Scully, Vincent J. *Architectural Heritage of Newport, R. I.* rev. by Alan Pryce-Jones, Sept. 74

Frateili, Enzo, *Architektur Und Komfort*, rev. by Reyner Banham, July/Aug. 86

Halprin, Lawrence, *New York, New York* July/Aug. 96

Michaelides, Constantine, *Hydra: A Greek Island Town: Its Growth and Form*, rev. by Roger Montgomery, July/Aug. 87

Spreiregen, Paul, editor *On the Art of Designing Cities: Selected Essays of Elbert Peets*, rev. by Donald Hoffman, Oct. 77

Otto, Frei, editor, *Tensile Structures, Vol. 1.* rev. by Walter W. Bird, Nov. 68

Von Eckardt, Wolf, *A Place to Live: The Crisis of the Cities*, rev. by George McCue, Oct. 76

Woods, Shadrach, *Candilis, Josic, Woods: Building for People*, rev. by Jerzy Soltan, Dec. 74

CULTURAL

Atlanta Memorial Arts Center, Georgia, Toombs, Amisano & Wells, Archts., with Stevens & Wilkinson, Nov. 62

Bielefeld Art Gallery, Germany, Philip Johnson, Archt., Sept. 66

Blossom Music Center, Cleveland, Schafer, Flynn & van Dijk, Archts., Dec. 67

Everson Museum of Art, Syracuse, N.Y., I. M. Pei, Archt., Dec. 66

Garden State Arts Center, N.J., Edward D. Stone, Archt., July/Aug. 93

Marx Theater, Cincinnati, Hardy Holzman Pfeiffer Assoc., Archts., Sept. 65

Metropolitan Museum of Art, NYC, preview facelifting, Roche & Dinkeloo & Assoc., Archts., Dec. 93

Muse, children's museum, Brooklyn, Hardy Holzman Pfeiffer Assoc., Sept. 86

National Gallery, Berlin, Mies van der Rohe, Archt., Oct. 34

New Thing, The, Washington, D.C., community cultural center, Oct. 72

EDUCATION

Architectural Education, discussion by S. Moholy-Nagy, R. Yelton, Michels/Feild, Dean Anselevicius, July/Aug. 54

"Billion Dollar Client", by George Dudley, New York State University Construction Fund report, July/Aug. 74

Cambridge Univ., History Faculty Building, England, James Stirling, Archt., by Kenneth Frampton, Nov. 36

Cambridge Univ. Centre, England, Howell, Killick, Partridge & Amis, Archts., Oct. 78

Cornell Univ., Agronomy Building, Ulrich Franzen, Archt., July/Aug. 40

Kemper Hall School for Girls, Kenosha, Wis., Booth & Nagle, Archts., Nov. 99

Rhode Island Junior College, Warwick, Perkins & Will, Harkness & Geddes, and Robinson, Green & Beretta, Archts., Dec. 95

Univ. of Guelph, Ontario, John Andrews, Archt., by Kenneth B. Smith, Dec. 76

Univ. of Ill., Chicago Circle Campus, Arts & Arch., Sc. & Eng. buildings, Skidmore, Owings & Merrill, Archts.; proposed gym and proposed Education building, Harry Weese & Assoc. Archts., Dec. 28

GOVERNMENT BUILDINGS

F.D.R. Post Office, NYC, Max O. Urbahn, Archt., Dec. 66

Rayburn Building, "The Emperor of Capitol Hill", Washington, D.C., by Rasa Gustaitis, Sept. 80

HOTEL

Camino Real Hotel, Mexico City, Ricardo Legorreta, Archt., Nov. 86

HOUSES

Berman house, Peru, Vermont, Peter Berman, Archt., Dec. 50

Cap d'Antibes house, French Riviera, Claude Parent and Andre Bloc, Archts., July/Aug. 94

HOUSING

Double Bay, Sydney, dual apartment bldgs., Harry Seidler, Archt., Dec. 65

Exodus House, center for addicts, N.Y. Smotrich & Platt, Archts., Oct. 62

Fewkes Tower, Chicago, Harry Weese, Archt., July/Aug. 94

"Housing Yes Cities No," article on Housing and Urban Development Act of 1968, Sept. 37

Indianapolis Housing for Elderly, Evans Woollen, Archt., Nov. 70

International Students Club, Service Tower, London, Farrell/Grimshaw, Archts., Sept. 62

Israel's Workers Union, Haifa, Rechter & Zarhy, Archts., Dec. 64

"Mass Housing: Social Research and Design", article by Brent C. Brolin and John Zeisel, July/Aug. 66

Nun's Island, on St. Lawrence, housing, Mies van der Rohe, P. D. Bobrow, S. Tigerman, Archts., Nov. 65

Torres Blancas Apartments, Madrid, Javier Saenz de Oiza, Archt. July/Aug. 92

Bluebeard Hill Apartments, St. Thomas, Kramer, Kramer & Gordon, Archts., July/Aug. 60

Weizman Inst. for Science, Israel, Rechter & Zarhy, Archts., July/Aug. 95

INDUSTRIAL

Mineheads, 19th century European, photos by B. and H. Becher, Dec. 68

Teledyne Systems Co. research facility, Calif., Daniel, Mann, Johnson & Mendenhal, Archts., article by E. McCoy, July/Aug. 102

LIBRARIES

Cambridge Univ. History Faculty Library, James Stirling, Archt., Nov. 36

Library, Teaneck, N. J., Prentice & Chan, Archts., Sept. 99

MEDICAL BUILDINGS

East Nassau Medical Group, L.I., N.Y., Horowitz & Chun, Archts., Oct. 99

Exodus House, center for addicts, NYC, Smotrich & Platt, Archts., Oct. 62

Free Univ. of Berlin Medical Center, Curtis & Davis, and Franz Mocken, Nov. 62

National Health Service Clinic, England, Peter J. Aldington, Archt., Sept. 66

Tufts-New England Medical Center, Boston, The Architects Collaborative and Hermann H. Field, Archts., Sept. 44

OFFICES

Banco do Brasil, NYC, construction barricade graphics by Barbara Stauffacher, Damaz & Weigel, Archts., Nov. 64

Bank of America, San Francisco, Skidmore, Owings & Merrill, and Wurster, Bernardi & Emmons, Archts., July/Aug. 94

Bank of London, Buenos Aires, Argentina, Elia, Ramos, Agostini and Testa, Archts., Sept. 67

Blue Cross Building, Chattanooga, Tenn., John Portman, Archt., Oct. 97

California: two banks by Honnold & Rex, Archts., Nov. 64

Grand Central City, proposed office tower, Marcel Breuer, Archt., July/Aug. 72

IBM office building, Chicago, Mies van der Rohe and C. F. Murphy & Assoc., Archts., Sept. 97

PLANNING

Cartoons by Richard Hedman, Nov. 76

Chicago, Park-Mall Lawndale, by W. Joseph Black, Oscar Newman & Washington Univ. Urban Renewal Design Center, Archts., Dec. 44

Chicago's proposed Crosstown Expressway, Project Dir. Joseph Passoneau, Skidmore, Owings & Merrill and C. F. Murphy, Archts., Sept. 68

Gamesmanship," "The New, report on new urban games, Dec. 58

Gateway Urban Renewal Project, Newark, N.J., Victor Gruen & Assoc., Archts., July/Aug. 116

HemisFair '68, San Antonio, "Prologue to Renewal" by Roger Montgomery, Allison B. Peery, Archt. and Dir. Site Dev., Oct. 84

Israel, urban renewal in Jaffa, Yaar, Frenkel, and Mandel, Archts., Nov. 66

Milwaukee, Henry W. Maier, Mayor of, "Discrimination in Favor of Central City," Oct. 48

NYC, proposal by Hermann Herrey, Nov. 48

NYC, West Side Renewal Area, project study by Lawrence Halprin, July/Aug. 96

Nun's Island, new town on St. Lawrence, Johnson, Johnson & Roy, Stanley Tigerman, P. D. Bobrow and Mies van der Rohe, Archts., Nov. 65

Park Plaza Renewal Project, Oshkosh, Wis., Welton Becket, Archt., Nov. 101

St. Louis, LaCiede Town, Chloethiel Woodard Smith & Assoc. and Leo A. Daly, Archts., Nov. 57

Tufts-New England Med. Ctr., Architects Collaborative and Hermann H. Field, Archts., Sept. 44

Washington, D.C. The New Thing, advocacy planning, Colin Carew, director, and Tunney Lee, Archt., Oct. 72

RECREATION

Austriennale, exhibit in Milan at Triennale, Hans Hollein, designer, Sept. 40

HemisFair 68, San Antonio, Allison B. Peery, Dir. Site Dev. Roger Montgomery, author, Oct. 84

Mexican Olympics, buildings, sculpture, and graphics, Oct. 66

Mexico at Triennale, Milan, Pedro Ramirez Vazques, chairman design team, Sept. 64

Osaka, entries by various U.S. architects for U.S. Pavilion, Oct. 52

Playgrounds, demountable, NYC, Paul Friedberg, Archt., Nov. 78

Wye Camp, Maryland, Edward Larrabee Barnes, Archt., July/Aug. 88

RELIGIOUS

Church of the Pilgrimage Sunday School, Plymouth, Mass., Richard Owen Abbott, Archt., July/Aug. 93

TECHNOLOGY

"Architecture and the Computer," by Eric D. Teicholz, Sept. 58

International Students Club Service Tower, London, Farrell/Grimshaw, Archts., Sept. 62

NASA's Lunar Landing Lab, Langley Research Center, Hampton, Virginia, Sept. 66

TRANSPORTATION

Chicago's proposed Crosstown Expressway, Proj. Dir. J. R. Passoneau, Skidmore, Owings & Merrill and C. F. Murphy Assocs., Archts., Sept. 68

Rest Stop, Tri-State Toll Rd., Illinois, David Haid, Archt., Sept. 76

ARCHITECTS INFORMATION AND DATA SERVICE

A. DOORS AND WINDOWS

1. Pre-cured, expanded Foam Core Door. Available in both full-flush and seamless styles. Limitless variety hardware applications. Complete details 8-pg. brochure. Amweld Building Products. Request **A-1**.
2. Industrial and cold storage doors, manual and power operated, with galvanized steel, stainless steel, aluminum or Kayon (TM) plastic skins over urethane cores. Clark Door Co. Request **A-2**.
3. COMMERCIAL & INDUSTRIAL FLAT GLASS-Drawn Sheet, Tinted, Stopray, Figured Rolled, Float, Diffusing, Enamelled, and Mat-O-Bel diffuse non-reflecting. 8-pg. color catalog. Glaverbel, Request **A-3**.
4. Catalog includes technical information on LOF glass; includes Vari-Tran (TM) and Vigilpane (TM) SA 68. Libbey-Owens-Ford Co. Request **A-4**.
5. 32-pg. catalog "Malta Wood Windows", casement, vent, double hung, glide, basement types. Wood patio door with insulating glass. Malta Mfg. Co. Request **A-5**.
6. Literature contains general information on Pilkington Glass products. Pilkington Brothers Ltd. Request **A-6**.
7. Plexiglas in Architecture-24-pg. full color catalog shows full range of architectural uses for acrylic sheet: glazing, fascia, sunscreens, domes. Rohm & Haas Co. Request **A-7**.

B. ELECTRICAL EQUIPMENT

1. 12-pg. full color brochure covers Teletalk Zoned Communications: includes system planning aid & uses for private switch or dial controlled intercom, sound, music & paging equipment. Webster Electric Co., Inc. Request **B-1**.

D. FLOOR COVERINGS

1. HEUGATILE loose-laid carpet squares. Heuga full color brochure complete specs. Van Heughten USA. Request **D-1**.
2. Polyanna by World Carpets, a dense level-loop carpet style en-

gineered specifically for commercial use. Sample swatch & Complete descriptive info. World Carpets, Inc. Request **D-2**.

E. FURNISHINGS

1. Individual Work/Study Carrels. Movable, versatile. Full line Specification data. American Seating Co. Request **E-1**.
2. New Stow/Davis Bubble Chair catalog available on written request contains all info on expanded line of chairs for office, institutional use. Stow/Davis. Request **E-2**.

F. HARDWARE

1. Lever Handles by Corbin. Designs available for mortise locks, Corbin unit locks; Maywood Design combining wood with metal. P. & F. Corbin, Div. Emhart Corp. Request **F-1**.
2. 16 pages of catalog and spec information on LCN Door Closers, includes surface mounted, overhead concealed, in-door concealed, and floor models. LCN Closers. Request **F-2**.
3. Door Closer Product Data Sheet describes new door closer with wide range of mounting applications for most door conditions. Includes features and sizing charts. Sargent & Co. Request **F-3**.

G. HEATING, VENTILATING & AIR CONDITIONING

1. Spec data hermetic and open Turbopak chiller, 670 to 1030-ton capacity range. York Corp Div. Borg Warner. Request **G-1**.

J. INSULATION—THERMAL

1. Illustrated 20 pg. brochure presents technical and structural design data on values of rigid urethane foam as a structural insulating material Mobay Chemical Co. Request **J-1**.

K. LIGHTING FIXTURES

1. ORB LIGHT CATALOG Beautiful aluminum spheres for mercury, quartz, incandescent lighting. Stonco Electric Products Co. Request **K-1**.

M. MASONRY AND BUILDING STONE

1. Precast Concrete Exterior Units Brochure, 24-pg, color, shows 41 precast panel installations. Med-

usa Portland Cement Company Request **M-1**.

2. Utility and economy of modern brick bearing wall systems is analyzed in a set of case studies; discusses several bldg types, gives details, cost data. Structural Clay Products Institutes. Request **M-2**.

P. OPERABLE WALLS

1. 4-pg. brochure on space dividers "What Can You Do With Hauserman's New Schoolmates". E.F. Hauserman Co. Request **P-1**.
2. "WORKWALL MOVABLE PARTITIONS" 8-pg. full color brochure, features installations and technical data. Workwall Div. The Marmon Group, Inc. Request **P-2**.

R. PAINTS, COATINGS, SEALANTS

1. Stain samples; on wood: AIA information manual and 16-pg. Stained Wood Idea Book. Olympic Stain Co. Request **R-1**.
2. 4-pg. 2-color folder on "Weather Chamber Windows" weatherproofing system combining Neoprene stripping with pressure equalization. Republic Steel Corp. Mfg. Div. Request **R-2**.
3. New 10-pg. brochure, full color, shows details 8 different systems for application All-weather Crete to roof decks, plaza surfaces; illustrates various types of membraned and roof drains. Silbrico Co. Request **R-3**.
4. New Thoroseal brochure explains how to water proof basements, foundations, concrete and block buildings; how to eliminate rubbing concrete. Standard Dry Wall Products, Inc. Request **R-4**.
5. New 4-pg. brochure features Thiokol's Seal of Security, tells how to specify Thiokol's Tested and Approved Polysulfide Base Sealants. Thiokol Chemical Corp. Request **R-5**.

S. PLUMBING EQUIPMENT

1. 32-pg. color catalog #168; drinking fountains, water coolers, includes specs and drawings. Haws Drinking Faucet Co. Request **S-1**.
2. "The faucet that turns people on, with style MOEN" 12-pg. catalog full line single lever kitchen bath valves. Moen Div. of Standard Screw Co. Request **S-2**.

3. New 1969 32-pg. color catalog illustrates electric water coolers, drinking fountains, fountain accessories; incorporates drawings, specs and rough-in dimensions for units. The Halsey W. Taylor Co. Request **S-3**.

4. Form C 150. 12-pg. color catalog of water coolers. Architect illustrations. Temprite Products Corp. Request **S-4**.

T. ROOFING/SIDING

1. J-M Corspan Panels for Industrial Sidewalls, 6-pg. brochure; contains product description, advantages of panels as sidewalls, includes installation details, physical properties, specs. Folder IAC-79A. Johns-Manville Sales Corp. Request **T-1**.
2. Metal Wall Panels, including new Foamwall, 20-pg. catalog includes complete specs with color photos of walls in place. Elwin G. Smith & Co. Inc. Request **T-2**.

U. STRUCTURAL

1. Brochure with general information; client listings, recent projects and color photos on request. Aberthaw Construction Co. Request **U-1**.
2. 4-Way Floor Decking. Product Selector sheet, 4-pg. descriptive brochure; 16-pg. installation instructions for sound control floor systems. Homasote Co. Request **U-2**.
3. Cellular and non-cellular steel flooring for multistory construction, composite design. Catalog 270. Inland-Ryerson Construction Products Co. Request **U-3**.

V. WALLS/CEILINGS/PARTITIONS/MATERIALS

1. 1968 laminated plastic solid color series. Easily filed product sampler features '68 solid shades. Formica Corp. Request **V-1**.
2. Spec info on all panels includes Marlite plank and block, Korelock and fire-test panels. Marlite Div. Masonite Corp. Request **V-2**.

W. PROFESSIONAL MATERIALS & SERVICES

1. Free illustrated catalog describing over 50 architecture books including Kemmerich's GRAPHIC DETAILS FOR ARCHITECTS. Praeger Publishers. Request **W-1**.

ADVERTISING INDEX

By Advertiser

| | | | |
|---|---------|--|-----------|
| Aberthaw Construction Co. (Cabot, Cabot & Forbes)..... | 127 | Neogard Corp. | 29 |
| American Seating Co. | 116 | Norton Door Closer Divn., Eaton Yale & Towne, Inc. . | Cover 4 |
| Amweld Building Products | 130 | Olympic Stain Co. | 111 |
| Cabot Samuel, Inc. | 122 | Pilkington Brothers Ltd..... | 11 |
| Celotex Corp., The | 135-138 | Frederick A. Praeger, Inc. | 120 |
| Clark Door Co. | 120 | Republic Steel Corp., Manufacturing Div. | 125 |
| P. & F. Corbin Div.-Emhart Corp. | 18 | Richards-Wilcox Mfg. Co. . | 119 & 121 |
| Cordley & Hayes | 134 | Rohm & Haas | 118 |
| Formica Corp. | 20 | Sargent & Co.-Div. of Walter Kidde & Co. | 2-3 |
| Glaverbel | 5 | The Seven Arts Book Society, Inc. | 133 |
| E.F. Hauserman Co. | 19 | Silbrico Corp. | 12 |
| Haws Drinking Faucet Co. | 27 | Elwin G. Smith & Co., Inc..... | 28 |
| Holcomb & Hoke | 9 | Spancrete | 32-33 |
| Homasote Co. | 132 | Standard Dry Wall Products, Inc. | 21 |
| Inland-Ryerson Construction Products Co. | 22-23 | Steelcase | Cover 3 |
| Johns-Manville Corp. | 124 | Stonco Electric Products Co. | 120 |
| Knoll Associates, Inc. | 131 | Stow/Davis | 114 |
| LCN Closers | 115 | Structural Clay Products Institute | 144 |
| Libbey-Owens-Ford Co. | 117 | Taylor, The Halsey W. Co. | 10 |
| Lone Star Cement Corp. | 15 | Thiokol Chemical Corp. | 34 |
| Malta Mfg. Co. | 126 | 3M Company | 13 |
| Maple Flooring Manufacturers Association | 16 | Van Heughten U.S.A. Inc. | 6-7 |
| Marlite Div. of Masonite Corp. . | 26 | Webster Electric Co., Inc. | 14 |
| Master Builders | 30-31 | Westinghouse Electric Corp. Elevator Div. | 17 |
| Medusa Portland Cement Co. | 123 | Workwall Movable Partitions Div. of the Marmon Group | 8 |
| Mobay Chemical Co. | 145 | World Carpet Mills | Cover 2 |
| Moen Div. Standard Screw Co. . | 4 | York A Div. of Borg Warner. . | 128-129 |
| Mo-Sai Institute | 24-25 | | |

By Product

DOORS & WINDOWS

| | |
|------------------------------|-----|
| Amweld Building Products ... | 130 |
| Clark Door Co. | 120 |
| Glaverbel | 5 |
| Libbey-Owens-Ford Co. | 117 |
| Malta Mfg. Co. | 126 |
| Rohm & Haas | 118 |

ELECTRICAL EQUIPMENT INTERCOM

| | |
|---------------------------------|----|
| Webster Electric Co., Inc. | 14 |
|---------------------------------|----|

ELEVATORS

| | |
|---|----|
| Westinghouse Electric Corp. Elevator Div. | 17 |
|---|----|

FLOORING

| | |
|---|-----|
| Homasote Co. | 132 |
| Maple Flooring Manufacturers Association | 16 |
| Medusa Portland Cement Co. . | 123 |

FLOOR COVERINGS

| | |
|---|---------|
| Van Heughten U.S.A. Inc. Heugatile | 6-7 |
| World Carpet Mills | Cover 2 |

FURNISHINGS

| | |
|--|---------|
| American Seating Co. | 116 |
| Knoll Associates, Inc. | 131 |
| Republic Steel Corp., Manufacturing Div. | 125 |
| Steelcase | Cover 3 |
| Stow/Davis | 114 |

HARDWARE

| | |
|---|---------|
| P. & F. Corbin Div.- Emhart Corp. | 18 |
| LCN Closers | 115 |
| Norton Door Closer Divn., Eaton Yale & Towne, Inc. . | Cover 4 |
| Sargent & Co.-Div. of Walter Kidde & Co. | 2-3 |

HEATING, VENTILATING & AIR CONDITIONING

| | |
|-------------------------------------|---------|
| 3M Company | 13 |
| York A Div. of Borg Warner | 128-129 |

INSULATION-ACOUSTICAL

| | |
|--------------------------|---------|
| Celotex Corp., The | 135-138 |
|--------------------------|---------|

INSULATION-THERMAL

| | |
|-------------------------|-----|
| Mobay Chemical Co. | 145 |
|-------------------------|-----|

LIGHTING FIXTURES

| | |
|--------------------------------|-----|
| Stonco Electric Products Co. . | 120 |
|--------------------------------|-----|

MASONRY AND BUILDING STONE

| | |
|---|-------|
| Lone Star Cement Corp. | 15 |
| Masters Builders | 30-31 |
| Medusa Portland Cement Co. . | 123 |
| Moi-Sai Institute | 24-25 |
| Spancrete | 32-33 |
| Structural Clay Products Institute | 144 |

METALS IN BUILDINGS

| | |
|------------------------------|----|
| Elwin G. Smith & Co., Inc. . | 28 |
|------------------------------|----|

OPERABLE WALLS

| | |
|---|-----------|
| E.F. Hauserman Co. | 19 |
| Holcomb & Hoke | 9 |
| Richards-Wilcox Mfg. Co. . | 119 & 121 |
| Workwall Movable Partitions Div. of the Marmon Group.. | 8 |

PAINTS, COATINGS, SEALANTS

| | |
|--|-----|
| Cabot, Samuel, Inc. | 122 |
| Neogard Corp. | 29 |
| Olympic Stain Co. | 111 |
| Silbrico Corp. | 12 |
| Standard Dry Wall Products, Inc. | 21 |
| Thiokol Chemical Corp. | 34 |

PLUMBING EQUIPMENT

| | |
|--------------------------------|-----|
| Cordley & Hayes | 134 |
| Haws Drinking Faucet Co. | 27 |
| Moen Div. Standard Screw Co. . | 4 |
| Taylor, The Halsey W. Co. . | 10 |

ROOFING/SIDING

| | |
|------------------------------|-----|
| Johns-Manville Corp. | 124 |
| Elwin G. Smith & Co., Inc. . | 28 |

STRUCTURAL

| | |
|--|-------|
| Aberthaw Construction Co. (Cabot, Cabot & Forbes) ... | 127 |
| Homasote Co. | 132 |
| Inland-Ryerson Construction Products Co. | 22-23 |
| Spancrete | 32-33 |

WALLS/CEILINGS/PARTITIONS/ MATERIALS

| | |
|---|----|
| Formica Corp. | 20 |
| Holcomb & Hoke | 9 |
| Marlite Div. of Masonite Corp. . | 26 |
| Pilkington Brothers Ltd. | 11 |
| Workwall Movable Partitions Div. of The Marmon Group.. | 8 |

PROFESSIONAL MATERIALS & SERVICES

| | |
|---|-----|
| Frederick A. Praeger, Inc. | 120 |
| The Seven Arts Book Society, Inc. | 133 |

ADVERTISING SALES STAFF

HAROLD D. MACK, JR., Advertising Manager
DOROTHY I. HENDERSON, Assistant to the Publisher (Advertising)
SAL TUMOLO, Production Manager

BEN A. LEASCHER, Business Manager

EASTERN TERRITORY

111 West 57th Street, New York 10019
PHILIP E. PETITT Eastern Manager
177 Sound Beach Ave., Old Greenwich,
Conn. 06870 S. C. LAWSON
P.O. Box 462, Northport, N.Y. 11768
ROBERT L. BASSINETTE

CLEVELAND

32 West Orange Street,
Chagrin Falls, Ohio 44022
CHARLES S. GLASS Cleveland Manager

MIDWESTERN TERRITORY

911 Busse Highway, Suite 10
Park Ridge, Illinois 60068
WM. B. REMINGTON Western Manager
JOSEPH H. LAJOIE Chicago Manager

LOS ANGELES

Smith & Hollyday, Inc.
5478 Wilshire Blvd.
Los Angeles, Calif. 90036
DAVID ZANDER
RICHARD THOMPSON

SAN FRANCISCO

Smith & Hollyday, Inc.
22 Battery Street
San Francisco, Calif. 94111
WM. BLAIR SMITH

PORTLAND

Roy McDonald Associates, Inc.
2035 S.W. 58th Avenue
Portland, Oregon 97221
FRANK EATON

SEATTLE

Roy McDonald Associates, Inc.
2366 Eastlake Avenue East
Seattle, Washington 98102
LIN HINES

DALLAS

The Dawson Company
7900 Carpenter Freeway,
Dallas, Texas 75247
JOE SISSOM
BILL SUTHERLAND

MIAMI

The Dawson Company
5995 S.W. 71st St., Miami, Fla. 33143
HAROLD L. DAWSON

ATLANTA

The Dawson Company
3009 Lookout Place N.E.
Box 11957
Atlanta, Georgia 30305
DON L. UHLENHOPP
JOSEPH FARRY



This apartment building came in \$100,000 under the estimate. 8" Brick-Bearing Walls provided the structure, exterior and interior finish, fireproofing, and sound control.

Muskegon Retirement Apartments

Muskegon, Michigan

Architect and Structural Engineer

DeVries & Associates

General and Masonry Contractor

Muskegon Construction Company

Owner

Muskegon Retirement Apartments, Inc.

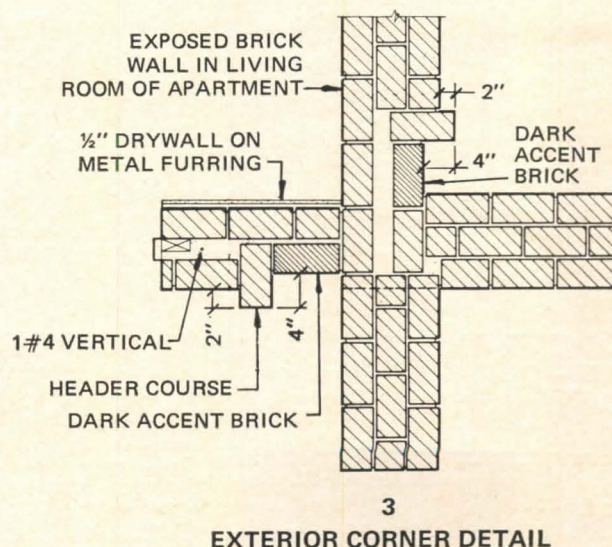
8" brick bearing walls are used through the entire 11 floors of Muskegon Retirement Apartments, in Muskegon, Michigan.

The structural system consists of 8" brick bearing walls and 8" precast concrete floor planks topped with 1½" of concrete.

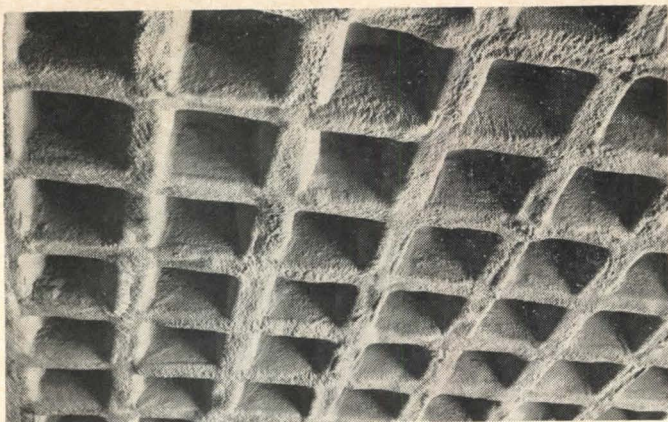
Eliminating the traditional building framework offers economies, and permits infinite design possibilities. One example is shown in the exterior corner detail to the right.

Construction is simple, and rapid, because all brick wall thicknesses are identical from foundation to roof. In essence, Muskegon Retirement Apartments is a series of 11 one-story buildings, one atop another.

Complete details, including a thorough cost-breakdown of 40 major elements of the building are contained in an 8-page brochure that you can have. Ask your brick salesman for SCPI brick bearing wall Case Study No. 16. Or contact SCPI.



Structural Clay Products Institute 1750 Old Meadow Road, McLean Virginia 22101 Phone 703-893-4010



SMART REASONS WIN COLLEGE CONTRACT FOR URETHANE FOAM

(l. to r.) Alfred A. Lawrence, sales mgr., Atlas Insulation Co., foam applicator; Paul A. St. Martin, job supt., D. O'Connell's Sons, Inc., gen. contractor; Carroll F. Asbel, Jr., asst. supt., wore smiles throughout quick-paced urethane foam insulating job at the new campus center.

Mr. Lawrence points to the cast waffle maze ceiling, one of many reasons sprayed urethane foam was only practical choice. Any other method would have required at least twice as much material to meet specs, increased man-hours, material handling problems and risk.



The new Murray D. Lincoln campus center of the University of Massachusetts will be a \$16-million, 11-floor (2 below ground) pre-cast and cast-in-place concrete building. It will house conference centers, 100 guest rooms, restaurants, a bookstore, an underground garage and specially designed student facilities.

A most crucial requirement is the thermal insulation which, in major areas, will consist entirely of rigid urethane foam, sprayed to a 1" thickness over 140,000 sq ft of tricky interior surfaces. Application is by Atlas Insulation Co., Inc., So. Acton, Mass., doing the entire job with only a 2-man crew—one man on the spray gun, one on the equipment.

Mr. Alfred A. Lawrence, sales man-

ager for Atlas, says: "There are a number of ways we saved the customer real money by using sprayed urethane foam insulation on this job. For example:

Time: "The complex ceiling panels in the plaza area are of waffle design. Insulating them with fixed or fibrous materials would have been extremely tedious, cumbersome, costly and ineffective. With any other form of insulation, we would need at least an 8-man crew to match our 2-man pace and stay ahead of the other trades."

Money: "Our quote on this job was under 30¢/sq ft. That's a lot of insulation for the money. Other insulants would have doubled this cost because of the need to cut around angles, apply adhesives, moisture barrier, fasteners, etc. Sprayed urethane foam is completely seamless, seals every crack and void. It is self-bonding and will adhere to almost any surface.

There will never be a moisture or heat leak anywhere, any time."

Safety: "Urethane foam sets fast, permitting other trades to move along without delay. Much welding and torch work follows our phase, but there is no risk with fire-retardant rigid urethane foam."

Space: "You can't beat the compact nature of urethane materials and equipment. We brought in 26 55-gal drums at a time, and doubt if they took up more than 100 sq ft of the working area. Any other materials would have required huge areas for stacking, plus much additional equipment, such as staging and rigging."

The 1" urethane foam meets the insulation specs: Initial k factor of 0.11 and a perm rating of 2'.

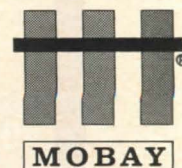
Architects:
Marcel Breuer & Herbert Beckhard
Foam system:
General Latex & Chemical Corp.

Mobay does not manufacture complete chemical systems for urethane foam installation. Write for a list of urethane systems suppliers.

MOBAY CHEMICAL COMPANY

CODE AF-19

PITTSBURGH, PA. 15205



MAKE AMERICA A BETTER PLACE.

LEAVE THE COUNTRY.



Of all the ways America can grow, one way is by learning from others.

There are things you can learn in the Peace Corps you can't learn anywhere else.

You could start an irrigation program. And find that crabgrass and front lawns look a little ridiculous. When there isn't enough wheat to go around in Nepal.


You could be the outsider who helps bring a Jamaican fishing village to life, for the first time in three hundred years. And you could wonder if your country has outsiders enough. In Watts. In Detroit. In Appalachia. On its Indian reservations.

Last year, for the first time, Peace Corps alumni outnumbered Volunteers who are now out at work overseas.

By 1980, 200,000 Peace Corps alumni will be living their lives in every part of America.

There are those who think you can't change the world in the Peace Corps.

On the other hand, maybe it's not just what you do in the Peace Corps that counts.

But what you do when you get back.
The Peace Corps, Washington, D.C. 20525. 

ADVERTISING CONTRIBUTED FOR THE PUBLIC GOOD



Chromattechs™

Finishes and fabrics that dramatically extend your resources for designing contemporary office environments.

Chromattechs can help you create a whole new look. More versatile than wood or the usual metal finishes, Chromattechs blend subtly with their environment. Ember Chrome, for instance, softly reflects its surrounding colors. And unique new Matte Textured acrylics have a warmth that lends a pleasantly soft look and feel to panel and drawer surfaces. Chromattech fabrics are special, too. In a wide choice from manly tweeds to smooth textures. And in a palette of colors from richly muted earth tones to a

strong purple, bright bittersweet and vibrant red. The total environment achieved with Chromattechs is one of understated elegance . . . one that can be tailored to your clients' individual preferences. Visit one of our showrooms soon and see how Chromattechs open new designing possibilities to you. Or, we'll send a representative to see you or mail complete information. Just write Department A, Steelcase Inc., Grand Rapids, Michigan. Los Angeles, Calif.; Canadian Steelcase Co., Ltd., Ontario.

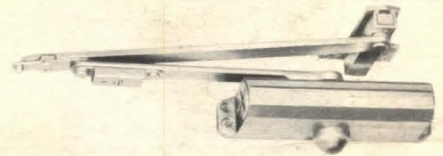
STEELCASE

SHOWROOMS & OFFICES: NEW YORK • GRAND RAPIDS • ST. LOUIS
CHICAGO • LOS ANGELES • PHILADELPHIA • CLEVELAND • DALLAS
HARTFORD • ATLANTA • BOSTON • DETROIT • PORTLAND, OREGON

NORTON[®] CLOSERS **CONTROL DOORS • NOT DESIGN**

There's no need to compromise your design when you select Norton Closers, even in schools, where traffic is heavy and extremely tough on doors, frames, and closers. You can select controls that take the abuse of schools and still have an attractive entrance.

CONTACT YOUR NORTON REPRESENTATIVE FOR COMPLETE DETAILS.



SERIES 6120 UNITROL[®] CONTROL

A combination door closer and door holder with built-in shock absorber to protect door, frame, and closer. Dependable control, completely compatible with the modern styling of today's aluminum doors.



1164



NORTON DOOR CLOSER DIVISION
372 Meyer Road, Bensenville, Illinois 60106
Available in Canada—Norton Door Closer Division