

THE ARCHITECTURAL FORUM / JANUARY-FEBRUARY 1967

1892-1967

FORUM





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

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Riverfront housing and a memorial.



Cover: The 75 bricks represent the Forum's 75 years of life, beginning as "The Brickbuilder." Design by Peter Bradford.

THE ARCHITECTURAL FORUM

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PUBLISHER'S NOTE

This column was to have been used for a retrospective look at the Forum's first 75 years. It was in January 1892 that the magazine was first published, as "The Brickbuilder"; and in January 1917 that it took its present name.

But suddenly, with the disappearance of Mr. and Mrs. Stephen R. Currier, who have been so important a part of our immediate past, retrospection became too painful. Instead, I would like to reproduce a letter from Andrew Heiskell, chairman of the Board of Trustees of Urban America Inc., which looks mainly to the future.

—L.W.M.

"Dear Larry,

"This, I know, could have been one of The Architectural Forum's most joyful anniversaries. Though it must pass without celebration, it should not pass without recognition on behalf of the Board of Trustees of the job the Forum has done, is doing, and I know will continue to do.

"The Forum has been very close indeed to Stephen Currier's concerns and affection. The continuation of the Forum was the first step he took in building the organization which became Urban America Inc.

"At the time this organization acquired the Forum late in 1964, it had no circulation, no advertising, only an editorial commitment for its staff to carry on. The progress since then has been most gratifying to the Board of Trustees. Today, the new Forum has the attention and respect of the architectural profession as well as the other design disciplines which shape the city. It has received the stamp of approval of private industry in the form of a steadily increasing volume of advertising. Editorially, it has brought home the impact of design on all aspects of the American urban environment.

"Please tell your staff of my respect, and that of the Board, for the role which the Forum is playing so well. It is an essential role, and one that can only grow in significance in the decades ahead."

ANDREW HEISKELL

New Crouse-Hinds

AREA*STAR

first low silhouette, low glare, low cost
general area luminaire.

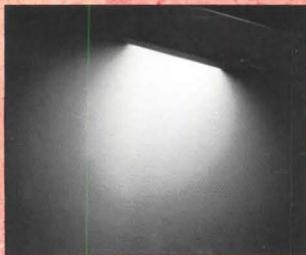




Beautiful from any angle.



Side glare of typical streetlight luminaire.



Beautiful low glare AREA*STAR.



Profile light®

Beautiful to see

Here's new design with looks that outshine streetlight luminaires. Slim, clean, contemporary. New AREA*STAR is perfectly beautiful. Singly or in clusters. Beautifully perfect. For parking areas, access roadways, drive-ins—wherever inexpensive but low glare lighting is desirable.

Beautiful to see by

Here's area lighting that's directed onto the ground and not in everybody's eyes. New AREA*STAR eliminates the uncomfortable side glare of ordinary streetlight luminaires. Has a recessed lamp—mercury or metallic additive. A flat, patterned lens. There's no protruding glass refractor to create halo and glare effects.

Motorists, customers, neighbors—all will find AREA*STAR lighting bright and inviting. Comfortable to see past. Easy to see under.

Beautiful by cost comparison

Here's the luminaire that wins out not only in styling and lighting, but in cost. For example, you can save up to \$70.00 on a four-fixture cluster on a 30' steel pole. That's over a typical streetlight luminaire used for off-street purposes.

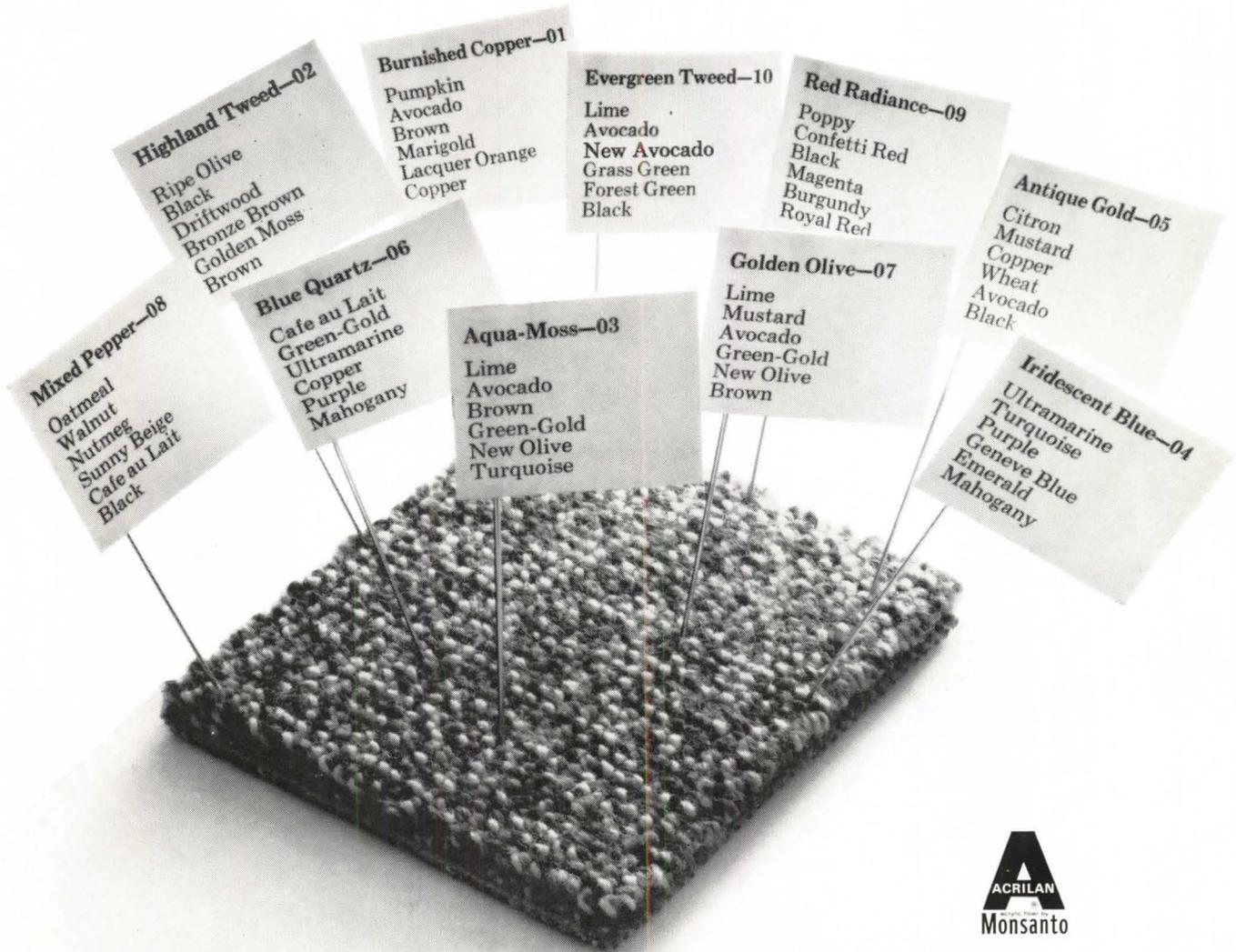
Beautiful companion to Profile light®

AREA*STAR was developed as a functional complement and appearance companion to Profile light—our highly successful “revolution in good light and good looks.” Either fixture—or a combination of both—makes your installation look attractive, day or night.

Get all the facts and figures on the new and beautiful AREA*STAR. Call your local Crouse-Hinds lighting distributor, or our local lighting specialist. Or write for Bulletin No. 2810. Crouse-Hinds Company, Outdoor Lighting Dept., Syracuse, N. Y. 13201.

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In stock, the first six-color tweed.



Why six colors? Well, think of the usual tweed carpet for a moment. Boring huh? Practical but boring, no-life, hum-drum. So Alexander Smith came out with a tweed carpet with personality. A tweed carpet with six colors. And it's available in ten different color combinations. In stock. That means excellent color selection and fast delivery.

We call this carpet Chancellor VI. It's a tweed carpet that gives you more than just practicality. It gives you the ability to

extend your colorful imagination. It gives you that extra accent of color for your decorating ideas. Chancellor VI is constructed of heavy 6-ply Acrilan® acrylic and modacrylic yarns for long lasting beauty. Over-all, this new carpet lets you use tweed in a much more decorative way.

So if your client demands the practicality of tweed, but you want the flexibility of six colors, the advantages of Acrilan®, and the most up-to-date look in tweed carpeting, give Alexander Smith a coupon.

I am interested in seeing one of your salesmen. And tell him to bring his samples.

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 **SARGENT**®

*A complete line of advanced architectural hardware, including the Sargent Maximum Security System
New Haven, Connecticut • Peterborough, Ontario*

We can think of six good reasons why you'd want to specify a Halsey Taylor water cooler.

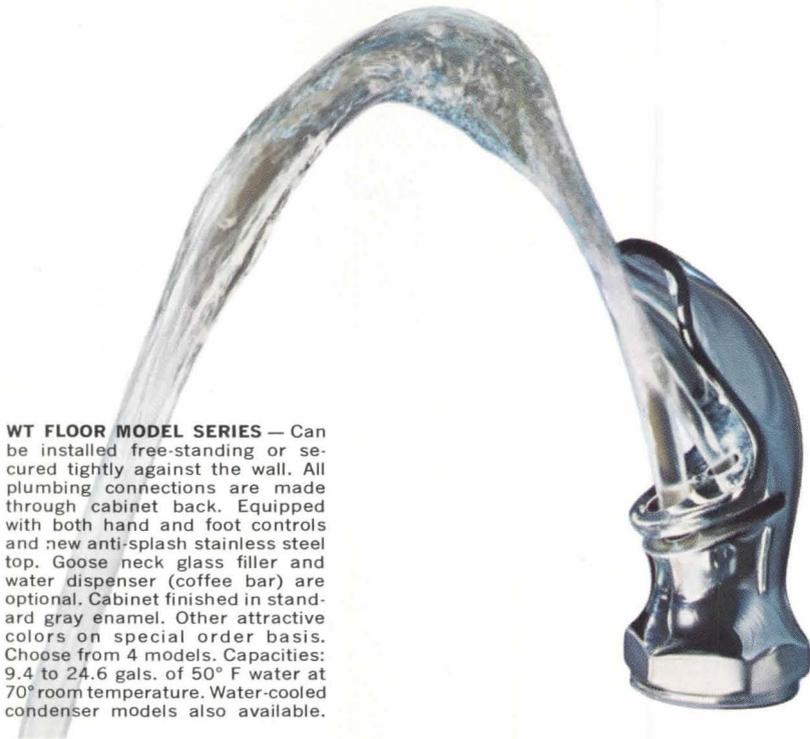
WM SERIES WALL-MOUNTED WATER COOLERS — Designed for modern interiors. Contoured stainless steel top prevents splashing. Hot water dispenser (coffee bar) optional. Standard cabinet finish is handsome, baked gray enamel. Available also in stainless or vinyl-clad steel with choice of attractive colors and textures. Choose from 3 models. Capacities: 9.4, 16.4 or 19.9 gals. of 50° F water at 70° room temperature. Water-cooled condenser models also available.

RWM SERIES SEMI-RECESSED WATER COOLERS — Provide contemporary complement for public areas. Steel box frame allows flush mounting in any wall. Standard cabinet attractively finished in gray baked enamel. Special interior accent cabinets also furnished in stainless or vinyl-clad steel with choice of textures and colors. Two models. Capacities: 9.4 to 15.2 gals. of 50° F water at 70° room temperature.

CP CLASSIC SERIES — Complete refreshment center provides cold drinking water and hot water for coffee and other hot beverages. Large refrigerated compartment for ice cubes and bottled drinks. Modern styling combines stainless steel with wood-grain finish. Ideal for executive suite, conference room, or employees' lounge. Coffee bar, optional equipment. Capacity: 3.5 gals. 50° F water at 70° room temperature.



A two-stream bubbler is one.



BL-301 BI-LEVEL ACCESSORY FOUNTAIN — Safe, practical way to serve drinking water to adults and children. Designed for side mounting on any WM series water cooler. Gray baked enamel, stainless or vinyl-clad steel cabinets to match adjoining WM cooler. Waste outlet and water supply are integral with electric water cooler. Can also be installed as separate wall fountain.

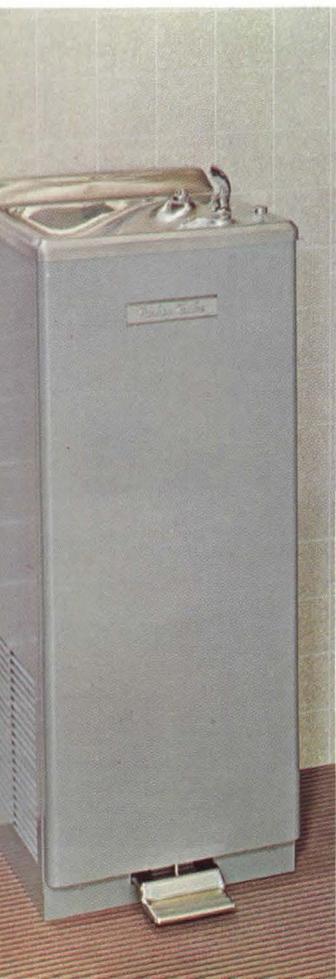
You provide a more satisfying drink of water with Halsey Taylor's exclusive, two-stream, mound-building, anti-squirt water projector. Two streams peak at a precise point to deliver a larger, more sanitary mouthful of cold water. And the unique overflow outlet in the hood guard makes this bubbler absolutely squirtproof. Guard and bubbler are a one-piece, heavy, chrome-plated forging. Constant stream height is maintained by an automatic stream regulator — never too high or too low, even though line pressure may vary as much as 50 pounds.

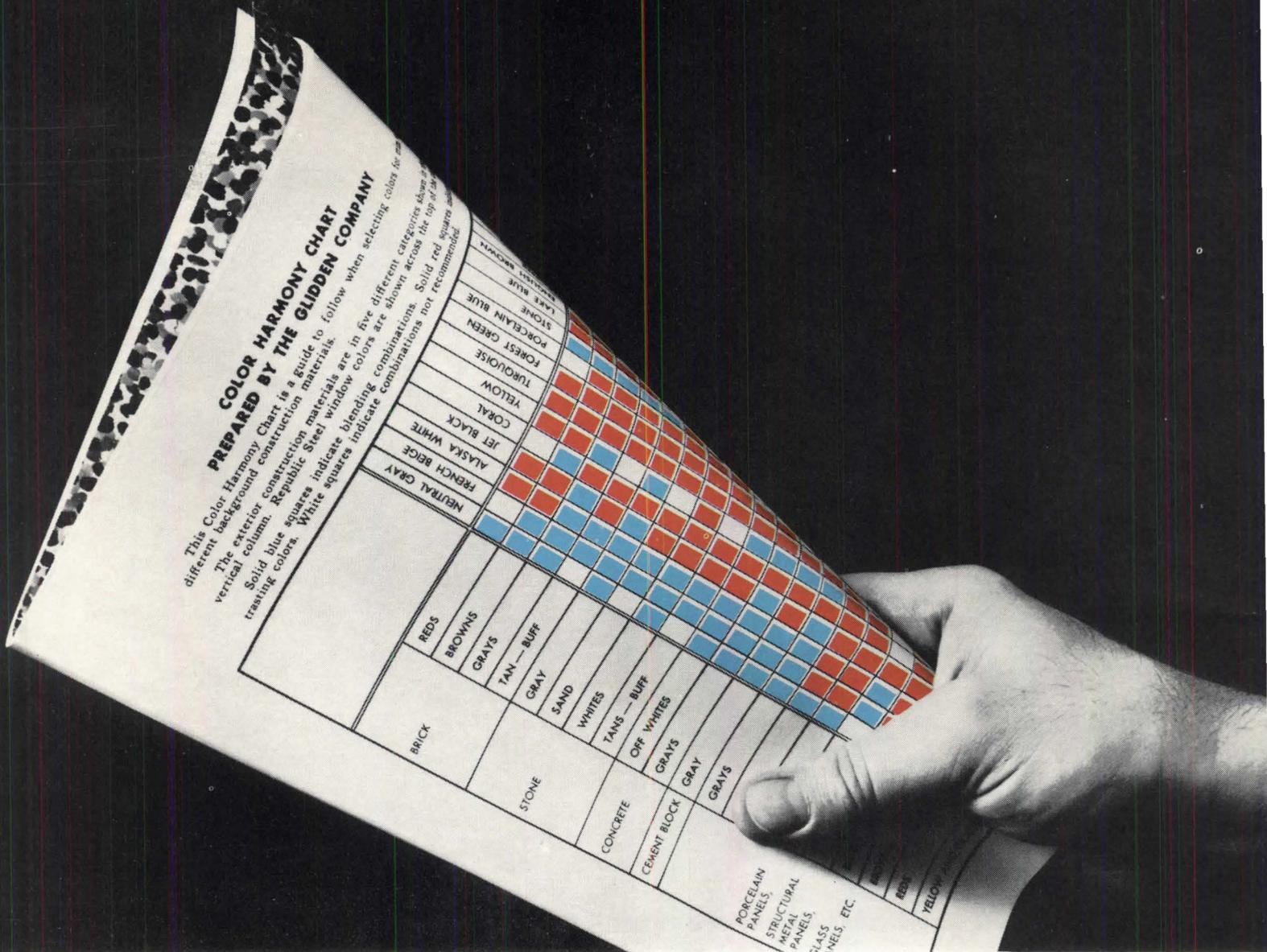
The five attractive water coolers shown here, with their clean, modern styling, are additional reasons why you should specify Halsey Taylor.

Before you buy or specify see the most complete line of electric water coolers and drinking fountain equipment available. Write today for new Halsey Taylor catalogs. Or look us up in Sweets or the Yellow Pages.

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PREPARED BY THE GLIDDEN COMPANY**

This Color Harmony Chart is a guide to follow when selecting colors for each different background construction materials. The exterior construction materials are shown across the top of each vertical column. Republic Steel window colors are shown in the top of each column. Solid blue squares indicate blending combinations. Solid red squares indicate contrasting combinations. White squares indicate combinations not recommended.

329 ideas for matching new Republic CRYLCOAT Windows to building materials!

Our new Color Harmony Chart was prepared by The Glidden Company, nationally known color authority. In it you'll find ideas for matching new CRYLCOAT Windows, and their 18 standard colors, to present building materials.

CRYLCOAT Windows have a thermosetting acrylic finish baked on for longer life. A finish that won't fade from sun, wind, or weather. And we still scour each window with a five-stage phosphatizing process before CRYLCOAT colors go on. Rust and corrosion never really have a chance to start.

Our 18 colors are the ones architects preferred. Colors that work for you. With a finish that won't work against you with the passing years.



MANUFACTURING DIVISION

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Send your new Republic CRYLCOAT Steel Window catalog featuring your Color Harmony Chart.



THE MAN FROM MANUFACTURING*

Name _____ Title _____

Company _____

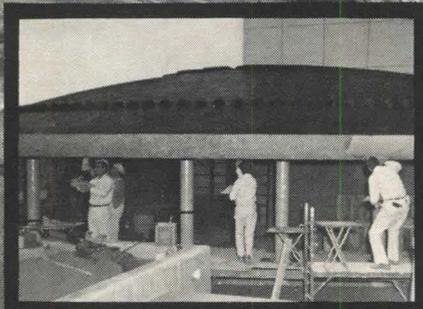
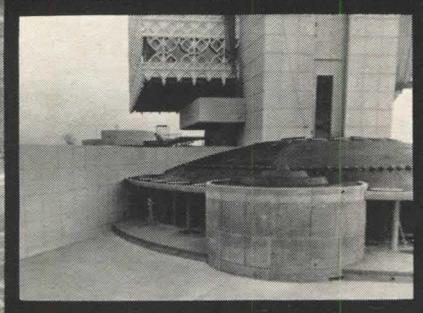
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Modern architect waterproofs and decorates at the
same time with
THOROSEAL PLASTER MIX



Taliesin Associated Architects William Wesley Peters, Chief Arch.
E. R. Ronald and Associates, Mech. Eng. • Wilson, Andros, Roberts and
Noll, Structural Eng. • Robert E. McKee General Contractors, Inc., Con.
C. W. Knight Plastering, Applicator.

The new Home Office building for the **Lincoln Income Life Insurance Company** in Louisville, Kentucky is a perfect example of what **Thoroseal Plaster Mix** can do. On this particular job, all interior and exterior concrete surfaces were first coated with **Thoroseal Plaster Mix-plus-Acryl 60** by trowel and then floated (pictures #2 and #3). A second coat was applied by plaster type spray (picture #4) to obtain the desired texture. Because **Thoroseal Plaster Mix-plus-Acryl 60** fills and seals all pores, binding so firmly to the rough concrete, it actually becomes part of the wall itself and will last as long—protecting it from any water, wind and weather damage or deterioration. It's the ideal building finish!

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DEPT. 67-AF-1 NEW EAGLE, PA.

Pozzolith concrete gives a bank



extra interest

Inside and out, concrete plays a dramatic role in this striking savings and loan association building in California.

The natural concrete color and texture of the pre-cast, post-tensioned waffle ceiling, and the post-tensioned girders and fascia beams match the exterior walls. The simplicity of the unembellished concrete suggests the strength and stability of the structure and its function. It's another outstanding example of concrete's ability to combine the functional with the aesthetic with no sacrifice of either.

POZZOLITH, the most-often-specified admixture, helped provide concrete of unusual beauty, strength and durability—and exceptional workability for placing around reinforcing elements. POZZOLITH concrete can aid you in the execution of your design concepts. Learn more about it.

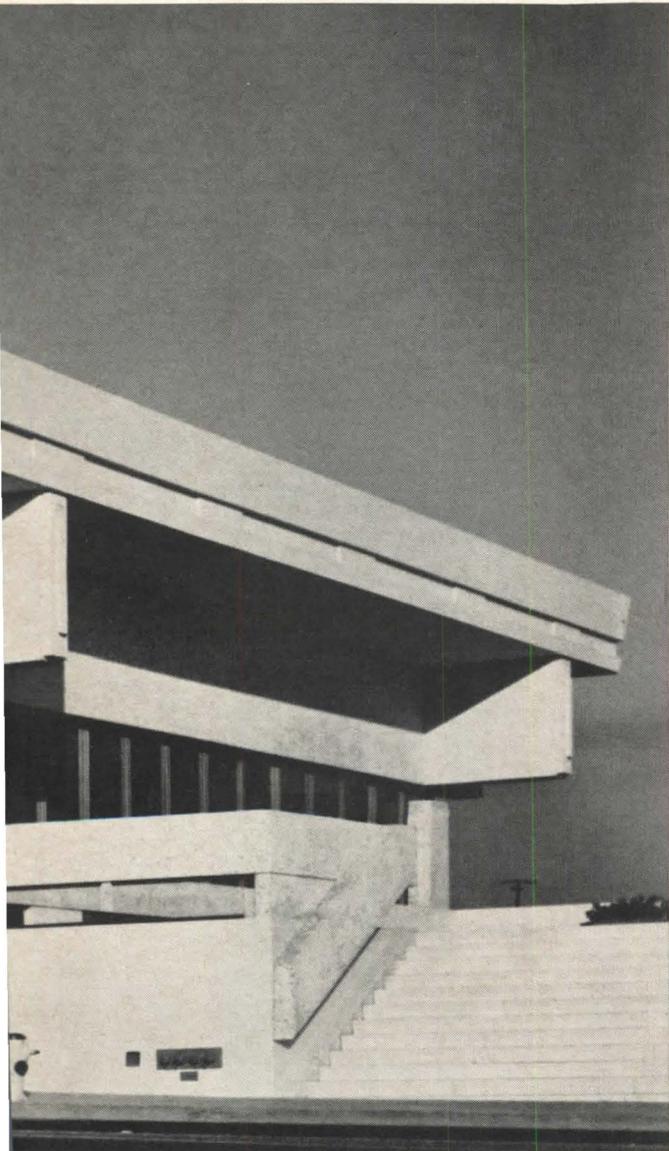
Call your Master Builders Field Man, or write Master Builders, Cleveland, Ohio 44118, and Toronto 15, Ontario.

POZZOLITH^{*}

manufactured only by

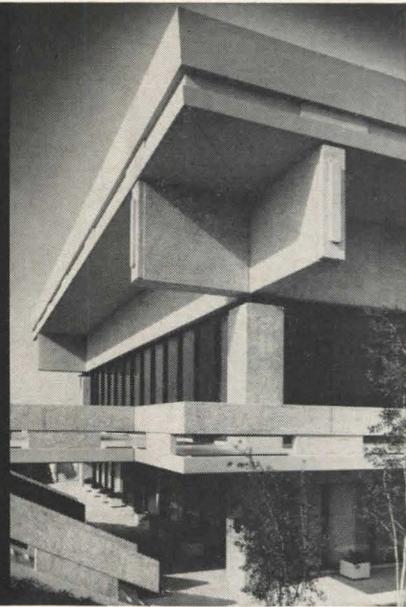
MASTER BUILDERS

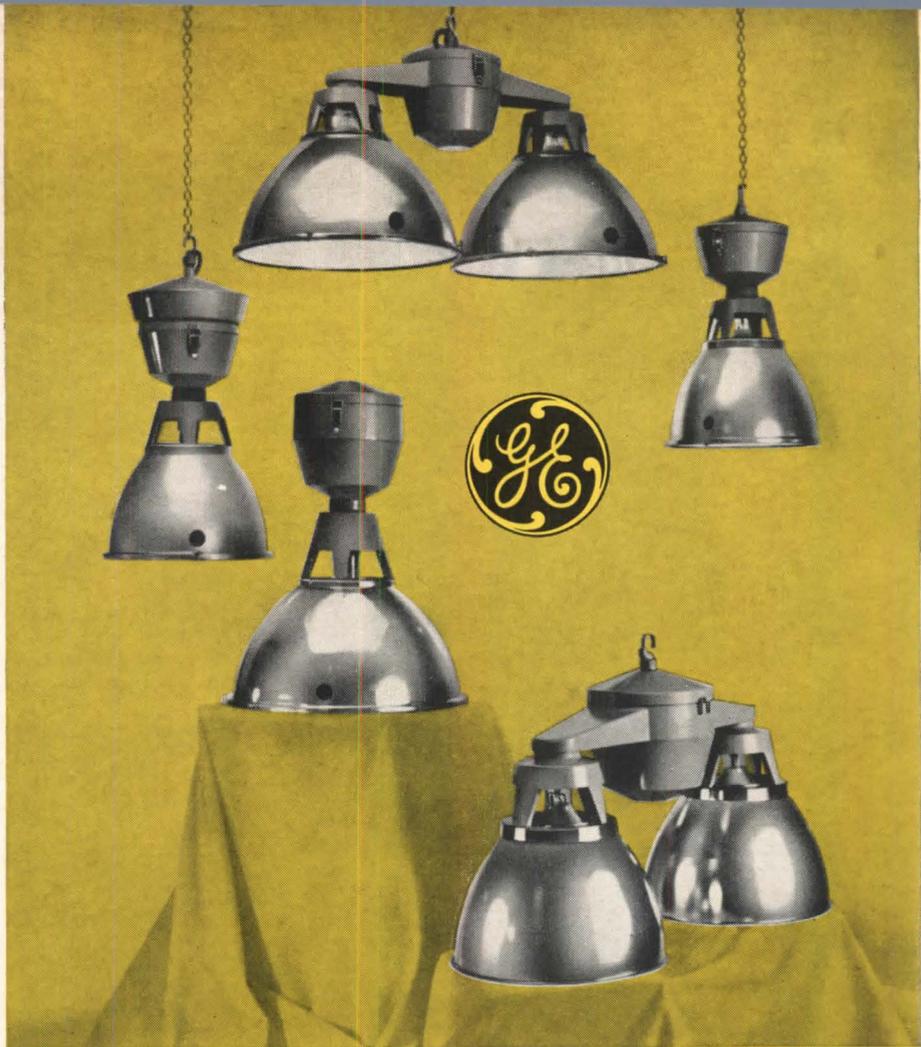
*POZZOLITH is a registered trademark for Master Builders water-reducing, set-controlling admixture for concrete.



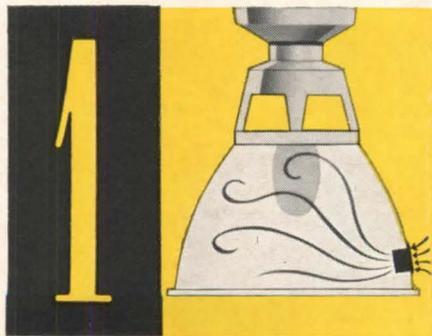
All elements of the Ventura Savings and Loan Association building, except the precast, post-tensioned waffle ceiling, were job placed concrete. Interior concrete is natural color and texture. Hand railings are bush-hammered white concrete.

Owner: Ventura Savings and Loan Association, Ventura, California. Architect: William Pereira. Structural Engineer: Woodward Tom Associates. General Contractor: William Simpson Company. POZZOLITH Precast Concrete Components: Interpace Concrete Products. POZZOLITH Ready Mixed Concrete: Consolidated Rock Products Company.





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Lowest total cost of light, because GE ALGLAS™ reflector resists dirt; cleans fast

Both the Filterglow enclosed units and Econoglow™ open units feature reflectors that are precision-formed of aluminum, then chemically coated with a new finish that resists tarnish and discoloration from atmospheric contaminants. The only cleaning the enclosed unit requires is an occasional once-over on outside door glass.



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A tightly sealed window on top of the reflector lets up to 10 percent of the unit's light output go out the top. This reduces contrast between light source and its background, assures easy-on-the-eyes illumination for improved conditions to make workers more efficient.



Lowest total cost of light because a full line meets your needs precisely

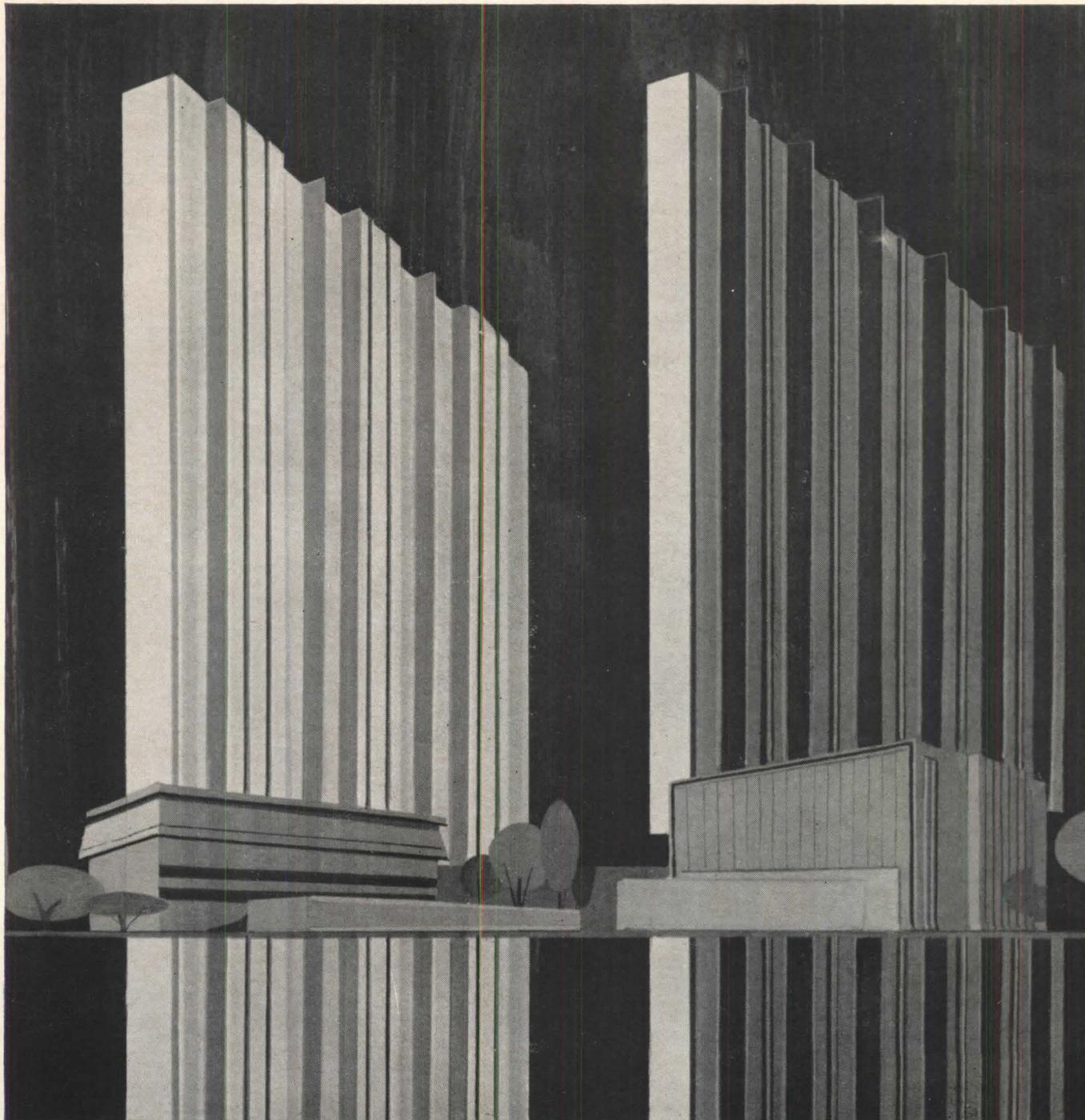
GE industrial luminaires are available in 96 different models—sealed and open, single and twin, for Lucalox™, mercury-vapor or Multi-Vapor™ lamp operation—to provide the best solution to any plant lighting problem. Choose from a variety of beamspreads to convert lamp output into effective illumination with less glare and lower brightness.

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your General Electric sales engineer or distributor, or write: Section 460-92, General Electric Company, Hendersonville, North Carolina 28739.

GENERAL  ELECTRIC

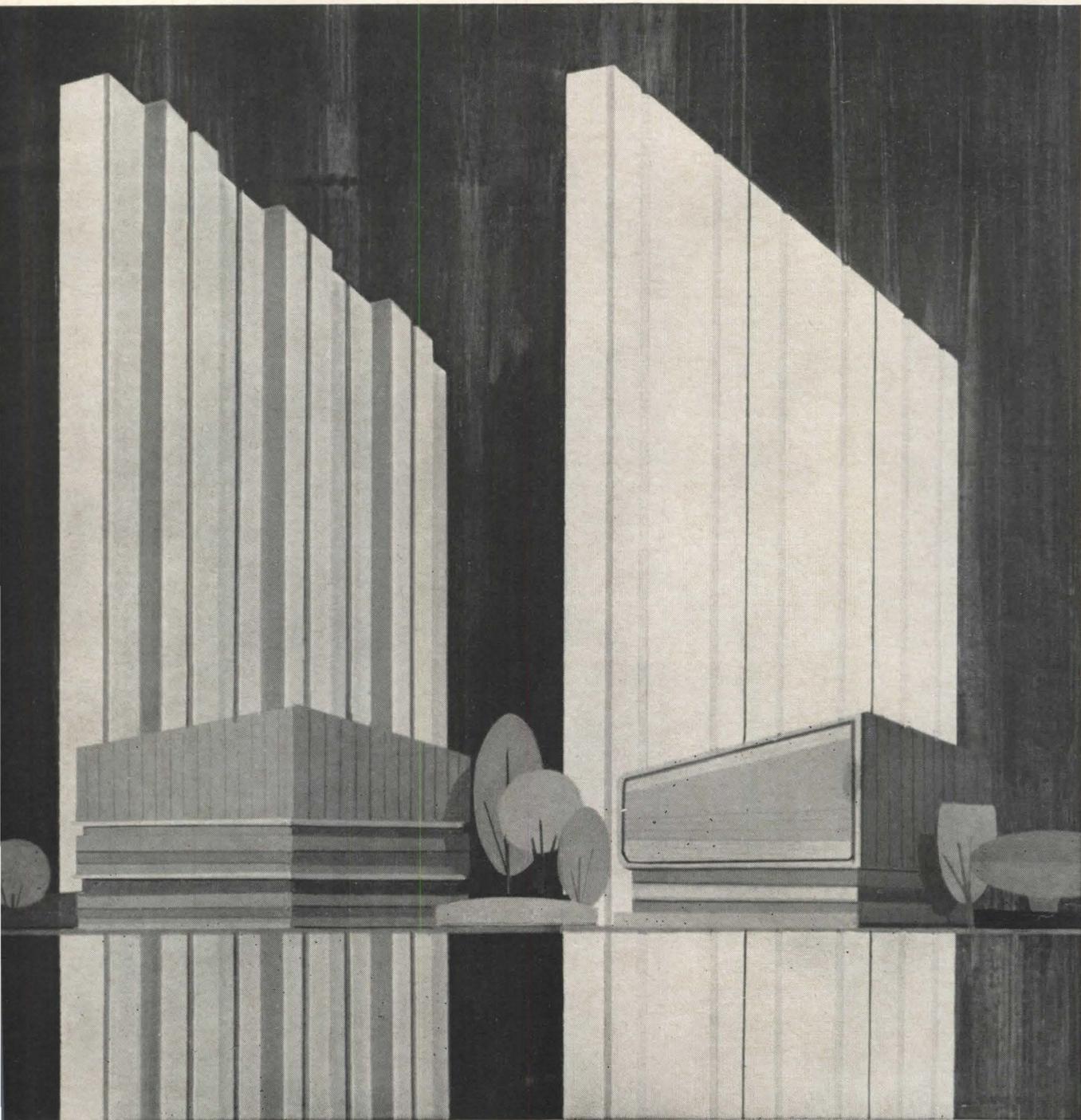
from Mahon...
insulated wall panels that
will help you add color and flair
to your "Plain Jane" projects



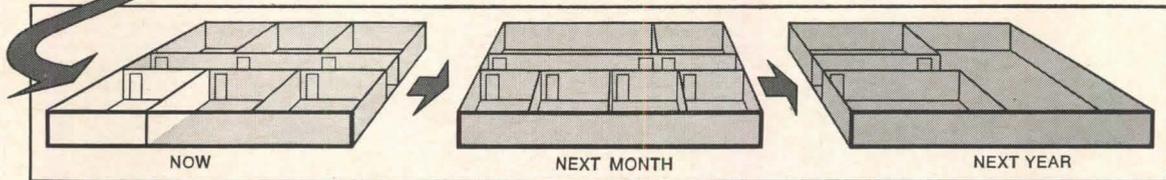
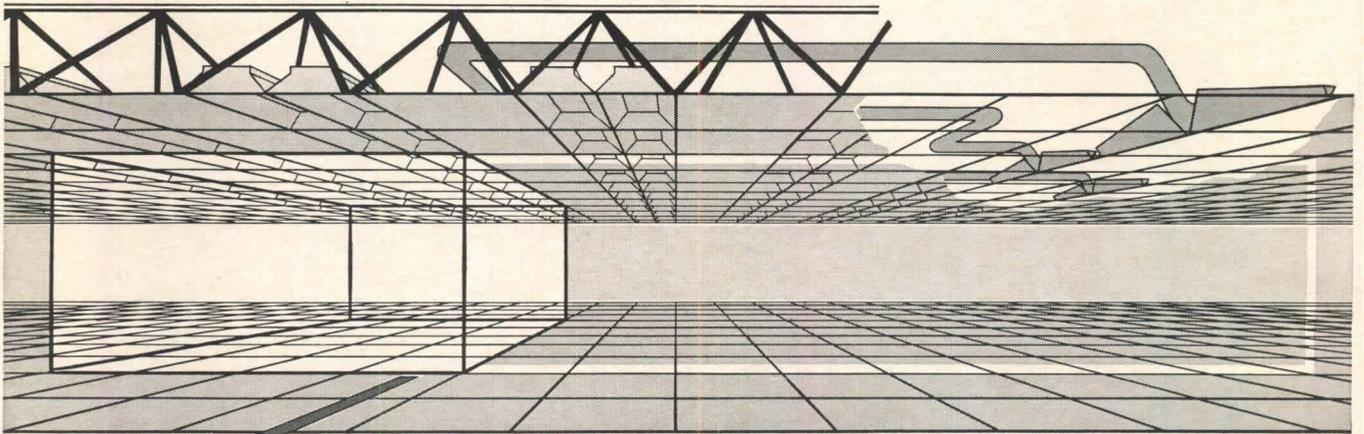
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Here is a sea of space, air and light. And in this sea; heating, cooling, ventilation and illumination are furnished from above ceiling plane, in such dispersion that they do not restrict the possible arrangement of rooms. Then too—the structural system is so precise that by shifting movable partitions or operable walls, a great many room plan arrangements are feasible, present and future, while always providing environment matching or exceeding that with fixed partitions.

This is no pipe dream. It is Space Grid™—a system of integrated structural and mechanical systems representing the cooperative design development of a unified structural/mechanicals system by five national manufacturers*; each highly qualified in their own specialties.

Now, instead of spending frustrating days integrating a half-dozen mechanical systems which were designed without relation to one another, you start with your total structural/mechanical instru-

ment, and proceed to design for the maximum efficiency of all component systems.

Space Grid is one of the successful solutions to the much-publicized SCSD** performance specification for California school construction. But the range of resources represented by the collaborating manufacturers comprising Space Grid extends its application to manufacturing, administration, commerce, recreation, rest homes and other similar end uses. Fast construction and single responsibility are bonus benefits. For further details, refer to Sweet's File 2A/Bu. Or write direct to Architectural Systems Department, Butler Manufacturing Company, 7336 East 13th Street, Kansas City, Missouri 64126.

*Butler Manufacturing Company, E. F. Hauserman Company, Lennox Industries Incorporated, Owens-Corning Fiberglas Corporation, and other cooperating manufacturers. Space Grid is a trademark of Butler Manufacturing Company.

**SCSD is the School Construction Systems Development project of the Educational Facilities Laboratories.

**™ SPACE GRID
SYSTEM**

New design freedom
in the Open World of L-O-F glass

Derthick & Henley design a College Library to help students see the light

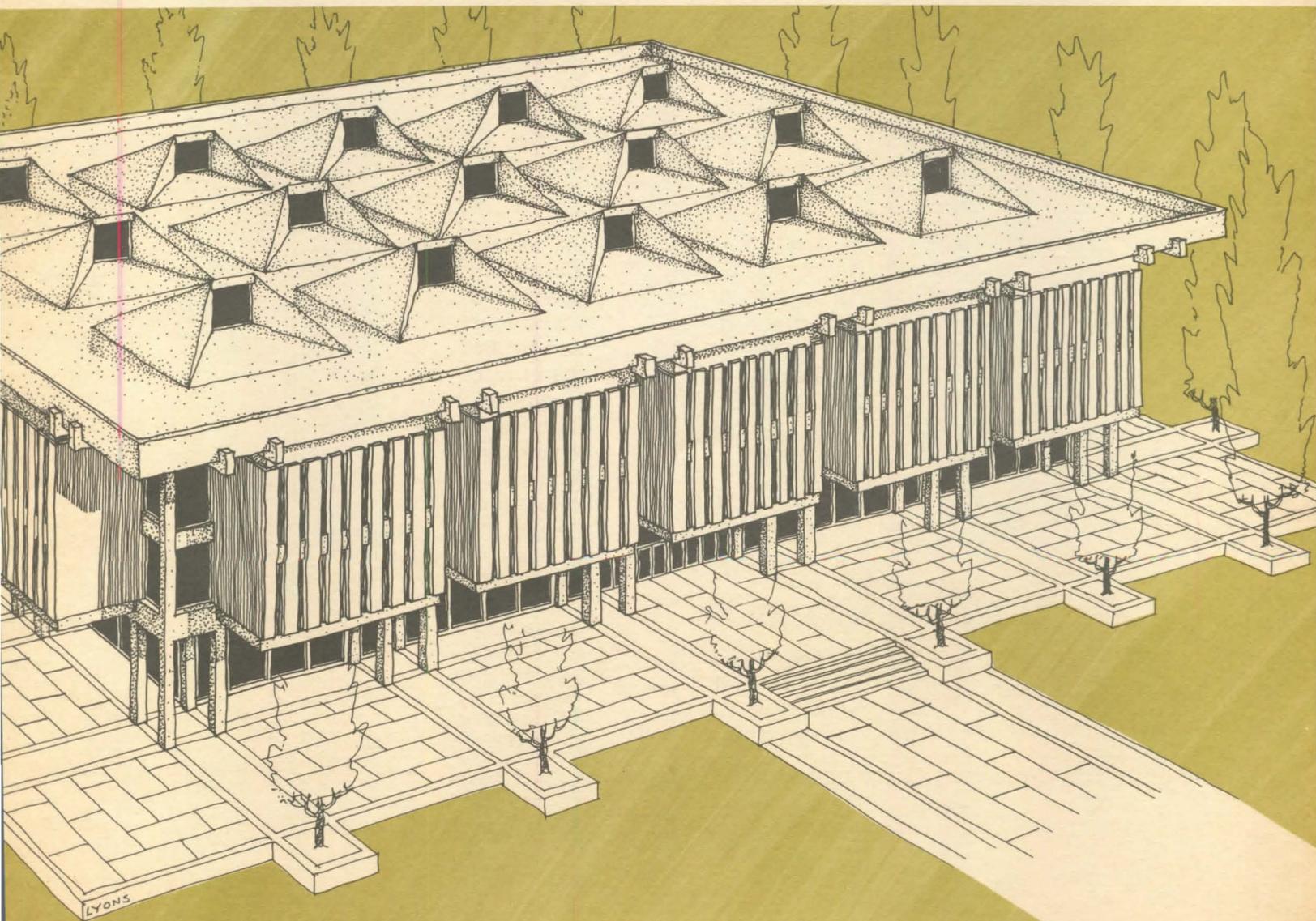
Every corridor looks out through glass to a vista of the campus.

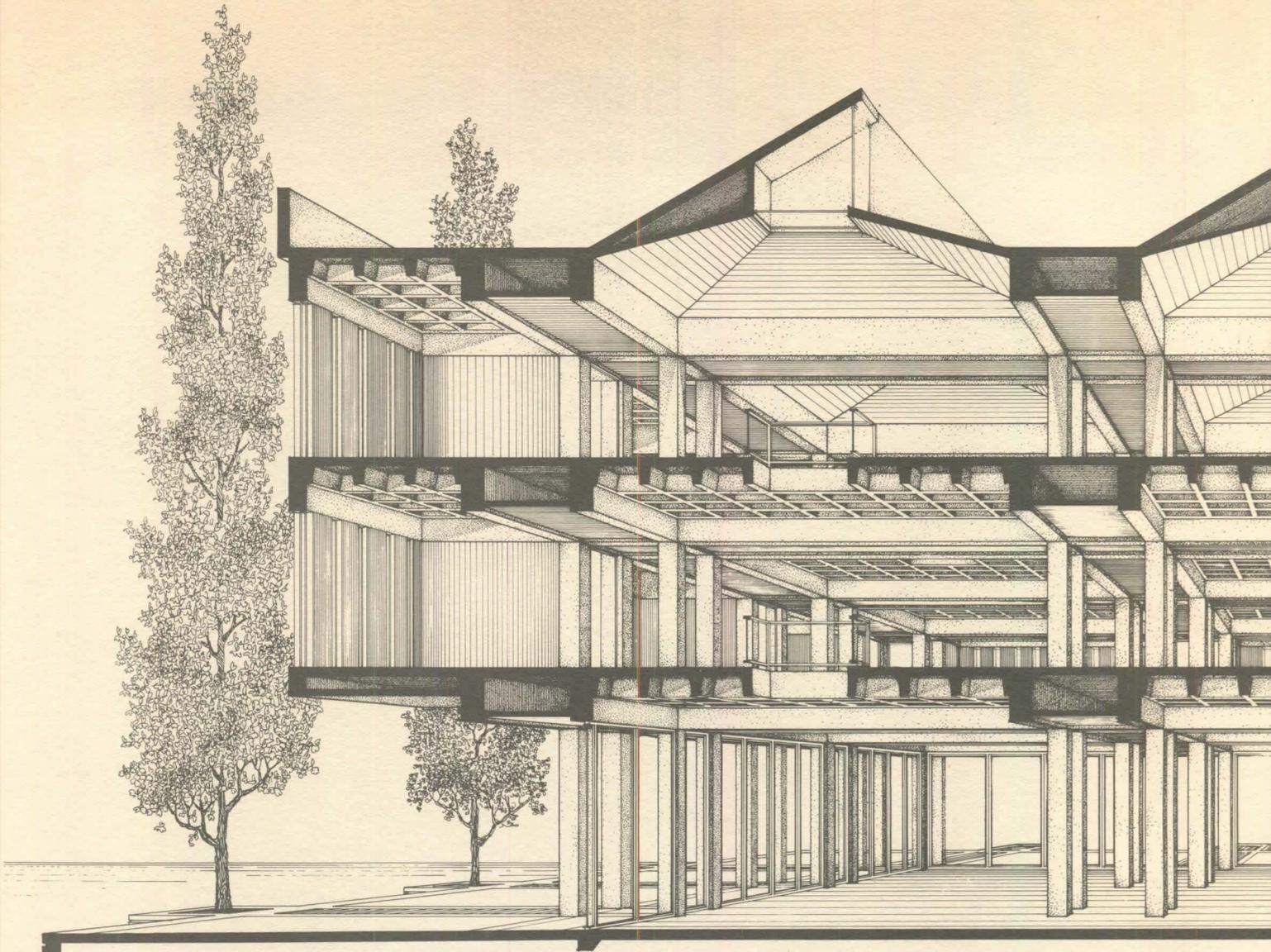
Each structural bay has a hooded, polished wired-glass skylight oriented toward the north for controlled interior lighting. Shafts permit the daylight to penetrate through the floors to ground level.

Study carrels, faculty offices, and graduate study spaces are located around the perimeter of the upper two floors. The cantilevered carrels are sheathed in lava-bronze *Vitrolux*[®] spandrel glass banked by vertical vision strips of bronze-tinted *Thermopane*[®] insulating glass. Carrels are divided from each other with translucent Rough Plate glass or Patterned glass, and enclosed with *Tuf-flex*[®] glass doors and sidelights.

The building is designed on a 3'-0" module to provide flexibility in interior arrangement of stacks and reading areas. It can be expanded to either side—an important consideration for any college library.

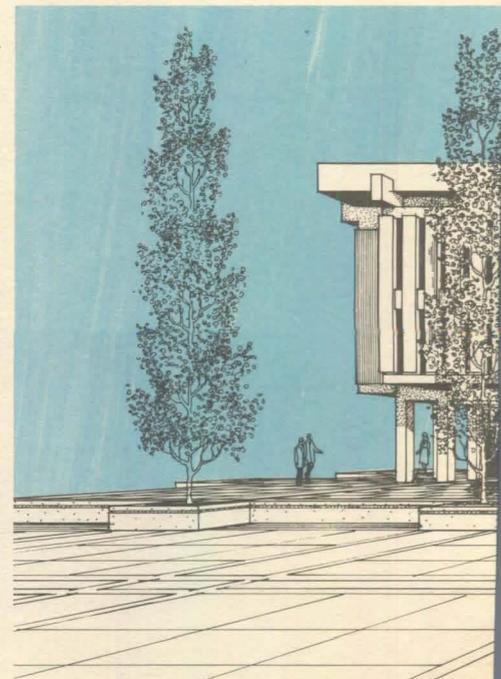
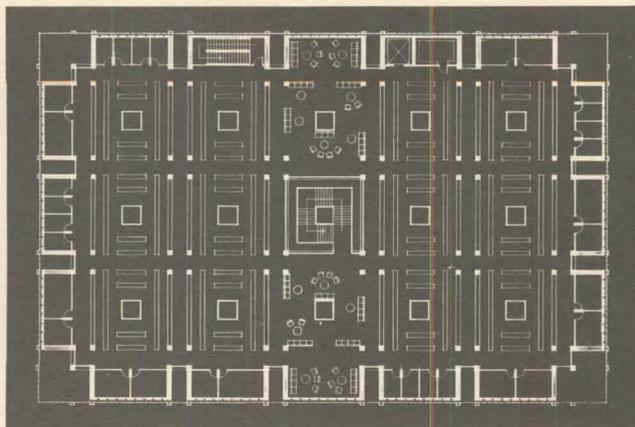
L-O-F commissioned Derthick & Henley, of Chattanooga, Tenn., to show how functionally glass can be used in library design. As you see by the drawings they met the challenge in a practical way.

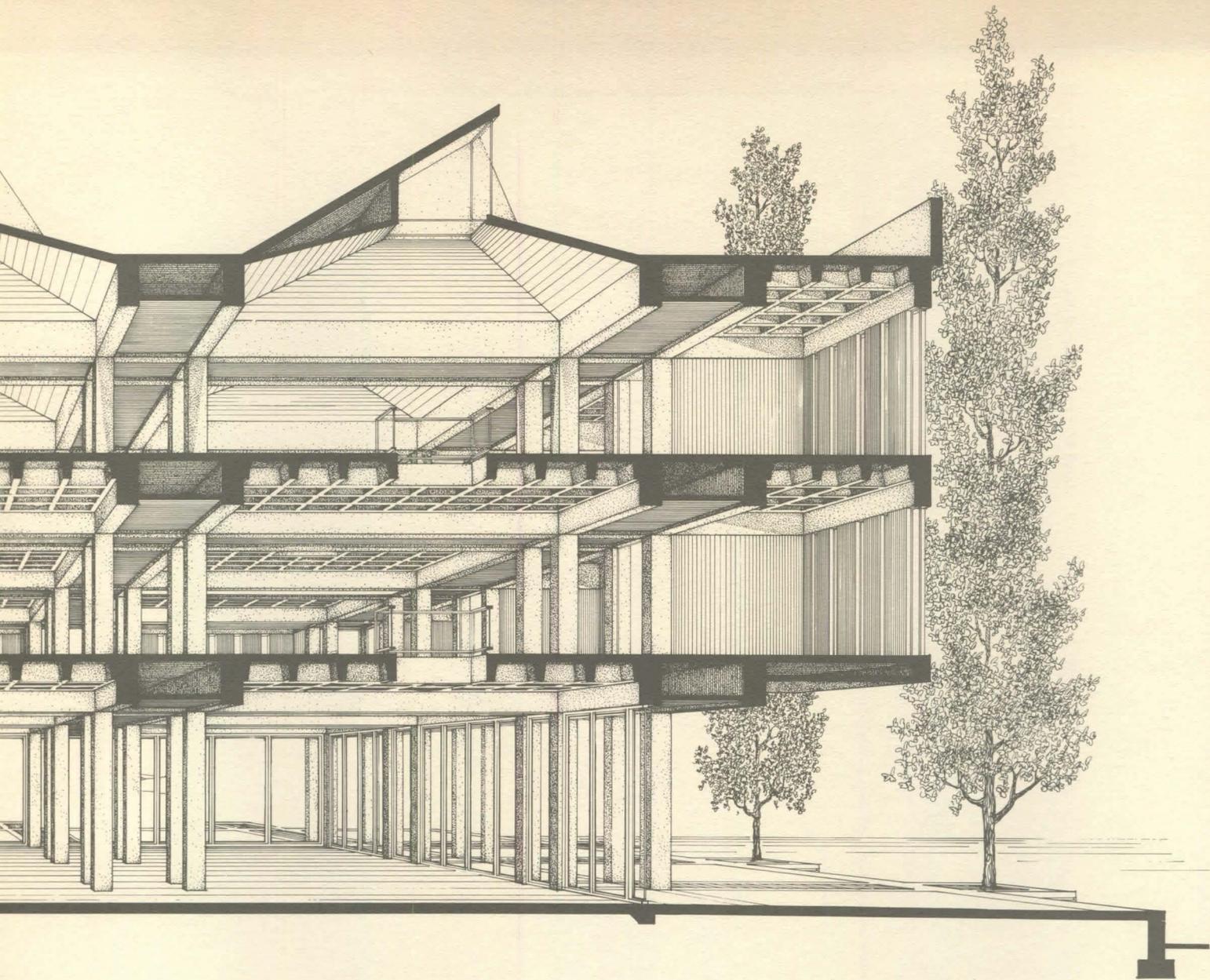




Areas on first floor: Reference; Reserve Book; Circulation; Periodical Room; Reading; Technical Processing; Catalog. Areas on upper floors: Stacks and Reading. Service areas in basement.

Double column arrangement sets up strong circulation patterns. Vistas of campus can be seen in all directions. Mechanical circulation handled between double column rows over circulation areas.







Large units of *Thermopane* insulating glass made of *Parallel-O-Bronze*® are placed at ends of all corridors. Glass-enclosed carrels and hooded skylight are also shown.

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INSULATING GLASS—*Thermopane*®
 SPANDREL Glass—*Vitrolux*®
 Vitreous colors fused to back of heat-strengthened glass
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A thousand tugging fingers **can't** turn or twist the vandal-proof fixtures from Haws deck-type receptor/fountains—**can't** pull or pry them from their locked-on position. Haws units assure dependable operation year after year . . . and they're sanitary, too, to complement today's school health programs. There are many Haws receptor/fountains in stainless steel and enameled iron to fit your needs. Ask about them. **Haws Drinking Faucet Co., 1441 Fourth Street, Berkeley, California 94710.**



Since 1909

DECK-TYPE RECEPTOR/FOUNTAINS

LETTERS

AGE AND BEAUTY

Forum: Your enthusiasm for Chicago's new Civic Center [Forum, Oct. '66], is well justified.

Two points, however, deserve more than casual observation for the benefit of those who believe, most of the time rightly, that the Forum is a bible.

The details of the perimeter enclosure include no thermal insulation of any kind. The building is air conditioned and heavily populated. Will the interior perimeter surfaces shed condensation tears for this omission, or has the problem been resolved by other means?

Age comes before beauty indeed. But was it necessary to omit a simple drip arrangement on the upper edge of the exposed steel spandrels? The uneven oxidation stains on the building will last for some time to come. Do show us another photograph when the beauty emerges.

Toronto

V. MILIC
Architect

HIGH SCHOOLS

Forum: Just after reading "Harlem's Besieged Showpiece" (Forum, Nov. '66), my eye was caught by the full-page picture of Bertrand Goldberg's Hilliard Center (also November Forum). This rooftop view suggested an inviting and delightful place where children might play, far above the familiar slums visible through the open lookouts.

If the urban "schoolhouse" could be raised higher, it might serve to lift the classroom above the everyday. One could see out and beyond, creating a new sense of scale. The site would thus be freed from the enclosing facades and suffocating streets in the immediate surroundings. As for window replacement, some would be out of range for would-be B-B pelters, slingshot shooters, and rock slingers, or at least would provide a more challenging target. The ground level should remain an open-air play space, but a much higher dimension would let in the sun and still serve as shelter for wet-day play.

When I was a teacher, the no-window concept appealed to me greatly. Now, as a librarian and editor actually working in a windowless room, I have discovered a claustrophobic element in myself not encountered before. Perhaps we all have it. Outside the buildings here is a quiet and beautiful

landscape, far different from the slums of Harlem, but somehow it is the light and sunshine and fresh air that one craves, perhaps regardless of what else is in the package.

CAROL DOTY, Editor
Morton Arboretum Quarterly

Lisle, Ill.

CITY OR TOWN?

Forum: Are you putting us on? As recent visitors to Cumberland we were surprised and distressed at the lack of serious criticism displayed by John Donat in the Cumberland article (Forum, Nov. '66).

In raising the question "Is Cumberland truly a town?" and replying, "No, it is not," Mr. Donat provides us with a journalistic effort more appropriate to the Sunday supplement than to the kind of writing we have come to expect and admire from the Forum. Unfortunately, Mr. Donat does not bless us with his definitions of a "town" or "village." Even Webster is elusive in defining these terms. But, in interviews with residents of Cumberland during three visits since 1964, we have found that they are happy with their residential "villages." Is this not significant?

Mr. Donat also raises questions concerning the concept of providing both pedestrian and automotive networks of circulation. We would take issue with this criticism. In Cumberland a reasonable choice exists between walking and driving to move from the fringe to the town center. How long the choice will remain reasonable is still to be determined. But, in "towns" of 100,000 people as we know them now, there usually does not exist a reasonable choice between driving and walking; Cumberland has at least attempted to provide such a choice. Perhaps someday the choice might be extended to include a sophisticated and convenient form of public transport.

Mr. Donat also criticizes the contrast that exists between the "town" center and the residential "villages" which surround it. We view this contrast in character as one of the most exciting aspects of Cumberland. There the opportunity exists to develop a hierarchy of character ranging from "rural" to "village" to "town" to "city." These choices occur in strong visual relation to each other because of the sloping terrain of the site. From the "town center" you can look across the

(continued on page 28)



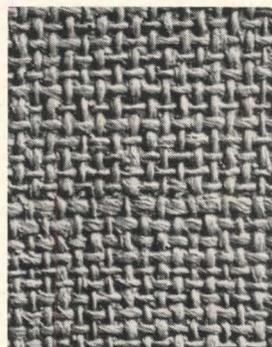
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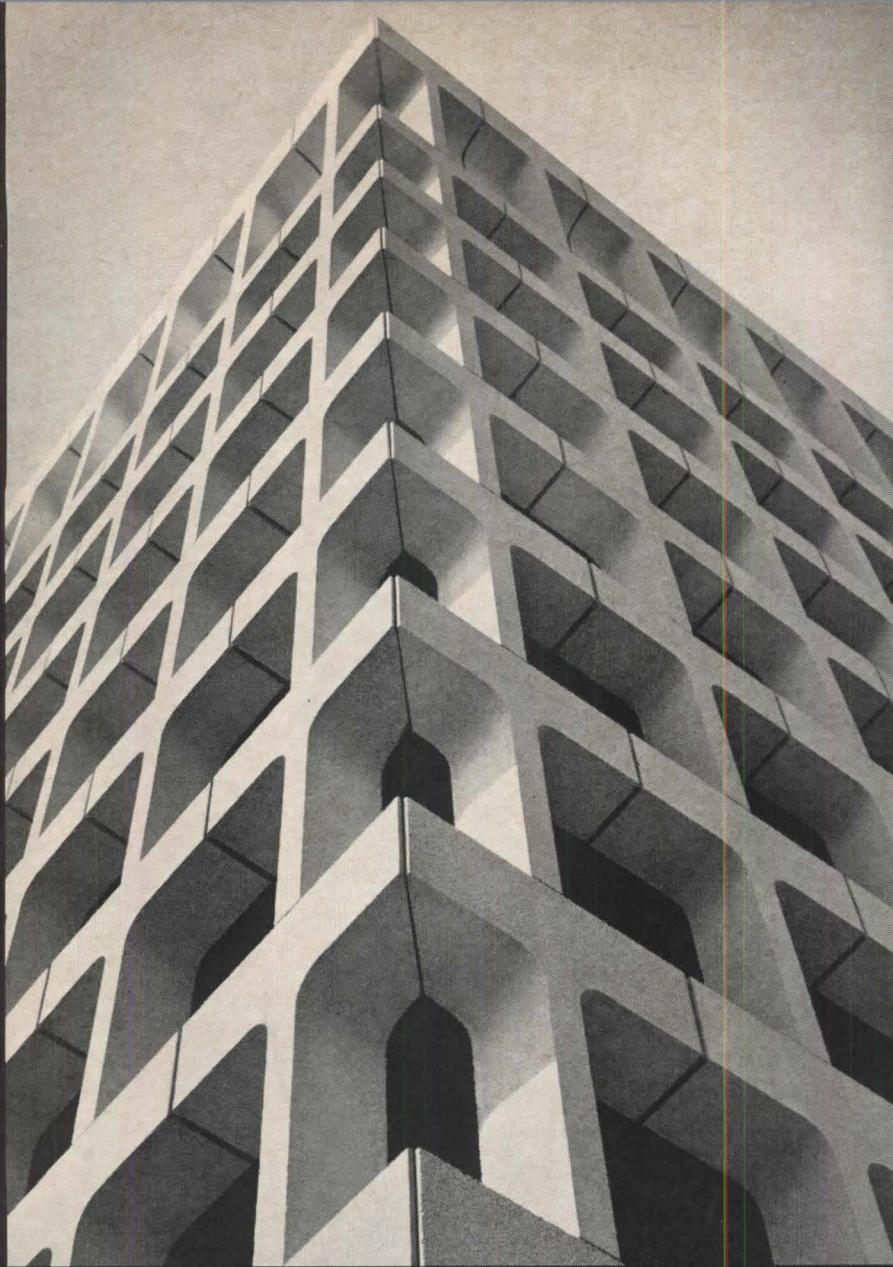
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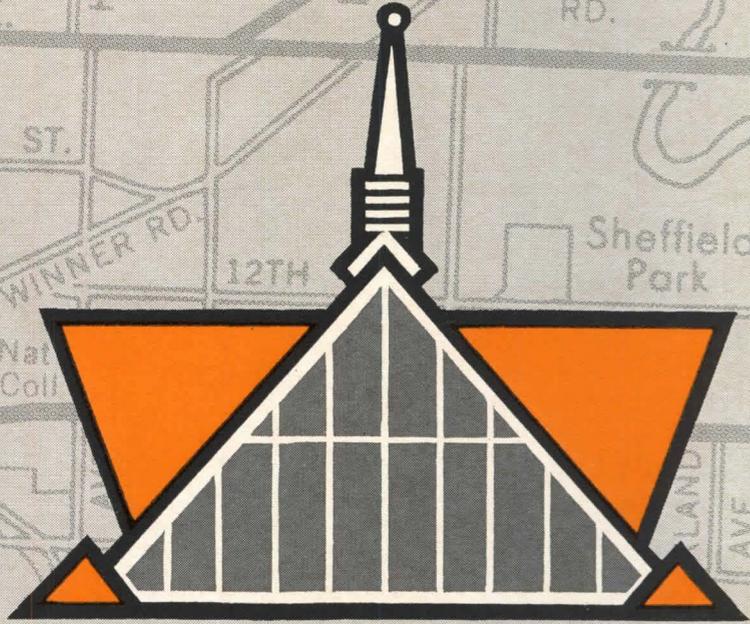
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LETTERS

(continued from page 22)

"villages" to the countryside. From the "villages" you can look up to the "town" center or across to the green hills. We thought it a civilized attempt to create a choice of environments appropriate to a city.

Certainly Cumbernauld can be criticized in many areas. Its antiquated building methods, zoning, unit heating, rent systems, services, etc. are all open to question. But Cumbernauld seems to suggest that New Towns *do* have a potential to develop a diversity of character appropriate to a city.

If Mr. Donat could only have seen Cumbernauld as giving him Trafalgar Square at his front door and Hampstead Heath at his back, he might have asked if Cumbernauld will be the first new "city" instead of an old New Town.

Our own concern is whether the next century will find Cumbernauld to be only a forgotten name-place which has been swallowed up in the Glasgow-Edinburgh megalopolitan corridor.

ROBERT M. BECKLEY, AIA
Assistant Professor of Architecture
University of Michigan
ROGER D. CLEMENCE
Associate Professor of Architecture
University of Minnesota

Forum: The price of veracity in public architecture is eternal vigilance. Let us keep the record straight: I researched, conceived, designed, and administered Cumbernauld Central Area well into the construction of the works, before leaving Scotland in 1963.

GEOFFREY COPCUTT
Visiting Andrew Mellon
Professor of Architecture and Urban Design
Carnegie Institute of Technology

FLOWERY WORDS

Forum: Far be it from me to take issue with so distinguished a group of architects as quoted in Paul Heyer's book [*Architects on Architecture*, FORUM, Nov. 1966] except that I read their words with mounting and depressing confusion. A great deal of the quotations were grand, flowery words, difficult in most cases to equate with today's architecture. Most depressing was the apparent lack of a humble view of life and living, and architecture's relation to it all. I could only conclude they left something out of their words or their work, or do not wish to express exactly how they feel; or, most distressing, do not wish to disturb things as they are!

Harsh conclusions perhaps, but no harsher than the omissions of these leaders in architecture in failing to recognize the forces facing man and his structures.

Down through history, the forces of nature and the forces invented by man have been basic elements that must be faced to make structures safe for man. . . . In the past the designer has recognized the challenges of these forces, and to a large extent has succeeded in protecting man from them. Unless the designer accepts this basic function and recognizes the forces prevalent in the world in his time, history will challenge his place in man's development.

Today are we aware of the architect's duties to his fellow man? It is not apparent in the words of our leading architects. Only one man (Weese), appears troubled and unhappy, "Man is losing touch with nature." Man may be losing touch with nature, but nature is not losing touch with man. The architect has failed to start to recognize the elemental forces of nature harnessed by man and their capabilities of destruction. And what do our architects have to say about the influence of this new force on architecture? If they have anything to say, it is not said.

For those who are familiar with the technology involved in this new force and can see a glimmer of things to be, architecture will be again exciting, exciting because it will challenge the realities of its time; and beautiful because it will provide a safe haven for man.

STEPHEN NOLAN
Architect
Morristown, N.J.

SELF-CRITICISM

Forum: Your splendid publication is, indeed, an Architectural Forum.

But I am, alas, not an architectural critic as you and most other people describe me.

Our [*Washington Post*] Paul Hume may be musical, but his profession is music critic. Our Richard Coe can on occasion be, in a most charming way, dramatic. But he is still only a drama critic.

I happen to be not the least architectural. If I were, I would have to be very critical about the way I was designed, what with a bulging midriff and a lot of features that are neither decorative nor functional.

Can we settle on the designation "architecture critic"?

WOLF VON ECKARDT
Architecture Critic
Washington, D.C.
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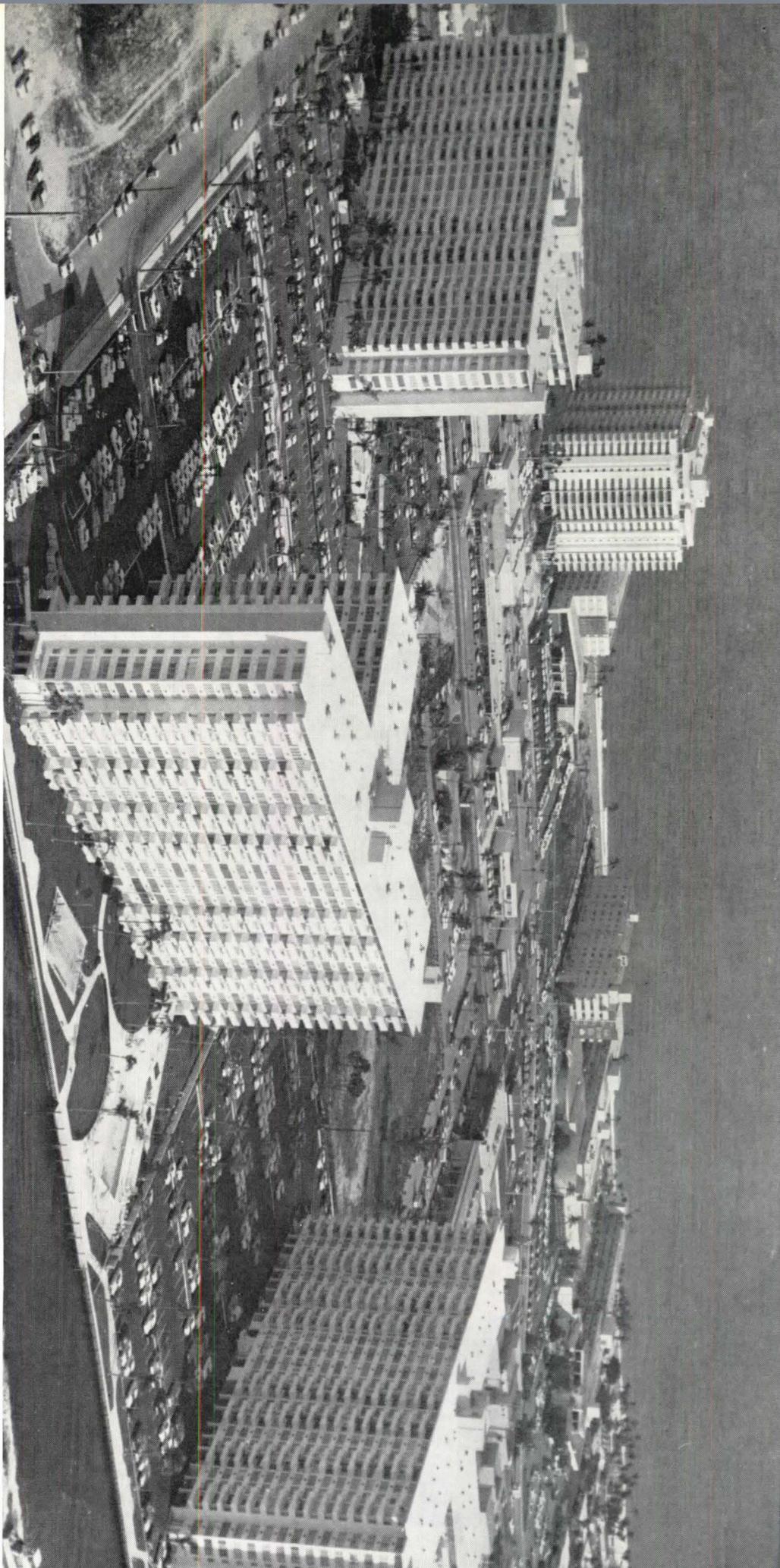
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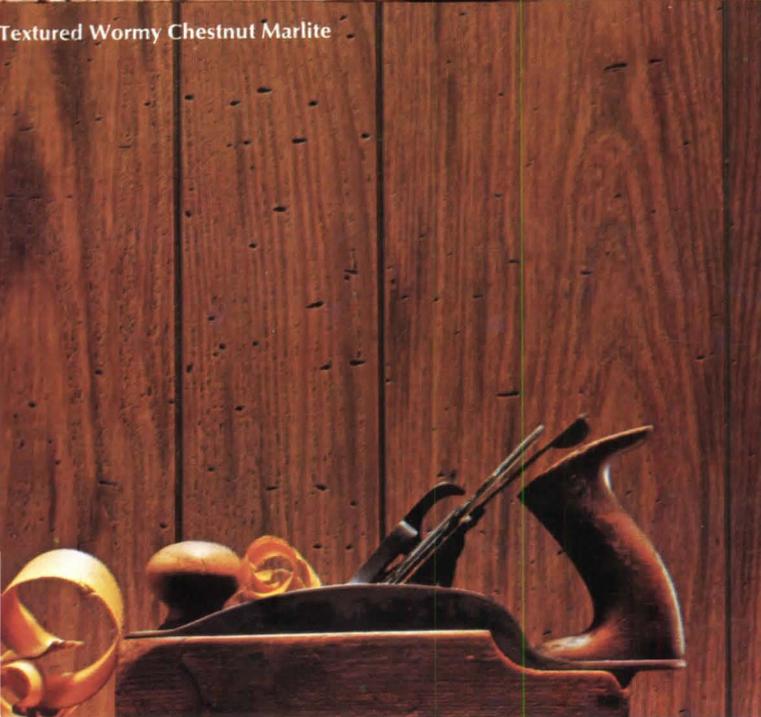




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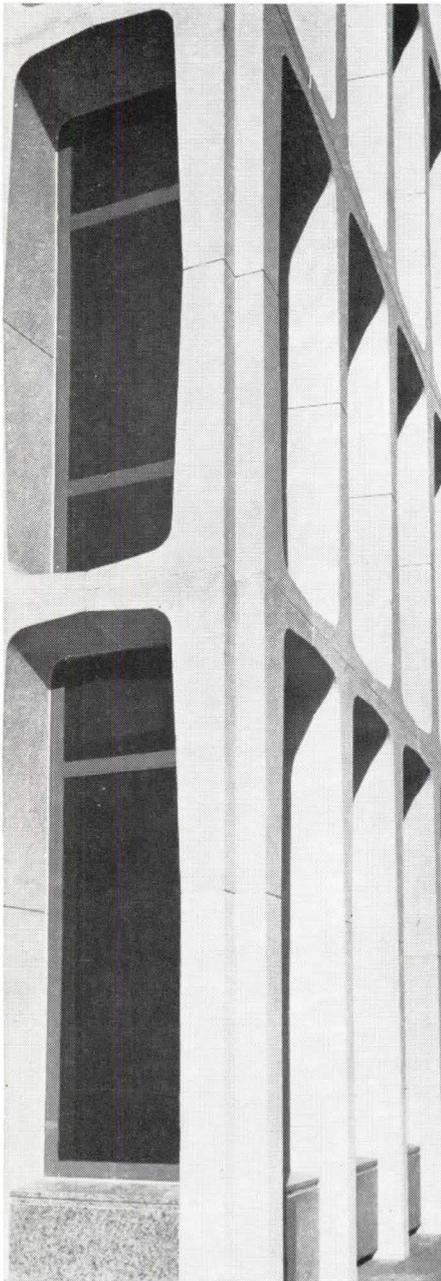


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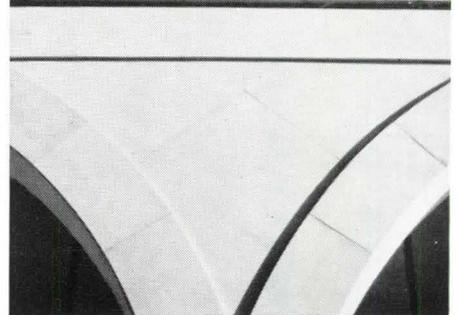
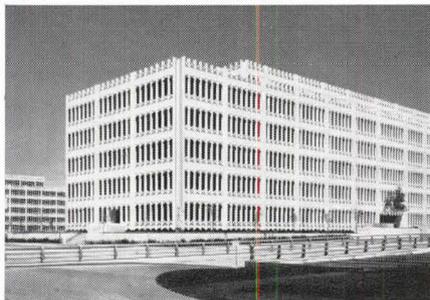
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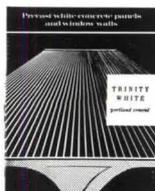
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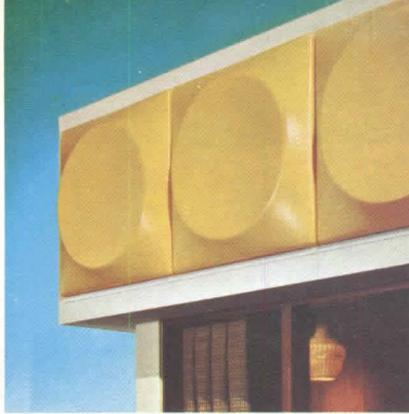


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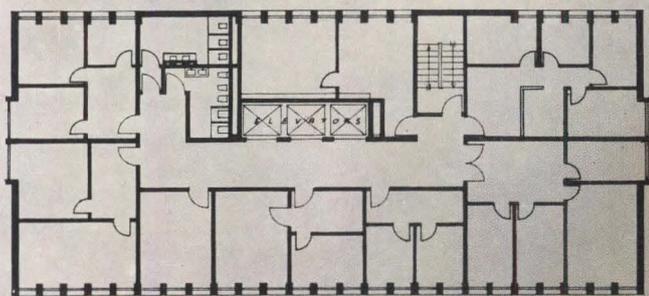
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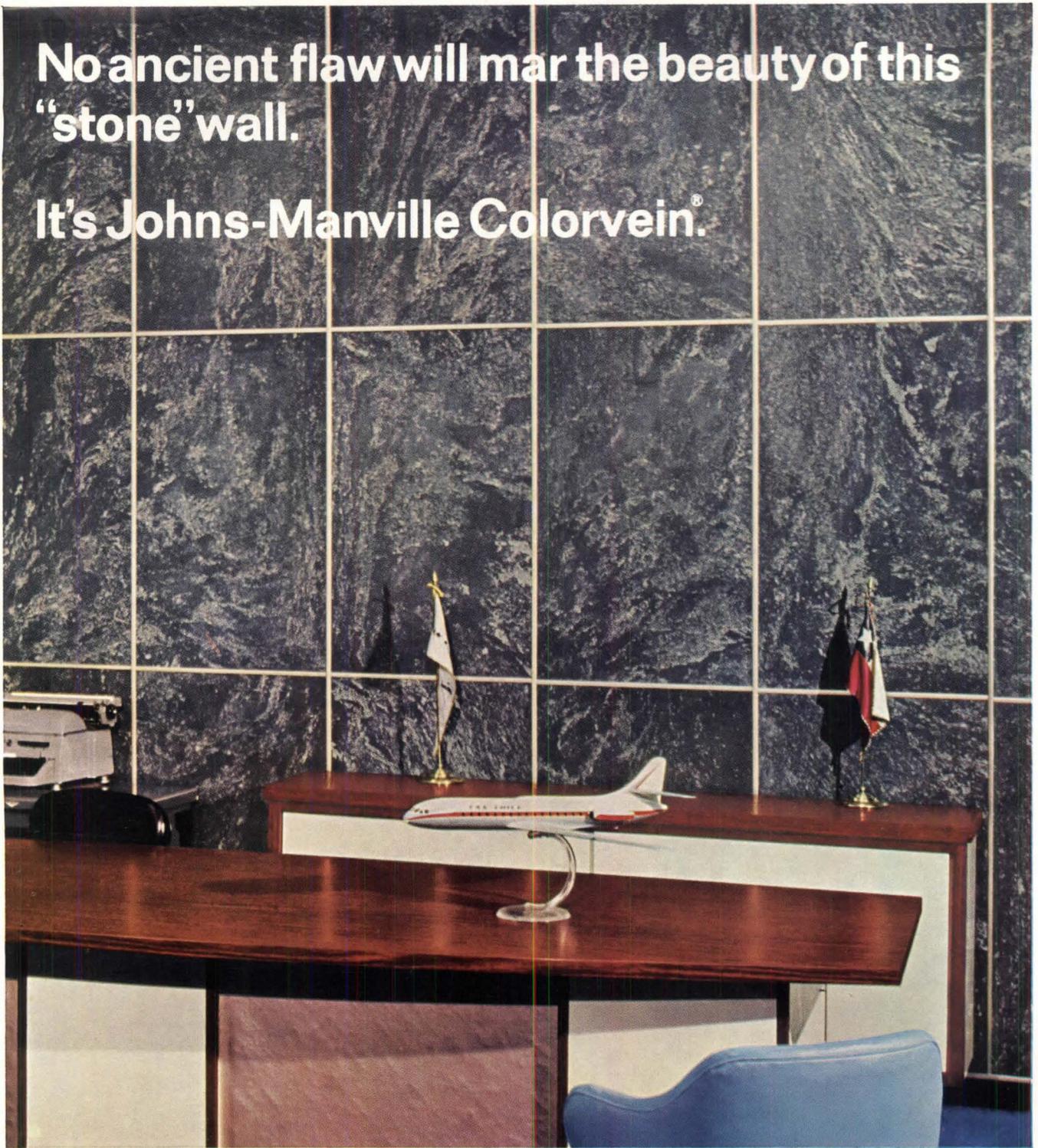
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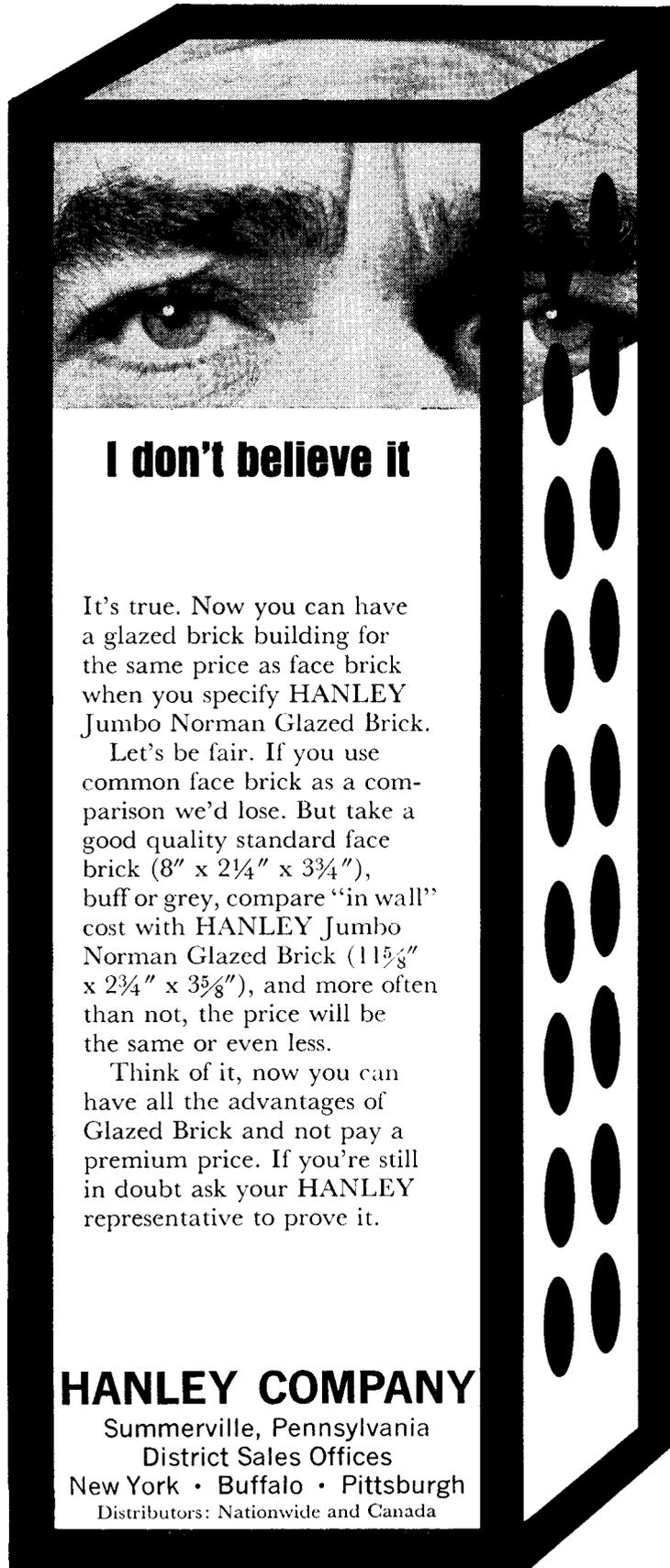
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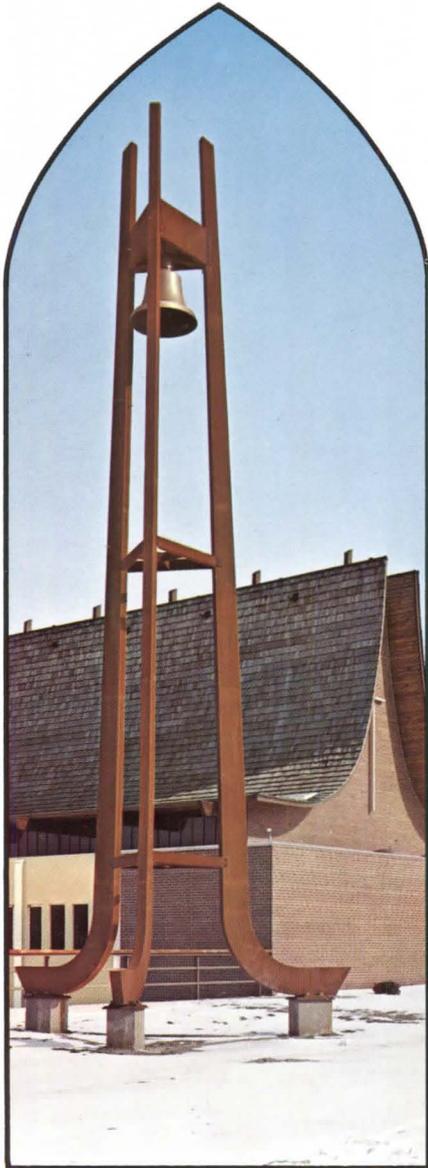
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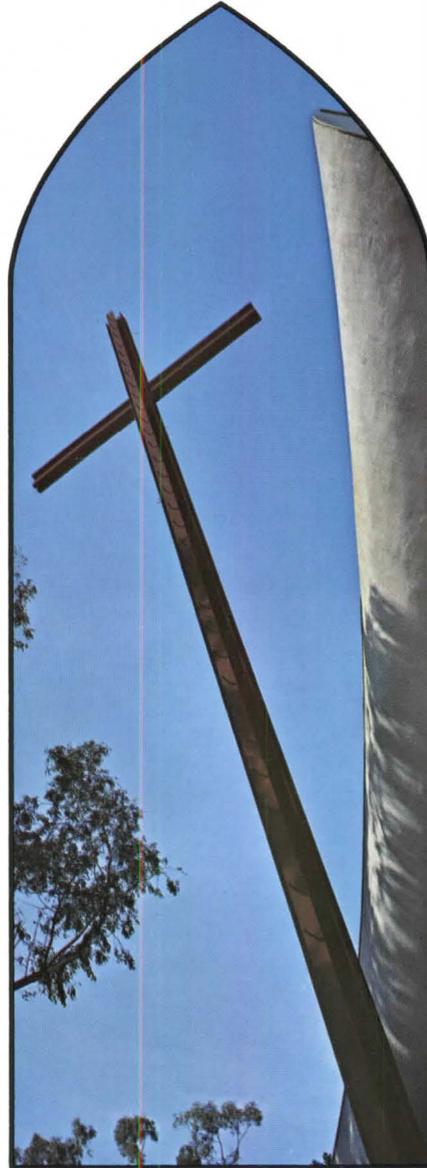
Let's be fair. If you use common face brick as a comparison we'd lose. But take a good quality standard face brick (8" x 2 $\frac{1}{4}$ " x 3 $\frac{3}{4}$ "), buff or grey, compare "in wall" cost with HANLEY Jumbo Norman Glazed Brick (11 $\frac{5}{8}$ " x 2 $\frac{3}{4}$ " x 3 $\frac{5}{8}$ "), and more often than not, the price will be the same or even less.

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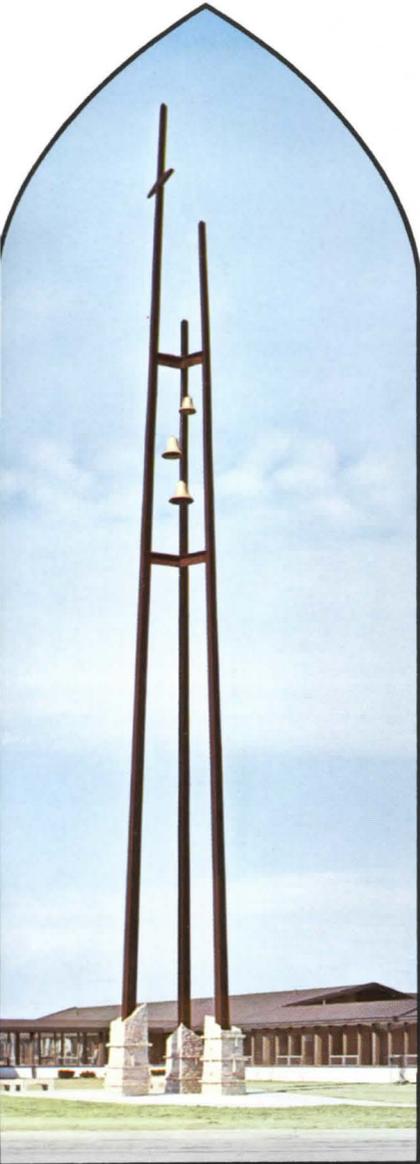
*Our Savior's Lutheran Church, Eau Claire, Wis.
Designer/Structural Fabricator: Phoenix Steel Corp.
Eau Claire, Wis.*



*Pacific Lutheran Theological Seminary, Berkeley, Cal.
Architect: Leefe & Ehrenkrantz, San Francisco, Cal.*



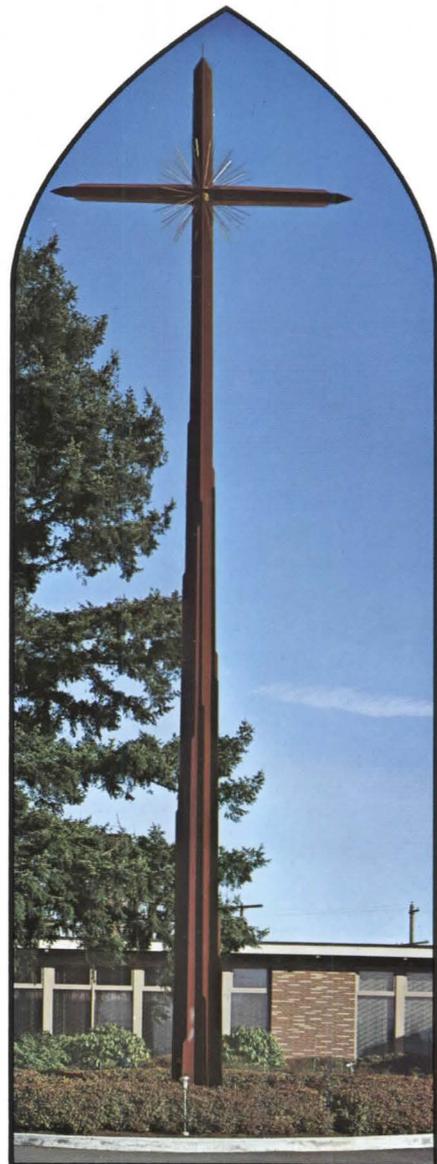
*Hockessin Methodist Church, Hockessin, Delaware
Sculptor: Charles C. Parks, Hockessin, Delaware*



*St. John's Lutheran Church, Celina, Ohio
Architect: Wright & Gilfillen, Columbus, Ohio*

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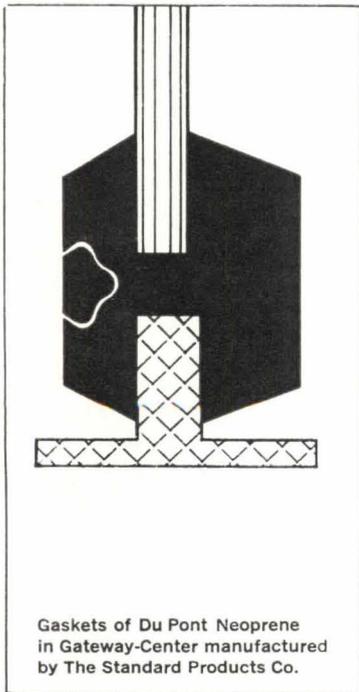
*Loyola Jesuit Retreat House, Portland, Oregon
Architect: Maloney, Herrington, Freesz and Lund,
Seattle, Washington*

USS United States Steel: where the big idea is innovation



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

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Gaskets of Du Pont Neoprene
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by The Standard Products Co.

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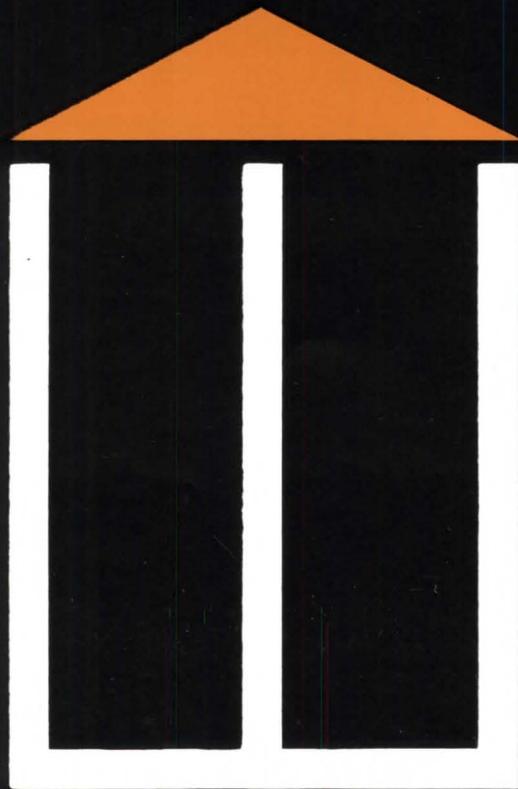
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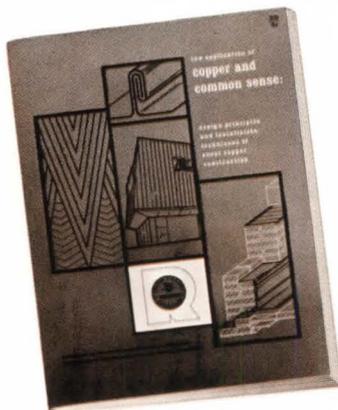




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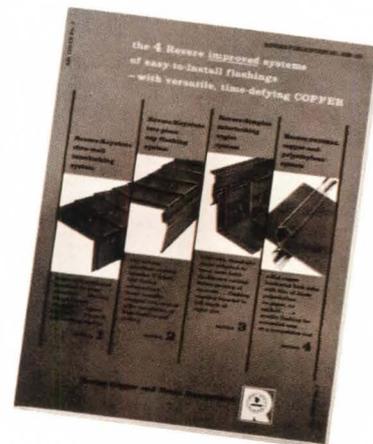
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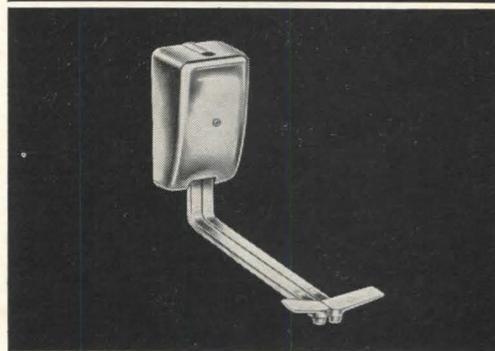
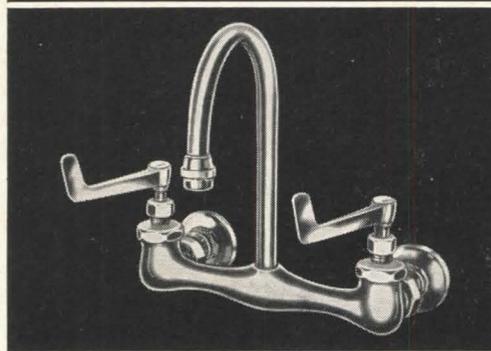
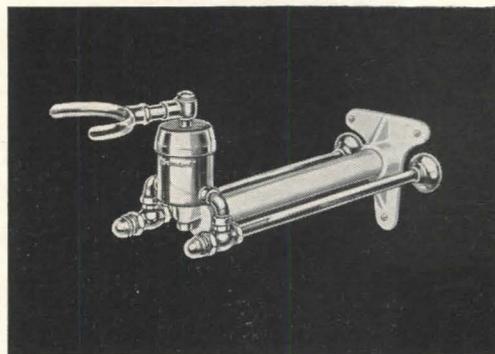
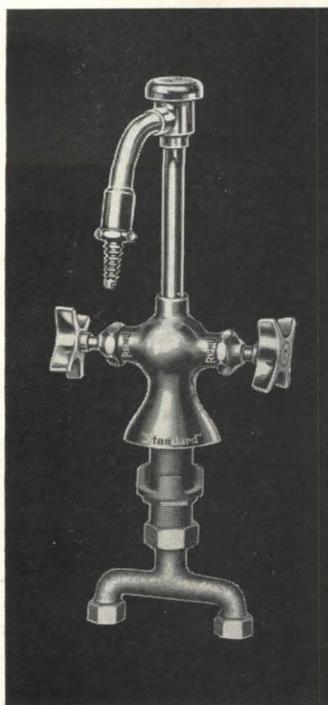
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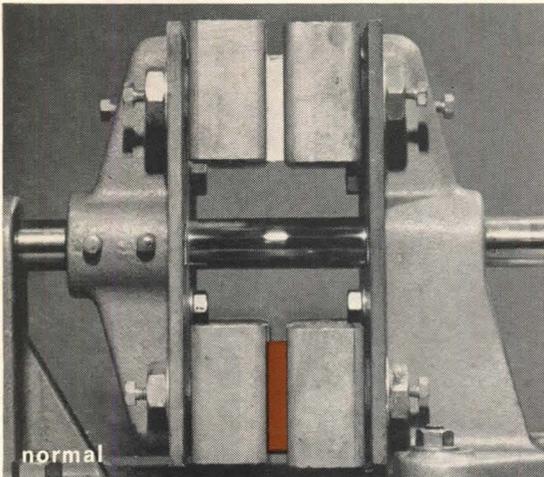
 **AMERICAN
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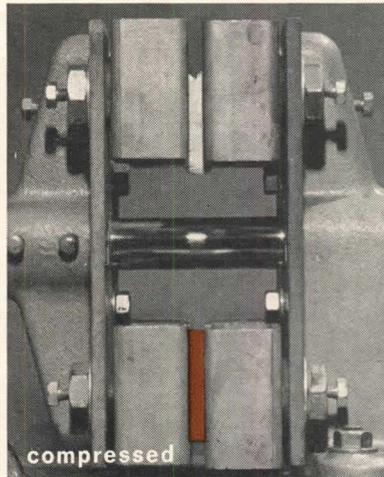
Does it make sense to use a joint sealant that can't take repeated joint movement?



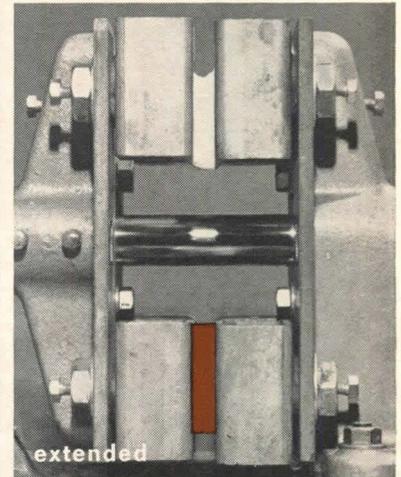
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We first met Stephen Currier a little over two years ago. We thought he was very sensitive, very gentle, very bright, and very nice.

As we came to know him better, we found that he was also extraordinarily civilized, in more ways than one: nowadays, men of wealth are not expected to be particularly scholarly; but he was a first-rate scholar in several fields. And men of wealth are not always expected to be deeply concerned about their less affluent fellow-citizens; but Stephen Currier was not only concerned—he was passionately committed to giving all he could of himself and of his family's fortune to help in the fight for social and for economic justice.

He was, also, surprisingly modest. Until quite recently, when it became necessary for him to step into the limelight to plead for a better life in our cities, few people had ever heard of him or of his wife, Audrey. The two had not wanted acclaim for their work before, and they did not want it now.

But in this short span of time when we knew them, one of the organizations which the Curriers founded and funded, Urban America, became deeply and decisively involved in so many public projects that it was impossible for them to remain anonymous: there were projects to set up "street-corner architects" in urban ghettos, projects to save public parks from the blight of bureaucratic building, projects to create new open spaces in the slum areas of Washington, D.C., projects to facilitate the construction of low-income and lower-middle-income housing throughout the U.S., projects to initiate Urban Design, Urban Policy, and Urban Information Centers in the nation's capital, projects to continue established publications in the field of architecture and of urban design (like the Forum), and to start new ones in related fields. And there were quite a few other projects that *did* escape public notice.

Stephen Currier was extraordinarily modest, also, with regard to his own accomplishments. Although his expert advice was sought by parks



commissioners (he knew more about horticulture than most landscape architects), by transportation experts, by social workers in settlement houses, and by the First Lady of the land on matters pertaining to the civic arts, he invariably returned the compliment by seeking the views of those who came to him. He was an expert, too, at listening—a rare quality.

Two years ago, when Stephen Currier, through Urban America, acquired The Architectural Forum, he took us aside and said: "I will never, I promise, tell you what to publish. But—please—try to get into trouble at least once a month!"

Throughout these two years, when we began to know him not as a benefactor, but as a very dear friend, Stephen Currier never, at any time, tried to change our style or our views. We are sure that we sometimes embarrassed him; but he never told us so—he always seemed delighted, in the end, that he had given us that one mandate.

This past Christmas, he sent us a little note. It said: "Your success . . . is just short of a miracle. . . . The Architectural Forum again demonstrates to me that the fullest use of our funds is made only when we manage to get the resources in the hands of people who are truly competent, inspired, and dedicated."

We are glad that he was proud of the Forum and we hope he knew that we were very proud of him.

This month, The Architectural Forum, which Stephen and Audrey Currier saved and revitalized in 1965, is 75 years old. If we do not appear too senile despite our age, this is due, in great part, to the youthful enthusiasm that the Curriers brought to us.

—THE EDITORS

The Coast Guard announced on January 24 that it was suspending its active search for the plane in which Mr. and Mrs. Stephen Currier and their pilot were lost a week earlier between San Juan, Puerto Rico and St. Thomas, Virgin Islands.

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FORUM

THE MAN FROM N.C.A.R.B.

Last month, on the "Footnote" page of this magazine, there appeared an enlargement of a small-print declaration that has been distributed by the National Council of Architectural Registration Boards (NCARB).

This declaration must be signed, each year, by any architect wishing to retain his NCARB standing (and, thus, a part of his livelihood), and its wording seemed, to put it very mildly, just a bit out of keeping with the spirit and the letter of the Bill of Rights.

Unhappily, the NCARB seems insensitive to the issues involved. Those who have refused to sign away their basic rights as Americans and as free men, are being told, in routine letters, that their "report form" is unacceptable to NCARB, and that NCARB will not continue their certificate in good standing.

The man from NCARB then encloses a copy of a letter from NCARB's attorney, who takes the trouble of spelling out very patiently what the initial declaration spelled out just as clearly in the first place.

The attorney explains that the most offensive paragraph in the mandatory NCARB declaration (the fourth one) "is meant for the protection of the Board in its role of investigator and reporter." That paragraph renders any informer, however malicious, immune even to confrontation.

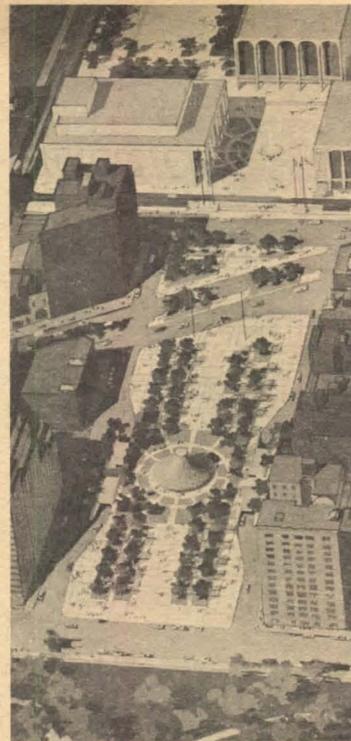
The NCARB attorney's concern for "the protection of the Board in its role of investigator and reporter" is understandable and touching. Even more understandable would be the concern of the architectural profession for the protection of thousands of its members whose "moral character" and "reputation" are to be investigated and reported on in secrecy, and who are forced to forfeit the right to face and challenge any accuser, however mendacious.

BIG PLANS

THE GREATER GLORY

Wrapping \$166 million in travertine makes an impressive package, but Lincoln Center somehow lacks that final flourish that could make it the Angkor Wat of the

West. To top it off appropriately, Mayor Lindsay is considering a plan (author anonymous) to turn the block east of the center, separating it from Central Park, in-



to a formal mall (above). Half of this block is already cleared for a proposed New York Academy of Sciences, but a few things remain in the way—things like the 12-story West Side YMCA, the New York Society for Ethical Culture, and the two private schools attached to them.

One eminent New York architect has since proposed an alternative plan, which surely deserves equal consideration by Mayor Lindsay. He suggests building a mall from the YMCA west to the Hudson, and tearing down everything in its path.

CITIES

A YEAR'S DIFFERENCE

President Johnson's longest State of the Union address contained the briefest of references to the problems of American cities.

"We should transform our decaying slums into places of decency through the landmark model cities program," said the President. "I intend to seek for this effort the full amount Congress authorized this year."

Later, the President said, "We should call upon the genius of private industry and the most advanced technology to help rebuild our cities." It was an ob-

vious, if unspecific, reference to the Comsat-type urban development proposals that have been under study in recent months (a complete report on these proposals begins on page 60).

And that was all the President had to say about cities.

Republicans, sensing a vacuum, quickly moved to fill it with proposals of their own. Twenty-four of the 36 Republican Senators released a statement attacking Mr. Johnson for dismissing urban problems in "three terse sentences" which showed "no imagination, no creativity, no bold thinking."

The statement backed the proposal by freshman Senator Charles Percy for a national home ownership foundation that would rehabilitate slum dwellings and sell them to the poor (see page 140). An even more drastic Republican proposal, introduced in both the Senate and House, was a tax-sharing plan under which an eventual 2 per cent of Federal tax revenues would be automatically returned to the states, and through them to cities.

The 24 Republican senators called for an immediate national effort "to win the war against slums." The rhetoric had a familiar ring. It sounded for all the world like the President's own State of the Union message of 1966. A year of foreign war, tightening credit, and Republican successes at the polls can make a great deal of difference in Presidential oratory.

ACTION SPEAKS LOUDER

Two weeks after the State of the Union message came the President's fiscal 1968 budget. It made clear that, in the field of urban affairs, this was the year that Mr. Johnson's actions outstripped his words. Rather than the cutback that some had feared, the budget for HUD called for an increase of nearly a billion dollars.

As promised, the President requested the full amount authorized for model cities: \$12 million for planning grants, \$400 million to begin actual demonstration programs, and an extra \$250 million in urban renewal project funds for model cities. Normal urban renewal outlays would continue, in addition, at roughly their present \$800 million-plus level.

Some nervousness had resulted from the President's failure to mention rent supplements in his State of the Union address. But the budget called for the full \$40 million authorized for the next

fiscal year, enough for 44,500 subsidized units. The budget also contained funds for 65,000 units of low-rent public housing.

The largest program expansion would be for "urban research and technology," from \$500,000 this fiscal year to \$20 million next. Its major objective would be reduction of housing costs.

AWARDS

FAREWELL GIFTS

The first Governor's Design Awards for California were presented at year's end to 77 projects which "create new standards of excellence for the entire community." One of outgoing Governor Edmund G. Brown's last official acts, the awards program was distinguished by the sure-handedness of the jury (chairman: Nathaniel Owings) and by the breadth of the projects premiated.

The 13 "awards of exceptional distinction" went to familiar modern landmarks such as the Salk Institute by Louis Kahn (May '65 issue), the Oakland Museum by Kevin Roche John Dinkeloo & Associates (Nov. '66), the SCS D program (Apr. '65), and Ghirardelli Square (Sept. '65).

Others among the 77 ranged widely in scale and nature, from an



Governor Brown expressed hope that the awards would be carried on by the new state administration. But the program may not interest Governor Ronald Reagan. After all, two awards went to the suspect University of California.

REFORMED HONORS

Starting this year, the AIA will try a pilot reform of its honor awards program to assure that someone actually sees every building premiated. The reforms followed mounting criticism from the FORUM and others that an awards program based solely on photographs was meaningless.

The Commission on Architectural Design will solicit on-the-spot evaluations of "selected entries" from local chapters. The chapter-critics will use a checklist developed by the Committee on Esthetics, which suggested the procedure.

Just how the entries would be selected for evaluation was left unexplained, but the AIA said that in 1968 the method would be extended to all. Also, this year the AIA will abandon its distinction between honor and merit awards, and give only honor awards.

AIA'S CHOICE

In January, the American Institute of Architects announced that the Gold Medal, its highest honor, will be awarded this year to Wallace K. Harrison. The AIA cited Harrison for "his demonstrated ability to lead a team in producing significant architectural works of high quality over a period of more than 30 years" and

for "the highest order of architectural statesmanship."

PRIORITIES

MOON MEN

One of the favorite plights of urbanists—that the nation spends far more on getting men to the moon than it does on the condition of life in earth-bound cities—apparently is beginning to rankle Washington. James E. Webb, administrator of the National Aeronautics and Space Administration, journeyed to Las Vegas to defend the moon program before the National League of Cities, and brought along an astronaut, Captain James S. Lovell, to help out.

The League's resolutions committee, in the course of drafting an appeal for more urban aid, had noted—but not attacked—the fact that the lunar exploration program would cost, in all, \$70 billion. Webb objected to the figure, and attempted to point out that the contributions of NASA research to the cities could be considerable.

Detroit's Mayor Jerome P. Cavanagh, outgoing president of the League, shot back a press release saying, in part, that "Mr. Webb's remarks about the secondary benefits of the space program were interesting, but a bit thin when compared to the urgency of a Molotov cocktail thrown by an angry man in a ghetto." The nation's mayors, Cavanagh said, do not seek to "short circuit the space program. We are only seek-

ing . . . to underscore the fact that at the moment conquering space has a higher priority than conquering slums."

As passed by the League, the resolution called for "a national commitment for the rebirth of the American city" by 1976, the nation's 200th anniversary, on the scale of the commitment to the moon program.

INS & OUTS

REVIEWING REGULATIONS

President Johnson has appointed a 15-member national commission to conduct a sweeping review of building codes, zoning laws, and tax policies affecting development.

Chairman of the commission will be former Senator Paul H. Douglas, a fact which, HUD officials explained, indicated the importance the White House attached to the study. Members include Architects Lewis Davis, Ezra Ehrenkrantz, Jeh Johnson, and Chloethiel Woodard Smith.

The study was first proposed in the President's 1965 message on cities. Congress approved it last year, and appropriated \$1.5 million of the \$3 million requested.

A report is expected in 15 months. HUD Secretary Weaver suggested that one item on the commission's agenda would be the possibility of a national performance code for building construction.

NOW THERE ARE TWO

Since June, HUD Secretary Weaver has had an adviser for design in the person of San Francisco Architect George T. Rockrise. Now Weaver has a consultant as well: Ralph J. Warburton, chief of planning for SOM-Chicago.

Warburton is largely responsible for the Chicago Central Area Lakefront Development Plan which SOM and C. F. Murphy Associates completed last year (Nov. '66 issue). According to Weaver, he will "work closely" with Rockrise on "matters relating to program policy, review, evaluation, operations, and liaison with professional, academic, development, and research organizations."

SEEKING ADVICE

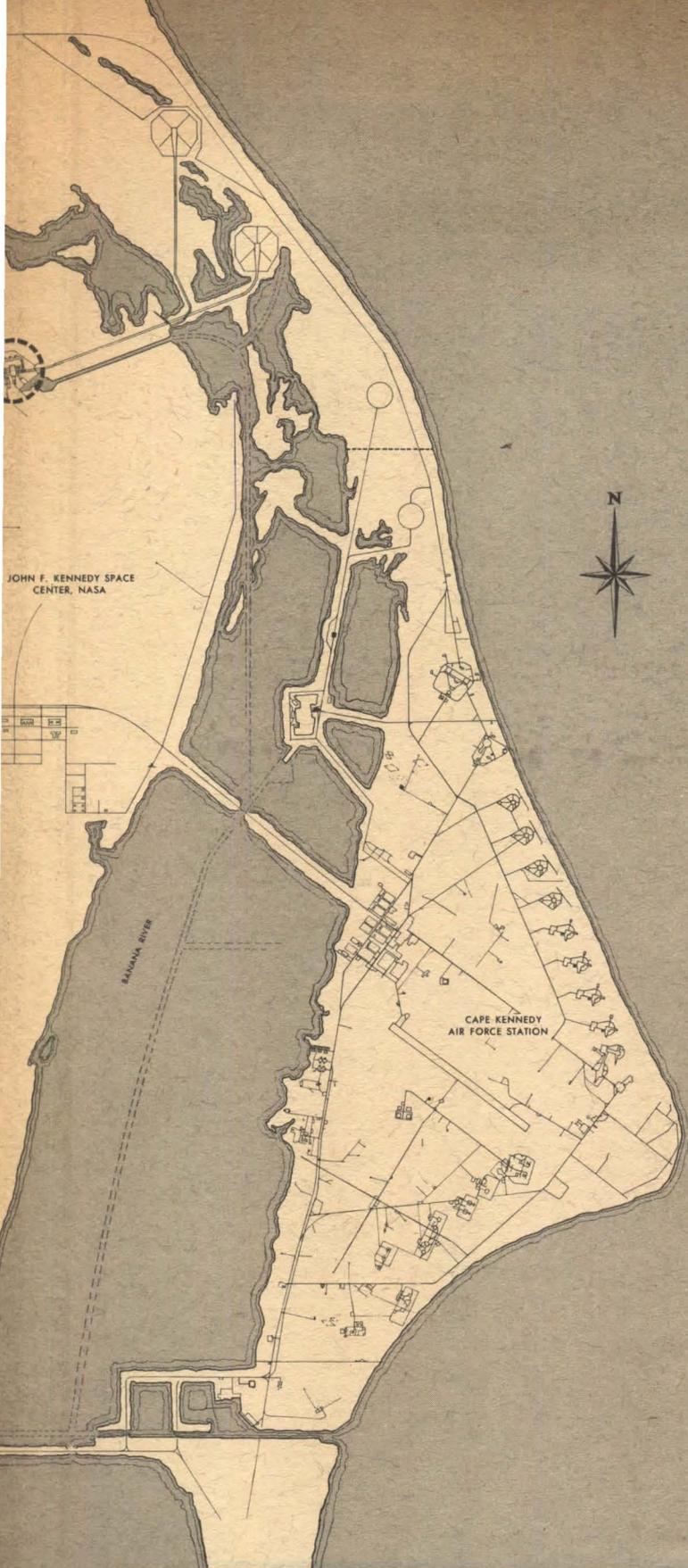
Saying that he needed the counsel of "the best minds that this nation can offer," HUD Sec-

(continued on page 109)



Orange Julius refreshment stand by Maynard Lyndon (above) to a state highway interchange in Santa Monica (top right) to a fireplug in the new town of Foster City by James Levorsen (below).





CAPE KENNEDY

Our fantastic space center off the coast of Florida is full of implications for a new architecture and a new urban technology

It is a breathtaking sight: a 100,000-acre set for a Fellini movie. Dead flat, with red steel gantries lined up like giant robots on the horizon. There is no scale: the huge new Vehicle Assembly Building (VAB) is first seen from 14 miles away, looking no larger than an electric toaster. VAB is, in fact, by far the biggest building in the world—130 million cubic feet of space, more than the Empire State and the Chicago Merchandise Mart combined!

If you were to put the Seagram Building on wheels, you could roll it into the VAB. Actually, you could park *four* Seagram Buildings inside the Assembly Building; and you could then roll in another half dozen Pepsi-Cola Buildings, if you were so inclined.

Everything at Cape Kennedy is on this order of magnitude and of fantasy. There are structures the size of 30-story apartment buildings that move on wheels. There are prefabricated workshops and labs that are hoisted into position, plugged into prepared services, and removed again when no longer needed. There are platforms the size of half a city block that move across the landscape. There are entire floors that slide out like great steel trays, and slide back again into a pocket when they have served their purpose. And there are enough other gadgets and gimmicks to make today's science fiction writers sound like the Brothers Grimm.

Much has been said and written about the Apollo program—its technical problems, its enormous cost, its ultimate purpose and value.

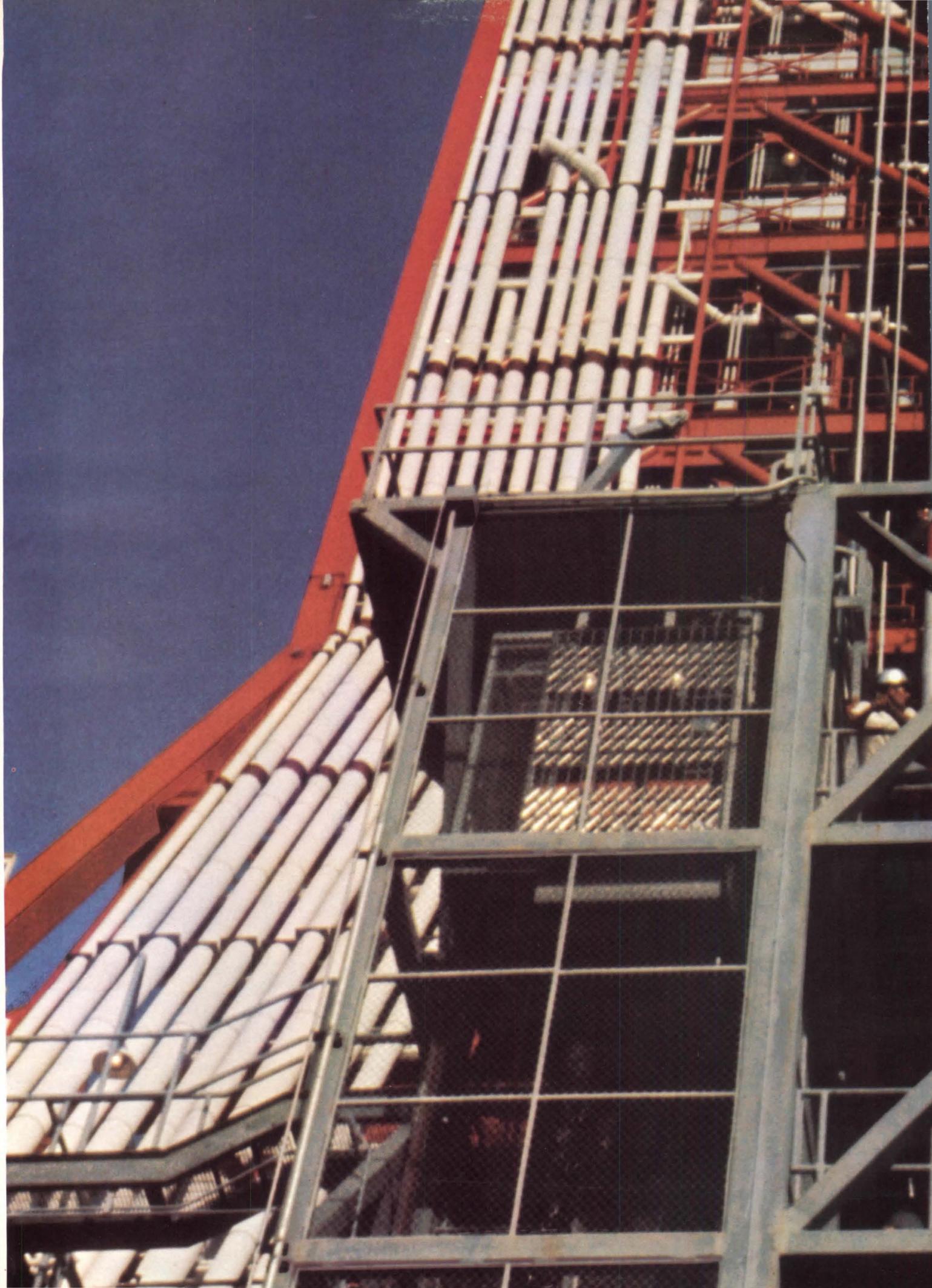
The story on these pages is not concerned with the pros and cons of the program. A good case can be made against this program if it forces the abandonment of other, more important plans. As New York's Mayor John Lindsay put it recently: "I would not want [us] described by future generations as a society that stood amidst the filth, the oppression and the violence of the slums, and shot rockets at the moon."

Without glossing over such objections, one should perhaps consider some of the other aspects of what is being achieved at Cape Kennedy, not only in terms of far-out building technology, as suggested above, but also in terms of programming and planning.

For the techniques developed by NASA for its particular mission may also be applicable to the sort of planning that is needed to deal with urgent problems here on earth. And the staggering achievements at Cape Kennedy and in related installations elsewhere suggest that this country is capable of similar achievements in the attack on urban problems—provided there is a clear objective, and a full commitment.

Left: Map of Kennedy Space Center and related facilities. Smaller launching complexes are spaced along 20-mile-long Atlantic coastline. Pads 39 A and 39 B, from which Apollo/Saturn V lunar exploration vehicles will be launched, are located at the northern end of the coastal strip. More than 3 miles inland from these pads is the huge Vehicle Assembly Building (circled). Right: Man's-eye view of Mobile Launcher (ML) attached to Saturn V rocket. The ML's tower is 400 ft. tall and 40 ft. square. It is mounted on a mobile platform

that measures 135 ft. by 160 ft. The tower contains 17 high stories, two elevators, all pipes and cables necessary to service, fuel and launch the Saturn V. Just before blast-off, the bridges that service the rocket at various levels swing back. The ML weighs 11 million lbs., and it moves at a maximum speed of 2 mph. A Mobile Service Structure (not shown here), a mere 400 ft. tall, moves up to the rocket from the other side, and is withdrawn before blast-off. Both mobile towers are moved on Crawler-Transporters (see pp. 56-57).





CAPE KENNEDY

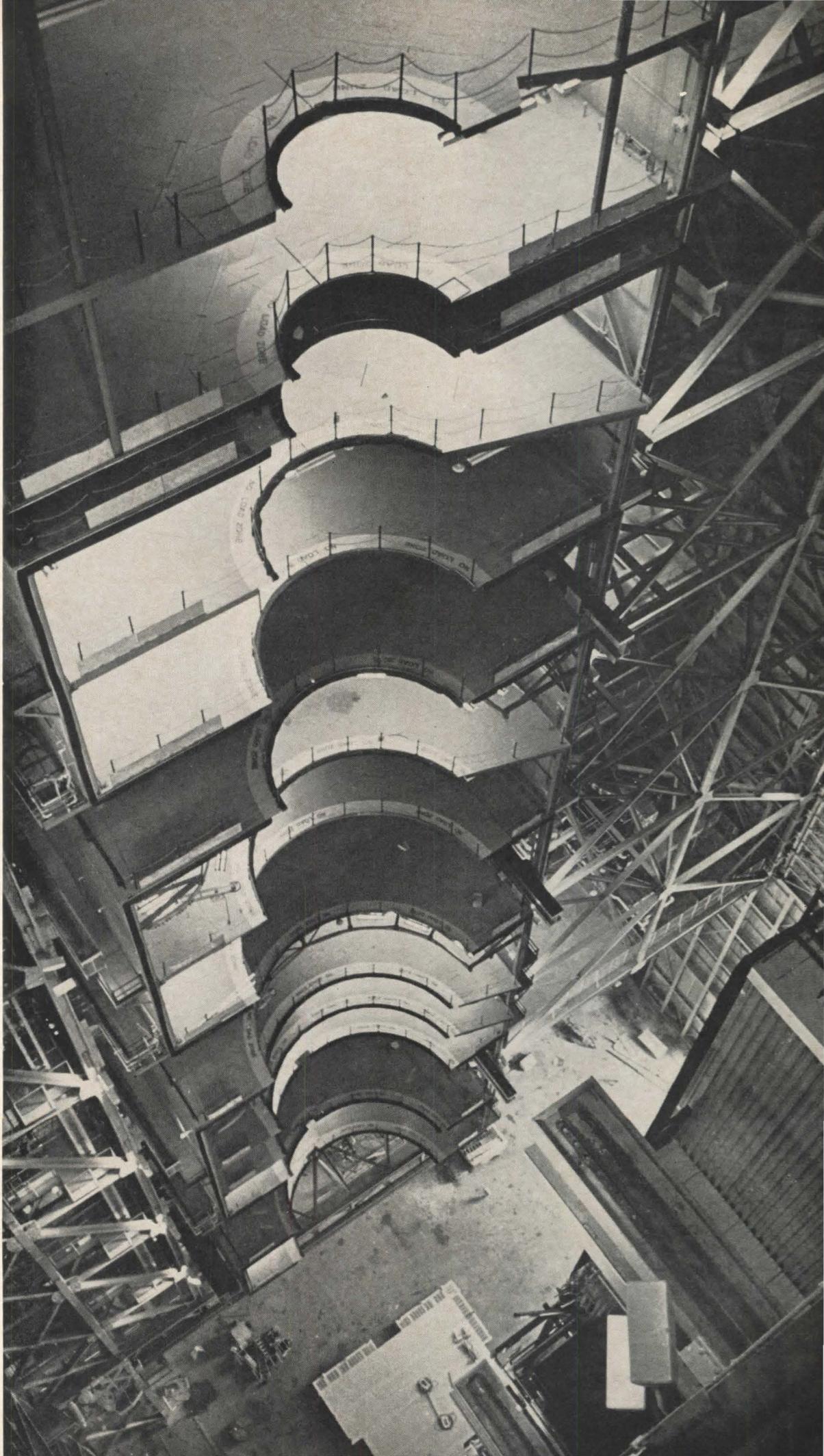
THE V.A.B.

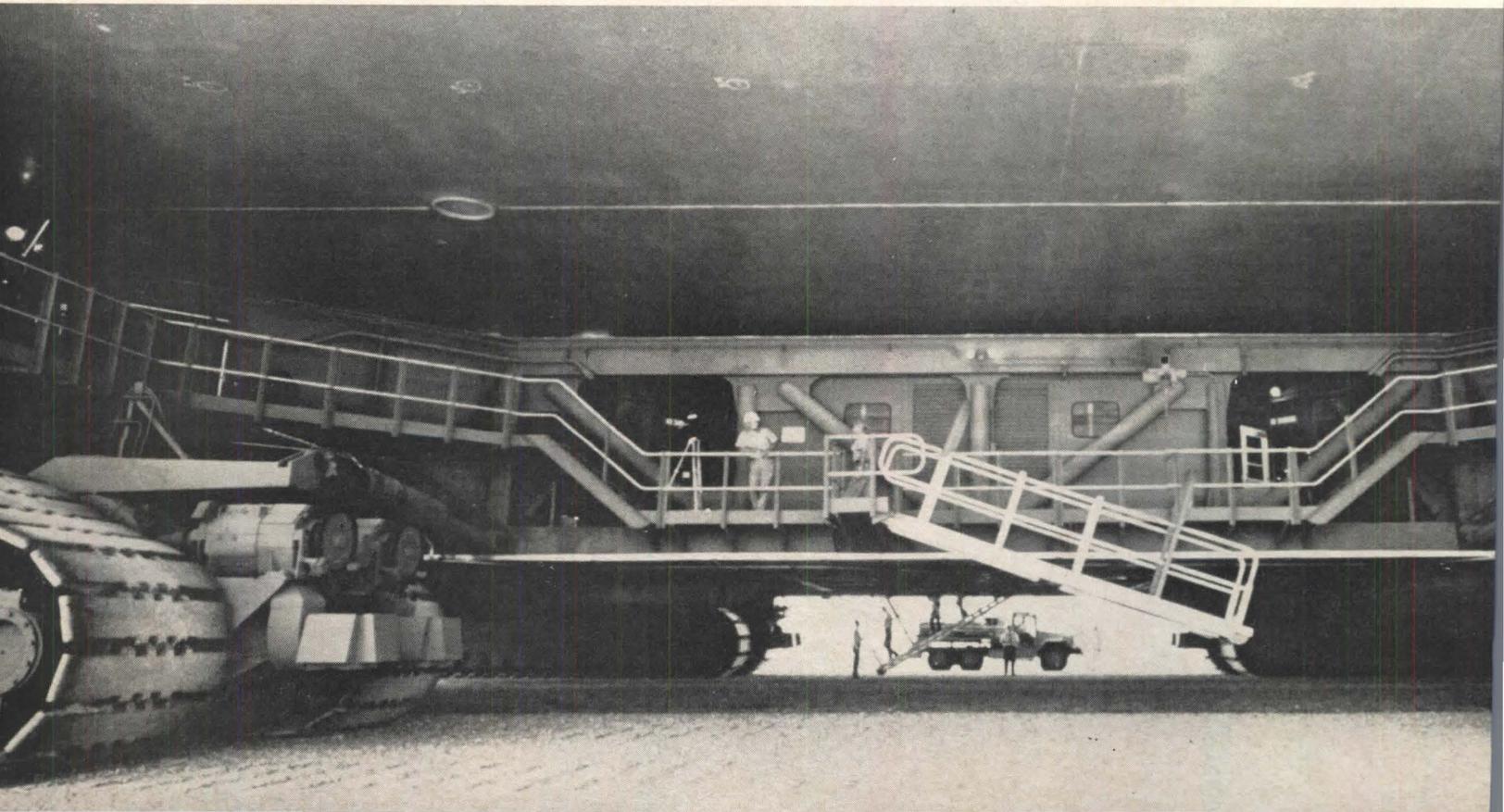
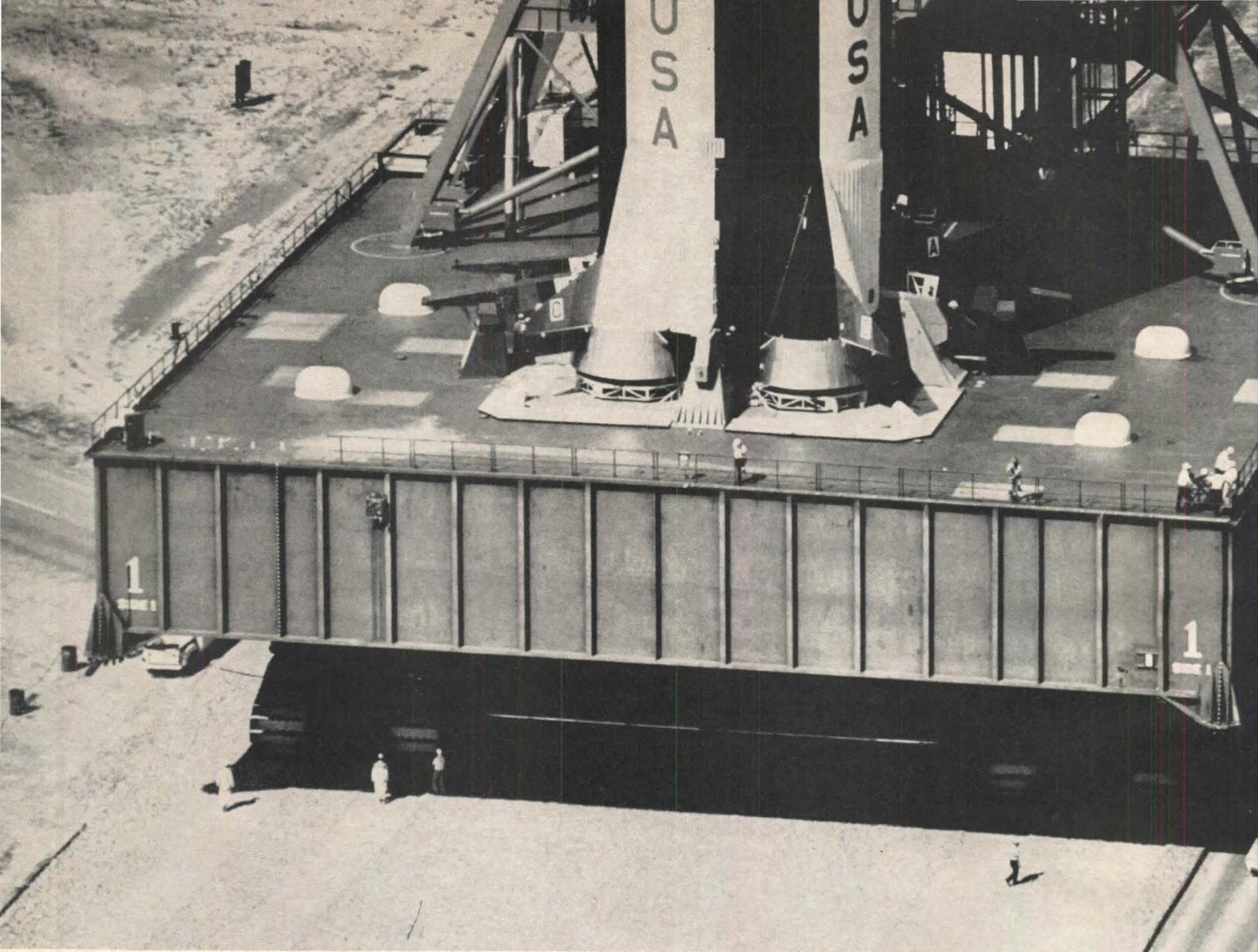
It is the biggest garage in the world—indeed, the biggest building in the world. The Vehicle Assembly Building is, in fact, so vast that clouds sometimes form inside it, and it may rain indoors.

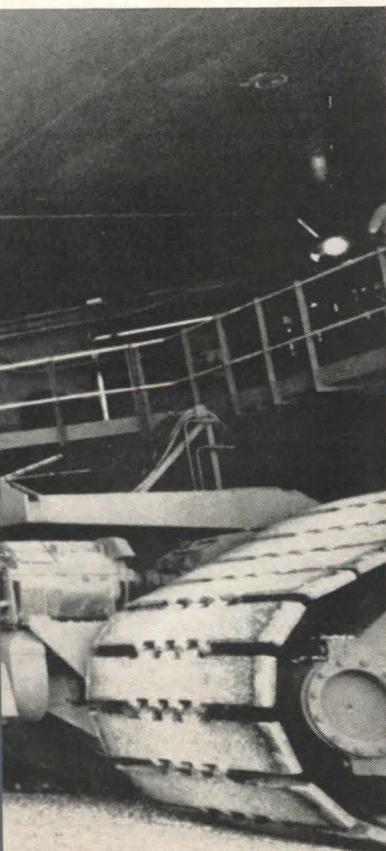
The VAB is in two parts: the high bay structure, which will house, simultaneously, four Saturn V's on their Mobile Launchers; and the low bay structure, which can take care of eight upper stages of the space vehicle.

To enter the high bay area, Mobile Launchers roll their complete Saturn V's through "garage doors" that slide vertically to provide an opening 70 feet wide and about 500 feet high (see view at left). Once inside, the space vehicle is moved into position in its bay, and large steel trays with semicircular cut-outs close in on it from two sides to form complete working floors around any portion of the vehicle. Prefabricated, trailer-type workshops may be placed on these sliding floors to assist in the servicing of the vehicle. (Actually, some of the movable trays are two or three stories high, and each of those upper stories can be adjusted vertically to the desired level.) There are 52 stories in the high bay area, and some of them are visible in the view at right. The engineering quality of the VAB borders on the miraculous: although there were few opportunities to cross-brace the structure, it will sway less than 12 inches in a 125 mph hurricane!

Left: Mobile Launcher being rolled into VAB. Below: The VAB, with the 7-story Launch Control Center in the foreground. Right: One of the four high bays inside the VAB.







CAPE KENNEDY

THE C.-T.

The two-story-high platform being moved, slowly but steadily, on a special, 7-foot-thick roadbed at Cape Kennedy (left) is about the size of the Seagram Plaza. It weighs 10.6 million pounds, and it is carried on something known as a Crawler-Transporter (C-T). This platform is only one of several mobile structures employed in the Lunar Program.

Not long ago, two young British architects of the Archigram group—Ron Herron and Bryan Harvey—came up with a fantastic design for a "Walking City." Nobody took them seriously.

It is unlikely that the engineers who designed the various movable structures at Cape Kennedy ever heard of the Archigram group; indeed, the idea of a Walking City would probably horrify them. Yet these engineers have designed and constructed precisely what Herron and Harvey predicted: they have built a couple of dozen structures, some the height of 40-story office buildings, that move serenely across the flat landscape at Cape Kennedy—and up and down a few slopes as well.

The Walking City that is an accomplished fact at Cape Kennedy employs two basic types of mobile structures. The first is a service tower that moves on rails. A good example of the rail-born structure is the 310-foot-tall service tower used to assemble and check out the uprated Saturn I space vehicle. This particular service structure contains four elevators, seven fixed work plat-

forms, eight enclosed platforms that can be extended out to the Saturn I from the tower proper. (The structure is, in fact, a twin tower, and the space vehicle is set up between its two sections). The floor-to-floor dimensions between work platforms is unusually large—hence the relatively small number of floors. This rail-mounted service structure is, of course, as tall as a 30-story apartment building, and contains at least as many services as a normal apartment house of this size would contain. (For a close-up view of this rail-mounted structure, see p. 59).

The second type of movable structure employed in Cape Kennedy's Walking City uses the Crawler-Transporter referred to above. The C-T is only the chassis, as it were; it measures about 114 feet by 130 feet, and moves on four double-tracked crawlers, each 10 foot high and 40 feet long (photo, lower left). The height of the C-T is adjustable from 20 feet to 26 feet.

When the Mobile Launcher (ML) is ready to move, a C-T slips under it. (The ML has its own support pedestals which keep it in an elevated position in the VAB or on the launch site.) The C-T's hydraulic jacks then raise the ML off its support pedestals, and slowly carry the huge platform, with both its 400-foot tower and the Saturn V space vehicle, to the launch site—or back into the VAB. When the C-T is in motion and carrying its load, it is, in effect, a building complex almost 450 feet tall, overall, covering an area about the size of half a city block. The C-T does 2 mph without its load, 1 mph with it—not bad for a Walking City.

Top left: Close-up view of the Mobile Launcher's base platform, which measures 135 ft. by 160 ft. by 25 ft. deep. The platform is of welded steel plate and contains two workshop floors. The Saturn V is fired from this platform. Bottom left: Pedestrian's view of part of the Crawler-Transporter. Note size of human figures in these two photos. Right: Bird's-eye views of Seagram Building and of Mobile Launcher reproduced at same scale.



THE GAP

At left are shown some of the better known examples of "visionary architecture" recently proposed in various parts of the world; and at right is a detail of the 310-foot-tall mobile structure that services the uprated Saturn I on Complex 34 at Cape Kennedy.

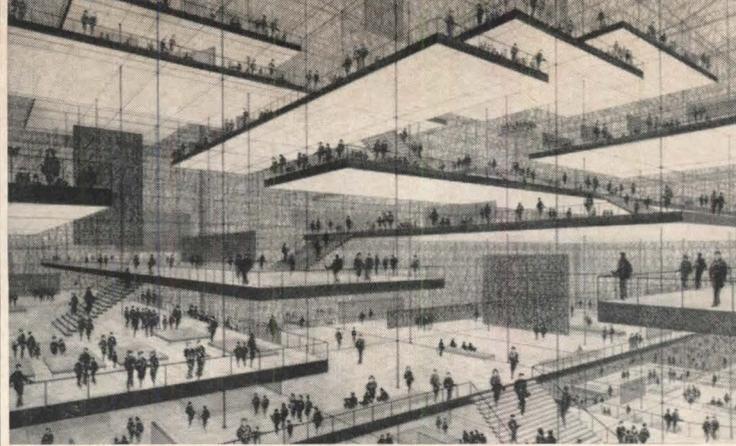
This juxtaposition of so-called visionary architecture and the accomplishments of the engineers of the space program demonstrates a serious gap between even the farthest-out fantasies of architects and the reality accepted daily in advanced, non-building technology.

To cite a few examples: the tower at right, as suggested earlier, is the partial realization of the Walking City fantasy advanced by the Archigram group; it is, also, the partial realization of the Plug-in City vision by the same designers. Indeed, all of Cape Kennedy, with its 40-odd launching complexes connected by and to utility lines; with its mobile towers that plug into those utility lines; and with its prefabricated workshops that are, in turn, plugged into the services contained in these mobile towers; all this adds up to a 100,000-acre Plug-in City that is a visible reality today.

FACTS AND FIGURES

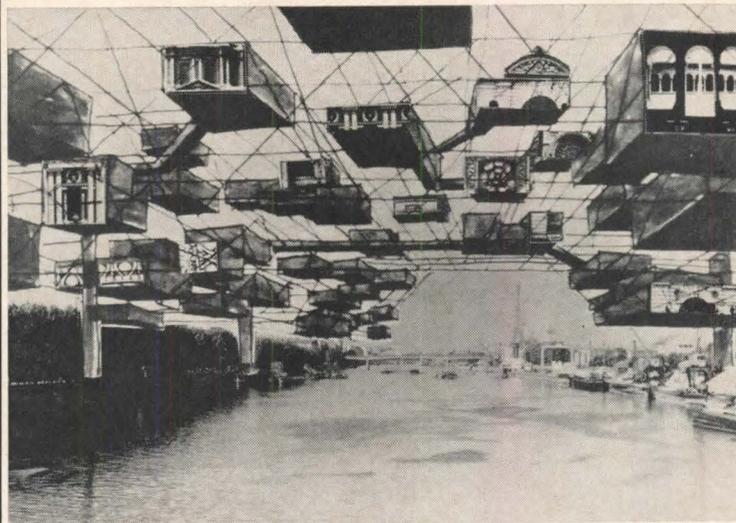
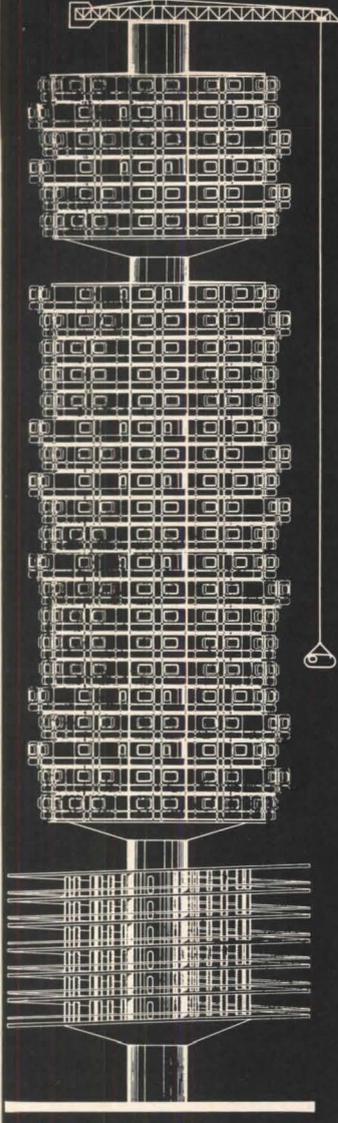
John F. Kennedy Space Center, Florida. Operated by the National Aeronautics and Space Administration. Among the many architects and engineers involved in its design were: Max O. Urbahn (planning & architectural); Roberts & Schaefer Co. (structural); Seelye Stevenson Value & Knecht (mechanical, electrical, civil); and Moran, Proctor, Mueser & Rutledge (foundation engineering). This team designed the VAB. Giffels & Rossetti, Inc., were retained to design several related installations; and other consultants worked with the U.S. Army Engineers and with NASA to develop additional structures—both fixed and mobile.

PHOTOGRAPHS: Pages 51 and 59, Peter Blake. Page 54, St. Louis Post Dispatch (Black Star). Page 55, right, Norman Matheny (Christian Science Monitor); left, NASA. Page 56, upper, Arthur Witman; lower, Yale Joel, Life, ©Time Inc. Page 57, left, Jane Doggett/Malcolm Smith; right, Yale Joel.



Left: Warren Chalk's "Capsule-Unit Tower" is a centrally supported structure, which is then filled with prefabricated apartment "capsules" of varying size, but similar shape. Chalk operates out of London.

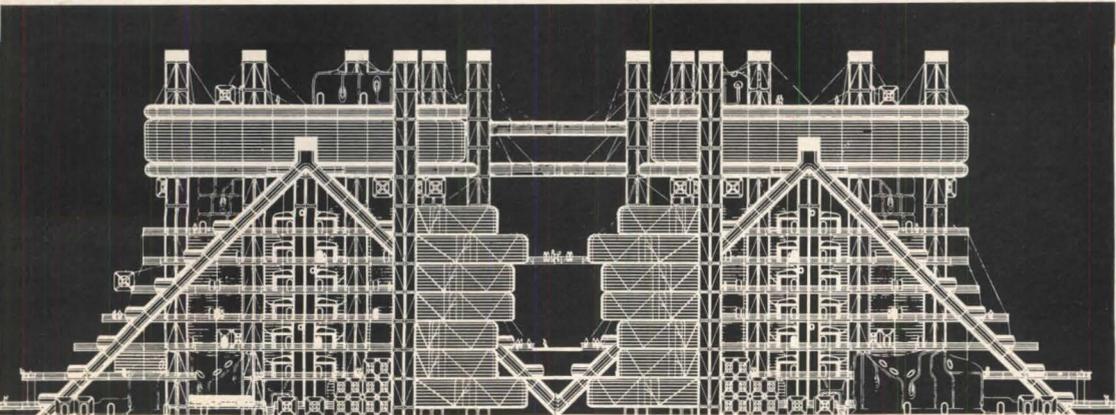
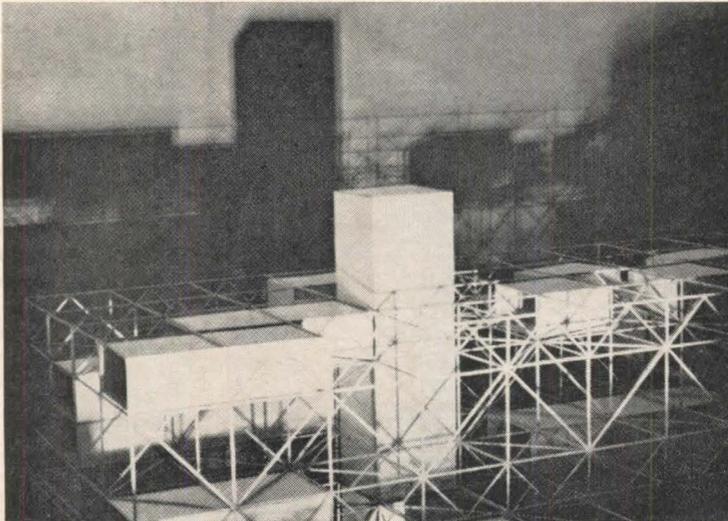
Above: Conrad Roland Lehmann's project for a huge exhibition hall, with suspended platforms, is reminiscent of the interiors of the VAB. Lehmann has worked in Chicago, now practices in Berlin.



Above: Yona Friedman has lectured in the U.S. and works in Paris, where he has designed numerous, city-sized space-frame structures that are meant to span rivers, boulevards, and whole urban neighborhoods.

Left: Eckhard Schulze-Fielitz designed this space-frame structure to house prefabricated classrooms, lecture halls, and other facilities for the University of Bochum, in West Germany. Schulze-Fielitz lives in Essen.

Below: Detail of Peter Cook's proposal for a "Plug-In University." Prefabricated boxes (containing study areas, etc.) would be inserted into giant structure, and plugged into "Brain Silos." Diagonal tubes contain elevators. Cook belongs to the Archigram crowd.



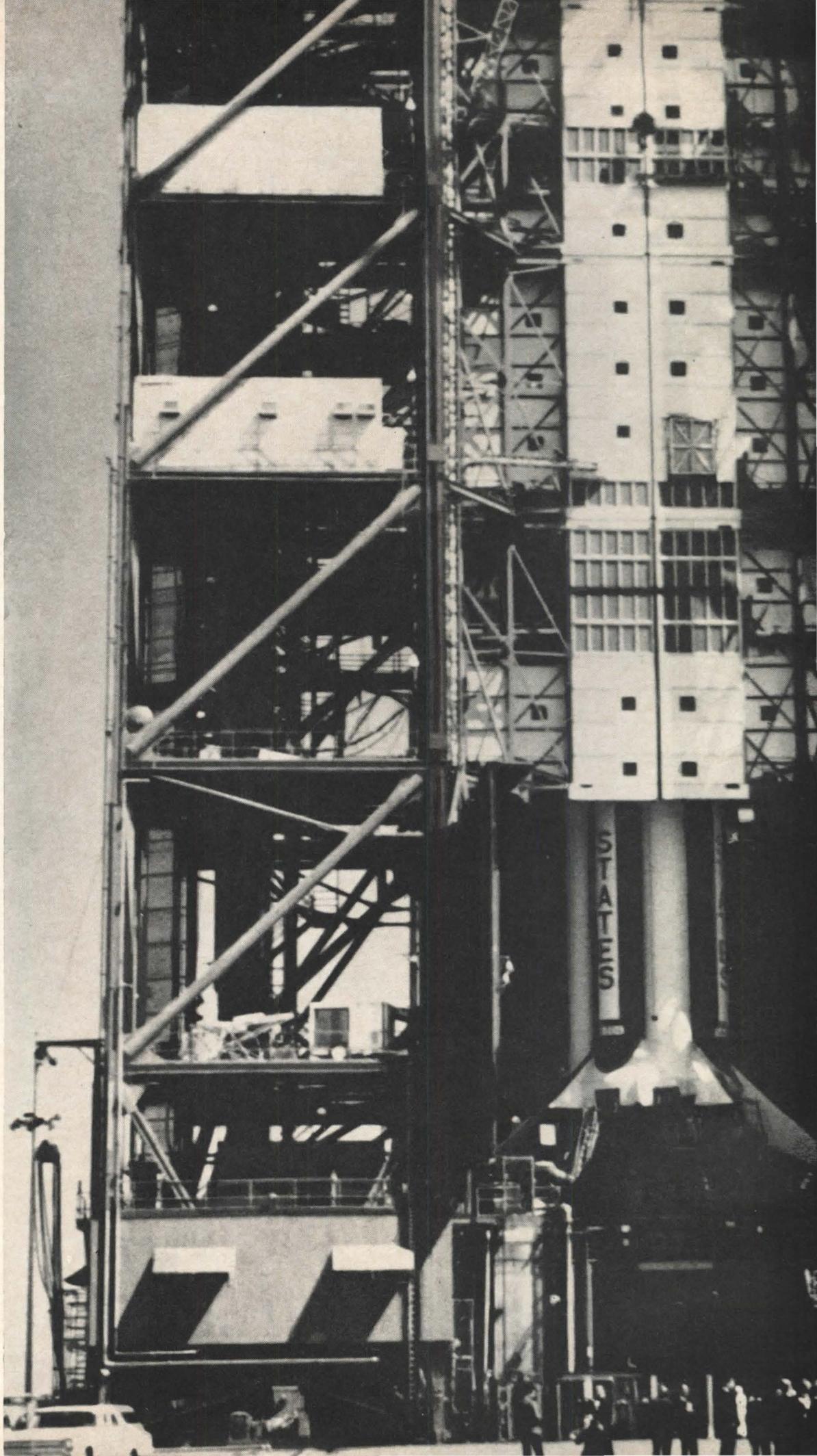
Yet, in visionary architecture, such concepts as prefabricated apartments hoisted into position on a skeletal frame, to be plugged into prepared utilities, are still considered impractical by most designers and builders; and men like Warren Chalk, Schulze-Fielitz, and Yona Friedman (whose projects are shown at left) are thought to be cranks. (It is interesting that Chalk's apartment tower, at far left, is topped by a crane that will hoist prefabricated apartments into place. The mobile structure at right is topped by two cranes, with capacities of 40 and 60 tons, respectively!)

But Cape Kennedy's fantastic technological achievement is not the only stimulus it can offer to architecture and urban design. Another achievement has to do with procedures employed by the NASA engineers.

On May 25, 1961, President Kennedy committed the U.S. to the goal of landing a man on the moon and returning him safely to earth "before this decade is out." To achieve that ambitious goal, much planning at Cape Kennedy had to be based on educated guesswork—before all the facts were in. As a result, a great deal of time was saved—the kind of time that is often wasted in attacks on urban problems, because no one is willing to take a chance until every theory has been tested over and over again.

Yet there are important urban problems—like intra- and inter-urban transportation, for example—which could be attacked immediately, effectively, and speedily if there were a similar degree of courage and of commitment — especially financial. The proud achievements at Cape Kennedy are proof of our ability to tackle the most staggering problems; and, by implication, they are an indictment of those who would not expend the same kind of effort on our urban ills.

It is unfortunate that the U.S. has only twice, in recent history, committed itself to such efforts—and that, in both instances, one motivation was fear. The other program, of course, gave us the H-bomb.—PETER BLAKE



THE CITY MEETS THE SPACE AGE

Last summer, at idyllic Woods Hole, Mass., scientists and technologists took an unprecedented look at our urban problems, and offered some startling solutions

Nineteen sixty-six was the year in which American cities and 20th-century technology at last discovered each other. On several occasions, they were even observed in fleeting embraces, leading some matchmakers to hope that a permanent, fruitful union might be effected in the coming months.

The most encouraging sign during 1966 was the two-sided nature of the courtship. On the one hand, the Federal Government, in both the Legislative and Executive branches, displayed a markedly intensified interest in harnessing technology to solve our mounting urban problems. On the other hand, scientists, technologists, industrialists, and others in the private sector began seriously to look upon large-scale urban development as an attractive field of interest—both intellectually and financially.

This late-blooming mutual admiration was nowhere more apparent than during the Summer Study on Science and Urban Development, which HUD and the White House Office of Science and Technology staged at Woods Hole, Mass., last June. For three weeks at Woods Hole, experts from a broad spectrum of disciplines, most of them not now connected with urban development, turned their attention to the questions of how and where science and technology can be responsive to urban needs. Among the participants were physicists, mathematicians, sociologists, psychologists, medical doctors, businessmen, economists, attorneys, engineers of every variety, planners, and architects.

Until recently, with one much-publicized exception, nothing has been known publicly about what went on at, and emerged from, Woods Hole. That exception, of course, was the proposed "Comsat Corporation for Housing," a totally new institution whose goal was nothing less than the rehabilitation or replacement of the nation's entire stock of 5

million substandard housing units during the next decade. That proposal got all the way to the White House, where President Johnson firmly sat on it.

According to a White House aide, the idea was considered impractical, but some observers drew a parallel between the rejection and the fact that news of the program had been leaked prematurely to the press. Whatever the President's reasons, his action can be viewed as only a temporary setback. Sooner or later, our antiquated processes of urban development will have to be brought into the 20th century if our cities are to survive.

After six months of secrecy, the Woods Hole conference was revealed as the source of many new ideas already being publicly debated.

Aside from the leak of the Comsat-Housing proposal, HUD had managed since June to keep the Woods Hole seminar under tight security, ostensibly on the ground that it did not want to appear to be endorsing all the schemes that came out of the conference. Then, early in January, HUD finally released a report on the meeting.

The report confirmed the rumors that had been circulating since June: the Woods Hole gathering was not just another conference. For the first time, it brought to bear on the problems of U.S. cities the same kind of thinking used repeatedly in the past, with notable success, in aerospace, defense, and other scientific and technological areas.

As the first such effort directed at cities, Woods Hole was as significant for its processes as it was for its results. For three weeks these diverse experts formed what Conference Chairman Walter Rosenblith, professor of communications biophysics at MIT, described as "an intensive coexistence community" focused on urban problems.

Scientists and technologists heard from the urban specialists, then attacked the cities' problems with their own conceptual tools.

"You go through three days of very intensive briefing," Rosenblith explained, "in which people who are the practitioners, who own the problems, come and talk to the people who own the resources for other good problems but not for this one. And then what develops in this discourse is the fact that people get up—those who are not the briefers but those who are being briefed—and say 'I do not understand when you say such and such.'"

"And in this process, which you might call a process of intellectual station identification, people start to recognize each other's language." The trick at such a gathering, noted Rosenblith, is to create a "concerned community."

It soon became apparent to the non-urban experts at Woods Hole that they were dealing with a far more complex set of problems than even they had been used to. "We have learned in the sciences to deal with complex systems indeed," said Rosenblith, "but most of these complex systems are very univalent, very unipurpose, compared to the society that lives in cities. Here is indeed a multicomponent, multiinput, multioutput, multipurpose set of structures."

Thus, after three days, the group decided to cut up the urban pie to make it more manageable. The participants spun off into five separate panels, each dealing with a different facet of urban life and development: rehabilitation, new housing, environmental engineering, transportation, and health services.

"We recognized," said Rosenblith, "that it was impossible to come up with an ideal subdivision of the matter before us, so we took one that had certain

heuristic advantages. . . . And we went a step further. We said 'Look, if at the end of the first week you don't like your panel, if you think you have nothing to talk about, if you have no problems, join somebody else, declare a new panel, form a crossexecutive. Go!' And the very interesting thing was that, as progressively people invested in living together in these panels, trying to structure their problems that way, they felt that the investment they had made was too great to give it up."

What emerged after three weeks at Woods Hole was not a full-blown answer to our urban ills. Neither those who planned the conference nor those who participated in it expected such a miracle. But what Woods Hole did produce was a host of new ideas, many of them startlingly fresh and new, that could, if refined and acted upon, profoundly change the course of U.S. urban development. Here is a sampling of Woods Hole proposals:

1 The rehabilitation panel proposed the Comsat approach to housing and a full investigation of our urban "software" problems.

Comsat Corporation for Housing. As first envisioned by the rehabilitation panel, headed by Hortense Gabel, former commissioner of rent and rehabilitation in New York City, this would be a national, quasi-public institution designed to attract sufficient capital to bring modern technology into the business of low-cost housing. To achieve massive purchasing power, the corporation would, first of all, take over a substantial portion of the credit power under the 221d3 program for moderate-income housing, along with HUD's demonstration funds. With these monies as its foundation, the corporation would then hope to attract large investments from

other public and private sources, using the funds "to create a major new national market for firms capable of innovating in low-cost mass housing."

The corporation would be run by a board of directors appointed by the President, representing government, minority groups, public, labor, and industry. It would assemble large chunks of property, some of which it would purchase itself, and some held by nonprofit, limited-profit or private owners with the corporation acting as the service vehicle. Construction contracts would be large enough to permit large-scale research and development, not only by builders, but hopefully by systems companies new to the housing field, such as Litton and Lockheed.

By a combination of advanced technology and volume construction, all of it pulled together by the single corporation, construction time and cost could be reduced by as much as 50 per cent, the panel felt. "This program," stated its report "should provide a much needed yardstick for the modernization of the construction industry, such as that provided for the power industry by TVA."

HUD reportedly drafted several alternate proposals based on the panel's recommendations and presented them to the White House, hoping the President would make the proposal, in one form or another, part of his program for the next fiscal year. The President's abrupt rebuff dashed HUD's hopes for the time being, but the White House is reportedly still interested in developing something along these lines in the future.

Institute for Urban Studies. This new Federally funded agency would be charged with investigating the "software" problems of urban development. Its first and most important order of business would be a thorough comparative study of the direct financial costs

of providing decent housing as opposed to "the far greater social and financial costs of the maintenance of the slum system." Such a realistic comparison, the panel felt, would make it clear to all that we are spending far more in perpetuating our slums than we would spend in rehabilitating them.

"Failure to understand the links between substandard dwellings and substandard health, education, recreation, sanitation, transportation, employment facilities and other required services," said the panel report, "results in exploitative shelter costs in an inadequate physical and social environment. This inefficient and inhumane slum system is maintained at exorbitant capital and operating costs. The panel believed that it was time to add up the bill."

The panel also suggested a broad range of other areas for the institute to study, including the role of local participation in planning; devices for upgrading the performance of building contractors, such as bulk purchasing arrangements to reduce expenses of performance bonds; various economic studies, such as schemes for lease purchasing financing, stock corporations formed by individual owners, and the like; and the problems caused by the profusion of political jurisdictions in metropolitan and regional areas.

2 A giant-sized national building research effort to encourage better housing at lower cost was urged by the new housing panel.

National Center for Advanced Urban Technology. The panel on new housing, chaired by Carleton Green, manager of the Stanford Research Institute's Southern California Laboratories, proposed that this be an independent nonprofit organization, coordinated by HUD, concerned primarily with better housing at

THE CITY MEETS THE SPACE AGE

lower cost. "The purpose of the center," said the panel's report, "should be to use modern science and technology to lead and encourage the housing industry to respond vigorously to changing market and social demands, rather than merely to serve existing industry. Accordingly, the center would require an organization staffed at a high level of professional excellence so that it can lead the industry into bold new housing concepts, advanced housing production systems, the development of new materials, of new forms of land use, and imaginative scientific approaches to urban development far beyond present capabilities."

Noting that "this effort must be equal to the importance, size, and growth rate of the job to be done," the panel estimated that the center's expenses would be \$6.5 million in its first year of operation, and would climb to \$100 million in the fifth year. The center would carry out in-house research programs as well as a program of contract research and grants to private organizations, colleges and universities.

Density. "It became increasingly apparent to the panel that the whole subject of urban density is a phenomenon we actually know very little about," said Green. "One of our major conclusions was that a better planning of density arrangements may be an important key to the solution of inner-city housing needs." Thus the panel recommended that a detailed study of density and its ramifications be made, and that "great emphasis be given to high density as a central issue in developing the technologies, economics, social and political procedures, government programs, and administrative practices to cope with urban problems."

Design Flexibility. Noting that "much of our present problem of urban deterioration and obso-

lescence stems from the fact that we have failed to design into our physical facilities the capability of easily replacing obsolete parts or incorporating the products of improved technology," the panel recommended five areas of "immediate action": make the removal of obsolescence a design criterion for all publicly built or financed housing; amend FHA minimum property standards to require obsolescence replaceability; launch research to identify the "obsolescence parameters" that require design improvement; develop financially attractive incentives to private industry to design, demonstrate and promote products with obsolescence replacement capabilities; and influence other governmental agencies to work toward these goals.

3 Focus the research of all Federal agencies on urban problems, urged the panel concerned with environmental engineering.

Coordination. The environmental engineering panel's statement concerned itself mostly with a recitation of urban problems in water supply, sanitary sewerage, storm drainage, solid waste disposal, and air pollution. Though it put forth several research proposals, the panel was distressed that progress in these areas is greatly hindered by the current fragmented approach of the Federal Government. "A review of all problems considered by the panel," noted its leader, John C. Geyer, chairman of Johns Hopkins University's department of environmental engineering, "shows that all of them are matters of concern and responsibility to more than one, and in one instance to as many as 25, agencies in six departments of the Federal Government."

HUD, said the panel's report, should take steps to focus this diverse Federal research on urban problems. It recommended the creation of a permanent

interdepartmental committee to review and coordinate all policies and programs in these fields as they affect the urban environment. As further steps, the panel urged HUD to set up a technical evaluation group to identify applicable research, and testing laboratories to evaluate hardware for utilities and to set performance standards for new materials, products, and systems.

4 Noted the transportation panel: "The biggest challenge is lack of understanding of the operation and growth of cities."

Job Itinerary. This, like many of the transportation panel's recommendations, would be a demonstration program designed to further what the panel considered to be the "near-term primary goal" of urban transportation: "to expand the job and housing opportunities of the poor." It calls for government-owned station wagons, operated by industry on a car-pool basis, to take underprivileged people from gray areas to places of work. Because of the special character of Los Angeles, the panel suggested Watts as the site of this program.

"We think that perhaps a hundred vehicles in the Watts area might do the trick," said panel member Sumner Myers, director of the Research and Development Utilization Project for the National Planning Association. "These vehicles would have perhaps ten seats and on the average would carry six to seven persons, and we think that this can be done for about \$250 to \$300 a seat as against \$800 to \$1,000 a seat for the conventional bus system.

"It is essentially a self-liquidating program, the idea being that when people get jobs they will then have enough money to buy their own automobiles." (HUD subsequently announced a \$2.7 million research project

in Watts to test the feasibility of a bus-to-work scheme.)

Dynamically Scheduled Minibus. With Washington, D.C., suggested as the demonstration site, this would be a fleet of telephone-called, two-way-radio-operated, computer-scheduled vehicles operating both downtown and in the suburbs. The minibuses would transport people between their homes and major focal points, such as subway stations, and would deliver domestics and other workers to their jobs in the suburbs. Panel Chairman Ben Alexander, vice president and technical director of the Defense Research Corporation, noted that such a system could be "the beginning of a marriage of buses into taxi cabs."

Bus Service Improvement. This demonstration project would test various electronic aids and computer scheduling methods in bus service. "You might think of a communication and data link which lets the bus automatically know at which intersection it is," said Alexander. "At that point the bus can then report to a control center where it is at all times."

"You might think of a curb device so that people buy tickets on the curb instead of in the bus, and at the same time indicate where they are going; and this also communicates to the control center. So you now have in the control center all the bases for dynamically programming the buses to meet the load."

"You can imagine all sorts of incidental advantages of this sort of devices. Curb ticketing with demand lets you have flexible pricing so that prices can be varied with time of day and destination. The presence of a device like this in communication with the control system makes it possible to inform prospective passengers how long they will have to wait for the bus. . . . It lets them interrogate to find out if there is a bus that goes to

their destination from that location. Finally, because the system is operating with some sort of control, you can imagine a relationship between the bus-load demand and the traffic signals so that some kind of priority service can be provided."

Such a demonstration, said Myers, might be carried out in Brooklyn, "where there is an 11-mile stretch of arterial city street, the Bedford-Flatbush area, that goes all the way from the grayest of the gray areas in the Bedford-Stuyvesant area to some of the finest beaches in the world at Breezy Point."

Systematic Approach. The above three demonstration ideas were among those suggested by the transportation panel as ways in which HUD could "get started" in solving urban transportation problems. The panel also suggested no less than 25 other areas of long-range study and action, ranging all the way from "dial-a-destination" pedestrian capsules operating at second-story level to a fully automated highway system. But the item of greatest urgency, the panel felt, was the need for HUD to launch a systematic approach to urban transportation.

"The interaction between transportation systems and urban design is strong and not very well understood," noted the panel's report. "It is self-evident, however, that urban transport problems cannot be solved by transport innovations alone. It would be disastrous if overconcern with devices and narrow organizational solutions let us forget that the biggest challenge is our lack of understanding of the operation and growth of cities. To really solve the transport problem we must learn the relationships between the design of cities and transportation."

The panel recommended that HUD appoint an assistant secretary whose exclusive concern would be transportation research and development; that it create

several regional urban transportation institutes to work with agencies in their areas; and that a "strong R&D contract arm" be set up at HUD. Also, the panel urged HUD to improve its in-house capability to evaluate operational research and hardware developments "to help steer and provide a 'real-world' character to its grant and contract programs."

Finally, the panel urged the creation of an Urban Transportation R&D Advisory Committee of representatives from industry, local transportation agencies, universities, and others "to facilitate communications between HUD and the several important elements necessary for a successful urban transportation R&D effort."

5 The Health Services panel suggested one-stop neighborhood centers to give slum dwellers help in a broad range of needs.

Neighborhood Service Centers. "From the beginning of its deliberations, the health services panel felt that its mission encompassed the broader issues of the provision and coordination of the full scope of human services to the community," said panel leader Alonzo Yerby, chairman of the department of health service administration of the Harvard School of Public Health. As proposed by the panel, these neighborhood centers would provide one-stop services in a broad range of medical and social needs for slum dwellers who "are all too often lost between agencies or between the specialty clinics." The centers would be located within walking distance of the bulk of the people within the community. "As a minimum," states the panel report, "they should provide certain basic services such as health screening examinations, treatment for uncomplicated illnesses and minor injuries, public welfare aid, legal

advice, counseling, and the opportunity for the learning of basic skills—for instance, home-making, how to apply for a job, even how to read and write."

The Woods Hole slum rehabilitation proposal was battered by business leaders at the Ribicoff Senate hearings on the urban crisis.

The five panels at Woods Hole made no attempt to meld their diverse, often overlapping ideas into a single whole. But, taken together, the five reports add up to one major recommendation: bring 20th-century scientific and technological advances to bear on our urban problems.

But before this technology can be harnessed on a scale commensurate with the enormity of the job, an organizational vehicle capable of attracting quality leadership and great sums of capital must first be established. There are many who gravely doubt that the Comsat-Housing proposal developed at Woods Hole could have filled the bill—even for the relatively limited area of slum housing.

News of the Comsat-Housing idea appeared in the press the day before Senator Abraham Ribicoff opened the second round of hearings on the Federal role in urban problems, and it quickly became the number one subject of comment and conjecture—most of it skeptical—in the hearing room. David Rockefeller, president of Chase Manhattan Bank, wondered out loud whether a Comsat-like corporation operating in slum housing could really prove attractive to private investors.

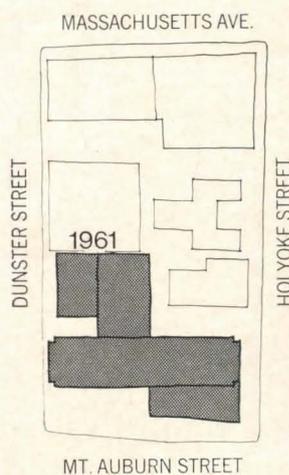
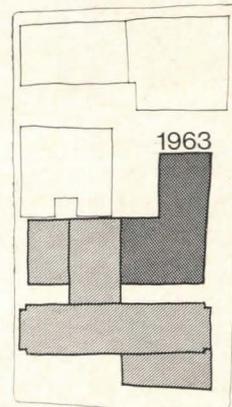
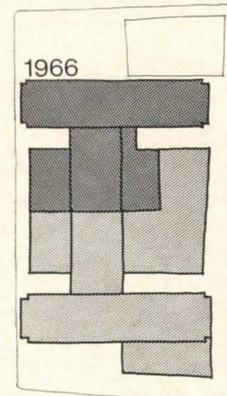
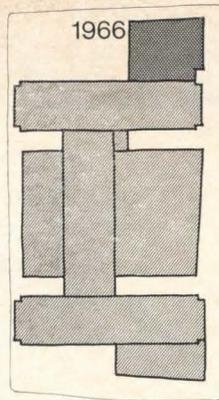
"If the analogy with Comsat is to be valid," Rockefeller said, "it must be an economically viable corporation. In other words, it must expect to be able to make a return on the invested funds that are put up, presumably by the public or by the bank-

(continued on page 140)





Harvard completes a course in urban design



Holyoke Center, the large, bristling concrete building seen at left behind the Georgian roofs of Cambridge, is now complete. The news may be of comfort to those who passed through Harvard University during the past eight years, saw the building multiply in four stages, and perhaps feared that it would simply continue to grow, like some robust and appetitive organism.

The building began life in 1961 as a wide and shallow ten-story slab set just back from Mt. Auburn Street, a block to the south of Harvard Square; this slab is in the left foreground of the photograph. To the rear was an off-center stem, also ten stories in height; beside the stem a two-story block of shops; and in front another two-story projection. Entrance to the upper floors was through a great hall cut into the first two stories of the stem.

The building's later growth as planned by its architects, Sert, Jackson & Associates, and the concurrent demolition of its predecessors on the site, is charted in the diagrams at left. The stem grew into a spine, joining the first slab to another facing Massachusetts Avenue and the Square (background in photo). The hall in the stem's lower stories became an arcade through the building's entire length. Additional shopping blocks were placed along the side streets; and, finally, a three-story bank was built on the northeast corner beside an open plaza.

The last of the building's 360,000 square feet of varied spaces was occupied in November. The Harvard community had watched its construction with reactions ranging from horror to fascination. Some resented removal of the old buildings it replaced; or feared its size; or disliked the exposed concrete which it introduced to Harvard for the first time. Others, however, admired its boldness and its variegation of form and facades.

From the start, it was obvious that Holyoke Center would be both a controversial and influential work of architecture. But only on completion did Holyoke Center reveal itself as a uniquely instructive act of urban design.

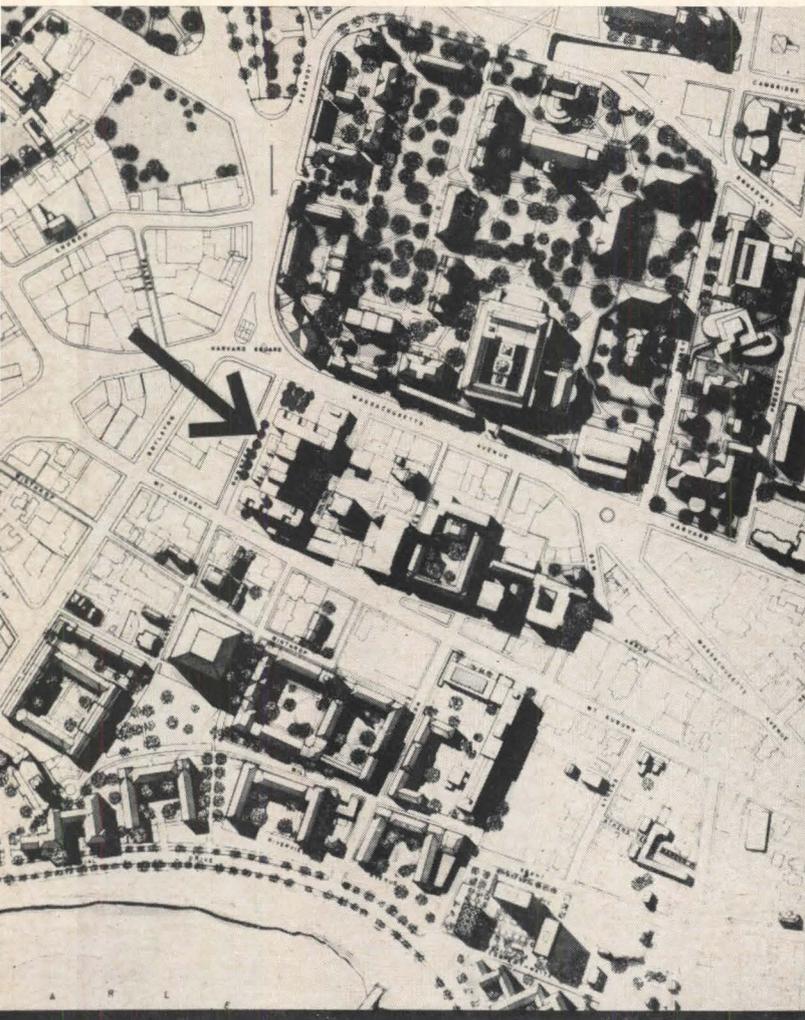


The transition from town to gown is carefully graduated

The site of Holyoke Center was a full city block in the strip between Harvard's academic campus and riverfront residential houses, where town and gown are all but indistinguishable. The university wanted, first of all, a central location for its health service, with a staff of 115 doctors and a 59-bed infirmary; and also space for departmental offices scattered in some 20 buildings around the Square. At the same time, it had no desire to argue with Cambridge about the prevailing height limit of 100 feet. It became clear that Sert, Jackson & Associates were being asked to design the bulkiest object in this flavorful precinct of the city.

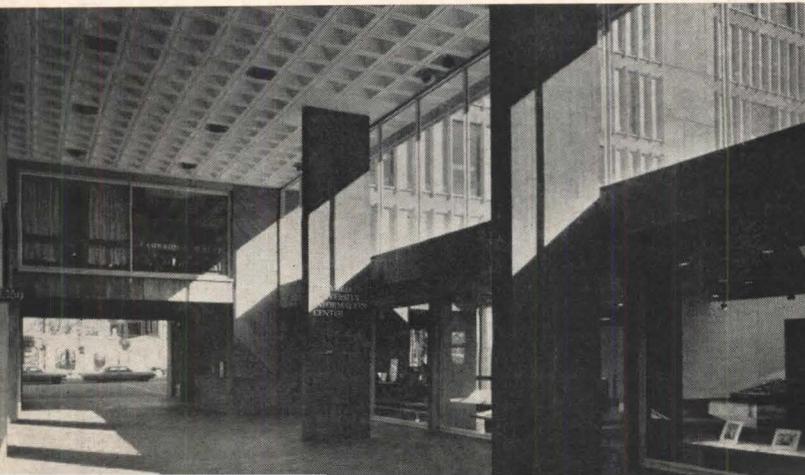
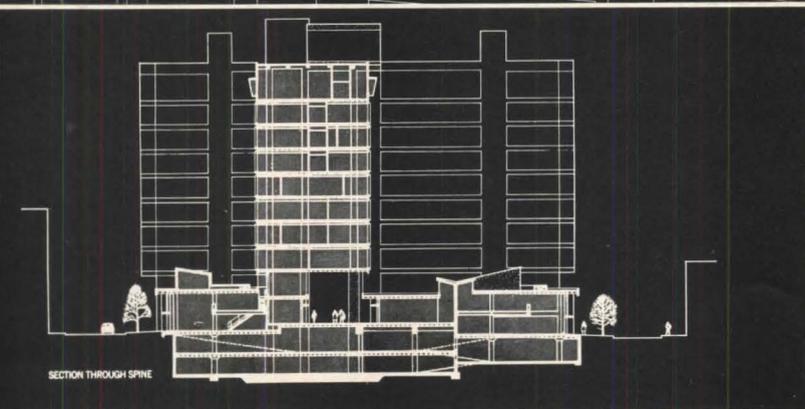
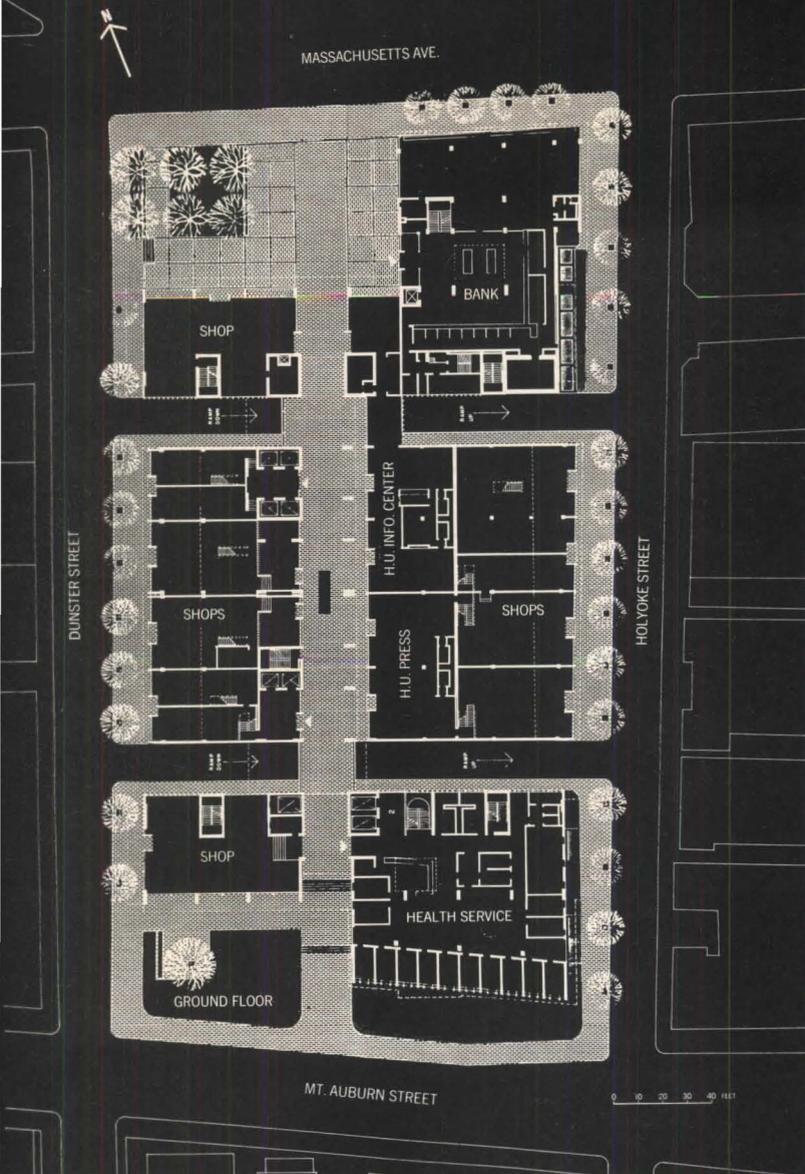
Their first response was to keep the bulk of the building back from the streets. The basic H configuration not only brings maximum light into Holyoke's interior spaces, but also preserves the light coming into the side streets by holding the north-south crossbar well away. The wide arms of the H are similarly set back from Mt. Auburn and Massachusetts; Sert, in fact, precisely calculated the placement of the north arm so that the sight line from the Harvard Yard to the roof would be the same as was that of the street-hugging, four-story building it replaced. The H plan also paid another, more subtle dividend: Holyoke never reads as a total object, but as a series of elements in the townscape. The building's image, and thus its impact, are thoroughly fragmented.

At the same time, Holyoke extends out to meet the streets in the bank to the north (above left), the health center reception area to the south (bottom left), and the shopping blocks along the sides (right). These smaller extensions effectively modulate the increase in scale from Holyoke's surroundings to its tall wings and spine. The modulation is a matter of use as well as form. Very nearly all of the ground-floor space — including that along the interior arcade — is given over to shopping and banking, making Holyoke more of a link than a barrier between university and community.



Holyoke holds its bulk away from the streets, but sends small-scale extensions out to meet them: on the north, a branch bank (top left); on the south, the health center reception area and library (left); and on the east and west, two-story blocks of shops (opposite) topped by angular air conditioning units. The map shows Holyoke's site in relation to the Harvard campus, whose buildings are those with shadow lines, and the surrounding Harvard Square shopping district.





**The arcade is at once
a street, a lobby—
and a dramatic space**

As a symbol of continuity, the plaza that faces Harvard Square to the north (top of plan) is paved in the familiar red brick of Cambridge. Notched into the corner is a small planted area bearing four trees, intended, says Sert, as a reminder that this is part of Harvard. The brick, and the sense of continuity, run the 268-foot length of the arcade. It is the arcade, in fact, which brings the life of the community into the heart of Holyoke Center.

Along the west side of the arcade is a row of shops, some of which also open onto Dunster Street. Along the east side are the Harvard information and press offices, backed up to the shops on Holyoke Street. The arcade is twice bridged by the major wings of the building, the arms of the H, passing over it. Twice it becomes a bridge over east-west ramps to the below-ground garage for 123 cars. Light comes in from a deep clerestory facing east (below).

In part, the arcade is a pedestrian street, a connection between Harvard's academic campus and houses that is particularly useful in bad weather. Indeed, one of Sert's first intentions was to join the venerable Yard gate to paths to the river; the arcade took its off-center position so that it would be on axis with the gate. But those coming from the yard have to jog to the next corner and back to get to the arcade; and, once at the south end, they find the paths to the river blocked by buildings. The fact doesn't diminish the arcade's use.

The arcade also is a substitute for grand lobbies. Entrance to the upper floors is through three modest elevator foyers opening from it (a fourth bank is in the health service reception area).

The arcade, finally, is an architectural space, reaching 22 feet 6 inches from brick floor to white waffle ceiling. The concrete of its walls and colonnade is richly varied in pattern and texture—and splashed in an almost random manner with vivid primary colors (right). Sert, who was concerned about the impact of so much bare concrete, points out that in the jungle it is good to see a parrot next to an elephant.

The ground floor of Holyoke (plan above) is cut by the arcade and the garage ramps into eight separate spaces, open and enclosed. Here the building has a totally different configuration than in the H-shaped office and clinic floors above. Natural light enters the arcade only from the east clerestory (left), behind the broad colonnade and, of course, from the ends beyond the bridging office wings. The west side of the arcade is enriched by variations in the concrete textures, and by color (right).



75

MOUNT AUBURN STREET

CRIMSON
LTD.

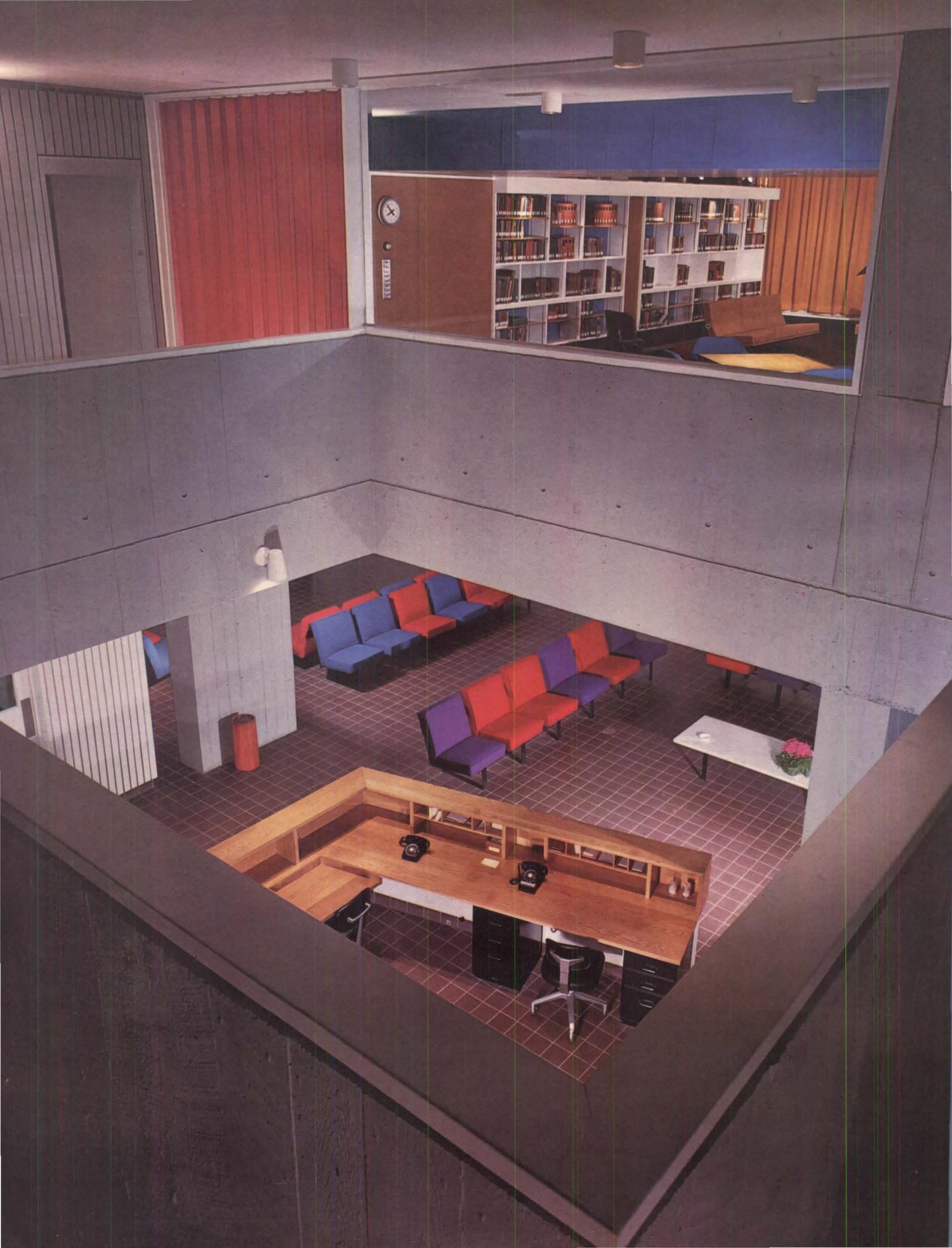
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Color helps give the diverse clientele a sense of identity

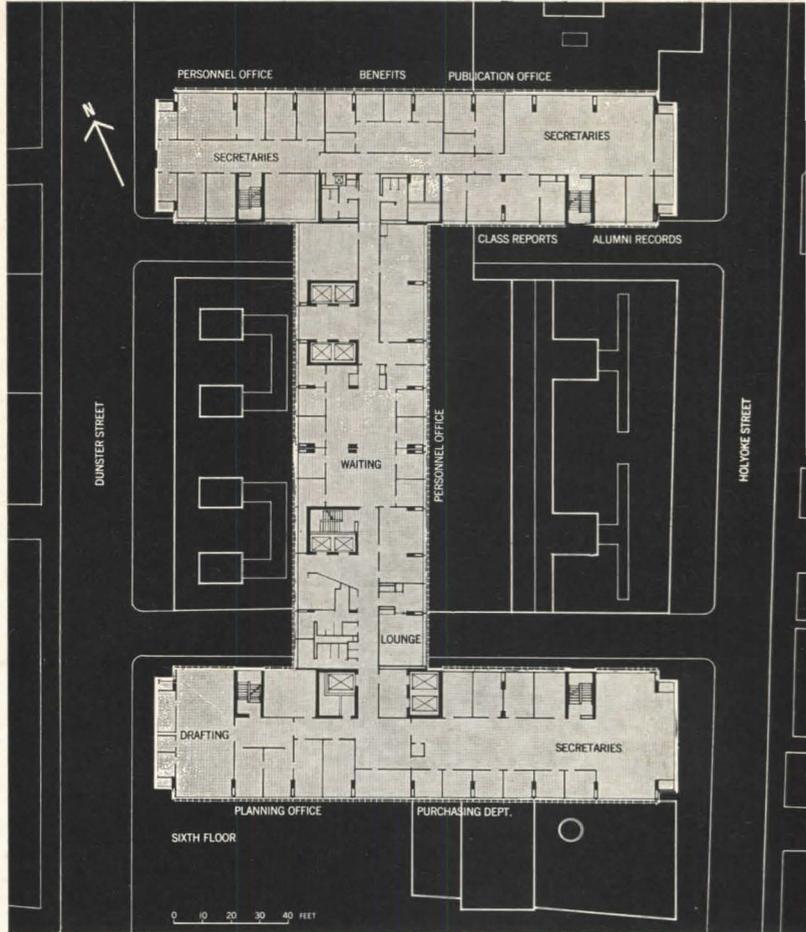
The upper floors of Holyoke Center are a loose confederation of disparate spaces. Harvard went about the filling of Holyoke in much the way that a developer does a speculative office building: It began with one major tenant, the health service (whose reception area is shown at left in full Sertian color), then began assembling others. In all, 20.1 per cent of Holyoke's interior space is devoted to the health service, 30.6 per cent to administration, 12.9 per cent to teaching and tutoring, 19.4 per cent to the bank and shops, and 17 per cent to parking and services.

A total of 38 separate university departments and offices—and at Harvard, separate means very nearly autonomous—occupy the administrative and academic space. The sixth floor, whose plan is shown at right, is typically miscellaneous in tenancy. Each department, moreover, was to some extent an individual client.

The H plan, which would be a disaster for a company with heavy interdepartmental traffic, ideally suits this individuality of need. It distributes windows with utmost democracy, so that every office has its share of light. The elevators, placed near the junctures of the arms and crossbar, also are easily accessible to all.

Waiting and reception rooms open directly from the corridors, so that there are few long and boring walls to look down. The perforated metal pan ceilings of the corridors are at a height of 7 feet 5 inches with mechanical runs above—it took some squeezing to get a ten-story building under the Cambridge height limit. But in the offices the ceilings rise to 8 feet 5 inches, and seem still higher for the contrast.

To this two-way spatial change—the ins and outs of the corridors, the ups and downs of the ceilings from corridors to offices—was added Sert's characteristic play of color. As in the arcade, the corridors are dashed with color in no apparent pattern, adding to the identity of each precinct; the occupants always were given a choice. The effect is to make passage through Holyoke a sequence of vivid and constantly varied experiences.



Three samples of Holyoke's miscellaneous interiors: left, the projecting reception area of the health service, with the desk and waiting room on the ground floor and the staff library on above; top right, the comptroller's office, with the burly counter where students pay their fees; and at right, an office corridor, typically ending in a view of the outdoors. The plan is of the sixth floor, but its diversification also is typical.



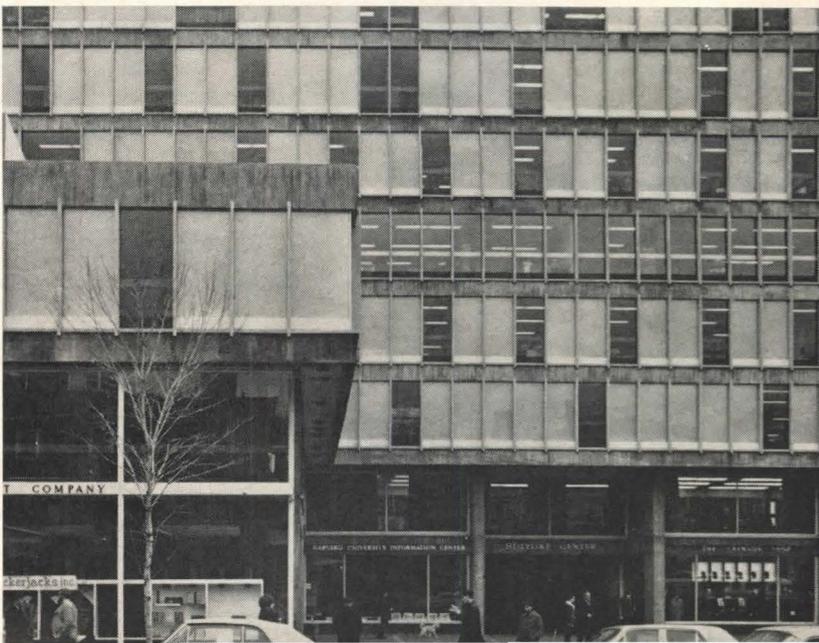
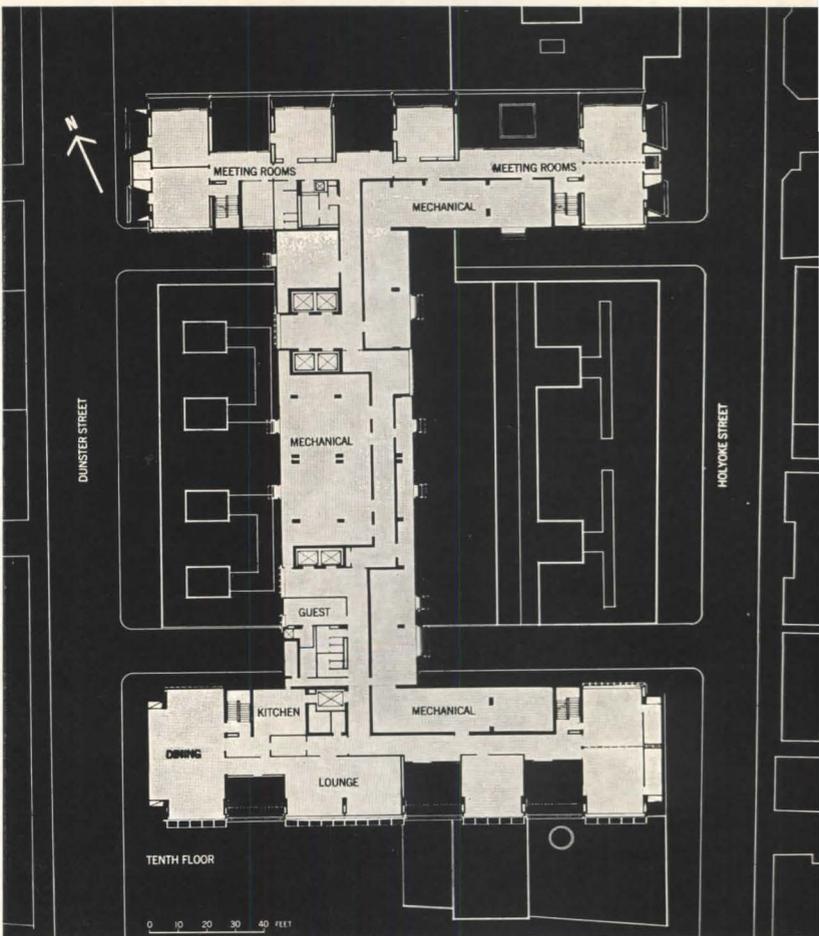
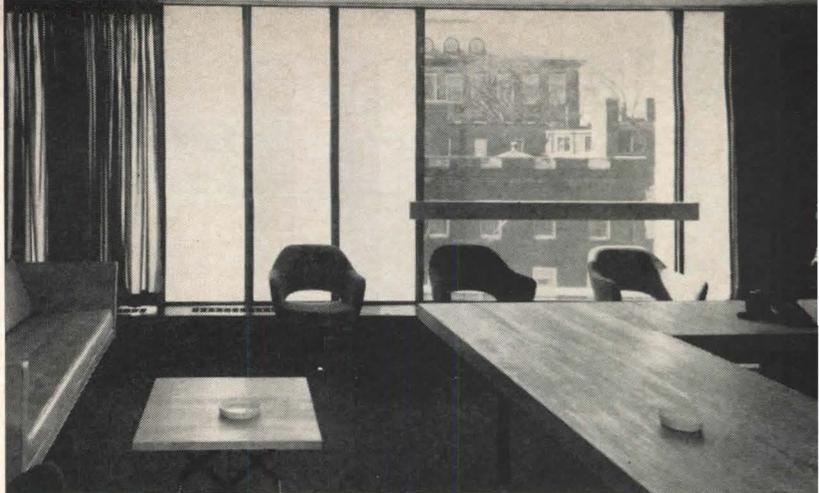
The facades' random patterns follow the variations inside

The occupants of Holyoke Center also had a voice in design of its facades. All walls but the end walls are compositions of transparent windows and translucent panels, the latter being sandwiches of glass fiber between two sheets of clear glass, filtering light in the manner of Japanese rice paper. The compositions are, with one exception, random; the alteration of windows and sandwich panels followed the organization of interior spaces and the desires of their users.

The sandwich panels, British-made for use in skylights, are an authentic architectural invention. They give the interiors a pleasant glow in sunny weather, reducing both heat and glare even on the south side. They shield office clutter from outside view. And they make each window a special event, framing a selected view.

The glass, clear and translucent, is held in metal frames attached to projecting precast mullions. (In theory, the panels can be changed, but no one has tried it yet.) Across each of the clear windows, on three sides of the building, are multicolored bars keyed to variations of the 2 foot 2 inch module: orange for windows one module wide, red for two, yellow for three. The fifth floor is clear glass, both on the north where it is a computer floor and on the south where it is the infirmary. Here and at the commonly used tenth floor (plan right) the south-facing glass is protected by precast *brise-soleil*.

The north facade (below right) is the exception. Here the alternation of windows and sandwich panels was preordained; the module changed to 3 feet 7 inches; the window bars all were made brick red. The wider module was intended to make this elevation look less tall, and the other changes to keep it quieter out of respect to the Yard across the street. The net effect is to make this the least interesting of Holyoke's many faces.



Holyoke stands as a prototype of process more than of form

In terms of shapes and surfaces, Holyoke Center is a powerful piece of architectural sculpture, very much in the tradition of Le Corbusier. Its rough-hewn walls terminate in a display of burly, angular forms made of the tenth floor meeting rooms and mechanical penthouses, which have a conscious affinity (possible to overstate) to the Georgian roofs and chimneys nearby. These walls are a virtuoso performance in the use of exposed concrete: the cast-in-place frame is boldly, almost crudely patterned by the scratchy board forms; the precast mullions, sunshades, and filler panels are smoother, lighter in intentional and successful contrast.

But Holyoke was not designed primarily as sculpture, and should not be evaluated as such. It is not a prototype of form; rather a superbly skilled essay in a formal vocabulary that is already established and growing in influence. It offers instead a prototype of process—an approach to architecture that is of special relevance to an era of urban growth and change.

Holyoke represents, first of all, an architecture of context. Sert describes it physically as a "tentacular building," reaching out to the city around it. Each element was studied, then designed, in relation to the particular part of the city that it would touch. The relationships are more than physical. The ground floor shops and the arcade make the building an organic part of the everyday life of Cambridge.

Holyoke also represents an architecture of particularity. It is a building diverse in use ("the most diverse building I have ever seen," Huson Jackson says) and looks and acts it. Everywhere, Holyoke expresses its variety of functions. Everywhere (or almost everywhere) it responds to the varied needs of those who use it. This is no envelope of uniformity within which diversity is hidden, and to which the users must conform.

Holyoke represents, finally, an architecture of human experience. Its concern is with fundamentals—with light, with space, with color and texture, with patterns of movement. It was upon a consideration of these fundamentals that the building was organized into its final form. Holyoke is not just an object to be viewed and photographed; it is an architecture to be learned and lived with and, through both the mind and senses, experienced.

Holyoke has been built just in time. There is a struggle going on at the moment for architecture's soul. On the one side are the formgivers, who place themselves at the service of history and hold to the primacy of architecture as a fine art. On the other are those to whom architecture is the creation of human environment, and who are seeking, in science and elsewhere, the tools to place it at the service of an urban society.

In Holyoke, there is hope for reconciliation. Its architects have demonstrated the essential value of their art. In less adept hands, with less sophistication in the making of forms, the principles behind Holyoke's design would have produced a far less satisfying environment.

Without these principles, conversely, the same artistry might have produced only another finely formed irrelevance.

—DONALD CANTY

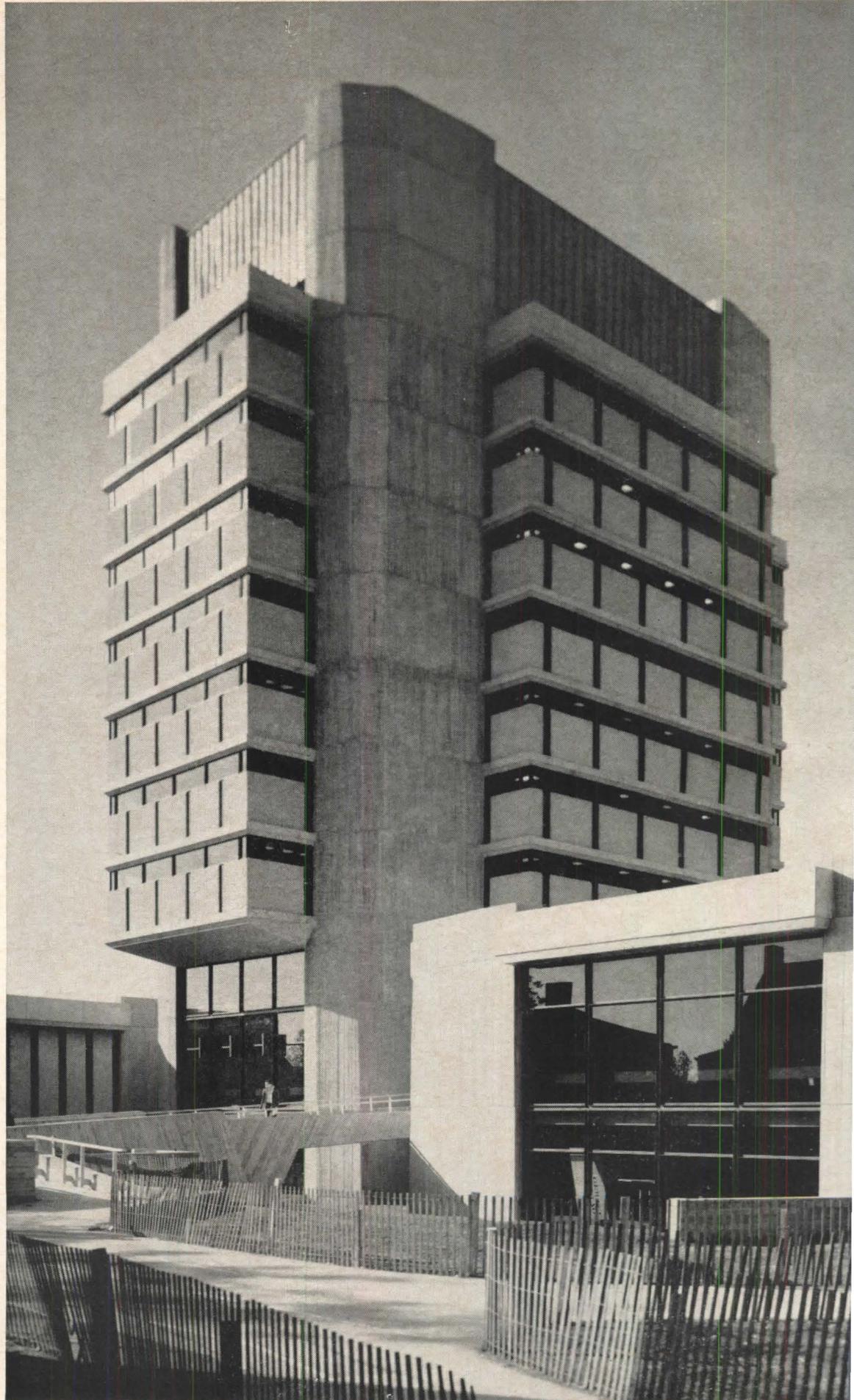
FACTS AND FIGURES

Holyoke Center, Cambridge, Massachusetts. Owner: Harvard University. Architects: Sert, Jackson and Associates: J. Zalewski, Associate; P. Krueger, Associate and Job Captain. (For initial phase, Sert, Jackson, & Gourley). Landscape architects: Sasaki, Dawson, DeMay Associates. Engineers: Cleverdon, Varney and Pike. Consultants: Bolt, Beranek and Newman (acoustic); Arthur Casagrande (soils); Simpson, Gumpertz and Heger (specifications and materials). Contractors: George A. Fuller Co. (Phase IA); John A. Volpe Co. (Phase IB); Wexler Construction Co. (Phases IIA and IIB). Building Area: 360,000 sq. ft. (health service, 72,400; university administration, 110,200; academic functions, 46,400; non-university commercial areas, 69,800; parking and services, 61,200). Construction cost: \$12,200,000; furnishings, \$470,000 additional.

PHOTOGRAPHS: Phokion Karas, pages 64, 66 (bottom), 67, 68, 70, 71, 73, 74, and 77. John Donat, page 66 (top), 75 (bottom). Louis Reens, page 69, 72, 75 (top).



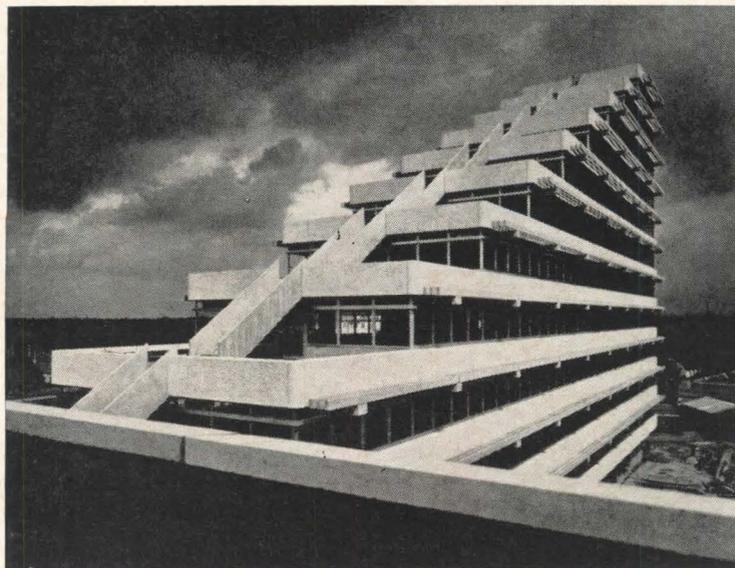
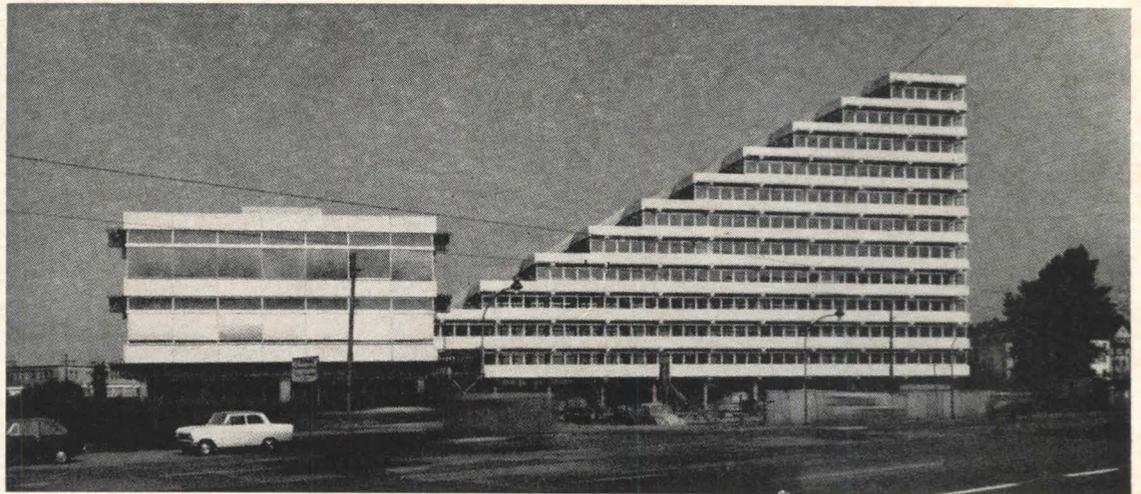






TOWERS OF LEARNING

Four stout, tapering concrete columns thrust themselves 140 feet skyward to support the floors and house the mechanical equipment of Hofstra University's new 10-story library (left). Cantilevered floor slabs, extending 10 feet beyond the corner columns on all sides, create bays which house study space, faculty offices and conference rooms. Stacks for 400,000 books are located in the core; pavilions flanking the main tower and the tower's base contain staff, reference, and processing areas. Warner, Burns, Toan & Lundie, architects of the library, also designed a covered pedestrian bridge which takes off from the base of the structure (photo left), crossing the Hempstead Turnpike to connect the old South Campus with the newly acquired North Campus—88 acres of the former Mitchell Air Force Base (see runways in foreground above). A low-slung student center by the same architects is under construction at the north end of the bridge. Their pair of 14-story dormitories is the first student housing in the university's 30-year history.



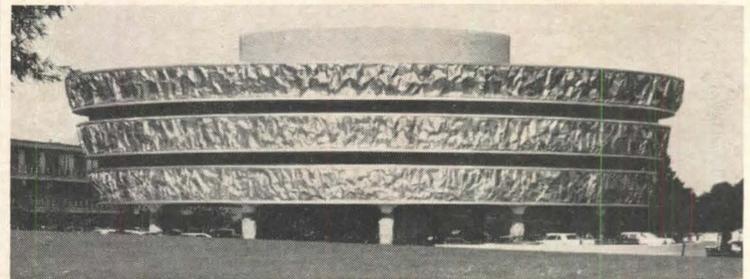
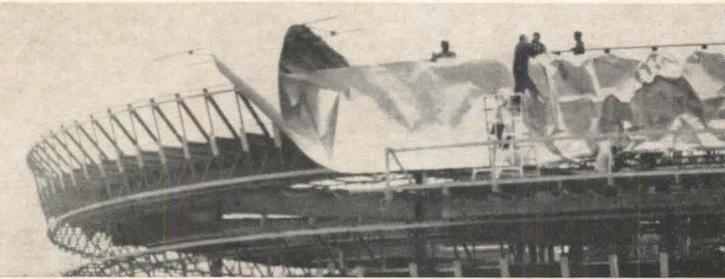
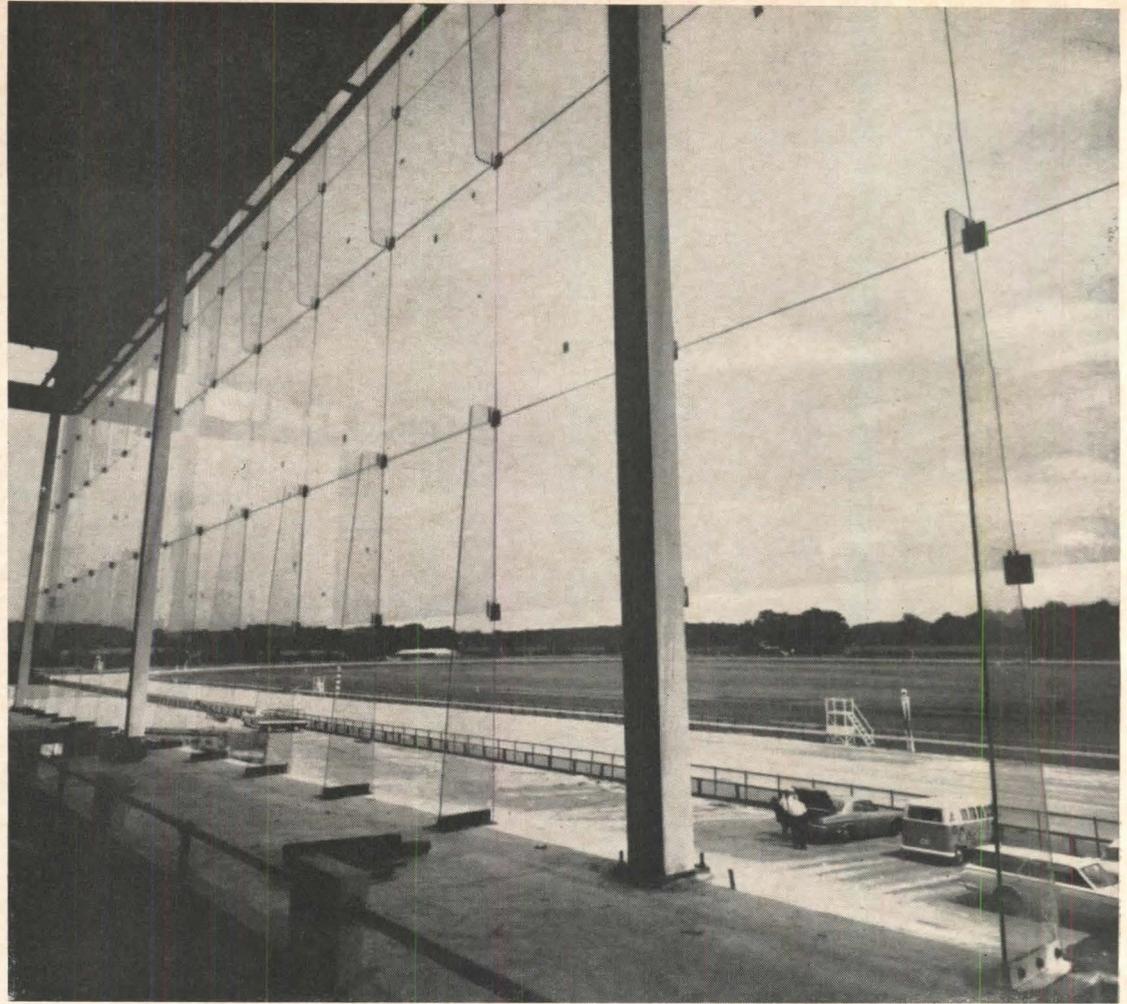
LADDER TO SUCCESS

Dubbed "Jacob's Ladder" by ARAG employees, the insurance company's office building outside of Düsseldorf steps up in 12 stories from public service offices on the bottom two floors to executive offices on top. The reinforced concrete structure is clad in precast spandrels with exposed marble aggregate; extensions of floor beams support precast sunshades (left). Architect Paul Schneider-Eslenben has broken the stair-like silhouette with a cascading fire escape, and has attached a boxy three-story structure at the second floor.



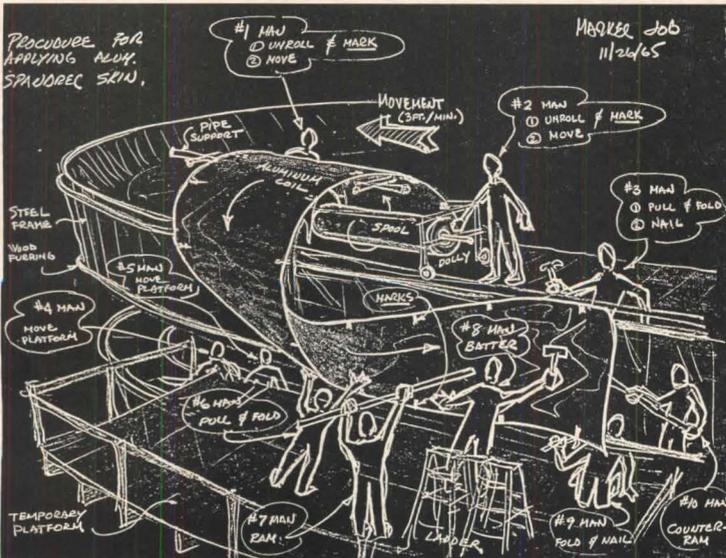
GLAZED GRANDSTAND

A giant enclosure of specially "toughened" glass provides an almost unobstructed view for the 15,000 club stand and grandstand patrons at the Laurel Race Course in Maryland. Panels of 1/2-inch-thick tempered glass, suspended from the soffit of the grandstand opening, are joined to one another by unobtrusive metal patch fittings. Neoprene-lined channels hold the panes at the bottom and at either end; and vertical fins of 3/4-inch glass (photo right) serve as wind braces. The 813 by 36 foot assembly was designed by Pilkington Brothers Limited of St. Helens, England, and installed at a total cost of \$600,000.



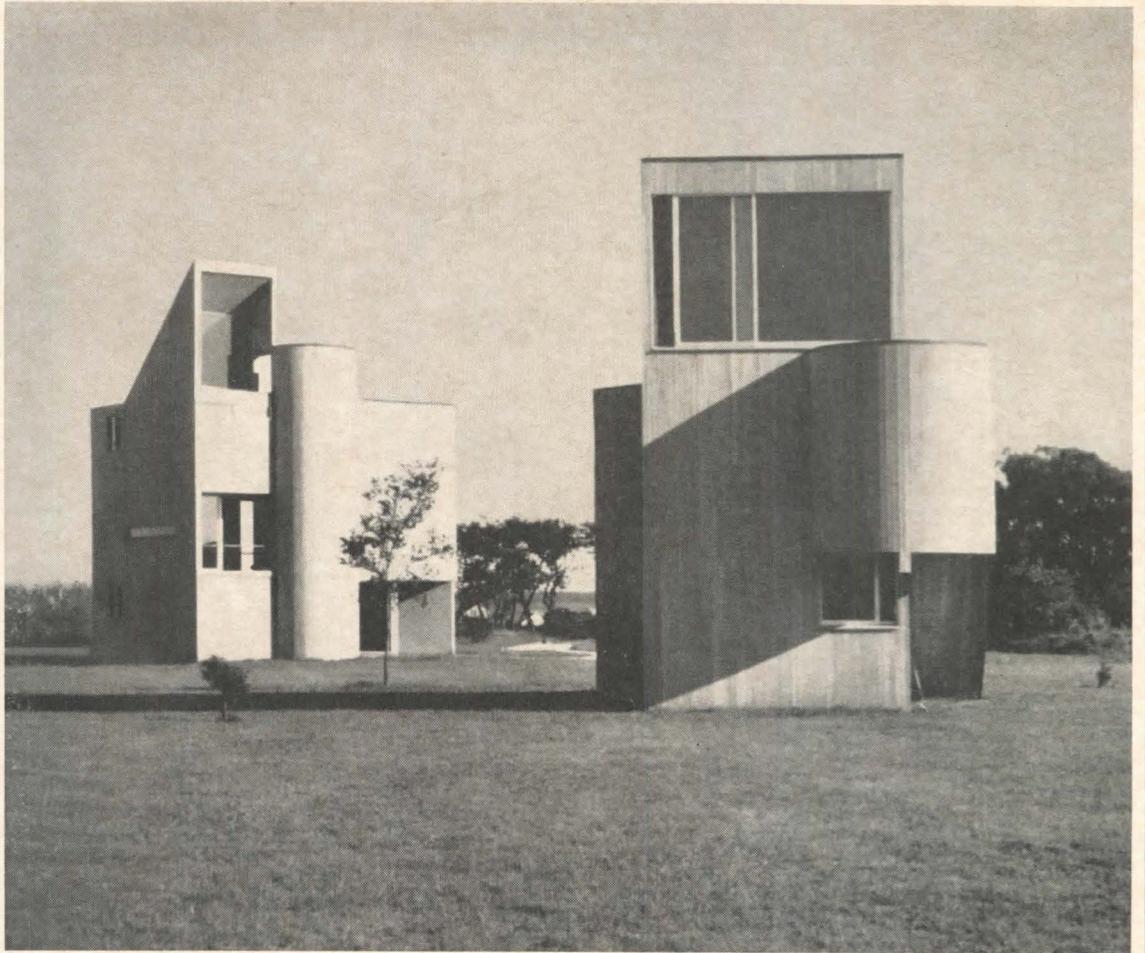
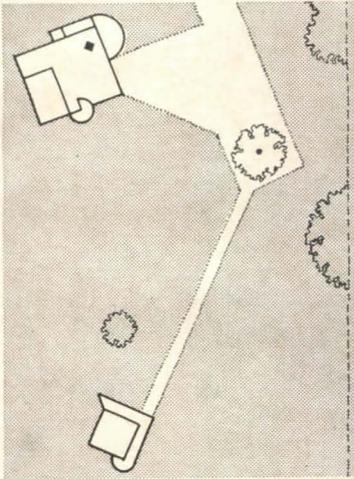
GIFT-WRAPPED OFFICE

Architect Haigh Jamgochian has packaged three shallow cylinders in crinkled aluminum "foil", stacked them, and put them on stilts to house the offices of Markel Service Corp. in Richmond, Va. Workmen unrolled and crimped a 700-foot continuous sheet of .032-inch aluminum (sketch and photo, left) to cover the 160-foot-diameter structure without exterior joints and fasteners. The cladding is wrinkled and dented for textural effect and to accommodate expansion and contraction of the metal. A system of radial steel beams is cantilevered beyond the 12 outer columns, and the walls taper outward at a 15-degree angle, thus increasing the area of upper floors without cutting off light to the parking area (for 80 cars) below the building. The cantilever also permits uninterrupted strip windows, which are deeply recessed for protection from glare.



REPLICATED RESIDENCE

The same flat planes, cylindrical stairwells, and smooth cedar boards create an intentional resemblance between Charles Gwathmey and Richard Henderson's all-year seaside house in Amagansett, N.Y. (Apr. '66 issue) and its recent offspring, an adjacent studio (right in photo) for the same clients. The more simply organized studio is sited at a 45-degree angle to the house (see plan) to receive direct north light.



CABLED COLISEUM

The 48 spokes of the giant (425-ft.-diameter) wheel at right will support the roof of the new Madison Square Garden, the first cable-suspended roof in New York City. Intended to carry two floors of mechanical equipment as well as a steel and concrete ceiling over the Garden's column-free 20,234-seat arena, the steel cables stretch from a central 105-ton tension ring to a circle of anchoring beams atop the 13-story aggregate-concrete-faced drum. Architects for the entire Madison Square Garden Center project (including an adjacent 29-story office building and underground redevelopment of Pennsylvania Station) are Charles Luckman Associates.

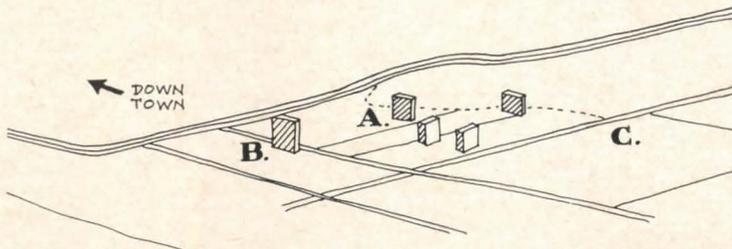


PHOTOGRAPHS: Page 78, Gil Amiaga. Page 79, John R. Kennedy (top). Page 81, Bethlehem Steel Corp.

DETROIT ENDS A 20-YEAR DEMONSTRATION

BY ROGER MONTGOMERY

The Forum's Midwest correspondent, Mr. Montgomery is director of the Urban Renewal Design Study at the School of Architecture, Washington University, St. Louis. In 1963 he received a grant from the Rockefeller Foundation which permitted him to assemble data for the Gratiot site plan sequence on page 84.



Regency Square, the final chink in Detroit's Gratiot project, caps a 20-year struggle to demonstrate that urban renewal does work. Happily, this sure-handed cluster of small-scale apartments, in the foreground of the photo at lower right, reverses a trend which had threatened the powerful logic of the plan laid down by Mies van der Rohe more than ten years earlier.

Between that beginning and Green & Savin's conclusion, the level of architectural achievement at Gratiot caused many second thoughts. Now this hopeful finale permits a second look at the project in terms of urban design.

Completion of Gratiot demands special attention on three counts:

▶ Taken by itself, the project, with its long, painful history, confirms the wisdom of replacing slums with planned unit developments, and thus confirms the basic rationale of urban renewal;

▶ In a larger view, it kicked off a series of renewal actions which, taken together, are giving Detroit one of the largest and most carefully planned redeveloped districts anywhere in the country;

▶ Finally, Regency Square, by itself, shows a remarkably mature concern with the architecture of high density housing despite the trying circumstances of American speculative apartment building.

Underlying urban renewal is the notion that people with a choice in housing—that is,

people with adequate income and acceptable skin color—will in large numbers choose to live in center city if it provides certain crucial environmental qualities. These qualities include good housing scaled to the needs of modern family life; a comprehensive set of community facilities, particularly schools; and an identifiable neighborhood image distinct in people's minds from the picture of gray tenement house districts built to serve the first wave of in-migrant workers.

The carefully articulated theoretical approaches to urban renewal developed during the 1920's by Clarence Perry and Clarence Stein centered on this theme. When cities began to think about slum clearance, and actually do something about it during the depression and early postwar years, they generally began with the idea of transforming slums into ideal neighborhoods laid out along the lines set down by Perry and Stein. Gratiot was such a project.

At Gratiot, children cross no streets on their way to school. Old and young alike have useful greenspace conveniently at their doorstep. A broad variety of housing types facilitates a certain stable heterogeneity in family types. Negroes live next door to whites without triggering the usual tipping-point phenomena.

Perhaps most important of all, Gratiot's clear and imageable form, functional and at the same time symbolic, has become a popular landmark of planned unit development.

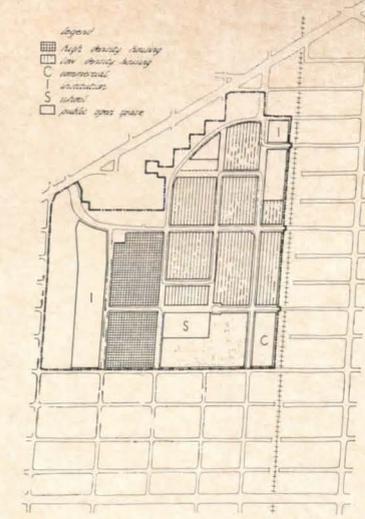
The aerial photo at left shows Detroit's three major close-in residential renewal projects: Gratiot (A), Lafayette (B), and Elmwood No. 1 (C). The high-rise landmarks of the first two are, in the foreground, the 1300 Lafayette East apartments by Birkerts & Straub; next, the three Mies van der Rohe slabs, with the paired Lafayette Towers at right and the Pavilion apartments to their left; and, latest of the group, the Four Freedoms House by John Hans Graham & Associates.

The two photos at right show the difference that a dozen years of development have made in Gratiot. At the top is the view in 1955, and below it an almost identical current view. In the foreground is Regency Square by Green & Savin, the final unit of Gratiot; just behind it the Four Freedoms House, a 22-story building containing 320 apartments for the elderly completed in 1965; and in the left background, behind the wide swath of green, the Pavilion apartments, built by Mies in 1958.

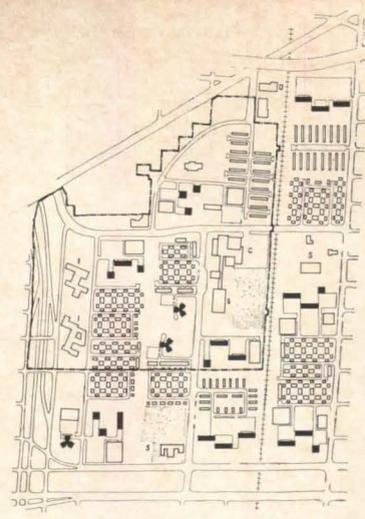




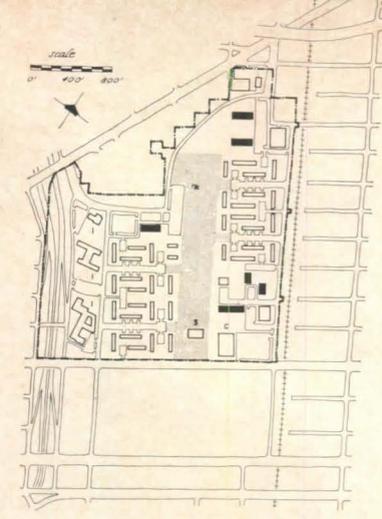
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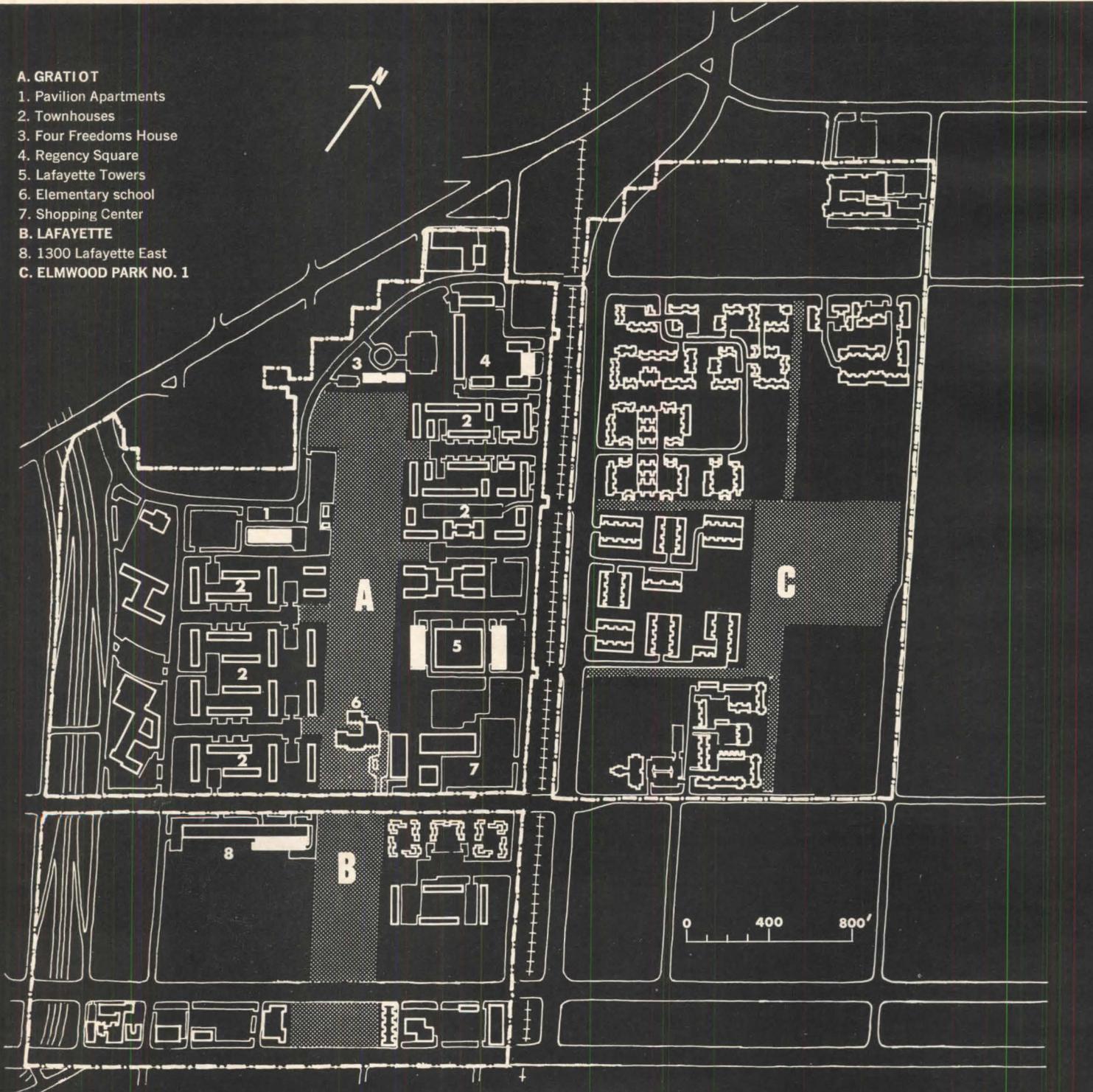
A. GRATIOT

- 1. Pavilion Apartments
- 2. Townhouses
- 3. Four Freedoms House
- 4. Regency Square
- 5. Lafayette Towers
- 6. Elementary school
- 7. Shopping Center

B. LAFAYETTE

- 8. 1300 Lafayette East

C. ELMWOOD PARK NO. 1



Gratiot evolved through a variety of plans, and survived a barrage of early criticism

1 The Detroit Plan, 1947: The city boldly began its own redevelopment program in 1945, without waiting for Federal action. Its plan was stated in the architectural terms of building types and site design. Apparently no one asked how the planners would insure that homebuilders would follow their designs. Both these designs, and the climate of discussion surrounding the Detroit Plan, suggest that in 1947, urban renewal was viewed as a matter of private enterprise expanding on the patterns of the public housing program.

2 The first official Urban Renewal Plan, 1951: The Housing Act of 1949, and the bureaucracy it spawned, set forth a new model for redevelopment plans. It was taken from the comprehensive planning methods of the city planners rather than from the development plans of previous Federal housing and slum clearance programs. Two-dimensional land-use plans replaced the three-dimensional designs of the Detroit Plan.

3 The Citizens Redevelopment Corporation Plan, 1955: The CRC organized by Walter Reuther and other leading Detroiters to get the Gratiot project moving, employed Oscar Stonorov, Victor Gruen Associates, and Leinweber, Yamasaki & Hellmuth, who produced a predictably plastic conception that contrasted sharply with the land-use approach. The City Plan Commission and others favored unified superblock designs centered, in Radburn fashion, around open spaces, parks, and schools. The CRC's architects focused their widely published scheme on a central boulevard, not an open space, and along it clumped small groups of distinctly patterned buildings.

4 Greenwald-Katzin Plan, 1955: Developer Herbert Greenwald, a patron of Mies van der Rohe, naturally called on Mies when he became interested in Gratiot, who in turn brought in planner Ludwig Hilberseimer. The first Hilberseimer suggestion was a crystalline superblock sharply distinct from the street-centered CRC plan. Mies refined the Hilberseimer superblock, and furnished it with thoughtfully composed apartments and townhouses, a school, and a shopping center derived from characteristic Mies types. The tragedy of Greenwald's death prevented complete realization of his design: only three out of six apartments and about half of the townhouses were built.

5 The Gratiot, Lafayette, and Elmwood Park No. 1 projects, as built (or, in Elmwood, abuilding).

From the beginning, the city attempted to insure that this worst among Detroit's slums would be replaced by modern housing and comprehensive community facilities arranged in such a way as to produce an effective new symbol. The remarkable sequence of site planning concepts developed over the years for the Gratiot area forms a record of this effort.

Highlights in this evolution appear in the accompanying series of site plans and their captions. These illustrate the growth of the idea from 1930-style public housing stereotypes through a series of neighborhood unit ideas to the final scheme of powerful clarity.

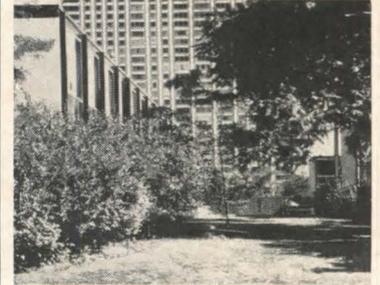
Yet, curiously, the evolution follows a circular pathway at the same time that it advances. Clearly the superblock, common central green and cul-de-sac ideas of the final Hilberseimer-Mies design (4) return to 30- or 40-year-old patterns worked out by Perry, Stein and their cohorts.

Architectural opinion has largely chosen to ignore the planned unit aspect of Gratiot and direct critical comment at two other aspects of the project. Those who fancy themselves as humanists objected violently to the faceless glass in which they seemed to feel Mies had, by force, put the secrets of family life on exhibit.

True as this may be—and lack of acoustic privacy proved more serious than the visual privacy problem—today Gratiot is inhabited by people well pleased with their habitat. Even the great expanses of blank glass have their virtues: they permit each person to design important aspects of his home's public face. The Batman posters pasted in the windows and the

swag drapes suggest that facelessness may be a virtue. Each occupant can be his own stylist and architects can drop that disturbing but all too commonly practiced role.

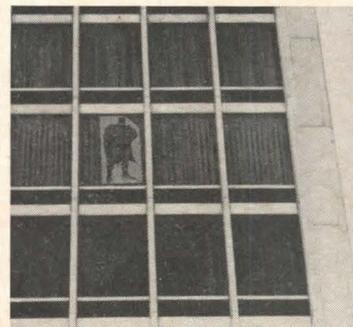
Since the visits of the early commentators who reacted so righteously to the initial barrenness of Mies's work at Gratiot, an important transformation has taken place. Albert Cald-



well's incredible planting has grown up into a wonderful jungle. Now the place looks as it was probably meant to look—a set of elegant pavilions tucked into a great shaggy 19th-century landscape garden.

Landscaping aside, opinion has by no means uniformly found fault with the Mies buildings in Detroit. No lesser figure than Peter Smithson found in it "the essence of what one is searching for . . . from all large-scale developments." Smithson, theorist and polemicist as well as architect, may have been responding more to the organizing idea of the whole superblock than to the architecture as such. The historic accident that prevented Mies from completing his work at Gratiot provides a unique demonstration of the importance of the plan's organization.

The tragic airplane crash that took patron Herbert Greenwald's life stopped construction before the project was half finished. Later other builders, and other architects, finished it up in small bits and pieces. Mies's fans and those who just like things to be tidy have bewailed this calamity, and have been little interested in what has taken place since Mies left off. To do so is to miss a most significant lesson in the power of plans.



The thing that bothers professionals who look at Gratiot today is the kitsch taste of the later bits of the project—that is, all of them except the last one, Regency Square. Against the international perfection of Mies's facades, the homey little peaked roofs (photo at right) do look pretty awful, at best striking a sort of comic note.

At the same time the comedy contains a moral for architects and one that they ought to ponder. Public reaction to Gratiot suggest that, kitsch or no, the man in the street approves of its architectural variety. If Mies, or any other architect for that matter, had done it all it would have looked unmistakably like a project.

An important question remains. Can the necessary variety be obtained without resorting to architectural mediocrity and worse? Regency Square may answer this question. As the best work and the last in the period since Mies stopped, it will repay examination.

The scheme clusters walkups and a baby elevator slab around a fine square built over a parking street below. It neatly tucks a tenant's car right into the basement below his dwelling (see section opposite).

The walkups use a duplex or maisonette design that produces an internal spatial variety rare in speculative apartment building. The stair towers punch up out of the building silhouette to serve very utilitarian roof decks on top and occasional penthouse units stashed under battered walls between the towers.

Blank brick endwalls, a modest cornice, neat railings, direct fenestration, and cleanly detailed interiors contribute to an effortless simplicity rare in this day of over-styled "luxury apartments" and brutalized multiple dwelling design. The central square, part planted handsomely and part a generously scaled pool, is set about with furnishings and paving detailed in an equally direct manner. Regency Square shows itself to have been done with loving care, yet it avoids the narcissistic over-design that so often occurs when



a developer finally gives an architect or a landscaper a chance.

Compared with its Gratiot neighbors done since Mies signed off, Regency Square makes a real leap forward. It demonstrates the significant advances in high density urban housing design during the long grinding years the project was underway.

History of housing

Depression-style public housing models of 1947 gave way to coldly efficient highrise slabs and to various, more or less mindless adaptations of speculative suburban garden apartment types. These were the formula for the FHA 220 multifamily units that dominate urban renewal projects.

Fortunately, changes in high density housing continued to occur. Distinctions between garden apartments and elevator buildings, between row houses and walk-up flats, became blurred in the best schemes. Lot by lot development patterns where serial structures each presented a standardized front door to the street, but none created a dooryard, gave way to clusters formed round a hierarchy of spaces leading from public way to private terrace and dooryard. After some primitive beginnings in schemes for West Coast renewal projects, and considerable sophisticated theorizing and prototype building in Europe, housing of this new type finally got its clearest expression in Sert's Peabody Terrace for Harvard married students.

Regency Square applies these lessons in the demanding realm of speculative building. This is

a world where hunger for immediate capital gains normally destroys any interest in the long-term investment values which Ivy League builders can respond to. In many places financing walk-ups and financing elevator apartments involve completely different people and institutions. Such fragmentation of the development industry requires heroic energies to glue together a package that follows the lead of Peabody Terrace.

Green & Savin's work exhibits another virtue rare until now in the work at Gratiot: it appears appropriately dense. Sybil Moholy-Nagy once acidly characterized Gratiot as "villas in the slums." No one could mistake Regency Square this way. By Detroit standards, and by the standards of most other American cities, it forms an intensely occupied, defensible unit, well served with the street eyes and other special needs of urban housing long ago spelled out by Jane Jacobs.

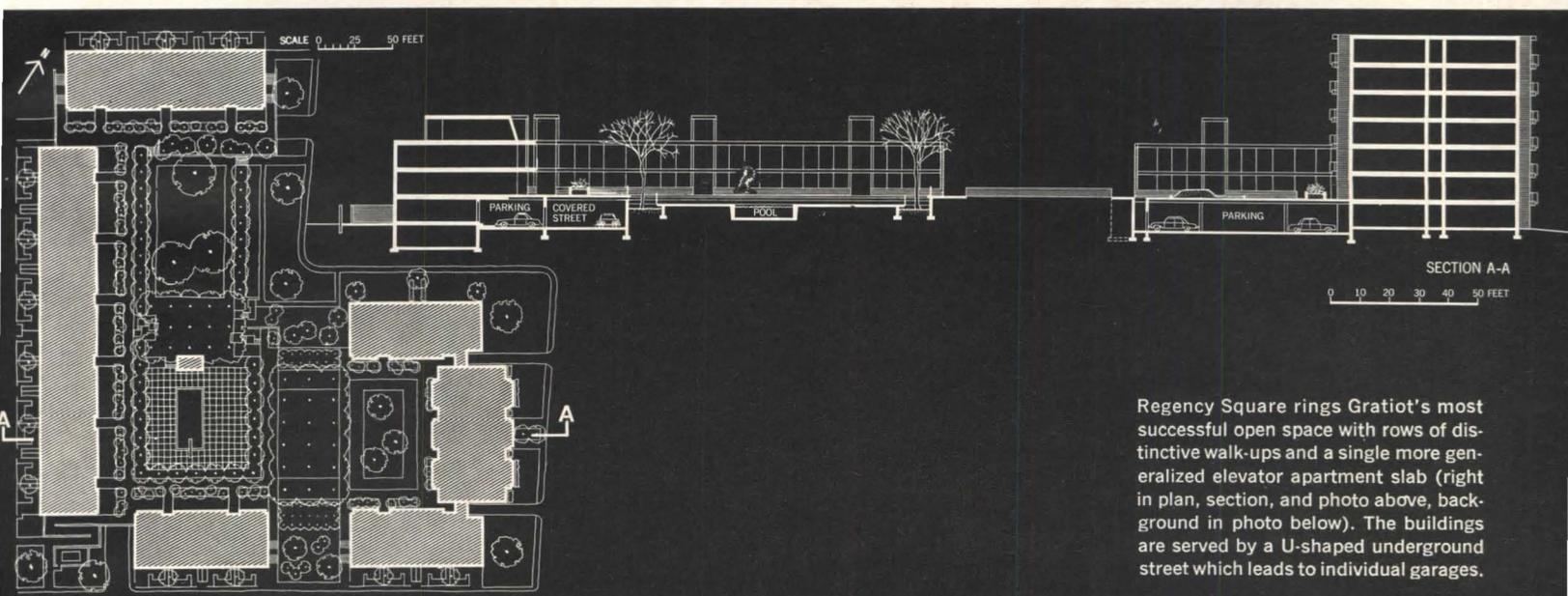
It is too soon to be certain that Detroit has learned from Gratiot the lessons necessary to produce in every case the best available architecture and urban design. But the way seems clearer than ever before.

The final part of the project promises something more important perhaps than did Mies's landmark plan of 1955. Regency Square promises that we may find a way to a broadly based urban design not dependent on the terrible risks of finding for every tract of urban renewal land cultured patrons as developers and international pioneers as their designers.

Regency Square shows there is a middle way between mediocrity and too much Mies

FACTS AND FIGURES

Regency Square, Detroit. Owner: Hamilton Construction Company. Architects: Green & Savin Inc.; Richard Wycoff, Associate. Landscape Architects: Johnson, Johnson & Roy. Engineers: McClurg, McClurg, Mickle & Cooper (Structural); Migdal, Layne & Sachs (Mechanical and Electrical). General Contractor: Hamilton Construction Company. Building area: 151,888 sq. ft. (exclusive of garages, underground drives, basements, balconies). Construction Cost: \$2,500,000. PHOTOGRAPHS: Benyas-Kaufman except page 82, Airpix and page 83 (top), Photograph House.



Regency Square rings Gratiot's most successful open space with rows of distinctive walk-ups and a single more generalized elevator apartment slab (right in plan, section, and photo above, background in photo below). The buildings are served by a U-shaped underground street which leads to individual garages.



NEW MOVEMENT IN CITIES. By Brian Richards. Published by Reinhold Book Division, New York, N.Y. 95 pp. Illustrated. 6½ by 7½ in. \$2.45 (paper). \$5.50 (cloth).

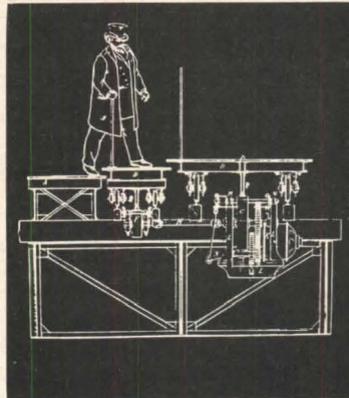
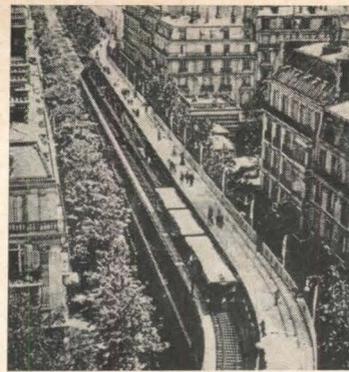
REVIEWED BY SHADRACH WOODS

Brian Richards is an English architect who has long been closely associated with Team 10. His approach to the question of urban transportation systems, in this stimulating study, is a reciprocal of Colin Buchanan's *Traffic in Towns*. Whereas Buchanan begins by saying that the automobile is here to stay and implies that it will become the principal tool of urban transportation, Richards takes the view that it is probably not possible for existing cities to be fully motorized—and especially for European cities to be motorized to any reasonable standard of private transport—and still to retain a livable environment. He suggests that, in the future, cities will need to investigate other transportation systems and to invest in these if they are to survive in something like their present form: scaled to the autonomous man who moves about in man-sized spaces. The problem he raises then is how cities can be equipped with the necessary transportation facilities to allow them to function sweetly.

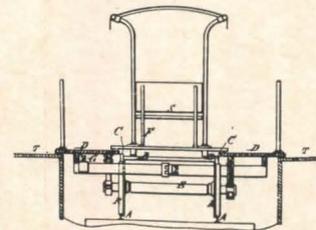
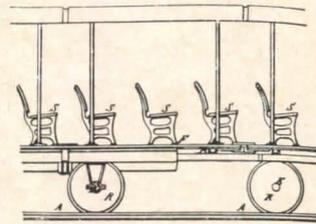
Mr. Richards has, in fact, written two books, the second of which deals with the various existing or proposed movement systems which he considers to be applicable to the present situation. He examines the field of mechanical transport and provides us with a catalog of systems, with some of the advantages and disadvantages of each and some indications of comparative capacities and costs. He indicates ways in which the various systems can be combined to the best advantage.

It is interesting to note that many of these mechanical transport systems were first installed

Mr. Woods is an American architect and urban designer practicing in France and Germany. His work includes the new town of LeMirail, near Toulouse (June '63 issue), and the new campus of the Free University in West Berlin.



1.



2.

Moving platforms served the Paris Exhibition of 1900 (1), where 5-mph walkways paralleled a 2½-mile electric railway. The Chicago Exposition of 1893 (2) had a mile of continuous platform traveling at 6 mph, flanked by 3-mph transitional walks.

at international exhibitions and world fairs. The point, of course, is that what is required today for cities is not so much new ways of traveling greater distances faster (SST, aerotrain, etc.), but ways of moving greater numbers of people over relatively short distances in comfort.

Speed is not essential. Continuous movement and convenience of points of access are more important. Making the subway trains go faster only spaces the stations and makes the subway less, rather than more, efficient for most users. The "Telecanape," a modern tunnel of love, would provide a pleasant and useful addition to our urban transport vocabulary. The high speed metro extends the problem over larger areas. Each has its place, although more emphasis is usually placed on the latter in most contemporary plans.

Mr. Richards' catalog provides a basic vocabulary of use to city planners and architects who have to deal with the problems of moving people around in large numbers over relatively short distances. He states some of the problems of organization and design which are involved in integrating these systems into various urban situations and makes a case for integrating them. Unfortunately he is not very generous with information or even speculation on the cost of integrating movement systems into buildings as compared with that of using the established public rights of way. It would seem reasonable to suppose that public transport should be accommodated in public space.

The integration of transport into buildings which are not public property might become a legal and economic problem of unmanageable proportions. Is it conceivable that property owners and builders be required to cede rights of way through their buildings to support increased building and maintenance costs in the public interest? Mr. Richards believes that it is, and that private interests may indeed benefit from the increased traffic through their commercial domains. However, it is unlikely that all will agree, and we would

probably have to institute some form of coercion in order to assure minimum continuity in these systems.

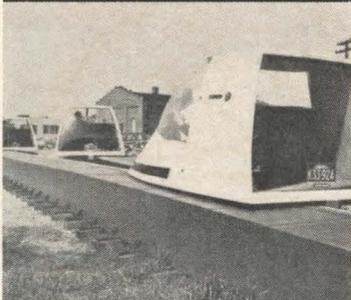
Coercion is, of course, a necessary fact of urban design, although it is not always considered good form to say so. None of either Richards' or Buchanan's suggestions could be carried out without massive intervention on the part of the authorities. The forces of gravitation taken alone, in a free economy, lead only to urban chaos. It is difficult to imagine that we can achieve any kind of reasonably sane environment without some positive power to persuade the individual developers from subjecting the community to objectionable stimuli. The quality of physical environment seems to vary inversely with the amount of coercion exercised over private interests, and the art of planning lies in the balance to be achieved between official control and private enterprise.

The other of Mr. Richards' books is called "The Future City." It is a speculative account of how various systems of movement might give form to the city, and it makes many questionable assumptions. Among these are the assumptions that anyone can tell much about the future, and that the city should have "form." We suppose that by form is meant some form of comprehensibility. In his crystal ball he sees the city as consisting of "central," "residential," "industrial," and "leisure" areas with different transport systems relating to these. We would say that this is either too much or not enough definition and would prefer that the future city be imagined as a more synthetic organization. In the analysis suggested here, in any case, it is likely that transport systems would be required to connect one area with the others, quite simply and without the necessity of changing carriers.

However, we would argue that cities can be less rather than more compartmented and that "everything everywhere" is more reasonable than "a place for everything and everything in its



3.



4.



5.



6.

The "Telecanape" endless train (3) ran at the Swiss Exhibition of 1964. "StaRRcar" (4) is an American invention for roads and automated tracks that work like chain conveyors (5). The ultimate 60-mph transport is the Rocket Belt (6).

place." The reciprocal of movement is as important to planning as movement is, and, although this book is specifically concerned with movement, it is impossible not to consider ways of reducing excess movement by a more even mix of activities. The "why" of movement will be as important in the future as the "how".

A few examples of designing buildings with integrated movement systems are given. Unfortunately all of these, except for Mr. Richards' own scheme for Oxford Street and the Soho redevelopment by Richards and Dean, belong to the "More is More" school of urban design, in which a great deal of unusable space is produced. It is disappointing that Mr. Richards should indulge in these archigrammatical lapses in an otherwise serious book. One cannot in any way justify the fantastic amount of investment that would be needed to make such elaborate people-traps as those proposed by J. Weber or Warren Chalk and Ron Herron. Surely Mr. Richards could have found some possible examples of transport integrated into buildings, or are we to believe that architects always lose their grip on the economic realities of building when they are confronted with transit problems? In any case the rather ambiguous inclusion of these puerile pipe dreams takes much of the steam out of Mr. Richards' arguments for integrated transit.

His own suggestions for Oxford Street redevelopment and the Soho scheme which he worked out with C. Dean (this was developed as an annex to the "New Ways for London" study by the Smithsons, ca. 1959) are more reasonable, and could work if the legal tools existed or could be developed to accommodate such intricate integration of the public and private domains.

Generally, Mr. Richards has many excellent suggestions, not the least of which is that "Transport should have delight." His book is essential to designers concerned with the urban scene and provides much of interest even to the profane. It is a

timely reminder of all the effort that has already gone into the invention of transport systems, effort which need not necessarily be wasted. For this reminder we may well be grateful to him.

LE VOYAGE D'ORIENT. By Le Corbusier. Published (in French) by Editions des Forces Vives, Paris. 176 pp. 6 by 6 in. \$2.75

MISE AU POINT. By Le Corbusier. Published (in French) by Editions des Forces Vives, Paris. 64 pp. 5 by 5 in. \$2.75

REVIEWED BY STAMO PAPADAKI

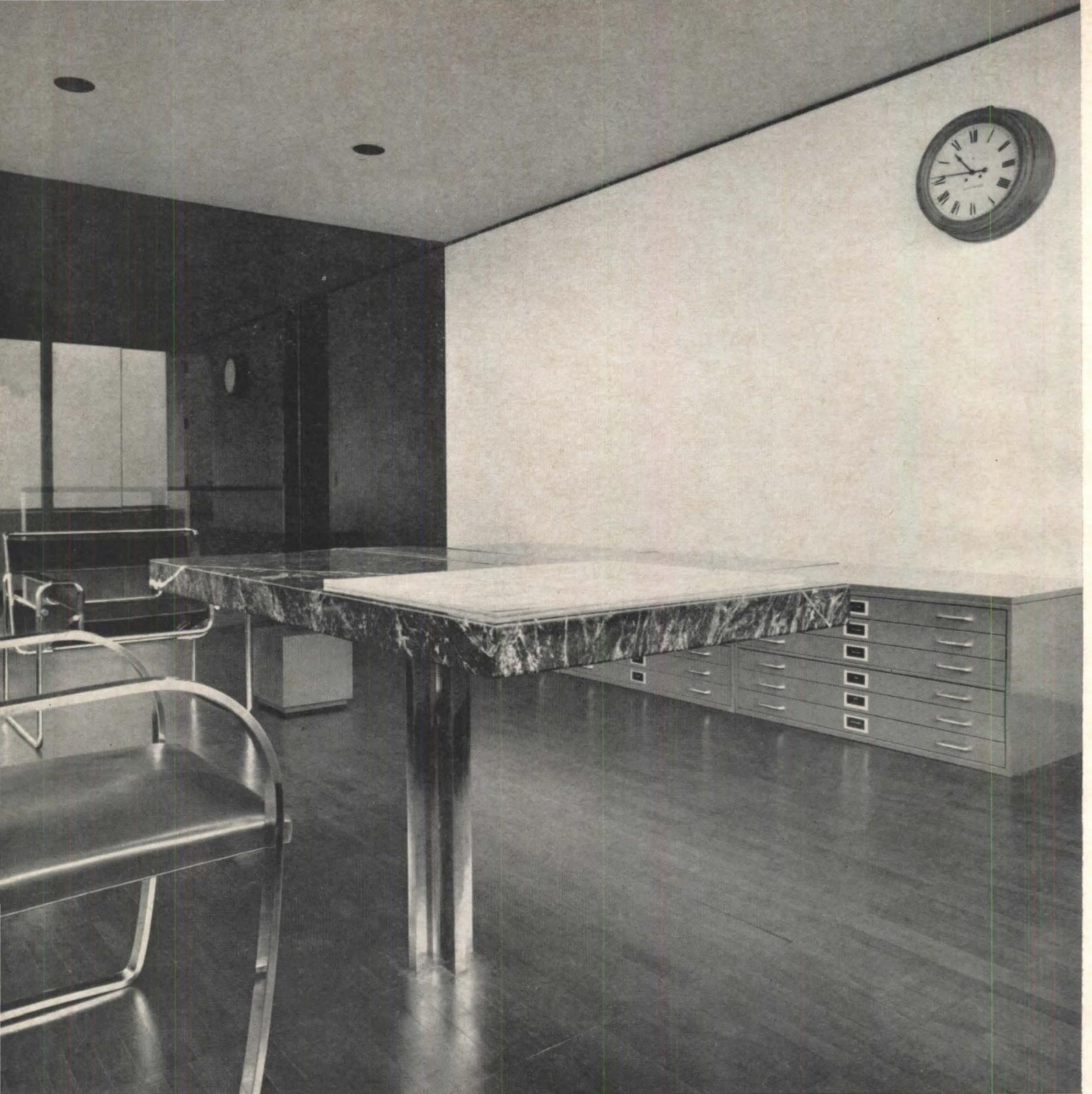
The time which elapsed between the writing of these two small volumes is the time in which the entire architectural, planning and pictorial work of Le Corbusier is situated. Here we are presented with the alpha and the omega, with the thoughts of a restless young man in search of basic truths and the sober wisdom of the septuagenarian. Nineteen-eleven was the year of a cholera epidemic ravaging Eastern Europe; while, at Naples, the terminal point of this pilgrimage described in the first volume, 30,000 troops were embarking for the conquest of Libya, forerunners of the many expeditionary forces to distant lands that are common in this century.

Charles-Edouard Jeanneret, a draftsman at the office of Peter Behrens in Berlin, and August Klipstein, a young art historian from Flanders, decided to obtain a firsthand knowledge not only of the relics of a remote classical past but of the still thriving popular arts of the Orient. (Orient, in this instance, meant southeastern Europe, better known under the generic name of Balkans).

There, for historic reasons, stood the frontiers of the industrial revolution: the potter was doing what his forefathers had done during the past millennia, the rhythmic sound made

(continued on page 132)

Mr. Papadaki is a professor of Design at Brooklyn College, and editor of the book *Le Corbusier: Architect, Painter, Writer*.



MADISON AVENUE WAS NEVER LIKE THIS

In George Lois's office (above), a Mies Brno chair faces a green marble slab on a stainless pedestal by Zographos. The Breuer Wassily guest chair is flanked by a slate cube. Across the teak-paved floor are ordinary gray art files under an old schoolhouse clock. Behind the brown glass in the background is a stair (right) leading to a small conference room between the offices of senior officers Papert and Koenig. A sand-finished plaster well with teak rail makes a sculpture of the standard spiral stair.

The New York advertising agency of Papert, Koenig, Lois Inc. has grown at phenomenal speed by breaking Madison Avenue conventions. It started only six years ago by leasing 3,000 precious square feet of the Seagram Building before it had a single client, and having among its three founders an iconoclastic art director, George Lois.

PKL's nonconformity has attracted dozens of clients, as diverse as Quaker Oats and Robert F. Kennedy, and its gross is now

more than \$50 million a year. It has outgrown its second office, in Rockefeller Center (Dec. '62 issue) and recently moved into the U.S. Plywood Building on Third Avenue. Here designer Nicos Zographos (working with Architect Charles Koulbanis) has turned five tower floors into a cool interior world that is tailored to PKL's unconventional needs, yet makes some broader points about working spaces.

From the top southeast corner of PKL's new domain (opposite

and below), George Lois oversees every detail of the firm's output and image, from the housewife's smile of satisfaction to the ash tray on the receptionist's desk. Lois's friend Zographos had advised on the design of PKL's last offices. "Nico and I get along well together. We're both Greek," he explains, although he himself seems as American as an Ionic portico. He admits to being "f fanatic about neatness," but when he talks about how the sun strikes the sand-finished plaster

he reveals a full-bodied Mediterranean vision of neatness.

Lois's office is designed to impress nobody but himself. He rarely meets visitors here and can seat a maximum of one. From his Breuer chair, that visitor is well placed to savor the precise alignment of the desk pedestal (opposite) with the window mullions. The desk, Lois admits, is almost pretentious; that is why it has been carefully balanced with a row of ordinary art files along the opposite wall.



Every one of PKL's five floors is laid out around an armature of wide, symmetrically placed corridors that varies only in detail from floor to floor (typical plan below). Like streets in a town, they are used for meeting as well as movement.

The idea of making corridors wider, in many cases, than the offices they serve was carried over from PKL's last offices. The employee in a 9 ft. by 11 ft. office has the choice of closing himself in (with only his sweeping view

of Manhattan) or adding another 12 ft. to his visual field by leaving the door open. Most of the doors are left open.

Low light levels in the corridors make a trip through them a greater change from the office. Often the only light is what comes through the translucent partitions from outside offices.

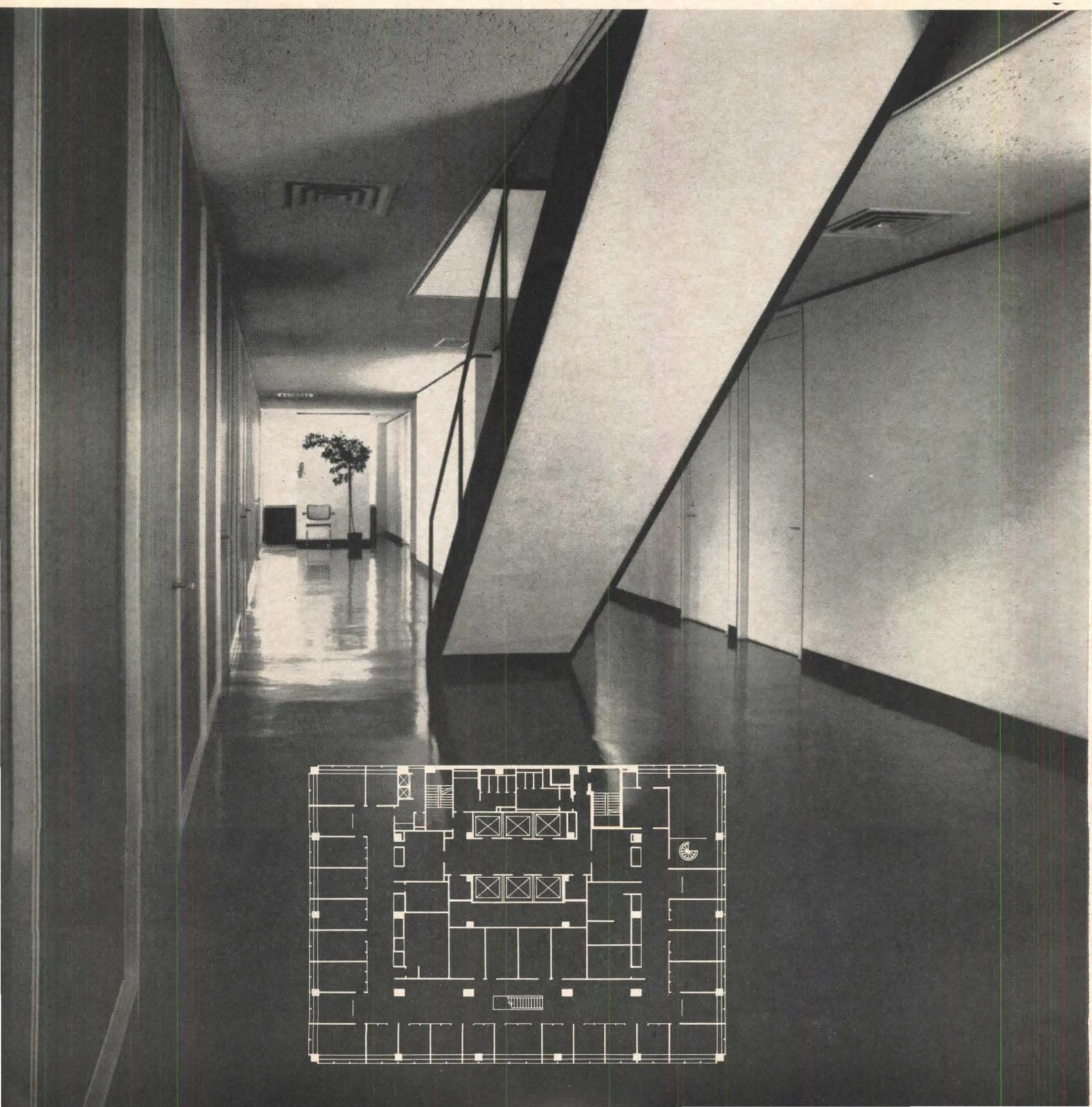
Lois wanted every employee inside a partitioned space so that "even if a guy has a messy desk, nobody has to see it." Electrical and telephone outlets

along some of the corridors, however, point to their inevitable use as overflow clerical space. For other corridors, Zographos has designed filing alcoves neatly fitted between columns and enclosed with plaster walls on the exposed side.

PKL chose the upper floors of this building partly for their unimpeded light and views, but mainly for the plan, which lent itself to the kind of layout they had in mind. Architect William Lescaze had provided a more

than adequate set of fixed architectural elements: exterior walls divided on a convenient 4 ft. 8 in. module; trim venetian blind pockets; and perimeter air-conditioning enclosures that are neither shallow nor low, but neatly organized. Tenant and designer both

The U-shaped corridor repeated on all five floors of the PKL offices has white plaster walls around inner core and translucent glass partitions along outer side. Stair in 12-foot-wide portion of 36th-floor corridor leads to 37th (plan below), PKL's top floor.



liked the man-sized, table-height sills and firm-looking grilles.

The only "building standard" details they wanted to change, happily, were the ones that were easily changeable. In negotiating the 15-year lease, with Zographos at their side, PKL's officers were

Paired teak doors of typical perimeter offices form projections around a black-stripped white mullion. Basic office furniture is a standard black-enameled and chromium-plated line. Side chair is a Zographos design in stainless tubing with saddle leather.

able to get several improvements that raise even the ordinary offices above the ordinary: black vinyl-asbestos flooring; sprayed acoustic ceilings in executive offices, reception areas, and conference rooms; sand-finished plaster walls with black recesses at floor and ceiling and around ceiling-high door frames. Instead of a pattern of fluorescent lighting they were allowed recessed incandescent downlights.

For the movable partitions, Zographos got an allowance of

\$35 per foot, which he exceeded by \$10. Their custom appearance was a bargain at that price, achieved by alterations in an off-the-shelf system. Black recesses were introduced at the top and bottom and in the posts (below); panels were then filled with translucent glass in a random-looking texture that reveals its precise diamond pattern only on close inspection. Ceiling-high teak doors, pivoted at top and bottom, jut into the corridor when open.

Among the tenant's extras

were the two stairways connecting the top floor with the one below. The one in the main corridor (below left) eases communications between closely related departments. The other, a spiral stair fitted with teak treads and set in a handsome sand-finished plaster well, leads from Lois's office (top right in plan and p. 91), to a small conference room between Koenig's office and Papert's, allowing the three top officers to get together without passing through any other spaces.



The offices of the other two senior officers, Koenig and Papert, are less chaste than Lois's. For one thing, they have chairs enough for a few people to gather. And while they don't violate Lois's and Zographos' standards of neatness, they have a little more visual activity.

Papert's office (below) is furnished almost entirely in pieces from his last office: the same leather and stainless Zographos chairs and square coffee table, the same bentwood chair, painted

black, and slate-topped desk-table—even the same Youngerman painting.

Koenig, on the other hand, has a whole new cast of more recent Zographos pieces: two hefty ebonized wood side chairs facing an oval marble-topped desk and gray-upholstered chair. The stainless pedestals of desk and chair are of the same family, which adapts gracefully to changes in angle for the oval top and accepts the chair casters without the disturbing visual

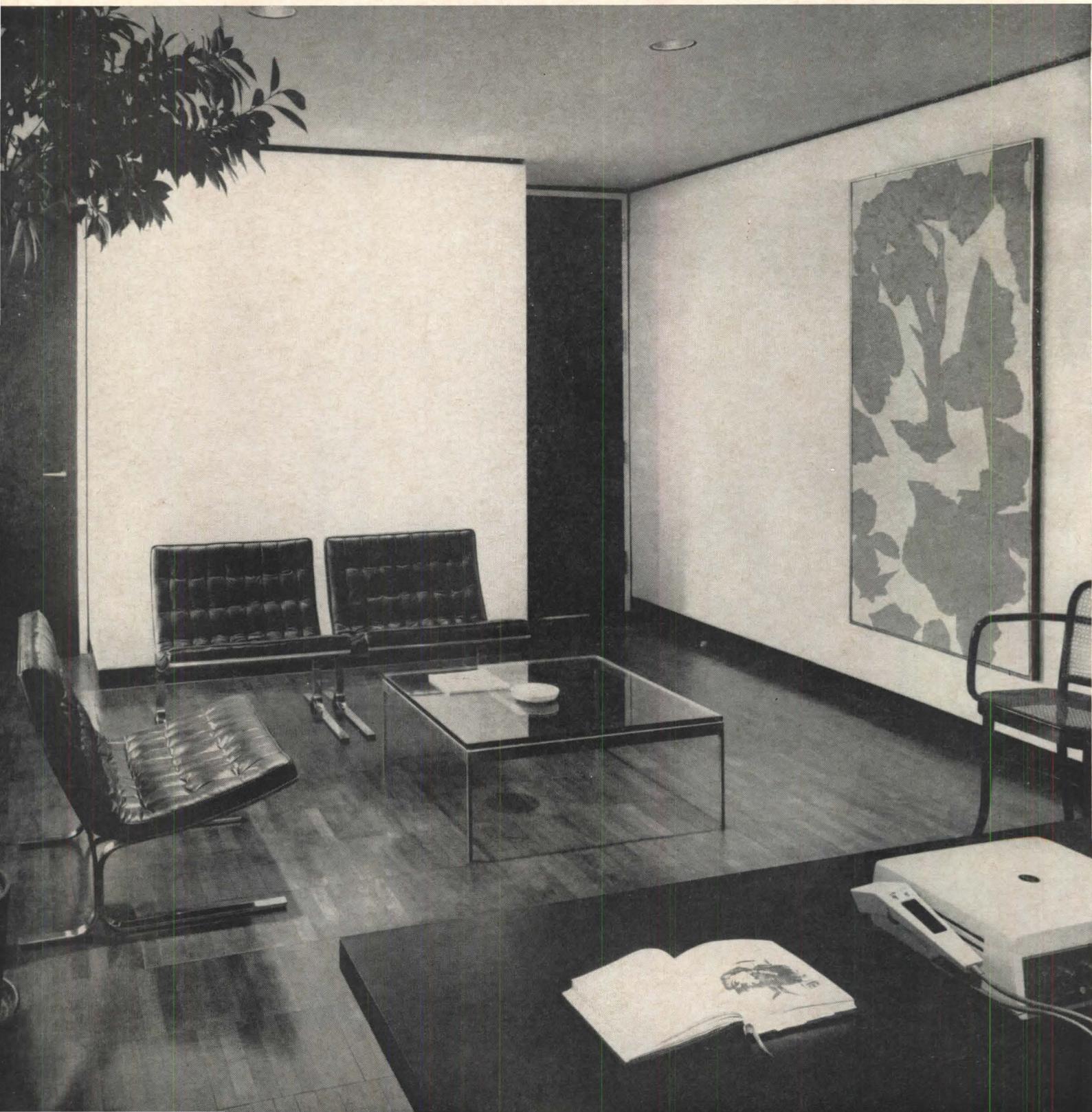
break in line of support that casters usually produce.

While more densely furnished than Lois's, these offices show the same restraint against colors and objects that might compete with the visual materials the firm works on. Except for the Youngerman, there is hardly any art as such. Here and there, in reception and conference rooms, are choice examples of PKL's current work ("The Tower Suite is so high it takes two elevators to get there" in chaste black

letters on a silver ground). One corridor has a 20-foot wall of cork with a broader sampling. And there are indoor trees and wall clocks of many kinds, objects Lois is especially fond of.

The theme that ties the whole five-floor complex together is

In Chairman of the Board Papert's office (below), three Zographos chairs in black leather, a black plastic-laminate-topped desk and a black-painted side chair complete a black, white, and polished metal setting for a colorful Youngerman painting.



Zographos' way of placing objects in space—in isolated spots or dense clusters surrounded by seemingly vast planes and voids. Equally important are his subtle distinctions in texture. His colors are limited strictly to white, black, gray, and brown, but his texture range is greater. In many places he plays texture on texture with almost no change in color, as in the white-painted office doors (and rows of white plastic laminate closet doors) along the white plaster corridor

walls. Where the black vinyl asbestos flooring of the typical spaces meets the dark-stained teak of the executive suites, the transition is heard and felt before it is seen.

Most of these subtleties, of course, are lost on many of PKL's employees and clients, but they keep the visual discrimination of Lois and his art staff sharply honed. The result may be, at least in a small critical area, a more beautiful America.

—JOHN MORRIS DIXON

FACTS AND FIGURES

Offices for Papert, Koenig, Lois, Inc., 777 Third Avenue, New York, N. Y. Designer: Nicos D. Zographos. Architects: Charles J. Koulbanis & Associates. Building architect: William Lescaze. Gross area offices: 50,000 sq. ft. PHOTOGRAPHS: George Cserna.

PKL President Koenig's black-and-white marble-topped desk (below) is directly beneath Lois's office. Only the stained teak floor relieves the neutral palette of all-black wood and leather chairs, gray upholstered desk chair, and marble-topped cabinet.



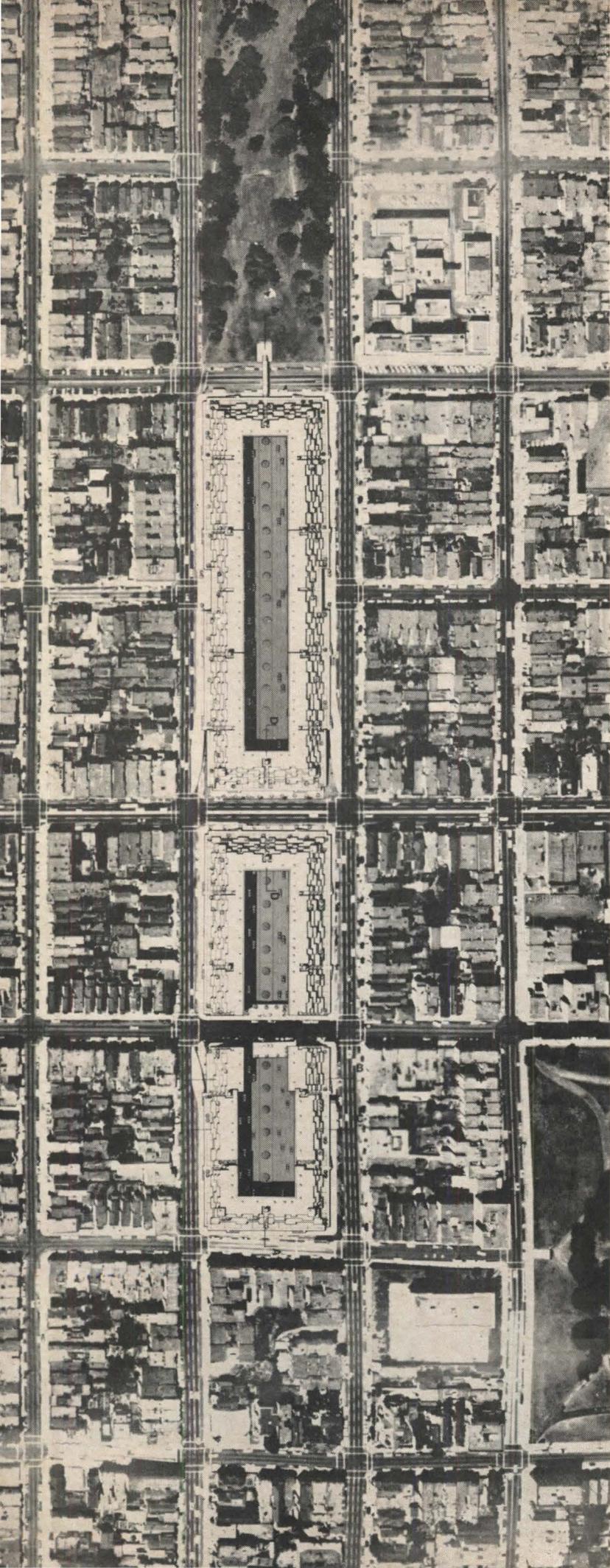
HOUSING OVER HIGHWAYS

An architect-planner-engineer team in San Francisco has arranged, on paper at least, a near-perfect marriage between those two antagonists, city and freeway. Combining freeway construction with urban renewal, the designers have produced a scheme that, in one stroke, would eliminate or sharply reduce the objectionable side effects of the urban freeway, without burying drivers underground; and would increase, rather than deplete, the city's housing stock.

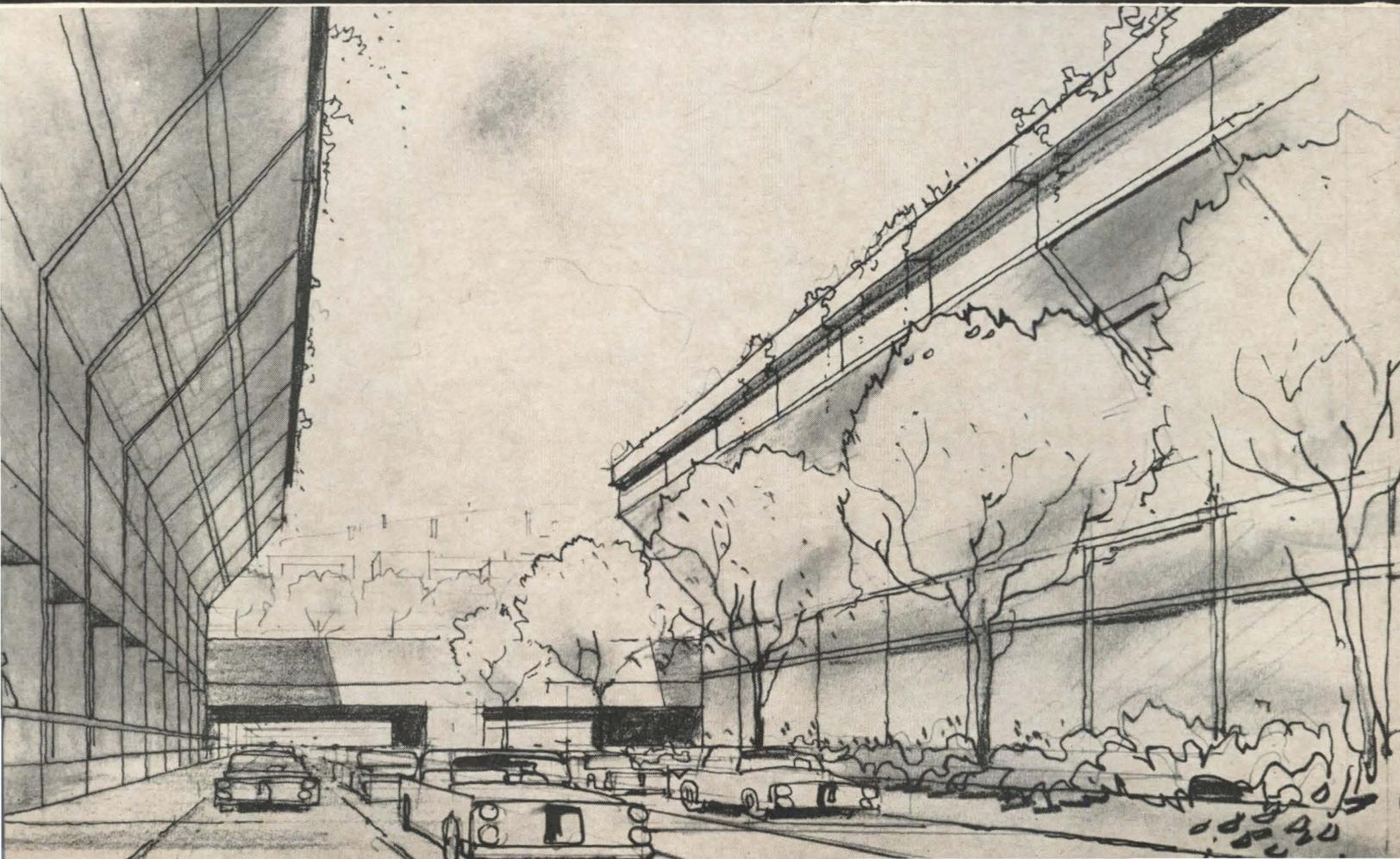
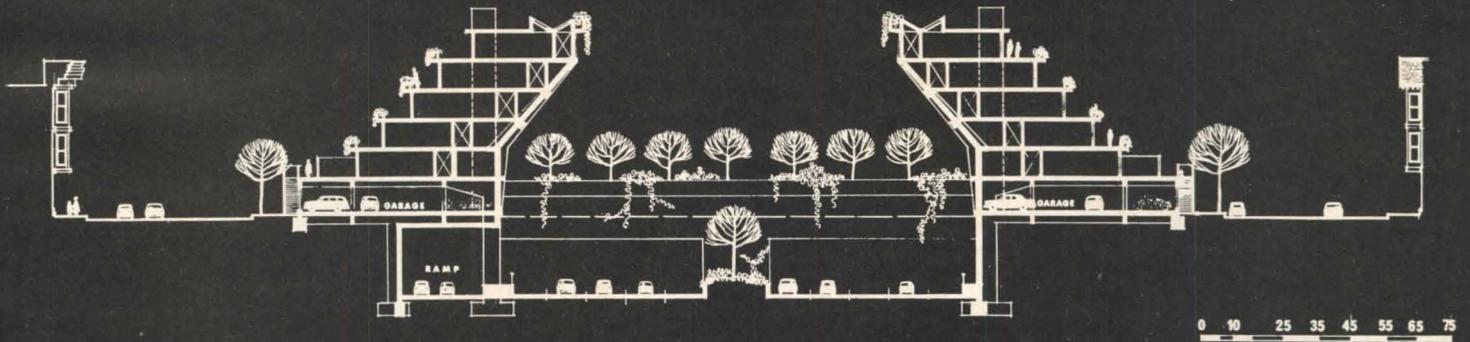
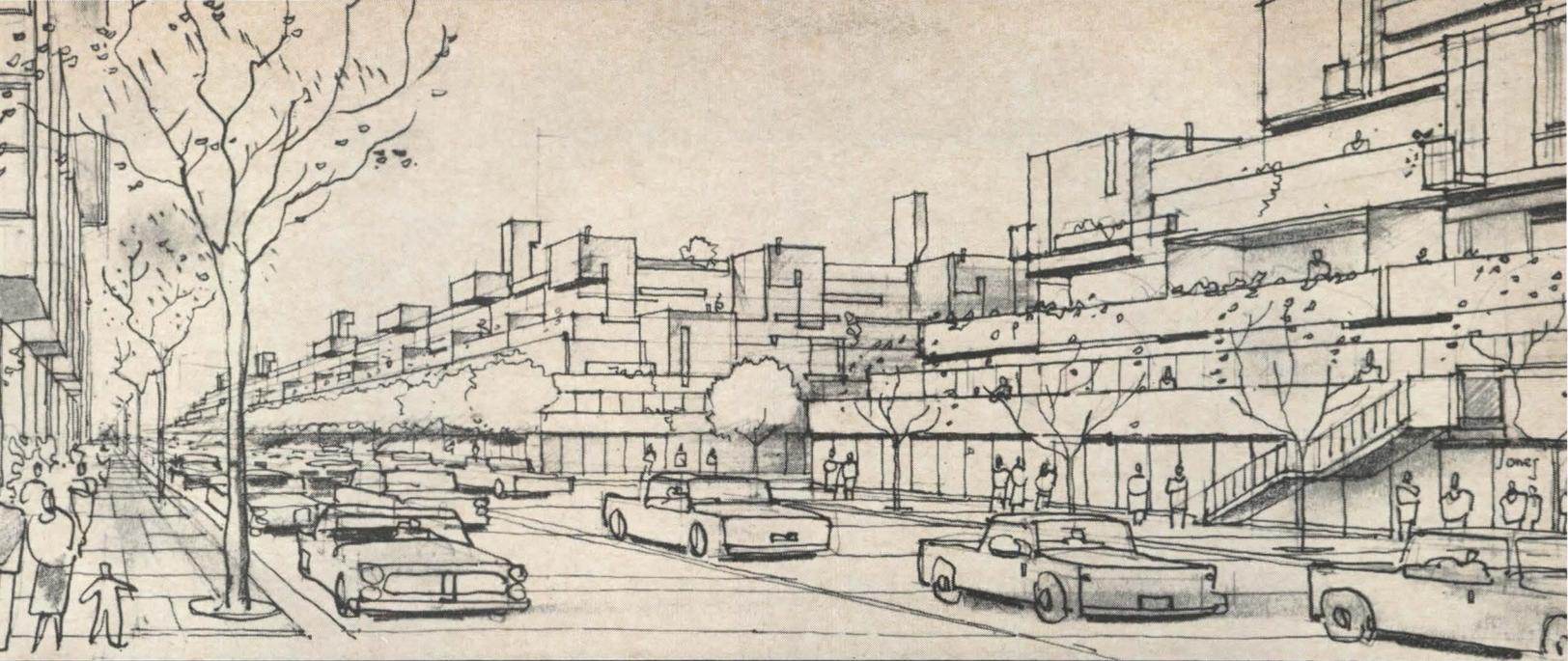
The responsible parties are Burger & Coplans, architects and planners, with Donald P. Reay as consulting architect and Eric Elsesser as structural engineer. For a four-block stretch of depressed freeway along the Panhandle route (site plan, left), this design team proposes 60-foot-high cantilevered concrete walls slanting inward 24 feet over both sides of the freeway over existing streets. These structures would form the rear walls of 1,050 moderate-income, terraced apartment units built above ground-level garages (section, right). For economy's sake, the designers propose wood-frame construction for the housing, which would conform with local building codes since the vertical dimension is no greater than three floors at any point.

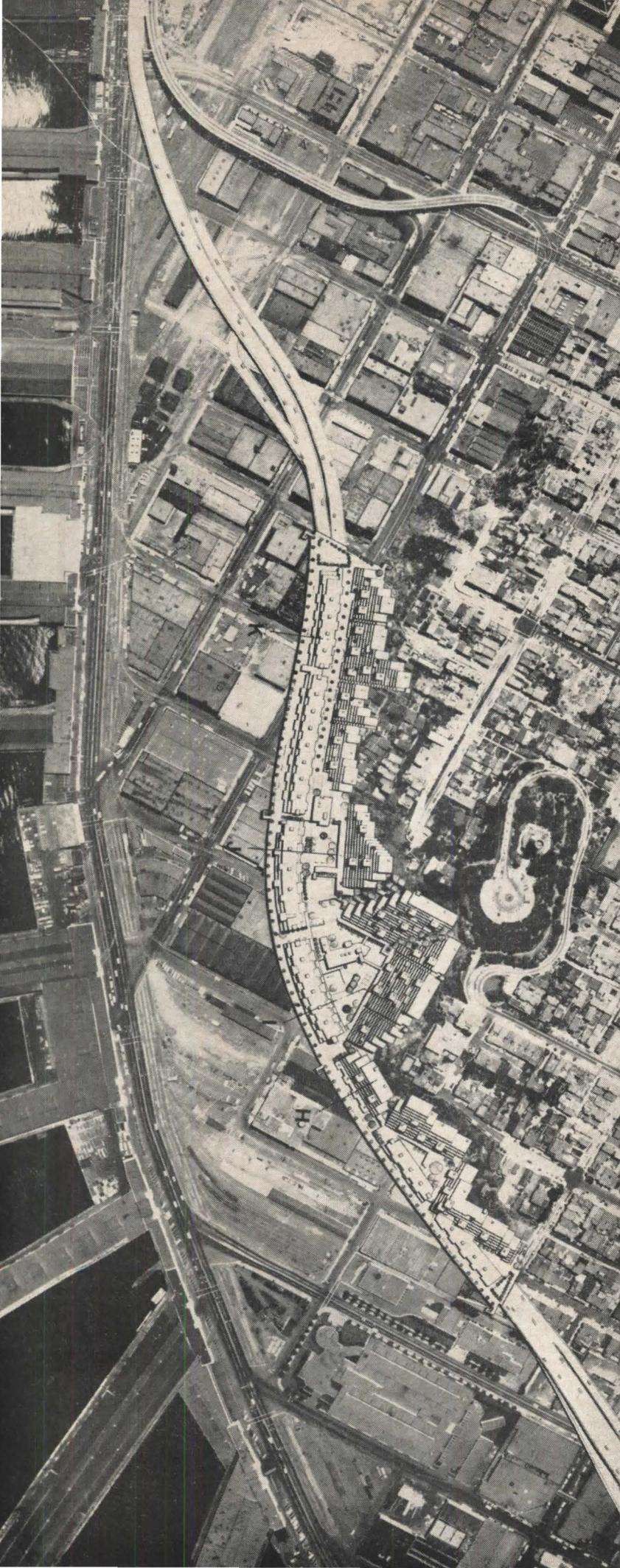
Drivers on the freeway would enjoy natural light and ventilation through an open slot 90 feet wide between the overhanging walls. The slot would also serve as an escape for freeway noises and fumes—directed away from the housing. According to Walter W. Soroka, acoustics consultant, fumes and noises from the freeway would have less effect on the residents than those from existing streets.

Admittedly, the scheme would be expensive to execute. But, as partner Edmund G. Burger



Taking a four-block section of a proposed depressed freeway through a residential area (site plan left), a San Francisco design team has suggested that concrete walls be built out over the roadway to form the base for new low- and moderate-income housing (section right). The new housing would front on existing streets (above right) and would effectively shield the neighborhood from the freeway. Users of the freeway still would have the benefits of natural light and ventilation through an open slot overhead (below right).





For a proposed stretch of double-decked freeway between San Francisco's waterfront and Telegraph Hill (site plan left), the designers envision parking structures supporting open plazas on the landward side of the freeway, with shops along a continuous pedestrian promenade covering the top, leaving the opposite side open so that drivers on the second deck would not be deprived of the view (section right). Rising from the plazas up the face of Telegraph Hill would be terraced apartments (above right) served by incline elevators.

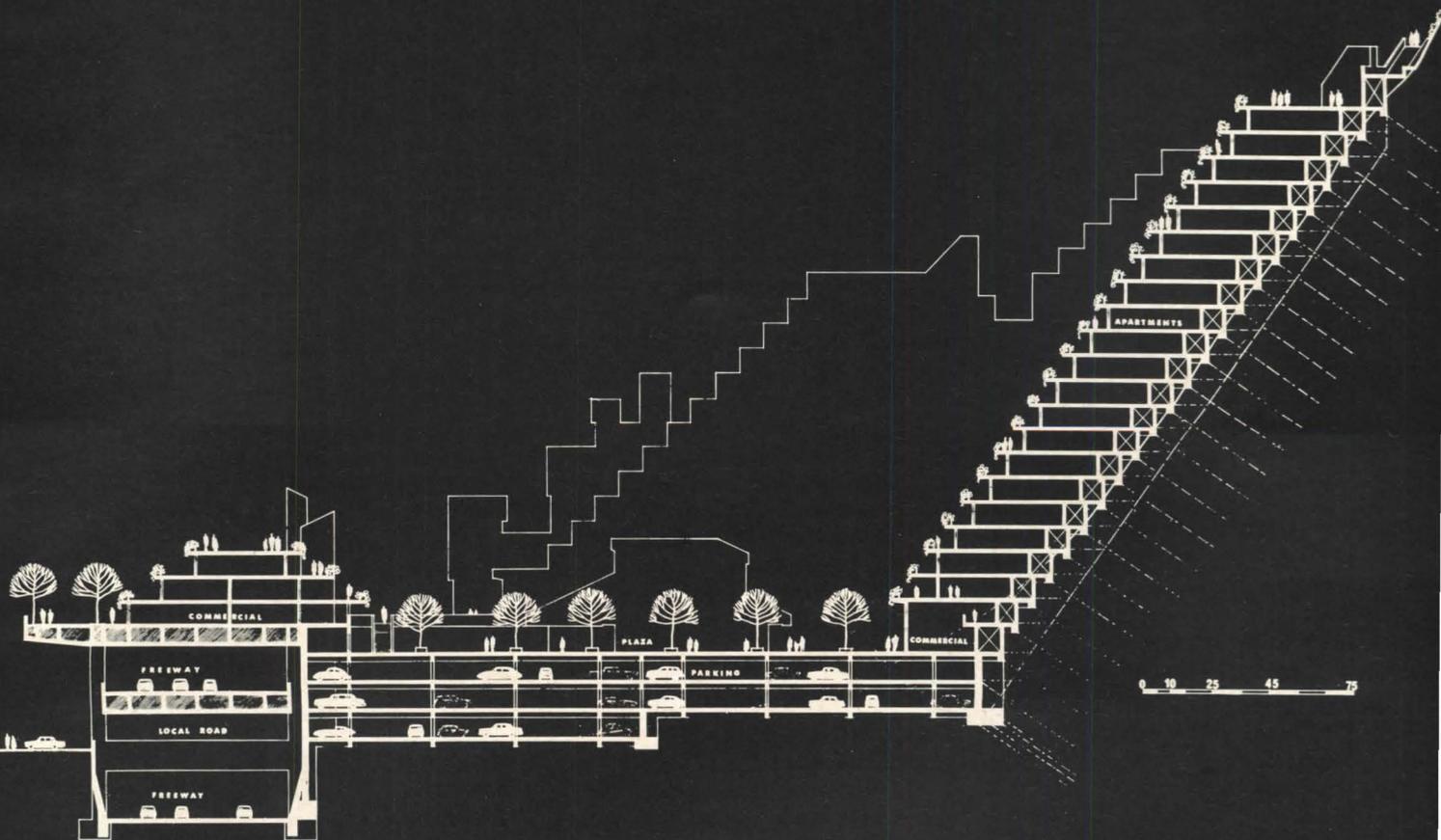
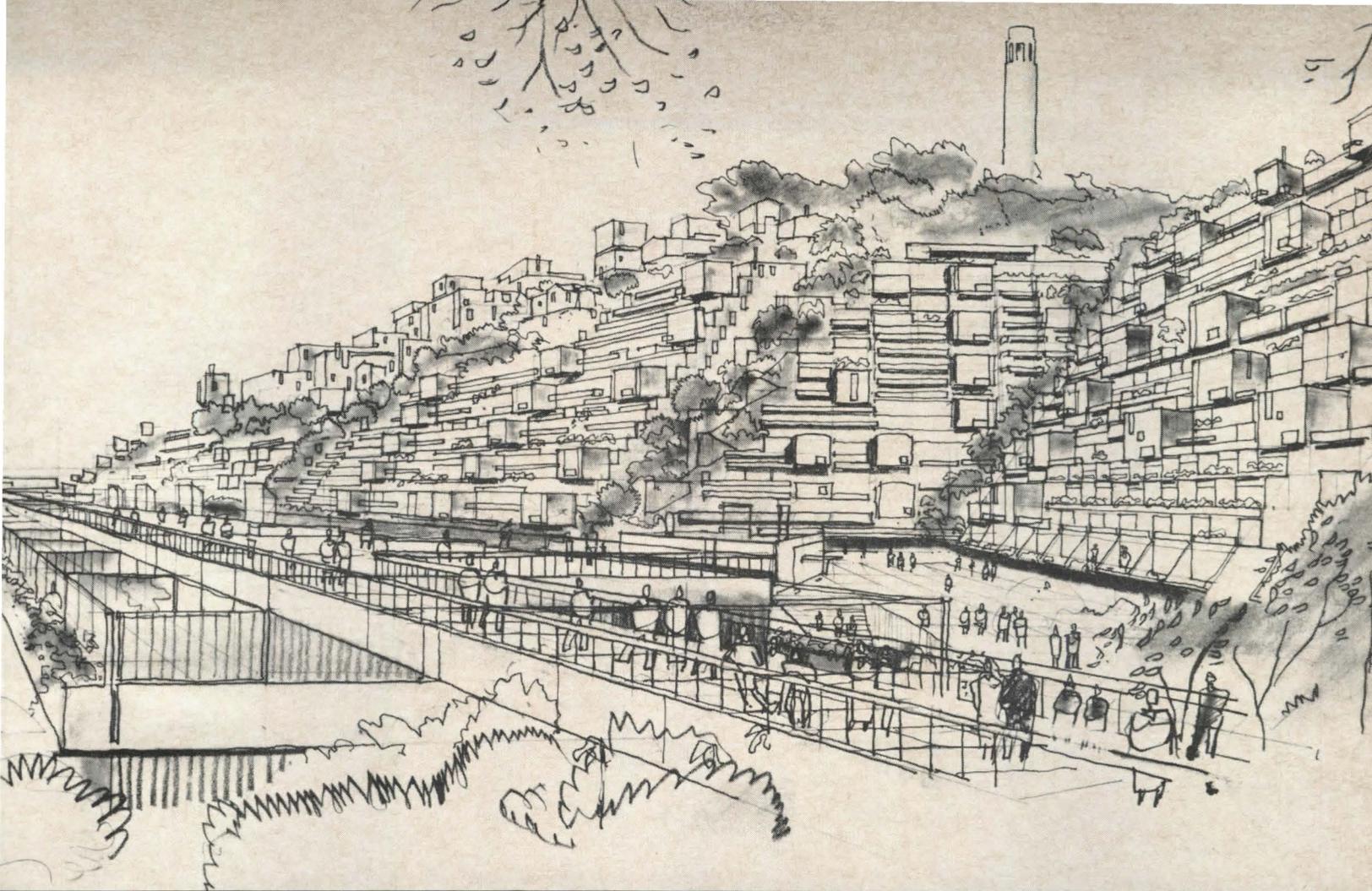
points out, highway engineers don't balk at the extra costs involved in overcoming unusual topographical conditions in the open countryside, so why shouldn't they accept the fact that it costs money to meet the critical problems of integrating freeways into urban areas?

The designers estimate the cost of the shield walls and ground-level garages at about \$1 million a block. They propose that the area be declared an urban renewal project; then the Federal Government would underwrite two-thirds of the "site development" costs. The housing could be built under the Federal 221d3 program for moderate-income dwellings, and poorer families could be housed through the use of rent supplements.

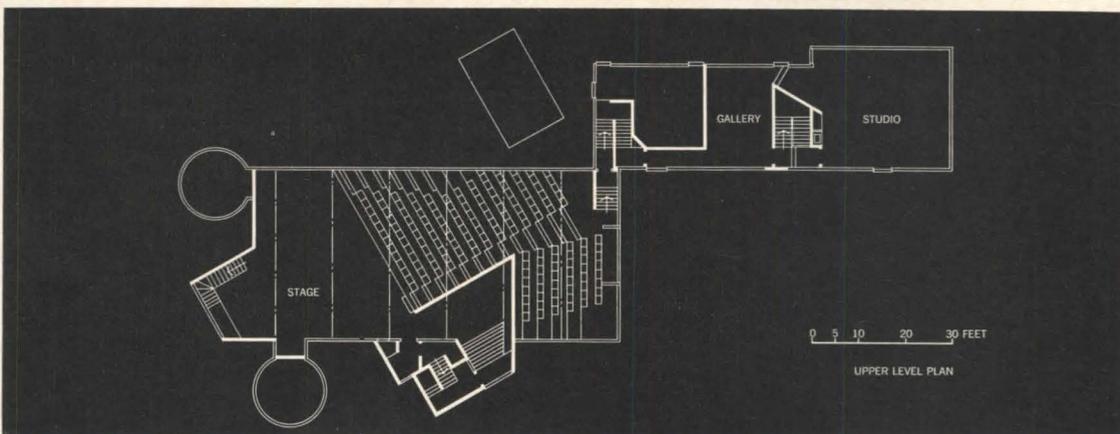
For the more affluent, the designers have come up with a dramatic scheme for a stretch of proposed freeway running along the base of Telegraph Hill near San Francisco Bay (site plan, left). Taking the freeway as planned — four elevated lanes above four depressed lanes — they have proposed that the structure be covered on the top and the side facing the hill, leaving the Bay side open so that drivers could enjoy the view.

The space between the freeway and the hill would become a parking structure, with plazas atop its roof. Commercial and community buildings would terrace over the top of the freeway along a continuous pedestrian promenade. Rising from the plazas would be a series of spectacular residential terraces covering the steep face of the hill. These units would be of steel frame and concrete construction.

For the time being, at least, the designers' proposals are in a state of limbo, casualties of San Francisco's Great Freeway War. They were prepared as part of a city-state attempt to reach agreement on some \$200 million in Federal highway construction. Instead they reached an impasse, and the designs were shelved along with the highway program. At least they are there, in case the city changes its mind, to show what an urban freeway could be.







AN OLD BARN WITH A NEW BIAS

Opposite: Auditorium with angled stage. A large new skylight was inserted into roof of barn, and the stage was extended outward and pushed through the confines of the existing structure. Off-beat shape of stage is a stimulating challenge to performers and director. Angled seating is arranged so as to keep focus of stage inside the big space. Right: stage used for rehearsals. Stair in back leads to downstairs dressing rooms. This is one of several entrances and exits to and from stage.



The first thing one is likely to ask oneself about this picturesque remodeled barn is: "Were these tricks necessary?" Was this the simplest way of turning this barn into an arts center for a New England school?

Curiously enough, the answer seems to be "Yes." Hugh Hardy, the architect chosen by Simon's Rock school to turn the remodeling trick, explains all those angles, protrusions, and visual collisions in perfectly logical terms: "First, we needed a stage with a long, leading edge, because most of the teaching here involved *movement*—dance to start with, and drama and music much later. Well, if we had simply built a squared-off stage at one end of the barn, then the edge would have measured only about 30 ft. By setting the stage on a bias, we added about 10 ft. to that dimension."

But what about all that angled seating, the angled entrances and exits, the angled protrusions? "Obviously, the moment we determined that the stage should be on a bias, everything else began

to follow. The seating—part of it, anyway—followed; the protrusions, those boxes that are pushed out beyond the confines of the original barn to give us extra space or light or access—those followed also; the building had to have a certain consistent language—and it all started with that stage on a bias."

The Simon's Rock Arts Center consists of two parts: a theater (capacity: 200), and the Art Barn, which houses painting and sculpture studios.

The theater shown on these two pages is unusual in at least two respects: it has a big new skylight over the seating area, and a new angled window in back of the stage. This is because the director, Carl Beier, wanted to experiment with natural light. And the auditorium has highly unconventional sightlines—some seating is parallel to the stage, and some is not; and these seating patterns have demonstrated that spectators may get much more involved in any given performance when they are not being forced to stare straight ahead.

The Art Barn—a secondary part of the Arts Center—is housed in another existing structure that abuts the theater. It contains painting and sculpture studios on two levels, and the remodeling here was less extensive: it consisted, chiefly, of pushing several triangular skylights through the roof, and building the necessary number of stairs.

In addition, Hardy used exposed fluorescent light tubes—not only to supply the necessary wattage, but also to reinforce the diagonal patterns of plans and sections that he carried over into this wing from the theater barn. (“A fluorescent light is such an exuberant thing, shooting off in all directions indiscriminately,” Hardy says, “that you can’t begin to talk about its being more efficient in one place than another.”) The fluorescent tubes are mounted directly onto the sloping ceilings, rather than hung horizontally. Walls and ceilings are finished with gypsum board and there is, as Hardy puts it, “a consistency of non-detailing” throughout.

The reason was, primarily, one of meeting a very low budget. But there were other practical reasons as well: for example, by eliminating conventional window trim, Hardy was able (under the code) to put wire glass windows into his fire stairs by simply setting the glass directly into the gypsum board. That way there

were no frames that would have violated the law. And, of course, the resulting, nondetailed detail turned out to be both appropriate and very elegant.

While Hardy’s logical reasons for doing what he did are quite convincing, it is obvious that he was trying to achieve a certain visual effect as well. He did not just want to remodel an old barn; he wanted to transform it into something new, different, exciting—and, to do that, he felt he must, to a degree, violate the geometry of the old building and introduce and superimpose a different geometry of his own. The angled walls, skylights, and roofs that punch through the skin of the old barn are an attempt to show that something new and exciting is happening inside. “If you went into this place and didn’t say—Hey! What’s going on? My, isn’t that interesting!—if you didn’t have a sense of release, if you didn’t have a good time, it would be a failure,” Hardy says. “One marvelous old lady said—‘You just never know what’s going to be around the next corner.’ She understood the spirit of the place perfectly!”

At Simon’s Rock, you just never know what’s going to be going on around the next corner; but, whatever it may be, you get the distinct impression that it will be going on for a perfectly good reason.



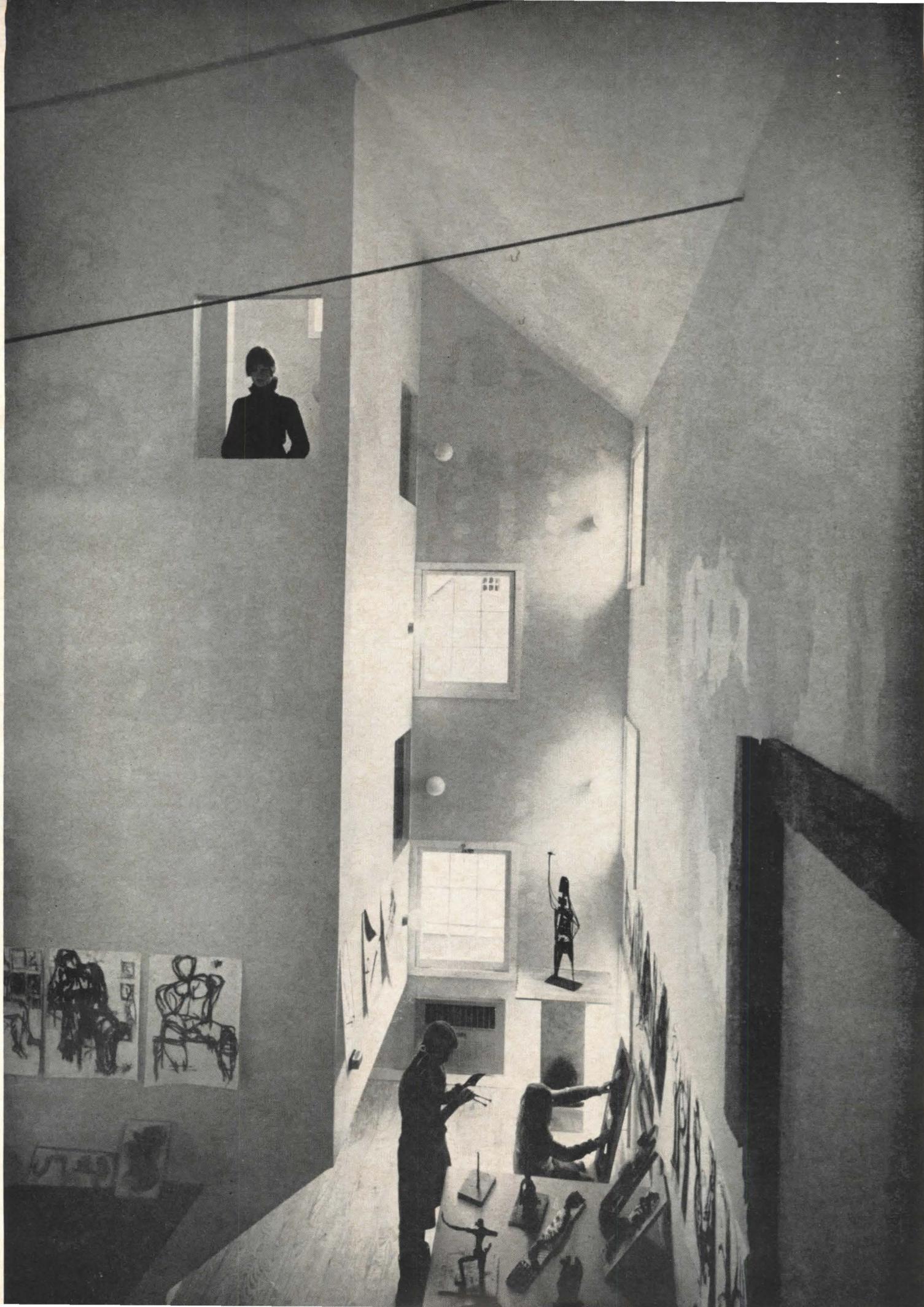
Above & below: details of painting studio. Bottom of page: triangular skylights punched through roofs light studios and theater. Opposite: stair tower in Art Barn.



FACTS AND FIGURES

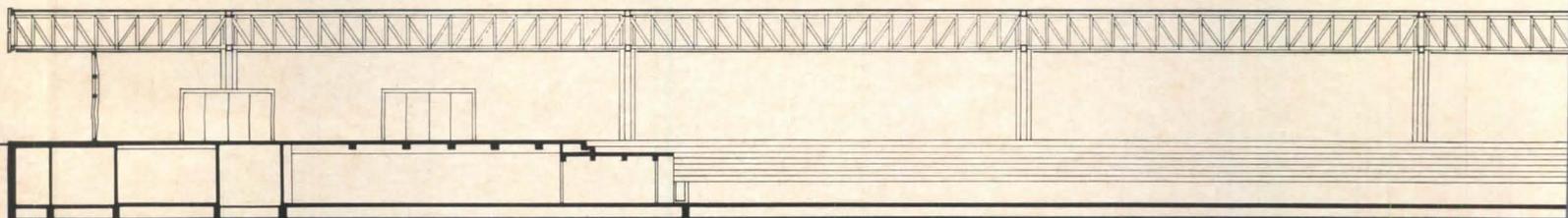
Simon’s Rock Arts Center, Great Barrington, Mass. Owner: Simon’s Rock, Mrs. Livingston Hall, Director. Architects: Hugh Hardy & Associates; Paul Gugliotta, Associate Architect. Engineers: Paul Gugliotta (Structural); Harland Foster (Mechanical). General Contractor: Gilligan Brothers. Building area: 11,000 sq. ft. (theater capacity: 200). Cost: \$9 per sq. ft.

PHOTOGRAPHS: Norman McGrath.





SPACE FRAME IN A SWEDISH FOREST



LONGITUDINAL SECTION



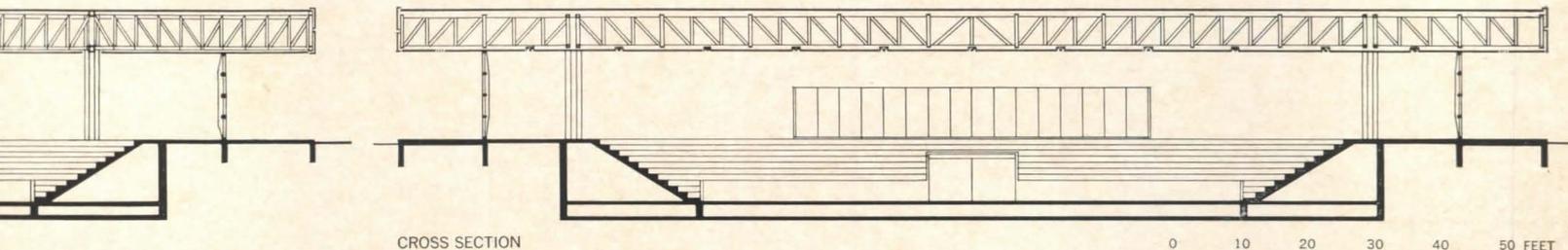
One reason the Swedes do so well in international tennis tournaments may be that they have learned to treat their players properly: this sweeping roof (about 300 ft. long, 180 ft. wide, and 6 ft. deep) is a great space-frame umbrella at Landskrona, designed to shelter important

tennis matches, and up to 2,200 spectators. When the players are not busy watching the ball, and when the spectators are not busy watching the action, everybody has an unobstructed view of a forest on one side of the building, and of the Baltic Sea on the other.

The architect of this beautiful streak of glass and steel is Arne Jacobsen, a Dane who has long been recognized as one of the best and least affected designers of his generation. In this structure Jacobsen has virtually absented himself; the only presences are the game itself, the

spectators, and the country setting.

In fact, of course, Jacobsen's self-effacing talent is present everywhere: the great roof—a white rectangle hovering above a plain—is a masterpiece of engineering and of detailing. It is supported on only ten elegant



CROSS SECTION

0 10 20 30 40 50 FEET



double-columns of steel; these double-columns, placed 60 feet on centers, carry primary trusses in the short direction of the roof; they have a 120-foot clear span and they cantilever another 30 feet or so beyond the columns at each end.

Running through this system

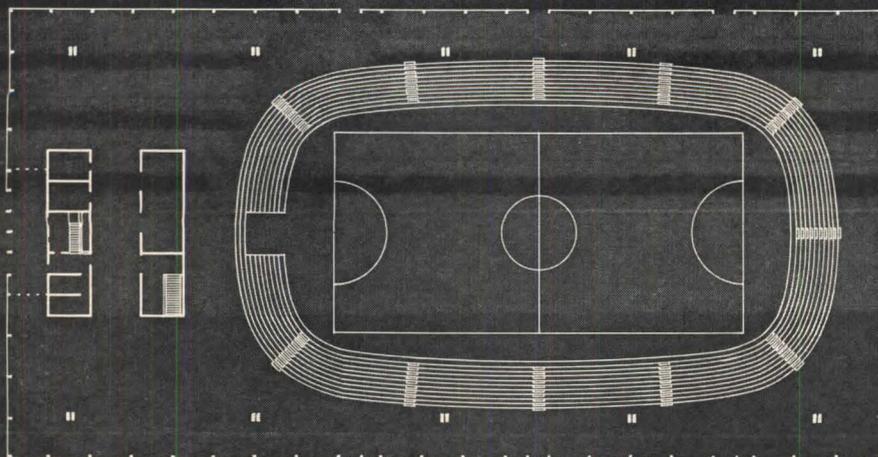
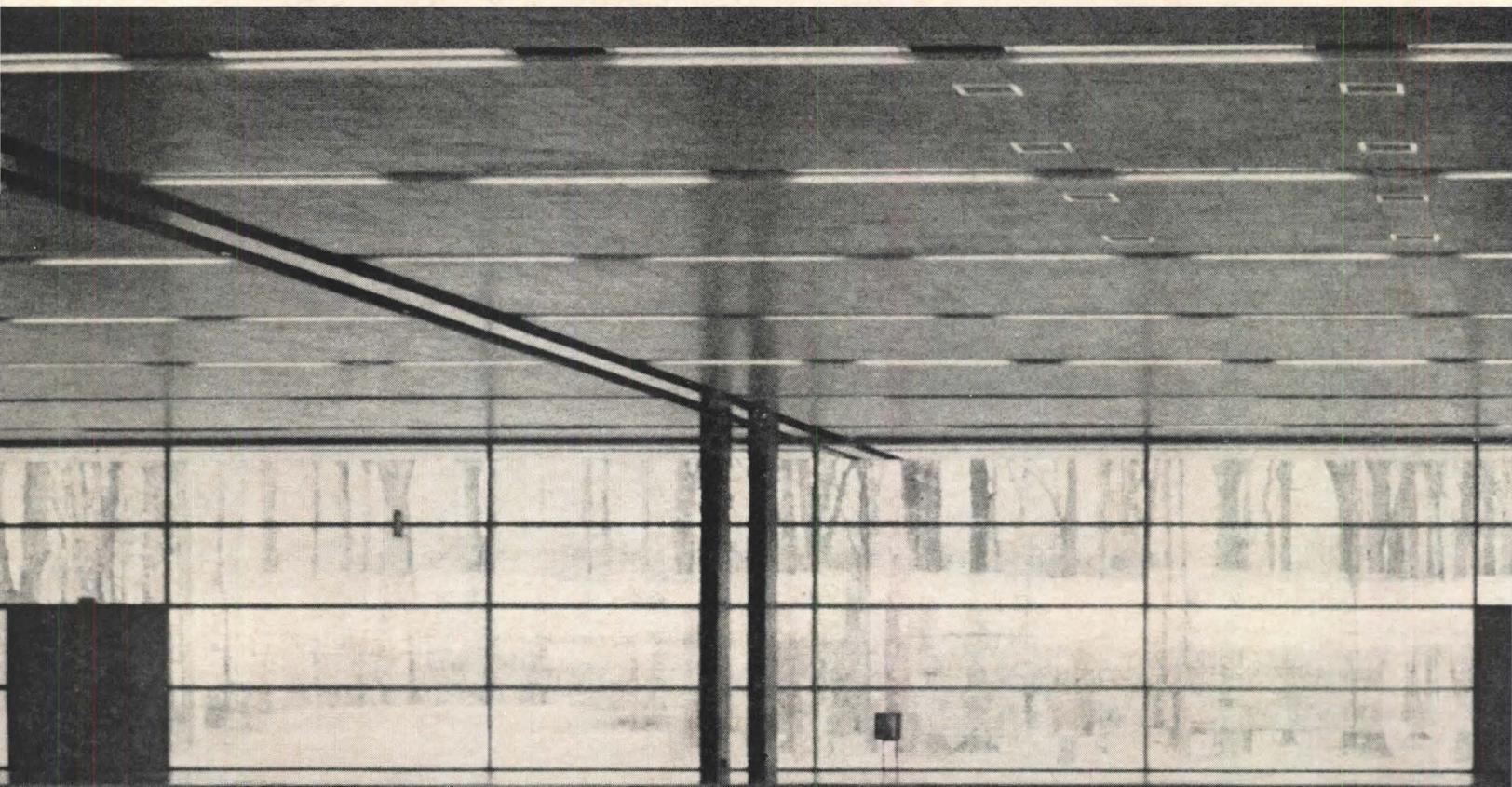
of primary trusses are secondary trusses spanning the long direction of the roof and spaced about 13 feet apart. The secondary trusses cantilever about 35 feet beyond the line of the last primary trusses.

Strictly speaking, this structure is not a space frame; but the

facts that the primary and secondary trusses are identical in depth (about 5 feet), that they are welded together where they intersect, and that the truss system is topped off with a steel deck (spot-welded to the trusses) —these factors make the roof structure *act* like a space frame,

and make possible the spectacular, two-way cantilevers at each corner of the roof.

The seeming weightlessness of the roof is further emphasized by two or three other devices used by Jacobsen: the floor is almost level with the surrounding landscape, and the court is placed



in a sunken bowl, the sides of which form the spectator seating. In addition, almost all dressing rooms and other service facilities are underground, so that the space of the great hall is left virtually unobstructed.

Finally, the few enclosures that had to be located on the

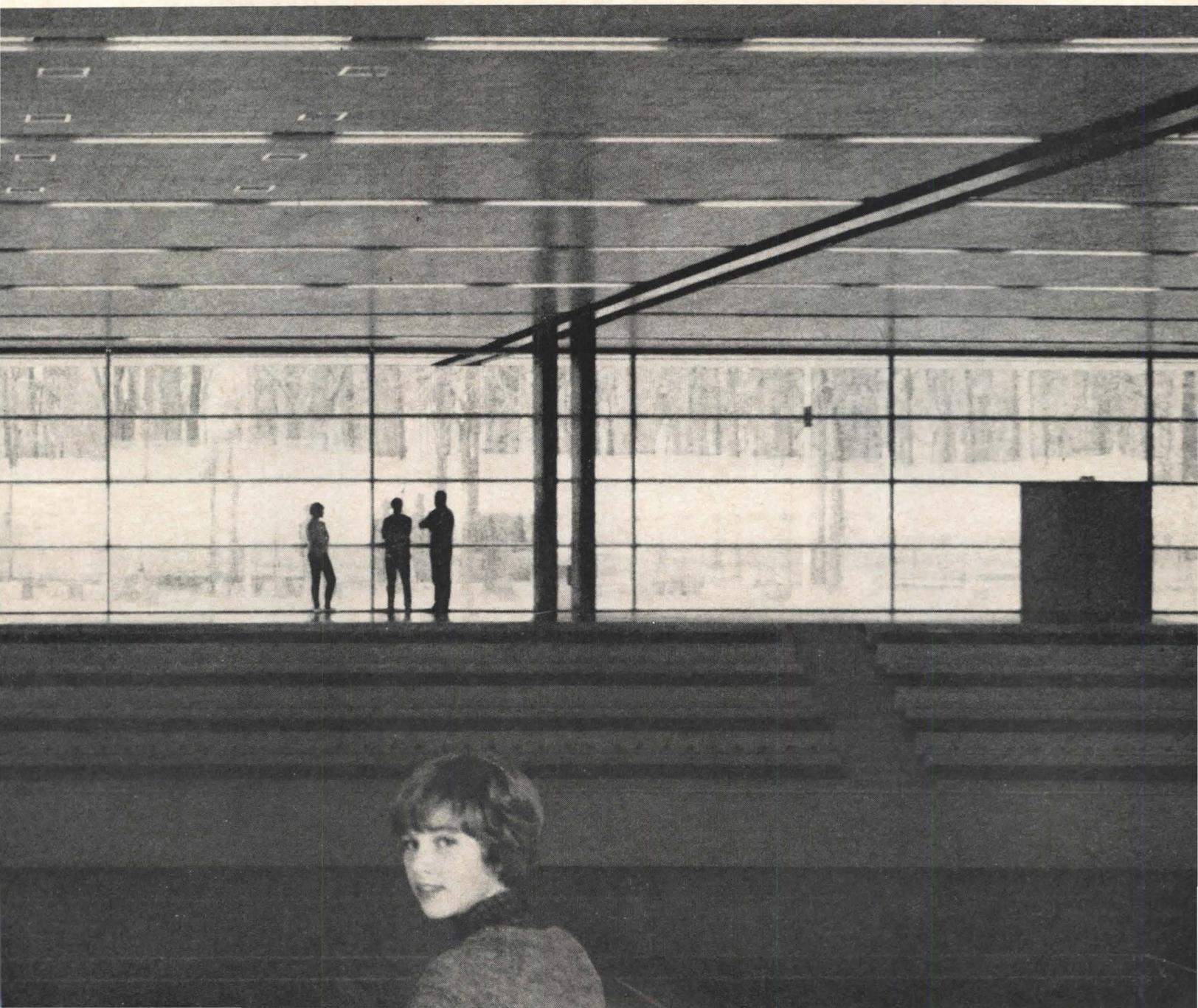
main floor (ticket booths, check rooms, etc.) were kept very low—well below the 12-foot ceiling height, so as not to break up the sweep of the ceiling plane. The ceiling contains all artificial lighting, and the supply grilles for the ventilation system. The air is exhausted through ducts

located under the seating.

In short, Jacobsen has tried to make his building disappear rather than assert itself. Yet, precisely because of its modesty, its fine detailing, and its great simplicity, this structure may well outlive many current works that go in for **dramatics**.

FACTS AND FIGURES

Landskrona Tennis Hall, Landskrona, Sweden. Architect: Arne Jacobsen. Assistant architect in charge: Hans Dissing. Structure: reinforced concrete basement, steel superstructure, glass walls. Roof: steel deck with cork insulation, fascias of reinforced polyester sheets. Capacity: 1,600 to 2,200 spectators (including standees). PHOTOGRAPHS: Courtesy Jacobsen.





retary Weaver appointed a 17-man Urban Development Advisory Committee headed by William L. Slayton, executive vice president of Urban America Inc.

Other members included Roger Montgomery, the FORUM's Midwest correspondent and head of the Urban Renewal Design Center at Washington University; New Jersey Governor Richard J. Hughes; New Haven Mayor Richard C. Lee; and Grady Clay, editor of *Landscape Architecture*.

Dr. Weaver said the committee would "provide me with its judgment on administration of our new legislation," particularly the model cities program.

GO EAST . . .

The raids of eastern universities on the FORUM's West Coast corresponding staff continued last month with appointment of Donlyn Lyndon as head of the department of architecture at MIT.

Lyndon has been head of the University of Oregon architecture department, as well as correspondent to the FORUM. He took the latter position when Charles W. Moore, his partner in the firm of Moore, Lyndon, Turnbull & Whitaker, became chairman of architecture at Yale.

Lyndon's appointment was announced by Lawrence B. Anderson, dean of the School of Architecture and Planning, who was serving as acting department head.

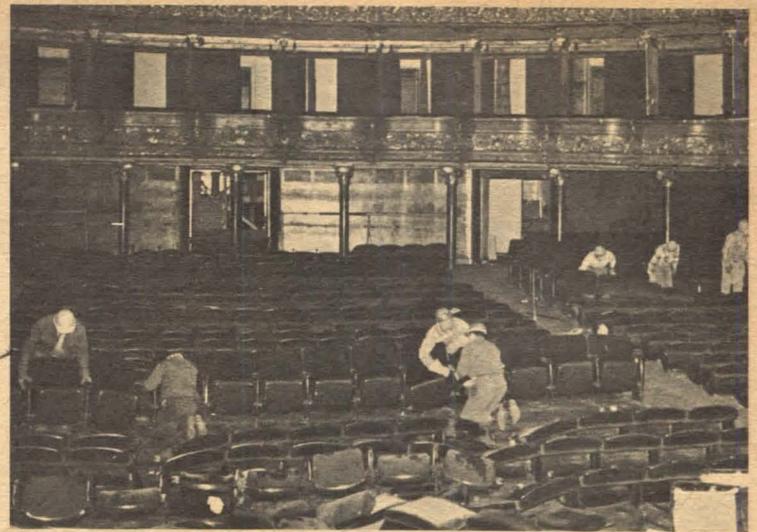
ANOTHER ROLE

Lady Barbara Ward Jackson is, among many other things, a distinguished British economist, writer, brilliant thinker on the urban environment, and member of the FORUM's Board of Contributors. Last month she took on still another role when Pope Paul VI appointed her a member of the newly established Pontifical Commission for Studies of Justice and Peace.

She is one of six women appointed to two new agencies of the Holy See—the first women in history to serve as part of the central administration of the Roman Catholic Church.

EXIT WHITTON

Rex M. Whitton has left his job as Federal highway administrator with a plea for greater co-



ordination among those who plan roads and those who plan cities.

Whitton, in a parting interview before his Dec. 30 retirement, called for a "joint development concept" that would recognize the fact that highways are "a disruptive force on community life." Transportation, he said, "is an inseparable element of any city and cannot be considered apart from the city itself."

LANDMARKS

SMASHING SWAN SONG

It never takes wreckers long, and the Old Met was no exception. On Jan. 17, within an hour after the City of New York issued a demolition permit, men from the Wrecking Corporation of America swarmed over the 83-year-old opera house, ripping up seats (above), swinging sledges, tearing copper sheeting from the roof—making way for just another 40-story office building.

The fate of the Old Met kept courts occupied for months. In June, Governor Rockefeller had signed a bill creating the Old Met Opera House Corporation, empowering it to acquire the building by purchase or condemnation. There was great disagreement on a fair purchase price (\$8-12 million), but nothing even near the lower figure was likely to be forthcoming from individuals or institutions until the bill had been validated by the courts.

A suit testing the law, brought by Keystone Associates, developers of the office building, dragged through three courts, with the New York State Court of Appeals finally declaring the measure unconstitutional on Dec. 30. Then, with the emphatic urging of Sena-

tors Javits and Kennedy, the City Council and State Assembly passed a bill in January similar to the one that had saved Carnegie Hall in 1960. But the State Senate shelved the measure indefinitely after Rockefeller and Mayor Lindsay announced "reluctantly" on January 16 that they could not and would not save the Met, that to do so would place too great a financial burden on public funds.

There might always be argument on the question of the amount of cultural enrichment New Yorkers were losing along with the Met, but Huntington Hartford who had fought for the building (financially and vocally) hard and long, perhaps summed it up best: "a black eye for America for years to come."

EXHIBITS

UNCONTROLLED ENVIRONMENT

The Architectural League of New York, which moved out of its rather seedy quarters on East 40th Street late last year, and into smaller but more elegant quarters in the American Federation of Arts building on East 65th Street, has started on a series of "Environment" exhibits in the AFA's galleries unlike any that ever graced its old (or new) quarters before.

The series got off to a rather slow start: "Environment I" appeared to be a random collection of artifacts (or, possibly, facts), randomly and somewhat depressingly displayed. There were some wrapped-up objects by the Bulgarian-born sculptor Christo, there was a photoelectric pinball machine by the Chilean sculptor Castro-Cid (which conked out), and there were other assorted

FOOTNOTE

God's Own Junkyard?—The Church of San Michele, on the Piazzetta del Turco in Ferrara (Northern Italy), is not one of the great masterpieces of Romanesque architecture. Still, it is a thousand years old, at least, and would seem to deserve a little more respect than it is getting: at the moment it is being used as a service station and car-wash—perhaps an accurate reflection of our changing values. Photo: Ambrogio Locati.

goodies. Christo's young son, who was *not* wrapped up, was asked if he wanted to come back for a return visit some time. He said no.

"Environment II," which opened on Jan. 19, was a very different matter: made up of prisms, lenses, water and, mostly, light in various forms and intensities. This exhibit was a staggering super-happening that left visitors shaken, blinded, laser-beamed and, possibly, sterile. Among the attractions was a room by Charles Ross, which was lined with polyethylene sheets dripping with yellow water and illuminated by a stroboscopic ceiling light which flashed on and off at irregular but rapid intervals, and transformed gallery-visitors into actors in an old movie-reel, run off in slow motion.

There were brightly colored pillows that visitors could toss at each other (also in slow motion), and there seemed to be eerie sounds emanating from the strobe. Elsewhere on the premises were prisms made of clear plastic filled with mineral oil, blue lights, red lights, orange lights, and just plain lights. It was the greatest show in town, and might be worth squinting at before it blows all those fuses in the Northeast.

REHABILITATED EXHIBIT

"Future visitors to the Smithsonian," *The Washington Post* story began, "may climb a creaking staircase, peer down a drab hallway under bare light bulbs, hear rats scurrying through plaster walls, and inhale the stench of poverty."

The story went on to quote Charles Blitzer, the Smithsonian's director of education and training, as saying that the museum was thinking of recreating a blighted dwelling to give its visitors an inside view of what a slum was really like.

The story prompted a spate of editorials across the country, asking why the Smithsonian wanted to memorialize the seamy side of American life when there was so much good to show. HUD Secretary Weaver also took exception to the idea.

The Smithsonian promptly withdrew. Nothing is on the drawing boards, a spokesman said, and besides the museum hadn't been thinking about rats and smells at all—just re-creation of a modest but tidy turn-of-the-century railroad flat to show how workers lived in cities during the Industrial Revolution.

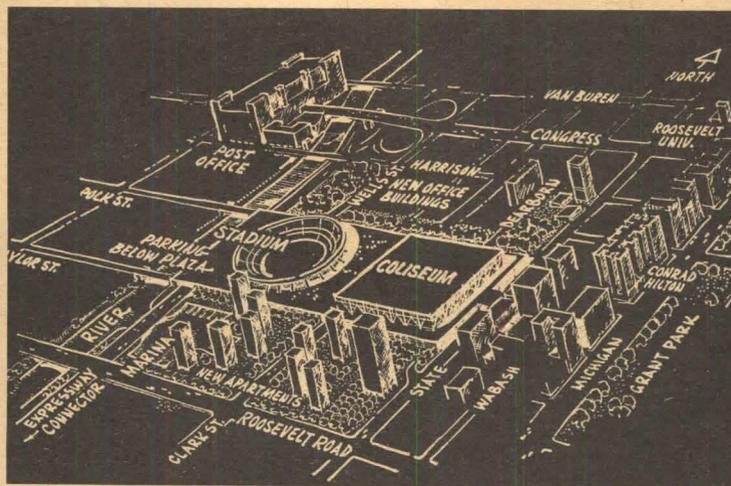


UPS & DOWNS

LAKEFRONT FIREWORKS

Just when the public hassle over proposed expansion of Chicago's McCormick Place exposition hall (Nov. '66 issue) was getting hot, the unforeseeable happened. On January 15, the whole enormous building burned down to a heap of twisted steel (above).

One result was new hope for the Federation for an Open Lakefront, which opposes further intrusion of the hall into public park land, and the Chicago Chapter of the AIA, which proposes an alternative sports and exposition center over existing railroad yards at the south end of the Loop. The AIA scheme would include a major stadium and the 700-ft.-sq. column-free hall first proposed in 1953 by Mies van de Rohe (below), both atop a two-level garage for 10,000 cars that would extend from Polk to Taylor and from State Street to the Chicago River.



But the most immediate effect of the fire, on a city stunned by a sudden massive loss of visitors and their money, was to unite the business community behind the fastest and most expedient rebuilding—with expansion likely to go along as a rider.

RENEWAL

HANGOVER

San Francisco, like many another city, paid little heed to the needs of the low-income residents and homeowners in its early urban renewal project areas. Even Mayor John F. Shelley has admitted that the city was "cruel and heartless" in carrying out the first Western Addition renewal project.

Now the city wants to begin planning the redevelopment of 426 blocks of the Inner Mission district, but its past sins have come back to haunt it. In late December, the board of supervisors yielded to bitter protests from

Mission citizens, ignored Shelley's recommendation, and voted 6-5 to reject a request for a Federal grant of \$2.1 million for planning the project.

The dispute centers on a demand by the Mission Council on Redevelopment, an amalgam of some 65 neighborhood organizations, that it be given the power to veto any redevelopment plan (Nov. '66 issue). The city attorney has ruled that such a concession would be illegal, and Shelley has offered to appoint a committee from the district to review the redevelopment agency's plans and negotiate changes. But still the residents are not satisfied.

"This Mission plan was tailored to meet the needs of the citizens," Shelley claimed. "They could have worked right along with the redevelopment agency. This was the most ambitious plan for insuring citizen participation that has ever been undertaken. But we could not, and would not, give them a veto. We might just as well give up government. This would be anarchy."

In January, Shelley vowed he would press for revival of the project, even though one organization had threatened to seek a special recall election if he tried it. Undeterred, Shelley said he would meet with Mission merchants and "other interested people" to win them over to the plan. "Indications are," Shelley observed, "that some of them have changed their minds."

REAPPORTIONMENT

Just after New Year's, the architects and the contractors sat down together with some insurance experts to patch up their feud over liability for building-site accidents. The trouble had erupted last fall (Nov. '66 issue, page 21), when the AIA released a new edition of Document A201 ("General Conditions of the Contract for Construction") which seemed, at least to the Associated General Contractors, to put undue responsibility on the builders.

What AIA and AGC finally agreed on was a rewording of subparagraph 4.18.3, which recognizes the architect's liability for claims beyond those "attributable in whole or in substantial part to a defect in drawings or specifications." It extends his zone of responsibility to include preparation or approval of any drawings, reports, change orders, specifications, etc., as well as "failure to

give directions or instructions by the architect, his agents or employees, provided such giving or failure to give is the primary cause of the injury or damage."

In other words, the architect's liability is not limited to documents he prepares, but includes those he approves, and on-site errors as well. AIA contends Document A201 meant to do this all along, but the contractors—and their insurers—feel happier now.

CONSERVATION

GATEWAY TO A CONTINENT

For 280 miles of its 300-mile trip to the sea, the Hudson River flows through New York State; then almost within sight of its end in New York Bay, it becomes the shared boundary between New York and New Jersey.

Much attention has recently focused on the condition and future of the Hudson. There have been conferences, seminars, even college courses on the Hudson, and New York's Governor Rockefeller has established a Hudson River Valley Commission, which has produced some valuable reports. But months of negotiation between the New York, New Jersey, and Federal governments have failed to yield a plan for a joint commission—with real powers—to guide development of the whole valley.

Last month, the last 10 miles of the Hudson, the part below the George Washington Bridge, was the subject of a major report by the Regional Plan Association. RPA, a citizen-supported organization that has been advising on

New York Metropolitan Area planning for over 40 years, makes it clear that the time to do something about these 10 miles is *now*.

This part of the river is already entering a phase of rapid change, which will take place with or without planning guidance. Port operations there are already declining at the rate of 30 per cent per decade; once-brisk ferry traffic has all but disappeared; harbor-related markets, warehouses, and factories have been leaving. Large areas of riverfront on both sides will become available for redevelopment.

On the New York side, efforts have been made to control new waterfront developments. But major projects now in the works, such as the World Trade Center and a vast sewage-treatment plant on the Upper Manhattan waterfront, are not the results of any overall planning process.

It is on the New Jersey side where the situation is most chaotic. It is here where 25 per cent of the waterfront is unused; it is here that local government is divided among 11 municipalities; and here that the first recognition of the Palisades cliffs as valuable residential property has led to a rash of apartment slabs on top of or on the face of the cliffs, all except Horizon House ill-conceived and unrelated (below).

One of the commendable features of the RPA Lower Hudson report is that, along with the indispensable discussion of economic trends, transportation, etc., it takes up the esthetic question of enhancing the area's potentially exciting topography. The most dramatic part of the Palisades, above

the George Washington Bridge, is already protected as part of the Palisades Interstate Park, but the gradually declining cliffs below the bridge nevertheless offer opportunities that could be thrown away at great cost, economically as well as esthetically. The steep banks on the New York side have been better exploited, with 4 miles of park between 72nd Street and the bridge; but even here there is a gap from 125th Street to 145th Street, an area in acute need of park space. RPA recommends filling that gap and extending the park south to 59th Street.

There is even some talk about the esthetic values of old neighborhoods in Hoboken, Jersey City, and Bayonne—places as unfamiliar to most New Yorkers as Fargo, N.D. Yet they contain many fine blocks of late 19th-century townhouses of the kind that are now in short supply in Manhattan and fetching ever higher prices in Brooklyn. The next stop for urban-oriented New Yorkers with modest incomes may be Hoboken.

GIFTS

WHEN YOU CARE ENOUGH

In January, Hallmark Cards, Inc., sent a special post-Christmas greeting to its home town of Kansas City. It announced plans to convert some 85 acres of land around its headquarters just south of downtown into "a model urban community," thus joining the growing list of corporations to diversify into urban development.

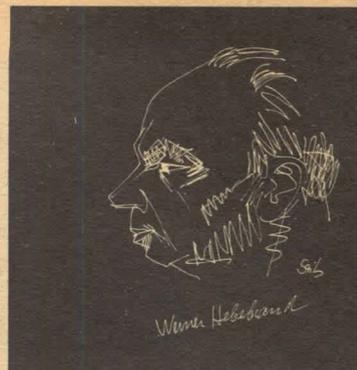
Hallmark, through a subsidiary, Crown Center Redevelopment Corp., will build 2,500 highrise and garden apartment units, office buildings, a hotel, and two motor inns—all interspersed with parks and cultural and recreation facilities—at a cost of \$100 million.

Victor Gruen Associates has developed the land-use plan for Crown Center, but architects for the buildings have yet to be selected. "We feel Crown Center offers an opportunity to combine the names of several of the greatest international architects with those of fine Kansas City architectural design firms," reported President Lynn W. Bauer.

PEOPLE

DEATHS

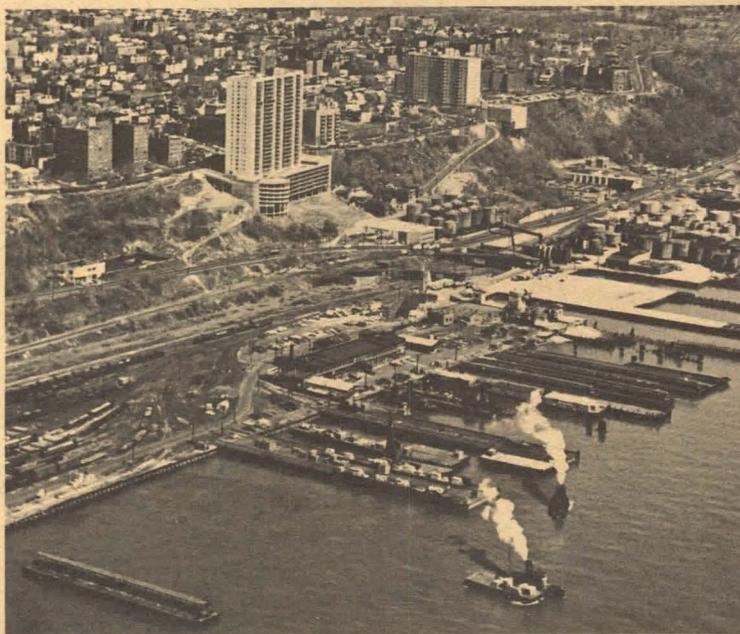
▶ Werner Hebebrand was an exceptional urban designer: born in Elberfeld, West Germany, in 1899,



he became, after World War I, one of that group of radical city planners who transformed much of pre-Hitler Germany into great *Siedlungen*—housing projects with plenty of green, light and air, that profoundly influenced housing design throughout the world and continue to do so. When Hitler came to power, Hebebrand (together with his better known Frankfurt collaborator, Ernst May) went to work in the USSR, where the two exiles planned whole cities and regions. A couple of years ago, the Soviets invited May and Hebebrand to come back for a look-see. After World War II, Werner Hebebrand was active, primarily, in Hannover, Hamburg and Frankfurt, and these cities today bear evidence of his creativeness and energy. He was a charming man, a cheerful pixie who never grew old. He died late last year, still full of optimism.

▶ André Bloc, editor and publisher of the outstanding French magazine, *l'Architecture d'Aujourd'hui*, and of its sister publication, *Aujourd'hui*, died in November on a visit to New Delhi. He was standing on the ruins of a temple to take some photographs, when he slipped and fell to his death. He was 70 years old.

In a way, the manner of his death seemed entirely appropriate: in everything he tackled, André Bloc became totally involved. He began as an engineer, then turned to editing and publishing, became fascinated with architecture, started to design houses himself (including some extraordinary, sculptural fantasies), then finally went on to become a prolific sculptor. Less than two years ago, Bloc's sculpture was included in a major four-man exhibition in West Berlin. Had he lived, he would, undoubtedly, have become a first-rate painter and a first-rate photographer as well. He was a generous, highly articulate, and thoroughly professional colleague.



Walter McQuade

A MAN STANDING IN THE CENTER

Alvar Aalto, the great Finn, has much to reveal to Americans at this juncture in matters of architectural tone and completeness. But he remains remote, a kind of contemporary legend off in that Scandinavian timber toyland from which at present only Danish designers seem to emerge.

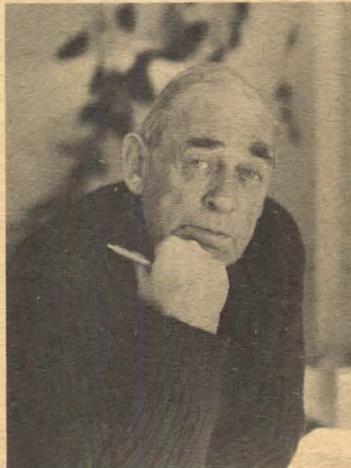
One of Aalto's architectural qualities has always been an unabashed, large-animal heft to his buildings; another, a feeling of easy craftsmanship and naturalness. Other architects try for the heft, but seldom with naturalness, and too often with an abrasively crude sort of chic. The material is concrete, and the model is Le Corbusier, a deceptive one.

But perhaps Aalto would be even more elusive. He has always been subtle. His buildings combine heft and edge, sense and sensibility, without becoming compromises. He said some time ago, "Architecture—the real thing—is only to be found when man stands in the center." At this point in history, maybe Aalto is the center.

He is an odd architect in that he seems very willing to wait. In this country he has only one building, a large MIT dormitory built 16 years ago, which he does not mention with his favorite work. It stands up well, however, after the sensations of the hour have faded. At the 1939 World's Fair there was no better design than his Finnish pavilion. As a high school boy I remember being startled that a building could be at the same time so modern and so mellow. There are but few American designers who follow

Aalto's lead. The best is probably Harry Weese.

One reason why Aalto has not drawn further commissions on this continent is that he seldom comes here seeking them, and at home in Helsinki does not read letters or answer the telephone—although it is sometimes possible to get through to him by telegram. Amiable in person, he likes his informal privacy. His countrymen



have raised him to a level of fame with Sibelius, but that doesn't bother him.

It even carries privileges; several years ago he and a friend rowed across one of his favorite rural lakes and took an oar to a blatant new neon sign. There was not much fuss; the Finns apparently figure Aalto knows what he is doing. He keeps busy enough; he has in recent years completed a number of significant commissions in Europe.

His essence is the same as it was in the 1920's, if his forms are not. Even in the thirties when, with Gropius and Le Corbusier, he was one of the leaders of the European functional movement, he was more flavorful than most because he never entirely let go of nature. He liked steel, but made his modern chairs of wood. He liked an "abstract" line, but his were often curved, seldom jagged. He was able to create impressive formal spaces, but seldom omitted the ingredient of geniality. The exploring, erring human mind was never rebuffed by his buildings.

After World War II, when the other industrial architects began to stack the world with impersonal, remote buildings, Aalto gradually became annoyed with the functional movement he had served as an usher. He became vituperative about what he called "the inhuman dandy-purism of the cities. . . . There is a propaganda-

borne formalism pushing itself into the foreground. . . . Grown-up children play with forms and curves which they do not control. It smells of Hollywood."

His own reaction in architecture against the smug perfectionism and structural diletantism of the 1950's was not as complete as those of the great Le Corbusier, or the young "brutalists" who began throwing great chunks of concrete into architecture. Instead, he became more intricate but less formal. And today he still is impressed by nature's refusal to be standardized—in sites, in growing things, changing qualities of daylight or tenants—and goes on speaking these small irregularities in architecture.

He exercises intense control over his designs, like a great violinist, but also commits himself so far into them that they have a lot of comment and emotion. A number of his buildings have rather odd shapes, seemingly arbitrary, but are detailed down to the last lighting fixture not only to work well, but to please their users (and himself) with small favors as well as large.

In a crematorium Aalto designed in Sweden, he refused to go along with the usual procedure for lowering the body down to the oven by means of an automatic platform which descends silently at the conclusion of the chapel service. No machines, he said; the living should carry away the dead. Yet in the Carré house, a rather deliberate combination of elements makes the house stand just a little aloof from its vernal site. It doesn't, in short, try to outdo nature; its seemingly arbitrary shapes suggest the complicated presence of a sophisticated man.

Here, as in most of Aalto's buildings, are many changes of level and direction, formidable textures, virtuoso passages of ceiling. But here also is that mysterious element in the very shape of almost all Aalto buildings which cannot be thoroughly apprehended or explained, but only felt. This is the battery-charge of human identity most often absent in conventional modern architecture, the unmistakable character of one architect. Corbusier had it; Mies van der Rohe has it; Aalto has it. He builds himself into his designs. If Frank Lloyd Wright's broad cape finally is to descend to any living architect, it probably should be to Aalto. But he would retailor it into a casual tweed coat.

PHOTOGRAPHS: Page 47, UPI. Page 49, LCD, Michael E. Bry. Page 109, UPI. Page 110, Wide World Photos. Page 112, Eva Ja Pertti Ingervo.



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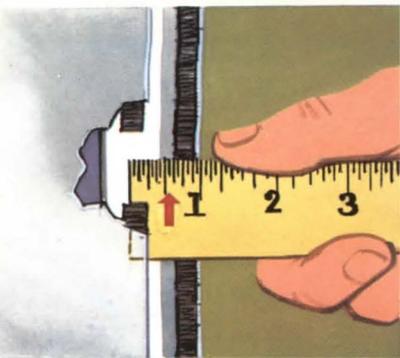
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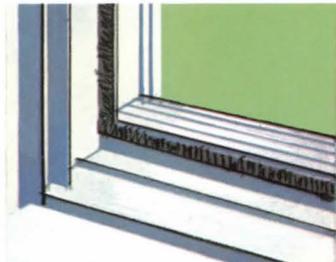




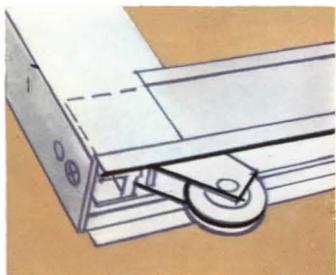
Deeper penetration (9/16 inch) of stile into jamb offers better weather seal. The deep-set jamb maintains its tight seal from top to bottom to compensate for building settlement and less than perfect installation.



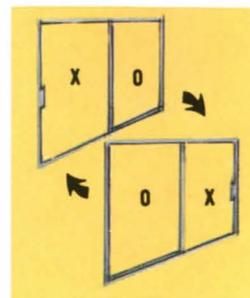
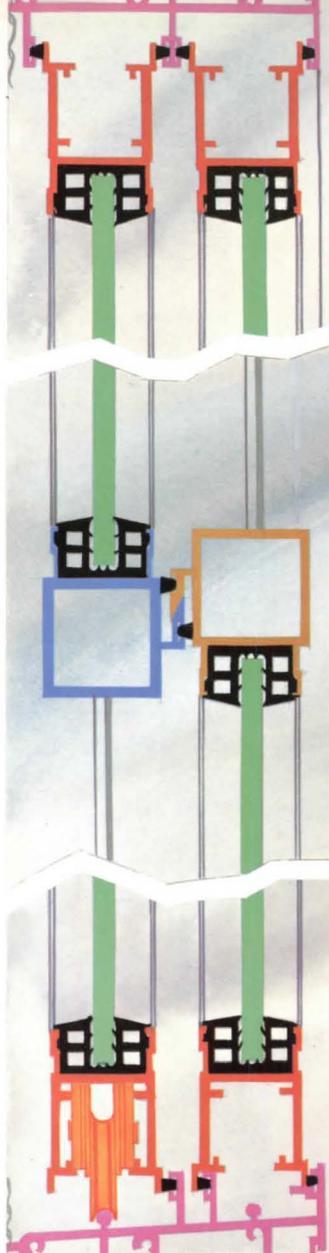
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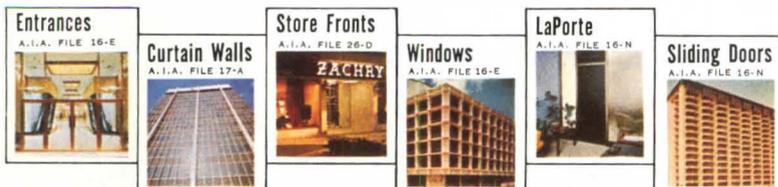


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PREVIEW

While controversy goes on over new uses for parts of Manhattan's waterfront, a private developer has come forward with a scheme for a five-block stretch along the East River which would demand little of the city and reward it with valuable open space, as well as an estimated \$400,000 in annual taxes. A preliminary study (below), drawn up for the HRH Construction Corp. by Architects Davis, Brody & Associates, proposes a

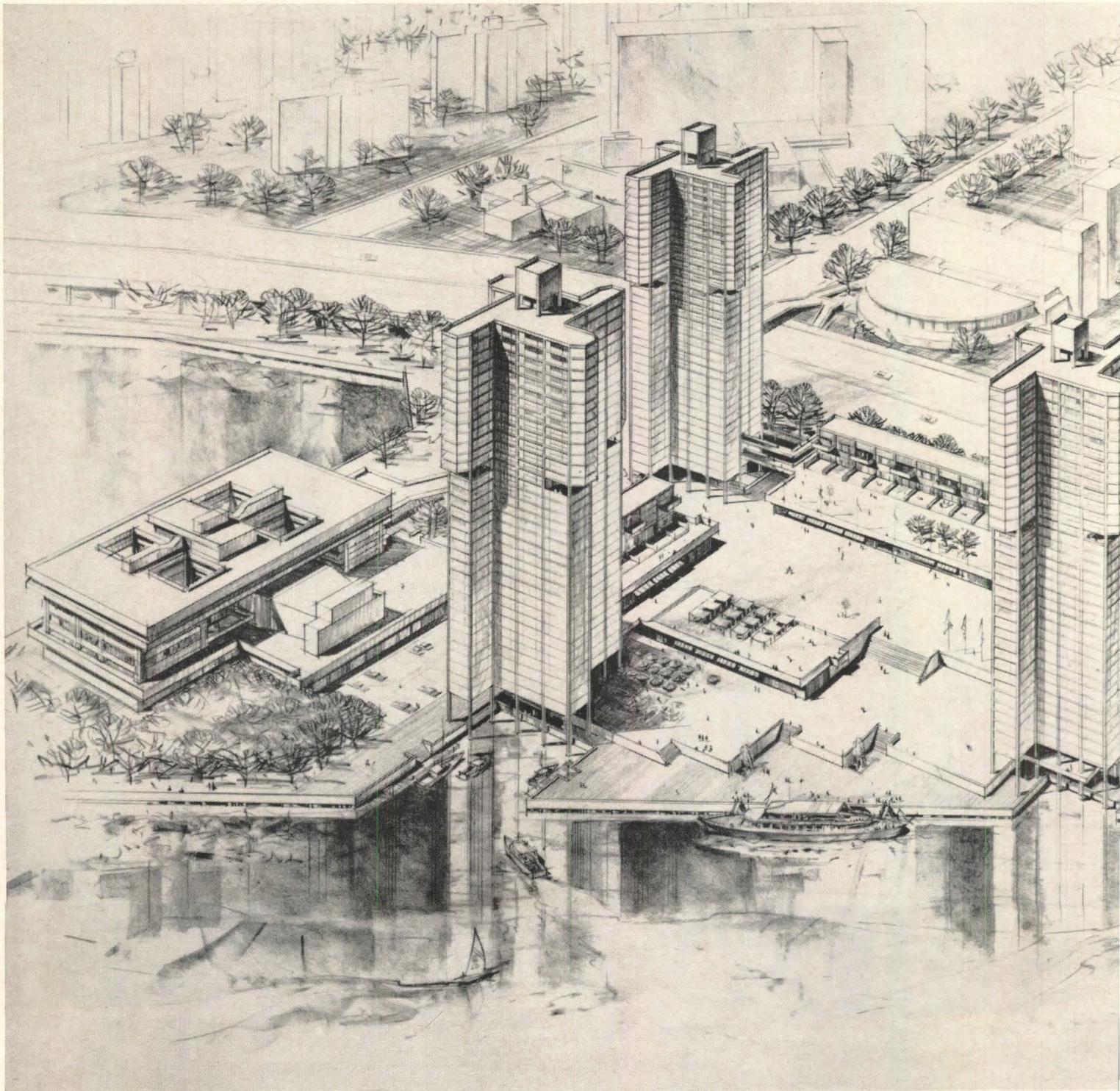
\$42-million complex including 1,450 living units, along with a theater, restaurants, and shops.

This self-sustaining community, dubbed "Waterside", would be built along FDR Drive between 25th Street and 30th Street (aerial view below right). It would abut the proposed United Nations School (left below), now being designed by Harrison & Abramovitz. West of the drive at this point is a solid line of hospi-

tals extending all the way from 23rd Street to 34th Street. Waterside would be an especially convenient location for U.N. personnel and hospital staffs, which number in the thousands. Its plaza would provide a waterfront objective for dense residential areas beyond the hospital belt.

Waterside's many-layered base structure probably would be supported on piles, without fill, although engineering details have

LIFE ON THE WATERFRONT



not yet been worked out. It would incorporate multilevel parking decks for about 750 cars, reached from a service road running along the east side of the drive.

The upper part of the three-acre public plaza would be level with the pedestrian overpass at 25th Street. As the plaza descends a story at a time toward the river, restaurants and such would be tucked beneath each level, with outdoor dining overlooking public

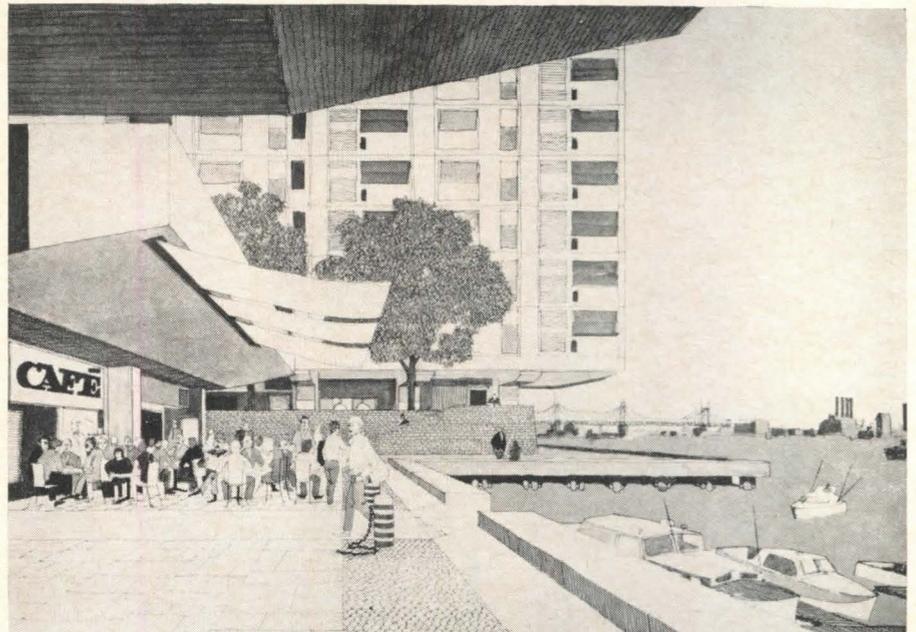
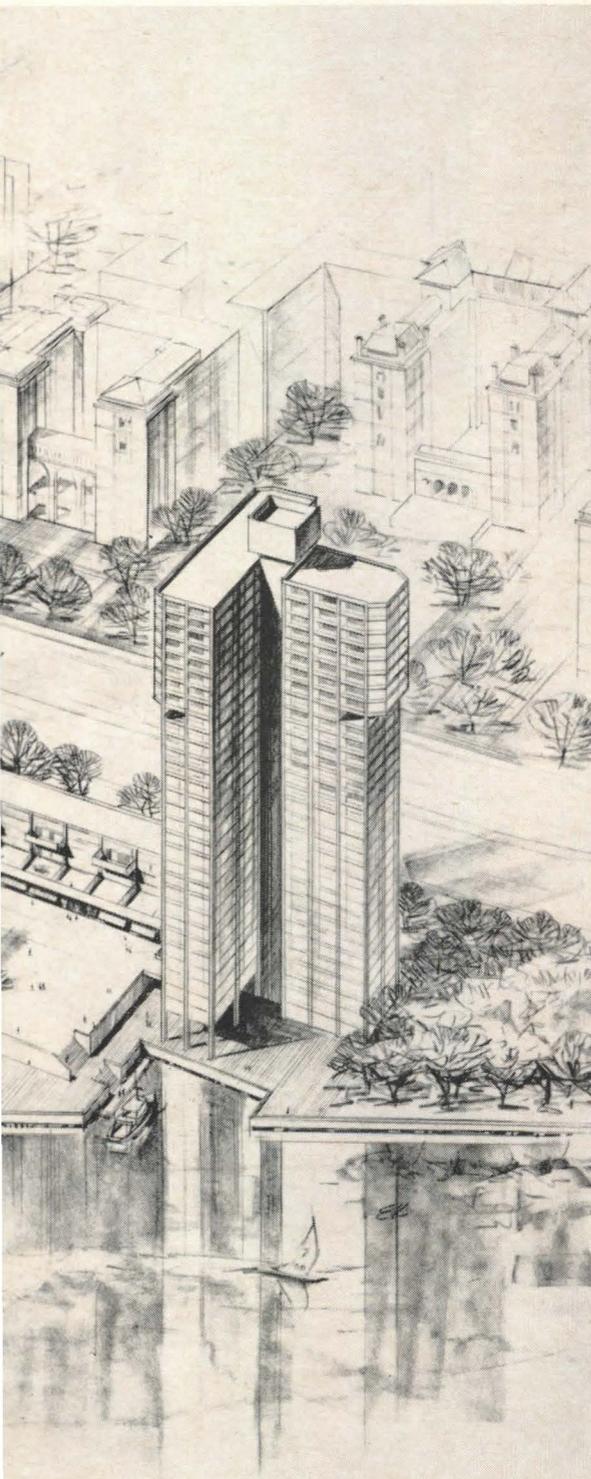
boat landings at the lowest level (sketch below). This landing level platform could be part of a continuous pedestrian walkway extending along the river.

On top of the rows of shops facing the upper plaza would be four-story residential buildings (duplex over duplex), designed to serve as buffers against highway noise and fumes. Private yards of the lower duplexes would open onto a promenade above the

shops, accessible only to project residents and connected to all four apartment towers. Bridges and walks two stories higher would lead from tower elevator cores to the upper range of duplexes.

The four 35-story towers will be shaped to give most units diverse views of the city and the river. The preliminary designs show upper floors cantilevered beyond lower ones to accommodate larger apartments.

One tower of 350 units would be financed under a middle-income housing program and rented at below-market level. Of these units, 20 per cent would be made available at public housing rents, either by leasing to the city housing authority or through a Federal rent-subsidy program. As a result Waterside would have a uniquely wide range of rentals, from \$18 to \$60 per room per month, and a corresponding variety of tenants.



(continued on page 124)

Pine Manor Junior College, Brookline, Mass. Architect – Ernest J. Kump

INSIDE OR OUT...



New England Merchants National Bank, Prudential Center Offices, Boston, Mass. Architect – Charles Luckman Assoc.

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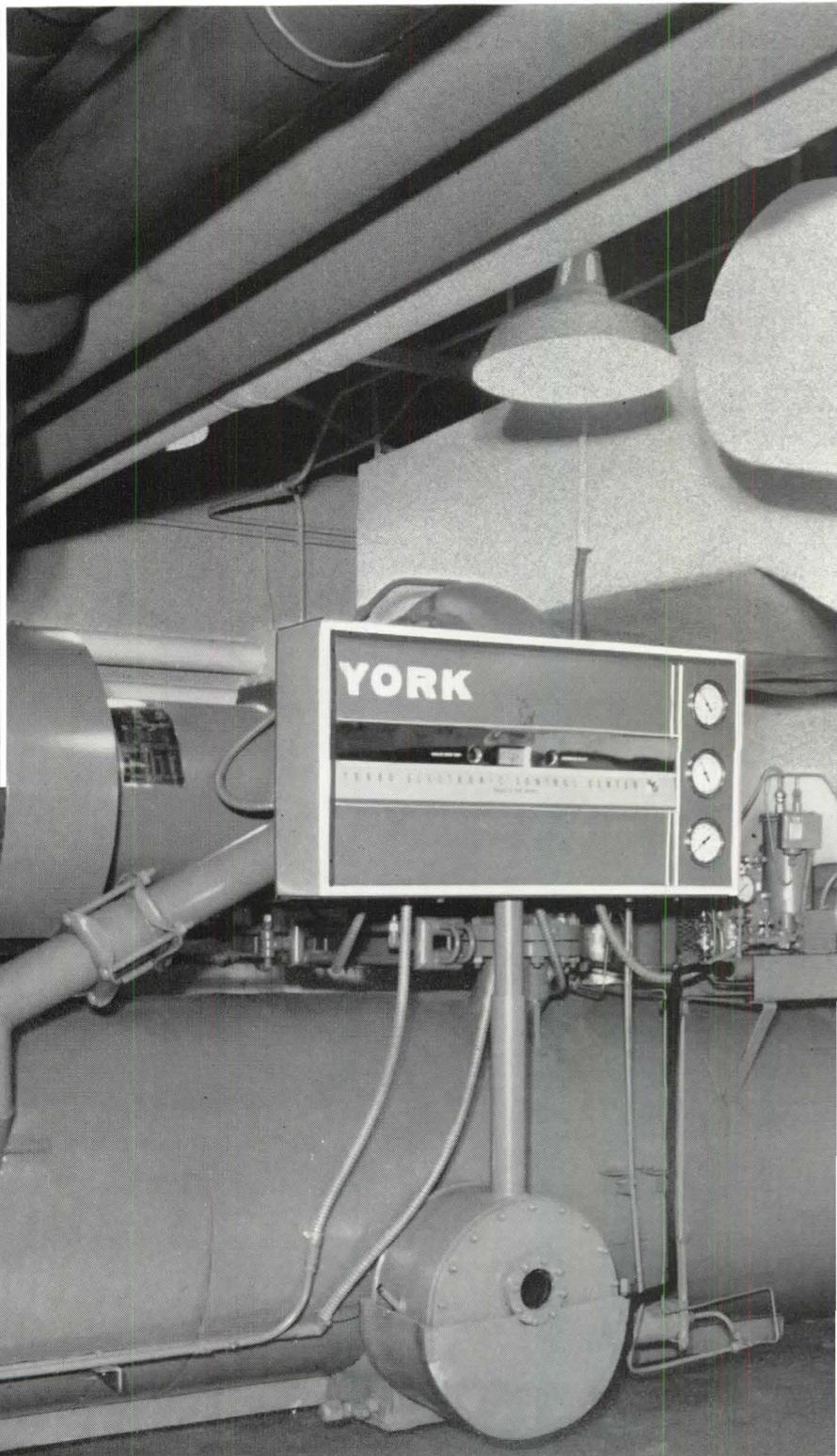


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PREVIEW

Almost 22 years after the death of President Roosevelt, the FDR Memorial Commission has finally come up with a design for a monument that satisfies it and various members of the Roosevelt family, and that will, presumably, satisfy the Fine Arts Commission.

The memorial is the work of Architects Marcel Breuer and Herbert Beckhard, who had been selected by the commission last summer when the original "Instant

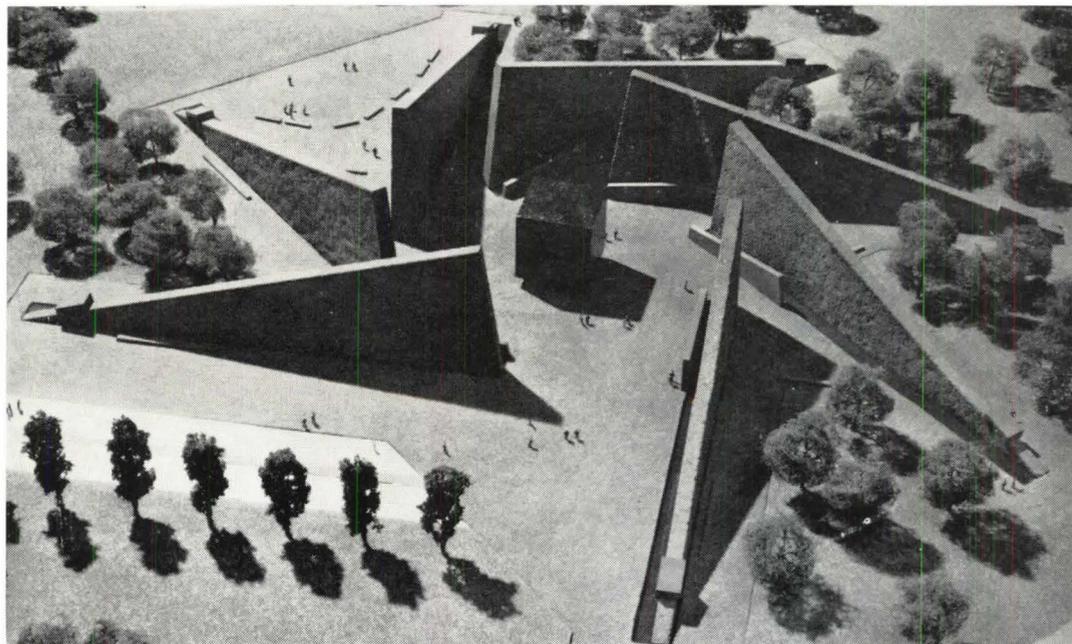
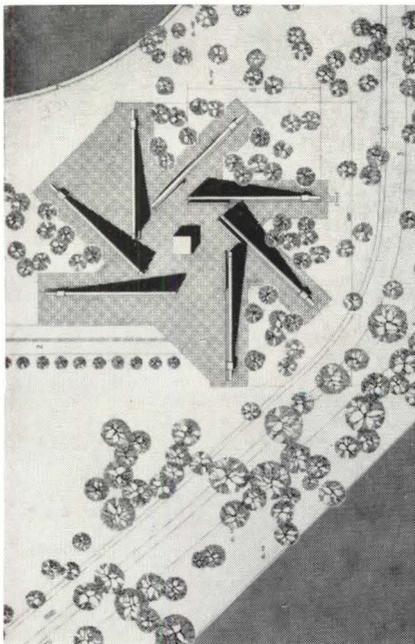
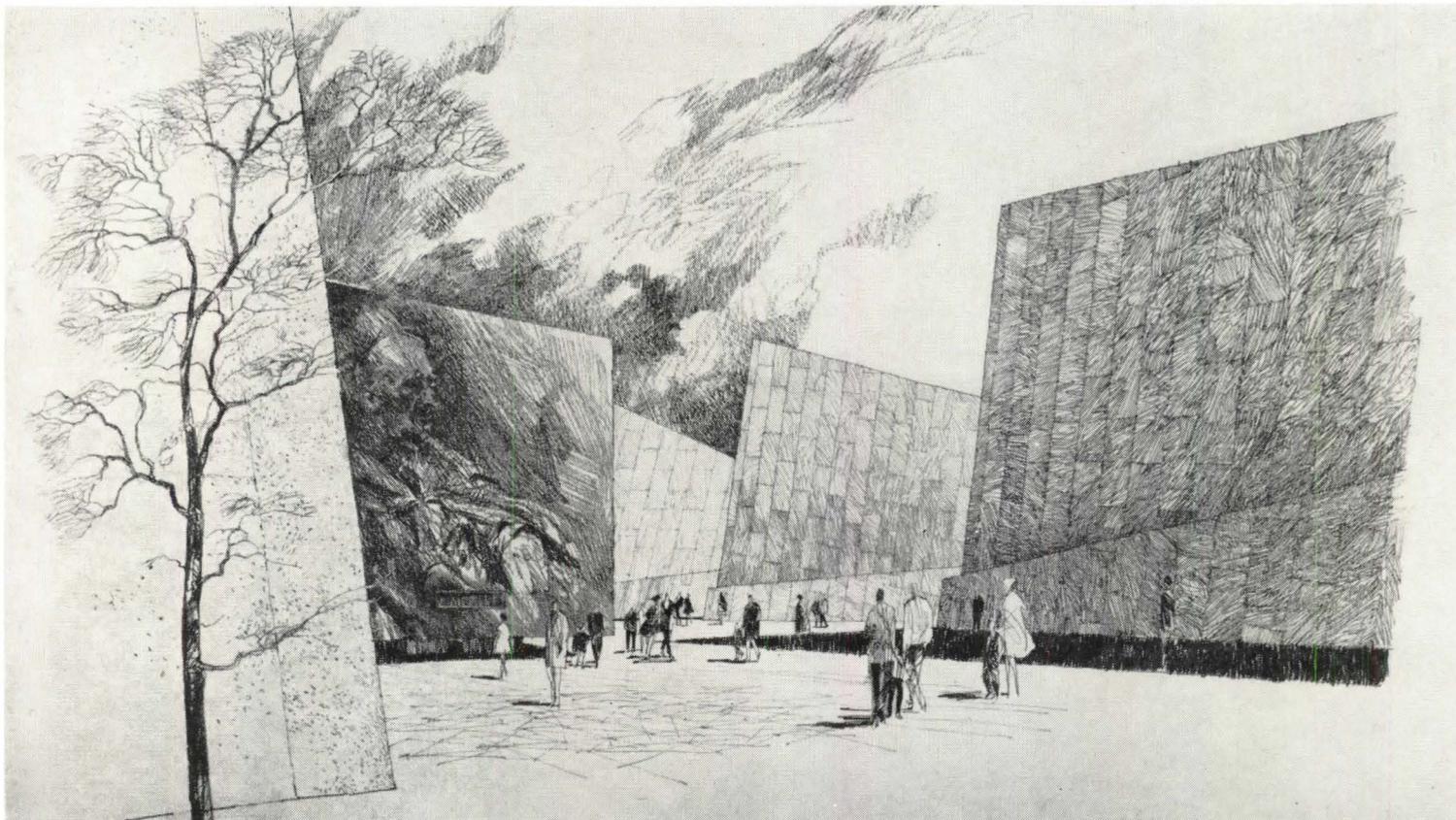
Stonehenge" project that won the architectural competition of six years ago was finally dropped because of insurmountable opposition.

The Breuer-Beckhard proposal is a pinwheel of seven triangular slabs of granite that rise to a height of 60 ft. At the center of the pinwheel there will be a 32-ft. granite cube, into which will be cut, in a pattern of dots of various shapes and sizes, a huge "half-tone" reproduction of a photo-

graph of the late President. At close quarters, this pattern of dots will appear as an abstract texture; but from a distance of 20 ft. and more, the dots will begin to merge into a recognizable image.

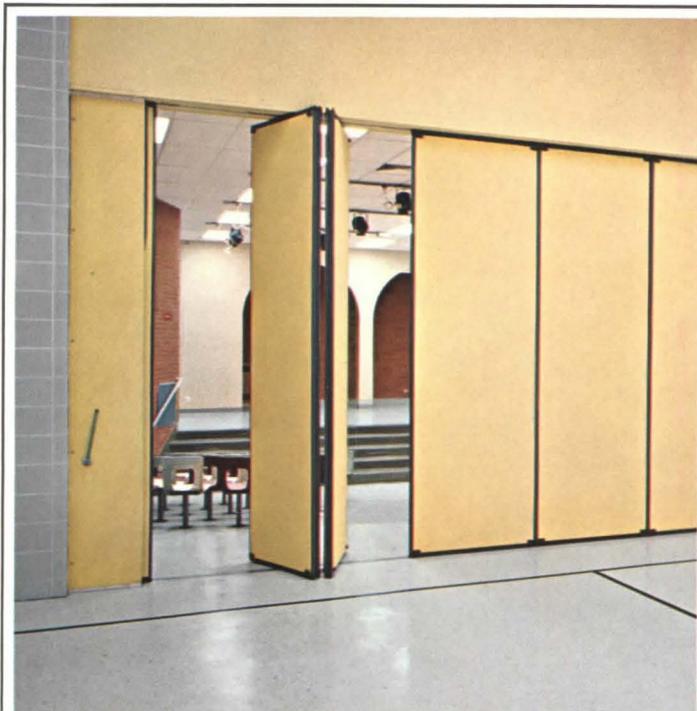
The radiating slabs are oriented toward various views of the Tidal Basin, the Lincoln and Jefferson Memorials and the Washington Monument. Water, benches and planting will make the place an inviting and leisurely retreat.

FDR MEMORIAL AT LAST

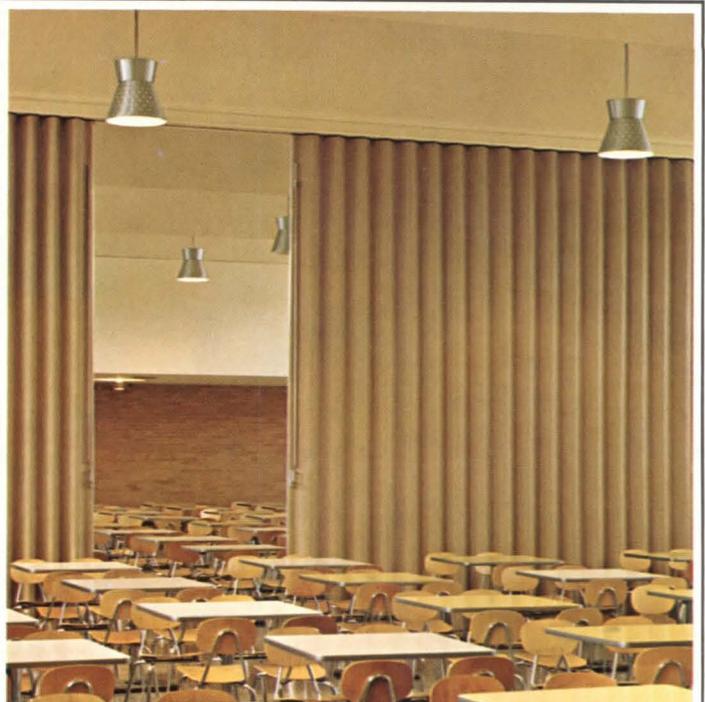


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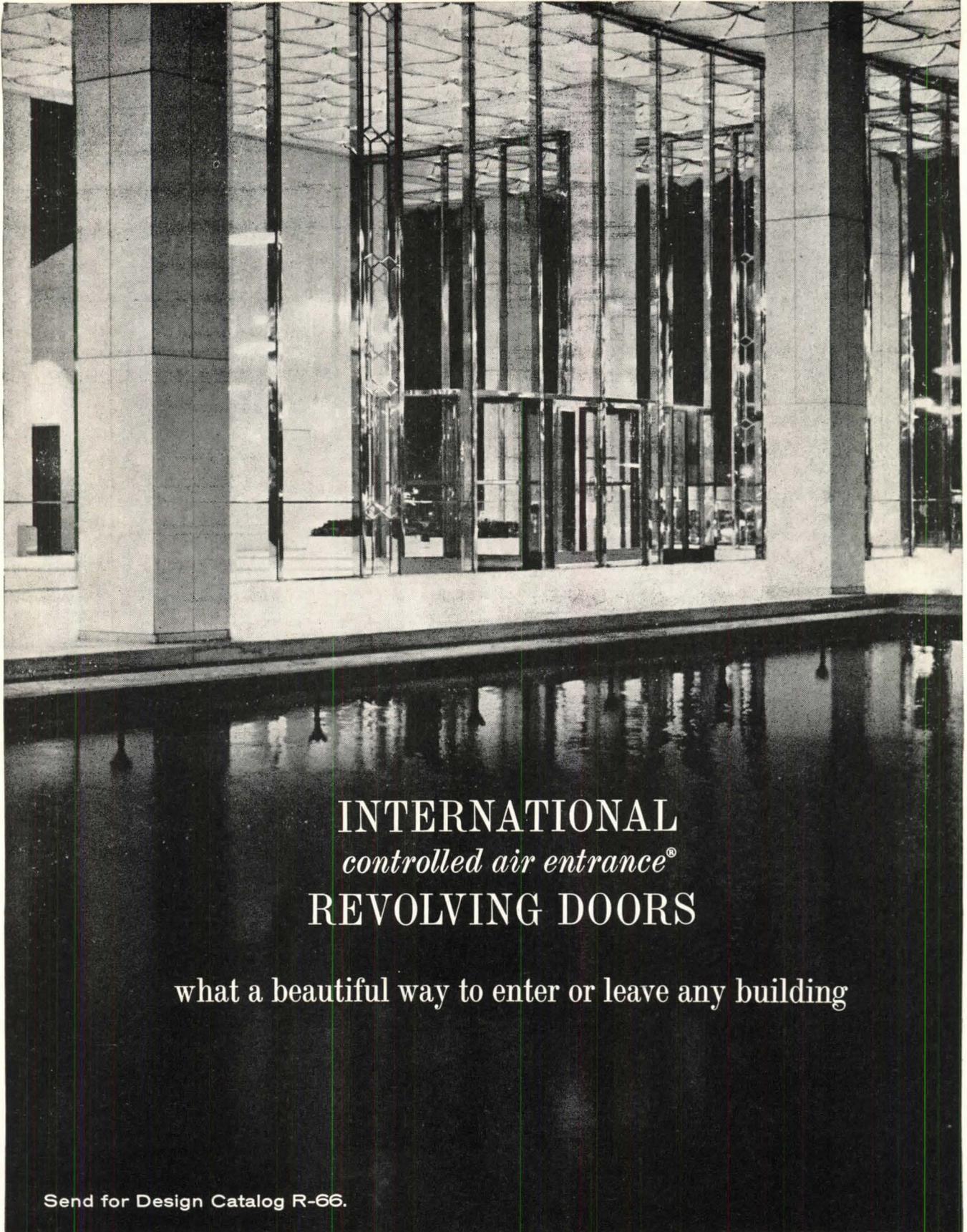
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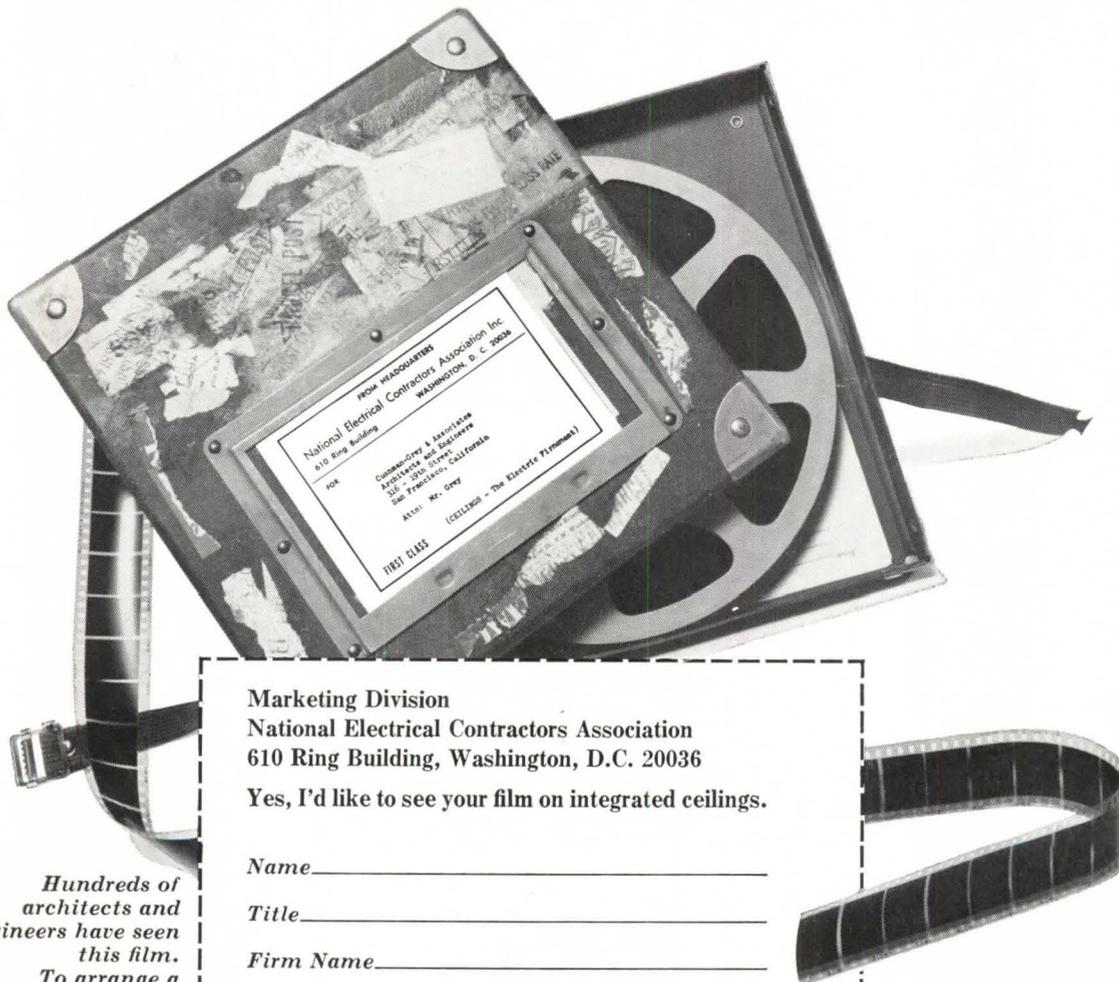
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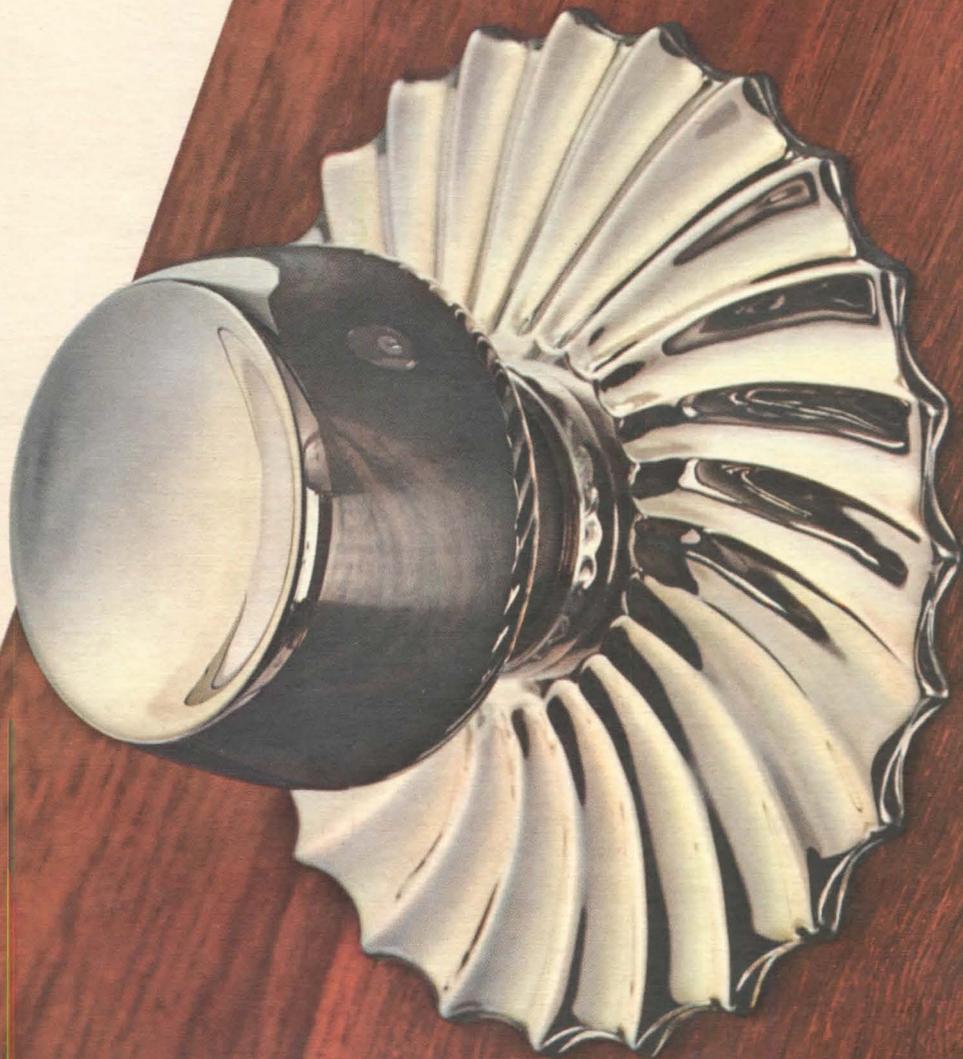
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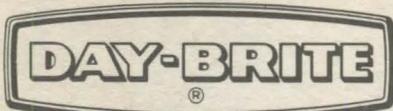


QUESTION:

is there a ceiling lighting-concept designed to answer this modular building's changing needs?

"Providing flexibility for future interior needs is a big problem with any commercial structure, as it was here," advises Harry J. Devine, architect of Sacramento's Wells Fargo Bank building. "The building was under construction before there was any determination of partition layout for the upper floors. This meant that both lighting and air handling be versatile enough to anticipate any kind of interior arrangement. Day-Brite's Clymatron with Barber-Colman air handling components supplied the perfect answer. A Clymatron in each basic 5' x 5' module provides complete flexibility of interior layout and control of environmental comfort (lighting, ventilation, heating, air conditioning). Thanks to Clymatron's pre-tested record of performance, the installation has received the highest praise . . . from building custodians right on up to top management."

Day-Brite has the equipment, the facilities and talent to make a vital contribution to your creative lighting designs. Get in touch with your nearest Day-Brite representative. He's eager to help, and can brief you on the valuable creative and technical services available to you. There's no charge or obligation.



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

ANSWER:

Pre-tested
okay for interior
flexibility

WELLS FARGO BANK
Sacramento, California

Architect: Harry J. Devine, Inc.
Electrical Engineer: Charles A. Martin and Assoc.

HEATH