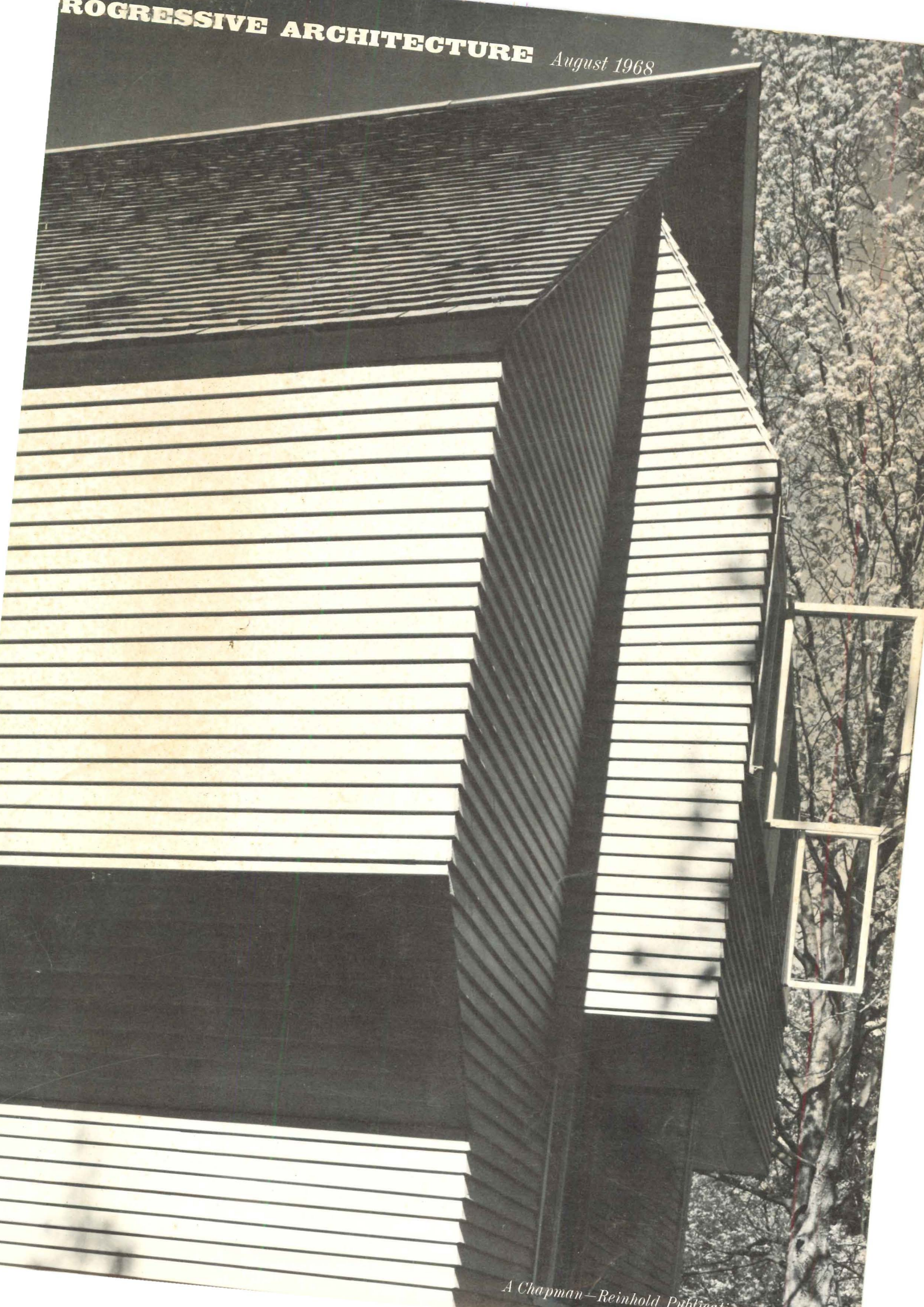
ROGRESSIVE ARCHITECTURE August 1968



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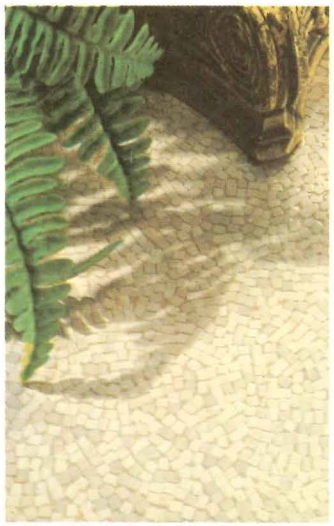

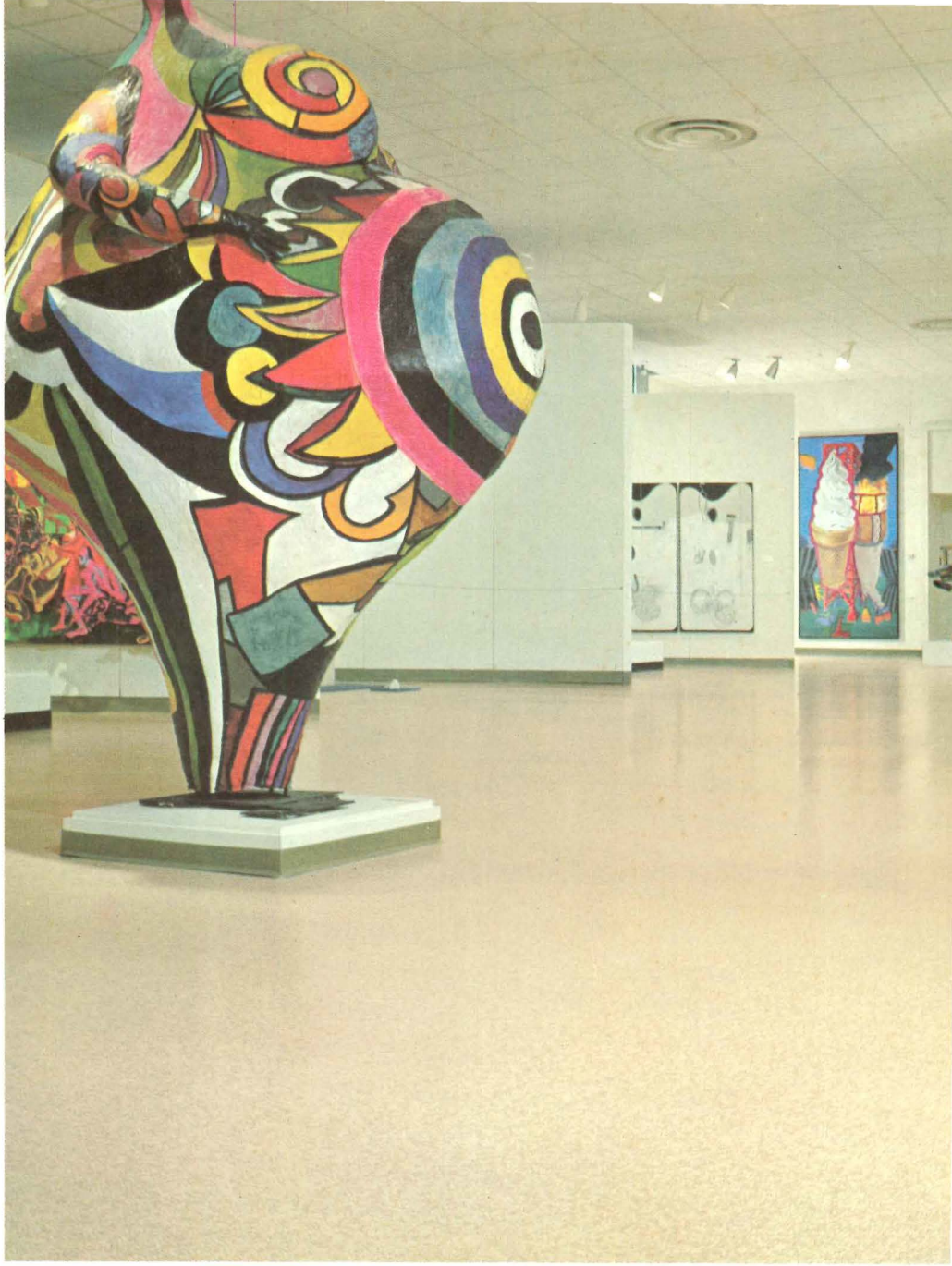

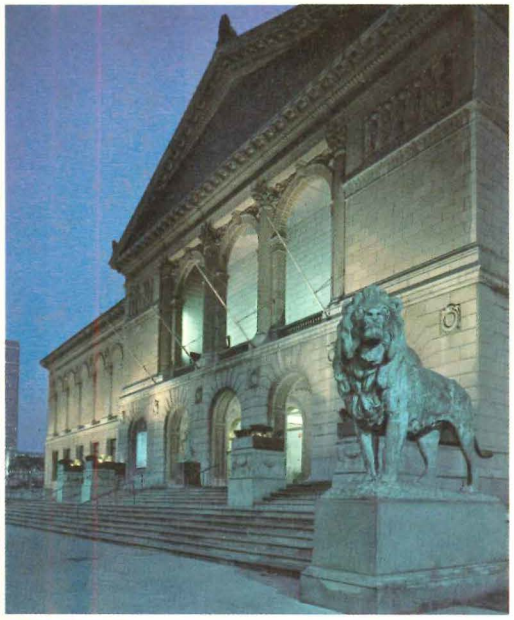

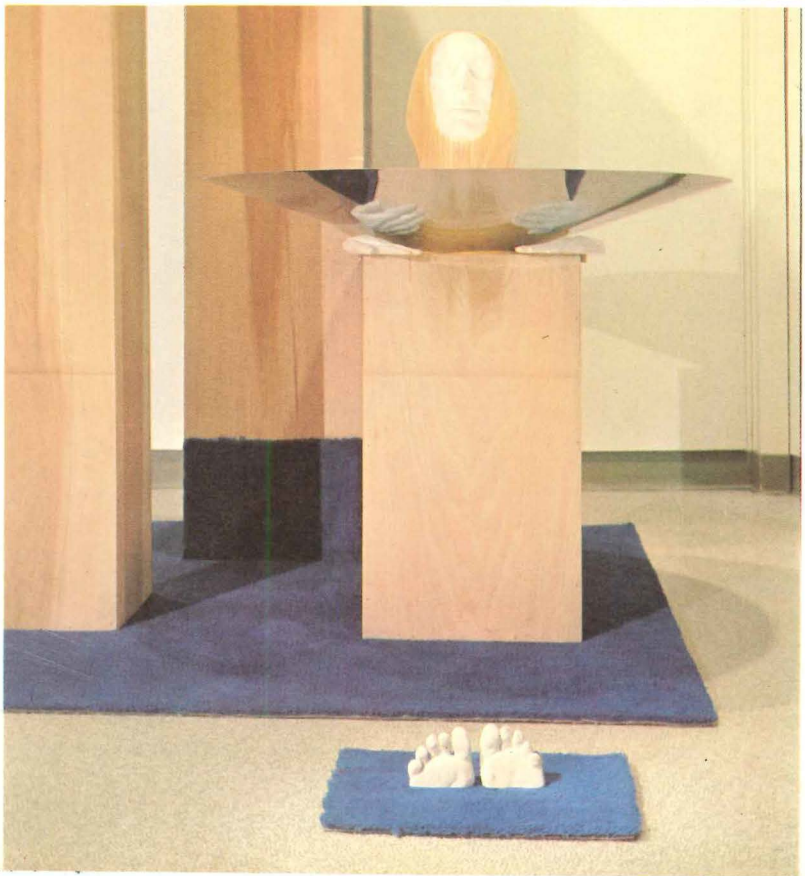

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Progressive Architecture ® *August 1968*

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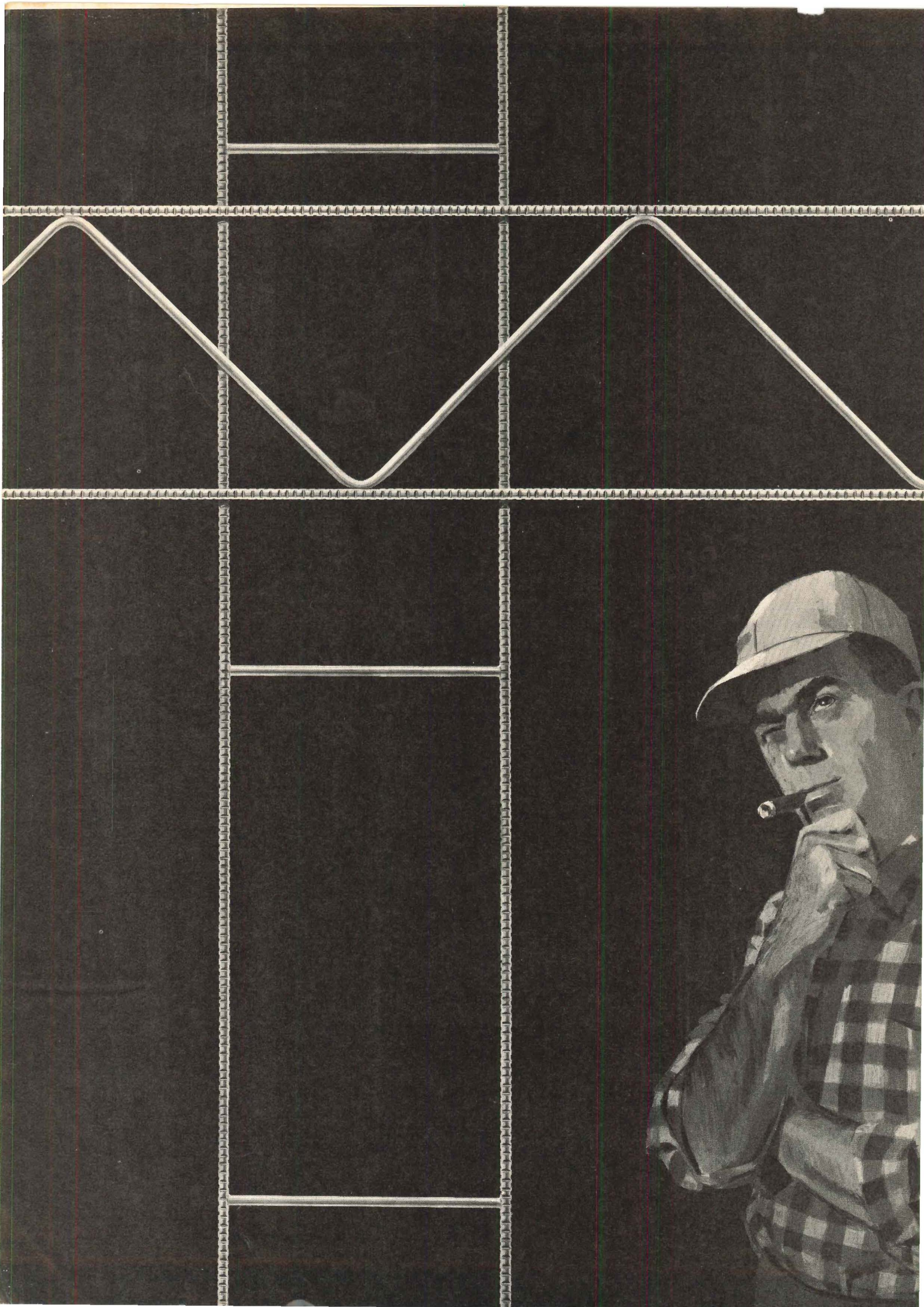

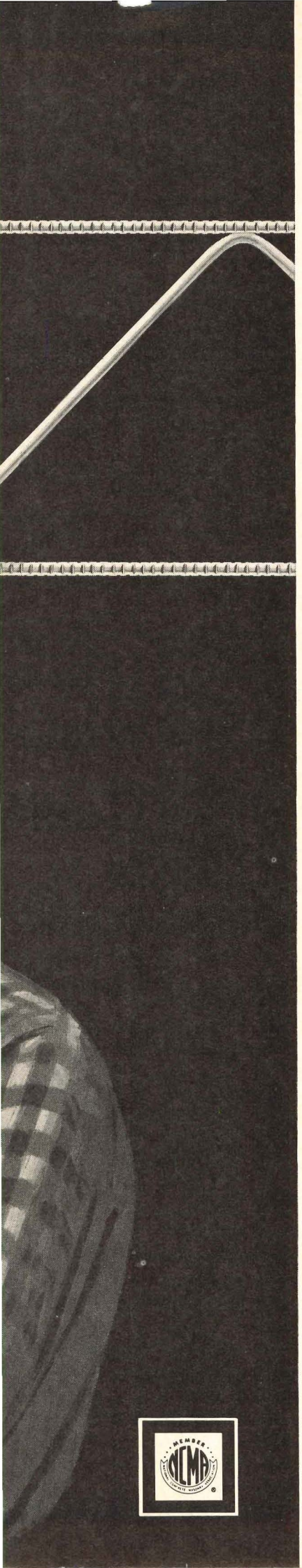

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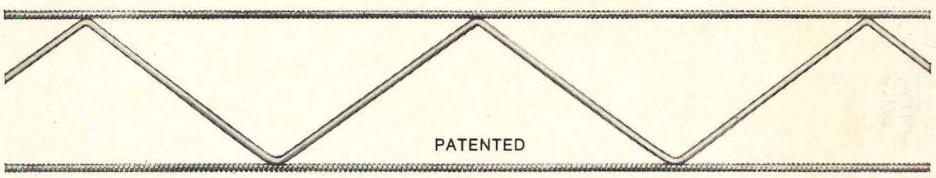

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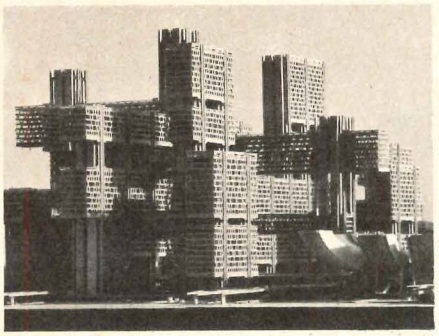

Opinions on Omnibuilding

The Department of Architecture of the University of Arkansas conducted a symposium titled "Megastructure Plus" in April that included a survey of prominent architects' opinions on the "omnibuildings" of the future. In reply to the question, "Does the concept of 'Megastructure' seem relevant to the urban problems facing us in the latter part of this century?" the following answers were received by the University of Arkansas:

The question that faces us is not so much whether the megastructure is relevant but whether the discipline of architecture as presently understood is relevant to the problems that present themselves . . . Megastructure is a proposed product; what we need to develop is the process . . . The concept of megastructure seems to be a somewhat quick answer to the problems we are facing. It is a conceptual leap that presently lacks adequate backing in various areas essential to its validity. . . . I coined the term "Urbatecture" some time ago and am becoming more and more convinced of its validity. Such a discipline would address itself to the problems of design, implementation, and construction of large dense urban complexes as parts of new towns or large redevelopment programs. One result would be a much deeper investigation into the enormous complexity of the high density urban habitat than the somewhat shallow and naive thinking behind the megastructure.

JAN LUBICZ-NYCZ

What is a megastructure? Is it a fancy word, a multiplication table, a monopoly, a real estate deal? Is it a rationalization for the inevitable, or drifting with a trend? Is it new? Whatever it is, it needs defining and once defined maybe we'll find that Venice or Paris are megastructures of a sort. In any case, man does not live by bread alone, nor is structure all of architecture.

HARRY WEESE

No. Los Angeles is relevant. Forty years ago, Beaux Arts students designed irrelevant summer palaces for deposed kings. Today, their equivalents design "visionary" megastructures that are fashionable hill towns with technological trappings, because they capture the *easy image* of traditional spatial architecture that way. Go west, young man, to Los Angeles. To be truly visionary, you must deal with now.

ROBERT VENTURI

Any mega "things" do not much more than magnify the virtues and the sins of micro things. A big mistake has no more priority to life than a small mistake. It just gulps more of it. Then megastructures are out of meaning when out of context.

PAOLO SOLERI

Any new solutions are relevant to the extent that they stimulate new thinking, which is desperately needed. What worries me about the current, fashionable megastructure-mania is that it creates the illusion that one simple device will solve all our problems. It is the same illusion of the first half of the 20th Century when it was thought that simple (simple-minded) formulas, if rigorously enough applied, could indeed solve the problems of the human condition. The almost ideological fervor that has attached itself to the study of megastructures is an illustration of the fact that some people are still concerned with an ideology, and not the quality of life for people. The real question that we have to ask ourselves is whether the current craze for these structures is based on humanistic concerns or those of a technocrat determinism.

ULRICH FRANZEN

Yes.

GORDON BUNSHAFT

Our urban problems, which to a large degree are sociological and economic in character, cannot be solved by architectural fads. The buildings and structures that will have to be planned and designed in order to serve the over-all needs of a better urban environment will be small, medium, and large . . . There is one area, however, that may somehow vaguely relate to "megastructures." That is the need for projects like the revitalization of existing city centers, and the creation of new city centers that should be conceived of as compositions of interacting human functions and of facilities and services forming environmental infrastructures . . . But as far as "mega" by itself is concerned, I think that it isn't the size that counts, but content.

VICTOR GRUEN

Reactions to June Housing Issue

Dear Editor: I have recently been working on a study of the problems of low-cost housing, and I read the JUNE 1968 P/A with interest.

Much of the effort in low-cost housing today is devoted to trying to find ways of meeting the housing needs of the urban poor. Practically, this means the black poor, who as a group are angry. However, this condition seems to have escaped the notice of designers and planners of new schemes for low-cost housing. The black poor see American society as over-controlling, exploiting, self-interested, and unsympathetic to their real needs. No housing will be really acceptable to them if it is seen as part and parcel of an unacceptable system, no matter how many "advantages" it seems to offer. We asked a group of the more disgruntled what they thought of the idea of having scads of new housing built in one of America's most famous ghettos, their home: "You build it; we'll burn it." The black poor do not want to be, for instance, stuffed into an adequate box, in an enormous structure, designed and manufactured by a large corporation in Detroit, for a profit, and moved into their neighborhood by outside initiative and control. A distressing number of the schemes shown on pages 108 to 153 of your issue could be described as some variation of the above.

Your article did not really tackle this sort of problem, and this might be said of most efforts in low-cost housing. No one is actually against finding cheaper ways to provide shelter. But if we fool around with this end of the problem only, we may just build masses of unacceptable housing. Equal efforts mean, among other things, finding new methods by which the housing is planned, produced, acquired, and controlled. As citizens familiar with the building process, architects can be influential in bringing about needed change.

Your article seemed to adequately consider better ways of satisfying the human need for shelter. Properly handled, a housing program could also begin to help satisfy the needs of pride, self-esteem, and self-fulfillment.

JAMES WICK
Boston, Mass.

Dear Editor: After reading your stimulating survey of prefabricated techniques for speeding construction of multistory

Continued on page 12

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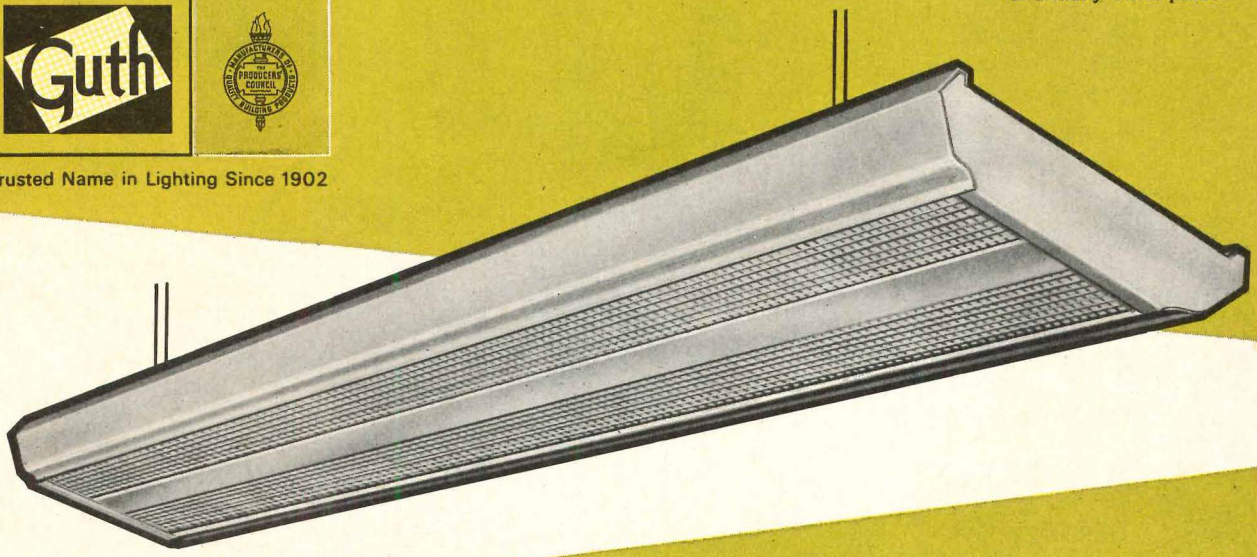

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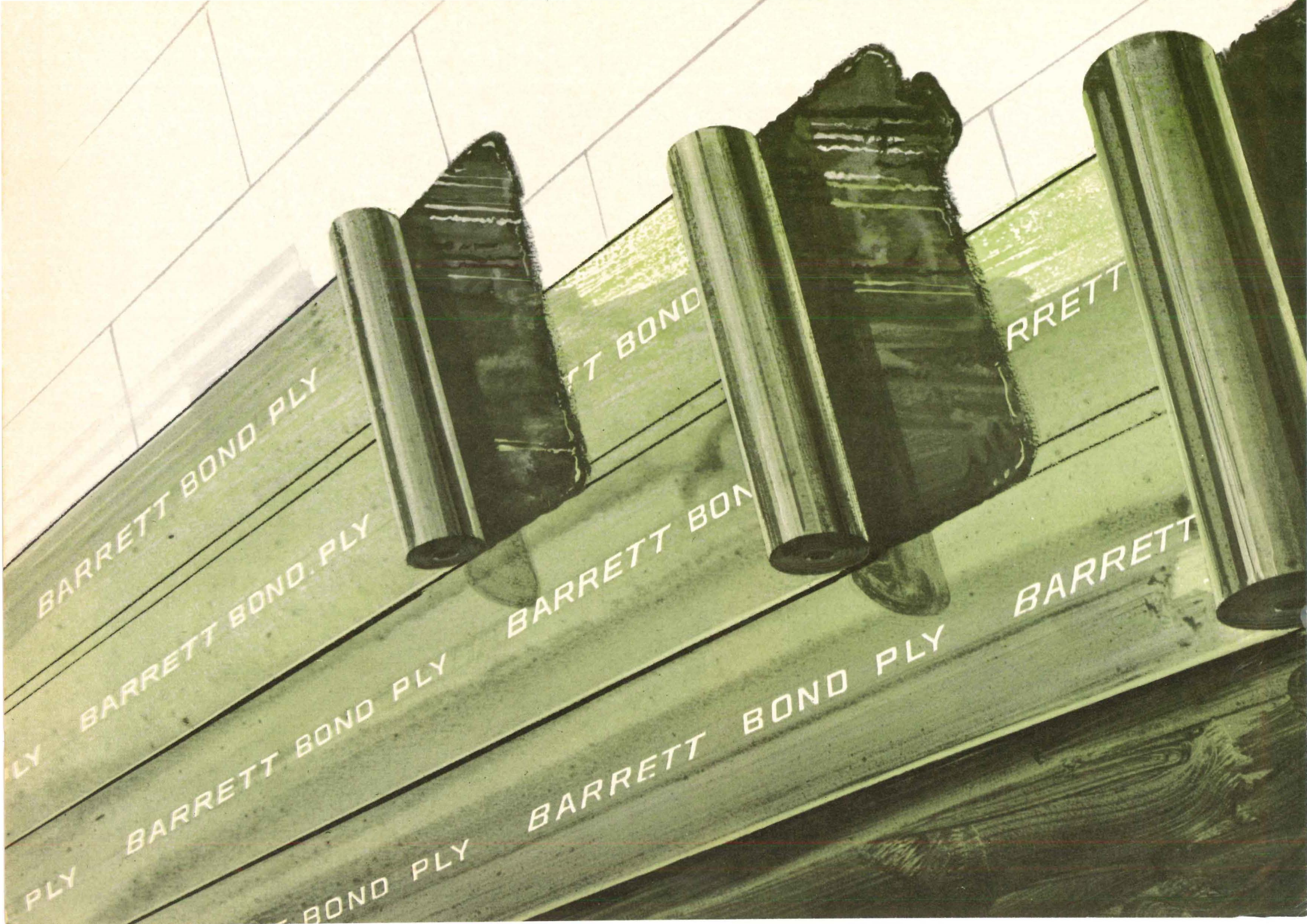
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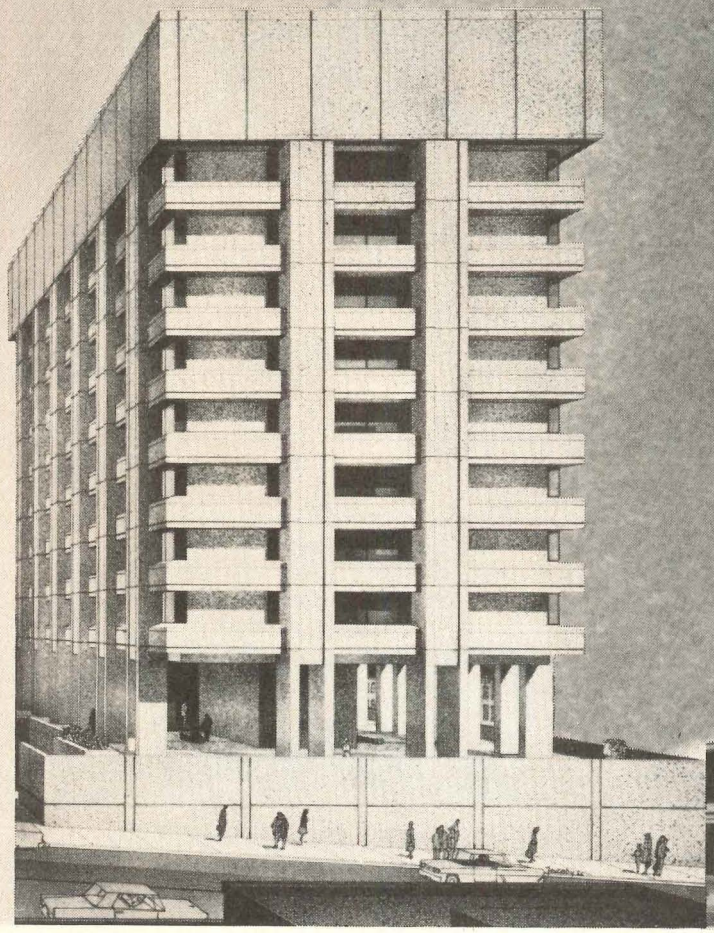
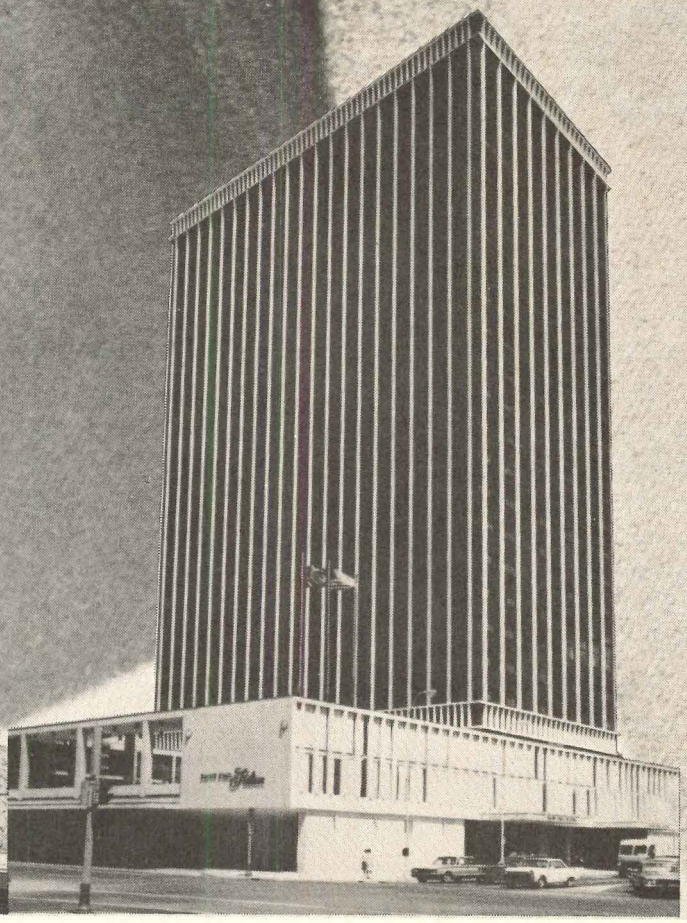


The Saint Paul Hilton Hotel, St. Paul, Minnesota: 22 stories, 500 rooms. Approximately 1500 tons of Grade 60 steel reinforcing bars. Architect: William B. Tabler.



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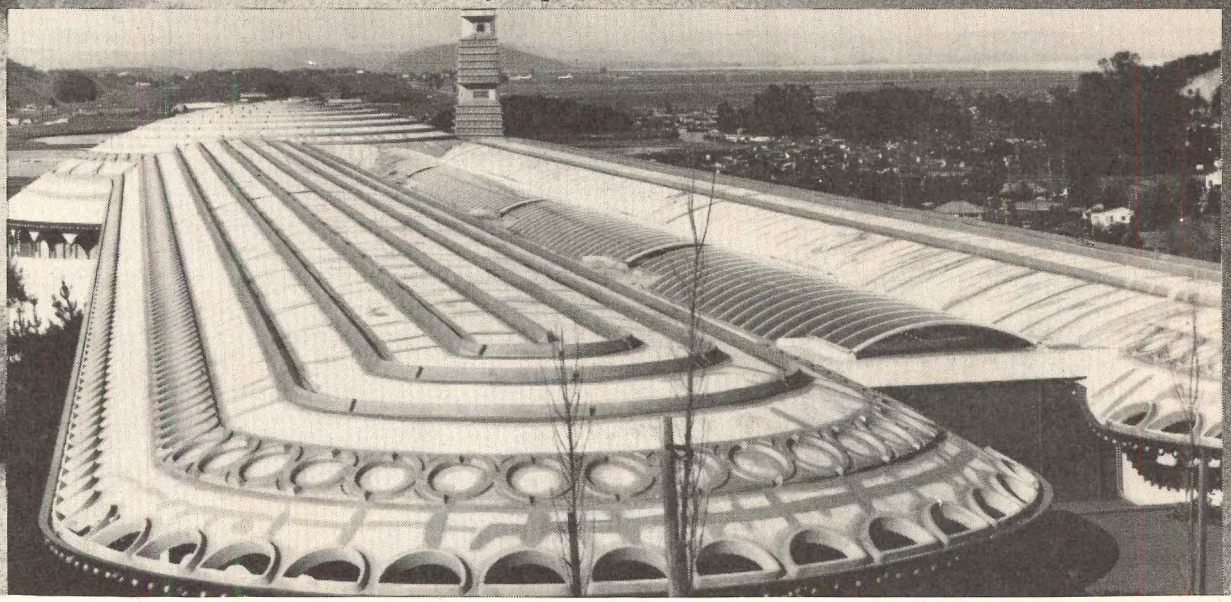

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4-68

Continued from page 6

and low-rise housing in the June issue, I am distressed that some of the projects shown are already doomed. It is relatively easy to criticize a "20th-Century Box" for its spatial or building durability limitations, but I would like to think that a greater effort on the part of the designers and industry could produce a much better and more economical result than the houses we see everywhere done in a conventional way. And, of course, all of us are concerned with the elimination of slums. The hope lies in prefabrication. With it, one day we may see real Resurrection Cities. Then and only then can we claim to be an industrious nation.

ADAM M. KAAS
New Haven, Conn.

Dear Editor: I have read and re-read your June issue. You are to be commended on an excellent report that deals with probably the most important architectural problem of our time — providing low-cost housing for the urban ghetto areas.

But I am sure P/A made an unintentional boo-boo when it said that the government proposes to erect 600 million units over the next 10 years.

BURTON W. BERGER
New York, N.Y.

[*The correct figure, as we indicated in other parts of the issue, is of course, 6 million units.* — Ed.]

Dear Editor: Your articles on prefabricated construction are excellent. The idea, however, that architects have been obstructed by codes and labor from contributing significantly to technological progress is less than accurate.

Many architects consider any prefabricated or predesigned elements a threat to their professional design ability. They tend to think only in terms of "custom-designed" structures and believe anything less is unchallenging or aesthetically unworthy.

Architects should stop "reinventing the wheel" every time they sit at the drawing board. Prefabricated elements can free the architect from repetitious detailing and allow him more time to concentrate his professional ability on a design that is limited only by his imagination.

CONRAD C. ARNOLTS
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Monumental Grabbing

Dear Editor: As consulting engineers, we are sometimes reprimanded by our archi-

Continued on page 16

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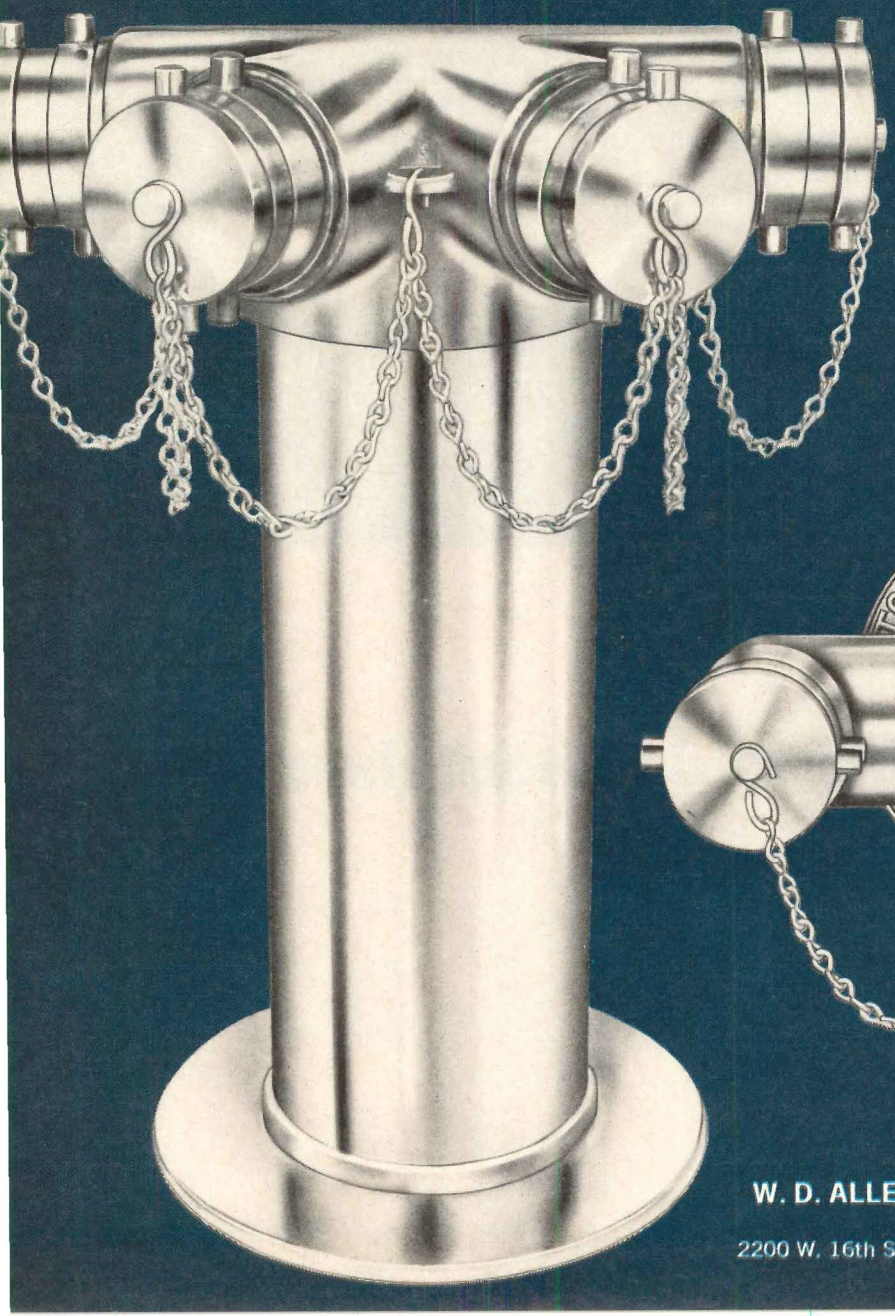

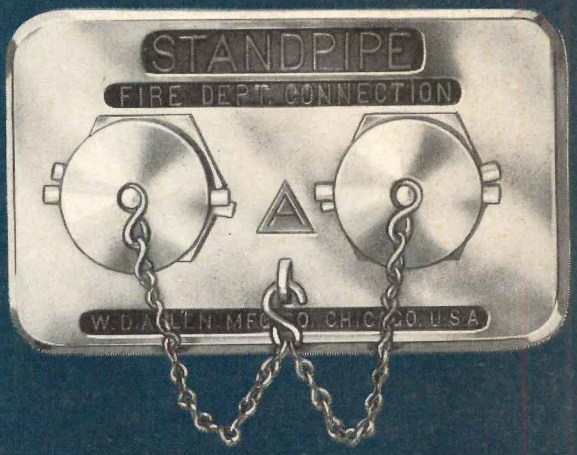

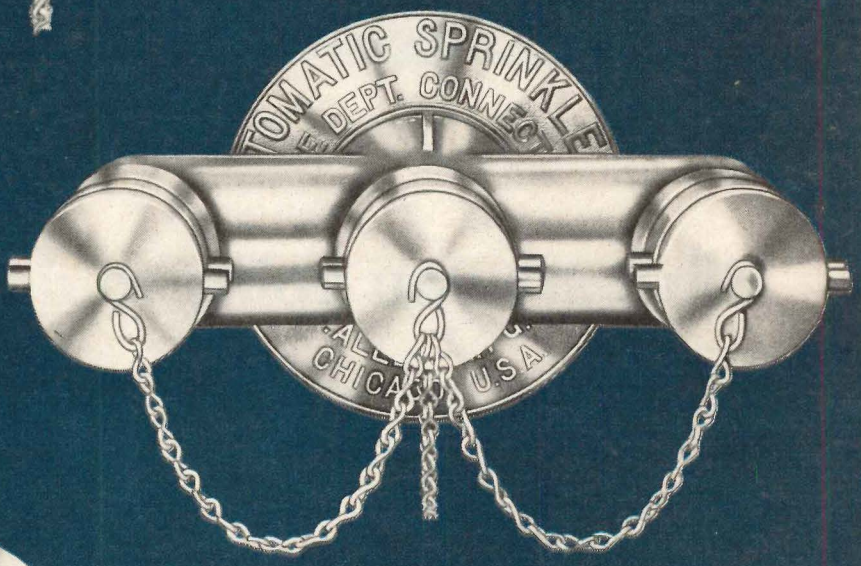

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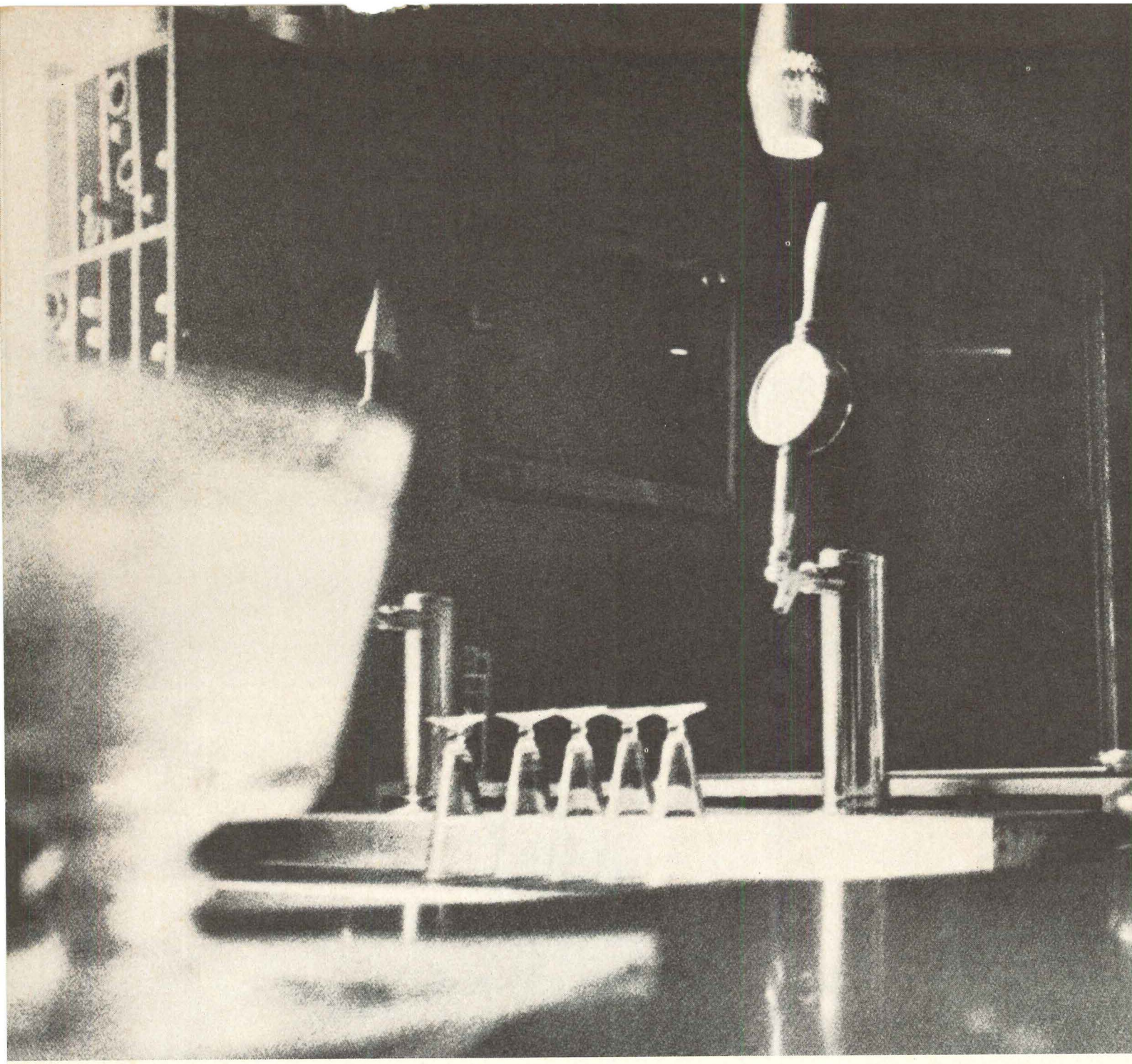

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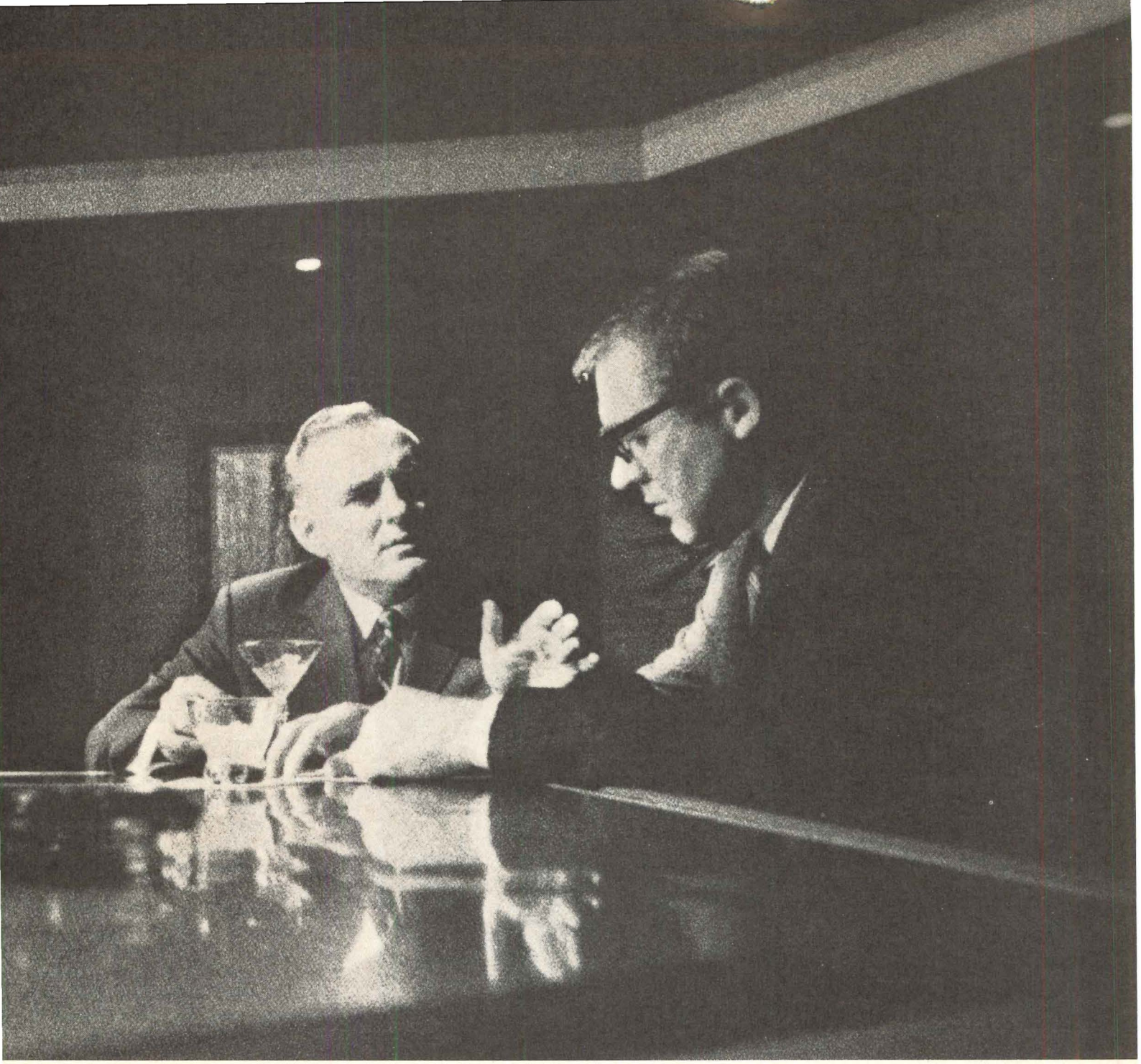

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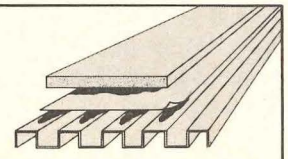

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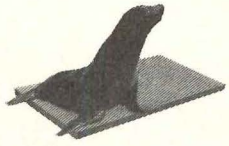

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Continued from page 12

tect clients for not understanding a particular aesthetic. For practice today, we are trying to understand what Breuer is doing at Grand Central Station (NEWS REPORT, APRIL 1968 P/A). I wonder what Breuer would do if the air space above the Washington Monument were up for grabs.

WILLIAM C. MILLER
Starr, Miller & Serot, Consulting Engineers
New York, N.Y.

Of Man, Machine, and the Specialist

Dear Editor: Your magazine is getting better and better all the time. The issue on schools (MARCH 1968 P/A) was quite good. You made it evident that together with the 30 per cent of good roadbeds, 70 per cent use the gravel of new concepts, new theories, and new worlds, and still build roads that lead to the same status quo of yesterday's "architecture," even if they use their lofty words and exclamation points in mammoth letters as a physical cover for their buildings. And of the good 30 per cent, more than half foster not the opportunities that man has with the machines, but those that the machines have with man. Especially the "educational specialists," who aim at immobilizing man and making the machine an unavoidable suffocating mass of plastic breasts imposing themselves at all available orifices. Do they not realize that, as the General Food National Applied Ekistics and Pistons Survey found, man might enjoy shopping around, but that buying is a task he relegates to his secretary? That the delirious collection of facts is *good* for machines? And that the greatest effort the best of humanity has always made is toward ridding himself of the barnacles of gravity and dependence?

They realize, I assume, that this is the age of the plutonium God of Science and they want to get in. But who cares about doing more things faster? Would it not be better to be able to afford *not* to do them at all? It is just this kind of aspiration that is evidenced in works of art of all ages that are made of — and because of — stuff momentarily useful (such as tooled wood or winning a war), but that use the stuff as the material with which to show the desire for things free. Oh sure, some poor technician has to work in a factory to think and make tools, but why should those involved with a facet of art be so concerned with the "guts" of the car and not the elation of moving, the elasticity of time, the world of impressions?

WILLIAM MILETO
Rome, Italy

flame-resistant *plus...*

and not banned in Boston

Go ahead... wrap yourself in this non-irritating, soft-to-the-touch drapery fabric. Chatham has bewitched flame resistant 100% VEREL® MODACRYLIC fibers into drapery fabrics of the finest decorative and textile qualities. Yet it's approved in cities with the strictest fire codes. For a beautifully illustrated brochure write Chatham Drapery Fabrics, 666 Lake Shore Drive, Chicago, Illinois 60611. Available now, through distributors in your area.

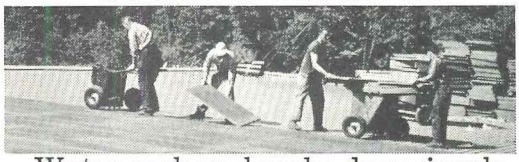
Chatham
drapery fabrics

Manufacturers of BLANKETS • CARPETS • DRAPERY FABRICS • FURNITURE UPHOLSTERY • APPAREL FABRICS • AUTOMOBILE UPHOLSTERY
Chatham Manufacturing Company . . . Since 1877

You'll wait for years and years before it sinks.

Fesco Board®

The water-resistant roof insulation.



Water soak-up breaks down insulation efficiency.

That means bigger fuel bills in the winter. And bigger air-conditioning bills in the summer.

The remedy? Fesco Board. Water absorption and efficiency loss are practically nil. (Try it yourself with tap water and see how it floats.)

Fesco is fire-resistant. It is rated non-combustible by the National Building Code and has been tested and rated for flame spread of 25 by Underwriters' Laboratories, Inc.

And it withstands uplift forces equivalent to 120 mph winds (60 psf air pressure) under Factory Mutual Test Procedure No. 14695/4450.

Because bitumen soak-up is negligible and the board is dimensionally stable, no taping is necessary.

Write for full details. Johns-Manville, Box 111, New York, New York 10016.

Johns-Manville

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For composite beam design we offer Inland Hi-Bond® deck (in a variety of profiles) and Inland Shear Strap connectors to effectively join the Hi-Bond slab with the steel beam, providing efficient and economical composite steel beam construction.

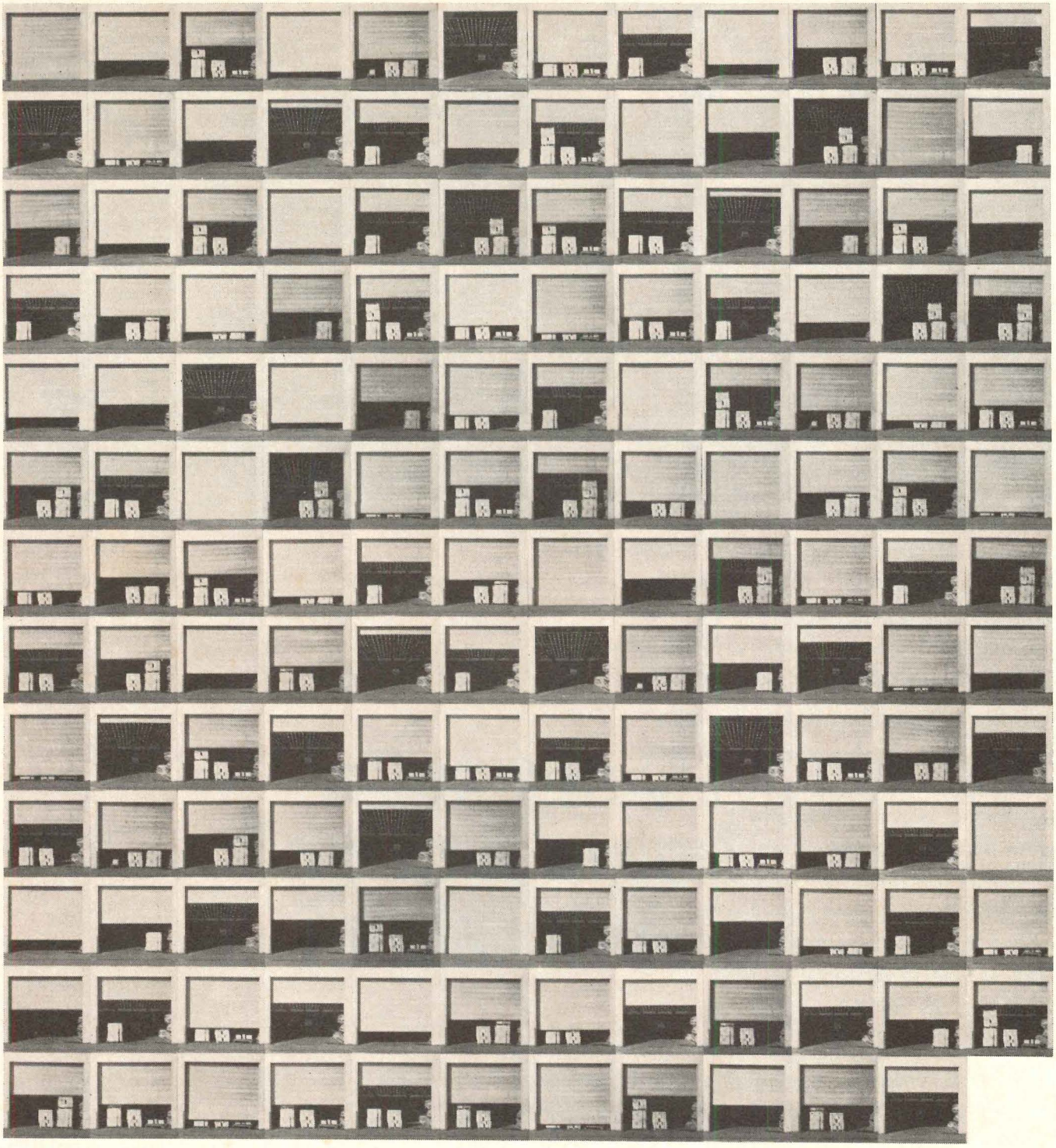
To simplify your design problems our sales engineers have a newly revised design manual for you. The structural concepts presented in the manual basically follow A.I.S.C. recommendations for composite beam construction. They have been fully investigated and verified by an extensive program of full scale load deflection tests using both regular and light-weight concrete.

Composite beam design? Ask Inland.

For more information on the new Inland Composite Beam Design Manual write: Inland-Ryerson Construction Products Co. Dept. H, 4069 West Burnham Street, Milwaukee, Wisconsin 53201.

Formerly Inland Steel Products Company and the structural fabricating, reinforcing steel and post tensioning divisions of Joseph T. Ryerson & Son, Inc.

Inland-Ryerson
Construction Products Company



155 NEW WAYS IN AND OUT OF SAN FRANCISCO

And every one secured by a Cookson steel rolling door

When the Port of San Francisco opens its new Army Street Terminal for business every morning, Cookson opens the doors. And closes them again at night.

155 Cookson power-operated steel rolling doors provide easy access to, and complete security for, the $25 million installation's 820,000 square feet of enclosed cargo handling and storage facilities.

On the basis of quality, operating ease, reliability and cost, the Port of San Francisco's choice of Cookson power-operated rolling steel doors was an open and shut case.

"Best Way to Close an Opening"

THE COOKSON COMPANY

700 Pennsylvania Ave., San Francisco, Cal. 94107

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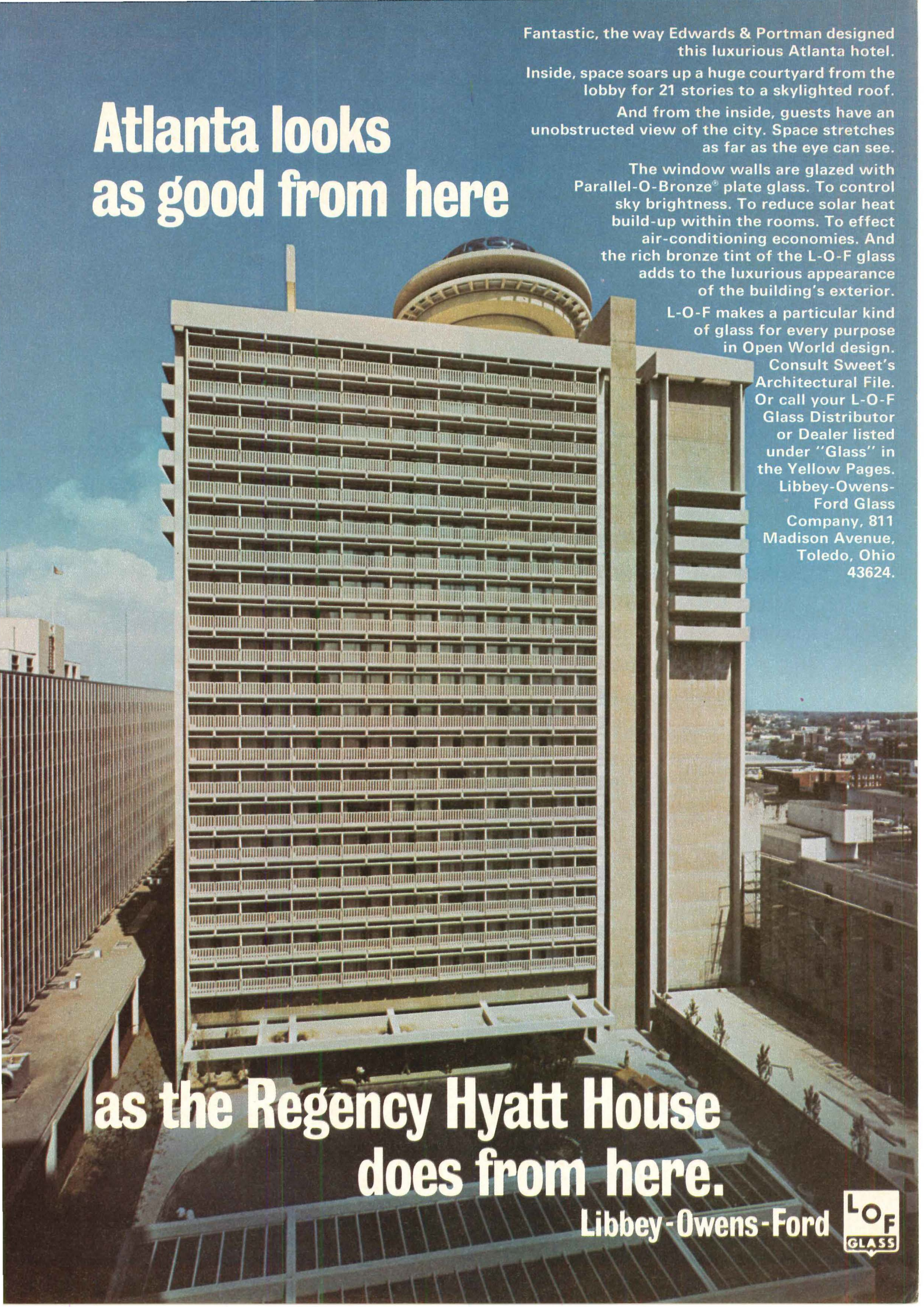
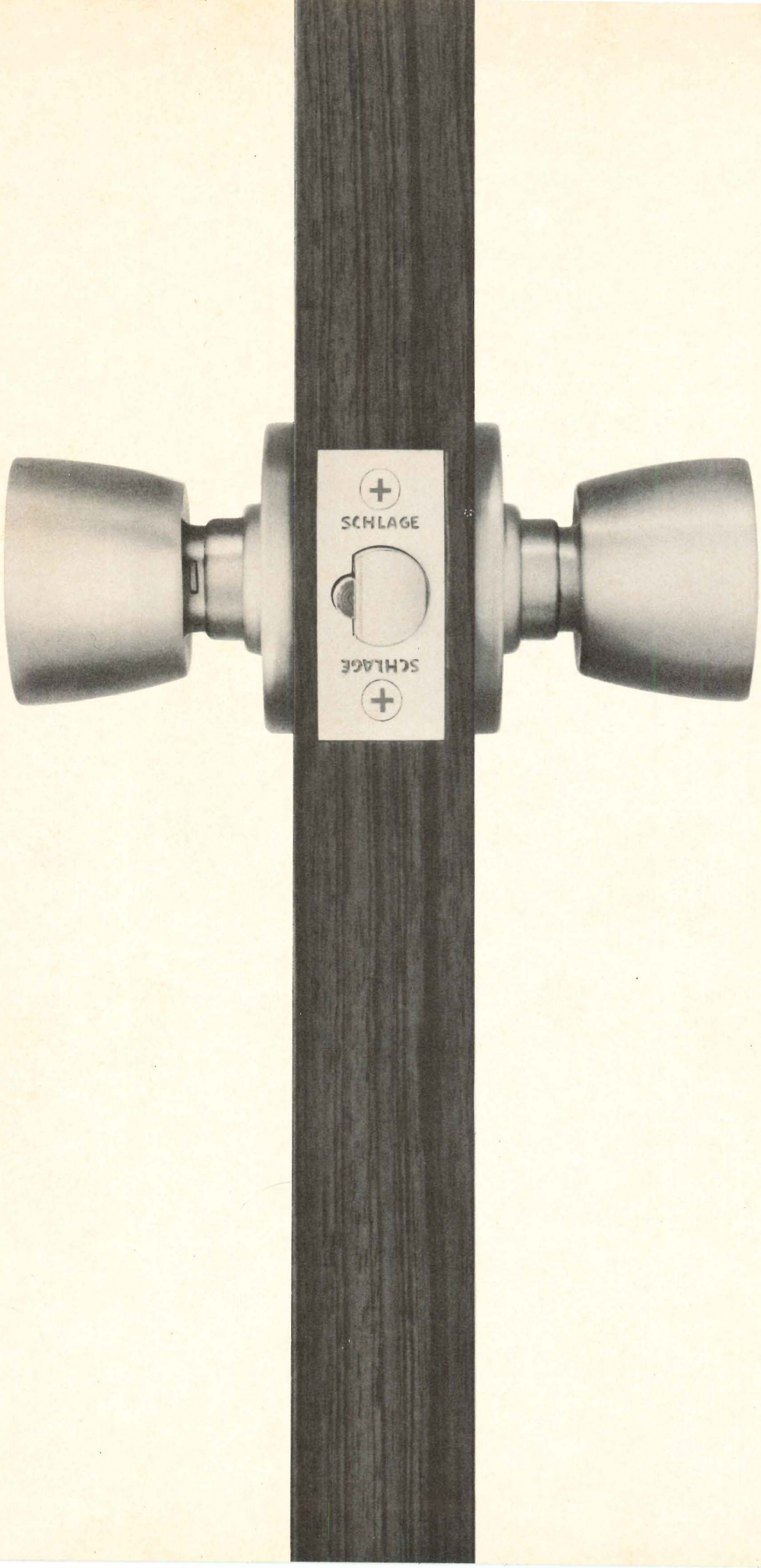
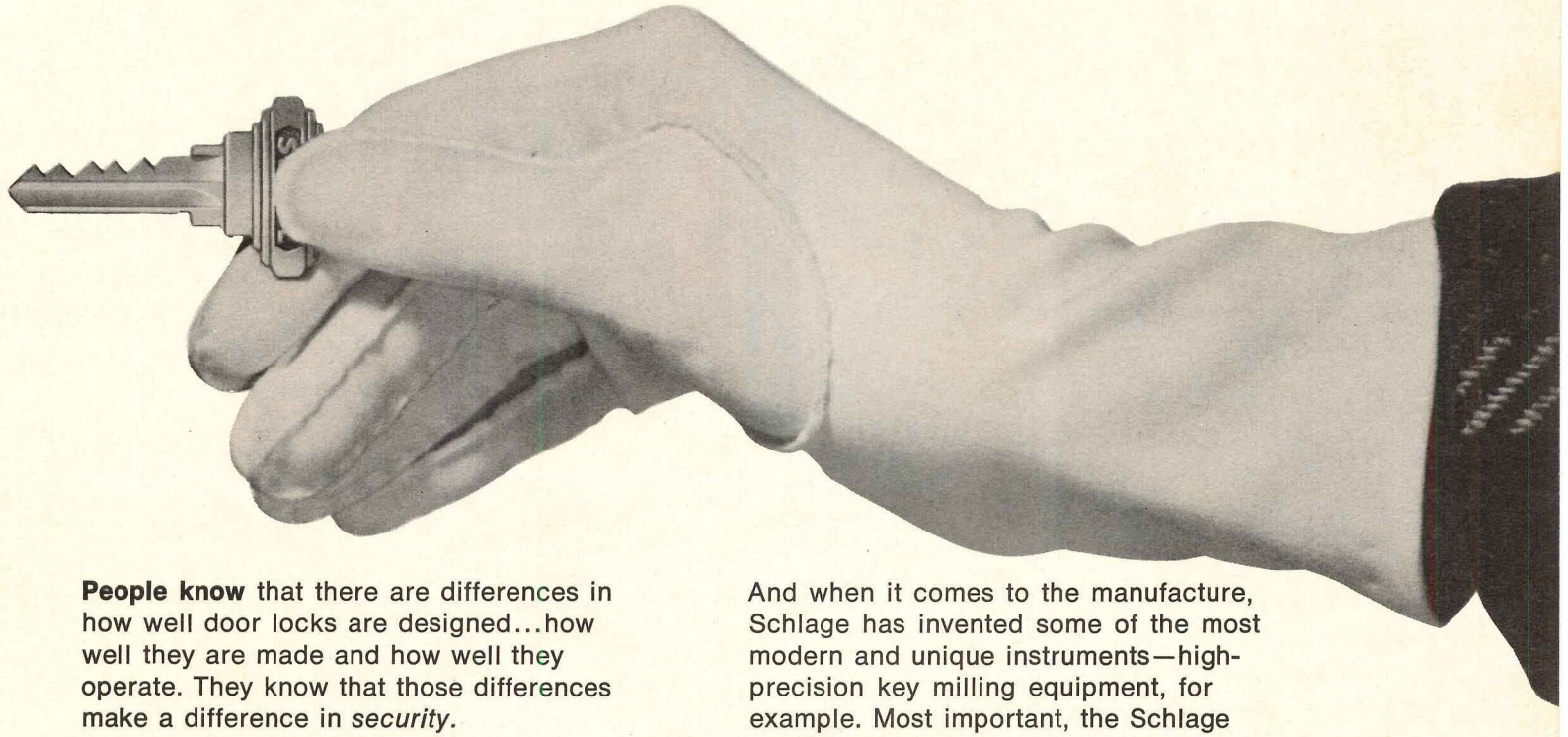

Atlanta looks as good from here
Fantastic, the way Edwards & Portman designed this luxurious Atlanta hotel.
Inside, space soars up a huge courtyard from the lobby for 21 stories to a skylighted roof.
And from the inside, guests have an unobstructed view of the city. Space stretches as far as the eye can see.
The window walls are glazed with Parallel-O-Bronze® plate glass. To control sky brightness. To reduce solar heat build-up within the rooms. To effect air-conditioning economies. And the rich bronze tint of the L-O-F glass adds to the luxurious appearance of the building's exterior.
L-O-F makes a particular kind of glass for every purpose in Open World design. Consult Sweet's Architectural File. Or call your L-O-F Glass Distributor or Dealer listed under "Glass" in the Yellow Pages. Libbey-Owens-Ford Glass Company, 811 Madison Avenue, Toledo, Ohio 43624.
as the Regency Hyatt House does from here.
Libbey-Owens-Ford
LOF GLASS



Door locks,
to most people
mean security

Will people pay a little more for something much better?

Obviously they will. But just as obviously, they want to be certain that what they *get* is much better. Door locks for instance. They are something we really know about.



People know that there are differences in how well door locks are designed...how well they are made and how well they operate. They know that those differences make a difference in *security.*

What about Schlage Door Locks? They generally cost a little more. Yet they outsell all other door locks. So they must offer a "difference" in security.

Is the design much better? Schlage invented the cylindrical lock...made it so good that others have tried to imitate the design for years. But Schlage has kept improving and perfecting it. Still does—as the latest models reveal.

Is the quality much better? There is better quality in the design, of course. But Schlage goes further. For example, Schlage expends more for raw materials. How else would it be possible to make a better lock? Schlage picks out and spends more for special strip steels rolled to rigid specifications...spends more for assuring the most precise tolerances in the industry...spends more for constant and rigid inspection.

And when it comes to the manufacture, Schlage has invented some of the most modern and unique instruments—high-precision key milling equipment, for example. Most important, the Schlage craftsmen are men of talent as well as pride. Naturally, Schlage pays them more, too.

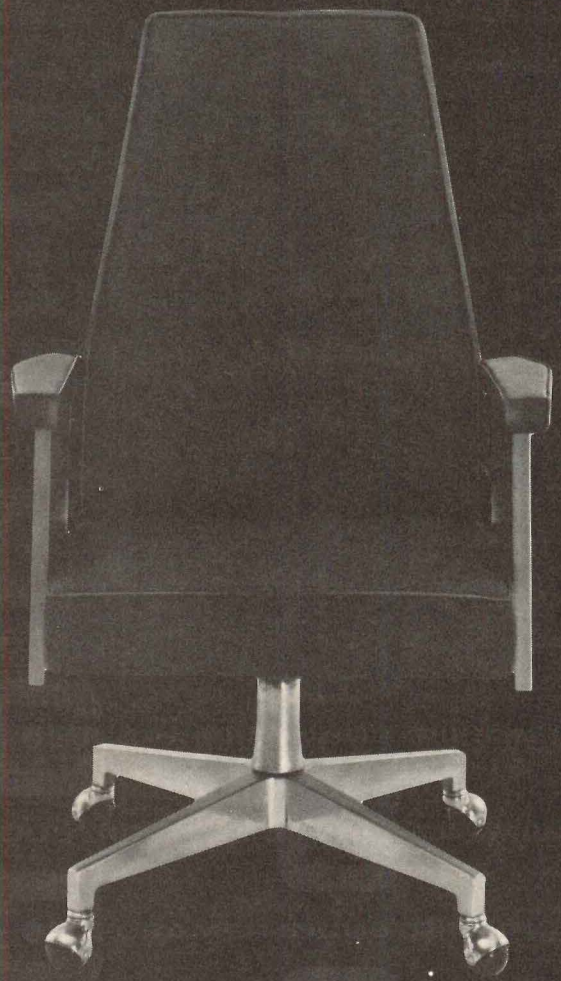
Do Schlage Locks work much better? That is the result of better quality—better workmanship. It has made Schlage the largest selling door lock in the world. Over the years, Schlage has proven itself the one lock that apparently never wears out. And it is virtually free of maintenance cost.

Aren't they WORTH a little more? More than a little more. So much more goes into Schlage Locks that they actually *do more* for people—provide a feeling of dependability and reliance. The Schlage sense of security.

SCHLAGE®
LOCK COMPANY
San Francisco • Vancouver, B.C.

magnificent

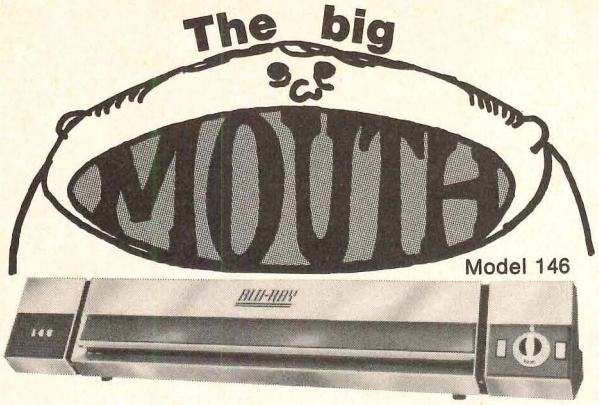
this is the finest chair you can recommend.



CRAMER INDUSTRIES INC.

A Subsidiary of USM Oil Co.

Cramer—The leader in style and quality



Here's the only low-cost whiteprinter with a 47-inch mouth!

With the big-mouth 146, you make extra-wide prints, or multiples of smaller sizes, at speeds up to 9 fpm. It exposes them clearly, develops them sharply, spews them out the back for easy stacking. And copies cost only 1¢ per sq. ft!

Amazingly simple to operate, and easily portable, set up the 146 anywhere and you'll have the lowest cost, big-mouth producer of whiteprints on the market. And dependable? It's backed by Blu-Ray's exclusive 1-year warranty.

Free brochure on the 146 and other models. Write, wire, phone or use Reader Service Card today.

BLU-RAY Incorporated.

6830 Westbrook Road
Essex, Conn. 06426
Phone (203) 767-0141

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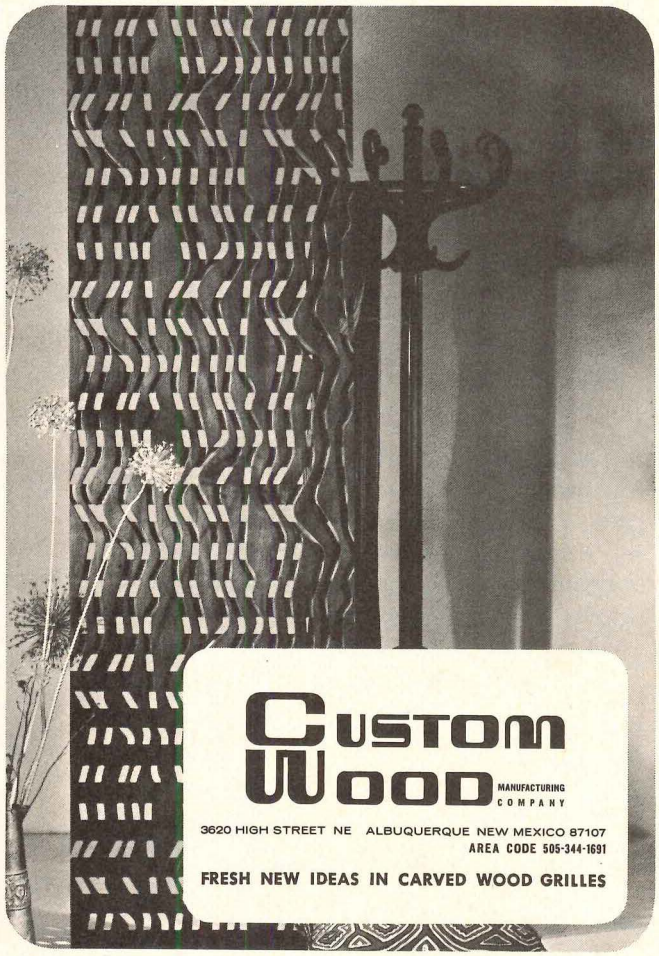

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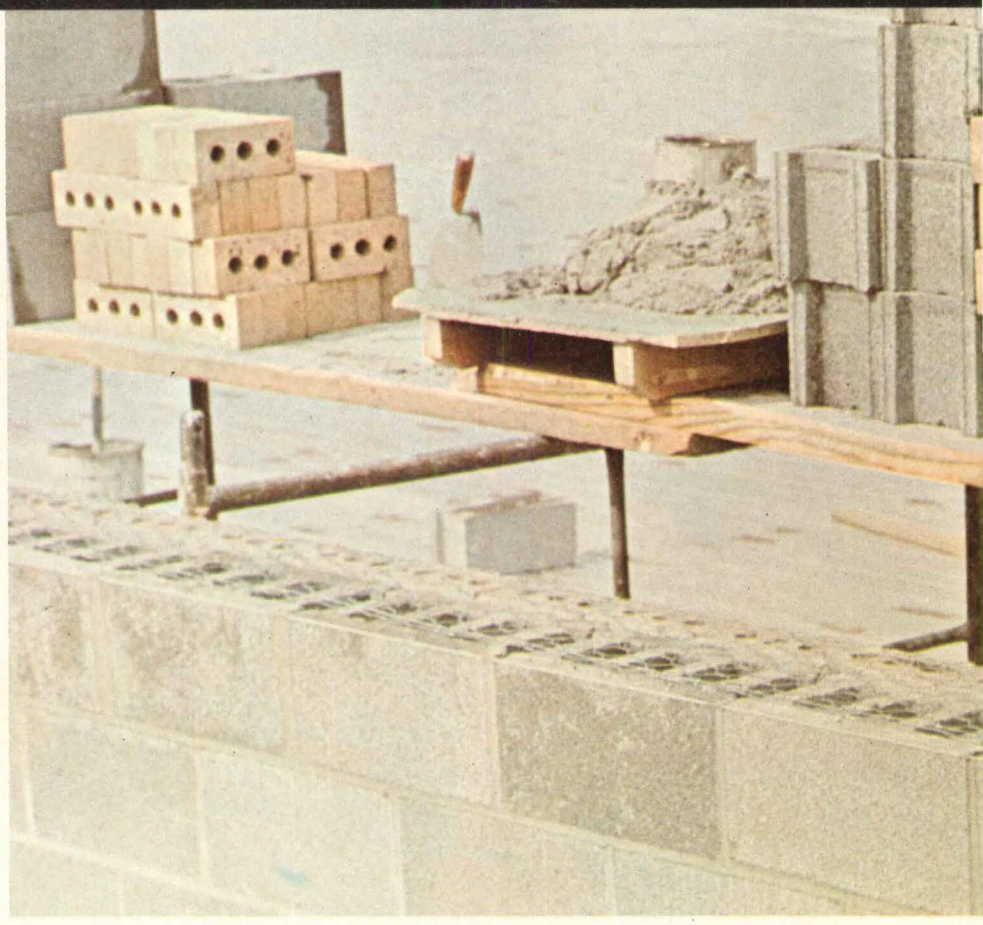
On Readers' Service Card, Circle No. 334

Columbian Elementary School, Kokomo, Indiana. Three additional school buldings in Kokomo by same architect, general contractor and masonry contractor: Maple Crest School, Haworth High School and Sycamore Jr. High School Addition.

Architect: Everett I. Brown & Co., Indianapolis
General Contractor: Modern Structures, Inc., Indianapolis
Masonry Contractor: B.E.C.T. Co., Indianapolis
Construction: Concrete block and brick cavity walls alternate courses of blocks reinforced with Keywall Multibond (Roll-Type) Reinforcement.

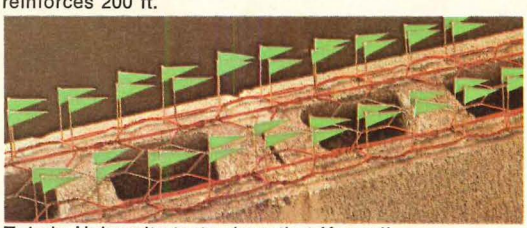
Only Keywall® Reinforcement is made to match the mortar strength



Use Truss-Type Keywall with high strength mortar

In walls subject to high stress, it is good practice to specify high strength mortar and our Keywall Truss-Type Reinforcement every other course. The tremendous bonding power of high strength mortar makes excellent use of the extra steel in our truss-type reinforcement, as shown by lateral pressure tests conducted at the University of Toledo. Tests also showed that reinforcing every *other* course is as effective as reinforcing each course.

Keywall Multibond comes in rolls that are easy to hand carry, roll, convey, or wheel. One roll reinforces 200 ft.



Toledo University tests show that Keywall Multibond is unsurpassed when used with regular mortar. Multibond gives you 96% more bondling surface than 9 gauge truss, 55% more than 3/16″ truss. Plus 28 mortar locks per 8″ block.

Use Keywall Multibond with conventional types of mortar

Easily cut to fit any building situation with just a pair of tinsnips. Snip to make cut-outs for structural framing. Snip to make pieces exactly the right length for corners and pilasters.

Conventional mortars need the extra bonding surface, mortar locks and mechanical anchors provided only by Keywall Multibond. Together they work to better control thermal movement and resist cracks.

For specific answers to any reinforcement problem, call your Keystone man or write Keystone Steel & Wire Company, Peoria, Illinois 61607.

inner strength
ROOFS · WALLS · FLOORS

from **Keystone** Steel & Wire Company
Peoria, Illinois 61607

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Builders know that wind leakage went out when Crestline Classic-70 doublehungs came in

And so did dust, dirt, soot, grit, grime, smog, fog, and everything else that's been creeping by window manufacturers for years. All gone now. Thanks to our three-way way of compression sealing windows that even weather-strips the weather-strip. Very popular with home-buyers.

There are many more innovations in design, quality-care and delivery capability that are attracting builders to the big Crestline line . . . all pointed toward lowering real cost by adding more value. And all the result of a continuing leadership program of improving everything we make, the way we sell it and the service that backs it up.

If you think windows should be something more than just something to look through, ask your Crestline dealer, or write us in Wausau, for a completely different look.

We can get with you fast. We have our own plane.

CRESTLINE®

The wood windows that cut out the callbacks

Home office, Wausau, Wis. Plants at Wausau, Ladoga, Indiana, Corry, Penna., and Petersburg, Va.

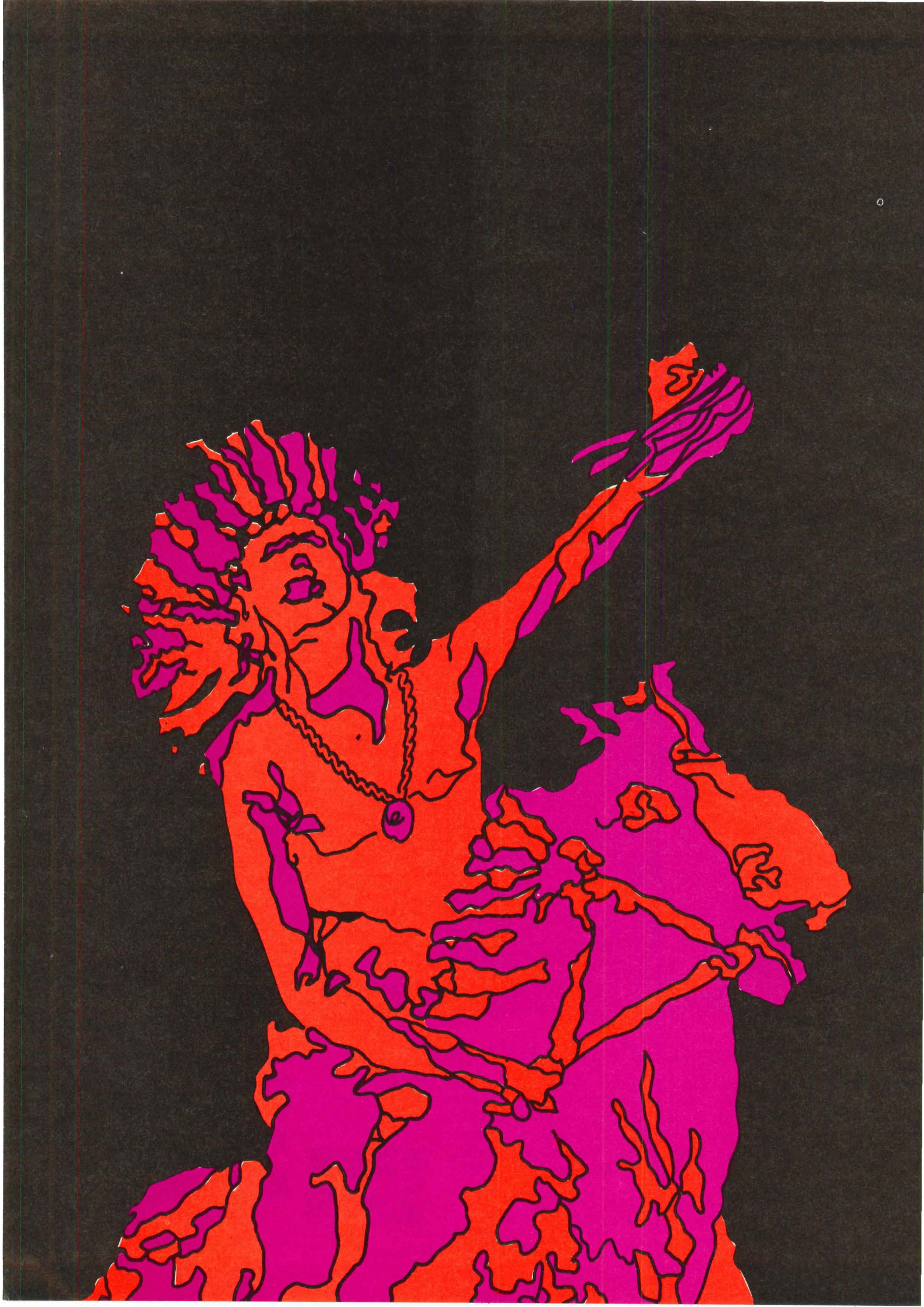
See us in Sweet's (S)

* Of course it's a Haws drinking fountain

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

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

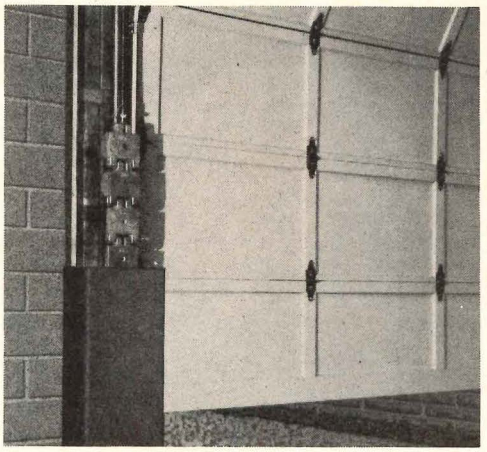
HAWS® **DRINKING FOUNTAINS**

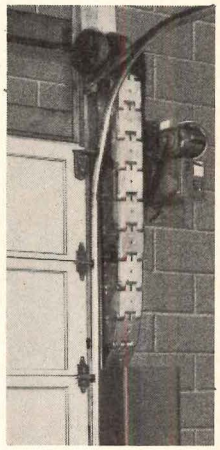


A blaze of ideas.
Bold, imaginative, inventive.
An old-line company suddenly gone young.

the crawford uprising

Forget everything you know about upward-acting doors. Bright, bold innovations are coming your way from Crawford.





If you specify upward-acting doors, your thinking is about to change. Here's why.

Crawford Door, 38-year-old manufacturer long noted for its quality product, has suddenly blossomed into the daring, dashing leader of the field.

The result: ideas — bold and imaginative. Not next year, not next month. NOW.

Some examples:

A new fiberglas door with a polyallomer hinge guaranteed for one million open-close cycles. A cable sheave made of DuPont's Delrin that actually outwears brass. A new paint for steel doors that is better than today's toughest automotive finishes.

A new Crawford mini-stress spring, guaranteed against breakage for 100,000 cycles (about 8 times the life of a normal spring).

A new counterweight door system that eliminates springs altogether. Requires only a drop or two of oil. Can be used in low-lift and high-lift applications.

Special "plant-on" panels that enable you to design both garage door and entrance door with the look of authentic carved wood — at a fraction of the cost.

Much, much more. Fire doors (new acquisition). A line of curtain doors that includes rolling fire doors, service doors, grilles and counter shutters (also a new acquisition). And a unique, low-cost security door.

Your thinking IS about to change. We'll be glad to show you why. Write to us.

For 38 years, a leader in industrial and residential uprising doors.

THE CRAWFORD DOOR COMPANY
ECORSE, MICHIGAN/*Subsidiary of Jim Walter Corporation*

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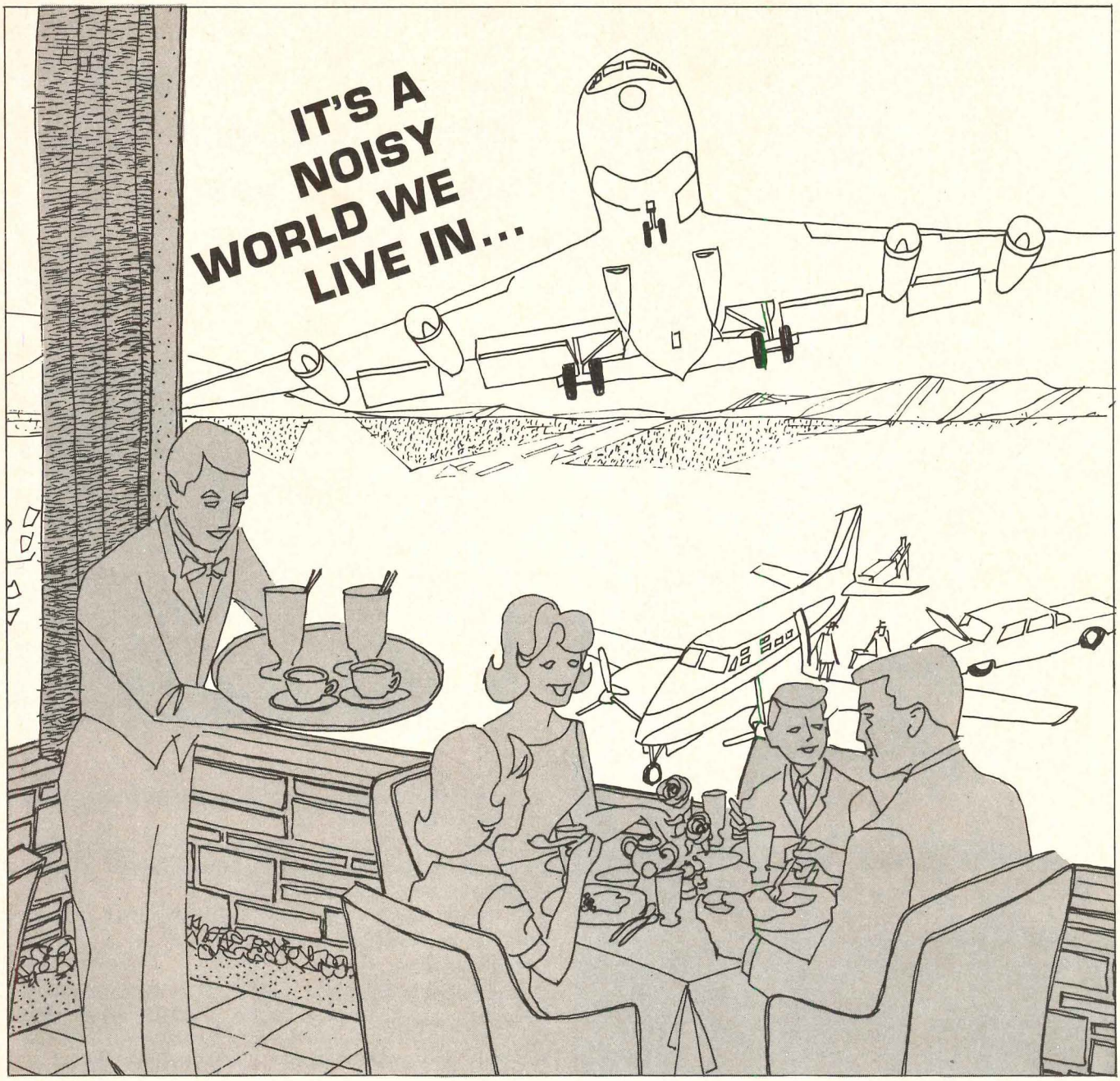


But Soundtropane Makes It Whisper Quiet!

Soundtropane, laminated acoustical control glass, is made for both exterior and interior applications where noise would ordinarily preclude glass entirely.

See how Soundtropane measures up to other acoustical control materials:

. . . Soundtropane 39 (½" thick) is equivalent in sound isolation to a 6" concrete block.

. . . Soundtropane 35 (9/32" thick) is equivalent to normal 4" block walls or normal drywall and studs.

. . . Ordinary plate glass is about 1/10 as effective as Soundtropane 39 in isolating acoustical energy; less than half as effective in isolating noise.

. . . Thermal insulating glass (1") is only about 1/50 as effective as Soundtropane 39 in the 250 cps (cycles per second) range . . . about 1/10 as effective in the 2000 cps range in isolating acoustical energy . . . far less than ½" as effective in isolating noise.

Control sound effectively without sacrificing the desirable properties of glass—use Soundtropane and discover what a quiet world it can be!

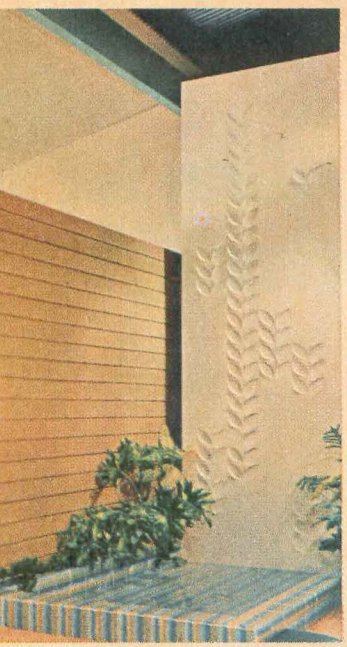
For further details see Sweet's File catalog 4a-De, or write to us on your letterhead.

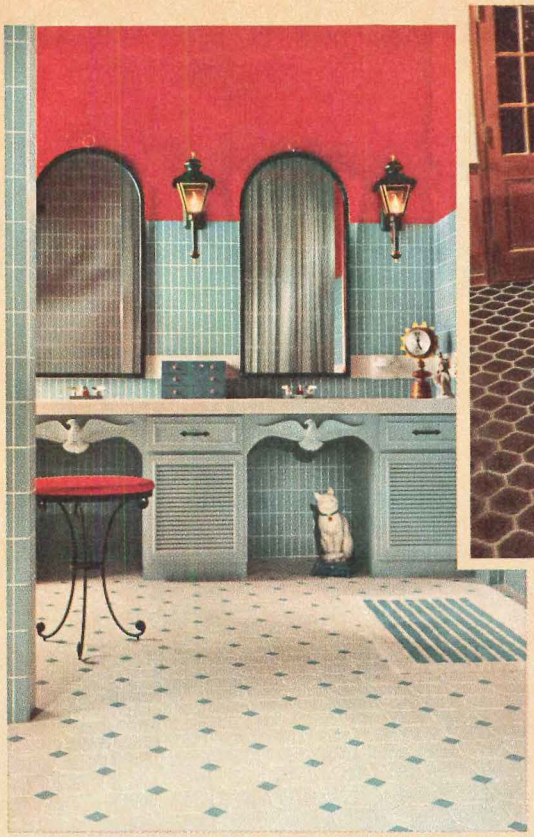
SOUNDTROPANE

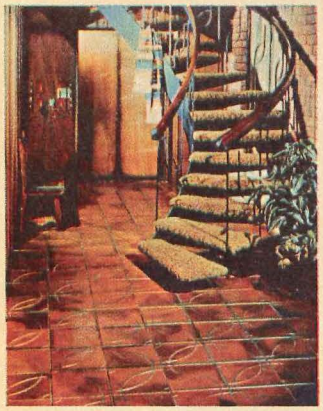
by dg DEARBORN GLASS COMPANY

6600 South Harlem Avenue • Argo, Illinois 60501

DEARBORN Knows Glass—
do You Know DEARBORN







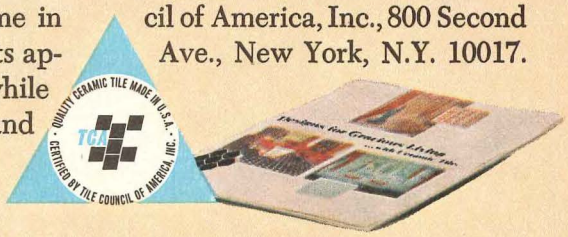
Should a house be just a house when it can be a villa, a chalet, or a chateau?

The cool elegance of a moorish floor. The echo of nature in a finely detailed kitchen. The sweep of a dressing room refined to an individual personality. The artistry of a sculptured entrance.

The timeless beauty of ceramic tile makes all these possible—in homes that give the pleasure of dreams turned real.

Ceramic tile continues to lend its unique qualities to more and more areas of the modern home. For good reasons. A seemingly endless choice of colors and textures. More investment than expense, it will last as long as any home in which it's used, enhancing its appearance and value. All the while eliminating the drudgery and expense of constant care.

Some of what's new in ceramic tile is contained in "Designs For Gracious Living." Sixteen pages of information plus illustrations of actual designs. For what's best in ceramic tile, ask for "Certified Quality Tile" bearing the mark shown here. Tile Council of America, Inc., 800 Second Ave., New York, N.Y. 10017.



TILE COUNCIL MEMBER COMPANIES: American Olean Tile Co., Inc. • Cambridge Tile Manufacturing Co. • Continental Ceramic Corporation • Florida Tile Industries, Inc. • Gulf States Ceramic Tile Co. • Keystone Ridgeway Company, Inc. • Lone Star Ceramics Co. Ludowici-Celadon Company • Marshall Tiles, Inc. • Mid-State Tile Company • Monarch Tile Manufacturing Inc. • Pomona Tile Manufacturing Co. • Sparta Ceramic Co. • Summitville Tiles, Inc. • Texeramics Inc. • United States Ceramic Tile Co. • Wenczel Tile Company

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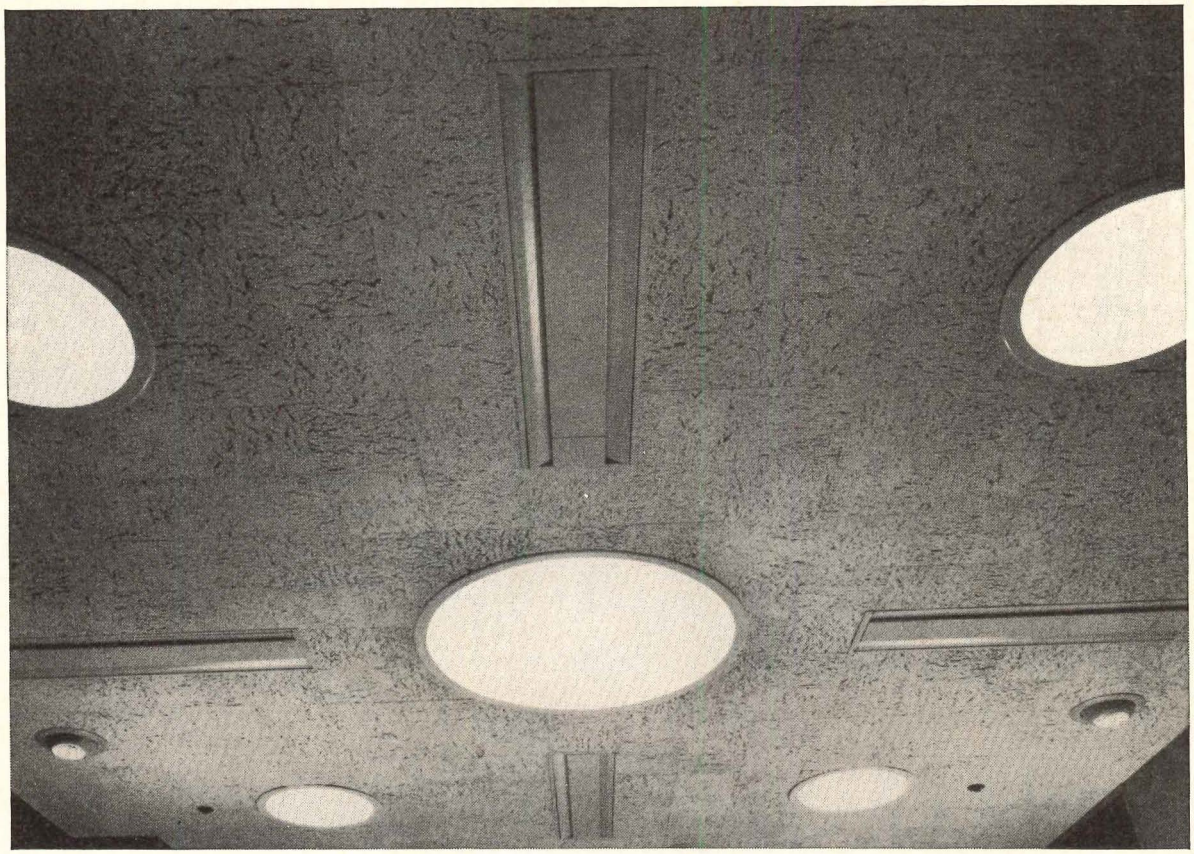
Zero in on the Carrier Moduline® System for architecturally-designed air conditioning!



This close-up of our Moduline air terminals, integral parts of the system, shows one use with circular light fixtures to attain an attractive ceiling pattern.

They integrate with lights dozens of different ways. May be installed as random singles, linked in pairs or coupled in lines of any length.

The system provides variable volume temperature control room-by-room in buildings of any size. Maintains an ideal temperature level in each room at all times. Delivers air quietly and smoothly at any volume. And does it automatically with utmost simplicity.

Controls are unit contained. There are no pumps, valves, electrical connections, or wall thermostats. As a result, you have unlimited design flexibility—not only in initial planning, but also for future changes.

For complete details, contact your nearest Carrier office or distributor. Or write us at Syracuse, New York 13201. Represented in Canada by Carrier Air Conditioning (Canada) Ltd.

Carrier Air Conditioning Company

Carrier®

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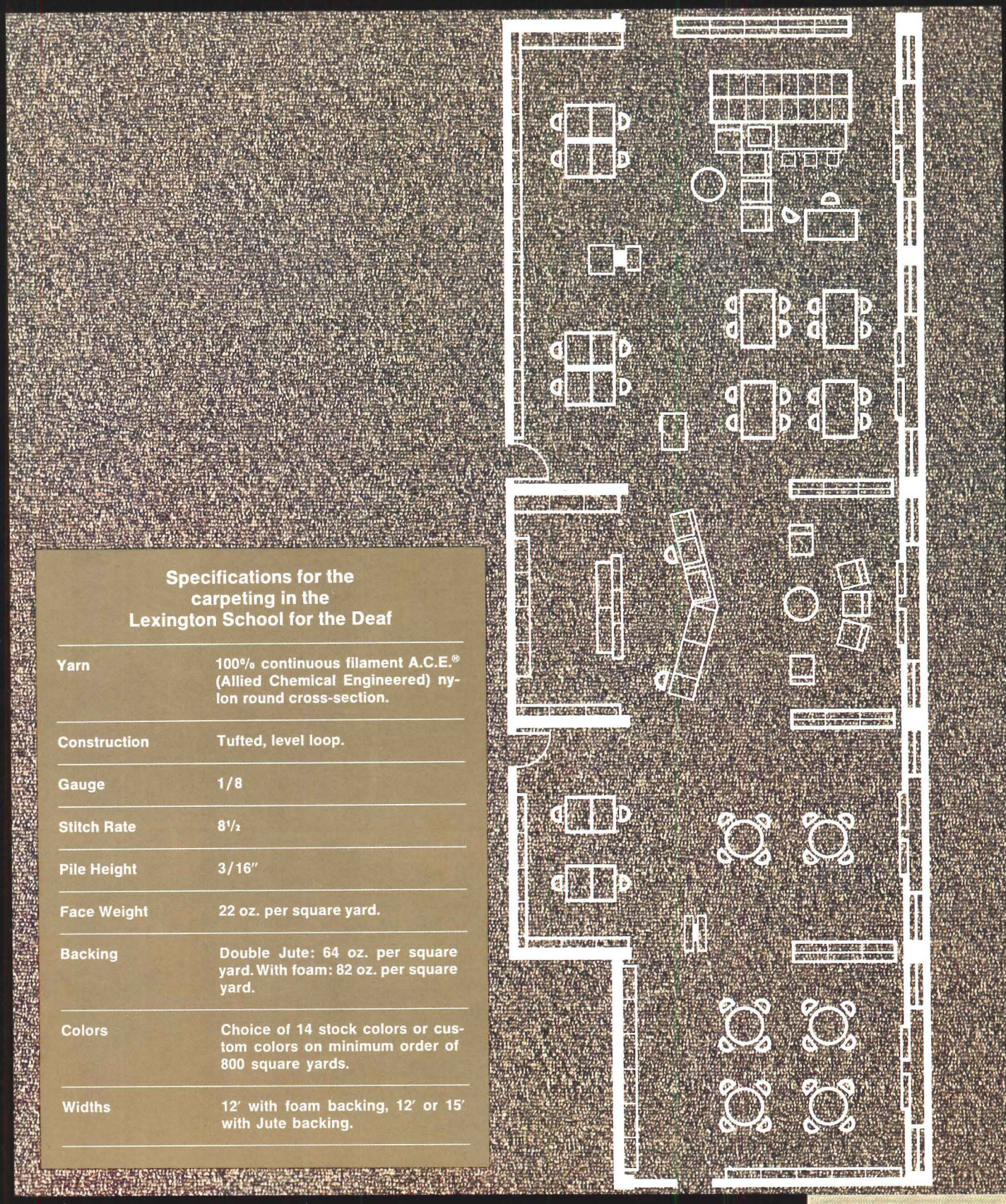
This is a Commander.

Mr. Reed van Lhose, Interior Designer for Raymond Loewy/William Snaith Inc., New York City. He commanded carpeting of A.C.E.® (Allied Chemical Engineered) nylon fiber (Nyloc from Beattie Carpets) for the brand-new Lexington School for the Deaf in Forest Hills, New York. Mr. van Lhose chose carpeting made from A.C.E. nylon because he wanted a fabric high in durability and low in maintenance. Further, he sensed carpeting made from A.C.E. could better respond to the special needs of deaf children: the added security afforded in carpeting of the rich, true colors made possible by A.C.E. nylon. Mr. van Lhose is a Commander of Allied Chemical nylon.



Specifications for the carpeting in the Lexington School for the Deaf

Yarn	100% continuous filament A.C.E.® (Allied Chemical Engineered) nylon round cross-section.
Construction	Tufted, level loop.
Gauge	1/8
Stitch Rate	8½
Pile Height	3/16″
Face Weight	22 oz. per square yard.
Backing	Double Jute: 64 oz. per square yard. With foam: 82 oz. per square yard.
Colors	Choice of 14 stock colors or custom colors on minimum order of 800 square yards.
Widths	12′ with foam backing, 12′ or 15′ with Jute backing.

Become a Commander. Specify carpeting of A.C.E. nylon on your next contract. Allied Chemical is the only fiber producer to back carpeting carrying its A.C.E. label, with an unprecedented 3-year Guarantee.

Become a Commander. For more information, write to The Commanders, Allied Chemical Corporation, Fibers Division, No. 1 Times Square, New York, New York 10036, or telephone (212) HA 2-7300, Ext. A.C.E.

Allied Chemical

In top command of commercial carpeting.

Clear light through all weather.

Along our coastal and inland waterways, lighted beacons are replacing the old, unlit markers. And, increasingly, lenses molded of Du Pont LUCITE® acrylic resins are replacing the conventional glass lenses. Weather-resistant LUCITE defies time, sunlight and salt spray. Advanced optical designs are easily molded in LUCITE, and costs are cut because no finishing or polishing is needed.

The weather resistance, design freedom and economy offered by LUCITE are also being put to good use in many applications more familiar to landlubbers: in brilliant, colorful signs and displays that resist time and weather. In millions of automotive taillight lenses. In non-yellowing lighting shields. In tough, shatter-resistant skylights and industrial glazing. In vandal-resistant windows for modern schools. In decorative appliance medallions—and in durable, highly styled building faces.

In all these applications, LUCITE makes an instant appeal. It's clear, colorful, beautiful. But equally important is the value it offers through year after year of use. It cuts the cost of upkeep and replacement. It endures. And it keeps your business or installation always looking its best.

If your area of responsibility includes any light-handling applications, send for the booklets Du Pont has prepared on LUCITE for (1) Signs, (2) Lighting, (3) Glazing and (4) Building Faces. Write: Du Pont Company, Room 6642-A, Wilmington, Delaware 19898.

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

Better things for better living
...through chemistry

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P/A NEWS REPORT

Progressive Architecture's Monthly Digest of Buildings, Projects, People and Products AUGUST 1968 P/A

AIR RIGHTS ARE THE PAYOFF

NEW YORK, N.Y. As waves of controversy broke last month over the proposed use of 55 stories of air rights above Grand Central Station (see p. 46), a building was being planned for Manhattan's Upper East Side that proves how an efficient use of air rights can benefit everyone involved.

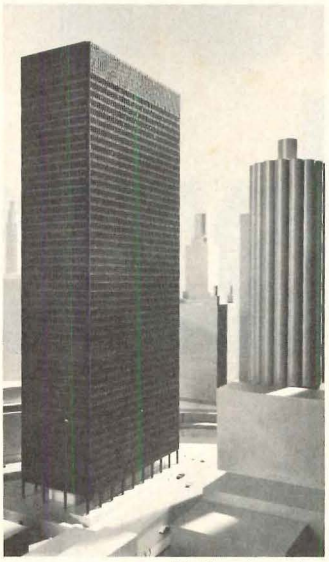
At 87th Street and Lexington Avenue, just 45 blocks north of Grand Central, a new school is being planned to replace P.S. 169, which was erected in 1896. It is the second example in the city of a school-apartment house, air-rights rental program, funded and managed outside the city's budget system by the New York City Educational Construction Fund, a new state authority.

The arrangement sounds complicated at first flush, but is actually relatively simple. Briefly, it works like this: The city turns the land over to the Fund, which issues bonds, and finds a developer, who builds the school and an apartment house on the air rights over the school. The developer pays the Fund yearly rental for the air rights, and this amount is used to pay off the bonds. When the bond issue is liquidated, in 40 years, the Fund turns the school over to the city, and the apartment house owner starts paying real-estate taxes. During the term of the debt, the Fund leases the school for a dollar a year to the Board of Education, which operates it.

P.S. 169 will be topped by a 35-story apartment tower containing 200 units renting for about $100 per room. In a Siamese twin relationship, the apartment building and school will have separate entrances but will share mechanical systems. The apartment residents will use the school roof as a promenade.

The Fund is studying 15 other school-apartment and school-commercial developments for the city. Architects for P.S. 169 are Feldman-Misthopoulos Associates with Brown Guenther Battaglia Galvin as associated architects.

CHICAGO GETS MORE MIES



CHICAGO, ILL. Following by just a few months the announcement by Metropolitan Structures, Inc., of plans for a new office building in Chicago designed by Mies van der Rohe, the IBM Corporation has let it be known that it, too, plans to construct a Mies-designed skyscraper, this one to rise on the north bank of the Chicago River. C.F. Murphy & Associates are associated with Mies on the design.

The site is a 1.6-acre parcel just across the street from Marina City, between North State Street and North Wabash Avenue. The 52-story, 1.7-million-sq-ft rectangular building (the largest yet for IBM) will occupy 50% of the site, with the remaining space given over to an entrance-level plaza. IBM will occupy half the building and rent the rest. At least two floors will be specifically designed to accommodate computers, which will be available to building tenants as well as IBM customers.

Structure will be of steel, with the façades to be metal clad with bronze-tinted, double-glazed windows. Construction is scheduled to begin this fall, and occupancy is expected by spring of 1971.

AIA CONVENTION 1968: TALL TALK IN THE TALL TIMBER . . .

President's reception at the Portland Hilton.

Just let your conscience be your guide. JIMINY CRICKET

PORTLAND, ORE. The name of the convention was MAN: Man, Architecture, Nature. The name of the game turned out to be CIA: Change, Involvement, Action.

Every day, the 2500 attendants were exhorted by speakers to extend themselves professionally, socially, personally, to make architecture a meaningful force in improving man's environment and involving the community in the task of renewing itself.

It began with the first Theme Session on Man when Whitney Young, Jr., Executive Director of the Urban League, electrified the convention by letting members know the situation exactly like it is — namely, that the great majority of architects are inactive, if not completely unconcerned about the great needs of our society and the winds of change that are blowing from the disadvantaged areas of our cities. "You are not a profession that has distinguished itself by your social and civic contributions to the course of civil rights, and I am sure this does not come to you as any shock," Young said. "You are most distinguished by your thunderous silence and your complete irrelevance.

Damming design that results in the "vertical slums" of most public housing projects, Young exhorted architects to initiate dialogues to discover what the slum residents used and *want*, and also to help

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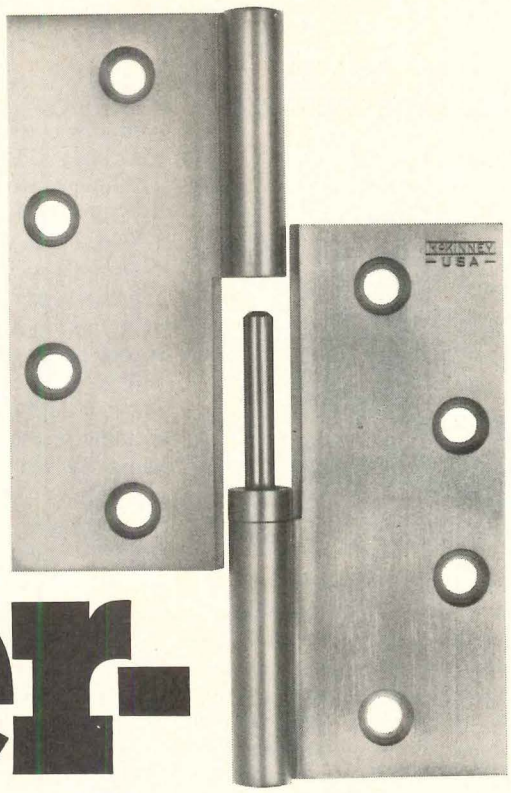

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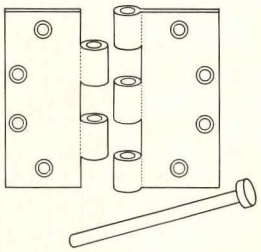

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break down social, educational, and economic barriers that prevent black youngsters from entering the architectural profession. Young received the biggest ovation of the convention, and the next day resolutions were passed calling for greater architectural involvement and responsibilities in aiding the "disadvantaged" of the United States. Time will tell whether these were passed in the heat of emotion and guilt or whether the profession intends really to act them out.

Lady Barbara

The fourth annual Purvis Memorial Lecture was delivered the next afternoon by Barbara Ward, Lady Jackson. Hers was a brisk and energet-

Barbara Ward: "Architects have a responsibility to see that 'home' in the full sense is the whole urban environment."

ic exegesis of the ills of urban areas, and a call for clear-headed systems approaches to the remedying of those ills. "America grows by $50 billion a year," Lady Barbara said. "Should not half that new wealth be devoted not to the increase in private affluence but to reversing the trend to public squalor? The sheer upward tax drift on rising national income is $12 to $15 billion a year. Is it asking much of responsible citizens to stay with present taxation for say, ten years, and devote the increment to wiping out the ghettoes? Or, when peace comes, can we not refashion our tribal minds enough to say that if $30 billion can be used to fight the war in Vietnam, the enemies of tranquility here at home

Mrs. Johnson, Robert Durham, Marcel Breuer.

— ugliness, filth, rats, slums, wretched schools, unemployment, despair — demand us pass a scale of action? Why not, for heaven's sake? A world in which people were housed and fed would be a safer world than our present rocket-threatened, missile-ridden, doom-laden planet. If it is realism to want security, then let us spend where the real security is here and in the developing continents."

Mrs. L. B. J.

Another call to arms was sounded the next morning by the First Lady. Looking fresh and attractive, Lady Bird Johnson elaborated on her "beautification" theme that has often brought snickers from architects. "As you may know, my concern has been expressed in an effort called 'beautification,'" Mrs. Johnson remarked. "I think you also know what lies behind that rather inadequate word. For 'beautification,' to my mind, is far more than a matter of cosmetics. To me, it describes the whole effort to bring the natural world and the man-made world into harmony; to bring order, usefulness, and delight to our whole environment. And that, of course, only *begins* with trees and flowers and landscaping."

To the architects, Mrs. Johnson said: "So deep is the environmental crisis, so urgent is the demand for change, that architecture must become not only a profession, but a form of public service.

"When so many are affected by your work, you are serving not only the client who commissions your work and pays your fee: *the public is also your client.*

"When so many need your help, it becomes urgent that you look beyond the usual market and find new areas of service."

Presidential Changeover

That evening at the Annual Dinner and Dance, the old order returned for a verbose fling. Interminable introductions were given by outgoing President Robert Durham until the mind reeled: old AIA presidents, Producers' Council people, the old and new Directors, old and new officers, wives, partners, children, parents, grand children, secretaries — the list was endless. Then a telegram from Nelson Rockefeller hustling the architect vote. Then a special citation to Phil Will for being a jolly good fellow. Then the Gold Medal to Marcel Breuer, who accepted with a curious Beaux Arts speech about the architect's eye and visual perception (Breuer evidently had not heard Goring or Russ Ward or Mrs. Johnson on weightier matters). Then outgoing remarks by Durham.

Finally, when many were beginning to despair, the new President of AIA, George Kassabaum (Hellmuth, Obata & Kassabaum, St. Louis), was inducted and brought most diners back to consciousness with a thoughtful, hard-hitting speech in which he pledged Institute work towards ameliorating social ills, examining what the "new architecture and the "new architect" will be, and advancing the profession in a realistic, unromantic way. He said this might cause him to be unpopular in some circles sometimes, but that progress and concern for wider social as well as professional goals would be his watchword. It was a breath of fresh air; we hope it was not just brave banquet talk, and that we will begin to see interesting activity at the Octagon.

Lovejoy Fountain. "For too many of the youth in our cities, the experience of nature has been polluted water, and a 'no swimming' sign." Lady Bird Johnson.

Seminars and Sessions

The various workshops and seminars that attend AIA Conventions were in full abundance at Portland. Most, unfortunately, were rather tired rehashings of old matters, such as the package dealer, the computer in architectural offices (a far more interesting demonstration of computer capabilities was being given at the Computer Center in the Products Exhibition), and the Federal Government as a design client. The matter of the new Design Concept Team approach to urban planning got a good exposition by a panel under John Fisher-Smith. Paul Kirk led a group including Henry Cobb, E. C. Bassett, and David McKinley in examining how to bring design quality to the community, including an interesting aside on how to function as a member of design commissions or review boards, a subject one of Mr. Bassett's partners would be wise to study. And there was lightheartedness in Lawrence

Bag-pipers skirl across the meadow at the Host Chapter party.

Halprin's "Design for Preservation" work shop, particularly when Venice-born Giorgio Cavaglieri excitedly took Halprin to task for describing the Queen of the Adriatic as "a gorgeous coffin."

Architectural students were more in evidence at regular sessions, and even as workshop panel members, than they were at their own "activities." The NIAC evening session lead by Sidney Katz was attended mainly by deans and faculty of various schools expecting to learn what the students wanted and intended to do next. They were disappointed; there were not many students there, and those were apathetic about a generally dull program. The following evening, Gold Medalist Breuer was to have the traditional evening with the students, but he cancelled out. (A rumored move to picket him at the banquet came to nothing.)

As usual, social events proved better attended and somewhat livelier than most business sessions. Harry Weese's new architecture at Reed College provided a handsome background for the Sunday evening party of another publisher.

Monday, everyone crammed knee to knee and elbow to elbow on the private terrace of the Portland Hilton to celebrate the President's Reception — without, as far as we know, there having been a casualty in the swimming pool.

A delightful *fête-champêtre* was thrown as the Host Chapter Party at Alderbrook, a private park nestled in the conifer-covered hills some 60 minutes from Portland. Tents strewn about the valley floor provided Hawaiian, country, Dixie, and German music and dancing — and booze. Tall timber experts demonstrated their prowess at wood chopping, tree felling, and log-rolling. A Scots bagpipe troop skirled about the landscape. There was freshly grilled salmon and beef. And, most of all, a really stunning setting. It almost lulled one into the belief that everything's OK with the profession after all. Until half an hour later, on the trip back, when a busload of bibulous choristers broke the spell — and totally — with top-of-the-voice renditions of such up-to-date works as "You are My Sunshine," "Dixie," "Good Night Ladies," and "Sweet Violets." We guess Lady Bird and Lady Barbara and Whitney Young were right; we have a lot of work to do still, beginning with ourselves.

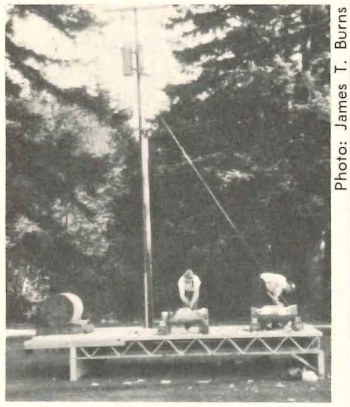


Photo: James T. Burns

Timber cutting show.

Durham presents Critics Medal to Lewis Mumford.

...AND PLENTY OF PALAVER AMONG THE PALMS AND PINEAPPLES

HONOLULU, HAWAII. Reality was even more obscured when some of the conventioneers moved on to the "recessed sessions" in Honolulu. Whatever happened at the official meetings was quickly burned out and smoothed over by the power of ever-present sunshine, sight of blue waters, smell of flowers, twittering of birds, and general feeling of an easy-going never-never land far removed from the tensions of the turbulant mainland. Only bad traffic jams and quickly growing agglomerations of the typically rapid efforts of would-be form-givers reminded one that Oahu Island is not immune to the deadly touch of affluent progress. But even the architectural ugliness of the commercial strip around Waikiki beach could easily be ignored when one ogled the 13,000 co-eds undressed in mini-bikinis who supposedly have come here to attend summer sessions at the University of Hawaii.

In spite of the sun, water, flowers, birds, and flesh, the meetings were well attended. This surely proves something or other about the architectural profession.

The first session, after the usual preliminary verbal niceties, got down to business to discuss "Architecture for Leisure and Recreation." Since of the islands' three major industries — agriculture, military bases, and tourism — the latter is fast becoming the dominant one, this subject was of special interest to the local practitioners. Several panelists talked about proposals for planned developments of new resort areas and emphasized how "good planning" makes good sense. We cannot argue with this sentiment, but we can question whether developing areas of great natural beauty makes sense in the first place. Should not these areas be preserved in their natural state and development take place instead, in less desirable locations? To make beautiful what is not is a more challenging task than attempts at inflicting the least damage to some of the most dramatic landscape in the world.

The Hawaiian government, now in the process of establishing master plans for all the islands by means of land-use zoning, should rise to the challenge of real improvement — the creation of a desirable environment where none was before — instead of following the destructive path of the usual real-estate pattern where improvement means the eventual killing of what is being "improved." This is something the profession could have brought up for discussion but, unfortunately, did not.

Another subject that was not discussed is the well-known corruption, at all levels, of the Hawaiian bu-

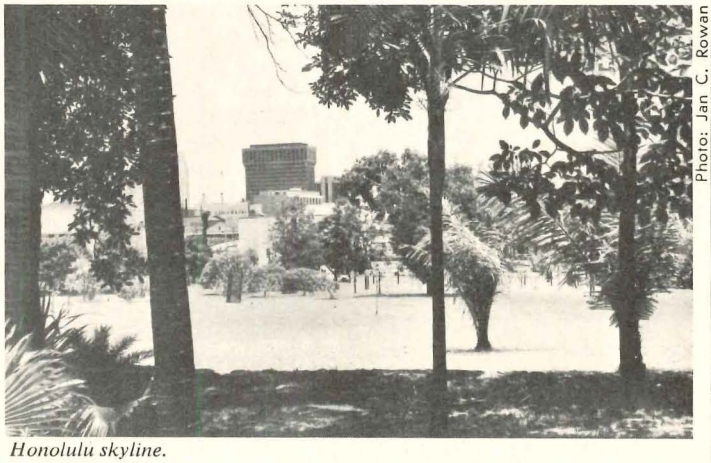
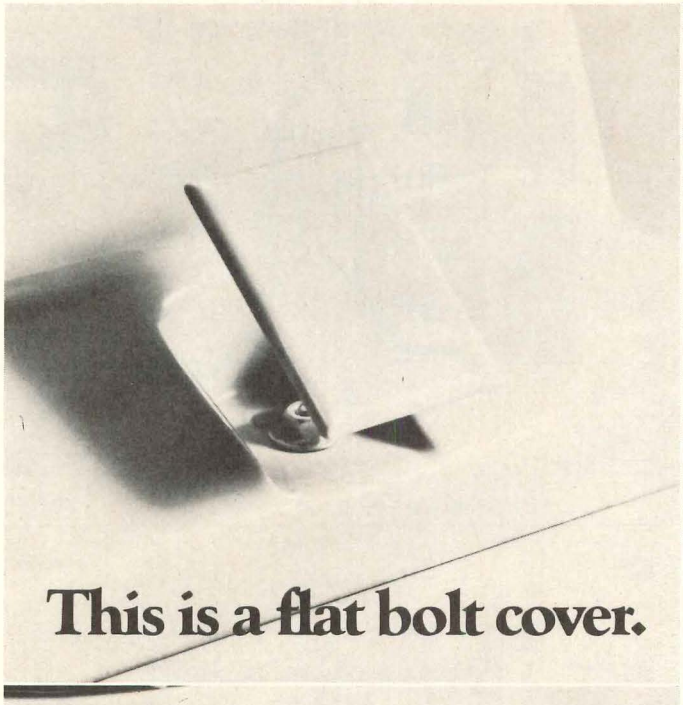


Photo: Jan C. Rowan

Honolulu skyline.



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reaucracy and political establishment. All plans, however grand, have an aura of unreality when variances can be obtained to the accompaniment of crackling dollar bills.

The second session was a repeat of a subject already discussed in Portland. "Planning for Profit" brought home the sad fact that even an artistic soul has to eat occasionally. Judging by the well-healed audience, many of whom flew thousands of miles and even brought their families along, profit would seem no problem in the practice of architecture. But many charts proved that it is indeed a problem, and a lively discussion (based on the AIA booklet, distributed at the convention, "Profit Planning and Architectural Practice") centered around the subject of how to unsqueeze the profit squeeze.

Since everything has to be planned in this world of ours, conventions have to be planned, too — something the Host Chapter should have paid more attention to. What the sojourn in Honolulu proved is that you cannot trust your consultants. After waiting some four hours for their luggage, impatient architects were seen rushing all over the hotel's basement with fiery looks in their eyes. At the Host Chapter Luau, seating was at 12" on center and one bartender was assigned to pour liquids for each 100 guests. Many thirsty architects, who paid $15 for the privilege, were seen walking out of the third-rate hula performance and trying to catch buses back to the hotel, only to be told that they would have to wait for a couple of hours.

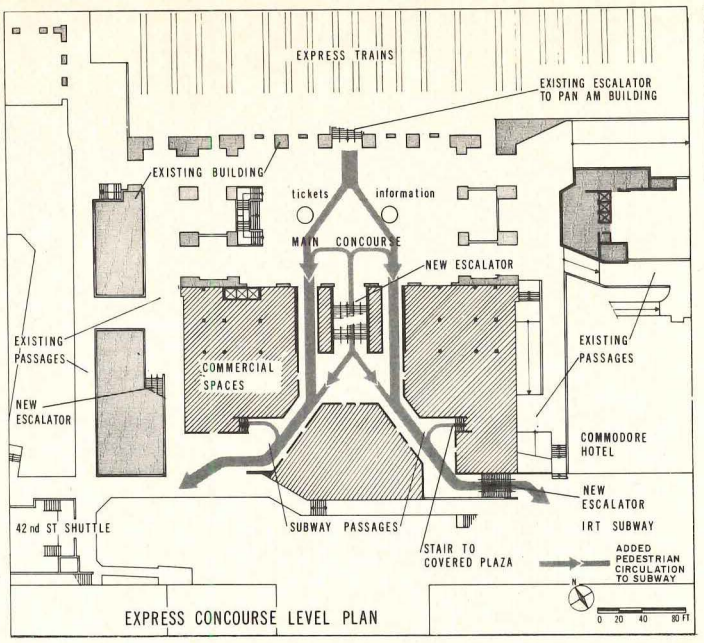
But once back, all was forgotten. After all, the beaches were still there — so was the sun, and the water, and the flowers, and the birds, and the girls, and . . . it was a happy convention.

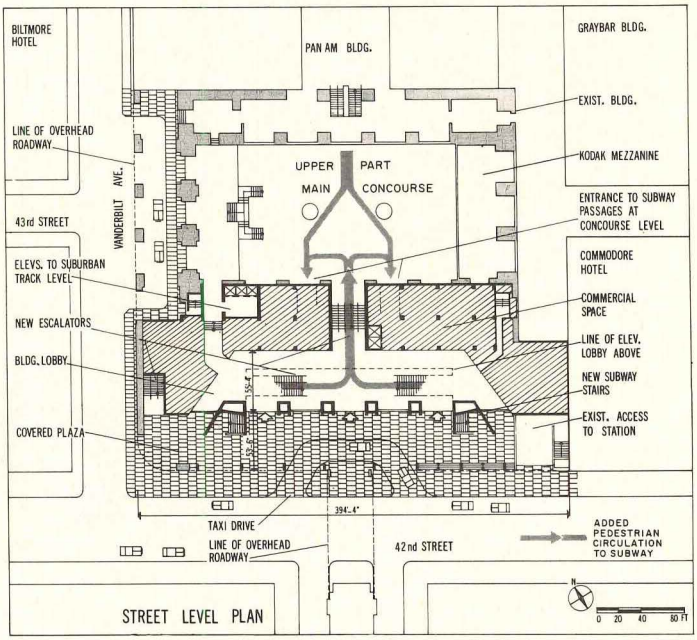
PUT IT OVER HERE, MAC.
Or, how to find space for a 2 million sq ft building in the world's most congested city

"Buildings should be useful, well constructed, and in harmony with our human-social world . . ."
MARCEL BREUER

NEW YORK, N.Y. Marcel Breuer's plans for a 55-story, $100 million office tower to rise above Grand Central Station raises questions that go far beyond the important matters of structure, aesthetics, and circulation. "Frankly, I have been surprised by the reaction of the press," says Herbert Beckhard, Breuer's associate, referring partly to *The New York Times* editorial which stated, "As architecture, the new tower soaring from the classical Beaux Arts terminal like a skyscraper on a base of French pastry has the bizarre quality of a nightmare." An official for the City Planning Commission called it the "wrong building in the wrong place at the wrong time." And he is right. The building should not be built — but for reasons that most critics seem to ignore. It is an ironically perfect example of a building being placed where there should be no building at all. If the 175

Park Avenue building can be built, then it is not being too fanciful to envision an office tower with a rooftop restaurant springing up above the nation's Capitol, or a prefabricated apartment house above Paul Revere's house in Boston. But the mockery of a landmark is not the only folly. Equally important is the need





to preserve openness in a city, any city, being choked by its own congestion. We need strict laws to protect us from our insensitivity. What laws we have are timid and toothless.

New York City's landmarks law, for instance, protects only the façade of a designated building. Nothing is said of the interior space, which is often the most significant part of the structure. Nothing is said of the surrounding space. It leads directly to such sad silliness as the school being built on the site of the Squadron A Armory 52 blocks north of Grand Central. There, only the old Armory walls are being retained, as the landmarks law says they must, and inside them a complete five-story intermediate school is going up, a public educational institution in ill-fitting 70-year-old military garb.

In Grand Central, the terminal's finest interior space, the vaulted main concourse, is fortunately being retained, and the Penn Central Railroad has even commissioned Breuer to restore it to its pre-advertising grandeur. "We will take the interior space and reveal it in its glory," says Breuer, who also plans to alter radically much of the station's other interior spaces. The elevator core for 175 Park will, for example, rise from what is now the waiting room (see photo), and the shops that now line 42nd Street will be removed and given space within the terminal. Beneath the roadway that rings the terminal, where the shops are now located, will be a broad, 73′ promenade. Curving through the center

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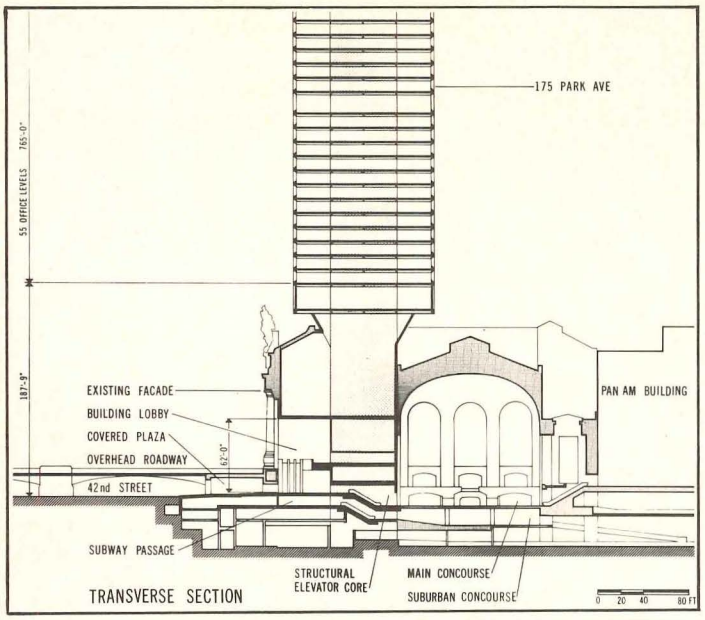


TRANSVERSE SECTION

portion of the promenade will be an entrance roadway for taxicabs. Entering the terminal from 42nd Street, a pedestrian will be able to stay on one level (the narrow ramps now greeting him will be removed), then proceed to escalators that will glide him to the main concourse or to subways. In all, the station's circulation should be improved, and consulting engineers Wilbur Smith & Associates, who did the pedestrian circulation study, estimate that the proposed changes will make rush hours — with commuters pouring into the terminal from trains and subways — more manageable than they are now. There should be room to spare for even greater pedestrian circulation, they maintain. Of course, no such preliminary study can be proved right or wrong until put to the test. But observers say that the massive Pan Am Building, which rose just north of the terminal five years ago, failed to create the massive pedestrian traffic jams its detractors predicted. The improved circulation may be the best aspect of Breuer's plan. Worst, is what the building's 2.1 million sq ft bulk will do to the already crowded space upstairs. It matters little that 175 Park will be 221′ away from the Pan Am building, for the new building will effectively block the latter's light, air, and view.

The Regional Plan Association recently published proposals for mid-Manhattan suggesting clusters of high-rise buildings around major underground transportation outlets. But the report made it clear that any such high-rise cluster must be scaled, to give each building a maximum allotment of light and air. To achieve this more gracious environment, the association proposed tax incentives or stricter zoning ordinances. Perhaps 175 Park will spark such overdue restrictions.

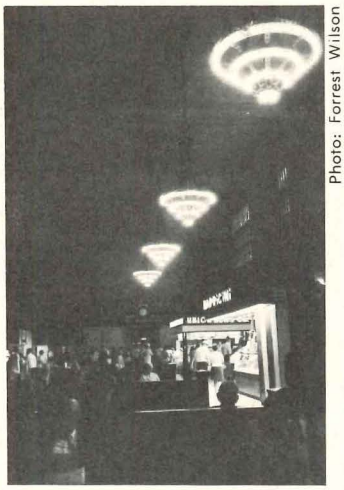


Photo: Forrest Wilson

Main waiting room, Grand Central Terminal.

Supported by the elevator core and four massive steel trusses, which angle from the core to the first office floor just above the Terminal roof, the building will seem to rise from the terminal without touching it. Breuer has designed a consciously anonymous building in a vain attempt to provide a bland background for the terminal — as if an elephant could go unnoticed perched on a Volkswagen.

But Breuer's claim that his building seen from the south provides a better backdrop for the terminal than does Pan Am is probably correct. "I suspect that the Pan Am building was designed for the upper Park Avenue view," he explains. Now, New York will have *two* buildings where there should be none at all. And 175 Park will be the taller — and ultimately more conspicuous — of the two. Towering 150′ above the Pan Am, 175 Park will effectively disrupt the temporarily discontinued helicopter service from the former's roof. His building will have no heliport, says Breuer, who dislikes helicopters in cities.

As things now stand, the latest addition to Manhattan's glut will probably be in place in four or five years. "No one has shown us the plans," says Alan Burnham, executive director of the Landmarks Preservation Committee, when asked for an official opinion. And the building is within the confines of current zoning laws. In early July, the City Planning Commission moved to create three special transportation districts in New York around major transportation centers. Within these districts, the commission could restrict buildings to 80% of the maximum allowable spaces. If this could be done, it is assumed that 175 Park would no longer be economically feasible, and the massive threat to urban peace of mind, in a city that has little enough anyway, could be removed. But Breuer was hurrying to file his plans, and, knowing the lethargy with which city governments move, the race could go to the swift.

It is some consolation to think that 175 Park may be the monument that will make legislators realize the need of protecting real monuments and the citizens who live with them. But, even so, for Grand Central the damage may already have been done.

YALE: A MOAT POINT

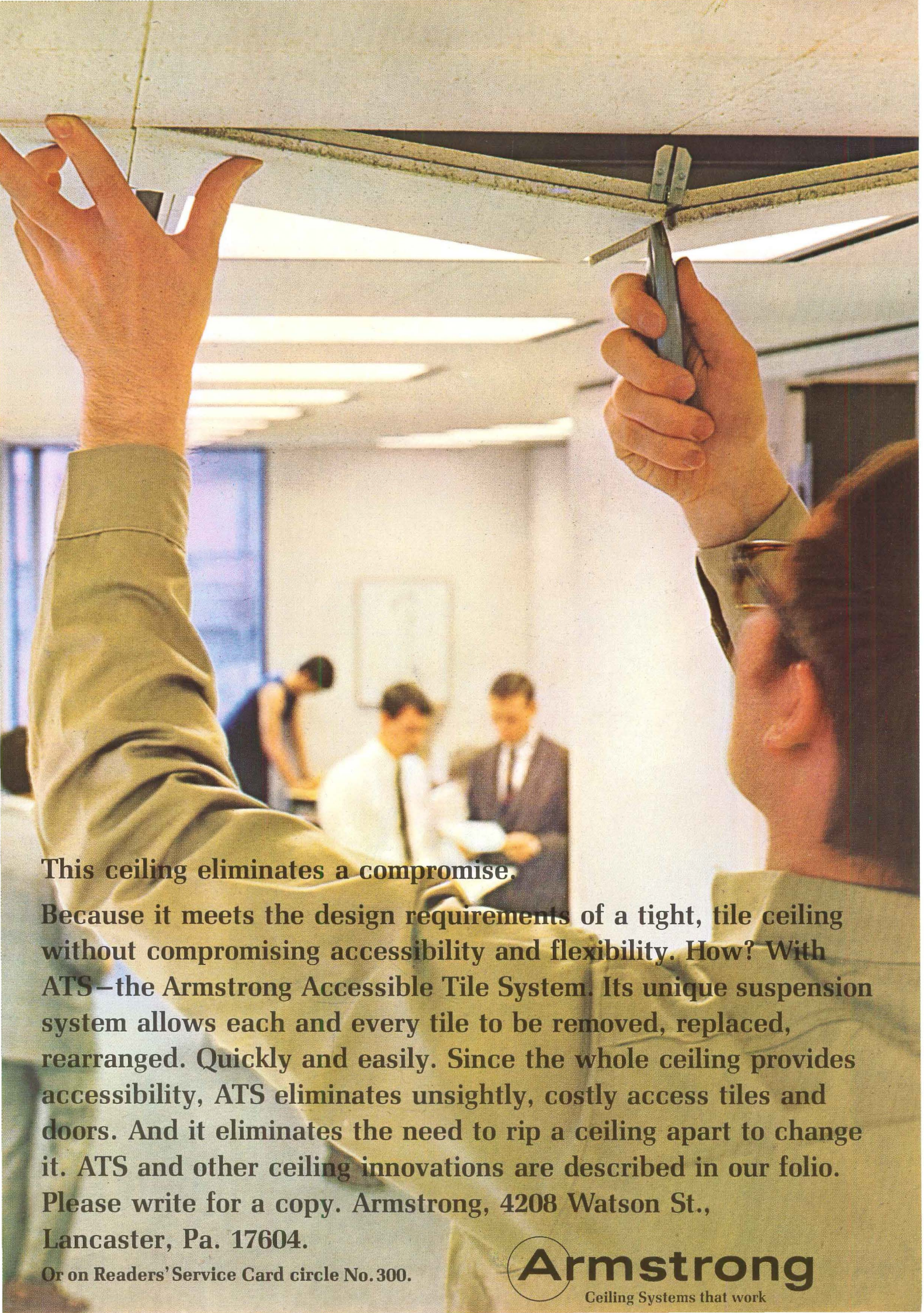
NEW HAVEN, CONN. Last April, several hundred Yale students blocked bulldozers hired by Yale University to remove two small trees from a grassy campus corner known as Cross Campus. It was the first time in anyone's memory that Yale's traditional spring riots had had an architectural focus, and as such they shared a cause with the more spectacular riots at Columbia and the less-publicized disturbances that rumbled this spring on at least half a dozen other campuses. It could lead to speculation that students are becoming more aware of the environment — or, perhaps, architects less so. Whatever the motivation, Yale students were trying to stop construction of an underground library designed by Edward Larrabee Barnes. Its 16 large skylights protruding from below, like rows of giant rectangular eyes, would effectively destroy the green open space, which students had used for decades as an informal meeting ground, touch football field, girl-watcher's lair, and outdoor reading room.

As a result of the demonstration, Yale called off the bulldozers, announced that the skylight plan was not irrevocable, and told the students they would be given 24 hours' notice of any further move related to construction.

Opposed only to the protruding skylights, not to the building, the students garnered some 4000 signatures on a petition calling for complete burial of the library beneath the green expanse of Cross Campus. According to a *Yale Daily News* poll, 83% of the student body agreed with them.

A prestigious local group, the New Haven Preservation Trust, agreed, pointing out in a letter to Yale President Kingman Brewster that architect Edward Gamble Rogers had originally conceived Cross Campus as a setting or platform to complement Sterling Library, which faces it; therefore, they argued, the space should be preserved as one of New Haven's "historical monuments." The Trust favored burial. But another alternative, one suggested by Ph.D. candidate Robert Irving in the *New Journal*, was a below-grade library lighted by windows placed in moats along two edges of the Cross Campus.

The problem with burial seemed to be the possibility of claustrophobia. And Vincent Scully, currently in New Mexico, spoke to that subject in a blistering, rambling article in the *Yale Daily News*, which touched also on archi-



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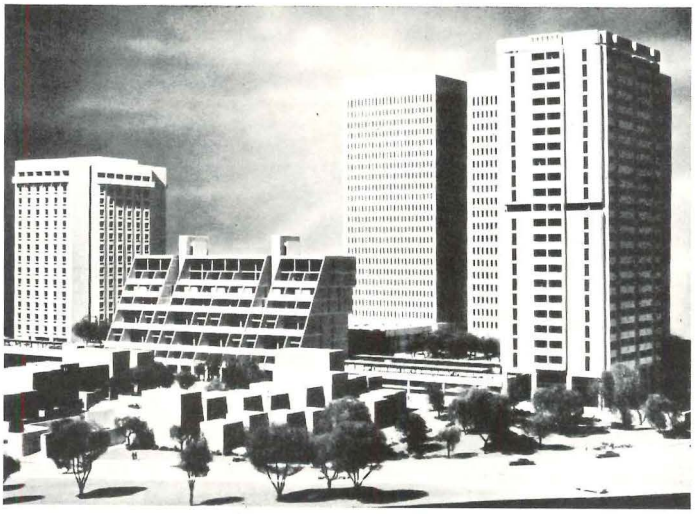
Ceiling Systems that work

tecture at Yale in general and Bauhaus-oriented designers. Said Scully: "Claustrophobia, however prevalent among scholars, can be kept at bay in all kinds of ways — by varieties of artificial lighting, by painting, by photographic montages, and so on . . . The Southeast Asia Reading Room could have Walt Rostow in full guerilla equipment spread menacingly across the ceiling."

Presented with such a strident outcry, the Yale Corporation admitted that the skylight design had been a "mistake." And on May 17, architect Barnes submitted two new designs: one for a completely buried library, and one for a below-grade library lighted by two long lightwells, or moats. Although students were present at the meeting, no concensus was asked for or received from them. The Corporation's Prudential Committee voted to go ahead with the Barnes' moat design, but to delay construction until next summer. After the June graduation ceremonies (when all the students went home), President Brewster's office concurred with the committee. As an almost meaningless sop, the administration also promised to publish Barnes' moat design in the fall for all to see and discuss.

On an issue that provoked more letters to the President's office than "Coffin and Staughton Lynd combined," Yale's master planner Edward Barnes has been caught in the middle. The tactic of making high-level decisions before the ultimate users of architectural products have a chance to participate could have two possible effects at Yale: One is to provoke critics of the plan to militant action when they learn of the Corporation's decision. The other is the even more insidious possibility of leading students to believing that their collective voices are not heeded at all.

MULTIUSE COMPLEX BOOSTS ATLANTA'S CONSTRUCTION BOOM



ATLANTA, GA. Back in 1960, when architect John Portman presented plans for a million-sq-ft merchandise mart, observers of Atlanta's economy doubted the city's ability to support so large an enterprise. Doubts were rapidly allayed, however, as the first concrete signs of a building boom began appearing throughout the downtown area. The pace was set in 1965 and 1966, when the business district gained 1,887,000 sq ft a year. By the end of 1968, another 2,500,000 sq ft should be completed.

Not surprisingly, the boom has not confined itself to office buildings, but includes residential construction on an extraordinary scale. Apartment buildings have dominated the field to the extent that, in 1967, the number of apartment building permits issued in Atlanta (10,615) was exceeded only in New York and Chicago. The relation of apartment permits to total housing permits issued in Atlanta was the highest of any area in the country.

Considering the new popularity of apartment living and the obvious need for more office space, it seems logical that, in an old commercial-residential neighborhood, not more than two miles from downtown, a developer has secured the approval of local citizens' groups for a multi-use urban complex. Colony Square will consist of two office towers containing 1,000,000 sq ft, two luxury high-rise apartment buildings, 20 townhouses, a 500-room hotel, a 100,000-sq-ft shopping concourse, and underground parking for 2000 cars. All of these structures are sited on a parcel of slightly less than 12 acres in Ansley Park on the east side of Peachtree Street between 14th and 15th Streets.

Designed by architects Jova/Daniels/Busby, the $40-million, privately financed project will rise in increments over the next four years, beginning with the office building to be known as 100 Colony Square. A podium of precast, smooth white concrete with tapered pillars will rise from the Peachtree Street level past concourse and plaza lobbies; above this will be the 22-story tower structure. Office space will be column-free. The steel structure will be clad in white reinforced concrete. Windows will be bronze-tinted glass. Developers estimate its completion in late 1969.

SCHOOLS

Pennsylvania State University has reorganized its College of Human Development and appointed Raymond G. Studer, Jr., director of the Division of Man-Environment Relations and professor of environmental design . . . George Anselevicius has become Dean of the School of Architecture at **Washington University** in St. Louis, Mo. For the past year, he has held the position of acting dean. Former dean Joseph Passoneau, on leave of absence from the university, will remain indefinitely in Chicago as director of the Cross-Town Design Team . . . Newly appointed chairman of the Department of Architecture, Art, and Planning at **Cornell University** is O. M. Ungers, formerly professor at the Technical University of Berlin.

WASHINGTON/ FINANCIAL NEWS

by E. E. HALMOS JR.

AIA HQ Dispute Continues — The AIA, in mid-July, was girding itself for another (hopefully amicable) go-'round with Washington's powerful Fine Arts Commission over plans for improving the association's headquarters site in the downtown area of the capital.

This time, the AIA is armed with a revised plan for a new structure on the rear edges of its nearly square corner location facing two Government buildings (Interior and General Services Administration) and providing a backdrop for the historic Octagon House. The new building will provide added office-meeting space for the rapidly growing AIA.

Almost a year ago, the architectural group suffered a bad setback when Fine Arts thumbed down a plan for a building with a glass-enclosed façade framing the Octagon. (Fine Arts is a seven-member body, appointed by the President, whose decisions are advisory, but are in fact close to law in these matters.)

Now, with the same architect (Mitchell, Giurgola Associates), AIA has modified plans to eliminate an all-glass façade in favor of horizontal window treatment, eliminated "stepping out" of floors toward the Octagon above the second, cut down the height from a proposed 90′ to 72′, and made other changes.

Major point at issue seemed to be the creation of a glass-enclosed "notch" between the wings of the new structure, which would serve as a reception lobby, with air space above its roof. Informal conversations with Fine Arts, said AIA officials in reporting to the group's annual convention, have indicated objection to the "notch." All concerned were being careful to suggest a state of calm, amicable relations.

Great big wide entrances to be exact.

Stanley's new Auto-Slide® 6000 series is, you might say, a breakthrough in automatic sliding entrances. In addition to opening and closing automatically, it has an exclusive wide-open feature that gives you maximum use of your doorway. Emergency breakaway at any point meets exit codes. No other automatic entrance opens up such opportunities.
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PRODUCTS

SOFT CORE INSULATION

U.F.C.-Foam is a foamed-in-place insulation material that will also reduce noise and resist moisture penetration.

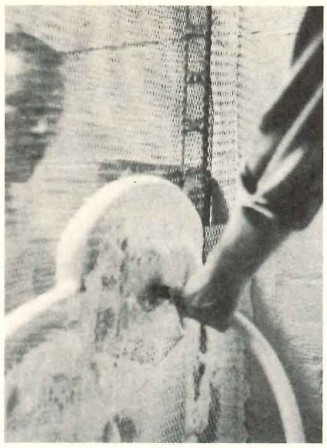
Widely used in Germany for the past 10 years, both the material and its application process are now available through franchised dealers in the U.S.

U.F.C.-Foam has three basic ingredients: urea-formaldehyde, a foaming agent, and air. Each of these is fed through a separate hose into a patented gun, where they are forced together at a pressure of about 65 to 85 psi. Once formed, the material squirts from the gun at a lower pressure, 30 psi, looking very much like shaving cream emerging from an aerosol can.

Although it aspires to uses as yet in experimental stages, the foam's principal application now is as thermal and acoustical insulation in dry wall construction. It may be used to fill the void in a wall under construction or may be foamed into an already existing cavity through a hole as small as 1″ in diameter. U.F.C.-Foam quickly fills between-studs voids, open frames in walls, ceilings, and floors, and, with gun attach-

ments and a backing, it may be foamed through metal lath and through burlap, working itself around pipe obstructions and into cracks; moreover, it is said effectively to prevent air infiltration. The foam, when used as insulation in a lath and plaster wall installation, will eliminate the need for brown and scratch coats, making possible a simple double-back plaster application.

In the process of drying, U.F.C.-Foam does not ex-



pand. The initial set will occur 40 to 60 seconds after the foam leaves the gun; it is said to acquire a certain resiliency within 2 to 4 hours, but actual drying time is from 1 to 2 days — longer if in a closed cavity or in extreme cold. Once applied, it may be troweled, and, when dry, it may be scraped or cut. Normal shrinkage is said to be 1.8%, but may vary from less than 1% in a slow drying situation to 3% where it is dried rapidly. However, it is claimed that there is no shrinkage where it is foamed into an air-tight cavity and sealed. When wet, the foam's standard density is 2.5 lbs/cu ft; when dry, 0.6 lbs/cu ft. Even with its low density, the manufacturer's claim that U.F.C.-Foam is an excellent acoustical as well as thermal insulation is a revolutionary one. Theoretically, the higher the density, the higher the sound absorption qualities, but applications of the foam have been shown to improve sound absorption in drywalls from 5 to 7 decibels (ATC). The foam is, by composition, 99% air and 1% material; its cells are 60% closed and 40% open. It is in these open cells, a network of microscopic capillaries, that sound waves are forced to split and travel through different arteries of the foam, shattering against each other at intervals, and, more important, at different points in the wave, thus weakening each other. In the 400–1600 c.p.s. range, it attains maximum absorption; this is the range of human speech, radio, and television.

U.F.C.-Foam has no structural qualities: It is resilient and said to be very resistant to vibration; nor will acceleration forces alter its structure or volume. The manufacturer also claims that the foam is virtually unaffected by water and moisture. Water will bead on its surface when poured, and when immersed, it will accept water only to 16% by volume in 24 hours and will dry out in the same time; because of its structure, no water can penetrate into the capillaries; the foam will never hydrolize. However, it is permeable to gasses, thus preventing accumulations and condensation. The foam may have extensive use in pipe chases, and the manufacturer has collected data over an 8-year period and prepared a formula from which, they claim, one can compute the minimum thickness of the foam needed to prevent condensation. U.F.C.-Foam will not support combustion, and is classed as self-extinguishing as per ASTM 1692D. It is said to melt at 428 F and at 1800 F it will slowly carbonize, but at no time will it retain heat; the vapors given off during its decomposition are claimed to be nontoxic.

Other properties of U.F.C.-Foam are its corrosion resistance, due to slight traces of phosphoric acid present when it is foamed; its high affinity for oil, which causes it to irritate the skin of would-be rodent and insect inhabitors; and its resistance to mold. It is further said to resist most solvents, but inorganic acids and lye solutions destroy it. In addition, the foam is claimed to be lower in cost per sq ft than other resinous insulation material and to save time and labor. It may be specified under CSI Format, Uniform Systems Division. U.F. Chemical Corp., 33-69 55th Street, Woodside, N.Y. 11377.

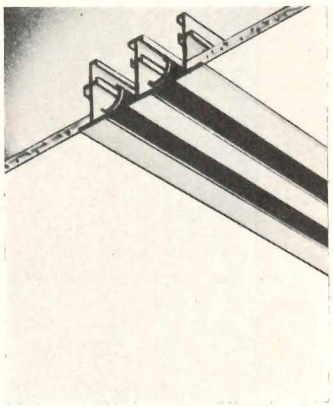
Circle 100, Readers' Service Card

ACOUSTICS

Dust-free ceilings. In addition to absorbing sound, reflecting light, and resisting fire, a special finish and seal on Particle-Gard ceiling panels is said to make them both dust- and static-resistant. For use primarily in contamination-sensitive areas. The panels carry UL Fire Hazard Classification Label and are said to adapt to standard grid suspension systems. Johns-Manville, 22 E. 40th St., New York, N.Y.

Circle 101, Readers' Service Card

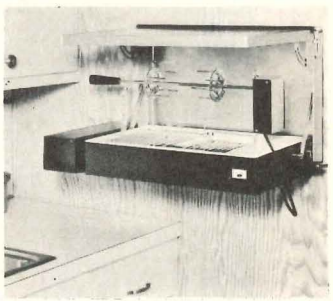
AIR/TEMPERATURE



Air-line. "Channel-Aire" is claimed to be the first single-vane air diffuser. The unit has controls that adjust both the volume and distribution of air flow. Carnes Corp., Verona, Wis.

Circle 102, Readers' Service Card

ELECTRICAL EQUIPMENT

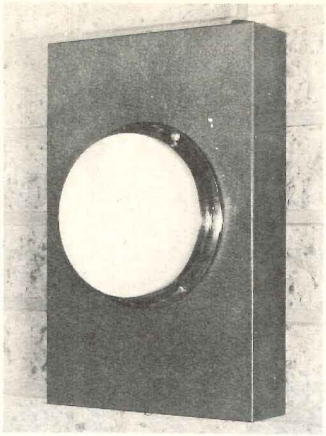


Cook-ease. Smokeless, greaseless cooking is assured with Show-Case, a rotisserie-broiler that also shortens cooking time by using a chrome-plated heat reflector that draws fat away from heat before it spatters. The unit is 13½″ high and 26″ long, and 4½″ deep, is completely portable, and may be wall-hung or placed on a counter. Rack adjusts for individual cooking preferences. Unit has a safety shut-off switch, easily removed components, and resembles an attaché case when it is closed. Nautilus Industries, Inc., a division of the Tappan Co., Freeland, Pa.

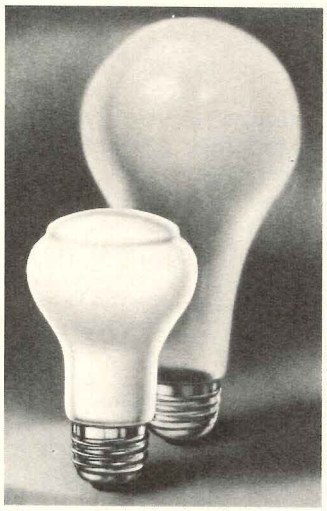
Circle 103, Readers' Service Card

LIGHTING

Emergency light. Manufacturer claims that this sentry-lite emergency unit is an aesthetic improvement over ear-



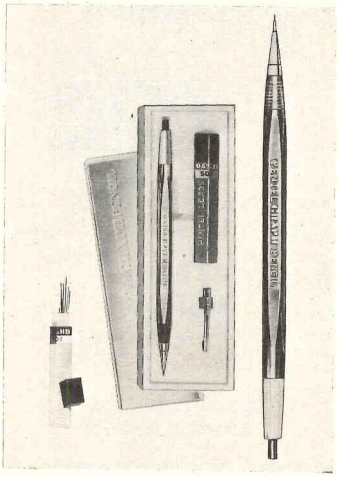
lier lights. A depth of 3½" allows it to be hung on almost any wall; add a flange, and it can be flush-mounted. It is said to be capable of lighting 3000 sq ft for 3 hours or longer. Patented solid state charger keeps the battery automatically at full charge. Hobby & Brown Electronic Corp., 15 St. Marks Ave., Rockville Center, N.Y.
Circle 104, Readers' Service Card



The Krypton bulb, or, Superlite. This bulb has a 2500-hr guarantee, which means that it should last three-and-a-half times as long as standard bulbs. In addition, it is smaller than most incandescent bulbs. Heavy-atomed krypton retards filament evaporation, causing the bulb to burn more brightly; there is less heat loss, because krypton is such a poor conductor. Duro-Test Corp., North Bergen, N.J.
Circle 105, Readers' Service Card

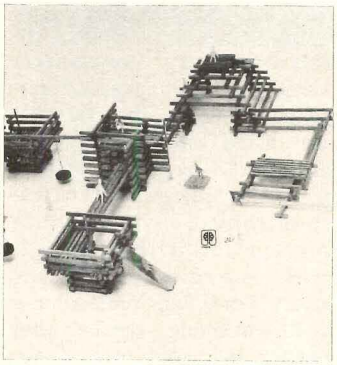
OFFICE EQUIPMENT

Simplified spec writing. Manufacturer claims it is possible to save up to 25% in time with Select-A-Spec. Writing is always of the same high quality; the spec writer simply selects applicable form paragraphs from the 4000 available in the lease system, adding only specialized details for a specific job. Select-A-Systems, Inc., 4227 East Madison St., Seattle, Wash. 98102.
Circle 106, Readers' Service Card



Precision point. Pentel's new graph pencil uses a lead based on a composition of plastic and carbon; the lead is said to be only 0.5 mm, the strongest and thinnest available, deep black in color and with minimum ash. Pentel of America Ltd., 333 No. Michigan Ave., Chicago, Ill. 60601.
Circle 107, Readers' Service Card

SPECIAL EQUIPMENT

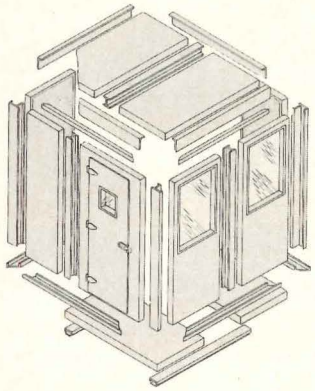


Go Creative! "Play is a child's work." With this as its theme, Timberform goes on to create modular play units for play areas. All parts are prefabricated and pre-numbered for easy installation. This modular system is said to be assembled or dismantled almost at will; a child can do it, working with the timber units, developing his skill and coordination; he can create and vary his own environment. Niedermeyer-Martin Co., 1727 N.E. Eleventh Ave., Portland, Ore. 97212.
Circle 108, Readers' Service Card

NEWS REPORT

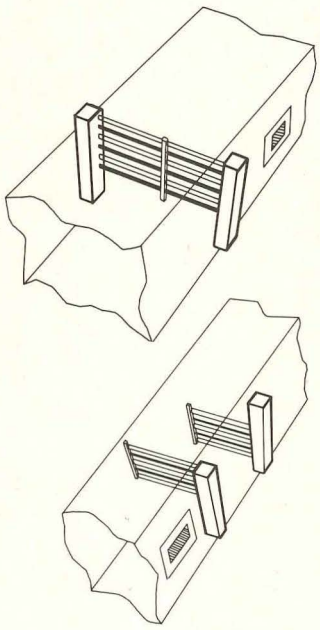
MFRS' DATA

ACOUSTICS



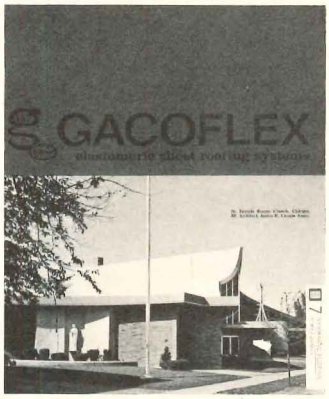
Environmental acoustics. Units in this system include modular, movable walls and doors, acoustically designed lighting, ventilation, floors, windows and doors; also, joining components said to prevent noise leaks. Technical bulletin presents a "Package" Systems Concept, with performance data on sound absorption and transmission loss. 4 pages. Industrial Acoustics Co., Inc., 380 Southern Blvd., Bronx, N.Y. 10454.
Circle 200, Readers' Service Card

AIR/TEMPERATURE



Germ-free air. Sterile Conditioner ultraviolet lamps kill germs when installed at right angles to flow in existing air heating, cooling, and exhaust systems. Industrial, commercial, and residential types available. Manual includes calculations to determine the number and type of lamps required, installation methods, and specs. 10 pages. Two additional catalog data sheets. American Ultraviolet Co., 30 Commerce St., Chatham, N.J. 07928.
Circle 201, Readers' Service Card

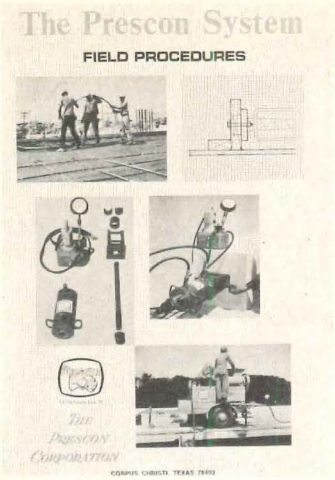
CONSTRUCTION



The flexible roof. "Gacoflex" elastomeric sheet roofing is said to produce a continuous, waterproof roof that is resistant to chemicals and flameproof, and will withstand differential movement in the deck. Bulletin gives physical properties, ASTM test methods and standards, complete spec guide. 4 pages. Gates Engineering Div., The Glidden Co., Wilmington, Del. 19899.
Circle 202, Readers' Service Card

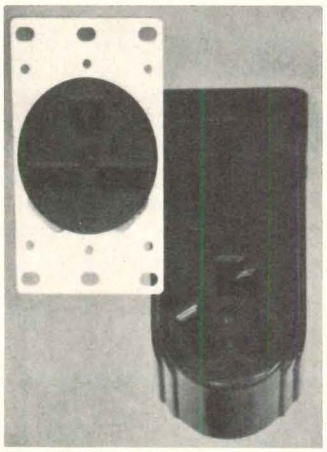
Aluminum Handbook. The specs given in this basic reference manual are for components of shapes rather than particular structural shapes. Stresses for more than 50 different alloy-temper combinations may be determined from the properties and formulas given. Specs are expected to be adopted into building codes. Bibliography. 64 pages. The Aluminum Association, 420 Lexington Ave., New York, N.Y. 10017.
Circle 203, Readers' Service Card

Concrete System. From simple definition to minute detail, this Field Procedures Manual covers the manufacturer's system of post-tensioning for prestressed concrete. Some mention of wire, forms, anchorage and sheathing, but major emphasis is on tendon and concrete placing, the stressing operation, and checking to assure satisfactory stress. Tendon size chart



and ram clearance guide. 12 pages. The Prescon Corp., Corpus Christi National Building, P.O. Box 2723, Corpus Christi, Tex. 78403.
Circle 204, Readers' Service Card

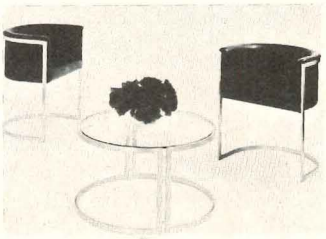
ELECTRICAL EQUIPMENT



Revolutionary guarantee. Hundreds of specification-grade switches and receptacles listed in 8-page catalog are backed by a 25-year performance guarantee. The responsibility, which once rested with the contractor, is now assumed by the manufacturer, who will replace any malfunctioning device that carries the guarantee. Catalog lists the new Centura line, numerous switch types, conventional receptacles, high-power receptacles, and combination devices. Leviton Manufacturing Co., Inc., 236 Greenpoint Ave., Brooklyn, N.Y. 11222.
Circle 205, Readers' Service Card

Electrical estimates. A comprehensive reference guide gives information used in estimating needs for electrical distribution equipment; it lists applications and prices. Included are molded-case circuit breakers, low-voltage power-circuit breakers, load centers, panelboards, motor controls, and accessory apparatus. Performance details and illustrations. I-T-E Circuit Breaker Company, 1900 Hamilton Street, Philadelphia, Pa. 19130.
Circle 206, Readers' Service Card

FURNISHINGS



Tempest in a catalog. Peter Hoyte, William Plunkett, and Peter Cutts are the designers featured in this British furniture collection. The "sculptured" look results in an elegant collection both eye-pleasing and apparently comfortable. Many of the chairs and sofas are of glass-fiber construction, with up to 5" of foam upholstery covered in choice of fabric. Design ranges from cantilevered to rocker. Extensive use of steel, chrome and glass. 30 pages, including dimensions and price list. Tempest-Hoag International, 979 Third Ave., New York, N.Y. 10022.
Circle 207, Readers' Service Card

LIGHTING

Directional lighting. Catalog describes Lite-Trac, a system of portable, adjustable, directional lighting units that attach to a continuous electrified aluminum track. Single or double circuit system. Details and specs; beam pattern chart for 12 lamps; suspension and mounting devices; track components; variations and accessories. 22 pages. Prescolite Manufacturing Corp., 1251

Doolittle Drive, San Leandro, Cal. 94577.
Circle 208, Reader's Service Card

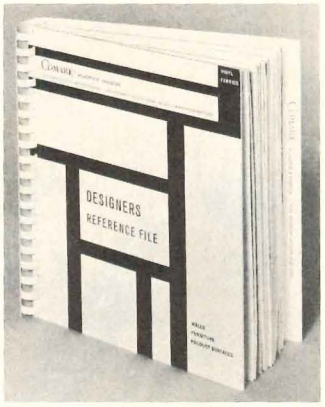
OFFICE EQUIPMENT

Acetate aids. Catalog presents Formatt patterned shading mediums (236 now available) for architectural drafting, cartographic, and geoscientific use. Acetate sheets are nonglare, heat- and static-resistant. Prices. 16 pages. Graphic Products Corp., Rolling Meadows, Ill. 60008.
Circle 209, Readers' Service Card

SANITATION PLUMBING

Dispensing amenities. Sleekness and understated ornamentation characterize most of the washroom accessories illustrated in a catalog that also introduces "Unilav," a packaged lavatory with storage unit designed for installation in washrooms where space is limited. The stainless-steel accessories come in satin or colored finishes; more ornamental is the "Mural" series that offers fixtures in seven vinyl wood patterns. The other series, however, accentuate careful metal detailing, even in hinge arrangements (concealed or exposed). Most of the fixtures are available separately or in unified component forms, and the models may be recessed. 32 pp. Watrous Inc., 216 S. Evergreen, Bensenville, Ill.
Circle 210, Readers' Service Card

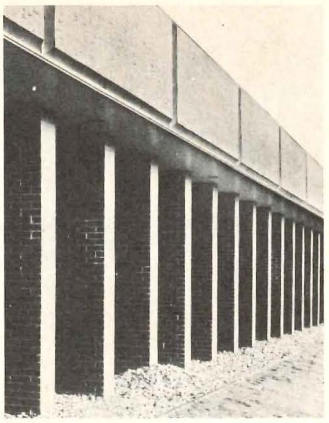
SURFACING



Plastic possibilities. Briefly described are backing and surfacing processes, suggested specs, purchasing information, handling, maintenance and installation procedures for manufacturer's vinyl fabric line. 34 file pages contain color samples in various patterns, textures and finishes. Comark Plastics, 1407 Broadway, New York, N.Y. 10018.
Circle 211, Readers' Service Card

Acoustic fabric. "Mellotone Decorative Acoustic Fabrics" presents samples of textiles designed to be non-sound-absorbent and semitransparent. Mellotone has colorful synthetic fibers and versions combined with natural yarns. The concealing material is used as a semitransparent screen and as decorative covering over acoustic pads and ceiling boards. Brochure. 4 pages. Mellotone Inc., 1220 Broadway, New York, N.Y.
Circle 212, Readers' Service Card

Relief panels. Textured, exterior building panels, Façad, are the subject of a 10-page brochure with composition insertions and color samples. Panels enable architect to incorporate sculpture and texture into exteriors. Schematics, drawings, and specs. Numerous edge and fastening treatments. Suggested applications. U.S. Plywood, 777 Third Ave., New York, N.Y.
Circle 213, Readers' Service Card



PROGRESSIVE ARCHITECTURE
NEWS REPORT

REINHOLD PUBLISHING CORPORATION
A subsidiary of Chapman-Reinhold, Inc.
430 Park Avenue, New York, N.Y. 10022

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NEXT MONTH IN P/A

What is Frank Lloyd Wright's influence today, 10 years after his death, especially in light of the rapid changes in society and in the profession. To find out, P/A asked a variety of architects, Wright authorities, and critics to express their views. Commenting will be R. Buckminster Fuller, Antonin Raymond, Arthur Drexler, Alden Dow, Edgar Tafel, Bruce Goff, Karl Kamrath, Herb Greene, and others.

The insensitivity of bureaucracy may be one of the most important issues of our time. Caught by it are the very people the bureaucracy is, in large part, set up to help. Now, architects are beginning to offer their services in a variety of ways to citizens' and neighborhood groups faced with the disruption of urban renewal and highway building. These architects do what they are calling "advocacy planning — a new type of architecture which is really a very old architecture." P/A takes a close look at four advocate architects and the small organizations they are operating in or near urban ghettoes. The movement could be a sign of basic changes yet to come in the profession.

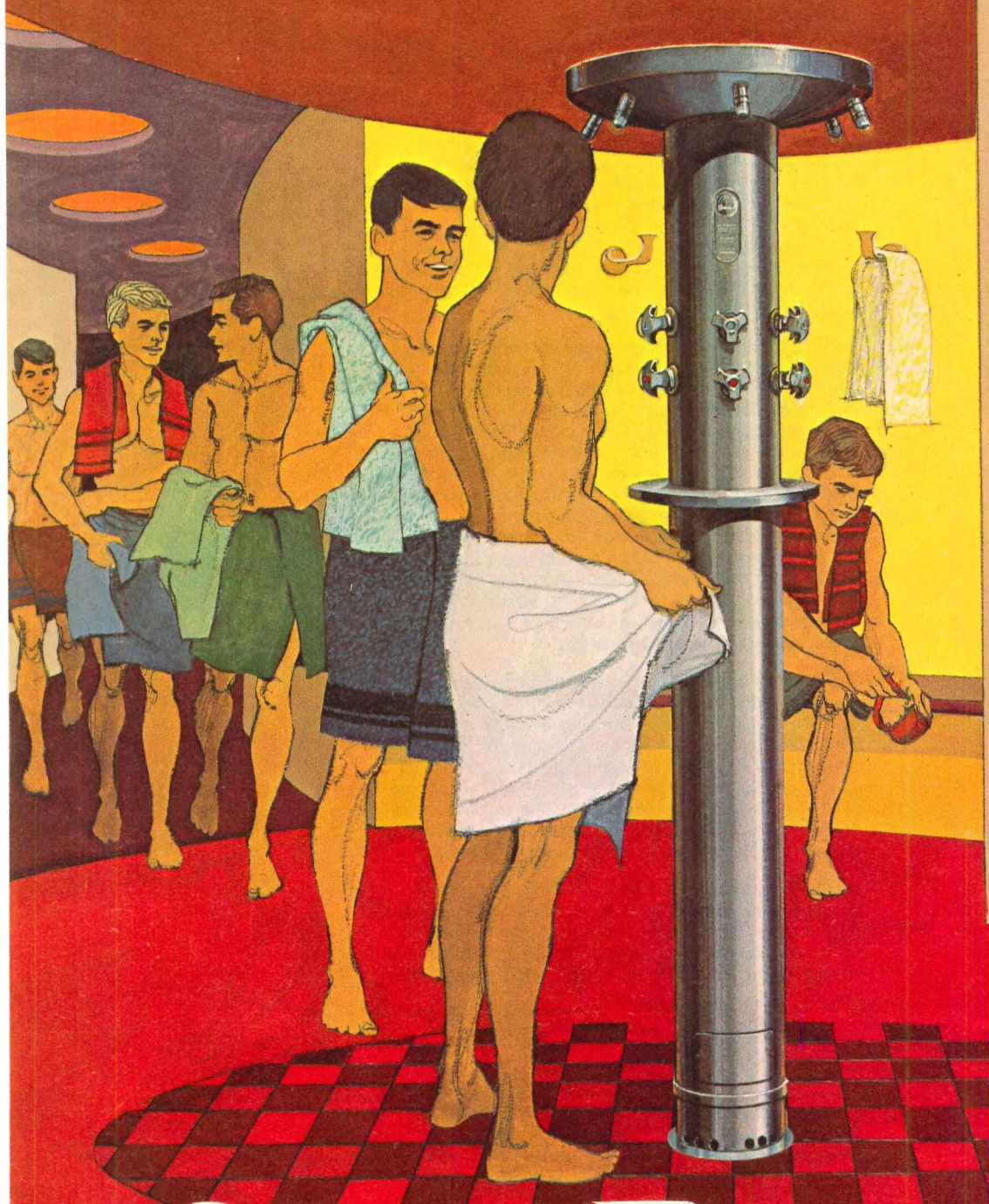
Technological change is shaping the needs for architecture. And in Edinburgh, Scotland, architect Peter Womersley had a chance to design a hospital entirely for a new and special use: the transplant of human organs. It is remarkable and exciting both for the sophistication of the technical apparatus it houses and for the excellence of its design. And it may well be a forerunner of similar units throughout the world.

Also, P/A shows the house architect John M. Johansen designed for a beautiful sloping site of virgin woodland in Connecticut. He framed it with telephone poles, which proved both an expensive and an inexpensive way of doing things.

Plus a full description of an automatic, computer driven drafting machine now in use in a Memphis architectural firm.

It's all yours to read and reread, to clip and file, if you have a copy of the September P/A. The September issue and 11 other equally significant issues of P/A will be yours if you simply fill out and mail the subscription card at the back of the issue.

Bright idea



This column shower serves 6 people with one set of plumbing connections! So it cuts installation costs up to 80%. Like all Bradley Group Showers, it saves space, too—serving more people in far less space than ordinary showers. It eliminates double-wall construction and piping in outside walls. And it has its own drain, saving the cost of drains along the perimeter. Made in 2 to 6 person units. Other Bradley Group Showers include Modesty Module®, Multi-Stall, Wall-Saver®, and Panelon types. Bright ideas—space and money-saving ideas from Bradley! See your Bradley representative. And write for latest literature. Bradley Washfountain Co., 9109 Fountain Dr., Menomonee Falls, Wis. 53055.

On Readers' Service Card, Circle No. 327

from Bradley!

BRADLEY

High rise construction is a new reason to design with concrete block

The higher compressive strength of modern concrete masonry is sending block soaring skyward in new high rise buildings.

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This tops off such time honored concrete block virtues as: fire safety, self-insulation, economy, sound control, design versatility and local availability.

For more facts about the new design world of concrete masonry, check your local NCMA member block producer or write us.

This handsome block structure is faced with rich textured split block.
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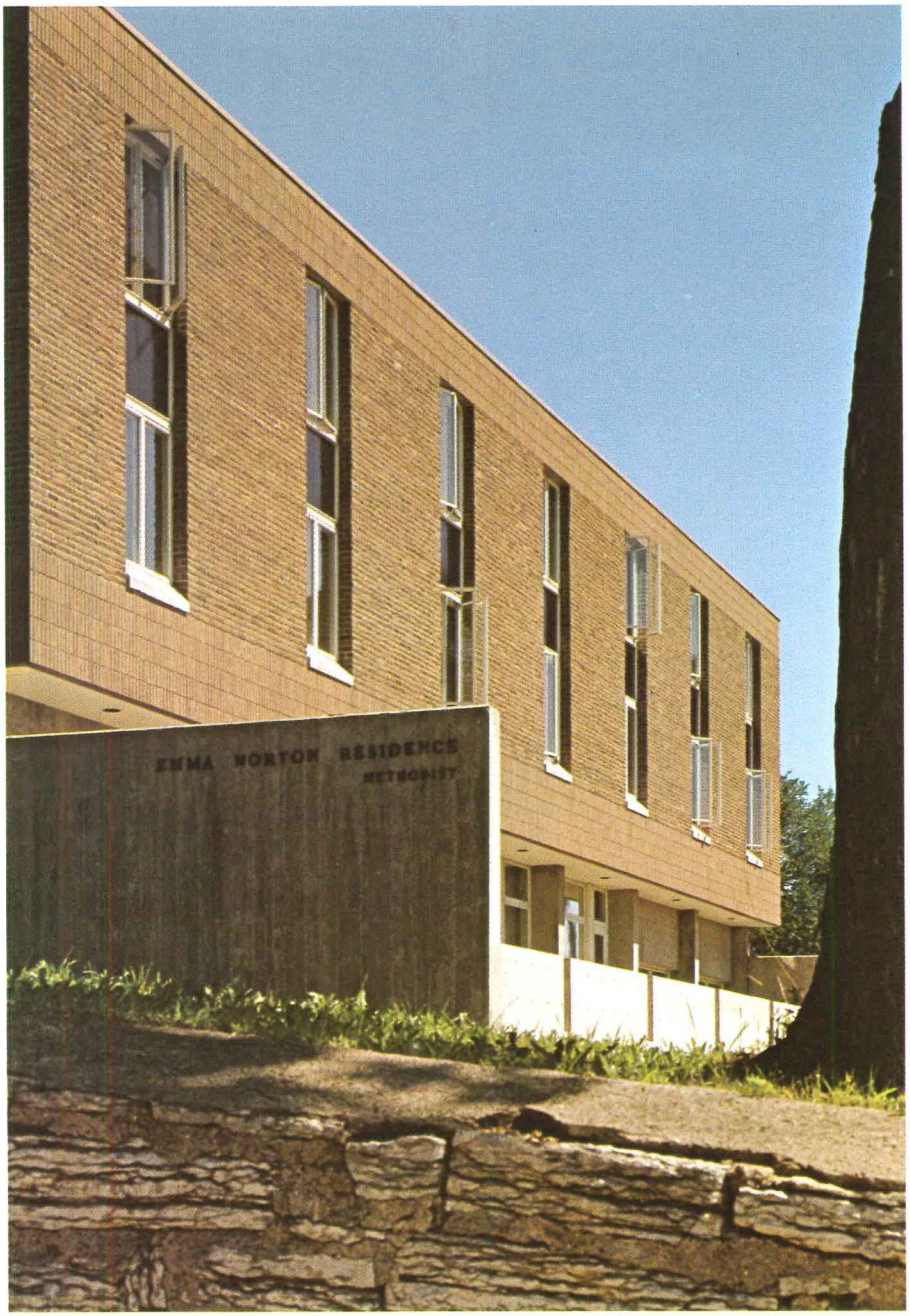

Emma Norton Methodist Girls' Residence, St. Paul Architect: Progressive Design Associates, St. Paul

The building is a design triumph over a restrictive site. But even though the space was limited, the view wasn't. And the 72 girls who live at the Emma Norton Residence have an impressive view of St. Paul through the most **maintenance-free** windows ever developed: New Andersen Perma-Shield.

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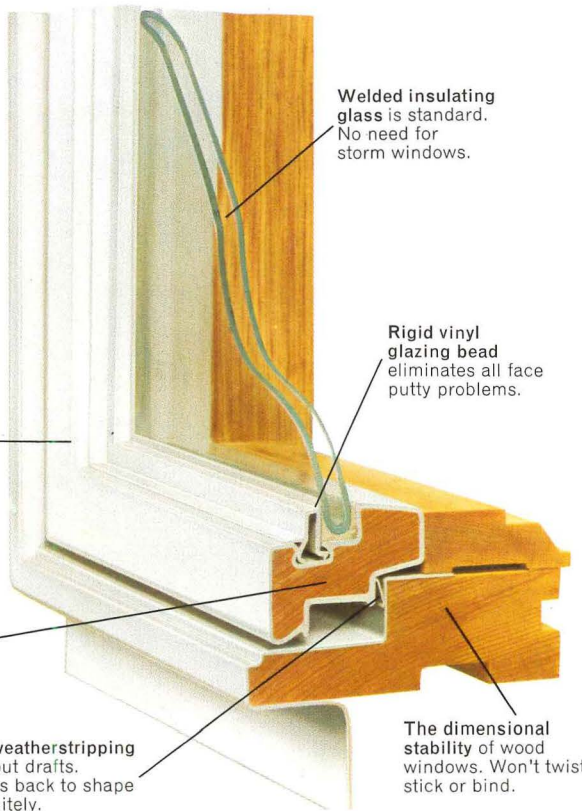
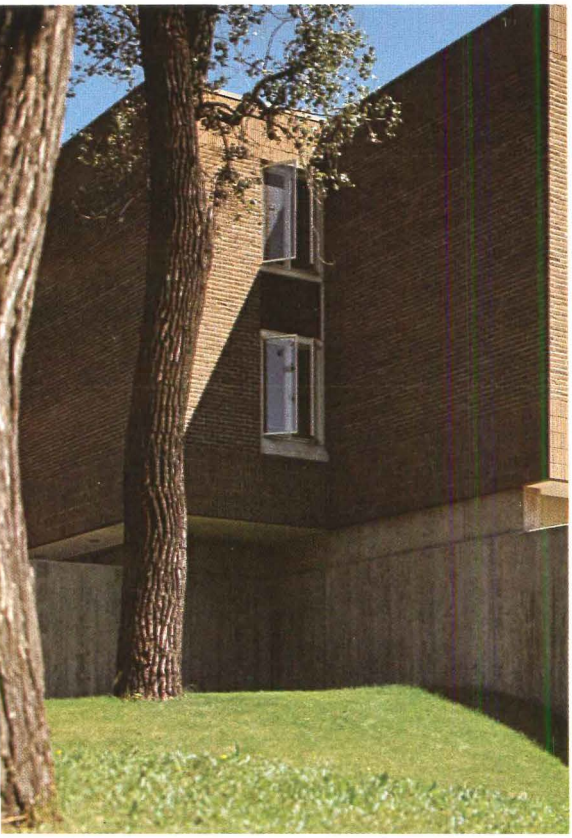
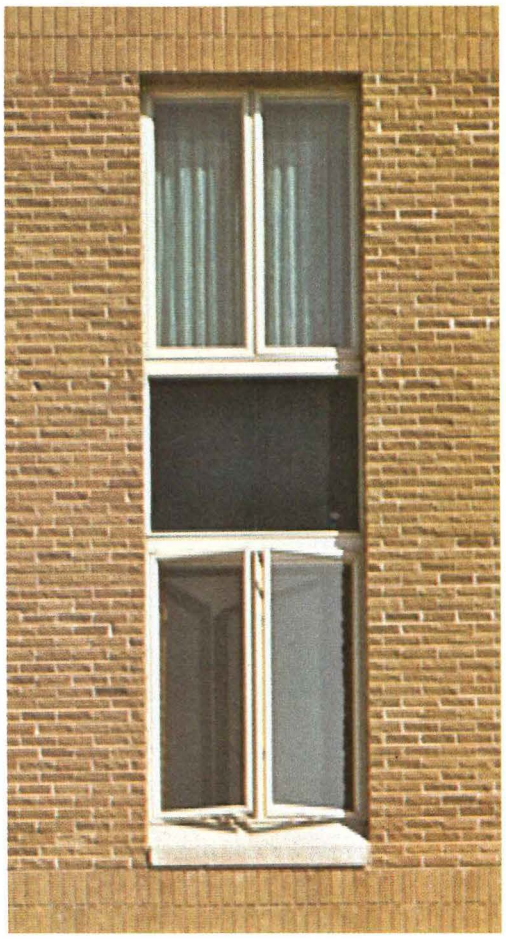
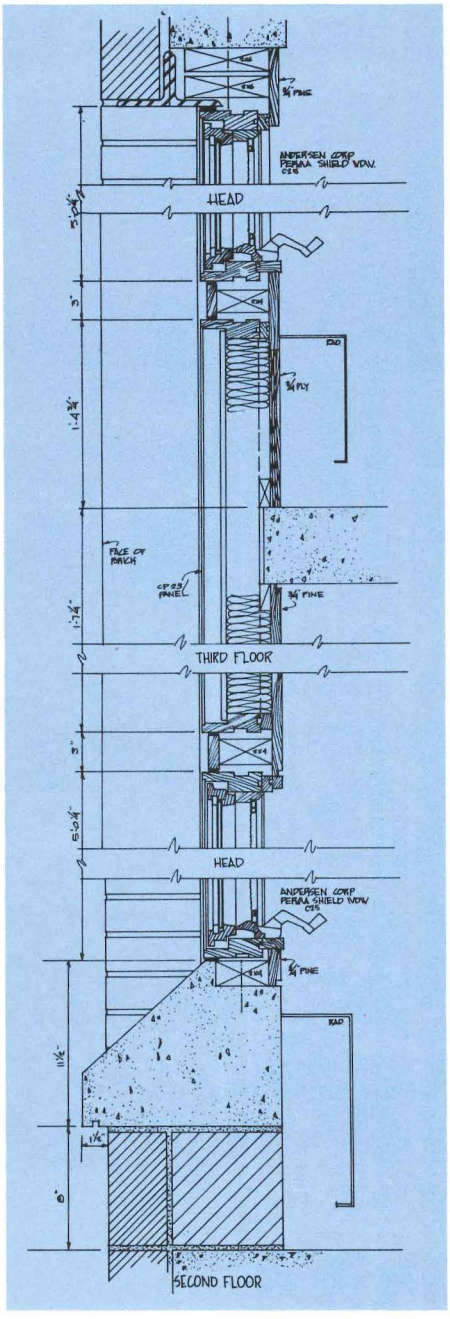
The perfect window? You decide. We're pleased that they're being specified for some of the *best* new buildings. For more information, check Sweets file. Or, mail coupon at right for literature or a Perma-Shield demonstration in your office.



latest in low-maintenance windows...







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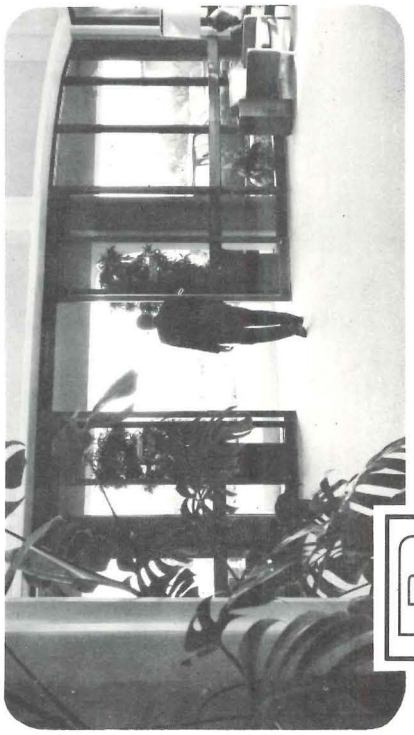

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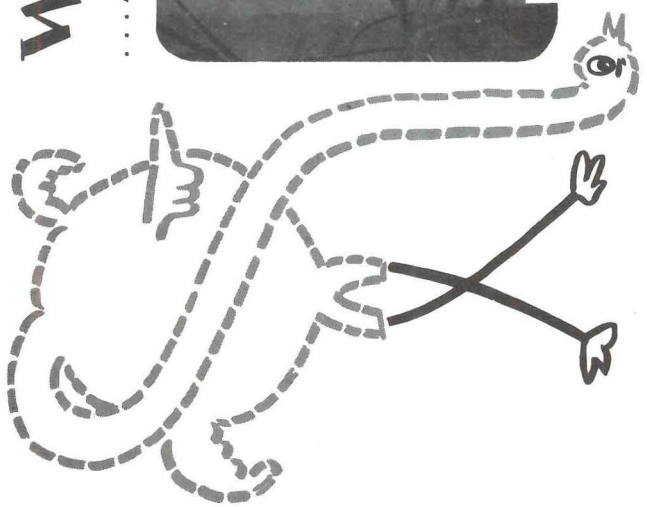

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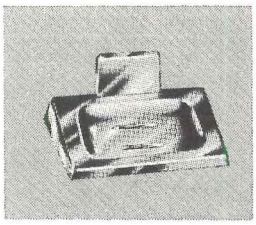

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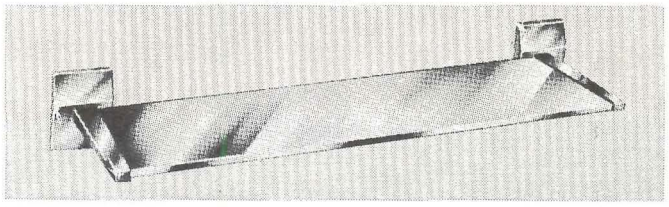

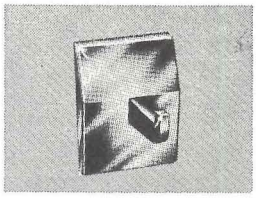

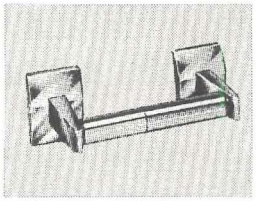

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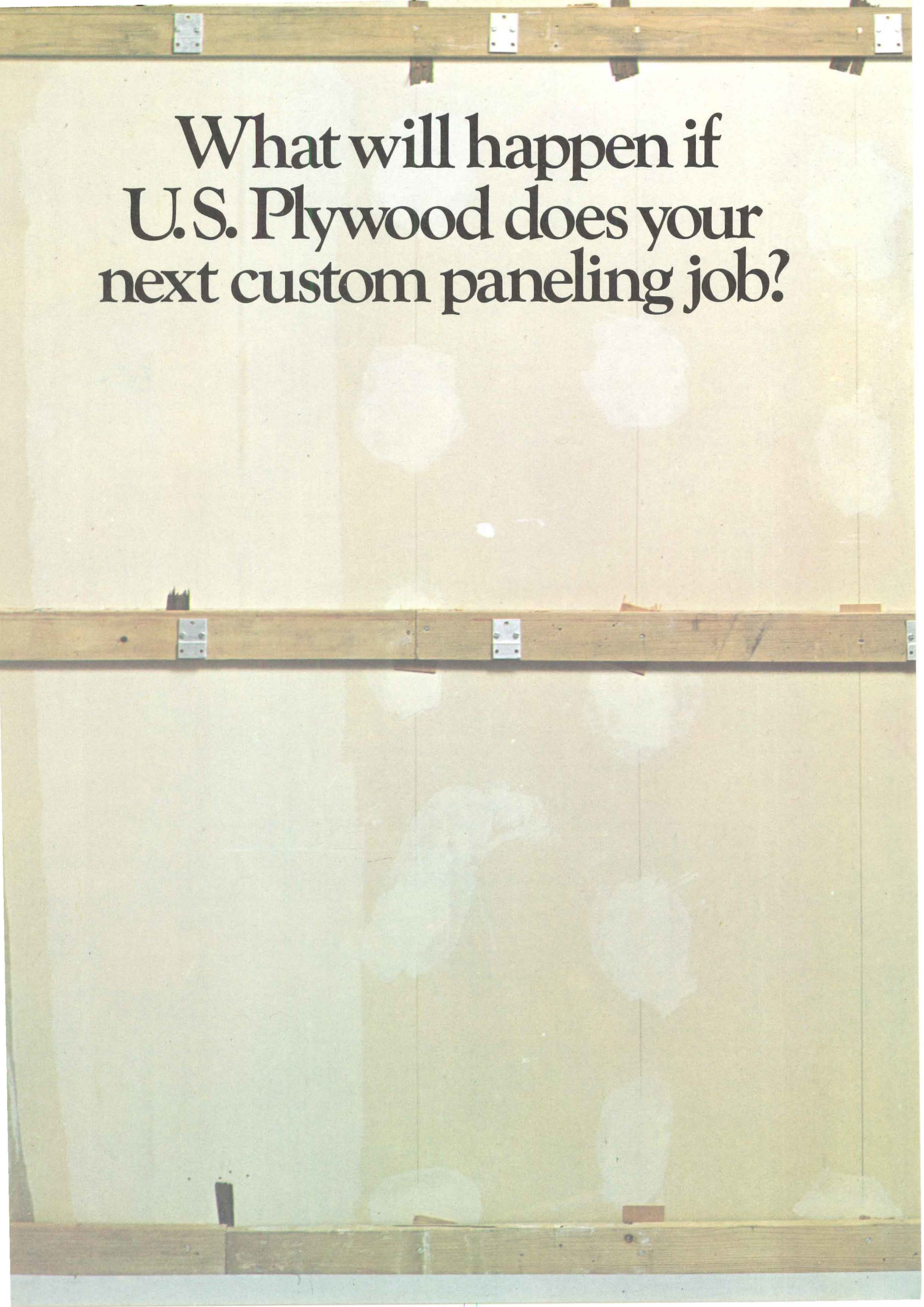

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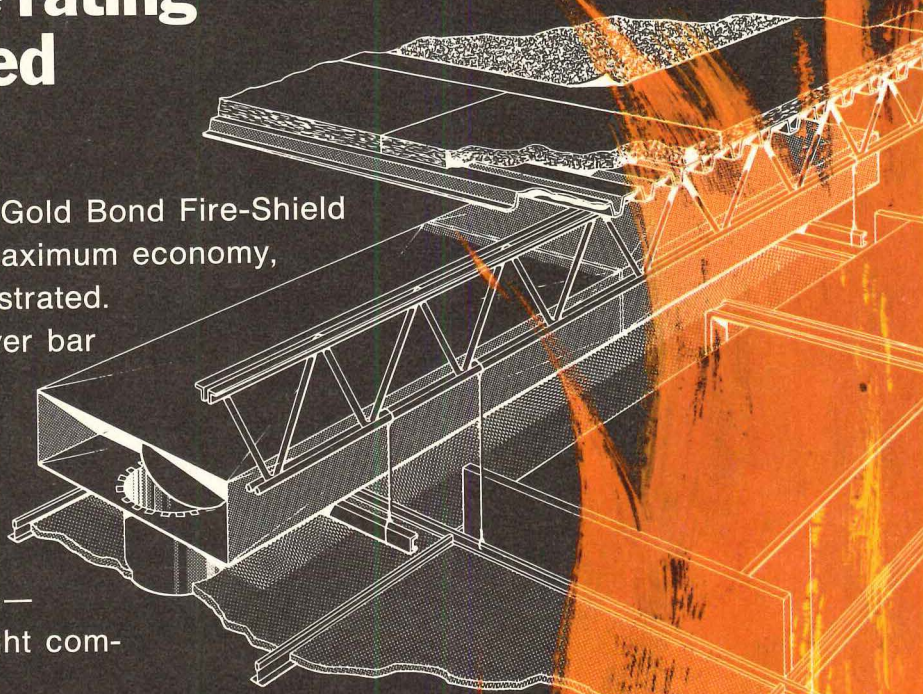

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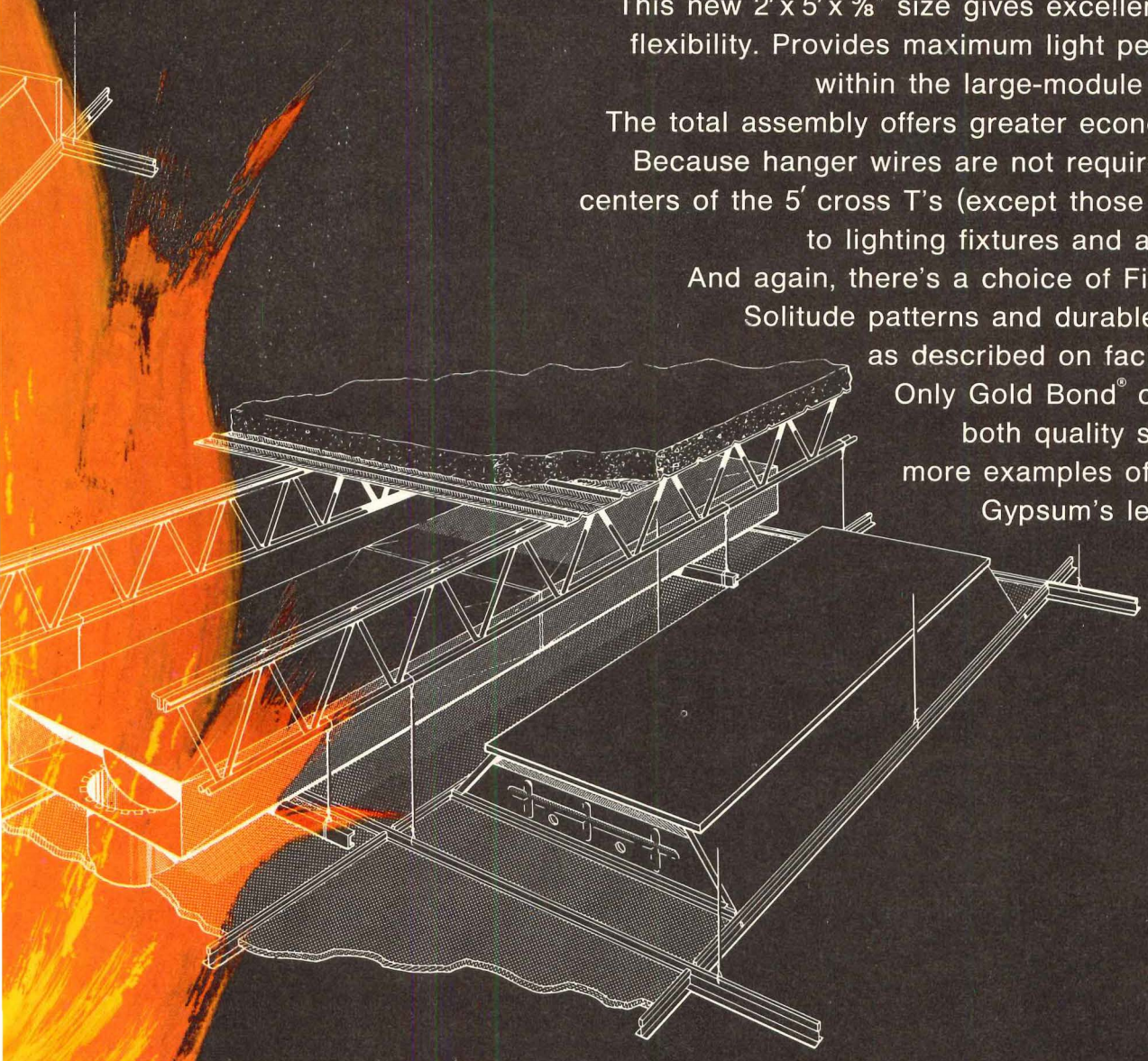

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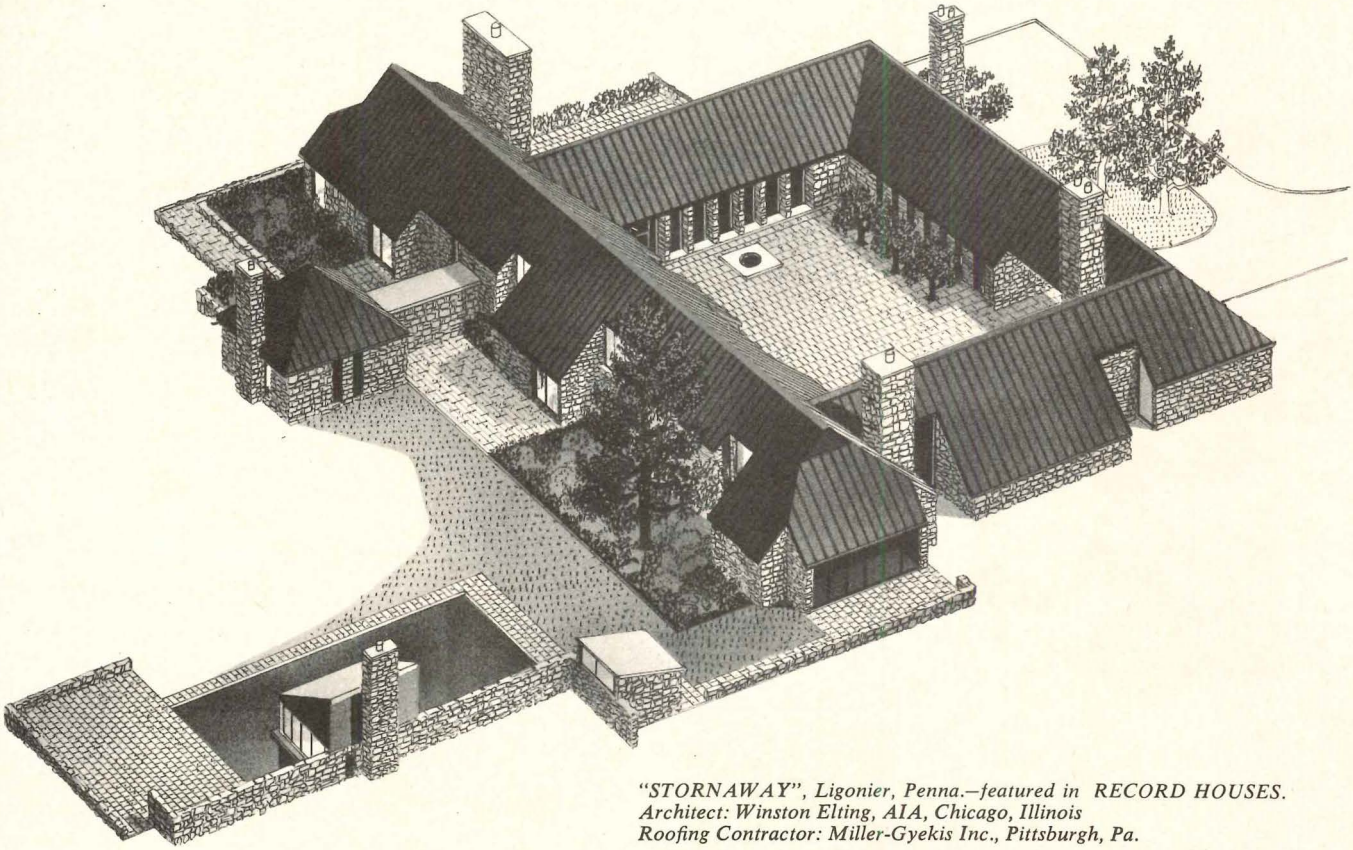

"STORNAWAY", Ligonier, Penna.—featured in RECORD HOUSES.
Architect: Winston Elting, AIA, Chicago, Illinois
Roofing Contractor: Miller-Gyekis Inc., Pittsburgh, Pa.

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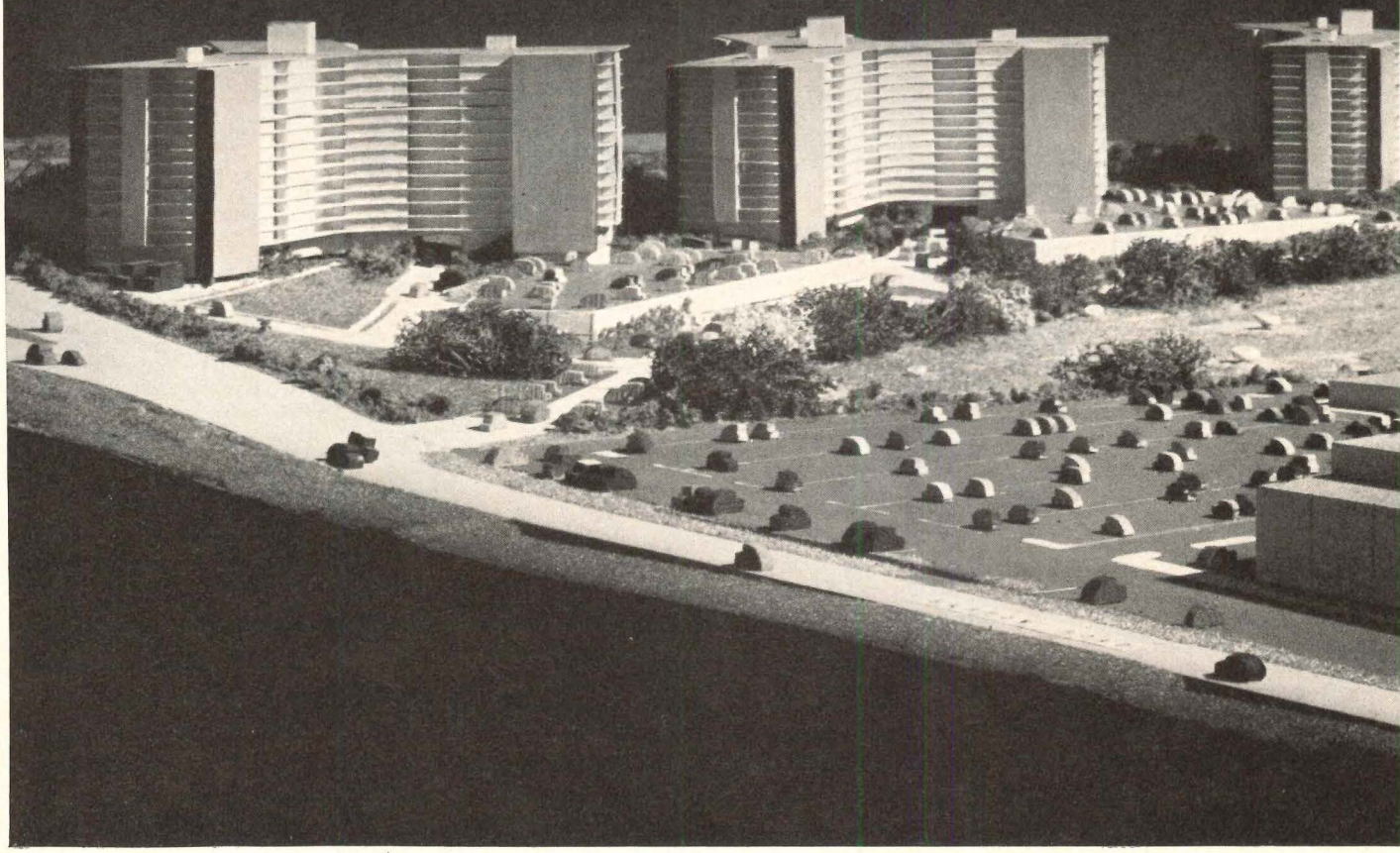

Cedarbrook Hill

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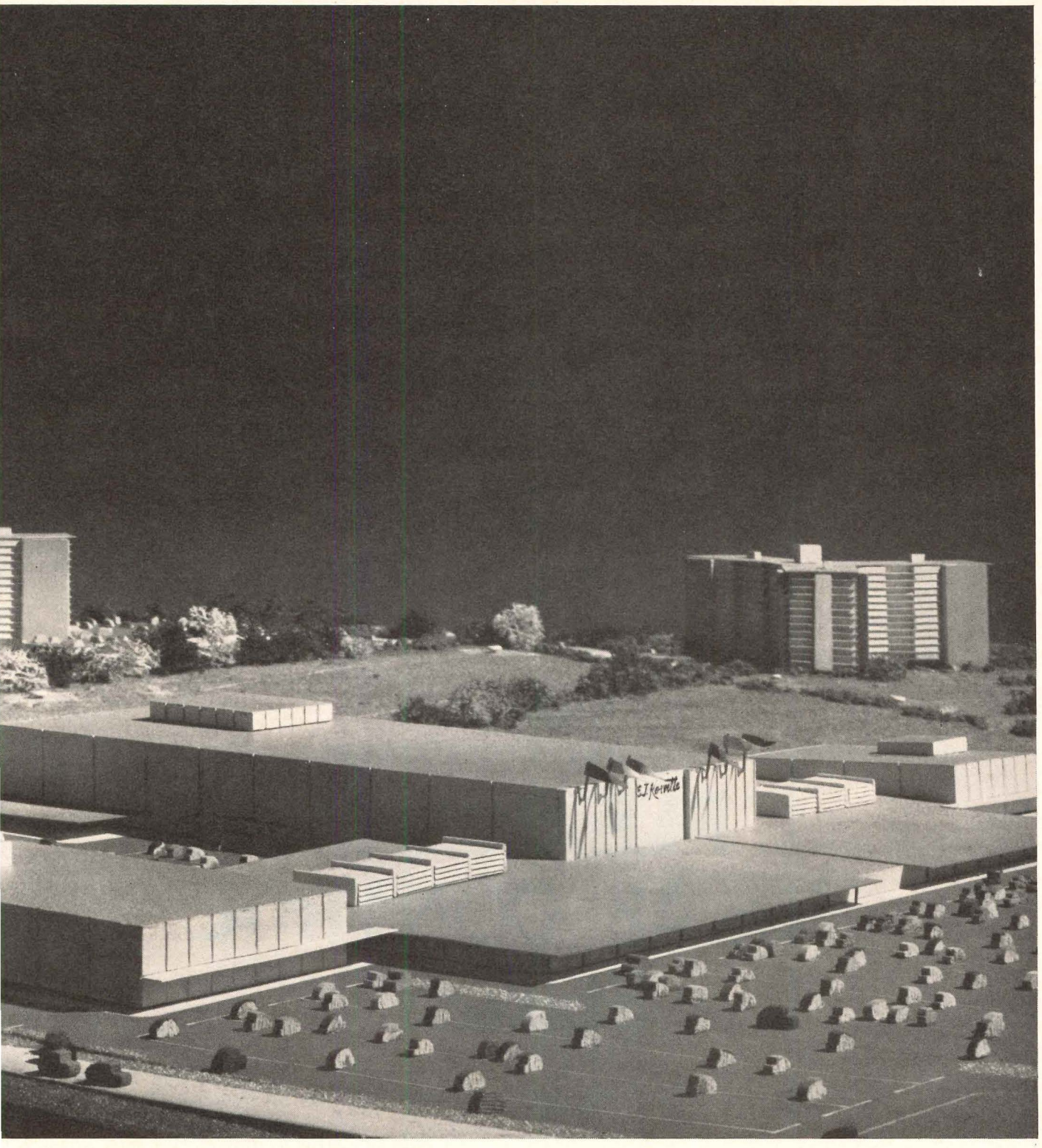
Cedarbrook Joint Venture

ARCHITECTS:
Lathrop Douglass, G. Daub,
Milton Schwartz & Associates

CONSULTING ENGINEERS:
Robert J. Sigel, Inc.
S. W. Barbanel

GENERAL CONTRACTOR:
Leonard Shaffer Assoc., Inc.

Spread over 148 acres in suburban Philadelphia, the 150 million dollar Cedarbrook Hill project was designed to be built in phases. A 524,000 square foot enclosed shopping mall and two apartment buildings are already occupied. Three more apartment buildings are planned, along with a motel, offices and research units. With phase construction planned from the beginning, a flexible climate control system was a necessity. The design chosen: All-Electric.



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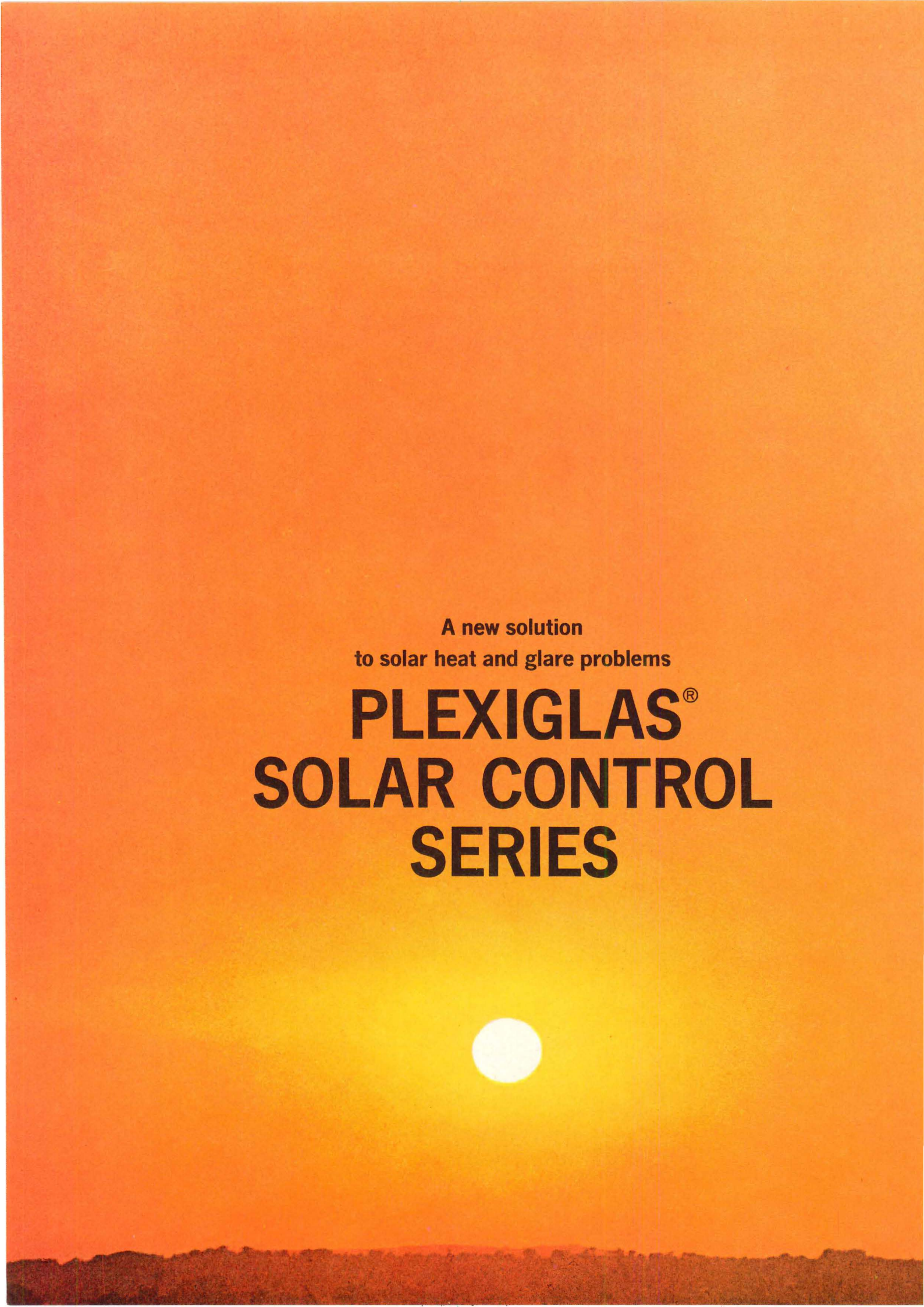

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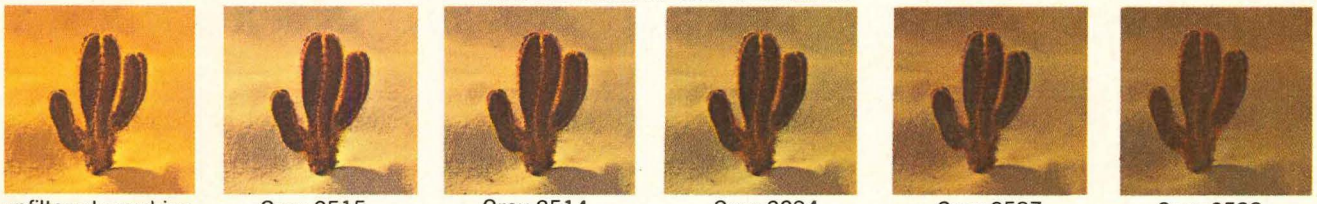

unfiltered sunshine | Grey 2515 | Grey 2514 | Grey 2094 | Grey 2537 | Grey 2538

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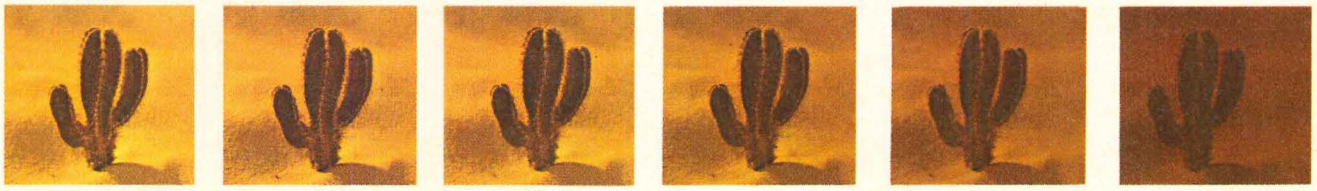

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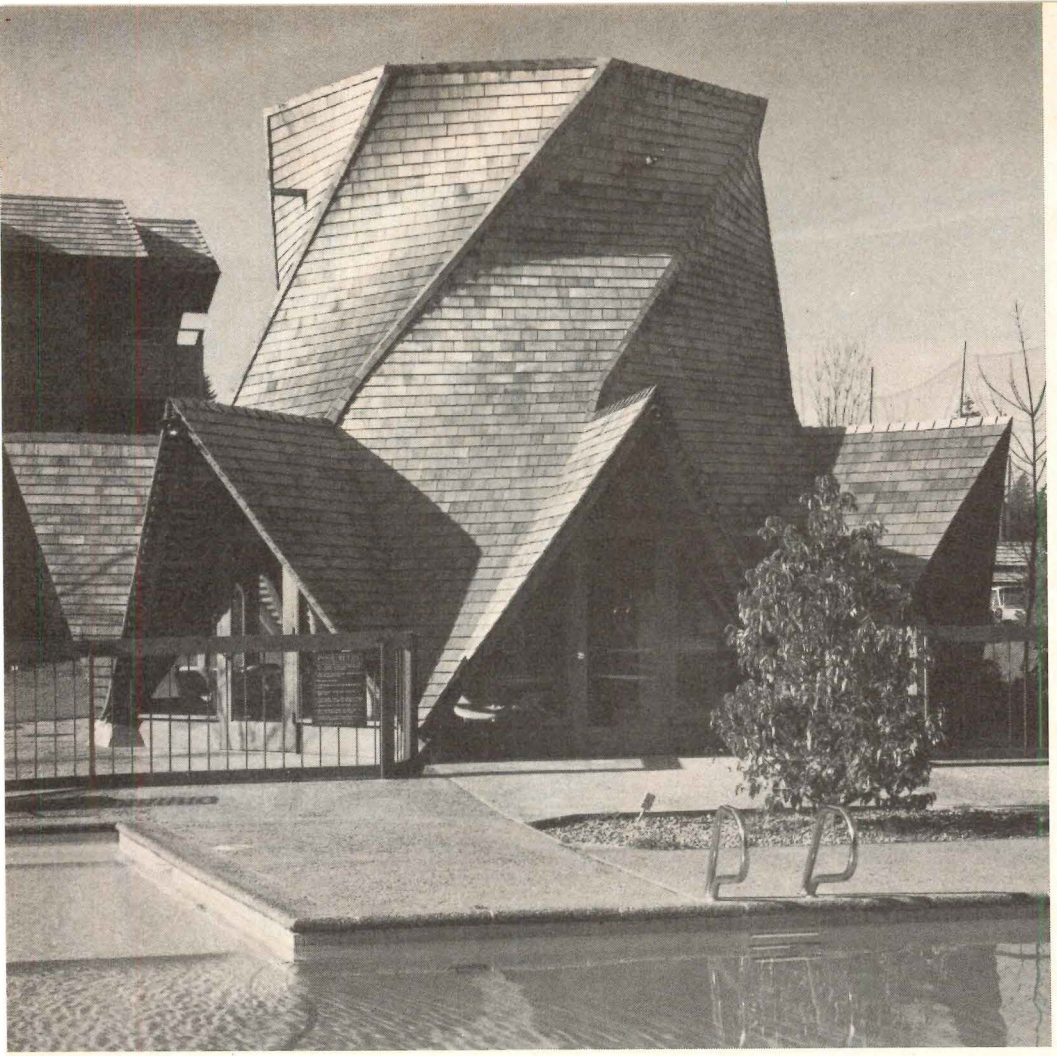

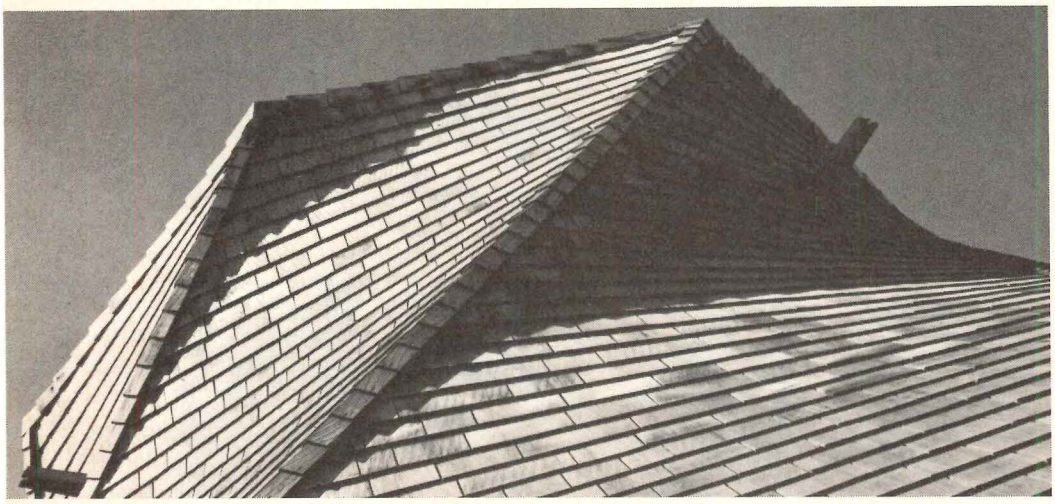

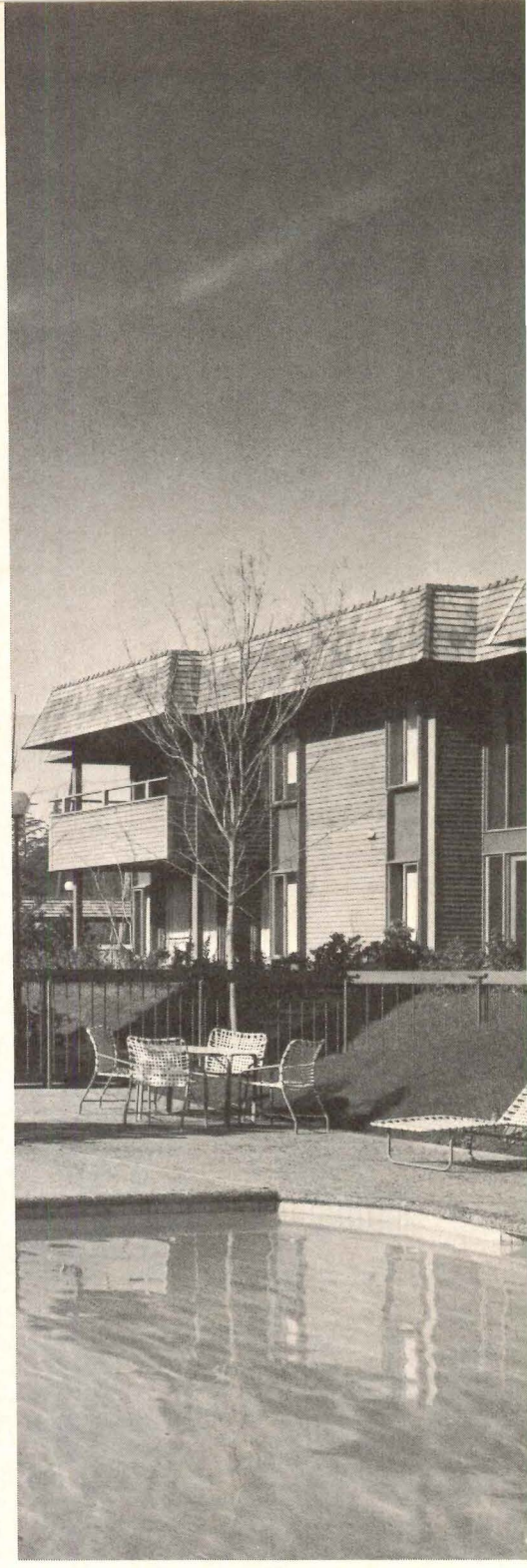

A Seattle apartment's twisting pool pavilion
Architects: Robert E. Cooper & Assoc.
Their material: red cedar shingles

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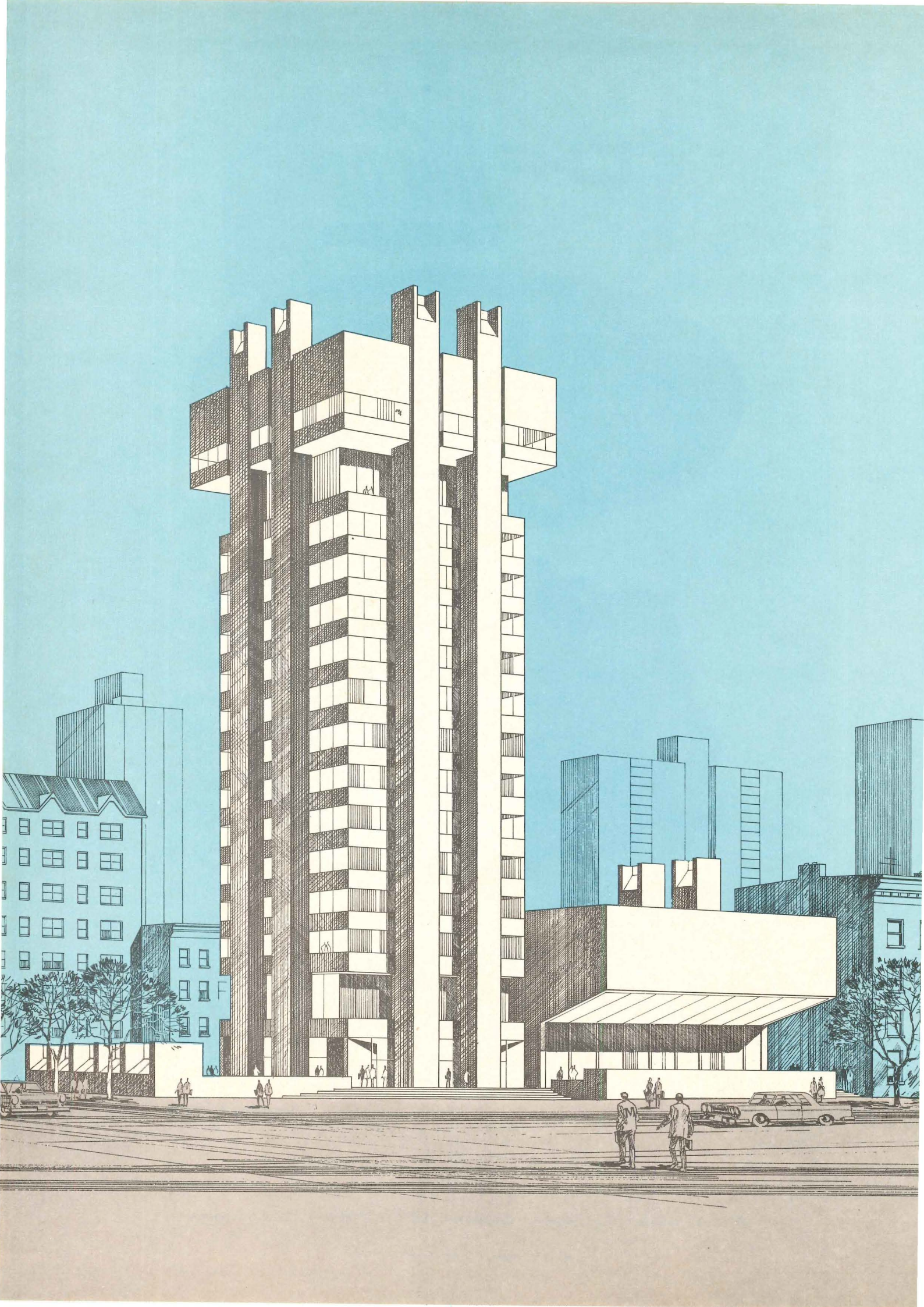
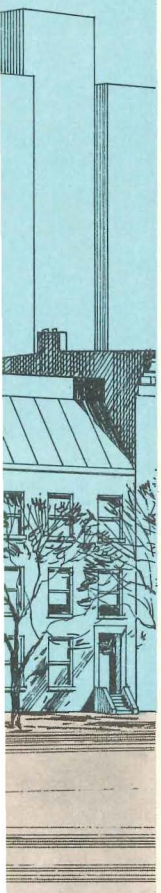


Ceramic tile by American Olean leads a double life in this urban school



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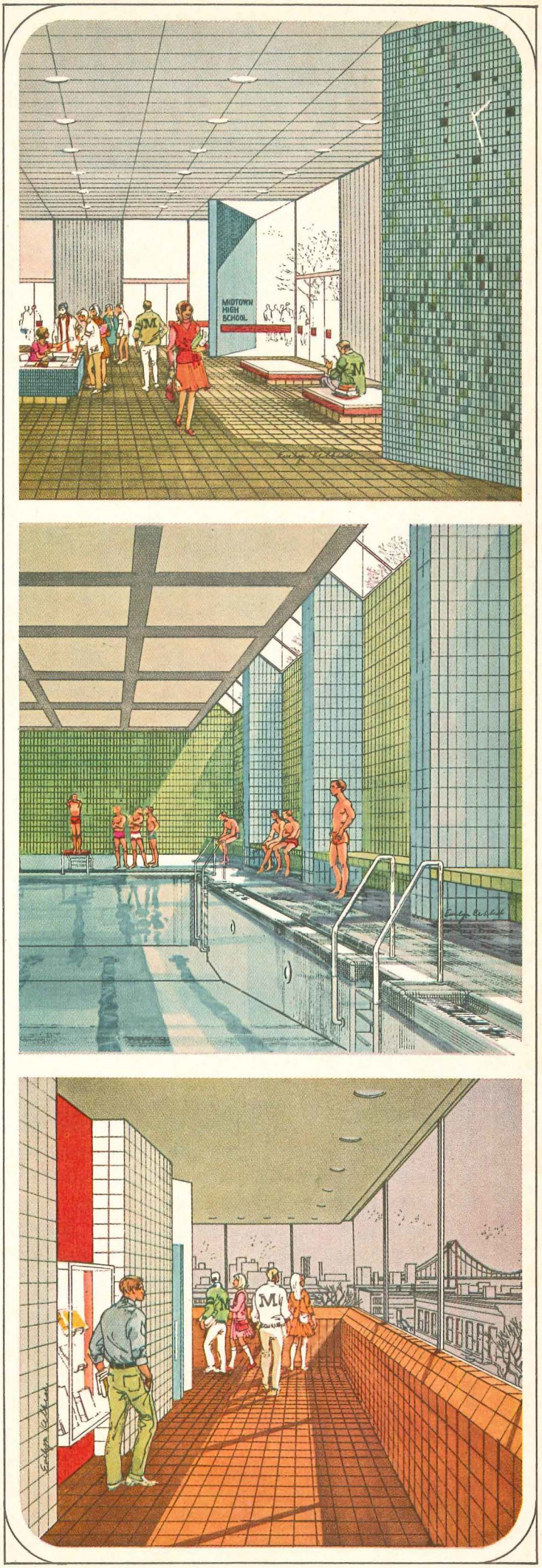

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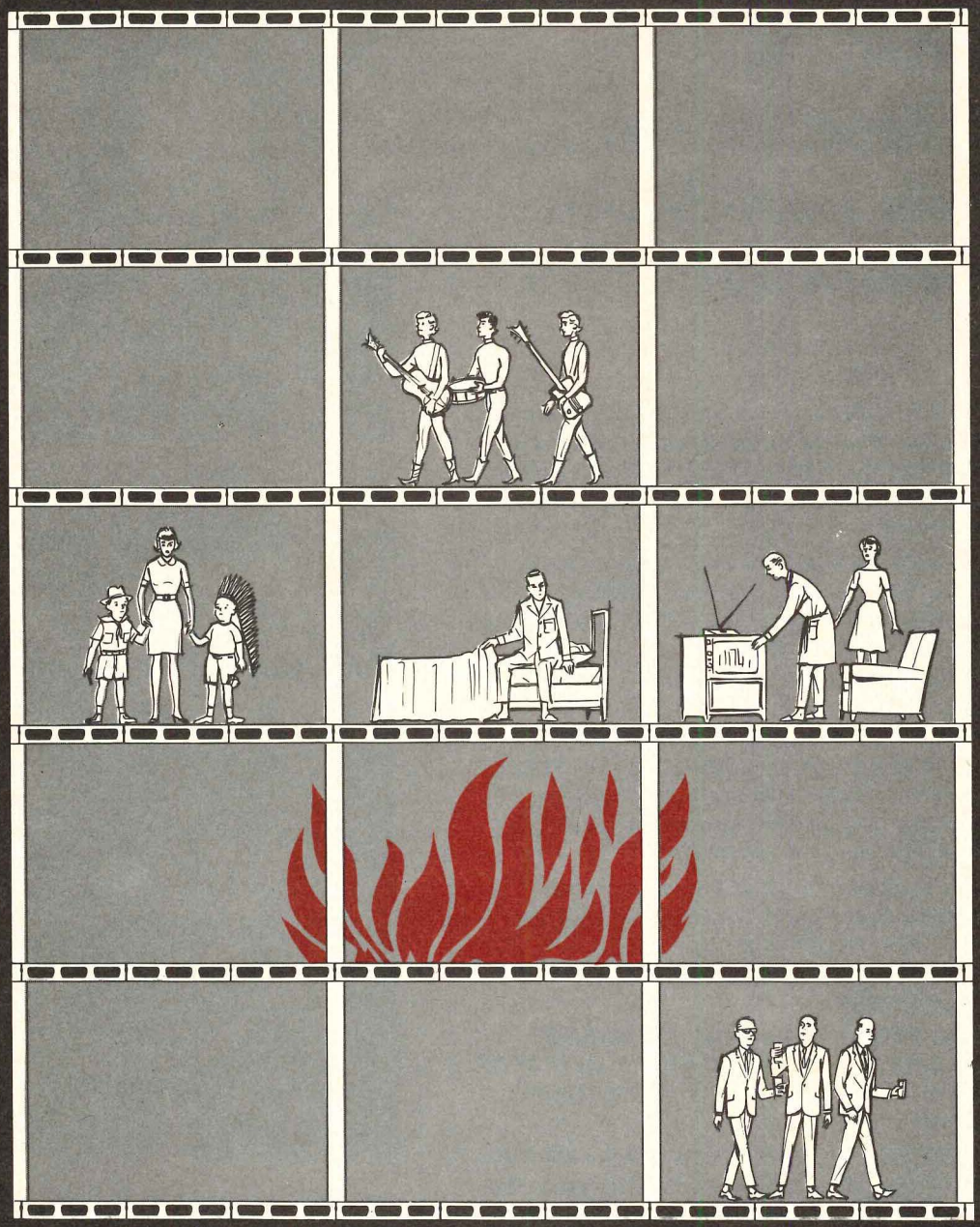

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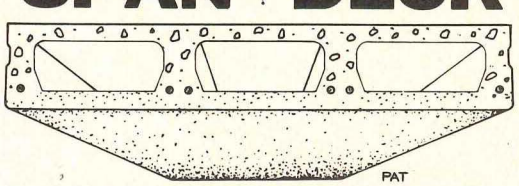

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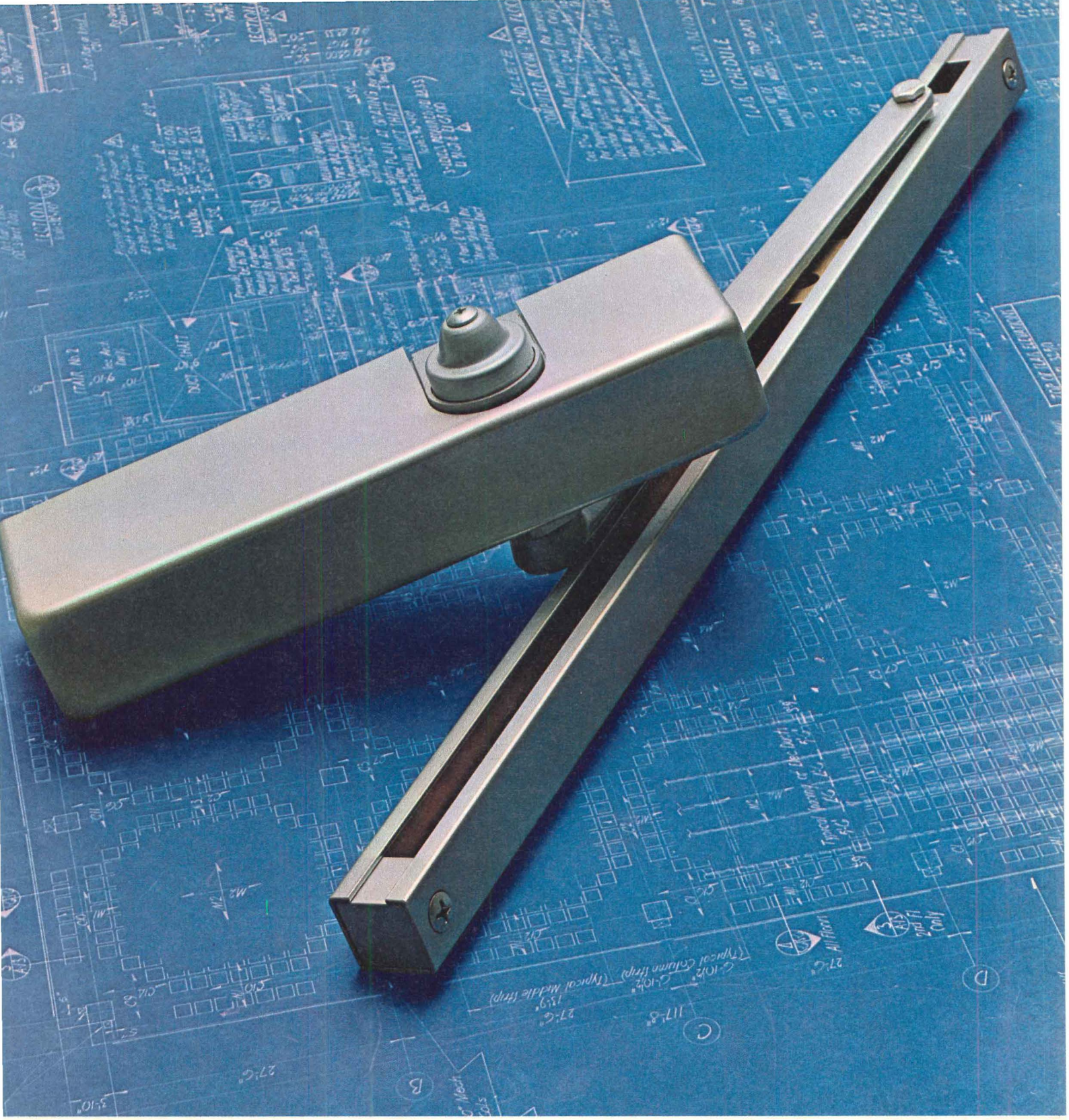

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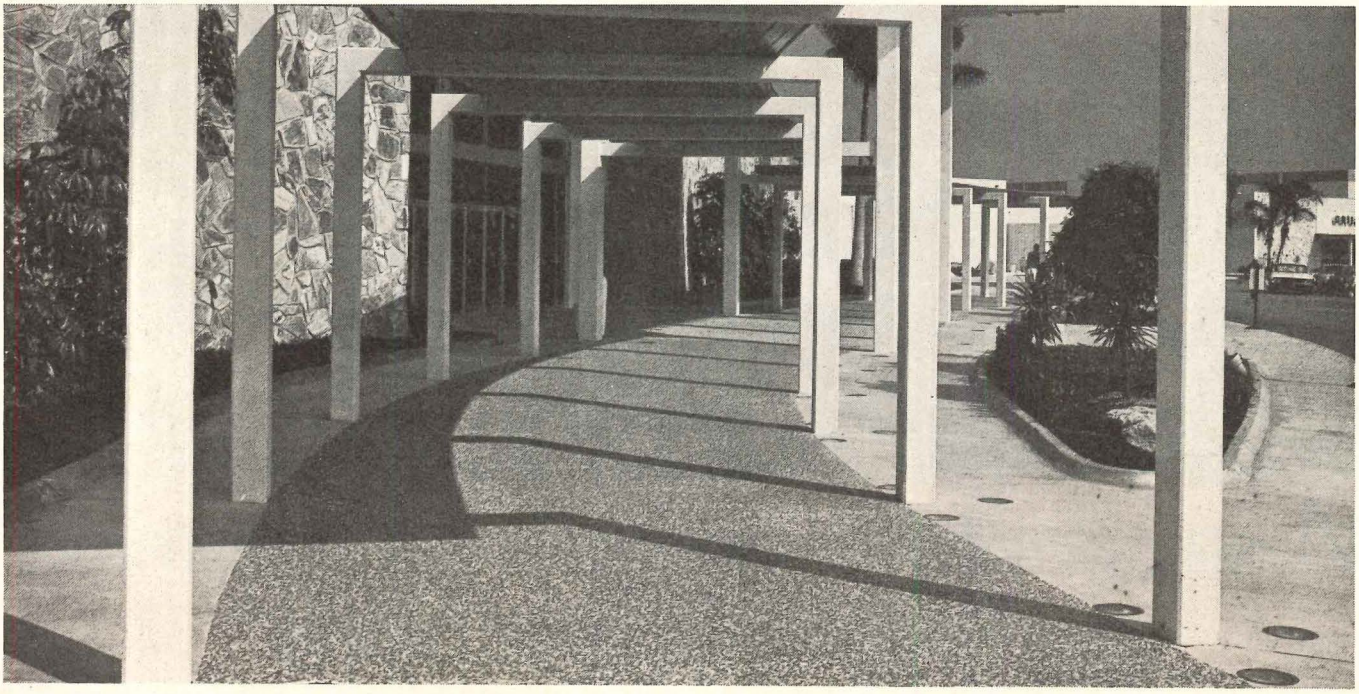

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August 1968 **PROGRESSIVE ARCHITECTURE**

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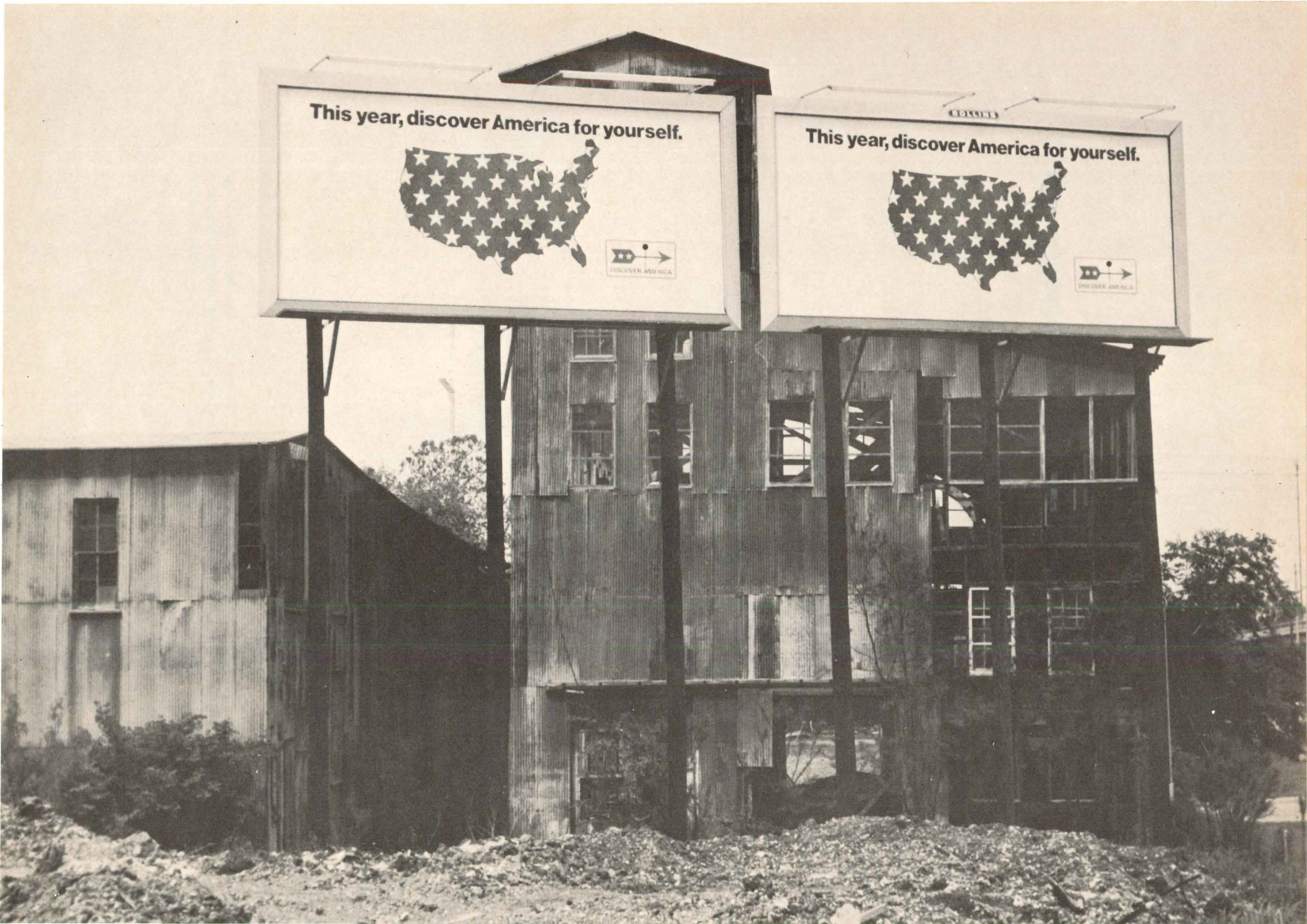
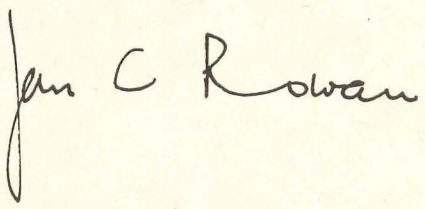

This year, discover America for yourself.
DISCOVER AMERICA
This year, discover America for yourself.
DISCOVER AMERICA

The people v. the architects is a case that has been fought in the courts of public acceptance for several long decades. Some half-a-century ago, during World War I, when housing had to be created for workers in the military industries, the history of modern community planning began — and also the history of planners' dreams being ignored by the developers and the public. For every Radburn and Reston there are hundreds of miles of unplanned suburban sprawl where happy inhabitants could not care less that they never heard of Clarence Stein or Henry Wright, or of the more recent crop of planners and designers. In spite of all the idealistic plans, single-house suburbia continues its victorious march.

Whether history repeats itself or not, the remembrance of things past is a harmless, if not always useful, pastime. Our report last month about Resurrection City in Washington, D. C., and this month's article proposing the creation of Black Cities, bring to mind another crisis. In 1933, when Franklin Delano Roosevelt took over the Presidency, ten million workers were unemployed. Some of them descended the year before on the capital and built for themselves shanty-towns nicknamed "Hoovervilles." FDR's answer to the poor camped on his doorstep was the announcement of a proposal for a series of new towns — the so-called Greenbelt Towns — which would create work for the unemployed, demonstrate the soundness of proper planning, and provide low-cost housing in a sound physical and social setting. In 1935 the Resettlement Administration was created, the forerunner of present-day PHA, and work on the Greenbelt Towns began. Of the many towns proposed, only three were built: Greenbelt in Maryland, Greendale in Wisconsin, and Greenhills in Ohio. Today, those three modest attempts at solving the urban crisis of the New Deal era are forgotten enclaves in typical suburban oceans of Washington, Milwaukee, and Cincinnati — a sad reminder that planning ideas travel one road but actual urbanization proceeds along quite different paths.

Perhaps an answer to the constant schism that exists betwen ideal environments proposed by architects and not-so-ideal environments offered by builders and eagerly bought by the public lies in that simplest of all explanations: *Most People Don't Want What Architects Want.* This thought is the title of an article in the current issue of *Trans-action,* a magazine of social sciences published by Washington University in St. Louis. In the article, Toronto sociologist William Michelson states the assumptions of a typical, architect-influenced plan: people prefer multiple dwellings over single-family homes, public open space to private yards, mass transit to private car, and want easy access to community facilities. He then proceeds to destroy all of these assumptions by quoting results of a survey conducted by the Survey Research Center of the University of Michigan. Answers of 748 men and women from 32 metropolitan areas questioned about how they choose a place to live in, indicate that only a few are sympathetic to some of the architect's concept of an ideal environment and none to all of his assumptions as to what the good life is all about. Apparently, most people prefer single-family homes to multiple dwellings, private yards to public open space, private car to mass transit, and are not too concerned about easy access to community facilities.

This survey, and the growing number of other studies such as Herbert Gans's, *The Levittowners,* explain at least to some extent why contemporary community planning has been in trouble for so many years. As Michelson says in his article: "In a democratic and open society like ours, popular preferences are ignored only at great peril . . . even though a lack of wisdom may prevent people from choosing what is clearly in their own best interests, it is their preferences — and not architectural theories — that will, in the long run, influence much of which happens in the cities." ■



CORNERS

What is the state of today's corner design, which is straddled between the classical heritage, contemporary technology, and the kinetic forms the future promises. The following capsulization traces the evolution of the corner from the quoin to the kinetic.

Corners, once proud elements of construction, began to lose their importance as steel and concrete replaced timber and masonry, and may someday disappear as today's building systems give way to space frames and kinetic structures. A backward glance reveals nothing but substantial corners, laid up in quoins, framed with heavy timber, or cantilevered with elaborate systems of brackets that were often treated as minor art forms.

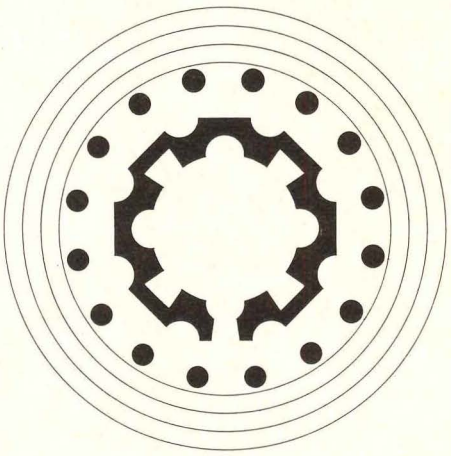
The essential structural importance of the corner was realized by both ancient architects and ancient demolition experts. Corners were attacked by the battering rams of armies laying siege to towns as the most effective means of demolishing fortifications.

Aside from corners that are purely defensive and corners that are purely structural, corner treatment has varied as widely as opinions on the meaning of architecture. Corners have been used to border façades, give the building a false impression of strength, advertise its owner's importance, decorate the townscape, mark grand entrances or bend building walls into the cityscape. Corners have historically proven to be among the strongest as well as the most decorative of architectural elements.

A traditional way to avoid weak corners has been to design without them. Among the devices used have been linear constructions having ends but no well-defined corners, such as the walls used to provide shade for walks in Roman villas. The most common type of cornerless building, however, is a closed-curve perimeter. Such buildings range geographically from the grass huts of Africa, to the trullo of Italy, to the shepherd hut of Scotland; and, historically, from the tholos of classical antiquity to modern stadia.

The circular plan used by many primitive communities can be laid out blithely on the ground with a tethered peg, thereby circumscribing the technical problem of building corners but adding considerably to the difficulty of roofing. Such a plan has the advantage of enclosing the maximum amount of space for a minimum amount of wall. This is an advantage that continued to be exploited in compromise form in the octagon house plan fashionable in the 1850's.

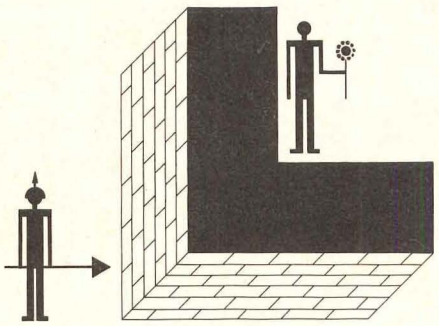
The oval has always been a favorite form for stadium and amphitheater plans, since it embodies a sound, compromise method of accommodating the maximum number of people around a rectangular arena. Visually, the strong appeal of cylindrical buildings lies in the possibility of using their continuous cornerless volume to emphasize columns or windows in accelerating rhythms as they recede in perspective. But despite the appeals of cornerless buildings, the corner has held its own as a prime architectural attraction and challenge.



Shaping the Corner

Corners are sometimes shaped by their construction techniques. Among these are the battered walls of bastions, which, as they follow their natural pyramidal shape, gives the building a remarkable amount of plasticity at the corners. A particularly subtle and attractive application of this principle are the concave stone walls of Japanese castles contrasted with the intricate corner joinery of the wooden superstructures they support.

Occasionally, corners have been treated as a segment of a cylinder blending adjoining walls, a device of early Victorian street architecture also used in the Monadnock Building and in buildings of



the International Style. Sometimes, these corners have been enlarged to become sweeping curved intersections, or used more modestly to entice shoppers into store entrances. Corners have also been given re-entrant angles, or concave curves creating strong vertical shadows, or chamfered to emphasize the building's sculptured volume by detracting from its rigid cubistic structure.

Besides these methods, which are essentially that of reducing the corner, the possibility of adding to the corner has frequently been exploited. It may be something useful, such as a cantilevered outdoor pulpit to cast beneficial shadows on the sidewalk for small dogs, or something ornamental, such as a street corner shrine. Corner additions may also be vertical, extending upward into pinnacles to become a pivot in space upon which the perimeter of the building visibly turns.

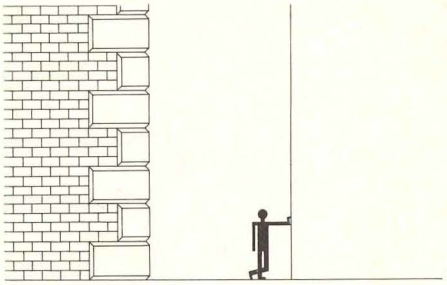
Larger-scale independent elements added to the corner are generally variants of the tower, whose military history began as a means of strengthening the corners against besieging forces. Following the advice of Vitruvius, circular structures were used as the most effective means of defense; the blows of battering rams, he counseled, would tend to dissipate their force in the arching action of the masonry. With the advent of gunpowder, the corner plan did an about-face from circle to sharp-pointed arrowheads to improve the field of fire for musketry.

The tower characteristic of the practical defense-minded Middle Ages was retained by Renaissance architects until it finally deteriorated into the broad, low

pavilion. Later, it was fully integrated into the façade, leaving only a mild jog in the wall.

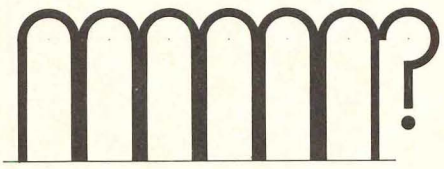
The romanticists revived the corner tower, and, up to the beginning of this century, it saw use as a variation of the bay window. A similar career was followed by the diminutive of the tower, the turret, which found similar application during the Victorian period.

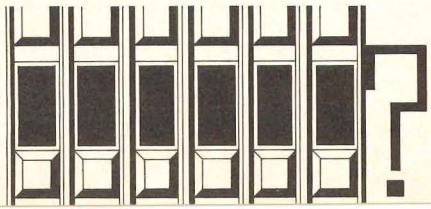
Around 1900, designers devised a corner eye-catcher. Buildings that were not prominently enough sited had corners of rounded, tower-like masses. (The most famous example is probably Sullivan's Schlesinger and Mayer Store in Chicago.) This was also a standard formula for handling the awkward, acute corners of intersections in boulevard-slashed cities such as Paris.



The ideal of corner treatment has always been a vertical accent that would both terminate each façade and turn it to unite with the adjoining wall. The ancient quoin has proven ideal for this purpose. Its rude strength appealed to Renaissance designers and was resurrected by them later, translated into decorative imitation brick, stucco, wood, and even paint.

The quoin may be listed in that family of vertical corner elements among which is included engaged columns, pilasters, and combinations of such wall-terminating elements whose function is visually to add weight to the corner, not necessarily to the structural logic of the building.





Stop the Rhythm

The uniform cadence of arches, windows, and mullions rhythmically repeated along the building's façade as they approach the corner present the designer with the alternative of ending the façade with either a bang or a whimper. He must choose between one last uniform element for his corner or terminate with an architectural cadenza.

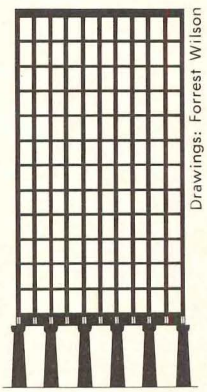
These rigid rules of geometric orchestration have engendered severe problems for the composers of the frozen music that is architecture. The problem is not new and has not changed appreciably since the classic quandary of the triglyph, which is remarkably analogous to the problem of today's curtain wall.

As the Greek Doric order matured, certain incompatible rules grew up around it. First, a frieze had to end with triglyphs. Second, a triglyph had to be centered on the axis of — and between — columns. Thirdly, all column axes had to be equally spaced. And, last of all, these conflicting proportional relationships were fixed.

It was obviously impossible to adhere to all of these rules in classic times. The corner problem was then, as it is now, one of deciding which was the best rule to break — how best to stop the music.

The Hangover Corner

The dilemma of the triglyph, although similar to that of the curtain wall module, is minuscule by comparison. The corner problems of modern architecture are infinitely compounded over those of classic building. Interior design has become of vital concern in the transition from classical to modern architecture. Today, building corners not only have to be designed to meet all the same requirements as the classic sculptured corner, but they also have to



Drawings: Forrest Wilson

enclose rentable space inside.

Not only does today's designer have to contend with the hangover of past historic architectural demands, he also has to contend with the fact that building technology itself is turning the corner from traditional craftsmanship to total industrialization.

Corners that were formerly designed as an integral part of the building's basic material are now assembled of industrial elements. Their design consists of the manipulation of countless confused, dissimilar modular elements. The result is a bastardized corner of industrialized elements designed by the manipulation of countless confused, dissimilar modular elements.

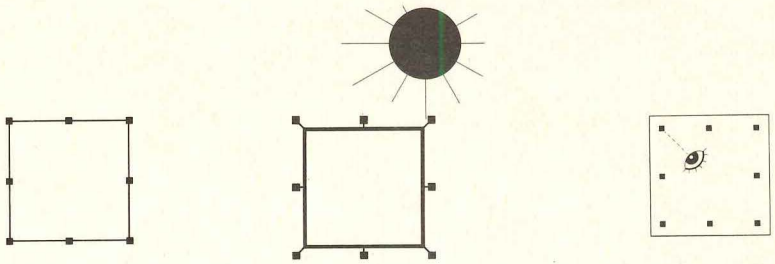
The architect spends more time coordinating unrelated systems of measurements and unrelated methods of fastening manufactured materials to join his corners than he does in designing them.

The Corner That Functions

If we thought that the rules of the Greeks for positioning the column and the triglyph were stringent, let us examine the problems of a modern curtain wall. The corner breaks whatever module that has been painfully worked out between a series of unrelated dimensions. These consist of the module of the structure determined by column spacing; the module of manufacture given to the curtain wall by machine dimensions and extrusion sized; the module of the interior mechanical equipment and the module of interior planning dictated by space use requirements of furniture dimensions.

The structural system that is most commonly selected to perform all of these modular functions is the skeleton-frame building. The result is a simple-appearing but highly sophisticated modular system. When successful, the design is a composition of elements as sensitively juxtaposed as those in a Mondrian painting. It is a delicate art, as is attested to by its innumerable failures rather than by its few successes.

Masonry walls intersect on a flat plane



to form corners. Curtain walls, by contrast, are a composition of columns and spandrel beams, supporting panels and sash, all of varying depth, which makes detailing at the corner extremely complicated.

Columns are most generally set within the building's perimeter curtain wall, since setting them outside it involves the problem of thermal expansion and contraction in relation to the rest of the building; setting them behind the curtain wall obstructs light from the windows and intrudes on interior planning.

Columns in the façade, when used to turn the corner, present a functionalist dilemma. Structurally, corner columns are in most instances supporting one-half the load of the façade columns and one-quarter that of the interior. According to pure functional logic, they should therefore be one-quarter to one-half the size of interior columns.

If the façade columns are rectangular, they will form a square when they meet at the corner. Not only is the corner column then much heavier than it need be, but, viewed in perspective, across its diagonal, it appears even heavier.

Of the solutions that have been evolved, Mies' decision to butt these two columns, creating a re-entrant corner, is probably the best known. It solves the visual difficulties at the expense of structural logic, as has been repeatedly pointed out by functionalist "nit-pickers." However, if this solution is considered, as obviously intended, as using the corner as part of a continuous façade, which is implicit in modular design, its raison d'être fits within functionalist principles — and brutalist, too, for that matter.

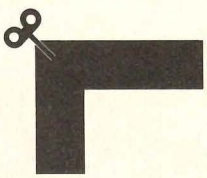
The loads on corner columns can of course be nearly equalized with the other building columns if the floor slabs are cantilevered beyond the columns, thus taking the problem away from the architect by giving it to the interior designer.

The panel curtain wall also offers a primitive solution to structural corner problems, and has afforded us some of the more colorful folk art decoration of our day. There is little to be discussed in the realm of these panels, for such a plethora of corner design has emerged with them that the only meaningful discussion would be a discourse on the tribal implications of the brake, shears, and punch press.

What Next?

What happens when architects change from our present half-medieval, half-industrialized system of building? The form of the corner will obviously change. The architect will be freed from the soul-searching dilemma of the column and the triglyph or the column and the mullion center, to worry about the perimeters of space structures or the arc scribed by kinetic building elements.

The architectural options offered by engineering may be as numerous as those of today's "hangover corner," but they will most certainly be of a different kind. Increasingly, sophisticated structural analysis changed the corner as radically at Expo 67 as it did in Mies' Barcelona Pavilion 30 years earlier. Expo's space frames,



which rid architecture of the traditional concept of the corner as it became part of a continuous perimeter, may themselves prove archaic with the introduction of kinetic structures without permanently defined façades.

However, no matter what lies in the future for the engineered prefabricated corner of today, the corner will be something special as long as the architect can exercise options on its design.

CORNERS

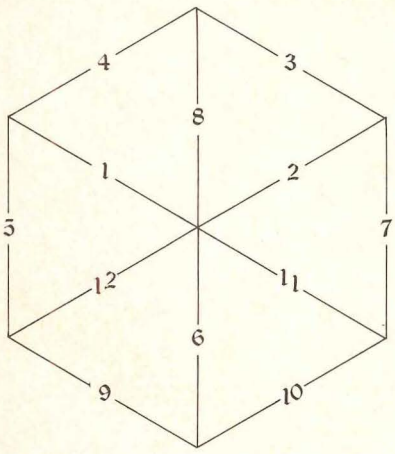
THEMES AND VARIATIONS

A selective sampling of corner designs, with the architects' opinions and comments, reveals an architectural concern that ranges from the humanizing of corners in the urban environment to the happenstance corners of space and kinetic structures.

The following corners show architects grappling with the corner problem. A plethora of forms confront the observer as he views the corners of the cityscape, composed of all manner of corner treatment from the cosmetic corner of style and fashion to the logical structural corner of engineered reasonableness.

Corner types can be roughly arranged into a few main themes, as long as "unclassified" is one of them. There are as many variations within these themes as there are classical cadenzas or "taking it" with a hot jazz trumpet.

"It is the logical place to look for — or at. The corner is where things happen," comments architect Gunnar Birkerts. Almost all architects agree with him, but what to make happen, and why, was, except for a few clear voices, drowned in confusion. Among the most articulate comments were those of architect John R. Myer of Cambridge.

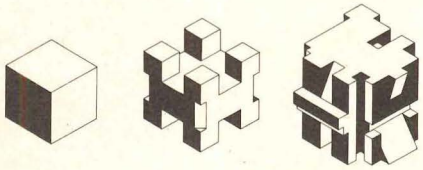


THE DEMISE OF THE 12-CORNERED BOX

Design is no longer conceived as the making of a box that encloses whatever volume of spaces we need and has only 12 corners, comments Myer. As we overcome the old object-oriented view of the building and focus more on the design of the environment, we conceive the environment as a continuity and more corners are generated.

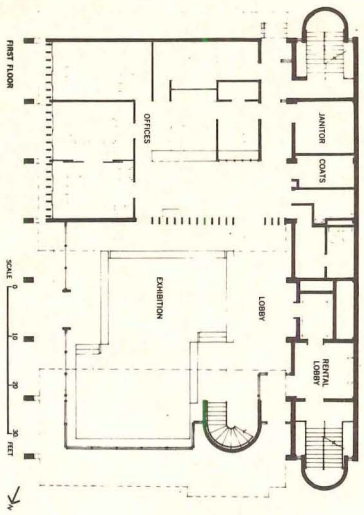
The appropriate scale of the urban pedestrian world suggests more and more the need for the definition of public spaces. Myer believes that the person at whatever position in the urban space, should feel reasonably large and adequately sized to be a protagonist in the space.

This would indicate either that spaces must be of a smaller size or that larger spaces be more articulated. "We ask of our urban world, now devoid of the presence of nature," points out Meyer, "a kind of vibration, a greater richness in space form." All of this strongly suggests a forming and articulation of spaces, creating many more vertical and horizontal corners.



Myer admits that corners are expensive, but adds, "so are our lives." Our sense of adequacy and well-being is a key business even in economic terms, as proven by a recent Government survey. This evaluation, which was undertaken in connection with the design and occupancy of a Federal office building, showed that the maintenance cost of keeping the building livable was one-thirtieth the cost of salaries; salaries and maintenance combined were about 50 times the cost of the building. From these figures, it can be seen that small gains in user satisfaction will pay for considerable increases in construction costs.

The corner occurs as part of the edge or limit of a space, or, more properly defined, as the interface between spaces. The question of corner forms depends on the space-form of which the corner is a part.



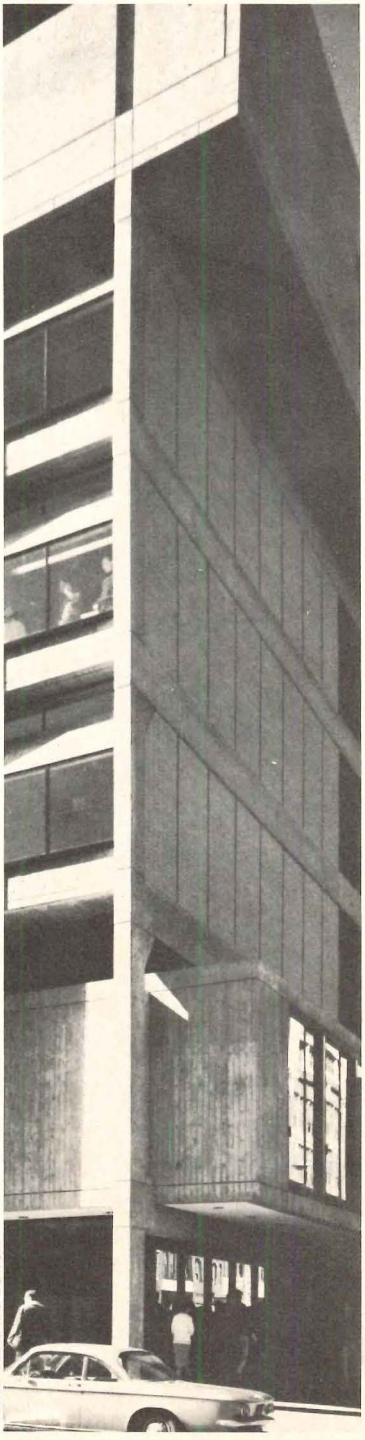
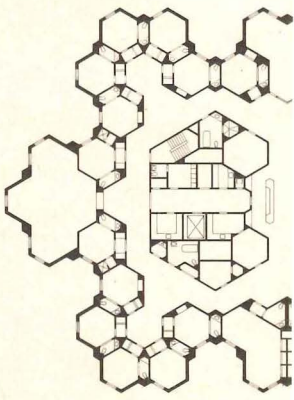


Photo: Louis M. Bowen

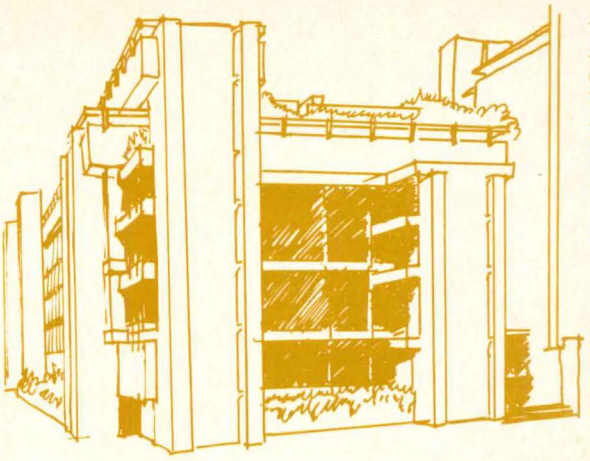
Structural interplay creates varied corners to enrich a segment of urban space at the Boston Architectural Center of Ashley Myer & Associates.



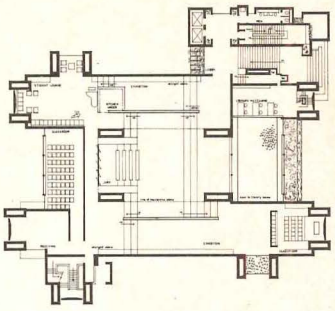
Concrete and stone fracture the dominant vertical corner in faceted shadows in Philip Johnson's Morningside House in New York City.

Photo: C. Werdnigg

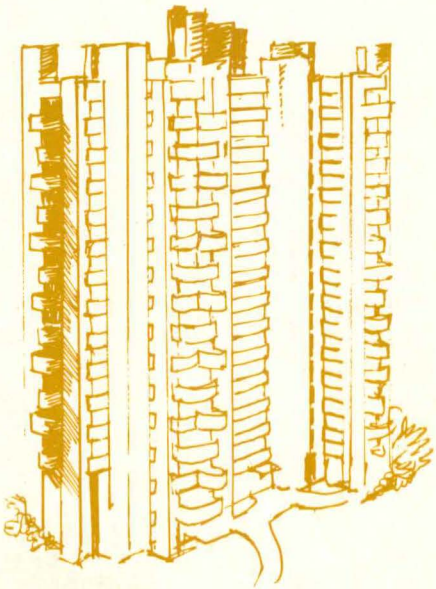
Alternate, richly textured square and vertical corners reduce the scale in Paul Rudolph's Crawford Manor Public Housing in New Haven, Conn.



Drawings: Richard C. Lewis



Multiple corners redistribute the corners of urban space in Paul Rudolph's Arts and Architecture Building, New Haven, Conn.



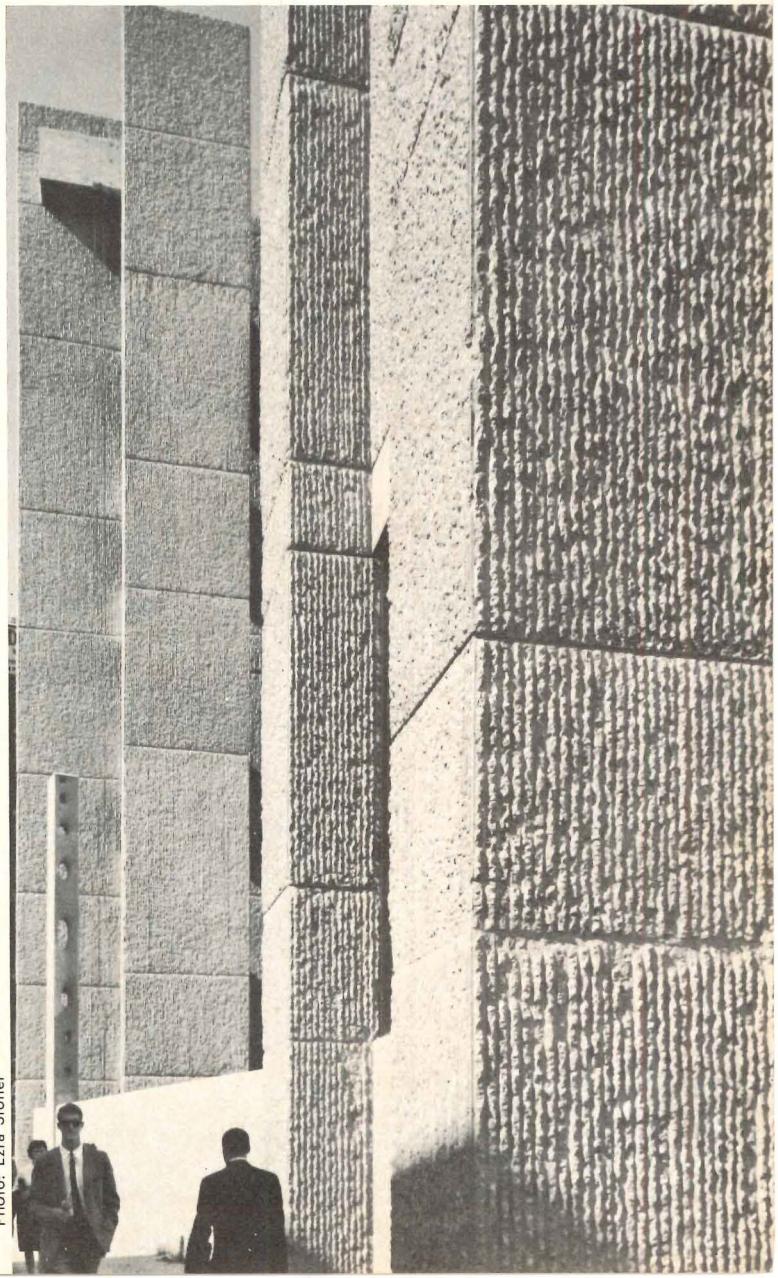


Photo: Ezra Stoller

THE CLASSICAL CORNER

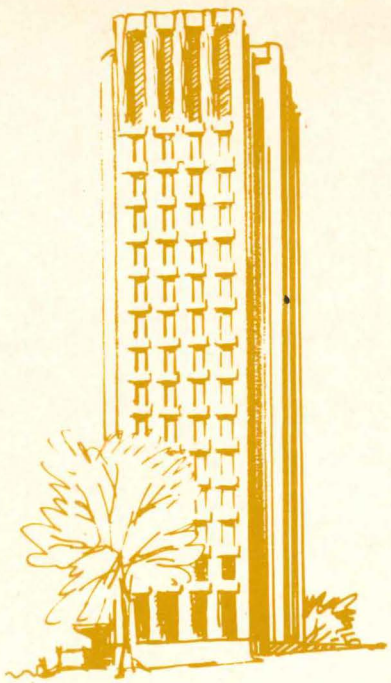
Any discussion of the corners of today's architecture would be incomplete without the comments of the classical commentator, architect Philip Johnson.

The traditional way to make a masonry corner is to widen the building at the ends after the last window, maintains Johnson. The problem here is how to make the corner strong enough. Piers at the corner are a good way to stop the building, but they must be large enough to accomplish this — at least 15 ft in diameter.

Of course, says Johnson, the factors that make a corner important are not only the corner section, but how the building begins against the ground and ends against the sky, and, of course, how the building is entered.

In most modular buildings, Johnson points out, the entrance is not at the corner but at the center of the building. The problem in modular design is how to stop the building. Mies does not stop the building at all. He takes a nick out of the end of it. What happens at the bottom and the top of his buildings is what is important. This reduces the effect of the corner to such an extent that, in an imitation Mies building, the corner becomes smaller and smaller; in a cheap Mies building, there is no corner at all.

After discussing the various and varied problems of corners, Johnson concluded that there are no rules. "Good corners are what the good man designs; the genius makes the rest of us work harder," he quipped.



Rendering: Helmut Jacoby

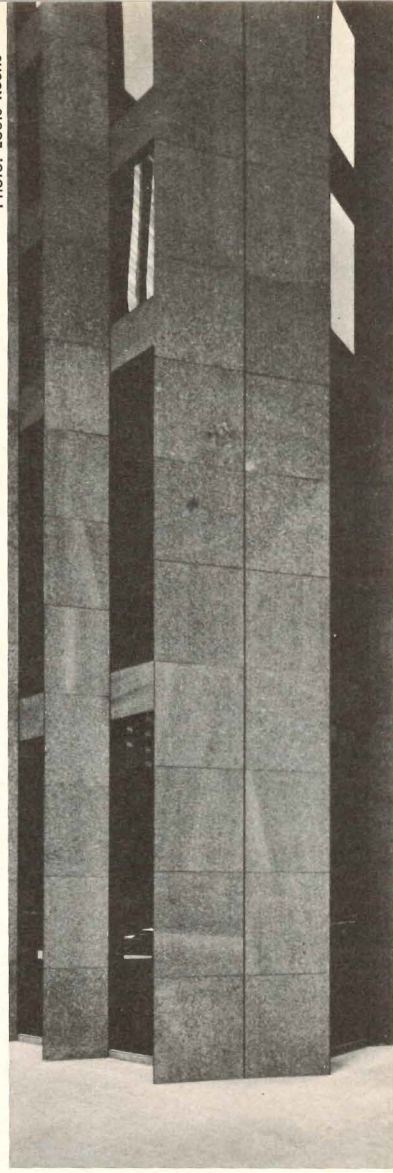
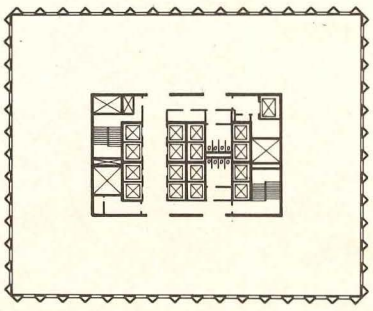
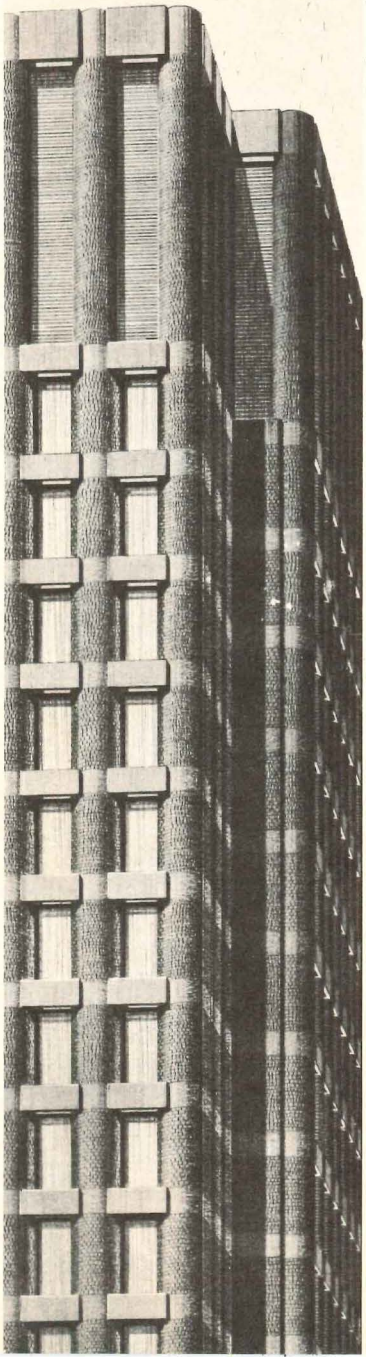


Photo: Louis Reens

Eero Saarinen's CBS building in New York City has no corner at all; it turns with a change of plane.





Johnson's Kline Science Center in New Haven starts against the ground on a platform and ends against the sky with high masonry-filled openings.

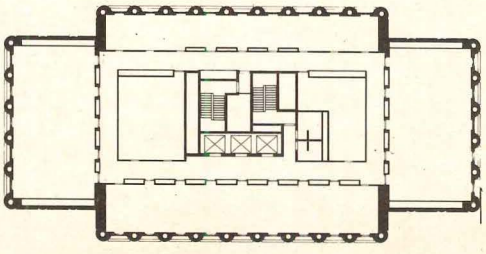
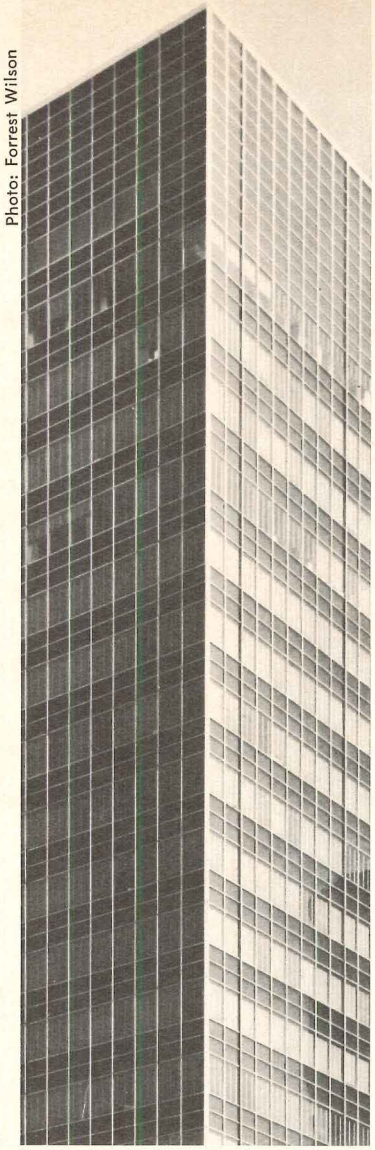


Photo: Forrest Wilson



"On an imitation Mies building, corners get smaller and smaller . . .

". . . until there is almost no corner at all," comments architect Philip Johnson.

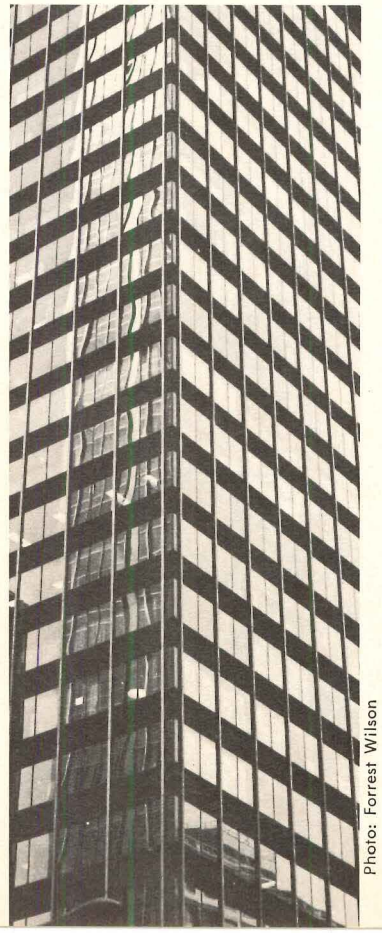
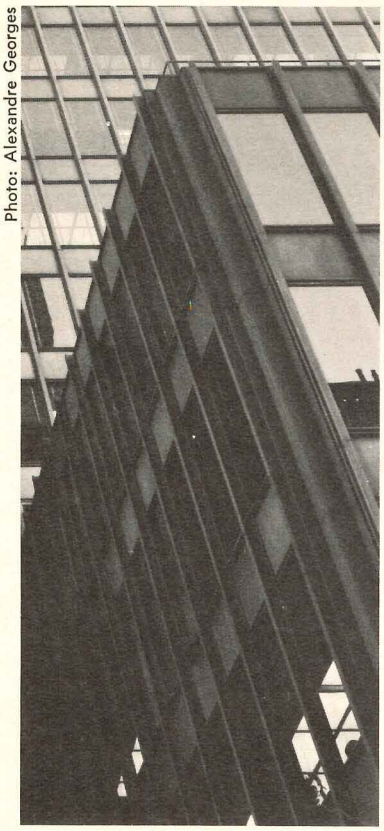
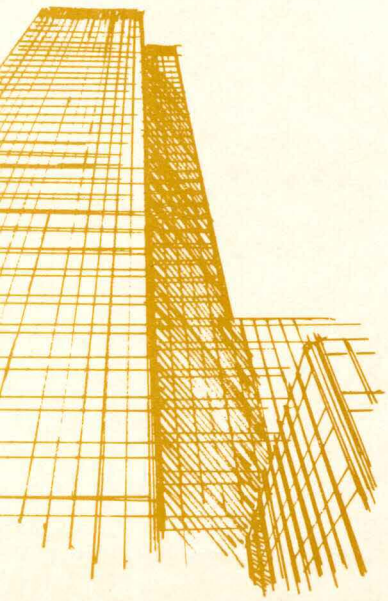


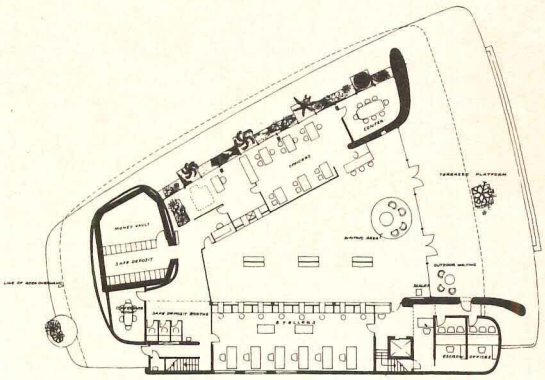
Photo: Forrest Wilson

Photo: Alexandre Georges



"Mies does not stop his building; he takes a nick out of it." Seagram Building, New York City, Mies van der Rohe and Philip Johnson.

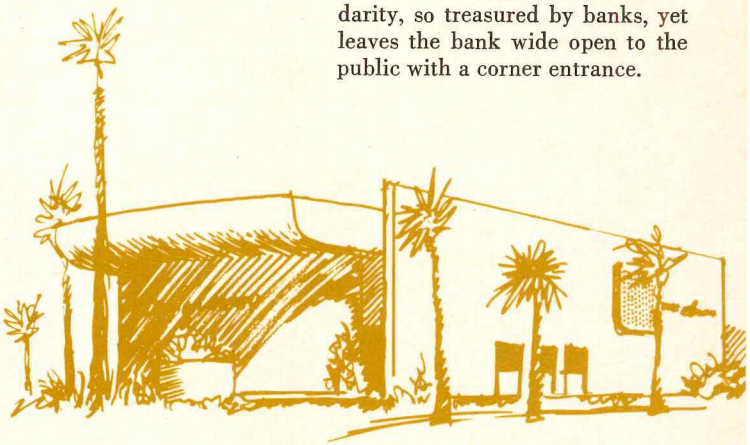


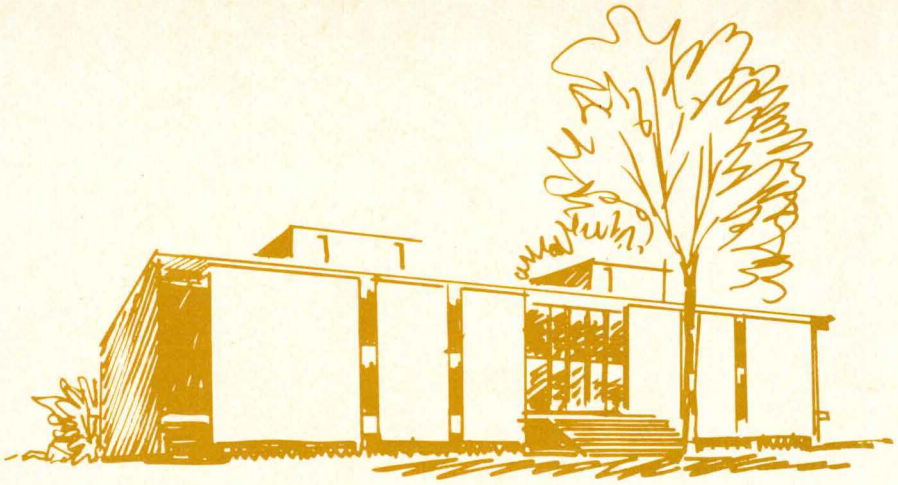


TRIANGLES HAVE THEIR TROUBLES

Triangles have their troubles, quipped Philip Johnson, but they did not prove much of a problem to Victor Gruen in his design of a small bank in Palm Springs, Calif.

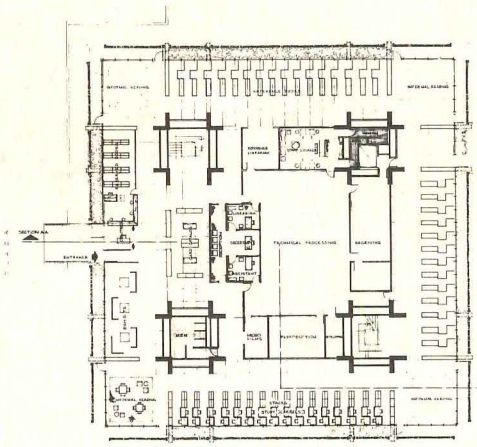
Gruen stuffed the useless corner with money to solve the problem of a difficult triangular site. The rounded vault corner of the triangle aids motorist's visibility, achieves the appearance of solidarity, so treasured by banks, yet leaves the bank wide open to the public with a corner entrance.





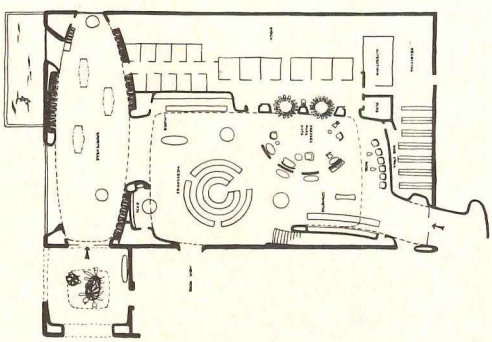
A PROBLEM AVOIDED, A VIEW AFFORDED

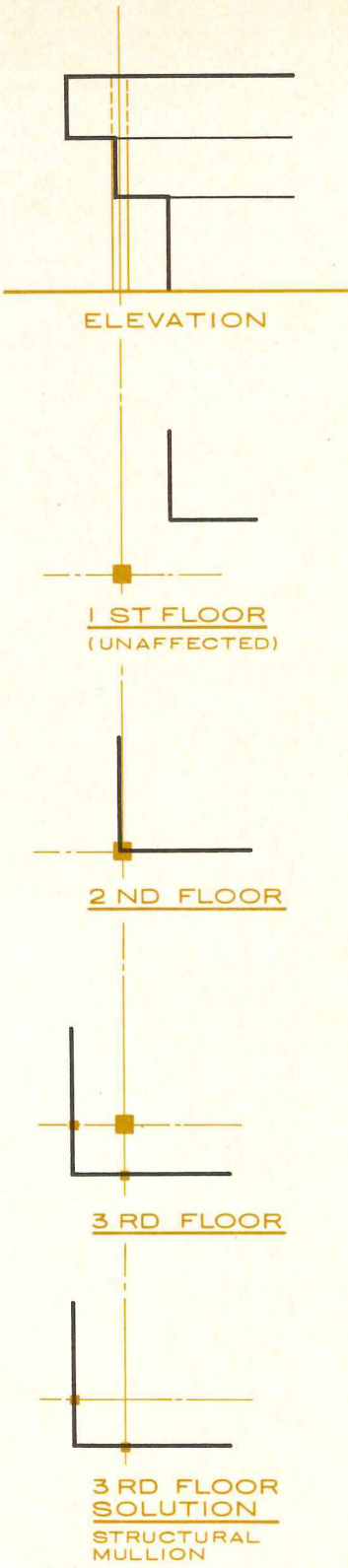
The opposite of the built-up structural corner is the corner that stops short to let the interior peer through. Robert Palmer of the Perkins & Will Partnership did this at the library for the National School of Agriculture, Chapingo, Mexico. "The structural framing solution led to a two-story lounge area at each corner of the building: Hence, the rationale of stopping the exterior screen short of the corners, which afforded a view out," commented Palmer. "Happily, this solution also eliminated the problem of turning the corner with the screen," he added candidly.



ENTRANCE IN THE CORNER

Corners can, of course, be walked in to. These rounded corners on Victor Gruen's Joseph Magnin store in Las Vegas were rounded behind a square façade, which was carried through the structure and merchandising plan. The building entrance is at the corner through a small courtyard.





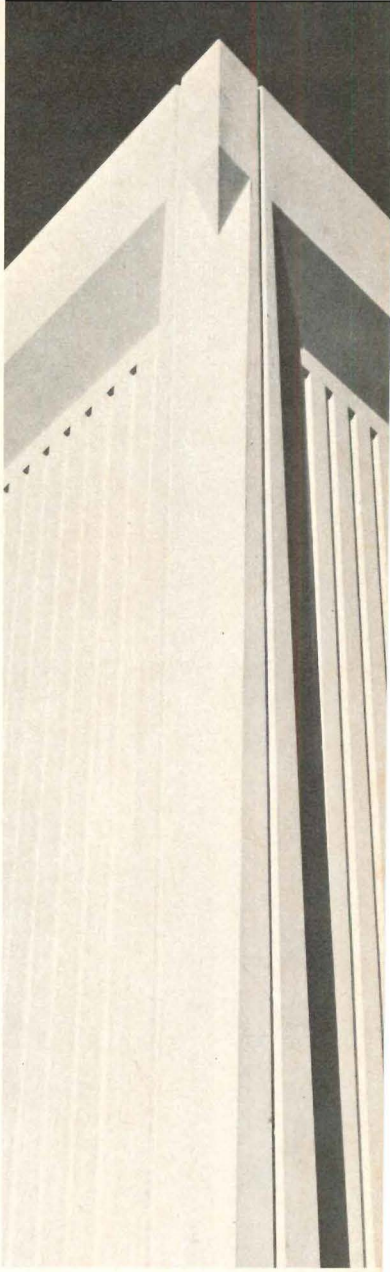
Inverted pyramid design prompts three corner solutions by Frank Grad. The column at the first floor is outside the building; it meets and supports the second floor and is divided into two loadbearing mullions at the third to preserve the integrity of the interior corner space.

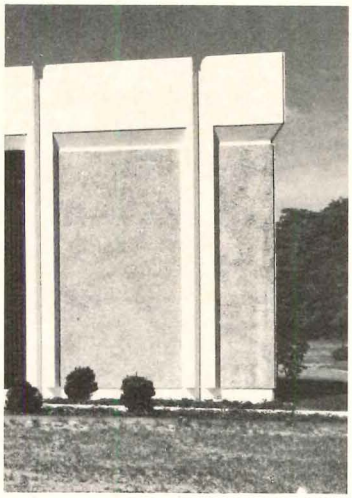
CONCRETE CORNERS

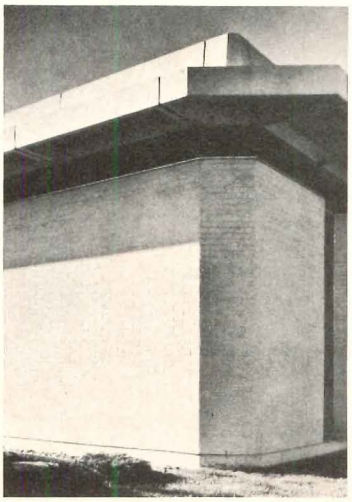
Loadbearing precast concrete corners return architecture to solutions analogous to the quoin and the buttress, since their reason for being is as apparent. The search for form in today's architecture has two directions in concrete: One is motivated by whim, resulting in the design of "cosmetic" corners; the other is dictated by structural logic, resulting in corner solutions whose reasons are obvious. Most corners are a little of both. Although there is little reason to discuss structure when the objective is ornament, there is every reason to discuss materials and methods of corner construction when the objective is a structural solution.

The corners of Frank Grad & Sons, as explained by chief designer Harry Mahler, are structurally derived. The aim is to arrive at the corner technically, as an architectural expression, rather than draw a form and then ask the structural engineer how to hold it up, maintains Mahler. "That would be an emotional process. If corners are intuitive, their logic in intuitive," he points out. He adds, however, that after you have gone through one or two analyses you begin to get a feeling for corner design. You know intuitively what impact there will be on the economics of the solution. This puts the architect in the unique position of having to possess a sense of structure, aesthetics, and technology without being master of any one of them. "Your brain is doing the same thing the computer is doing," Mahler points out.

The loadbearing precast concrete panel does not need any particular emphasis at the corner, since its bonding strength does not hold the building together but must only join to the adjacent panel. This corner need express no more than its ability to withstand dynamic loads. In a building that houses telephone equipment, for example, and which is fitted in a residential neighborhood, the building can be scaled down by chamfering the corner. In a university structure where the corner column does its traditional work of holding up its own weight and about one-quarter of the slab load (while the adjacent perimeter columns expend most of the energy), the corners can be cut back with its centroid removed to become an equal-legged L.







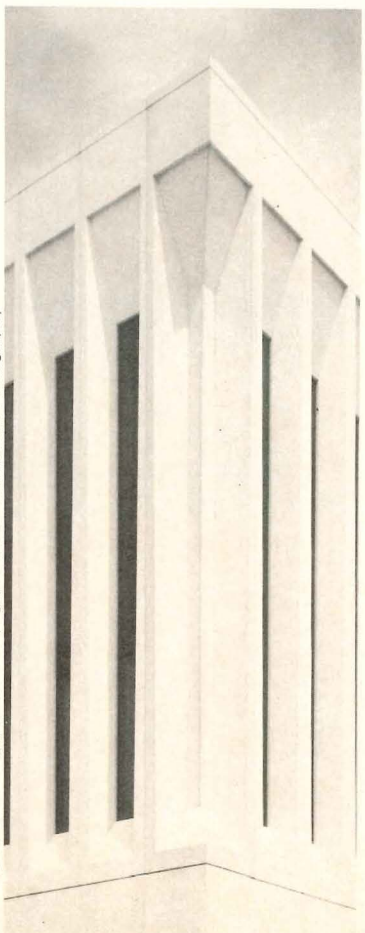


Photo: Gil Amiaga; others this page, Creative Commercial Photography

Four corner designs by Frank Grad that work to reduce scale. Three of these (photos far left and above) are telephone company buildings in residential areas; the fourth (left) is a university library.

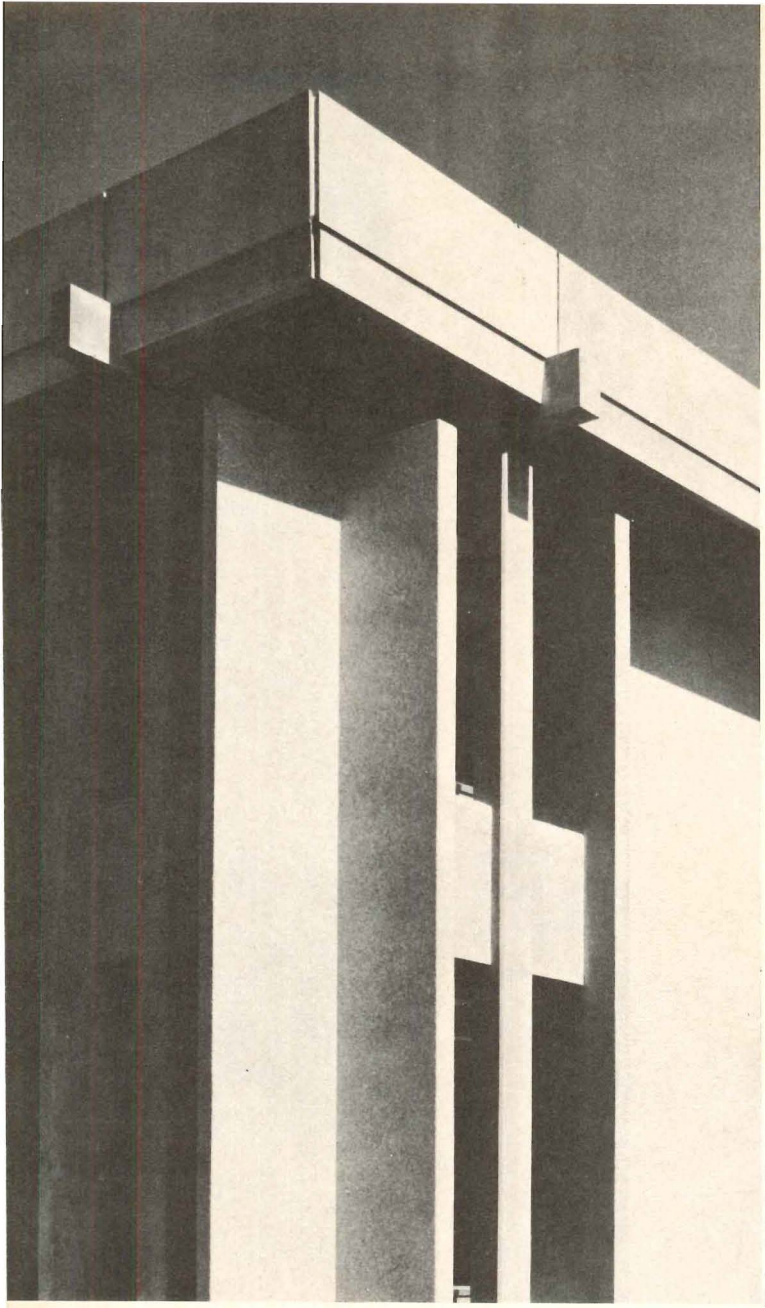
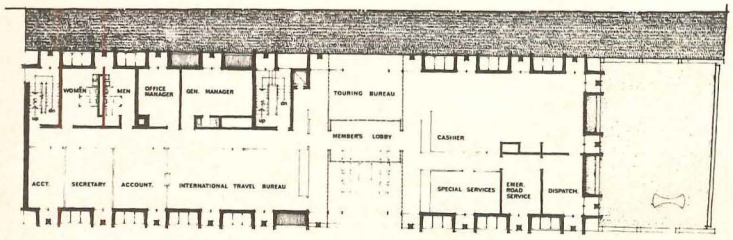


Photo: C.N. Pratt

Bolted precast slabs create a sculptural building corner, facilitate construction, and eliminate venetian blinds in Carl L. Blanchard Jr.'s Connecticut Motor Club in Hamden, Conn.



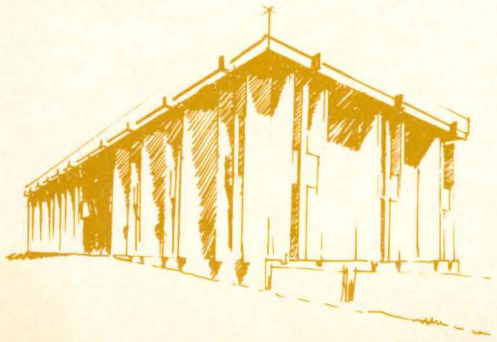


Photo: Orlando Cabanban

CORNERS AS LIGHT SOURCES

The most important aspect of the open building corner is letting light into the building. A master of this treatment is architect Gunnar Birkerts.

Birkerts uses the corner to get away from the "light hole": the window punched into the wall. He lights his walls instead — gradually, from their corner ends. "To me, space is nonexistent without light," comments Birkerts.

Light through a punched opening creates a tremendous contrast between the wall and the opening. But the wall flooded with light affords a diminishing contrast from the source, creating transitional areas of reflected wall light, eliminating the wall as a black frame for the light hole of the window.

The 90° corner is not difficult to use when you consider that, with one corner source, you can light two wall planes, points out Birkerts.

With the 90° corner, there is a special kind of view out. A column in the corner forces a choice of one side or the other; in reality, you do not have a corner view, maintains Birkerts.

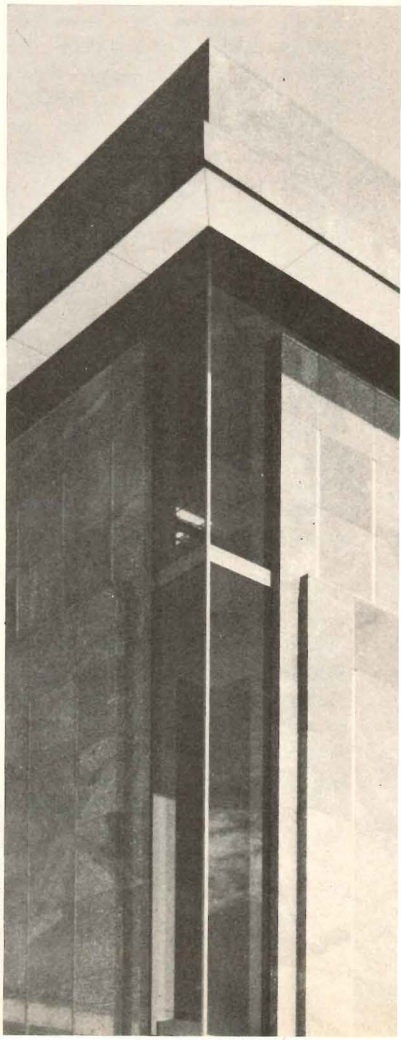


Photo: Lens-Art Photo

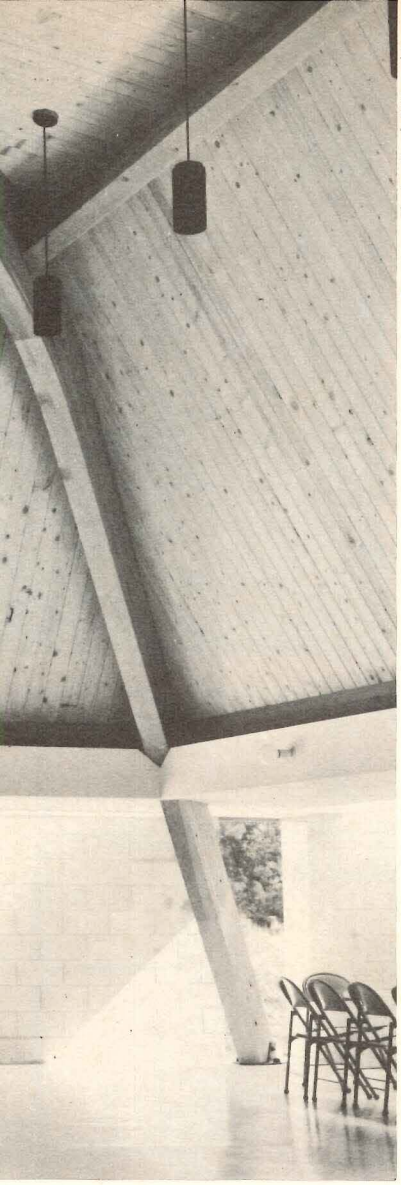
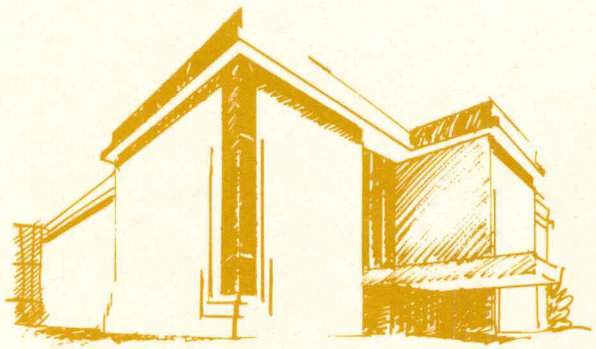


Photo: Paul Mitarachi

Light streams in through the perforated corners of Paul J. Mitarachi's Huntington Congregational Church near New Haven, Conn.



"The corner can now be opened without fear of structural limitations." In his Detroit Museum, Gunnar Birkerts brought the light in from the corners.

Corner windows light up the corners without sacrificing security in this small bank building in Birmingham, Mich., by Gunnar Birkerts.

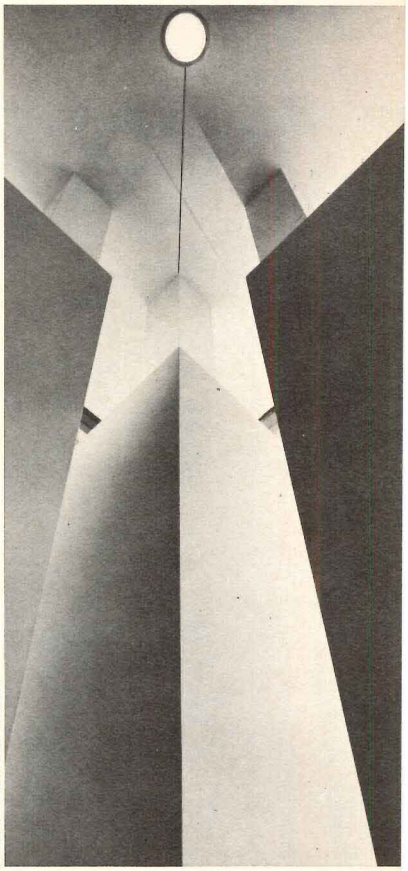
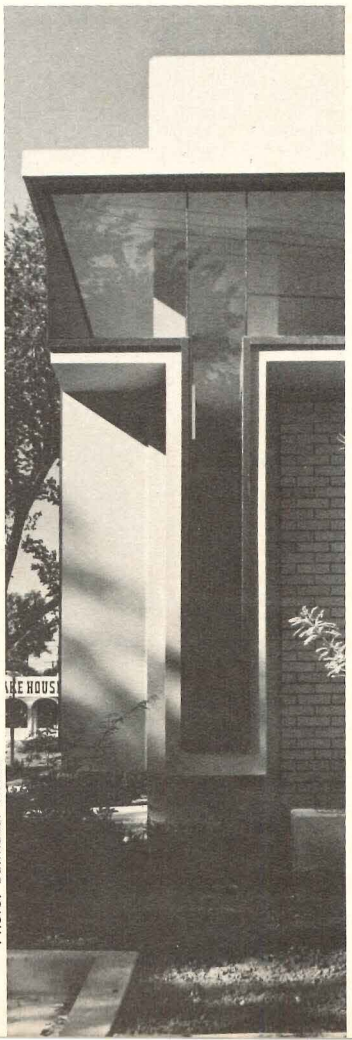


Photo: Balthazar Korab



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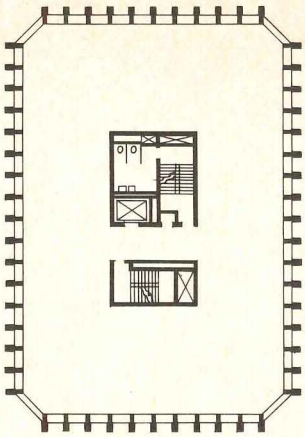
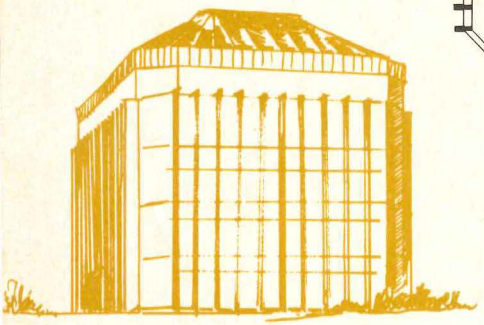
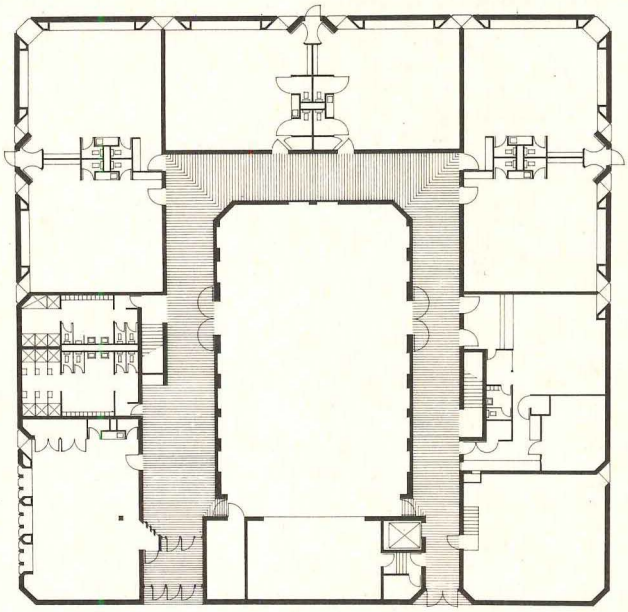
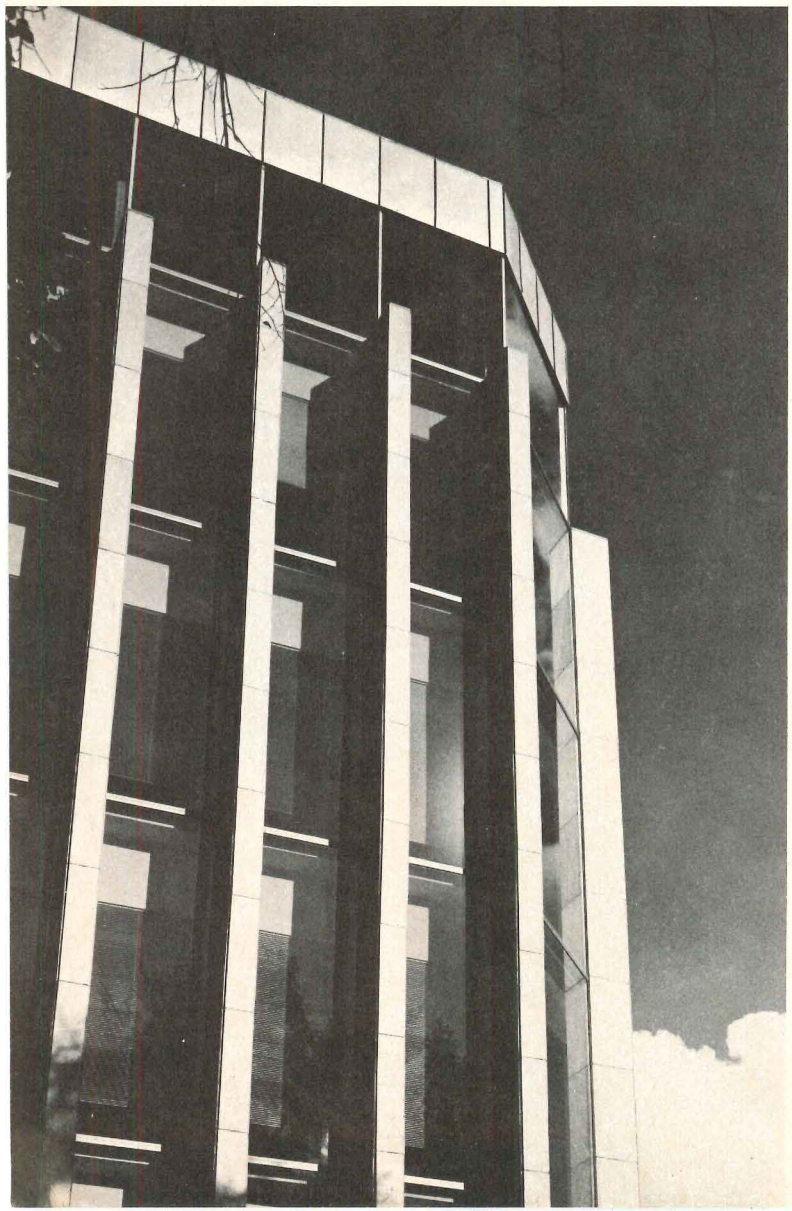


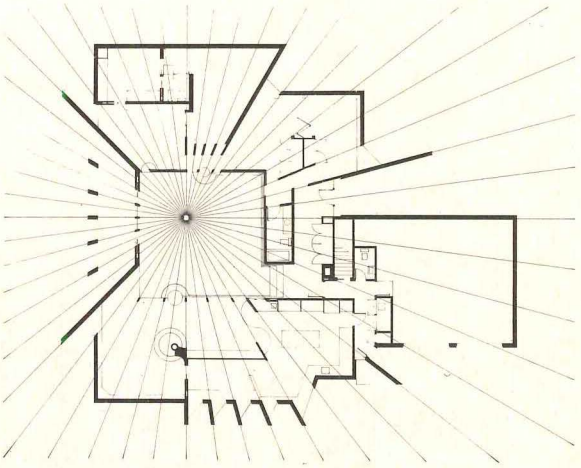


"This is a glass box with the floors pulled in," comments Gunnar Birkerts," not an opaque masonry building carved away, but, instead, a transparent structure with corners of light." The Fisher Administrative Center, Detroit, Mich.

Windows above a chamfered corner illuminate the adjacent interior walls and reflect the trees surrounding this elementary school in Columbus, Ind., by Gunnar Birkerts.







"Here we have a house with its corners destroyed," points out Gunnar Birkerts of house he designed in Grand Rapids, Mich. "Wall planes shoot through the walls to pick up outside light and bring it back into the house in diminishing gradation to eliminate the corner."

BOX CORNERS REDEFINED

Boldly defined corner elements create low-cost architecture in high-cost areas for architect Iver Lofving. He designs economically by using the corner for light and form.

The most economical building shape, according to Lofving, is a simply detailed and structured box. In such a situation, the best solution is to define building elements boldly, he claims. An effective way to do this is by projection and recession of corners. The corners also act as simple and economic braces.

Perforations in bearing walls have to be carefully considered in terms of lintel capacity and the degree to which the wall stability will be affected by them. Lofving treated all of the openings as bays with a regular rhythm on the façade. The corner bent braces the wall and provides recesses, some of which are large enough to use as separate rooms.

The building material forces differences in the technique, illustrated by the corners of the wooden building that are cantilevered, as befits a material with tensile strength and the corners of the concrete block structure in which the corners act as continuous piers.

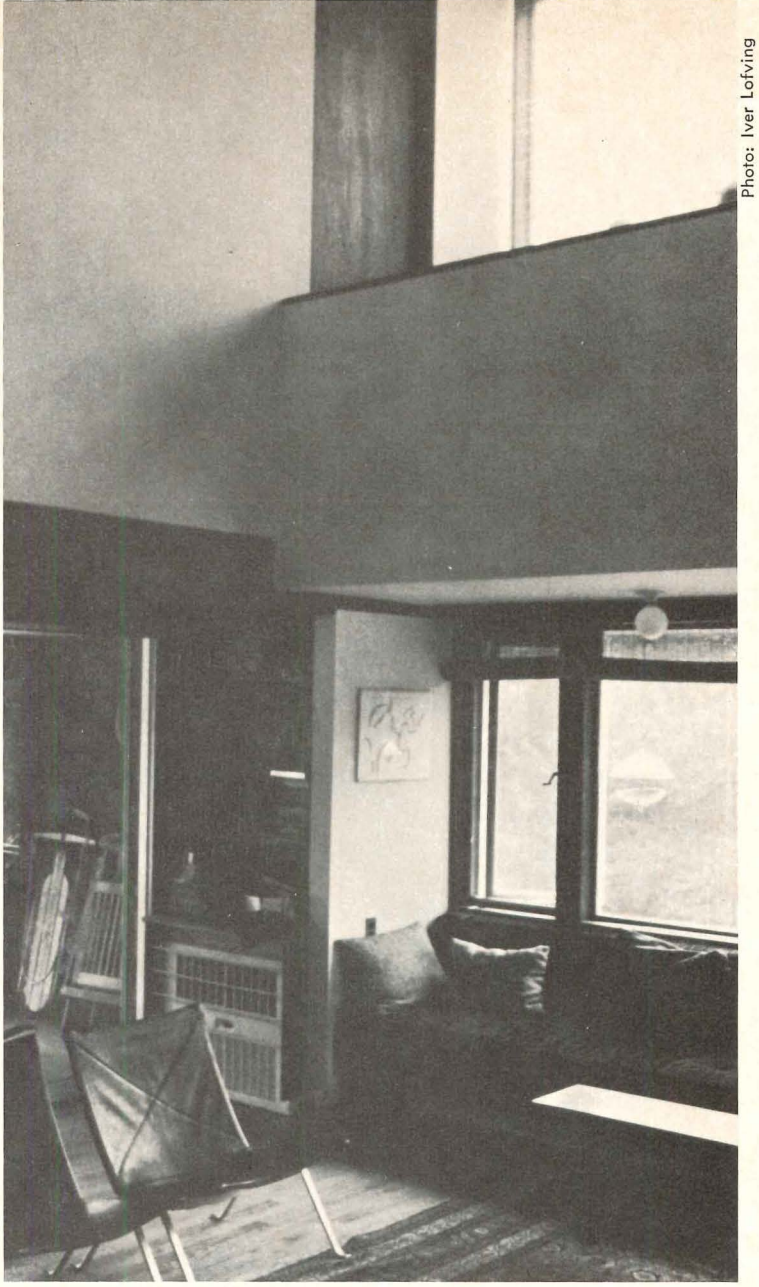
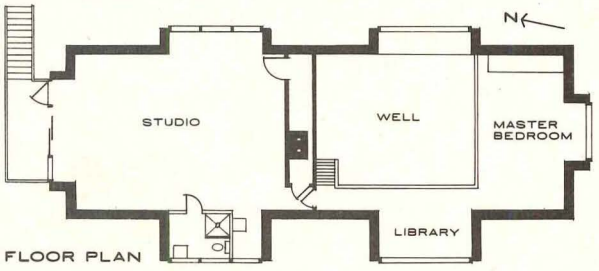
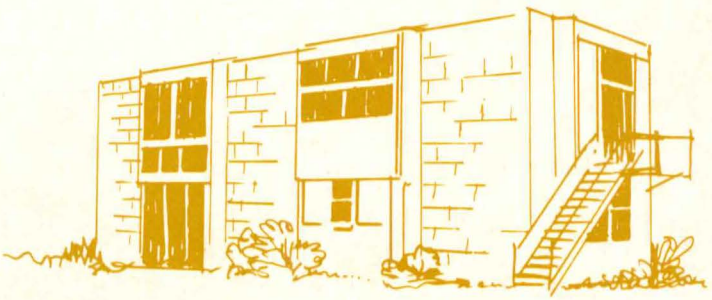


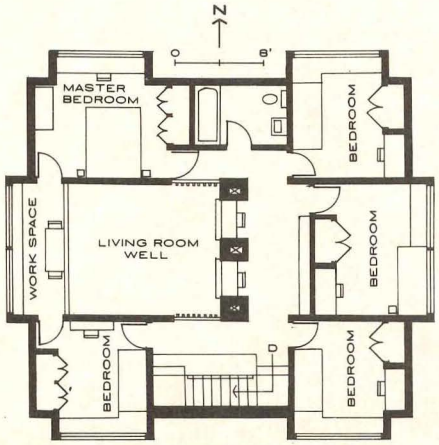
Photo: Iver Lofving

Alcoves and rooms created by introducing corners inside the traditional box perimeter by Iver Lofving. The cinder block house (below) is in Springs, L.I.; the shingled house (bottom left) is in Katonah, N.Y.



FLOOR PLAN





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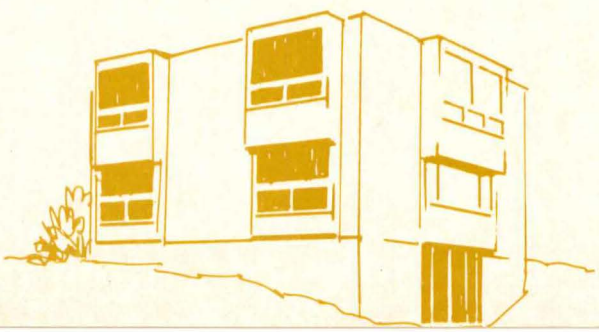


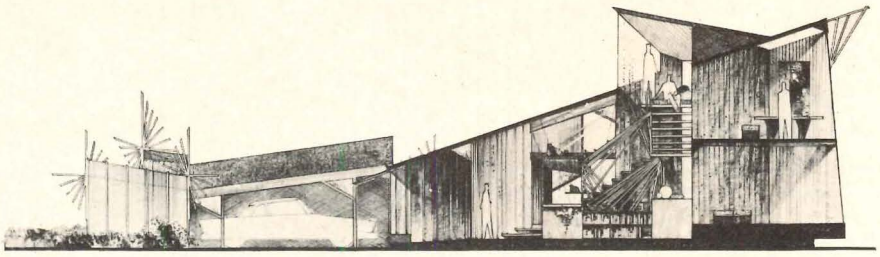
CORNERS IN THE CORTEX

When we come upon a group of corners outside of the usual geometric reference, it is helpful to look beyond traditional architecture for a frame of reference. The following remarks by architect Herb Greene help to explain his approach to the building and its corners:

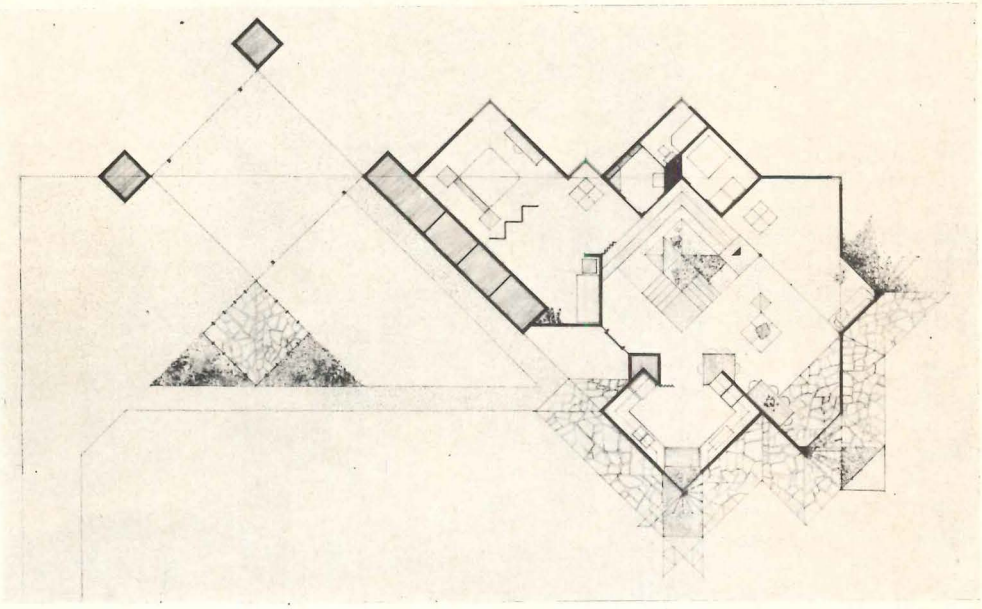
"For many architects, spheres, cubes, cones, and cylinders promote intellectual and psychological feelings of order, stability, and clarity out of all proportion to their real status in the world as determined by recent mathematical and physical science.

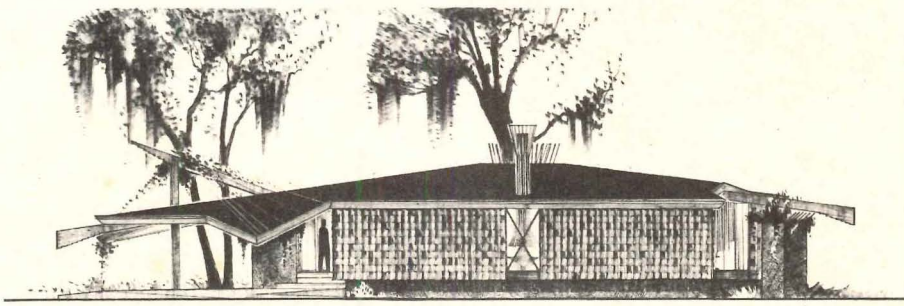
"One interesting characteristic of organisms that might inform us in dealing with architectural symbolism," continues Greene, "is the relative plasticity of organisms — their ability to change form, color, and various other characteristics. Current genetic theory attributes major changes in species to mutational processes. This aspect of nature should caution us against accepting forms as immutable ideal types."

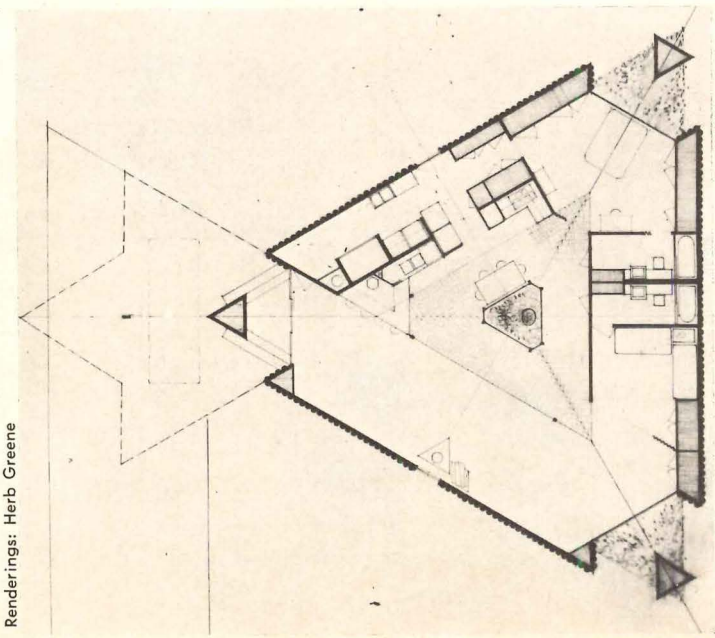
He speaks of the ability of certain parts of the cortex of the brain to record and store experiences subconsciously. Greene believes in the importance of creating in architecture the essence of regional and national forms, which, he says, must be preserved, for without "pressure from the environment" it is possible for original formal selective tendencies to atrophy."



Projected residence for the architect, to be located in Oklahoma, has west window corner as the main plastic event. (All houses this and facing page designed by architect Herb Greene.)



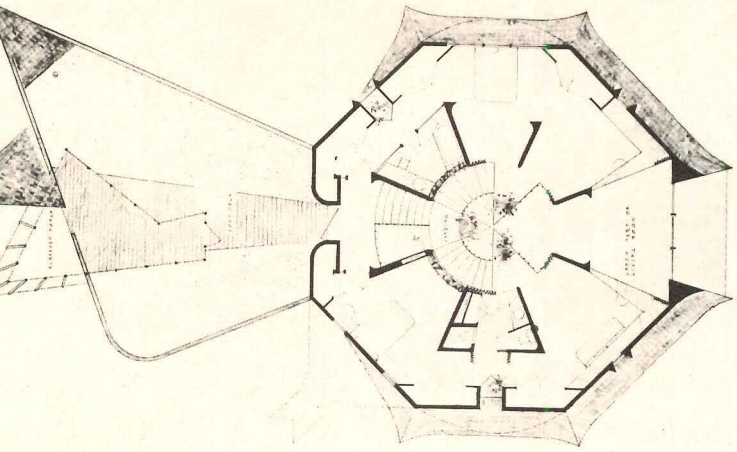




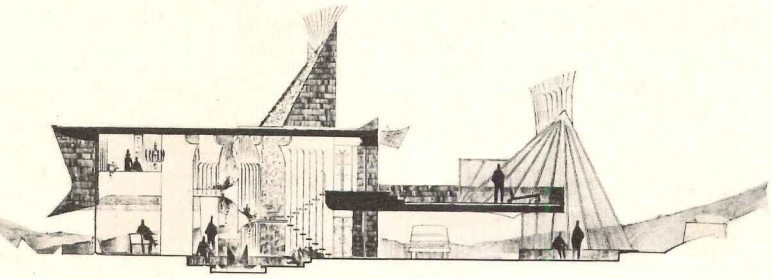
Truncating the corners of a triangle and filling them with glass creates the major openings of this Houston, Tex., residence.

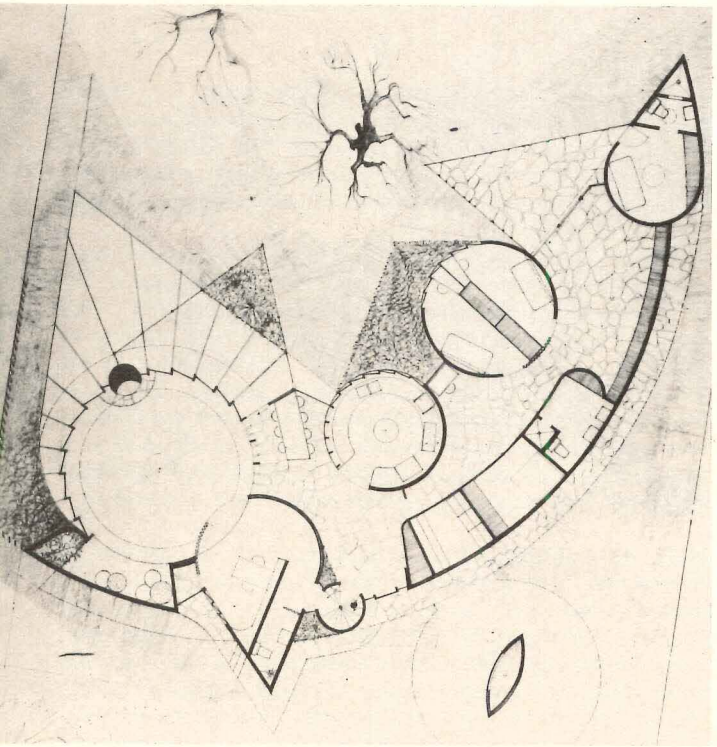
Psychiatrist's residence in Houston, Tex., has curved walls with projecting corners for a client who has an aversion to parallel walls.

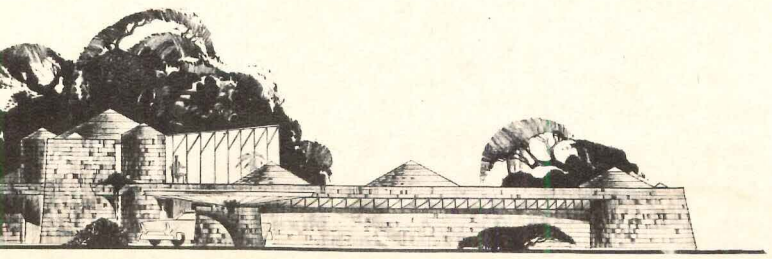
Renderings: Herb Greene

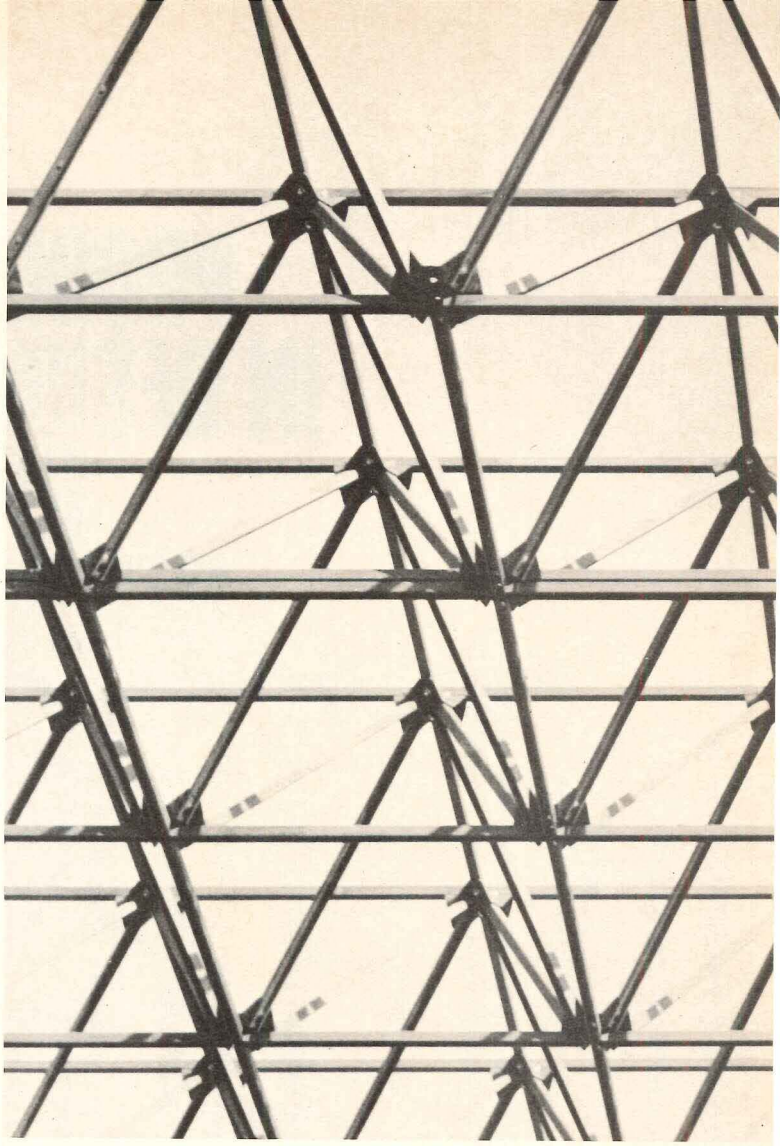


Site and interior planning result in a design of an all-corner or no-corner octagon in this Houston, Tex., residence.



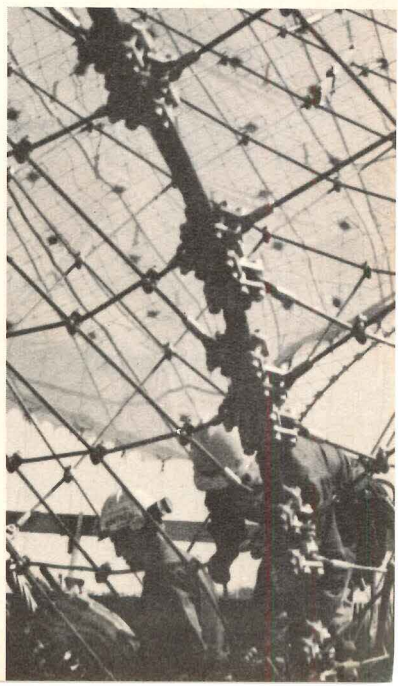






MOVING OR TEMPORARY CORNERS

With space structures, the corner becomes a flexible phenomenon, an anchorage with cables, a node of a space frame or the seam of a pneumatic structure. None are subservient to the precepts of classic structure, nor are they bound by environmental planning of spaces and have little frame of reference for the atavism of the cortex. They are technical corners of structures that may better reflect unconsciously, according to some architects, the aesthetic of our times than any conscious corner design. They are corners of structures that provide temporary boundaries of an environment that threatens at any moment to turn the corner from flexibility to disposability.



PROBLEMS IN DESIGN OF OFFICE INTERIORS

CORNERS

For the interior designer, planning corner office space is usually a complicated affair of balancing the requirements of structural and mechanical elements against the demands of the building's future occupants.

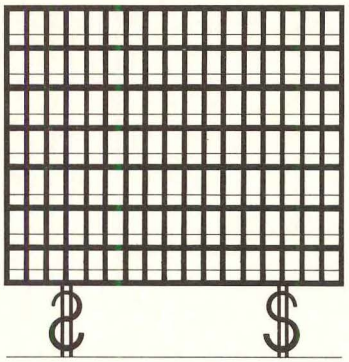
"Corners have always been the bane of my existence — bomb them!" . . . "Architects often seem to design corners with no thought of the spaces they will create inside, leaving the interior designer (and the building tenants) with spaces that are almost impossible to make 'useful.' " . . . "I generally worry **less** about corners than about interior office space, just because corners have more going for them to begin with."

The comments above, offered by designers experienced in office planning for both large and small firms in modern, curtain-walled buildings, are all reactions to the premise that, whatever considerations determined the architect's treatment of the building corner, his decisions automatically become the working limits for the interior designer, who, after all, is charged with the task of making sure that the building "works" for its occupants. And it is at the point where perimeter walls converge that the designer is most obviously forced to come to terms with the physical facts of the building. Any complexities of curtain wall design or of column treatment, variations in the building module, or difficulties in location of mechanical equipment will be intensified at the corner, making it a special area to deal with, one with conditions peculiar to it.

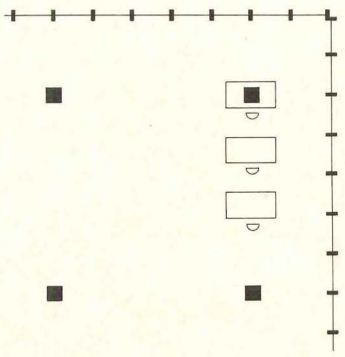
If corners sometimes tax the ingenuity of the architect, they often enough try the patience of the interior designer. "The problems of the column protruding into the room and HVAC convectors on two walls are almost insoluble," in the opinion of C. Roest, a New York designer. "Lighting is difficult. There is always too much light, so it is necessary to close out the view with curtains. Glass picks up heat, and it is therefore difficult to use anything but fluorescent lighting to avoid adding to the heat load. However, this is the very space that demands the quality of incandescent lighting. Of course, vertical blinds have helped, but they are still not a good solution to a bad architectural problem." Other designers feel less strongly: "Corners involve some decisions, but do not seem to me to create big problems. There's always the question of whether to mass all the curtains at the inner ends of the windows or to divide them, but I've always found that, since there is usually a column at the corner, it's best to soften or mask it by drawing some of the curtains toward the corner. HVAC convectors are getting smaller all the time, and are consequently becoming less of a problem," says Richard Craig of Welton Becket Associates.

COPING WITH COLUMNS

Buildings are often designed by the architect long before there is any thought of interior layouts, but sometimes the designer is called in on the early stages of a job. John King, vice-president in charge of the New York office of



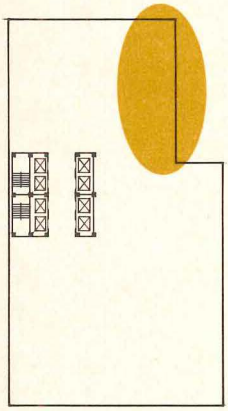
ISD Incorporated, which is affiliated with The Perkins & Will Partnership, notes, "If you have a good client with lots of money to spend, you should be able to get him to cantilever the building 15 ft both ways, thereby eliminating the problem of corner columns. But, unfortunately, the cost is usually too great." On the other hand, Lawrence Lerner of Saphier, Lerner & Schindler points out the difficulties inherent in the cantilevered façade: "If you are fortunate enough to have your columns on center, working in 8-ft offices, you are left at the ends with 4-ft islands in the middle of 8-ft offices. There's no justification for this kind of layout." According to John King, "Even when the interior designer is called upon in the early stages of a job, his advice is least likely to affect the corners. It may affect the spacing of interior columns or the dimensions of the building module, but usually no more than that. It's more efficient."

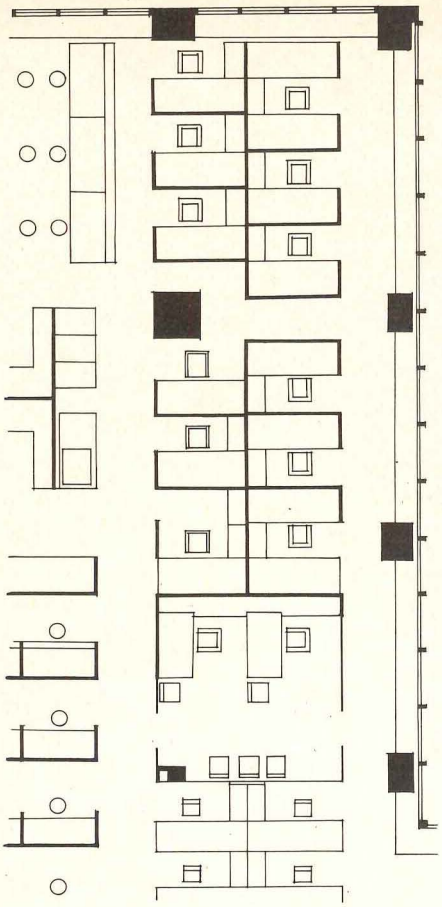


MASKING THE MODULE

Designers react differently to the necessity of dealing with pre-existing corner conditions. Maurice Mogulescu, president of Designs for Business, Inc., says, "I don't find corners creating any special problems except when, as happens often enough, the building module changes as it turns the corner. Occasionally, the module will change from, say 5 ft on one wall to 4'-2" on the intersecting wall. This makes designing a modular interior system quite difficult." The second part of Mogulescu's statement is echoed by Gerald Luss, of Luss-Kaplan Associates: "The corner condition normally states the problem in its worst light. What happens in most cases is that the designer must resort to masking of the interior periphery to camouflage the conditions evolved as a result of being unable to utilize the building module." There are, of course, several ways of avoiding the module, and at least as many reasons for doing so. Saphier, Lerner & Schindler's own offices, for example, were designed with a very specific need in mind. Says Larry Lerner, "We needed 14 offices that are 48 sq ft each. The building module was 4'-6", which gave us 9-ft offices. What we did was to give everyone the benefit of the windows and gave the corner space to the aisle." In another case, the design firm carried the idea much further. In working out a plan for a headquarters building for Litton Industries, which ostensibly has eight corners (see diagram), Lerner's firm chose to ignore the corners and treat them as if they were all interior spaces, because it felt encumbered by the limited flexibility that would have resulted from allocating each corner to a particular executive. "The building on the outside was an arbitrary design to match an existing façade. We covered up windows so that no more than one window wall is visible in any office. We have ignored the shape of the building and set up a completely isolated modular system." Faced with the problem of arranging office space for 60 men on one floor(in an office building for a large, West Coast real estate firm), Saphier, Lerner & Schindler rejected the obvious solution of putting the men in rows of cubicles; instead, they again ignored the module of the building and came up with "a little street plan with plazas and alleyways." Every office has more than one inside corner.

Marvin Affrime, director of the Space Design Group, says that his firm often uses exterior corridors to get an expanse of space at the perimeter of the building to get away from the three-window module of the usual office. Although most designers feel that clients are not willing to accept such a use of "prime" space, Affrime asserts that, despite clients' tendency to question, "once they understand what we're trying to do, they accept it. All the workers should be able to take advantage of the openness at some point. So if we point out to the top executives the importance of caring about working conditions for *all* their employees, the executives can hardly oppose us. They usually take up the idea as being their own."





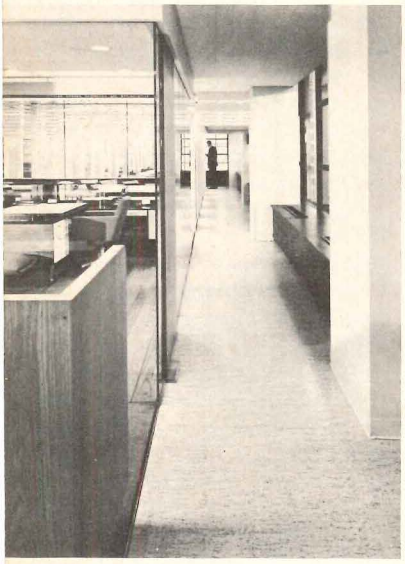


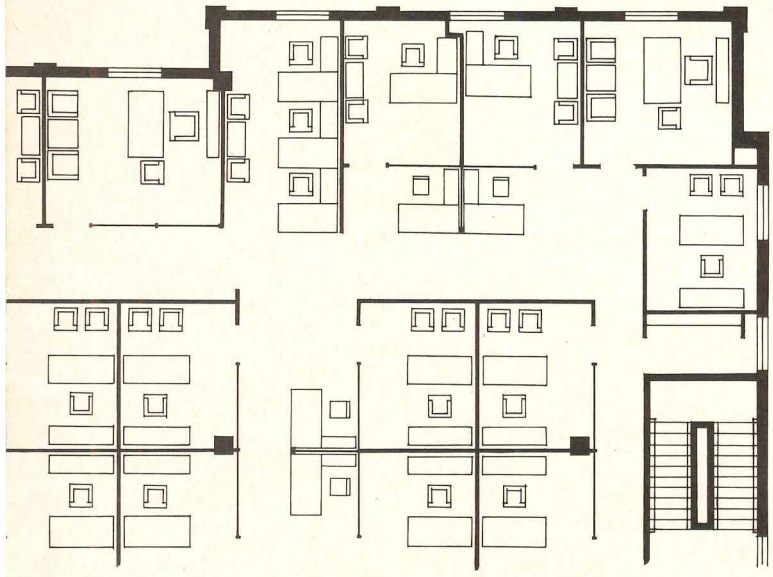
Photo: Bernard Liebman

Saphier, Lerner, Schindler, Inc., designed corridor along window walls of the firm's own offices on Madison Avenue, New York City.

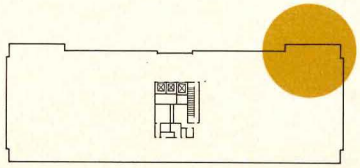
REINFORCING A DESIGN IDEA

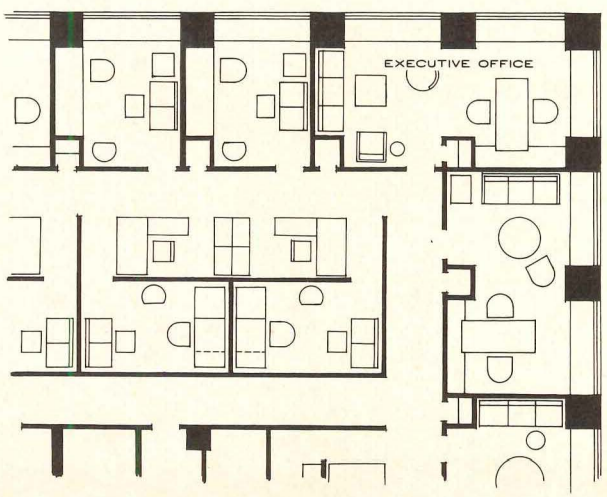
Designing the offices of an advertising agency on Madison Avenue, the Space Design Group chose not to conceal or ignore the building's structure. Here, they took the opposite tack and reinforced the effects of the structure itself and of the conditions it imposed.

"Every building has its key — its particular module, shape, or structure — that should be the jumping-off point for the interior treatment. Once you've found that, you shouldn't fight it," Affrime cautions. "In this particular building, which had large, rectangular exterior columns, we repeated the column module inside the building. We actually created interior columns where there were none in order to emphasize the column and the module. We wouldn't think of putting curtains on these corners or on any of the columns, for they would mitigate the effect, which we chose to bring out, rather than minimize. The interior columns we created were used for files, closets, and other kinds of storage. We even decided to emphasize the importance of the HVAC convectors in the rooms; they were treated as cabinets and painted with two colors — black on top and white on the sides, or vice versa. Storage cabinets opposite convectors on interior walls were given the same treatment so that their modular design 'reads' quite strongly. We were even able to build a couch into the wall without destroying the modular feeling."



Saphier, Lerner, Schindler, Inc., ignored the eight corners of a new West Coast office building that was designed to match an existing, Georgian façade next door. Some windows are covered, so that no office has more than one window wall.





CORNERS WITH QUIRKS

The key to some buildings is not immediately obvious to clients who propose to rent space in them, and the interior designer is hard put to it to settle on a satisfactory means of utilizing corner spaces. Some of the newer structures pose unusual problems either because of architects concern with aesthetics or because of the necessity, in many cities, to conform to allowable floor area ratios established for the building's site. Structural considerations, too, can end up as real problems for the interior designer when the building is ready for occupancy. In the John Hancock Building, now under construction in Chicago, exposed diagonal cross-bracing rises from columns approximately 20 ft from the window on one side and 32 ft on the other side. The beams cut across window area and are especially overpowering at the corners, where their size makes corner columns appear triple their actual size. "This kind of design seriously limits the choice of the interior designer," as John King points out. "You can't enclose a space like that in an executive office, for example."

The First National Bank Building, also in Chicago, presents another difficulty. Projecting elevator cores at both ends of the building form corner spaces too narrow to be used either as spacious executive offices or as open office areas. In Boston, two new buildings with similar names offer still more unusual shapes for the designer's imagination to cope with. The First National Bank Building, which has a façade that projects 30 ft above the fifth story, corner columns just below the bulge are so swollen in size that it is impossible to put anything in corner spaces except closets or conference rooms where visual display equipment is likely to demand darkness. And Boston's version of the John Hancock, an elongated rhomboid with notched ends, will possibly require the same kind of treatment that was given to Harrison & Abramovitz's Phoenix Mutual Life building in Hartford. There, corners were eliminated except at the ends, where walls converge in a narrow point. End spaces house open office functions, training rooms, cafeteria, and some conference rooms. They did, however, demand some special handling in a number of cases. Special partitions and curtains were used to shut out bright sun where the ends of the building

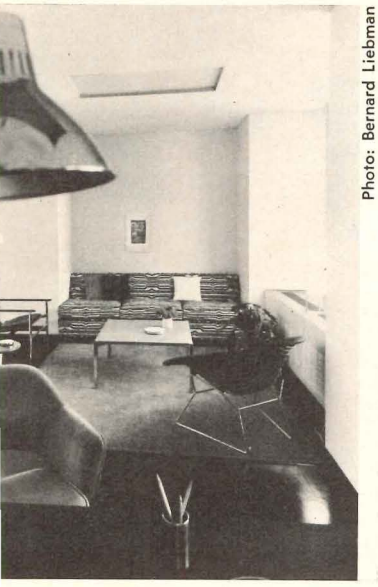
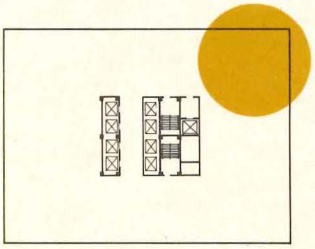
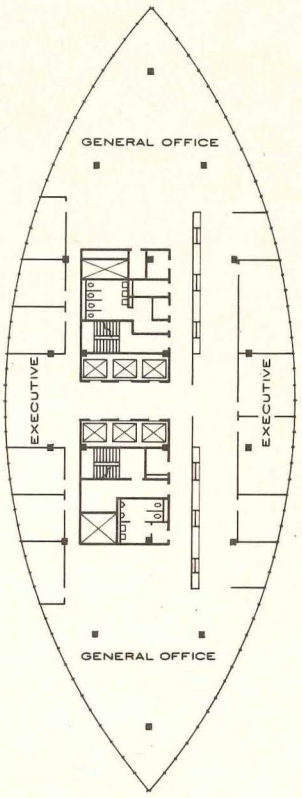


Photo: Bernard Liebman

Offices at 437 Madison Avenue, New York City, were designed by Marvin Affrime of the Space Design Group to emphasize building module instead of masking structural and mechanical elements. Building was designed by Emery Roth & Sons.





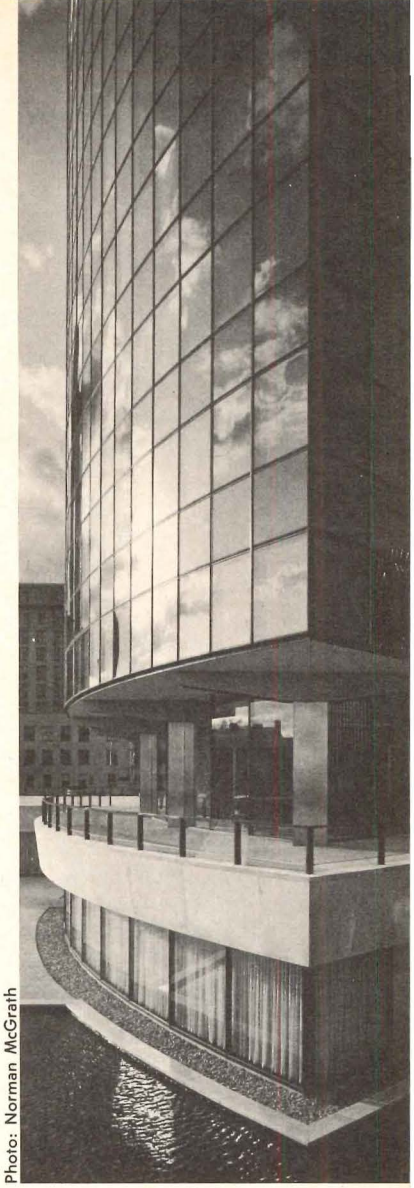


Photo: Norman McGrath

Photos: Joseph W. Molitor

Boat-shaped office building, designed by Harrison & Abramovitz for Phoenix Mutual Life Insurance Company of Hartford, Conn., devotes most of the end space to open office areas, (above) but training area and some conference rooms require a masking of corner views.

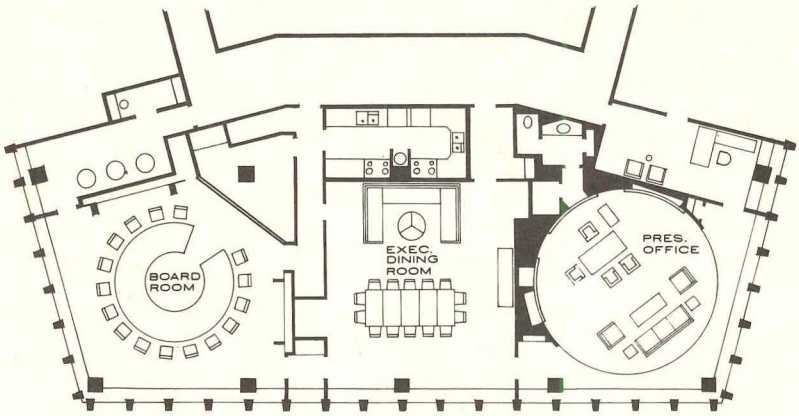
Photo: Bernard Liebman

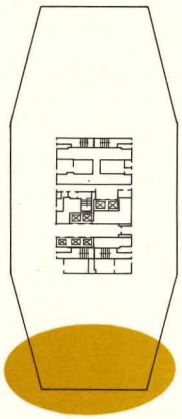
Photo: Bernard Liebman

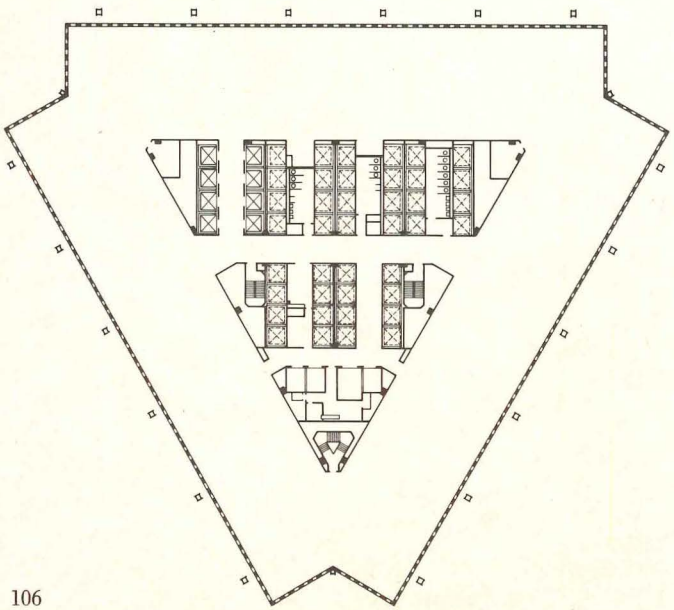
Corner offices in the Pan Am Building, New York City, were treated by Marvin Affrime of the Space Design Group as circles inscribed in a pentagon. Architects were Emery Roth & Sons, with Walter Gropius and Pietro Belluschi as consultant. Offices for Kenyon & Eckhard, Inc. (left); offices for Scripps-Howard Newspapers (right).

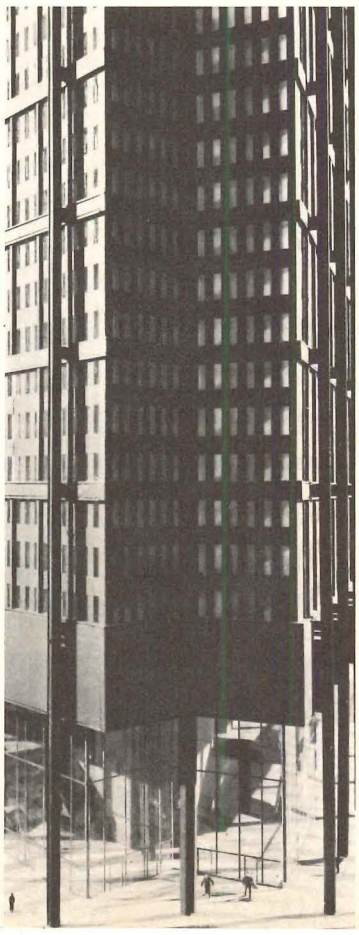
were given over to conference areas.

Marvin Affrime, who designed space on several floors of the Pan Am Building, found a good solution for the three-sided "corner" problem there. He created pentagonal offices at the corners, within which he, in effect, inscribed a circle. Cabinetwork on interior walls prevented the space outside the circle from going to waste, and the shape of the building allowed doors to corner offices to be placed at the sides, rather than directly opposite window areas. This arrangement enabled the desk to face the view without having visitors enter the office from behind the desk.





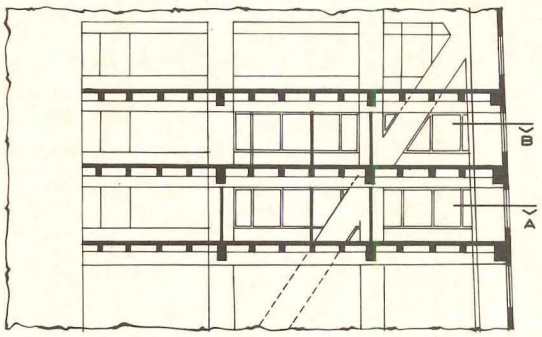




The obvious difficulties of designing a triangular building are apparently overcome in the U.S. Steel Building, Pittsburgh, Pa., by Harrison & Abramovitz. Exterior columns do not obstruct corner views, and notches at apices are deep enough to accommodate private offices.

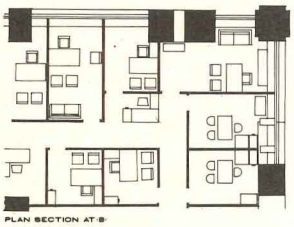
PUTTING PEOPLE IN THEIR PLACE

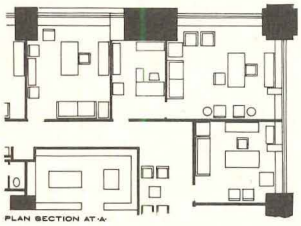
"The first consideration about corners is that they have been sold down the river as status symbols, and therefore you immediately get involved in interior juxtaposition problems. The essential person has to be located in the corner, yet he also has to be among the members of his staff." Larry Lerner thus forcefully summarizes the situation as it has been traditionally accepted. Access to the corner office can be a problem, although designers offer a wide range of views as to its importance. It is not always possible to bring visitors into the corner executive office from the sides, as Affrime did in the Pan Am Building. But, as Richard Craig notes, "Executives usually have a secretary or receptionist who must be located near them; that means you can design access to the corner office through a secretarial space. A small outer room serves as entry. Ordinarily," he continues, "it makes sense to put the executives in corner offices, because it makes more sense to have one person cross the space occupied by one hundred people (in open office areas) than it does to have the hundred people crossing the space belonging to one person."

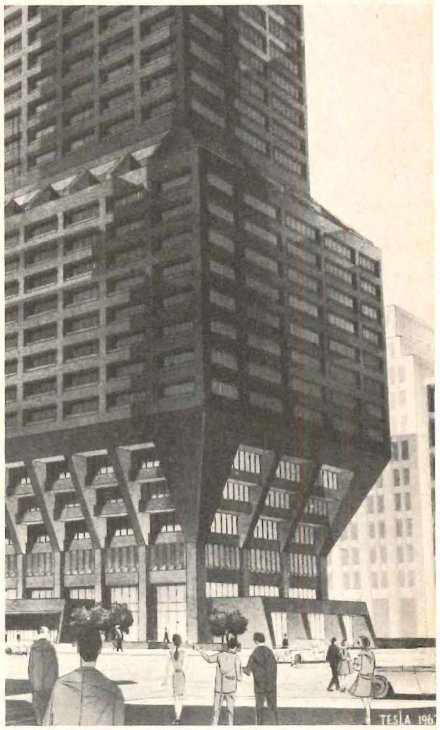


PARTIAL SECTION

Cross-bracing of John Hancock Building, Chicago, Ill., by Skidmore, Owings & Merrill, interferes strongly with interior treatment of window walls. Since bracing begins several feet in from corner column, corner views are spoiled.


PLAN SECTION AT B


PLAN SECTION AT A



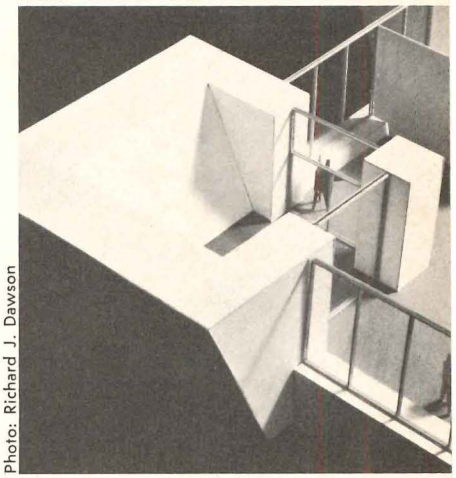
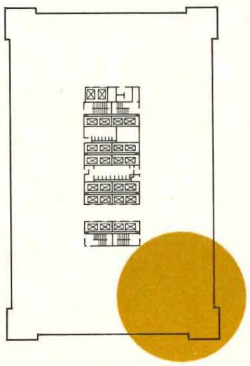
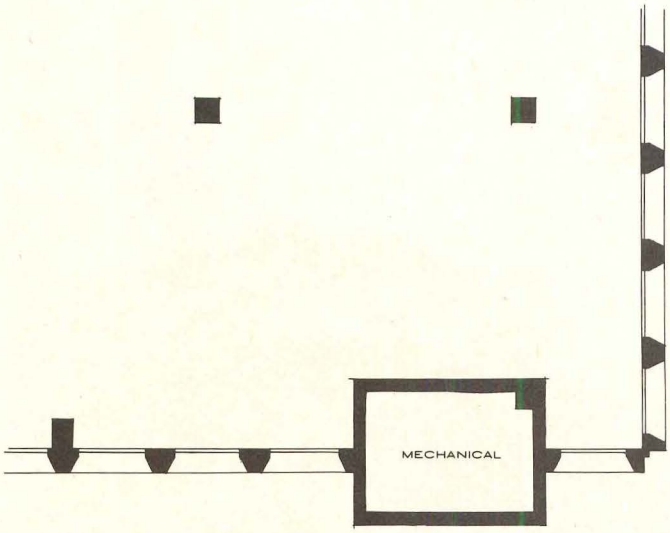
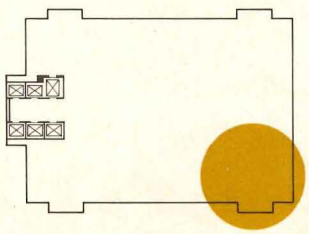


Photo: Richard J. Dawson

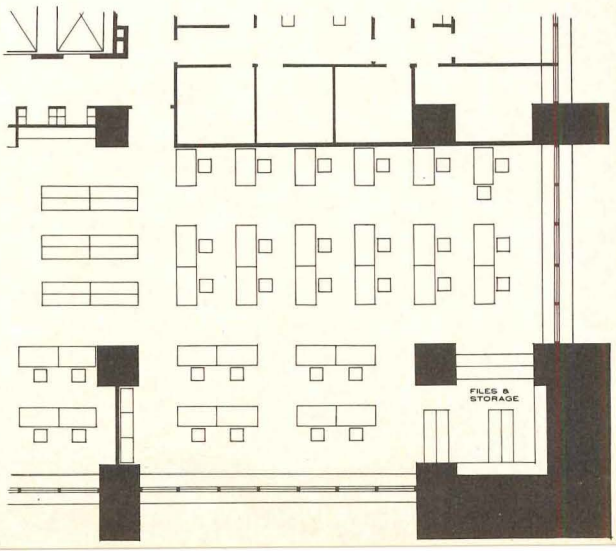


Prime office space in the First National Bank Building, by Campbell, Aldrich & Nulty, now under construction in Boston, Mass., goes to closets instead of managerial personnel. Huge corner columns make space unusable for other than storage or conference areas.





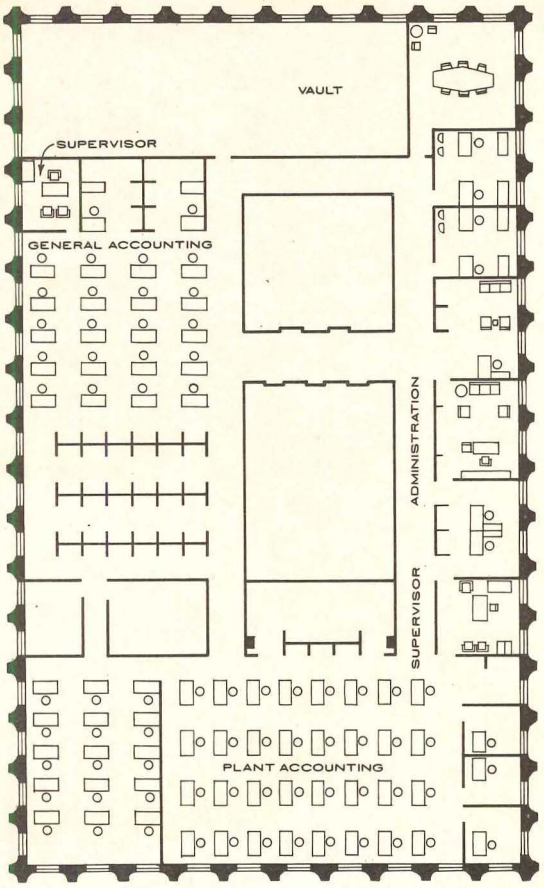
Worthington Building, by architects Erhart, Eichenbaum, Rauch & Blass. Little Rock, Ark. Corner columns and location of mechanical equipment seriously limit possibilities for use of corner spaces.



CORPORATE CORNERS: EXECUTIVES ONLY?

Is it really necessary to put top executives in corner offices? Does the client always insist on it? Although it is considered *de rigeur* to do so, many designers find other arrangements more efficient, depending on the requirements of the organization they must accommodate, or on the location of mechanical cores within the building. Wilson Office Furniture, a firm that also provides design services, promotes the idea of giving the ordinarily deeper spaces at the ends of a building to open office space, and relegating the executives to the narrower band of space on the long side of the building. The firm stresses the importance of having receptionists situated near the elevators immediately between the point where visitors enter the floor and their destination — usually the offices of executives. Larry Lerner and Marvin Affrime agree that it is no longer particularly difficult to get clients to accept alternate locations for top executives. "Top level executives are dedicated to the practice of delegation of authority. Before they hire an expert of any kind, they have to be satisfied that he is the best in his field. If they are going to be consistent as executives, they have to honor the consultant's recommendations," says Lerner. "Clients don't really come to us anymore with preconceived notions," Affrime affirms. "They expect us to do the job for them; they rely on our professional competence and will accept our judgment if we can justify our decisions."

"Given the shape (an elongated rectangle) and the placement of the mechanical core that existed in a building at 909 Third Avenue for which we designed nine floors, it made more sense to put the executives in the end spaces, directly accessible from the core. The space is more commanding than the corners, in this case," Affrime explains. "This way, we were able to give the executives bigger offices in suites." Lerner describes a building for the Hess Company in Woodbridge, N.J., where prime space is occupied by mechanical equipment and the executives are located on the ground floor. The building is on a hillside, so that, normally, executives would demand space on the top floors where there is a view. But the designers gave them private, ground-floor plazas as compensation, and reserved the "prestige" space for a separate air-conditioning system needed for the company's computer.



Proposal by Wilson Office Furniture, a firm that offers interior design services, suggests that more commodious end spaces be used for open office areas, long sides of building be divided into executive offices.

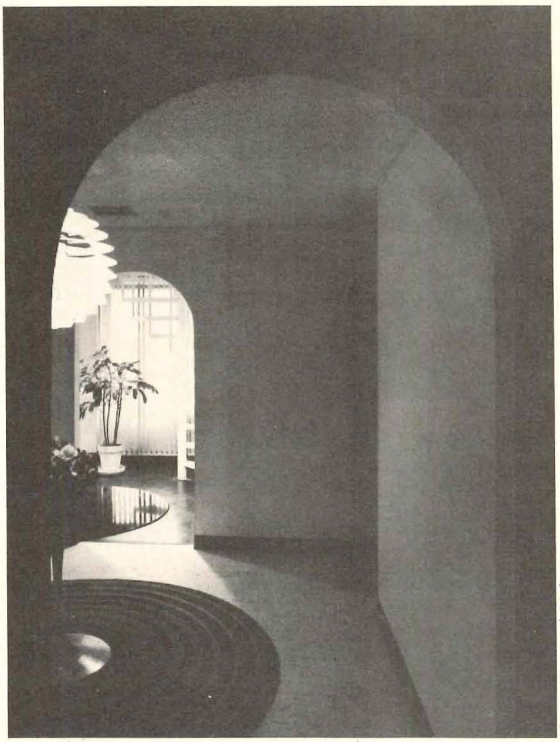
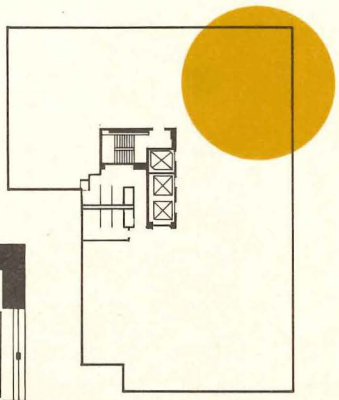
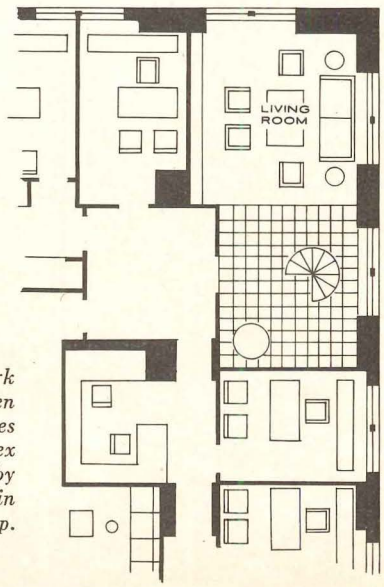
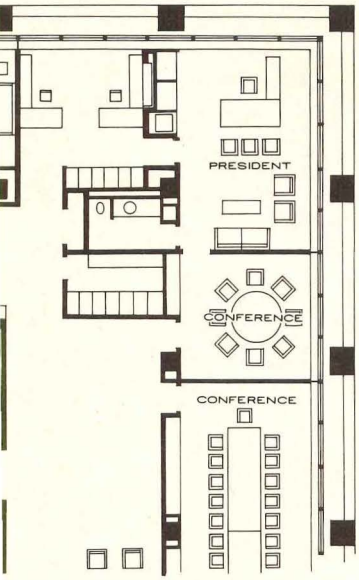


Photo: Bernard Liebman

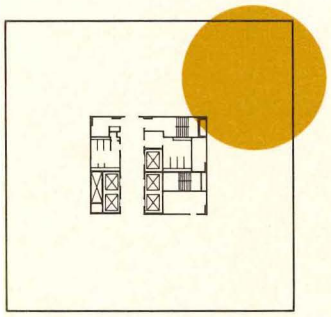




Jack Tinker & Partners, a New York City advertising agency, let open "living rooms" occupy corner spaces on two floors. Stair produces a duplex effect; living rooms may be used by all employees. Design is by Marvin Affrime of the Space Design Group.



Designing for the Hess Company, Woodbridge, N.J., Saphier, Lerner, Schindler, Inc., put executives on the ground floor, gave them open plazas as compensation for the view they would have had on a higher floor. Building design is by Frank Grad & Sons.



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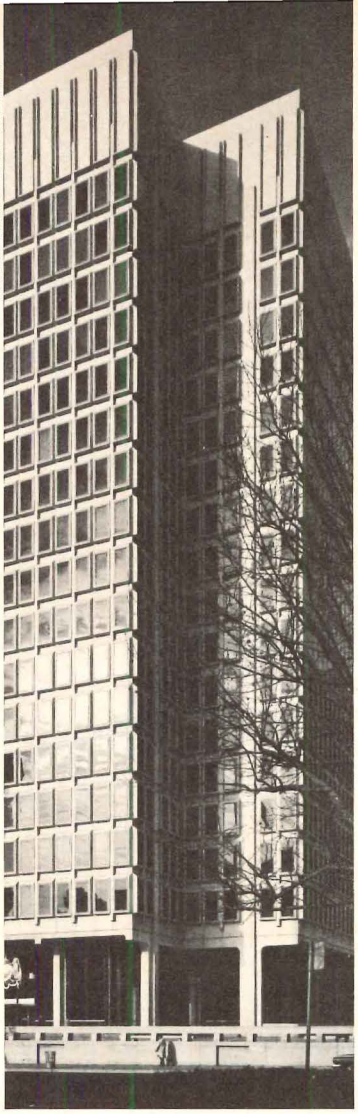
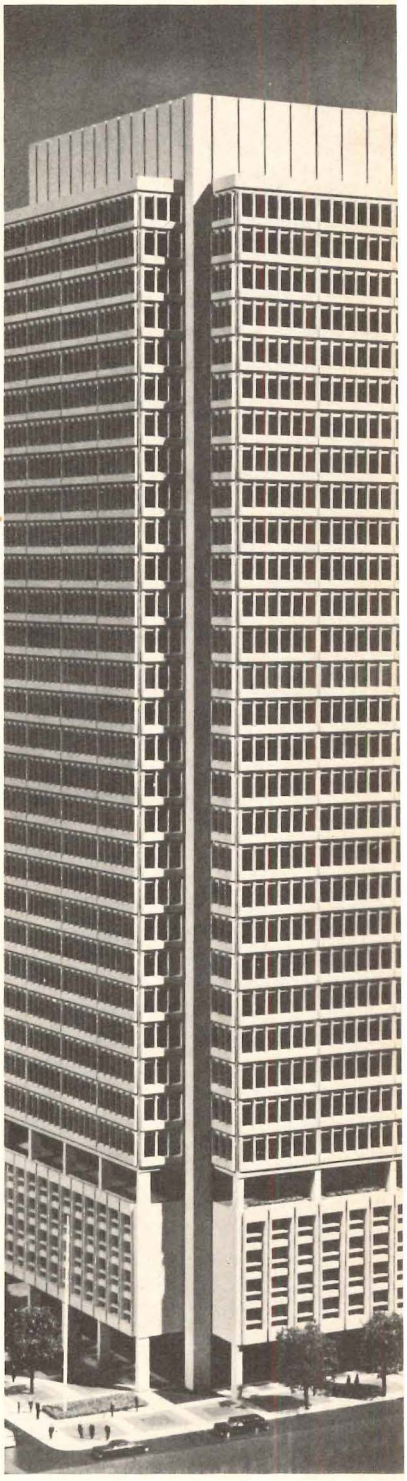
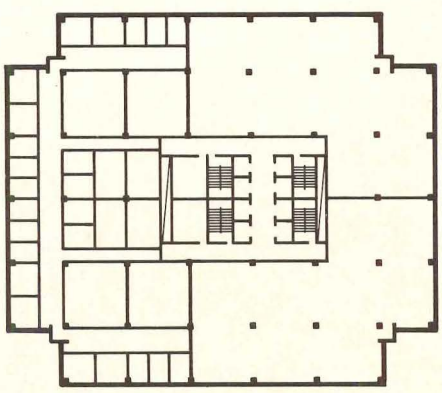


Eight-cornered office buildings help solve problems of status-conscious clients, but can complicate interior communication. Municipal Services Building, Philadelphia, Pa., by Vincent Kling & Associates.

MULTICORNERED BUILDINGS: A FAILURE TO COMMUNICATE

If the architect knows he is designing for a firm that prefers corner locations for its executives, he can do a basic design that has more than four corners on each floor. "This can help solve the status problem, but may create aesthetic or economic problems," comments Lerner. He continues, "On the inside, an eight-cornered building immediately causes communications problems. If this is to be a cohesive management group, although the executives are physically juxtaposed, they are farther apart from each other than they would be if they were situated in a straight row of offices. Rockefeller Center and the new Embarcadero Center in San Francisco have conditions like this." Another way to emphasize the corner, both from the exterior and the interior, is to rotate the plan 20° on each floor. Although it intrigues Larry Lerner, primarily because it frees the design from a tubular appearance and gives a three-dimensional character to the corner space, he points out that it becomes a problem of cost and complicates the requirements for laying out office space. "Each floor is an original plan, and if you want a connecting stairway, you have to design it outside the building. The problem immediately becomes one of vertical circulation."





Secretarial corridor connects offices in the design for 1700 Market Street, Philadelphia, Pa., by Charles Luckman Associates.

ENVIRONMENTAL ADVANTAGES

Why are executives attracted to corner offices? What gives them the status they still, to a great degree, enjoy? They are, after all, special environments, both from the point of view of human preferences and from the standpoint of physical planning. "In New York," says Louis Beale, a vice-president of ISD, Inc., "the corner is more than a status symbol. Most people in Manhattan live either on the north or the south side of a building, so the advantage that a corner offers of a two-directional view — of being able to watch nature's elements — is truly important to people. It's an interesting idea to put all working spaces on the interior and leave the perimeters for circulation, but, sociologically, it's wrong. People should be able to *work* in the better environment. And the poorer paid should have the compensation of light and air that the corner offices afford. Unfortunately, the top management usually gets first choice. These people prefer corners for the security and privacy they offer," he adds.

"Corners are cul-de-sacs," Marvin Affrime remarks. "They tend to concentrate activities. They are out of the way of traffic, and so might best be used for functions that are self-sufficient, and do not demand the participation of people located in interior spaces." "Corners are psychologically important because of their windows," Beale believes, "and therefore the feeling of expansiveness should be played up. Corner columns, of course, interrupt the view, but exterior columns at the corner tend to defeat the purpose of the corner. They create a more obtuse angle of vision from the inside, so that the effect of a single expanse is lost. Architects haven't thought enough about corners; they don't make enough fuss over them. They overlook the potential of the space and play it down, as if it were an embarrassment that should be made as inconspicuous as possible," he feels. "Interior designers have ignored the possibilities of corners, too. Could the entire layout of the floor be oriented to the corner, with the corner itself taking on the characteristics of the prow of a ship? This kind of design would really emphasize the feeling of proximity to the elements."

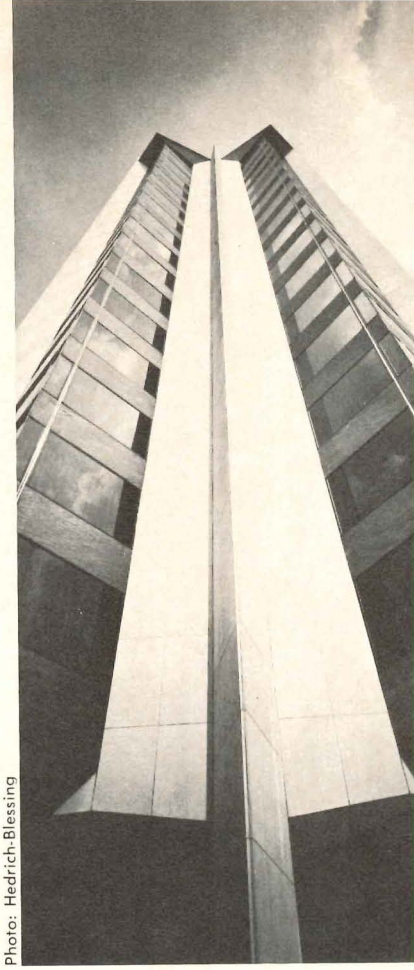
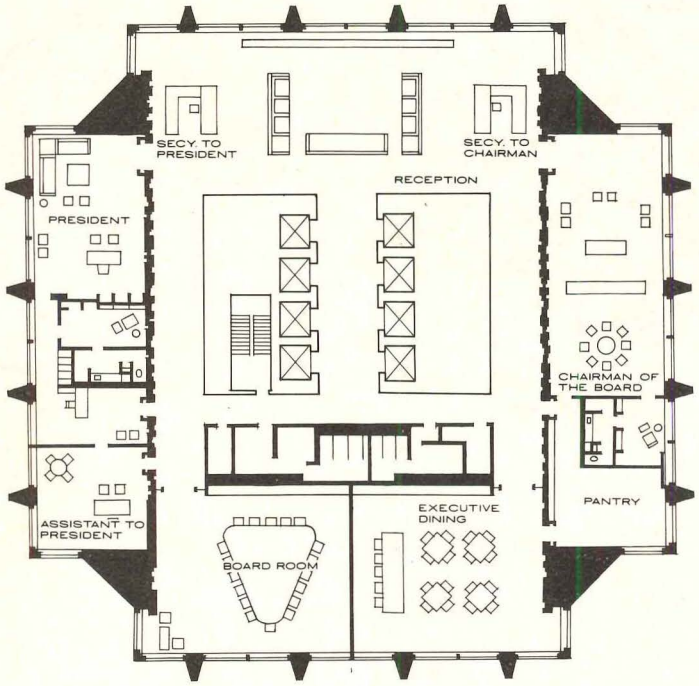
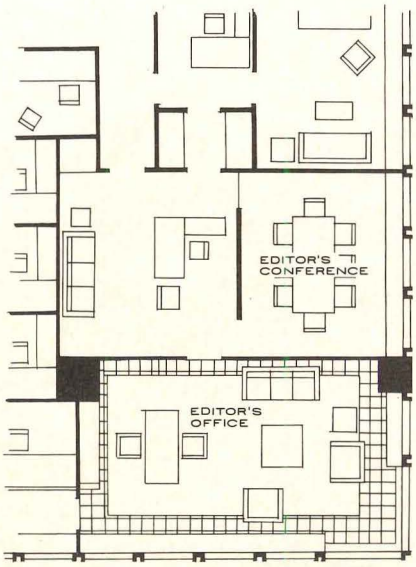
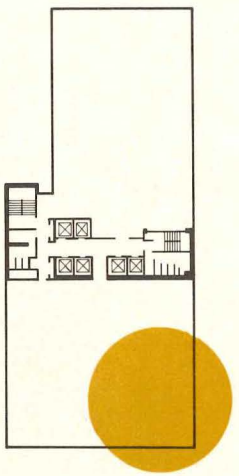


Photo: Hedrich-Blessing



Designer Philip Gabriel of ISD, Inc., evolved a solution to the problem of projecting corner columns in the U.S. Gypsum Building, Chicago Ill., for a project developed while he was a student at Pratt Institute.





Editor of Philadelphia Magazine, *Philadelphia, Pa., has floor-to-ceiling view interrupted only slightly by corner column. Space at window wall is turned into an observation deck, complete with telescope, by Marvin Affrime, Space Design Group of New York. Architects are Marvin Bornfriend & Associates.*

INNER ORIENTATION

A variety of opinions and suggestions have been offered on the best way to deal with placement of furniture, with lighting, and with ventilation in corner offices. Richard Craig has found that "50 per cent of the executives who occupy corner offices want to be seated with their backs to an outside wall." Of course, this is one way to avoid the difficulties of arranging furniture in front of HVAC convectors. "But," Craig counters, "that's all wrong psychologically. I think executives prefer this arrangement because they feel they must present an image to the visitor entering the office. Really, though, it makes more sense to have the executive seated against a solid wall. The ambient window light is more distracting to a visitor than a solid background. Convectors, in any case, tend to be an advantage in tall buildings, where glass runs practically from floor to ceiling. They impart a sense of enclosure, which is often necessary on the fiftieth floor of a glass-walled building." Another suggestion for the orientation of desks in corner offices was put forth by Florence Knoll, who suggests placing desks at right angles to window walls, in order to create a tension.

Photo: Bernard Liebman

Executive at Schick Safety Razor Company, Milford, Conn., sits with his back to window, in a position to confront entering visitors immediately. Design is by Space Design Group. Architects are Caproni Associates.

Photo: Bernard Liebman

New York Branch Manager's office at MacManus, John & Adams, 437 Madison Ave., New York City, designed by the Space Design Group. Executive desk faces window wall.

Regardless of furniture orientation, the environment of a corner office does demand some special attention, but more than a few designers look upon this fact as an opportunity rather than a limitation. In contradiction to the comments of C. Roest, Marvin Affrime feels that fluorescent light is less offensive in corner spaces than in interiors, just because it is less noticeable. "Executives today demand subdued schemes anyway; they don't want a great deal of bright light," he says. "You can provide less intense artificial light in a room where ambient light from windows is plentiful." Summarizing his attitudes toward the design of corner spaces, he concludes optimistically, "I don't see problems in corners, but opportunities to do something different. Corners have more to offer; they're better spaces, and therefore they offer the designer more freedom to try new or different ideas. In fact, we'd like to bring more of the potential atmosphere of the corner into the interior building."

GIANTS IN THE EARTH

What makes for greatness in an architect? The author looks to history, peers beyond the PR releases, and lovingly sketches The Image of the Great Man that is secretly harbored in the breast of every practitioner.

By Robert H. Mutrux, an architect practicing in Bridgeport, Conn.

There are very few of the fine old professions which, within the last hypersophisticated decade, have not been outmoded, automated, or both. The first one that comes to the imaginative mind is being well perpetuated in Swedish and Italian "art" films. The oldest by historical accreditation, however, is hanging on by a precarious fingerhold. It is the profession of giant, particularly in architecture.

Actually, this is a job in great demand today, and, in view of the incalculable rewards, both financial and psychological, it is surprising that the field is not positively glutted with aspirants. The hours are long, it is true, but the work is far from difficult, and it makes up in glamour and inner satisfaction what it may lack in fringe benefits and retirement opportunities. The prospect should be universally inviting because almost anyone, by following a few simple rules, can become a giant in good standing.

If you have it in your veins to begin with, it will help. (Milton Berle used to say that he had the theatre in his veins, but sometimes he wished he had blood.) Bach was descended from a long line of musical giants, and so were Mozart and Richard Strauss; Eero Saarinen's impressive lineage in architecture certainly was not a hindrance. Who knows what might have happened if Gargantua, son of Grandgozier and Gargamel, had gone to MIT, or to Berkeley, or even to the Beaux Arts?

Natural aptitude, likewise, will not hurt you, but oddly enough, you've got to develop it all by yourself. There is no school for giants as such. There are schools for normal, average people, whosoever they may be, but none specializing in the care and feeding of giants. (Surprising, incidentally, how few architectural giants are fully house-broken.) Most schools are staffed by people who are trying hard to be giants themselves, and with little more to go on than you have yourself. Unless you have some gigantic endowment, you've got to work on this nights and weekends.

Experience is also very important. Here again, if you are lucky enough to get a job with a real-life card-carrying giant, that's one thing; most likely, you will wind up with someone who is just trying to be a giant, and who will do his best to keep you at pygmy level, because that's what makes him feel like a giant. Above all, don't get involved with a false giant, who thinks he's a giant and is really only an effigy filled with his own wind. Remember, too, that an overgrown human is not a giant — a monster, maybe, but not the genuine article. You've got to be on your guard every step of the way.

You may be lucky enough to be interviewed for a position as junior giant, but unless you're closely related by blood or marriage, the joker in charge of personnel will ask you whether you've had any experience, and you'll say that's just what you came in to get, and the first thing you know is that you'll be coming out of the same revolving door you went in.

The shortest cut of all is to win a competition — international, if possible. The surest way to do this is to come up with a giant design, but this is only the easy half of the problem. If, as Napoleon used to say, you are lucky, and you have a jury of accredited giants who are big enough not to mistrust you, you're in; in any case, keep trying.

Now you are ready for the two last stages in your development. The next to last, known in the trade as the penultimate, is to design some tricky gadget, or to use some material in a way that has not been noticed before. Then you arrange to have it publicized by a manufacturer, which is not too difficult, and have it copied, no matter by whom, but often. Remember that giants never copy; they are always copied, and it's useful to have the shoulders of a lot of non-giants to ride on. Check the publications, and you'll be able to trace every device, every new finish, every new stunt to someone who dreamed it up as a stepping stone to public acclaim. It may be a bentwood or bent-metal chair, a masonry grille, a tricky concrete shape or surface, or an odd-shaped sash; there is the handprint of a bona fide giant on each one. If you complete this step, you're ready for the final rung up the ladder to greatness.

For your last gesture, write a book. It doesn't have to be about you or your work, but if you've got the same breadth of spirit as most other giants, you will be generous with your accumulated knowledge and your inherent wisdom. The important thing is to impart to the thirsting public the true image of your greatness and tell them all about yourself. It is not important to be understood, but it is vital to be quoted. How many men are imprinted forever in the minds of lesser mortals by a few ringing words? Will Rogers, with "I never met a man I didn't like" is a real colossus in my book. Voltaire's "I disagree with what you say, but I will defend to the death your right to say it" is a bit long, but it's still worth all of *Zadig*, *Candide*, and all his letters. Pontius Pilate's "What is truth?" Galileo's "*E pur si muove*" (Nevertheless, it does move), and Winston Churchill's "Blood, toil, sweat, and tears" sum up the whole stature of the man in each case. And everyone (without any idea whatever of what it means) knows who said "The medium is the message." My favorites, however, are the French general De Cambronne and the American General Macauliffe, who are remembered for nothing else but the utterance, each at the right time in history, of a single word. De Cambronne's unprintable "_____" is now a popular French byword; Macauliffe's "Nuts" (though it loses somewhat in the translation) is a modern *mot juste* for any occasion when real emphasis is demanded.

In the field of architecture, Wright did it with his defense of "honest arrogance is opposed to hypocritical humility." Corbusier did it with "The house is a machine," Sullivan with "Form follows function," Mies van der Rohe with "Less is more," and Buckminster Fuller with "Do more with less." The list is endless,

but so is the appetite of the phrase-happy public. The point is — make it short, but make it stick.

Now your development is complete. A cliché is to be copied in the supermarket place, a phrase to be repeated at cocktail parties, and you're in for life. It is necessary only to fill in a few details, or, as McLuhan would say, study the habits of giants.

The day-to-day image is all-important, and one must not deviate from it for a single instant. For example, it may be all right for an actor to change masks and become governor, because it is in the nature of his profession to change masks as well as wear them. (A parenthetical nightmare: What retired actor at this moment is wearing the mask of the architect, and no one the wiser?) But the architect must always be an architect and never, never wear a mask. He must at all costs retain that pervasive mystique associated with the free-wheeling, creative man respected among his peers and adored by his associates. At every move, he is on-stage. The mere matter of dress alone cannot be too strongly stressed. A pipe is not essential, but it may help. A bow tie and tweeds are optional, although five years ago they were mandatory. In the Middle Ages, the *maitre d'oeuvre* wore gloves, not for protection, but as a point of distinction. Frank Lloyd Wright sported a pork-pie hat only because nobody else at that time would be caught dead wearing one, and it made him stand out. And that cape, and those jackets without lapels . . . The giant H. H. Richardson didn't affect the bunny-suit he wore on the cover of the JULY 1965 P/A just to keep warm, you may be sure. The point is that you've got to be distinctive, and for that there are no limits. You can't ever be seen in public wearing a Harry Truman sports shirt or Bermuda shorts. Just believe me, at least so long as you're paying good money to all those PR people on your staff.

The next vital point, the one that separates the true colossi from the midgets, is never, never, to be caught in the vulgar act of working. Architects, like opera singers, ballet dancers, and poets, are like puppets, and should invariably be seen against a background of their own choosing and only at their best. Can you imagine Robert Frost chewing the stub of a pencil, in his shirt sleeves, laboring through a dictionary? Can you see Nureyev, or Margot Fonteyn, wrestling with that bar and perspiring like common working people? I admit Leonard Bernstein in his sweatshirt and his teenage hairdo has been getting away with it for some time, but mark my words, his days as a giant are numbered.

You may give a talk, at any time, but not on a subject unrelated to art or civic improvement. You can be present at any dedication, and it's even *de rigueur* to hold that gilded shovel at the ready for posterity's record. You can, of course, be photographed at any time on a construction job of your own, but always with the owner or the committee chairman, who must both be smiling. But you can't be seen hovering over a drawing board alone; you must be wearing a jacket and be surrounded by project architects and senior draftsmen. If you have a pencil in your hand, it shouldn't be harder than a 4B. Working drawings and T-squares and triangles and sliderules are for underlings. (Remember when architects wore smocks?)

The last word of advice, and this is going to hurt a lot, is never to be caught playing. No basking in the sun, or fishing, or golf or tennis or doing the frug or the monkey, even with your own daughter, while the cameras are around. In the same way that the public doesn't care how you make your actual living, it doesn't care how you relax either. The world likes to assume that architects are like the Greek gods, subsisting solely on nectar, ambrosia, and a little love. I know dozens of clients who are convinced that I have no appetite for regular food or rest at all, or my family either. Perhaps I'm overdoing it a bit.

If you've gone this far in the hope of gaining insight into the sex life of giants, you may be disappointed. Like the age-old puzzle of where elephants go when they die, the question of how, when, and where giants make love has never been definitively resolved. It is a safe assumption that they are not a hybrid, and that they do fall in and out of love just like humans. In fact, Genesis refers to a race of giants that once populated the earth, and even makes mention of their procreation, but that was before the flood.

We know for sure that Cyclops Polyphemus lived as a hermit in that cave where Ulysses found him; and can you imagine Goliath writing to the girl-friend back in Gath? The shortage of male giants today, compounded by the paucity of female consorts of appropriate scale, has forced the relegation of their love affairs to the bottom of the pile. Perhaps when architectural students live long enough to obtain Ph.D.'s, the question of the amorous behavior of the behemoth might be a good subject for a thesis.

At the risk of being pedantic, I must remind you that you do, of course, have to produce something with a degree of regularity and a modicum of quality. The work may as well be good. Researchers have found that it takes just about the same amount of work and the same overhead to do a mediocre job as it does to produce a work of art. If the fee is the same in each case, be consoled by the fact that the Bureau of Internal Revenue makes no distinctions either.

And that's about it, except for one final reminder. With all the acclaim of the multitude, the encomium of your fellows, the panegyrics of the press, there is one small catch. There is no future whatever to being a giant. At least not here on earth. It's like being a king, or a pope, as the late John XXIII said, "You're at the end of the road, and the top of the heap" and there's no place to go. At least he could look forward to becoming a saint. As for you, the best you have to look forward to is the possibility of becoming a lasting legend, and for this you have first to shuffle off the old mortal coil, as they say. From then on, you can spend your full time in the flattering company of all the great ones who came and went before you, chasing the perfect solution in the Elysian Fields (if they haven't been turned into a housing development yet) with no worry about budget limitations, building codes, or building committees. And in between times you can listen to what the homunculi down below are saying about you, and watching whether they're going to curve the superhighway around your last masterpiece or sweep it away. And from time to time you can cock an ear earthward, hopefully to hear someone say, "There was a giant. We shall not see his like again." One thing is sure, you won't hear it while you're alive, no matter how hard you listen, or how well you've followed the course. People are like that, even if giants aren't.

THE QUIET APPROACH

HOUSES BY HUYGENS & TAPPÉ

The Boston architectural and planning firm of Huygens & Tappé, Inc., has a deep commitment to quiet architecture. Rather than offering the client or the passer-by dramatic shapes or exuberant detailing, a Huygens & Tappé building is more likely to understate matters. A relatively new office — founded in 1962 — the firm has, in the manner of new offices, done a great deal of work in that theoretically obsolete but perversely deathless architectural form, the private house.

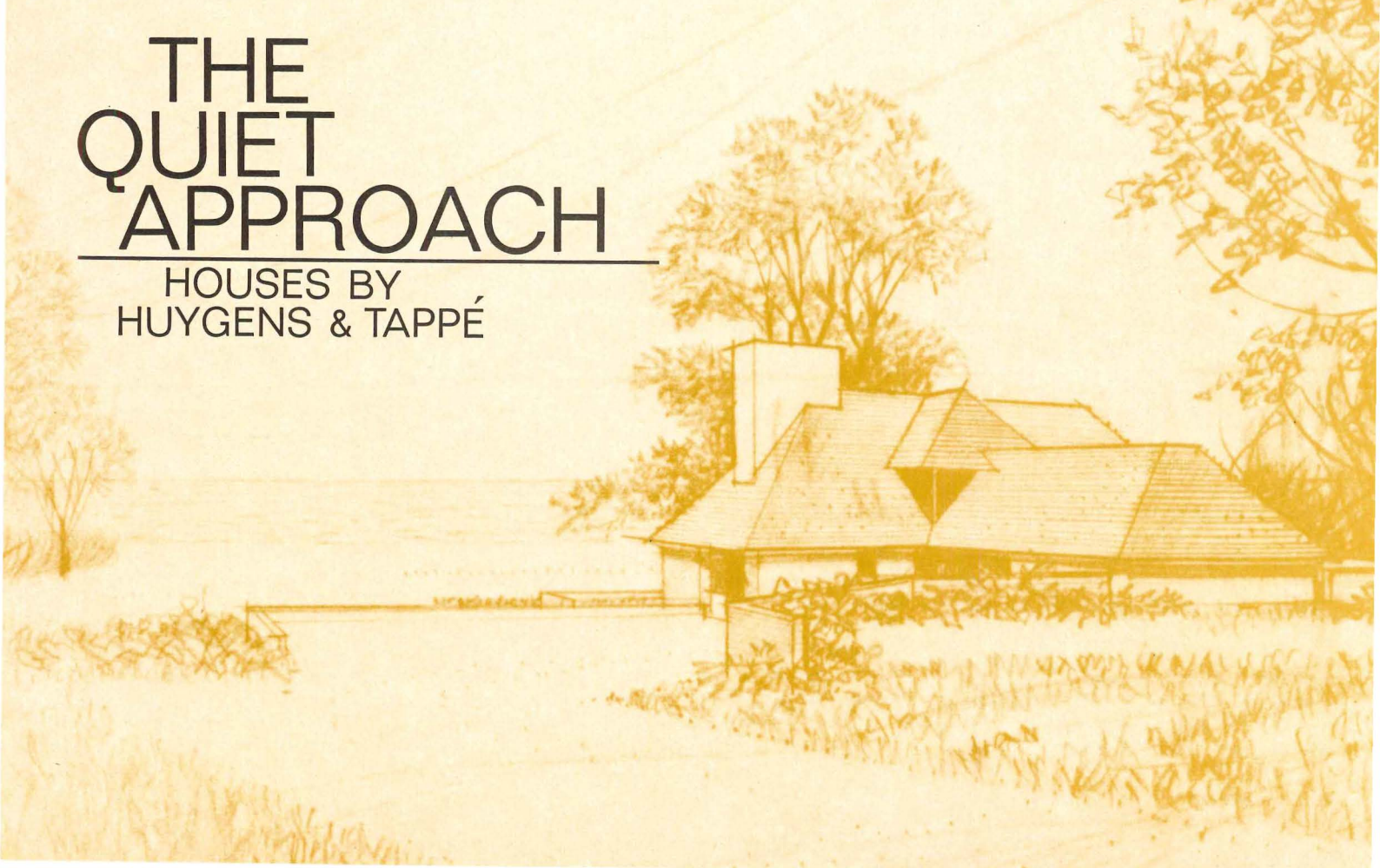
Their houses, thus far, have been designed for areas with strong building traditions — New England, Switzerland, France — and have used traditional materials and, to some extent, traditional forms. The partners deny emphatically that this makes them neo-traditionalists or conservative modernists. They refuse to type-cast themselves or to exclude the possibility of using quite different forms or materials; they feel, quite simply, that shingles, clapboards, and pitched roofs have been practical and appropriate for the kinds of houses they have been designing, in the places where these were to be built: and that is that.

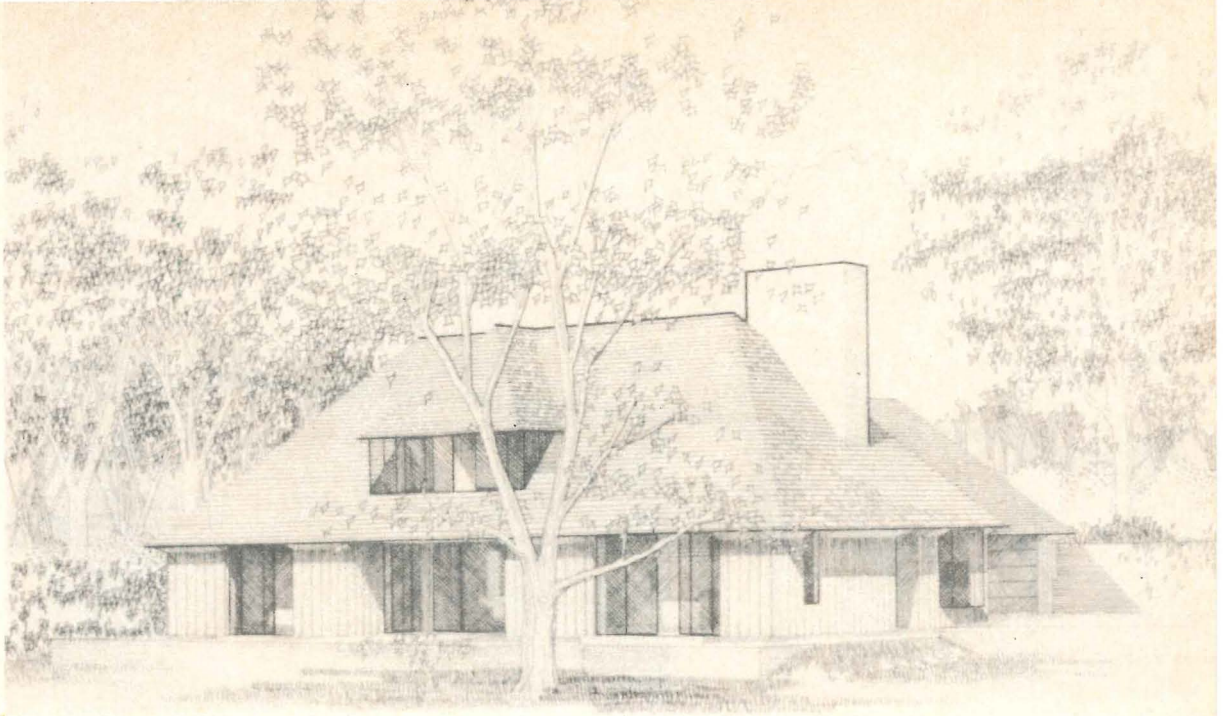
It is tempting, though, to predict that certain things will continue to be true of all their architectural work. In their few commissions for buildings that have been conspicuous because of their size or setting, they have resisted any temptation to make a grand gesture. Their cue was taken from the surroundings, and the design meant to enhance rather than one-up the existing neighborhood. It is likely that they will continue to design essentially simple volumes and combinations of forms to which minor details are subordinated. In spite of the fact that this is an age of ambiguity, a Huygens & Tappé house tends to be a clear, unambiguous shape.

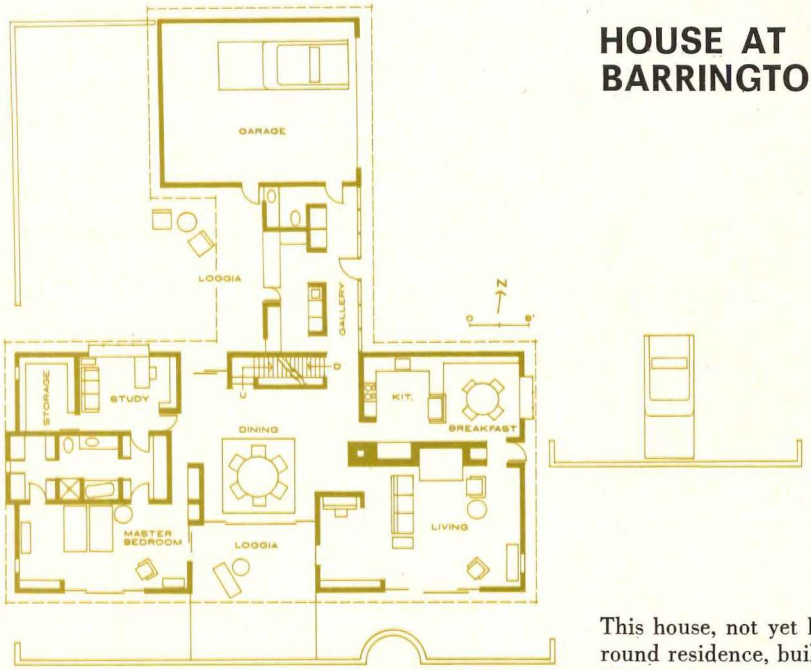
Where random patterns of windows are necessary, for instance, they are disciplined firmly: kept small and partly concealed, as in the Hansel ski lodge, or worked into an elaborate sculptured surface, as in the Alter house. Where the openings are large, they are detached from the enclosing walls as cantilevered bays, covered with oversailing roofs, as in the Hansel lodge or the Gerstein house, bracketed between broad, unbroken wall areas, as in the Robison house, or marked off by piers, as in some of their other work.

One feature of importance in this disciplining of details, thus far at least, has been the roof. Ordinarily, the roofs of these houses, hipped or gabled, serve as a final, drastically simplified way of speaking for the design. Many of the roofs are steep and rather hatlike, firmly anchored to the site by stout chimneys, and suggest by their bulk a desire, literally, to keep the lid on things. The houses often have a Wrightian quality about them, though neither of the partners had studied at Taliesin. The heavy chimneys, the built-in desks and seats, the squarish living areas, the neat arrangements of sleeping and bathing cubicles along long passageways, the use of large areas of unpainted woodwork, even the firm's rendering techniques are Taliesinesque, whether by coincidence or by the effect of example. Possibly this is due to Remmert Huygens, who comes from that formerly Wright-influenced country, Holland. His first independent work, prophetically enough a vacation house among the dunes, shows Dutch versions of much that has characterized the work of the partnership: the subordination (and minimization) of voids in what is essentially an enclosing volume, the dominating chimney, the use of unconcealed materials inside, and even the wooden boxes around the light fixtures. Already, too, the writing table fixed to the wall has made its appearance. A(lbert) Anthony Tappé, on the other hand, got an early if indirect exposure to English country-house architecture. His father was a draftsman for, and an admirer of, the Pittsburgh architect Benno Janssen, who designed houses that were ultraromantic, lavishly gabled, lushly textured, in the manner of the early Lutyens. Tappé had no particular application for this type of sensibility in his work for TAC, and his earliest independent work, a motel, was not exactly the place to reveal it either. It is likely, however, that it has contributed to the collective spirit in which the partnership designs — not so much a vocabulary of forms, certainly, but an extra dose of awareness that a building can create a mood, that it is an environment, and that it exists within and has responsibilities to a greater environment.

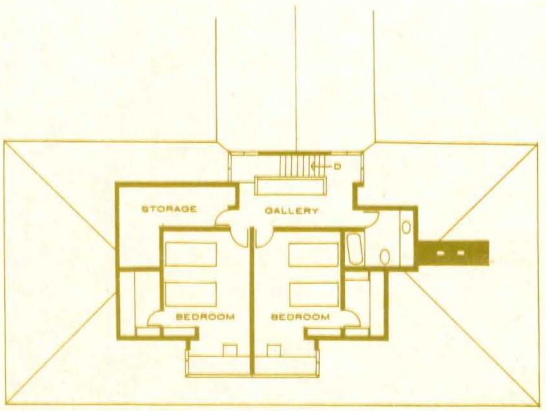
Once a year, the partners like to get away by themselves for a few days to some place whose architecture makes a good talking point, simply to talk architecture and share ideas. Then, having come to a satisfactory agreement on essentials, they go back to the boards.







FIRST FLOOR

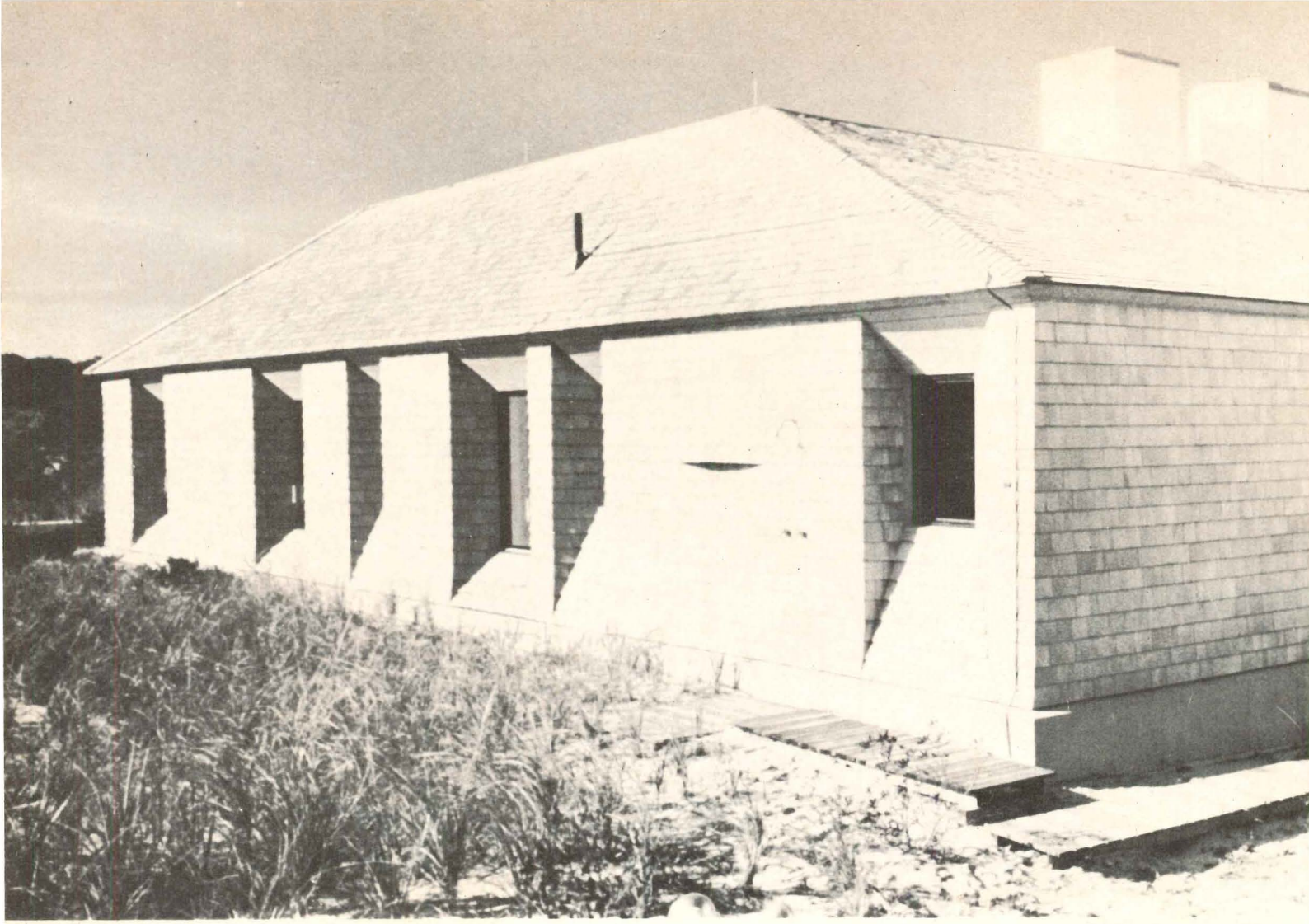


SECOND FLOOR

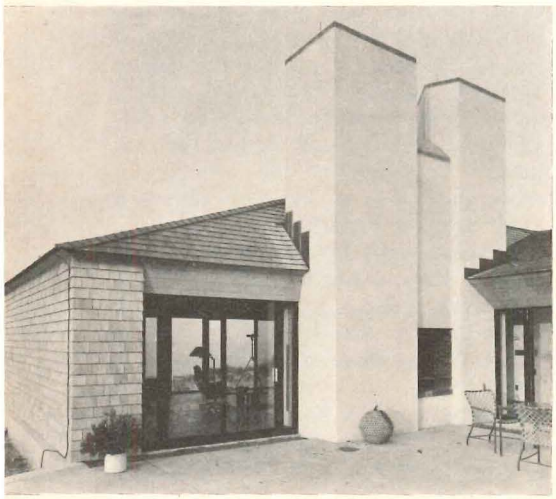
HOUSE AT BARRINGTON, R.I.

This house, not yet built, is to be a year-round residence, built close to the sea but in a setting of trees and grass. Intentionally or not, there is considerable resemblance to many New England houses of around 1890, when the Shingle Style was yielding to the Colonial Revival. The approach to symmetry, the tall hipped roofs, and the large, habitable stair hall — all have late Victorian precedents.

Although most Huygens & Tappé renderings have a quality that might be called Late Taliesin in feeling, appropriate to the bare seaside and city sites on which the partners are often called to build, the technique here is more elaborate, softer in effect. The firm has a "house style" of rendering, insuring uniformity of effect within a job, and, generally, from job to job.



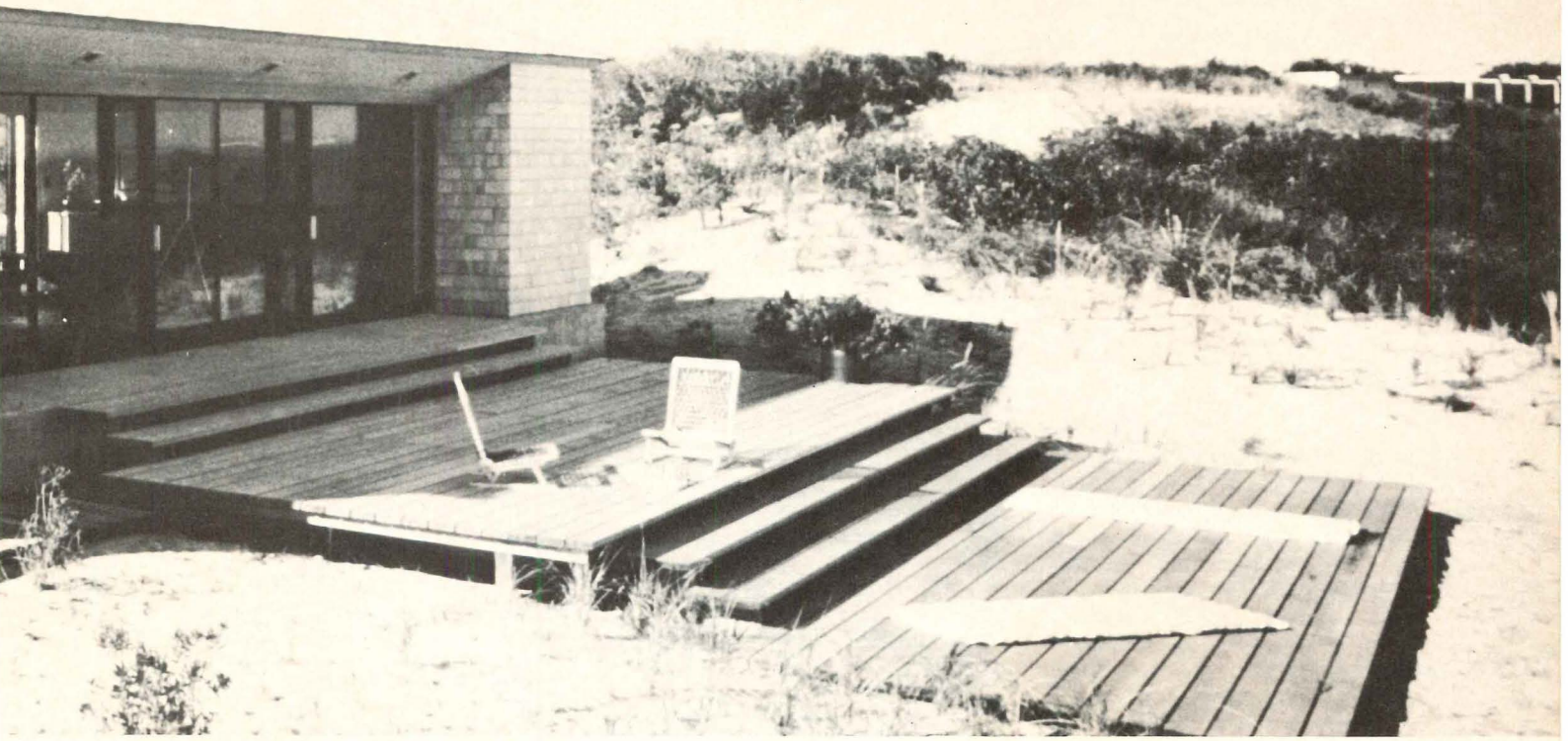
(With Mario Pfaff, Associated Architect) ***Site:*** *A high ridge of dunes overlooking Cape Cod Bay.* ***Program:*** *To design a year-round vacation house for a small family with grown children.* ***Structural System:*** *Wood stud construction on concrete slab.* ***Major Materials:*** *Wood shingle outer walls and roof; stuccoed chimney; gypsum wallboard partitions; redwood ceilings; tile floors.* ***Mechanical System:*** *Hot-air heating.* ***Consultants:*** *Moriece & Gary, landscaping; Souza & True, structural; Peterson Associates, mechanical.* ***Photography:*** *Norman McGrath.*

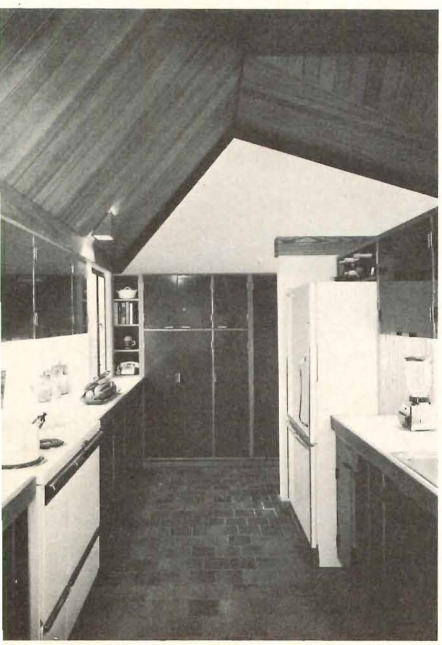


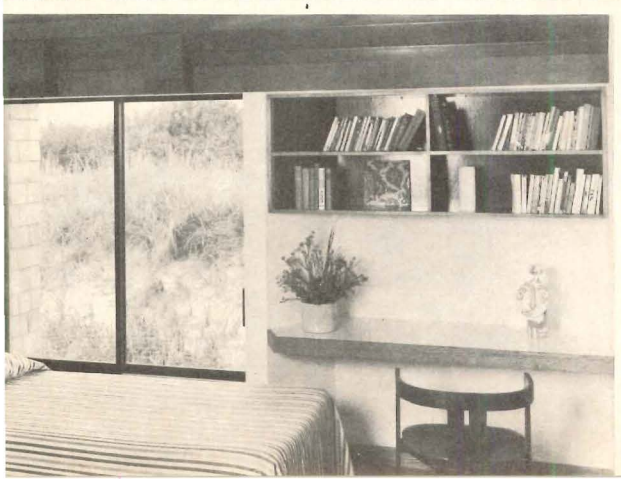
The plan of the Alter house incorporates diagonals to an extent uncommon in the work of the partners; true to their love of quiet, contained architecture, they abstain usually from the zips and zaps. But even here, the diagonals are quiet, and have a specific compositional purpose. The plan of the Alter house demands a large number of openings, greatly varying in size, and these openings are potential disruptions to the tight over-all unity of the exteriors. Housed within deep, splayed reveals, these same openings become legitimized as details of a sculptural wall surface. On the entrance front, indeed, a particularly broad recess has been formed purely to articulate the wall, and to repeat, in a blind form, the recess that houses the window wall on the sea side. The result, of course, is a little disquieting; a shingled wall seems to have the bulk of medieval masonry, and there is no apparent reconciliation of the paradox. One either accepts this, or one does not. The roof, often used as a device to unify the over-all composition of a Huygens & Tappé house, is not needed for this purpose here, and its alteration of pitch, as it follows the U-shaped plan, is calculated to make the broad, relatively unvaried entrance and seaward sides of the house seem broader, by riding over their voids with an air of weightlessness, while capping the shorter, busier walls with more positive visual impact.

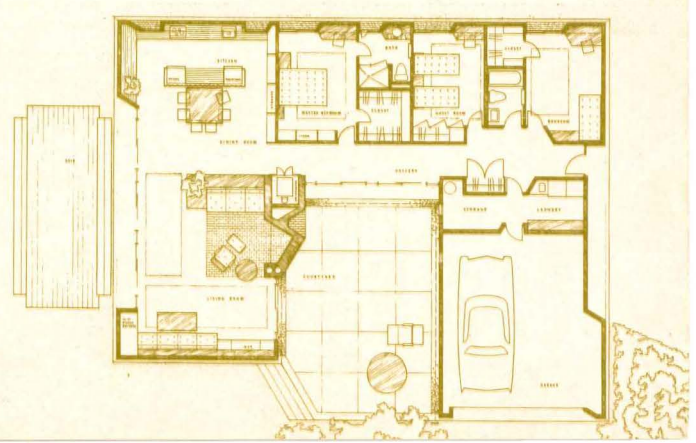
Inside, the living-dining-cooking area is a unified space, shaped by walls and roof; the ceiling is particularly emphatic, both from its boarding and from its lack of symmetry. In the bedrooms and baths, the spaces are less dramatic, more boxed-in and cozy, although the pitched ceiling of the living area returns along the "gallery" to the entrance, to lead the visitor's eye past the bedrooms as a promise that the trip down the corridor is worth it. The splayed partitions directly inside the entranceway seem a little inappropriate: one leads the eye to the end wall of the coat closet and the door to the garage and laundry; the other, to the doors of two bedrooms and a bath.

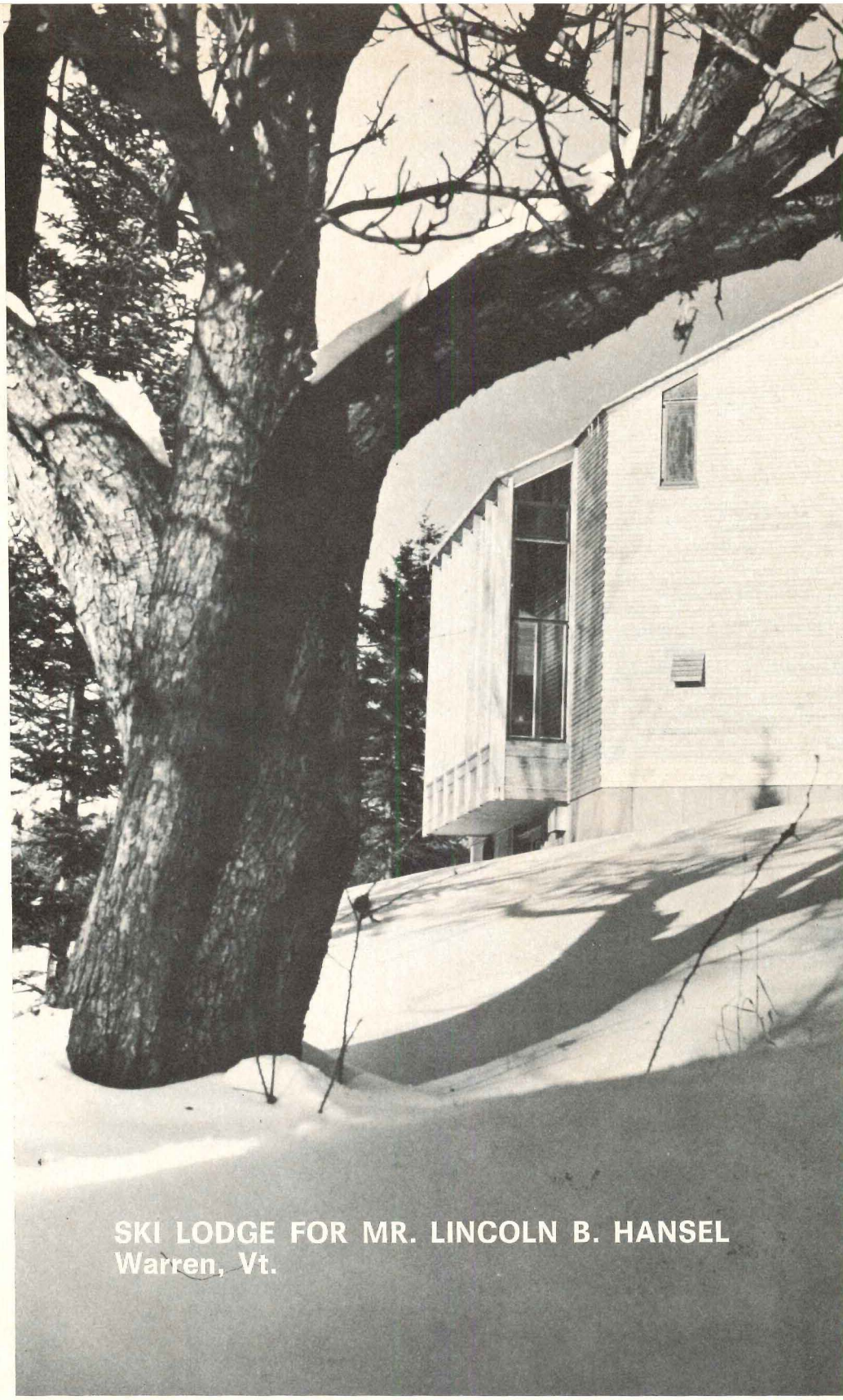
HOUSE FOR MR. and MRS. MANUEL ALTER
East Sandwich, Mass.







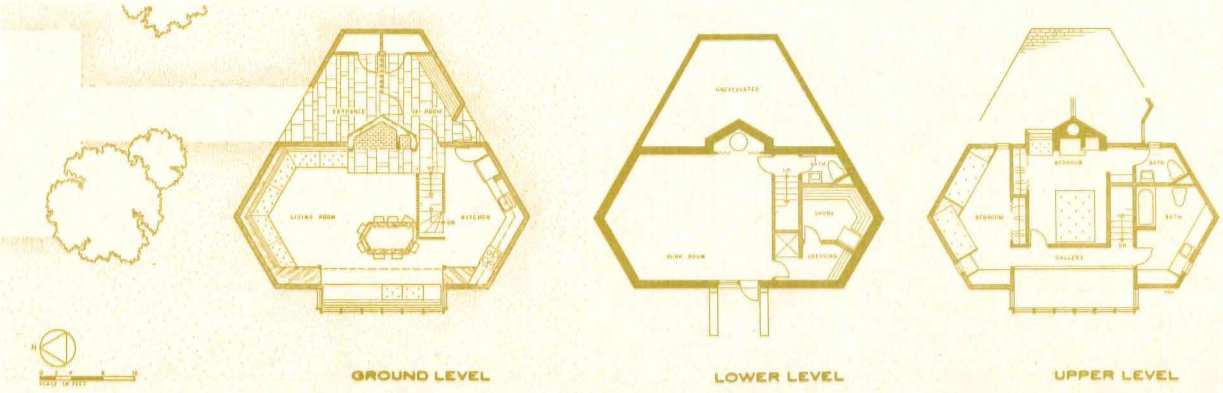


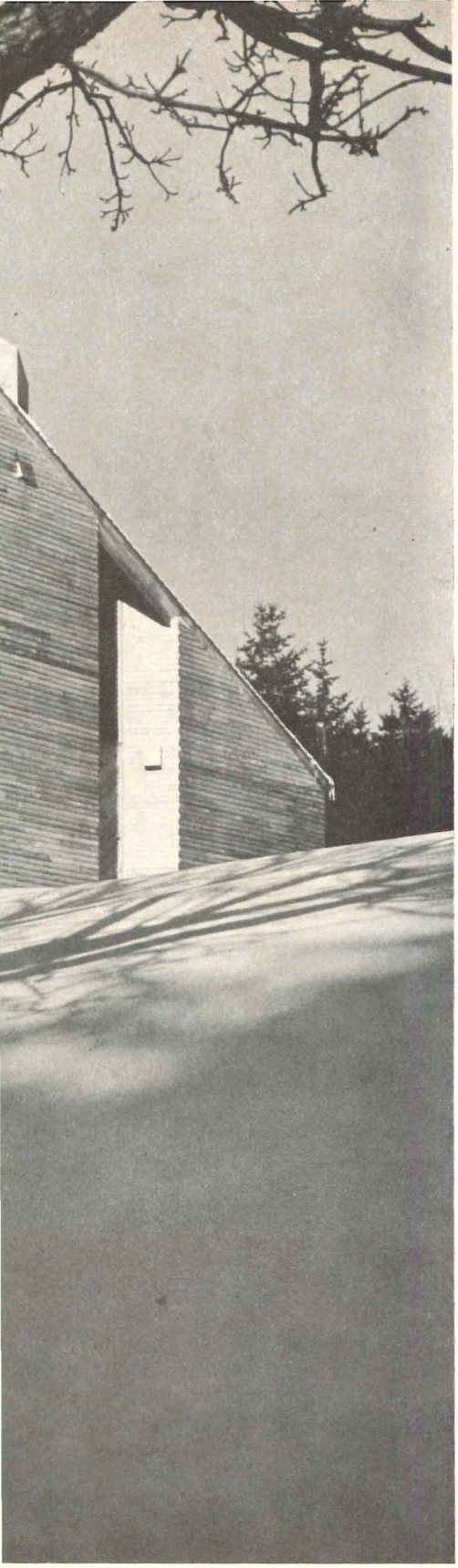


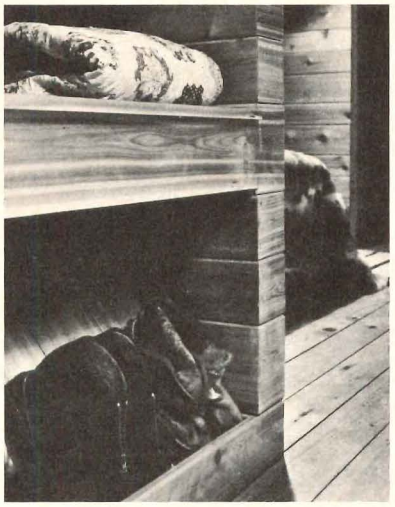
SKI LODGE FOR MR. LINCOLN B. HANSEL
Warren, Vt.

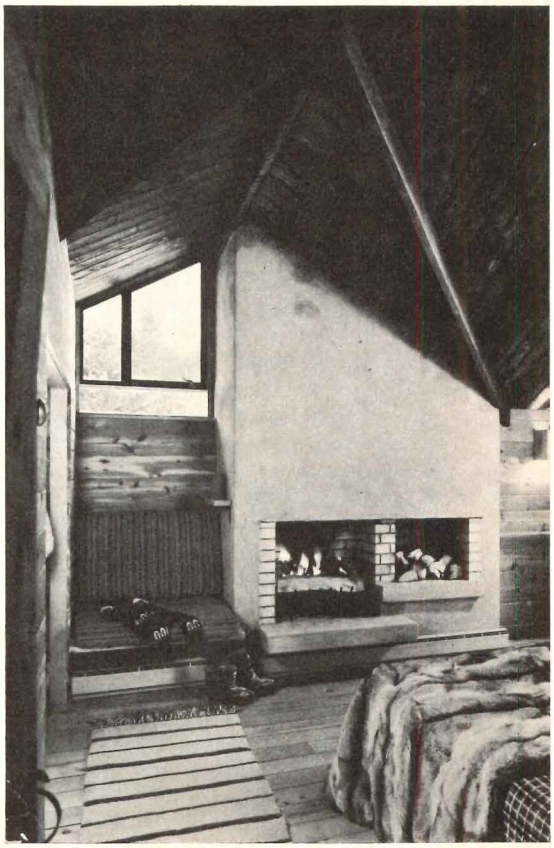
Site: *A steep pasture, well up on Prickly Mountain, facing southward and bordered on three sides by woods.* ***Program:*** *A weekend lodge for year-round use, but particularly for the skiing season.* ***Structural System:*** *Wood stud construction on concrete slab.* ***Major Materials:*** *Unpainted spruce clapboard siding. Red cedar shingle roof. Red cedar tongue-and-groove boarding for partitions, with exposed wooden decking for floors and ceilings.* ***Mechanical System:*** *Electric baseboard heating.* ***Cost:*** *$33,740 ($17.00/sq ft)* ***Consultants:*** *Souza & True, structural; Peterson Associates, mechanical.* ***Photography:*** *Lisanti, Inc. (reprinted from* House Beautiful *magazine by permission of the Hearst Corporation. Copyright 1967).*

Prickly Mountain has been in these pages a number of times because of the interesting work done there by the Yale and Washington University students. For this same mountain site, the partners have created what, in view of Tappé's background, could be called the Cambridge answer to all that — a venturesome, but not wildly venturesome ski lodge, whose rustic materials are subordinated to a firm geometrical discipline, in a way that creates somewhat the effect of a hillbilly ballad transcribed for the piano. The exterior is a neat, truncated prism, a hexagon symmetrical about one axis, covered with a saltbox roof that provides room for a tall window looking across the valley to the Sugarbush ski slopes. The house



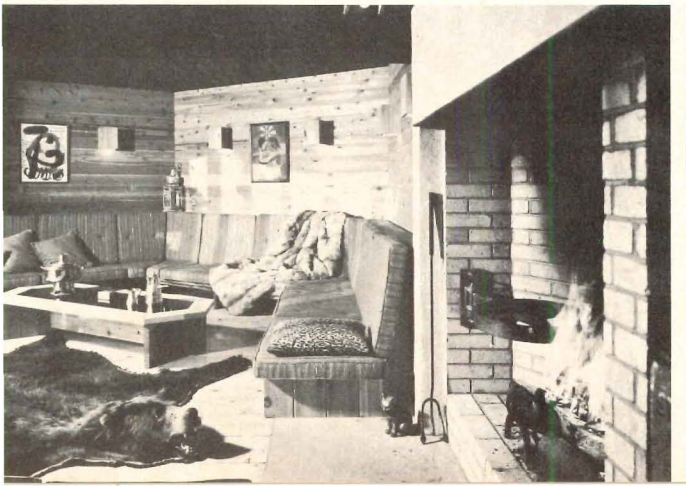


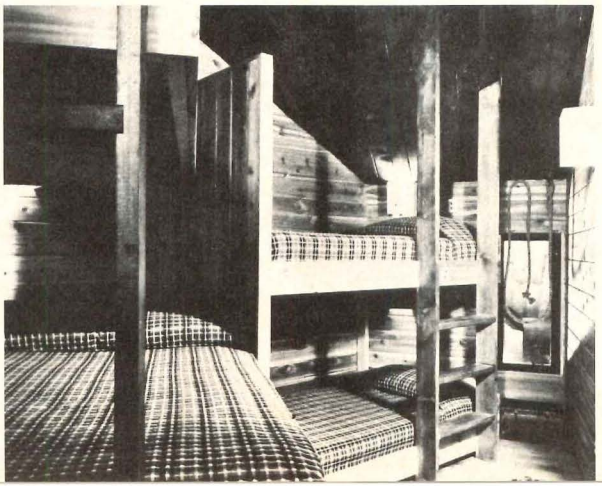




has not been there a hundred years, obviously, but neither does it have the heaven-storming shapes and spaces, nor the possibilities for accident (aesthetic and personal) that its more adventurous neighbors on the mountain afford. As usual, the architects have created a tight, closed form whose integrity is maintained as far as possible. Thus, the great living-room oriel is covered by an extension of the main roof — a device not fully effective here because of the canted sides of the house, which make it difficult to see what the roof pitch is. The entrances are carved into the body of the house at the rear, in a way that incidentally turns the habitable part of the ground floor into a hexagon symmetrical about two axes. The single interruption to the roof, besides the chimney, is the dormer of the master bedroom, located next to the chimney in such a way as to be invisible from most points of view. Other fenestration is kept to a minimum, both in number and size, and two windows are further removed from sight by being put in the armpit-like areas under the roof at the points where the entrances come.

Inside, the house is largely enclosed, a place for the animal comforts that the cold and weary skier craves. The main living area gets abundant daylight from the oriel, but this is so placed that the view can be ignored or enjoyed, according to the place in which one happens to be sitting.

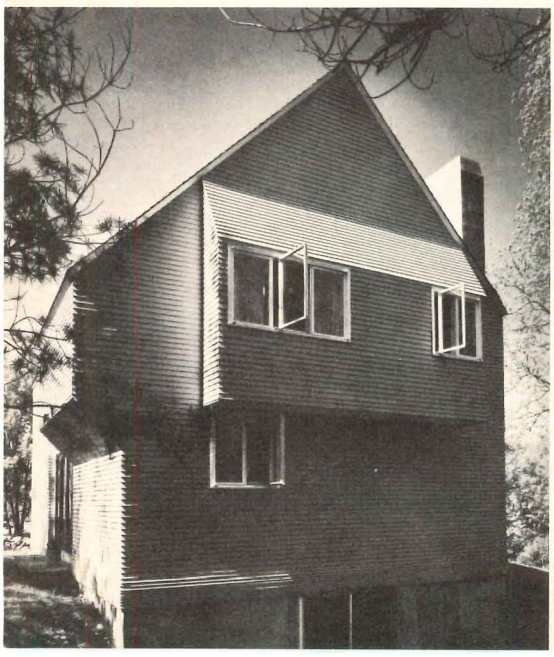


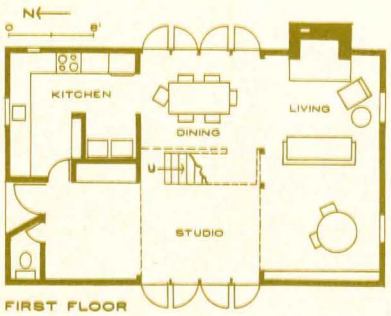


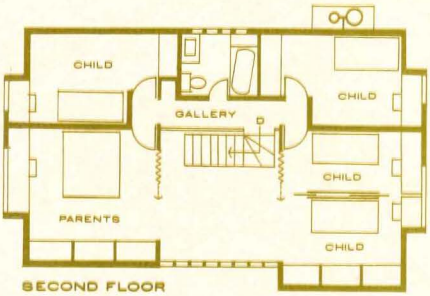
HOUSE FOR MR. JAMES A. ROBISON
Sudbury, Mass.

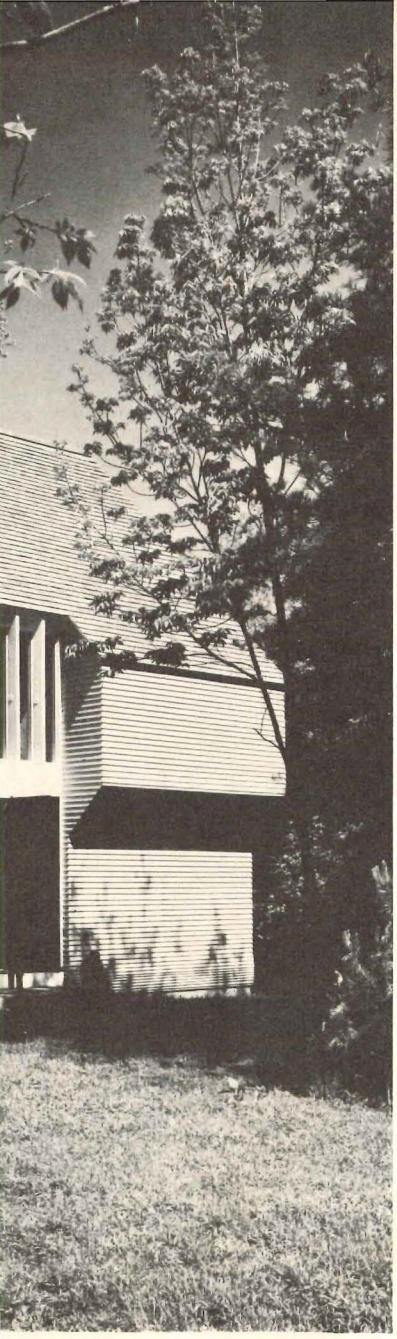
Site: *A wooded lot in a rural area near Boston.* ***Program:*** *To design a house for a schoolteacher, his wife, and their four children; house to include a studio area.* ***Structural System:*** *Wood frame.* ***Major Materials:*** *Narrow clapboard siding, painted. Red cedar shingle roof. Gypsum wallboard partitions and ceilings.* ***Mechanical System:*** *Hot-air heating.* ***Cost:*** *$24,000.* ***Consultant:*** *Souza & True, structural.* ***Photography:*** *Phokion Karas.*

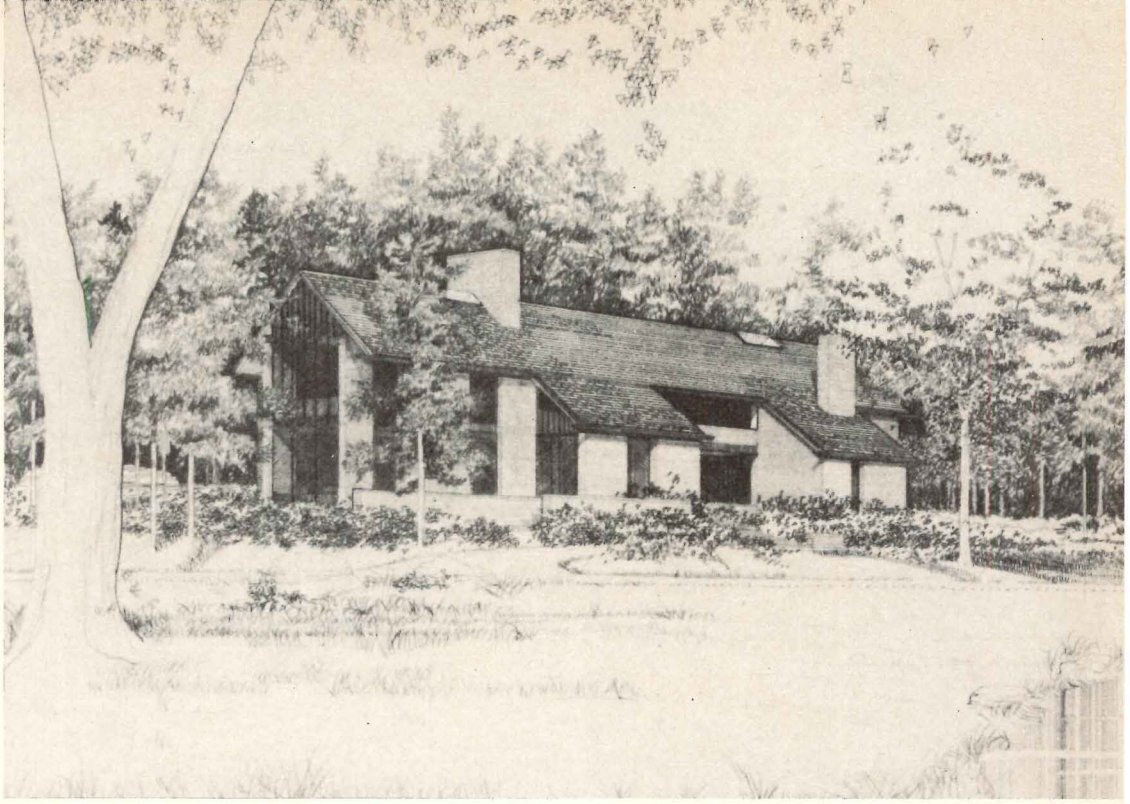
The need to stretch the budget prompted the architects to erect a somewhat boxier house than the others shown here. It was to be erected along with a number of Colonial-style spec houses in a development, and the builder, a friend of the owner, agreed to execute the nonconforming design so long as the nonconformity was not too pronounced. Faced with these considerations, the partners used the New England barn as an architectural precedent, producing a house with three nearly identical bays 12′ x 24′, the center being the "barn door" bay, relatively open between closed end wall and painted white to emphasize the analogy. Since the Robisons practice arts as varied as painting, weaving, and sculpting, a fair amount of space had to be set aside for these activities. Each of their four children, too, was to have a separate bedroom. The studio space is at the center of the house, on the west side, and takes up both stories. The master bedroom and two of the children's bedrooms (which can be used as a single space by pulling back sliding panels) are treated as deep balconies giving on to the studio space.

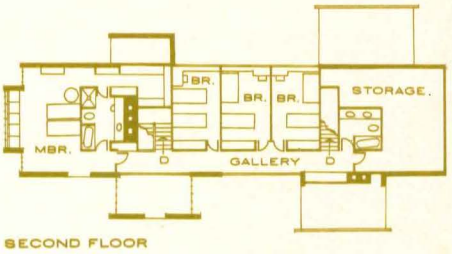


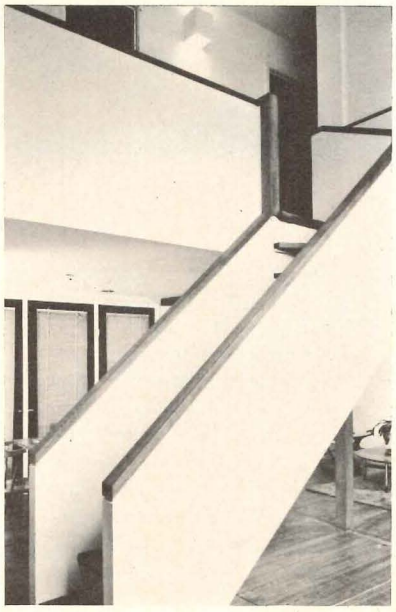






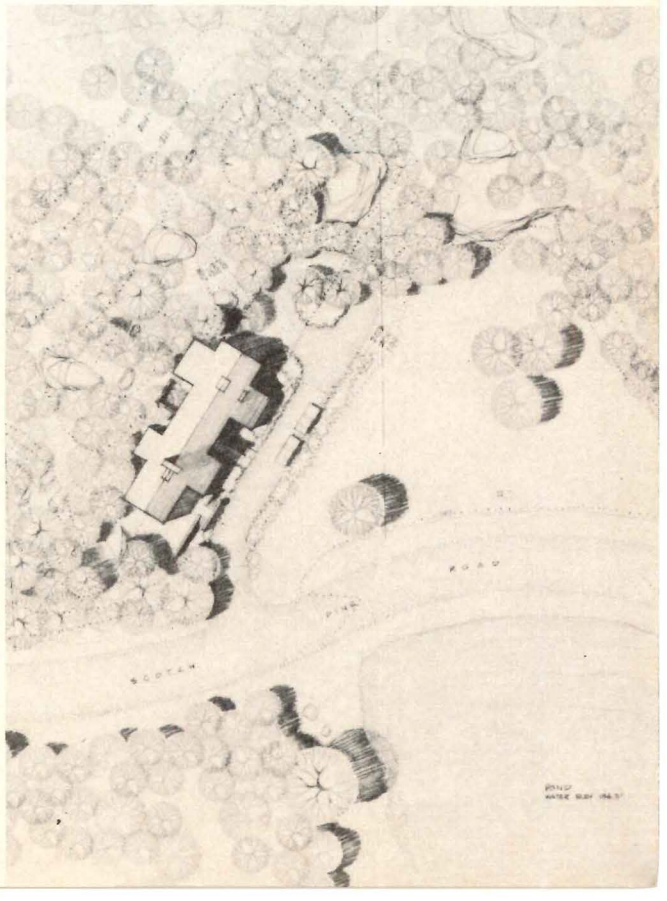




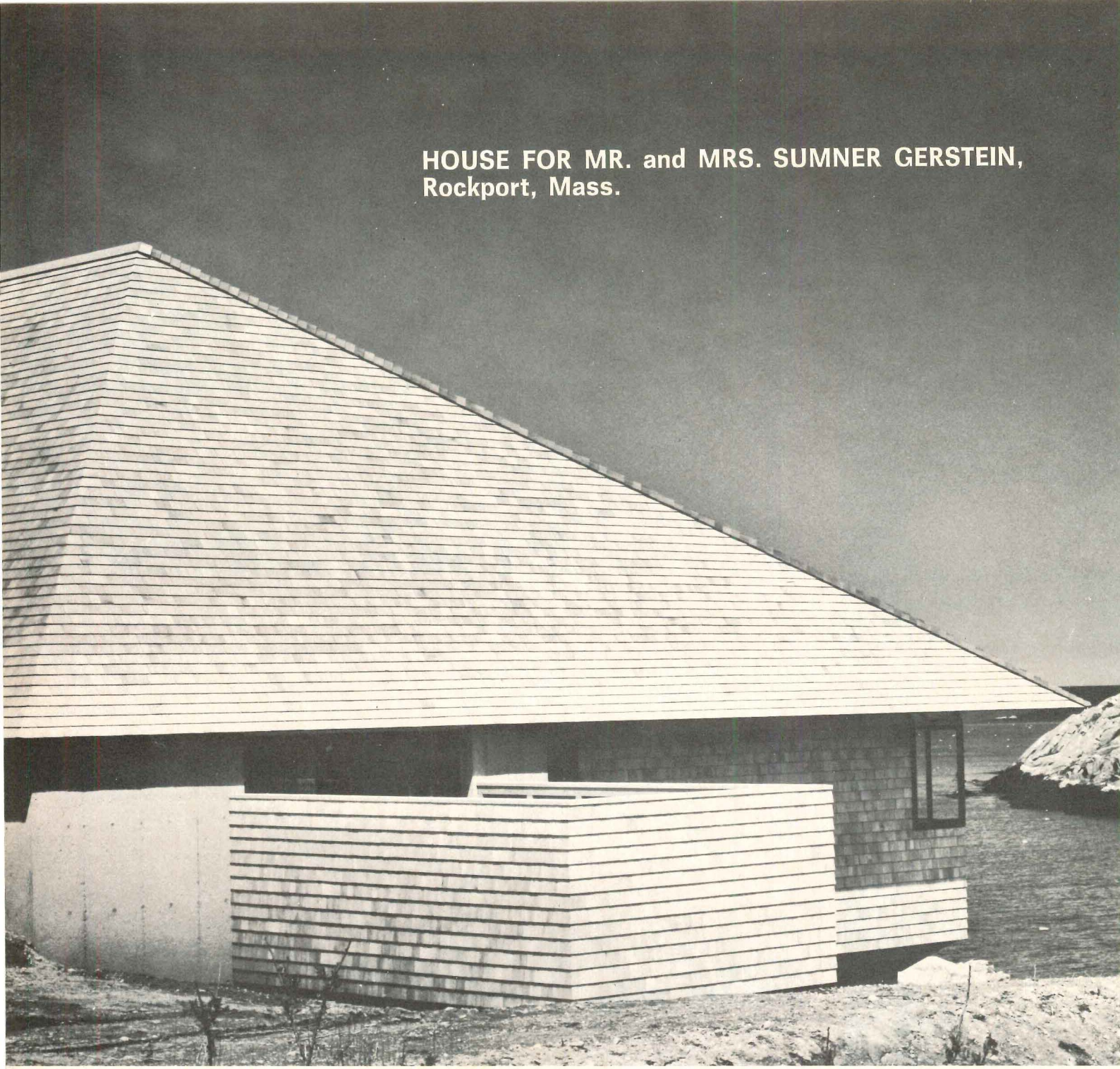


HOUSE AT WESTON, MASS.

A project for a year-round house in a thickly wooded setting by a quiet road. A system of steel I-beams establish a set of longitudinal regulating lines, from which a few outlying spaces escape. These spaces, however, are covered by extensions of the main roof plane, which not only unify all portions of the house but also encourage seeing the house as a sheltered place in the woods, despite the relatively large areas of glass.

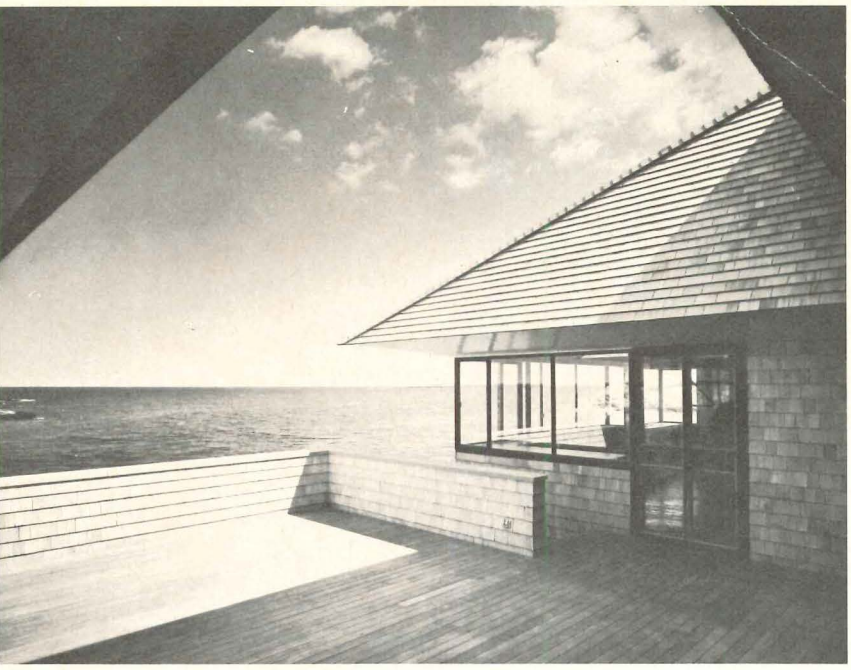


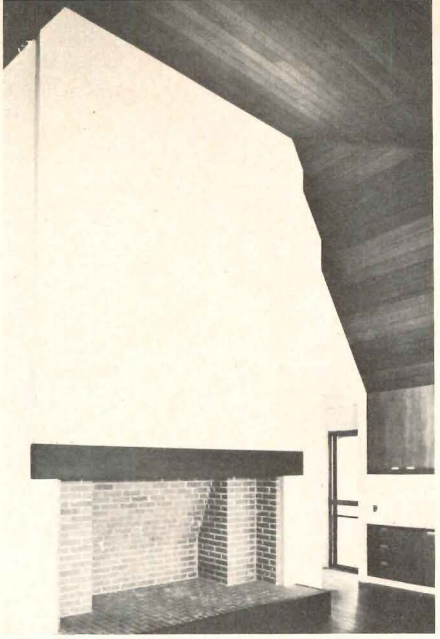
HOUSE FOR MR. and MRS. SUMNER GERSTEIN, Rockport, Mass.

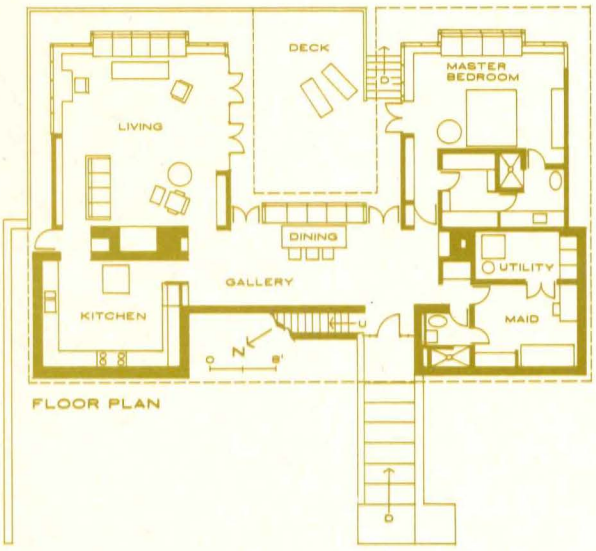


Site: *A narrow, rocky promontory at the top of Cape Ann, 25 ft above the water level; view northeast; situation exposed; neighboring houses close by.* ***Program:*** *To design a year-round vacation house for a couple and their college-age daughters that will allow both age groups peace and privacy.* ***Structural System:*** *Wood stud and rafter construction on concrete slab.* ***Major Materials:*** *White cedar shingles exterior walls and roof, painted gypsum wallboard partitions, natural redwood ceilings.* ***Mechanical System:*** *Electric baseboard heating.* ***Consultants:*** *Brooks Barron and Peter Fleming, landscaping; Souza & True, structural; Poirier Electric, mechanical.* ***Photography:*** *Phokion Karas.*

At first glance, the Gerstein house, seen from the water, is Frank Lloyd Wright at the seashore. Broad, cantilevered, shingled bays jut from low, prismatic, austere masses of masonry, opening the inner space of the house to the ocean view, while broad, oversailing hipped roofs put the lid on things, most definitely; and above all these quiet horizontals, two chimneys skewer the two prominent building masses to the invisible sunken core of the place. All this seems like Wright at his Usonian or Prairie best, until one rounds the house to look at its entrance front, which is a surprise, or looks at its sides, which are an even greater surprise. These jutting hipped roofs are not of equal pitch everywhere; they are rather like caps with long visors, high enough to shelter a second story, kept well to the land side, but projecting far forward on the water side to offer the face of the house — it seems natural to call it that — protection from the ele-



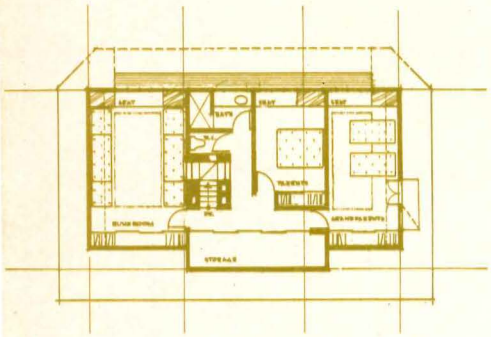




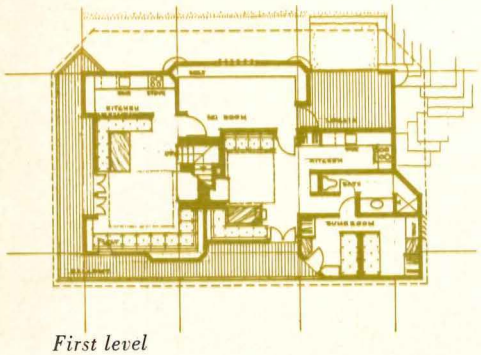
FLOOR PLAN

ments. The house faces northeast, the direction from which rain comes, but little sun, and the jutting of the roofs is welcome. The house turns its back to the land; the only fenestration worthy of the name on the land side is upstairs, where a broad strip of windows lights a stair hall, a bathroom, and a storeroom — places of transition, not places to live in. Even this sudden abundance of fenestration seems unnecessary, except as a device to break up an otherwise heavy and towering roof.

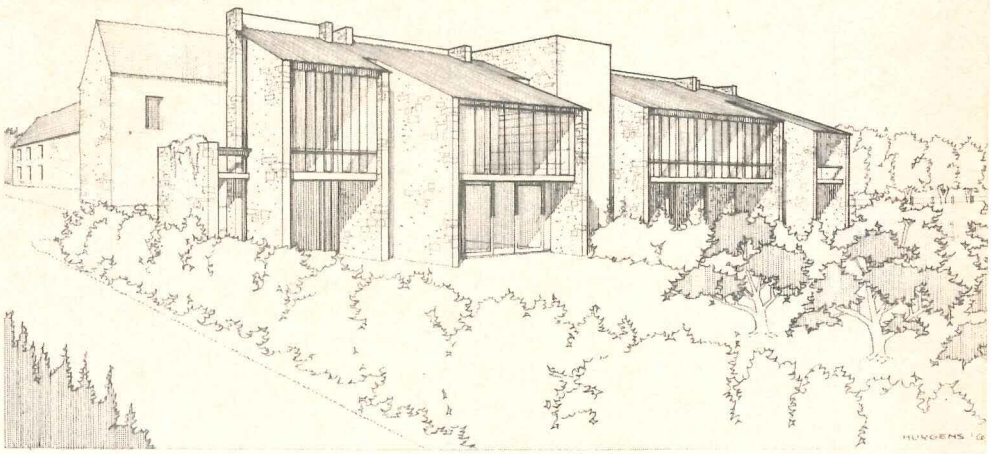
Like the shape of the house, the plan is a means of channelling and filtering the view. The living room and master bedroom serve, with their opaque outer walls, to spare one another the view of neighboring houses, while the open area between them allows the living room, at least, to get some sun in the morning. The Wrightian quality is present in the plan, too, in the rough over-all symmetry, and the presence of a balanced, diminutive bedroom story, reached by an all-but-hidden staircase.



Second level

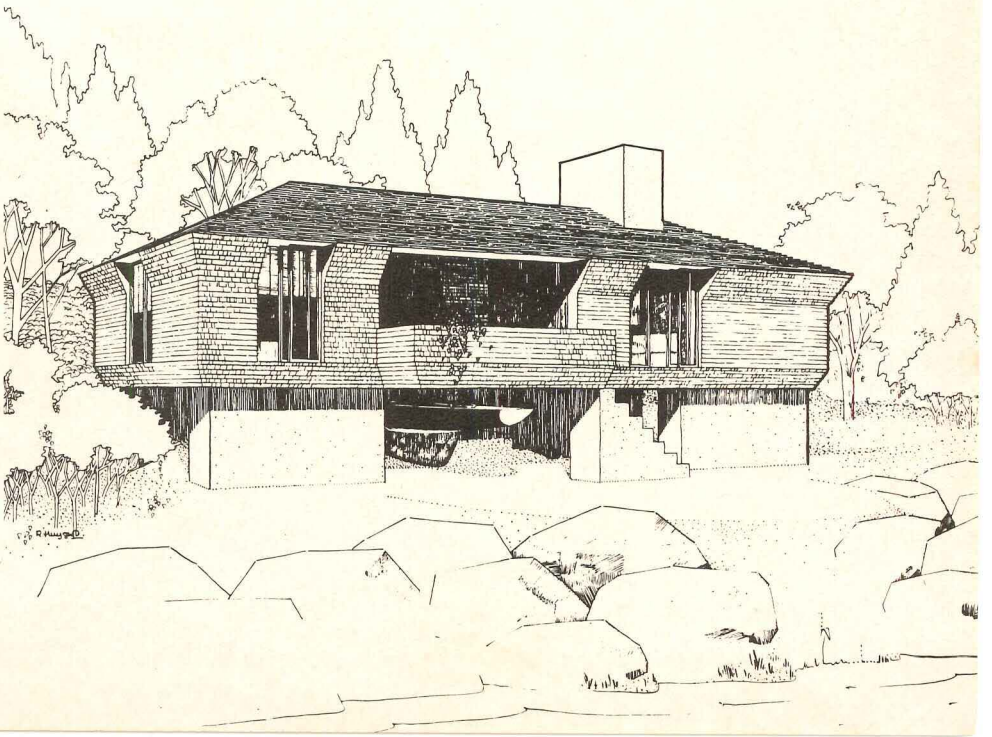


First level



A MISCELLANY OF RECENT WORK

Other work of the firm includes a chalet at Sörenberg, Switzerland (left) for the parents of Remmert Huygens, a farmhouse in France (above) for Huygens' brother, and a house at West Falmouth, Massachusetts (below). The chalet was held up for some time by conservative local authorities, who have since come to agree that it will not violate the architectural character of the area; construction will begin soon. The farmhouse was designed by Huygens during a former partnership with Allan Chapman, a Weston, Massachusetts, architect. The house at West Falmouth has been built, but a change of ownership has resulted in drastic alterations. The modeling of the exterior is supposed to be a means of deflecting the force of hurricane winds, just as the elevation of the living space is a safeguard against floods; the canted surfaces that result, however, are obviously also aesthetic devices, intended to unify the volume of the house.



black new towns

the fourth alternative

As an alternative to the conventional solutions to the urban crisis — continuing present programs, "ghetto enrichment," integrating the suburbs — the author proposes a fourth choice: creation of new towns in which Negroes would shape and be masters of their own environment.

By Ervin Galantay, architectural critic and educator who is in practice with architects Damaz, Pokorny & Weigel, New York City.

The crusading report of the President's National Advisory Commission on Civil Disorders warns of the possibility of "the establishment of two societies: one predominantly white and located in the suburbs and one largely Negro located in the central cities," presenting as a threat what is simply a fact of American life.

With a single-minded fixation on the goal of "integration" — the "creation of a single society and a single American identity" — the report examines three basic choices of national policy on the urban-racial problem: The first is a "more of the same" policy, or the continuation of programs at the present level. It is rightly rejected as inadequate. The second alternative, called "ghetto enrichment," would accelerate programs aimed at upgrading the urban areas presently occupied by the Negro underclass. But since any program that significantly improves life in the ghettoes also accelerates Negro migration to the same ghettoes, this alternative is also rejected as "another way of choosing a permanently divided country."

Having dismissed the first two non-choices, the commission quickly settles for its preconceived goal of integration as the "third choice" — the only one that offers a glimmer of hope. This choice calls for vigorous efforts to open the suburbs for Negroes, complemented by some fire-fighting programs of "ghetto" enrichment.

But are there really only three choices? Without questioning the obvious sincerity of the members of the commission, the remarkable display of ostrich-mentality of having refused to consider any solution that would in any way deviate from its integrationist credo is nevertheless baffling. The report performs the neat trick of showing up three choices, two of which turn out to be non-choices, thus confusing the reader into believing that the remaining choice is the only valid one.

Is Integration the Solution?

Are the means to achieve integration within our reach? Walter Lippmann, writing in *Newsweek* magazine, made a good case for dismissing the commission's recommendations for the welfare of the Negro as windy futurism. Lippmann pointed out that, for the integration-policy to become effective, first the "new will" of the white majority would need to be generated, which may take longer than the patience of the black underclass can be stretched. As Professor Charles E. Lindblom of Yale University points out, it is an axiom of political science that "it is unwise to specify objectives in much detail when the means of attaining them are virtually unknown." Instead, "ends should be chosen that are appropriate to available or nearly available means." According to Robin M. Williams Jr., a Cornell University sociologist, de facto segregation will still be massive by the end of the century and "substantive equality is not likely to be achieved in the near future." Thus, confronted with a credibility gap between the New Rhetoric and the facts of slum life, young Negroes are understandably cynical about the recommendations of the report. They view its integrationist pathos as yet another hypocritical device — the ultimate filibuster — designed to delay rapid action in the pressing areas of economic opportunity and housing.

Others feel that a coalition of middle-class Negroes and white liberals is derailing the nation's attention from the economic and psychological plight of the black underclass to its own integrationist objectives. Integration is desired mostly by the middle-class Negro who has already achieved economic security and is now seeking full acceptance by white society. For the black underclass, as Bayard Rustin was quoted recently in *The New York Times*, "high unemployment and low income are not the only problems . . . but they are the crucial ones." To the underclass, integration is of marginal importance. After all, as the Rev. Albert Cleague of Cleveland says, "What is so great about living next door to a white man?"

For most young Negroes, a far more urgent goal than integration is the desire to escape white paternalism and the white man's power structure. Robert Browne, Assistant Professor of Economics at Fairleigh Dickinson University, affirms that Negroes must organize to "reduce their dependence on whites," a sentiment echoed by Berkeley University Assistant Vice Chancellor Donald Hopkins, who feels that "Negroes must separate before thay can integrate; they must break their old ties of dependence." In view of this widespread sentiment, it is regrettable that the authors of the report dismiss the Black separatist argument with a few lines and in their evaluation of alternate policies give little attention to the fact that, *above all, the Negroes want to control their own destinies.*

Without wanting to re-espouse the repudiated *Plessy v. Fergusson* doctrine of "separate but equal," it seems that a partial separatist proposal may offer the fastest avenue toward the economic betterment of large segments of the black underclass. A "fourth choice" is possible: a policy alternative in which efforts of ghetto improvement would be accompanied by a program to create *new com-*

munities where Negroes can be masters of their own life and shape their own environment.

The Fourth Choice

Whether in the ghetto, or "integrated" in the white suburb, the Negro lives in a society economically and politically dominated by whites. Even in a city with a Negro mayor, the city "machine" remains white-dominated and the white financial and real-estate interests loom powerfully in the background. For the Negro, life in a white-dominated society, whether "enriched" by Federal programs or not, remains a life of dependence and the source of frustrations and resentment. The real issue is not whether a few Negroes can be elected to political office and be nationally advertised as figureheads of progress in integration, but whether avenues of vertical social mobility can be opened for significant number of Negroes. In integrated society, the chances of the Negro to rise into decision-making positions is very meager indeed. By contrast, in a Black new town, all managerial and decision-making positions would be staffed by Negroes. Some militants, such as the Rev. A. Cleague, demand that the white man turn over the control of the cities to the Negro. It is highly unlikely that effective control of any established city would be peacefully yielded by white society to the Negroes, yet it is quite feasible to build new communities for Negroes where they can be the masters of their own lives.

With the riot smoke that hovered over the Model Cities of Detroit and New Haven, the Black militants signaled to White America that the time had come to live up to its pieties. Yet after all the ponderous rhetoric following last summer's riots, very little has changed in the life of the Negro slum dweller. For the moment, the problems have been swept under the rug of legalistic verbiage. "Every time there is some smoke, the Man passes a couple of new laws. Who needs that? Why, they can't even enforce the existing ones," is a typical comment. Rising bitterness was also voiced by former Negro athlete Jackie Robinson, now a special assistant on community affairs to Governor Nelson Rockefeller, in an interview in the *Los Angeles Times:* "As sure as I sit here, there is going to be a race war this summer . . . because nothing so to speak has been done for the Negro since last year." And Newark Mayor Hugh J. Addonizio, who is in a good position to know, concurs: "They haven't done anything since the riots."

According to the U.S. Commission on Civil Rights, the condition of the Negro in city slums continues to deteriorate: e.g., in Hough, a Cleveland ghetto, median family income, which, in the period from 1960 to 1966, declined from $4732 to $3966, continues to decline.

The many little programs in manpower, poverty, model cities, housing, and child medical care fail to fire the imagination or hold up a highly visible symbol of hope. In the case of the much-hailed Model Cities Program, Congress cut the President's modest request for $622 million for fiscal 1968 to $330 million; this sum, spread thin over 65 projects in 63 cities, will yield as its principal output not much more than 65 planning reports. The meager appropriations are eroded by 63 administering bureaucracies, and the various turnkey and rent-supplement programs and other token improvements strike some of the ghetto inhabitants as mockery.

The whittling away of available resources by many little programs flies in the face of the time-proved maxim of strategy to "concentrate for maximal impact" and its corollary, which postulates that many little thrusts will inevitably bog down in many little frictions.

Although showcase projects in the grand manner of Daniel Burnham are not suggested as a solution, there is certainly a need for highly visible symbols of progress. One "Demonstration New Town" might be psychologically more effective than 65 demonstration programs.

The Relation of Ghettoes and Jobs

Perhaps the greatest handicap in the way of an economic betterment of the urban Negro is the widening gap between new jobs and the central city ghettoes.

Far from moving rapidly toward integration, our society is in a process of racial unmixing: The percentage of Negroes in the central cities is rising, accompanied by an exodus of whites to the suburbs.

In some areas, the percentage of the non-white suburban population has actually decreased, as in the Philadelphia Standard Metropolitan Area (decrease of Negro component from 6.7 per cent in 1930 to 6.3 per cent in 1960); or Baltimore, where in the period from 1940–1960, the white suburban population grew by 196.8 per cent while the percentage of the Negro population decreased from 11.9 per cent to the present 6.9 per cent.

Paradoxically, the phenomenon of the ever-increasing number of Negroes in the center cities is accompanied by a decreasing number of jobs available in the proximity of the ghettoes. This trend is amply documented in a pamphlet entitled "The Impact of Housing Patterns on Job Opportunities," published by the National Committee Against Discrimination in Housing, from which some of the following statistics are derived.

In many major cities, the actual number of jobs has decreased: e.g., in St. Louis, in the period from 1951 to 1965, central city employment dropped by 61,800 jobs, while the suburban ring gained 215,000 jobs. And in the period from 1940 to 1960, the center of St. Louis lost one-quarter of its white population, whereas the Negro population increased 98 per cent — a loss of 173,000 whites and a gain of 117,000 Negroes. In the same period, suburban St. Louis County's white population increased by 422,000, accompanied by an influx of a mere 7500 Negroes.

In cities such as New York, Baltimore, and San Francisco, which show minimal increases in central city employment, the statistics disguise the fact that the number of jobs in the semiskilled and unskilled categories declined, since these losses are numerically upset by the sharp increase in clerical and other white-collar employment.

The overwhelming proportion of new jobs created by industry are located outside the center cities, and the movement of industry to suburban and outlying sites shows an irreversible and accelerating trend.

For industry, the determinants of location are the financial advantages of operating outside the crowded city and proximity to residential areas attractive to the managerial and professional cadres. As a result, jobs are being moved to the suburbs or are created there, but they remain unavailable to Negroes due to their confinement in the center city, the lack of convenient transportation, and the lack of low-cost housing in proximity of the jobs. For the Negro, this situation amounts to an "employment handicap." The same causes also deprive Negro youths from the opportunity to benefit from "on-the-job" training programs, since participation is largely dependent on housing reasonably close to the sponsoring industry.

Negro "Dispersal" to Suburbs

In view of this growing discrepancy between suburban jobs and concentration of Negroes in the center cities, Antony Downs of Real Estate Research Corporation in Chicago called for a national strategy to stimulate the movement of non-whites to outlying areas — i.e., Negro "dispersal."

However, even with an open housing law, the "dispersal" of Negroes in the white suburbs will remain a painfully slow and inadequate process.

Last year, the Negro population of the nation's center city ghettoes grew by more than half a million; at the same time, only 16,000 families, or about 60,000 Negroes, were able to move into suburban areas; and of these only one-third, or about 20,000, were "integrated" in the strict sense of the word, the remainder having joined already existing "suburban ghettoes" — the Negro wards of the white-belt towns and counties.

The organization most vigorously pursuing the placement of Negroes in subur-

ban areas is the New York Urban League, which operates an "Open City" program with the help of very substantial anti-poverty ($136,000) and Ford Foundation ($250,000) grants. Yet in three years, of a total of 8700 registrants, the program was able to place only 900 households; 60 per cent of the moves had to be "forced" by complaints about discrimination.

There are indications that more or less forced attempts at integration only exacerbate racial feelings and initiate a second-wave of out-migration by whites. During the 1960's, race and race-related questions such as schools have become a major consideration among lower-middle-class whites for leaving areas having a marked concentration of Negro families. It is clear that such a phenomenon, which is indicative of the determination by substantial numbers of whites to avoid integration at all costs, cannot be stopped by exhortations about the evils of racism.

In view of this somewhat discouraging record, no great hopes should be placed on reducing the gap between job location and the housing of the Negro by "integration" of the suburbs. This leaves the alternative of bringing the jobs to the ghettoes; such a policy, however, would mean sailing against the wind of the preference for suburban location by the industry. Under free-market conditions, adequate jobs cannot be created in the ghetto, and even heavy subsidies may not do the trick.

This brings us to the last remaining alternative: the creation of Black New Towns in suburban areas in proximity of existing job opportunities, or coordinated with the creation of new jobs.

Black New Towns: Financing

To promote, develop, and manage the new town, a nonprofit development corporation would be set up by representatives of Negro organizations. Hopefully, some respected Negro leader of the caliber of the noted psychologist Kenneth Clark or the neurosurgeon and "NEGRO" president Dr. Thomas W. Matthew, could be persuaded to head the corporation.

The development corporation should be financed to the fullest extent possible by Negro organizations. The whole enterprise could amount to a vast "Big Brother" scheme, using the financial sinew of the Negro middle-class to elevate the Negro poor. The use of Negro assets for the new town would provide the Negro middle-class with a dramatic opportunity to do something constructive: to regain the initiative of shaping the destiny of the Negro community and renew claim for leadership that it has lost in its alienation from the black proletariat.

Could the Negro community afford to finance such an enterprise? American Jews, who total less than half the Negro community, in an average year raise funds of more than $200 million for Israel. Assuming that the Government and foundations would match the funds provided by Negro sources, a yearly $60 to $70 million would need to be provided by the Negro community, a goal that seems entirely attainable.

The available assets of the Negro middle class are considerable: According to the *Negro Handbook* of 1966, the 1963 assets of Negro banks, insurance companies, savings and loan associations, etc., stood at more than $400 million.

In addition to Negro capital, foundation grants and funds from the Federal and perhaps the state governments would be needed to get the new towns built. Yet to keep the participation of white do-gooders to a minimum, the funds and grants should be offered with no strings attached, to give the community a chance to create a specifically Negro culture in whatever way is desired.

It would be necessary to set up a government infrastructure in advance of the rise of the political community. Cadres for the municipal administration, firemen, police, etc., would have to be recruited and trained while the physical city was being constructed.

Procedures for the recruitment of the residents and their selection in terms of economic composition would be worked out by the development corporation. All other problems should be left to the community under the normal political process.

Land Acquisition

Such a proposal would not mean promoting "Negro reservations" in the distant badlands. On the contrary, to be fully successful, the Black new towns must be located close to the metropolitan areas of the big cities, with good access to jobs and to transportation.

Unfortunately, undeveloped tracts of land that would meet these qualifications are increasingly difficult to find. Even in the case of a glamorous white new town such as Columbia, Md., the task of assembling continguous parcels of land at a reasonable cost required tactical ruses and patient diplomacy.

The promotion of a Black new town would predictably run into fierce opposition by local political communities, and even a few antagonistic individuals could effectively prevent land assembly.

To by-pass this bottleneck, the Black new towns could be built on land owned by the Federal Government, which lords over vast undeveloped territories in the form of military reservations. There are sizable military enclaves even in the middle of densely urbanized areas. From the point of view of over-all national planning, these areas are underutilized and represent land reserves that could be reassigned to a new purpose.

Various military installations could be amalgamated, freeing valuable land for development. A good case could be made to move them away from the nation's major urban regions. Their removal would not be a greater sacrifice than the abandonment of the overseas military bases by the U.S., most of which were yielded to foreign governments such as France and Morocco, complete with installations.

However, this proposal does not hinge upon the immediate discontinuation of the military use of any reservation: It merely requires the splitting off of the necessary 6000 acres for a new town of 100,000 people from a reservation of several thousand square miles.

The continued operation of the military establishment might in fact be a bonus to the initial success of the new town, since it would provide employment and training opportunities from the very beginning.

The land needed for the establishment of the Black new towns could be transferred from the military to HUD, which in turn would sell the land at nominal cost to the development corporation. For this transaction, FHA Mortgage Insurance for New Communities (Demonstration Cities Act 1966), could be made available.

The land of the military reservations is, of course, not the kind of "prime land" the commercial developers search for; yet, in buying the land from the Government, up to $10 million may be saved in land acquisition cost (i.e., Simon paid $13 million for the 7200 acres of Reston), which would be used for the improvement of rocky or swampy parcels. Another invaluable advantage of buying the land from the Government lies in the fact that the construction of the new town could start without delay. Since it would not be carved out of existing political communities (townships), it would not depend on the goodwill of the indigenous population. This is a tremendous asset, if we recall that, to obtain some essential zoning changes for the new town of Columbia, Md., more than a year of intense propaganda, persuasion, and pressures was required, since the fate of the new town rested in the hands of the locally elected Howard County commissioners.

Considering the preference of most Negroes for an urban way of life, the Black new towns could be built with higher densities than the planned communities recently built for whites. Densities of 30 dwelling units per acre seem appropriate, assuming a high percentage of units in two- and three-story garden apartments, with some high-rise buildings for singles and childless couples and detached houses built according to demand.

At a density of 30 dwelling units per acre, a parcel of 6000 acres might suffice for a new town planned for a population

of 100,000 people, and it would be possible to maintain the same high standards in the provision of recreation areas as in Reston or Columbia, Md.

Attracting Industry

Essential for the success of the new towns will be its attractiveness to industry. A promotional campaign would be needed to persuade corporate enterprise to set up branch manufacturing plants in the town or its vicinity. Due to the already documented trend of industry to seek suburban locations, the promotional effort would have much better chances of succeeding than similar campaigns aimed at bringing industry to the central ghettoes.

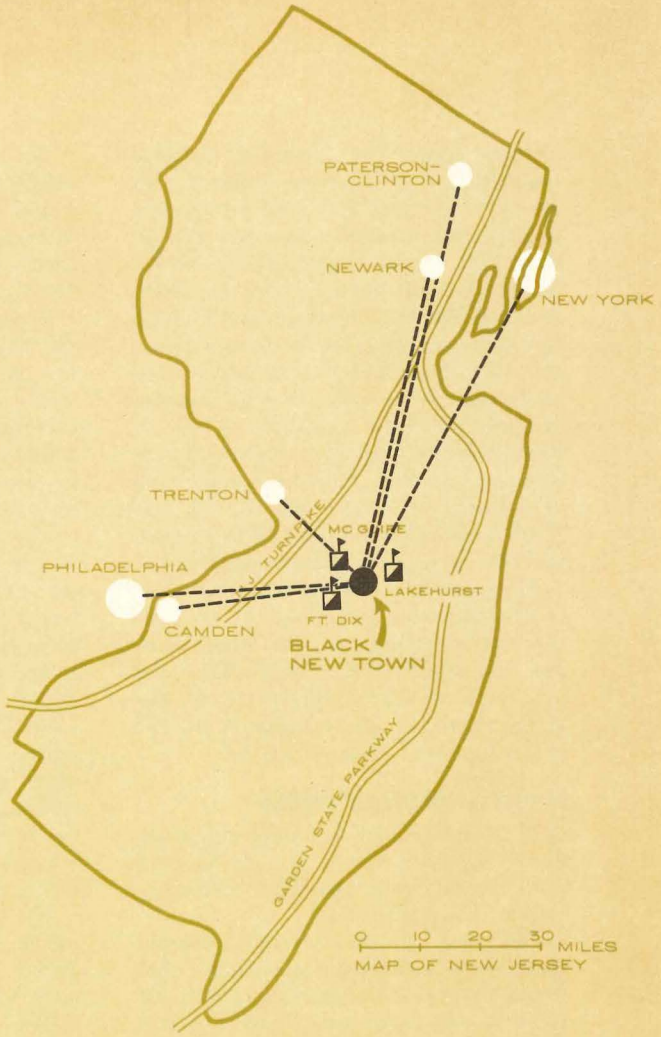
To attract industry, the development corporation could offer land either free or at nominal cost, as well as tax abatement for a limited number of years. To reimburse business for training and employing initially unproductive workers, the Federal Government should underwrite any deficit that might occur in the operation of the plant or perhaps even guarantee a minimum profit for the first few years.

In return, industry would be expected to train an infrastructure of Negro executives who could eventually take over the management of the branch plant.

Let us assume that a national corporation such as General Electric could be persuaded to build a refrigerator plant in the new town. A "management training team," preferably to include many Negroes, could be assembled by G.E. from its other plants. The management training team would, during the first year of operation, "shadow" the future management, to whom the responsibility of running the plant would be turned over step by step. The training team would then be phased out, with the exception of those who would decide to accept permanent positions in the new plant and become residents of the new towns.

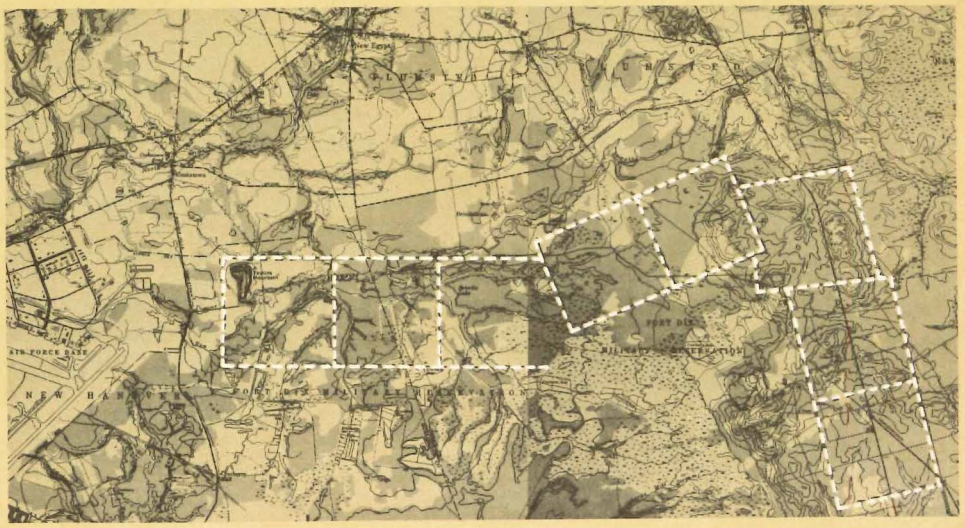
The plant could remain a unit of the national corporation and continue to profit from centralized research, advertising, and marketing. Its product would have to be able to compete on the national market. Yet the existence of a "Black" plant would open up the full gamut of decision-making positions to Negroes — presently only 3 per cent of the managerial jobs in the nation are filled by Negroes, and even these are mostly on the lower rungs of the managerial scale — and the existence of top-level Negro executives in the branch plant would make them eligible for positions in the central offices of the national corporation, which is obviously a faster avenue for advancement than the present channels of vertical mobility in "integrated" factories.

Alternately, the Cleveland CORE proposal could be implemented by distributing company stock to the employees of



A POTENTIAL SITE

One possible site for a Black new town within the Atlantic Urban Region would be in Burlington and Ocean counties of southern New Jersey — a chip off the vast Fort Dix and McGuire and Lakehurst military barony. This location has good accessibility, being only 9 miles from the New Jersey Turnpike. It is 25 miles from Trenton, 30 miles from Camden, 50 miles from Newark and the Paterson-Clinton agglomeration. A new town in this location would primarily help to relieve pressure from the ghettoes of New Jersey, but recruitment would not need to be confined to one state only, and the town could also draw residents from Philadelphia (35 miles) and New York City (60 miles). Let us assume that a 1-mile-wide strip would be yielded by the military along the northern boundary of Fort Dix, turning south along Hornerstown Road and the Naval Reservation. This site would then include a hill, a small lake, some good flat land, as well as some bogs that could be drained and turned into pleasant recreation areas, just as Frederick Olmsted transformed Boston's swamps into the presently beautiful Fenways. The core of the new town would be located on the hill as the center of gravity of the parcel, and from there the town could grow linearly in westerly and southerly directions.



the new plant. The Cleveland proposal (contained in a document produced with the help of a $175,000 Ford Foundation grant) aims to create economic institutions that would enable Blacks to become owners of capital. Under this mechanism, the parent company would build a new plant as a separate corporate entity, and, after the plant had recovered its cost and a reasonable profit, it would become the property of the employees. (Louis O. Kelso, the San Francisco lawyer and consultant to CORE, claims that, under the present tax laws, the cost of the new plant could become an income-tax deduction for the present parent company.)

In addition to major manufacturing, small businesses would be set up with the help of credit from the Small Business Administration. Conceivably, the new towns would become centers for the manufacture of articles aimed at the highly profitable "Negro market."

Meeting Housing Needs

Both in design and in equipment, high-quality housing would be offered, and could be financed with FHA mortgages Sections 213 and 221-d-3.

The core of the housing program would be a lease-option mechanism that would bring home ownership within the reach of even low-income families. A free flow of credit from banks and insurance companies would be necessary to enable these families to become owners of houses on terms they could afford. Following a proposal of Charles Abrams, first put forward in "The Negro Housing Problem: a Program for Philadelphia," the development corporation would build and rent dwellings in move-in condition with option to buy. The provision of 20 year mortgages at about 5 per cent interest would bring home ownership within the means of most residents. In doing this, the development corporation should be granted tax exemption.

As Charles Abrams observed, "The justification of tax exemption lies in the public purpose, not in public ownership." There is no reason why only state housing authorities should have a monopoly on tax-exemption for low-rent housing.

On the other hand, to attract Negro professionals and managers, the corporation should also provide land for single-standing homes of any size — custom-designed as the need arises. In this, the corporation could retain the ownership of the land and thus would reap the benefit of inflated land values if the houses were resold.

The Employment Picture

The Black new towns should be planned as balanced communities, matching the number of potential job seekers by an equal number of jobs offered, although some commuting in and out of the town would be quite desirable.

For a town of 100,000 inhabitants about 25,000 jobs would be needed. Jobs would be offered in the construction and building trades, in manufacturing, in small business and services, in government and education.

From the very start, the building of the new town would create a vast market for a variety of skills and semi-skills. For the unskilled and the hard-core unemployed, a massive "on-the-job" training program would be undertaken by the building and construction trade unions, assisted by the Government.

The construction and building trade unions have recently come under attack for running a white union shop and for being reluctant to admit young Negroes to apprenticeship or journeyman status. In the cities, the legacy of past discrimination and distrust cannot be disposed of instantly, but in the new towns the unions would be more willing to admit Black union members, given the virtual certainty that new members would practice in new towns rather than compete for jobs with the present membership in their own home bailiwicks.

The building of the Black new towns might generate sufficient enthusiasm among Negro youth for the establishment of some form of a volunteer "Job Corps," perhaps even as an alternative to military service.

A new college would be started immediately, to be completed in three to six years. It would provide one of the principal sources of employment in the town, and it could also double as the town's cultural center and as a national center of Afro-American studies. The initial size of the college could be 10,000 students; later, the school could acquire university status and expand its enrollment to 27,000 students — similar in size to one of the new campuses of the State University of New York. The college could either be a branch of a state university or a private institution, and would be predominantly although not exclusively Negro. In its aims and organization, it might well try to emulate Brandeis University, similarly controlled by a minority group a fact that has not thwarted its quest for excellence.

Managerial and clerical positions would be further available in the development corporation and in municipal government. The Federal Government could create more white-collar jobs by instructing the General Services Administration to locate a Federal Office Building serving some regional bureaucracy close to the new town. (Such a courtesy of indirect subsidy via the GSA was previously extended to Reston, Md.)

Building the New Town

The planning and design of the Black new towns would be left to Negro professionals. To obtain ideas, a national competition could be launched among Negro architects and planners. Such a competition would uncover new talent and yield a wide range of proposals — from the systems approach favored by New York architect Barry Jackson, to social planning (apartment plans) based on Negro tribal values advocated by Howard University student Harry Quintana and the New York organization called "Real Great Society."

The competition would offer an opportunity to the largest subculture in the U.S. to define how it differs from the dominant white middle-class way of life.

A fringe benefit of the construction of a new town might be that the building trade unions could more easily be persuaded to accept the introduction of labor-saving and innovative technology, such as large-scale prefabrication or the use of preassembled bathroom and kitchen units. Compared to the cost of building in the central ghettoes, the use of advanced technology in the new towns would result in significant economies, and with the same amount of money more and better housing could be provided for Negroes in the new towns than by rehabilitating ghetto tenements or building new public housing in town.

The cost of building Black new towns would be surprisingly small. To build *one* such town for 100,000 inhabitants would call for an investment of about $700 million in six years; or an average yearly investment of $120 million. This cost would provide for land development, the building of the streets and utilities, and of all housing and community facilities. It is exclusive of the cost of building the college or the manufacturing plants and businesses.

The cost of $700 million can be compared to the Brooklyn "Linear City" proposal, which would require an investment of $1300 million and would ultimately provide some 6000 dwelling units, of which presently only 2000 are scheduled for publicly aided housing for low-income families.

The annual investment of $120 million does not exceed the sum spent since last summer's riots by the nation's police forces on improved riot-control equipment. And property damage and business loss in last year's riots — variously estimated at $600 million to $1 billion — approach the total that would be needed for a new town.

Even more startling to contemplate is the fact that just one mile of urban expressway often costs as much as $30 million. Hence, a Black new town could be built at the cost of *not* building 4 miles of urban expressway during the six-year construction period.

Perhaps this proposition of new towns versus expressways should be subjected to a cost-benefit analysis by HUD or DOT or a university institute.

Most Negro professionals, as well as the young militants, seem to endorse the idea of Black new towns. By contrast, the initial response of white liberals is often that the proposal "smacks of apartheid."

Debating the "Fourth Choice"

"The white liberal," as the Rev. A. Cleague points out, ". . . has emotion, prestige, and everything tied up with his leadership." Similarly, the middle-class Negro has vested interests in his integrationist policy. This leads, in the words of Robert Browne, to an ". . .anti-intellectual effort" to stifle the discussion of any separatist idea. By contrast, the younger black intellectuals are willing to reexamine fearlessly the hitherto unquestioned assumptions upon which America rested, including that most cherished piety: the American Dream of a . . . "single, colorless society."

Perhaps this divergence of opinion is merely a generations conflict between the middle-class Negro and his white liberal allies on one side, and the impatient black militants and young white radicals on the other — not unlike the conflict that arose when a younger generation of sociologists and planners became critical of public housing and urban renewal to the dismay of their senior colleagues, who fought so hard for these programs.

The Arguments Against

To sum up the arguments for and against the proposed Black new towns: First, some of the well-meant criticisms of the integrationist group against the proposal:

Carey McWilliams, stalwart of the civil rights movement, fears that such a proposal offers a quick way to detour the Negroes into a satellite society. McWilliams senses a rising undercurrent of white resentment ready to take the Black separatists at their word to force them to "put up or shut up." A Negro-administered new town would play into the hands of such sentiment. Others feel that the proposal has a defeatist streak: "Integration won't work, so let's try the next best thing." Finally, an NAACP spokesman angrily asserts that "any concession to separatism would relieve the white liberals of any sense to support integrationist objectives." We may as well add the riot commission's general position that "equal economic opportunity cannot be achieved under conditions of nearly complete segregation."

Strangely enough, this last statement implies a belief in Negro inferiority, since it assumes that a Negro community in charge of its own affairs cannot be expected to perform on the same level as a white-dominated one, and therefore Negroes should be mixed with whites, like the troops of an unreliable ally among the soldiers of the dominant partner to insure that they will not throw their guns away.

The Arguments In Favor

In defense of the idea, let us first cite Robert Hatch, McWilliams' colleague as an editor of *The Nation*, who concedes that "the value of the proposal does not hinge on whether or not it can be exploited by racists."

Further, these additional points can be made:

- The establishment of one or more Black new towns would *not* represent *policy*. Compared to the total Negro population, the new towns would only amount to an *experiment*. They would merely provide an *option*, enriching the limited freedom presently available to urban Negroes in the choice of environments available to them.
- The Black new towns would have nothing in common with an "Indian reservation" or with "apartheid," since no one would be forced to live there.
- The Black new towns would not be "new ghettoes," unless the meaning of the word were stretched to deliberately create confusion. "Ghetto" implies the involuntary segregation of a minority in a restricted area that remains under the economic and political control of the dominant society. By contrast, the creation of a Black new town would amount to the voluntary concentration of Negroes in an area of superior physical equipment with the intent of achieving economic and political emancipation and to further its cultural identity.
- The Black new towns would not violate the open housing laws as long as whites can freely move in. Although the development corporation would assist the establishment and success of Negro businesses, there could be a place for the Chinese restaurant, the Armenian rug-dealer, and so on — maybe even for a friendly white loan-shark.
- Far from detouring the Negroes into a satellite society, the Black new towns may liberate Negroes from their inherited dependence on whites and provide them with a new strength that would make it possible for them in the future to move toward integration, as educator Donald Hopkins hopes, "as a coalescence of equals."

It is somewhat more difficult to dispose of the objection of Hans Spiegel, a sociologist at Columbia University: He fears that the establishment of Black new towns might attract a black elite, thus depriving the ghettoes of much-needed leadership. However, it is equally possible that the Black new towns would become a training ground for leaders of the ghetto, and that there would be a constant exchange between residents of the ghetto and of the new towns that would serve as the "growth pole" of Negro society and stimulate innovations and improvements in the ghetto areas. If Kenneth Clark feels that the "ghetto makes it brutally plain to the black man how little society values him," then perhaps the existence of Black new towns would make it obvious to the Negro how highly he is valued by society.

If we would introduce a system of "social cost accounting," as suggested by Michael Harrington, author of "The Other America" and a spokesman of the New Left, one could undoubtedly prove that the building of Black new towns is the best possible way of using available resources to create without delay optimal environment for the largest number of Negroes. Such a system of social accounts would reflect the true benefits of expenditures, including increased economic opportunity and social mobility, and would also reflect psychological gains in greater creativity, productivity, and civic pride as far as these are at all quantifiable.

In terms of the central cities, the creation of Black new towns would parallel and balance the rise of the white-promoted new towns and subdivisions. The Black new towns would alleviate the demographic pressure on the central ghettoes by providing an alternate target for migration. By thus helping to stabilize the ghetto population at the present densities, the new towns would contribute to the success of the "enrichment programs," which would become meaningless if overcrowding of the central city ghettoes continues to rise.

The Black new towns would also take some steam off the central cities by providing a way out for the young militants, who feel that they cannot perform in a white-dominated society. Psychologically, the new towns would provide the most dynamic and discontented element with a chance to show that they can indeed "put up" and "deliver." The towns could become the locus of collective pride and loyalty — a spiritual home, a "Black Israel."

These towns would not in themselves solve the urban problem or the racial problem. However, they would offer a partial solution, a solution that is within our reach and within the reach of the Negro community. Life in the Black new towns may not be perfect and their economy may fail eventually, like Marcus Garvey's Black Star Steamship line. On the other hand, to paraphrase James Rouse, they may provide the "most viable soil for the growth of the black people." As Robert Browne asked in a letter to *The New York Times*, "Do any of us know with certainty what is truly the best solution to our tragic racial problems in this country?"

To build a Black new town will require considerably more courage than a bouquet of demonstration programs, yet it would amount to building at least one Demonstration City on a scale appropriate to the magnitude of the problem. Let us try.

Fast, silent, electronic responses from students help teachers pace lectures to meet the best assimilation rate of a class.

COMPUTERIZED CLASSROOM

By Arthur Berkell, School of Journalism, Syracuse University.

A teacher testing a large class in a Syracuse University lecture hall knows immediately what percentage of his students answer a question correctly, and soon after the test knows the students' final scores and their deviations from the class mean. This is not due to the arithmetical wizardry of the teacher, but to a computerized system that records and analyzes student responses made on push buttons at each desk.

The equipment is installed in a lecture hall at the Newhouse Communications Center of the School of Journalism at Syracuse University, Syracuse, N.Y. Its purpose is to compensate for the lack of personal contact between a teacher and a large class of students, and it achieves this by enabling a teacher to check instantly on how well a class is understanding him and to adjust the pace of the lecture accordingly.

The system comprises the following components: selection controls at each student's seat, a control lectern for the instructor, a control and display unit in a projection booth, and equipment for transferring student responses to a punch tape that is fed into a teletype unit for sending and receiving analyses and records of the student responses to a remote computer.

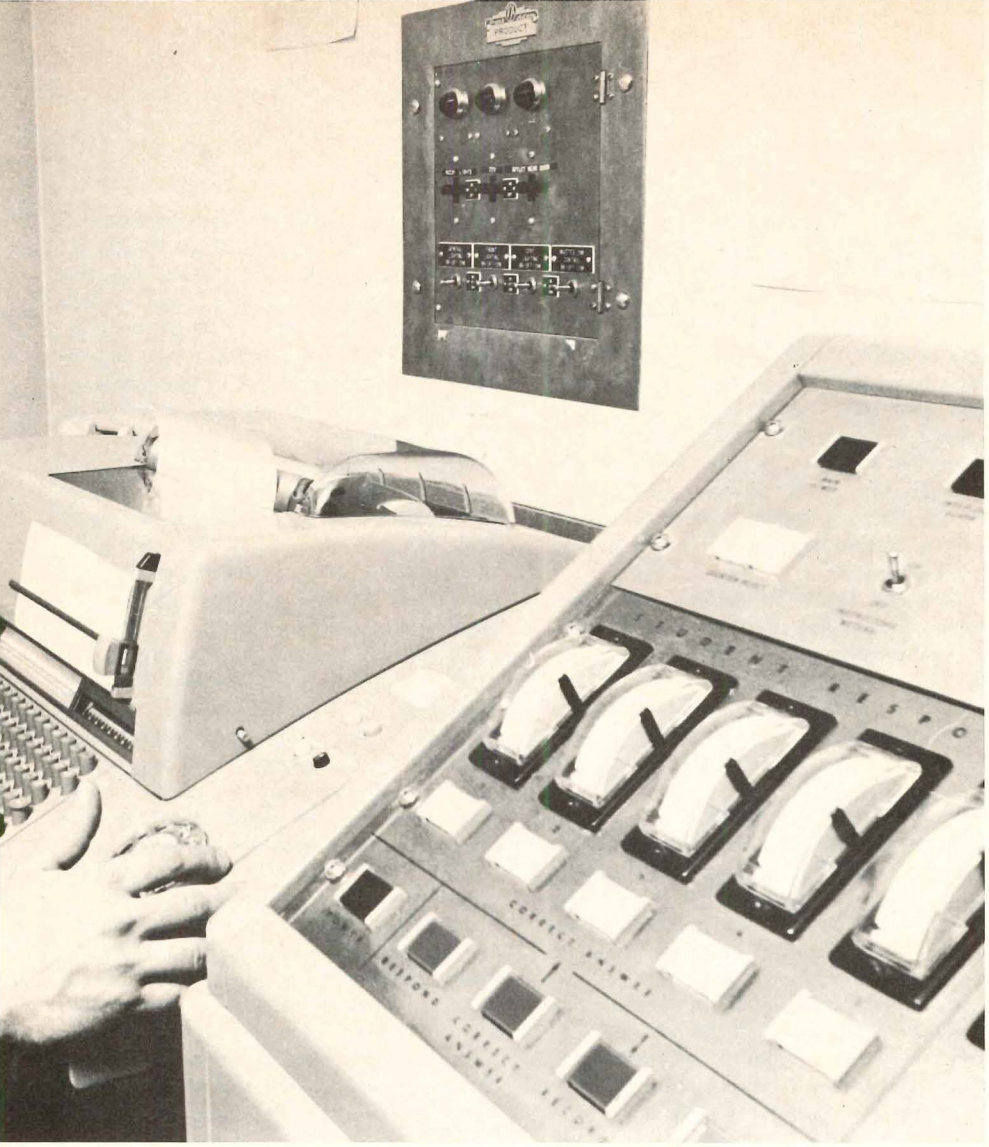
The student stations have five white response buttons and one black cancel button, which allows a student to cancel a response and make a new one before the responses are locked in. Five meters on the control lectern indicate the percentage of the class making any of the five possible selections. A sixth meter indicates the percentage of student stations that have responded to a question.

After posing a question to the class, the teacher presses one of five Correct Answer buttons, so that the machine can compare student responses with the correct answer. Then, after a prescribed interval, the teacher depresses the Record button, which activates a warning buzzer. Ten seconds later, the answers are locked into the machine, and a lighted Display button indicates that the correct answer is displayed on the panel above the blackboard. By pushing the Reset button, the teacher restarts the question and answer cycle.

The computer interface located in the projection booth at the rear of the classroom contains a duplicate of the control lectern controls. The operator of this panel can adjust the scales of the response meters at both panels to give direct readings for any size of class. The teletype unit in the projection booth provides printed and punched tape records of all responses and links the equipment with a remote computer in the G.E. Co. research center in Schenectady.

The Button-Down Response

When a teacher gives an exam, he preprograms the questions, which can be in the form of multiple-choice or true-false. Students may see the questions on a screen at the front of the room, read them



Operator transmits examination answers to remote computer center for analysis. Meters on right-hand panel show number and percentage of students responding to each question.

SEAT 1	1	8(10)	.53
SEAT 2	2	6(10)	–.40
SEAT 3	3	9(10)	.99
SEAT 4	4	10(10)	1.46
SEAT 5	5	10(10)	1.46
SEAT 6	6	5(10)	–.86
SEAT 7	7	9(10)	.99
SEAT 8	8	7(10)	.07
SEAT 9	9	10(10)	1.46
SEAT 10	10	9(10)	.99
SEAT 11	11	9(10)	.99
...	...	...	...
...	...	...	...
...	...	...	...
SEAT 97	97	10(10)	1.46

Additional data is also given in summary form:

DAILY DATA . . .
84 SEATS ASSIGNED.
10 QUESTION SCORED.

ABSENTEES . . .
SEAT 19
SEAT 33
SEAT 57
SEAT 78

MEAN = 6.86
STANDARD DEVIATION = 2.15

from a page, or hear them from the teacher; answers, however, are always made by depressing the appropriate button at each seat. All answers are recorded and printed on punched tape. At the same time, the correct answer is shown to the class on the display screen above the projection-screen area. At the end of the exam, the results recorded on the punched tape can be teletyped to the remote computer.

A typical example of a teletype printout after the computer processes the data is shown below. The first column represents the seat number, but this could be replaced with students' names if desired. The second column repeats the seat number. The third column gives the number of correct responses, followed by the total number of questions in parentheses. The last column is the computed Z-score, or number of standard deviations above or below the class mean.

By looking at the response meters at the control lectern, the teacher knows during an exam how his class is doing. He can also use the response meters during an ordinary class session to ask the students if a point is understood clearly. The students answer privately through the control station, and so will more often admit to not understanding a topic. The teacher can reiterate a point if the meters show that a sufficient number of students do not understand it.

Even during exams, a Response button can be used to fulfill a function other than to answer questions. For example, button number five could be used to indicate that a student needs more time before proceeding to the next question, or to request explanation of a question.

The teacher's lectern also houses controls for slide and movie projection and a tape recorder. This gives the teacher complete control over an audio-visual presentation, for he can stop at any time in order to ask or answer questions.

Simple Space Requirements

Equipment for a student response system can easily be planned into a building or even installed in an existing building. The chief requirement is sufficient space for the computer interface equipment adjacent to the classroom. At Syracuse, the interface equipment and teletype occupy about 80 cu ft, and are installed in a projection booth so that the equipment operator can view the proceedings in the classroom while he is working.

A suitable area is, of course, necessary for student stations and the correct-answer-dipslay panel. Under-floor raceways carry the necessary wiring from interface to interface, and from student stations to the interface and control equipment. Cast floor boxes with covers are used as electrical junction boxes for 4"x4" raceways; nominal size is 24" x 24" x 12",

depending on the number of stations and size of the room.

A Teacher's Viewpoint

Michael Molenda, a graduate assistant in the department of Audio-Visual Instruction, which is chiefly responsible for operation of the system, tells of an experiment with the student response system in a regular psychology course. Students were given a 10-minute quiz at the start of each class session, and at the end of the quiz the teacher's assistant processed the recorded answers through the GE computer. The questions missed by each student were correlated with specific reading assignments matched to the questions. At the close of the class session, each student was given an *individualized* reading assignment, designed for the area in which the quiz showed he was weak. The class using this system did much better on a standardized final exam than the class taught by the same teacher but without the benefit of the correlated reading assignments.

When used in the nomal manner, Molenda claims that the student response system forces teachers to evaluate their tests more carefully. He claims that teachers no longer can judge the fairness of a test by the standards used a few months ago.

One drawback to operating the system, according to Molenda, is that it takes two persons to operate it. The teacher must have an assistant to operate the computer interface equipment. And the teacher himself is heavily involved in the operation of the system and is often distracted by it. Another problem is student reaction. At first, the student is maladjusted to the response system and does poorly on exams. Each question is graded individually, rather than the test as a whole. There is no warming-up to the subject allowed, so by the time the student does warm up, he can no longer go back to change a previous answer.

Molenda looks forward to the time when student response systems will operate with each student station individually. Then, each student can proceed at his own rate during an exam just as in a written exam, but with the speed advantages of the electronic exam.

Students Almost Like It

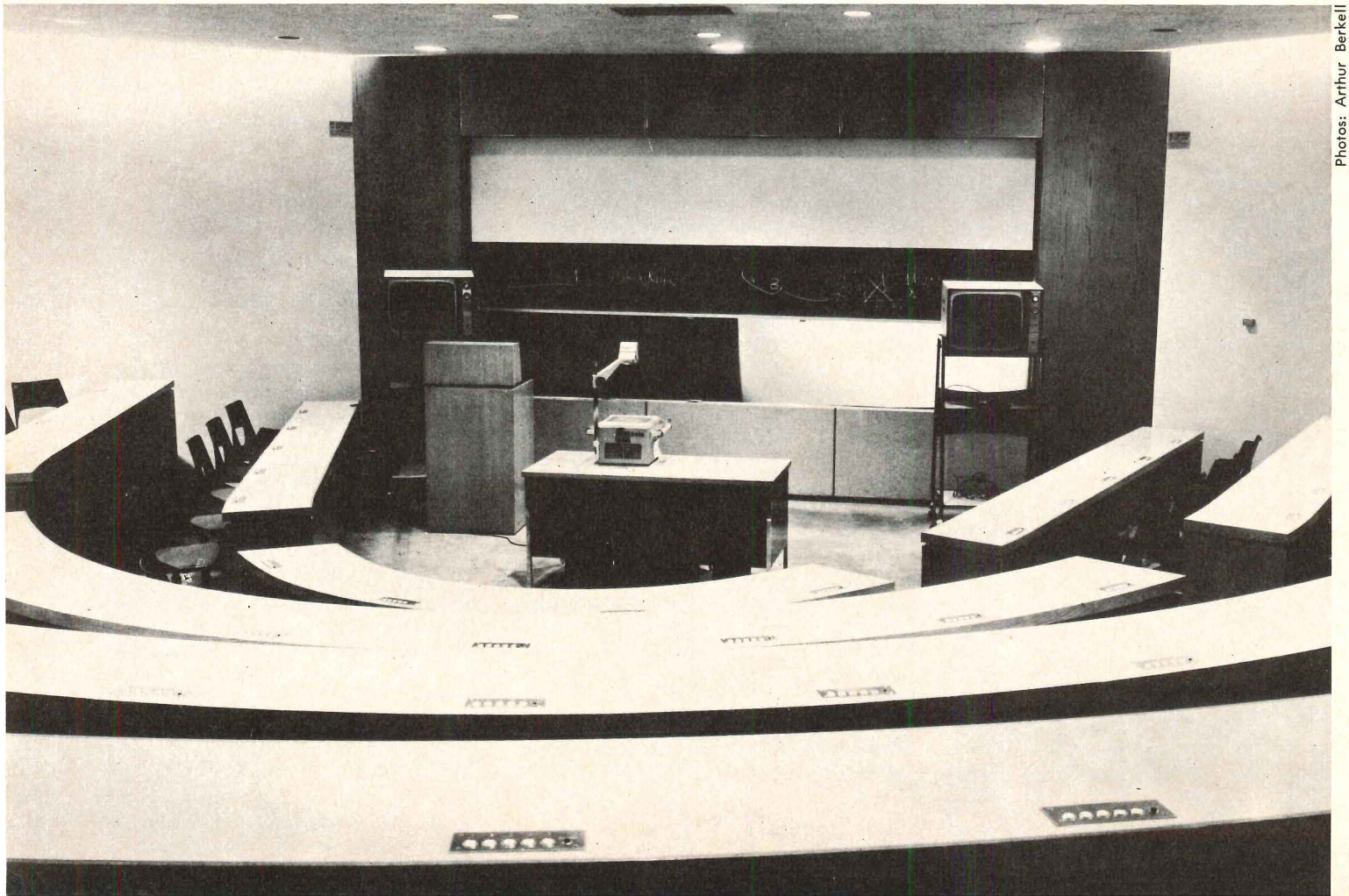
The views of Robert L. Kerns, Assistant Professor of Photography at Syracuse University, are similar to Molenda's. Kerns claims that he can grade an exam in less time, but that he requires much more preparation time.

However, Kerns feels that, with the student response system, he can make a much better evaluation of the exams. "A great deal of preparation on the part of the teacher is necessary, but it is well worth it. Your exams get better and much more fair to the students. The immediate feedback of information is tremendous."

Student opinions vary. Mary Hamilton, a home economics major, feels that the student response system is fun to use, but would rather have a written exam, because "You can't change an answer that you suddenly realize is wrong after a question later in the test reminded you of the right answer."

Richard Bouvier, a political science major, implies that the student response system is unfair, "You get so involved with the pushbuttons and the other gimmicks that you can't concentrate on the question." Another student agrees, "It seems that each question is graded individually. You don't have a chance to take a complete exam. I like the reinforcement of knowing if my answers were right or wrong immediately, and knowing the final score by the next morning." Obviously, there is room for improvement, but the development of this type of teaching methods is encouraging.

Does it help the teacher? Does it help the student? Does it make for better student-teacher relationships? At present, it is too early to tell, but the pre-testing and individual-reading-assignment experiment certainly appears to be a step in the right direction. Perhaps with the installation of student response systems in more schools, both at the college and even high-school level, other new, interesting, and perhaps even more ingenious and rewarding methods will be devised.



Photos: Arthur Berkell

PUTTING THE SKY INDOORS

A general introduction to planning a planetarium for schools or museums.

By Joel Martin, planetarium consultant, Fort Lauderdale, Fla.

Photo: Plummers

An architect has two valuable sources of information when planning a planetarium: an existing planetarium, and blueprints furnished by a planetarium manufacturer. (A planetarium is defined as a machine for projecting constellations and the building housing it.) However, existing installations and blueprints have the same inherent fault — they do not indicate what curriculum decisions caused others to choose these particular plans.

All planetariums are compromises between what we want and what we are able to get. These compromises should be chosen in the light of the planned use of the planetarium, and this is where one installation must necessarily differ from all others. No two schools or museums can use exactly the same building plan in exactly the same way. As Frank Lloyd Wright said, "To know a building, one must live in it." For a planetarium, this comment is straight from the stars.

Since there are no standardized directions for planning a planetarium, each job is more or less a custom design — unless you copy one of the older traditional planetariums. Beware of copying one of the larger public museum-type planetariums for a school. Their planned usage is entirely different from the core curriculum approach of a good school program.

Perhaps the safest approach is to get a committee of staff and faculty members to draw up comprehensive use-specifications. For this, they will benefit greatly from the services of a curriculum specialist or consultant — preferably one who has lived in a planetarium, so that, from Frank Lloyd Wright's point of view, he *knows* the building.

One essential of a planetarium building is a hemispherical, domed ceiling. Size is not a criterion: The smallest known planetarium dome is 12-ft in diameter, and the largest is the 83-ft-diameter dome in Moscow. Ceiling treatment varies, but the surfaces commonly used are white acoustic plaster and perforated metal. Fabric or fiber glass can be used, but may create echoes. The perforated metal ceiling has an additional advantage for special exhibits because it permits lighted mock-ups of spaceships or nativity scenes to be built above or behind it.

The size of the audience establishes the size of the room and hence the domed ceiling, and a planetarium machine can then be selected for the dome. The major manufacturers make machines to suit any size dome.

The most far-reaching preliminary decision is the orientation of north and south for the projected stars. Once this is set, it also fixes the entrances and the seating alignment. Most existing installations reflect the traditional arrangement where the interior north and south are accurately aligned with the real compass north and south points, but this is not essential. The alignment serves well only where visitation-type programs are contemplated. However, the entrance should preferably be arranged so that a minimum of light shines into the eyes of those already seated while the later entrants are being admitted.

The more recent thinking on orientation allows for a change of aspect between demonstrations, or even during a star presentation. The newer machines are equipped with a rotating central pedestal so that the north-south points can be changed at will, or they can be easily mounted for changeable N-S orientation. A lack of projection cardinal points need not preclude such a use, for the orientation can be established for the students, whenever necessary, by means of the projection meridian, which they both have.

With the changeable N-S orientation, the seating need no longer be the traditional circular arrangement, but may be a semicircle, or arcs of larger circles, or a chevron pattern. The criterion is to provide comfort for the viewers. Since the presentation is on the ceiling, a circular seating pattern will cause half the viewers to turn their heads, but a semicircular arrangement prevents this. Naturally, the audience has to look up, and ideally should sit in reclining seats with headrests. If finances do not permit this, seat rows should be spaced to allow viewers to slide down and put their heads on the back of the seats.

Having cut loose from compass directions, the decision is now a matter of compromise with state fire regulations. These usually require two exits for any room used as an assembly place. The entrance most frequently used should admit the least light and afford ingress from the rear if possible. This will put the less used exit toward the front or on a side near the front.

Once the orientation, seating pattern, and entrances are set, only minor decisions remain. Projection rooms for auxiliary equipment such as slide projectors, overhead, opaque, movie and film strip projectors are needed because these all spill light. The spilled light can best be controlled by putting the equipment in another room with remote control. In the absence of remote control, at least one additional operator must be provided at all times.

A variety of accessories are available for planetarium use — auroras, meteors, solar and lunar eclipses — and they can be accommodated on a jack panel that allows all controls to be operated from a main console.

Another useful device is the 16mm filmstrip projector that allows anyone to make color filmstrips with any single-frame 16mm camera. But even a hand-held light pointer has more than one use — I have seen it, in the hands of a clever lecturer, double as a satellite moving slowly across the sky in its mysterious way: silent and inexorable.

THE APPEAL OF BRICK LOADBEARING APARTMENTS

Multistory loadbearing construction that works well in Britain would also fit the architectural, structural, and economic requirements of the U.S.

By J. Stockbridge, an engineer in the Chicago office of Skidmore, Owings & Merrill.

In the last seven years, more than two dozen loadbearing brick apartment buildings over 10-stories high have been completed in Britain. This is only a small percentage of the multistory market, but it is significant because many of these buildings were not initially designed for brick, but were chosen in competition with concrete and steel.

The most advantageous feature of brickwork is its ability to perform many functions that would normally have to be separately provided in a frame building. This considerably simplifies detailing. Brickwork simultaneously provides structural support, subdivision of space, thermal and acoustic insulation, and fire and weather protection. It is a cheap but durable material, aesthetically pleasing, and can be constructed with only modest capital investment on the part of the contractor.

Expressing the Material in Plan

The greatest economy is in buildings with small- to medium-size rooms with floor plans that repeat for the entire building height. Walls supporting moderate floor spans are not called upon to carry unduly heavy concentrations of vertical loads, and diaphragm action can be counted on for transferring lateral loads, because the proportions of the floor span to width will seldom exceed 2.5 to 1. The brickwork walls, which act as thin vertical plates, depend on this floor slab diaphragm action to distribute lateral loads between walls in relation to their relative stiffness.

The layout of brick loadbearing structures generally falls into three arrangements: simple crosswalls, cellular plan, and a composite of the two.

The most easily recognizable layout is the simple crosswall, which has proved to be very economical in low-rise residential construction and has dominated this field for many years **(1)**. The crosswall layout, however, limits the depth of a building if all the rooms are to have access to natural light. For this reason, the simple crosswall structure is seldom used for tall brick buildings, except when adapted for point tower construction with crosswalls set parallel to both axes of the building **(2)**.

The second type of layout is the cellular plan, in which the walls create closed units. These units act as built-up tube sections, which are especially efficient in resisting lateral wind loads.

Many other variations are possible, but invariably they will be a composite of cellular and crosswall layouts.

The arrangement chosen is not particularly critical from a structural stand-

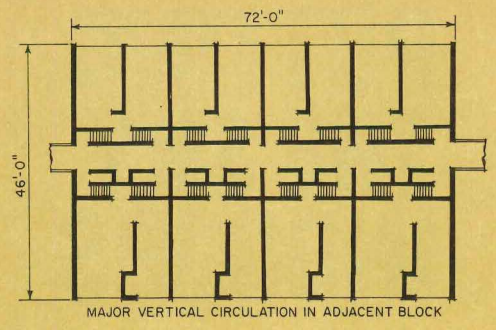


Fig. 1

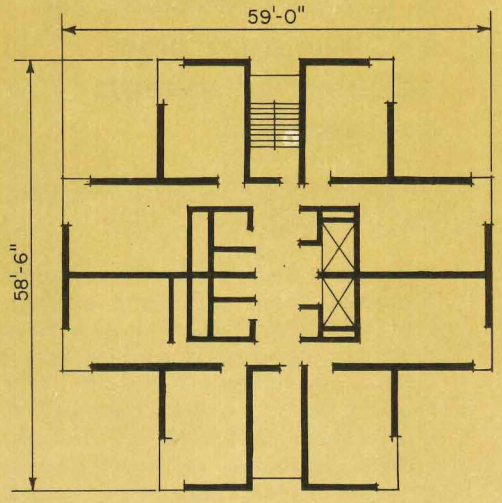


Fig. 2

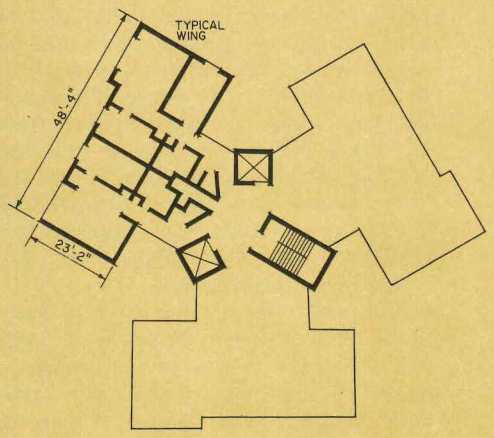


Fig. 3

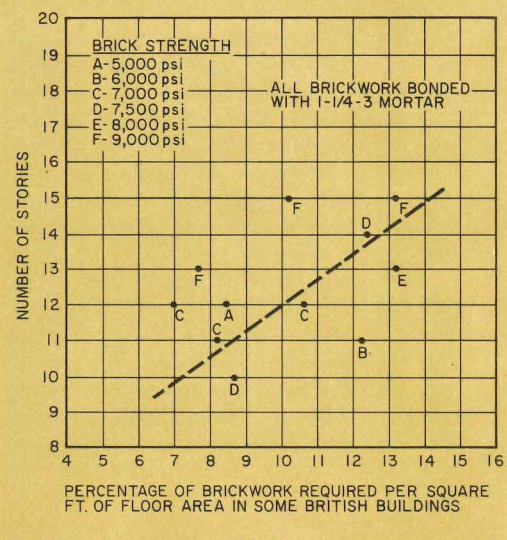
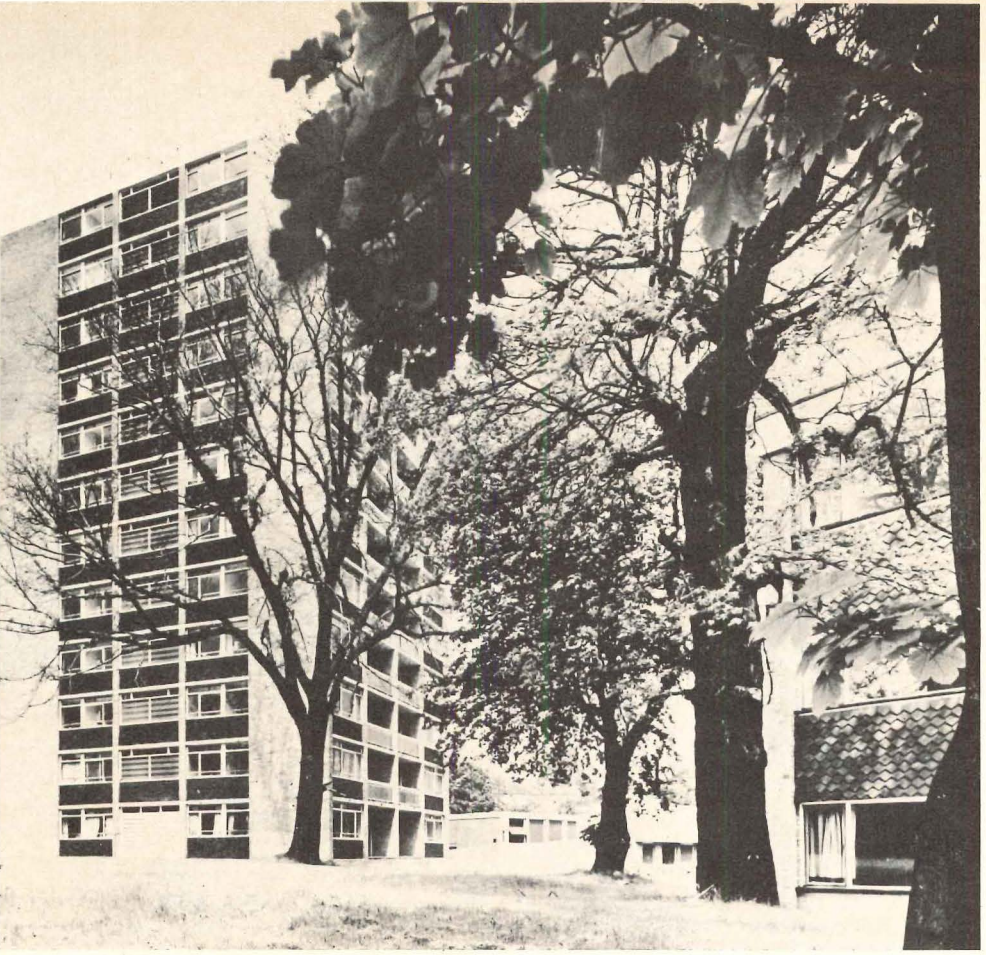
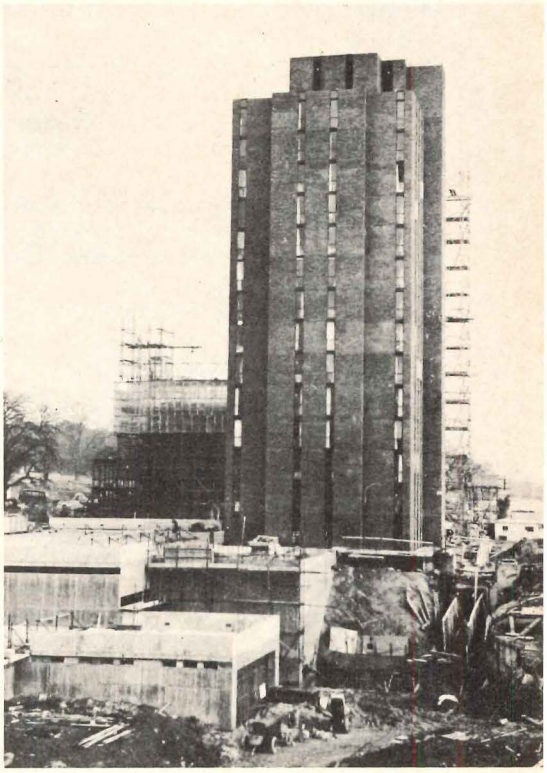


Fig. 4



(5) Elmwood Court Apartments, Birmingham, England.

(6) Dormitories at the University of Essex, England.



point, provided a reasonable percentage of walls are oriented parallel to each of the principal building axes. This is essential to achieve adequate rigidity against lateral loads, because shear walls are only efficient when acting parallel to the lines of force. Additional stability can be provided by stairs, elevator shafts, duct shafts, or by developing a complex of intersecting wings. A 13-story apartment block in London puts this latter approach to good use **(3)**.

It is also good practice to avoid wall layouts that are particularly unsymmetrical because they can introduce torsional stresses under lateral loads. These stresses are difficult to calculate and they may produce undesirable distributions.

Replacing Partitions

A study to determine the percentage of structural wall area required per sq ft of floor area (wall-floor ratio) in a sampling of British multistory apartments and dormitories is shown in **(4)**. The wall-floor ratios were found to vary from .06 to .13 and appeared to be affected by the height of the building. Brickwork strength was also considered, but its influence on the wall-floor ratio was not nearly as well defined.

In dormitories, hotels, and hospitals, where rooms require particularly good sound insulation, walls are normally heavy enough to perform as loadbearing elements. In apartments, however, even though party walls require considerable mass, the walls within an apartment perform a less demanding role and can in some cases be economically replaced by nonloadbearing partitions.

Perhaps the most important factor in determining if a partition can economically replace a shear wall is to determine to what extent the adjacent floor spans will be affected. By rule of thumb, a 3000-sq-ft floor will usually require an additional 30 feet of 9-in.wall if a 1-in. slab thickness can be saved. This rule assumes the percentage of slab reinforcement remains constant.

Gravity loads at foundation level for tall brickwork building are such that, under normal soil conditions, spread footing will usually be out of the question. In the majority of cases, a 2-ft-thick mat foundation has been found to be the most economical solution, but piles and box frame rafts have also been used.

Since a raft performs to a large extent very much like a slab, it is not surprising that a well-studied wall layout can achieve economy below grade as well as above.

The Visual Capabilities

Within the bounds of structural honesty, brickwork offers a flexibility of design available with few other structural systems. By a skillful positioning of bearing walls, a brickwork structure can appear as light and airy as any structural frame **(5)**, or as massive and protective as a fortress **(6)**.

The simple lines and unadorned mass of brickwork achieves its beauty through proportion and balance **(7)**, and by reliance on the inherent richness of the material itself **(8)**. The impressive solid and rough character of brickwork can readily be emphasized by using it in conjunction with light and smooth curtain wall materials.

The major design difficulty of multistory structures is to relate them to human scale. Large areas of color, which may well be aesthetically pleasing from far away, often have little visual effectiveness when viewed from the immediate surroundings of the building.

At distances exceeding 1000 ft, brickwork appears to be a uniform tone of color created by a visual blending of the colors of the brick and mortar. Any color can be embodied in brickwork provided the designer takes the time to find the correct materials. When selecting a color, however, it should be remembered that brickwork colors become mellowed with time.

As a brickwork surface is approached, the textural pattern created by the bond commands the eye, and the true colors of the brick and mortar emerge. This pat-

tern of joints tends to relieve the walls' massive appearance, and the familiar shape and size of the brick unit sets the scale. Three-dimensional bonds and recessed joints can be used to intensify the textural effect through the added dimension of light and shadow.

Tests have demonstrated that bond pattern can normally be left to a designer's discretion without particular concern about wall strength, provided there is an overlapping of units (no stack bond), all mortar joints are filled, and brick strength is determined for the appropriate plane of loading. If bricks are to be laid on edge in a wall, their compressive stress on edge should be used instead of the manufacturer's quoted brick strength. Loading a brick on different planes will usually result in considerably varied strengths.

At a yet closer distance to a brickwork surface, subtle color variations between individual bricks become detectable, and their textural finish can be seen.

The ability to adapt brickwork economically to either multistory or low-rise use can often prove valuable. The apartments in Southwark, London **(9)** rely on brickwork to unify the simple forms and develop a constant all-over site character.

The joining of spaces by continuing a single plane from one space into another allows the spaces to flow into one another and visually increases their size. Since the entire structural system of a brickwork building is a series of planes, and is functionally acceptable both internally and externally, the design potential along such lines is unlimited.

Structural Characteristics

Unlike steel or concrete construction, brickwork has no direct mechanical connection to insure interaction between vertical and horizontal elements other than mortar bond, which is normally weak in tension.

British engineers base their design on no joint fixity, while the Swiss take the opposite approach and assume full joint fixity. Neither assumption is correct for all slab-wall connections, even within the same building.

At the base of a building, where the axial compressive forces in the walls are large, there is little doubt that approximately full joint fixity is developed. But higher up in the building, where precompression is less, full joint fixity is doubtful. This is one of the major factors that allows brickwork walls to perform satisfactorily without the need for reinforcement.

Where axial compressive forces are large, almost complete joint fixity exists. At this location, large moments from the floors will often be transferred into the walls. But this presents little problem, since the large axial forces also normally prevent the induced bending moments from developing tension.

In the upper stories of a building, the ability to prevent the development of tensile forces in walls is decreased, but at the same time there is less chance of bending stresses being transferred into the walls due to less joint fixity.

Therefore, rigid, strong mortars can be used in the lower stories of a building, where gravity loads are high and wall compressive strength is critical; near the top of the building, however, it is good practice to use weaker mortars. These weaker and more plastic mortars will reduce joint fixity at the top of the building, where induced bending will normally be most critical.

Edge beams in the lower stories can tie shear walls together, but in the upper floors they should be avoided because they stiffen the wall-slab connections and encourage the distribution of bending stresses into the walls.

At all levels, it is good practice to carry slabs as deeply into the walls as possible, in order to reduce eccentric loading and the chance of uneven bearing.

Floor to Wall Joints

A column of a simple frame exposed to a lateral load, neglecting gravity loads, is subject to a bending moment, a shear force and an axial force. When the frame members are relatively flexible, the axial forces and shears are normally small compared with the bending moments, and are usually neglected when designing columns. But when the length-to-height ratios of the vertical elements in a frame increase, their stiffnesses become much greater and the magnitude of the axial and shear forces increases. Therefore, when walls (which act as stiff columns) are the vertical elements of a frame, axial and shear forces must be considered.

The ability to develop interaction between walls is dependent on the stiffness of the horizontal members connecting them. When infinitely stiff connecting members are used, the entire structure will act as a solid cantilever **(11A)**. On the other hand, if the slab-wall connections are so flexible that they approach a pin-ended condition, each wall will act as an independent cantilever **(11B)**. In actual practice, some degree of compromise between these extremes will exist **(11C)**. For design purposes, wall-to-wall joints can normally be considered perfectly rigid, and built-up vertical sections with appropriate webs and flanges can be created. Floor to wall joints, at least at

(8) Dormitories at the University of Bangor, Wales.

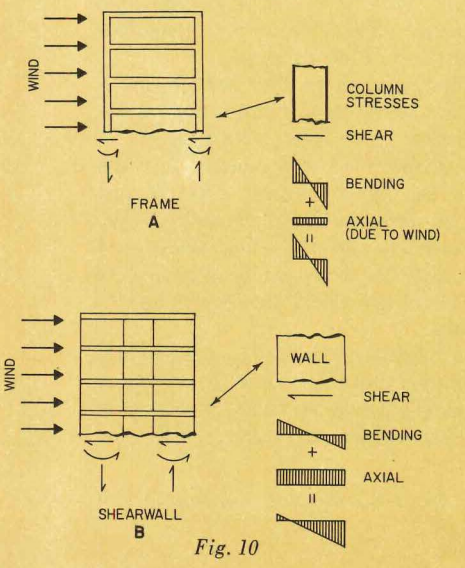


Fig. 10

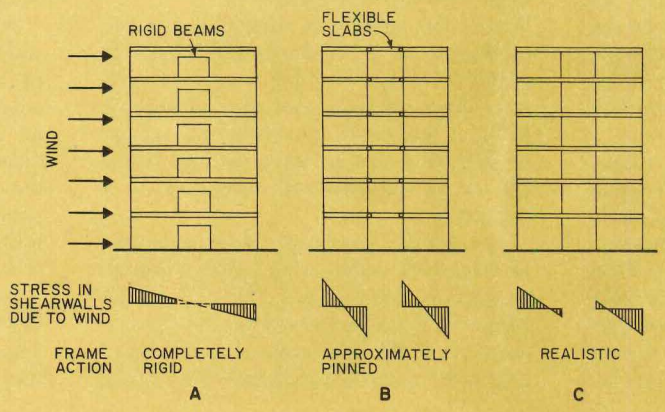


Fig. 11

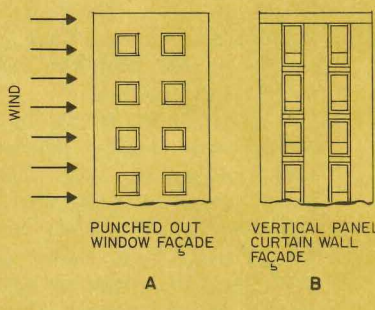
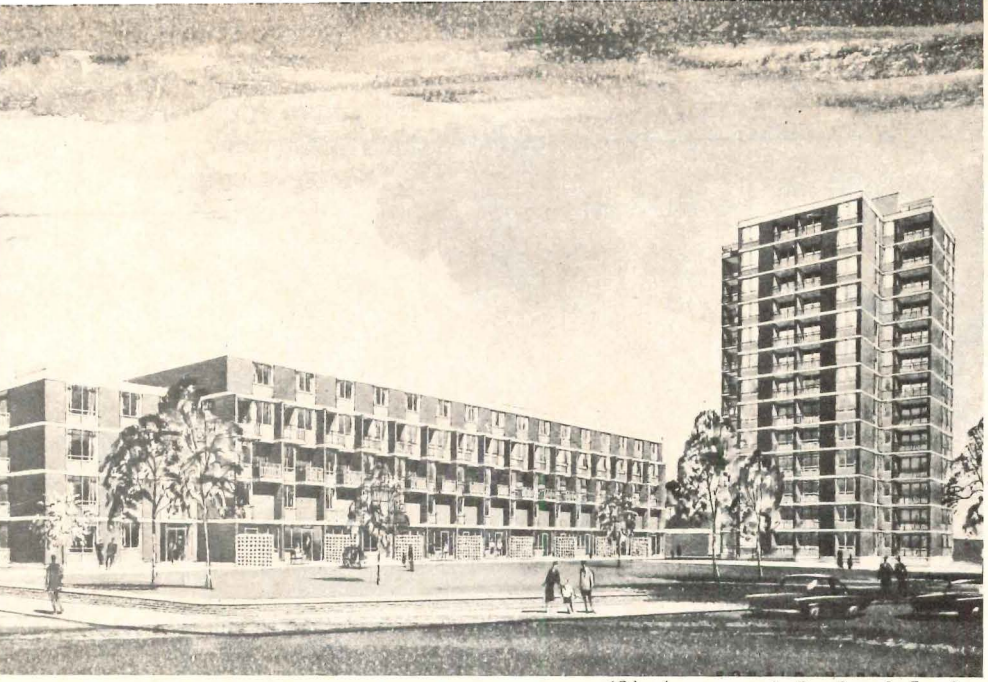


Fig. 12



(9) Apartments in Southwark, London.

(7) Apartments at Baylis Road, London.

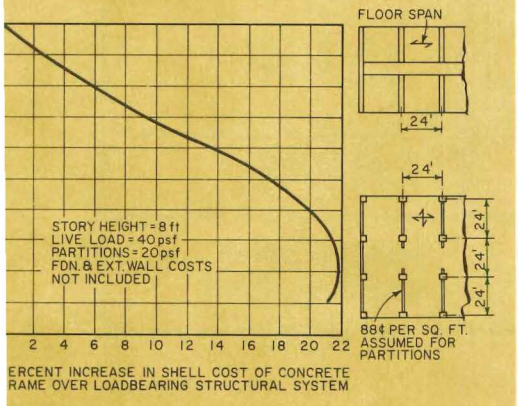


Fig. 13

the top of the building, will normally be quite flexible, and the wall complexes will act as independent cantilevers.

In a few cases, however, complete interaction between slab connected wall complexes has been assumed in selected areas of a building where specially designed connecting members have been used. This was applied in the design of a 13-story dormitory at Liverpool University, where a 4½-in. concrete slab was increased to 10 in. over the core area to encourage interaction between the numerous but short walls located there.

Based on this short discussion, it can readily be seen that when resistance to lateral loads becomes critical, a façade with "punched-out windows" **(12A)** will contribute considerably more stiffness to a building than a "vertical panel curtain wall façade" **(12B)**.

In structures where functional or aesthetic requirements make it impractical to carry brickwork walls continuously to the foundations, economy has suffered.

The traditional approach in Britain and the U. S. is to support the discontinuous walls over lintels or beams, and to design these members to support a triangular wall area directly above them. In practice, however, the beams and brickwork above act as deep composite sections considerably more efficient in flexure than the supporting members alone.

Preliminary tests are being carried out in Britain to study the feasibility of tying brickwork walls into reinforced concrete floor slabs to form story-height horizontal H-beams, channels, and box sections.

If these tests prove structurally and economically successful, increased design freedom both in elevation and plan must result. The ability to economically cantilever brickwork elements from the brickwork façade should prove of great value in expressing the multiplicity of small units common to the high-rise brickwork structure.

Because of their great depth, these composite sections will be very stiff, so that deflection and creep will be less critical than in other standard forms of construction.

British Experience Related to American Architecture

Bricks of engineering quality are more easily obtainable in the U. S. than in Britain, and there is practically no cost premium for high-strength bricks here. But in Britain, where high-strength bricks cost more, designers have to reduce the brick strength with the height of the building to achieve economy. In this country, however, the site control problems and costs of buying in small lots have made this approach unrealistic.

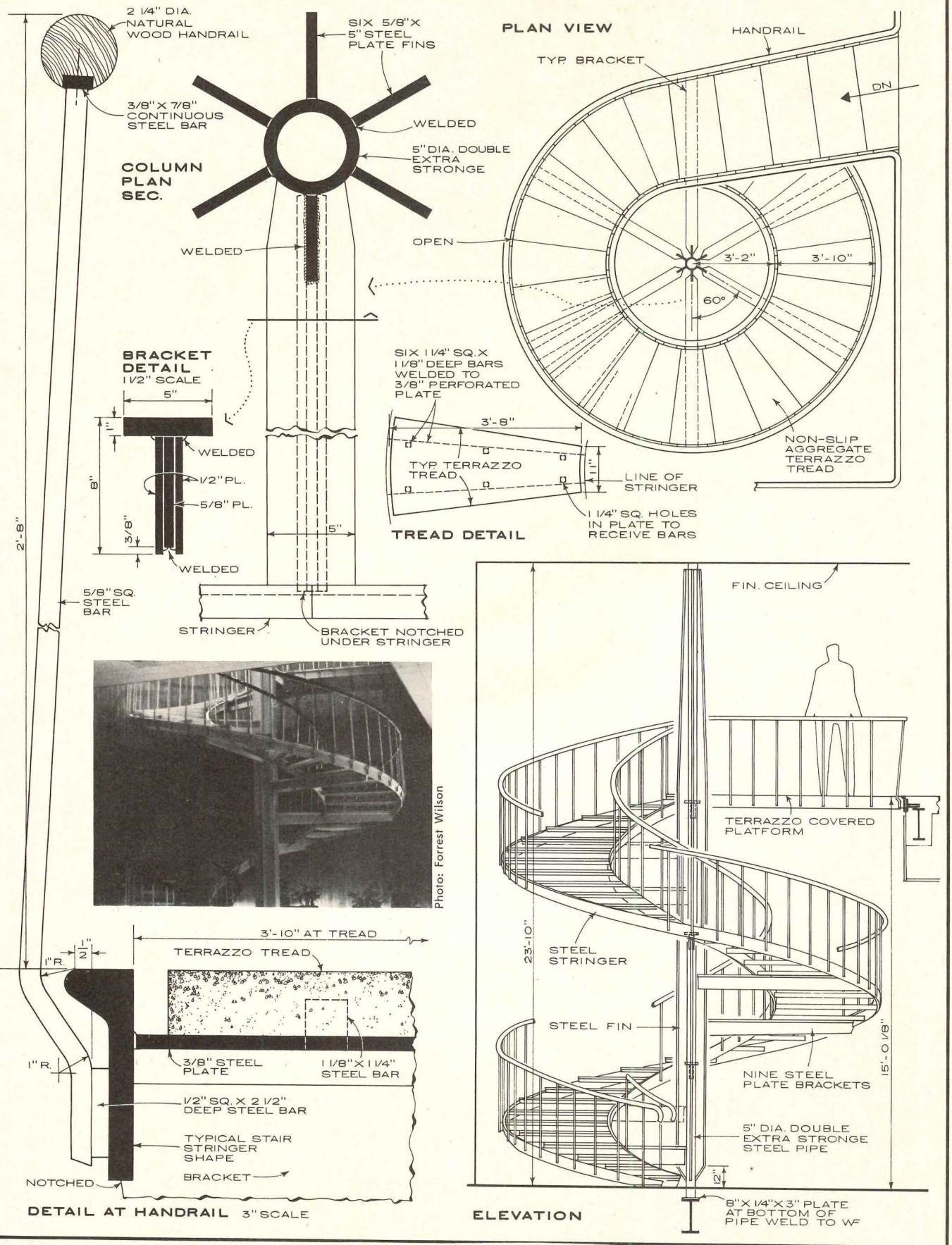
Since brickwork strength is controlled by both the strength of the brick and the mortar, and because of the economical availability of high-strength bricks, U. S. engineers can achieve a required design strength using less cementitious mortars than British engineers. The 1:½:4½ (cement, lime, sand) mortars normally used in the States have better workability than the 1:¼:3 mixes used in Britain, and often develop better bond. Also, their more plastic nature helps to relieve internal stresses and prevent the development of hair line cracking.

Despite the excellent quantity and quality of materials, brickwork was penalized for buildings over three stories high by outdated rule-of-thumb requirements. However, most codes have now been revised to permit the waiver of arbitrary requirements related to lateral supports and minimum thicknesses, and in 1966 the Structural Clay Products Institute published the "Recommended Building Code Requirements for Engineered Brick Masonry." This standard suggests design limits comparable to those in Britain, and is even more liberal in the case of tension and shear.

Although American un-reinforced brickwork construction is normally confined to buildings that are lower in height than those in Britain, comparable savings in structural cost have been recorded despite the higher labor costs in the U.S. A cost study carried out by the Clay Products Association of the Southwest comparing brickwork with concrete frame costs is shown **(13)**.

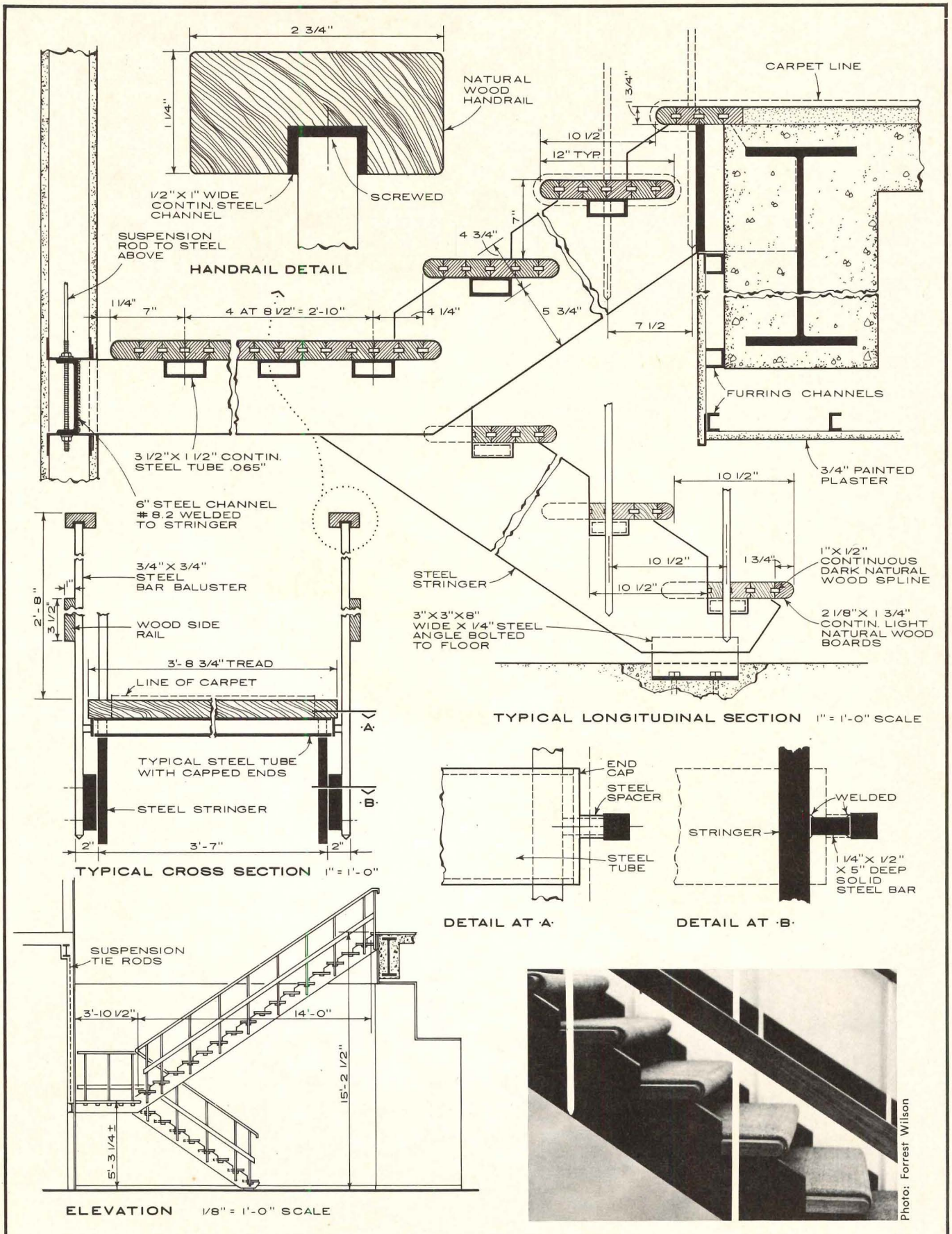
Conclusion

Increasing population and continuing economic prosperity demands the development of specialized structural systems geared directly to satisfying specific environmental and economic requirements. Loadbearing brick structures can do this, and will no doubt play a large role in meeting the predicted increase of multistory housing units, which are expected to comprise 40 per cent of the housing market in 1970.



SPRING MILLS INC: New York, N.Y.
BEESTON & PATTERSON: Architects

SELECTED DETAIL
CIRCULAR STAIR



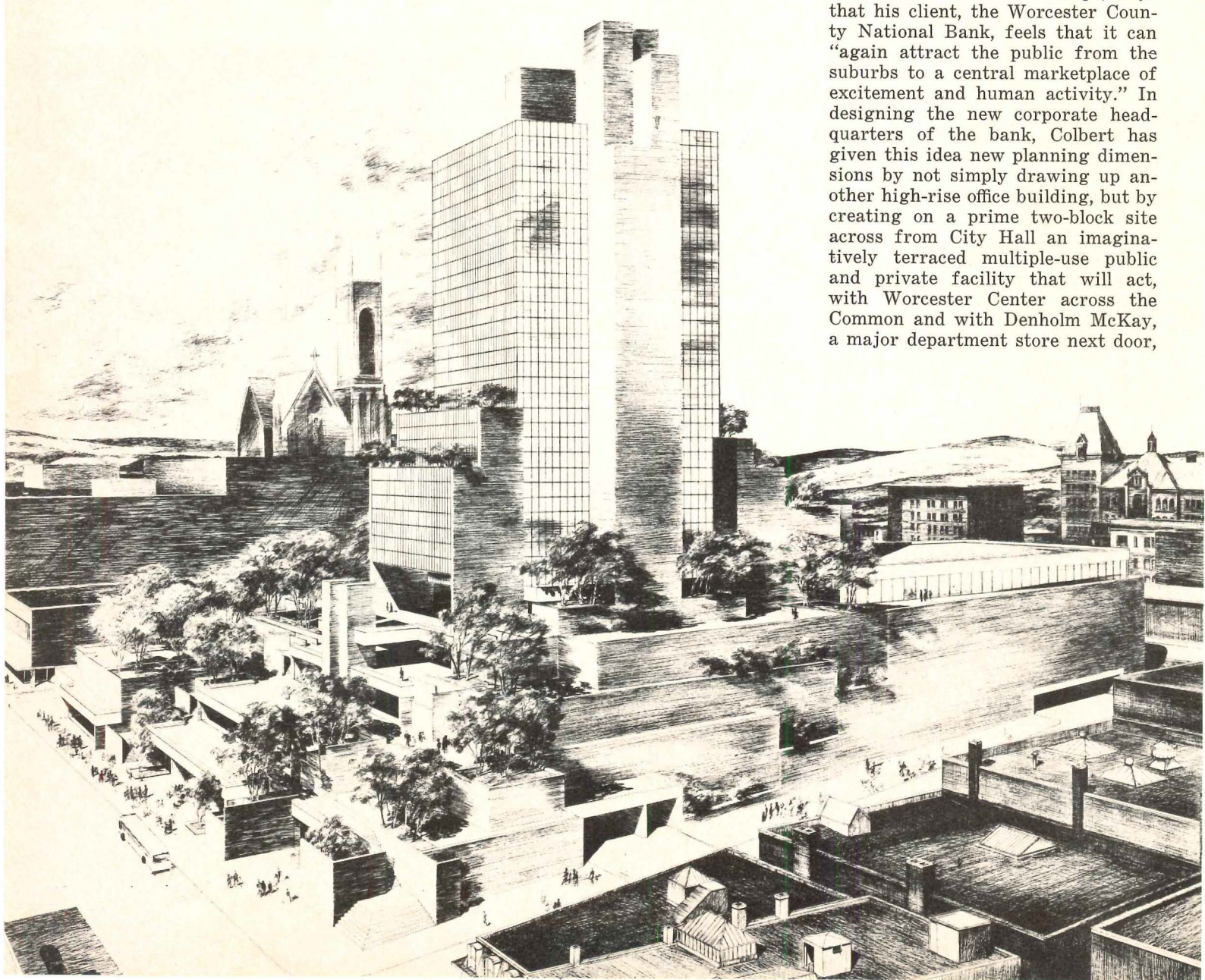
BEACON MANUFACTURING COMPANY: New York, N.Y.
SHARON-KROB-MURRAY: Architects

SELECTED DETAIL
STAIRCASE

OMNIBUILDING PROGRESS IN WORCESTER

When we included the Worcester, Mass., Center Urban Renewal Project by Welton Becket & Associates as an example in our *Omnibuilding* issue (p. 177, JULY 1968 P/A), we did not know that a project with omnibuilding qualities had been proposed at the opposite end of Worcester Common, one that will, if realized, help to make the rejuvenation of downtown Worcester a paragon in the application of mixed-use plans to revive a somnolent city. That such directions in architecture and planning are undeniable was established by our July issue, but, unfortunately, clients with the vision to see them put into practice are hard to come by. We hope that the sponsors of Worcester Center and the new project, Worcester Steps, will have the courage of their architects' convictions in making them reality.

Charles Colbert of New Orleans, architect of Worcester Steps, says that his client, the Worcester County National Bank, feels that it can "again attract the public from the suburbs to a central marketplace of excitement and human activity." In designing the new corporate headquarters of the bank, Colbert has given this idea new planning dimensions by not simply drawing up another high-rise office building, but by creating on a prime two-block site across from City Hall an imaginatively terraced multiple-use public and private facility that will act, with Worcester Center across the Common and with Denholm McKay, a major department store next door,



to create an urban excitement and movement — and undoubtedly an economic renaissance — in the heart of a city that has yet really to recover from the stock market crash of 1929 and the later flight of many citizens to the suburbs.

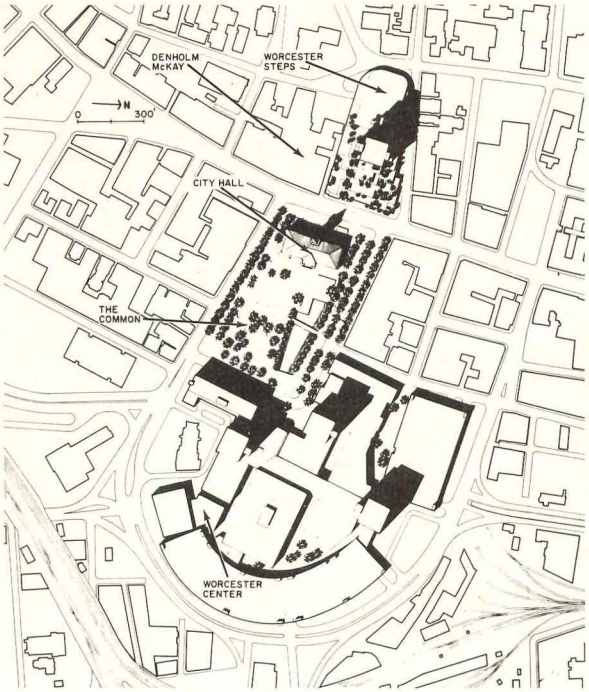
In addition to its retail and office facilities, Worcester Steps will be in contact (at its rear) with the projected downtown area's inner automotive distributor loop. Colbert has therefore provided an eight-level parking structure accessible to the loop, and integrally connected to the entire complex (there will even be a court for public events atop the garage that Colbert calls the "Acropolis").

It can be seen from the section that the architect's idea is to draw people up and through the "public" part of the building in an always changing kaleidoscope of events and experiences. All persons entering either from Main Street or from the parking structure must pass through the main banking volume. Since it is accessible down from the street level, visitors are connected with it visually but not physically as they mount the escalator system that acts as a moving, inclined "mall" up to the "acropolis" level. Passing in stages through the body of the building, visitors will be able to stop in a wide variety of boutiques, cafés, and shops, and will be able to gain access to the multiple levels of the outdoor landscaped terraces, which will be used for display pageants, outdoor dining, and the like. From here, in groves of miniature white birch trees, they will be able to look out over Worcester Common (recently redesigned by Sasaki, Dawson & DeMay) and past to Worcester Center. Above will loom the office tower, containing administrative facilities for Worcester County National Bank and rental space.

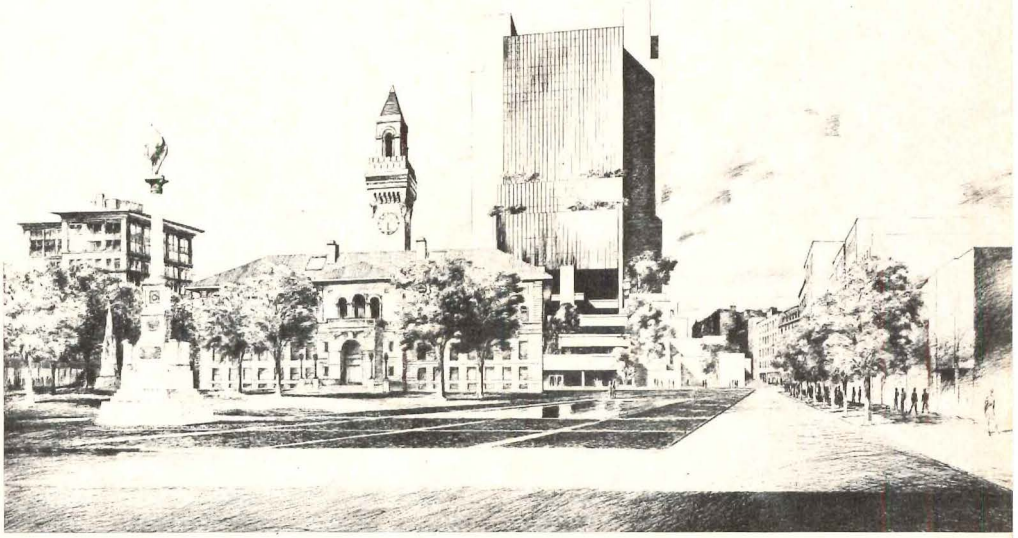
Worcester Steps in design stages appears to have great potential for contributing to the urban vitality of its area. And Dr. Ernest Fisher, the urban land economist, has confidently predicted its economic viability.

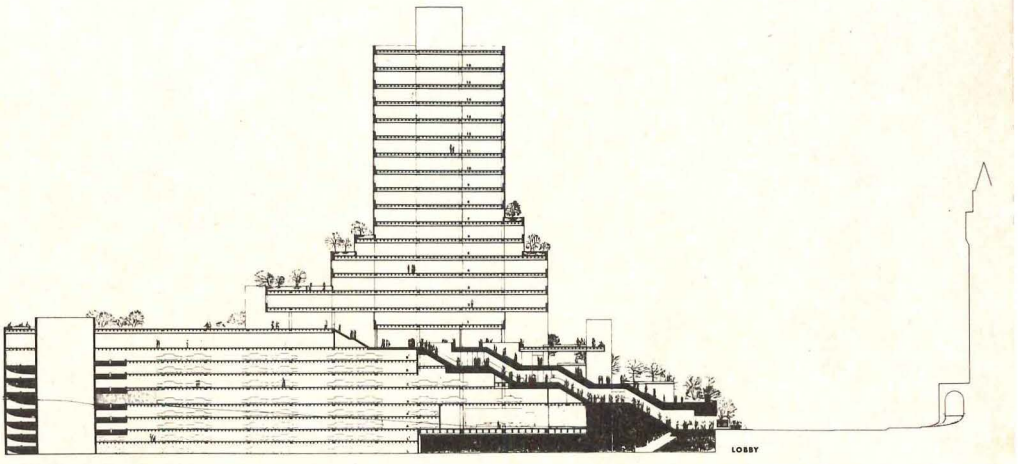
We think it represents an encouraging direction (even if we think the tower could be designed to take on some of the strong character of the rest of the structure), and hope that the future bodes well for it.

Colbert's field associate is Victor E. Stilwell, Jr.; John B. Hepting, associate; Guillot, Sullivan & Vogt, consulting engineers.



Site Plan





Section through inclined Mall.

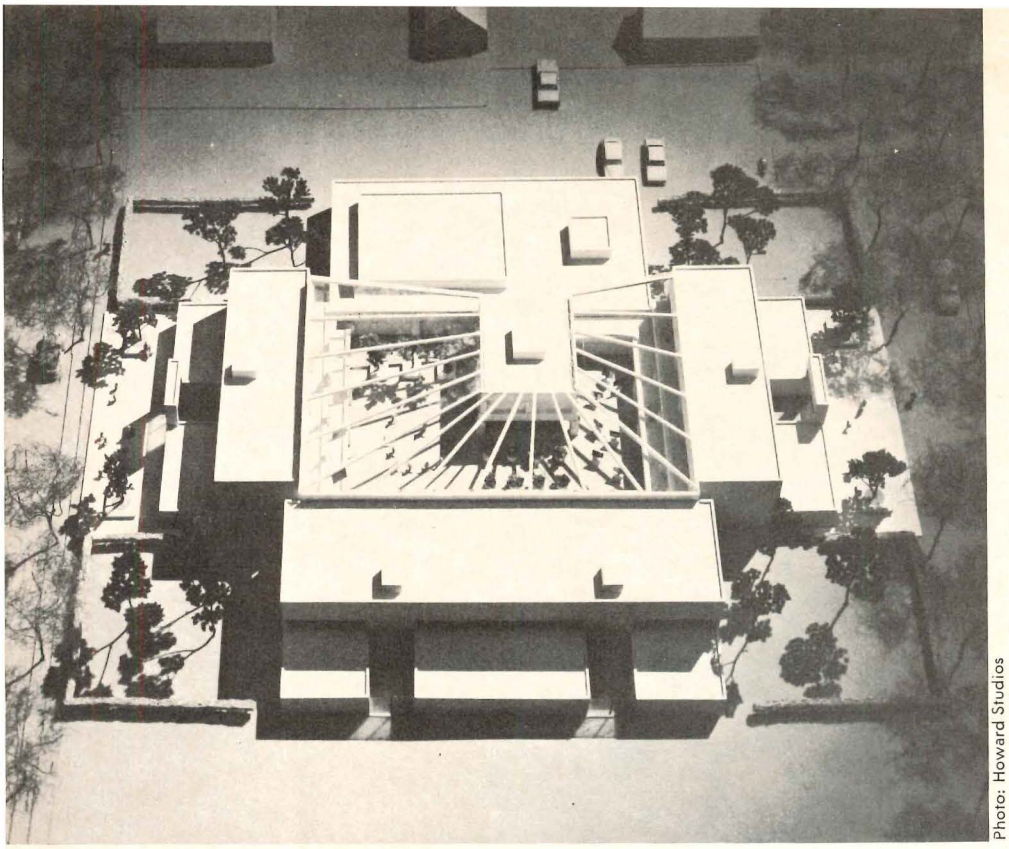


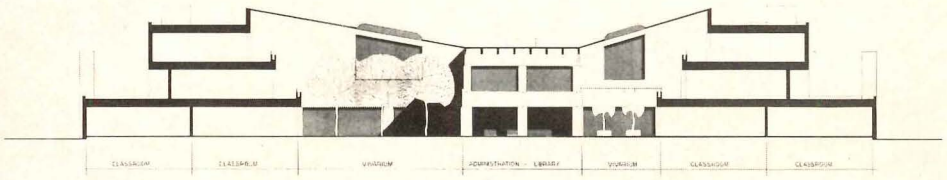
Photo: Howard Studios

HELP IN HOUGH

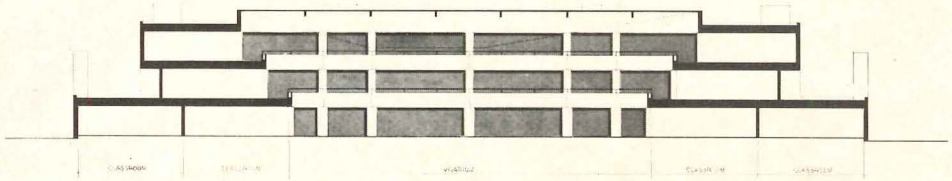
To rise on a site near the strife-wracked Hough district, Giddings Elementary School will replace a fire-destroyed school where Cleveland's mayor, Carl Stokes, was once a pupil.

Surrounding the proposed school are single- and multi-family houses and some industrial sites, the kind of uninspiring scenery that goes on for block after block in the area. To make the K-6 school a special environmental experience, it has been designed around a roof-high covered court (rather unfortunately dubbed a "vivarium"). Architect Don M. Hisaka points out that besides the environmental advantages (it had been designed with an open court; this was quickly changed after a visit to the site on a winter day), the court will permit classrooms to open directly into it and "impart a sense of unity and cross-stimulation — in contrast to a series of individual cells." The classrooms are stepped back around the court on the second and third floors, permitting the use of balconies instead of closed corridors. The common-use element of administrative offices with library above will project into the court.

Hisaka reports that, aside from the educational and environmental advantages of the covered court plan, there are economic ones. The premium of providing a "vivarium" was negligible, he says, because of the elimination of flashings and weather-proofings and other treatments that would have been necessary for an open-air courtyard.



South Section



North Section

WASHINGTO

For the 1968 Summer in the Parks program of the National Parks Service in Washington D.C.'s Anacostia River Park, a series of bright and lively structures for various activities has been designed for the 1½-mile length of the park, which borders the Anacostia River.

The park is an existing facility, already containing tennis courts and playgrounds and a field house. The new elements are to provide for events that will keep the park going all day and some of the night: day centers for small children, teens, and old people; craft centers; band shells; dance pavilion; drama tent, and outdoor movie amphitheater. Since some of these activities are quite noisy, the structures are spaced far apart in the park. Additional facilities proposed by the designers include bicycle paths, piers in the river to service a Circle Line ferry boat, elevated viewing platforms to witness boat and bicycle races, and picnic and restaurant accommodations along the riverfront.

Among the new structures, the provision for movie viewing is the most fun. Instead of the usual grandstand or concrete amphitheater arrangement frequently erected for such a purpose, the designers have provided a kind of friendly moonscape in the form of a series of different sized scoops or bowls, which hold from 2 to 10 people, from sweethearts to big family groups. Viewers can sit, lean, lie, or stand, and can chat and picnic in their own scoop without disturbing others. The structure is of soil cement, appearing to be made of sandstone. There are no sharp angles, and the floor of each scoop is covered with soft sand. Spaces between the scoops are planted with vines and flowers. During the day, of course, the place is a tantalizing playground for children. Audience capacity is 700–800 persons.

The places for outdoor band concerts can provide a really turned-on environment for rock shows. There are two stages, one directional and one in the round, that can operate in tandem (or only one for a show, leaving the other stand for dancers). A column halfway between the stands holds spotlights and loudspeakers. The whole place is a curvilinear enclosure shaped by grassed berms. The ground surface is gravel, with

...'S LIGHT-HEARTED PARK PLACES

round stones scattered here and there to act as seats. Tall masts at the crest of the berms are sheathed in silver aluminum foil at their tops, to be picked up by a searchlight rotating around the loudspeaker column. Groovy.

The dance pavilion is a slant-walled compound of concrete topped with an airy white vinyl-coated fabric roof suspended from stretched cables attached to metal pylons. The bandstand projects onto the floor for immediacy of contact, and there are viewing platforms spotted about. Projections can be made on the underside of the roof by the dancers using three groups of two overhead projectors dispersed at intervals around the floor. Roofless, the place can be used as a skating rink in winter.

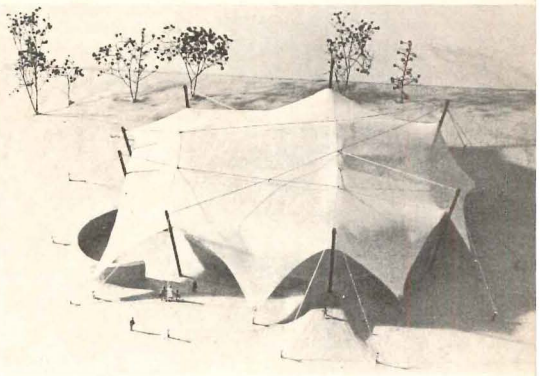
For learning, crafts, and day-care centers, enclosures are provided of both slanted concrete walls and grassed berms with gravelled floors. The free form of the spaces allows flexibility of arrangement for different uses. Similar to the dance pavilion, roofs are colored vinyl-coated fabric suspended on stretched cables supported on pylons.

Circulation around the park is by foot (distance between the cinema and drama center is 800 yds), bike, or the proposed ferry boat and bus systems.

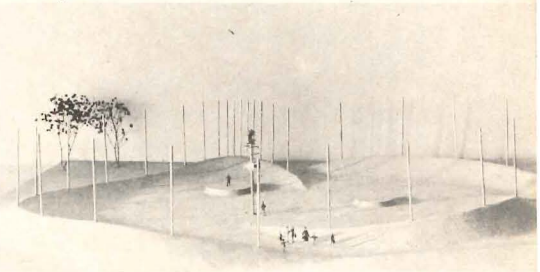
The structures are lighthearted, seemingly spontaneous, and entirely appropriate to recreation places. And being contiguous to some of Washington's less "desirable" neighborhoods, they fill a need where the need is worst felt.

Designers are Bryan Scriven and Roger Katan; Arne Aakre, Steve Harris, and Maria Slominska, assistants; Tony Martin, lighting consultant; Zetlin, Desimone, Chaplin & Associates, consulting engineers.

Photos: Arne Aakre

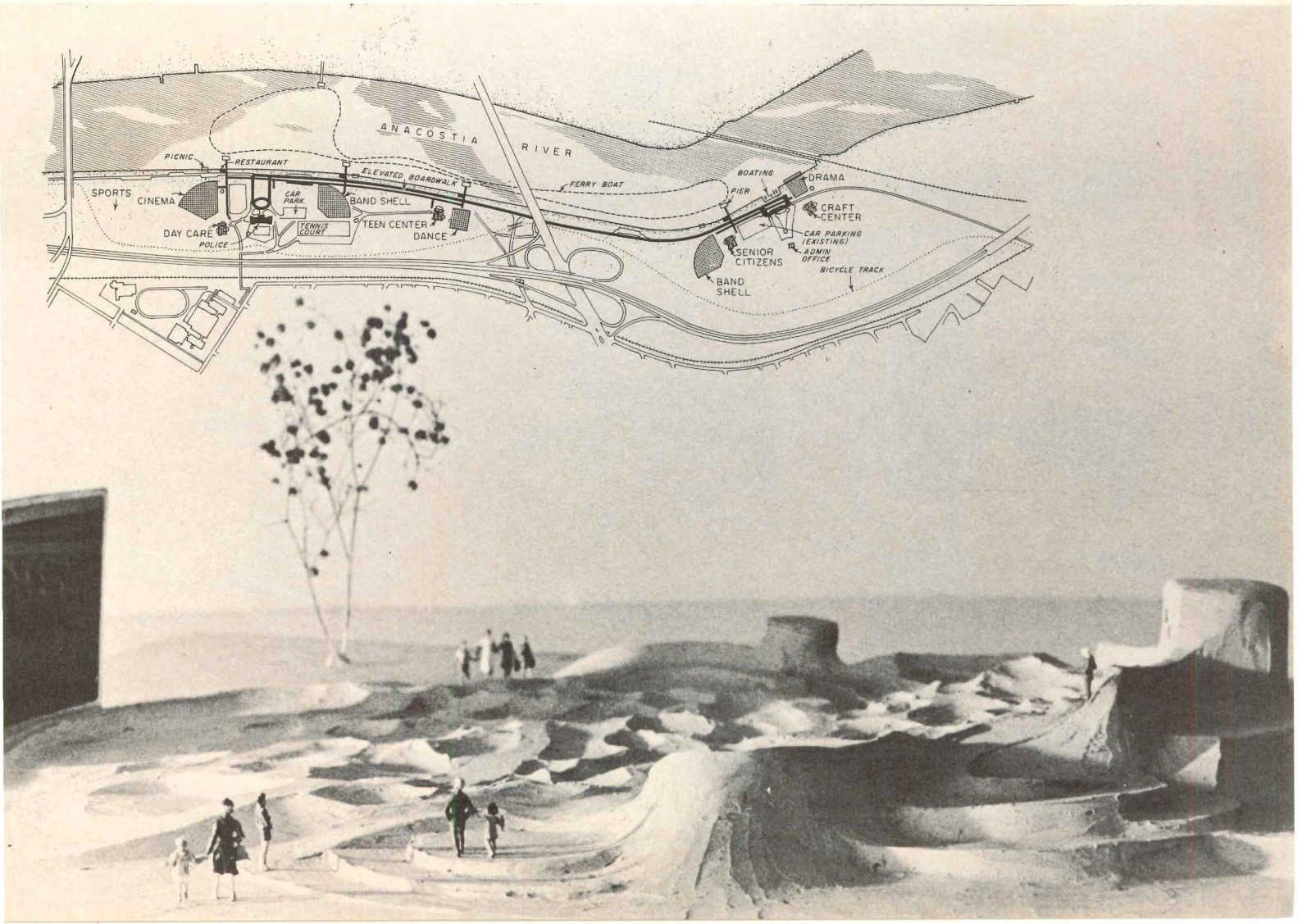


Dance pavilion.



Band shell.

Movie-viewing shell.



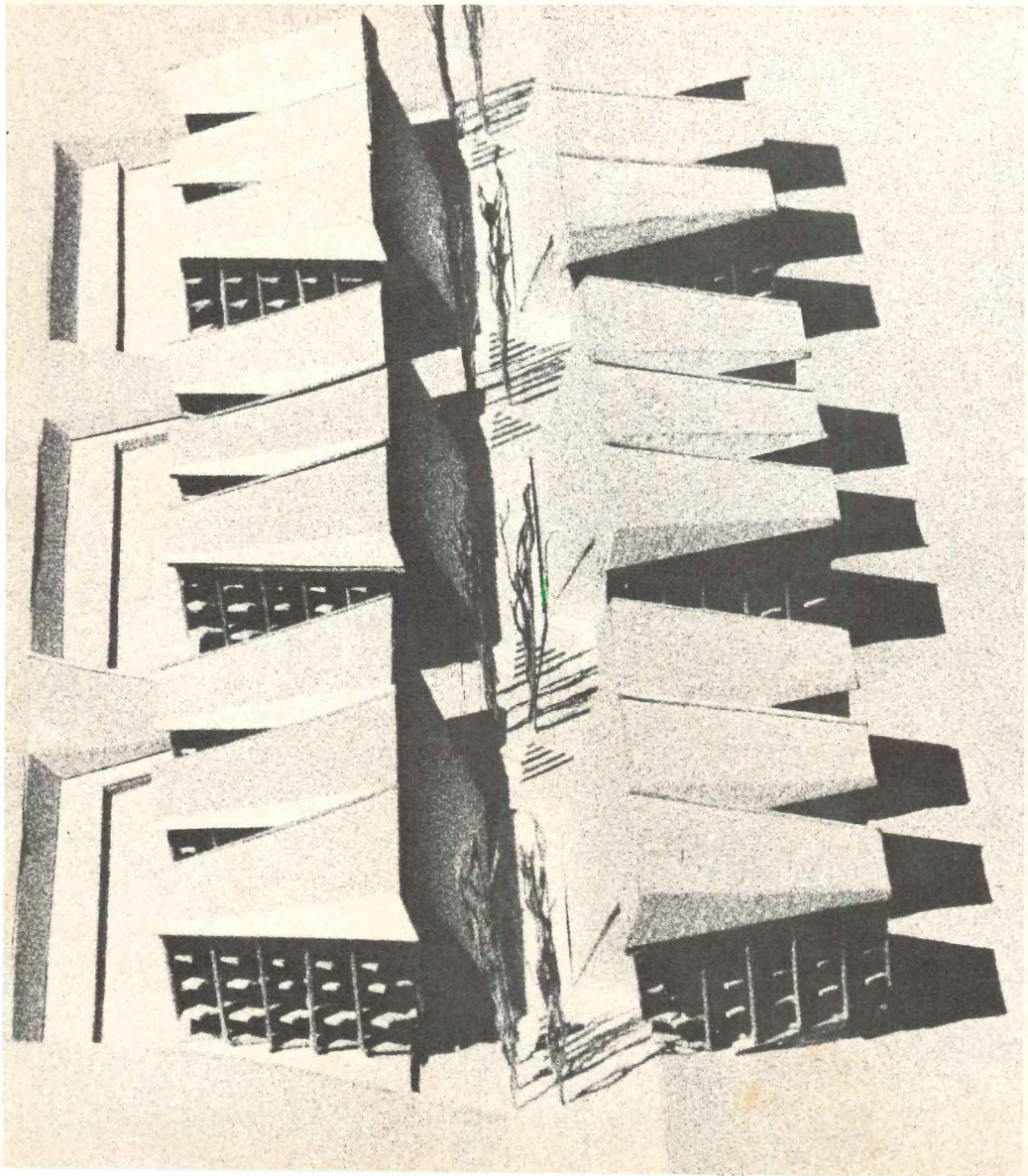
TURKISH DELIGHT

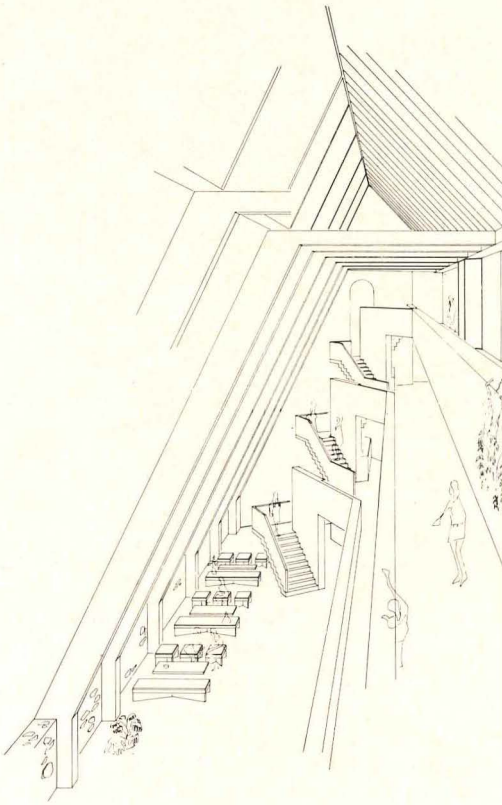
Middle East Technical University is a 10-year-old school rapidly growing on a large campus near Ankara, Turkey.

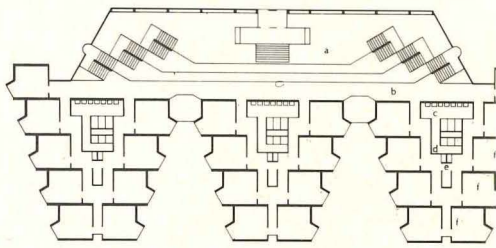
One of the latest additions to the campus, scheduled to begin construction right about now, is a girls' dormitory complex by Orhan Ozgüner, assistant professor in the Faculty of Architecture at M.E.T.U. The dormitories, with 312 students in each building, will be lined up back to back along a "man-made valley" lined with poplars and containing little mounds at pedestrian intersections for chatting and outdoor meeting places.

Within the units, clusters of eight or nine four-girl rooms around cores containing toilets, showers, linen storage, and ironing room will give onto balconies overlooking a building-high, skylighted main hall. These galleries will have staircases at both ends, and will step back as they ascend. The architect comments that a direct physical and visual contact is created between the great hall and the sleeping floors. "The quality of light which falls from above, the walking rhythm of a person along the staircases, and the structure of the space have a continuity," he says. The ground level will also contain such common spaces as cafeteria, study rooms, and two offices and a housekeeper's apartment. Each building will contain 43,600 sq ft (140 sq ft per girl), and cost about $275,000.

The handling of strong forms, generous spaces, and emphatic perspectives, and particularly the carefully contrived geometry of the plan, testify to the influence of Louis I. Kahn at M.E.T.U. Professor Ozgüner is to be congratulated for his fresh and stimulating approach to an "everyday problem."

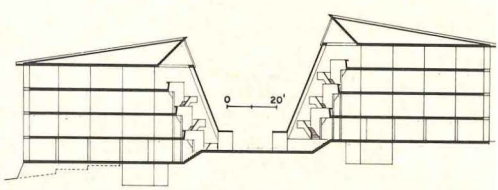




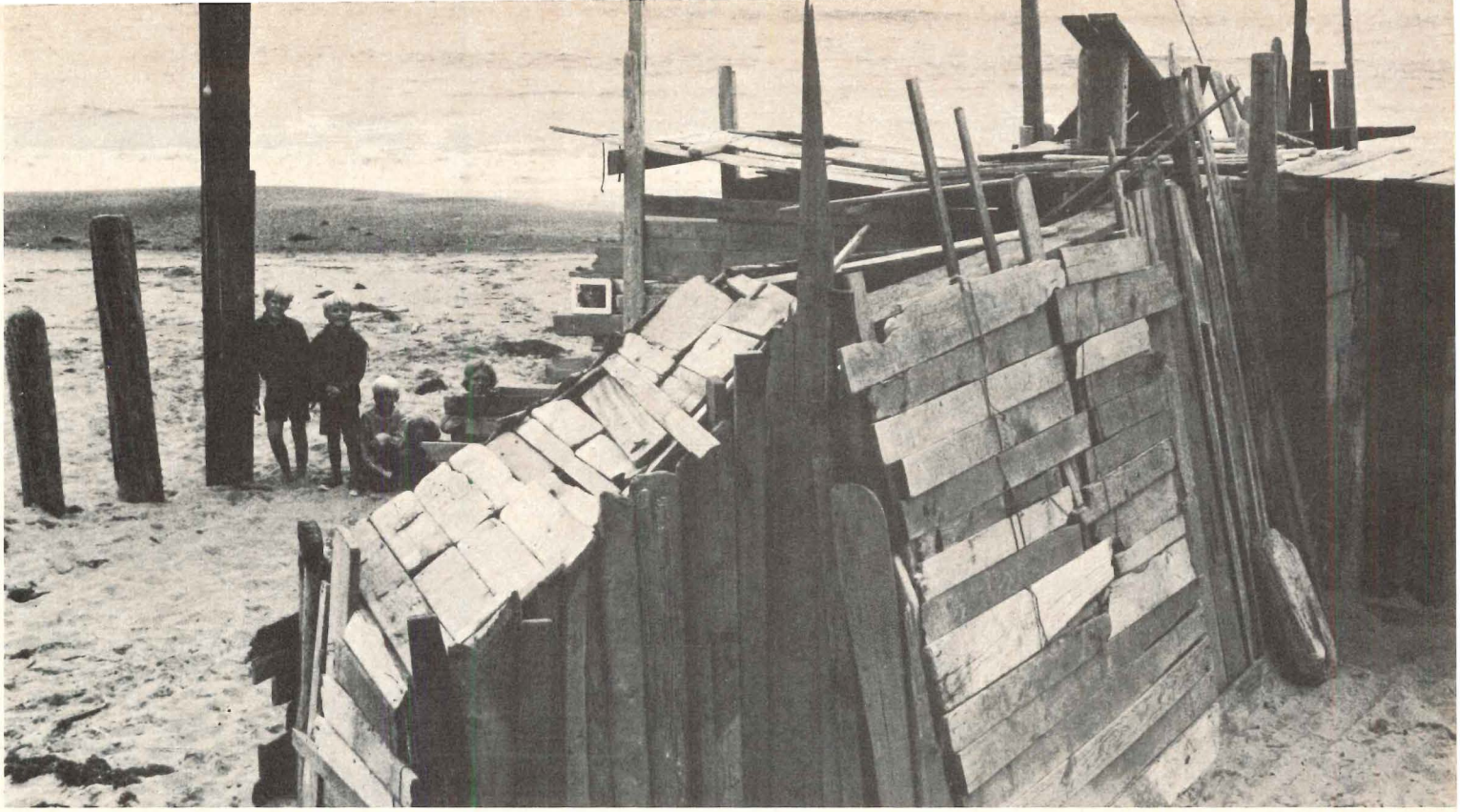


Third Floor Plan

A *open to hall*
B *galleries*
C *WC*
D *showers*
E *ironing*
F *rooms for four students*



Section



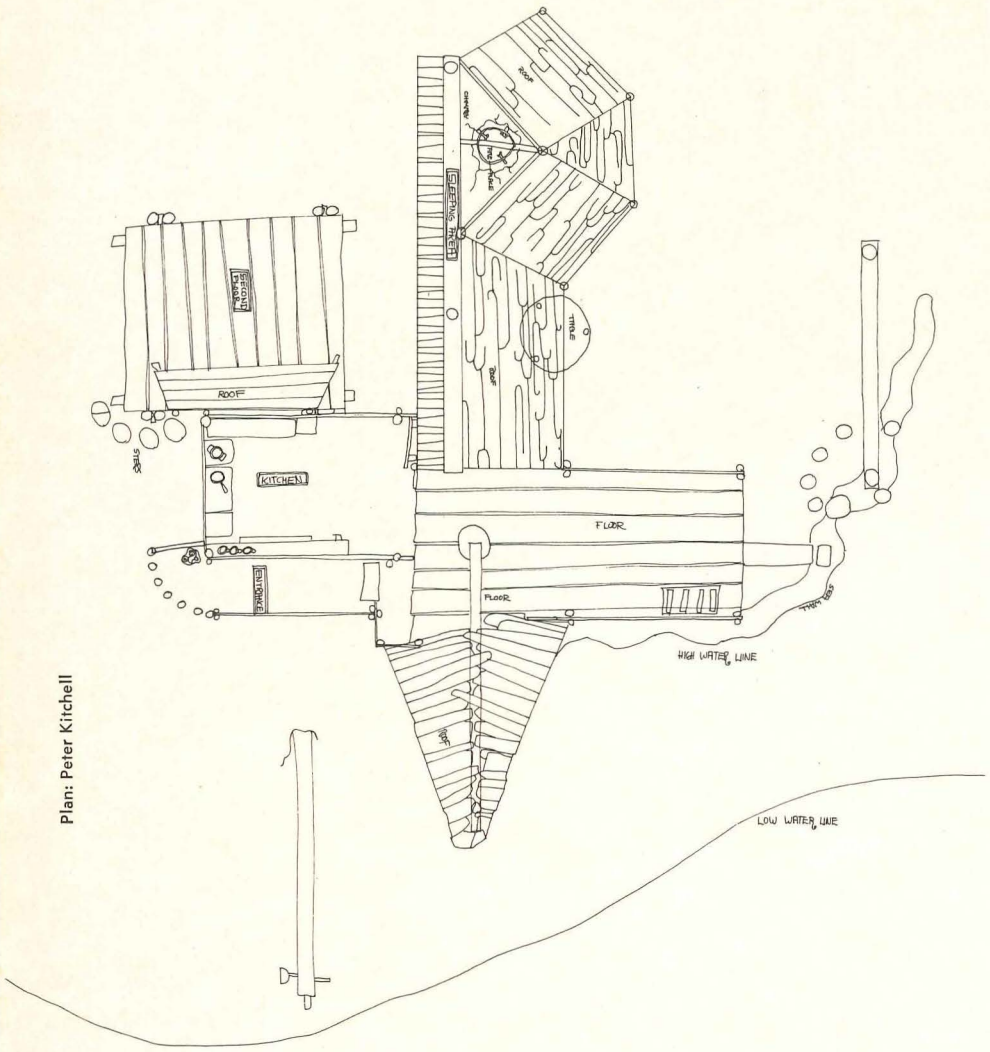
JETSAM HOUSE

If Tom Sawyer and Huck Finn had had some of the ingenuity of Robinson Crusoe in fashioning dwellings, they would not have had to depend on treacherous adults for food and shelter the way they did, always with unfortunate results. Even the boys of the Swiss Family Robinson depended on Father's leadership for the most part as the family architect and planner.

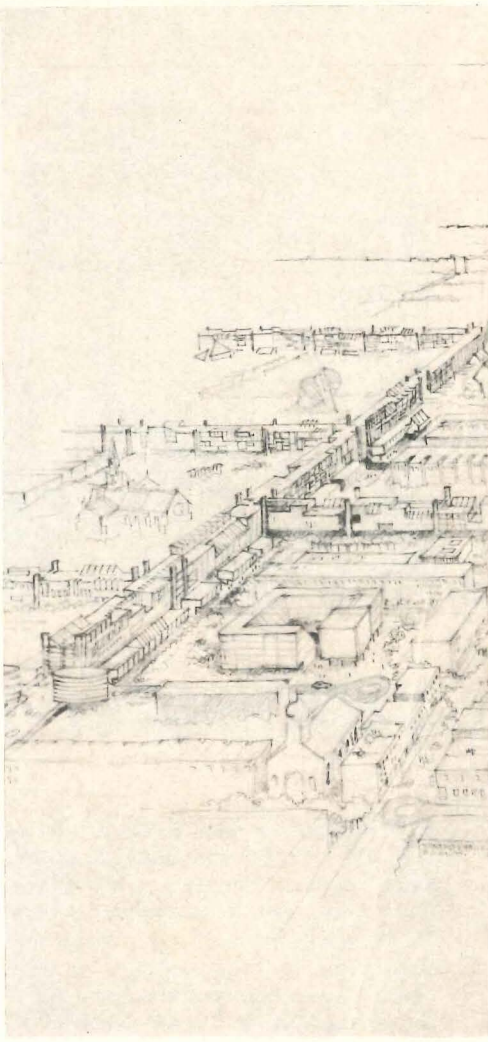
Such would not necessarily be the case with Peter Kitchell and his younger brother Mark. Although their parents are both architects, Peter and Mark indicated in the summer of 1966 that they need bow to no man as designers and builders of imaginative structures.

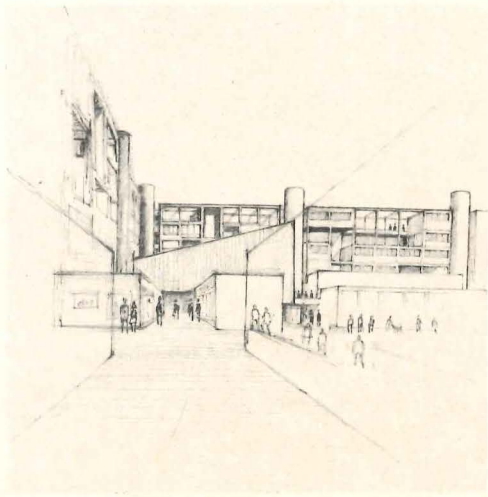
That summer, the youths discovered a mile-long, driftwood-littered beach about 35 miles north of San Francisco. It was deserted for the good reason that it could be reached only by hiking across pastures and climbing down the cliffs by way of a stream bed. It was the ideal spot for a hideaway cabin and Peter, 16 at the time, with the assistance of Mark and a classmate, Jim Neal, began to fashion a retreat using only the material they were able to pick up on the beach. Beginning as a tepee form, the house grew and grew and became more complex on each visit, acquiring kitchen, sleeping areas, fire pit, and, eventually, a second floor with a spiral staircase (the latter not shown in these

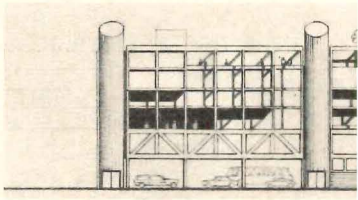
Photos: Curt Feilds



Plan: Peter Kitchell







Drawings: Michael Bauer

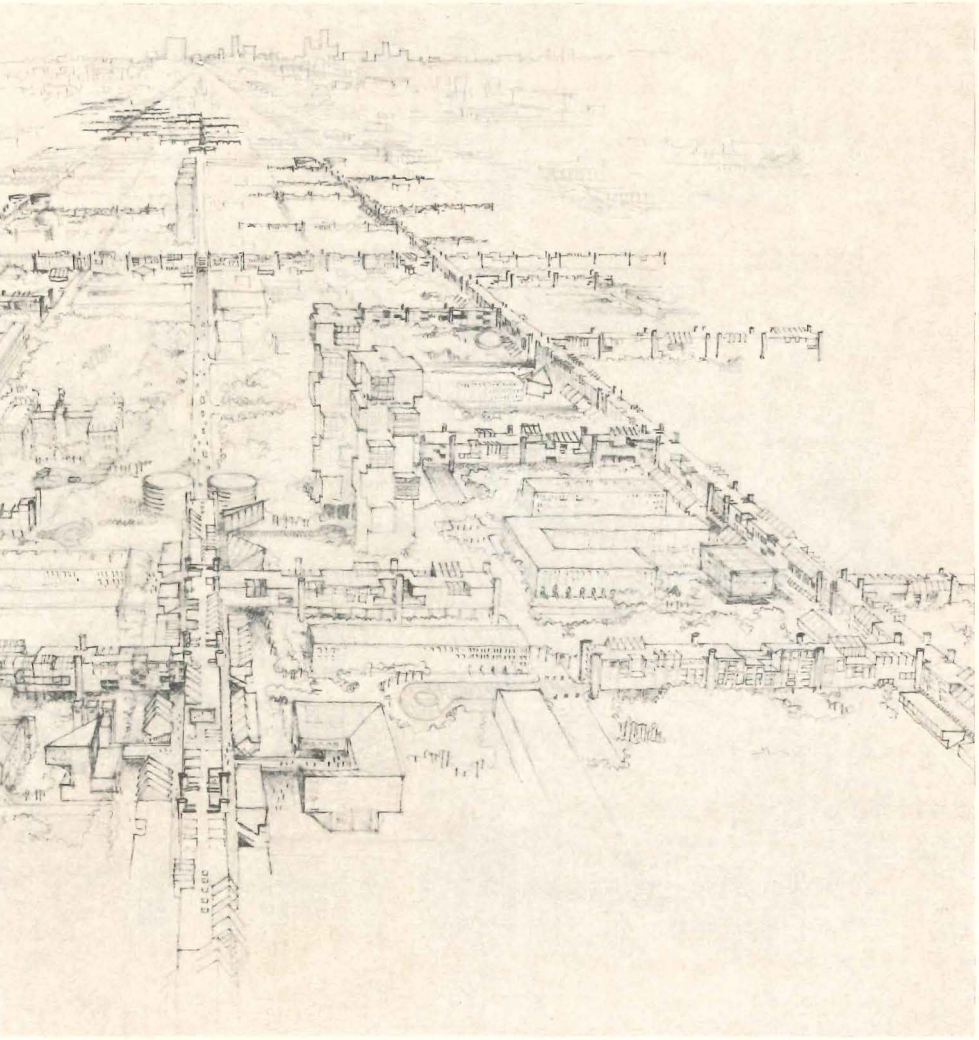
photographs).

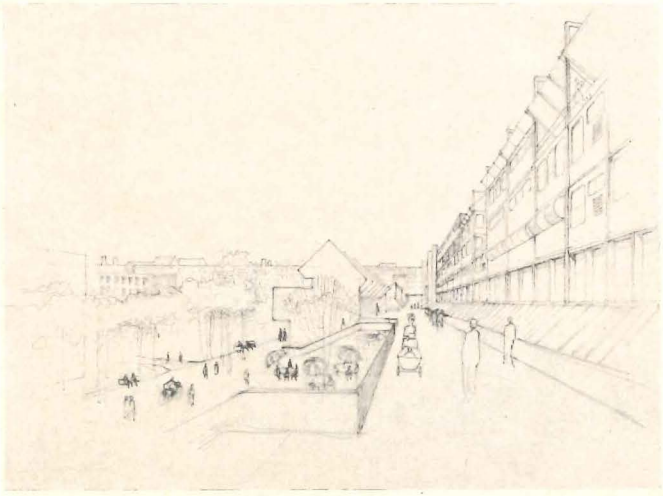
The result was an amazingly sophisticated, if rough-hewn, composition, immediately suggesting some of the trends apparent in "real" architecture today: a somewhat open plan featuring slightly off-center geometrics, the frequent use of diagonals in plan and elevation, the emphasis on inside-outside relationships. Perhaps even more convincing was the use of *objets trouvés* as free-standing sculptures. Pilings stuck in the sand formed a sentinel line against the advancing tide, and a pole construction in front of the house pointed directly at the setting sun. We doubt that the adolescent Noguchi or Hepworth turned out anything more mature.

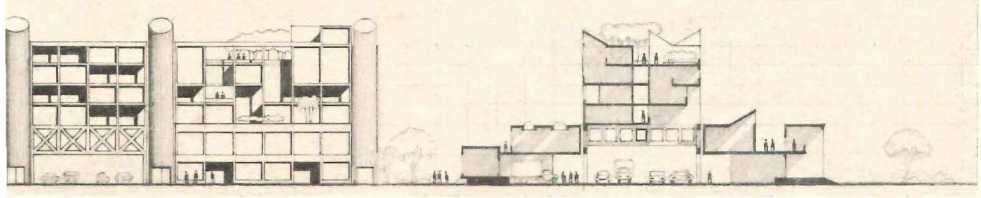
Techniques of building and designing became more "professional" as the house grew. From fabricating the structure on the spot in an intuitive way, the Kitchells turned to plans drawn in the sand to finish the later additions. Peter says that "one principle determined the design of the house more than anything else and that was the fact that no nails or tools were used in construction. The beams were lashed together or balanced with some quite intricate results. The walls were also lashed, but the roof was not when it was level. The second floor and its roof were held up by four posts one story high and two posts two stories high. These were lashed together and held sturdy by diagonal bracing. The floor was set on cross-beams supported by the posts and the roof was cantilevered and lashed to the uprights."

Unfortunately, winter storms and the shifting of the beach demolished this early Kitchell work as surely as the Japanese did the Imperial Hotel. And the appearance of people on the site made it undesirable (a whale was washed ashore, providing a tourist attraction). The young men are undaunted, however. "We have found more beaches larger and more beautiful up the coast further, so we have a lot to look forward to," says Peter.

IDEA: TAKE TO THE STREETS







In recent years, attention increasingly has been paid to methods of rebuilding and renewal in crowded urban centers, methods that will lessen the dangers of dislocation of residents and disruption of existing city patterns. These problems have always been associated with large-scale housing projects and other planning activities — New York's World Trade Center, for example — or attempts to gain more space for movement of automotive vehicles, such as the Interstate Highway system. Some of the techniques suggested have included "vest pocket" housing, various rehabilitation programs, and the use of rear yard areaways for new construction.

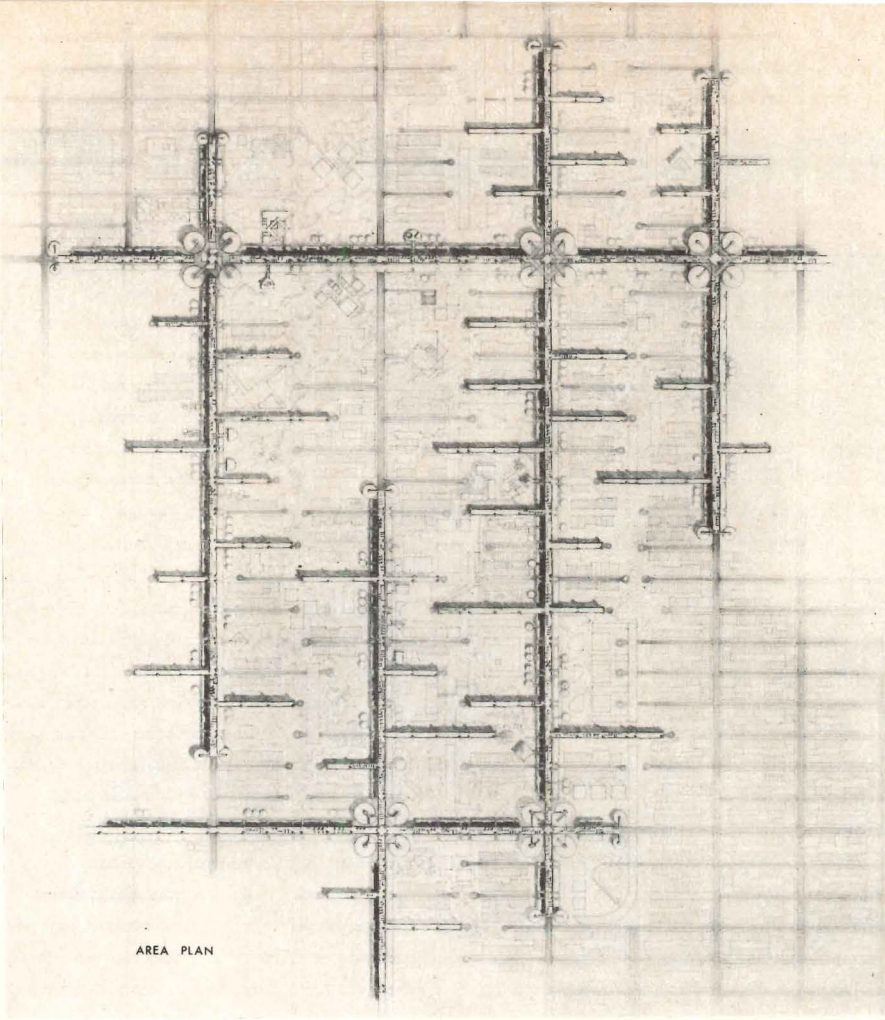
A proposal by the young New York architectural firm of Weiner & Gran would, according to Warren Wolf Gran, "provide relocation housing without resident removal, integrate pedestrian activities, separate automobile and pedestrian, allow for new growth and development of community facilities, and allow existing structures to remain."

The system consists of linear elements six stories high of steel-frame, semi-fireproof construction to be built over infrequently used streets in the grid pattern of slum neighborhoods. The structures could contain housing, commercial, and community activities in a flexible network of spaces. Based as it is on the grid pattern, the system could grow in whatever direction needs dictated, and could also contract when needs disappeared.

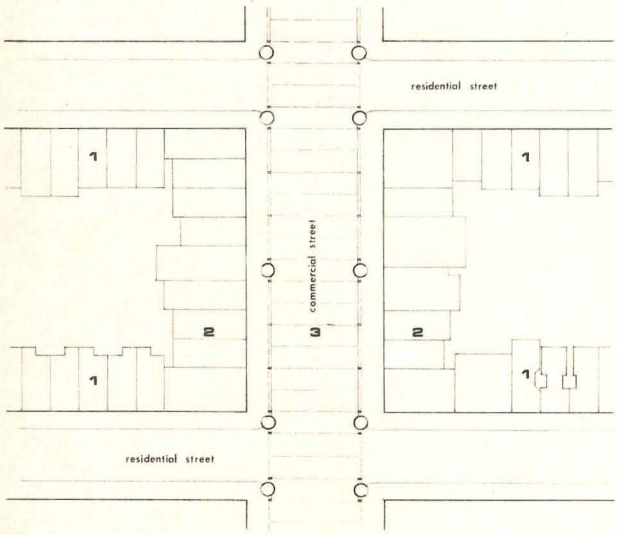
In addition to using air space over decaying streets, Gran points out that surrounding available space (backyards, empty lots, portions of other streets, and so on) could also be developed with appropriate public or private uses. Existing housing and other buildings could remain for rehabilitation, and tenants would not be dislocated. The possibility of moving into the "street"-housing while existing structures are rehabilitated or replaced is obvious. The architects feel that this plan offers flexibility in both social and planning areas. "It can grow and change," they say; "the system is both temporary and permanent, 'stop gap' and future oriented. Its presence is felt initially

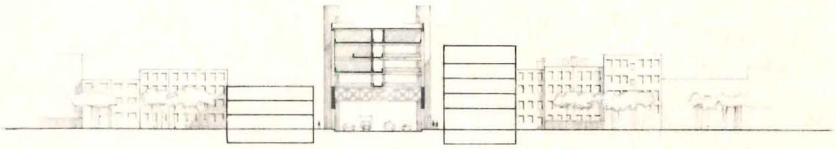
as something positive — first construction, then demolition." In a series of four phases (one and four are shown here), the downgraded commercial block (or extension of blocks) becomes transformed from a little used traffic strip bounded by run-down housing and small commercial establishments to a stimulating "mix" of new and old structures, new neighborhood and educational centers, and integrated pedestrianways and outdoor public spaces.

It is a proposal which will undoubtedly require more flexible rules from many city planning commissions, but it is, equally, one that deserves the close scrutiny of those concerned with providing more humane environments for city dwellers.



Plan at Street Level

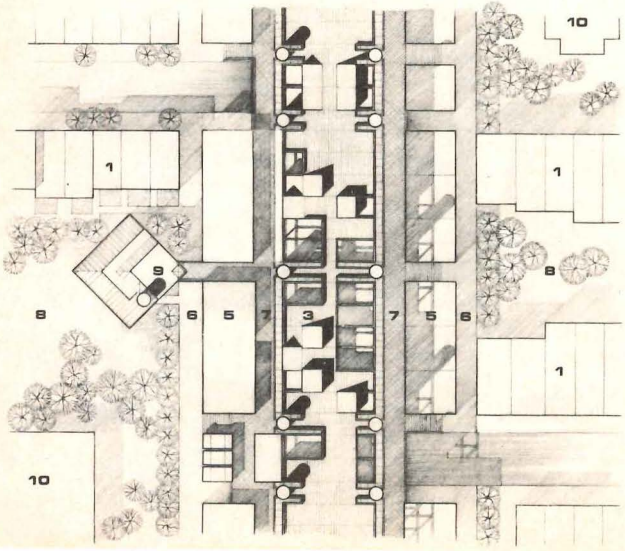


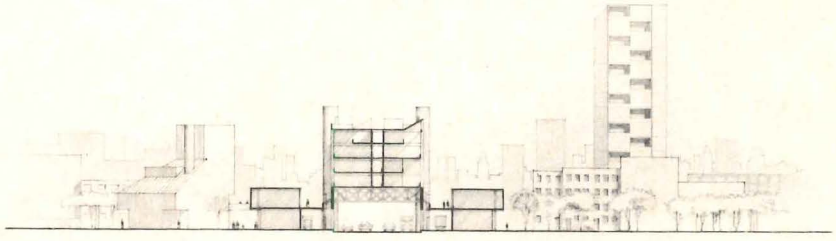


Section

Phase 1
1 *existing residential*
2 *existing commercial*
3 *new housing structure*

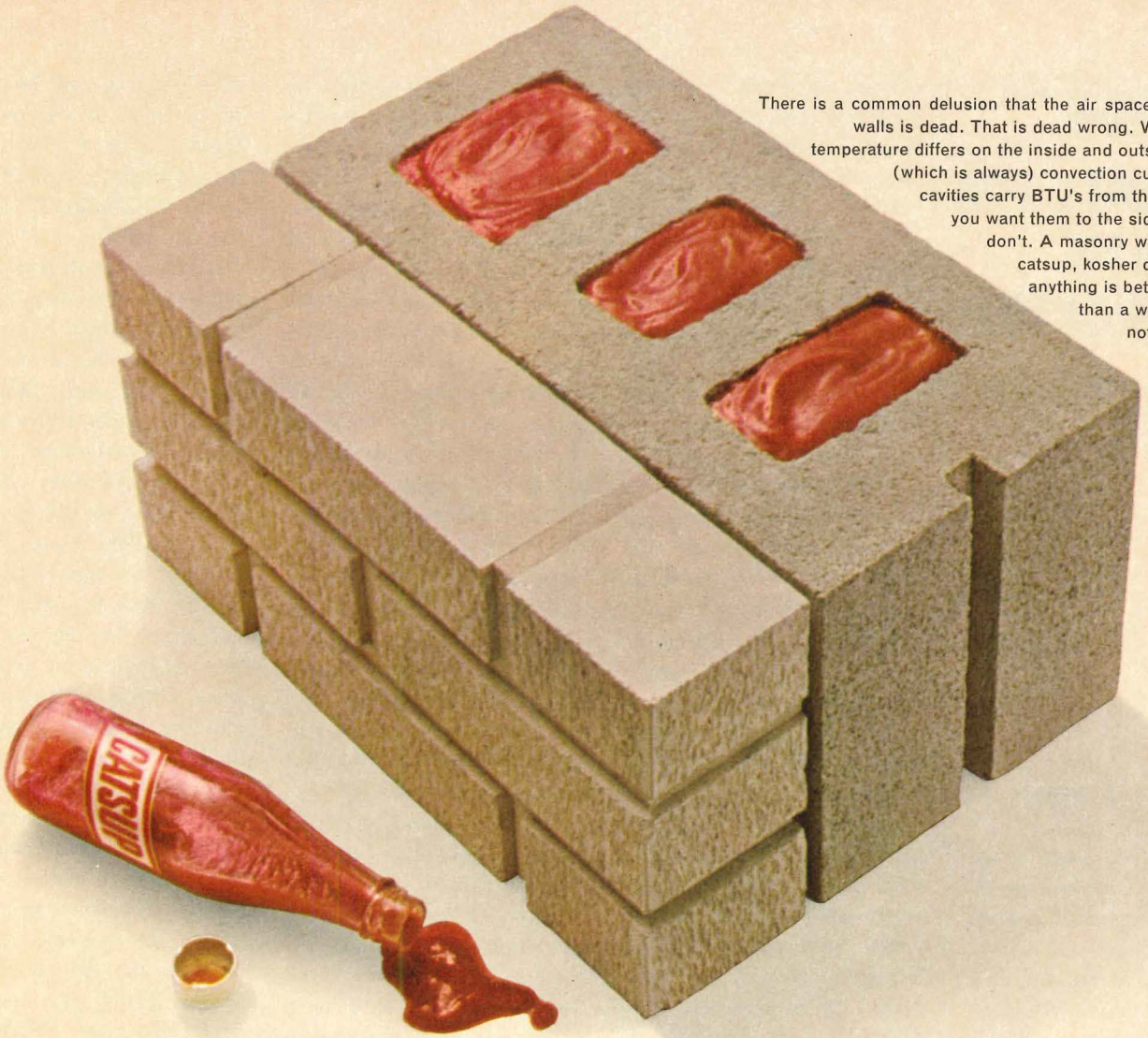
Plan at Roof





Section

Phase 4
1 *existing residential*
2 *existing commercial (demolished)*
3 *new housing structure*
4 *new commercial (below offices)*
5 *new offices*
6 *lower pedestrian walk*
7 *upper pedestrian walk*
8 *new open space*
9 *community service building*
10 *new building*



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SPECIFICATIONS CLINIC

CRITERIA FOR SEALANT FORMULATION

BY HAROLD J. ROSEN

Manufacturers should recognize the field conditions for using and applying sealants when developing and marketing these products. Rosen is Chief Specifications Writer for Skidmore, Owings & Merrill, New York City.

In last month's column, specifiers were cautioned about some of the inadequate and vague information on sealants included in manufacturers' literature. Now, we will put into proper perspective some of the things learned about sealants in the last 15 years that would be of value both to specifiers and manufacturers — for specifiers to better understand the limitations of present day sealants, and for manufacturers to better comprehend specifiers' needs.

When elastomeric sealants were first introduced into the building field, they were intended as a substitute for glazing compounds, elastic calking compounds, and bituminous joint sealers to provide more flexibility and longer life expectancies than could be obtained from the earlier, less esoteric, materials. Although these new products of polymer chemistry exhibited a marked improvement over the limited number of calking compounds available to the building industry, it was only through field use and observation that certain shortcomings became apparent.

Contributing to some failures has been poor design of joints, improper workmanship, and materials failure. The best of materials cannot function properly in improperly designed joints. Careless workmanship will negate the efforts expended in the design of joints and properly formulated materials failure.

Joint design today is predicated on our use experience with current sealants. Joint width, joint depth, joint configuration, and compatible joint filler materials have been pretty well established for our present sealants. The spacing of joints is predicated on elongation and compression characteristics of the selected sealant. This must be taken into account along with the expansion coefficients of the materials in which the joints are used. This is only the start of the problem.

Quality of workmanship in the installation of elastomeric sealants cannot be overemphasized. Placing of the joint filler to the proper depth, cleanliness of the joint, and the absence of frost and moisture is imperative to a successful application of the sealant. Mixing of two component materials to obtain a complete chemical reaction of the ingredients is essential to avoid a materials failure, and air bubbles in the mix can also result in failure. Just as important is the need to apply primers recommended by the manufacturer to insure proper bond between sealant and substrate.

Proper joint design and quality workmanship alone, however, cannot overcome the problems introduced by improper materials. Sealant manufacturers bear a major burden of responsibility with respect to formulation of sealants to meet the prevailing field conditions during application. Sealants formulated to exacting application techniques by chemists in the laboratory cannot be duplicated in the field by waterproofing and calking trades.

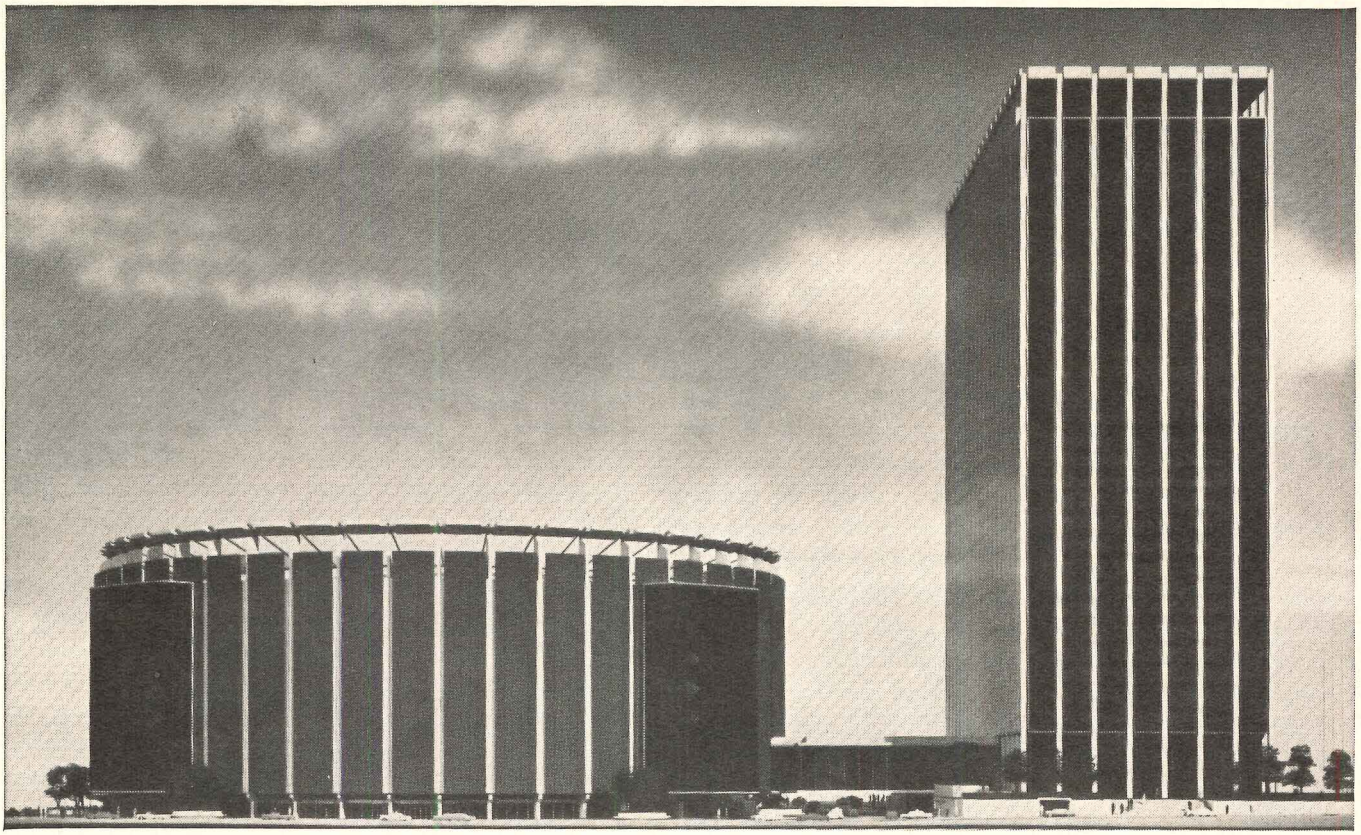
Manufacturers must recognize field limitations and build these into their formulations. Joints and buildings move thermally, not only over the long span between summer and winter, but between a 6 A.M. low of 0 F and a 3 P.M. high of 70 F. Newly installed sealants in window walls can be subjected overnight to gale winds and rain before the sealants can cure.

Why introduce sealants on the market that require ten days to two weeks to cure? They can literally be pumped out of dynamic joints before they cure. Our current sealant reference standards describe and prescribe laboratory test procedures on cured samples to determine adhesion and tensile strength. But we have no test procedures for compression, and we have no test procedures on uncured samples. Test procedures should include tests on samples that have gone through cyclical changes of heat, cold, compression, shear, elongation, and the effects of ozone, humidity, and ultraviolet light. These reactions may have an effect on sealants, so standards should be established to determine the degree and extent by which such phenomena may alter the physical characteristics of the sealants.

Instead of trying to address themselves to the problem, manufacturers have been vying with one another for a larger share of the market. The problem can be stated quite simply, so that manufacturers may know what the target is and direct their attention to the formulation of sealants that will work.

Building joints move laterally and in shear from the moment the sealant is installed. The sealant should adhere to a wet, cold, dirty joint and should be capable of being installed by tradesmen who do not have chemistry degrees. The sealant should be unaffected by temperatures as low as –40 F to a high of 180 F. It should resist humidity, ozone, and ultraviolet light to the extent prevalent in the temperate zones. Ideally, it should elongate and compress 30 per cent in both directions from the mean temperature joint width. For special situations, it should resist heel puncture, underwater conditions, and gasoline and oil spillage.

The performance criteria cited for the general purpose sealant is not too exacting. Eventually, an enterprising manufacturer will make it, provided he keeps in mind the field demands and normal application procedures.



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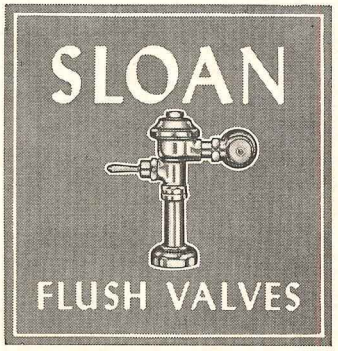

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IT'S THE LAW

DECEPTIVE SUBSURFACE CONDITIONS

BY BERNARD TOMSON AND NORMAN COPLAN

P/A's legal team cites a case in New York State in which the subcontractor sued the prime contractor, who in turn sued the owner for damages and work delay caused by unanticipated subsurface conditions.

When unusual or unanticipated subsurface conditions are discovered at the project site during construction, the question often arises as to who is to bear the extra costs arising from the additional work such conditions will engender. This issue may be determined, in many instances, by whether the subsurface data furnished by the owner or architect is deemed part of the contract documents, by the wording of these documents, or by the nature of the drawings reflecting upon subsurface conditions. When the excavation is performed by a subcontractor, disputes between subcontractor and prime contractor, as well as between prime contractor and owner, often result because of a lack of clarity in the contract documents or in the subcontract. When a contractor or subcontractor cannot directly assert or establish a claim for additional compensation under the "extra" clauses of the prime or subcontract, their claim may be based on damages arising from alleged misrepresentation. This is illustrated by a recent case determined by the United States Court of Appeals involving claims of both contractor and subcontractor relating to subaqueous rock work *(W.L. Hailey & Company* v. *County of Niagara, 388 F. 2d 746)*.

In this case the defendant, the County of Niagara, State of New York, was involved in a project to draw water from the Niagara River. The prime contractor instituted a legal action against the county for damages, which, the plaintiff claimed, resulted from unproductive work necessitated by misrepresentations by the county engineers that the material to be excavated by the contractor was sand, silt, clay, and gravel, and not solid rock.

The prime contractor had dug a trench for pipe about one-third of the way across the channel involved when he hit "hard digging." The contractor attempted to improve the effectiveness of his equipment, but was unable to make progress. After several weeks of effort, the contractor came to the conclusion that he would require a dipper dredge, a special piece of equipment suitable to excavation of hard riverbed. The prime contractor employed a subcontractor who owned such equipment to continue the excavation and to lay pipe, allegedly advising the subcontractor that while he would encounter hard digging, there was no rock work involved. When the subcontractor commenced his work, he discovered that the level of bedrock along the line of construction was actually several feet above the grade line and that it was necessary to utilize specialized rock excavation equipment and to undertake extensive rock excavation work with the dipper dredge. The subcontractor's pipe-laying work was delayed many days until the dipper dredge could dig the trench to grade, and as a consequence the subcontractor claimed damages against the contractor based upon the contractor's alleged misrepresentation.

The prime contractor, in his claim against the owner, contended that he relied upon certain drawings that were part of the contract. These drawings, containing information based upon test borings made at 200-ft intervals across the river bottom, represented that there was no solid rock along the line of construction. They showed a plan of the pipe route and the location of the boring holes in relation to the pipeline. At the bottom was a profile of the pipeline showing the position of the pipe in respect to the waterline, and beneath the pipe was a line that was designated "approximate top of rock." The contractor contended that this line constituted either an express warranty or representation by the owner that the actual top of the rock was below the pipe and that no subaqueous rock work was required to perform the project.

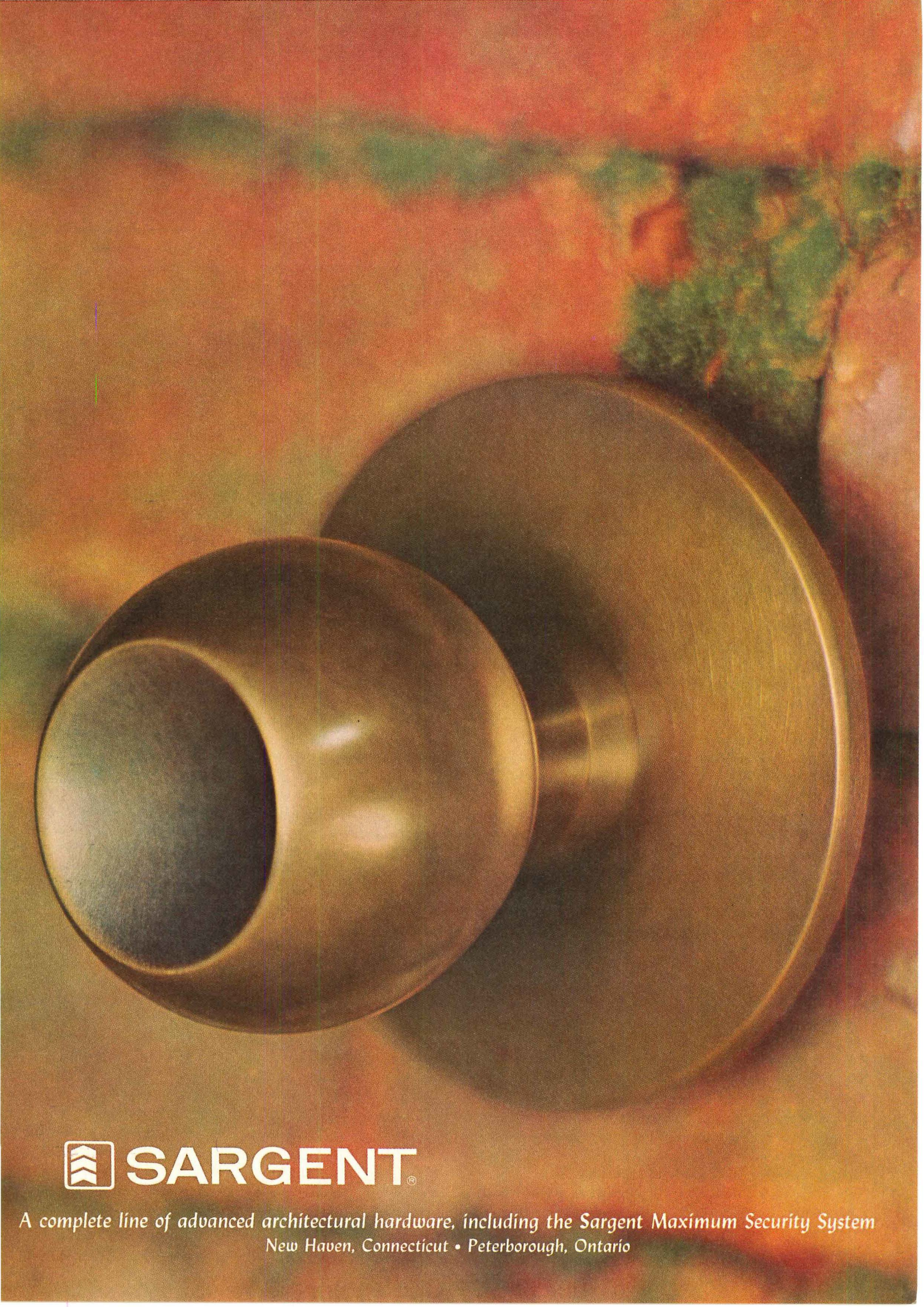
The trial court ruled that the drawings clearly and correctly showed the elevations of rock obtained from the borings and that the borings were taken 200 ft apart at distances varying between 60 ft to 200 ft and more from the actual line of the construction of the pipeline. The trial court further found that the drawings contained no representation or information as to the rock elevations along the actual line of construction and contained all of the information with reference to the borings and composition of the river bed known to the defendant. It was the court's conclusion that the contractor should have been alerted by the drawings to the possible presence of rock above grade along the line of construction. However, in respect to the subcontractor's claim against the contractor for damages for delay and unproductive work based upon the contractor's alleged misrepresentation that the trench was dug to grade and that there was no rock to be excavated, the trial court rendered a verdict in favor of the subcontractor. The United States Court of Appeals affirmed these findings.

The subcontractor had a further claim against the prime contractor for work the subcontractor had performed in digging up and laying pipe. The subcontractor discovered that pipe laid the previous year was in a damaged state and was requested by the prime contractor to replace it. The prime contractor disputed the amount of compensation claimed by the subcontractor and sought indemnity from the owner on the ground that the pipe had been broken because of the failure of the owner's engineers to appropriately alter specifications when it became evident that the pipe was being laid directly on slippery bedrock rather than on a layer of overburden.

The court rejected the prime contractor's claim for indemnity based upon the testimony of the contractor's supervisor that if gravel bedding had been placed under the pipe between the blocks, the pipe would not have slid.

In respect to the prime contractor's contention that the subcontractor's proof of damages was insufficiently itemized, the United States Court of Appeals said:

> "When it is certain that damages have been caused by a breach of contract and the only uncertainty is to their amount, there can rarely be good reason for refusing, on account of such uncertainty, any damages whatever for the breach."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GLIB GLOBAL TOUR

BY NAOMI MILLER

WORLD ARCHITECTURE 4: PLACE AND ENVIRONMENT. *John Donat, Editor. The Viking Press, 625 Madison Ave., New York, N.Y., 1967. 216 pp., illus., $16.95. The reviewer is Assistant Professor of Art History at Boston University, Cambridge, Mass.*

The appearance of the fourth volume of *World Architecture* clearly establishes the limitations of the series: the arbitrariness of the geographical scope, the hasty editing, and the strictly random selections. Even the lofty aims stated in the first two volumes are forgotten: i.e., to provide "a forum of ideas" between the new generation of architects and the established masters; a means of communication between the architect and the public. Ten of the sixteen countries represented are European, and the architecture cited in each section depends largely on the whim or schedule of the particular editor — and ultimately on Donat in his choice of writers. Although there is no consistency in regard to content within each volume or within the series, *World Architecture 4* does continue the same extravagant but crude format, the same archaic, visually disturbing and even confusing layout — a glaring fault in a book whose theme is *Place and Environment.* As in the third volume concerned with art and technology, the attempt to make a book with a specific theme out of a "periodical" does not succeed, for what do these neat, fashionable words (place, environment) describe but architecture itself? May one possibly conceive of the art of building without *place:* "a particular portion of space, of definite or indefinite extent," or without *environment:* "the aggregate of surrounding things, conditions or influences"? This does not prevent Donat from raising questions in the opening lines of a two-page introduction that are masterpieces of rhetorical uncertainty:

"What makes a place a *place?* How do we recognize the difference between somewhere and nowhere? Why does one environment have a uniquely recognizable identity while another is as anonymous as a faceless man? Does it matter?"

Does it matter that this is followed by more jargon that glibly reviews the negative factors of environment and that lightly skims the current urban dilemma? Does it matter that the photographs rarely convey the sense of place and environment that may exist in the reality of the building? Still, as one embarks on this global tour, borders are obliterated and oceans spanned, as we leap from the cover design with its abstraction of a non-place, No Exit, Alphaville photographic representation of the Salk Institute to the troubled existential dialogue between man and bench in the Warsaw midtown station at the end of the journey. To maintain our bearings, the editor does provide excursions into exotica in Ghana and Mozambique, Disneyland in Zürich, and Aegean archeology in Santorini and Athens. Along the way, however, one does encounter enough good buildings of recent vintage to make the trip worthwhile. Among examples in the book, none conforms more to Donat's "modest requirement of making environments where the actions of people become the principal object of architecture" than Giancarlo De Carlo's University College in Urbino and Aldo van Eyck's Pavilion in Arnheim. Inherent in both are all the beautiful contradictions dear to the architects of the contemporary scene — e.g., the juxtaposition of the connecting stairway of the college complex in Urbino with the stepped street of the old city, the respect for the rural landscape as contrasted with the urban sophistication of a young progressive community, the scale aware at all times of the human dimension. And what a marvelous play of geometric forms in the van Eyck, where people become the most surprising and effective units of sculpture. In other sections, the integration of the building with its surroundings is unsatisfactory. How utterly alien to the desert sands is the group of high-rise buildings in Beersheva; an airport hangar is just that even if dubbed a Mediterranean bazaar. The figures who populate the Warsaw station are merely decorative, emphasizing its efficiency — and utter austerity. In the photographs of the Salk Institute, one feels only the dusty California hills and the sunlight reflected in the starkness of the forms. Where is the sea and the dramatic setting that inspired the location of the scientific center in La Jolla? What is the place? What is the environment?

In the realm of architectural theory, this book does offer some provocative proliferation of "ideal" plans. Outstanding in this sphere is the Lund and Slaato plan for the Franciscan convent and church in Oslo, the circle in the square where the balance of mass and space achieves a harmony reminiscent of the Piazza San Ignazio in Rome. The axial symmetry of the Salk Center is in the grandiose monumental tradition of the Beaux-Arts with echoes of the pomp of Imperial Rome.

Seemingly thrown together and conveying a party line of sorts is the U.S.A. section. Ranging from an urban renewal scheme for Harlem to Maurice Smith's skillfully designed but effetely presented house for a wealthy client in Groton, Mass., the sense of place is difficult to reconcile. What are the architectural implications that are hinted at but not really described or explained in the many photographs of this outer-urbia house?

Wading through the pseudo-poetry from Mozambique, the clichés from Israel, and the accounts of the rigid cultural patterns of Ghana, a step towards an urban "place" with full awareness of its shortcomings is realized by the Swedish editor describing Bredäng Centrum. Here, one finds human contact on an urban scale — a mingling of all activities and peoples within the context of admittedly low-quality architecture. The "natural" place emerges too in Donat's review of Kirkbymoorside: "It is small enough to walk around in. A good, sound, solid Yorkshire town."

What *is* the common denom-

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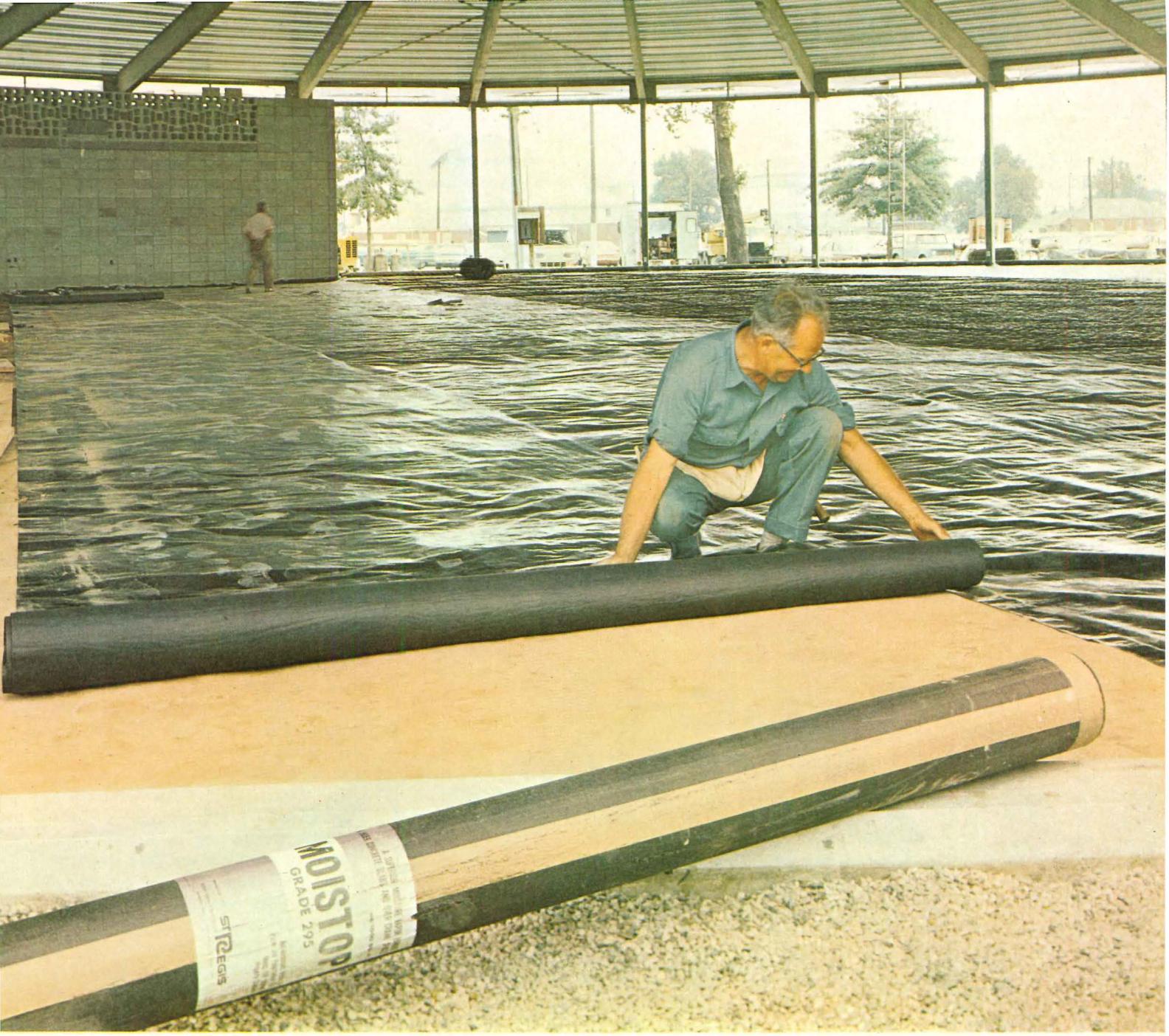

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Continued from page 156

inator of the volume? One theme that does recur is the need for the "overlapping of junctions" in the city (Karmi: Israel); "every space must be programmed for multiple roles . . . and each must relate to the total programme of the whole building . . . [the form] designed for optimum diversity of use" (Hertzberger: Holland). The goal of the editor to show places alive and in action is only partially fulfilled. Abstract architectural details such as Kahn's concrete slabs or the Otani-Noguchi plan for a playground are merely Bauhaus revisited. Although it is admirable for Donat to attempt this ambitious anthology to bring us nearer to an "understanding of the elusive nature of place and environment," the book remains (in the editor's own words) like "so many incestuous architectural publications — by professionals for professionals." For aside from the work of a few architects, *World Architecture 4* gives little indication as to what those terms really signify. In the end, the concept alone is dominant. We have learned no more than we knew from van Eyck in Donat's *World Architecture 4:* "I have spoken of place; of house and city as bunches of places — both; of the inbetween realm as man's home realm."

A Modest But Valuable Book

BY SANDRA BLUTMAN

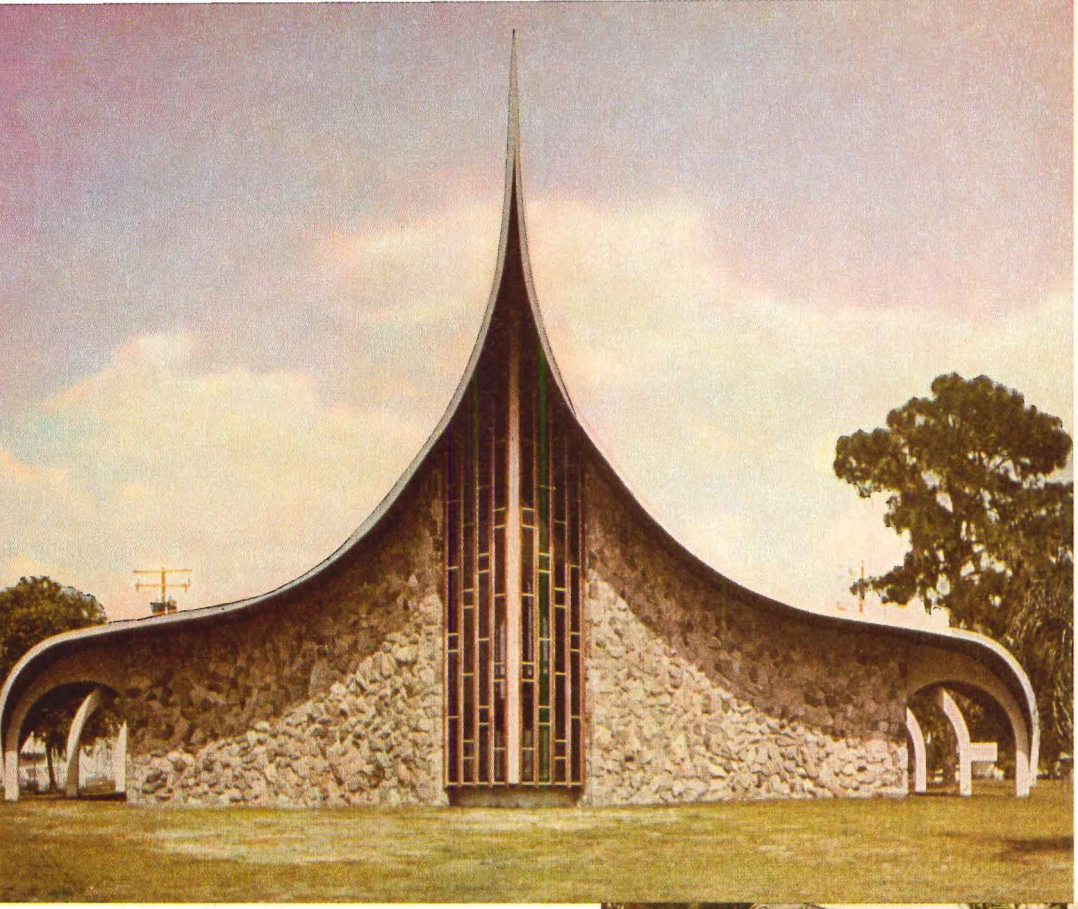
BRITISH ARCHITECTURE AND ITS BACKGROUND. *John B. Nellist. St. Martin's Press, Inc., 175 Fifth Avenue, New York, N.Y., 1967. 371 pp., illus., $15. The reviewer is studying architectural history in London and writing articles for the Encyclopedia Britannica on art and architecture.*

This book provides an excellent introduction to its subject for the nonprofessional and is specifically designed to be used in schools. Intended to provoke the curiosity of the student and to provide a basic understanding not only of British architecture but of its place in the European tradition, it assumes no technical knowledge on the part of the reader and supplies clear and well-illustrated explanations of the most basic concepts in a way that even those with a prior knowledge of the subject must admire.

The book is divided into three parts: The Classical and European Background; Architecture in Britain 1066–1800; and the 19th and 20th centuries. Throughout, John Nellist's concern to show the links between British architecture and the over-all European development and to indicate the social and cultural factors behind its evolution pays off in clarity and understanding. He uses the comparative method, showing for instance the three domes of Brunelleschi's Santa Maria del Fiore, Florence, Michelangelo's St. Peter's, and Wren's St. Paul's in juxtaposition to underline their differences as well as their similarities.

In his discussion of the Gothic (for some unclear reason "Gothic" is used where "medieval" would be more correct), he draws appropriate comparisons between English and French buildings, pointing out, for instance, the differences in planning. He explains such important inventions as vaulting, providing clear diagrams when necessary, and tells us precisely what was meant by the Golden Section in the Renaissance. A term such as "chantry," which occurs frequently in a discussion of English parish churches, is defined when first we meet it. Attention is drawn again and again to the social and religious factors that are reflected by changes in architectural form, and we learn not only about cathedrals, but

Continued on page 162



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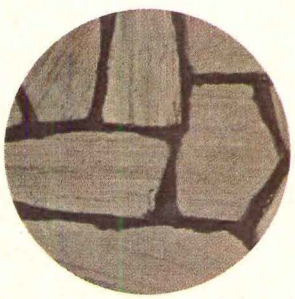

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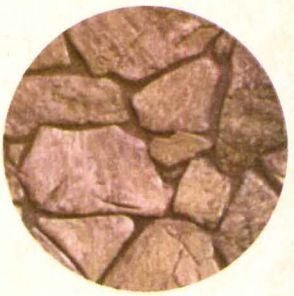

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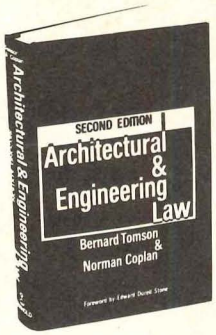

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Continued from page 158

about abbeys, priories and parish churches as well.

The sections on The Age of Jones and Wren, English Baroque, and the 18th century avoid many of the common errors in such books, and apt comparisons with Italian Renaissance models are drawn where appropriate. In the final section, on the 19th and 20th centuries, we are constantly reminded of the development of architecture outside Britain to enable us to understand how it all fits together.

There are, inevitably, the occasional errors provoked by oversimplification, but on the whole a proper balance between fact and generalization is maintained. Adding greatly to the appearance of the book are the bold and clear line illustrations drawn by the author.

Because the need for an architecturally literate public has never been more obvious than it is today, one welcomes a book that can equip the layman with the ability to make intelligent critical judgements. Nellist's modest book is a valuable contribution. One only wishes it were available in paperback so more people could own it.

Group Creativity

BY ROBERT H. MUTRUX

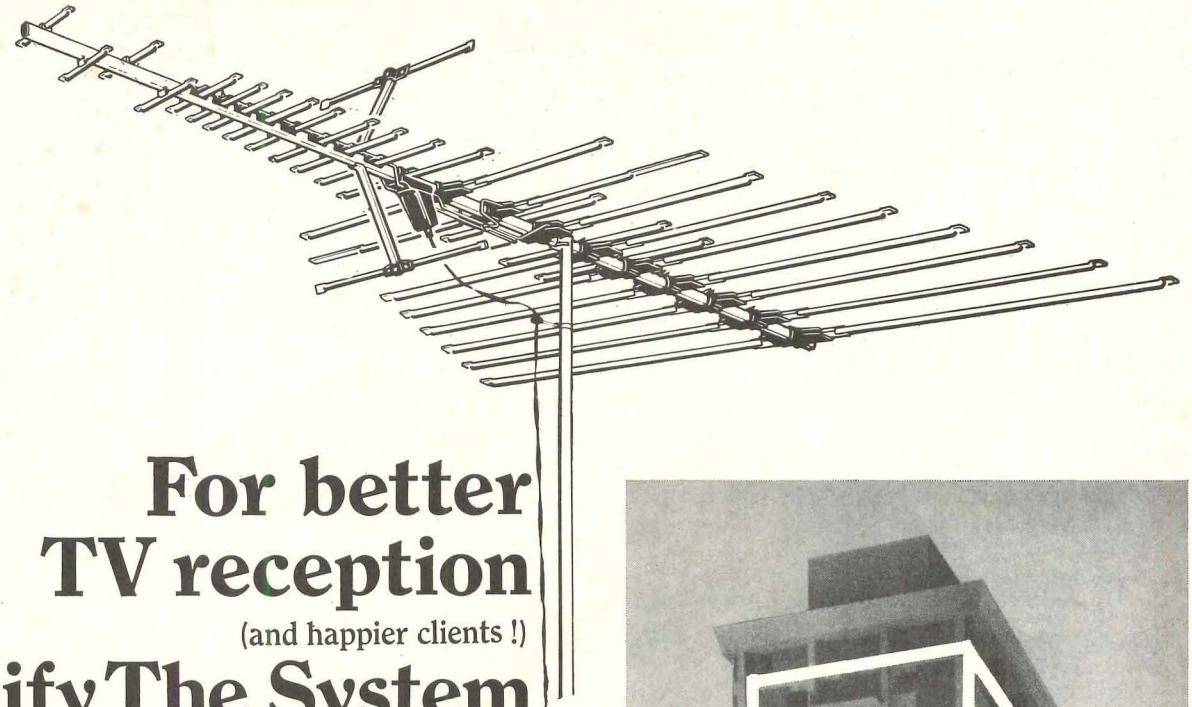
GROUP PRACTICE IN DESIGN. *Michael Middleton. The Architectural Press, 9-13 Queen Anne's Gate, London S.W. 1, England, 1968. 303 pp., illus., $10. The reviewer is an architect practicing in Bridgeport, Conn., with the firm Fletcher-Thompson, Inc.*

There are four excellent reasons for reading this book. First, the subject of teamwork *per se* deserves the respectful attention of all those involved in the complex problems of contemporary creation. Second, the scope of the work, embracing architecture and all the visual arts, points up the similarity and the interrelation of all the forms of expression that affect, and mirror, our daily lives. Third, the treatment of the subject reflects the high standard of British scholarship to which we are already well accustomed. Most important of all, this book deals at length and in depth (and to my knowledge, for the first time) with that elusive, imponderable, unpredictable factor, the creative individual and his importance in the collaborative creative process.

There is one good reason for reading it in reverse. "A Note by Misha Black," on page 285, is a revealing summation of the peculiar nature of the creative team in a democratic age, one which demands every phase of physical satisfaction from the gratification of the most refined sensibilities to the matter of where to park the car. Misha Black, who is himself deeply engaged in group practice, has touched on the key to the problem of its success. He has summed it up as a continuing struggle between the full acknowledgement of his personal contribution to the process and to the final result. There is no question that the factor that makes group work necessarily a "disturbed activity" is not the personality of the surveyor, the estimators, the engineers, the draftsmen, the construction superintendent, or even the consultants in their various disciplines. It is that *enfant terrible*, the mercurial "idea man" with his burning desire for personal recognition, who seemingly forges ahead on his own, but whose work is meaningless without a staff of specialists to give it structure and reality.

The exposition of this philosophy of community effort should inspire you to go back to the 95-page introduction, where Michael Middleton springs with enviable agility from one age to another with well-selected examples of historic

Continued on page 176



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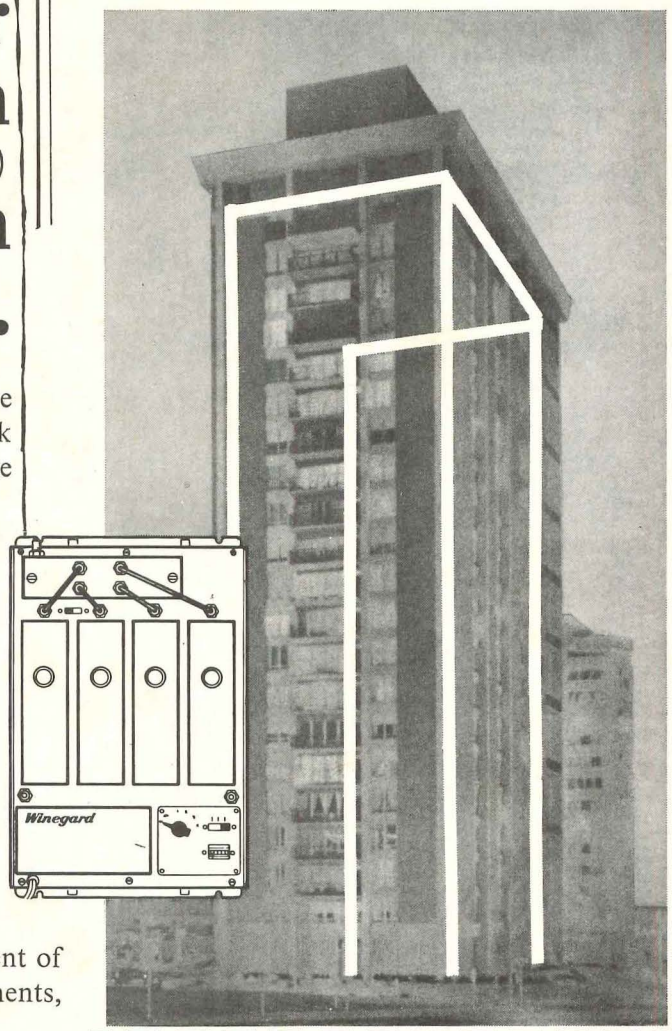

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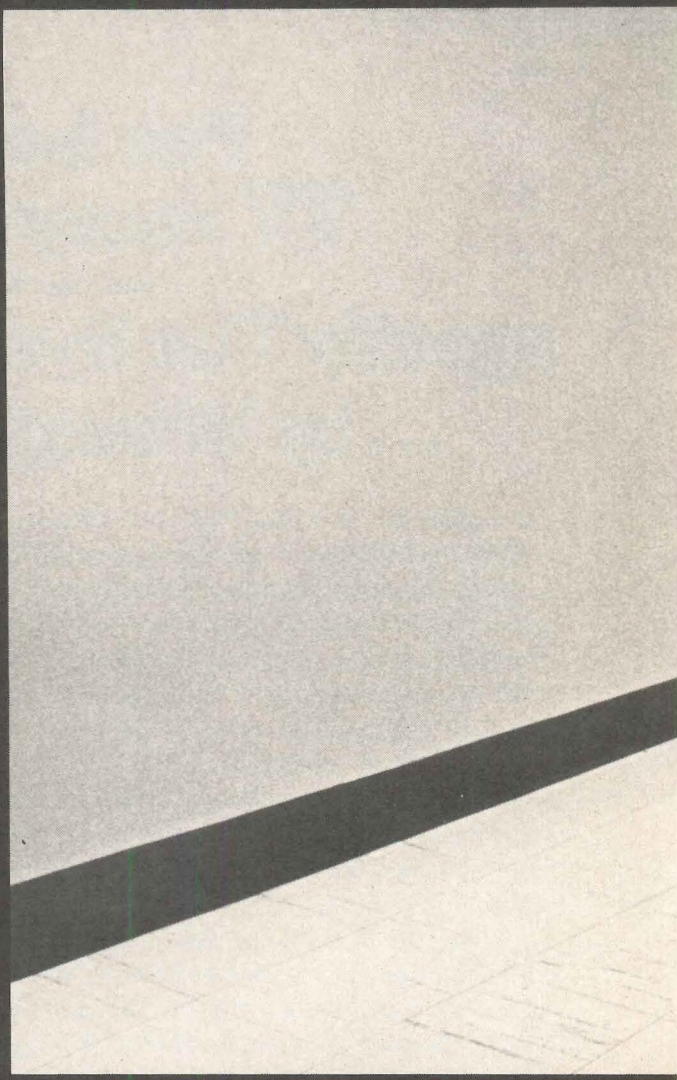

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Continued from page 162
prototypes. Here is an objective and highly readable review of the coordination of separate talents and services in the achievement of an organic whole, seen in the light of history. Here is an Olympian perspective of that timeless world populated at once with Polyclitus and Scopas and Tinguely and the Beatles, illuminated by the Book of Kells and *la musique concrète*, all united in "the creative act of synthesis we call design." And here is the birth of individuality when the frescoes in the Sistine Chapel were completed, when "the artist . . . began . . . to fight against anonymity for himself and claim a degree of autonomy."

The bulk of the work deals with two "architectural" case histories, one on the subject of a series of office buildings in London, the other the design of a new city in Pakistan. It deals with "industrial" design as well, with a chapter on the office of Henry Dreyfuss, another on the Festival of Britain in 1951, and a third on the design of the interior appointments of the ocean liner "Oriana." Still another chapter, one of the most absorbing, describes the work of "the largest television design department in the world," the BBC. However, the description of organizational structure and procedure and the development of partis from concept to completion in all these illustrations are mainly of documentary value. The core of the work is the recurrent theme of individuality rebelling against regimentation. It is echoed frequently: "Before collaboration can be possible, two essentials must exist: a means of communication which is understood (and respected) by all concerned, and the will to use it selflessly." "There is no magical formula: . . . there must exist a common ideology." And again, "There is an inescapable necessity for someone to take the final decision . . . the members of the team must be intellectually . . . and tempermentally . . . related."

Read this book as it is written, if you insist. But if your staff contains more than one person, you will find that it identifies itself throughout with your work. You will profit by discovering many interesting and highly relevant things about a vital modern subject, and you will enjoy seeing many of your own ideas superlatively expressed.

Japan's Builders
BY H. H. WAECHTER

NEW JAPANESE ARCHITECTURE. *Revised Edition. By Udo Kultermann. Frederick A. Praeger, 111 Fourth Ave., New York,*
Continued on page 180

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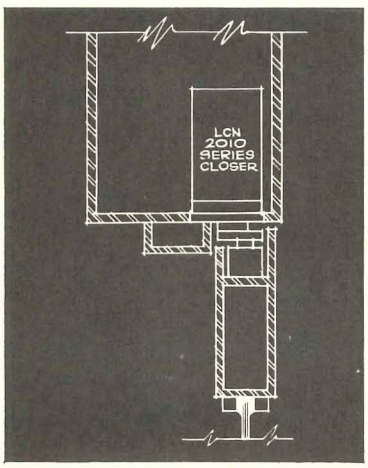
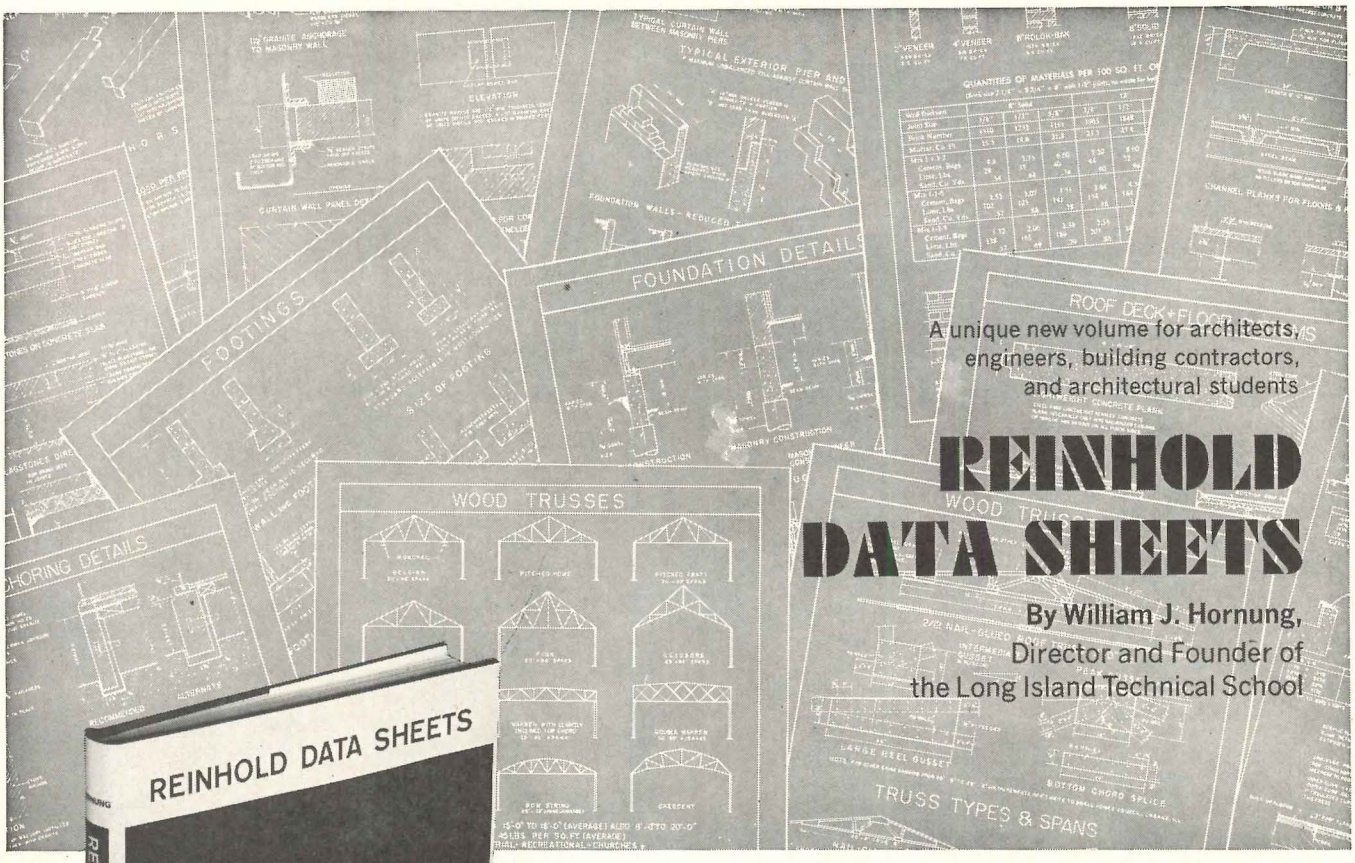


PHOTO: Detroit Metropolitan Airport, Detroit, Michigan; Architects: Smith, Hinchman & Grylls Associates, Inc.



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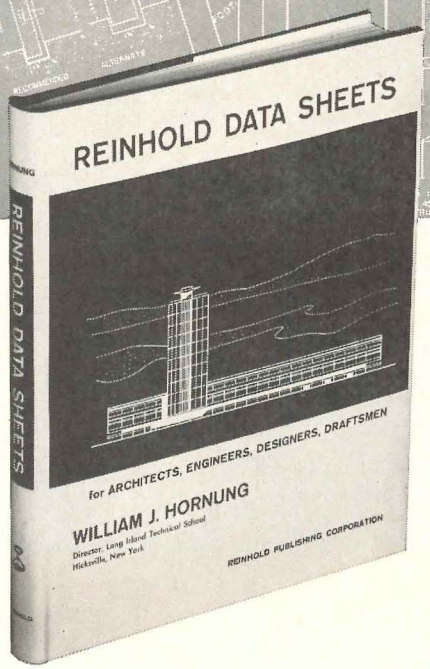

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The arrangement of the subject matter is distinguished by the fact that where materials in a certain construction system have been shown in detail, the methods of estimating quantities of these materials have been included. Questions and answers pertaining to mechanical and electrical equipment of buildings have been added for the benefit of those preparing for the Registered Architect's examination.

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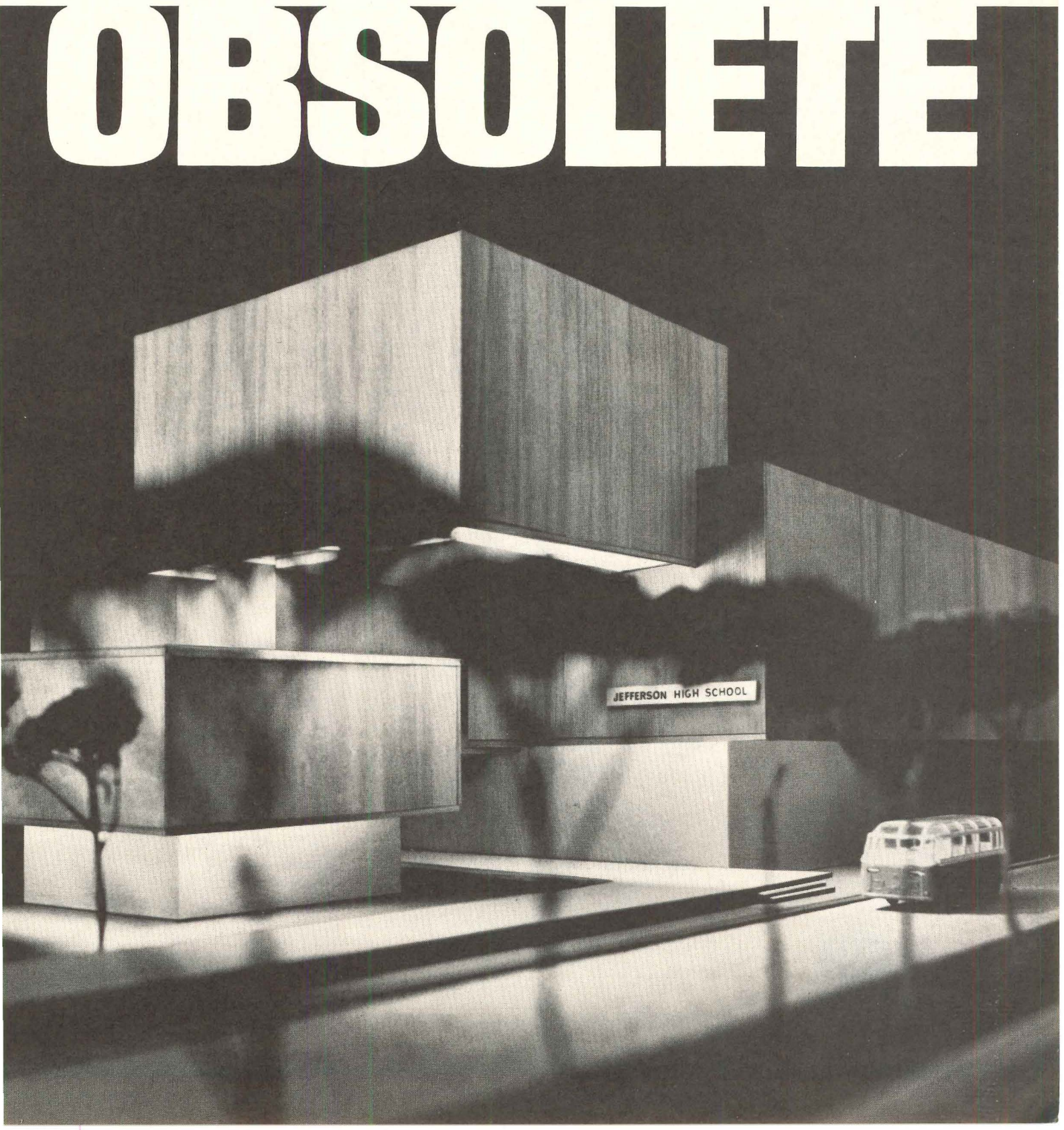

Continued from page 176

N.Y., 1967. 180 pp., illus., $13.50. The reviewer is Visiting Lecturer of Architecture at California State Polytechnic College.

The revised edition of Kultermann's well-known book on modern architecture in Japan may be considered essentially a new book, since almost all the photographs are new. There are only 27 pages of written text, which forms a commentary on the presented buildings and their architects.

It is most gratifying that this sumptuous material, which ordinarily can be found only in Japanese publications, is being offered in an English edition. Most of the work shown is by men like Tange and Mayekawa and their collaborators and friends, all of whom were under the influence of European architects, primarily Le Corbusier and Antonin Raymond.

Japanese architecture of the early and middle 1960's has many of the characteristics of Western building. Seismic design and fire safety had as much to do with this development as the adaptation of our stylistic idiosyncracies. But one can see that, in the synthesis, the Japanese sense of proportion, fine detailing, and disciplined imagination shines through the "Beton Brut." Indeed, some structures, as, for example, Tange's sports halls or his library in Hiroshima, or Sato's Hofu City Hall, or Mureta's Aichi Country Club, are elegant in feeling.

In his foreword and in the first chapter, entitled "Fundamentals," Kultermann attempts to provide in a nutshell the essence of architectural development that lead up to the newer buildings presented in the book. Some of this material and its interpretation runs roughly parallel to much of the writing on this subject by other authors. However, depth of empathy and analysis is missing as they are not, for example, in Bruno Taut's famous lecture on the "Fundamentals of Japanese Architecture."

Kultermann attributes the traditional use of wood not only to the country's resources, but also to wood's high capacity for resistance to earthquakes. Conversely, Taut pointed out that the nonstructural use of wood is unfortunate and an irrational element in traditional building, making people subject to nature's caprices. Further, Kultermann does not share Taut's (and others') strong bias in favor of the Katsura detached palace, but he considers the decorative development of the Buddhist temple as an admirable baroque extravagance that evidences a fantastic imagination. However, the aversion to Nikko and post-Nikko ornateness was a well-founded reaction not only by those who were "trained in strict classicism" but also by an expressionist like Taut, who certainly had his healthy share of fantasy. This reviewer, however, agrees with Kultermann that there is an increasingly indigenous development in Japan toward an interpretation of the modern idiom that is more suitable for Japan, less imitative of Western ways, and representing a genuine integration of modern industrial developments into the pattern of Japanese background.

The second chapter, on "Problems and Solutions," offers a very fine discussion on the present planning situation and some of the more daring proposals, such as the extension of Tokyo out into the sea. It follows a critical account of the buildings shown on the plates of the book. Buildings of social and public concern have assumed an importance as never known before in Japanese history. The subchapters cover municipal and public administration buildings, educational, cultural and recreational buildings, religious buildings, exhibition buildings, transportation buildings, domestic buildings, and housing schemes.

One may mention here one peculiarity of scale when looking at these buildings. Perhaps only those of us who have actually experienced them may agree that they appear oversized in relation to the human environment. In contrast to the residential buildings, the public buildings not only remind us at times of their Western equivalents, but they also have similar dimensions. It was Bruno Taut who compared Leonardo da Vinci's "normal man" with the Japanese equivalent and found them to be different. It may thus be very well imagined that some Japanese designers were waylaid by the Golden Section or perhaps by the Modulor.

Although the modern architecture of the industrial age was ushered in by such remarkable designs as Tetsuro Yoshida's post office buildings, it was the post World War II period that established in Japan firmly and belatedly the built manifestations of the second industrial revolution. The disadvantages of "utopian" schemes such as Kikutake's Marine City or Isozaki's City in the Sky are not to be seen as rich and fascinating fantasy but as projections into a technocratic world. They also take the continuation of the population explosion too

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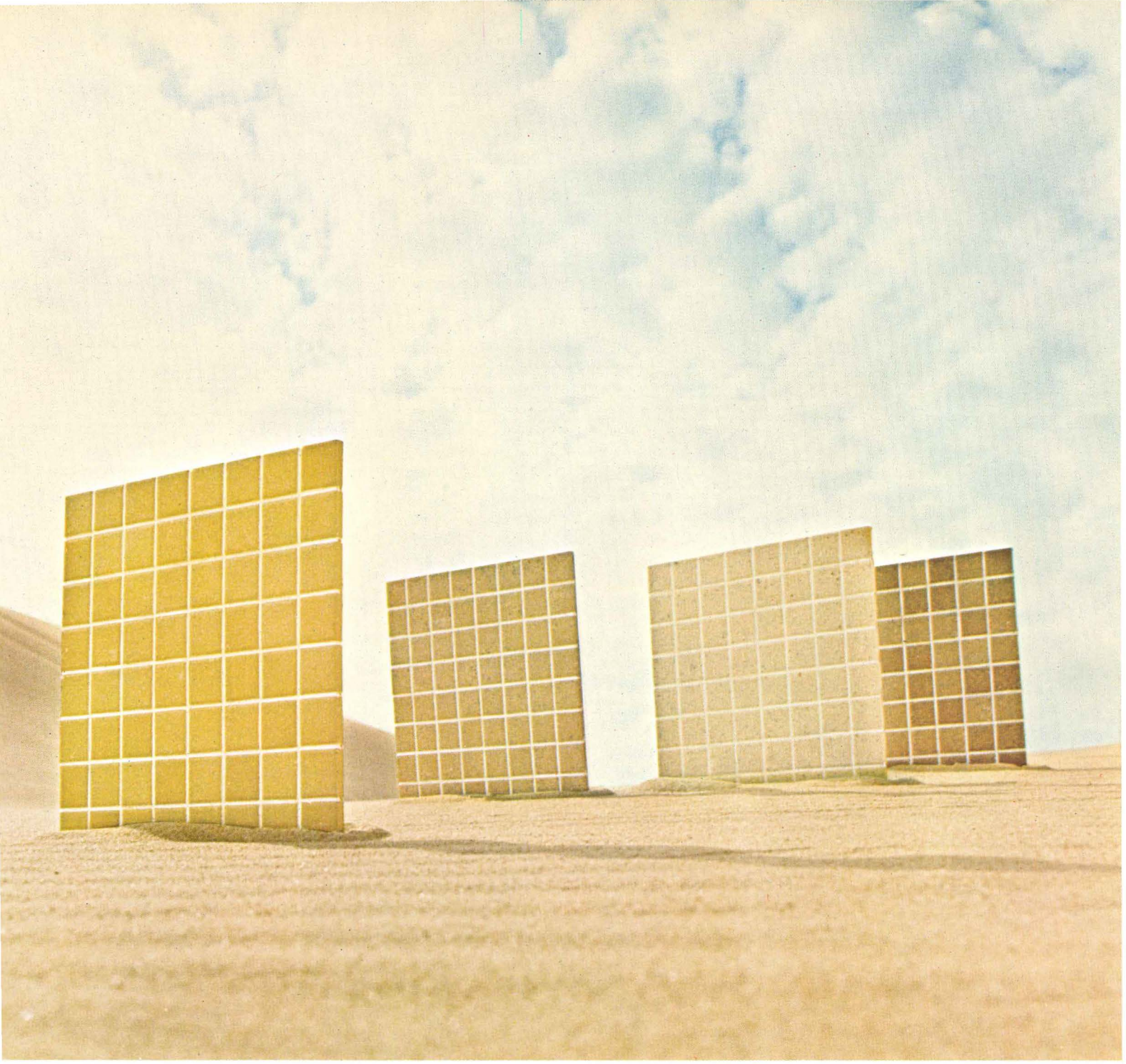

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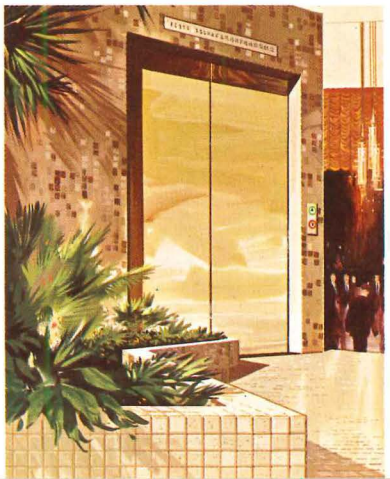

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Continued from page 180

much for granted. The idea of "Metabolism," which is treated in a special section, offers a correct concept of flexibility and comprehensiveness in planning and design and allows at the same time for a creative attitude toward architectural forms of the past. However, no particular issue is taken with regard to needed changes in the underlaying socioeconomic structure, which will have to be faced in Japan as in the West.

The introductory text in this volume of pictures is rounded out by the third chapter, "Biographies of Architects." This is a desirable feature that similar books should have. The list cannot, of course, strive for completeness. It seems, however, that the name of Isaburo Ueno should have been mentioned, because he still has a great influence on Japanese design.

Kultermann's book represents a great treasure of Japanese work that must be an inspiration to all of us. The presentation is most appealing and the printing excellent. An index would have been of help. The clean drawings of plans and sections were done by Johannes Erdmann.

Indian Architecture

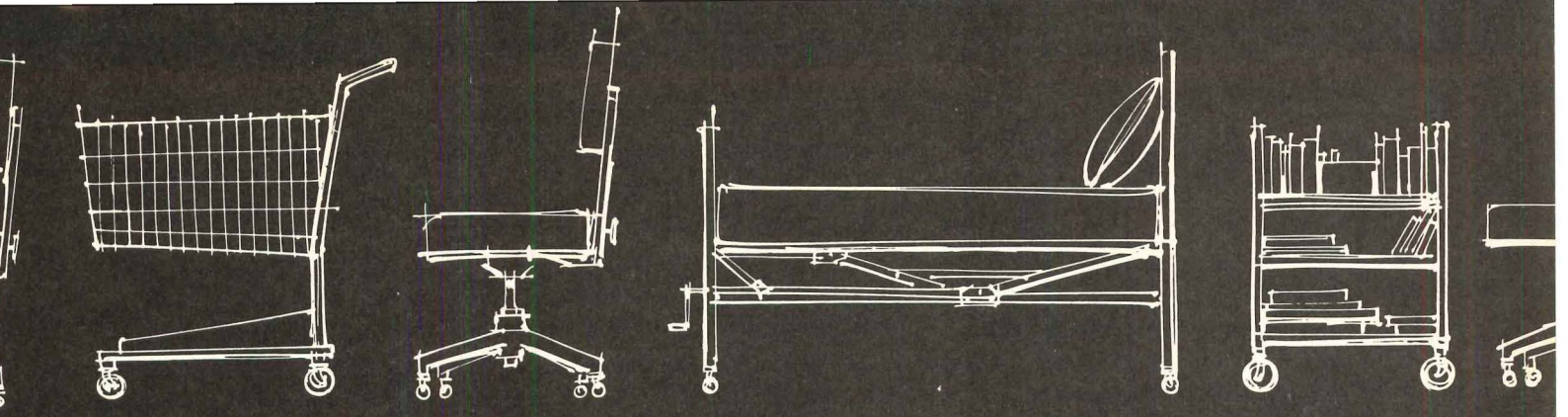
BY WALTER KIDNEY

FORMAL STRUCTURE IN INDIAN ARCHITECTURE. *Klaus Herdeg. Distributed by the Center for Housing and Environmental Studies, Cornell University, Ithaca, New York, by Wittenborn Art Books, 1018 Madison Ave., New York, N.Y. 10021. illus., $10. The reviewer is an Associate Editor of P/A.*

The author, a Swiss architect now teaching at Cornell, has reproduced at reduced scale the panels of a traveling exhibition. The purpose is to show modern architects for their information (and enlightenment) the kind of formal solutions to functional problems adopted in one small part of the world, northwest India. Taking eight major medieval works of architecture, including public wells, a mansion, mosque and tomb complexes, and a fortified palace enclosure, the author outlines for each place the functional program, the social role, then analyzes its formal qualities. Since the Hindu architects, building for their own people or for the Moguls, worked elaborately in massive sandstone, in most cases with all the space they wanted and with immensely complicated ground plans, the direct applications for modern architecture are nil. At the same time, the point is well carried that vast amounts of thought, as well as money and materials, went into the shaping of these places. The formal solutions are a pleasure in themselves — none more so than the almost accidental one shown, evolved when the British, around 1900, patched up the remaining portions of a cellularly planned mosque, making echelons of swept internal angles that give it almost a free-form plan.

One unfortunate thing about the presentation, in its "book" form, is a loss of clarity; things have been drastically scaled down, and the photographs have come out a little gray. Except as shown in elaborate nonarchitectural photo books, such as Martin Hürlimann's, Indian architecture seems to be under a perpetual curse of indifferent presentation, and the present work is no exception. This is not the fault of the author, who was working with a tight budget, and this is not to say that the "book" is uninteresting; far from it, there is much of interest to look at, and a little patient scrutiny will make the whole thing clear.

Notices on page 192



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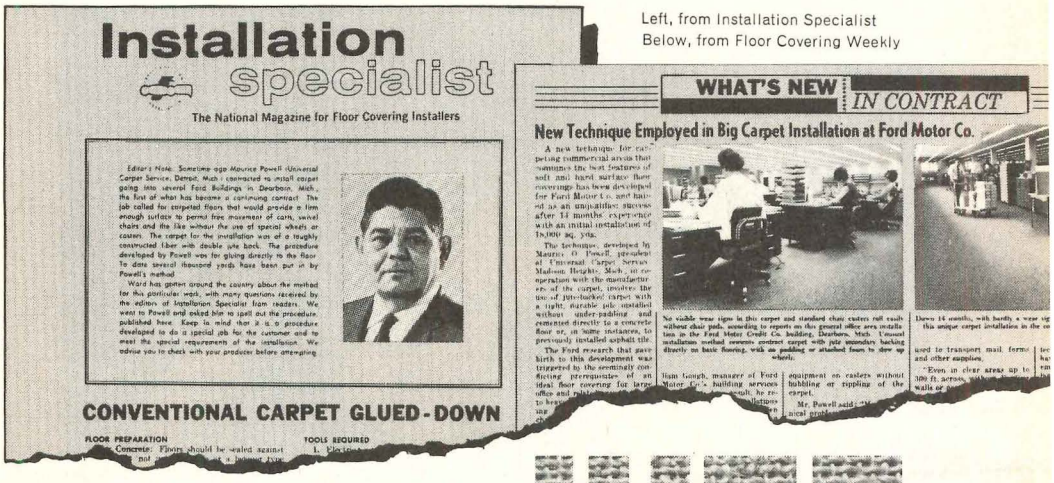
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ENVIRONMENTAL CONSULTANTS, INC., Architects, Engineers, Planners, 2890 W. Ritchie Pkwy., Rockville, Md. 20852.

R. A. GOODELL & ASSOCIATES, INC., Consulting Engineers, 1177 Silas Deane Hghwy., Wethersfield, Conn. 06109.

CHARLES LUCKMAN ASSOCIATES, Architects and Planners, New York, N.Y. and Los Angeles, Calif., announce the election of JAMES M. LUCKMAN as president of the firm, and that of A. J. MCARTHUR as executive vice-president in charge of the New York office. ARDEN H. LARSON has become director of consulting services for the firm, and MELVIN C. BOGART is now director of interior design.

H. C. MASON & ASSOCIATES, Consulting Engineers, Gladstone, Ore., have appointed RONALD F. JIROCH a project engineer.

MICHAEL ROUNDS METCALF, Architect, 2828 Stanley St., Stevens Point, Wis. 54481.

NORTEC, INC., Engineers, Planners, Systems Engineers, Executive Bldg., Portland, Ore.

JOHN B. PARKING ASSOCIATES, Architects, Engineers, Planners, Los Angeles, Calif., have named CARL C. MCELVY consultant in the fields of educational, institutional, and governmental building design and planning.

QUINTON ENGINEERS, LTD., Architects, Planners, Engineers, Los Angeles, Calif., have appointed EDWARD T. TELFORD director of highway planning.

RICHARD REYNOLDS, Land Planner, Vincent Whitney Bldg., Sausalito, Calif.

SCHAFER, FLYNN, VAN DIJK & DALTON, GRIMM, JOHNSON, Architects, 1 Erieview Plaza, Cleveland, Ohio.

HARRY L. SCOGGIN, Architect and Structural Engineer, 2 Salt Creek La., Hinsdale, Ill. 60521.

SMITH, HINCHMAN & GRYLLS ASSOCIATES, INC., Architects, Engineers, Planners, Detroit, Mich., have appointed ALBERT H. FIEDLER coordinator of hospital research and planning for the firm.

SOCIAL PLANNING ASSOCIATES, Planning Consultants, 33 N. Dearborn St., Chicago, Ill. 60602.

JOHN A. THACKER, Architect, 500 Times Annex Bldg., 63 S. Fourth St., Minneapolis, Minn. 55401.

New Partners, Associates

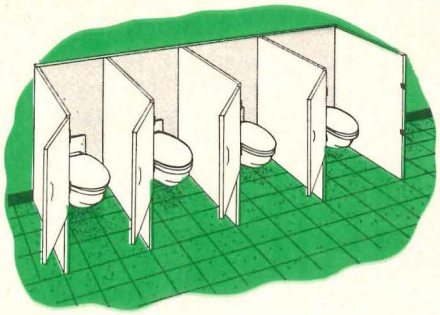
CHAN/RADER & ASSOCIATES, Architects, San Francisco, Calif., announce the appointment of LEONARD M. TIVOL as an associate in the firm.

CHAPMAN & MILLER, Architects, Washington, D.C., have named JAMES M. GRAHAM a senior associate on their staff.

COLLINS, UHL & HOISINGTON, Architects and Engineers, Princeton, N.J., announce

Continued on page 194

if you "value-evaluate" the restrooms you will install off-the-floor fixtures



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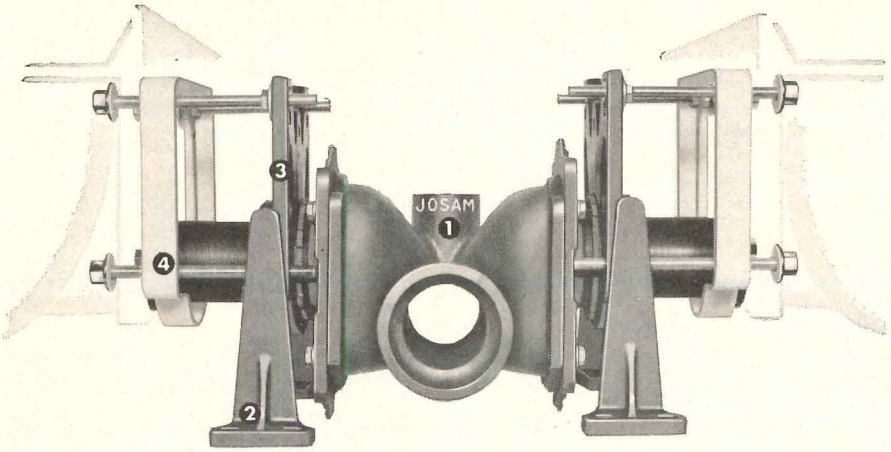

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Continued from page 192

that KURT M. ANDERSON has become a partner in firm.

DANIEL, MANN, JOHNSON & MENDENHALL, Architects, Planners, Engineers, Los Angeles, Calif., have chosen ABRAAM KRUSHKHOV to be vice-president for planning. ROBERT E. GRIFFITHS has recently joined the firm as project architect.

LEO KORNBLATH ASSOCIATES, Architects, Planners, Interior Designers, New York, N.Y., announce that HARRY GREEN is now a partner and GLEB WEISKOFF is now an associate of the firm.

J. N. PEASE ASSOCIATES, Architects, Engineers, Planners, Charlotte, N.C., have elected MICHAEL R. TYE and WILLIAM A. SANDERS associate members of the firm.

THE PERKINS & WILL PARTNERSHIP, Architects, Chicago, Ill., Washington, D.C., and White Plains, N.Y., has named four new partners: ROBERT G. LARSON, RAYMOND C. OVRESAY, ROBERT B. SULLAN, and E. ALFRED PICARDI.

SCHUTTE-MOCHON INCORPORATED, Architects, Engineers, Planners, Milwaukee, Kenosha, Appleton, Wis. and Chicago, Ill., have named a new principal, ROY M. SCHOENBROD, to head the firm's recently established branch office in Chicago.

TUCHMAN-CANUTE, Architects, Akron, Ohio, announce the admission to partnership of ROGER N. RYAN and ROBERT J. WYATT.

SIMPSON GUMPERTZ & HEGER, INC., Consulting Engineers, Cambridge, Mass., announce the election of RICHARD E. CHAMBERS to associate membership in the firm.

WIMBERLY, WHISENAND, ALLISON & TONG, ARCITECTS, LTD., Honolulu, Hawaii, have named DONALD W. Y. GOO a junior partner in the firm.

WOLFF-ZIMMER-GUNSUL-FRASCA-RITTER, Architects, Portland, Ore., have named two new associates: PRESCOTT W. COLEMAN and BRAINARD JOY GANNETT.

Elections, Appointments

CANDEUB, FLEISSIG & ASSOCIATES, Planning Consultants, Newark, N.J., have appointed RUDOLPH J. MILLER as Connecticut Deputy Regional Director of the firm.

CAUDILL-ROWLETT SCOTT, Architects, Engineers, Planners, Houston, Tex., announce that WILLIAM T. CANNADY has joined the firm.

GROVER DIMOND ASSOCIATES, INC., Architects and Engineers, Minneapolis, Minn., announce that JOHN W. SLOAN has joined the firm as vice-president for real estate and financial services.

ISD, INCORPORATED, Interior Designers, Chicago, Ill., and New York, N.Y., has named JOHN KING vice-president in charge of the New York office.

HOWARD R. LANE ASSOCIATES, Architects, Encino, Calif., have appointed PHILIP H. FISHER a vice-president in the firm.

LOCKWOOD GREENE ENGINEERS, INC., New York, N.Y., announce that TAUBE OLSEN has joined the firm as a project manager in the graphic arts department.

PARSONS, BRINCKERHOFF, QUADE & DOUGLAS, Consulting Engineers, New York, N.Y., have elected two new vice-presidents: HENRY L. MICHEL and ROBERT A. SNOWBER.

THE RUST ENGINEERING COMPANY, Architects and Engineers, Pittsburgh, Pa., announces the promotion of HANS D. RUDOLPH to the position of chief architect.

HUGH STUBBINS & ASSOCIATES, INC., Architects, Cambridge, Mass., have named MERLE T. WESTLAKE, JR., and EDWIN F. JONES as vice-presidents and directors of the firm.

Continued on page 196

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Continued from page 194

Name Changes

HAINES, LUNDBERG & WAEHLER, Architects, New York, N.Y., upon the retirement of PERRY COKE SMITH; formerly, SMITH, HAINES, LUNDBERG & WAEHLER.

MACKINLAY/WINNACKER & ASSOCIATES, Architects, Orinda, Calif., upon the admission of GEORGE S. WINNACKER as a principal in the firm; formerly, IAN MACKINLAY & ASSOCIATES.

JORDAN MCGETTIGAN & YULE, Architects, Philadelphia, Pa., upon the admission to partnership of FRANK J. MCGETTIGAN; formerly, JORDAN, MCNEE, PARNUM & YULE.

ROBERT S. MCMILLAN ASSOCIATES, Architects and Planners, New York, N.Y. and New Haven, Conn. The firm of MCMILLAN, GRIFFIS, MILETO, New York, New Haven, Rome, has separated into two independent organizations: ROBERT S. MCMILLAN ASSOCIATES, New York and New Haven, and INTERPLAN, with offices in Rome, Italy.

LAWRENCE-HAWVER ASSOCIATES, Architects and Interior Designers, Cleveland, Ohio; formerly, ARTHUR LAWRENCE ASSOCIATES.

TURNER-T LTD., Decorative Arts Center, 305 E. 63 St., New York, N.Y.; formerly, GEORGE TANIER, INC.

STEFFIAN, STEFFIAN & BRADLEY, INC., Architects and Planners, Boston, Mass.; formerly, EDWIN T. STEFFIAN & ASSOCIATES, INC.

WELLS, MEAGHER & MCMANAMA, Architects, Roanoke, Va., upon the admission to partnership of JAMES H. MCMANAMA; formerly, WELLS & MEAGHER, ARCHITECTS.

WELLS & RETTIG, Architects and Engineers, Lima, Ohio; formerly, MCLAUGHLIN & KIEL, ARCHITECTS.

WILMSEN, ENDICOTT, GREENE & ASSOCIATES, Architects, Portland and Eugene, Ore., upon the admission to partnership of ALLEN L. GREEN; formerly, WILMSEN, ENDICOTT & ASSOCIATES.

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ARCHITECT—Permanent position with established medium-sized architectural-engineering firm in small town in West Virginia. All types of work including planning—firm ranges statewide. Architectural department is small, but growing. Congenial working atmosphere and benefits. Want experienced graduate capable of handling all phases of projects. Registration preferred but not necessary. Send resume to Box #660, PROGRESSIVE ARCHITECTURE.

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ARCHITECTS—Facilities planning consultants. New York City planning and design consulting firm seeks "people-oriented" architects with high personal standards of professional responsibility and proven capability in top level client contact, problem solving and report writing. We offer opportunities for individual growth, salaries commensurate with qualifications, increases based upon merit and, a comprehensive benefit program, including deferred profit-sharing. Primary responsibilities will concern the solution of client problems related to programming corporate headquarters, specialized educational facilities and major civic centers. Please submit confidential resume of experience and earnings to Becker & Becker Associates, Inc., Seagram Building, 375 Park Avenue, New York, N.Y. 10022.

ARCHITECTS—Progressive firm has permanent position for experienced and qualified architect to design hospitals. Similar opportunities available for architects with wide background of experience designing college facilities. Send resume and/or contact Richard E. Martin, R.A., Buchart Associates, 611 West Market Street, York, Pennsylvania 17405.

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ASSISTANT PLANNERS—$8900–$9800, plus excellent fringe benefits. Master's Degree in (1) the design discipline of planning, architecture, landscape architecture or urban design; or (2) the analytical disciplines of planning, regional economics or urban geography. To undertake professional studies in creation and testing of overall development proposals for all of Oakland County Michigan and the evaluation of their implications to local areas. Send complete resume to: The Personnel Division, Oakland County Board of Auditors, 1200 N. Telegraph Road, Pontiac, Michigan 48053.

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Continued on page 202

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New Haven, August 19, 1967...

What's a magazine like P/A doing in a place like this?

"New Haven comes closest to our dream of a slumless city."
—Robert C. Weaver, Secretary of Housing and Urban Development.

"If this is a model city, then God help America."
—Richard C. Lee, Mayor of New Haven.

At the height of last summer's rioting, Mayor Lee paced his map-lined basement command post, tears in his eyes. "Why? Why? Why?" he asked.

Even before police removed their sky-blue riot helmets, and the last armored car rumbled off the street, a team of P/A editors arrived in New Haven. They, too, wanted to know "why?" What went wrong in this showcase of urban renewal? And how responsible were the architect-planners of the "new" New Haven for what happened?

Their straightforward and provocative answers appeared in the January *Progressive Architecture*, in an article titled "Urban Planning and Urban Revolt." It took a hard look at New Haven's touted renewal programs and their effect on the poor of the city.

It described how the "renewal" of certain older neighborhoods actually helped increase tension between races. And it frankly pointed out the noncurative nature of most U.S. urban planning programs. The report made it clear that, as one of our readers put it, New Haven is "not a model, but a warning."

"Urban Planning and Urban Revolt" is typical of P/A's unique editorial approach. The article went beyond telling merely *what* happened in New Haven. It analyzed *why* it happened. And it reported this analysis in terms consistently meaningful to architects.

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PROGRESSIVE ARCHITECTURE

JOBS AND MEN

Continued from page 198

project coordination, specifications, supervision. Associate or partnership interest with growing architectural or engineering office desired. Industry considered. Florida preferred. Box #669, PROGRESSIVE ARCHITECTURE.

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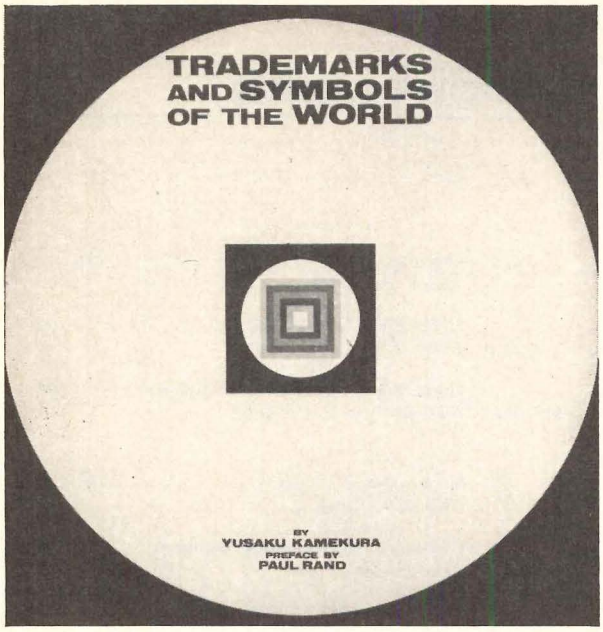

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If you only knew how often I think of you, Horace, Hutch & Sinkwell, A.I.A.

Never heard of Horace, Hutch & Sinkwell, A.I.A.? Well, maybe the girls in that new office building aren't so good at remembering architects' names. But like the gal above they do appreciate it when an architect goes to the trouble of specifying one of Bobrick's attractive and convenient stainless steel, built-in dual vending machines for dispensing both feminine napkins and tampons.

And since about half the gals now use tampons, there's more than beauty involved in their appreciation of Bobrick's recessed dual-vend machines.

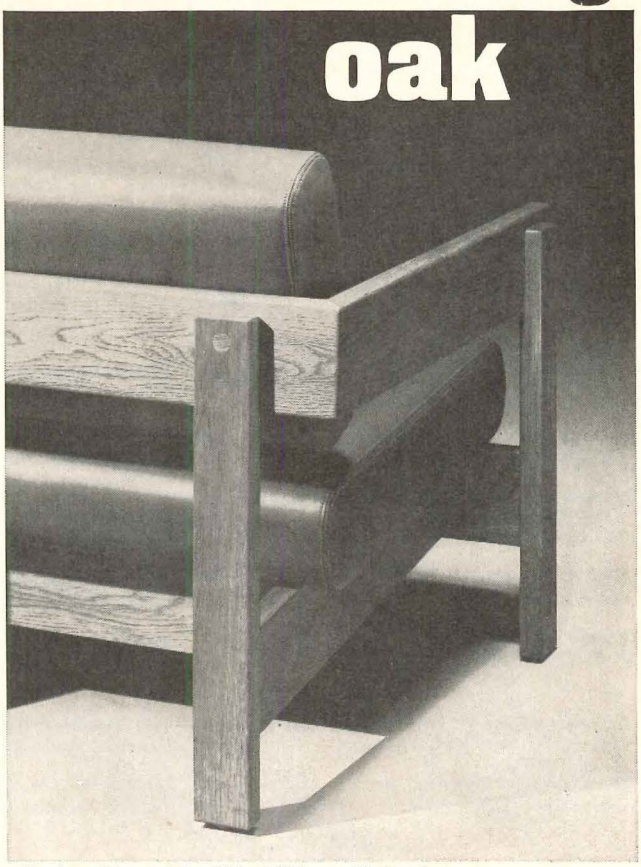
So how about it? Send for our free catalogue or see Sweet's File No. $^{23a}_{Ki}$ (or Bobrick, File $^{25e}_{Bo}$) for a description of vending machines available for dispensing Kotex® napkins and tampons.

True, your name may be forgotten but your good deed will live on in the hearts of all the girls.

Kimberly-Clark Corporation
Commercial Department Neenah, Wisconsin

On Readers' Service Card, Circle No. 356

bold, brawny oak



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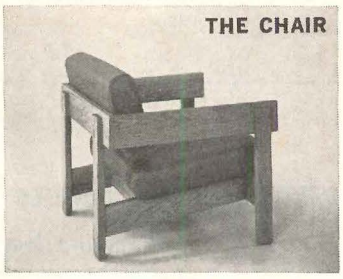

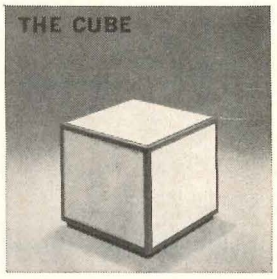

The bold look of natural oak highlights the Oak Lounge Series by Harter. Fresh, informal, rugged. Seating with strength. ■ Harter Oak includes a chair, 2-seat and 3-seat sofas, a bench, a "cube" and a forest of matching tables. Now on display at our showrooms, or write for catalog.

New York / Chicago / Denver / Los Angeles

HARTER CORPORATION
817 Prairie Avenue
Sturgis, Michigan 49091

☐ *Send me the Harter Oak Lounge Series catalog.*

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We're not going to be hush-hush about it any longer.

There's more than a small difference between Acrilan® acrylic fiber and all other carpet fibers. Enough difference to be called a gap.

True, any carpet fiber you can name has its good points. There's the luxury of wool. The toughness of nylon. The spotlessness of olefin. The static resilience of polyester.

But it's also true that there's only one fiber that gives you all of those good points, plus a few more of its own, all rolled up in one carpet. And that's Acrilan.

Considering the facts, should you ever specify any other kind of carpeting?

Not if you want to cover your clients' every demand.

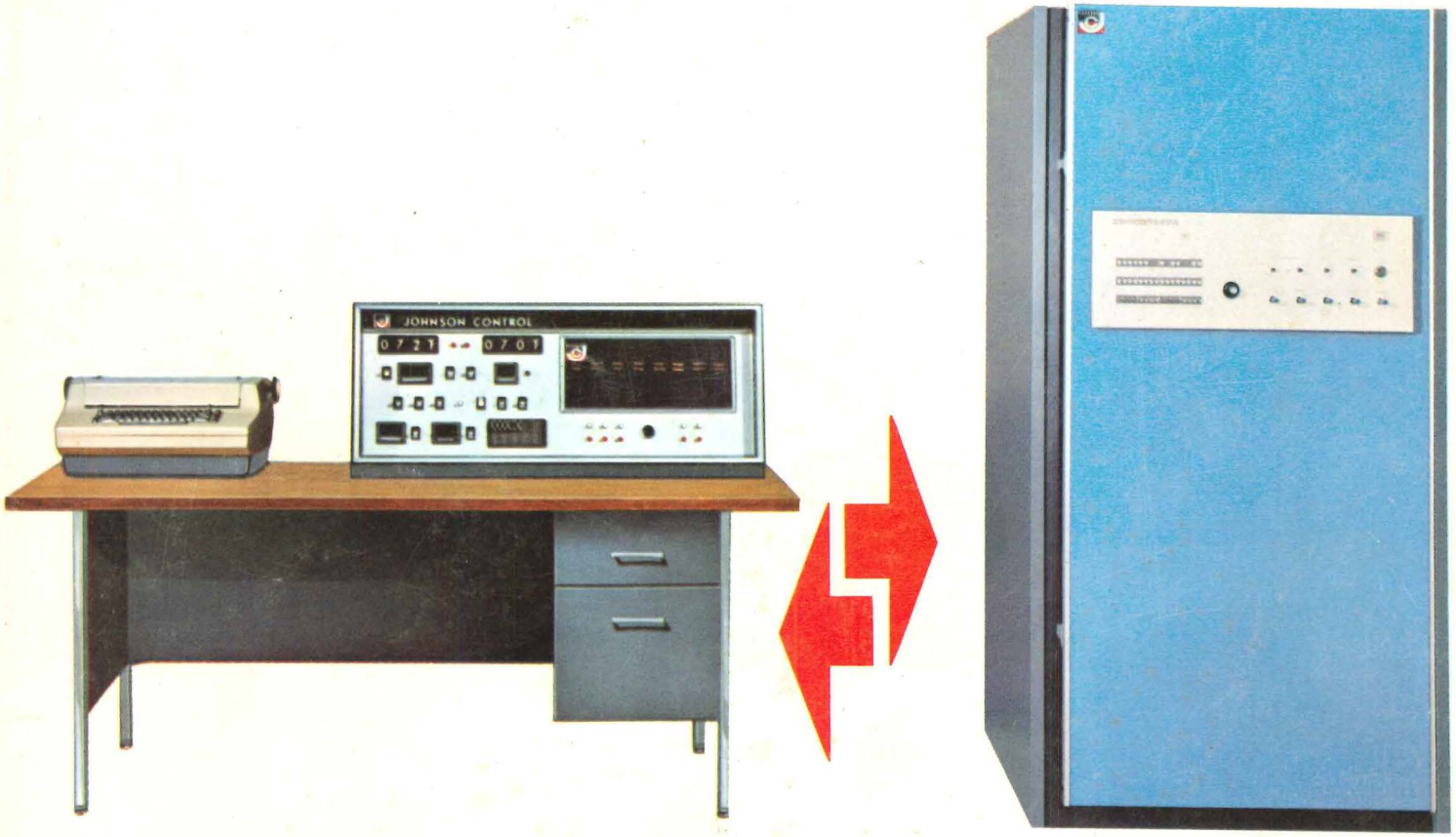
After Acrilan®, nothing else comes close.

ACRILAN® Monsanto

On Readers' Service Card, Circle No. 313

Another breakthrough in
building systems management...

A computer interface to link Johnson control centers with any standard computer!



Johnson has bridged the last gap in total Building Systems Management — a computer interface for new Johnson T-6000 environmental control centers! With it, you can hook up the T-6000 with any single-purpose or multiple-purpose computer.

This means you can increase the already matchless performance of T-6000 control centers by adding such computer functions as programming, data interpretation, decision-making, systems analysis, preventive maintenance scheduling, and optimizing. Our computer interface offers important new opportunities for many buildings to improve efficiency and cut operating costs.

When you build or modernize, take advantage of Johnson's distinctive "management by exception" concept of Building Systems Management. Write for details about the Johnson T-6000 solid state control center, now available with computer interface.

JOHNSON CONTROL

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AUTOMATIC CONTROL SYSTEMS • BUILDING SYSTEMS MANAGEMENT • CONTRACT MAINTENANCE • INSTRUMENTATION CONTRACTING

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