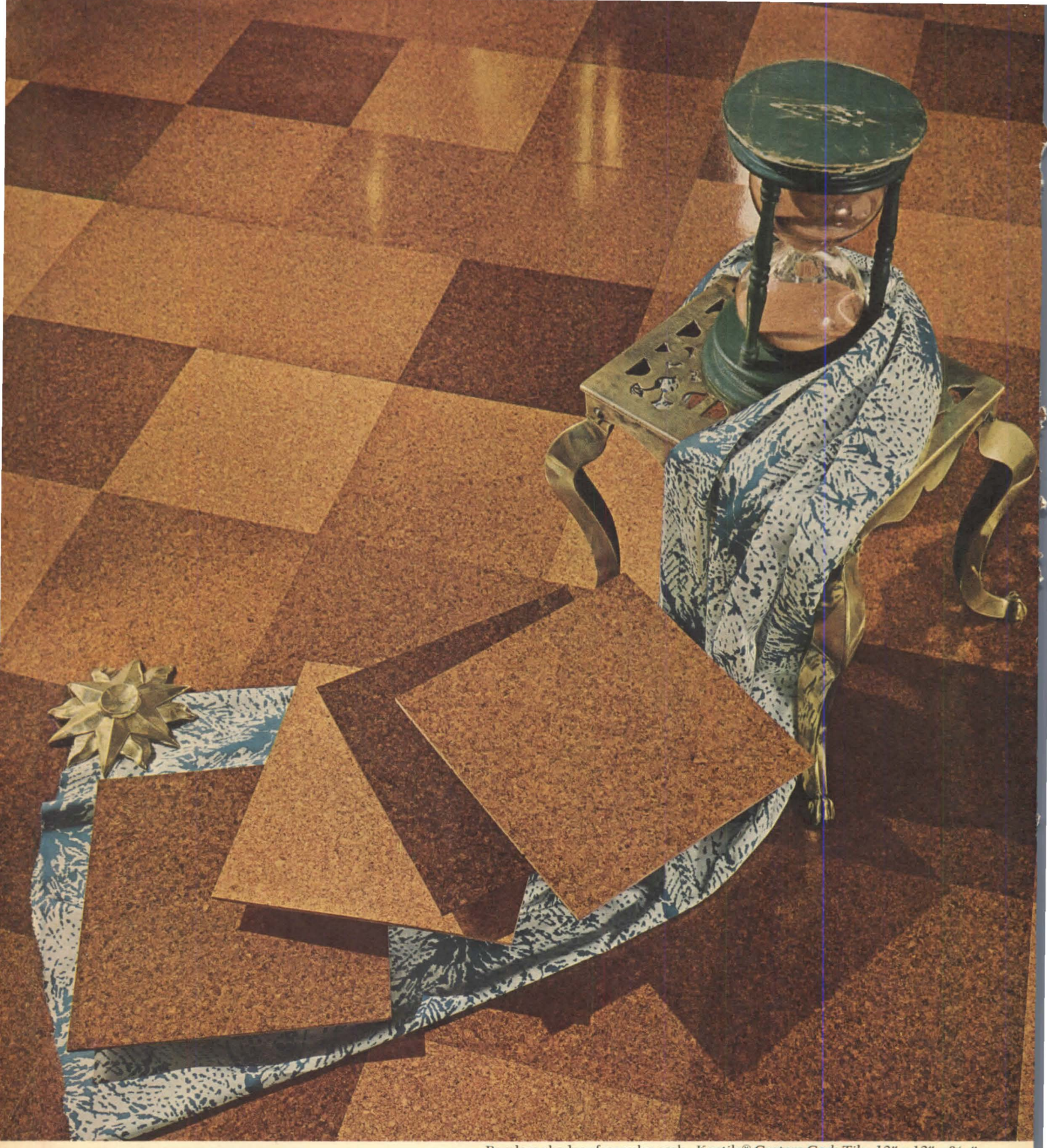
RCHITECTURAL FORUM / DECEMBER 1966

FORUM



Random shades of popular cork—Kentile® Custom Cork Tile. 12″ x 12″ x 3/16″ tiles. Ideal in libraries, boardrooms, offices, bedrooms, and living rooms.

KENTILE
CORK FLOORS

All the deep beauty of natural cork! Use Kentile's Custom Cork tiles for comfort, quiet, and warmth underfoot. As easy to clean—and as carefree—as vinyl! Custom Cork is sturdily finished to resist scuffing, grease, and dirt. The look of natural cork enriches both modern and traditional rooms and halls—residential, institutional, or commercial. For samples, call your Kentile Representative.

Cover: Boston's Architectural Center in its Back Bay context (pages 64-71). Photograph by Lois Bowen.

THE ARCHITECTURAL FORUM
Vol. 125, No. 5. December 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. 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 $10 within the U.S.A. and possessions. Elsewhere, $15. College Rate for students and faculty members of U.S. accredited schools of architecture, $5. Single copies, $1.25.
Member of Business Publications Audit of Circulation, Inc.
Controlled circulation postage paid at New York, N.Y.

PUBLISHER'S NOTE

'Tis the season to go shopping. On the second to last page of what we call the "Wrapper," that tan section in which information, opinion, irony, and entertaining illustration are mixed with a certain abandon, the editors report an unsuccessful (and mythical) search for suitable gift suggestions. Perhaps I can augment the list.

Let's start with the easy ones. To Paul Rudolph, of course, a silver hammer for knocking chunks off concrete walls; and to John M. Johansen, a kit of giant Xerox parts from which to construct his next architectural "happening." To Walter Netsch a complete set of optical illusions. His old ones must be quite worn out by now.

To Philip Johnson should go a copy of Philip Johnson's book, printed on gold foil. To the bright Yale student who, in this month's Letters columns, demolishes the book, another copy, intact, printed black and white on newsprint.

To Donn Emmons and Larry Halprin, until recently of BART, a little stretch of Minirail to help them commute to their San Francisco offices. To Paul Thiry, all the pieces that make up the old West Front of the Capitol, suitably numbered. And to New York's ebullient Culture Commissioner, Tom Hoving, a bejeweled bicycle-pump from Tiffany's. But enough of individuals. To those who have architects on their gift lists, we wish the same as we do the profession: the ability to distinguish between wants and needs.

On a larger scale, if we happened to have a loose $125 million or so, we would give it to Philadelphia to build Market East, all at once, right now; there would be similar bequests to New York for its Lower Manhattan Plan (let Battery Park City sink of its own weight); to Chicago to develop its lakefront air rights by design, rather than by speculation. To these, and to all of the cities trying to solve problems that multiply as fast as their tax revenues diminish, we can only give encouragement and sympathy, in and out of season. L.W.M.

To turn our children into tomorrow's doctors, pilots, lawyers and architects, takes a lot of schooling and a lot of schools.

And as you plan the new schools to teach them in, keep in mind the roofing that's quickest, easiest and most economical to apply: Barrett's Bond Ply System.

Quicker and easier because it takes only 2 plies instead of the conventional 4. More economical because it's quicker and easier. Goes down faster. And still gives you the 20-year bonded roof you always specify.

Like to know more? Write us at: Barrett Division, Dept. AF-12, 40 Rector St., New York, N.Y. 10006.

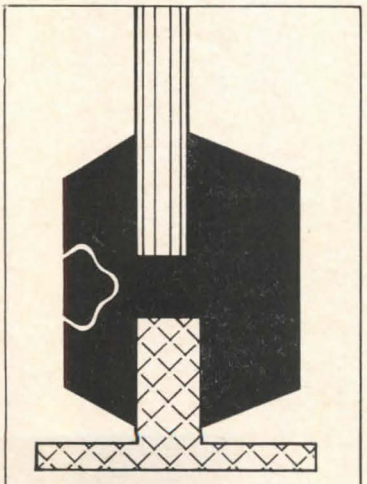
Allied Chemical

BARRETT DIVISION

Building products for home & industry:
Acoustical Materials
Ceilings
Gypsum Products
Insulations
Paving Materials
Plastic Pipe
Protective Coatings
Roofing Systems
Sheathing
Shingles
Siding
Urethane

Gateway-Center Office Building
Architects: Skidmore,
Owings, and Merrill, Chicago.

Gaskets of Du Pont Neoprene Keep a Tight Glazing Grip for Weathertight Comfort.



Gaskets of Du Pont Neoprene
in Gateway-Center manufactured
by The Standard Products Co.

More than 3600 windows and panels in the Gateway-Center Building, Chicago, are sealed with preformed compression gaskets made of Du Pont Neoprene.

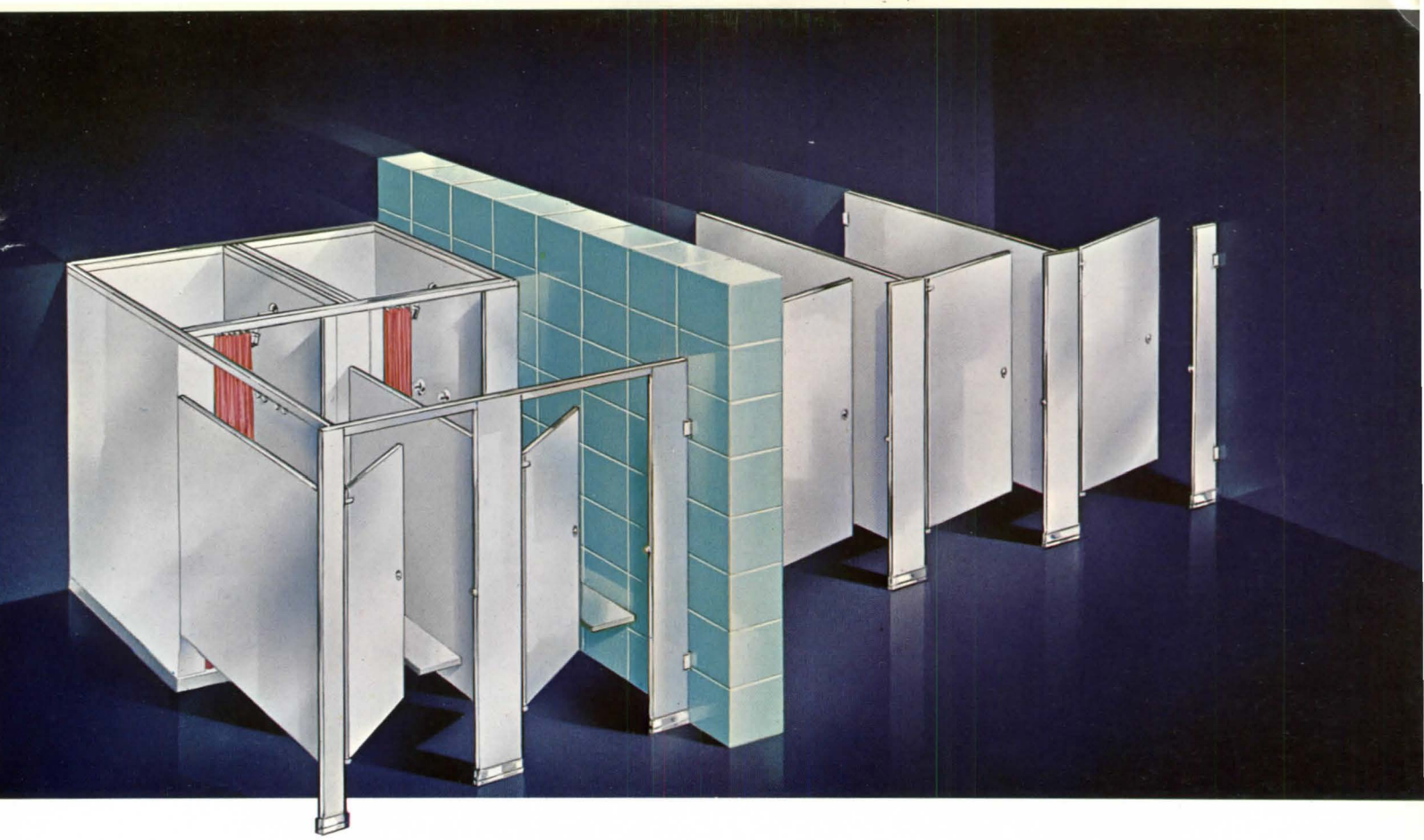
Neoprene was specified because it resists the deteriorating effects of weather, wind and ozone. It adjusts to normal building contraction and expansion . . . and retains its resilience year after year. Inherent flame resistance adds to safety and security.

Du Pont Neoprene is the only structural elastomeric gasket material proved in use for more than 15 years.

Du Pont makes Neoprene, not finished gaskets. Write for source of supply and 8-page report on building seals.

Du Pont Company, Room 4607-A
Wilmington, Delaware 19898

DU PONT
REG. U. S. PAT. OFF.
NEOPRENE

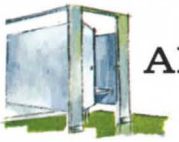


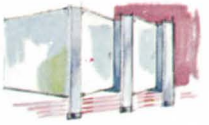
Sanymetals® ...crafted in stainless steel...

GLEAM FOR LIFETIMES WITH MINIMUM MAINTENANCE!

CORROSION RESISTANT, STRONG, SMOOTH AND BEAUTIFUL.

SANYMETAL SHOWERMASTERS  DRESSING ROOM

COMPARTMENTS  ALONG WITH Sanymetals

FORMERLY CALLED TOILET PARTITIONS 

PROVIDE IDEAL INSTALLATIONS FOR CLUBS  DORMITORIES,

 POOLS GYMNASIUMS  TRAVEL SERVICE 

AND TERMINAL  AREAS. AVAILABLE IN A HOST

OF PORCELAIN AND BAKED ACRYLIC COLORS, TOO.

Sanymetals®

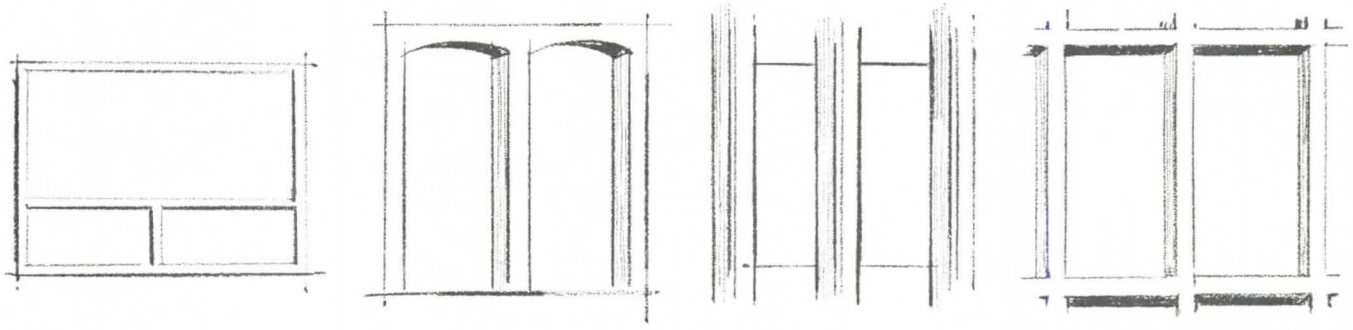
JUST WRITE

OR FULL STORY

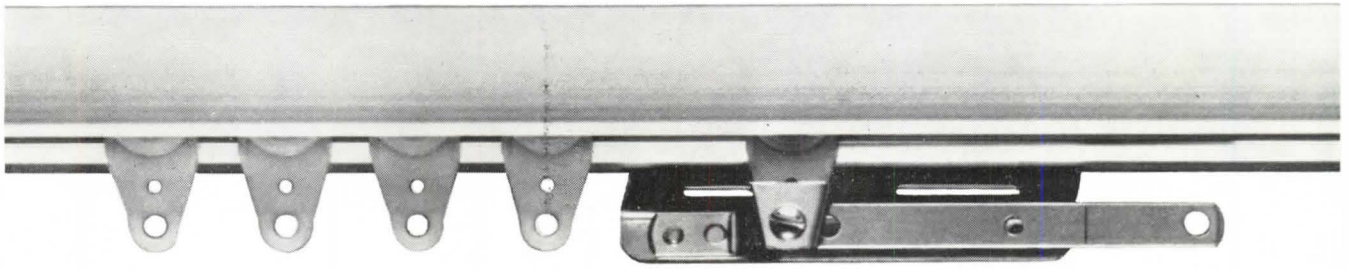
THE Sanymetal® PRODUCTS COMPANY, INC.

1701 Urbana Road, Cleveland, Ohio 44112

You draw the windows.



Let Architrac® draw the draperies.



Model 9041
For wall or ceiling

Model 9040
Recessed ceiling only

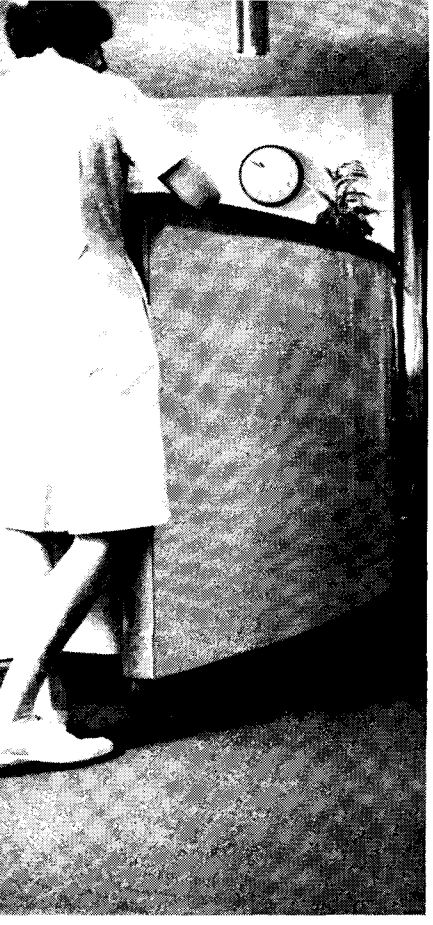
A system of drapery tracks designed for every window decorating and light control application

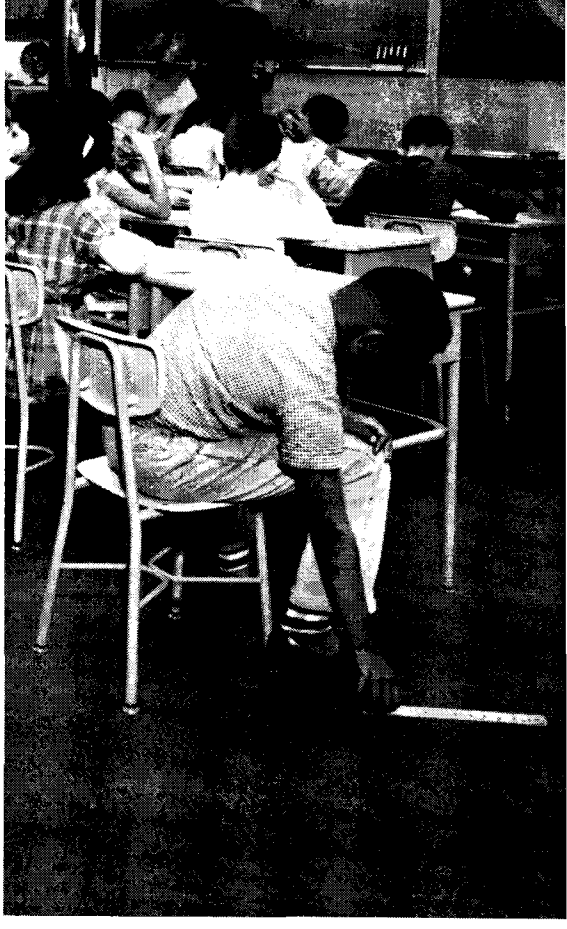
Specifying Architrac assures window treatment that complements your window design. Dual-channel anodized aluminum tracks harmonize with contemporary window casings and sliding glass doors. Openings are uncluttered because draperies pack *all the way* to the ends of the tracks. Architrac mounts easily on walls, casings and on or in ceilings. (Support clips are concealed on wall-mounted styles.) Operating cords and ball-bearing pulleys are hidden in rear channel; ball-bearing drapery carriers ride smoothly in front channel. Quiet and trouble-free. When you're ready to design windows, Kirsch is ready with *Architrac*. For full information see Sweet's 15F. Or write: Kirsch Company, Dept. AR-1266, Sturgis, Mich. 49091.

Dual-channel styles: single-draw to 24 ft.; double-draw to 36 ft.; multiple-draw to 48 ft. Single-channel styles for hand traverse: single-draw to 24 ft.; double-draw to 48 ft.

Kirsch
DRAPERY HARDWARE

For windows people care about.





Here's DENSYLON—
the new floor covering that's obsoleted tile and carpet for high-traffic areas

Engineered for commercial use with A.C.E.† nylon

Not only is our revolutionary new ENSYLON* different than any other kind floor covering—it's *better.*

Better for *every* area of *every* kind of ilding—schools, hospitals, offices, res- irants (even restaurant kitchens!).

Easier maintenance is one reason. Dirt, me, or soil can't penetrate DENSYLON's tra-tight-twist, high-density nylon pile. ny kind of spillage—fruit juice, honey, en hot grease—wipes right off with a mp sponge. DENSYLON vacuums clean new with half the strokes required by rpet. And the savings on never having to ub or wash or wax a bare floor will pay r a DENSYLON installation in just a few ars!

Superb appearance is another reason. ENSYLON comes in a broad range of ndsome colors and patterns. It has all e warmth and luxury of carpet—but ne of its disadvantages. And, unlike tile, ENSYLON can't be marred, or scratched, dented. Even by spike heels or heavy tures.

For comfort and quiet, DENSYLON is permanently and integrally bonded to a 3/16″ B. F. Goodrich sponge-rubber backing (note—that's *sponge,* not foam.) It carries a lifetime guarantee. DENSYLON can never ripple or buckle. *Big benefit:* when things (or people) fall, they land on a *cushion.*

Finally, there's wear. Or rather, *no wear.* Because *no* DENSYLON *installation has ever worn out.* Even at the G.E. World's Fair Exhibit where 15 million people trudged over DENSYLON. DENSYLON can be put in the heaviest traffic areas without showing "traffic lanes."

CCC is the world's largest exclusive manufacturer of commercial carpet. We make miles and miles of conventional carpet. Every fiber, every construction. For those areas that require conventional carpet, we recommend it. Now we're making miles and miles of DENSYLON. For where tile used to go. For where carpet never could.

We have the industry's largest staff of floor-covering specialists out in the field. One of them will be happy to explain why revolutionary new DENSYLON is making everything else obsolete. Or, we'll mail you the facts. Use the coupon. Now.

**CCC's trademark for its sponge-bonded, high-density nylon carpet*

C C C
10 West 33rd Street
New York, New York 10001 Dept. AF-12
Attention: Mr. Oliver A. Wyman

☐ Send facts on revolutionary **DENSYLON.**
☐ Have representative give us estimate on approximately _____ square yards.

Name _____

Title _____ **Phone** _____

Organization _____

Address _____

City _____ **State** _____

†*Trademark: Allied Chemical Corporation*

Densylon

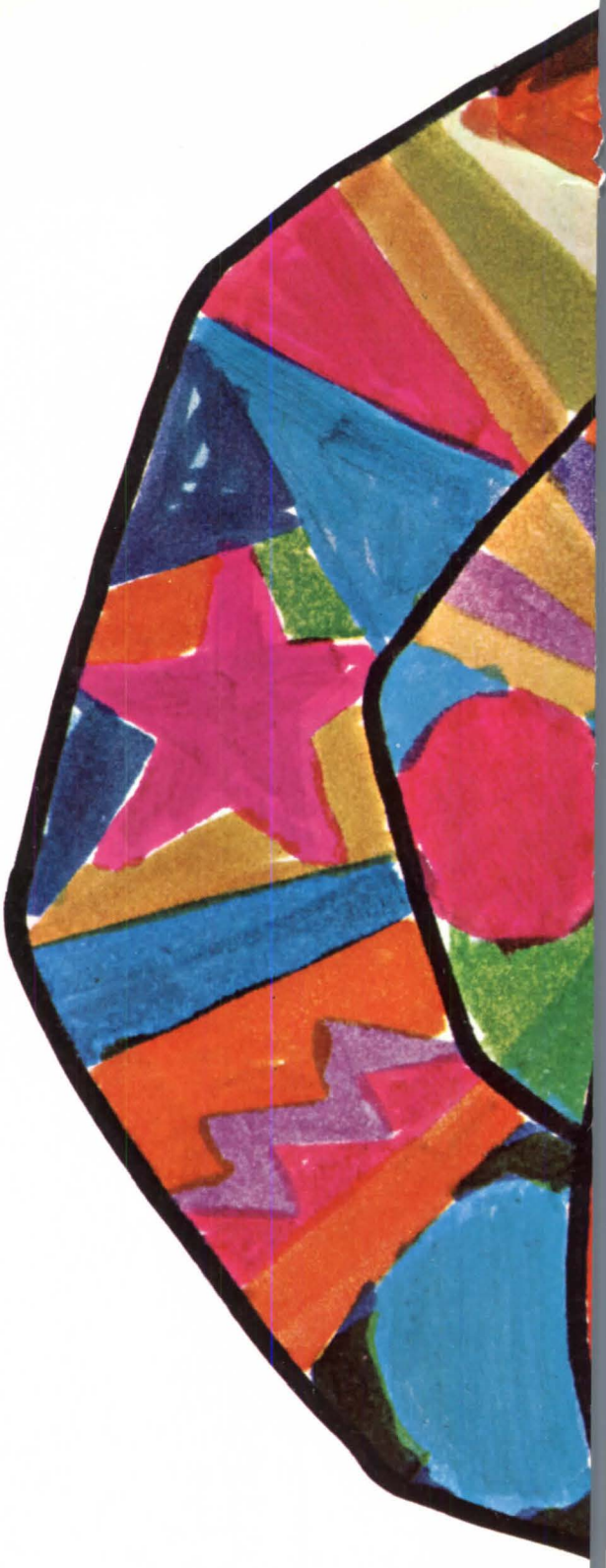
MANUFACTURED BY **CCC** WITH **A.C.E.** NYLON

nercial Carpet Corporation, New York City, Chicago. In Los Angeles, **Pacific Commercial Carpet Corporation.** Canadian Affiliate: **C. C. Carpet Co., Ltd.,** Woodstock, Ontario

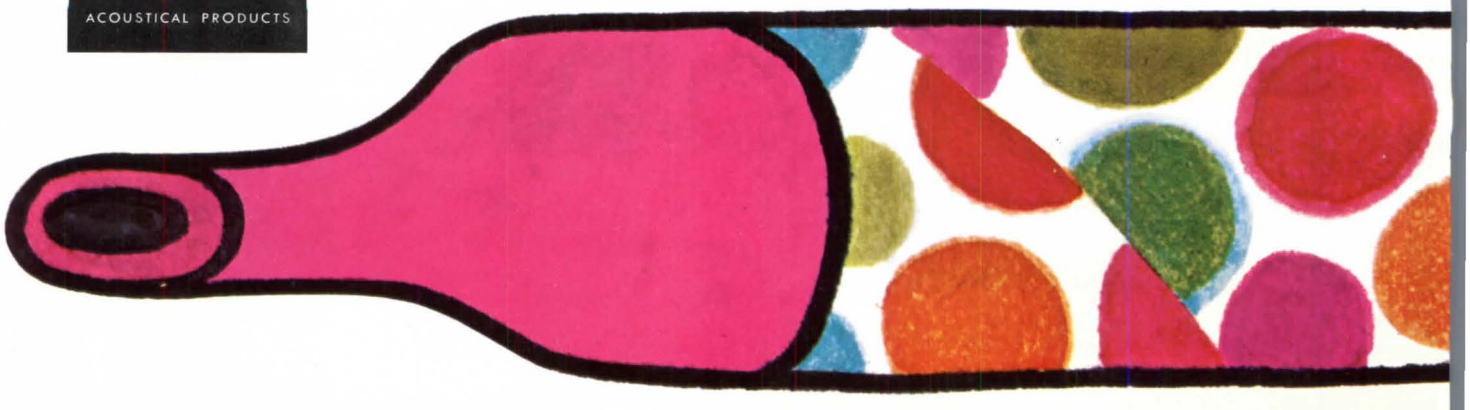
Why is Gold Bond making so much noise about quiet?

Because there's so much noise to make quiet about. Bangs and clangs and rat-tat-tats. Hums and whirs. And just plain yak. Something had to be done about it. So we built the most complete Sound and Fire Testing Laboratory in the world. Now we can offer you almost as many different kinds of tested and proven acoustical-ceiling systems as there are kinds of noise. Or kinds of design problems. Like attenuation. Humidity. Ventilation. Or fire control. Go ahead, lean on Gold Bond® acoustical products. They're the strong, silent type.

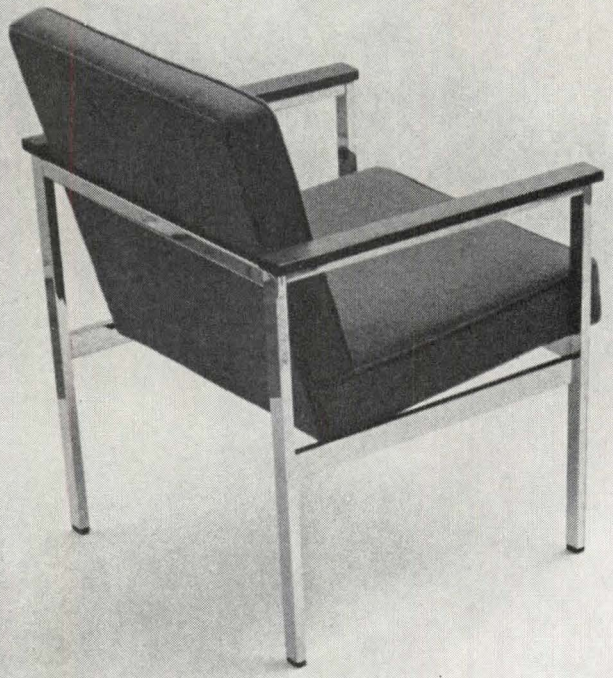
National Gypsum Company
Department C-36, Buffalo
New York 14225



Gold Bond
ACOUSTICAL PRODUCTS



We can't show you the most important part.



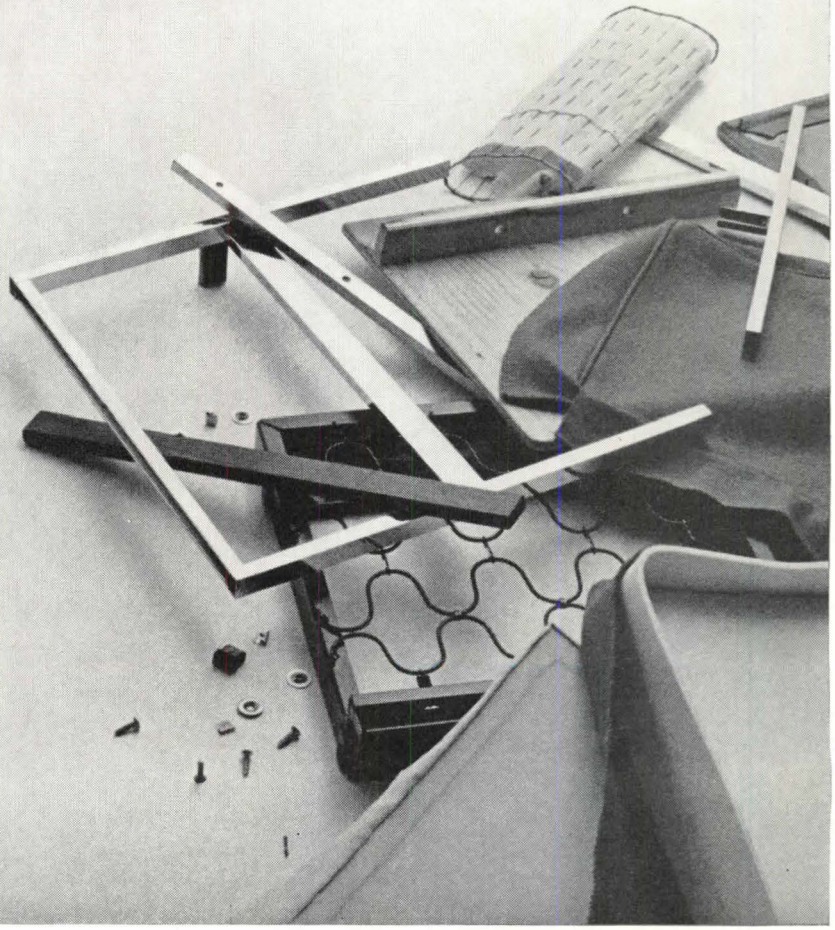
It's the trouble our furniture makers go to.

Their rule of thumb: anything in the Art Metal line worth doing is worth doing well. Right down to the last little upholstery clip.

Take our 900 line executive side chair. Comfortable. But firm. The no-sag spring seat construction will never let you down.

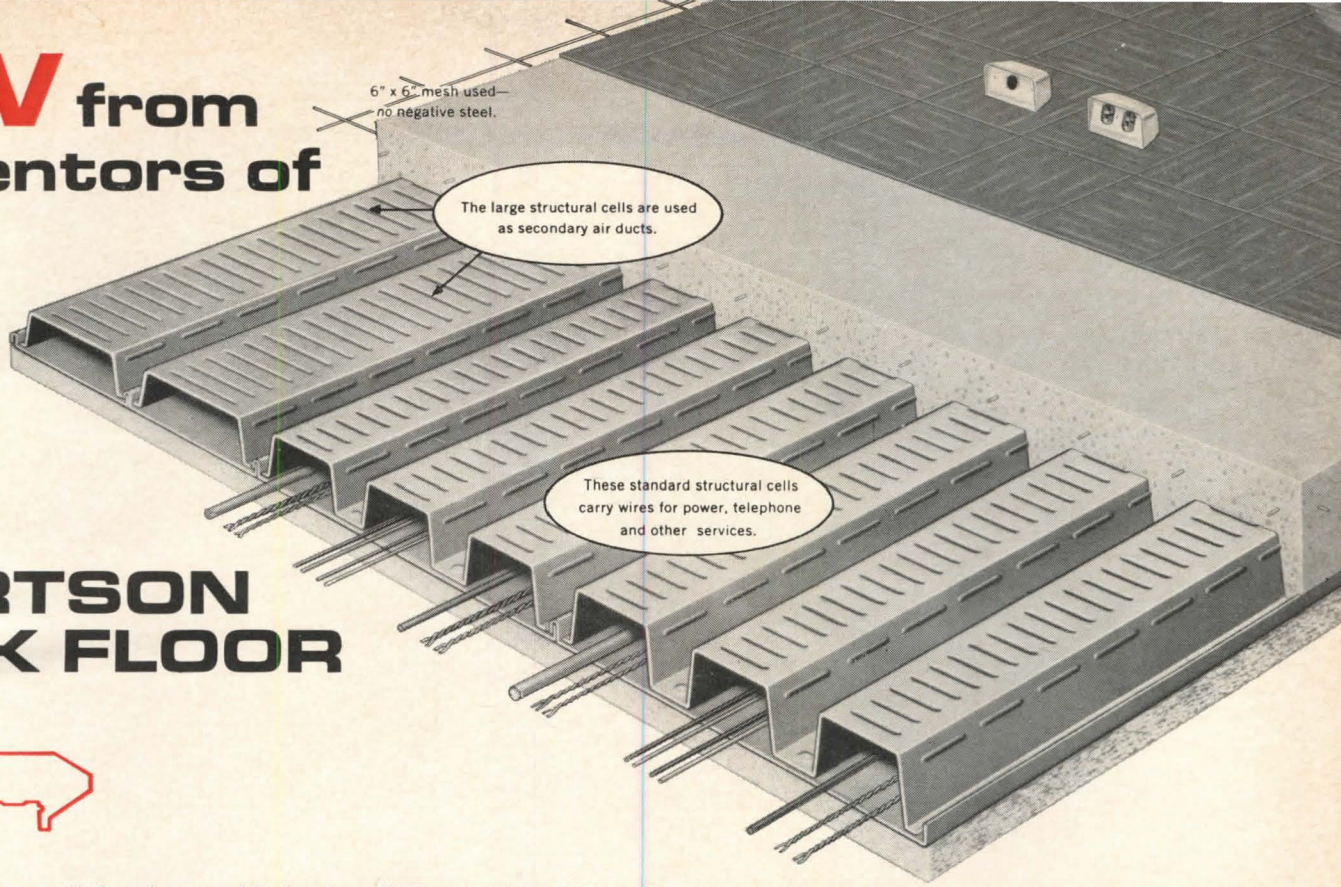
Another thing. All joints and seams are welded. Invisibly welded. Like this: metal clips are first welded to the legs. Then polished or brushed chrome steel stretchers are fitted over them covering the weld. Result: clean smooth joints and seams.

Everything about our executive chair is made the way office furniture ought to be. Furniture that looks beautiful and works beautifully—a solid investment for the management who pays for it.

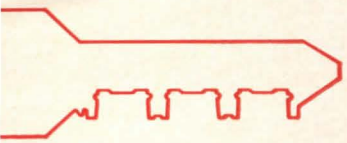


ART METAL INC
JAMESTOWN, NEW YORK

NEW from the inventors of Cellular Steel Floor

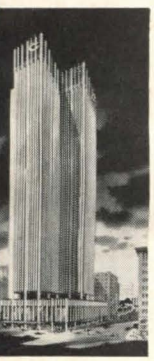


ROBERTSON Q-LOCK FLOOR

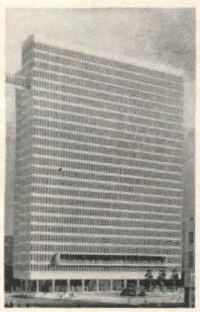


w Q-Lock Floor possesses all the virtues of Robertson Q-Floor while adding ne new ones of its own. When concrete is poured over Q-Lock Floor, the entifically-designed indentations and embossments rolled into the steel uctural elements develop composite action. Therefore, this new design locks ether the structural properties of both materials in a tight grip and results a more efficient and economical use of both materials. Use the coupon or te to Robertson on your letterhead for literature.

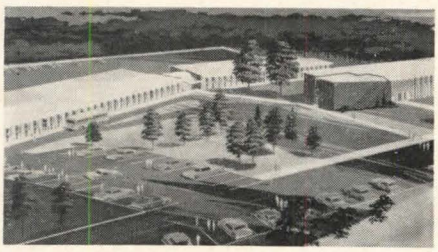
RECENT Q-LOCK INSTALLATIONS



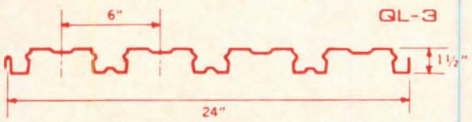
ker-Citizens Na- al Bank, Los eles, Calif. Wil- n L. Pereira, itect; Brandon ohnson Assoc., uctural engi- s; William Simp- Construction Co. Dinwiddie Con- ction Co., gen- contractors.



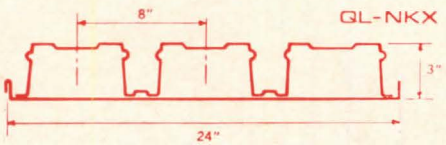
Atlanta Gas Light Tower, Atlanta, Ga. Edwards & Portman, Architects; J. A. Jones, Construction Co., general contractor.



Vocational School, Springfield, Ohio. John L. Kline, architect and structural engineer; Fry, Inc., general contractor.

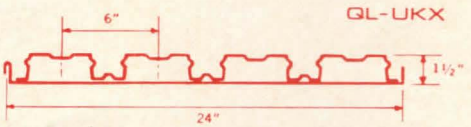


This is a highly economical deck where long spans are not necessary. Can be used with studs weldable through deck as a part of composite frame construction with further economies (often a reduction of 1 pound/sq. ft. in framing of structure of building).

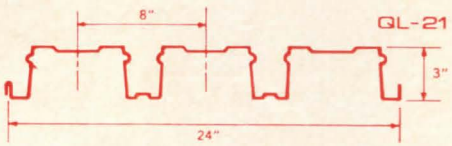


With the welded bottom plate this style provides electrical raceways.

This wide structural unit (used in pairs) also functions as a secondary duct for air conditioning



This type is similar to QL-3 except that the flat bottom section gives it greater span capacity. It can be used electrically.



This is a heavy-duty deck which will take considerable load when working in combination with concrete.

H. H. ROBERTSON COMPANY
PITTSBURGH, PA.
Sales Offices In Principal Cities Throughout The World
U.S.A. Plants In: Ambridge, Pa. Connersville, Ind. • Stockton, Cal.

H. H. ROBERTSON COMPANY
Two Gateway Center, Pittsburgh, Pa. 15222

I would like to have more information on Q-Lock floor. Please send literature.

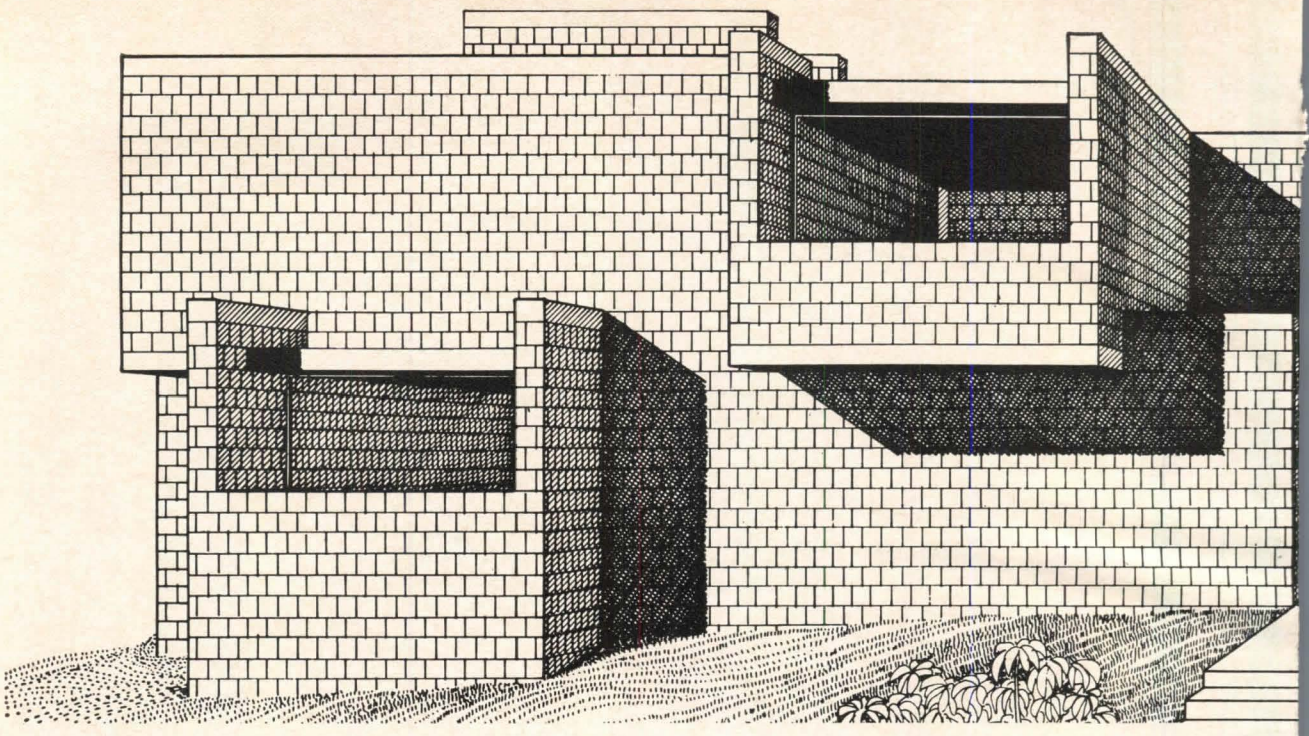
Name_____

Title_____

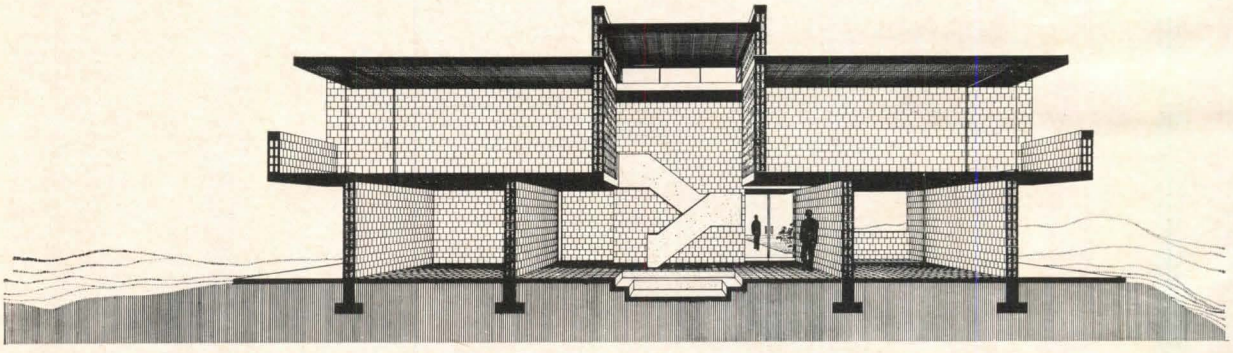
Firm_____

Address_____

City_____ State_____



Architect Marvin Hatami designs a college dormitory



At –10°, indoor wall surface temperature is increased from 50° to 62° by insulating the block walls with Zonolite Masonry Fill Insulation.

The project consists of the first section of a dormitory complex, located on a hilly meadow site, accommodating fifty-two single rooms.

It was designed by Marvin Hatami and engineered by Cator, Ruma & Associates, both of Denver, Colorado.

The rooms are composed around a two story central lounge and every three rooms share common bathroom facilities. Developed modularly, the second floor is superimposed over the ground floor in a way to express each individual room in an interwoven and interlocking manner.

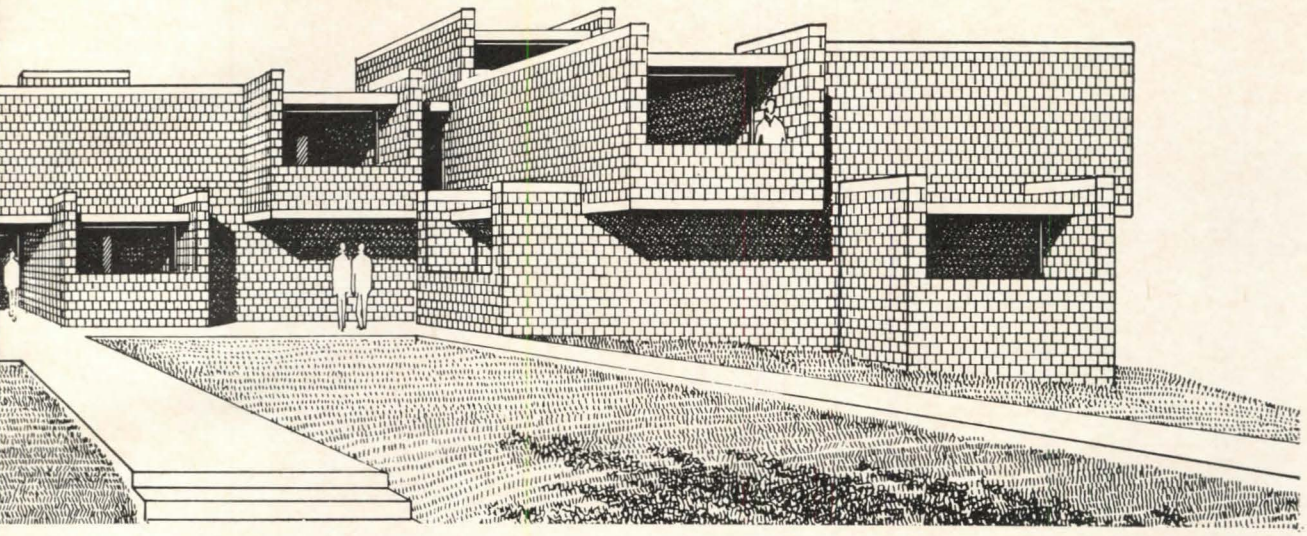
The structure is composed of 12″ x 8″ x 8″ reinforced lightweight concrete block bearing walls, insulated against thermal and sound transmission with Zonolite Masonry Fill Insulation.

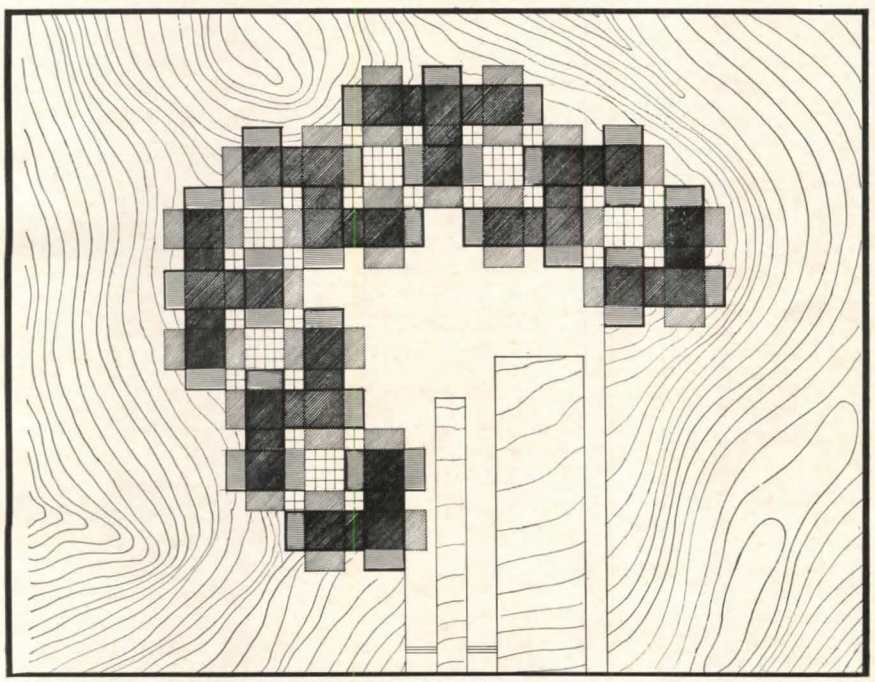
It cuts thermal transmission through the walls by 50% (chart), raises the interior wall face temperature from a miser 50° to a comfortable 62°, thus ducing heat transfer and convec currents in the rooms.

This cut the operating costs 9 or about $90 a year.

The savings more than pay for cost of the thermal insulation the 20 year mortgage period.

Zonolite® prototype building #10: a college dormitory





BLOCK PLAN SHOWING THE SUPERIMPOSITION OF SECOND FLOOR ON GROUND FLOOR

omplete information about
lite Masonry Fill Insulation,
for our Bulletins MF-79
MF-80, Dept. AF-36, 135
n LaSalle Street, Chicago,
s 60603.

ONOLITE
CE ZONOLITE DIVISION
W. R. GRACE & CO.
. LA SALLE ST., CHICAGO, ILL.

DESIGN CONDITIONS			Winter Heat Loss in BTU/HR. Assuming 70° F Indoor —10° F Outdoor	
	Without Masonry Fill	**With Masonry Fill**	Without Masonry Fill	**With Masonry Fill**
Walls	12″ x 8″ x 8″ Lightweight Concrete Block	12″ x 8″ x 8″ Lightweight Concrete Block (Cells Filled)	142,000	**71,000**
Roof	Roofing, 8″ Concrete 2″ Insulation		98,000	**98,000**
Floor	4″ Concrete on Grade		26,000	**26,000**
Glass	1″ Insulated Glass		242,000	**242,000**
Ventilation	3600 CFM		260,000	**260,000**
Totals			768,000	**697,000**
% Savings with Masonry Fill			$\frac{768,000-697,000}{768,000} \times 100 = 9.2\%$	

1. Increased wall attenuation characteristics reduces sound transmission considerably.

2. Raised indoor wall surface temperature from 50° F to 62° F provides added comfort.

3. 14,100 sq. ft. of walls (includes 8200 sq. ft. of interior walls) @ 18¢ sq. ft. = $2,538 installed.

4. Additionally the operating costs are reduced by over $90 per year based on 5673 degree days $.053 per therm gas boiler.

LETTERS

BEAU GESTE

Forum: This is to let you know how proud we feel in Montreal for the distinctive honor of seeing our story publicized in such an influential magazine as yours.

My colleagues of the City Council and myself wish to thank you very much for this magnificent recognition of our efforts to revitalize the downtown section of Montreal.

JEAN DRAPEAU
Mayor of Montreal

POLITESSE

Forum: I am afraid that to this student your twice-voiced attempt at rationalizing Philip Cortelyou Johnson's review of a book on his work blatantly sponsored by himself sounds unconvincing.

Luckily, Mr. Johnson seems to be the first to admit that this testament to his work is geared first to the coffee table, and then the library, but his taking of *Oeuvres Complètes* out of Visual Aids and putting them more in the great architectural tradition of Self betrays his academic background. This apparent dismissal of thorough illustration in favor of special effects is in the same hierarchical family as those subtleties resulting in the not-so-much-talked-about Limited Vision Seats of his New York State Theater.

The truth is, to a student interested in the lessons to be learned from a man's work (albeit they are in the Miesian School of not wanting to be interesting, but good), such a book can only be a disappointment. Surely, technicolor has its place, especially when in 1966 it appears to cost only 13 cents a page, but where are the North arrows, which are, after all, more honest things? (Their absence in these cases speaks ill of *La Journée Solaire* in Johnson's work). Where, indeed, are the details we all expected to see; is not their sum no small part of the whole? In point of fact, the technicolor belongs in *Better Homes*, and all the student is left with is a cutesy-poo title block by Lustig and a text by Hitchcock which frankly isn't up to the weighty scholarship that *Architecture: Nineteenth and Twentieth Centuries* was made of.

I would even suggest that perhaps while the friends are celebrating birthdays, the *Festschrift* should at least not be reviewed by the guest of honor (who, we discover, arranged the party in the first place) but by someone outside the family.

It may not have been as good, but probably more interesting to have had Dr. Banham place *Philip Johnson 1949-1965* in the course of Modern Architecture for the serious student who looks upon books as sources of information, and reviews as critical appraisals. It is, after all, less a polemic than a *politesse*.

Yours very truly,

PETER C. PAPADEMETRIOU
Yale University

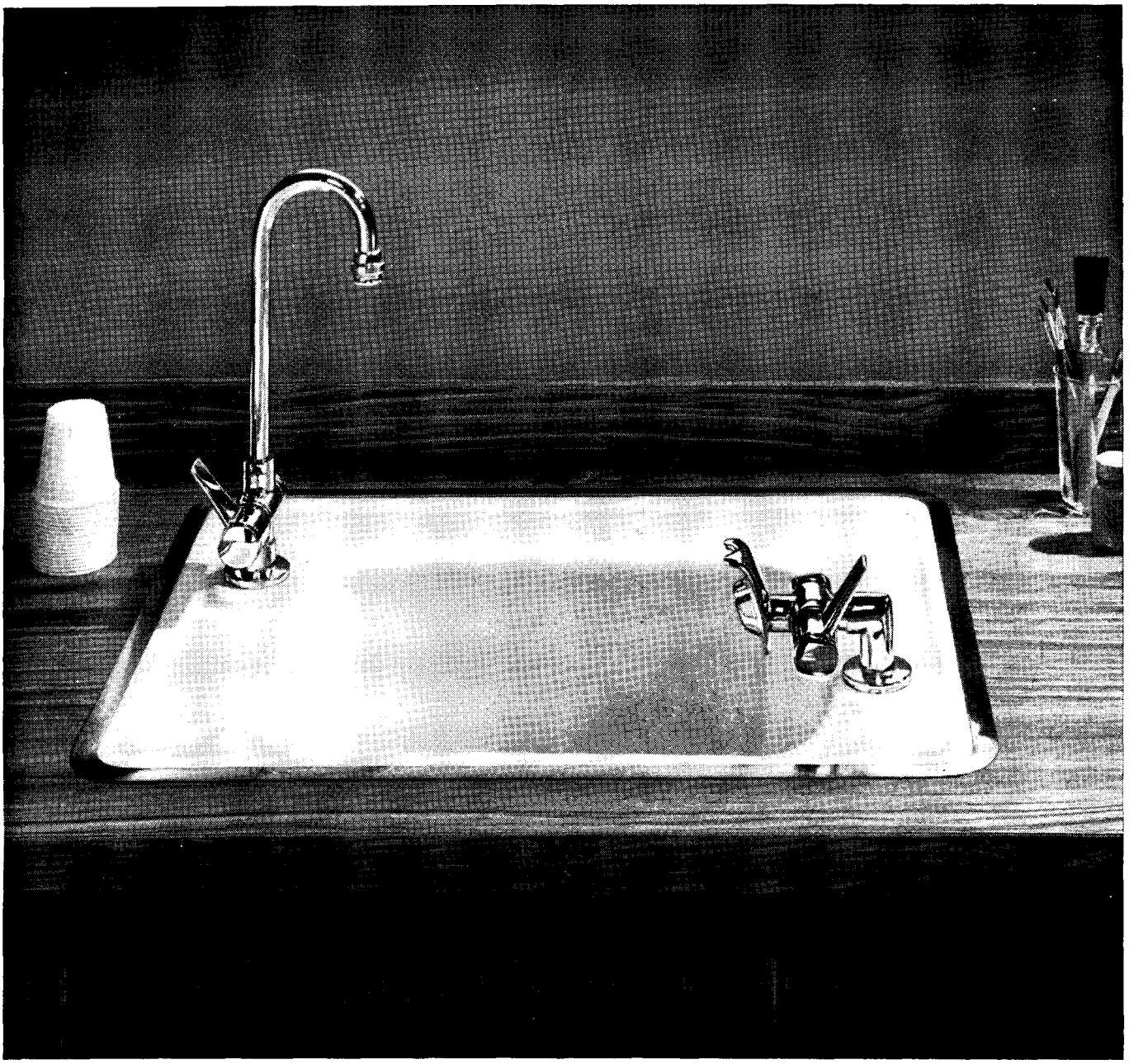
THE SOUTHWEST

Forum: I have received complaints from some of the people who were actively concerned in the redevelopment of Southwest Washington in regard to my article in your July/Aug. 1966 issue.

I am extremely concerned that planners from other countries should make every effort to present a fair and unbiased exposition of such important projects and I regret very much that any statements of mine should have led to concern by those who have worked for years in endeavoring to rebuild cities in a finer way. The particular problem which has been taken up is the relocation of the previous inhabitants. My original draft of the article was of much greater length than the final submission and it contained an additional statement with regard to this very difficult problem, which has obviously received so much careful consideration by the Redevelopment Agency.

During the preparation of the final and considerably shortened draft, I failed to observe that it could easily give a misleading impression. I should emphasize that I was given every help by the Redevelopment Agency, which included extensive documentation, and they have been good enough to forward to me further information of a detailed character. I have no hesitation in stating that the work done on the relocation of the previous inhabitants, judging from the documents sent to me and without of course having a detailed social study from an independent source, has been of an exemplary character, and I apologize to the agency for not having made this clear in my article.

PERCY JOHNSON-MARSHALL
University of Edinburgh *Professor*



This multi-purpose sink keeps children in their place

Here's the answer to one of your most familiar problems, that of children wandering down the hall for a drink of water. Or to wash up after a heavy session with chalk, finger paints or modeling clay. The multi-purpose American-Standard Ledgeworth* sink helps keep students in the classroom where it is installed. It provides a self-closing, anti-squirt bubbler for drinking purposes, a self-closing glass filler (handy for plants, pets and painting or just rinsing the hands). Made of acid-resisting, heavily enameled cast iron, this sink resists chipping, won't dent, and is as easy to clean as a china dish. Available in two sizes—24 by 18 inches and 30 by 20. For more information see your American-Standard representative. Or write American-Standard, Plumbing and Heating Division, 40 W. 40th St., N.Y., N.Y. 10018.

*TRADEMARK AR&SS CORP.

AMERICAN STANDARD

PLUMBING & HEATING DIVISION

Architects-Engineers: Minoru Yamasaki & Associates. Marbles furnished by Vermont Marble Company include: Exterior Diamond Matched panels, Vermarco Verde Antique; Interior floor, Montclair Danby; walls and base, Vermarco Best Light Cloud; desk, Vermarco Statuary Marble.

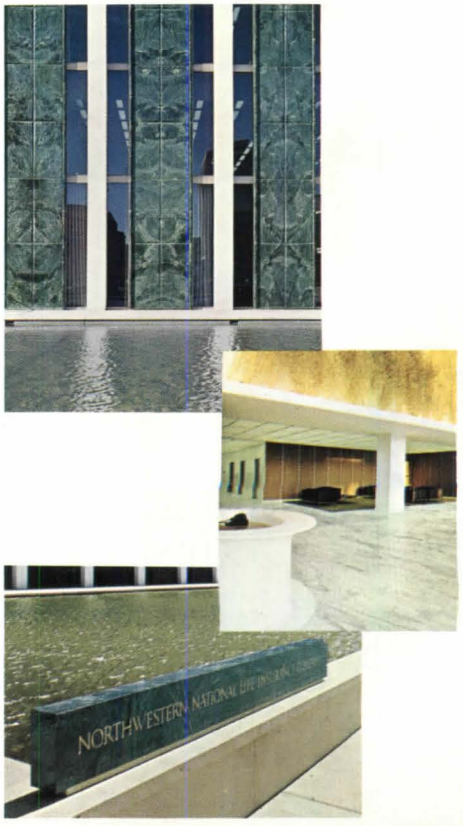
Vermont Marble

the architect's choice for contemporary design

Northwestern National Life Insurance Company, Minneapolis. "Cost per square foot . . . proved to be no more than conventional office construction," said the client. "It combines the elegantly aesthetic and inspiring with the thoroughly practical and economical."

Write to Dept. 10 for full-color folder showing marbles and their use in other outstanding buildings.

VERMONT MARBLE COMPANY
Proctor, Vermont



THE ARCHITECTURAL FORUM

PUBLISHED BY URBAN AMERICA, INC.

EDITOR
Peter Blake, AIA

MANAGING EDITOR
Donald Canty

ART DIRECTOR
Paul Grotz

SENIOR EDITORS
James Bailey
John Morris Dixon, AIA

ASSISTANT TO THE EDITOR
Ann Wilson

EDITORIAL ASSOCIATE
Melissa Sutphen

EDITORIAL ASSISTANTS
Marie-Anne M. Evans
Ann Wilder
Judith Loeser (Art)

BOARD OF CONTRIBUTORS
Robin Boyd, FRAIA, Hon. FAIA
Rosalind Constable
George A. Dudley, AIA
Henry Fagin, AIP
Lady Barbara Ward Jackson
Edgar Kaufmann Jr.
Burnham Kelly, AIA
Leo Lionni
Kevin Lynch
Walter McQuade, AIA
Sibyl Moholy-Nagy
Charles W. Moore, AIA
Roger Schafer
Vincent Scully Jr.
Bernard P. Spring, AIA

Douglas Haskell, FAIA

CORRESPONDENTS
Philip H. Hiss (Southeast)
Orr Kelly (Washington, D.C.)
Donlyn Lyndon, AIA (West)
Roger Montgomery, AIA (Midwest)

BUSINESS MANAGER
Lawrence Steinberg

PRODUCTION MANAGER
Sal Tumolo

ADVERTISING MANAGER
Harold D. Mack Jr.

PUBLISHER
Lawrence W. Mester

FORUM

The Demonstration Cities program, principal urban ornament of the Johnson Administration, has been rechristened. HUD Secretary Weaver said that from now on it would be called the Model Cities program.

The original title, the secretary told the press with a show of jocularity, sounded too much like a reference to cities that had suffered street demonstrations of one kind or another. Besides, he added, it was awfully long for headlines.

DISASTERS

THE WORLD'S LOSS

The floods that swept through northern and central Italy early last month were more devastating to the area's art and architectural treasures than all the bombs of World War II.

In Florence alone, the latest inventory of damaged works of art totaled 885 panels, canvases, frescoes and sculptures. Yet to be calculated is the extent of the damage done to the city's architectural monuments, such as the 14th-century Ponte Vecchio (below),

whose goldsmith shops were swept away by the waters.

In Venice and other cities, the devastation left by the flood is virtually as tragic, even though water-oriented Venetians were better able to cope with the onslaught. But there, too, the damage was enormous.

Organizations set up to help recover as much of the loss as possible have sprung up around the world. In the United States, Mrs. Jacqueline Kennedy is serving as honorary chairman of the new national Committee to Rescue Italian Art, which already has sent supplies and technicians to the afflicted area. Contributions to support its work may be sent to the committee in care of the National Gallery of Art, Washington, D. C.

ONE LAST SPREE

Elected on a "conservative" platform in 1962, the county council of Montgomery County, in the Maryland suburbs of Washington, D. C., rezoned more property during its first two years than the previous council had in a full four. Most of the rezoning opened the county's rapidly dwindling countryside to a hodgepodge of subdivisions, high-rise apartments, and commercial and light industrial developments.

Under mounting public pressure, the council slowed its pace, but the voters were still fed up enough to elect a new council, pledged to a more orderly development of the county, at the Nov. 8 election.

The next day, the lame-duck council ran amok. In two days of frenzied sessions, it approved 47 rezoning applications involving more than 2,000 acres of land, tearing to shreds a master plan the council itself had approved only a few weeks before.

The rampage ended when a court injunction forced the ouster of the old council and the swearing in of the new three weeks earlier than scheduled. But the ghost of the old council, whose four-year rezoning total was a whopping 15 square miles, remained to haunt the county.

First, Interior Secretary Stewart L. Udall, calling the old council "a dreary little band of zoning lawyers and political fixers," threatened Federal reprisals unless something were done to reverse its actions. "It makes one wonder if it's possible to save the American countryside," Udall said. "If we can't do it here, we can't do it anywhere."

Next to get into the act was HUD, which did more than threaten; it suspended $10.3 million in Federal grants for Maryland projects, most of them for park land purchases. Furthermore, HUD warned, the freeze would remain in effect until "adequate and up-to-date comprehensive development planning and programming" is demonstrated.

Unfortunately, the Federal reprisals came too late to affect the

that the approach "systematically isolates factors of fundamental importance in planning and design that have generally been ignored or treated intuitively." Another, *less direct*, is an awareness "that architecture is primarily concerned with people, not things."

EVOLUTION

THE END IN SIGHT?

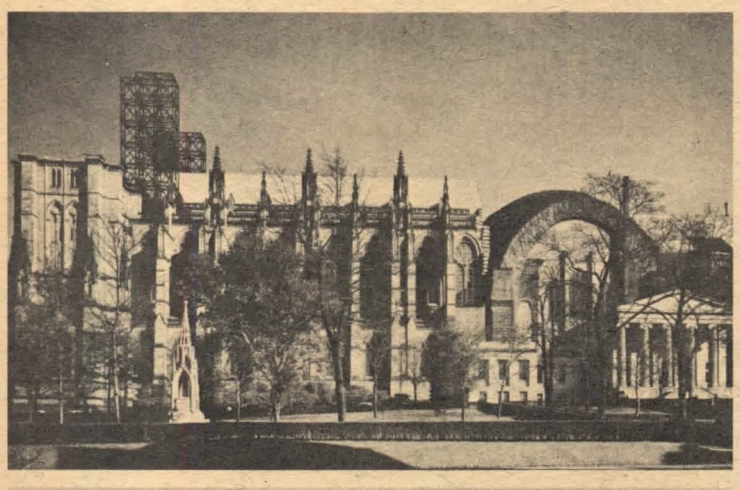
It takes a long time to get things done in New York, but the all-time record holder is the Episcopal Cathedral of St. John the Divine, which has been rising on Morningside Heights, one of Manhattan's highest points, since 1891. Just last week the cathedral trustees approved a plan for filling in the many missing pieces of what is already technically the largest cathedral in the world (below)—only because St. Peter's is not technically a cathedral.

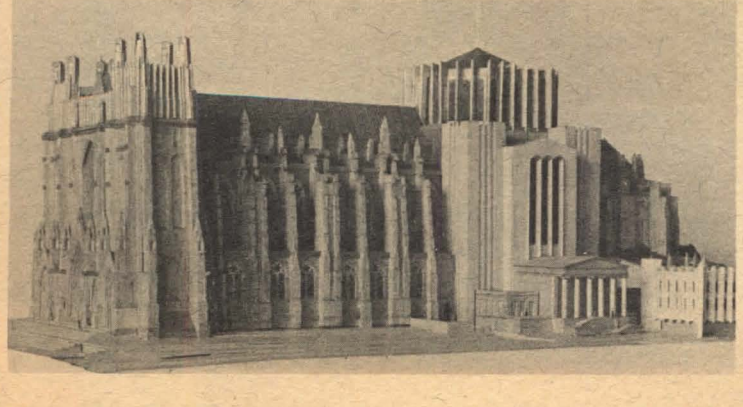
Ralph Adams Cram's ambitious design for the cathedral was only two-thirds completed when he died in 1942. It has remained that way ever since, as the estimated cost of completion multiplied and the supply of qualified stonemasons dwindled. What he left was an enormous Gothic nave, extending 600 feet from the back of the Romanesque choir (built by the original, competition-winning firm of Heins and LaFarge), the two linked by a vast "temporary" dome by Guastavino (itself an engineering landmark) spanning the 135-foot-square crossing. Conspicuously missing were his transepts, his two 250-foot west towers, and his 500-foot tower over the crossing.

Many architects have proposed contemporary solutions for the completion of St. John's, but none have been as drab as the newly-approved one by Adams & Woodbridge; it does little more than smooth the rough edges and add a bit of fringe. Besides the obvious effects of economy, the new design reflects a change in liturgy, which would move the altar out into the crossing, under a flood of tinted light from a ribbed dome (bottom).

One praiseworthy feature of the new scheme is that it would preserve and incorporate the handsome 128-year-old Ionic-porticoed orphanage building that stood in the way of Cram's south transept. Adams & Woodbridge's stub of a transept, its gable and windows reminiscent of Spence's cathedral at Coventry, actually benefits from this Greek Revival fragment.

Although approved, the new scheme, like its predecessors, may face hard times. Nobody has yet been willing to publish either an estimated cost or a schedule for its construction.



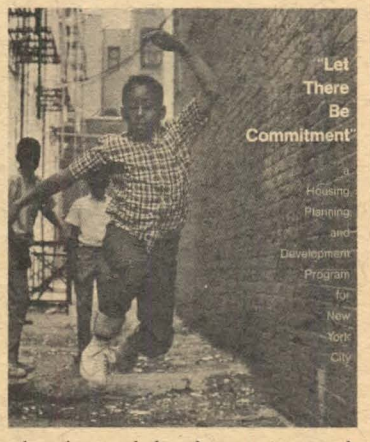


STRATEGY

END OF THE AFFAIR

The curious courtship between Edward J. Logue and the City of New York came to an end last month. Logue let it be known that he would stay in Boston, apparently feeling that the saving of New York was beyond even him.

Mayor John V. Lindsay then ordered into effect many (but by no means all) of the reforms in



planning and development procedures proposed by Logue, and appointed a team to execute them.

Logue's proposals were contained in a remarkable series of reports resulting from eight months of study by a blue-ribbon task force (Rafsky, Crane, Herman, Wheaton, Adinolfi and others) under sponsorship of the Institute of Public Administration. The major document, entitled "Let There Be Commitment" (cover above), bore Logue's unmistakable stamp.

"The coexistence in New York of enormous wealth and abject poverty is unparalleled in America," the introduction bluntly began. The city's "power and glory" is so great that "it has obscured the appalling fact that more poverty-stricken citizens of New York are living in bad housing in deteriorating neighborhoods than the total population of all but a handful of American cities."

New York, Logue continued, "has never tried to deal with this problem on the scale at which it exists." Its efforts have been crippled by inadequate funds and "totally obsolete local organizational arrangements." The city, he found, was suffering a "massive breakdown" in its housing, planning, and renewal apparatus.

REDESIGNED STRUCTURE

Logue's prescription was a consolidation of authority and dis-

(continued on page 73)

Bright landmarks on a changing urban scene

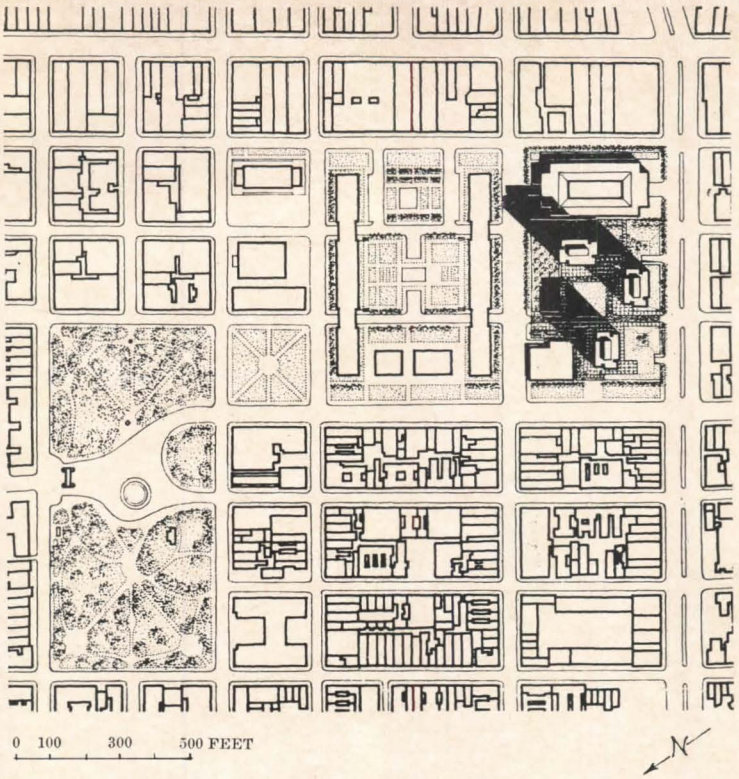
The neighborhood southeast of New York's Washington Square seemed, just six years ago, to offer a grim environmental prospect to the rest of Greenwich Village. Under an urban renewal project, the corner of the square had been breached, and behind the breach had been built the first two of an intended three oversized apartment slabs.

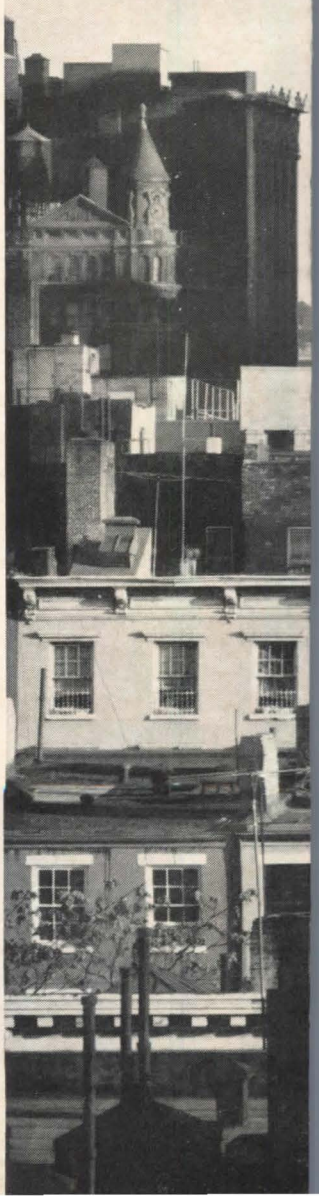
Today, on what was to be the site of the third leviathan, there stand three newly completed, nearly identical 30-story apartment towers designed by I. M. Pei & Partners. The towers, among the most handsome recent additions to the New York townscape, should reassure their worried neighbors.

The two original apartment slabs (below) were completed in 1961. They proved to be not very popular, and not very profitable. New York University, meanwhile, was looking for land on which to build faculty and married graduate student housing. The city turned over sponsorship of development on the remainder of the site to the university, on the condition that it would also build 175 moderate-income units under the state's Mitchell-Lama Act.

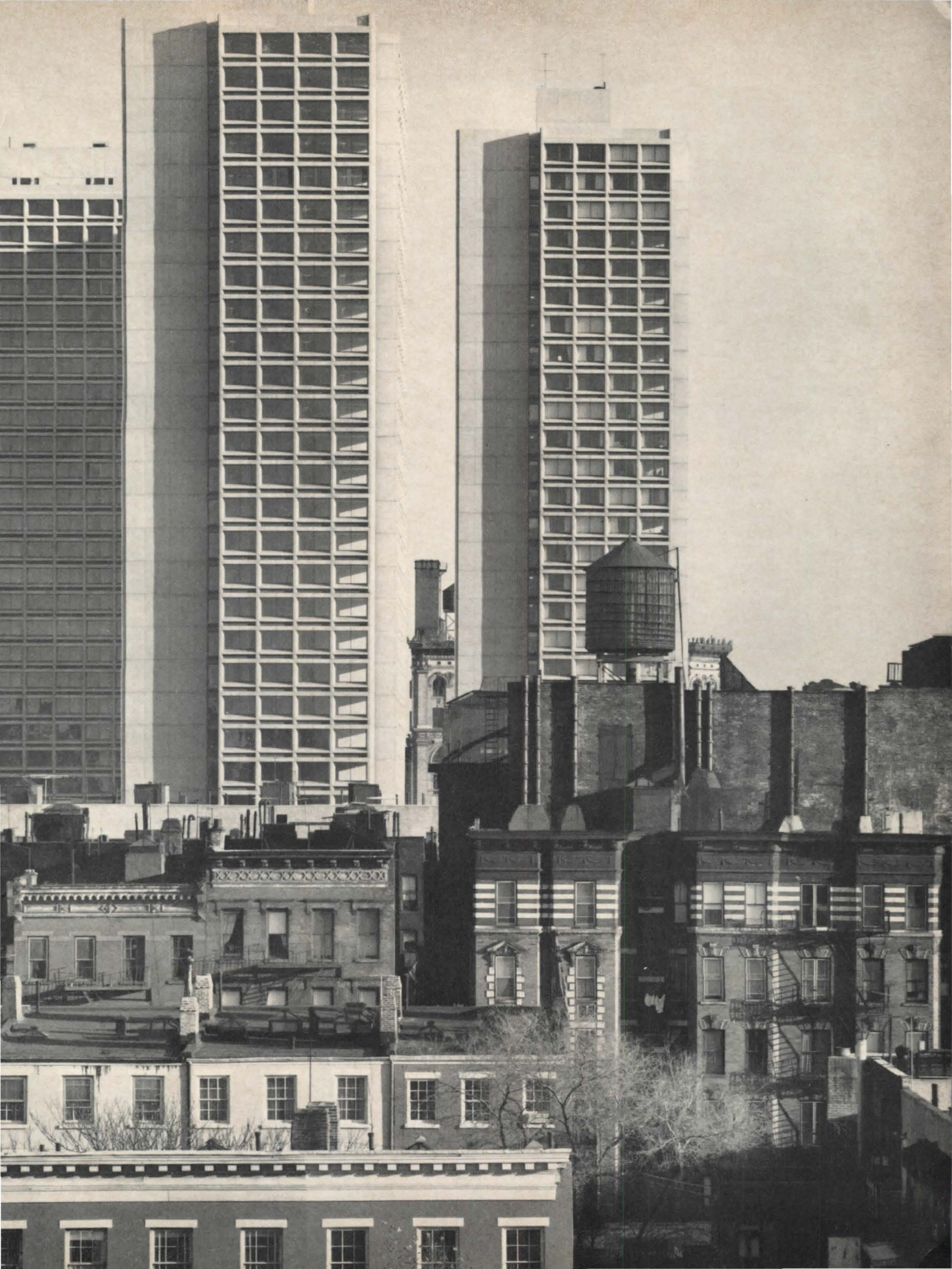
Pei first hoped to maintain the existing Village scale at the periphery of the site, with a high-rise block at the center. But to accommodate the required number of units, he found that the edge building would have had to go eight to ten-stories high—about twice the typical height of the surrounding brownstones. The low-rise building also would have faced West Houston Street, a busy crosstown route full of trucking noises and fumes.

So Pei abandoned the attempt to relate the new group to the established Village scale. Instead, he decided to go as high and as slim as possible.





CERVIN ROBINSON, the author of this article, also took the photographs on these two pages. As this fact indicates, he is both an architectural writer and photographer, and for some seven years has functioned in this dual capacity as U.S. correspondent for The Architectural Review.



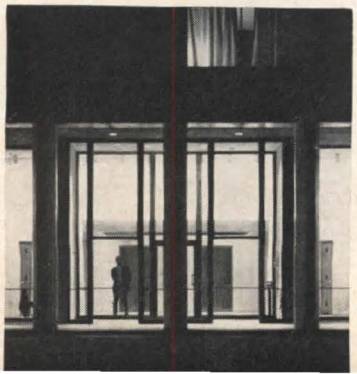
The park-like plot from which the three apartment towers rise is bermed at the southwestern corner where there is a ten-foot differential in grade. The buildings form three sides of an enclosure whose fourth visual boundary is one of the earlier apartment slabs.

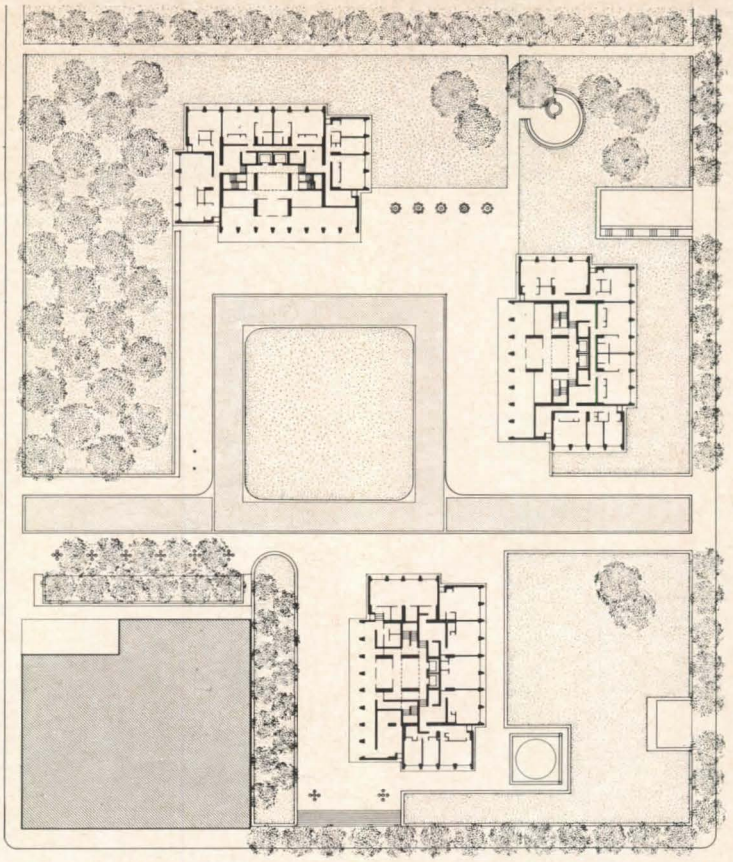
The westernmost Pei building, the Mitchell-Lama block, opens north onto its own court and is approached from West Broadway. The two NYU blocks open onto a square. Students and faculty reach them on foot, from the direction of Bleecker Street.

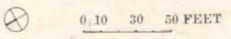
The pleasures these buildings give to the non-tenant pedestrian are considerable. The architects, in aiming to go high and slim, have used a pinwheel plan. Unremarkable and even stylish though this device may be in itself, here it serves to break the buildings into smaller, more vertical elements and gives a neat clarity to the structure.

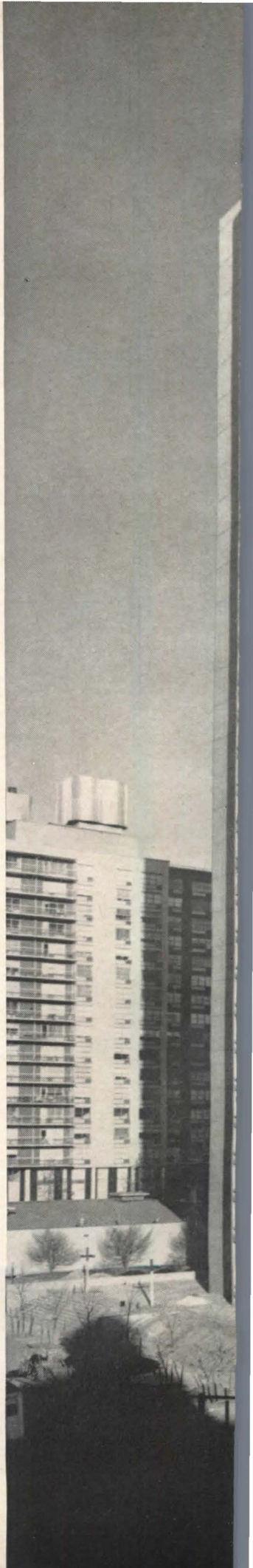
At each corner of these towers, an exposed shear wall is separated by a strip of slot windows from a second shear wall, which stands at right angles to the first and penetrates to the columns at the service core. The 22-foot expanse of the penetrating shear wall roughly defines the depth of the apartment's major spaces, just as the window expresses the standard bedroom width. The projecting grids on the faces of each tower are thus clearly identified by the structure as four "packages of space," in Pei's term.

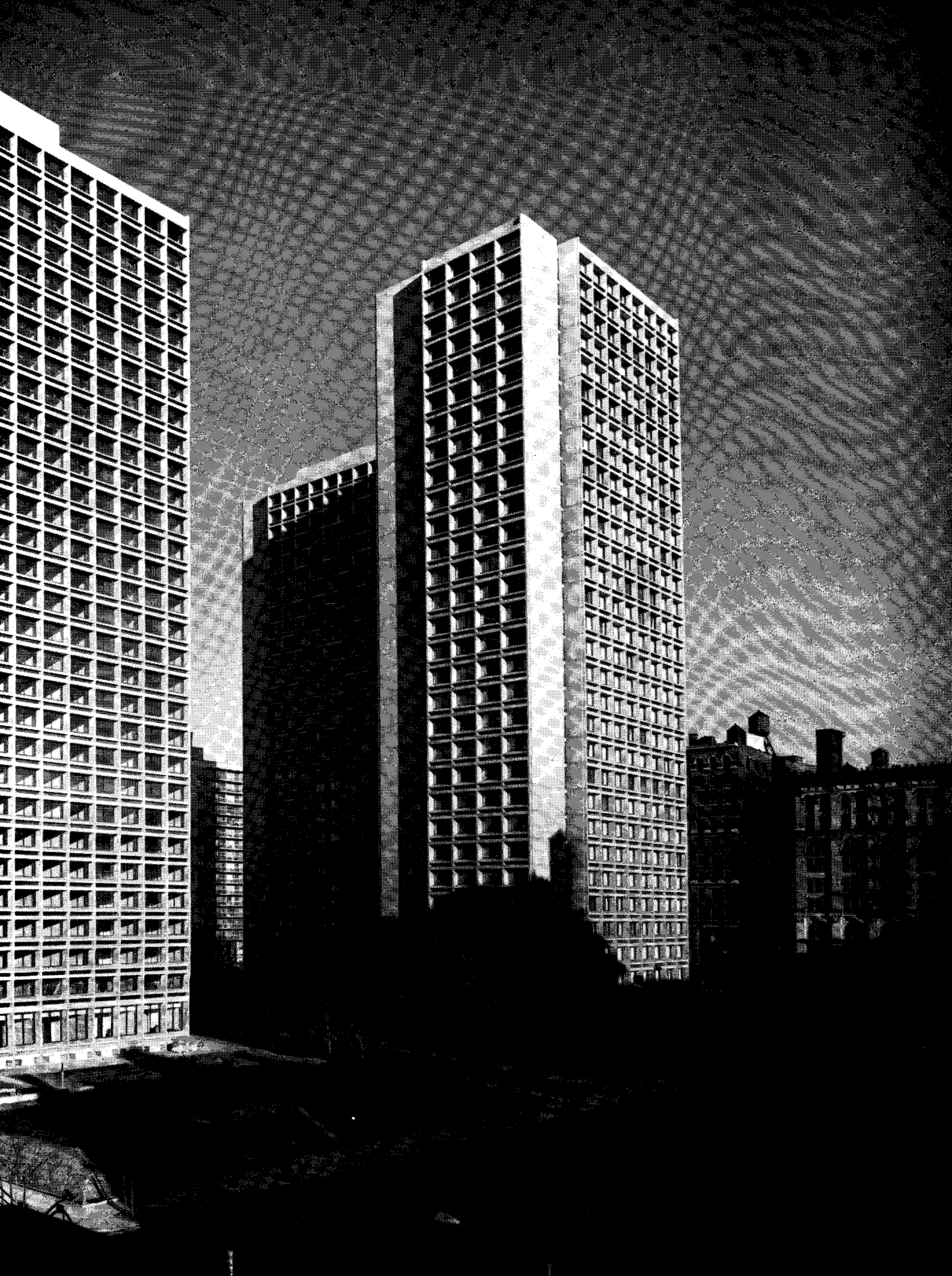
Pei's other big buildings have suffered from a problem in scale because of the lack of anything intermediate in size between the window unit and the building envelope. Perhaps the best thing about these pinwheel towers is that they are composed of several elements carefully graduated in size, from bedroom-width windows to 30-story concrete planes.









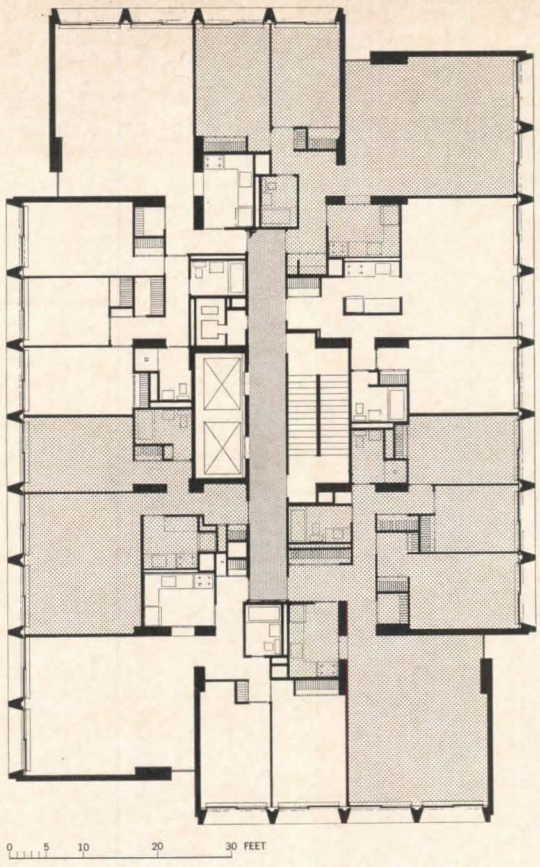


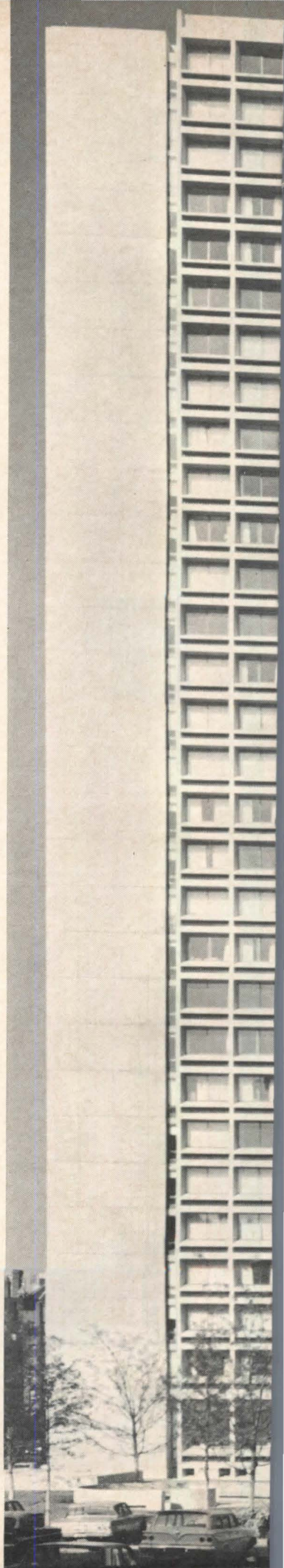
The private amenities in earlier Pei apartment buildings have been said by some to suffer in relation to the attention paid their public aspects. If so, the NYU buildings stand as exceptions. The pinwheel plan that gives articulation to their public faces also yields some unusual amenities inside.

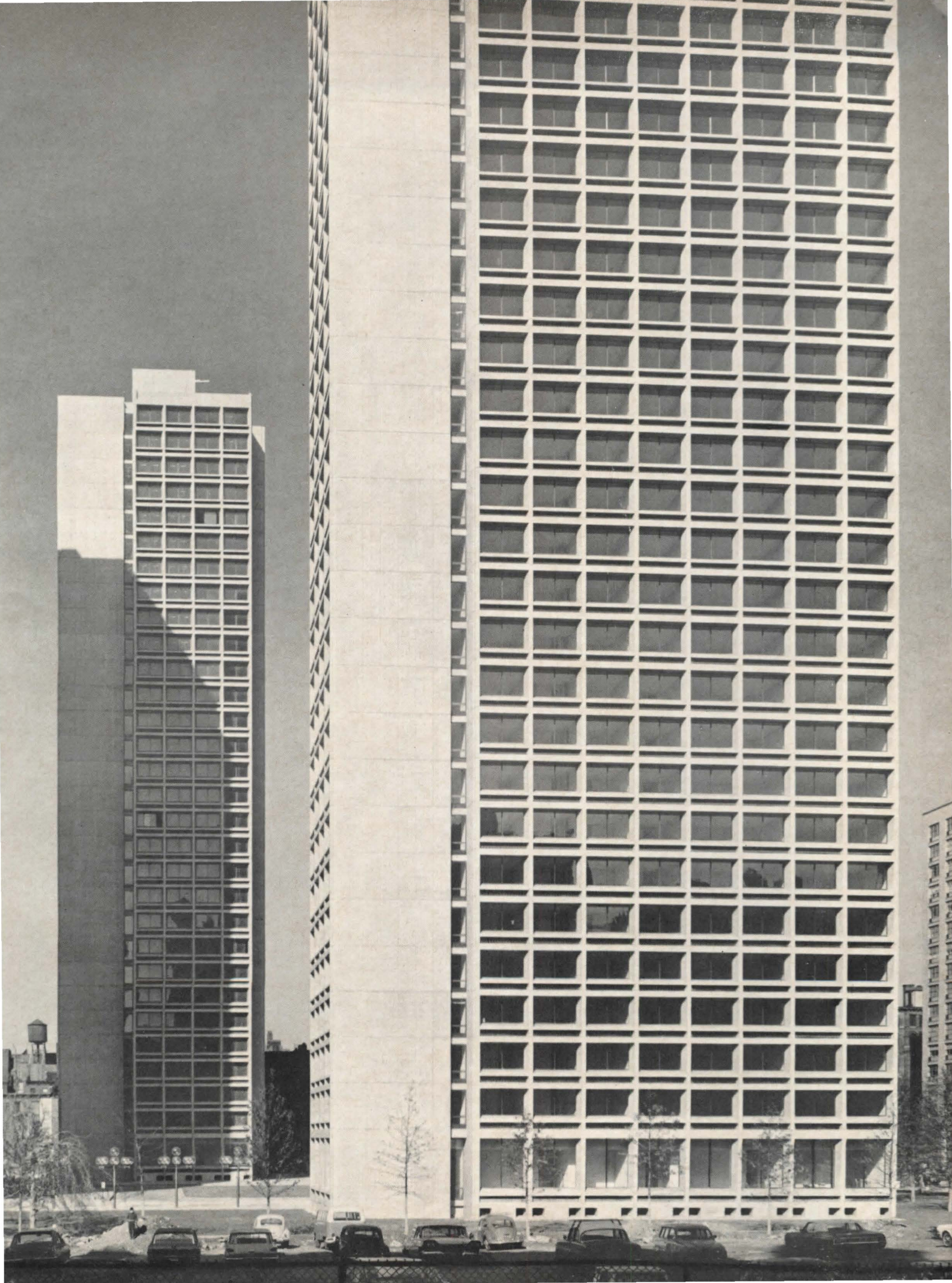
On a typical floor, there are two each of one-, two-, and three-bedroom apartments. Originally, Pei intended that the narrower spatial packages would have contained one apartment each, and the wider packages two. This arrangement would have made the buildings' form a direct expression of plan as well as structure. The narrow slots behind the shear walls would have provided the only exposure in a second direction, and would have given a great significance to these necessarily small openings.

Mitchell-Lama space limitations forced a diminution of the building module, however, and in the subsequent reexamination of the plan the advantages of wrapping most apartments around the corners became obvious. The final plan gives four of the six apartments on each floor extensive exposure in two directions, rather than only a token slot. The sole price paid for the revision was that the generous foyers in the original scheme shrunk somewhat, although the advantage of never entering directly into a living room was retained.

The plan also gives NYU considerable flexibility in the arrangement of spaces. On every fifth floor the entrance to one bedroom has been moved from one apartment to another to create a four-bedroom apartment and an extra single-bedroom unit. The university has approved further enlargement of some apartments to suit tenants with special needs.







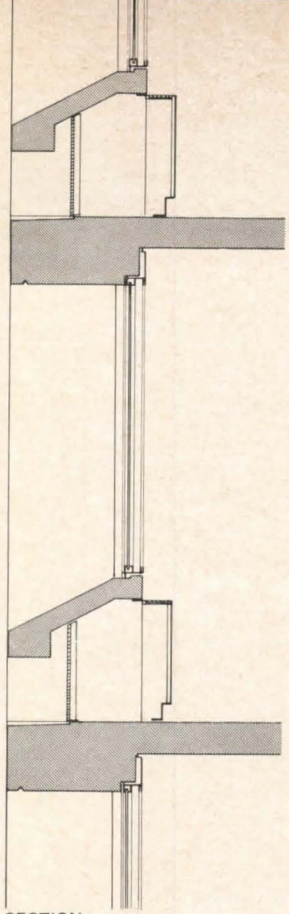
The regular grid of the exteriors was entirely poured in place. Columns and spandrels were cast in T-shaped glass fiber forms, one set per tower, with backup plates creating recesses in the columns for steam risers. The sills were cast later, in a separate operation.

At one point, the grid was to end in an arcade at the base of each tower; the architects wanted buoyancy as well as slimness at ground level. But they rejected the device since it pointed the buildings in no special direction. The arcade was kept to the entrance side of each tower, and on the other three sides the grid terminates in a high ground floor. Beneath the bottom air conditioning grill are paired openings which serve as vents for the basements and two underground garages.

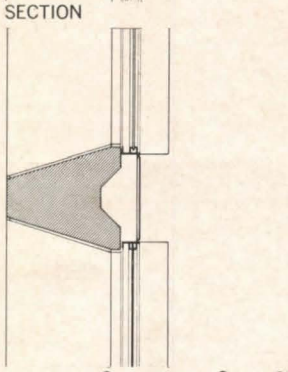
Differences in the exteriors of the NYU and Mitchell-Lama blocks (apart from a high water tank on the latter) are almost imperceptible: there are minor differences in the lobbies; NYU blocks have wood floors as opposed to tile; and their apartments come with air conditioners and standard curtains.

In a way, the most significant of the three is the somewhat plainer Mitchell-Lama block. Given the confining requirements and low fee schedule (since raised) of the Act, its design was feasible only because it could be carried out simultaneously with the two other blocks. The NYU towers are slightly more "deluxe" examples of the same model, and their form was largely determined by the exigencies of designing the Mitchell-Lama block.

The three towers are among the least costly Pei has done. They are also among his best. New York has gained not only a triad of landmarks, but clear proof that inexpensive housing *can be distinguished* architecture.



SECTION

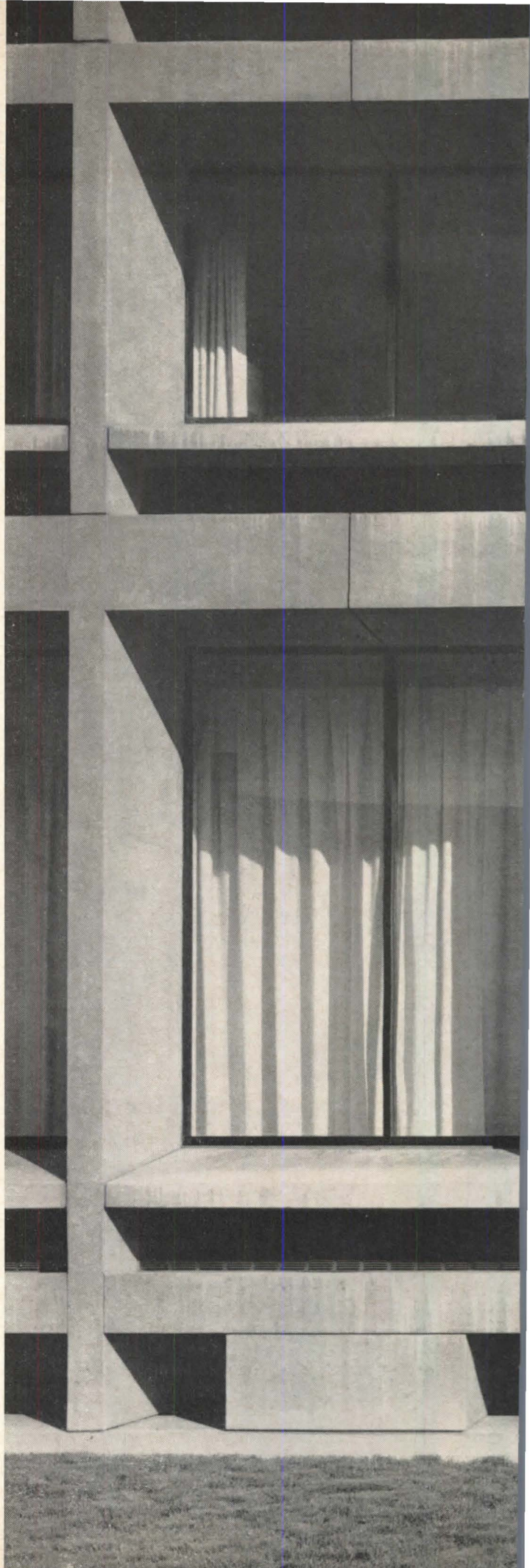


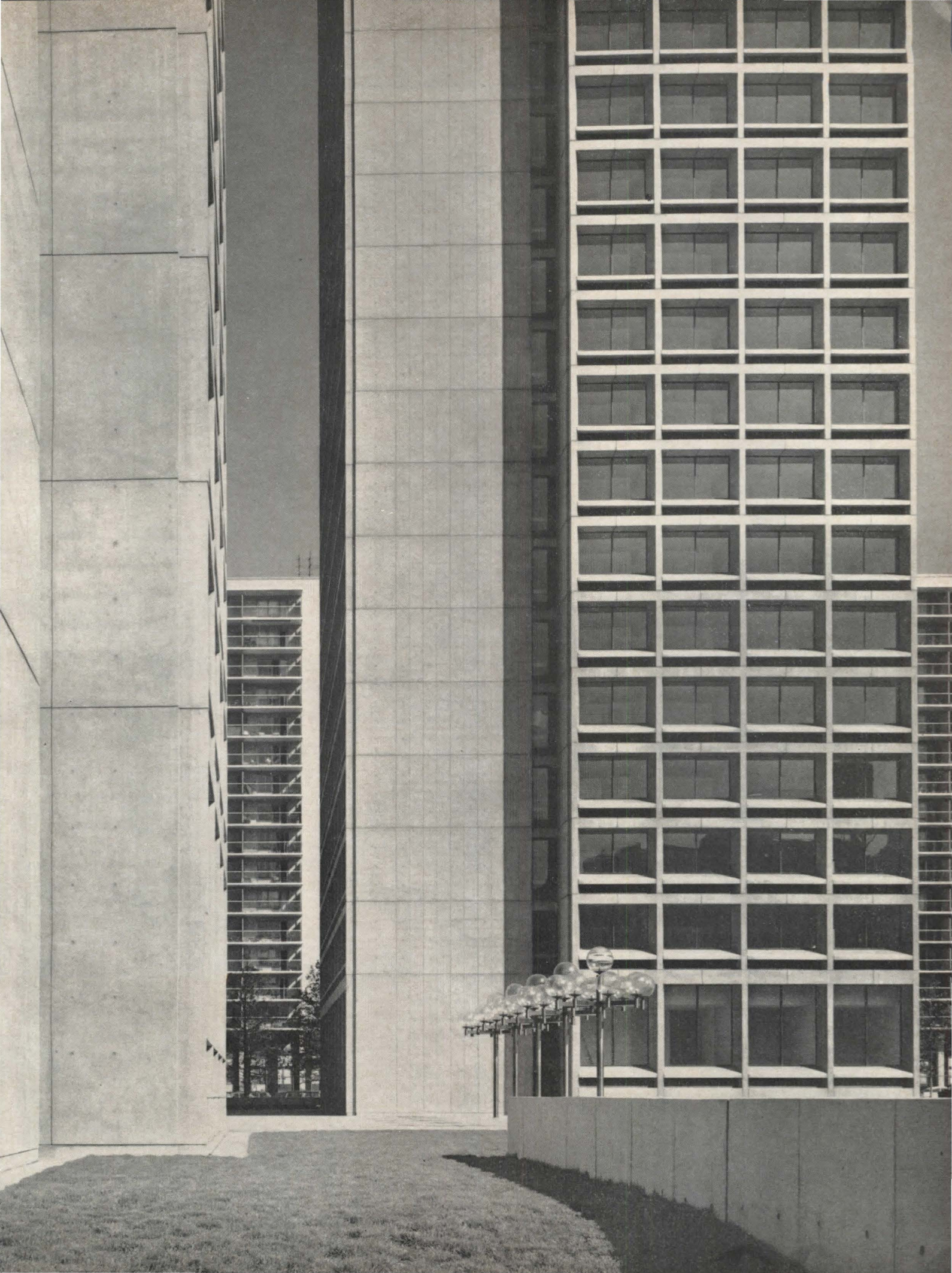
PLAN 0 1 2 3'

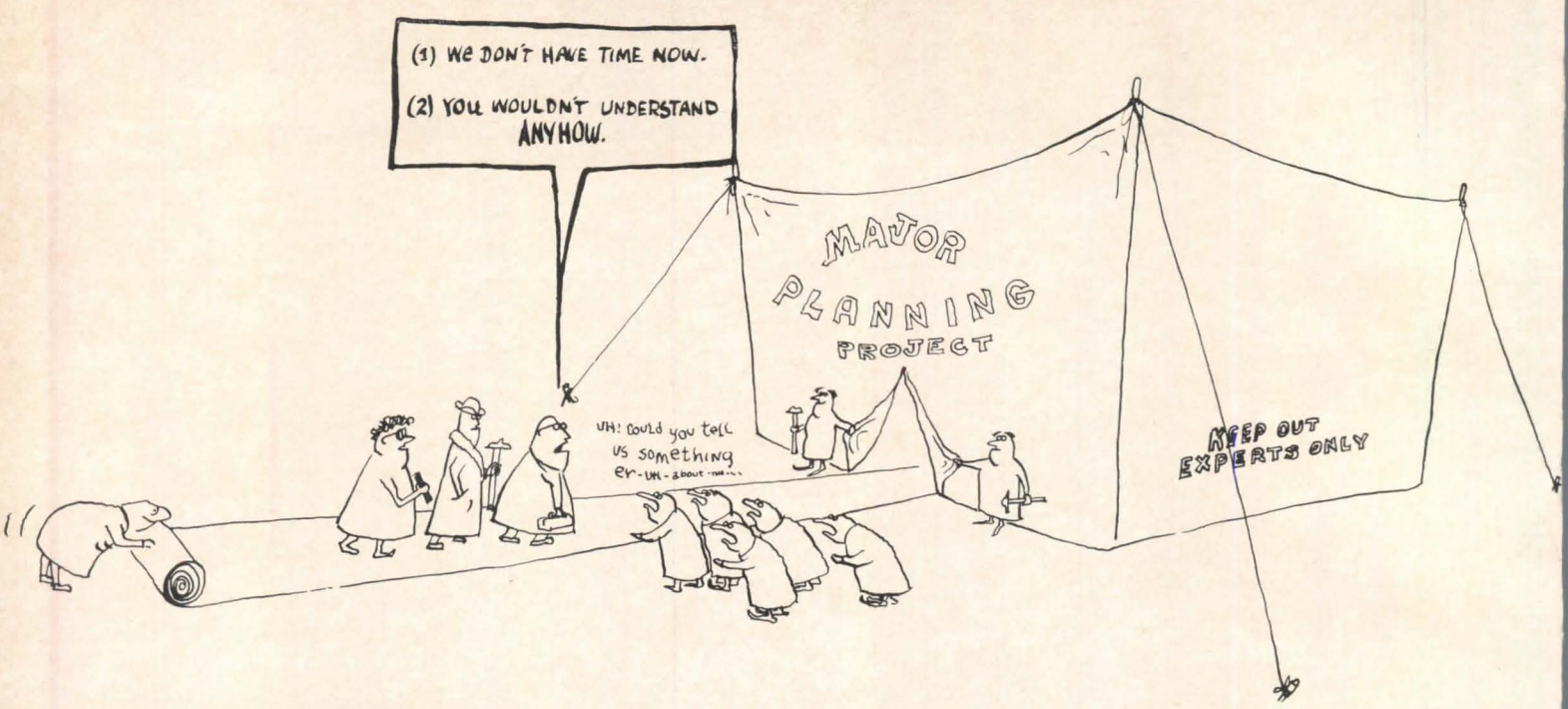
FACTS AND FIGURES

University Plaza, New York. Owners: New York University (building at 100 Bleecker Street and at 110 Bleecker Street); Mitchell-Lama Middle Income Cooperative (505 West Broadway). Architect: I. M. Pei & Partners; James Ingo Freed, senior associate in charge. Engineers: Farkas & Barron (structural); Caretsky Associates (mechanical). General Contractor: Tishman Construction Corporation. Building area: 705,000 sq. ft. total (235,000 sq. ft. each building), plus 90,000 sq. ft. parking levels below grade. Construction cost: $11,200,000 (including three apartment buildings, mechanical spaces, garages, site development and landscaping).

PHOTOGRAPHS: George Cserna, except pages 22-23 by Cervin Robinson.



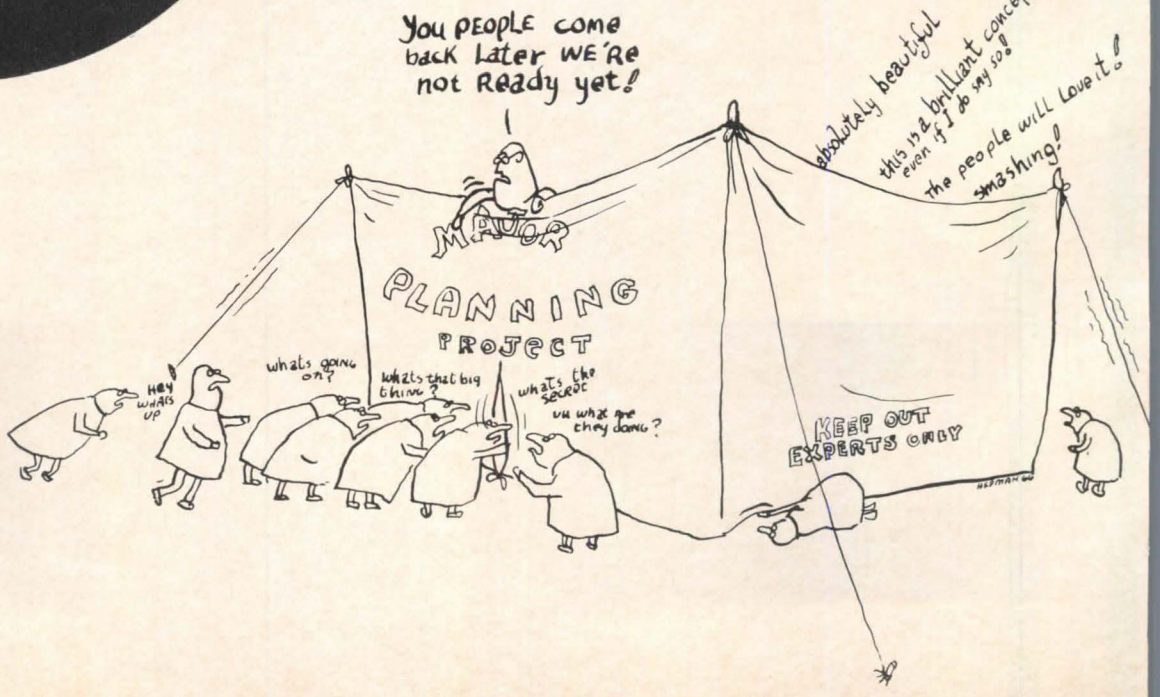


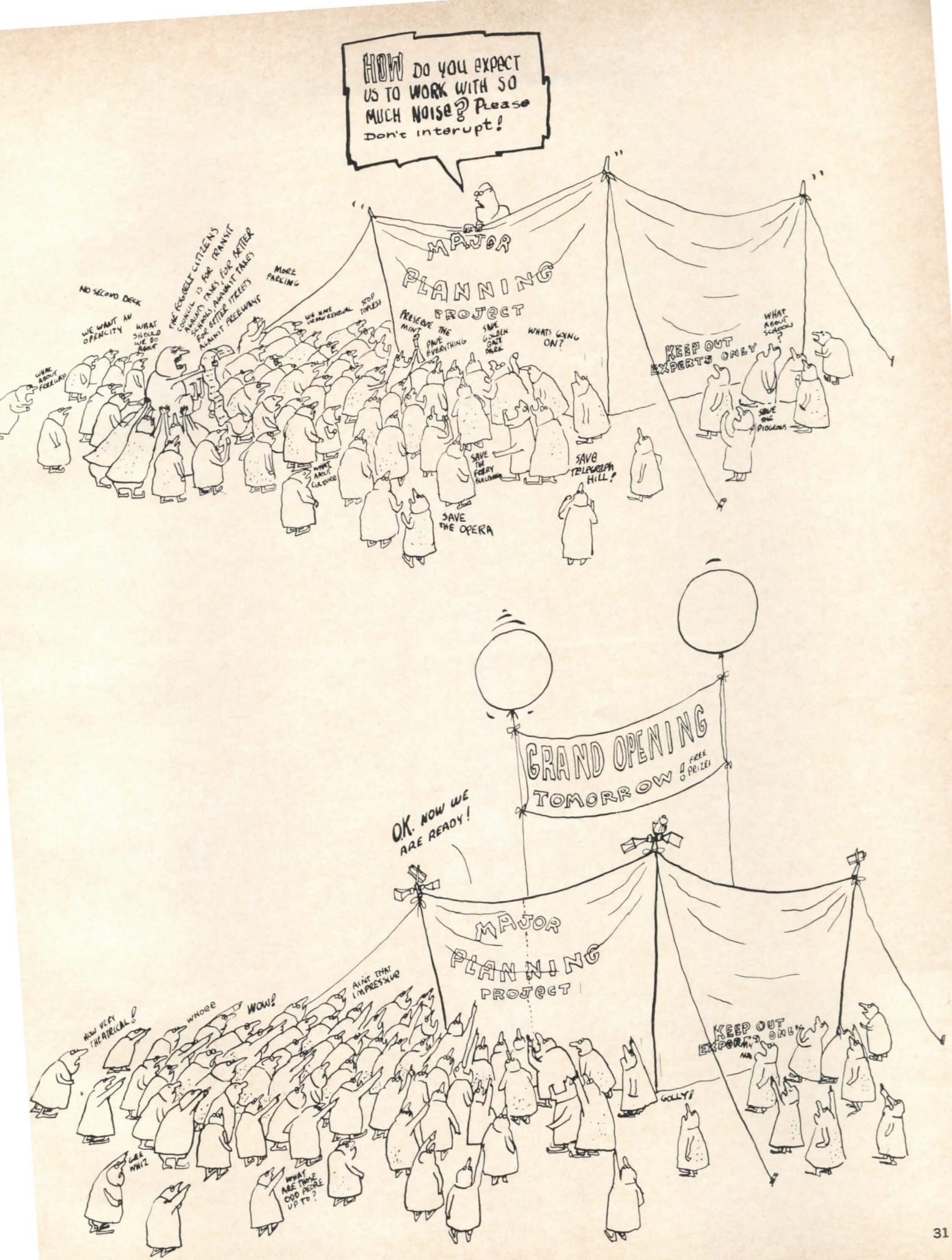


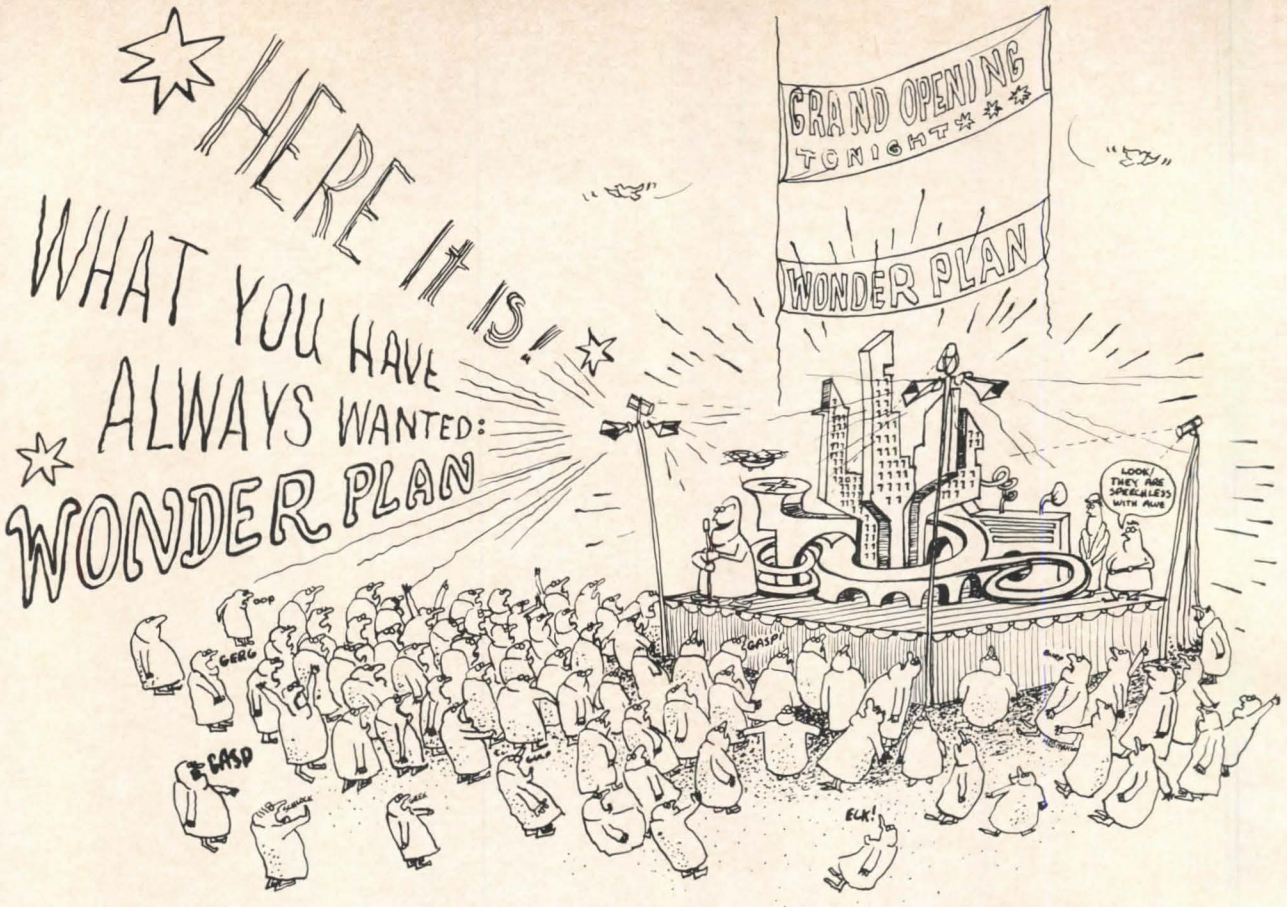
richard hedman's

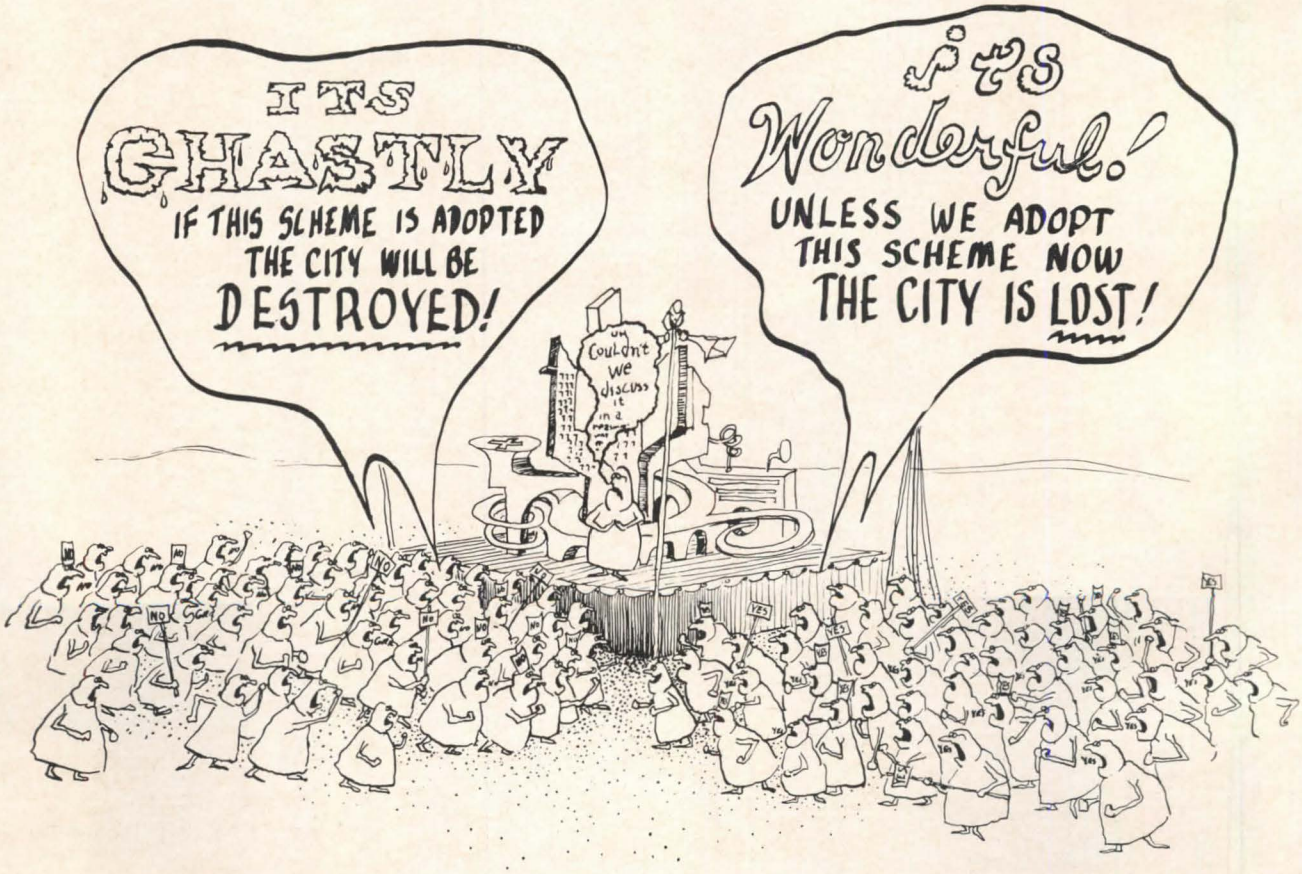
BLack Museum

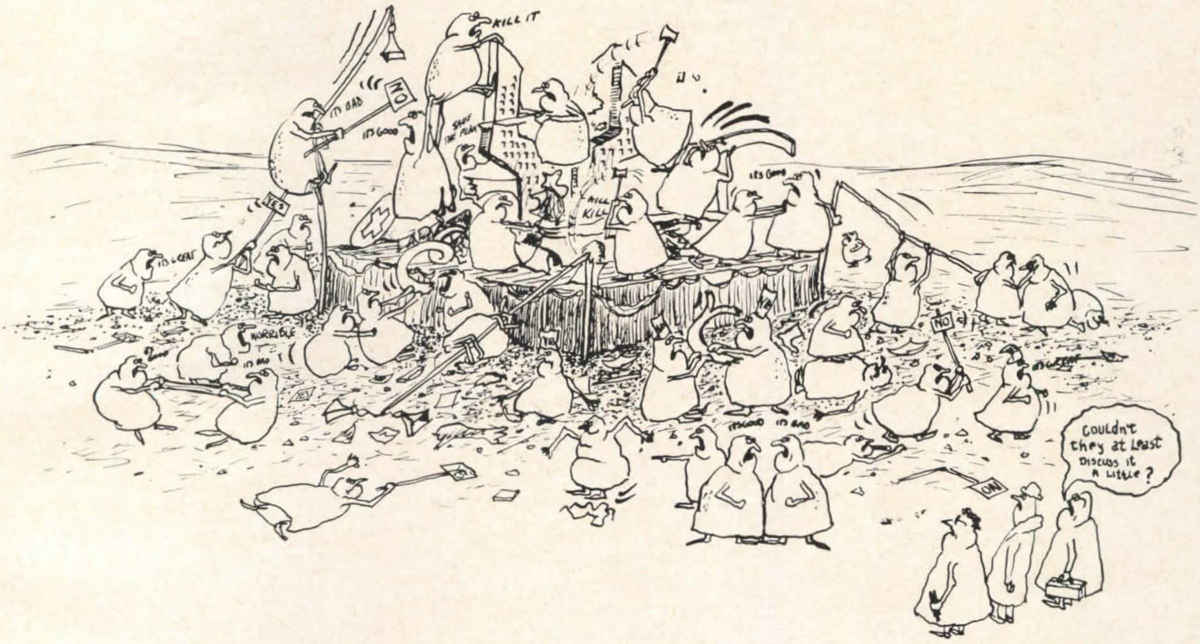
a pathological study of city planning and of why planning flops, planners' get ulcers, and cities stagnate.




HOW DO YOU EXPECT US TO WORK WITH SO MUCH NOISE? Please Don't interupt!
MAJOR PLANNING PROJECT
KEEP OUT EXPERTS ONLY
NO SECOND DECK
WE WANT AN OPENCITY
WHAT SHOULD WE DO ABOUT
THE FOOLISH CITIZENS COUNCIL IS FOR TRANSIT TAXES, FOR BETTER SCHOOLS, AGAINST TAXES FOR BETTER FREEWAYS AGAINST FREEWAYS
MORE PARKING
WE HAVE URBAN RENEWAL
STOP TOPLESS
PRESERVE THE MINT
PAVE EVERYTHING
SAVE GOLDEN GATE PARK
WHAT'S GOING ON?
WHAT ABOUT SCHOOLS?
SAVE THE PIGEONS
SAVE THE FERRY BUILDING
SAVE TELEGRAPH HILL!
SAVE THE OPERA
GRAND OPENING TOMORROW! FREE PRIZES
O.K. NOW WE ARE READY!
NOW WE'RY THEATRICAL!
WHOOEE
WOW!
AIN'T THAT IMPRESSIVE
GOLLY!
WHAT ARE THOSE ODD PEOPLE UP TO?


HERE IT IS!
WHAT YOU HAVE ALWAYS WANTED:
WONDER PLAN
GRAND OPENING TONIGHT
WONDER PLAN
LOOK! THEY ARE SPEECHLESS WITH AWE
GASP!
GERG
GASP
ECK!


ITS GHASTLY
IF THIS SCHEME IS ADOPTED THE CITY WILL BE DESTROYED!
its Wonderful!
UNLESS WE ADOPT THIS SCHEME NOW THE CITY IS LOST!
oh Could'nt we discuss it in a



And we here on a darkling plain
Swept by confused alarms of struggle and of flight
Where ignorant armies clash by night....

MATTHEW ARNOLD

Mr. Hedman is a city planner and urban designer now working in San Francisco. He was co-author of the book "And on the Eighth Day."

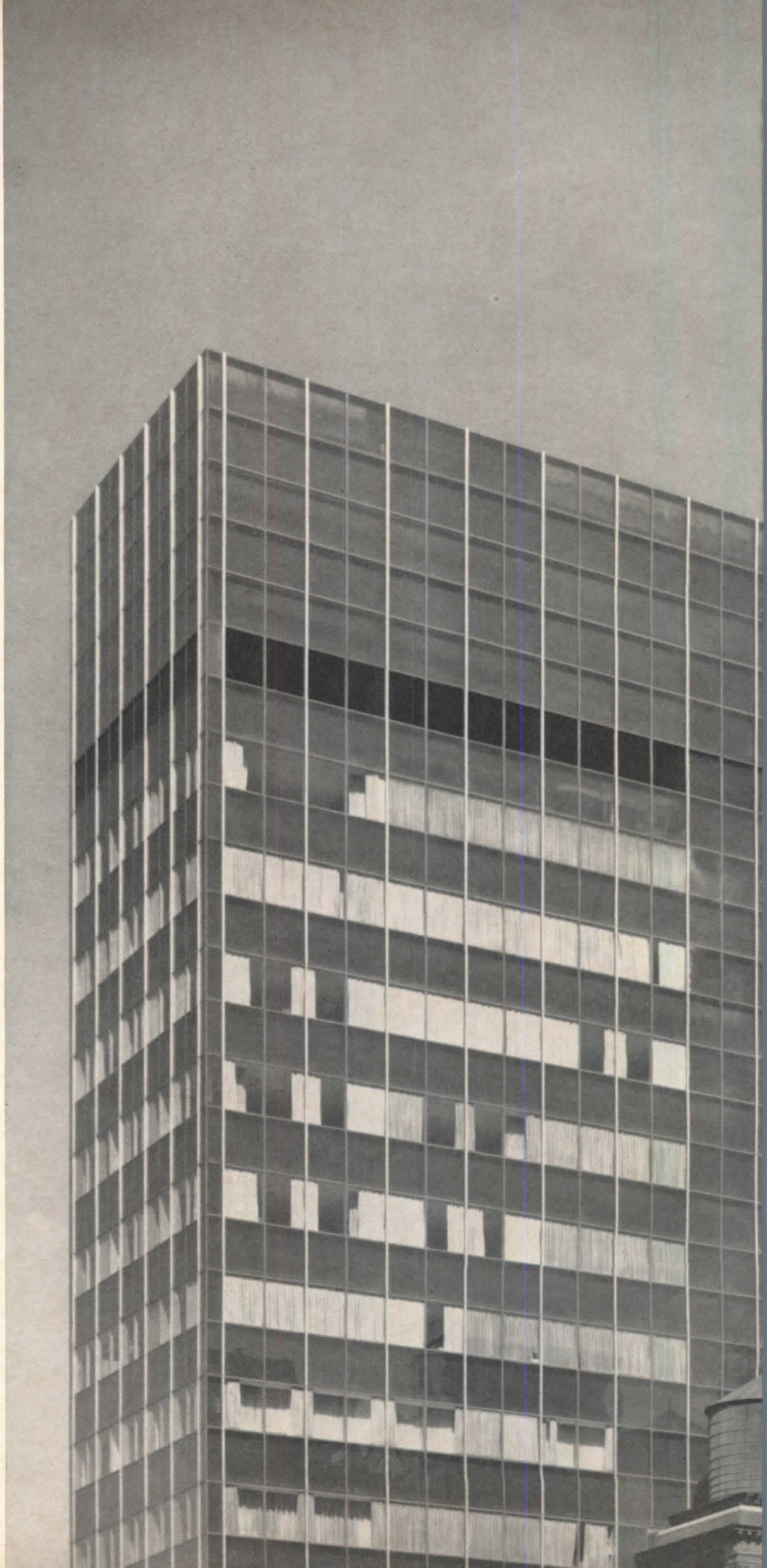

THE TRIBU

CASTLES IN THE AIR

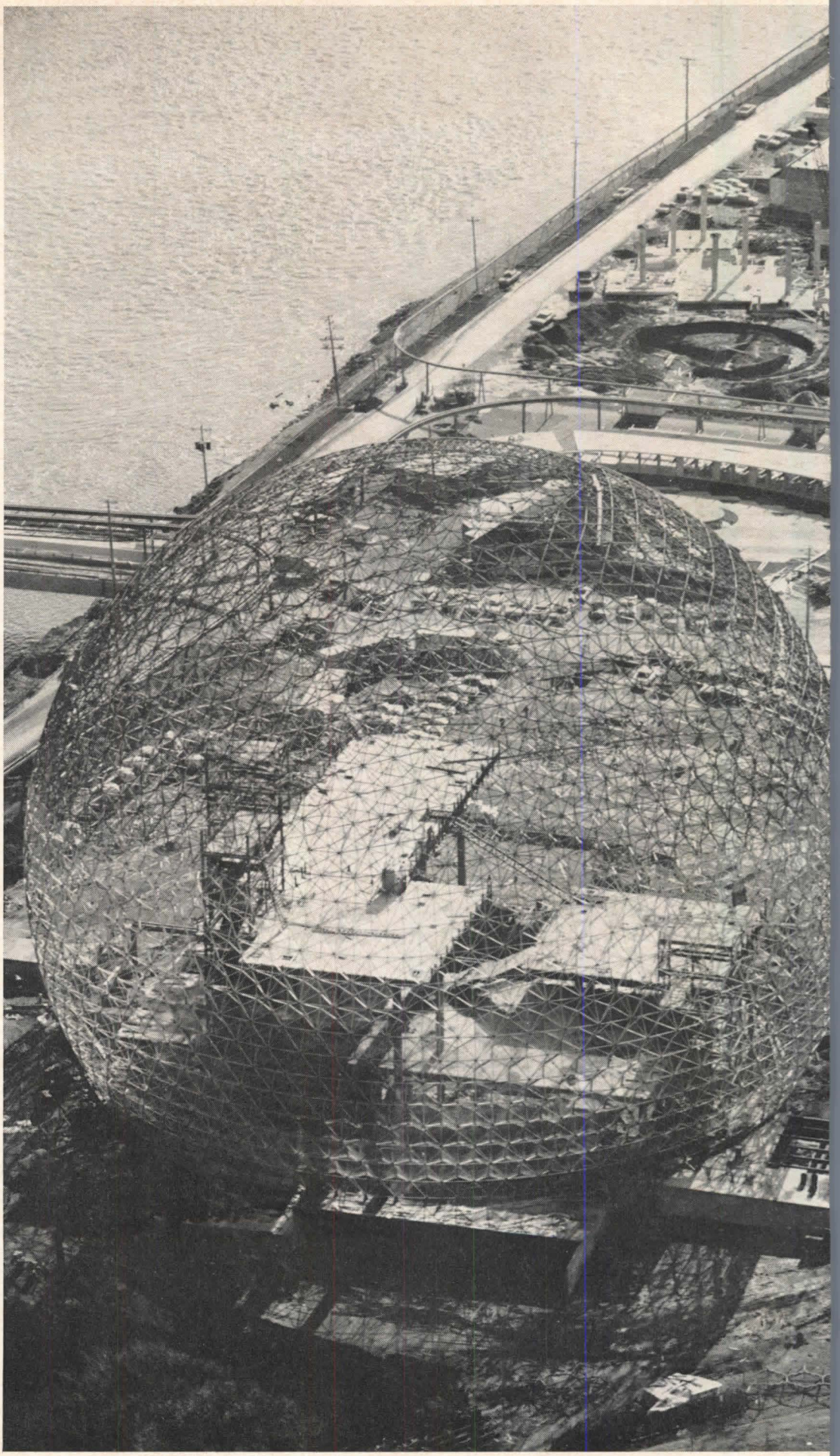
PHOTOGRAPHS BY CERVIN ROBINSON

New York's pigeons have known about it all along, of course; but grounded New Yorkers tend to have their eyes glued to the pavement. These pictures show what they have been missing. They have been missing a world of fantasy several hundred feet above sidewalk level that is unmatched by any other American city: a world of castles and palaces, of cathedrals and pleasure domes, of ancient bastions and of modernistic exotica. They have, in short, been missing the greatest architectural circus on this continent. To the New York pigeon, a very blasé bird, the castles in the sky shown here are very familiar: from left to right, they are McKim, Mead & White's roof on the Municipal Building (1908), Richard Morris Hunt's Campanile, the Tribune Building (1873-75)—now demolished, alas! And the American Tract Society Building, by R. H. Robertson, done in 1896. The finial at left belongs to George B. Post's Times Building of 1889.

The turrets at left are a bit more familiar to pedestria first, in partial silhouette, the General Electric Building by Cross & Cross (1931); nex William van Alen's Chrysler tower (1929); and, finally, th upper extremities of Schultze Weaver's Waldorf Astoria (1 The view at right starts with two belated Italian Renaissan jobs by Francis H. Kimball —the Trinity Building and the U.S. Realty Building (bo around 1907); in the center, at a distance, is the City Investing Building, designed by the same architect, a reasonable facsimile of 16th-century Dutch Renaissance; and at right is Ernest Flagg' Singer Building (1906-08), with a touch of Louvre on top

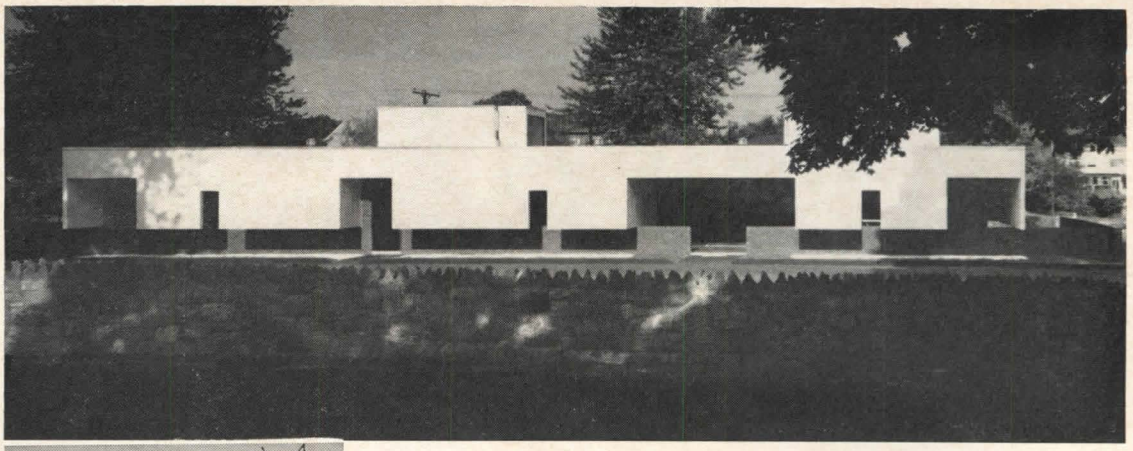


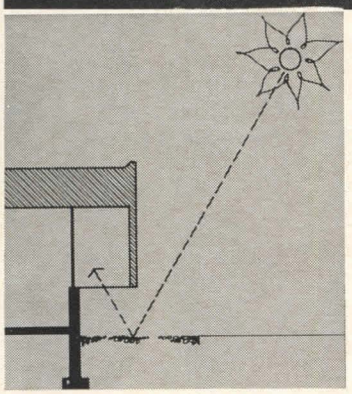
Relentlessly, the skyline changes —the Iceman Cometh! In this case, the icemen happen to be Harrison & Abramovitz, whose sleek Corning Glass prism (1958) is seen at near right. No pigeons. Happily for the latter, there remains the St. Regis Hotel, with touches of Versailles, the Louvre, the Paris Opera, and a few other goodies — all skillfully assembled by Trowbridge & Livingston in 1901-04. The St. Regis belongs to the Sheraton people, who have recently been busy tearing down this sort of thing. Since hotels thrive on tourism, and tourists are the *only* people in Manhattan who look at the *tops* of buildings, the Sheraton people should think twice before tampering with the St. Regis.



RAMING A BUBBLE

low complete, the lacy steel ramework of the U.S. contri- ution to Expo 67, R. Buck- inster Fuller's largest geodesic pheroid, makes obvious its igantic scale—20 stories, en- losing 6.7 million cubic feet. he composite of hexagonal omes will be a huge environ- ental control chamber: A nted acrylic skin will eliminate lare; exhaust vents in some of he domes will allow the interior o "breathe"; and motorized unshades will modulate light nd temperature inside the ubble. The sun's rays moving cross the domed surface will ctivate the metallized plastic hades, changing segments of he skin from transparency to olished chrome. The bubble ill house exhibits depicting Creative America" designed by ambridge Seven Associates.



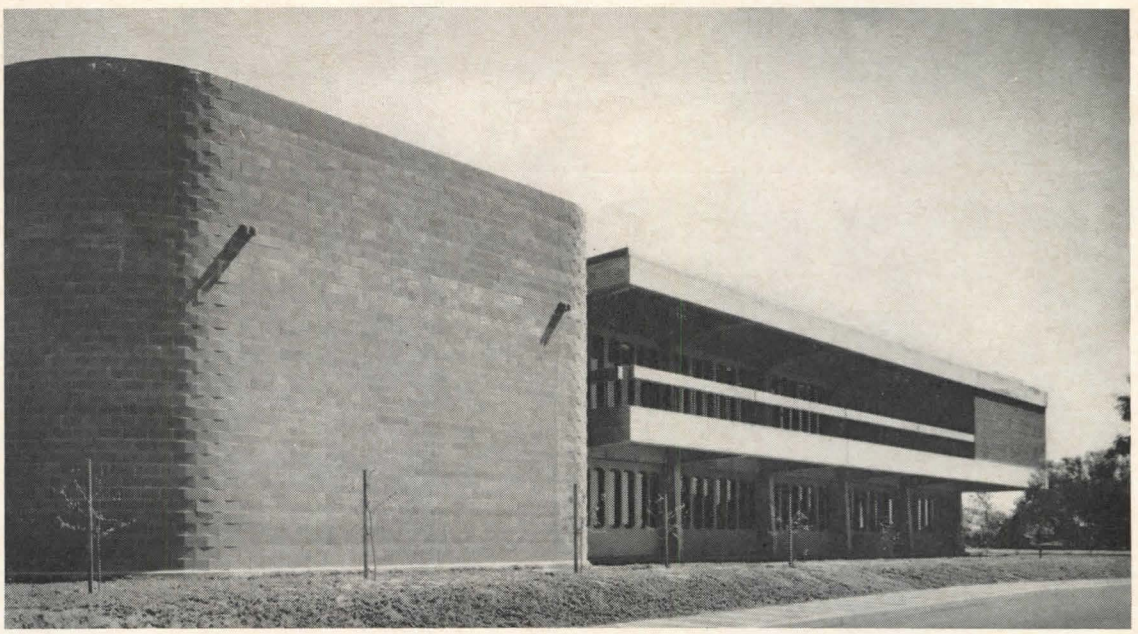


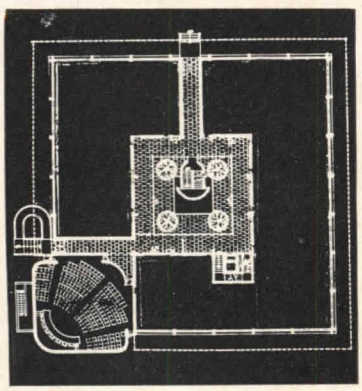
SCREENING THE WINDOWS

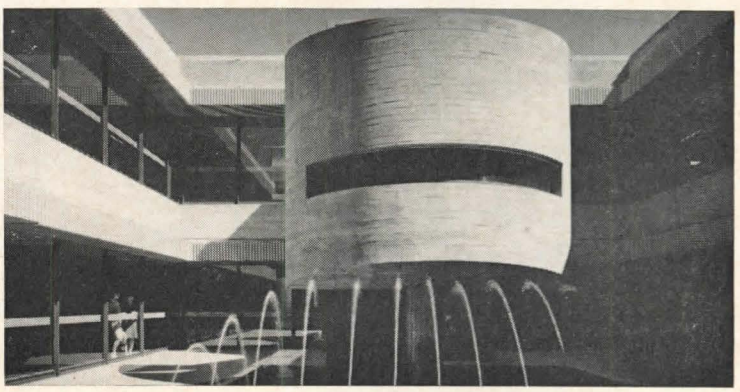
A rough, white sand plaster enclosure punctuated by cutouts of various sizes is hung outside the wall-to-wall windows of Deluca Construction Company's new offices in Stamford, Conn. Dropping from roof to sill, the plaster envelope blocks all but selected views of the local landscape while admitting diffused daylight, reflected up from a white gravel bed surrounding the building (see diagram). Brick walls under the windows are extended beyond the structure to form planters and to support the plaster enclosure. The 3,000-square-foot building is steel framed with bar joists protruding beyond the exterior wall to support the metal lath and plaster screen. Architects are Sherwood, Mills & Smith.

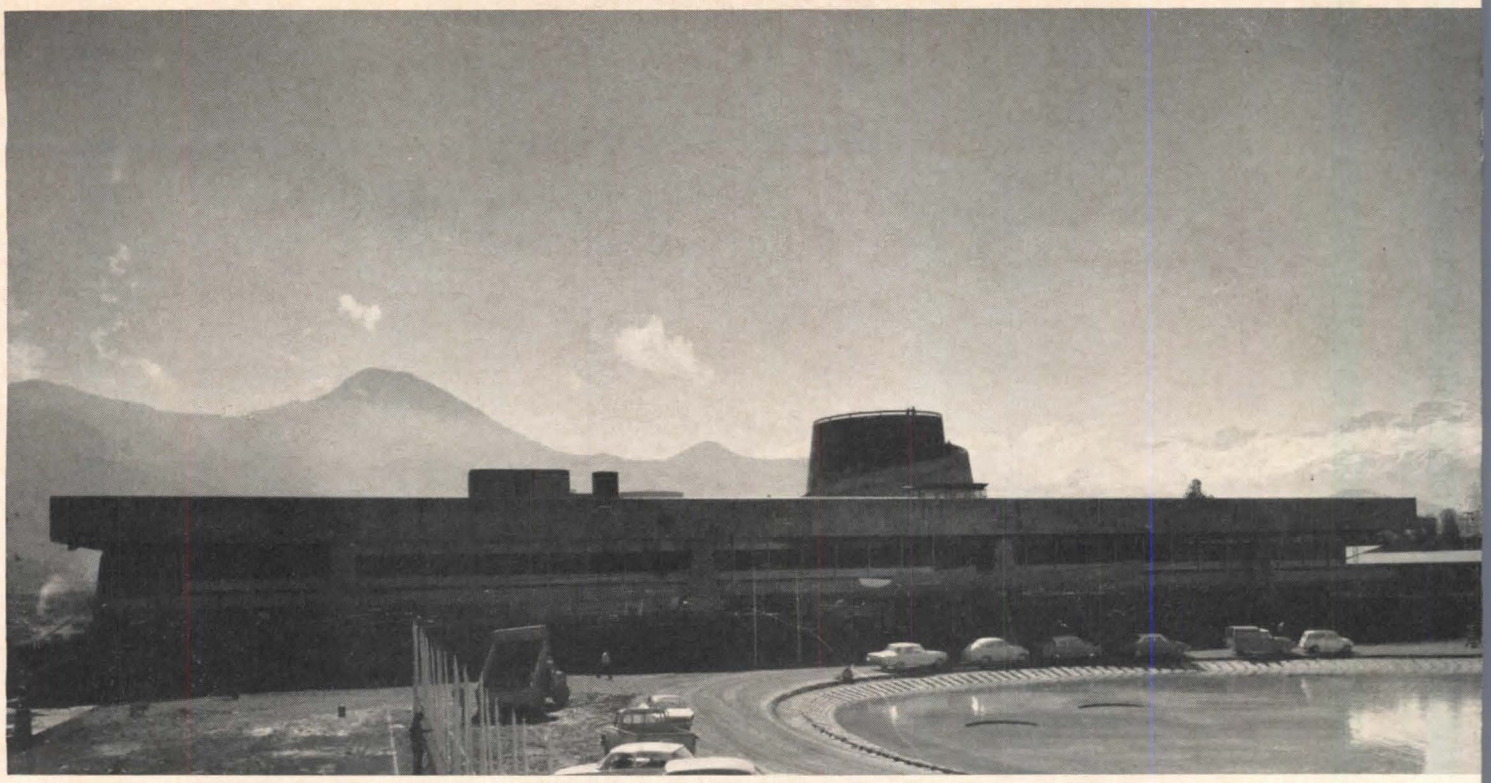
OUNDING THE CORNERS

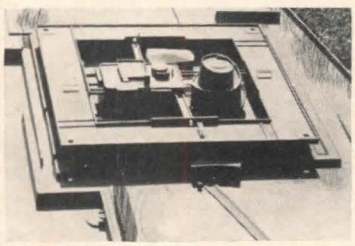
rchitects Ostwald & Kelly ave taken every advantage of pecial situations in their plan break the regular rectilinear- y of the Alameda County ublic Works Building in Hay- ard, Calif. A meeting room at he corner (photo right, and ottom left in plan) has been iven rounded corners and lank block walls. A staircase bottom photo) has been made he visual equivalent of a giant elder's helmet, complete with lass viewing slot. The more ypical portions of the building, ffices and drafting rooms, ave been organized in a two- yer scooped-out rectangle round a court bearing a pool nd linear fountain. Raised on 3-foot podium, the build- g has a reinforced concrete rame with sand-blasted precast anels between the block shear alls. Construction cost was 22.60 per square foot.





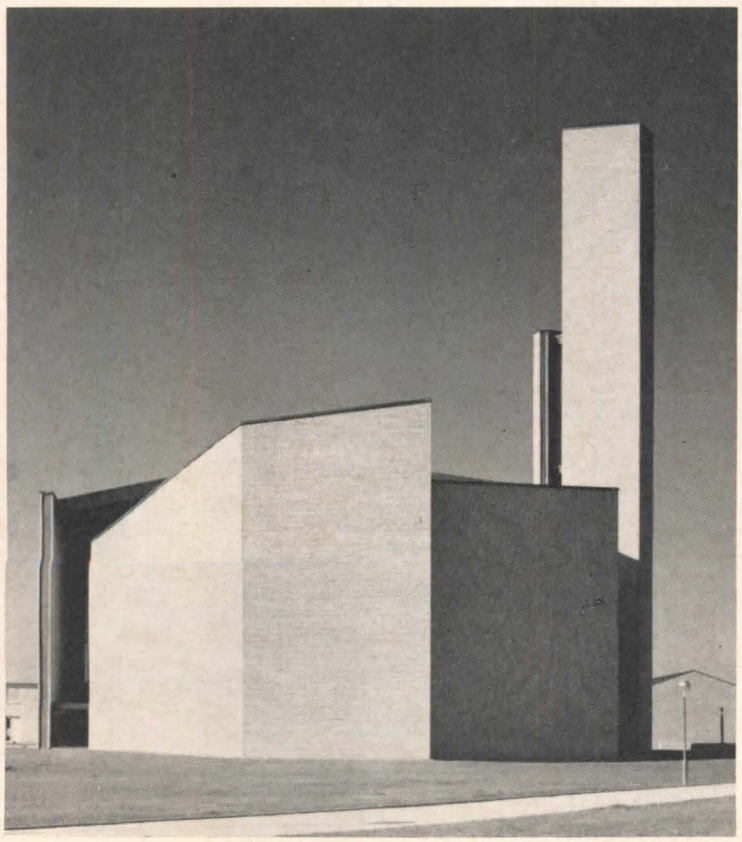






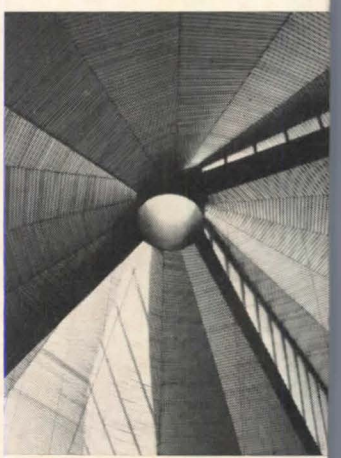
CONCRETE COMPOUND

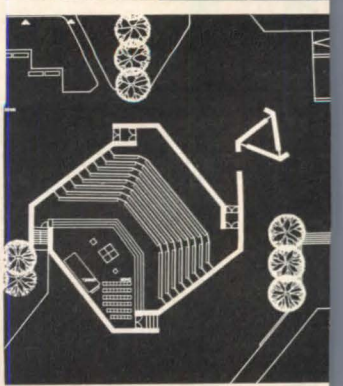
The fortress-like plan of the new United Nations building in Santiago, Chile, consists of a hollow square of offices surrounding three separate units for conferences, meetings, and administrative functions. Popping up above the office square, the conference hall is threaded with an exterior staircase leading to a rooftop terrace looking out on the Andes. Four bridges connect the administrative nucleus and the single floor of offices (which is suspended for seismic reasons, freeing th area below); and a circular r fleeting pool refrigerates the ai conditioning system. Archite Emilio Duhart clearly has work hard to give the compound importance of scale and for commensurate with the U. N.

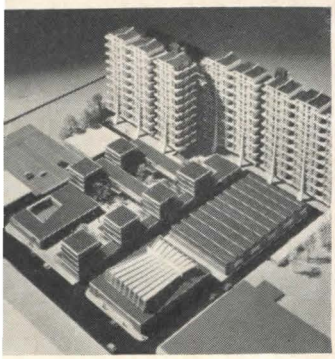


PINWHEEL CHURCH

Wraparound walls and a pinwheel roof enclose the 6,400 square foot sanctuary of Hentrich & Petschnigg's protestant church south of Dusseldorf. Glass-filled areas between overlapping planes and roof wedges admit natural light to flood the adjoining brick-veneered wall and wood paneled ceiling. Seats for 532 parishioners are attached to the sloping slate floor. Like the copper-roofed sanctuary, the adjacent bell tower is reinforced concrete clothed in brick veneer.

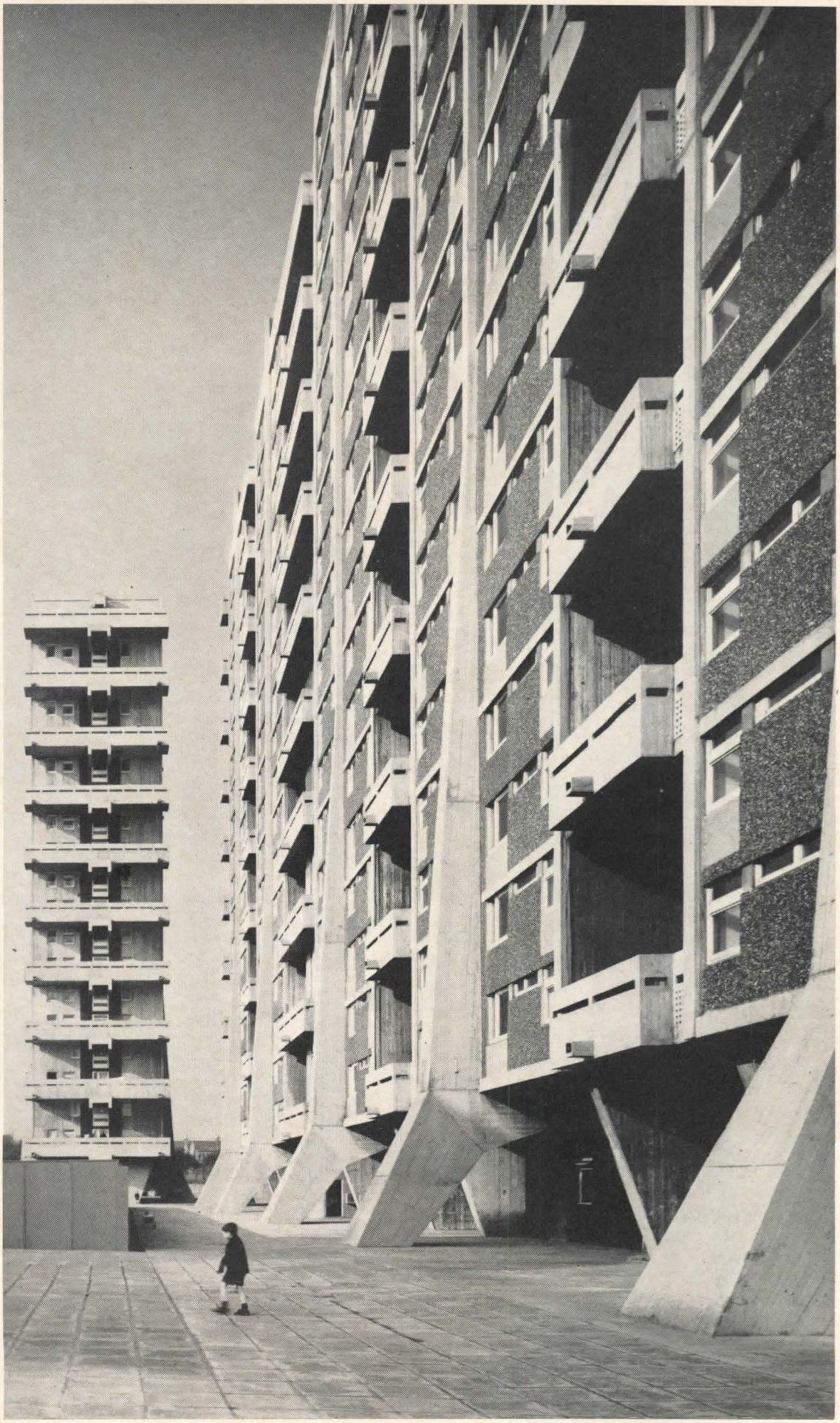






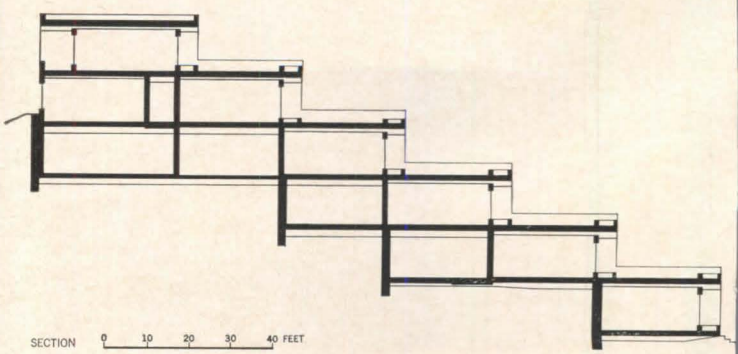
.EVATED APARTMENTS

)layed legs and simple piers of ncrete alternate to support 20)ors of apartments by Basil)ence in the Gorbels ward of asgow. Four hundred units e arranged in two staggered ocks which meet over a re-ecting pool (below). The robust ard-formed concrete struc-res, infilled on two sides with nt aggregate panels, are ouldered 14 feet clear of the round, providing pedestrian d play space, and each tenant provided with a 10 by 20 ot balcony-like garden. In the p of the apartments will be a ll range of community serv-es ranging from a police sta-on to three pubs.



HOTOGRAPHS: Page 41, © I. W. artin (ESTO) (top), Morley Baer. Page , Estudios Fotograficos Rays (top), no Wrubel. Page 43, Alfred Crack-ll (top left), Henk Snoek.

Steps down to the sea



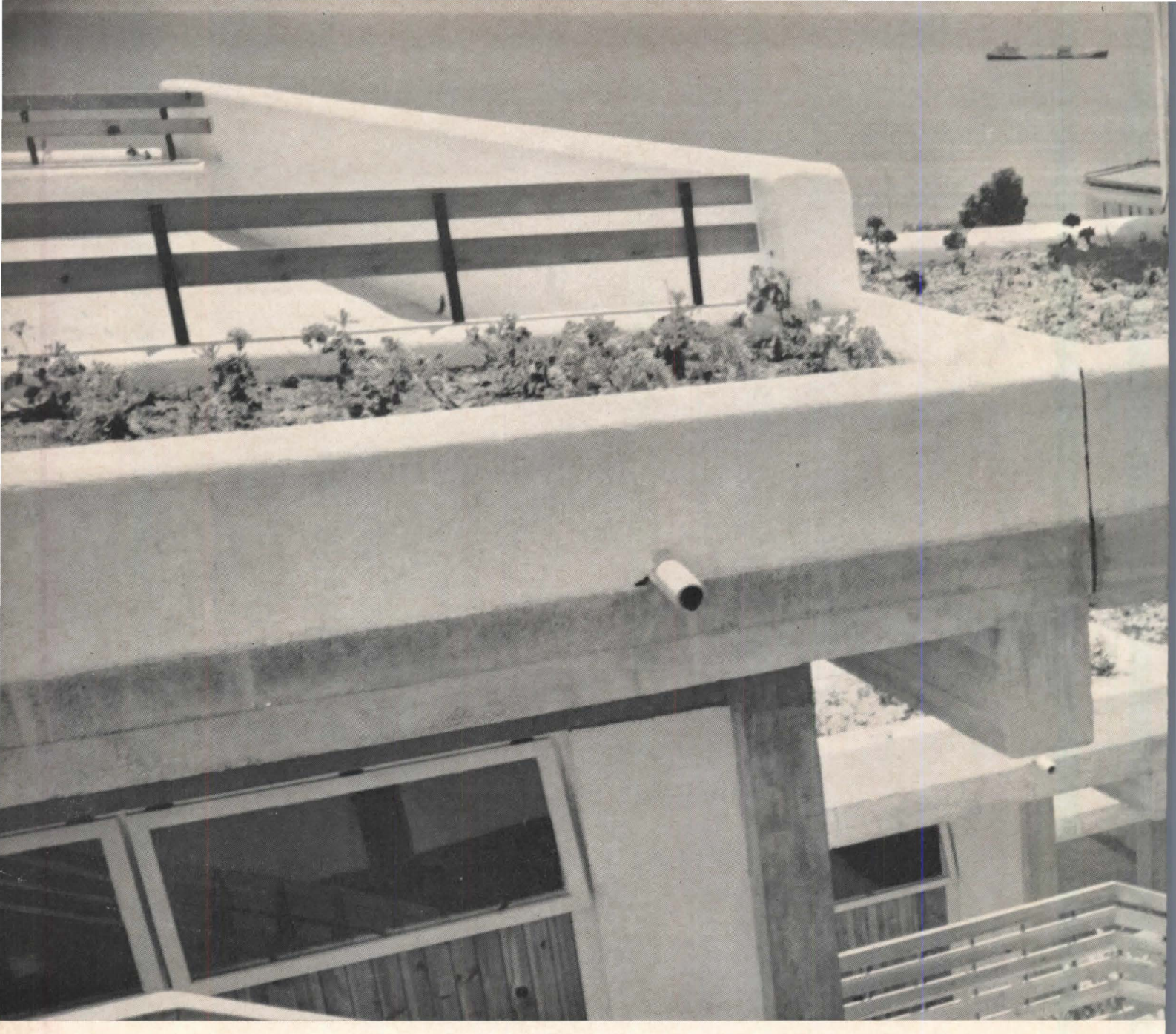
rivate school in Spain is a iodular space frame

'hen the Academia Santa eresa is completed, its class- oms will accommodate 800 girls, inging in age from 5 to 17. he Academia will then consist ot only of 25 classrooms now iilt (above), but of additional ructures containing services, ormitories, a library, a dining ill, administrative offices, and a iapel. There will also be an out- oor theater—perfectly accept- ole, indeed desirable, on this 'editerranean coast at Malaga, south of Madrid. For the present, only the classrooms have been finished; and an old building on the site serves the other functions of the school.

Two seemingly contradictory concepts shaped this school: first, the architects' determination to develop "a completely rigid construction system . . . encased in a three-dimensional module measuring 1.60 by 1.60 meters"; and, second, the traditions of Andalusian towns "enclaved on mountain slopes, with streets that follow the level contours [in this case, the connecting galleries], and opened, now and then, by means of public squares, toward the countryside [in this case patios inserted between classrooms, that offer a view of the Mediterranean]."

At Malaga, these two concepts have been merged to produce a simple and exciting—and exceedingly "modern"—framework for teaching.

The three-dimensional module, according to the architects, permitted a great deal of flexibility in adapting the classroom complex to the sloping site. Despite the fact that the 1.60 cubic meter grid was adhered to with utmost rigidity, there is a sensation of great spatial variety: The classrooms were superimposed upon one another in such a way as to make the roof of each level of rooms double as a terrace serving the classrooms on the next higher level. (There are six classroom levels). These terraces allow classes to be conducted outdoors when weather permits. There are connecting galleries behind each row of classrooms, on the uphill side; and there is a system of outdoor stairs that connects the galleries vertically.



Structural grid frames the view of the Mediterranean

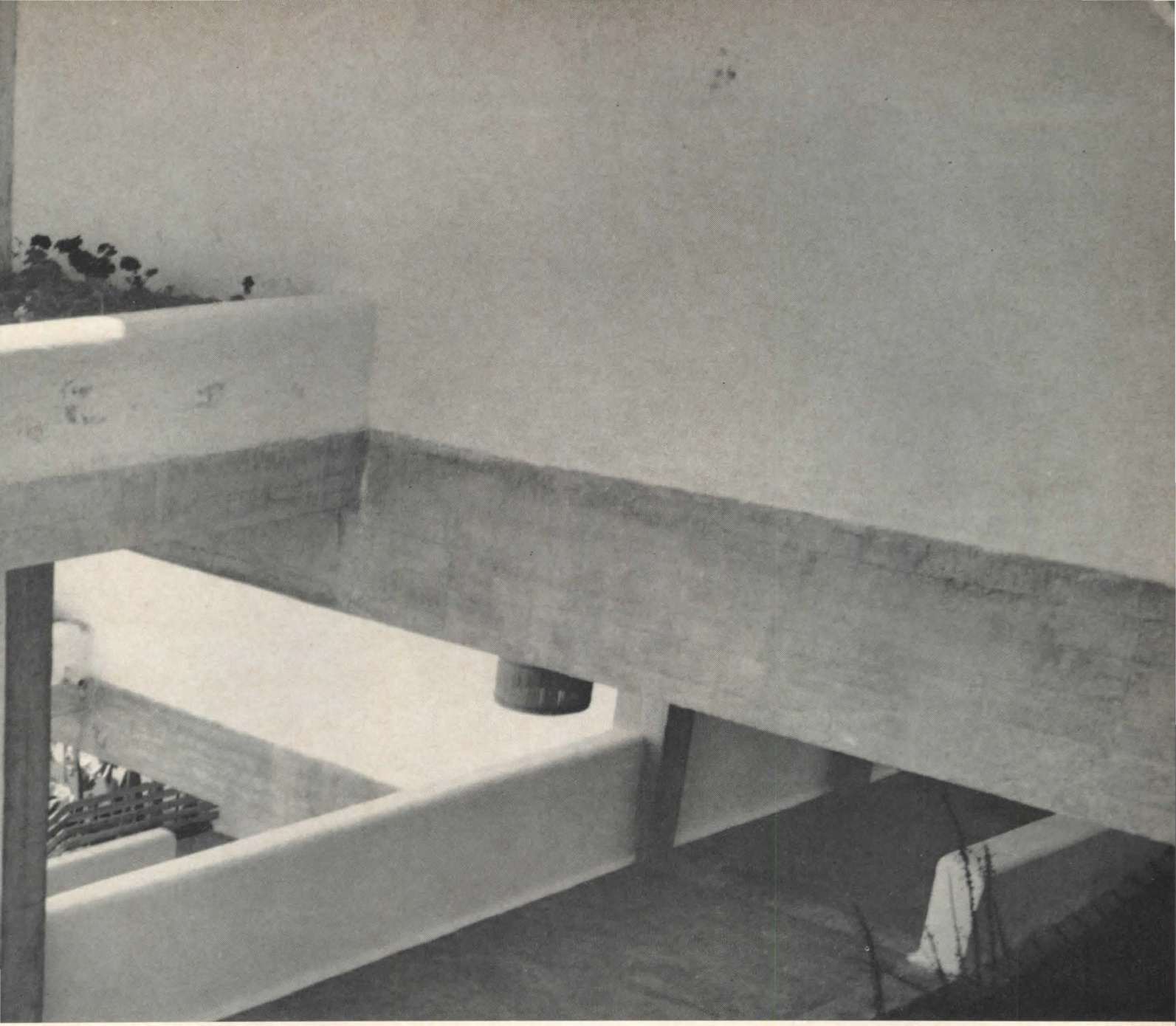
Each of the 25 classrooms measures 8 by 8 meters in plan (i.e. 25 modules), and each is an element of space within a strong, reinforced concrete framework (above).

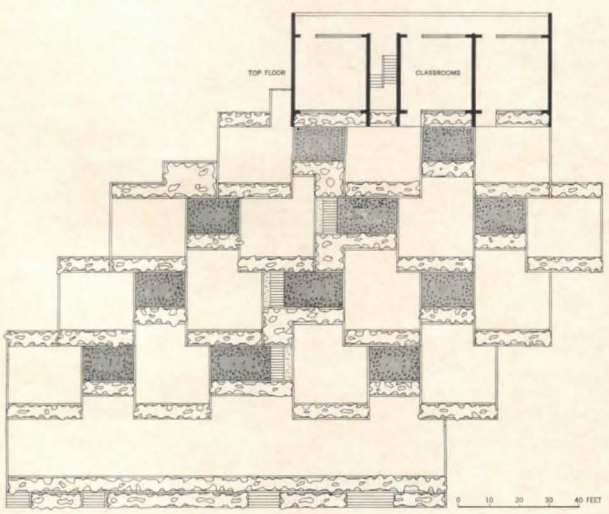
Most of this grid is left open —to frame views, to form horizontal connections (galleries) and vertical links (open stair wells). Where the grid has been filled in with classrooms, considerations of climate were paramount: To help cool the rooms and keep them dry, the architects used a cavity-wall construction of whitewashed brick—as well as a "cavity-ceiling" consisting of a ventilated, horizontal space between the ceiling slabs and the terrace slabs above them. In addition, there is cross ventilation in all the classroom units: The principal windows face south, toward the Mediterranean, and they are protected by deep roof overhangs; but a second set of clerestory windows on the uphill side can be opened to turn each classroom into a breezeway. (Because most classrooms are isolated, there have been no serious problems of sound transmission through the galleries.) Drainage of the steep site was simple: The building is so open that water can flow under and through the open structure, following the slope of the hill—sometimes in view, at other times out of sight.

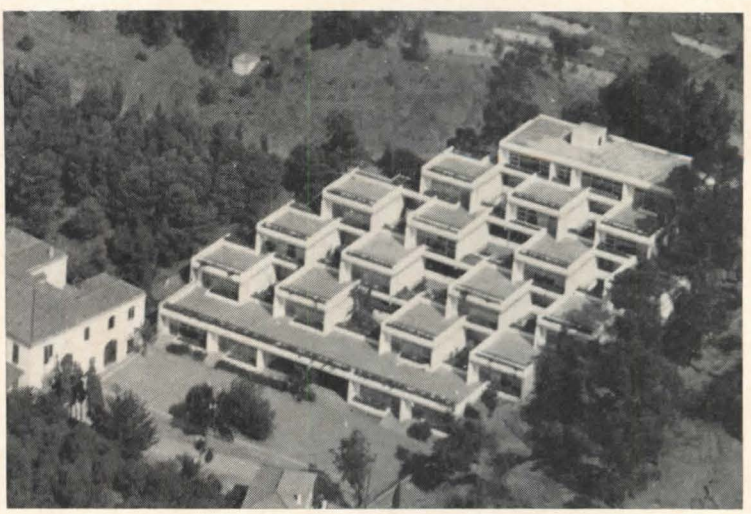
When the architects say that their building is in the tradition of Andalusian hilltop towns, they imply that this school is something akin to an urban organism. They are right: It is one more demonstration of a simple, systematic approach to urban or ganization — a three-dimensiona grid containing all necessary cir culation and all necessary serv ices. Into this grid have bee inserted a series of separat "buildings" and open spaces, a required. It will be fascinatin to see how the architects wi complete their small hillside can pus—whether they will stick t their system, or whether the will discard or improve on it.

FACTS AND FIGURES

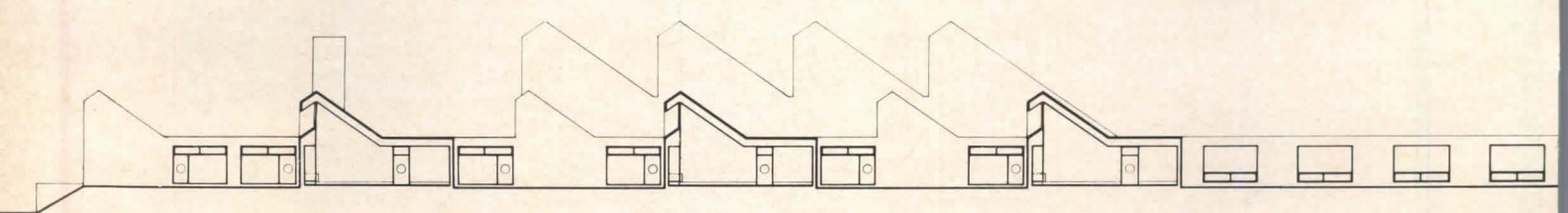
Academia Santa Teresa, Malag Spain. Architects: Manuel Barber Rebolledo & Rafael de la Joya Castr

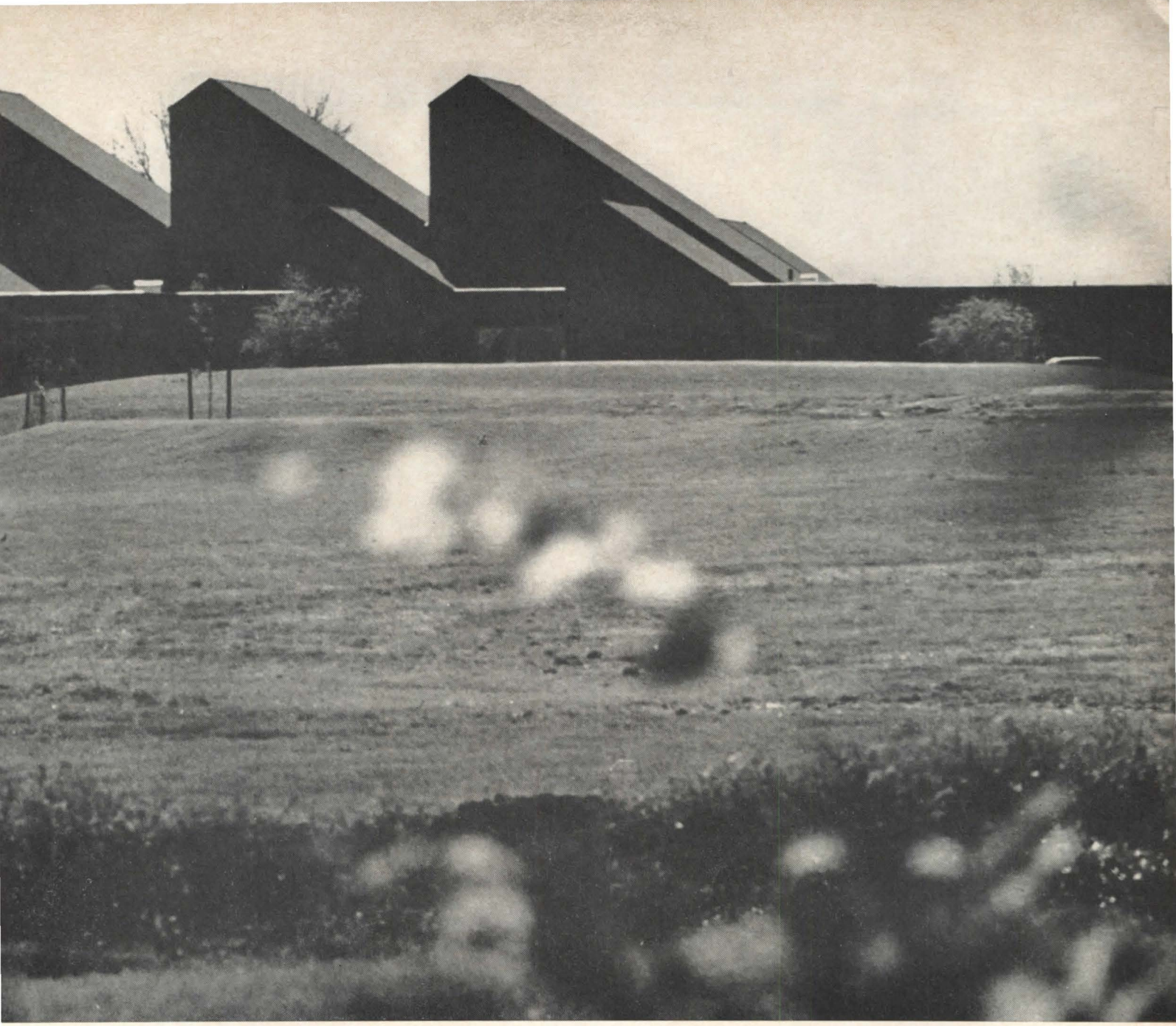



TOP FLOOR
CLASSROOMS
0 10 20 30 40 FEET



Hooded roofs reaching for the sky





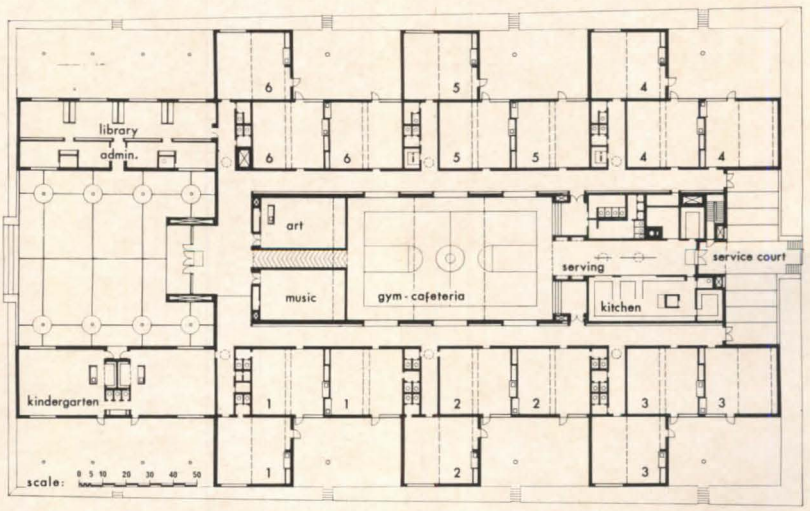
e W. D. Richards Elementary hool by Edward Larrabee rnes, shown above marching olutely across the mild park- d, gives Columbus, Indiana, architectural landmark of a t and boldness the architec- e-laden town had not before countered. Columbus is used landmark schools (see Dec. issue), but not of such ag- ssive monumentality.

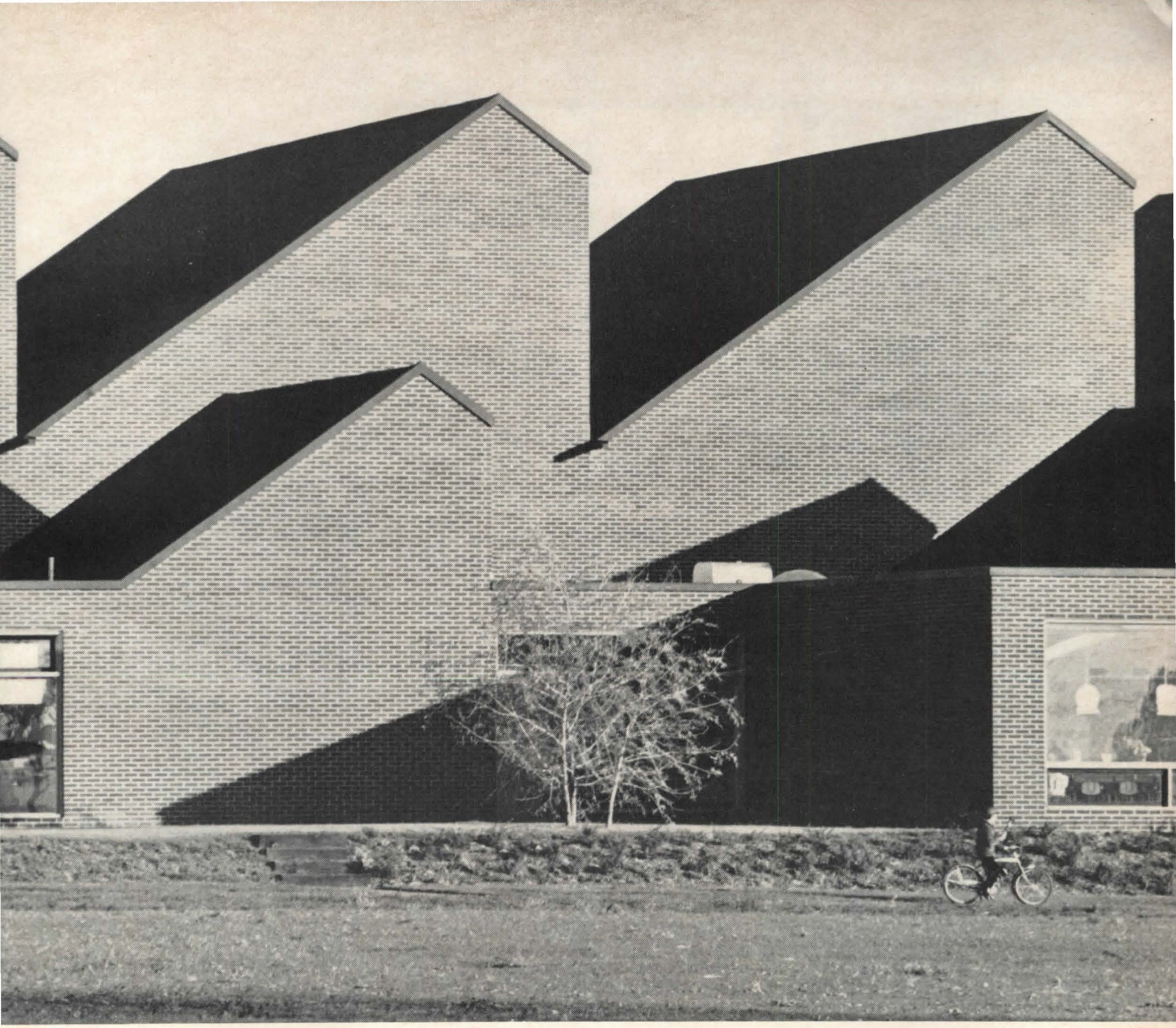
These qualities are given the hards school by a series of ward-jutting roofs such as se frequently found on air- ft factories. The four big ones belong to the central gymnasium-cafeteria spine (pages 50-51). The six smaller ones that flank this facility on either side hover over the classrooms (pages 52-53). A careful reading of the photo will disclose that some shelter one classroom and some two, creating voids in between that Barnes has developed as open-air "teaching courts." These purposeful spaces, typically, are walled on three sides by the classrooms and defined on the fourth by a gentle bank: the entire school is raised on a podium of earth, which gets progressively higher as the site falls away.

The section at left reveals Barnes's motivation in giving the school its serrate silhouette: The roofs go upward in search of the sun, whose light enters through clerestories, bounces against the steep ceilings, and is thus diffused through each room. The goal was to preserve as much wall space as possible, while leaving most of the lighting to nature.

This is not to say that the minds of Barnes and Jacque Robertson, his design associate who has since turned to full-time teaching at Columbia University, were on light alone. The school is on the suburban outskirts of Columbus, at the edge of a large park, and nearby is the pointy outline of a new church by Harry Weese. Seen together across the park, the two assertive shapes give the otherwise undistinguished landscape of single-story development houses "the structure of an ancient town," in Robertson's view. "You see the institutions on the skyline. All small towns and suburbs have these things, but they don't think to pool them visually."

The core of the school is a voluminous multipurpose spine



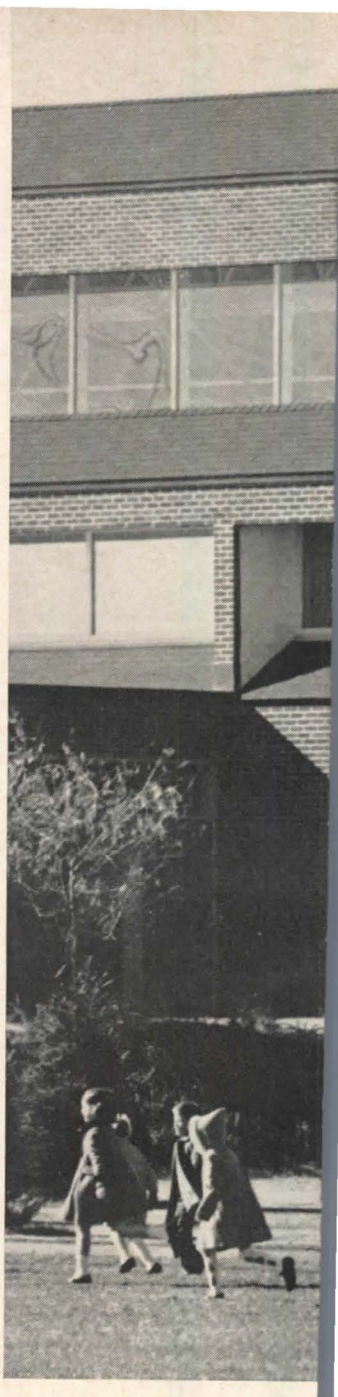


ıe plan of the W. D. Richards ıool has the linear motion of :onveyor belt. Students enter a :ecourt, and from there proceed wn two corridors from which two banks of classrooms en. At the far end is a covered :k leading to the playgrounds ond, used for open-air lunch- in good weather (trash cans e hidden in service closets). Between the parallel corridors he school's inner core, consist- of the combination gym- ium-cafeteria; two smaller cial purpose rooms for the ching of art and music; and a kitchen-serving-service area. The trussed multi-use room (left above) is two feet below the corridor level, and its upsweep ceiling rises to a child's-view infinitude of 28 feet. It must seem, to the pupils, a cathedral of space; if so, the narrower but equally lofty art and music rooms (left) are its side chapels.

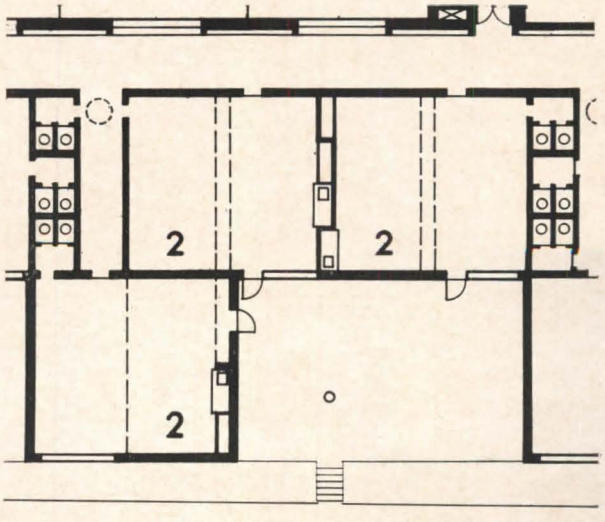
Columbus annually suffers a long and severe winter, which, in the first place, indicated to the architects the placement of the multi-use room within the body of the school. A second corollary of this climatic fact was that the room should be as much like an outdoor space as possible. The three clerestories, 5-plus feet in depth, flood it with sunlight, shared with the adjoining corridors by means of wide windows.

On evenings and weekends, the multipurpose room and kitchen are made available to the community, necessitating some means of closing off the classrooms. This is accomplished by a pair of gates beside the entry door, which slide from their recesses to shut off the side corridors but allow direct access to the central spine. The locking of two doors completes the core's enclosure.

It is the rise of the spine's roofs, of course, which gives the school its prominence on the skyline. The architects wanted them to be copper, but, after the first budget cut, had to be content with asphalt shingles and extra-wide gravel stops. The walls below are of a pleasant and inexpensive brown brick, held in an assertive mortar, laid up with an evenness that delighted Robertson. The mortar gives the effect of a Zipatone pattern to the walls, he acknowledges, "but at least it is good Zipatone."



Each grade has a nest of classrooms, one open and three enclosed



e organization of the two class-
ɔm wings grew from a pro-
ɪm requirement that was with-
ɪwn midway through working
ɪwings. Columbus was think-
· of trying team teaching,
ich led the architects to a
ɛst" of four spaces as the basic
ching unit: three classrooms
l an open, accessible court.
ɜ two back-to-back rooms were
be joined by movable parti-
ns, so that they could combine
o a single large space. Service
es were so arranged between
sters that children in the first
› grades could reach the toilets without traversing a corridor.

Team teaching was voted down, however, so the partitions became storage walls. Otherwise the nest concept was retained intact, as shown in the second-grade plan at left. Each grade has its own cluster—and its own common teaching court.

Given their clerestory scheme, the architects wanted all walls of their classrooms to be tack board, but this thought too yielded to economy. Still, the Richards teachers have available 100 per cent more wall space than in any other Columbus school.

The basic question raised by Richards' popped-up roofs is, of course, the question of scale: are volumes like these too overpowering for small children? Recognizing the problem that form and light had created, the architects sought to overcome it by establishing a second, smaller scale; by keeping fixtures, window stoops, and the portholes in classroom doors at child height.

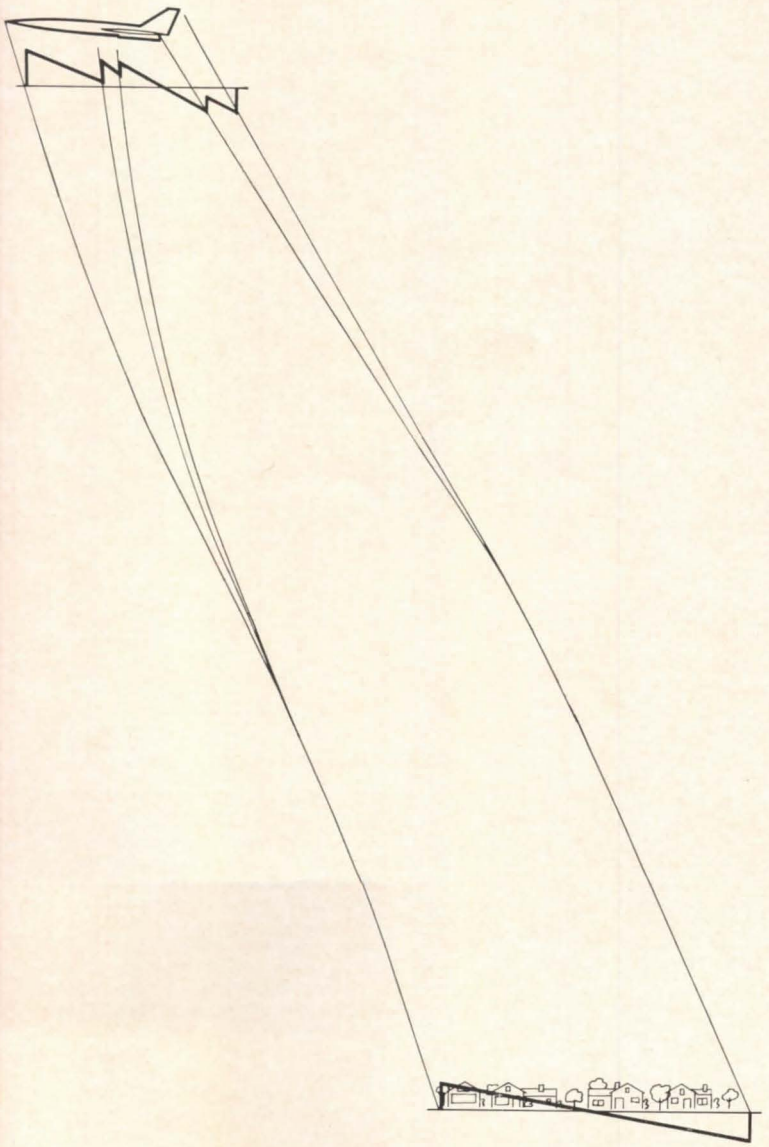
These devices help, but the first day of school in one of these lofty rooms still must make a child feel even smaller than he is. On the other hand, to one growing up in Columbus, the Richards school may be a rare experience of the exhilaration that grand spaces can provide.

FACTS AND FIGURES

W. D. Richards Elementary School, Columbus, Indiana. Owners: Board of Trustees, Columbus Community Schools. Architects: Edward L. Barnes (Richard R. Moger and Jaquelin T. Robertson, associates); Thomas C. Dorste, Associate Architect. Landscape Architect: Dan Kiley. Engineers: Garfinkel & Marenberg (structural), Cosentini Associates (mechanical). General Contractor: Dunlap Construction Co. Building area: 52,200 sq. ft.; 8,800 basement, mechanical equipment and tunnels. Construction cost: $934,209. PHOTOGRAPHS: Orlando Cabanban.

BUILDINGS AND THE SONIC BOOM

BY R. S. LANIER



In our pre-Supersonic-Transport era, sonic booms are fairly rare events. It is true that they sometimes break windows and crack plaster—but there is rarely any more serious damage to buildings.

What will happen, though, when Supersonic Transports (SST) are in regular use, as they are supposed to be in the 1970's? What will happen when the boom becomes a regular experience across the country?

Nobody knows for sure, but a good many experts are trying to find out what the effect of the boom will be on buildings and on people. Before discussing some of these tests and some of the early findings, it might be best to define the boom and its causes.

The sonic boom is a shock wave, an abrupt change in air pressure, that spreads out from the nose of a plane when the plane exceeds the speed of sound, or at about 600 mph at high altitudes. Since the wave spreads in three dimensions, it forms a cone with the plane at the apex. The down side of the cone, under most flight conditions, will reach the ground. The plane, in effect, pulls the bottom edge of the cone along the ground, sweeping an area perhaps 50 miles or more wide.

The shock wave forms at supersonic speed because the pressure rise in front of the nose can't get out of the plane's way in the more gentle acoustic-wave form, which moves only at sonic speed. The pressure piles up at the nose, and the shock wave streams off at the sides of the plane.

When the shock reaches any given point, there is an extremely fast rise in air pressure to a peak value. The whole rise may take place in a space as little as a thousandth of an inch or less. This near-discontinuity in the time-pressure relation is the characteristic of a shock wave.

After the rise in pressure there is a much slower drop to a pressure below atmospheric to form a negative peak, and then a very fast return to normal pressure.

Mr. Lanier has written for many publications, including the Architectural Forum, on sound reproduction, psychoacoustics, and related matters. His article on "What Happened at Philharmonic Hall" (see our Dec. '63 issue) caused considerable discussion.

The whole pressure history of a sonic boom at a fixed point i thus contained in a single N shaped graph (left). In the jar gon of sonic boom investigator this is the boom's "signature."

Actually, near the plane ther are two waves, one at the nos and another at the tail, and ther are apt to be subsidiary wave at protuberances in the body. A a considerable distance, though all tend to coalesce into a singl N-shaped disturbance.

The time from beginning t end of a boom (in effect, th time between the two peaks) i determined partly by the size o the plane. It can be anywher from about .05 second to abou .3 second for planes now in op eration or proposed. If the boo duration is less than about . second, the human ear interpret it as a single bang. In a longe boom the two peaks may b heard separately, as two bang

OVERPRESSURE

The pressure created by th boom—technically, the *over*pre sure above that of the atmo phere—depends on the spee configuration, size, and weight o the plane; its altitude; whether is changing course or not and i what manner; and the meteor logical conditions between pla and ground. Other things bein equal, the boom pressure higher the higher the speed an the closer the plane to the groun The pressure goes up in a di and down if the plane is risin Go straight up, like a rocket, an the boom does not reach th ground at all.

However, the F-104 jet fighte for example, in level flight Mach 1.45 (Mach 1 is the spe of sound) at an altitude of 34,5 feet, may produce an overpre sure approaching the ground 1 pound psf. As with any trave ing pressure disturbance, refle tion from a solid surface caus "pressure doubling"; so the e fective overpressure at t ground will be about 2 psf. T same plane, flying at a simil speed, but at an altitude of on 4,000 feet, might generate 50 p at the ground.

Investigators can now predi

reasonably well from the configuration, weight, and other characteristics of a plane what boom pressures it will generate. What they cannot analyze as well are the probable effects of a given sonic boom on a given building.

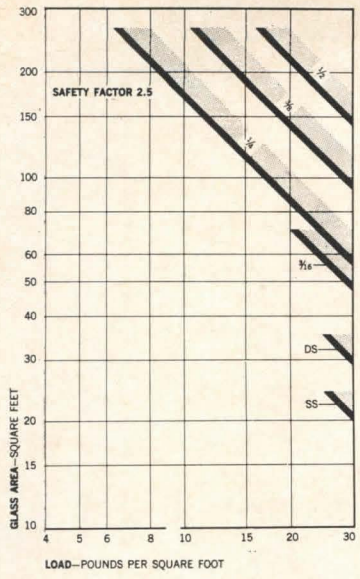
First, it is clear that it is not the peak overpressure that causes damage. Two or three or even 10 psf is not much pressure. Almost any element of a building should sustain many times this pressure—*if it is steadily applied.* The potential for damage lies in the extremely fast application of pressure, followed by a relatively long "hold," which indicates a high energy content.

Second, the amount of energy a building absorbs depends not only on the amount in the boom but on the *impedance* of the building or structure; that is, its resistance to vibratory energy.

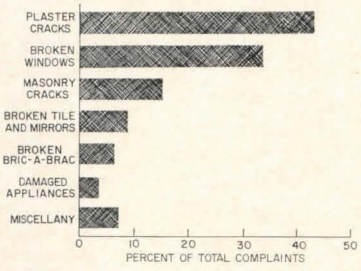
To illustrate: suppose the main frame of a house has a natural period of vibration of 10 cycles per second. The two peaks of a boom with a duration of .1 second can be in phase with the motion of the structure after it is hit by the wave, and the deflection may be considerably amplified. This "dynamic amplification factor" may multiply the effect of the boom by several times. Each house and each element of the house will have its own complex of natural frequencies and deflection constants, influencing the transfer of energy.

REASSURANCE

Some tests made by the National Aeronautics and Space Agency (NASA) on typical small houses showed that the peak measured strain on a vertical stud was in the range of from 10 to 60 psi, for sonic boom exposures in the range of from .3 psf to 3 psf. Since the design stress of such members is typically on the order of 1,000 psi, sonic boom damage to basic structure can hardly be expected from any "well controlled" boom. The natural frequency of such house elements was typically in the range from about 8 to 15 cycles per second (cps), and the sonic booms to which the houses were subjected were in the same range.



Above, weights of glass recommended by one manufacturer for resistance to sonic boom pressures. Below, the distribution of damage measured in government tests (page 87).



Resonance effects were therefore included in the findings.

Or take the likely effect of boom on glass. The natural frequency of a pane of glass measuring 8 by 10 inches, and ⅛ inch thick, is around 200 cps; that of a 84 by 240-inch pane ½ inch thick is about 8cps. So only very large panes are likely to resonate in the sonic boom range.

But the result is also influenced by acoustic resonances in the space in back of the window. These may reinforce the deflection of the window or tend to "damp" it. The result is that "computing" a boom-resistant window is likely to be complex. The design criteria are for elimination of any stress raisers and for very firm mounting so that the glass does not strike any corner or nails when deflected. The graph at top left shows weights of glass recommended by one large manufacturer for resistance to sonic booms of various intensities.

CONTAINMENT

So far, such booms have resulted only from occasional military flights. But what will happen when the SST becomes a regularly scheduled reality?

Several large-scale experiments have given the agencies developing the SST a cautious assurance that the worst effects of the boom "can be contained." Caution seems justified, because there are some large uncertainties: one is that "control" of the boom as now envisaged leans heavily on strict and elaborate supervision of each SST flight path and speed, particularly at takeoff and landing.

Second, a large uncertainty lies in the "normal" variations in commercial-grade glass as bought and as installed; in plaster walls as erected by thousands of different craftsmen; and in the highly variable effects of age, care, and previous damage in our inventory of buildings.

It is manifestly impossible even to guess what proportion of the glass in the country's windows comes up to the standards of the glass used in experiments made with controlled booms. Most reports of boom damage leave us completely in the dark on the pre-boom condition of the damaged buildings.

A third and politically explosive uncertainty is, of course, the public reaction to regularly repeated, bone-shaking, window-rattling bursts of sound. The Federal Aviation Authority (FAA), charged with the direction of SST development, studied the reactions of people in Oklahoma City to a series of about 1,200 booms during several months in 1964. An extensive campaign of information through local papers and broadcast stations alerted the public to the occurrence and nature of the booms. Trained interviewers studied a cross-section of the public before, during, and after the series. The majority, after having been carefully indoctrinated on the "necessity" of the boom, stated that it did not find the booms disturbing. But the minority that *did* object rose from 20 to 27 per cent by the end of the series.

It is clear that the extent of both public outrage and actual building damage caused by SST booms will depend to a great extent on the pilots. Flying too low or too fast means more booms, and certain maneuvers, including dives and some kinds of turns, can make the boom two or three times as intense as it would otherwise be.

COMPENSATION

It is impossible to get even a rough idea of the prevalence of poor operating practices on the part of military pilots: the Air Force, the only operator of supersonic planes at present, will not even identify the planes that cause them, despite the fact that it has paid out almost $1.5 million in compensation for boom damage. The amount of sonic boom damage claimed in France, for instance, suggests that flight control to minimize boom effects may be less rigid there than in this country.

The findings on which the SST developers in this country are basing their boom-control plan

(continued on page 87)

ROCKVILLE'S MULTI-LEVEL MINI-CORE

ockville, Maryland, population ,000, has hired itself a town chitect, and in doing so may ve set an American precedent urban design. The architect Robert L. Geddes, dean at rinceton University. His job is turn 46 acres in the center of wn, distinguished in the aerial oto at left only by the black tline, into a mini-center as so-isticated in concept as any-ing Philadelphia or Montreal ight imagine.

The precedent concerns the ay that Geddes is going about Instead of just giving birth to dramatic set of drawings and odel photos, then leaving them survive years of development best they can, Geddes has es-blished the basic framework of ilities, garages, walks, and en spaces, and is staying on to e that the architects who will tually design the buildings do proper job of it.

Rockville's downtown was once e thriving marketplace of ru-l Montgomery County, lying the end of a trolley line eight les northwest of Washington. day, it is an island of decay in sea of suburbia—a relic of the e-shopping-center age. But its tential as a newly revitalized gional core is great: by 1970, estimated 60,000 people will e within five minutes of the e. To assure that its potential realized, Rockville's city fa-rs have placed planning of center at the very core of ir decision-making process.

Rockville's city council is the cal Public Agency for the oject, a role which its mem-s chose to take on because y felt the city's governing ly should be directly answer-e to the voters on an under-ing of such civic importance. effect, the three city agencies ponsible for developing the project — the departments of planning, urban renewal, and public works—serve as the council's planning staff, and their work is coordinated by the city manager. Geddes, though technically a consultant to the department of urban renewal, has direct access to the council, meeting with it at least once a month.

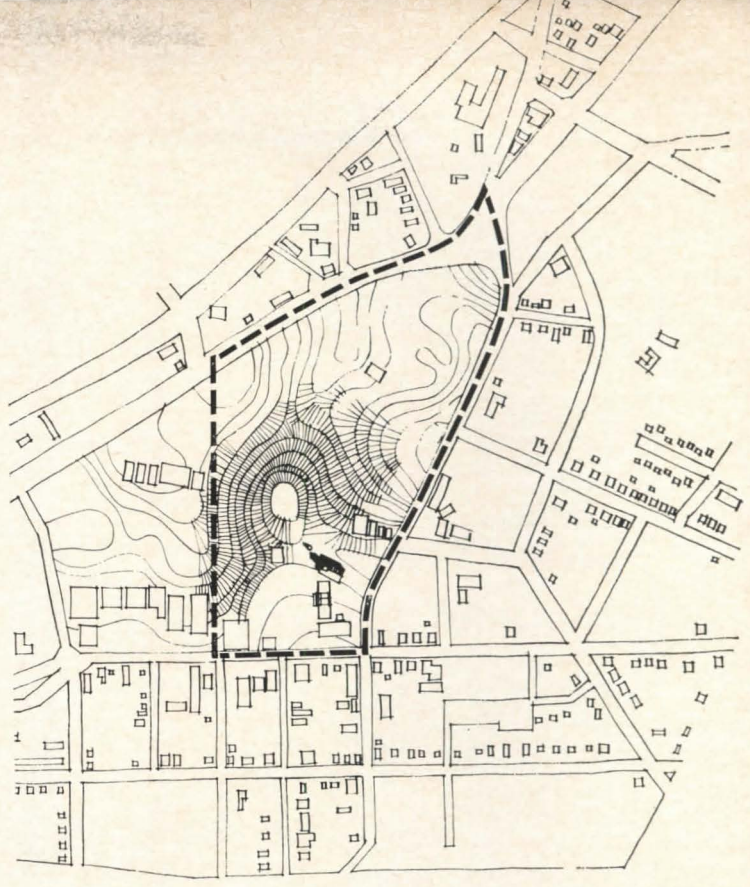
The whole setup, according to both Geddes and Peter L. Cheney, Rockville's director of urban renewal, is simple and effective. It also has a built-in flexibility that, in one instance at least, saved the project from a potentially disastrous turn. The city had commissioned a local architectural firm, which turned in a scheme so bizarre that it succeeded in convincing the city that it needed to set its sights considerably higher.

New approach

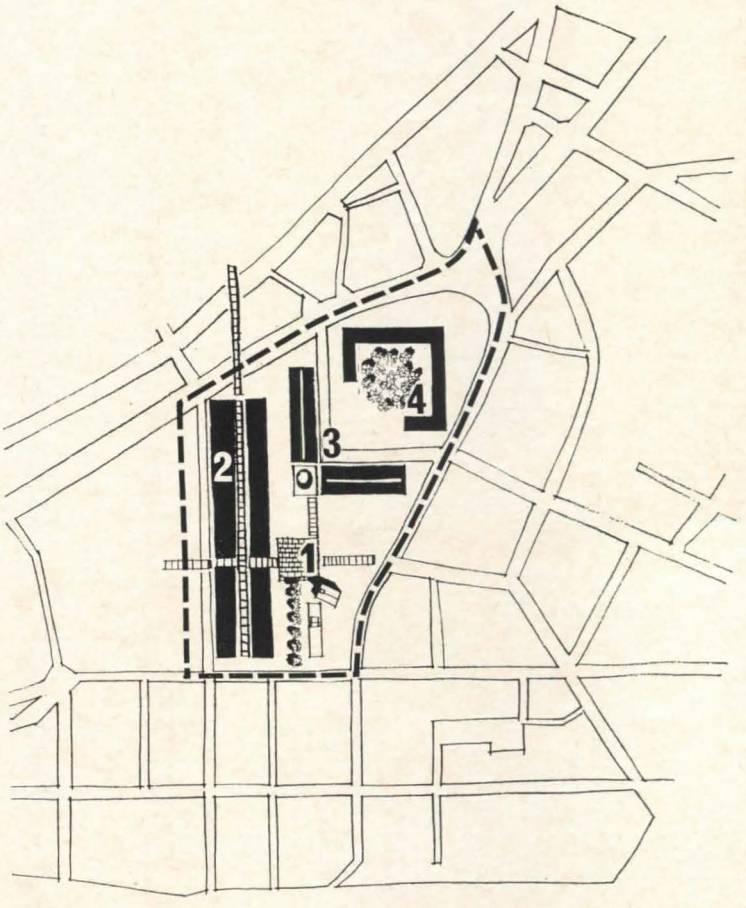
Out to some 25 prominent firms went a letter from Cheney that revealed how much the city fathers had learned from their experience. "The city is seeking a firm or an individual who has had urban design experience," it said. "A firm that can see beyond a single building and look at design for an entire central city; a firm that can relate buildings and open spaces to each other and, in turn, effectively relate these to the pedestrian. . . ."

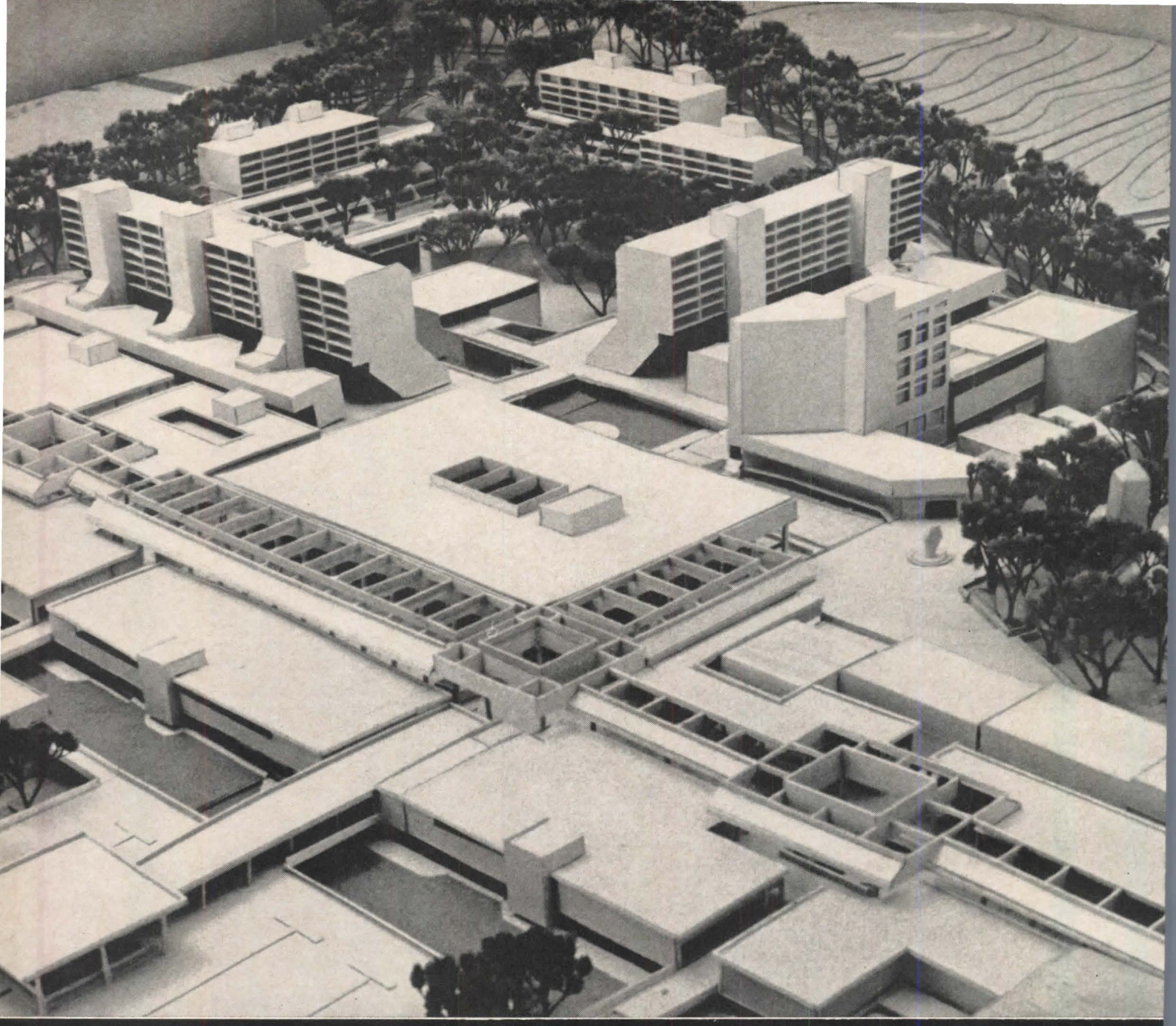
The city interviewed several candidates before it selected Geddes, Brecher, Qualls, Cunningham, with Geddes as partner in charge. It also called in Robert Gladstone & Associates as economic consultants and Wilbur Smith & Associates as traffic and parking consultants.

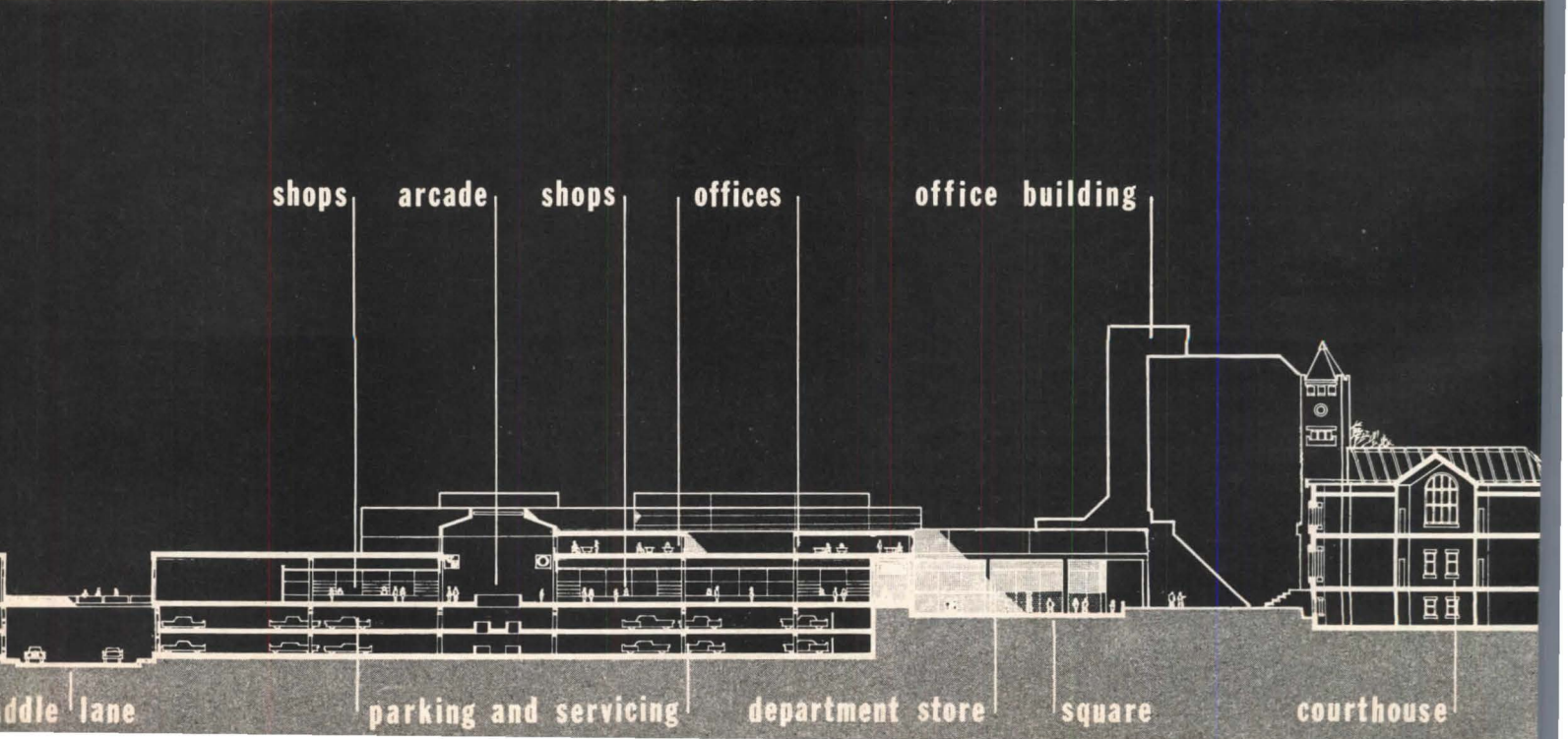
With the city's blessing, Geddes discarded the earlier scheme and started from scratch, using the slope of the site, with the Old Courthouse at the highest point, as the built-in basis for his multilevel scheme. Geddes' conceptual outline called for the four major centers of activity shown in plan at right: (1) a public square; (2) a linear shopping arcade; (3) a commercial office center; and (4) a residential block. From this evolved the compact urban core described on the following pages.



The terrain (above), falling off from a knoll in front of the courthouse, gave Geddes his schematic organization (below): 1 is the courthouse square; 2, shopping; 3, offices; and 4, residential.






shops
arcade
shops
offices
office building
ddle lane
parking and servicing
department store
square
courthouse

ıe building masses shown in odel form at left are the least al aspect of Geddes' urban de-gn scheme for Rockville. All the buildings will be designed other architects, working for e eventual buyers of the vari-ıs development packages.

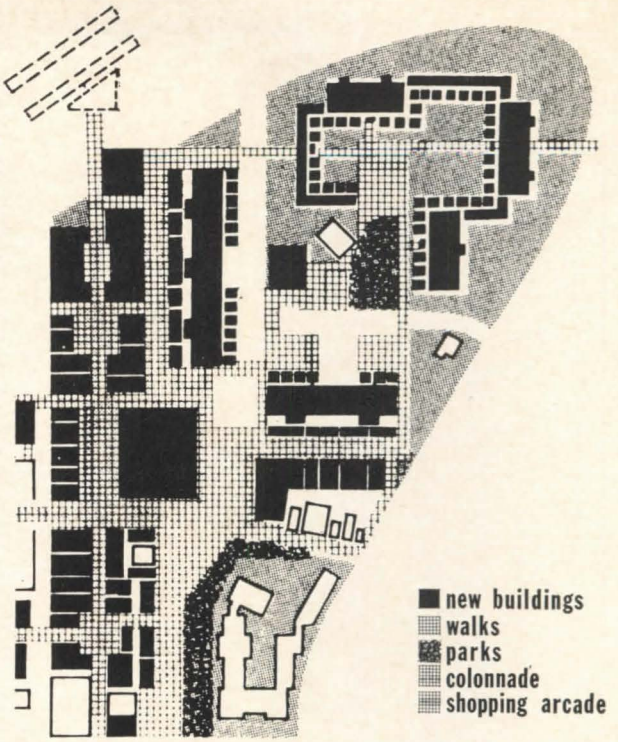
But the framework which Ged-es has conceived for the com-ex, plus a stiff but not inflexi-e set of design requirements awn up for the developers and eir architects, practically guar-ıtees a high degree of cohesive-ess in the finished product, even design details of the individ-al buildings should turn out to e less than first-rate.

Most of Geddes' framework es under the buildings, where e has created a system that eatly accommodates autos, ıses, trucks, and mechanical ervices, leaving the surface rictly for people. Tucked into ıe slope of the site are two-ory parking structures, each of eir floors accessible directly om existing streets, without amps. Atop the parking struc-ures, extending out from the est of the site in three direc-ons, is a platform that serves the new "ground level."

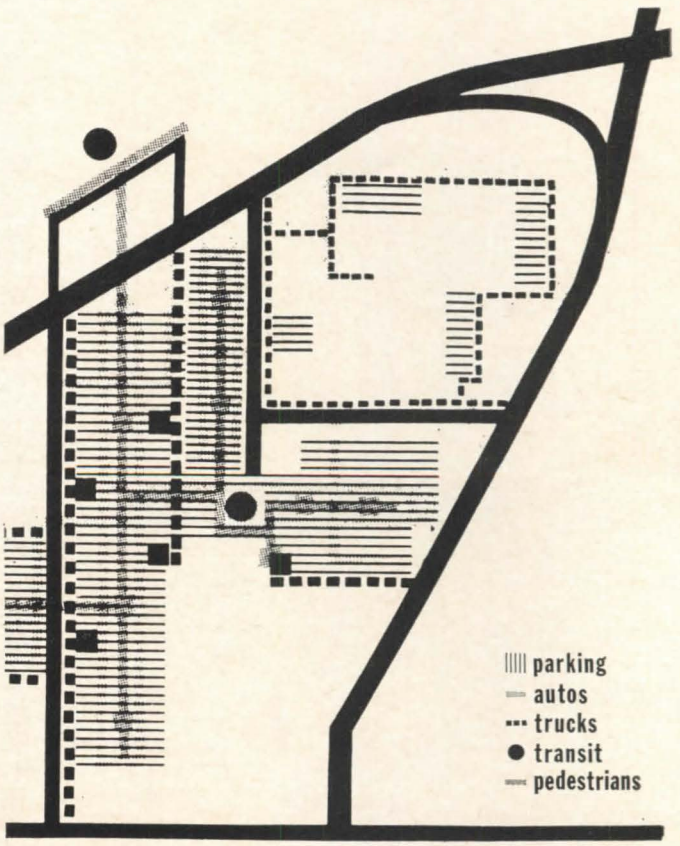
After parking their cars on ıe shelves beneath this plat-orm, shoppers will walk along kylit garage walkways and take scalators up through open light-ourts to the surface. Pedestrian verpasses across the existing reets that bound the site will onnect the platform with the st of the city. Goods will be elivered from the peripheral reets or from special service reets penetrating the center to ommon unloading areas and eight elevators. In the residen-al area, to be built on grade elow platform level, trucks and ars will be confined to the peri-hery, with internal open spaces eserved for pedestrians.

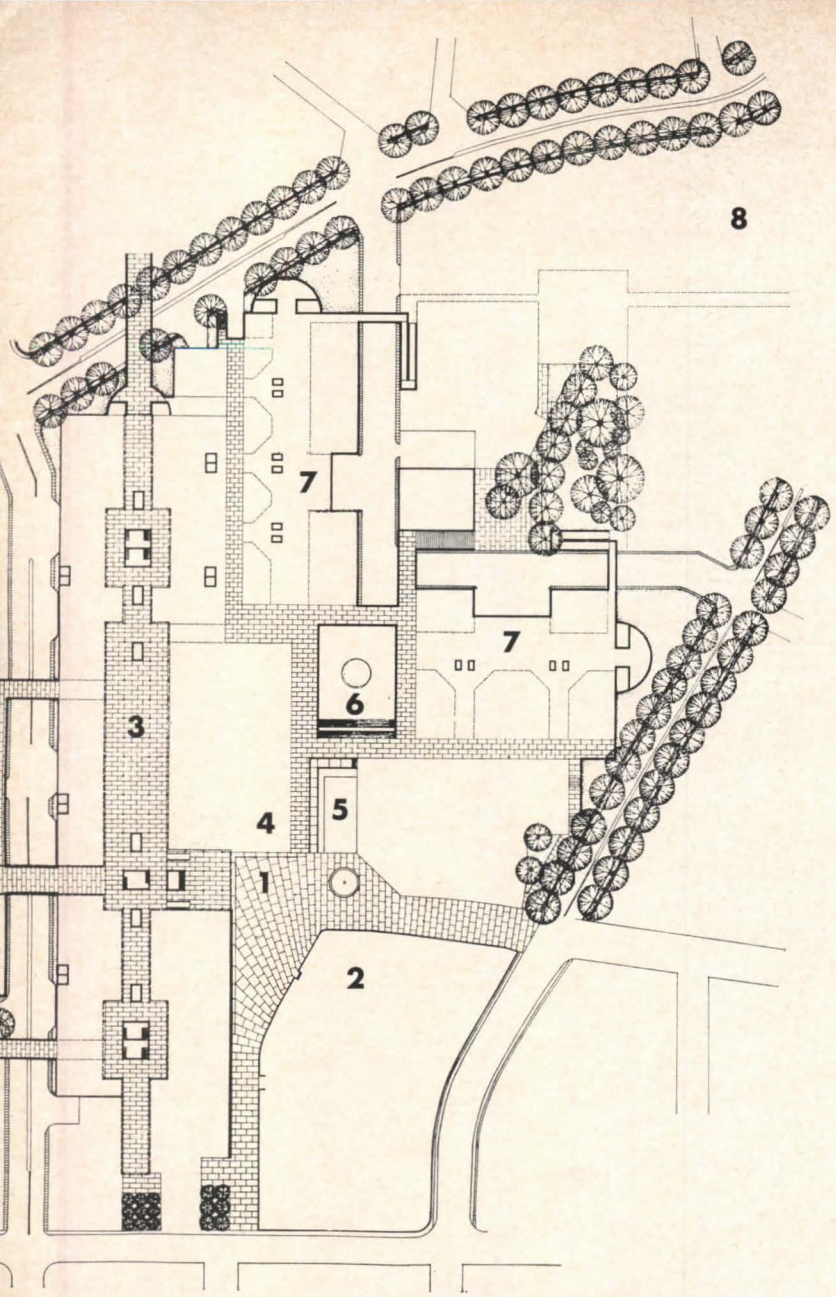
As architects for the center's ublic facilities, Geddes' firm is ow completing the design of the arking structures and the me-anical system that the surface uildings will plug into. When at's finished, Geddes will con-ntrate on the public spaces nd walkways that will tie the omplex together at surface level.

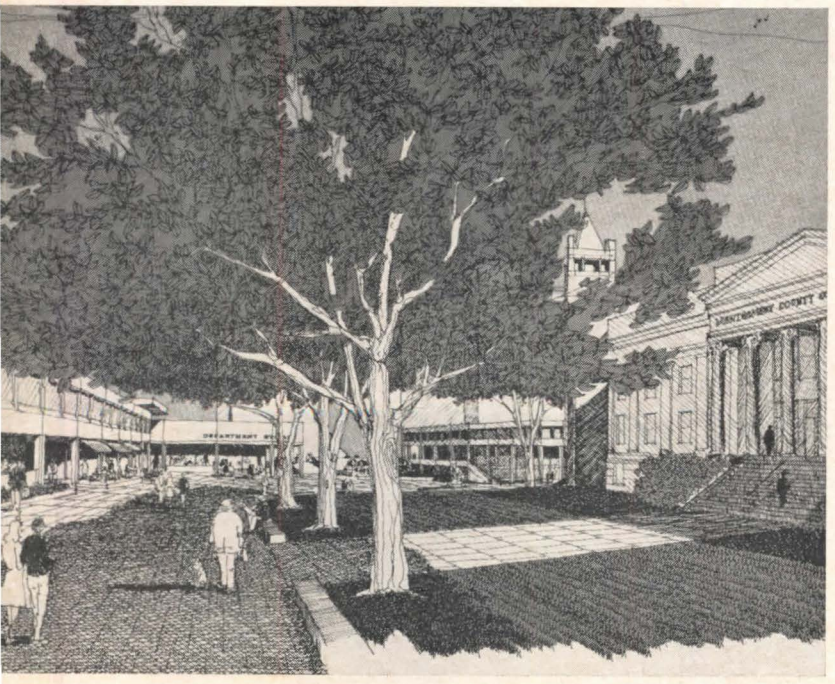
The most significant parts of the plan are those that don't show



The platform level (above) is given over to the pedestrian; broken lines are pathways through arcades in major buildings. Vehicles have a lower level of their own (below). The section opposite shows the tall, enclosed shopping arcade that will be the main pedestrian "street."







The diagram above left is the framework for development established by Geddes, of which the courthouse mall, shown in rendering, is the first element actually designed. In both the diagram and the plan opposite, 1 is the square; 2, the courthouse itself; 3, the linear shopping arcade; 4, a department store; 5, an ice skating rink; 6, the auto arrival and bus stop; 7, office buildings; and 8, the residential sector.

A framework of paths and spaces will hold development in place

The major focal point of Gedd scheme is not one of the pr posed new structures, but t Old Courthouse (right in rend ing below) which he talked t city into saving. "It is, to sure, no more a beautiful buil ing than most people's gran mothers are beautiful women wrote architectural critic Wo Von Eckardt at the time. "But is a dear old thing."

Geddes has made the C Courthouse the backdrop for t new public square (1 on pla drawing below left), the fi piece of specific design to completed, from which the n work of pedestrian walkwa covered shopping malls, and cades will radiate. Ringing t square are the "gateway" to t linear shopping arcade, a ma department store (4), an i skating rink (5), and restauran shops and offices.

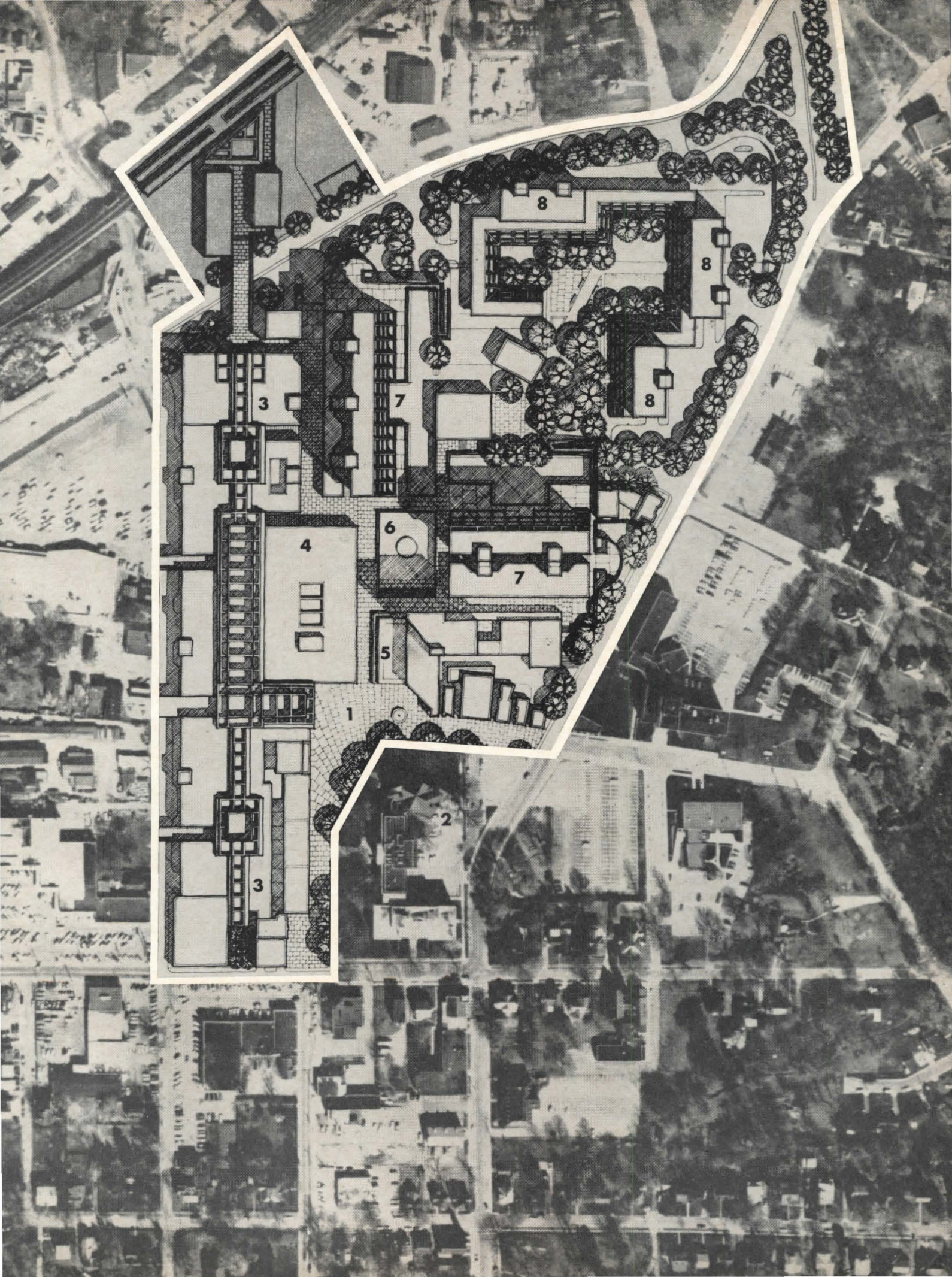
The plan at left is a diagr of the framework which Ged has designed to hold all of t development in place. His wa ways precisely define build locations, and, in most cases, has even prescribed that paths continue through arca to be incorporated in the des of the buildings.

Geddes' firm is now prepar standards for all of the graph and street furniture. From t point on, his role in the cent design will depend on his p suasiveness and the constancy the town fathers; he has rejec any idea of acting as archit for individual developers, lieving that it would raise a c flict of interest with his role architect to the town.

In Geddes' view, his task that of a bridge between pol making and physical desi "How do you make that bridg he asks. "Only by playing a r in both the policy making design—not by conventional chitectural methods."

Today's architect, Geddes sa must offer sound professio counsel to the decision mak of society, not just plans sketches: "The more we show ability to make judgments, more society will ask us to come more responsible."

—James Bar


8
8
8
3
7
6
4
7
5
1
2
3

BOOKS

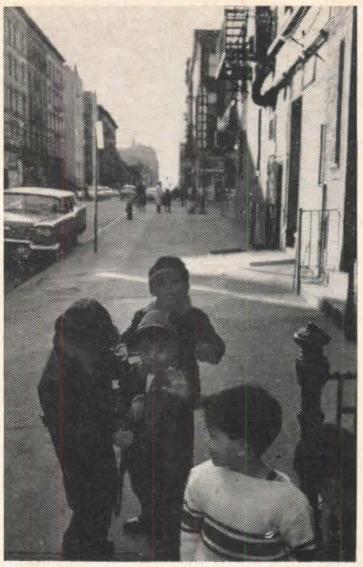
THE AIRTIGHT CAGE. By Joseph P. Lyford. Published by Harper & Row, New York, N.Y. 356 pp. 5½ by 8½ in. $7.95.

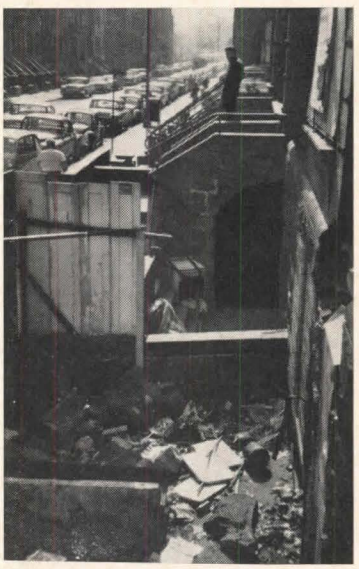
From the outside, the Upper West Side of Manhattan—extending north-south roughly the length of Central Park, east-west from the park to the Hudson River—seems rich in urban diversity. Negro, Puerto Rican, and every ethnic flavor that can be lumped under the heading Caucasian are mixed within its graystone apartments, brownstone houses, and tenements; there are single blocks whose people cover the full economic spectrum from wealth to poverty. There are bright new schools, racially integrated and educationally advanced; solid old churches, pervaded with a sense of social mission; political clubhouses which have been wrested from machine rule by liberal reform.

Even the power of urban renewal, which can cut the heart out of such an area, appears to have been used here with caution and respect. There has been an emphasis on rehabilitation rather than clearance, and where new housing has been built it has been kept below the vast scale of other New York City projects. The efforts at relocation of those displaced have been held up as models of enlightened urban renewal practice.

The view from the inside is contained in *The Airtight Cage*, and it is something quite different. Joseph P. Lyford is a literate generalist—newspaperman, then senatorial staff worker and Congressional candidate, and most recently a university professor and representative of the Fund for the Republic—who has lived on the West Side since 1960. His book is a quiet, relentless documentation of urban despair. As such, it is an important addition to the literature of social outcry, and another voice in the plaintive chorus that is trying to tell us, despite our carefully constructed posture of indifference, just how bad the city's current situation really is.

The picture of the West Side that Lyford gives us is of a





population trapped in squalo made more unspeakable by th adjacency of wealth, kept ther by an insensate society and it agents, left helpless before th daily horror of street violenc We meet this population perso by person: the families trying t make it; the parents who take i out on their children; the hus tlers and addicts; the teenager who talk reform and are quit capable of murder; the unwed and the elderly. We are also in troduced, one by one, to the insti tutions of the West Side—th schools, the churches, the "com munity organizations," the politi cal clubs, the apparatus of publi health, welfare, and police—an are shown, one by one, thei terrible remoteness from th population that needs their help

It is this way, Lyford says, be cause we want it this way. Crim is a condition of the streets be cause this is where we hav chosen to put our criminal Housing is uninhabitable (a though inhabited) because ou public agencies do not enforc even the most minimal standard and we refuse to pay to buil any other kind of shelter for th poor (the West Side's wor slumlord, Lyford says, an proves it, is the City Depar ment of Real Estate). Welfa subsidizes rather than solves th problems of the people becaus the Department of Welfare is i constant fear that we will call up on charges of waste an profligacy. The schools canno both educate and do the othe job we assign them, which is t reclaim the youthful refuse o family destruction; to be su they can't, we deny them th money and talent they woul need for either task.

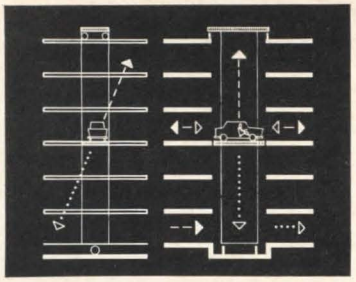
Lyford also speaks in qui outrage of the urban renew project now underway in 2 blocks between 87th and 97t streets. In its original form, th project called for construction o rehabilitation of nearly 16,0 luxury and middle-income hou ing units—and only 400 for th poor. A Catholic priest, the Re Henry J. Browne, since then th head of the Stryckers Ba Neighborhood Council, led a su cessful fight to increase the nu ber of low-income units to

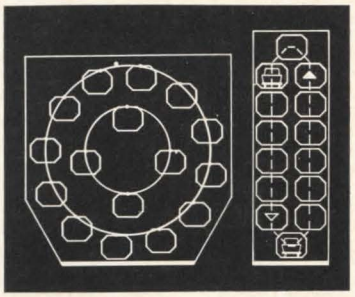
lt under the renewal program 2,500.

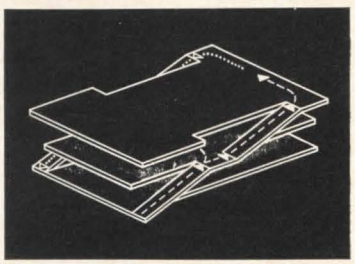
There are, in all, 6,344 house-ds to be displaced, nearly all in low-income category. Most of Negroes and Puerto Ricans ong them, Lyford says, "will be able to afford to live in new community or qualify the limited public housing. e ineligibles will be moved in and again, the records on m will be lost, and they will ome mired in a gray, deterio-ng area in another borough h neither the will nor the rgy to retrace their steps." ien the work actually began, says, "broken facades of tene-nts hovered threateningly over sersby for months, and huge s of bricks provided throw-ammunition for the school-dren." Lyford offers no de-ed criticism of the present n, and he does not speak out inst urban renewal as such. seems simply to want its ts recorded.

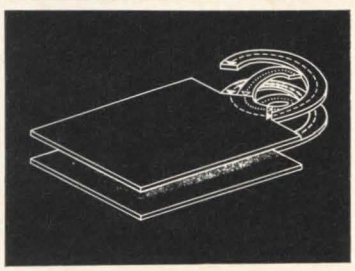
Lyford offers two major reme-s, one of which involves phys-l planning and design and other not. The first is the ation of "an entirely new type city, different in physical ucture and purpose." One action of the new city would to help house those dis-ced by urban renewal in exist-cores. "Since the suburban g about New York City has ked the Negro into the slum," ford says, "new settlements uld have to leap over the con-icting belt."

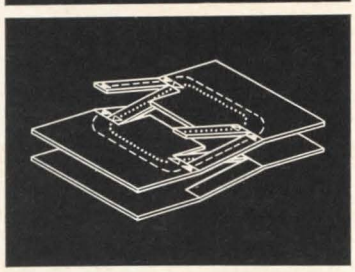
The second is rediscovery of lost meaning of the word mmunity, which is a construc-e meaning opposite from iso-on and protectiveness. "If frontier society . . . found communal life a necessity for vival," Lyford says, "our cialized society needs even re to guard against the indi-ual's disassociation from the ole. There is no security in cities because there is no mmunity in them. A society which a fifth of the people e in poverty condemns every n to private oppression—an pression which can be physical, a matter of conscience, or h."—D. C.

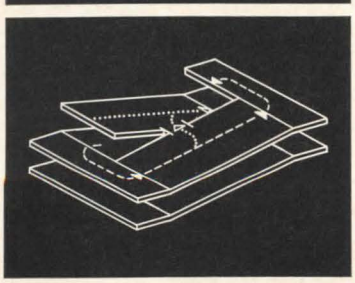


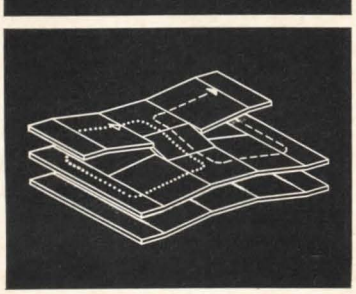












METROPOLITAN PARKING STRUCTURES: A Survey of Architectural Problems and Solutions. By Dietrich Klose. Published by Frederick A. Praeger, Inc., New York, N. Y. Bilingual edition (German/English). 248 pp. Illustrated. 11 by 8½ in. $18.50.

REVIEWED BY LEV ZETLIN AND VINCENT J. DE SIMONE.

A car ride into town these days is, at best, an act of faith. Knowing that previous attempts have been successful, we embark again, but we are never quite sure what experience awaits us.

Having actually arrived, we are confronted with the problem of parking. For once within the barriers of the city, the vehicle serves no other purpose than to encumber the already strangled streets.

Mr. Klose's book sounds the alarm that, with an automobile population of 100 million expected by 1970, an integrated attack must be made on problems of traffic and parking. It is one of the few books available which not only comprehensively deal with the details of garage planning and design, but also put parking structures in a proper perspective with respect to their import in urban planning.

The automobile, Mr. Klose makes clear, is a psychological necessity for urban populations in search of individuality. Yet at the same time it creates a vicious cycle in which urban areas attract motorists in such numbers that tie-ups and inconveniences are created which diminish the automobile's benefits.

Mr. Klose illustrates attempts to solve parking problems in the United States and abroad. He singles out O. E. Schweizer's concept of a model city, in which a major road network feeds parking areas at the extremities, and pedestrian walks lead to the commercial center.

The individual garages analyzed by Mr. Klose are of both the mechanized and driver parking types. The mechanized garages are further subdivided into elevator systems, useful where land costs make a vertical scheme necessary; and the more fully mechanized pigeonhole systems. In all mechanical parking, the structure is usually kept to a minimum in both spans and sophistication; pigeon parking requires only a series of cages on a platform. The disadvantage of mechanical systems is that the number of cars handled at peak hours is limited to about 100 an hour by the capability of the machinery.

Driver parking schemes also fall into two subcategories: those consisting of a series of floors with ramps attached; or those served by ramps which are part of the structure. In the reviewers' opinion, the former type is useful for low-cost, large-volume parking in situations where land is not expensive. Spans are generally in the range of 50 to 60 feet clear.

Many interesting structural considerations arise in driver garages in which the ramp is part of the floor system. Here spans could conceivably be from 75 to 90 feet. The undulation of the floors creates folded units which could be utilized structurally.

The examples in Mr. Klose's book do, in fact, show the use of a variety of sophisticated structural systems to achieve the large, open spans required by individual garage layouts, including cables and three-dimensional space frames. Many of the driver garages take advantage of the availability of inexpensive prestressed concrete members capable of large spans.

Since garages are considered basically as commercial structures, many of the examples consist of bare concrete frames which simply create a shell for parking. There are others, however, which demonstrate the possibility of making a parking structure a positive esthetic contribution to the city.

Mr. Klose's book should prove a valuable reference work for designers and city planners.

Left, the varieties of parking garages: at top, the elevator type; next, the pigeon-hole; and below them, a sampling of ramp schemes.

Dr. Zetlin and **Mr. De Simone** are principals in the firm of Lev Zetlin and Associates, structural consulting engineers, internationally known for its structural innovations.

BOSTON'S CITADEL OF ARCHITECTURE

Rearing up in a rather seedy backwater of otherwise elegant Back Bay is the latest addition to that long list of unique institutions—from Faneuil Hall to Ed Logue—that make Boston so different from other American cities. It is the Boston Architectural Center, a whole new, aggressively prominent building devoted to architecture alone. Here architectural skills are taught, architects meet, and the public is introduced to the mysteries of architecture.

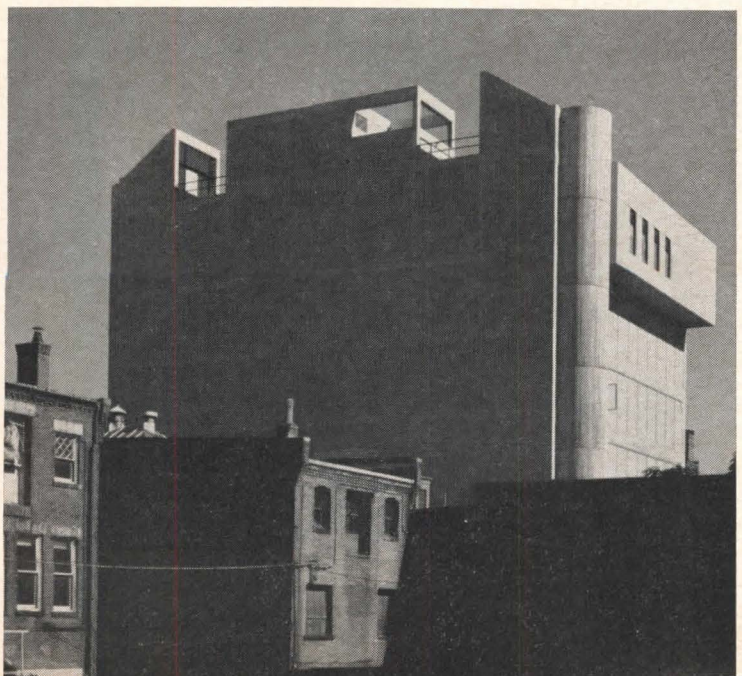
A good first lesson—for students, practitioners, and public alike—is the building itself. "By some miracle," as one BAC official puts it, the center has got a building that not only fits its unique program, but signifies its importance to the city.

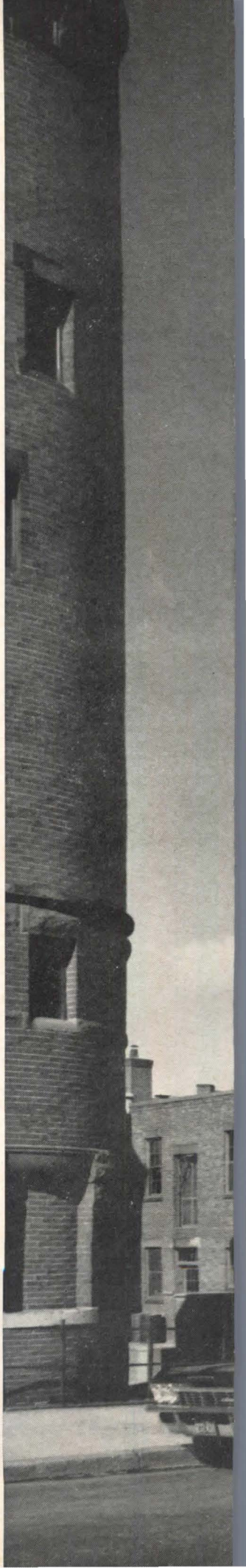
Actually, BAC was astute enough not to rely on a miracle. Realizing that it would have to set an example, it chose to do so by holding a design competition. As in the case of the Boston City Hall competition 1½ years before, the commission was awarded to a young (but in this case established) firm, Ashley, Myer & Associates.

When they chose this Back Bay site, the BAC trustees didn't really mean to put up a new building. Forced out of the converted Beacon Hill town houses that BAC had occupied for 50 years (by an expansion of state offices), they found a solid looking three-story brick commercial building on Newbury Street, built long ago as a stable, that looked as if it could be remodeled to their needs. It was on the west end of Newbury Street, where a row of boutiques and galleries gives way to small service businesses and garages, but it was still only one block south of the elegant mansards along Commonwealth Avenue and one block north of the rising Prudential Center, popularly expected to upgrade the neighborhood.

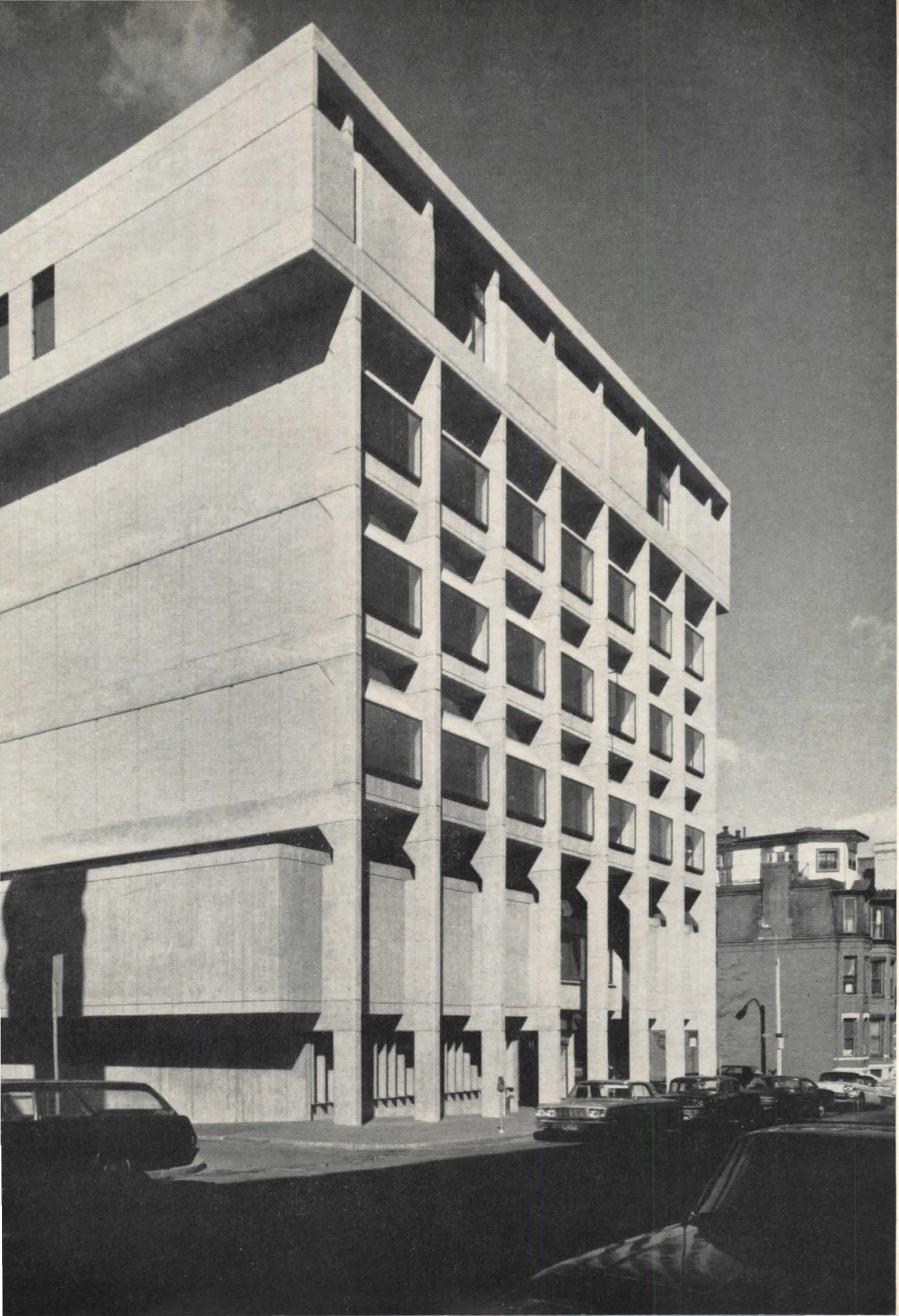
The location had other advantages: it was almost on top of a transit station and nearer than the old site to Boston's art museums and galleries and the bulk of its architectural firms (from which BAC draws both its students and its volunteer faculty), and its universities (other sources of teachers).

Fortunately, the old stable turned out to be less solid than it looked. Unsuspected structural weaknesses raised the estimated cost of remodeling from $250,000 to $350,000. Since the estimated cost of a new, larger building was only $500,000, BAC could only choose to start fresh.





The concrete frame and brick infilling of BAC's west party wall (left) may remain exposed forever under a new zoning law. An old fire station next door, whose corner turrets (right) inspired BAC's stair towers, may soon fall victim to "progress."



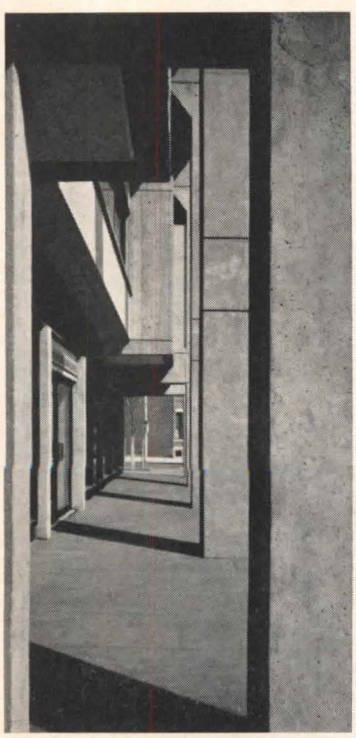
At the base, two levels of interlocking space

BAC needed spaces of several different kinds, and Ashley-Myer based their design on letting them all show, inside and out. The internal organization can be "read" almost as clearly from the street as from a section.

At street level are public exhibition spaces, invitingly exposed, and BAC offices, slightly screened for privacy. Immediately above, in volumes of *piano nobile* proportions, are the social rooms of the Boston Society of Architects (the local AIA chapter, a tenant of BAC) and the main meeting room.

Organization of the plan with all services ranged along the west party wall (also clearly readable from outside) leaves the rest of each floor free for the complex requirements of the top and bottom stories and the unpredictable needs of the middle.

The two-story portico of free-standing columns at the base of the building (below) announces that the two lower floors are one complex of spaces. Visually (if not structurally) the closed boxes of meeting room and club rooms are suspended within the

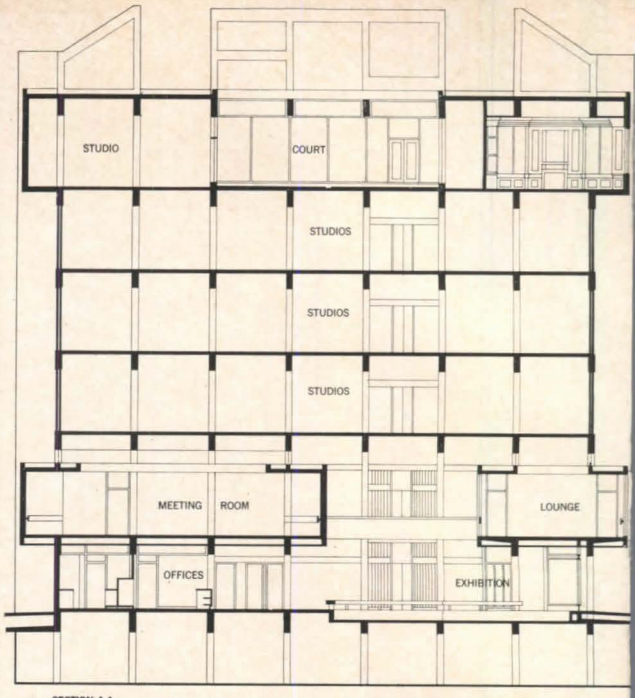


haunched frame like industrial components within a gantry.

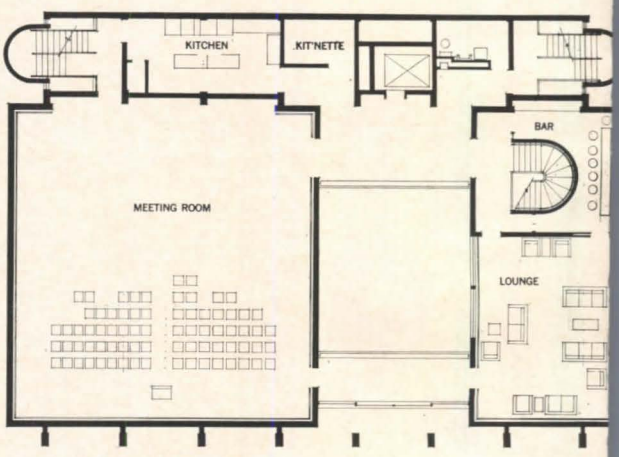
Inside, the two-story complex of spaces is tied together by second-floor galleries linking the two closed blocks and by a ceremonial curved stair (above) leading up from the lobby. The exhibition space below is separated from the circulation space around it only by an 18-inch change of level, and from the portico outside by a glass wall.

Although the club rooms and meeting room have been similarly treated, their obvious differences also have been recognized. The club rooms have openings facing both the street and the lobby and clerestory lighting coming in through the gap between the ceiling and the floor above, filtered down between deep wood baffles. The clerestory around the meeting room was made opaque to allow it to be darkened, but the architects now feel that low-transmission glass would have given at least a glimmer of natural light without interfering with its function.

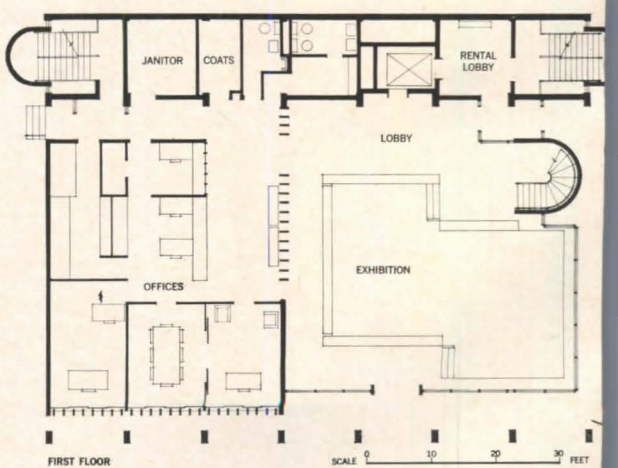
Even in the almost monumental parts of these two floors, the structural bones of the building are prominently displayed (and it takes only a short walk to one of the stair towers to see some of the mechanical entrails, lighted by full-height strip windows). Most of the interior surfaces that are not concrete or glass are of soft cement-fiber board, a sound-absorbing, visibly nonstructural infilling for the strongly expressed frame.



SECTION A-A

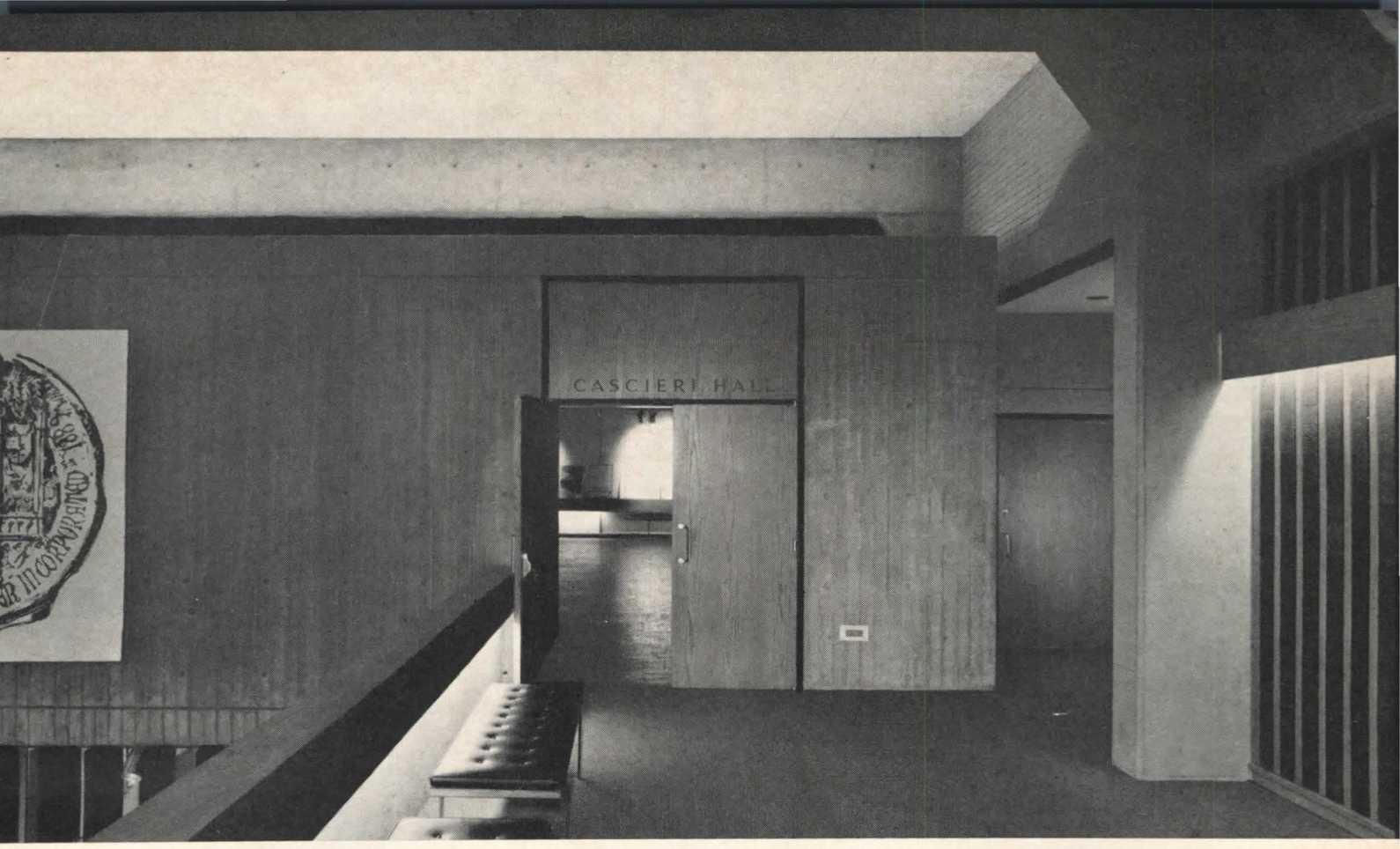


SECOND FLOOR



FIRST FLOOR

In BAC's two-story lobby, s
blasted and board-formed con
contrast with finer textures: sm
black concrete (floors and ben
and quarry tile (right); oak, lea
cork, parquet flooring, and carp
the club-like second floor (abov


CASCIERI HALL


EXIT

Lofts in the midsection and a courtyard on top

The middle floors of BAC are where the teaching goes on. It was the training of draftsmen and designers for which BAC was founded, as the Boston Architectural Club, in 1889. Like many such groups springing up around the country about that time, the Boston club became part of the Beaux Arts studio system, taking part in its nationwide competitions.

By 1944, with the decline of Beaux Arts traditions and the disruption of World War II, the other clubs had closed down. BAC instead took the big step of reorganizing as the Boston Architectural Center to face a new design world. The transformation was harder for BAC than for the collegiate schools, where new deans could change curricula almost overnight. Most of BAC's students and faculty were still closely linked to tradition-oriented firms.

Arcangelo Cascieri, the sculptor who has been volunteer dean for 30 years, recalls that only the backing of the MIT and Harvard architecture faculties carried BAC through the crisis —especially that of William Wurster, then dean at MIT, who taught for two years at the center. Resistance did keep BAC'c revolution from going too far; it is the only architectural school in the Boston area that never stopped teaching history of architecture.

Today, the center still carries on its original task of giving evening instruction in architecture, "especially to those whose employment might interfere with education in day schools." Its 325 students learn design, as well as technical and cultural subjects, from a staff of 70.

The progress of students at BAC is by no means as uniform as at conventional schools. Almost anyone with certain basic high school credits and the $300 annual tuition is admitted, but over 50 per cent drop out by the end of the first year. Only a handful complete the five-year course plus thesis to earn a BAC certificate.

BAC dropouts are by no means all failures, however; many of them have satisfied their own objectives: improving their position in a firm or picking up background for jobs in construction, real estate, government, and so on. Some leave to work toward bachelor's degrees at accredited schools.

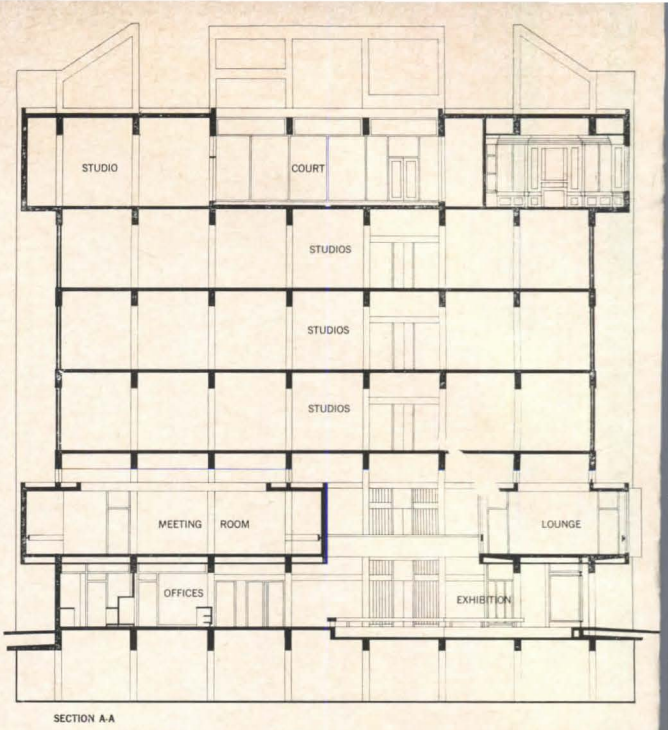
BAC also offers refresher courses for state registration applicants and usually holds one major conference a year where architects meet with technologists and social scientists.

In its new expanded quarters, BAC is considering a broader range of activities: regular continuing education courses for practitioners; courses for interested nonprofessionals; and a daytime program in collaboration with a nearby college leading toward a bachelor's degree with an architecture major.

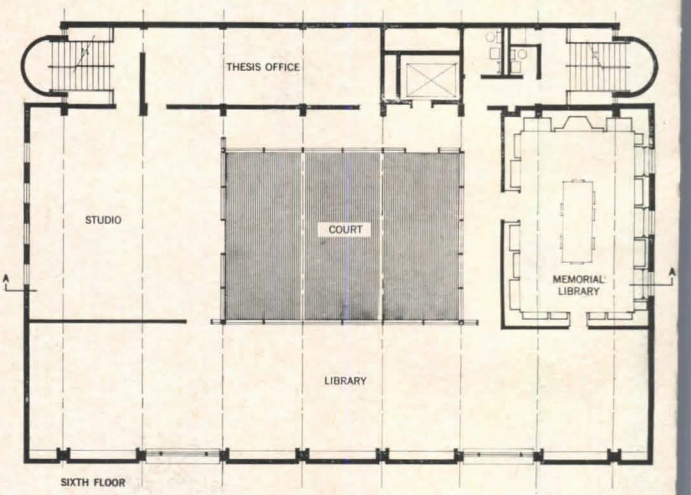
One nostalgic piece of the old center has been transferred

intact to Newbury Street: the oak-paneled library (above), with its cases of rare books, a mandatory part of the competition program. Ashley-Myer have deferred to its fine-scaled detail by leaving their structural beams only partially exposed in this one room, framing a raised portion of the plaster ceiling.

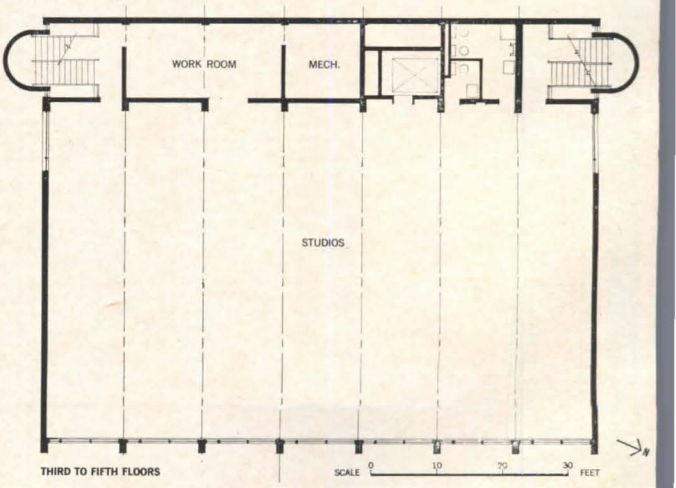
Along with the memorial library, the top floor houses a reference library and special project studios. Although most of them have windows facing out (with fine views of the city), these top-floor spaces focus inward on the central court. From here one can see only the sky and the Prudential Tower, a constant reminder of the need for architectural wisdom.



SECTION A-A



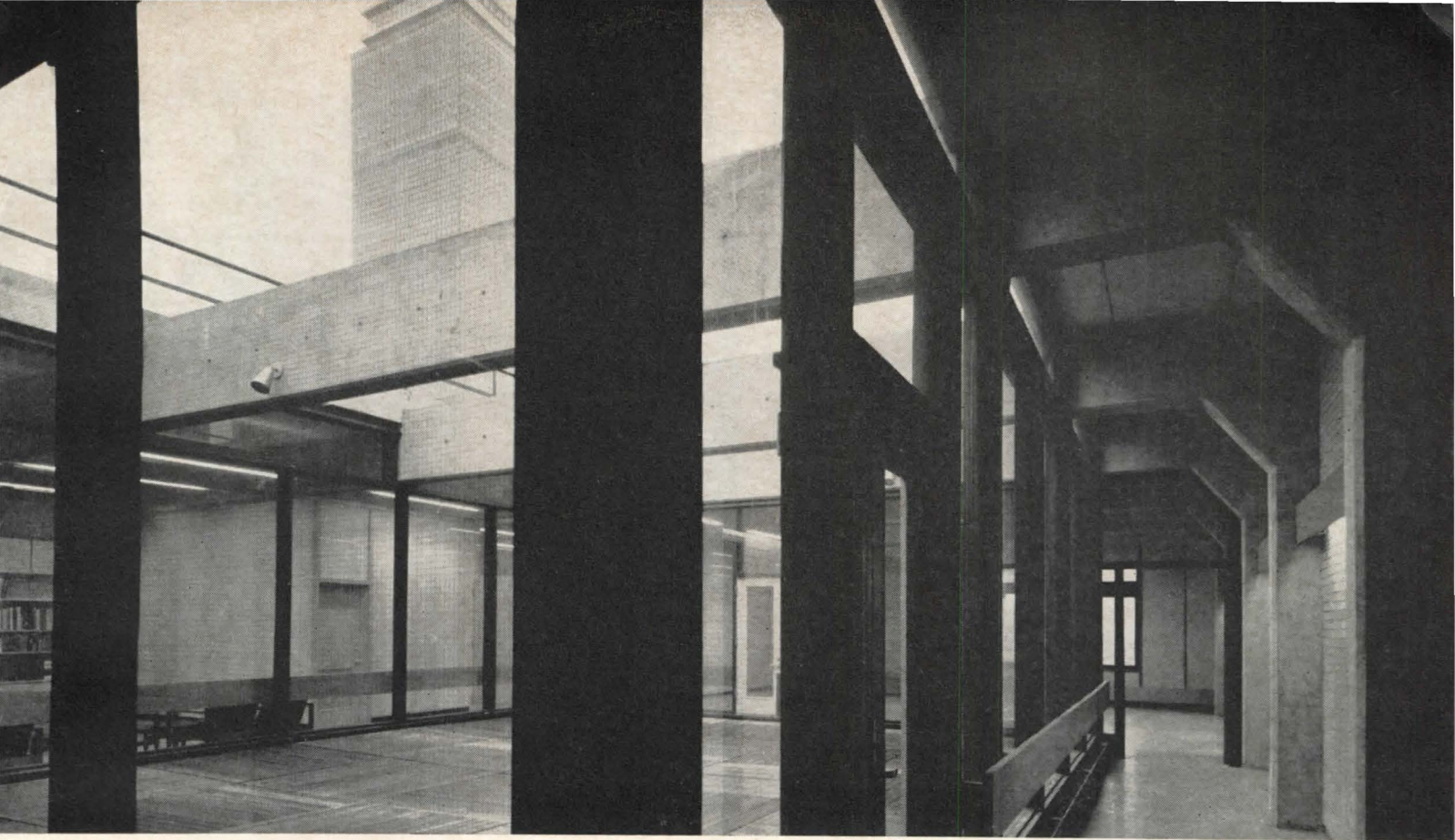
SIXTH FLOOR



THIRD TO FIFTH FLOORS

SCALE 0 10 20 30 FEET

Concrete brows following the angl of the structural haunches deflect s glare from northeast-facing drafti rooms (right). The concrete frame exposed to the weather over t top-floor court (above) with its du board parquet floor.

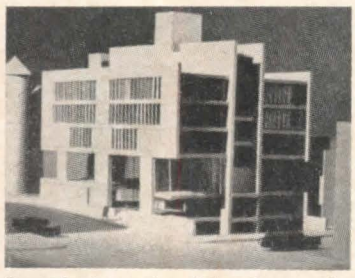


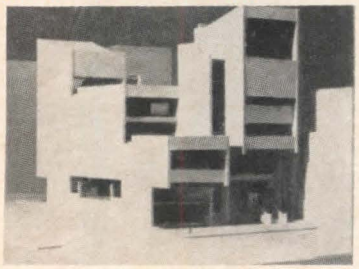
Award-winning scheme unspoiled by affluence

The BAC competition program called for a design that would "command not only widespread attention, but respect as well." Another sobering limitation was its stress on economy. Detailed evidence had to show that construction cost would not exceed "$500,000, with a maximum cost overrun of 10 per cent".

The competition was not completely open, but limited to architects registered in the state, members of the Boston Society of Architects, Massachusetts State Association of Architects, and the BAC itself, present or former students, faculty or critics of the BAC. Despite these limitations and the relatively low fee the winner could expect (on which the $5,000 prize was only a "payment on account"), there were 89 submissions.

The jury, which met in January 1964, included all of the local architectural personages: Deans Belluschi (MIT), Sert (Harvard), and Cascieri (BAC); architectural department chairmen Anderson (MIT) and Thompson (Harvard); James Lawrence (then president of the Boston Society of Architects), and one out-of-stater, Ralph Rapson (dean of architecture at the University of Minnesota), who had taught at BAC during its critical transition. William LeMessurier was the non-voting structural consultant and Walter Bogner of Harvard was the non-voting professional adviser.





Second-prize entry (above) was by Chapman & Goyette (with Maki and Bennetts); third (below) was by Robert Herman, with Peter Woytuk for Progressive Design Associates.

Even the two runners-up (below) bear out the jury's general criticism of the entries: "There was too great a striving for exciting forms . . . not very suitable to the smallness of the site." Six of the seven jurors gave their first-choice vote to the Ashley-Myer scheme (on which Robert Goodman, William Hall, Richard Krauss, and Robert O'Nell were named as associates). Aside from its appropriate scale and well organized interior, the jury praised the economies of its "prefabricated elements."

These elements, the precast, prestressed floor beams, were the only major features to be revised. Precasting turned out to be more expensive than casting in place, mainly because of the problem of manipulating 50-foot beams on a hemmed-in site. The switch to casting in place did not affect the slimness of columns or the shallowness of the beams, made possible by post-tensioning and by the haunch connections.

The design suffered almost no visible changes in the translation to working drawings. Many items were cut out after bids came in, to whittle the contract cost down to $736,000, still far above original estimates. Ironically, most of the features cut out were eventually restored, and many more added, through gifts, government grants, and low-cost educational loans. More than $250,000 worth of additions have fitted neatly into the original scheme.

But the building still looks as lean as the original design. The architects have summed up their thoughts about it in a statement that sounds like many a manifesto, from the earliest Sezessionist to the most recent Johansen: "We have sought not to depend on a sense of great weight to achieve a form of importance, but rather through the energy of form to evoke a sense of aliveness and contending." They have done what they sought to do.—JOHN MORRIS DIXON

FACTS AND FIGURES

Boston Architectural Center, Boston, Mass. Architects: Ashley, Myer & Associates. Engineers: LeMessurier Associates (structural); Greenleaf Associates (mechanical). Concrete consultant: Herman G. Protze. General contractor: John A. Volpe Construction Co. Building area: 42,500 sq. ft. (including basement). Cost (construction only): approximately $1 million.

PHOTOGRAPHS: Lois Bowen, pages 64, 65, 71. Louis Reens, pages 66 (top), 67, 68, 69. Phokion Karas, pages 66 (bottom) and 70.

Project and Location—City and State	Name and Address of Client	

8 My practice as a principal has been on a full-time basis, and with the same firm as of 15 November 1965 Yes [ ] No [ ]

If no, explain .....

.....

9. My status with the firm is the same as on 15 November 1965. Yes [ ] No [ ]. If no, explain .....

.....

I, the undersigned, ..., having filed an application with the National Council of Architectural Registration Boards (the Council) for a Council Record and a Council Certificate (and a review and renewal thereof) in accordance with standards and procedures established by the Council, consent to have an investigation made as to my moral character, citizenship, education, training, experience, examinations, professional practice and reputation and further consent to the reporting of such information as may be received in such investigation to architectural registration boards of states or other political subdivisions licensing architects, all in accordance with the standards and procedures established by the Council. I agree to give any further information in connection with the investigation as may be required by the Council.

I understand that I will not receive and am not entitled to a copy of any statements, papers or documents received by the Council in its investigation and that such statements, papers, and documents are confidential and privileged and may only be transmitted to architectural registration boards of states or other political subdivisions licensing architects.

I also authorize and request every person, firm, company, corporation, governmental agency, court, association or institution having control of any documents, records and information pertaining to me, to furnish to the Council any such information, including documents, records, statements and any other pertinent data, and to permit the Council or any of its officers, directors, employees, agents or representatives to inspect and make copies of such documents, records and other information.

I hereby release, discharge and exonerate the National Council of Architectural Registration Boards, its officers, directors, agents, employees and representatives and any person or entity furnishing information, statements, or documents concerning me in connection with the aforesaid investigation from any and all liability of every nature and kind arising out of the furnishing, inspection or transmission of such information, statements or documents.

The undersigned deposes and says that he is the architect named above and is the person making the foregoing statements and that they are made in good faith and are true in every respect.

Signature

Form 117-66

FORUM CONT'D

persal of administration. A single Housing Planning Development Agency should be created, he said, entirely swallowing eight present agencies, and nibbling at the functions of seven others.

One of those swallowed would have been New York's grandly independent Planning Commission. "Our recommendation," said Logue pungently, "is that city planning be taken out of its present ambivalent position of Delphic Oracle, Court of Last Resort, Spot Planner, and Decision Maker on routine map and zoning changes, and placed with related functions principally concerned with making plans happen."

The new super-agency, Logue recommended, would function "on a dramatically decentralized basis." The bulk of the staff would be in ten area development administrations, representing "an all-out effort to bring the agency's public services close to the people."

The ten were to be located at key points in Logue's overall plan for treatment of New York's environmental ills. The plan called for demonstration (now model) city programs in the city's three worst slums—Harlem, South Bronx, and Central Brooklyn—and lesser remedies for 11 other areas. The price tag was $1.5 billion in Federal urban renewal funds over the next six years. New York now gets some $50 million annually.

HALF MEASURES

The reorganization proposed by Logue would have required action by both the city council, of a different political faith than the mayor, and a state legislature not noted for its sympathy to the metropolis. Logue evidently decided that, despite Lindsay's best intentions, the prospects of its coming about were dim. Still dimmer was the likelihood of getting anything like that kind of money out of Congress.

Exactly a week after Logue's decision was reported in the press, Lindsay announced creation of the super agency, slimmed to the size he could accomplish by executive order. Among the existing bodies left outside was the City Planning Commission.

Lindsay reportedly tried a few other members of the Logue task force, then appointed the agency chief from within his administration: Jason Nathan, head of the Housing and Redevelopment Board (swallowed) and former regional director of HHFA for Philadelphia, New York, and environs.

Walter E. Washington was brought from the nation's capital to be chairman of the Housing Authority (also swallowed); and Donald H. Elliott, former counsel to the mayor, replaced Architect William F. R. Ballard as chairman of the Planning Commission. The Commission, while not swallowed, was thus tied closely to the mayor's office.

New York came out of its encounter with Logue better equipped to deal with its development programs—but forewarned that its efforts would fall far short of solution. Logue's decision amounted to an expert judgment that neither the nation's largest city nor the Federal government are yet prepared to launch an all-out attack on environmental decay.

PROGRESS

REANNEXATION

As an environment for living, about the only thing to be said for San Francisco's riot-torn Hunters Point ghetto is that it commands a spectacular view of the city. Otherwise, it is a grim and isolated compound containing some of the nation's worst public housing blocks (sample below).

Last month, the people of Hunters Point won some assurance that they are indeed a part of the city that spreads out so picturesquely before them. The San Francisco Redevelopment Agency, after a three-month collaboration with the Hunters Point Joint Housing Committee, announced that both bodies had unanimously approved the negotiation of a contract with Architect Aaron G. Green to plan the slum's redevelopment.

According to the agency, the action marks the first time that citizens have participated fully in the selection of the prime consultant for an American urban renewal project. Green, a former Frank Lloyd Wright associate, will open a site office at Hunters Point to facilitate day-to-day involvement by local citizens in development and execution of the plan.

ANOTHER WAY

The early efforts at urban renewal in Washington, notably in the Southwest area, were aimed at luring back the departing middle class. The poor were considered portable, if not expendable.

How far public and official thinking has gone since those days of the bulldozer rampant was illustrated the other day when HUD announced grants of $18 million in Federal money for renewal of a 145-block area surrounding the decrepit Shaw Junior High School a few miles away in northwest Washington.

The Shaw program, largest of 29 rehabilitation projects totaling $99 million in Federal funds approved since July 1, will be carried out so that those who live there now will still be living there—in vastly improved housing—when the work is done.

"I feel we have the opportunity now to give the nation an instructive example of how a depressed slum area can be renewed with, for, and by the people who live there," said the Rev. Walter E. Fauntroy, head of a citizen group that will cooperate with public officials in planning the project.

A first step will be the construc-

FOOTNOTE

appy 1984—The paragraphs reproduced opposite are not from a document of the McCarthy era, but from the standard Form 117-66, issued this year by the National Council of Architectural Registration Boards (NCARB). Any architect registered by NCARB must complete this form and sign the statement we have here reproduced in order to retain his NCARB registration — which may mean in order to stay in business. In the original Form 117-66, the statement appears in 6-point type (about half the size shown here), so that most applicants, presumably, will be unable to read the passages we have underlined. We do not believe that any further comments on those passages are required from us; however, we will be happy to send a copy of the Bill of Rights to the NCARB this Christmas.

tion of two public housing facilities with room for 324 families, to be used for temporary relocation of families displaced by the construction work.

Figures developed in preliminary planning of the project indicate that more than half of the 13,000 dwelling units in the 675-acre area are in some stage of disrepair and that about a third of the area's 10,000 families live on incomes less than $3,000 a year.

But the project, if it succeeds, will do more than merely supply new housing. Fauntroy said he hoped training programs could be established so that residents of the area could learn to be plasterers, plumbers, bricklayers, and electricians and "benefit from the economic revitalization that will come to the area as a result of renewal."

For its one-third contribution to the project, the city will improve public services in the area, including construction of a new Shaw Junior High at a site yet to be chosen. It is also hoped that a "package" of new education, health and welfare programs can be made available, in keeping with the philosophy of the Federal model cities program.

ROUNDING OUT RESTON

The new town of Reston, Va., has received a big boost in its efforts to become something more than a country club community. On Nov. 10, HUD announced approval of a $200,000 demonstration grant to Reston for the design of 200 prefabricated apartments, townhouses, and garden apartments for low-income families.

The goals of the demonstration are to prove that technologically advanced factory methods can be harnessed to produce good low-cost housing and that, with proper planning, low-income families can live harmoniously in the same communities with middle and high income people.

Whittlesey, Conklin & Rossant, Reston's over-all planners, will carry out the initial phase of research, planning and design. "Lower income housing in Reston," said Robert E. Simon Jr., the new-town's developer, "will have equal access to and use of all community facilities; and will be built on sites as accessible to areas of work, learning, and play as all other housing. There will be no second-class neighborhoods, no second-class citizens resulting from a wider variety of price ranges and income groups."

CONSERVATION

POWER AND A RIVER

The Consolidated Edison Company had goodies for everyone during early November hearings on its plans for a huge power plant in the Storm King Mountain area of the Hudson River (above).

To conservationists, Con Ed said it would build the plant underground to get it out of sight. To Cornwall, N.Y., and other nearby communities, Con Ed promised construction of a river-front park, including a swimming pool. To New York City, it pledged that the new plant would reduce air pollution and provide insurance against the chance of future blackouts. To the building trades, it offered 1,000 jobs.

Not everyone was grateful. A battery of national conservation groups testified in opposition before a Federal Power Commission referee. They feared (1) the building of a 245-acre reservoir behind the mountain top, partly in a forest preserve; (2) the effect of the plant's operation on fish life in the Hudson; (3) the visual blight of 40 miles of overhead transmission lines running from the plant to the city; and (4) the probability that the plant would be the opening wedge to industrialization of the river's most scenic passages.

FPC was to resume the court-ordered hearings in Washington on Nov. 30. It was anybody's guess whether Con Ed had made enough friends for the plant to assure an eventual favorable decision.

PEOPLE

IN A YEAR, BOMBS

President Johnson has picked a live wire to head his new Department of Transportation. He is Alan S. Boyd, former under secretary of commerce for transportation and, before that, chairman of the Civil Aeronautics Board.

In both jobs, Boyd distinguished himself as a highly effective, independent-minded administrator — qualities that will be taxed to the limit in his new post. The department will bring together 31 separate agencies with 100,000 employees and a budget of $6 billion. But, thanks to the watered down law which set up the department, Boyd will have little of the authority he needs in order to effectively coordinate the nation's transportation systems.

During the first year, Boyd said, his department will be "very responsive, very quiet and very meek." After that, he said, "it could start throwing bombs."

BEAUTY

RIGHT SPEECH, WRONG PLACE

H. Ralph Taylor, HUD's assistant secretary for demonstrations and intergovernmental relations, delivered a rousing speech Nov. 10 in the nation's capital. The ills of our cities, he told the assembled crowd, "must be attacked with a scope and a breadth commensurate with the size of the problem."

The occasion was the dedication of the New F Street Plaza in Washington's dreary downtown, a center strip of trees, kiosks, benches and lamps that runs for all of two blocks (below) down Washington's "main street."

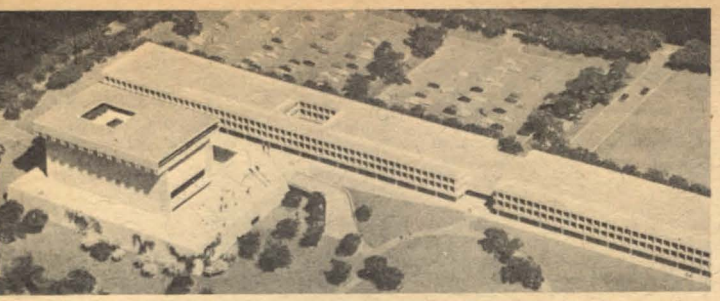
The next day, *Washington Post* Critic Wolf Von Eckardt was unkind enough to point out how incommensurate the new project was with the scope and breadth of Taylor's words. "All we have," he said, "is a pretty half-virgin. It is neither really a mall nor really a street. The shoppers on the median strip are still separated from the shops by a lot of combustion engines. Let us hope that it works. But let us also hope that no one mistakes this hesitant attempt for the real thing."

TRANSIT

SETTLED: ONE DISPUTE

The Bay Area Rapid Transit system found itself a new architectural consultant last month. It also set up a new "appeal route" to the board of directors for BART architects who have grievances against its engineers, thus correcting the major cause of Donn Emmons' and Lawrence Halprin's resignations last September.

Named to replace Emmons was John E. Burchard, acting dean of the college of environmental design at Berkeley, who had once refereed a BART battle over which of several designs for its elevated structures should be adopted, deciding in favor of Emmons' choice. Burchard said he will start by "making a very careful station-by-station and line-by-line survey of the system design.



n addition to Burchard's ser-
es, the board will employ its
n full-time staff architect, whose
o it will be to "screen" all en-
ieer-architect disputes and re-
rt them to Burchard. Burchard
turn will decide which ones are
portant enough to bring before
board for final disposition.
Emmons, speaking for himself
l Halprin, said, "We feel the
ectors have really done what
wanted done."

OMPETITIONS

E BIRMINGHAM EIGHT

The eight finalists in the national
hitectural competition for the
v $25-million civic center in
mingham, Ala., were announced
month—and the list contained
efreshingly high percentage of
le-known names.
The eight firms, each of which
l submit a second entry to be
ged next April, are Fridstein &
ch, Chicago; Harris & Reed,
coma, Wash.; B. J. Hoffman &
nford Yang Associates, Devon,
; Beckhart & Mill, Los Ange-
; Geddes, Brecher, Qualls, Cun-
gham, Philadelphia; Rapson
hitects, Inc., Minneapolis; El-
ani, Logan, Barakonski &
ey, Los Angeles; and E. N.
rano & Associates, New York.
The jurors were Architects Max
ramovitz, Gyo Obata and John
l Warnecke, with theater con-
ants Harold Burris-Meyer and
n Fernald.

MONUMENTS

MUCH SO SOON

The University of Texas at
stin may soon have a new land-
k to rival its famed tower. The
- announced Lyndon Baines
nson Library designed by
M-New York (Gordon Bun-
ft in charge of design, in asso-
ion with Brooks, Barr, Grae-
& White of Austin) will have
ressive dimensions, even by
as standards.

Dominating the campus from a nearby hill, it will have 425,000 square feet of floor space in two distinct blocks (above). An 80-foot-high public block, defined by two 200- foot long stone-clad walls, 8 feet thick at the base, will house an auditorium, exhibition spaces, and the Johnson papers themselves. Its three-story, 935-foot-long backdrop will contain a Texas collection, a Latin American collection, and the LBJ School of Public Service (at which he has already been invited to teach after retirement).

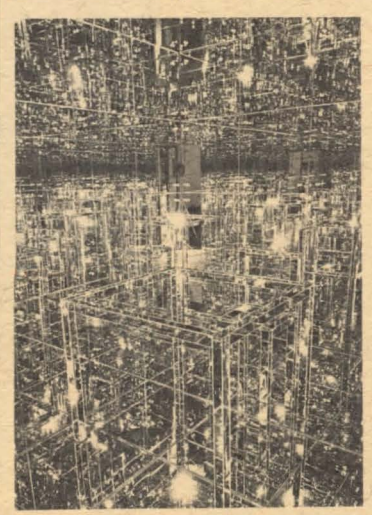
GIFTS

As a courtesy to those readers who have friends who have everything, the FORUM *last month sent a reporter out to investigate some promising Christmas gift leads: trick mirrors, life-size dolls, home movies, and mechanical toys. Her discouraging notes follow:*

INFINITE VANITY

Narcissists have just missed out on one of the shiniest holiday packages ever conceived for any Christmas present.

It's a room 8 feet high and wide and 10 feet deep with walls and



ceilings inside and out made entirely of mirrors, with a table and chair made of mirrors too (above). The room was the *piece de resistance* of the Lucas Samaras exhibit at New York's Pace Gallery last month. Unfortunately, it was snapped up by Buffalo's Albright-Knox Gallery at an unknown price.

As the Albright's director, Gordon Smith, describes it, "once you get inside you get a glimpse of infinity. You feel like you are floating on a cloud." Apparently even euphoria needs limits. There will be rules: only two people allowed in the room at a time, and not for long, either.

POPULATION EXPLOSION

Life-size people figures were propped up all over Manhattan—in front of the new Met, next to newsstands, at dockside. They were made of a variety of materials, from clay to Band-Aids, and came in shapes ranging from Niki De Saint-Phalle's enormous balloon-like ladies to Clayton Bailey's humorous-ominous latex Hell's Angels (below).

Alas, it turned out the big dolls weren't for sale: they were put out as a preliminary to an exhibition at the Museum of Contemporary Crafts, deft and decorative forms of social commentary.

INSTANT INTERIORS

The movies seemed ideal for the man who yearns to give his wife the chance to redecorate her home as easily as she changes her dress. Allied Chemical showed them at a Home Fashions League lunch.

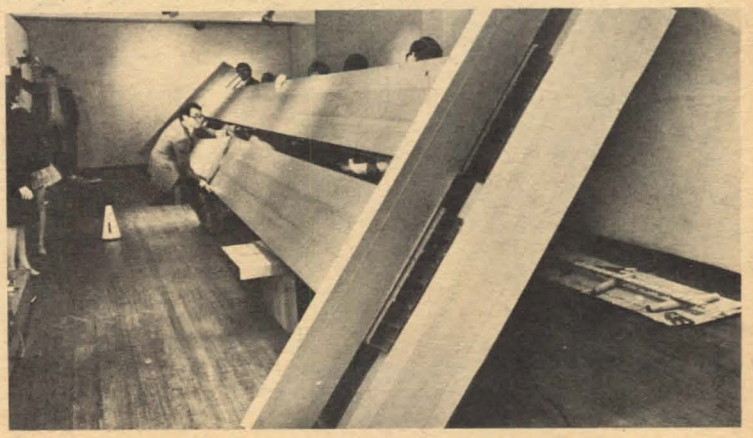
The projectionist was the same artist who manages the visual effects at Dr. Timothy Leary's "psychedelic celebrations." What he showed were "surfaces and shapes that might make up a room of the future." In this case, the shapes were thrown on dancers in mirrored gowns (below).

One enthusiast predicted that supermarkets soon will sell packets of redecorating slides which can simply be slipped into a home projector. Not in time for this Christmas, however.

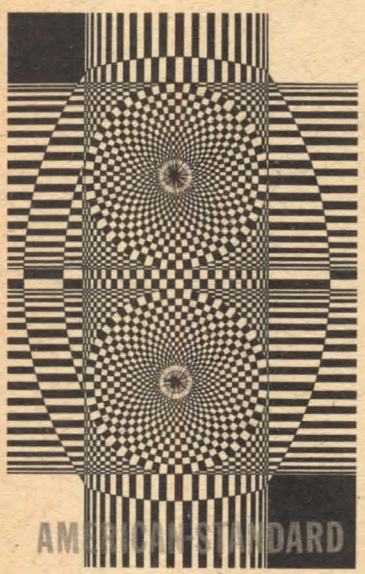
SOUND INVESTMENT

The mechanical toy, by none other than Francois Dallegret, was on display in the Waddell Gallery. Called *La Machine*, it is an assembly of aluminum extrusions, fluorescent tubes, photoelectric cells, and oscillators (below). It is 30 feet long and 7 feet tall.

The idea is to move your hand sideways between the two rails that make up the center section of *La Machine*, thereby cutting off light from one or more of 144 photoelectric cells built into the lower rail. This automatically does something terrible to one or more of the oscillators, and the result is a cacophony of bone-shattering shrieks, groans, yells, and other electronically produced music. La Machine *is* for sale—at $27,000.



Walter McQuade



THE WRONG MASH

Decembers are meant to be used, among other things, for going through files recapturing old springtime ideas. In that way I've rediscovered a fine press kit garnished with an op art cover which I could not quite bring myself to discard many months ago. The op art is particularly valid in this case because the press kit came from American-Standard, the titan of the U.S. bathroom. I sometimes suspect much op art had its subjective start in the geometrical tile work of that essential room.

The contents of this press kit had a lot of pop too. They concerned the ceremonies with which this industrial giant (American-Standard's sales are a serious half-billion dollars a year) was introducing a new line of kitchen sinks. In springtime large corporations sometimes behave like elephants who were fed the wrong mash—a happening not without charm to the lowly consumer or spec writer—and this event had that ineffable quality. Perhaps the best way to reproduce some of the headlong enthusiasm is to quote a few of the corporation's own words:

"IT'S THE FITTINGS THAT COUNT:

"The new and exciting Fiesta Kitchen Sink Centers now being introduced by American-Standard have an originality of form and design not only in themselves but also in a totally new area of interest: the fittings.

"For the first time, the American-Standard exclusive pylon concept in the new Fiesta Kitchen Sink Centers can turn sink fittings into a uniquely personalized experience, giving the housewife the newest, the most original fittings—such as lotion and detergent dispensers — placed exactly where she wants them. She can, by choosing the fittings she prefers and their position on the deck plate, help design her own Fiesta Kitchen Sink Center as though it were a new spring outfit."

Don't take that last reference lightly, for the colors these kitchen sinks came in were *coppertone, surf green, gourmet melon, Manchu yellow and fawn beige.* But, to return to the rollicking words of the sponsor: *"The water controls deck has been especially designed for as many as five fittings, adding dimension and flexibility to the sink and reaffirming the bold point of view that the Fiesta Kitchen Sink Center is a vitally multipurpose food preparation and clean-up center in contemporary big kitchen living."* Before going on I'd like to ask anyone in this room who is against *contemporary big kitchen living* to leave.

The features of the sinks, it should be noted, were not playfully conceived. American-Standard, several years earlier, had commissioned the home economics department of the University of Louisville to ask around and list the innovations most sink-users wanted, and the university came up with some they rated "very desirable": built-in liquid soap dispensers, hand lotion dispensers, garbage disposers, cutting boards, and remote pop-up drain controls.

All were included in the new line, along with Manchu yellow. Also those sinks which came in pairs were of two different depths, which made sense, and some of the combinations had a miniature third sink between the two bigger ones, housing the garbage grinder separately—a good idea, I suppose, if one does not mistake it for a soap dish. But even after a year of contemplation I haven't quite accustomed myself to the remarkable shape of the leader of the line, the

Fiesta sculptured round bowl kitchen center (above).

In the end, all in all, I am left feeling a little obsolescent. I own no fewer than three American-Standard kitchen sinks, all produced within the past half-dozen years, all of which are white, all of which have been satisfactory; but it is now like having a 1947 Chevrolet—which, come to think of it, I also have. (It is up on blocks in the country and its color might be called a Manchu green, with that later-dynasty crackled finish so hard to find these days.)

Turning to face the new year ahead, the only solution I can think of is to suggest a few more new features for the next line of American-Standards, while my family and I work hard, with the help of enough deep-down cleanser, to wear out our present sinks.

When I do go out shopping for new sinks, I will expect double headlights adorning each. Not only will hand lotion be dispensed, but a gargle too. There will be special fittings for displaying one's college degree and honorable discharge from the armed forces. Not only will there be a lettuce washer, but a lettuce dryer. There will be a machine to get the ice out of the ice tray for those of us whose ice boxes don't lay ice cubes as hens lay warm eggs, and an aerosol attachment to spray vermouth into the martini pitcher. Also a clever little device to peel the lemon rind without cutting into the lemon itself, no matter how thin the skin. Here comes 1967, fellow *contemporary big kitchen livers.*

PHOTOGRAPHS: Page 17, Report Associés (P.I.P.). Page 20, I Schnall. Page 73, UPI. Page 74, S King, The Washington Post. *Page UPI, Ferdinand Boesch, Renita H fling, Robert Otter.*

Residential street lighting: who needs it?

America's best-dressed neighborhoods do.

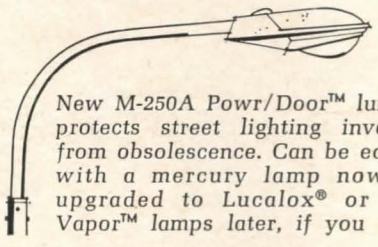
Now that the clutter of wires and electrical distribution equipment is being removed from community skylines and buried, what's left?

The growing need for beautiful, as well as functional, residential street lighting.

That's where the new, General Electric Town and Country™ luminaire comes on strong. A full-size street-lighting luminaire with the charm of traditional styling, the new TC-100 provides modern mercury illumination from 100 or 175-watt lamps. Homeowners, taxpayers, and builder-developers love it.

Shatter-resistant Lexan® plastic refractor panels reduce breakage. Side panels feature precision light-controlling prisms. Canopy and housing are durable, die-cast aluminum.

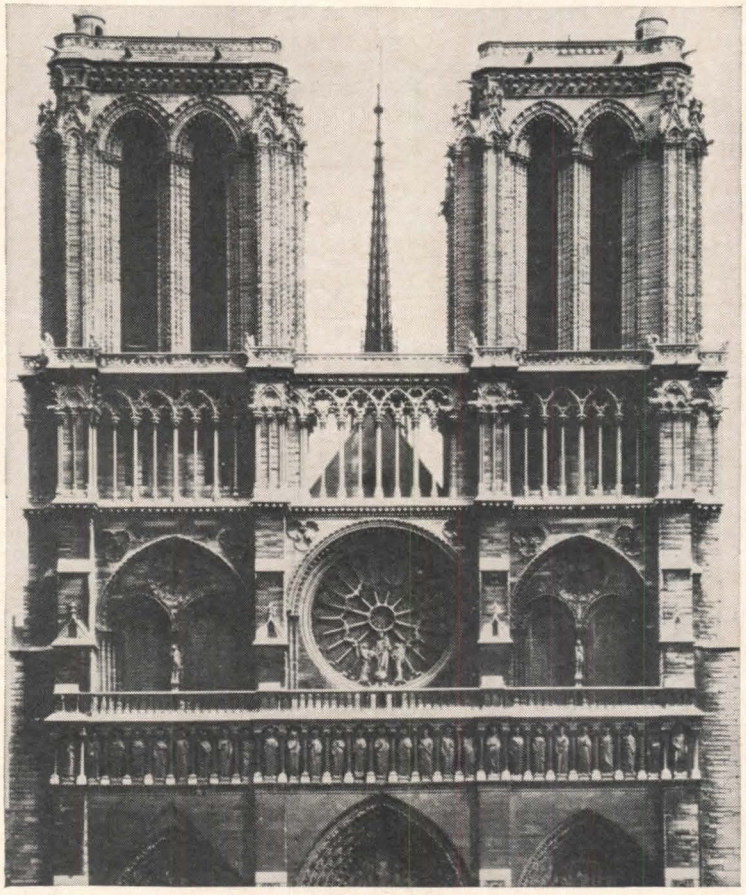
Ask your GE sales engineer or authorized agent for full details, or write for Bulletin GEA-8363. Outdoor Lighting Department, Hendersonville, N.C. 28739. 460-82A



New M-250A Powr/Door™ luminaire protects street lighting investment from obsolescence. Can be equipped with a mercury lamp now, then upgraded to Lucalox® or Multi-Vapor™ lamps later, if you choose.

GENERAL ELECTRIC

If low bidder had built the Cathedral of Notre Dame...



would it still be standing?
We wonder. Overemphasis on price can favor second-rate products. Happily, in air conditioning, where owning and operating costs are so important, most people recognize the value of Carrier quality. It's the big reason why more people put their confidence in Carrier than in any other make.

Carrier Air Conditioning Company

For complete product information, call or write your nearest Carrier representative. He is in the Yellow Pages.

PREVIEW

WER IN TURKEYVILLE

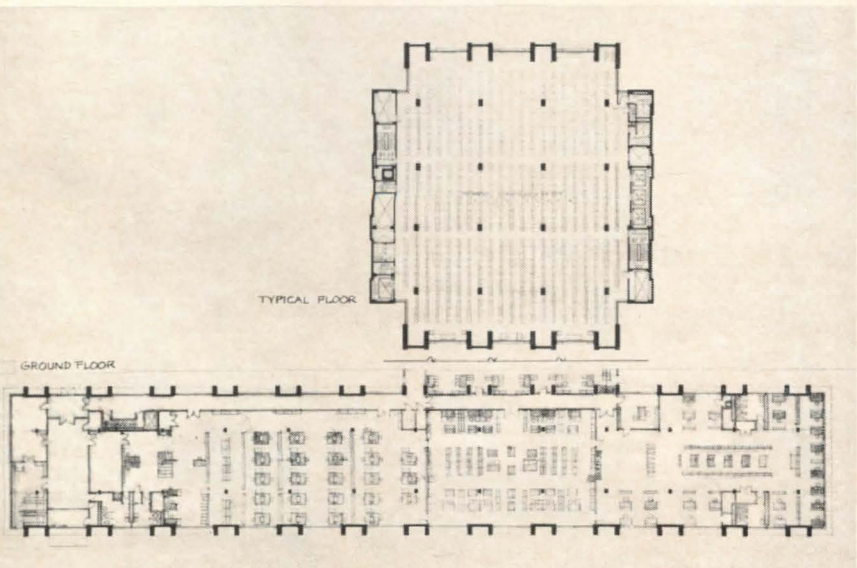
Long hidden in the foliage along U.S. Route 1, the Federal Agricultural Research Center at Beltsville, Md., is soon to have a very visible and powerful 150-foot-high symbol. It will be the 14-story brick-clad stack tower of the National Agricultural Library designed by the New York firm of Warner, Burns, Toan & Lunde.

Entered through a lofty portico at the base of the tower, the library will actually have most of its public spaces in a low wing behind it. There, glass-walled and skylighted reading rooms will face away down a grassy slope.

A whole floor of book-processing departments will be notched into the hillside beneath the reading room. Books received at a truck dock at one end (visible at bottom right) will follow a path leading eventually up into the stacks.

The tower itself will have administrative offices on a mezzanine above the entrance lobby and behind the portico. On the stack floors themselves there will be researchers' carrels under shoulder-high windows at front and back.

The $6 million library will eventually house a collection of over 2 million volumes covering a broad area from chemistry to veterinary medicine. Computerized information systems are planned, the computers themselves to be visible from the lobby.



(continued on page 82)

SCHOKBETON®

Another outstanding example of Schokbeton's design plasticity.

Schokbeton precast concrete curtain wall, Dell Publishing Warehouse, Pinebrook, New Jersey
Architect: Frank Grad & Sons, Newark, N.J. Schokbeton by: Eastern Schokcrete Corp.

For the best in precast concrete,
specify Schokbeton

EASTERN SCHOKCRETE CORP.
441 Lexington Ave., New York 17, N.Y.
65 Mountain St. West, Worcester, Mass.
P.O. Box 56, Brandywine, Md.

SCHOKBETON-PITTSBURGH
A Division of The Levinson Steel Co.
37 South 20th St., Pittsburgh, Pa. 15203

CREST/SCHOKBETON CONCRETE, INC.
P.O. Box 328, Lemont, Illinois 60439

PRECAST/SCHOKBETON, INC.
P.O. Box 2088
Kalamazoo, Michigan 49003

MABIE-BELL SCHOKBETON CORP.
P.O. Box 1558, Greensboro, N.C.
Peachtree City, Georgia
P.O. Box 47546, Miami, Florida

INLAND SCHOKBETON
A Division of Nebraska Prestressed Concrete Co.
P.O. Box 29208, Lincoln, Nebraska 68529

ROCKWIN SCHOKBETON
Division of Rockwin Prestressed Concrete Corp.
Subsidiary of United Concrete Pipe Corp.
P.O. Box 2536, Santa Fe Springs, Calif.

TEXAS SCHOKBETON, INC.
Loop Road – P.O. Box 1002
Crockett, Texas

BUEHNER SCHOKBETON COMPANY
301 West 60th Place, Denver, Colorado 80216
640 Wilmington Ave., Salt Lake City, Utah 84106

BASALT SCHOKBETON
A Division of Basalt Rock Company, Inc.
P.O. Box 2540, Napa, California

CANADA
SCHOKBETON QUEBEC INC.
P.O. Box 240, St. Eustache, P.Q., Canada

CONTECH SCHOKBETON
Division of Concrete Technology (B.C.) Ltd.
790 Nelson Road – P.O. Box 68
Richmond, B.C., Canada

SCHOKBETON PRODUCTS CORP., 1270 AVE. OF AMERICAS, N.Y.C. 20, N.Y.–A SUBSIDIARY OF AMERICAN METAL CLIMAX, INC.

The ceiling for terrible places to have to put a ceiling.

Armstrong Ceramaguard™

When a Ceramaguard ceiling goes into a tough environment, you don't give a thought to service life. This ceramic material does its day-to-day job under circumstances that would make a conventional material call it quits in nothing flat.

To begin with, this fabricated acoustical ceiling material doesn't surrender to moisture. It retains its span strength and rigidity even under saturation conditions. A Ceramaguard ceiling can go up before the building gets closed in, with wet work still going on. Or it can go into the moisture chlorine-laden atmosphere of an enclosed swimming pool.

Immune to freeze-thaw cycles, Ceramaguard works well on exterior installations, too. And it can be scrubbed repeatedly. All this coupled with excellent acoustical and reflective properties. And rated fire retardancy.

In short, in difficult installations, Ceramaguard not only stands up, it stands out. Like more information? Write: Armstrong Cork Company, 4212 Rooney Street, Lancaster, Pennsylvania 17604.

CEILING SYSTEMS BY
Armstrong

PREVIEW

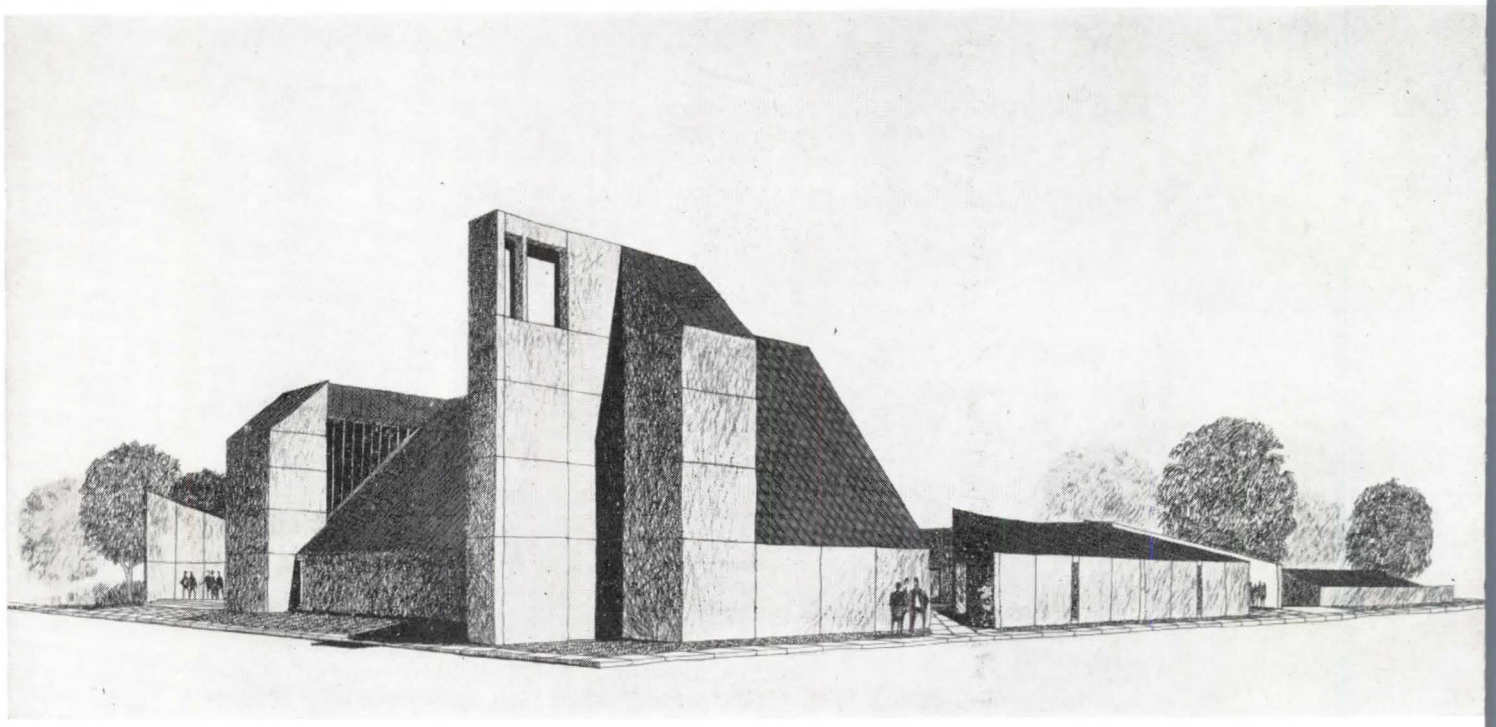
(continued from page 79)

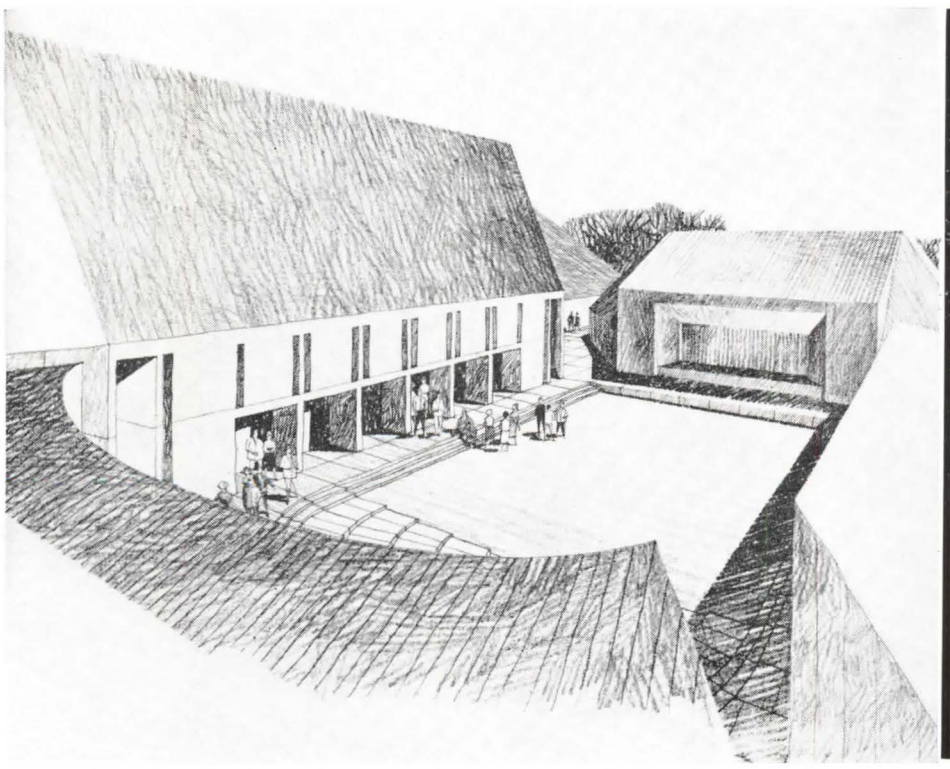
CLOISTERED CHURCH

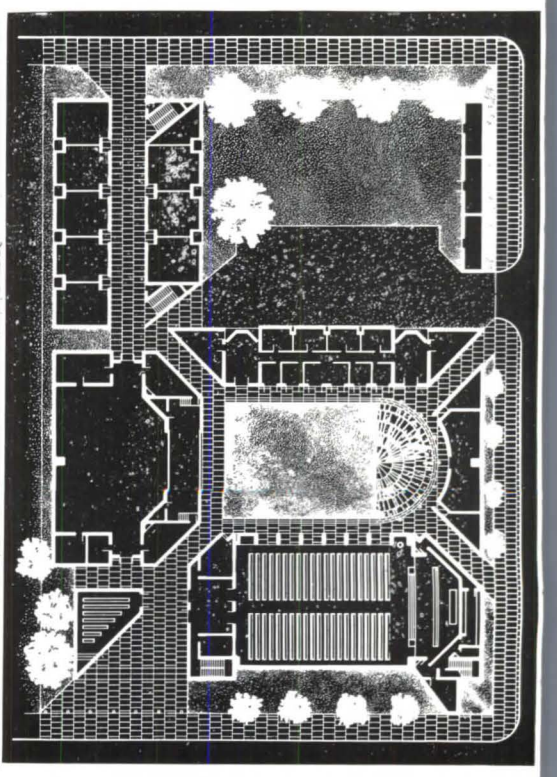
The sizable complex of the Central Lutheran Church of Van Nuys, Calif., for which architects are Honnold & Rex, will turn inward upon a central court that is the spatial equivalent of a medieval cloister. Rather than being a place of silence and seclusion, however, this court will be a gathering place for the congregation, with a small amphitheater and a stage opening from the fellowship hall (left in the plan and at the background of the court rendering).

The reason for this introversion is the context of the 200- by 280-foot site, along a boulevard of suburban commercial clutter. The buildings—a sanctuary seating 500, the fellowship hall for 300, administrative offices, 16 classrooms, a small chapel—present nearly blank facades to the streets, most of their windows understandably looking to the quiet court.

They will be built with concrete bearing walls, sandblasted and exposed inside and out, and with wood roofs covered by terne metal painted black. The forms are angular but direct, bespeaking the architects' conscious quest for simplicity. "The architecture in the sanctuary," Honnold & Rex comment, "is to express the Lutheran belief in the importance that the building should not seem religious in itself, but is a place for religious events and people."







Dome Design: Welton Becket and Associates, architects and engineers, Los Angeles, New York, San Francisco, Houston

Architects and Engineers: Victor Gruen Associates, Los Angeles, Washington, New York and Alexander Ewing & Associates, Philadelphia

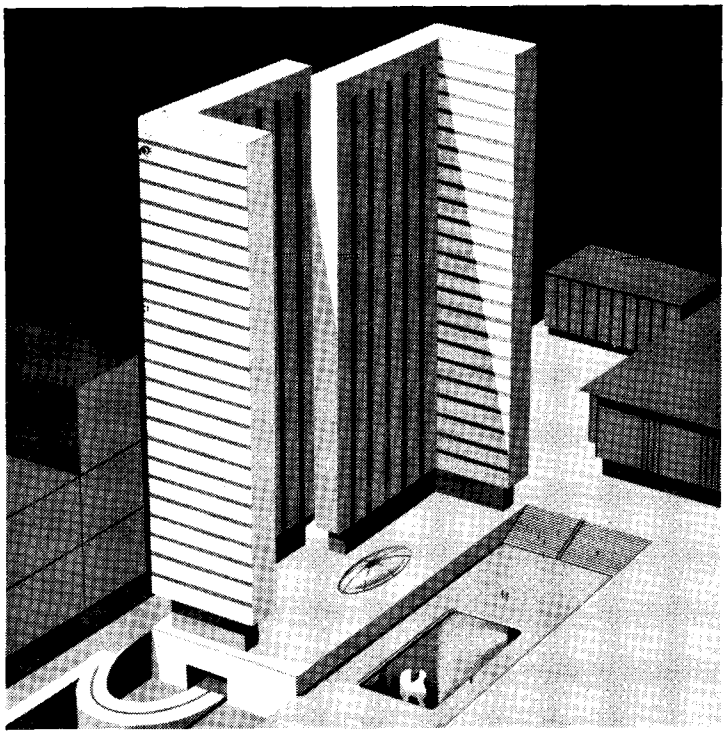
Renaissance of yesteryear's daylighted arcades ...with PLEXIGLAS®

At Strawbridge & Clothier's ultra-modern store in Plymouth Meeting, Pa., and at many other new stores and shopping malls, the grandeur of soaring Old World daylighted arcades is being recreated in contemporary designs. PLEXIGLAS acrylic plastic, with its structural advantages and great design flexibility, is the key material in this 20th Century adaptation of a practical 19th Century architectural concept.

Because PLEXIGLAS is light in weight and can be formed into shapes having great rigidity and load-bearing capacity, daylight openings can be large, with a minimum of supporting structure. In addition to its proved weatherability, PLEXIGLAS is highly resistant to breakage. It is available in a broad range of transparent tints and translucent colors that provide control of solar glare, heat and light transmittance.

Excellent examples of roof designs, and installation details, are given in our brochures "Domes and Arches of PLEXIGLAS" and "PLEXIGLAS in Architecture". Write for them, information on building code regulations, and the names of qualified contractors who are experienced in working with this rewarding material.

ROHM AND HAAS
PHILADELPHIA, PENNSYLVANIA 19105



Modern businesses need such up-to-date communications as television, data transmission, teletypewriter, Tele-Lecture, and complex telephone systems.

These complex communication services are essential not only in office buildings but in all types of major buildings—plan for them in the blueprint stage. You'll avoid costly alterations and unsightly wiring later.

Just call your Bell Telephone Business Office and ask for the Architects and Builders Service.

AT&T Bell System
American Telephone & Telegraph
and Associated Companies

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

New All-Electric Office Building Of Corry Jamestown is Hailed As Showplace for Famous Furniture Line

CORRY, PENNSYLVANIA— The Corry Jamestown Corporation here is one of the nation's leading manufacturers of contemporary steel office furniture. It has been for 30 years, and chances are it will be for many more years to come. The man primarily responsible for getting it there is the company's board chairman, David Hillstrom, a native of Sweden, who founded the organization in 1920 with a modest amount of working capital, a fair amount of metal-working experience, six helpers, a refurbished tool box factory and an "old world respect for craftmanship."

Today, Corry Jamestown has some 850 employees. Their product—strong, bright, clean of line and functional—furnishes big city skyscrapers and little city offices from coast to coast. Corry Jamestown has become a respected name in the industry.

In 1962, having outgrown their old quarters, CJ opened a new administrative headquarters building in a rural setting two miles outside Corry, Pa. The architect, Henry T. Gray, recalls that during the design stage, his instructions from David Hillstrom and his son Armour (new company president) were very simple. "The Hillstrom's," he says, "are very 'people conscious'. They build furniture to serve as an extension of the people who use it, and they wanted a building that in design and in appearance would be a harmonious extension of their furniture. They wanted all three—people, furniture and building—to look as if they belonged together and enjoyed it."

The result was a three-level aluminum and double-glazed curtain wall, steel frame building large enough to accommodate approximately 125 office employees. It is heated and cooled electrically. "Naturally we considered other heating systems," says architect Gray. "In the end, we chose, and the Hillstroms approved, an electric system (described in Item 6 on page two) for a variety of reasons—its inherent cleanliness, its control flexibility, its safety, and so forth. But mostly, I think, we chose it simply because to have done otherwise would have been out of phase with the whole Hillstrom philosophy. They have modern ideas. Their product is modern, their building is modern, and it just seemed to follow that their environmental control system should be just as modern as everything else."

SEE REVERSE SIDE FOR DETAIL INFORMATION

Gentlemen:
Please send the complete series of Electric Heating Case Histories as they become available to me at the following address:

Name and Profession:

Firm, University or other affiliation:

Address:

1 CATEGORY OF STRUCTURE:
Commercial—Office Building

2 GENERAL DESCRIPTION:
Area: 35,908 sq ft
Volume: 416,533 cu ft
Number of floors: three
Number of occupants: 100
Types of rooms: moveable partitions

3 CONSTRUCTION DETAILS:
Glass: double
Exterior walls: Aluminum curtain wall, rigid insulation; double glazing.
Roof and ceilings: 1¾" hardboard built-up roof. U-factor: .15
Floors: concrete with 2" styrofoam perimeter.
Gross exposed wall area: 13,000 sq ft
Glass area: 13,000 sq ft

4 ENVIRONMENTAL DESIGN CONDITIONS:
Heating:
Heat loss Btuh: 1,400,000
Normal degree days: 6,600
Ventilation requirements: 6,000 cfm
Design conditions: —10F outdoors; 72F indoors
Cooling:
Heat gain Btuh: 1,180,000
Ventilation requirements: 6,000 cfm
Design conditions: 93F dbt, 75F wbt outdoors; 78F, 50% rh indoors

5 LIGHTING:
Levels in footcandles: 150
Levels in watts/sq ft: 5
Type: fluorescent and incandescent

6 HEATING AND COOLING SYSTEM:
The building is heated by a small 30" by 90" boiler equipped with 6 electric immersion elements of 70 kw each. Hot water is piped to 19 fan coil units. Cooling is provided by an electric reciprocating compressor. Chilled water is piped to the 19 air handling units, each of which is thermostatically controlled for heating or cooling as required.

7 ELECTRICAL SERVICE:
Type: underground
Voltage: 120/208/240v, 3 phase, 4 wire, wye
Metering: primary

8 CONNECTED LOADS:

Heating	420 kw
Cooling	107 kw
Ventilation	10 kw
Lighting	186 kw
Water Heating	24 kw
Other	30 kw
TOTAL	777 kw

9 INSTALLED COST:*

General Work	$389,858	$10.80/sq ft
Plumbing & Mech.	139,429	3.89/sq ft
Electrical	138,899	3.90/sq ft
TOTAL	$668,186	$18.60/sq ft

*Building was completed September 1962

10 HOURS AND METHODS OF OPERATION:
Eight hours per day, five days a week.

11 OPERATING COST:
Period: 8/8/65 to 8/4/66
Actual degree days: 6,433
Actual kwh: 477,120*
Actual amount: $5,395.93
Avg. cost per kwh: 1.19 cents*
*For heating only. Simultaneous heating demand with main meter readings for the entire complex (office building and separate factory building).

Billing Date	Demand	Kwh	Amount
9/3/65	0	5,280	$ 38.02
10/5/65	106	21,600	320.52
11/4/65	144	42,240	520.13
12/7/65	38	58,080	670.18
1/5/66	134	58,080	620.52
2/3/66	230	82,080	950.18
3/7/66	163	72,480	859.25
4/5/66	77	59,040	538.48
5/5/66	106	40,800	456.74
6/6/66	100	24,960	330.71
7/6/66	0	12,000	86.40
8/4/66	0	480	4.80
TOTAL		477,120	$5,395.93

12 UNUSUAL FEATURES:
The vessel for heating water for circulation to the fan coil units is very small compared with other vessels utilizing flame fuels. The electric boiler is 30" in diameter and 90" in length, including the insulation.

13 REASONS FOR INSTALLING ELECTRIC HEAT:
The owner wanted a completely modern system in keeping with the ultra-modern design of the building and felt that electric space conditioning provided the answer. The fact that electric heating and cooling is clean, convenient, flexible and comfortable was still another reason for its selection.

14 PERSONNEL:
Owner: Corry Jamestown Corporation
Architect: Henry T. Gray
Consulting Engineer: Richard Yaple
General Contractor: Sessinghaus and Ostergaard, Inc.
Utility: Pennsylvania Electric Company

15 PREPARED BY:
W. R. Wilson, Industrial-Commercial Sales Supervisor, Pennsylvania Electric Company.

16 VERIFIED BY:
Henry T. Gray

Henry T. Gray, AIA

The Consulting Engineers Council USA, has confirmed the above categories of information as being adequate to provide a comprehensive evaluation of the building project reviewed.

NOTICE: This is one of a series of case histories of buildings in all structural categories. If you are an architect or consulting engineer; an architectural or engineering student; an educator; a government employee in the structural field; a builder or owner, you may receive the complete series free by filling out the strip coupon at the left and mailing it to EHA. If you are not in one of the above categories, you may receive the series at nominal cost.

ELECTRIC HEATING ASSOCIATION, INC. 750 THIRD AVE., NEW YORK, N.Y. 10017

The Architectural **FORUM** 111 West 57th Street New York, N.Y.10019

CIRCULATION REQUEST

I would like to receive the Architectural **FORUM** regularly. I understand it will be sent to me without cost or obligation upon completion and approval of this qualification form.

Name:	Your title:	
Principal state of architectural registration	Others (if any):	
Name of firm:		
Address:		
City:	State:	Zip Code:
Address copies to ☐ above, or to ☐ home address:		
City:	State:	Zip Code:

(Name of firm must be included even if the copies are sent to your home address)

I believe the above information is correct.

Date: Signature:

QUALIFICATION DATA

1. Please check classification which best describes your affiliation:

☐ Principal, or partner of firm ☐ Staff member with architectural firm ☐ Individual practice (i.e. no other licensed personnel) ☐ Not practicing as an architect ☐ Staff member with engineering firm	☐ Other (please specify)

2. With which of the following functions are you presently identified? Please check all that apply:

☐ Executive, managerial or supervisory ☐ Design ☐ Specification writing ☐ Production of contract documents	☐ Other (please specify)

NOTE/ THE PUBLISHER MUST RESERVE THE RIGHT TO REFUSE THE APPLICATION OF ANYONE WHO DOES NOT, IN THE OPINION OF THE PUBLISHER, MEET THE QUALIFICATION REQUIREMENTS. IF NOT QUALIFIED, THE APPLICATION CAN NOT BE HONORED AND NO SUBSCRIPTION WILL BE ENTERED.

Have you sent in your Reader Qualification Card?

In order to receive the Architectural FORUM regularly each month, you must complete a Reader Qualification Card (above)—if you have not already done so.

Since Architectural FORUM is sent without charge to registered architects, a completed qualification card indicates your interest in the magazine—and that you are qualified to receive it.

If the qualification card has been removed, use your company letterhead to write Circulation Manager, Architectural FORUM, 111 West 57 Street, New York, N.Y. 10019. Give your title, principal state of architectural registration and the kind of work you do.

Additional Subscriptions...

such as second copies for registered architects—and all others—may be entered at the annual rate of $10. Outside U.S.A. and its Possessions, $15. Students and faculty of accredited schools of architecture, $5. Single copies, $1.25.

Please enter my subscription to **THE ARCHITECTURAL FORUM**

☐ **3 years $27** ☐ **Payment enclosed**

☐ **2 years $19** ☐ **Bill me**

☐ **1 year $10**

name

home or office address

city state ZIP

name of firm

nature of firm's business

your title

signature

These rates apply to subscriptions in U.S.A. and Possessions. All others, $15 a year.

FIRST CLASS
PERMIT NO. 1963
NEW YORK, N. Y.

BUSINESS REPLY MAIL

No postage stamp necessary if mailed in the United States

Postage will be paid by

The Architectural **FORUM**
111 West 57th Street
New York, N. Y. 10019

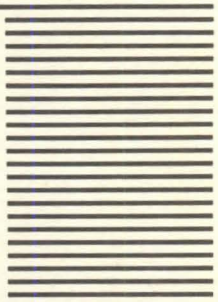
FIRST CLASS
PERMIT NO. 1963
NEW YORK, N. Y.

BUSINESS REPLY MAIL

No postage stamp necessary if mailed in the United States

Postage will be paid by

The Architectural **FORUM**
111 West 57th Street
New York, N. Y. 10019



Have you sent in your Reader Qualification Card?

In order to receive the Architectural FORUM regularly each month, you must complete a Reader Qualification Card (above)—if you have not already done so.

Since Architectural FORUM is sent without charge to registered architects, a completed qualification card indicates your interest in the magazine—and that you are qualified to receive it.

If the qualification card has been removed, use your company letterhead to write Circulation Manager, Architectural FORUM, 111 West 57 Street, New York, N.Y. 10019. Give your title, principal state of architectural registration and the kind of work you do.

Additional Subscriptions...

such as second copies for registered architects—and all others—may be entered at the annual rate of $10. Outside U.S.A. and its Possessions, $15. Students and faculty of accredited schools of architecture, $5. Single copies, $1.25.

Please enter my subscription to **THE ARCHITECTURAL FORUM**

- ☐ **3 years $27**
- ☐ **2 years $19**
- ☐ **1 year $10**
- ☐ **Payment enclosed**
- ☐ **Bill me**

name

home or office address

city state ZIP

name of firm

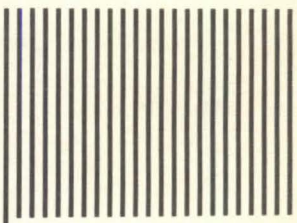
nature of firm's business

your title

signature

These rates apply to subscriptions in U.S.A. and Possessions.
All others, $15 a year.

FIRST CLASS
PERMIT NO. 1963
NEW YORK, N. Y.



BUSINESS REPLY MAIL

No postage stamp necessary if mailed in the United States

Postage will be paid by

The Architectural **FORUM**
111 West 57th Street
New York, N. Y. 10019

LDINGS AND THE SONIC BOOM

ued from page 55)

it of a number of studies
the last few years in the
England, Canada and
The most massive of
udies to be completed so
carried out at the White
nissile proving ground in
exico between November
id February 1965 by the
he Air Force, and NASA.
is written, another mas-
ies of tests is underway at
ls Air Force Base in Cali-
where the first known
booms are supposed to
ecurred during test dives
tary planes.

he White Sands tests, F-
id B-58's generated near-
0 planned booms. Elab-
easurements and damage
ons were made in 21
gs, some put up for the
Among other things, the
ors established a normal,
m rate of crack appear-
plaster in each building.
leration of this rate after
or series of booms was
s evidence, and as rough
ement, of boom-caused
damage.

scheduled ground over-
es were in the range of
bout 1.5 psf to about 23
th hundreds of booms at
In this scheduled part of
no glass broke that was
ady cracked—or so loosely
l that the boom could
t against a nail or blow
f the frame. There were
cts on the underlying
e of any house.

NOUGH

tests and others have led
planned boom intensity of
, which is to produce 1.5
level flight and no more
psf during takeoff and
. There is considerable
al evidence that the boom
somewhat reduced by
changes in the design of
ne. These ideas are said
developed too late for
t generation of SST's,
y do give hope for pos-
elioration of sonic boom
ies in the future. Booms of 1.5 psf and 2 psf are extremely loud sounds, whatever their relative harmlessness when they strike a building.

It is clear that the SST has a large capacity for trouble in the area of sonic booms regardless of how carefully its designers try to avoid such problems. A slip from the control plan and the sonic boom is likely to get out of hand. There was one unscheduled pass at White Sands, made as a demonstration of the harmlessness of the boom for a large company of newsmen and magazine writers. The F-104 came over at supersonic speed and at only 4,700 feet. The result has gone into the records as the Big Boom. It registered peak overpressure of 38 psf, and broke two large storefront windows and about 10 per cent of the glass panes in a greenhouse.

A more spectacular example of what happens when a plane at supersonic speed gets too close was the colossal glass-smash at the almost-completed new Ottawa air terminal in November 1959. An F-104, in a demonstration for officials, came almost directly over the building at a height estimated as only 500 feet. The pilot stepped on the gas just a bit to gain altitude. Results: a speed slightly above the sonic, and $300,000 worth of damage to the brand new building. Much of the building's wall surface at ground level was glass, and large sections were blown to bits—although other sections on the rear of the building came through intact. Windows on the fourth floor that open inward were blown open, but the glass was not broken. The multi-ply roof was severely damaged. However, the steel frame of the building escaped damage.

The penalties at ground level for serious errors in the operation of the SST could be even more spectacular. One technician in the field says that every SST pilot will need a computer. Those of us below will need far more knowledge of the effects of booms on buildings than we have been given to date.

ADVERTISING INDEX

ADVERTISING SALES OFFICES

HAROLD D. MACK, JR., Advertising Manager

NEW YORK
111 West 57th Street, New York, 10019
WILLIAM B. REMINGTON N. Y. Manager

NEW ENGLAND
177 Sound Beach Ave., Old Greenwich, Conn.
S. C. LAWSON New England Manager

CLEVELAND
32 W. Orange St., Chagrin Falls, Ohio
PHILIP R. PETITT Western Manager
CHARLES S. GLASS Cleveland Manager

CHICAGO
28 S. Fairview, Park Ridge, Ill.
JOSEPH H. LAJOIE Chicago Manager

LOS ANGELES
Smith & Hollyday, Inc.
5478 Wilshire Blvd.
Los Angeles, Calif. 90036
DAVID ZANDER

SAN FRANCISCO
Smith & Hollyday, Inc.
22 Battery Street
San Francisco, Calif. 94111
LESLIE MEEK

PORTLAND
Roy McDonald Associates, Inc.
2035 S.W. 58th Ave., Portland, Or
FRANK EATON

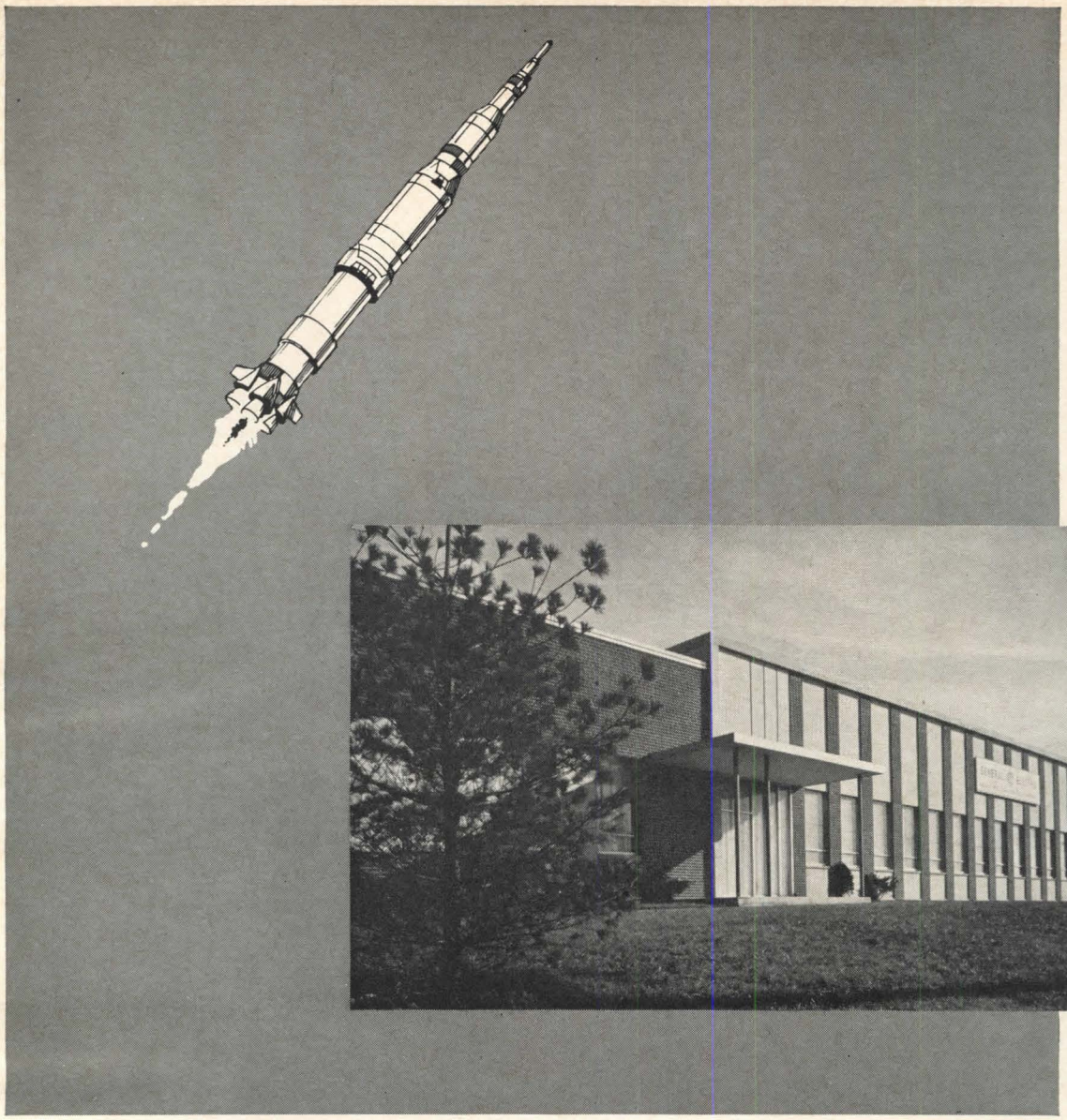
DALLAS
The Dawson Company
7900 Carpenter Freeway, Dallas, Texa
PARKER HARRIS

HOUSTON
The Dawson Company
3807 Link Valley, Houston, Texas
CHARLES SICOLA

MIAMI
The Dawson Company
5995 S.W. 71st St., Miami, Fla. 3314
HAROLD L. DAWSON

ATLANTA
The Dawson Company
1776 Peachtree Rd., N. W. Atlanta, G
DON L. UHLENHOPP

BPA



Building today for tomorrow's discoveries

The past half-century has been the most productive period in the technological advance of civilization. Much of this amazing progress is the result of man's ability to equip himself with the tools and facilities with which to work.

Building modern structures to house the facilities of industry and science is a major activity of the Aberthaw Construction Co. A nationally renowned leader in the construction of enduring structures, Aberthaw has pioneered the development of revolutionary building techniques to complement the rigid demands of today's sophisticated technologies.

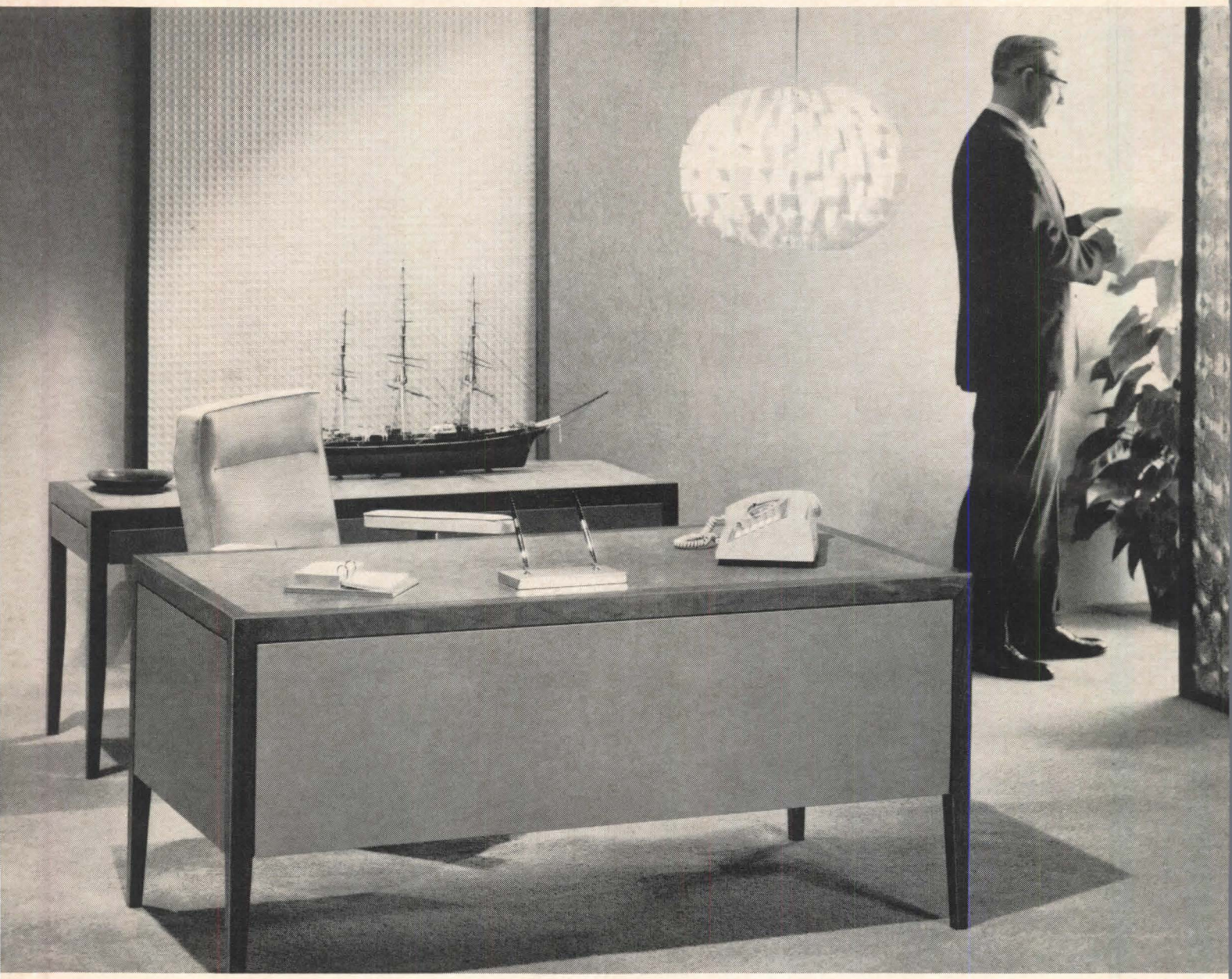
For nearly three-quarters of a century, the name Aberthaw has been identified with quality construction, on-time performance and best final costs. Write to us for a complete list of our work, our clients and any specific information you may desire.

ABERTHAW CONSTRUCTION CO.

60 State Street, Boston, Massachusetts 02109 / 482-8830

Philadelphia, Pennsylvania / Washington, D.C. / San Francisco, California

No gimmicks. No fads.
PEERLESS Presidential Suite V is an entirely new concept in office furniture design.



Dignity, grace and beauty. Combination of desk and table of the Presidential Suite V

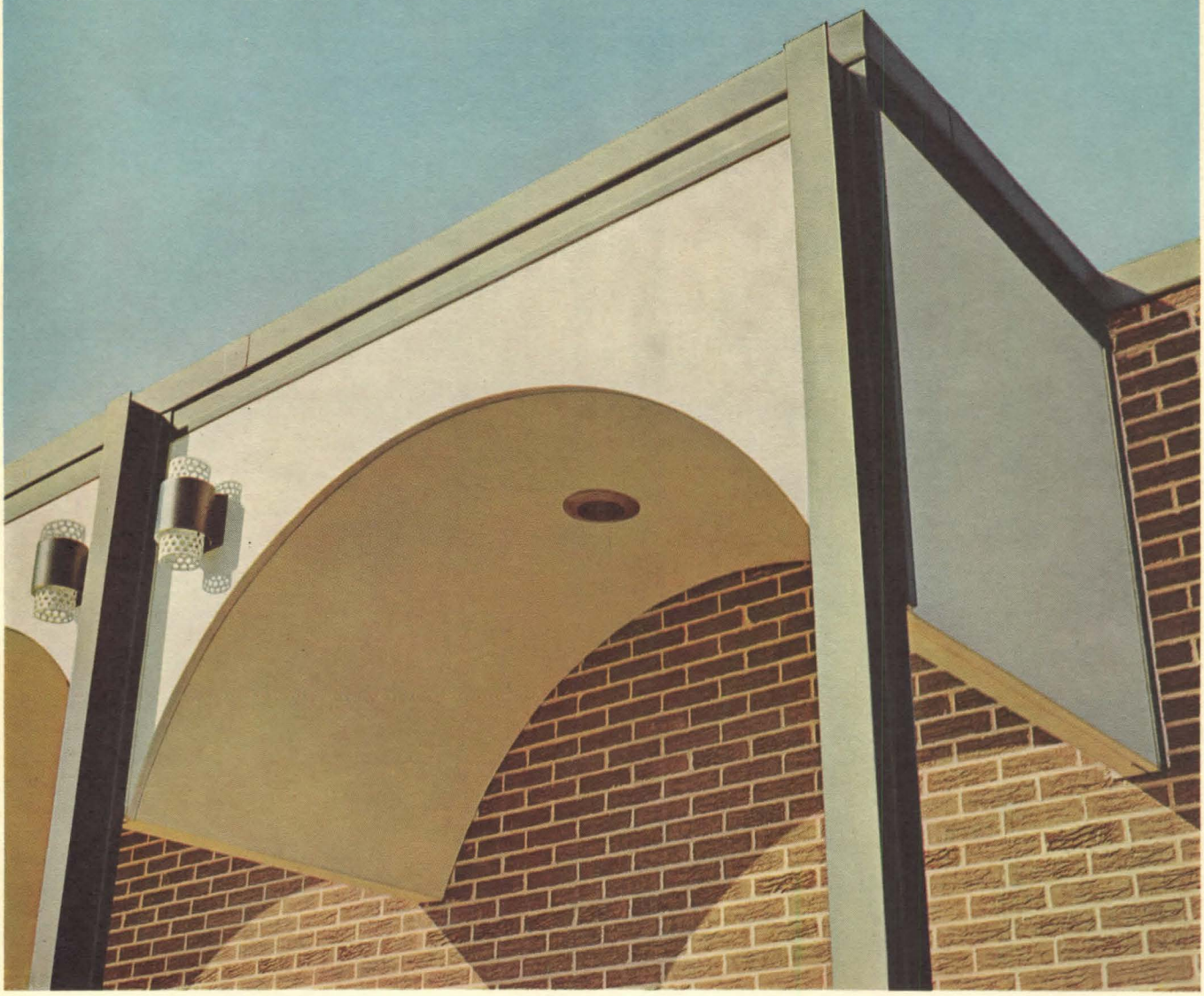
The lines are clean with the elegance of wood, the colorful crispness of metal. This is total design by Peerless; total design at its functional best. Wood legs flow into solid wood top perimeter—encompassing metal panels and wood grain laminated top. Specification literature, and contract prices, of the complete series is available and identified as Suite V brochure.
For your copy, write
Peerless Steel Equipment Company,
Philadelphia, Pa. 19111

PEERLESS
stylized office furniture

Chicago
New York
Dallas
Los Angeles
General Offices
Philadelphia

No ten-million-year-old fault will weaken this "stone" arch.

It's Johns-Manville Colorlith®.



Panels of Meerschaum White Colorlith form the arches for this modern bank. Colorlith has the same massive beauty as natural stone because it's made the same way. With one difference—Johns-Manville leaves nothing to geological accident.

Inorganic materials—asbestos fibers, cement, chemically resistant pigments—are combined with water under pressure and heat into a monolithic material that has all the strength of quarried rock—but none of the weaknesses. Composition and density are precisely uniform from panel to panel. There are no veins of weakness, no planes of cleavage as in some natural stones.

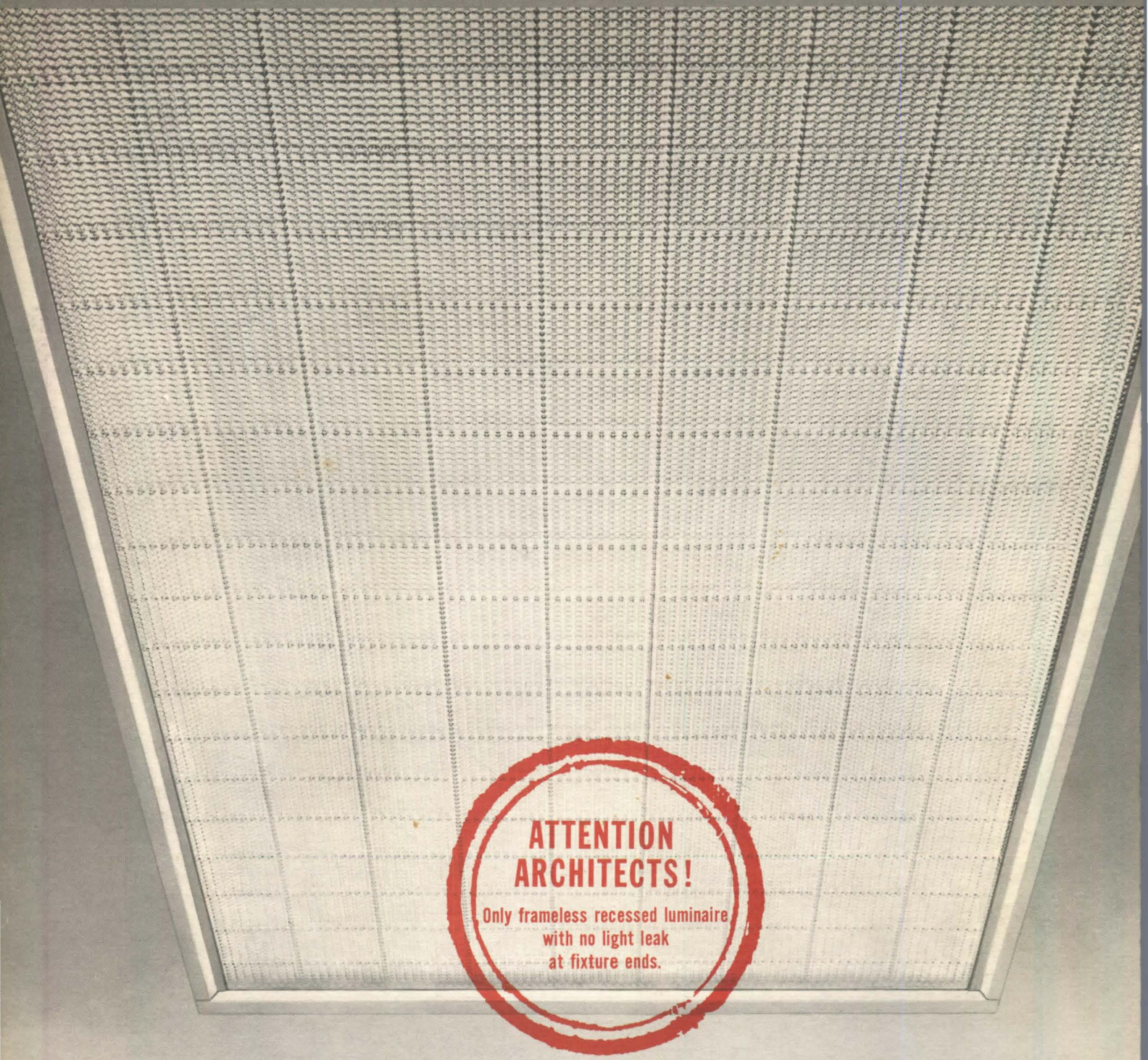
In addition to white, Colorlith panels are available in a variety of solid colors—and in the swirl patterns of Colorvein®, and the random-particle designs of Colorchip®. Their beauty is constant from any angle because the color goes all the way through.

Western State Bank, Oshkosh, Wisconsin.
Architects: Sandstedt-Knoop-Yarbro, Oshkosh.

Wherever you need exterior or decorative materials that offer timeless protection and charm—for masonry veneers, steel and wood facings, interior panels or furniture—design with J-M Colorlith, the "stone" that leaves nothing to chance. For your copies of free literature illustrating its many styles and uses, write to Johns-Manville, Box 111, New York, N. Y. 10016. Cable JOHNMANVIL. J-M Colorlith is also available in Canada.

JM

Johns-Manville



Give an eye to NOVI. Brand new recessed fixture for offices, stores, hospitals. Only $3\frac{15}{16}''$ deep! Has "regressed splay"... a fancy way of saying the lens is indented. Extruded aluminum trim comes in white (anodized if you desire). Lots of low brightness control. Bigger luminous area with either frameless plastic, aluminum-framed glass or plastic lens. So you see. Ceilings just won't know what they're missing... until you specify NOVI!

DAY-BRITE®

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