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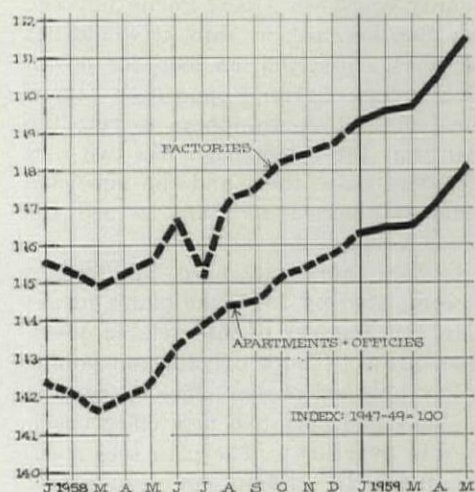
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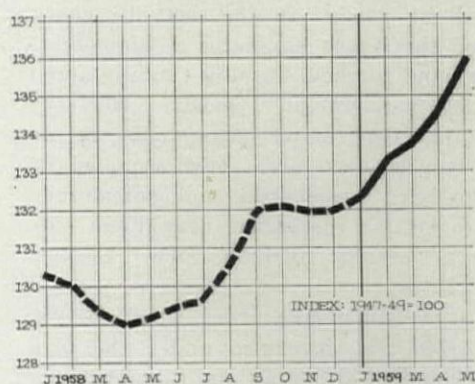
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## Building costs rise as much in first five months as in all 1958, due largely to lumber price hikes



CONSTRUCTION COSTS so far this year have risen as much as they did in all of 1958, according to the E.H. Boeckh Associates indexes of apartment-office construction and factory building.



BUILDING MATERIALS PRICES have moved higher, too, mostly because of the steep rise in lumber and wood products prices. So far this year, the index of materials prices has advanced nearly 3 per cent.

Building costs which last year showed relative stability have recently turned upward. Some construction economists say the increase is temporary, based almost entirely on rises in prices of lumber and plywood, caused by the home-building boom.

In May the E. H. Boeckh index of apartment-office construction stood 4.1 per cent ahead of May 1958, and the index of factory building was up 4.1 per cent also. From May 1957 to May 1958, the Boeckh indexes were up only 1.2 per cent and 2 per cent respectively. Building costs, as measured by the Boeckh indexes, have risen as much in the first five months of this year as they did in all of 1958.

The Boeckh indexes reflect conditions in lumber, plywood, and steel, but they also include wage rates, which this year have also been moving upward. Labor contract settlements in some cities have involved the highest wage increases in three years, and labor demands elsewhere (notably, Washington, D. C.) have already resulted in crippling strikes.

Lumber prices have risen 10.3 per cent since May 1958, and plywood prices are up 15.6 per cent. These are mainly responsible for the increase in the over-all building materials index which has advanced 2.7 per cent so far this year, well above the 2-per-cent increase in all of 1958. But in the past six weeks, the market for plywood and fir lumber has softened, and prices have dropped. Discounts of as much as \$5 per thousand square feet (off the \$85 per thousand "list" price) have shown up, and last month there was talk of lowering official "list" prices to reflect the situation. Lumber industry economists predict somewhat lower prices throughout the rest of this year, as home building slackens. But they look for record consumption through the first half of 1960, probably with coincident higher prices.

Even as wood product prices taper off, prices of other materials—steel particularly—will probably go higher. Prices of plumbing equipment, which slumped last year, have more than regained their 1958 losses. Only glass and metal doors have shown price drops below 1958 levels.

Prices of structural steel have been relatively stable so far this year, and have risen only 3.8 per cent since May 1958, compared to a 5-per-cent rise in the previous 12 months. But with a steel strike imminent, inventory buying threatens to boost prices higher. And yet to come is the almost certain increase of steel prices resulting from the current labor contract negotiations. Aluminum industry leaders have also predicted higher prices, whether or not labor gets higher wages.

In addition to all this, a special study by the federal Division of Construction Statistics last month indicated that prices of construction machinery and equipment have been rising sharply since late last year. After a year of stability, prices for equipment jumped 3 per cent in four months, and, as long as over-all building activity remains high, the trend will probably continue up.

All in all, it appears now that building costs this year will act as they did in 1956, rather than as they did in either 1957 or 1958, when they rose by only 2 to 4 per cent on the average. In 1956, the Boeckh cost indexes rose 4 to 5 per cent; the building materials prices index advanced 4 per cent; and the index of construction equipment prices rose 8 per cent.

## Physical volume of building expands at record rate

Despite the recent upswing in building costs, 1959 will probably be the best year on record in terms of the physical volume of construction. Total building last year set a new record in current dollars (\$48.9 billion), but when the figure was adjusted for price changes to put it on a physical volume basis, it fell slightly short of the 1955 mark of \$35.7 billion. In the first four months of this year, however, the physical volume of construction (at 1947-49 prices) totaled \$10.7 billion, up 8.8 per cent above the mark for the same period of 1958 and nearly \$500 million better than the first four months of 1955. In April alone, the physical volume of new construction rose nearly

*continued on page 6*



\$300 million, from \$2.6 billion to \$2.9 billion.

Public construction has been a leading factor in setting the four months record—it hit \$909 million in April.

Private nonresidential construction has continued to decline, reflecting decreased activity in industrial and office building. In April, the physical volume of nonresidential building (\$429 million) hit its lowest point for any month since May 1954. In the first four months of this year, nonresidential building was down 14 per cent, compared to a drop of only 5 per cent in all of 1958. However, chances are good that this decline will hit bottom soon, if it has not already. The latest survey by the Commerce Dept. and Securities & Exchange Commission shows that business is stepping up its spending for plant and equipment; it will probably spend 7 per cent more during 1959 than the \$30.5 billion that was spent last year. Earlier, a similar survey had forecast a rise of only 4 per cent.

While nonresidential building shows signs of picking up, the main force behind this year's boom, home building, is slowing down, as expected. In May, new homes were started at a seasonally adjusted annual rate of 1,340,000, down 50,000 from April but still the best rate for any May since 1955.

## Cleveland gets a vision of 1975; ambitious downtown redevelopment proposed by planning commission

Thirty or 40 years ago, Cleveland was regarded as perhaps the most advanced large city in the U.S. in terms of its awareness of the urban amenities. The city had a beautiful lake front linked to the urban core by a jealously preserved mall which was lined in federal fashion with city and state administration buildings. In the intervening years, everything possible has been done to guard these amenities, yet Cleveland has not been able to escape the same pressures that are blighting urban cores in every major U.S. city: traffic congestion, the outward shift of population and retail trade to urban fringes, a drop in downtown employment, deterioration of housing.

Recently, Cleveland made it plain that these pressures would not be allowed to bankrupt the city. After 18 months of study, the city planning director, Eric Grubb, presented an ambitious plan calculated to improve Cleveland's declining areas and preserve those areas that have long been the city's pride. The plan was drawn up by a group of local planners and architects (who were aided by such well-known planning consultants as Philadelphia's Edmund N. Bacon, Chicago's Walter Blucher, John T. Howard, of Adams, Howard & Greeley of Cambridge, Mass.) and was financed by private funds of various civic organizations, including the Cleveland Development Foundation.

The comprehensive plan sees three basic immediate needs:

▶ A convention center near the Mall and one modern 600 to 1,000 room hotel in the downtown area, preferably southeast of the new Cleveland Electric Illuminating Building. The hotel site will probably cause some debate, for Conrad Hilton recently proposed to build a new hotel on the Public Mall if the city would lease him the site. Hilton has some backing from Cleveland business leaders for his hotel, and the site has been approved by both the City Council and the Planning Commission, but Grubb now says flatly that the planners do not believe the hotel should be located on the Mall.

▶ A parking program for areas on the fringe of the city's core.

▶ A subway to connect the city's major transit terminals, and its two major downtown shopping areas. Nearly six years ago, a \$35 million bond

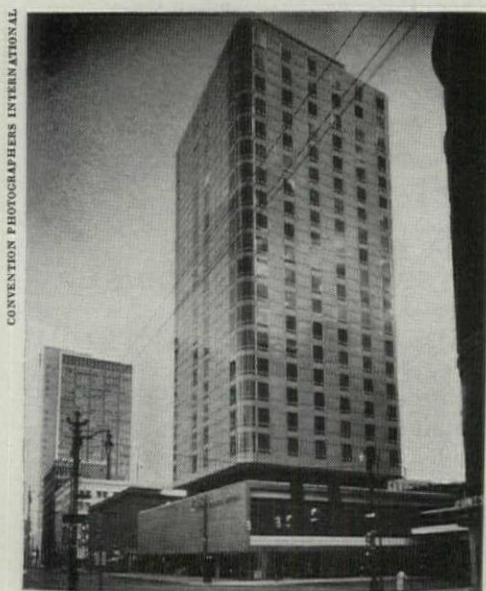
issue was voted to build the badly needed downtown subway, but Cuyahoga County Engineer Albert Porter opposed the plan because, he said, it would not serve as a distribution loop for downtown riders. Porter's opposition caused the County Commissioners to veto the plan, but the commission has two new members since then, and the new plan could be passed in time to use the funds voted last year.

Of less immediate need, but still to be completed by 1975, the plan's target date, is a complex of interrelated downtown projects, both private and public. A key problem is new office space (the city has had only two new office buildings in 30 years). The plan sees a demand for 2.4 million net square feet of new space, if the various other improvements—parking, subway, and hotels—are carried out, and recommends a scattering of new office buildings near the major shopping and public administration areas. The plan also calls for industrial park development near downtown, with research and light industry facilities grouped between the heavy industry area and commercial areas.

About 6,500 units of new housing will be needed in the next 16 years, and the report estimates an immediate demand for new housing totaling about 1,500 apartments, mostly efficiency units. One major site would be an urban renewal area, now occupied by run-down residential and commercial properties; the other, near Fenn College, would include new campus facilities.

Cleveland's lake front would be expanded and developed under the plan to prevent crowding its valuable commercial and recreational areas. The number of cargo terminals on Lake Erie would be increased, the famed Mall would be extended nearer the lake front, and a new recreation center near Municipal Stadium would be built as a premier civic attraction.

The linking of the Mall and the lake front is, in many respects, the key to Cleveland's hopes for the future because it would give the downtown area the major attraction it needs (see picture, opposite page). The large open area, sculptured for pedestrian traffic (vehicles would be strictly segregated), would extend from the lake front all the way through to a new



DENVER'S BROWN PALACE TOWER

The latest addition to Denver's fast growing skyline is the 22-story annex to the Brown Palace Hotel. Designed by Architect William B. Tabler, it contains 288 guest rooms (only 16 per floor), a ballroom, and a two-level garage for 90 cars. The \$3.3 million tower, connected to the parent hotel by a street-spanning bridge, has rounded corners—like the older building—and is sheathed in porcelain enamel panels—brown, of course.



federal or state skyscraper at the head of the Mall. Other new state and city buildings would fill out the Mall area, but the key structure would be a new reception and meeting building that would provide an unparalleled vista of the lake front to the north and the Mall itself to the south. As a first move in implementing the Downtown Master Plan, the Planning Commission

is asking for \$900,000 to design the Mall and civic auditorium expansion projects, and wants voters to approve a \$10 million bond issue in the fall to carry out these projects. Twice before, \$15 million issues for these projects have been turned down by voters, but the Commission hopes that the new over-all concept of downtown Cleveland will swing more support to their plan.

## Congress cuts housing and airport aid bills

President Eisenhower last month won his fight to hold down federal spending for building, and he did not even have to step into the ring. Convinced that they could not override a certain Presidential veto on housing and airport aid bills, the Democratic leadership trimmed both measures sharply.

The housing bill was hurt the most by the cuts, ending up at \$1.3 billion—substantially less than either the House or Senate bills and somewhat less than the President himself had asked for. Under the bill that finally emerged from the House-Senate conference, federal authority for urban renewal grants was extended for two years, and \$900 million was provided in new funds. This is about \$200 million more per year than the President asked, but keeps the program on a short-term basis. The Senate urban renewal provisions, for instance, called for \$2.1 billion in capital grants for a six-year period.

Public housing was extended by 35,000 units for fiscal 1960 in the final bill, plus 10,000 units left over from last year's authorizations. The President wanted to let the public housing program expire, but, in light of the efforts made to cut back other programs, he is not expected to veto the housing bill on account of this amount of new public housing authority.

Other measures in the compromise bill that was sent to the White House included \$300 million for college dormitory loans (compared to \$425 million in the Senate housing bill), \$62.5 million for loans to build college classroom facilities, and \$50 million for direct loans to build housing for the elderly.

The Democrats also failed to keep in the omnibus housing bill a proposal to raise the VA interest rate from 4¾ to 5¼ per cent. The interest rate boost was backed by the President, and Democrats had at first thought they could use it as a lever to get other, less palatable programs through. But last month the VA interest rate plan was split off, and passed separately, signaling the failure of the Democrats' strategy.

The airport construction aid bill was also cut in conference to almost precisely what the President asked—\$63 million a year for two years. The Senate had passed a \$465 million bill for four years, and the House originally passed a four-year, \$297 million plan.

In another action, the House Education Committee passed a \$4.4 billion, four-year bill for school construction and teachers' salaries, which the Ad-

*continued on page 9*



Heart of Cleveland's ambitious downtown redevelopment project is the proposal for expanding the city's famed Public Mall, and developing its lake front. Between the proposed commercial development near Terminal Tower (3) and Municipal Stadium (2),

the plan calls for: a new lake-front recreation center (1); a convention-exhibition hall built over an artificial pool at the north end of the mall (4); a veterans building (5) and small assembly hall (6); a city-hall annex (7) and state (8) and federal (9) office buildings.



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ministration quickly warned would be vetoed if sent to the White House. (The Administration has asked a program calling for only \$2.5 billion of spending over a 25-year period.) The House bill would apportion aid on a per-pupil basis; localities have their choice on what part to use for teachers' salaries and what part for new building. The next stop for this proposal is the tough House Rules Committee.

## Art Metal buys Knoll, will operate it independently

Knoll Associates, Inc., for 16 years a pioneer in contemporary interior architecture and the design and manufacture of modern furniture and fabrics, was absorbed last month by Art Metal Construction Co., manufacturer of metal office equipment. Art Metal acquired Knoll outright, but the Knoll organization will operate as an independent division of Art Metal, and will be headed, as it has been since 1955, by Florence Knoll. She will also become a director of Art Metal and hold the position of director of design and research.

Art Metal was attracted by the success of Knoll's well-designed luxury furniture. Florence Knoll, herself a trained architect (she studied under Mies van der Rohe at Illinois Institute of Technology), developed her business by getting top architects and designers (e.g., Mies, Eero Saarinen, Isamu Noguchi) to design Knoll furniture, which set the style for eager hordes of imitators. Art Metal Board Chairman Andrew Wilson said last month: "The acquisition of the Knoll companies reflects the . . . growing importance to the furniture industry of the factors which have contributed to the rapid growth of Knoll, notably the role of the architect and interior designer in influencing consumer demand."

Mrs. Knoll says that she has felt "for some time that our logical next step . . . should be to enter the field of metal office furniture. To do this independently would have required a large investment in new manufacturing facilities and in the development of the techniques and experience required in large volume production." The acquisition by Art Metal should give Knoll the opportunity it has been seeking—and give Art Metal an opportunity to extend the Knoll philosophy of design to the office-equipment field.

## Art groups fight to save Los Angeles towers

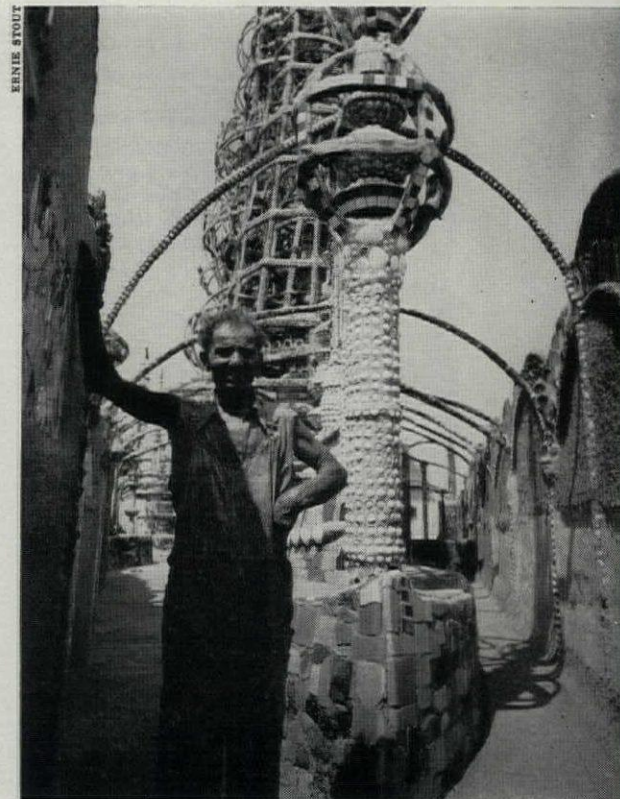
A threat by the Los Angeles Building and Safety Dept. to demolish a bizarre structure in suburban Watts has stirred up a lively hornets nest of art lovers and admirers of oddities. In what was once the back yard of an immigrant Italian tilesetter are three tapering towers rising 104 ft. above a neighborhood of shabby frame bungalows and surrounded by walls, fountains, pathways, and sculptured shapes of strange design. Built of reinforced concrete, the Watts Towers are decorated with some 80,000 seashells, pieces of old bedsprings, and broken dishes and bottles that were collected along the coast or from the city dump by their designer and builder, Simon Rodilla.

Born in Rome in 1879, Rodilla came to the U.S. when he was nine years old and later became an enthusiastic citizen. While serving in the army during World War I, he decided that he wanted to do "something big for the U.S." He began his towers in 1921, and took 30 years, working alone mostly at night in off-hours from a regular job as tilesetter, to complete his monumental work. "I couldn't hire help," he explained once, "because I hadn't no money. I couldn't tell a hired man what to do because a million times I didn't know what to do myself."

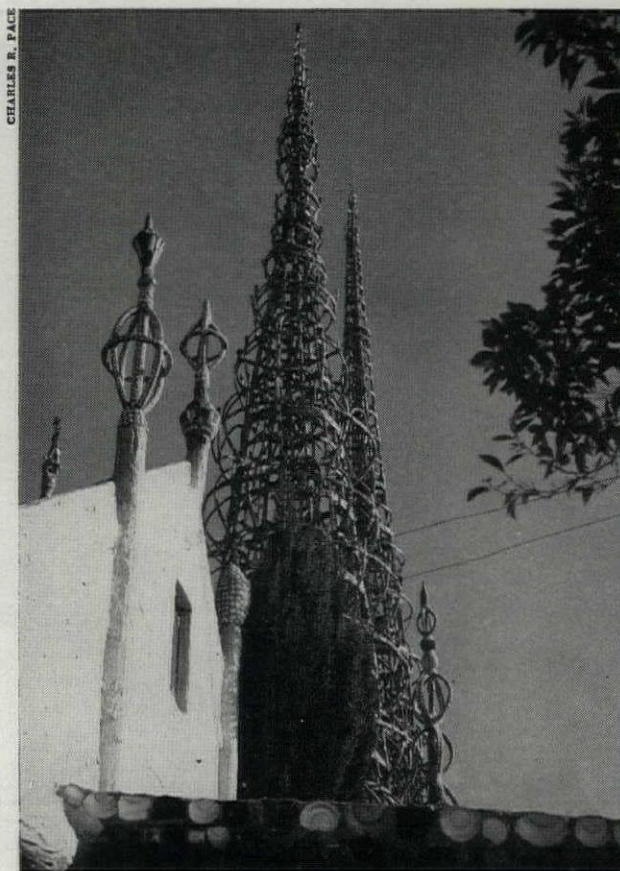
Rodilla's towers were as bewildering to his neighbors (mostly Negro and Mexican) as they were to the curious who came to see them, sometimes bringing shells and pieces of bottles to add to his mosaic. They saw little of Rodilla, who spent every spare minute mixing cement himself and climbing over the unscaffolded towers. Most of the neighbors have only hazy recollections of him now. "He coulda been a genius or something, but he struck me as a kind of nut," one remembers. Four years ago, Rodilla left Watts with no forwarding address and has never been back. Before leaving, he gave a grant deed to his property to a neighbor. Since then, the property has changed hands three times. The towers are owned today by a Hollywood actor and film editor who bought the property from a Rodilla neighbor. Both owners belong to the growing organization battling to save the towers.

Since Rodilla left his towers, they have deteriorated somewhat. Time and the neighborhood children have been

*continued on page 11*



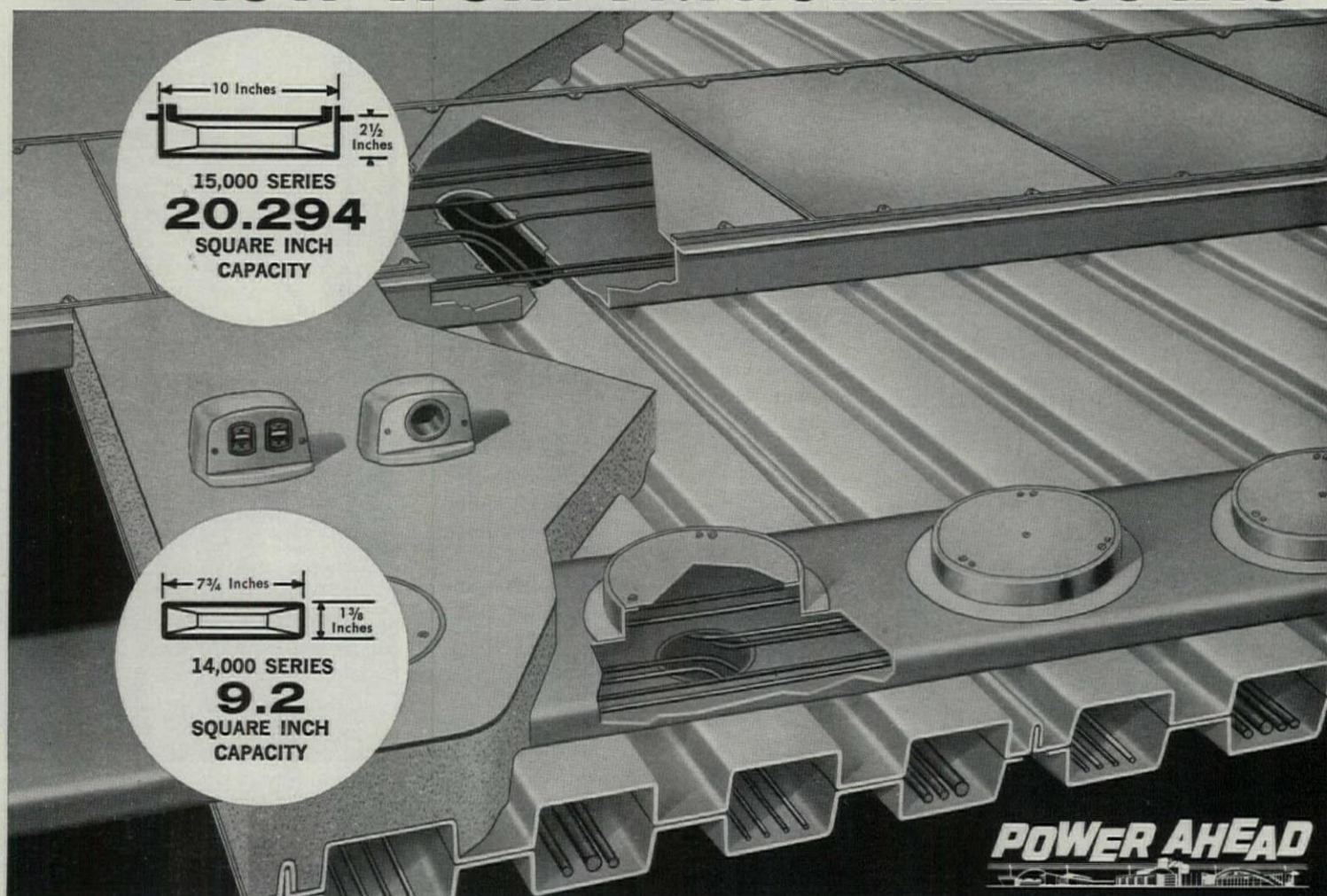
Simon Rodilla (above) posed inside his elaborate homemade mosaic monument a few years before his disappearance in 1954. Immediately behind the artist is a "ship" studded with clam shells and bits of tile. Below: the 100 ft. towers rise above suburban Watts.



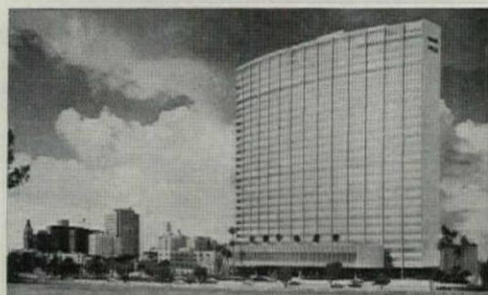




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hard on his legacy. But since February 1957, when the Los Angeles Department of Building and Safety began its campaign to have the Watts Towers torn down, architects and art critics all over the country have come to their defense. From New York, the Museum of Modern Art wired, "urging private and public agencies to unite in taking all possible steps to save these works of great beauty and imagination which are part of our cultural heritage." While wrecking crews inspected the site of the towers now officially labeled "inspected and declared dangerous by the Department of Building and Safety, City of Los Angeles," an international conclave of art critics meeting in New York last month also urged Los Angeles' Mayor Norris Poulson to save Rodilla's work.

Harold Manley, superintendent of conservation in Los Angeles, still plans to ask for a hearing with the object of demolishing the Watts Towers. He explains that in the event

of an earthquake there is danger of the towers' toppling onto nearby houses—although they remained upright during the rough quake of 1933. "Just from looking at them I can tell they are not properly designed, built of a little bit of this or that. It does not interest me if they are art objects or not," says Manley. But defenders of the towers, such as the Los Angeles *Times* and Kenneth Ross, general manager of the Municipal Arts Dept., have compared the monuments at Watts to the Leaning Tower of Pisa, which also had a few engineering flaws.

Simon Rodilla himself was finally tracked down last month in Martinez, Calif., some 400 miles north of Watts. Newsmen found him half dazed and living alone in a cheap boarding house with no telephone. Refusing to explain his disappearance or discuss his artistic feat, Rodilla at 80 years of age seems scarcely interested in the fight to save the towers he built.

## Briefs

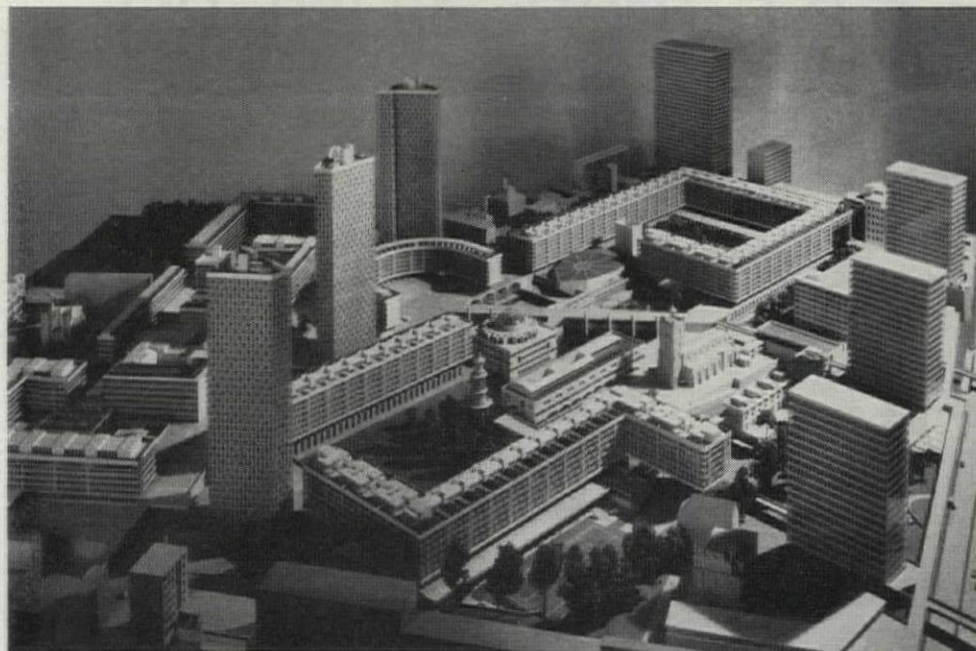
**Michigan architects** joined with lawyers, dentists, engineers, and doctors in a novel merging of professional interests to be called the Michigan Association of the Professions. Members are being enrolled from existing professional organizations, and about 4,000 are expected by year-end. A major purpose is to put more force behind professional opinions: "It will endeavor to place the professions in the same category of 'molders of policy' as business, farming, and labor."

**Music halls** that can be played like instruments were recommended last month by Composer Alan Hovhaness. Speaking at a Phoenix, Ariz. session on auditorium design, Hovhaness said halls should have resonating chambers fitted with strings that would vibrate sympathetically with the music. Other advice to architects: remember that the orchestra, as well as the audience, must hear the music.

**"Embarcadero City,"** San Francisco's water-front redevelopment project (FORUM, Apr. '59) was okayed by the state legislature, which approved funds for the Port Authority's pier modernization program and allowed the Authority to lease its land to private developers for the \$300 million, 80-block project.

**Project previews:** Three projects of wide interest were in various stages of discussion last month: 1) a \$300-million English Channel rail tunnel—to be the longest (30 miles) in the world—has moved out of its 75-year dream stage into the preliminary engineering stage; 2) the House Appropriations Committee has recommended a new Library of Congress building, but appropriated no funds for it; 3) a contract has been signed for a 3,000-car garage beneath Boston's Common, to be financed by \$15 million of parking authority bonds.

**"Ghost slumlords"** were unfrocked in New York City last month when the Board of Estimate approved laws making it unlawful to register false ownership of a building. True owners, particularly in slum code violation cases, have in the past hidden behind fronts who "only work here," but new laws provide stiff penalties for anyone who does not own up to slum property ownership. **END**

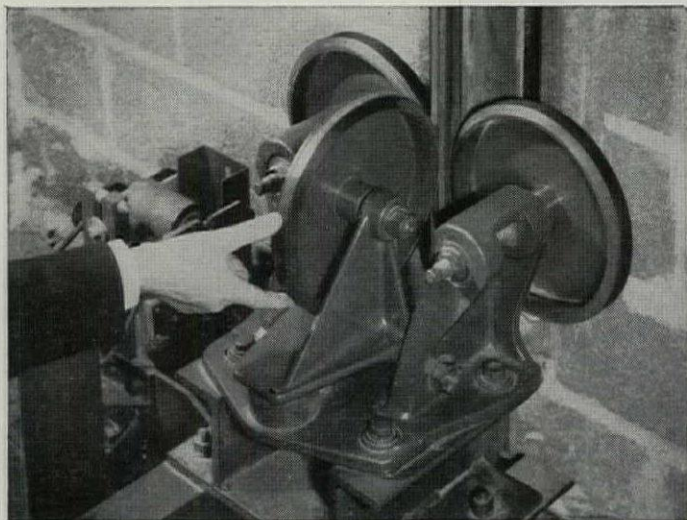


LONDON PLANS \$56 MILLION REDEVELOPMENT OF BLITZED AREA

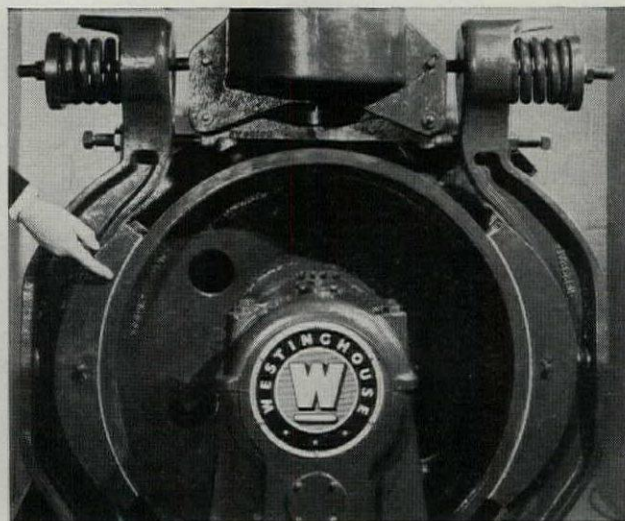
One of the fiercest blitzes of World War II struck London on Dec. 29, 1940 and razed large areas of the Old City near St. Paul's. Since war's end, much of this area has been rebuilt, largely with heavy-faced "Banker's Georgian" office structures to which some 350,000 persons flock every day. (Permanent population of the area: 5,000.) Today there is a 35-acre cleared area still bearing the scars of the blitz, but the Ministry of Housing recently announced an ambitious scheme for filling it in. The plan for the area, called Barbican, calls for a mixture of residential, cultural, and commercial buildings, ranged in a rough rectangle around

the bombed ruins of St. Giles Church. The design, by Architects Peter Chamberlin, Geoffrey Powell, and Christof Bon—all under 40—is a pedestrian paradise, with elevated walkways connecting all buildings. There would be a 135-room hotel and a cultural center including a library, art gallery, horseshoe-shaped theater (in picture above), and concert hall. Apartments would be in three-sided, low-lying buildings and in three 37-story apartments (towers at left, above) housing 6,000 persons at \$27 to \$45 per room. The three tall buildings set in a row (right, above), are to be 18-story office buildings.





**ROLLING ON RUBBER . . .** Quiet elevators just don't happen—they're planned that way. You'll see how a Westinghouse Operatorless Elevator cushion-rides on rolling rubber, trapping vibration and noise. You'll see the cars operate on clean, dry rails—like an express train on rubber wheels.



**APPLYING THE BRAKE . . .** No "brakes" are used to stop a Westinghouse Operatorless Elevator. Stops are made dynamically. A brake is applied only to hold the car at floor level *after* it stops. You'll see how this is done.

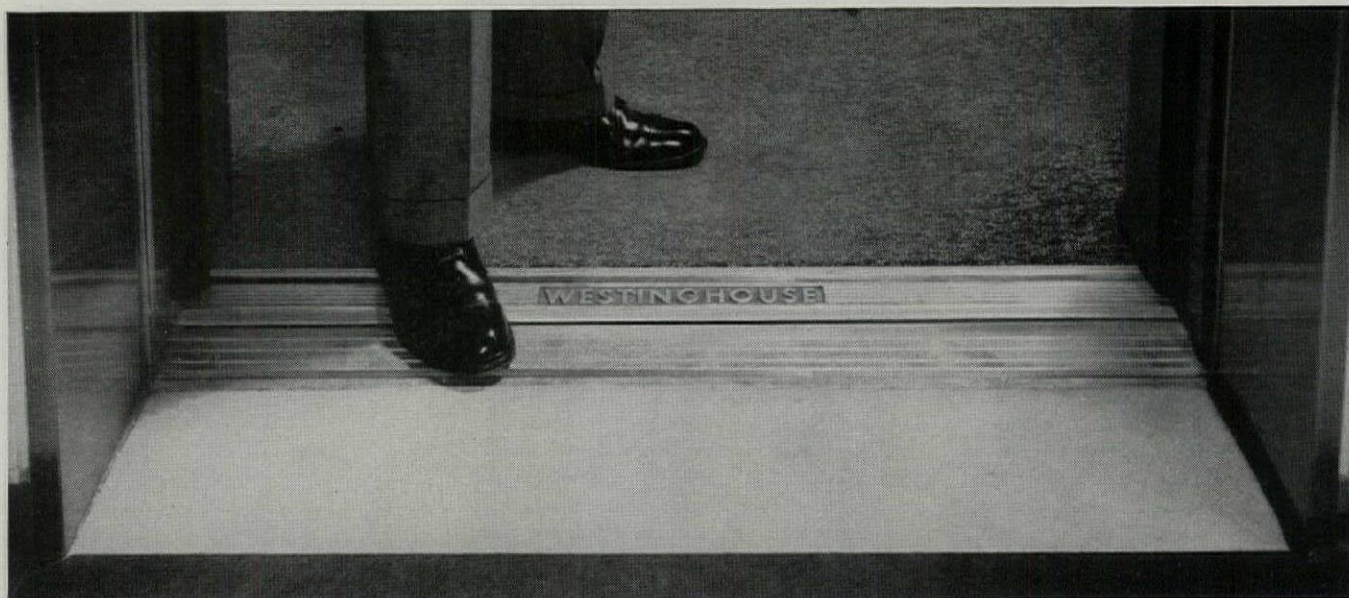
**WESTINGHOUSE INVITES YOU TO EXPERIENCE THE**

## "30-Minute PRE-INVESTMENT Eye-Opener"

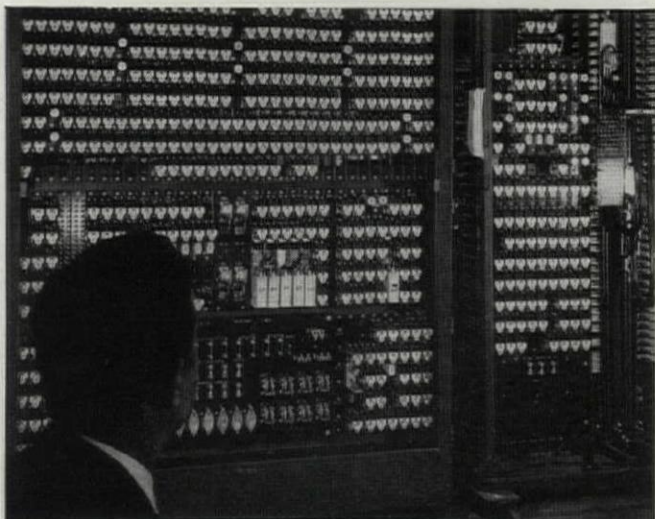
Judge for yourself the benefits of Westinghouse Operatorless Elevators during this Behind-the-Scenes Demonstration

**ON THE LEVEL . . .** Why does a Westinghouse Elevator always glide to a perfect landing—softly, *without releveling*? The secret is hidden in a compact control

worth its weight in gold—but you'll see it as "standard equipment" on the elevator system. Rototrol is its name and it's a Westinghouse exclusive.



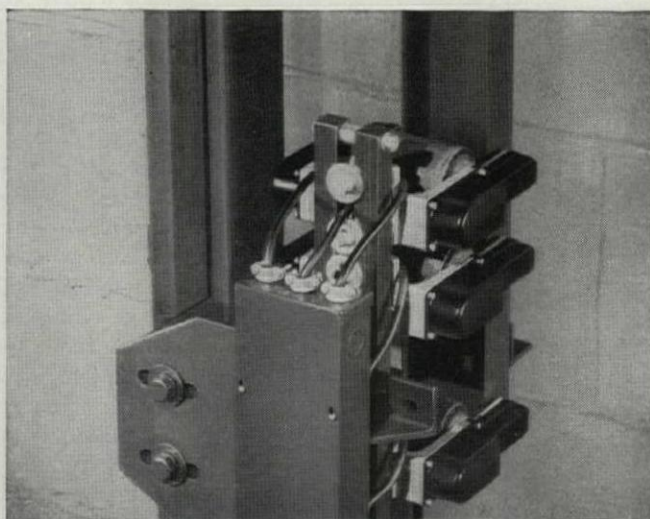




**THE BRAIN ROOM . . .** Here's a truly "inside" view of modern elevator engineering. Your trip to the penthouse will reveal an array of computers, selectors and shuntless relays which comprise an electronic "brain" that makes decisions every second. It supervises and directs elevator movement, knows exactly what passenger traffic demands are—and dispatches elevators where they're needed, when they're needed. It's all done instantly . . . automatically. Don't miss it!

Westinghouse extends this special invitation to executives who are responsible for planning a *new* building or *modernizing* an existing one. In just 30 minutes, we can demonstrate technical advancements in modern elevating that will result in the efficient operation of your building, with complete tenant satisfaction, now and for the years to come.

Historically, the entire Westinghouse organization is electrically-oriented. Because of this, Westinghouse has brought to the elevator industry new control techniques which have produced elevator systems of outstanding excellence. Westinghouse would appreciate the opportunity to show you this dramatic "eye-



**A MATTER OF INDUCTION . . .** The "sinking stomach" feeling is something you'll never experience in a Westinghouse Operatorless Elevator. One of many devices built into the system that precludes such discomfort is this inductor on the elevator which controls slowdown and stop smoothly . . . accurately . . . quietly.

opener." Make arrangements to see the "30-Minute Pre-Investment Eye-Opener" by calling the Westinghouse Elevator Division sales office in your city—or write on your letterhead to: R. H. Wagner, General Manager, Westinghouse Elevator Division, 150 Pacific Avenue, Jersey City 4, N. J.

Typical preview highlights from the "30-Minute Pre-Investment" demonstration are shown.

WESTINGHOUSE ELEVATORS AND ELECTRIC STAIRWAYS

YOU CAN BE SURE...IF IT'S **Westinghouse**

J-98770AA

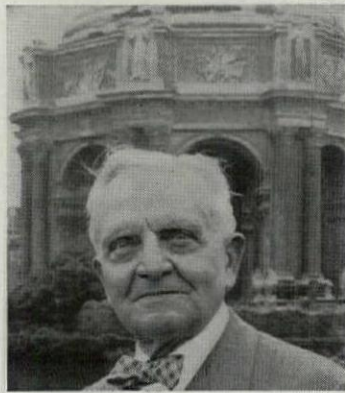


James M. Ryan, President  
University Properties, Inc.

"The '30-Minute Pre-Investment Eye-Opener' is something I'll remember for a long time. One thing I learned is that you certainly can't take elevator systems for granted. The demonstration I saw, prior to our selection of the elevators for the Washington Building in Seattle, gave me a greater insight into Westinghouse advanced engineering skill. It's easy to understand why Westinghouse wants building executives to see and test their product."



## Walter Johnson gives \$2 million to save San Francisco's Palace of Fine Arts; Kimball named to head American Academy



PALACE SAVIOR JOHNSON  
*"It's a building with a soul."*

A gray-haired, 74-year-old millionaire last month cleared up one of San Francisco's most vexing civic and esthetic problems with a wave of his checkbook. **Walter S. Johnson**, who is reportedly worth about \$14 million, peeled off \$2 million as a first step toward rebuilding the crumbling, 44-year-old Palace of Fine Arts. Johnson's gift to the city will be matched by \$2 million of state funds, which would have been withdrawn if the city had not matched them by September, and the city already has drafted plans to float \$1.8 million of bonds for refurbishing the palace interiors. Last November voters turned down a \$3.6 million bond proposal, but now that Johnson has stepped forward, officials are confident they will get approval for the smaller sum.

Johnson is not a typical patron of the arts. He is, rather, a patron of the Palace of Fine Arts. He knows or cares little about architecture, but has a deep and lasting love of the palace, extending back to 1915, when Architect Bernard Maybeck began construction for the Panama-Pacific Exposition, using wood frames covered with hemp dipped in plaster. (Johnson had been circulation manager for the old San Francisco *Bulletin* until finishing evening studies for a law degree at Hastings Law School. He was practicing law when the Exposition was built.) He can still point out the position of every important building at the exposition and recall with affection myriad details of building the palace itself. In the interim Johnson became a lumber tycoon (chairman of American Forest Products Corp. of San Francisco), head of a leading office equipment company (Friden Inc. of San Leandro), and owner of a 550-acre ranch in suburban Pleasanton. Despite his wealth, Johnson says simply: "I don't know how to be a millionaire. . . . I felt I should give this money while I'm still alive. . . . I've seen many of the world's most beautiful structures—including the Taj Mahal—but this one tops them all. . . . It's a building with a soul."

With Johnson's \$2 million rattling happily in the till, the city will push ahead as quickly as possible to reconstruct the palace. Architect **William Gladstone Merchant**, who was Maybeck's apprentice when the palace was built and who has been working with Johnson and the Palace of Fine Arts League, will probably supervise the work. Maybeck's original plans for the building are still available,

and the rotunda and colonnades of the palace will be completely rebuilt of steel and concrete. It will include a new 500-seat auditorium, exhibit halls, and some meeting rooms.

Not content with his own contribution to the reconstruction of what he hopes will be "San Francisco's Eiffel Tower," Johnson is leading a drive to raise additional funds for the interior refurbishing. And the greatest factor stirring public enthusiasm for the Save-the-Palace project has been Johnson's own willingness to put cash on the line.

### NEW AMERICAN ACADEMY HEAD

For 65 years, the American Academy in Rome has been a leading institution in the study and practice of the arts and architecture, as well as a base for American artists and architects studying abroad.

Last month, **Michael Rapuano**, landscape architect and president of the Academy, announced that **Richard A. Kimball** would be the Academy's director for



KIMBALL

an unspecified term, succeeding **Laurance P. Roberts**, who has just resigned after 12 years. Kimball was graduated from Yale University with a bachelor's degree in architecture in 1927, went to New York as a junior partner of James Gamble Rogers. Since 1944 he has been associated with Eric Gugler. Their firm designed the memorial chapel at Anzio in Italy. Kimball also was associated with the design of several buildings at Yale, and is vice president of the Yale University Council.

### PEOPLE IN BRIEF

**Frank Lloyd Wright's** 90th birthday was celebrated last month despite the absence of the guest of honor and some dispute over whether it was really the late architect's 90th or 92nd anniversary. (One

*continued on page 16*





## THE UNUSUAL IS THE USUAL IN CECO CURTAINWALLS

...ENGINEERED  
FOR PERFECTION IN  
PERFORMANCE



Bloomfield Junior High School, Bloomfield Hills, Michigan. Architect: Smith, Tarapata, McMahon; Contractor: Pulte-Strang.

Not made to a price to "get by" temporarily under optimum conditions, but engineered to perform perfectly . . . year after year after year. Such is the standard for Ceco Curtainwalls, where the unusual is the usual in performance.

Basic engineering principles developed through technical research on the job and in the laboratory provide these assurances: (1) mullions designed to meet wind loads . . . (2) proper allowance for expansion and contraction, permitting windows and caulking to move together to ensure a tight weather-seal . . . (3) no accumulative expansion of wall panels . . . (4) firm anchorage of the wall to the skeleton of the structure.

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**WALLS**

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**in Houston's**  
**RICE HOTEL**

— Kenneth Franzheim, Architect

It seems like magic — the way room space changes with a Fairhurst Folding Wall. Here is a movable wall completely unlike any other; developed over nearly 5 decades of leadership in folding wall construction.

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Perhaps Fairhurst can solve your space problem. Write Dept. AF, for full information — no obligation, of course.

Top photo shows Unitfold in place to permit simultaneous use of separated public rooms. Inset at right reveals matching permanent walls through partially opened Unitfold section.



\*Tests have shown that Unitfold walls of this type block sound as completely as a 10"-12" SOLID BRICK WALL.

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**FAIRHURST . . . First Name in Folding Walls**



noted Wright biographer claims he was 91, not 89, when he died three months ago.) About 100 persons, including Adlai Stevenson, attended the memorial dinner at Spring Green, Wis.

**Robert Moses**, New York City Park Commissioner, was awarded the Municipal Art Society's Medal of Honor recently for having "added to the visual richness of life in New York." Moses took the opportunity to swat modern architecture, predicted that future generations will have had a "bellyful of mass effects and sheer surfaces of glass and metal, resting on concrete piles," as well as Wright's Guggenheim Museum, which Moses called "an inverted oatmeal dish and silo."

**L. P. Cookingham**, who resigned recently as city manager of Kansas City, Mo., took over as city manager of Fort Worth, Tex. for \$30,000 a year, one of the highest salaries ever paid a city manager. Cookingham was unhappy about alleged interference with his duties in Kansas City, has been promised a free hand in Fort Worth.

**SAN FRANCISCO'S RENEWAL BOSS**

When 69-year-old **Eugene J. Riordan** retired last March as director of San Francisco's Redevelopment Agency, a nationwide search was begun for a successor. Planners were offered two major inducements: an open salary and a promise from the agency's new chairman, **Everett Griffin**, that the director would not be plagued with the sort of meddling that caused the resignations of past directors and made the agency's work so ineffectual. Griffin could have saved himself the trouble of casting far afield, however, for last month he came up with a man who seems a



HERMAN

natural for the job—**M. Justin Herman**, who since 1951 has been in San Francisco as regional director of the federal Housing & Home Finance Agency.

Herman, who is 49, seems fitted for the job in several respects. He is as familiar with the city's redevelopment program as anyone, having been chief liaison for HHFA throughout negotiations initiating  
*continued on page 21*



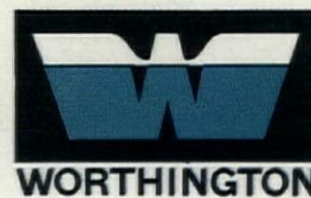
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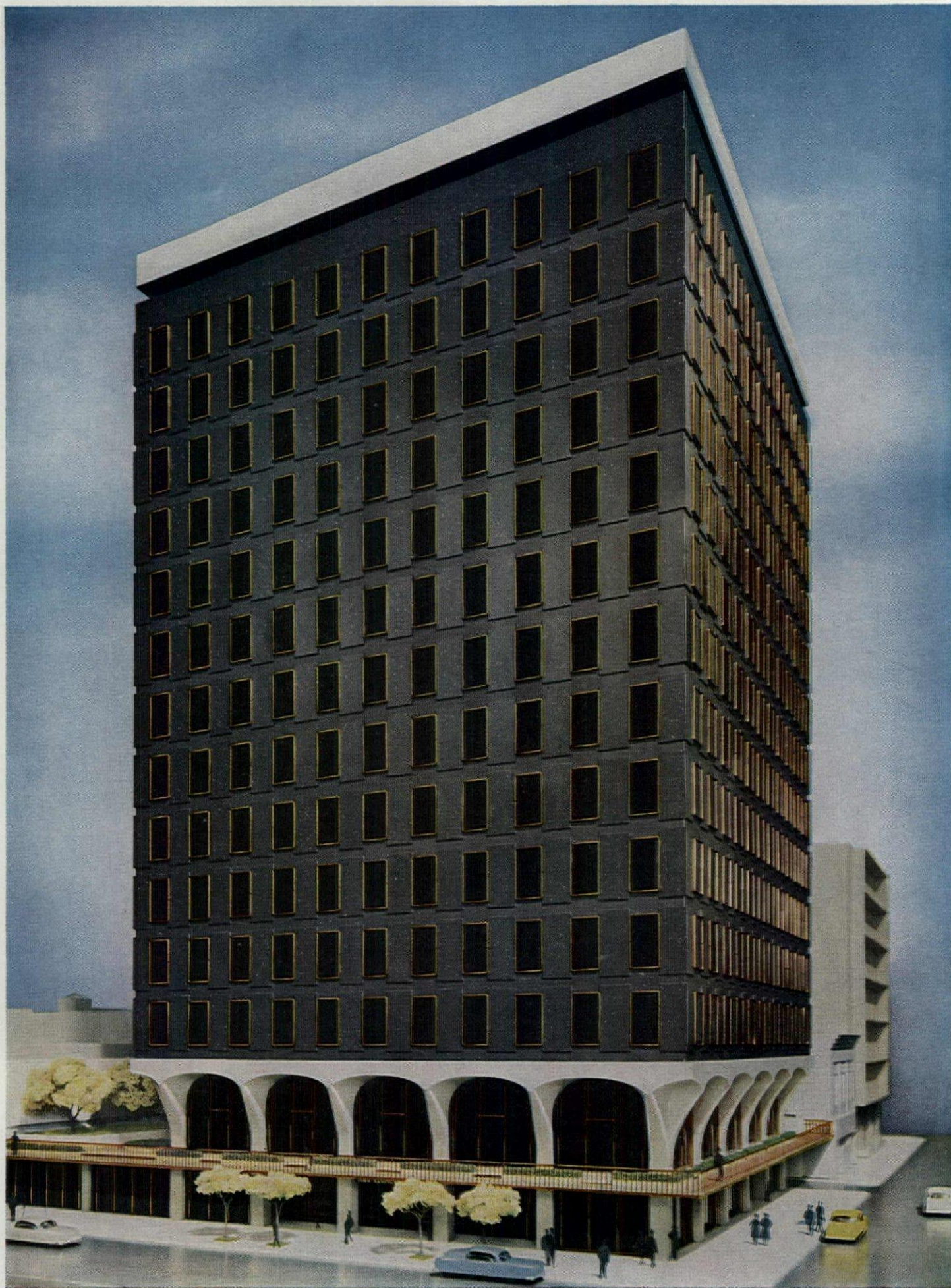
"Diamonds by Cartier"

## EXCITING THINGS ARE HAPPENING IN WORTHINGTON PACKAGED AIR CONDITIONING

New styling. New sizes. New features. Worthington is setting an exciting pace in improving and expanding its packaged air conditioning line. With a new emphasis on styling, comfort can be seen as well as felt. New design concepts reduce space requirements as much as 35%. And new factory-assembling and wiring techniques cut installation costs sharply. With these exciting new developments, Worthington has made packaged air conditioning truly universal in application—more than it has ever been before. But these are only some of the exciting facts. There are many more you'll want to hear about. Worthington Corporation, Ampere Station, East Orange, N. J. In Canada: Worthington (Canada) Ltd., Brantford, Ont.









# NEW BRONZE BEAUTY BY THE GOLDEN GATE

## New San Francisco Western Home Office of John Hancock Life features functional use of Chase® Architectural Bronze

The John Hancock Mutual Life Insurance Company wanted a new warmth, beauty and elegance in their Western Home Office building. They turned to the beauty of bronze.

Each of the 528 window frames for the new building is of Chase® Bronze...special architectural shapes for frames and glass stops that hold the hundreds of panes in place. These interlocking elements require tolerances which are reassured to thousandths of an inch.

Bronze has other important uses. An all-bronze railing encircles two sides of the building at the second floor. Window flashings are Chase copper. When this new 15-story building is occupied in the fall, the functional use of Chase bronze will add new beauty and distinction to the downtown skyline in San Francisco.

Call your nearest Chase office, or write Chase at Waterbury 20, Conn. for the help of expert Chase metallurgists.



# Chase

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Subsidiary of Kennecott Copper Corporation

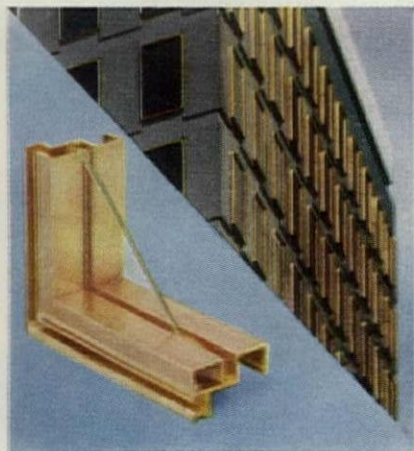
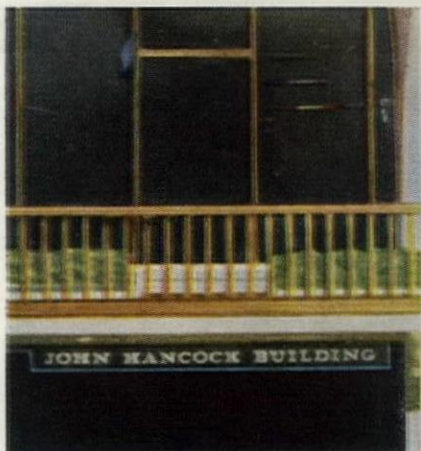
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**WINDOWS** and exterior doors on all floors of the new Hancock building feature the use of Chase Architectural Bronze Shapes, made to tolerances of thousandths of an inch. Bronze adds warmth, beauty and elegance to the building.

**BALCONY** around two sides of building has a beautiful bronze railing made of Chase Architectural Bronze. This feature adds beauty to the new building now under construction at California and Battery Streets in San Francisco.







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*James C. Rose*

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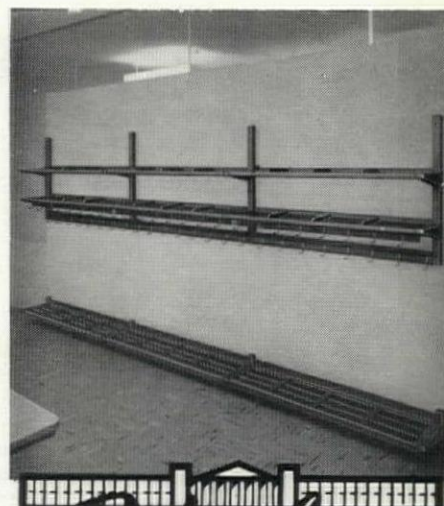
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# CERAMIC tile

One of Herman's toughest jobs when he takes over in September will be to shake up the heretofore lethargic San Francisco renewal program. "My approach," he says, "will be to find new ways to short-cut some of the delays. We've lost a tremendous amount of time because of procedural techniques in getting title, law suits, appraisals and in getting state and city action."



The five Australian architects pictured above won this year's \$25,000 Reynolds Award for "significant work of architecture" using aluminum (FORUM, June '59). The architects are shown standing in front of their winning design, a tentlike, aluminum-sheathed music bowl in Melbourne. They are: John Gates, Barry Patten, Roy Simpson, Balcombe Griffiths, and Tom Freeman, all of Yuncnen, Freeman Brothers, Griffiths & Simpson.



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WARDROBE SYSTEMS



Diagram illustrating the dimensions and mounting of the coat rack:

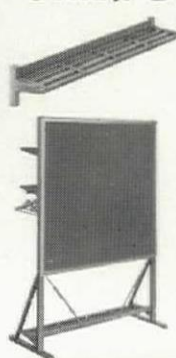
- Overall height: 36"
- Adjustable shelf height: 11 1/2"
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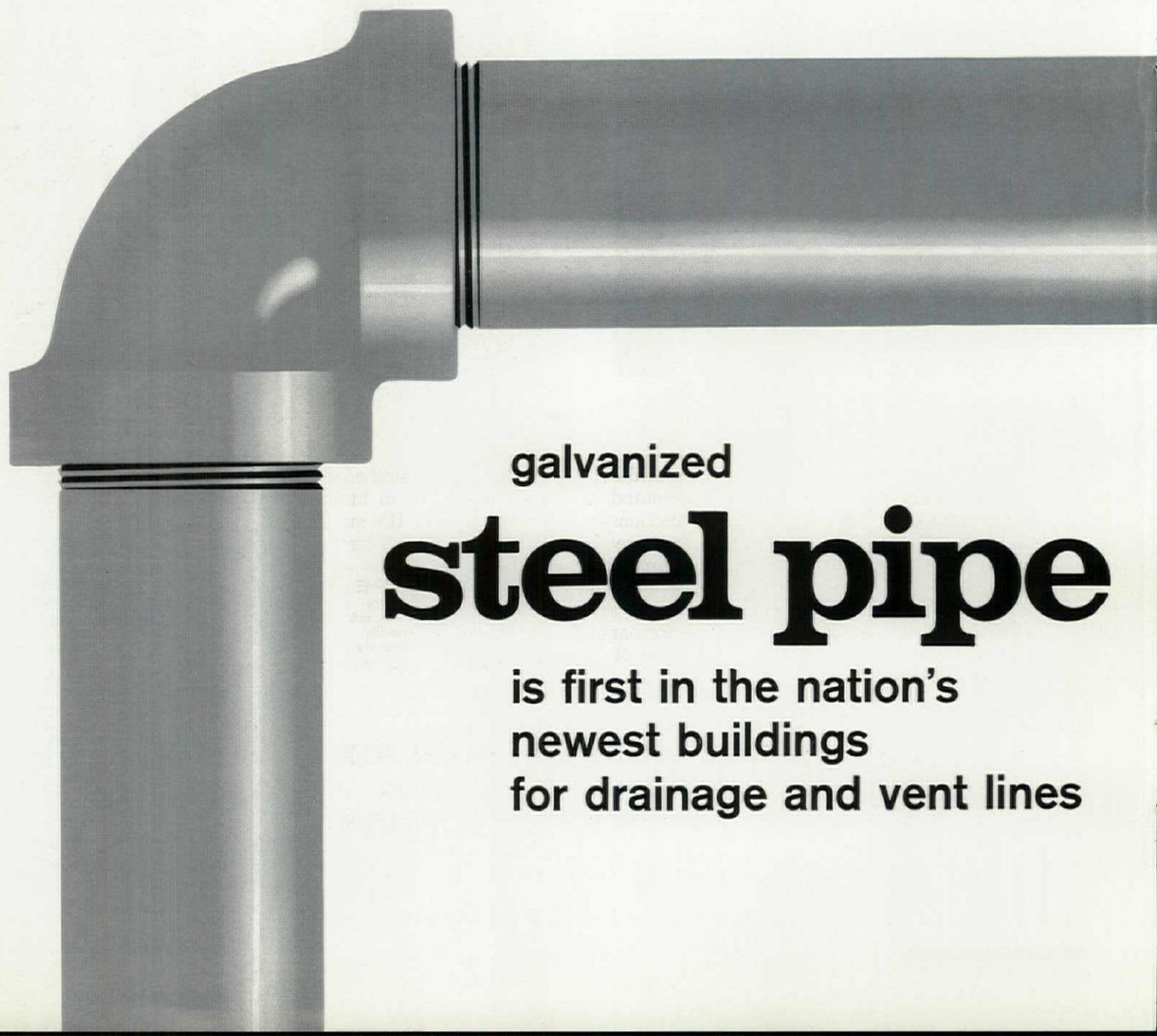
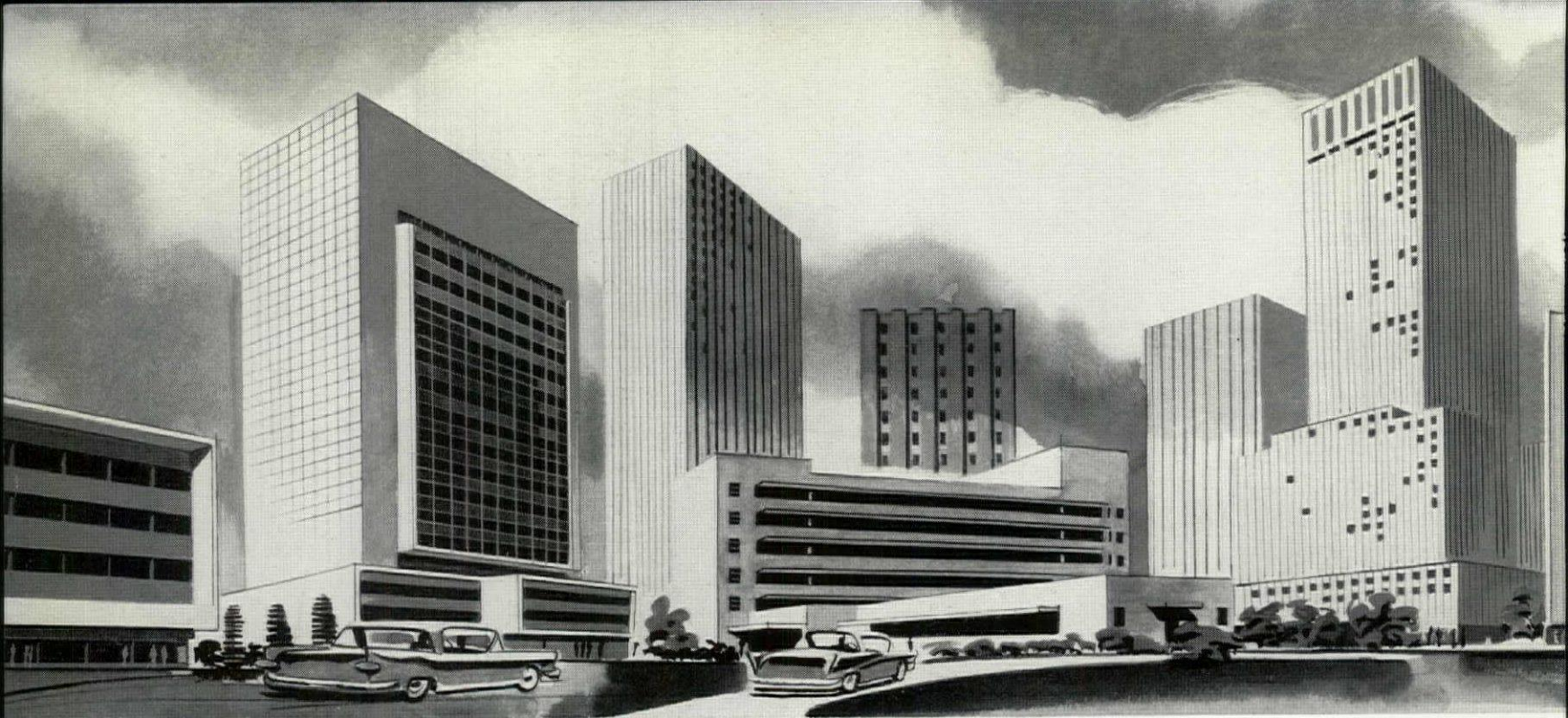
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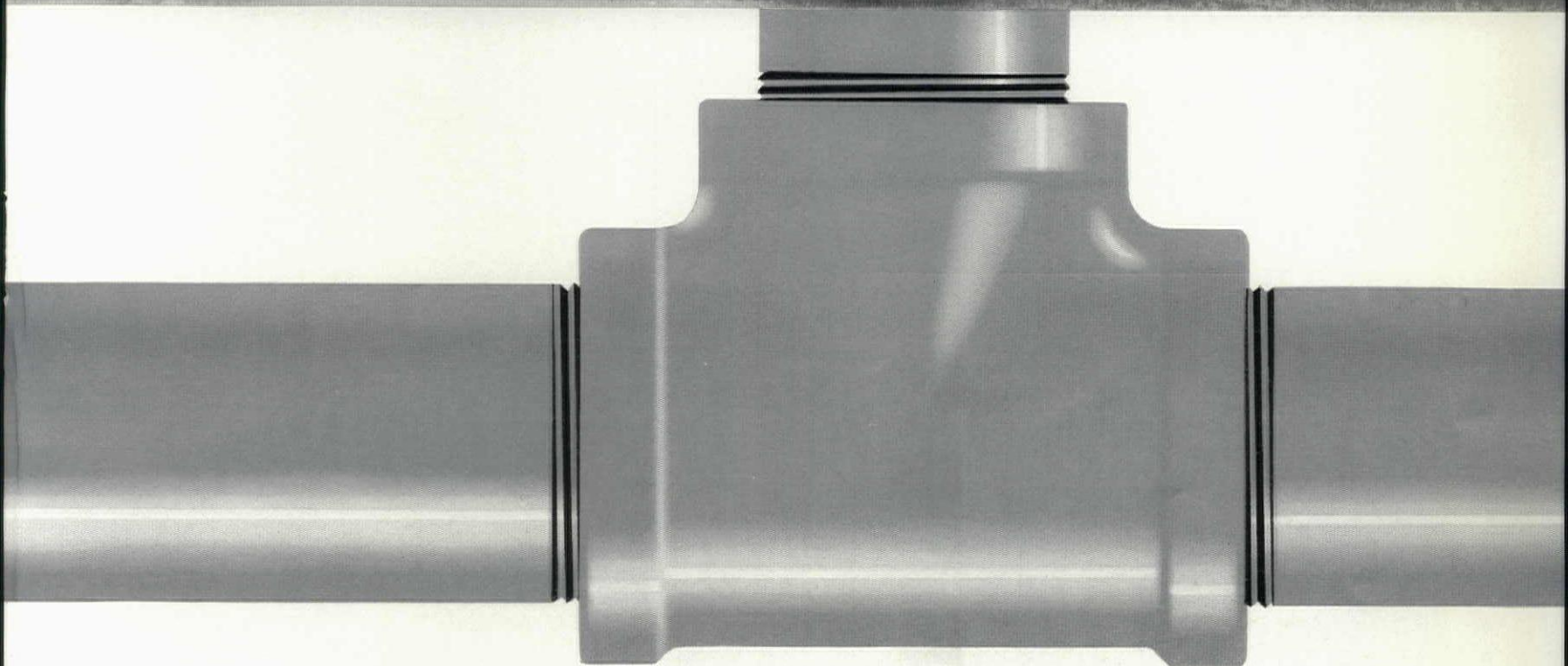
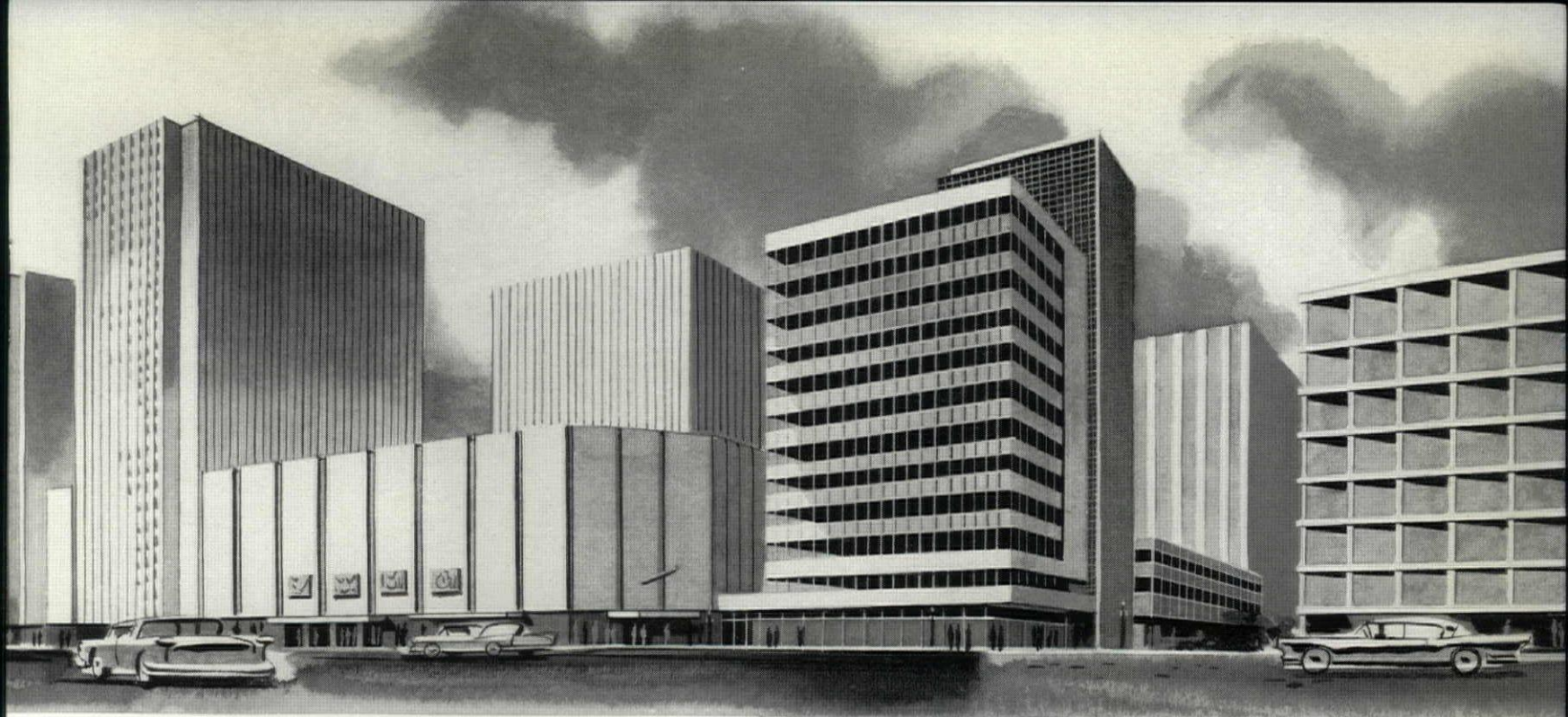




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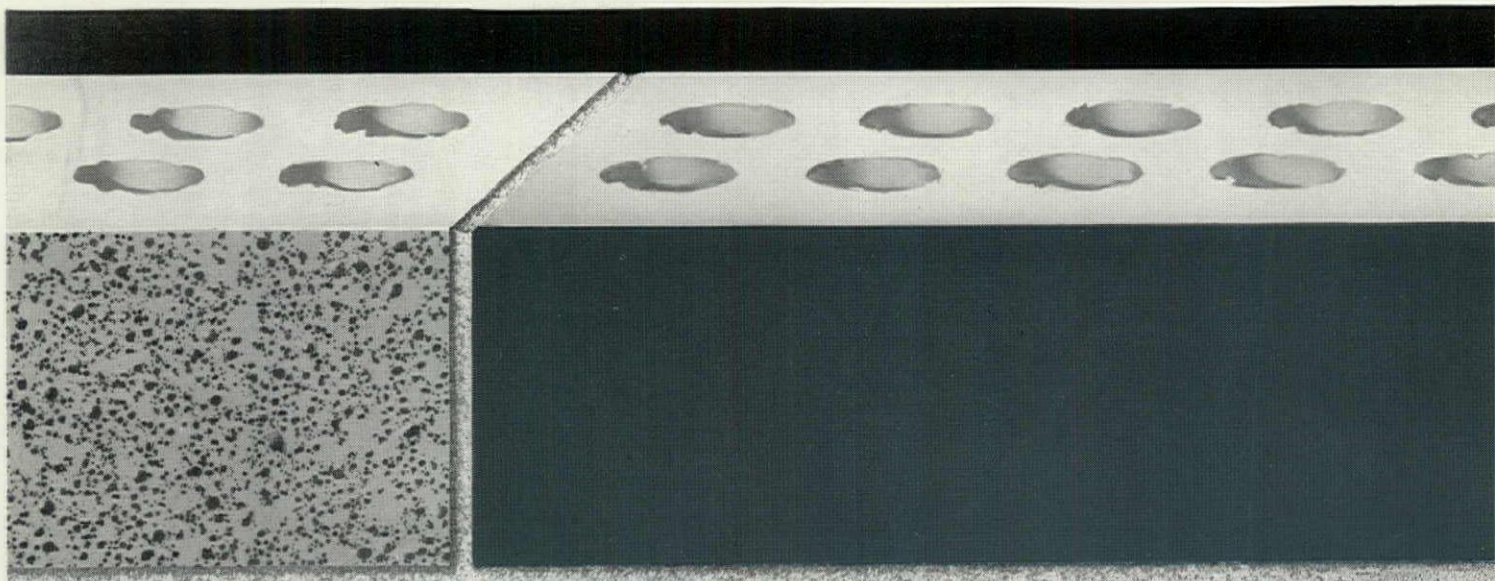
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Slate Green.....	102	Dresden Blue.....	601	Grantonite.....	705
Rosewood Pink.....	202	Turquoise.....	602	Flecked Gray.....	712
Raven Black.....	301	Horizon Blue.....	603	Charcoal Gray.....	721
Canary Yellow.....	401	Platinum White.....	701	Driftwood Gray.....	722

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IN NEW YORK'S C. I. T. BUILDING, Aetnawall appears in many forms: floor-to-ceiling walls that look like masonry, as in reception area at right; framing members with full glass panels, as in supervisor's office at left; less-than-ceiling-height space dividers, and other wall treatments

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Aetnawall variety gives the architect elbow room in his planning. Add to this, skilled engineering follow-through and installation efficiency backed by over 56 years' experience in the hollow metal field.

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## report to architects:

The advertisement shown here, which appears in the July issue of *Fortune* magazine, points up once again the way aluminum lends itself to brilliant combinations of functional and decorative architecture.

Here, the use of aluminum fins and vanes—with Alcoa Architectural Gray 2030 finish on the edges—provides a deep external framework for each window to protect the interior from the direct rays of the sun. At the same time, the design puts Old Sol to work painting an ever-changing face on the building itself as he moves through the zenith.

New architectural ideas in aluminum reach skyward almost daily. From applications like these, Alcoa has assembled a vast store of highly useful information which is completely at your disposal. If you plan to use aluminum, start first with Alcoa. Call the nearest Alcoa sales office, or write today to Aluminum Company of America, 1822-G Alcoa Building, Pittsburgh 19, Pa.

## IBM thinking foils sun in new aluminum building

The hot, high-angle rays of the Los Angeles summer sun can multiply air-conditioning costs. IBM and its architects calculated that aluminum, with its combination of heat reflectivity, lightness and beauty, was the logical building material to use in its new southern California headquarters.

The result is the coolest new building in town. Each window is "egg-crated" with extruded Alcoa® Aluminum fins and shades to foil the sun. Foiling the weather as well, windows, too, are framed with this maintenance-free, corrosion-





Building: IBM Building, Los Angeles, Calif.  
 Architect: Pereira & Luckman, Los Angeles, Calif.  
 General Contractor: McNeil Construction Company, Los Angeles, Calif.  
 Aluminum Subcontractors:  
 Aluminum Sunshades and Windows: Ador Corporation, Fullerton, Calif.

Aluminum Suspended Ceilings: Olympic Steel Products, Inc., Los Angeles, Calif.  
 Aluminum Entrance Doors, Frames and Interior Partitions:  
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resistant metal. Inside, suspended ceilings and glass partitions throughout are made using permanently beautiful Alcoa Aluminum.

Planning a building calls for cool thinking between you and your architect. To help you, Alcoa, pace-setter in the architectural use of aluminum, will be glad to sit in and contribute valuable data gathered in hundreds of applications. Write Aluminum Company of America, 1822-G Alcoa Building, Pittsburgh 19, Pa.

Your Guide to the Best in Aluminum Value



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you can create effects  
distinctively yours**



Perfect fulfillment of your interior design objectives can be achieved with Movable HAUSERMAN Walls. An almost infinite variety of wall-unit combinations makes HAUSERMAN literally an accessory to your imagination.

Now, for less cost than once required to provide merely adequate partitioning, you can select from HAUSERMAN's complete line a wall system ideally suited to any job on your board. You are free to specify within a wide range of panel dimensions to suit every module, every plan.

Still another facet of HAUSERMAN design dimension is the panel surface itself. Most HAUSERMAN wall systems lend themselves to the use of a variety of materials, thus enabling you to create many unusual effects. And there's no restriction on color selection. You may use subtle high-key colors, bold bright hues... or anything in between.

To learn more about these limitless design possibilities, call your nearby HAUSERMAN representative. He is listed in the Yellow Pages under "PARTITIONS"... or write to:

**THE E. F. HAUSERMAN COMPANY**  
7150 Grant Avenue, Cleveland 5, Ohio  
Hauserman of Canada Ltd., Mallard Road, Toronto, Ontario

**MOVABLE HAUSERMAN INTERIOR WALLS**

*If it's new... you'll find it first in Hauserman*



# BRIGGS

*the style leader in plumbing fixtures*

B E A U T Y W A R E



KROGER BUILDING, Cincinnati, Ohio. Owner: R. E. Dumas Milner. Architects and Engineers: Hedrick and Stanley, Fort Worth, Texas. Plumbing Contractor: Sam P. Wallace & Company, Cincinnati, Ohio.

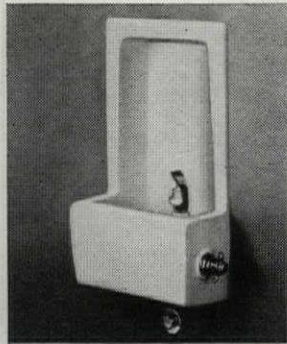
## New Kroger Building to feature over 400 Briggs Beautyware fixtures

Water closets, lavatories, drinking fountains, urinals, sinks—415 fixtures in all will equip the new 25 story Kroger Building in Cincinnati. And all will be Briggs Beautyware, for good reason. The architects selected Briggs Beautyware with an eye to the lustrous durability of Briggs vitreous china, its immaculately sculptured styling, its carefully worked out functional features.

These same advantages can apply to *your* commercial and institutional work. Specify from the complete, easy-to-work-with line designed for Briggs by Harley Earl, Inc. It is hand-crafted in high density vitreous china for years of maintenance-free operation. It is rigidly controlled in quality to assure you that it will meet every requirement. Specify Briggs Beautyware—the brand that makes the difference!



Briggs Lawton Urinal provides wash-out operation, integral extended shields, vitreous china strainer and flushing rim.



Briggs Mercury Drinking Fountain is semi-recessed, features angle-stream, anti-squirt, chrome-plated bubbler head.



Briggs Sultan Water Closet gives the advantage of wall-hung installation plus syphon jet and elongated bowl.

# BRIGGS

B E A U T Y W A R E





*Now we're cooling*  
*with* **GAS**

A 22-foot wall of sheer glass...yet it's always cool inside! — thanks to **GAS**-operated Arkla-Servel air conditioning

The strikingly modern Hillside Church is one of four completely air-conditioned buildings in Rose Hills, Southern California's beautiful memorial park. Because of the liberal use of glass walls, and the desire for one central system, the air conditioning installation presented unique problems.

After a careful study, the Arkla-Servel gas absorptive cooling system was chosen. "And we're com-



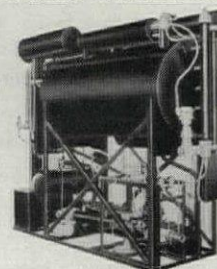


pletely satisfied," says John D. Gregg, President. "Our 25-ton gas unit produces 10,000 cubic feet of cool air per minute. And you can't beat it for economy. It requires practically no maintenance. Since it uses the same boiler, it makes use of our heating facilities on a year-'round savings basis."

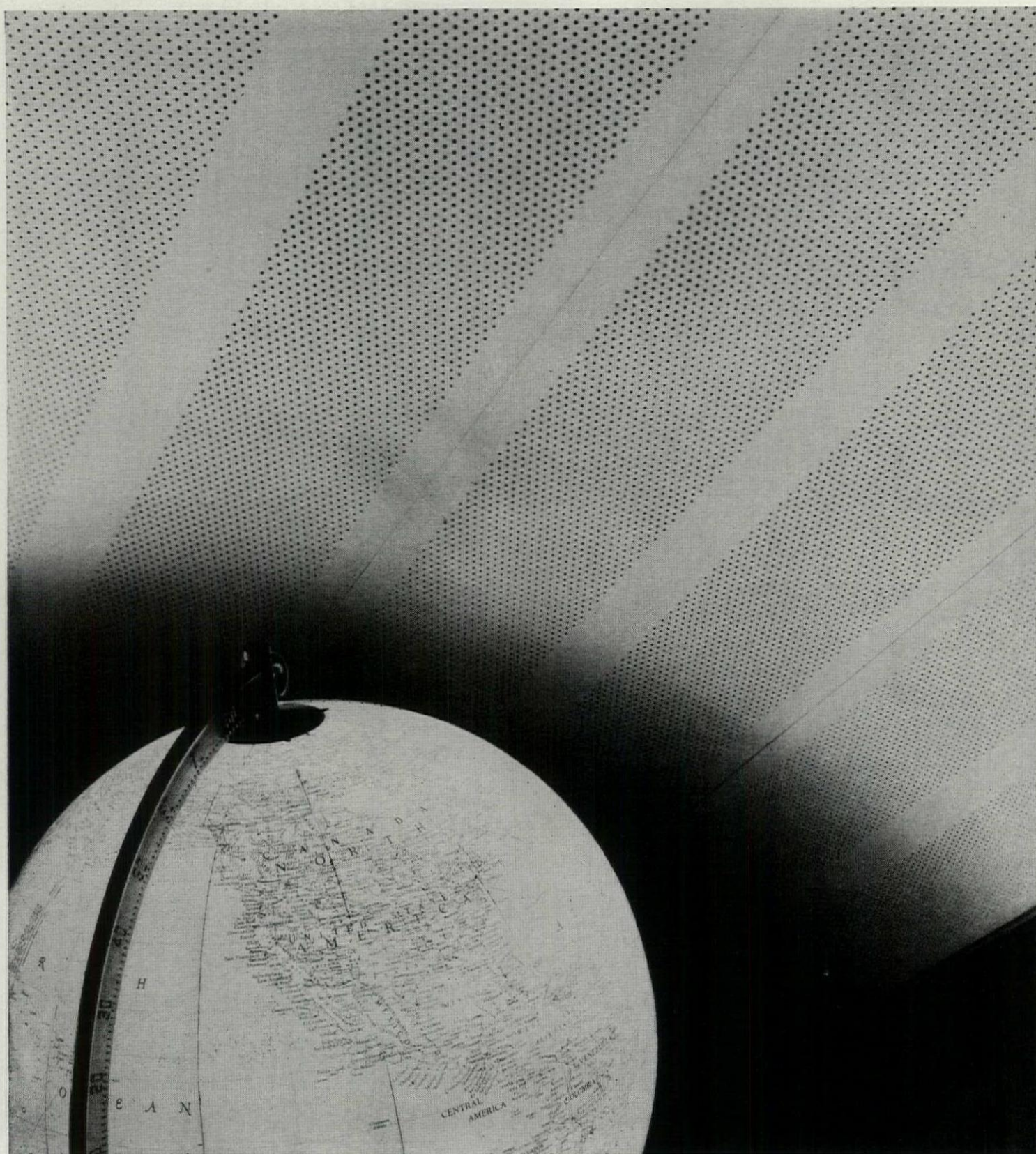
Gas absorptive cooling can put your heating plant on a year-'round economical basis too. For specific information, call your local gas company, or write to the Arkla Air Conditioning Corporation, General Sales Office, 812 Main Street, Little Rock, Ark. *American Gas Association.*

#### GAS OPERATED ARKLA-SERVEL ABSORPTION-TYPE WATER CHILLER

- lowest operating costs
- fully automatic operation
- long dependable service
- packaged construction
- compact size
- easy installation







## QUIET CLASSROOMS...created by a Fenestra acoustical ceiling

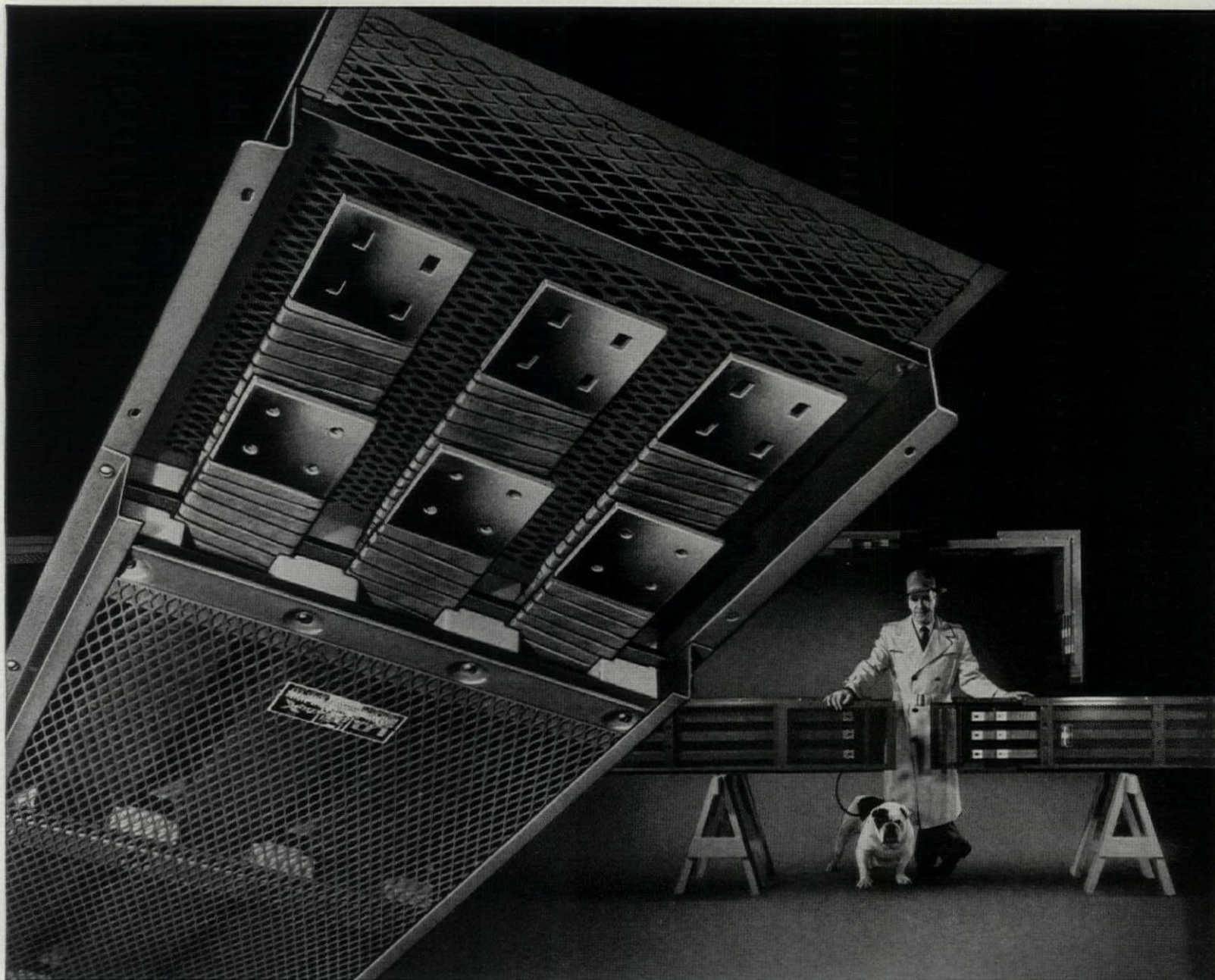
Fenestra† acoustical panels replace five different building products to give you an acoustical ceiling and structural roof deck in one unit. These long-span metal panels (up to 31 feet) are easy and economical to install, and eliminate need for intermediate purlins and beams. The built-in acoustical metal ceiling provides excellent "flat-curve" correction at all frequencies. Unaffected by washing or painting. Impervious to denting.

Write for our catalog. Fenestra Inc., Dept. AF-7, 2296 East Grand Blvd., Detroit 11, Michigan.  
†Trademark

*Fenestra*  
 INCORPORATED

*Your Single Source of Supply for  
 Building Panels • Doors • Windows • Curtain Walls*





## "PAIRED PHASING" HELPS YOUR CLIENTS MEET THE LOAD...WITH POWER TO SPARE

*Lo-X Bus Duct assures lower  
balanced voltage drop . . . extra  
current carrying capacity*

Increase the safety margin against unexpected power fluctuations! BullDog BUStrubution®—using a paired phased arrangement of aluminum bus bars—neutralizes magnetic fields, assures uniform balanced current distribution and low voltage drop. Exclusive "paired phasing" acts to distribute current equally throughout the cross-sectional area of each conductor . . . balances current among all conductors . . . reduces impedance to a minimum. Full

use of the conductor material assures extra capacity, allowing the LO-X feeder system to operate at top efficiency.

And LO-X offers these additional operating advantages. The duct has no moving parts . . . thus nothing to wear. It is prefabricated . . . adapts to any building contour. Exclusive scarf-lap joints assure rigid connections . . . speedy installation. BullDog's five-step silvering

process of aluminum bus bars guarantees maximum conductivity at connection points. Special spring-type cup washers at the joints give a positive bolted connection.

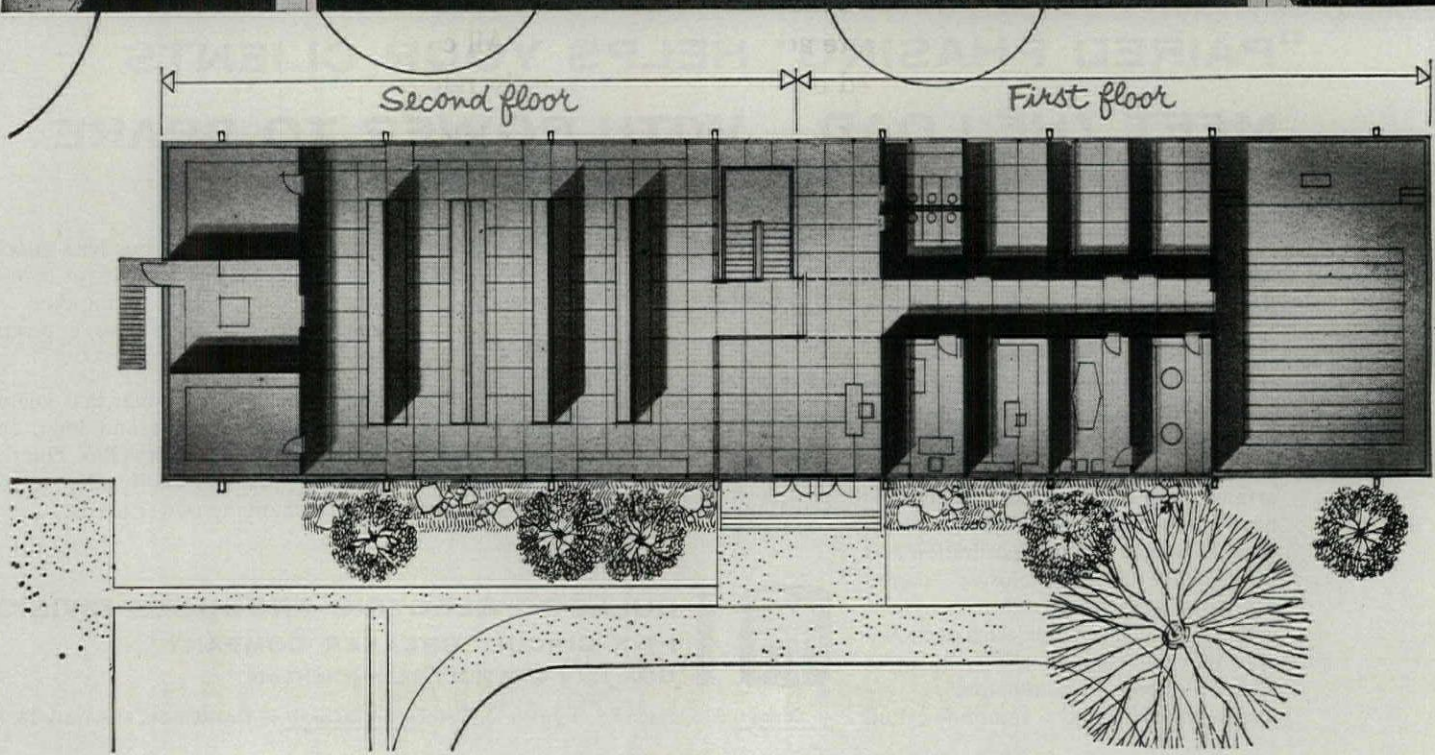
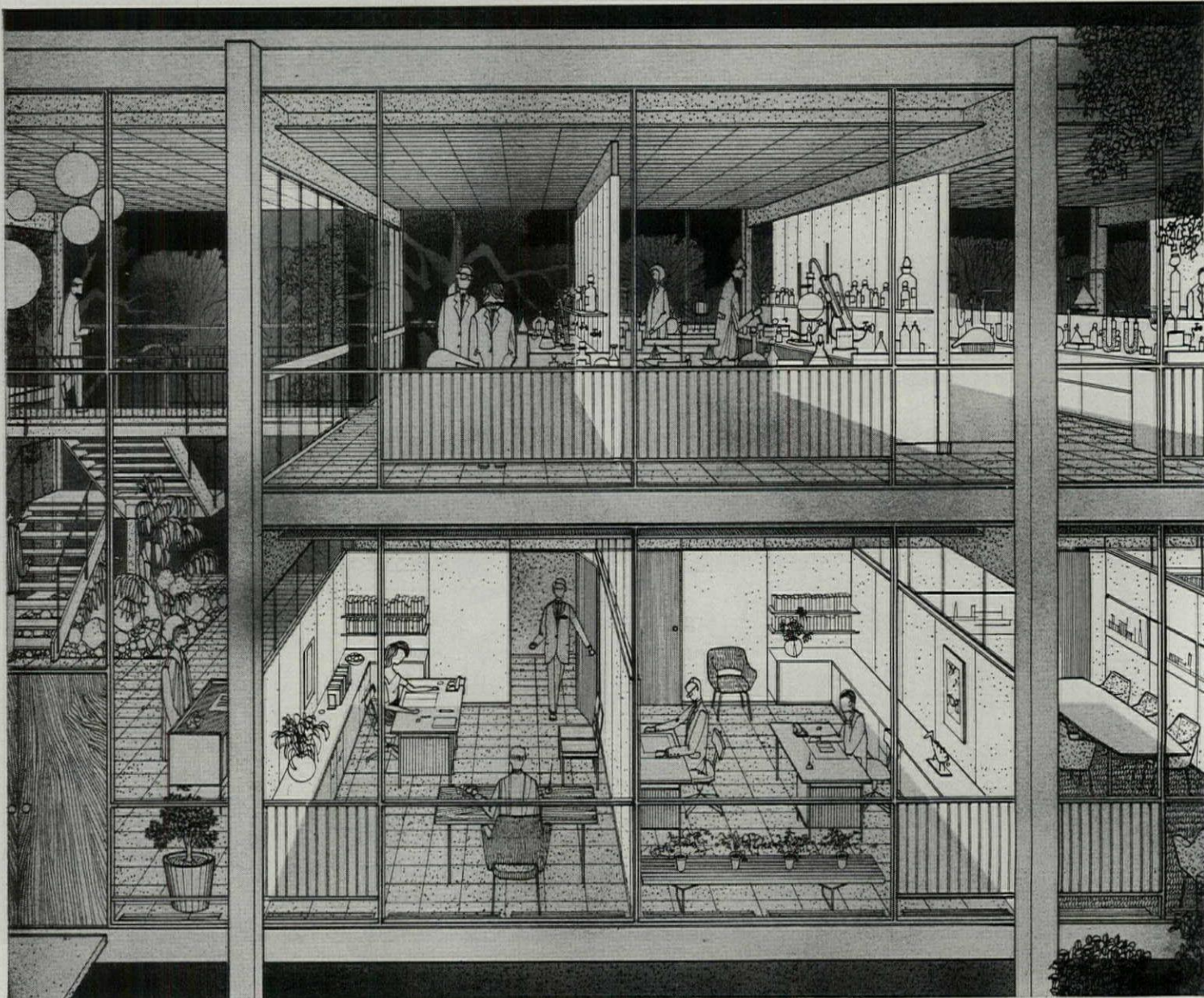
For a distribution system that guarantees top performance and long, continuous service specify *Bus Duct by BullDog* . . . it will readily adapt to your client's changing power needs.



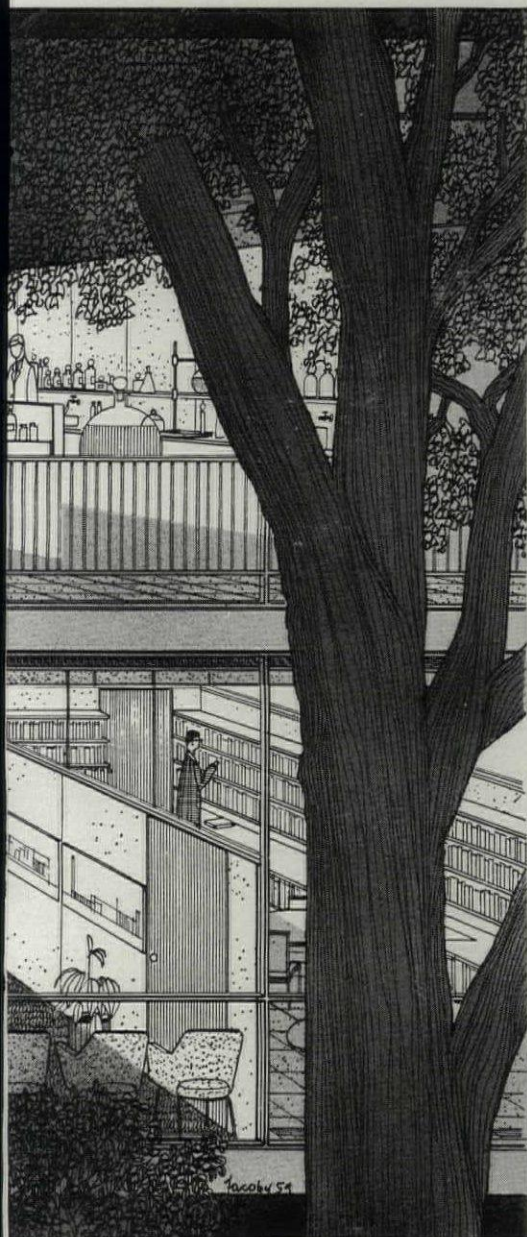
**BULLDOG ELECTRIC PRODUCTS DIVISION**  
**I-T-E CIRCUIT BREAKER COMPANY**  
BOX 177 • DETROIT 32, MICHIGAN

® In Canada: 80 Clayson Rd., Toronto 15, Ont. Export Division: 13 East 40th St., New York 16, N.Y.









*First floor*, partitions are J-M Class A Movable Walls with glass top filler. These are pre-fabricated panels with a non-combustible core, asbestos faced on both sides. Panels are  $1\frac{3}{4}$ " thick—can be painted or veneered in any number of ways to meet architectural requirements.

*Second floor*, laboratory sections are divided by J-M Imperial Movable Walls—asbestos panels attached to slotted steel studs. These walls can accommodate plumbing and service lines—can be varied from  $3\frac{1}{8}$ ", up to any necessary thickness.

J-M Sanacoustic® units make up the acoustical ceilings and J-M Terraflex® Vinyl Tile covers the floors.

## Good-looking walls with a future

This "showplace" is designed with Johns-Manville Movable Walls, for beauty and ease of making changes later on

An architectural designer was given this proposal:

A large company plans a research and development center in the suburbs. The building should be highly functional, yet striking. It must satisfy professional scientists and meet their needs for specialized equipment and services. It should contain attractive offices for executives and provide for future rearrangement and expansion. At the same time it should be a showplace for visitors and travelers along a nearby highway.

How well J-M Movable Walls are used to meet all these requirements is shown in the illustrations. Laboratory walls are the thickness necessary to enclose all required service lines. Other walls of minimum thickness with glass fillers separate administrative offices. All can be used together, are erected easily and can be readily relocated as needs change.

J-M Movable Walls come in modular components. They are functional, attractive, and can be decorated in any way. They are supplied and installed complete with all items such as doors, hardware, trim and glass by J-M trained construction crews.

For illustrated brochure, "Johns-Manville Asbestos Movable Walls," write to: Johns-Manville, Box 158, New York 17, N.Y. In Canada, Port Credit, Ontario.

# JOHNS-MANVILLE





# INCREASED AIR FLOW..... SUPER-QUIET OPERATION!

*New Belt Drive "Fiber-Aires" with Bonded Fiberglas\* Housing*

Available now in 44 belt drive models  
plus 17 direct drive units together providing capacities from  
180 to 13,500 C.F.M.

## Super Quiet

Fiber-Aire's all Fiberglas housing actually absorbs noise and vibration . . . sets a new standard for ventilator quietness.

## Adjustable Capacity

Belt drive units feature easily adjustable sheaves . . . capacities are quickly changed, even after installation.

## Flattering Design

Extra low contour and molded-in sky blue color, that "disappears" against the horizon, never mars clean architectural lines . . . Fiber-Aire never needs painting.

## Safety Switch

Disconnect switch, standard equipment on all Fiber-Aire belt drive units, permits unit to be shut off from roof for absolute safety.

## Indestructible

Bonded Fiberglas housing is virtually dent, crack and break proof . . . unaffected by salt spray, weather, fumes, and most chemicals.

## High Efficiency

Tests show amazing efficiency of new stainless steel air flow guides to eliminate internal air shocks . . . cut vibration. New throat and outlet designs minimize loss from friction and turbulence.

Send now for  
complete information available  
free in Swartwout's special bulletin FA-2.

**The Swartwout Co.**  
**Ventilation Engineering**

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\* TM Owens Corning Fiberglas Corporation

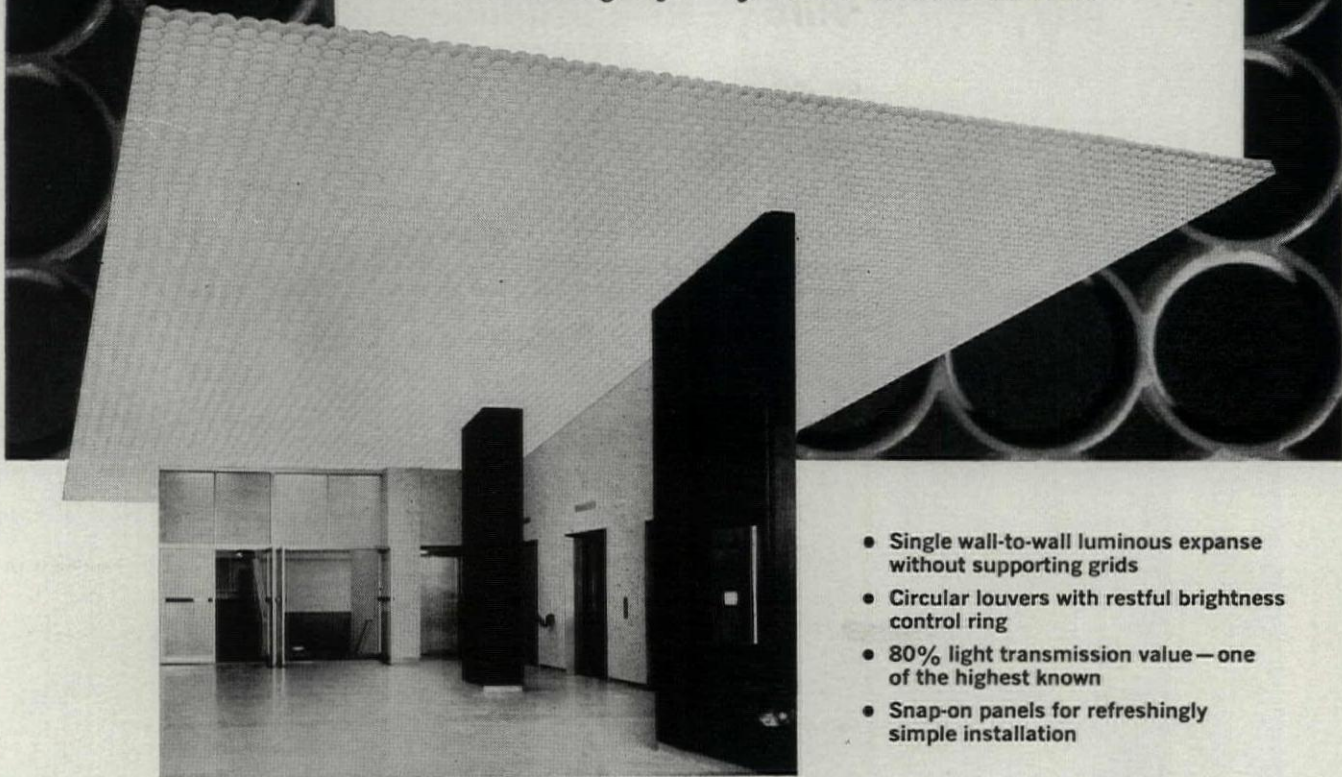
In Canada: Eastern Steel Products Ltd. 8 Bermondsey Road, Toronto, Ontario



new luminous grillework

**INFINILITE®**

*the true non-modular suspended  
ceiling of infinite dimension*

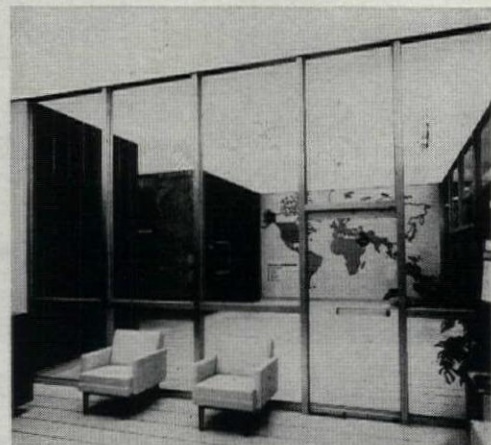


- Single wall-to-wall luminous expanse without supporting grids
- Circular louvers with restful brightness control ring
- 80% light transmission value—one of the highest known
- Snap-on panels for refreshingly simple installation

## INFINILITE

is the dramatic architectural lighting answer to the problem of irregularly-shaped ceiling areas. INFINILITE, created from a new, light-stabilized plastic is first to offer Drop Strip fixtures with V.T.S. Diffusers to completely eliminate direct view of lamps through grillework. Where desired, a new Finish Edge Trim can be used to obtain a floating luminous ceiling, free of contact with walls. We invite your inquiry.

Lobby of The Texas Company building, Los Angeles, California  
Welton Becket & Associates, architects



**INFINILITE®**

A product of INTEGRATED CEILINGS, INC.

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## 7 TESTS PROVE SUPERCOAT PERFORMANCE



**SOAK TEST** simulates field condition of windows standing in water before installation.



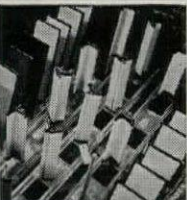
**SALT SPRAY TEST** parallels coastal area atmospheric conditions of saline exposure.



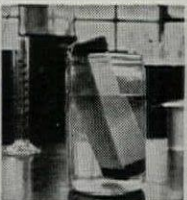
**WEATHEROMETER TEST** duplicates the field condition of exposure to strong sunlight.



**ABRASION TEST** simulates abrasive materials rubbing against frames and windblown abrasives.



**HUMIDITY TEST** parallels field conditions of humidity inside and outside of windows.



**ALKALI TEST** duplicates field conditions of rain dripping off mortar, plaster, etc.



**MAR PROOFNESS TEST** simulates field condition of sliding frames across one another in handling.



# SUPERCOAT

## TRUSCON'S sensational finish for steel windows

Forget field painting problems. Truscon's SUPERCOAT is a factory-applied finish for steel windows that eliminates all field painting. Practically eliminates maintenance painting, too.

SUPERCOAT is a two-coat baked enamel that was originally developed for home water-using appliances in which corrosion must be avoided. This superbly smooth, hard and glossy finish has been improved by Republic's research laboratories to further withstand exterior exposure.

SUPERCOAT has been thoroughly laboratory tested for weather, atmosphere, time, and abuse. It has successfully met every challenge.

As a result of the development of SUPERCOAT, there is no need to sacrifice strength and solidity in window sections simply to avoid field painting or difficult maintenance painting.

Specify SUPERCOAT on all types of Truscon Steel Windows for institutional, commercial, industrial, and office building applications. Standard color is light gray. Also available in attractive colors.

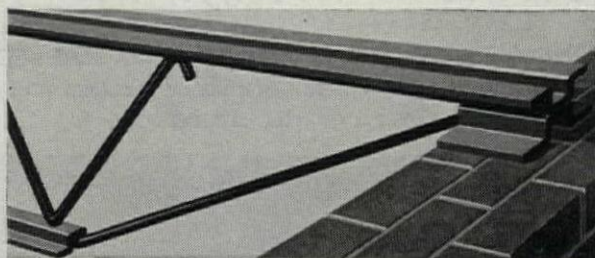
See, examine this sensational finish. Call your Truscon representative, or write direct for attractive brochure and free samples of Truscon window sections finished with SUPERCOAT. Send coupon today.

*Truscon's SUPERCOAT finish can be specified in the design and construction of steel windows for beautiful apartment buildings such as the Prairie Shores Apartment #1, Chicago, Illinois, illustrated at the left.*

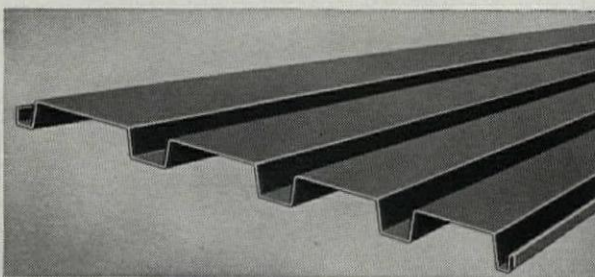
Architect: Loebel, Schlossman & Bennett

Contractor: Sumner Sollitt Construction Company

Product: Truscon Series 138 Double-Hung Steel Windows with SUPERCOAT



**TRUSCON "O-T" OPEN TRUSS® STEEL JOIST** now designed and engineered to 20,000 psi working stress. Stronger, balances with other structural components. Produced in longer 40- to 48-foot range. Certified by SJI. Send coupon.



**TRUSCON FERROBORD® STEEL ROOFDECK** 24 inches wide for fast coverage, full protection of flat or pitched roofs. Available in lengths up to 32 feet, 6 inches. All work done from above, welded to top chords of joists or purlins. Write today.



**TRUSCON METAL LATH AND ACCESSORIES** are specifically designed to simplify and speed construction. Truscon Expanded Corner Bead has heavy shoulders to assure straightness and rigidity. Easier installation, no costly delays. Send coupon.

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*World's Widest Range  
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| <input type="checkbox"/> Truscon "O-T" Steel Joist          | <input type="checkbox"/> FERROBORD Roofdeck |
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## FOR TERRAZZO FLOORS

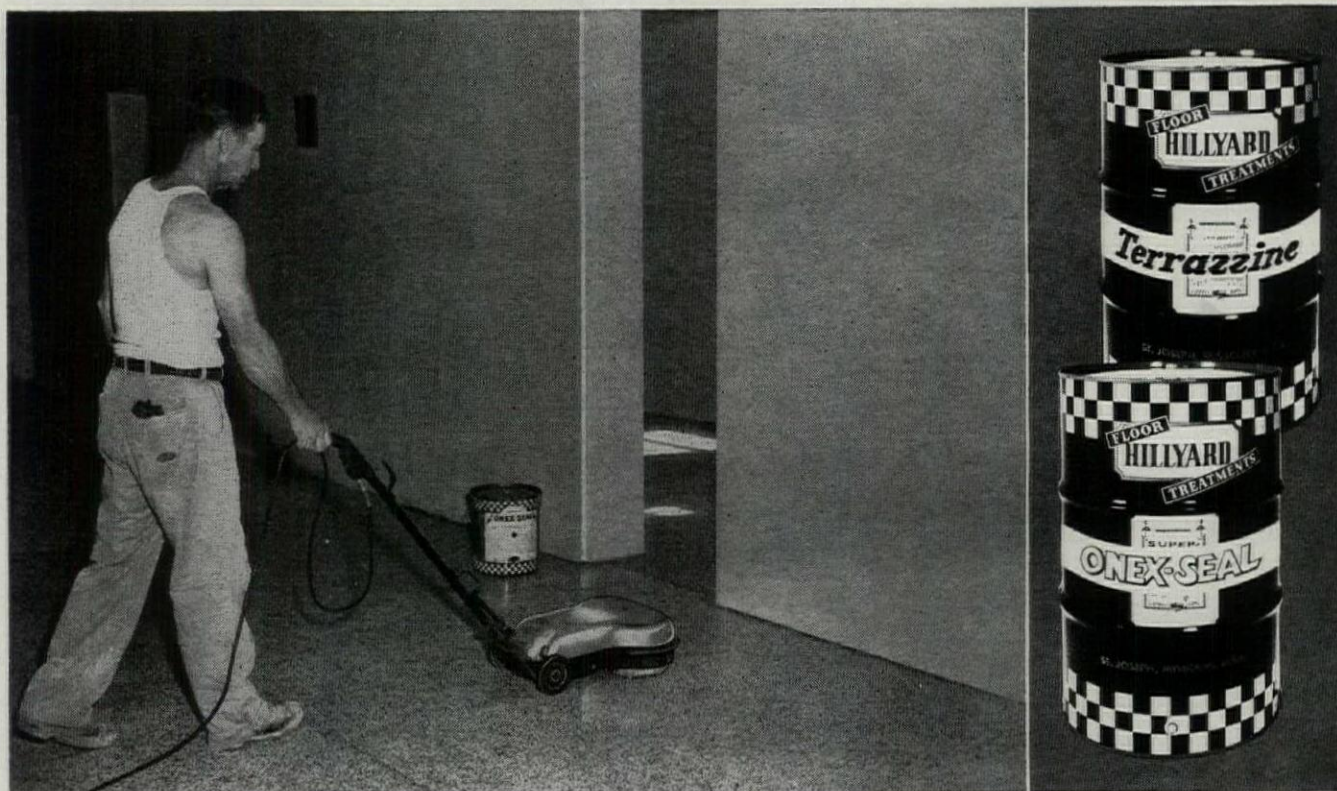
The National Terrazzo and Mosaic Association

### SPECIFICALLY RECOMMENDS . . .

"Terrazzo is benefited by a penetrating (not surface) seal which prolongs hydration of the cement to provide color density and longer life on new terrazzo — and on old terrazzo reduces penetration of water, stains and grime. This Association recommends that the use of purely surface waxes, lacquer, shellac, or varnish preparations, and 'good for anything' materials be avoided."

## Where it means the Most—Specify

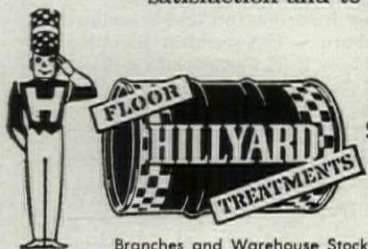
Hillyard TERRAZZINE and SUPER ONEX-SEAL — Developed specially for Terrazzo to meet and exceed exacting requirements of master terrazzo craftsmen. A standard treatment used by Terrazzo Contractors for over a quarter of a century.



**TERRAZZINE** — a curing agent. Prolongs hydration, protects new floor during construction and creates a more dense, water tight floor. U/L listed as slip-resistant.

**SUPER ONEX-SEAL** — a penetrating seal that gives your TERRAZZO that "plate glass" look, beauty of depth and color. U/L listed slip-resistant.

For every structure you create, your architectural "Eye" envisions ageless beauty. Hillyard treated floors retain original lustre and color-live sparkle. May we suggest you specify proper Hillyard Maintenance too — for client satisfaction and to perpetuate the beauty of newness.



Free Specification Folders for Every Type Floor

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San Jose, Calif.  
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Let The Hillyard Maintaineer serve as your "job captain" for the finest of finished floors—no charge—He's listed in Sweets!

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ARCHITECTURAL  
FILE  
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## MOYNAHAN CURTAIN WALLS tomorrow's design today

The sleek, skyward look of the new International Business Machine office building is created through the use of modified Moynahan AW Series Aluminum Curtain Walls containing interestingly colored panels of porcelain enamel.

Although delicate in appearance, Moynahan Curtain Walls have the tremendous strength necessary to resist generations of weather. Their design is based upon sound engineering principles developed over the years by Moynahan engineers, proven by torture tests and re-proven on commercial and industrial buildings from east to west.

When you design with metal, design for permanence and beauty with Moynahan Curtain Walls.



I. B. M. building, Building,  
Detroit, Michigan  
Architects: Pedersen & Tilney  
General Contractor:  
R. E. Dailey & Co.



YOUR CLIENTS DESERVE THE VERY BEST

# Moynahan

MOYNAHAN BRONZE CO.  
Flat Rock, Mich.

ALUMINUM — STAINLESS STEEL — BRONZE  
CURTAIN WALLS



**New, improved (U.S.S.) American Welded  
strength of 75,000 psi...and a**

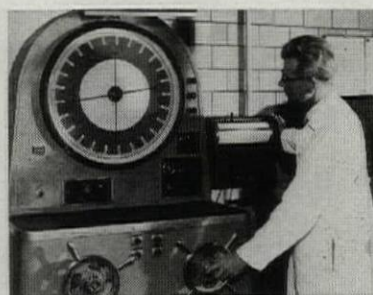


**+ VALUE  
CONCRETE**



# Wire Fabric has minimum tensile minimum yield point of 60,000 psi...

to give you a better,  
stronger product at  
no increase in cost!



For more than 50 years, USS American Welded Wire Fabric has been doing an outstanding job of reinforcing all kinds of concrete work—from porches and walks to skyscrapers and highways. And now—because of its greatly increased tensile and yield strength—it will give even greater strength, longer life, increased freedom from cracking and less maintenance. Also, it will permit longer joint spacing for reinforced slabs on ground or less steel if present joint spacing is used. The new improved Welded Wire fabric will have a 75,000 psi minimum ultimate tensile strength with a minimum yield point of 60,000 psi.

Closely controlled laboratory tests show that if the conventional bond stress theory is applied to American Welded Wire Fabric's resistance to slip, fantastically high bond stress values of from 1,000 psi to 2,700 psi are computed. (See ACI Proceedings, Vol. 48, April, 1952.) Continuing bond test research under the direction of American Iron & Steel Institute has shown such good mechanical anchorage in the concrete as to permit this increase in the Tensile Strength of Fabric. American Steel & Wire is able to present this new product because of the tested bond values which enable designers to take advantage of a higher fabric yield point.

Just one example of the advantages of this improved fabric is in one-way slabs. The ACI Building Code 318-56 will allow unit tensile strength for fabric in main reinforcement of 30,000 psi in one-way slabs of 12-foot span or less, provided reinforcing members are  $\frac{3}{8}$ " or less. Previously, designers were limited to 28,000 psi working stress with fabric, and only 20,000 psi with intermediate grade bars.

The new Welded Wire Fabric will cost no more. It will come in the same prefabricated rolls or sheets for easy handling and placing. Therefore, to get the improved product on your job at no extra cost, be sure to specify USS American Welded Wire Fabric.

USS American Welded Wire Fabric is available in a wide variety of styles, sizes, lengths and widths . . . in wire gauges from  $\frac{1}{2}$ " diameter to 16 ga., and in longitudinal and transverse wire intervals of 2" to 16". Steel areas for all normal structural reinforcing in all types of construction are readily available. For more information on USS American Welded Wire Fabric—and its new tensile strength—write to American Steel & Wire, Dept. 9152, 614 Superior Avenue, N. W., Cleveland 13, Ohio.

*USS and American are registered trademarks*

**American Steel & Wire  
Division of  
United States Steel**



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Always ask, *"is it Reinforced"*





New TRANE shelving forms wall-length unit that blends with modern business building design. Available with either fan-coil or induction UniTrane units.

## Now! Factory assembled, wall-to-wall enclosures for fan-coil and induction UniTrane room units

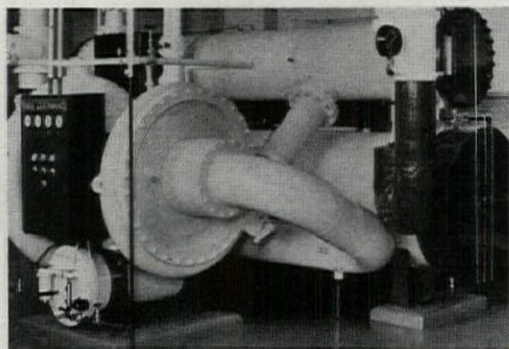
*Standard cabinets, selected on a modular basis, provide custom appearance—built-in storage space*

Now it's easier than ever before to adapt air conditioning equipment to business building interior design! New matched shelving for UniTrane installations (fan-coil or induction) provides functional units for storage, bookcases, under-window cabinets. And, best of all, this new matched shelving by TRANE is factory-designed and precision made to give custom appearance with *standard* units. There is no need for time-consuming, costly on-the-job fitting of assorted parts and pieces. The designer and contractor have *one source* for the entire installation.

And, of course, this is the famous UniTrane Air Conditioning that meets every requirement for optimum cooling. The individually controlled room units filter, cool and dehumidify the air. And one or more units may be shut down without affecting the rest of the system.

**Want more facts?** When you plan air conditioning for any multi-room, multi-story building, ask your nearby TRANE Sales Office for specifications and data on the new UniTrane shelving units. Or write TRANE, La Crosse, Wisconsin.

**Economical refrigeration** for big building air conditioning systems is supplied by this TRANE CenTraVac water chiller. Automatically modulates to 10% of capacity—or less—with corresponding power savings. Available in hermetic or open design; steam turbine or electric motor driven models. Capacities to 1500 tons.



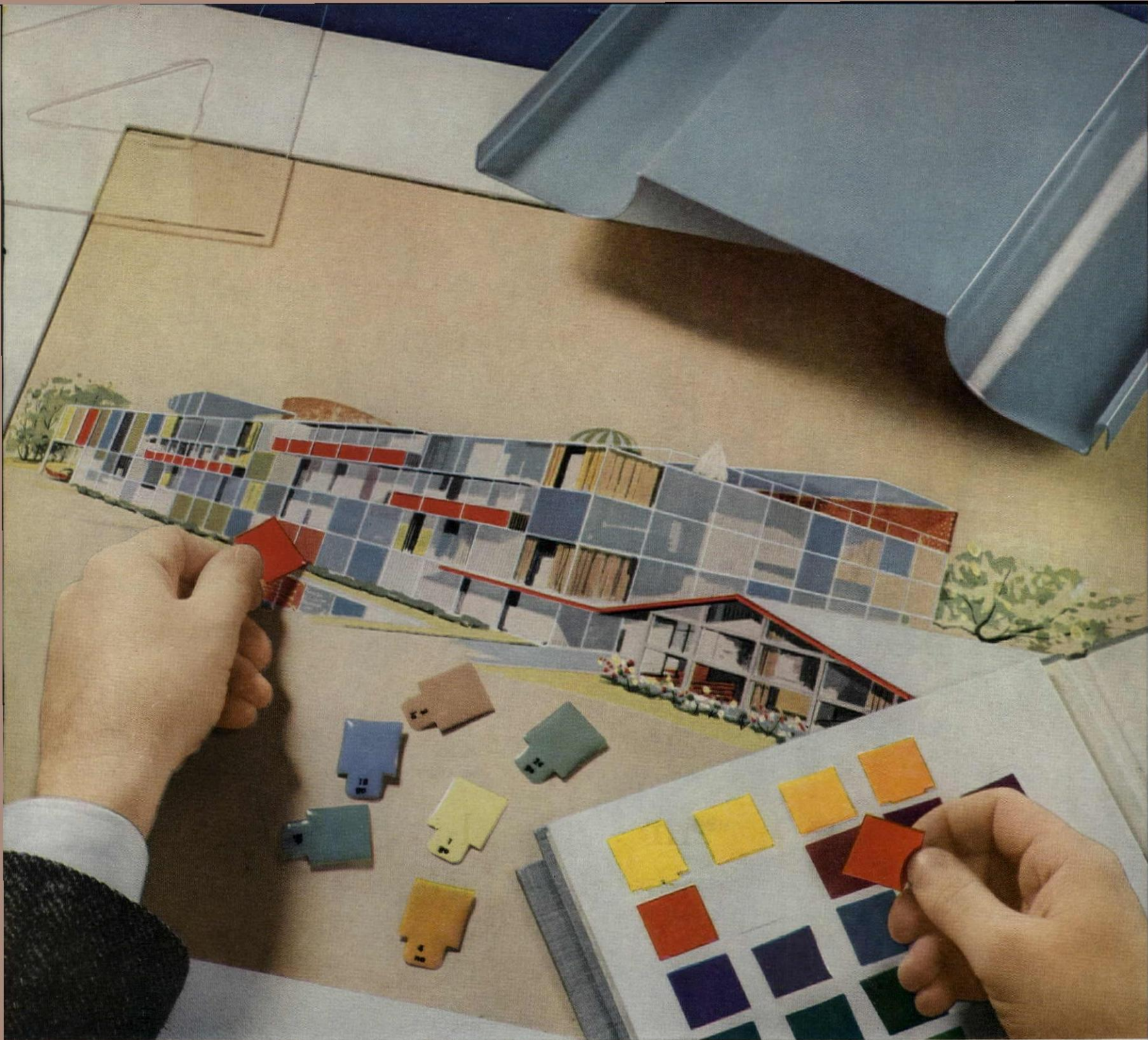
**For any air condition, turn to**

# TRANE

MANUFACTURING ENGINEERS OF AIR  
CONDITIONING, HEATING, VENTILATING  
AND HEAT TRANSFER EQUIPMENT

THE TRANE COMPANY, LA CROSSE, WIS. • SCRANTON MFG. DIV., SCRANTON, PA.  
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LIMITED, TORONTO • 100 U.S. AN 19 CANADIAN OFFICES





# New Milcor EDW Wall Panels

... Bonderized, with Baked-Enamel Prime Coat, offer a versatile and economical approach to color

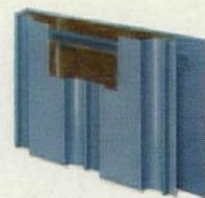
Your imagination sets the only limit to the colors you can use when you specify new Milcor EDW Insulated Wall Panels . . . and you can be assured of the best possible field painting results because Milcor's Bonderized, baked-enamel prime coat is the finest available anywhere.\*

These panels are too new to be in Sweets, so write for catalog No. 243-A.

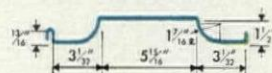
\* Also furnished in galvanized steel and embossed aluminum.

**INLAND STEEL PRODUCTS COMPANY** Member of the **INLAND Steel Family**

DEPT. G, 4031 WEST BURNHAM STREET, MILWAUKEE 1, WISCONSIN ATLANTA, BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DALLAS, DETROIT, HAYWARD, (CAL.), KANSAS CITY, LOS ANGELES, MILWAUKEE, NEW ORLEANS, NEW YORK, ST. LOUIS, ST. PAUL, SAN FRANCISCO.



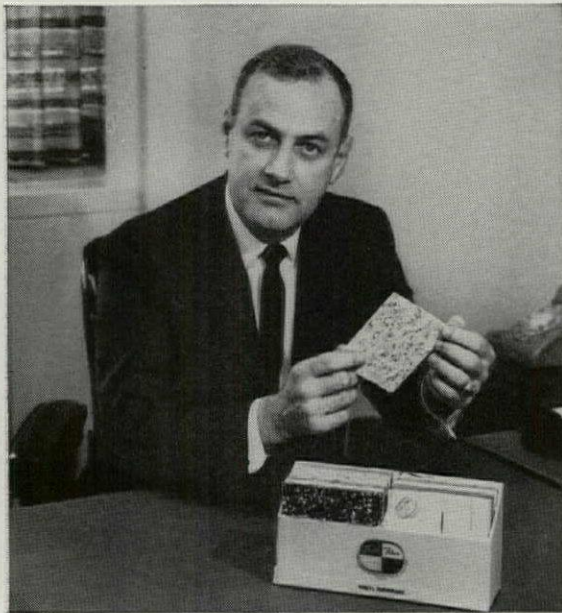
Deep-shadow vertical flutes on 12" centers help you achieve an interesting design effect. (Note insulation and liner panel)



**MILCOR**<sup>®</sup>  
EDW WALL PANELS

WP-6





**"In plain words—Bolta-Floor  
1/8 inch vinyl tile doesn't  
fade, doesn't shrink ...  
and that's why we like it."**

LOUIS MUNDY A. I. A.  
McGeorge, Hargett & Associates

### **Specs for top quality flooring are going to BOLTA-FLOOR, Solid Vinyl**

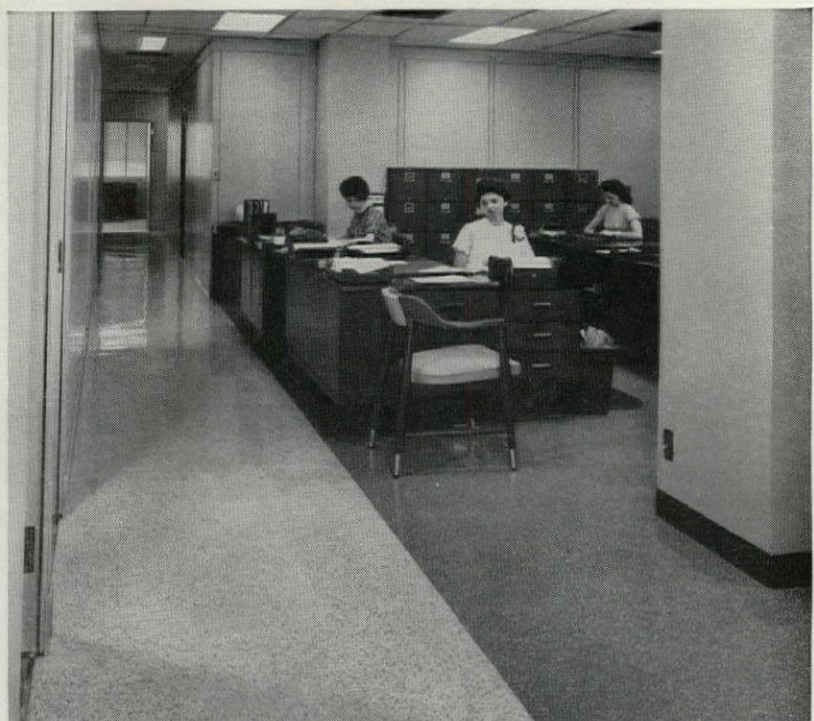
There is no secret formula, no hidden trick to making Bolta-Floor the finest quality vinyl flooring. It's simply a matter of ingredients and control.

The General Tire & Rubber Company makes its own vinyl resins and can therefore make sure that this most important component is of premium quality. Plasticizers, coloring agents and binders are the finest that money can buy.

During the manufacture of Bolta-Floor these ingredients are mixed and calendered under the most rigid system of quality control. The result is a homogeneous vinyl sheet of exceptional uniformity and unequalled dimensional stability.

No false claims are made about Bolta-Floor vinyl tile. Its performance has been proved not only by exhaustive laboratory tests but by better than satisfactory service in some of the finest buildings in this country.

In commercial building today high costs of construction often suggest the installation of less expensive flooring. But sad and costly is the experience of



The New Illuminating Building • Cleveland, Ohio

replacing flooring that has cracked, shrunk, faded, stained, pock marked or worn excessively under heavy commercial building traffic.

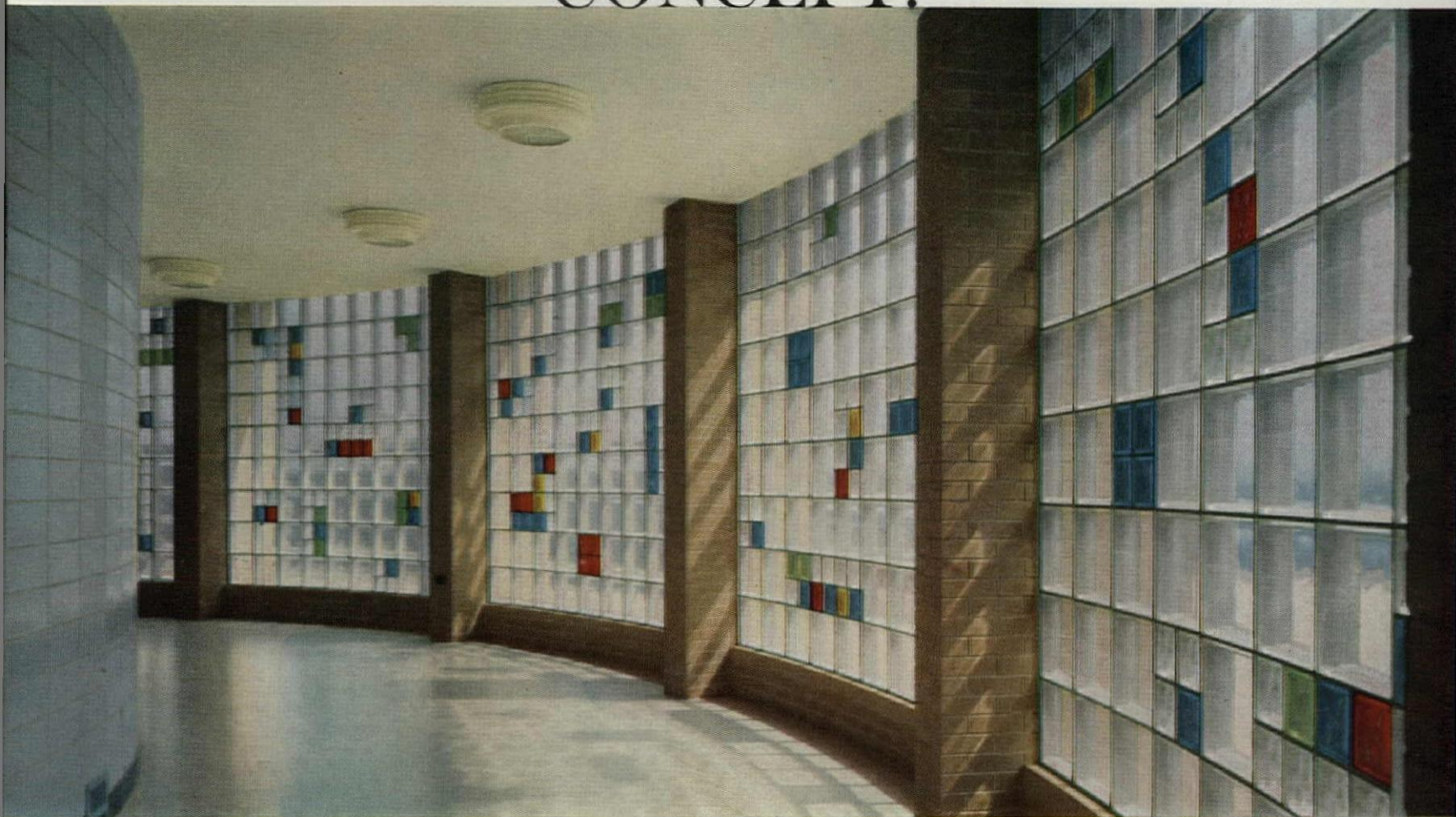
The advantages of homogeneous vinyl flooring are well known by today's leading architects, builders, and flooring contractors. Be sure only the finest is specified — Bolta-Floor 1/8" homogeneous vinyl floor tile. For samples or test reports, write:

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## CONCEPT:



## light and color to stimulate a happy mood

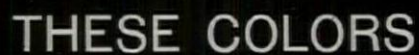
Students experience a transition to bright, airy space as they approach a rotunda around administrative offices at the new Springdale Joint Junior-Senior High School, Springdale, Pa. Architects John A. Desmone, A.I.A., Springdale, and Wesley Joseph Henger, A.I.A., Pittsburgh, Pa., call this the happy area. Their design concept: lend an atmosphere of happiness and warmth to the school's center of authority. Skillfully blending PC Vue Blocks, Decora Blocks and the bright accents of PC Color Glass Blocks, they bathed the area in warm natural light and color . . . and found bonus values of good insulation, minimum maintenance and favorable initial cost. *You* may well find a design match for your own concepts in PC Glass Blocks—including 12 face colors and the new 4 x 12 Block. PC Color Glass Blocks are available on architect's specification only. Write for product data. Pittsburgh Corning Corporation, Department E-79, One Gateway Center, Pittsburgh 22, Pennsylvania. In Canada: 3333 Cavendish Boulevard, Montreal, Quebec.

P I T T S B U R G H



C O R N I N G





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But *production* savings are something else again—a bonus earned by painting according to the Du Pont system of Color Conditioning. It's the scientific application of color to reduce eye fatigue, boost employee morale and efficiency, promote safety, thereby increasing profits.

Du Pont will be glad to show you how you can apply the power of color profitably. The service is free. So is the 28-page booklet, "How to Put Color to Work."

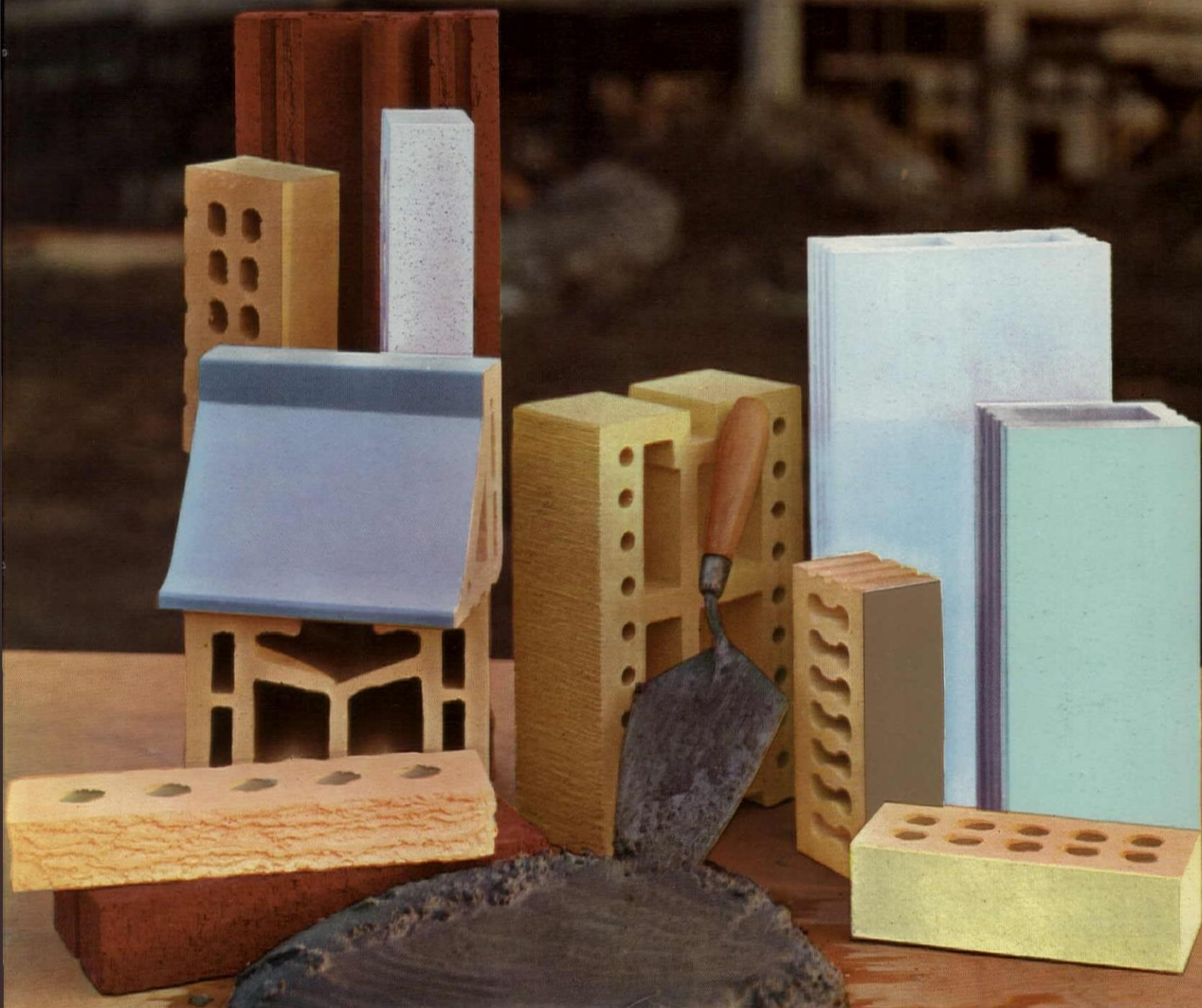
Write: E. I. du Pont de Nemours & Co. (Inc.),  
Finishes Division, Dept. AF-97, Wilmington 98, Delaware.



Better Things for Better Living . . . through Chemistry

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**COLOR**  
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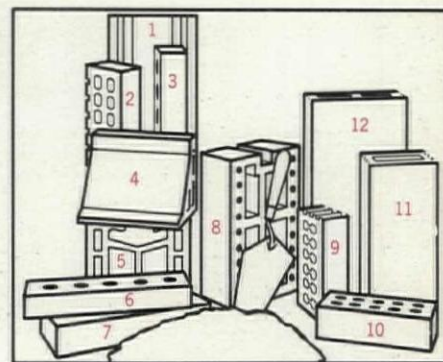


## TODAY'S IDEA BECOMES TOMORROW'S SHOWPLACE

*... when Natco structural clay products are in the picture*

The photo above shows only a portion of the *complete* line of modern, colorful structural clay products manufactured by Natco . . . products designed for use in tomorrow's buildings. Shown are (1) Tex Dri-Wall tile, (2) Standard face brick, (3) Norman face brick, (4) Ceramic glaze Splayed Base, (5) Dri-Speedwall tile, (6) Wave-Text roman face brick, (7) "SCR" brick, (8) Uniwall facing tile, (9) Ceramic glaze Vitribrik, (10) Ceramic glaze velour face brick, (11) "6T" Ceramic glaze Vitritile, and (12) "8W" Ceramic glaze Vitritile.

Write for one of our new, colorfully illustrated "full line" catalogs.



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A continuing series of distinguished schools, churches, hospitals, office buildings and industrial structures using NORTON DOOR CLOSERS



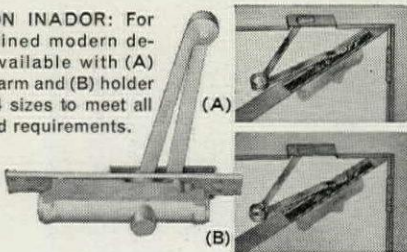
ARCHITECT: ELLERBE & COMPANY, ST. PAUL • HARDWARE DISTRIBUTOR: FARWELL, OZMUN, KIRK & CO.

## MOST MODERN IN RESEARCH EQUIPMENT ...AND IN DOOR CLOSERS

New Graphic Products Building for Minnesota Mining and Manufacturing Company  
has NORTON Door Closers specified throughout

### Complete Norton Line Meets Every Door Closer Need

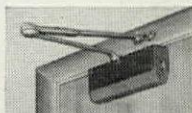
**NORTON INADOR:** For streamlined modern design; available with (A) regular arm and (B) holder arm...4 sizes to meet all standard requirements.



**NORTON 750:** New corner design with concealed arms, for all types of doors, particularly narrow-rail doors.



**NORTON SURFACE-TYPE:** For all installations where concealment is not essential.



**NORTON 703-N** Compact surface-mounted type... 1 1/2 inch projection.


Norton Door Closers were specified for this distinguished structure because of their outstanding record of proved dependability. Where concealment was desired, Norton INADOR Closers were chosen for complete harmony with the clean-lined contemporary design of doors.

Inador's rugged mechanism fits snugly inside a mortise in the top rail of any 1 3/4" door, or can be used on 1 3/8" doors by taking a full cut out of top rail and applying special side plates. Despite this extreme compactness, however, Inador is a true liquid-type closer with all the reliability, low maintenance and precision workmanship characteristic of all Norton products. For complete data on these and all other Norton models, consult the current Norton Catalog #57. Write for it today.

# NORTON® DOOR CLOSERS

Dept. AF-79, Berrien Springs, Michigan



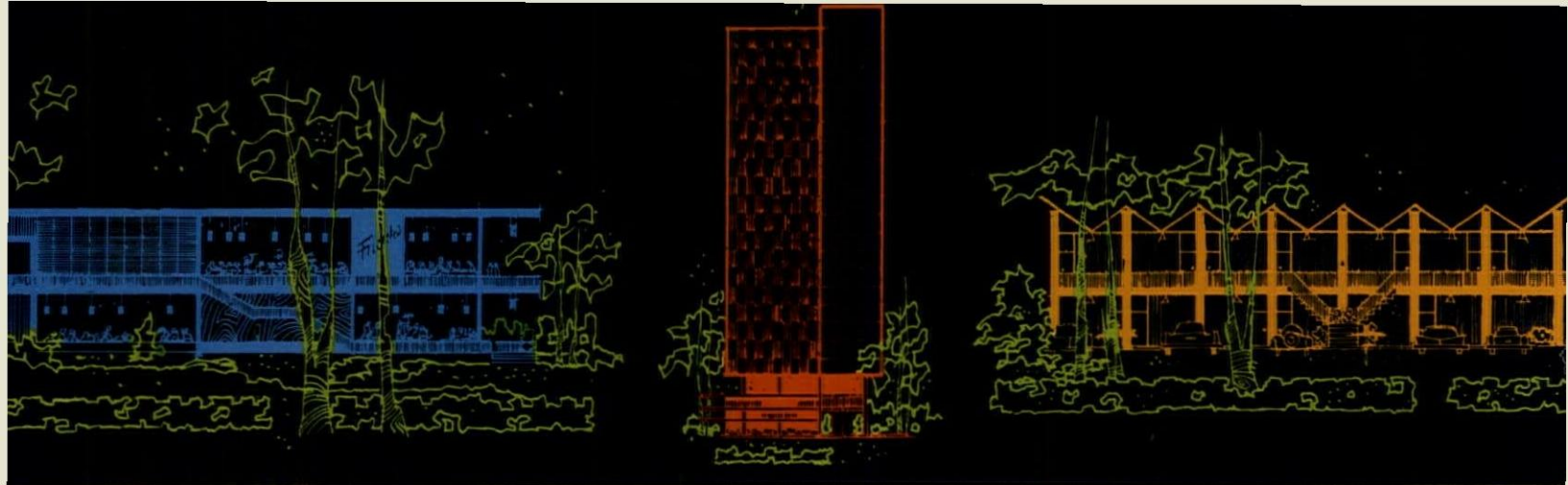


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buildings in the world...  
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modern pneumatic thermostat  
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**The Honeywell  
Pneumatic Round**







## **New examples of Honeywell's leadership in pneumatic controls—all perfectly matched for top performance**



**New Small Valves (VO520A and C; VO521A)** For individual room temperature control. Newly designed, both valves incorporate a new rolling-type diaphragm actuator which greatly increases capacity and close-off ratings, in a compact size. VO521A (illustrated) is available in normally open, straight-through or angle patterns. For both steam and hot water applications.



**New Pressure Reducing Valves and Filter Station (PO902 A and B)** For better primary source of clean control air at the proper pressure. Advanced engineering and new design result in a fully integrated two-unit system—filter with transparent housing and replaceable filter element, and pressure reducing valve with built-in safety pressure relief valve. Plastic housing signals need for filter change by coloring when dirty.



**New Automatic Air Dryer (WO25A2)** For an improved primary source of dry control air. Only Honeywell offers a twin-bed dryer with automatic time programming for regeneration of the beds. Provides a reliable source of dry air, yet requires very little maintenance—an ideal solution to the problem of extracting moisture from compressed air supplied to the control system.



**New Piston Motors (MO903 A and B; MO904 A and B)** For exact damper positioning. Brand-new pneumatic power unit for positioning dampers. Has rolling-diaphragm operation for high force output, long life. Universal mounting bracket permits external or internal installation on all makes of dampers.



**New Electronic-Pneumatic Relay (R07903 A and B)** For precise control of conditioned air or water sources. Fully transistorized, the R07903 employs electronic sensing, pneumatic positioning—combines the sensitivity of electronic thermostats with pneumatic operators. Designed for summer or winter applications, with provision for both discharge and outdoor compensation.

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# **Honeywell**



*First in Control*



# Projects

## A roundup of recent and significant proposals



### GLASS APARTMENTS FOR ST. LOUIS RIVER FRONT

Plans afoot in St. Louis would revitalize the whole water front in time for the city's 200th anniversary in 1964. By then the famous stainless steel Saarinen arch and the museums scheduled for the Jefferson National Expansion Memorial Park should be finished. Facing the park, Developers Lewis Kitchen and Paul Lashly plan

to build twin 40-story apartment towers like those shown in the preliminary sketch above. Architects Russell, Mullgardt, Schwarz & Van Hoefen describe the towers as "glass houses" built perpendicular to the Mississippi to afford sweeping views of the river to the north and south for all apartments.



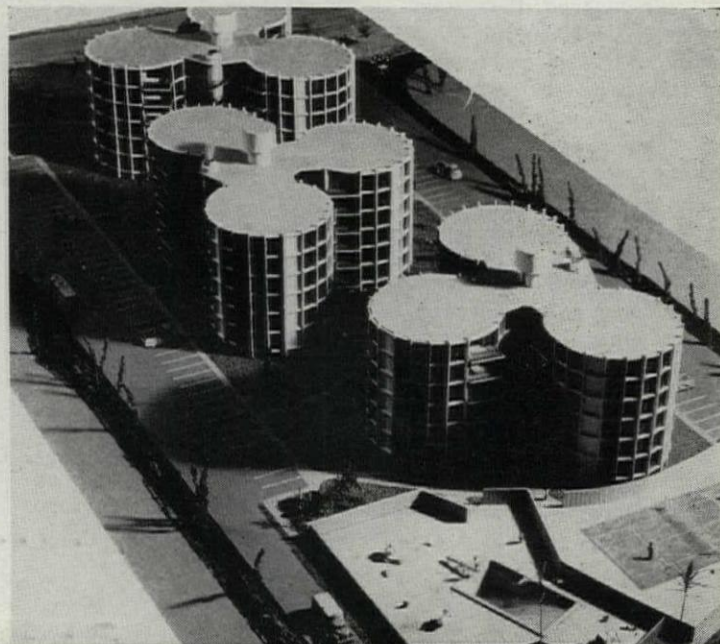
### BALCONIES IN BOSTON

Boston's staid old Beacon Street is the site of the 17-story apartment building above, now under construction. The apartments inside, 80 in all, will be expensive, the average annual rent running to about \$1,000 per room. In return for this outlay, tenants can count on such built-in luxuries as private living-room balconies overlooking the Charles River Basin and spacious rooms (bedrooms average 14 ft. by 17 ft., living rooms 18 ft. by 21 ft. or more). Architect: Hugh Stubbins & Associates.

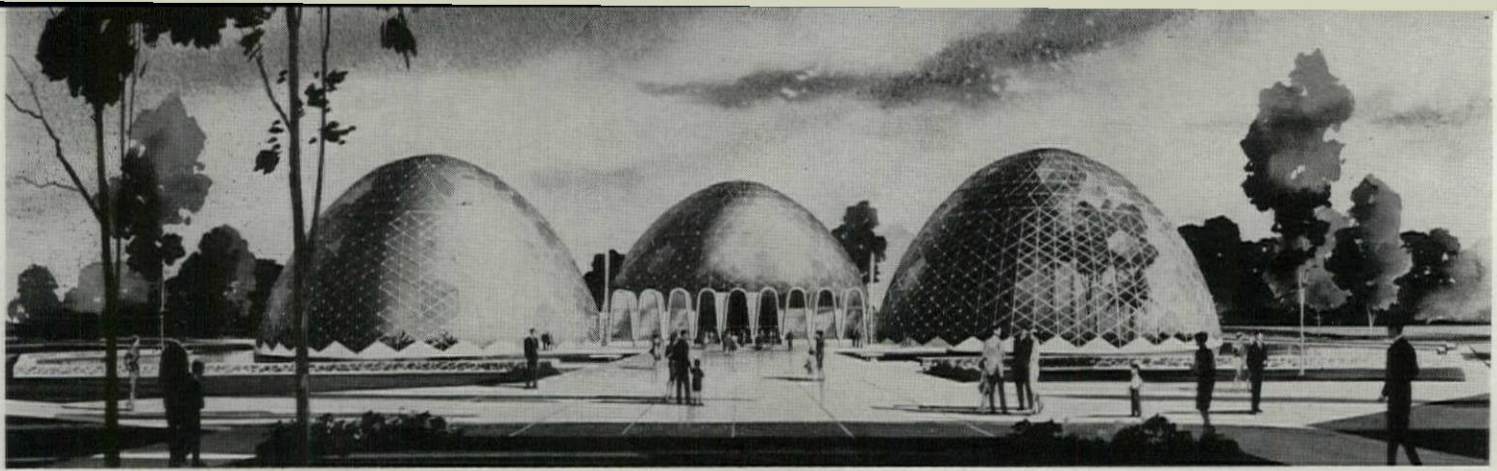
### CIRCULAR APARTMENTS FOR PUERTO RICO OCEAN FRONT

The clusters of silo shapes below are new apartment buildings planned for a strip of beach in Santurce, Puerto Rico, not far from the International Airport. Altogether, the three clusters will contain 99 apartments—two apartments to a floor in each round segment.

The thin center core will contain elevators and lobbies serving the six apartments which branch out from it on each floor. Designed for the Scenic Homes Corp. by Hector Llenza and Augusto Gautier, it is expected to cost \$2.5 million and get under way next month.

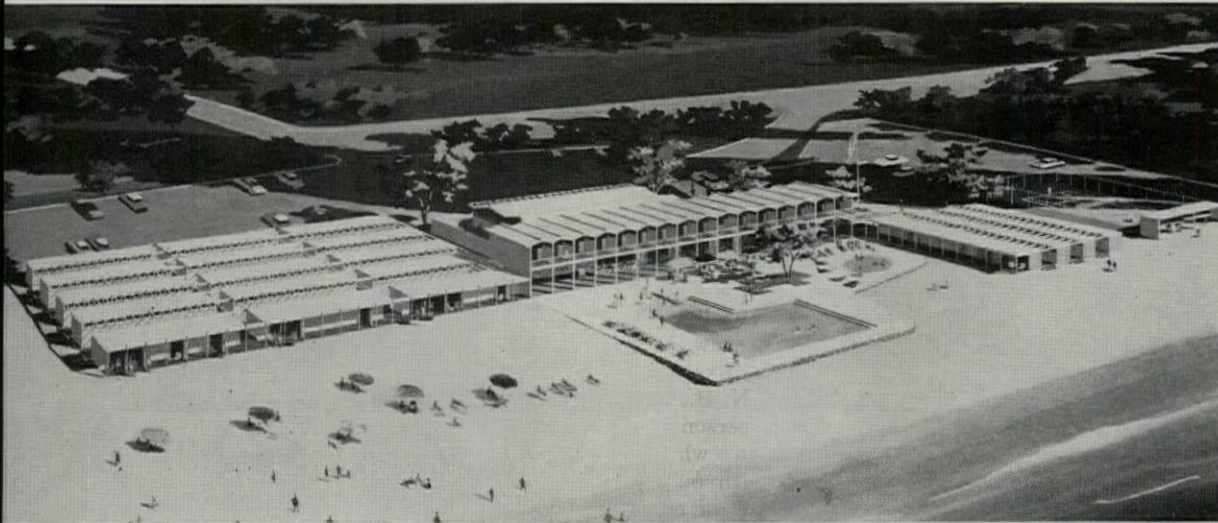






#### MILWAUKEE CONSERVATORY

Something new in conservatories will get under way in Milwaukee this summer: three concrete-and-glass bubbles (above) sheltering the County Park Commission's collection of flowers and plants. Designed by Architect Donald L. Grieb, each bubble will display plants in a different temperature. Connecting the three will be a thin-shell concrete lobby decorated with mosaics (center). A single smaller dome, not shown, will serve as a conservatory for plants in transition between the temperature zones or being readied for exhibits.

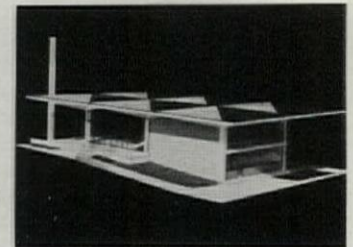


#### BEACH CLUB AND CABANAS IN CONNECTICUT

Next summer members of the Penfield Club in Fairfield, Conn. will be able to swim and sun in luxurious new quarters (above). Kramer & Kramer, New York City architects, designed the central clubhouse

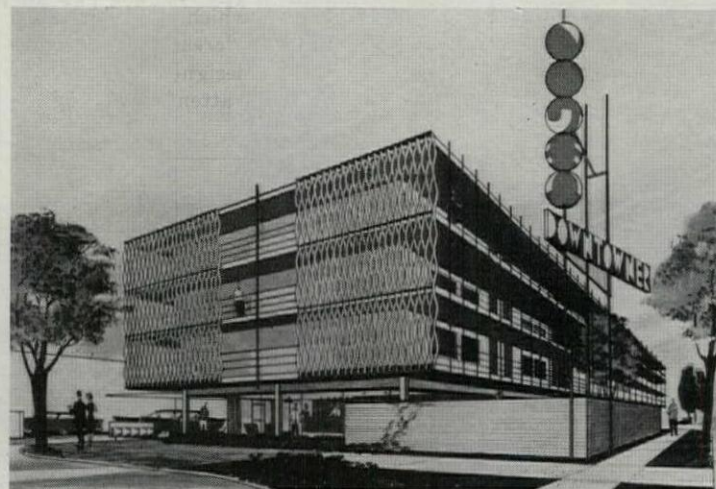
and the two flanking wings of cabanas facing Long Island Sound. In front of the clubhouse there will be a dining terrace and two pools, one for waders and another for swimmers. Inside, a dining room,

kitchen, bar, and game room will occupy the first floor; overnight rooms for members, the second floor. Each water-front cabana will have its own little porch; rows of lockers are directly behind.



#### DOWNTOWN DENVER MOTEL

Close by William Zeckendorf's Mile High Center (now called the Denver U.S. National Bank Center) and the U.S. Mint, the Fortner Brothers-Midwest Corp. is building a 65-room motel (right) designed by Architects Colbert & Lowrey & Associates of New Orleans. Called the Denver Motel de Ville (instead of the Downtowner), it will be reinforced concrete flat slab construction and is expected to cost \$300,000. Motel rooms are back-to-back over covered first-floor parking areas.



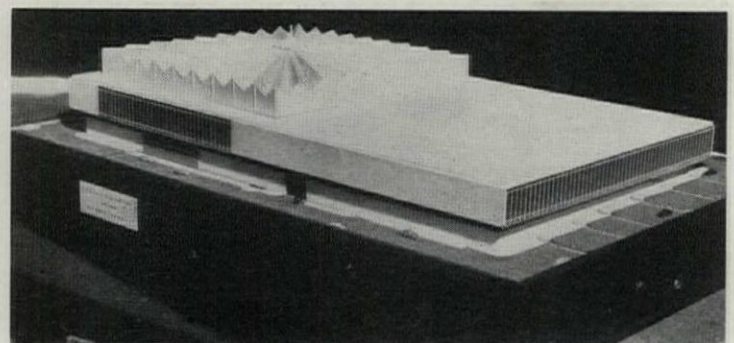
#### SHOWROOM FOR ST. LOUIS

When Architects Burks & Landberg were commissioned to design an office building for the Majestic Building Materials Corp. in St. Louis, they set out to make it a showroom for the firm's major product, concrete. Six 30 ft. square hyperbolic paraboloids form the roof and project 15 ft. around the perimeter. Cost of the formwork will be amortized by using the same form six times for the office building and once more for an open materials storage shed on the same site. Cost: \$100,000.

#### BALTIMORE'S LONG-AWAITED CIVIC CENTER

Baltimoreans have long wondered whether they would ever have a civic center. The problem was not money (voters long ago approved \$12 million in bond issues), but location. Several city parks were proposed, as well as a harbor-front

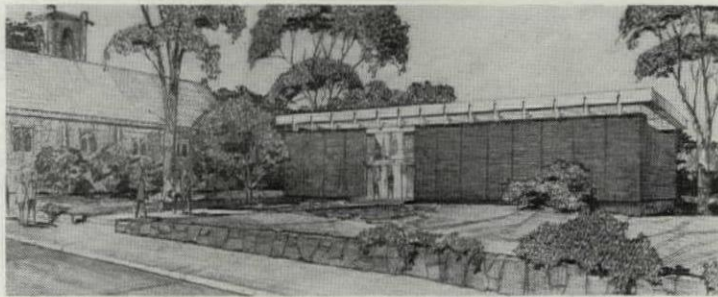
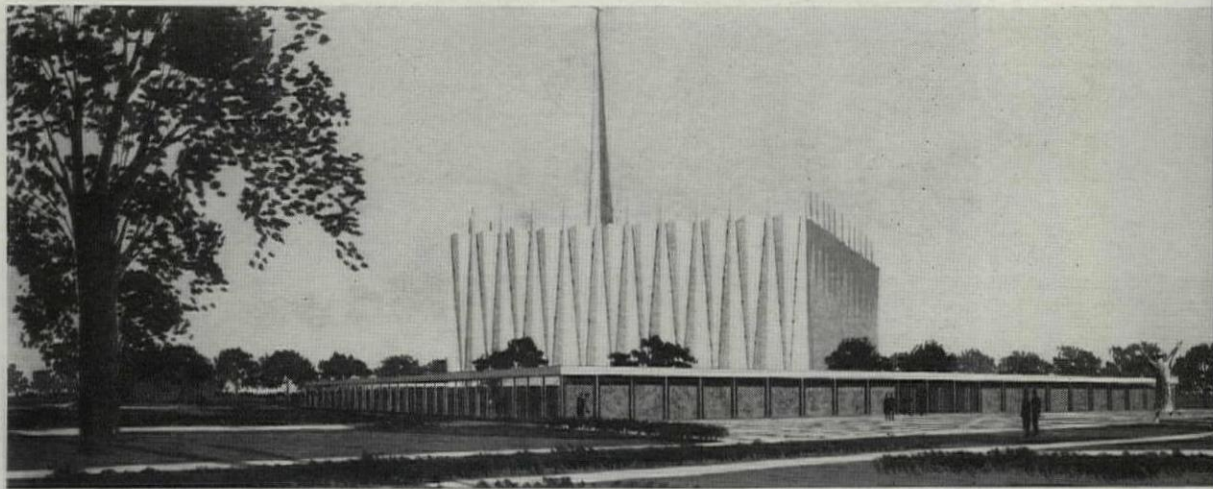
site recommended by Pietro Belluschi in 1957, but all were turned down. Now the site, adjoining Charles Center, and the design, by A. G. Odell Jr. (right), have been chosen. It will have a 13,000-seat auditorium, plus exhibit space.





## SQUARE MINNESOTA CHAPEL

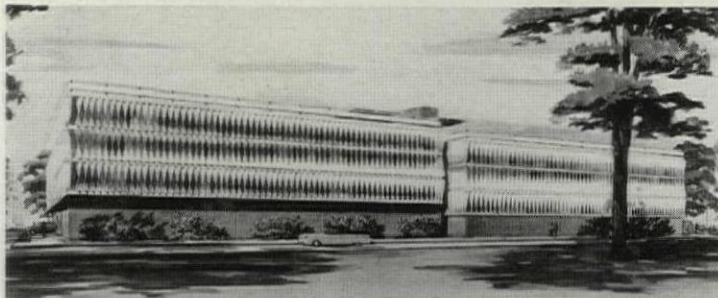
Folded reinforced concrete triangles, 50 ft. high and 8 ft. wide at the base, will form the walls of a college chapel (right) designed by Magney, Setter, Leach, Lindstrom & Erickson, Inc. Alternate triangles will be inverted, and will project 7 ft. in a series of small spires. Between triangles there will be a narrow strip of stained glass. The chapel will be built this year at Gustavus Adolphus College, St. Peter, Minn.; a one-story student religious activity building (foreground) is scheduled later.



## MUSIC BOX IN NEW HAMPSHIRE

For its new music building, Phillips Exeter Academy in Exeter, N. H., wanted a building "to personify the world of music in which the sound would turn in." With this requirement in mind, Architects Shepley, Bulfinch, Richardson & Abbott drew up plans for a brick cube (left), windowless

except for a band of glass under the roof. Rooms on both floors open on a landscaped interior court, enriched by a sculptured screen, which serves as a focal point for the whole building. Limestone cornices with dentils harmonize with Exeter's existing Georgian buildings. Cost: \$375,000.



## SCULPTURAL GRILLE ON A DETROIT GARAGE

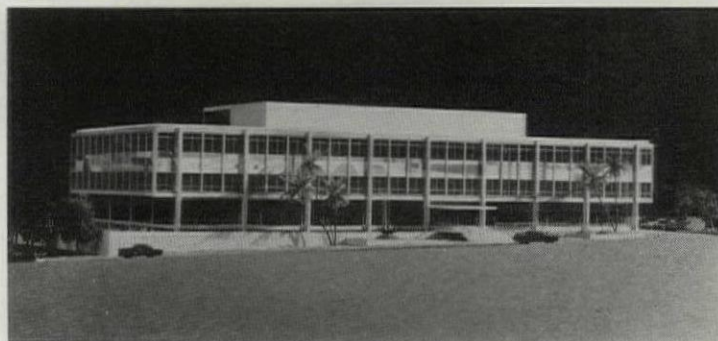
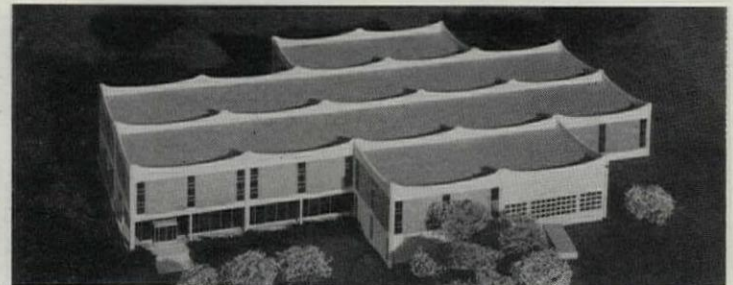
In this split-level garage for Detroit, a precast concrete grille will mask the chromium grins of 870 cars. Cars will nestle behind a screen of double-curved precast concrete panels, which the architects say will "create a sculptural surface designed to dominate the eye's attention to the ex-

clusion of what occurs behind." The new five-level garage will be in two sections bridged by a skylight over the ramps. Designed for the Henry Ford Hospital by Albert Kahn Associated Architects & Engineers, the brick-based garage will blend with the brick-and-limestone hospital.

## HANDSOME WAREHOUSE NEAR BALTIMORE

The third in a series of buildings Architect Minoru Yamasaki is designing for Parke, Davis & Co., manufacturers of pharmaceutical products, is a Baltimore branch office-warehouse (right) in Towson, Md. Yamasaki's design puts the precast concrete roof structure

outside of the building, keeping the 32,000 sq. ft. warehouse area completely free of beams. A small office area (8,000 sq. ft.) will be tucked underneath the warehouse to take advantage of the site's 20 ft. slope. Cost: \$650,000 for 40,000 sq. ft.



## WELTON BECKET'S LOS ANGELES HEADQUARTERS

The first unit of Webb & Knapp's \$400 million Century City in Los Angeles will be the new headquarters of Architect Welton Becket & Associates (left). Becket's firm will occupy three floors of the reinforced concrete and steel offices; park-

ing and rental space, the other two. Reflecting pools and fountains flank the main entrance, which will be covered by a steel canopy faced with glass mosaic tile. The site is a corner of the former Twentieth Century-Fox lot.

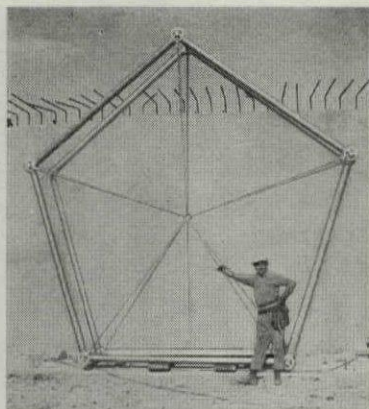
END





Owner: The American Society for Metals / General Contractor: The Gillmore-Olson Company, Cleveland, Ohio / Architect: John Terence Kelly, Cleveland, Ohio / Dome Design: Synergetics, Inc., Raleigh, North Carolina / Aluminum Materials: Kaiser Aluminum & Chemical Sales, Inc.





## THE GEODESIC DOME: BOLD NEW WAY TO SPAN BIG SPACE

The geodesic dome uses only a fraction as much material as conventional methods to enclose a given cubic area — yet it has greater resistance to hurricane winds and other natural forces.

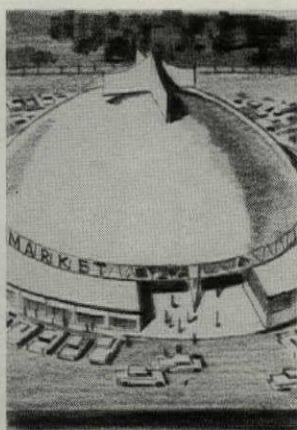
Here is a practical, low-cost way to build a structure that requires light weight, high strength, and a wide open space without a single obstruction: a soaring roof to cover both concourses and terminals of a jet-age air-travel center... an all-weather sports stadium... a covered mall for a modern shopping center.

North American's Columbus Division is experienced in the fabricating and erecting of geodesic domes. Its Architectural Metals engineers have just completed a gigantic dome for the American Society for Metals' headquarters near Cleveland. It is 103 feet high and 277 feet in diameter, and is made of aluminum pentagon and hexagon sections.

For complete information on Geodesic Domes — or on any other architectural metals applications, including Curtain Wall — please contact: North American Aviation, Inc., Columbus, Ohio.



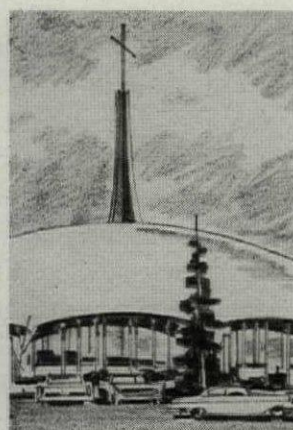
**PASSENGER TERMINALS.** Spacious, soaring beauty of the geodesic dome is in tune with the jet age.



**SHOPPING CENTERS.** Sheltered by dome, shoppers stroll through open-air bazaar all year long.



**SPORTS STADIUMS.** Rain or snow won't stop the game...spectators and players won't swelter in the sun.



**CHURCHES.** Geodesic dome allows ideal seating arrangement, unobstructed view for big congregations.

**ARCHITECTURAL METALS**

THE COLUMBUS DIVISION OF NORTH AMERICAN AVIATION, INC.

Columbus, Ohio







This dining room is quiet because the decorator baffle in the Built-In *Thinline* is engineered to absorb sound.

It also directs air upward to allow tenants of York River House complete flexibility in placing furniture.

## Operator of New York luxury apartments switches to General Electric Thinline air conditioning

"Our tenants demand air conditioning but they don't want grille-work marring the walls," says Rubin Garfinkel, partner in Kessler-Wohl Associates.

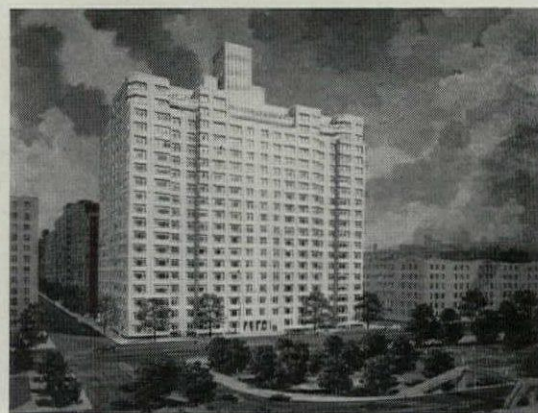
"That's why we are buying General Electric Built-In *Thinline*s—the room air conditioner with the decorator baffle." Kessler-Wohl Associates are operators of several luxury apartment buildings in New York and other Eastern cities.

"Our new building—York River House—will be air conditioned by Built-In *Thinline*s. When the baffle is painted or papered to blend with the walls, the air conditioner almost disappears.

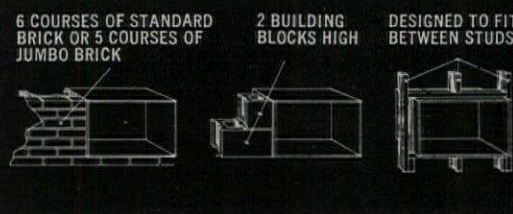
"Tenants respect the General Electric name, too. It means that our air conditioning system is reliable."

A General Electric *Thinline* air conditioning system can be tailored to any cooling and installation needs. Units are available in models of up to 16,000 BTU\* capacity. See your General Electric dealer for the full story. General Electric Company, Room Air Conditioner Department, Appliance Park, Louisville 1, Kentucky.

\*Cooling capacities are tested and rated in compliance with NEMA Standards Pub. No. CN1-1958, and are stated in terms of British Thermal Units.



Plush York River House on New York's East River is completely air conditioned by 750 General Electric Built-In *Thinline* room Air Conditioners.



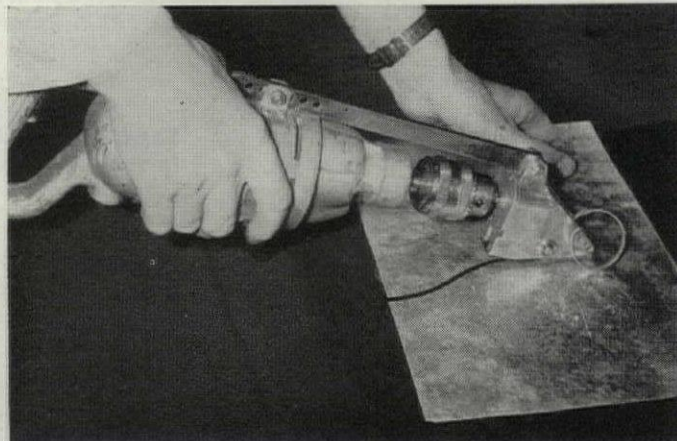
Designed for builders—the Built-In *Thinline*'s aluminum case is exactly as high as two building blocks with mortar, six courses of standard brick or five courses of jumbo brick. Case fits between studs.

*Progress Is Our Most Important Product*

**GENERAL  ELECTRIC**



## Electric shears for plastic and metal . . . "matchbox" door . . . panel sealing tape . . . tinted silicone water repellent



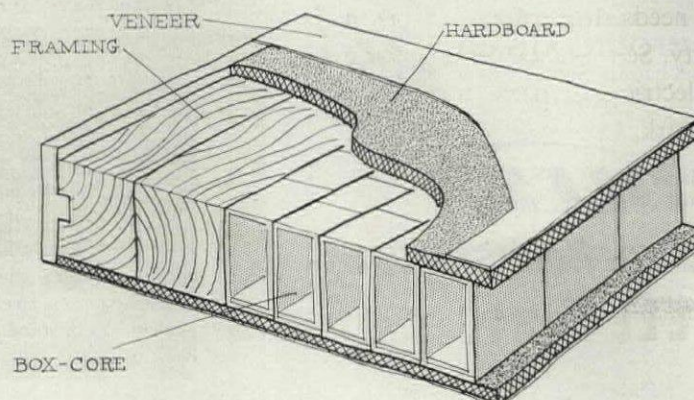
### ELECTRIC SHEARS simplify cutting of plastics and metal

A versatile cutting tool made in West Germany has been introduced to the American market in two models, one for cutting light metal and sheet iron and the other for cutting plastics, linoleum, asbestos, rubber, and fibrous materials. Each model of the *Draco Speed Shear* is easily mounted by a single bolt to an electric hand drill. The shears weigh about 1 pound and cut at a rate of 11 ft. per minute at 1,500 r.p.m. The metal cutting model costs \$32.95; the plastic cutter, \$39.95.

*U.S. distributor:* Malden Research & Development Co., Inc., 1130 Main St., Malden (Boston 48), Mass.

### SWEDISH "MATCHBOX" DOOR is covered with hardwood veneer

Hundreds of tiny birch boxes form the core of the *Swedish Star Door*, manufactured by the Jonkoping-Vulcan Co., a Swedish Match Co. subsidiary. Teak, oak, or mahogany veneer is glued over the core for a handsome exterior surface. For structural strength, the grain of the "matchboxes" is at right angles to that of the veneer. Available in several sizes, the

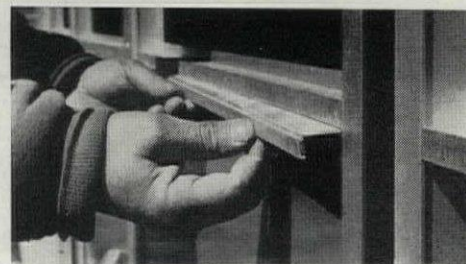


doors cost about \$30 in teak, the most expensive veneer. Interior partition panels of the same construction, with matched veneers, are also available.

*U.S. distributor:* International Marketing & Sales Associates, 505 Fifth Ave., New York 17.

### SYNTHETIC SEALING TAPE holds porcelain panels in place

To cut the time needed to install porcelain enamel panels in aluminum frames, the U.S. Rubber Co. has developed a synthetic rubber sealing tape, reinforced with nylon fibers. Use of *U-100 Sealing Tape* speeds installation by as much as 75 per cent by eliminating the usual unfastening and fastening of screws on aluminum snap beads. The tape is simply applied to the



beads, which are then snapped into place. It resists oxidizing and hardening and adheres to a variety of surfaces. Now available in black or gray in a dozen widths, from 1/4 in. to 3 in., and six thicknesses, from 1/32 in. to 3/16 in., the new tape

*continued on page 60*



## AT SIOUX FALLS MODERN STADIUM



Howard Wood Memorial Field,  
Sioux Falls. Architect: Harold  
Spitznagel & Associates.

## *Multi-Person* BRADLEY SHOWERS PROVIDE ECONOMICAL BATHING FACILITIES

At this well-planned memorial field used by two colleges and two high schools, every possible need was anticipated. The service building includes modern Bradley Shower-equipped dressing rooms for visiting and home teams.

The 5 Bradley Shower Columns each serve five persons—a total of 25 simultaneously and each bather has individual control of water temperature and volume.

Bradley Multi-Person Showers come to you partially assembled for quick, economical installation. Since *one* set of piping connections suffices for each *five* person Shower, another big saving is made.

Thousands of Bradley Showers are in daily use in schools, recreation and institutional fields alone. For details and specifications write for Catalog 5601.

BRADLEY WASHFOUNTAIN CO.  
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The same Column can be supplied with partitions and curtains making separate stalls.

**BRADLEY**  
*multi-person showers*  
Distributed Through Plumbing Wholesalers



may also be ordered in quantity in other thicknesses and widths. Typical prices: 1/32 in. thick, 1 in. wide gray tape, 0.0253¢ a foot in lengths of 1,000 to 9,000 ft. An order of 160,000 ft. or more costs 0.0215¢ a foot.

Manufacturer: Mechanical Goods Division, U.S. Rubber Co., 1230 Avenue of the Americas, New York 20.

## ELECTRIC HEATING UNIT is mounted on baseboard or wall

The electric heating unit shown below is designed to fit inconspicuously into any room. It is framed in aluminum and faced with a phenolic laminate (such as Formica, Micarta, or Textolite) in a choice



of four finishes, or it may be painted to match the room. Called *Sun-Tron*, the panel provides half radiant heat and half convection heat for maximum comfort and is available in six sizes and five wattages. Several units may be linked together to form a continuous baseboard, or they may be mounted separately under windows. Two other models are designed to be mounted on the ceiling. Prices range from \$47.95 to \$99.95.

Manufacturer: Sun-Tron Corp., 7435 W. Wilson Ave., Chicago 31.

## PREFAB SERVICE STATIONS offered in two models and any color

Noted mainly for shipbuilding, Avondale Marine Ways, Inc. has turned to produc-



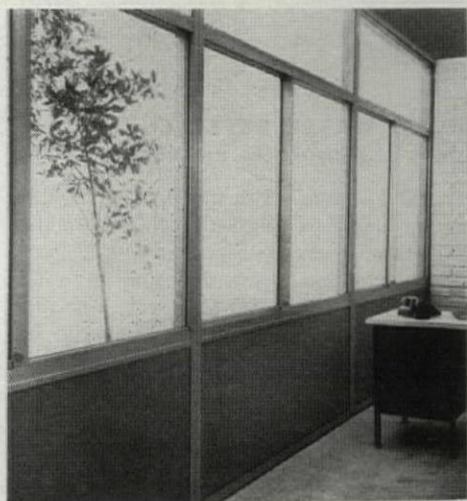


ing prefabricated service stations in two basic models. The smaller model is designed to shelter the sale of gasoline, oil, and automotive accessories on highways; the larger model adds washing and lubricating bays to the core selling area. Panels are porcelain enamel on steel, colored to any specification. Single unit prices are \$4,400 to \$5,000 for the small model; \$8,500 and up for the two-bay station, both prices depending on location.

*Manufacturer:* Avoncraft Division of Avondale Marine Ways, Inc., P. O. Box 1030, New Orleans 8.

#### **PREFAB SLIDING WINDOW WALL accommodates standard wall panels**

To achieve a custom look with standard units, Arcadia Metal Products has engineered an aluminum framing system that will accommodate panels and fixed or sliding windows in several combinations. Standard window units and wall panels are factory assembled in the aluminum frames and installed as complete walls on the site. Arcadia does not manufacture wall panels, but its frames and hardware can accommodate spandrel and transom



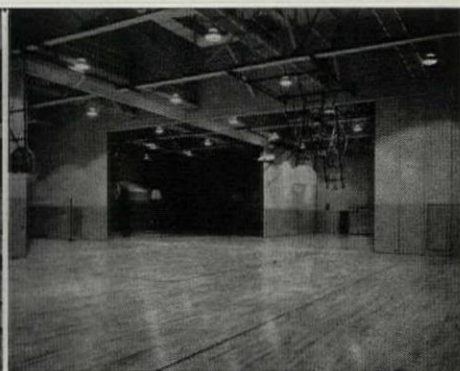
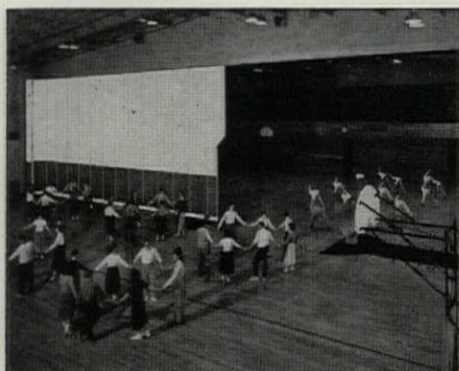
panels of various sizes and types. The sliding windows can be opened, closed, or locked by manipulating a two-stage knob.

*Manufacturer:* Arcadia Metal Products, 801 S. Acacia Ave., Fullerton, Calif.

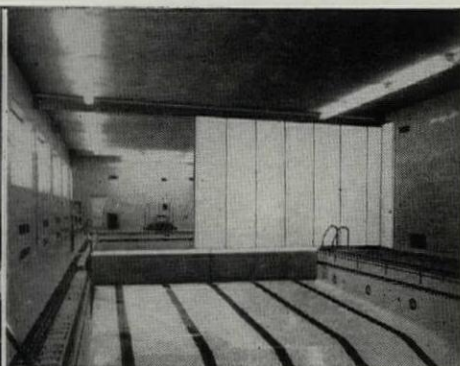
#### **IMPORTED TERRA-COTTA TILES designed for screens and floors**

Two handsome lines of handmade tiles are being imported from France to add color and texture to sun screens and floors. The large, hollow terra-cotta shapes—squares, rectangles, rosettes, and circles—may be assembled in a wide variety of interesting screen patterns (see photos, page 62). The smaller tiles, available in natural terra cotta and in glazed color, are suitable for floors and pools. The latter come in many shapes and sizes, and may be used all-of-a-kind or in combination with each

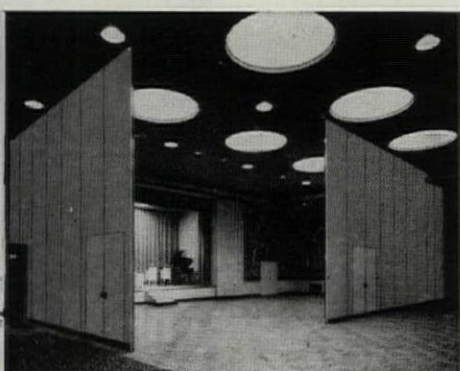
*continued on page 62*



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## **meet your specific requirements**



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Write today for your free copy of one or all of the following new R-W Folding Partition Catalogs:

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Whether in new construction or the remodeling of present facilities, today's high construction costs make it imperative that the maximum use of all available floor area be achieved. Flexibility provides the answer to this problem . . . and, flexibility is best accomplished through the use of top-quality, sound-retarding R-W Folding Partitions. R-W Folding Partitions effectively divide wide open areas to meet the needs of various size groups and eliminate sound-interference from one area to another. R-W Folding Partitions are available in a type and size to effectively meet almost any conceivable situation . . . manually or electrically operated . . . may be finished to meet your exact decorating scheme . . . quality constructed to provide years of dependable trouble-free service. Take advantage of R-W's free consultation service . . . write today for complete information.

**NOTE** . . . R-W also manufactures a complete line of top-quality Wardrobes for schools, churches and institutions. Write today for complete information.



## **Richards-Wilcox**

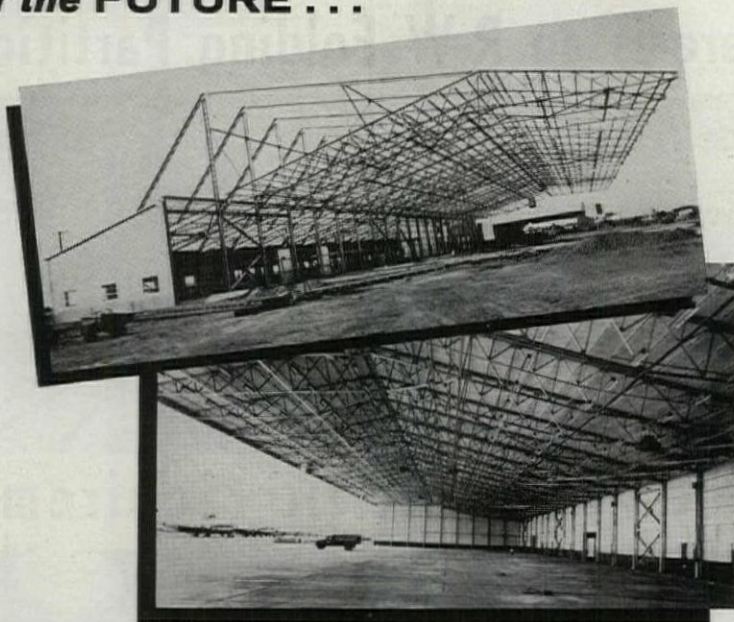
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ERWIN-NEWMAN hangars are built with an expandable future in mind. The length can be enlarged and still have clear span space up to several hundred or several thousand feet. Vertical clearance can be increased, in the future, by adding tail gates at any number of points across the front.

Our years of experience in design and construction make it imperative you consult with us when you plan a hangar of any size (no obligation of course).



P. O. BOX 1308

DESIGNERS AND CONSTRUCTORS  
U. S. Patent No. 2,687,102

HOUSTON, TEXAS

## Due to certain patent infringements it is necessary to publish this IMPORTANT PATENT NOTICE

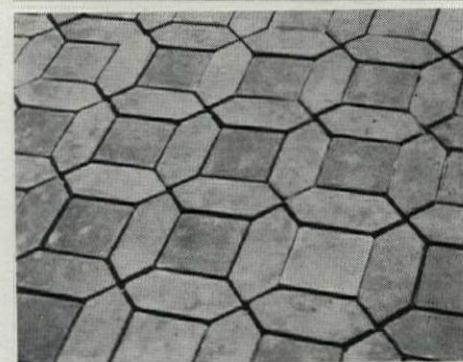
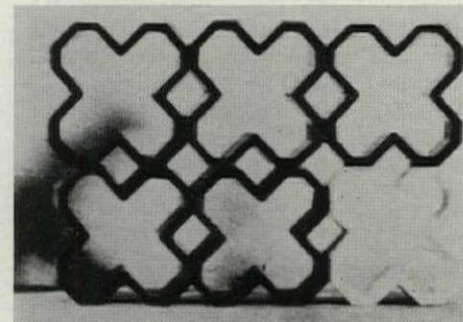
The Erwin-Newman Suspended Cantilever Hangars are covered by United States Patent No. 2,687,102, and similar foreign patents issued to us and under which we hold exclusive rights. We have not (at this writing) issued any licenses of other authorization for the design, engineering, construction or use of these patented hangars. The Erwin-Newman Company must and will, protect its rights under these patents against infringements.

## Products

cont'd

other. Largest of the sun-screen tiles, 1 ft. square and  $\frac{3}{4}$  in. deep, costs \$2.62 per unit. The small floor tiles cost about \$2 per sq. ft.

U.S. distributor: Three Centuries, 202 E. 56th St., New York 22.



## TINTED WATER REPELLENT colors and protects masonry

General Electric's Silicone Products Dept. has developed a pigment which can be added to any silicone-based water repellent to give one-coat protection and color to any kind of masonry. However, GE recommends that applications to brick be brushed on, to avoid coloring the mortar, and then sprayed with an additional clear coat. For example, *Dri-Film® 103* silicone water repellent has proved effective in restoring the original color to sandblasted brick in an application by the Clement Co. to the Dairylea milk building in North Troy, N.Y. (see photos). The pigment-in-solvent is available in five colors and costs  $\frac{1}{4}$  to  $\frac{1}{2}$ ¢ per sq. ft. more than the clear coating.

Manufacturer of pigment: Silicone Products Dept., General Electric, Waterford, N.Y. END







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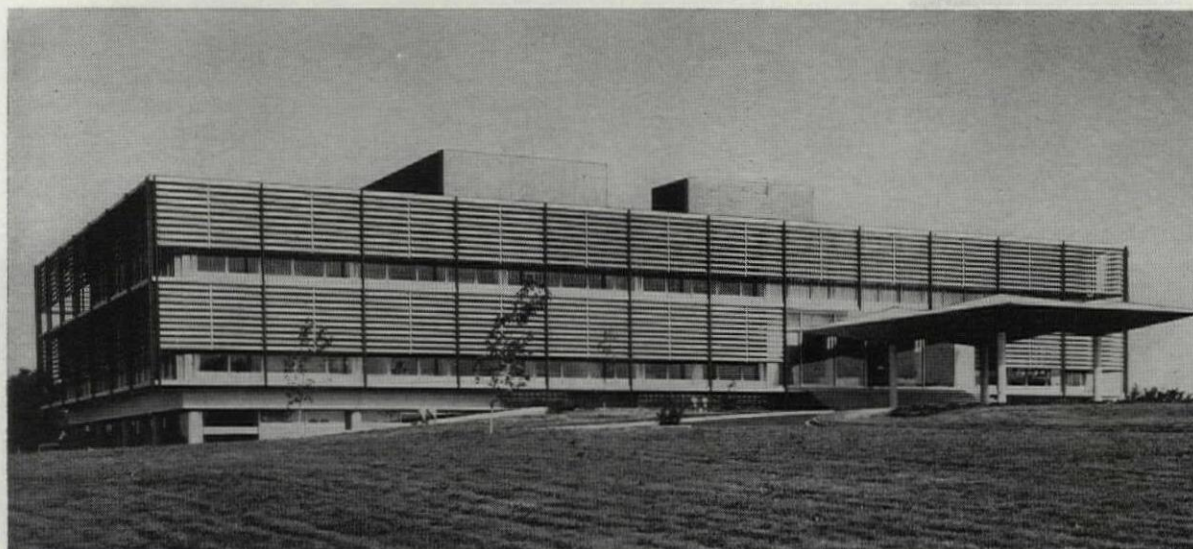


Photo: Missouri Public  
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Construction Company.  
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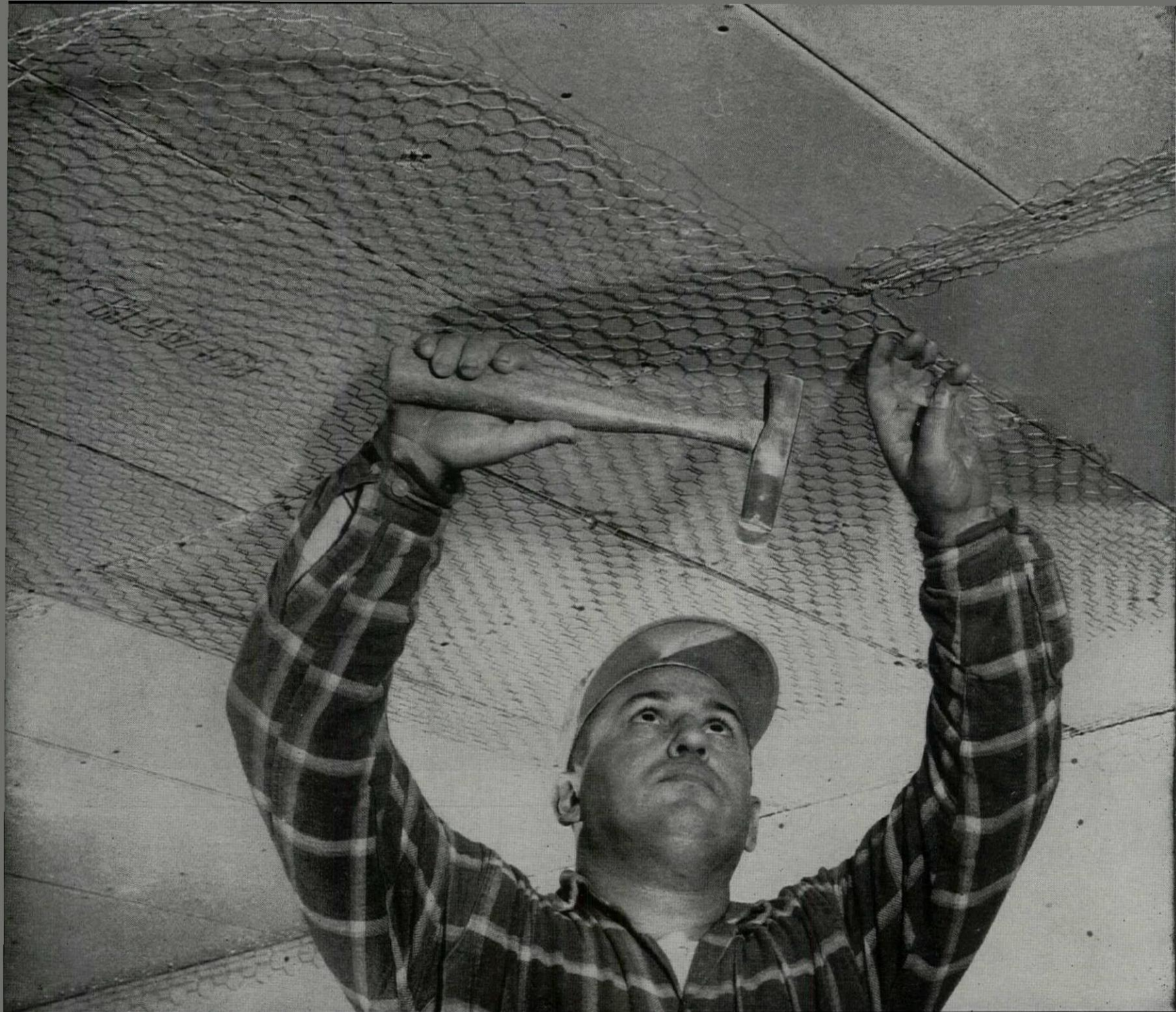
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"I searched for years for a better lathing system. I tested and rejected any number of systems and reinforcements," Eby points out. "Now after three years of using this new lathing system with Keymesh and Keycorner, I know I'm right.

"Here's another fact that may surprise you. Builders

are switching back to lath and plaster for one big reason—savings. New application systems and modern colored plaster add up to a low-cost buy. You save the costs of paint and painting. Above this, lower maintenance costs and increased fire safety make lath and plaster a top value.

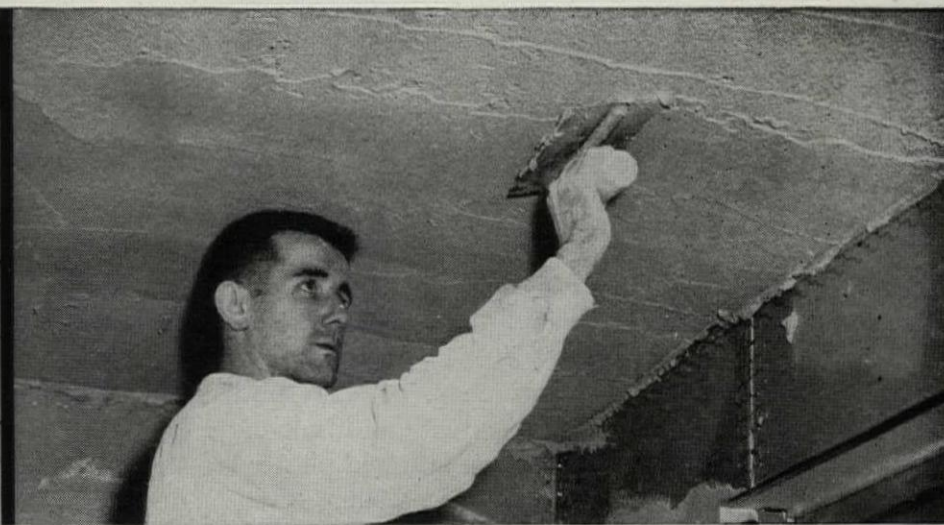
"Absolutely no ceiling cracks with this lathing system. You get added life from plaster. Upkeep costs are slashed. Yet Keymesh and Keycorner let me hold costs in line."

\* \* \*

*It will pay you to learn all the facts about the Eby system of lathing with Keymesh and Keycorner and why he can make this guarantee of a crack-free ceiling.*



Eby (left) inspects application of Keycorner, used to reinforce joints. Keycorner is also used at all wall and corner junctures.



Plaster is applied over reinforced ceiling. The open mesh of both Keymesh and Keycorner assures imbedment in plaster. The open mesh also insures full bond of plaster with gypsum lath.

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# Now! You can use Armstrong Acoustical Fire-Guard for a wide range of time-design requirements

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And new Acoustical Fire-Guard allows you to cut down on  
building costs without sacrificing rated fire protection

New Armstrong Acoustical Fire-Guard offers the advantages of an acoustical tile ceiling *and* rated fire protection at a lower cost than that of comparable competitive methods. You can now specify Acoustical Fire-Guard for a wide range of time-design requirements in incombustible construction. In areas where building codes are most rigid—and three- or four-hour floor-ceiling assemblies are required—specify the Armstrong Acoustical Fire-Guard ceiling system with a *four-hour* time-design rating. Where building codes require only a one- or two-hour rating, it will be more economical to specify the *two-hour*-rated Acoustical Fire-Guard system.

#### **Here's why Armstrong Acoustical Fire-Guard ceilings are more economical**

They eliminate the need for costly intermediate fire protection. Previously, it was necessary to (1) utilize reinforced concrete construction, or (2) spray steel structural members with an insulating material, or (3) suspend a lath and plaster fire stop to which the acoustical ceiling could be applied.

#### **Saves construction time**

Armstrong Acoustical Fire-Guard is installed

by a completely dry method. There are no costly delays of the kind that can occur because of "wet" operations. No extra moisture is introduced into the building to delay finishing operations.

#### **Here's what Underwriters' Laboratories, Inc., reported**

Underwriters' Laboratories, Inc., in its Retardant Report #4177-2, stated that the floor-ceiling assembly utilizing  $\frac{3}{4}$ " Acoustical Fire-Guard had been tested and given a *four-hour* rating. Report #4177-3 stated that the floor-ceiling assembly utilizing  $\frac{5}{8}$ " Acoustical Fire-Guard had been tested and given a *two-hour* rating.

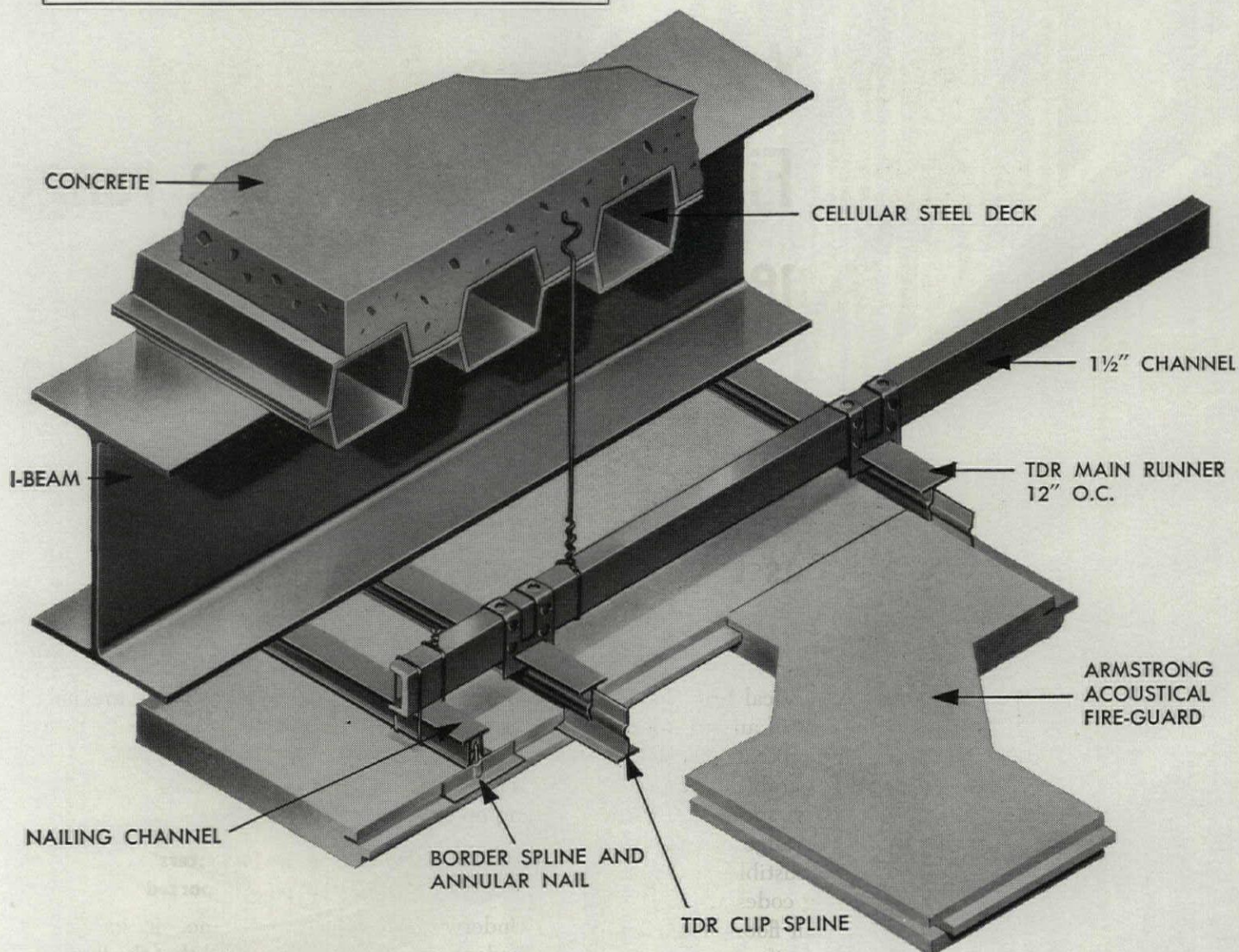
#### **Acoustically efficient**

The noise-reduction coefficient for both the  $\frac{3}{4}$ " and  $\frac{5}{8}$ " Acoustical Fire-Guard ceilings is .70 (A.M.A. rating). This acoustical efficiency is built in at the factory.

For more information and specific cost data, consult your Armstrong Acoustical Contractor. Or, call your Armstrong representative or write to Armstrong Cork Company, 4207 Rooney Street, Lancaster, Pennsylvania.



## THE FOUR-HOUR-RATED ASSEMBLY



### A partial list of buildings for which Armstrong Acoustical Fire-Guard has been chosen

**Robin-Mickle Junior High School**  
Lincoln, Nebraska  
Unthank & Unthank, Architects

**Roxborough High School**  
Philadelphia, Pennsylvania  
Heacock & Platt, Architects

**Aged Women's and  
Aged Men's Home**  
Towson, Maryland  
The Office of James R.  
Edmunds, Jr., Architect

**Westbrook Junior High School**  
Omaha, Nebraska  
Leo A. Daly Co., Architects

**St. Marks Methodist Church**  
Raleigh, North Carolina  
William Moore Weber, Architect

**St. Joseph's Seminary Dormitory**  
Adrian, Michigan  
Barry & Kay (Chicago), Architects

**Cherry Hill Inn**  
Delaware Township, New Jersey  
George M. Ewing Co., Architects

**St. Louis Hills Medical Building**  
St. Louis, Missouri  
Robert Graham, Architect

**Immaculate Conception Parish School**  
Corsicana, Texas  
Harper & Kemp (Dallas), Architects

**Most Holy Rosary School**  
Syracuse, New York  
Pederson, Hueber & Hares, Architect

# Armstrong ACOUSTICAL CEILINGS





SIENA HIGH SCHOOL, Chicago, Illinois

BELLI & BELL, architects, Chicago

## DOORS *disciplined*

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Entrance, vestibule, auditorium, office, library, classroom and toilet room doors—all reflect exemplary behavior under the consistently gentle—but firm—control of invisible RIXSON door closers.

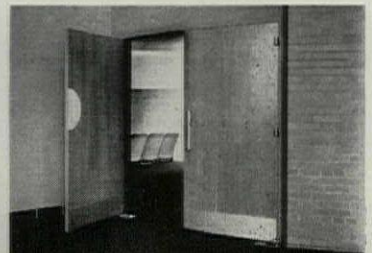
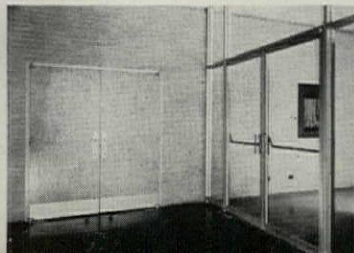
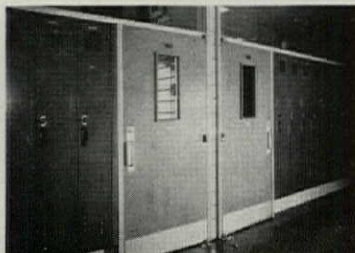
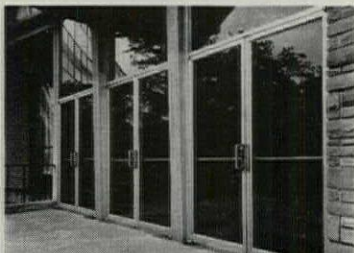
The concealment of RIXSON floor type closers, *specified throughout*, leaves every door free and unencumbered to fulfill its individual design function.

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Ri

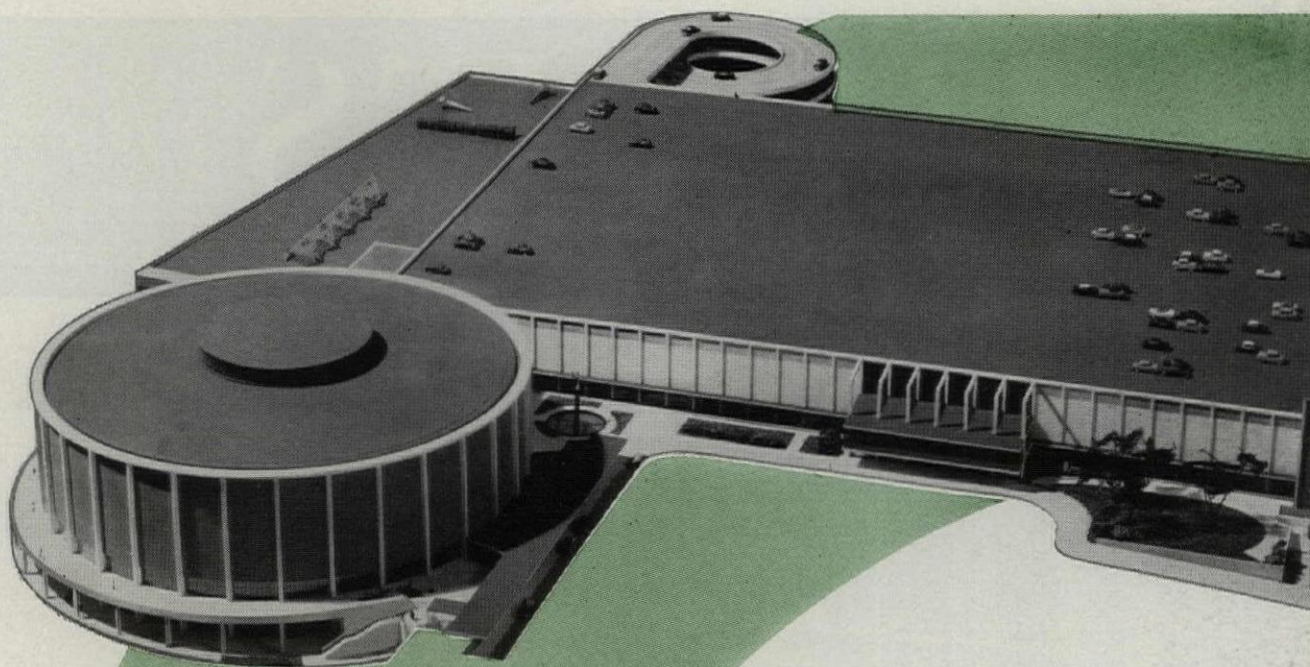
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CANADIAN PLANT: 43 Racine Rd. (Rexdale P. O.), Toronto







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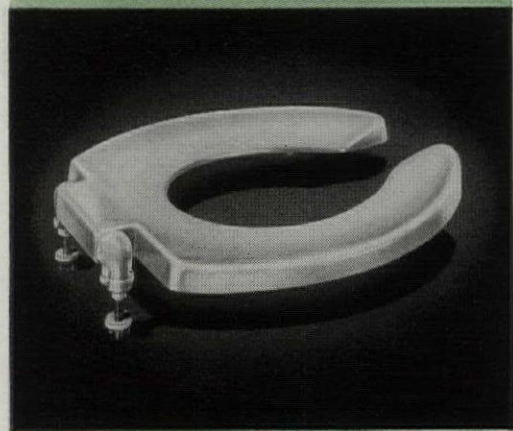
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<i>General Contractor</i>	O. W. Burke Co.
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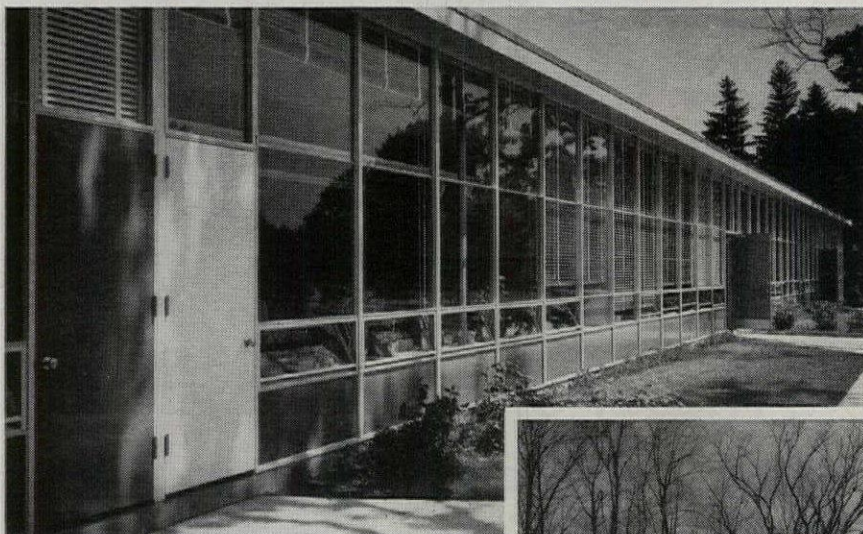


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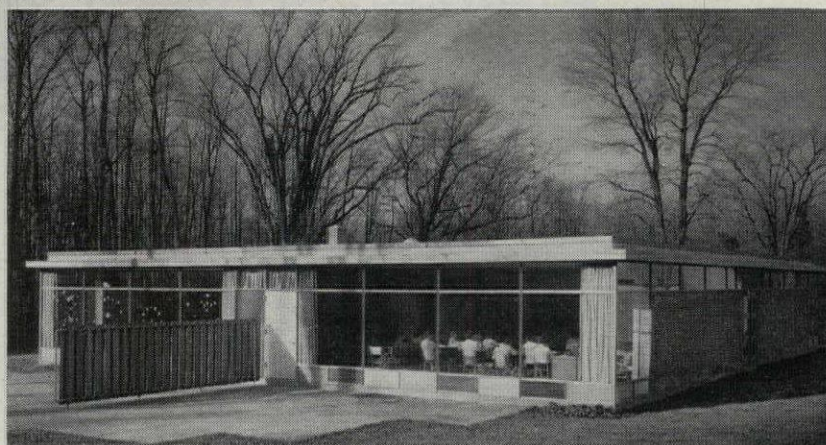
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*At right: Wilbert Snow  
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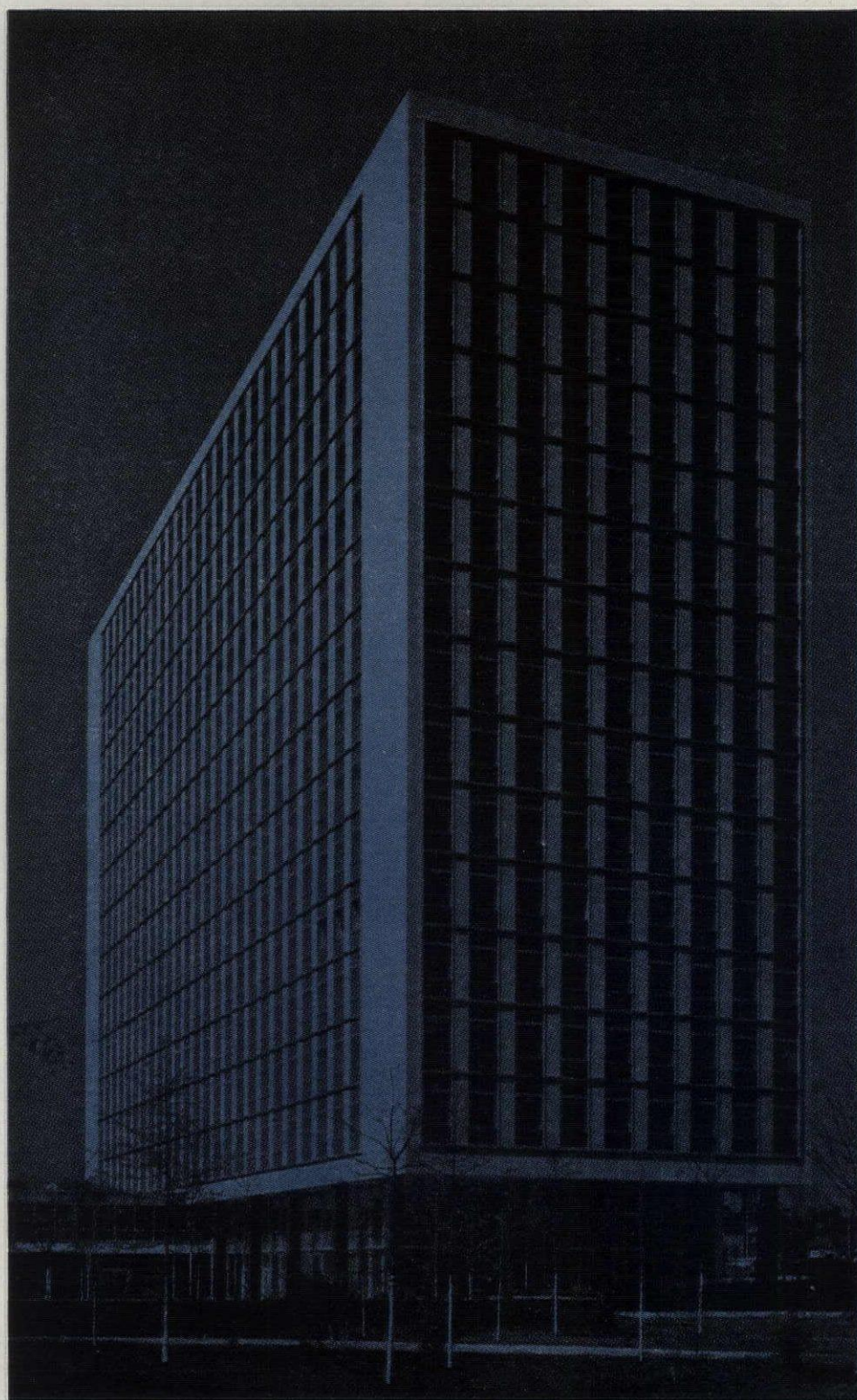
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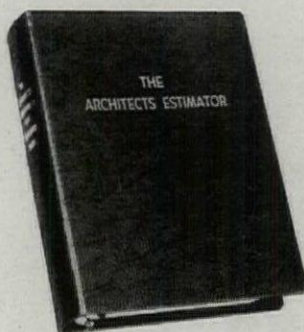
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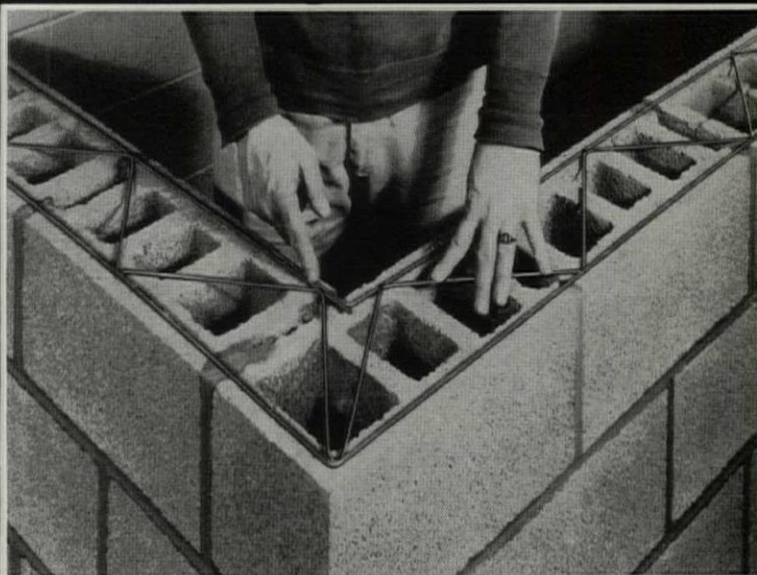


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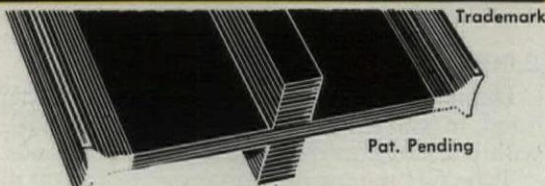


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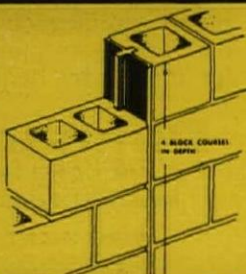


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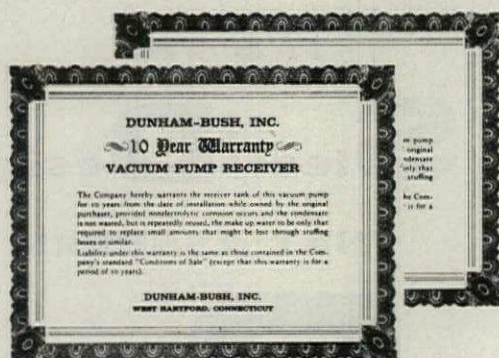
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# Dunham-Bush Issues 10 Year Pump Receiver Warranties — Reaffirms Continuance of Quality Product Lines

Recognizing a general industry trend to put price in a paramount position and inherent dangers of quality control in such a concept, Dunham-Bush has taken this step.

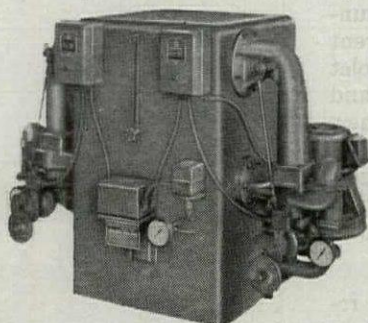


Pioneering in the interests of specifier, installer and owner, Dunham-Bush has issued a ten year warranty on their vacuum pump and condensate pump receivers. This warranty is a clear cut expression of the manufacturer's confidence in their product performance and willingness to back up this expression of confidence with a written warranty.

The Dunham-Bush ten year warranty reads as follows: "The Company hereby warrants the receiver tank of this vacuum (condensate) pump for ten years from the date of installation while owned by the original purchaser, provided nonelectrolytic corrosion occurs and the condensate is not wasted, but is repeatedly reused, the make-up water to be only that required to replace small amounts that might be lost through stuffing boxes or similar.

Liability under this warranty is the same as those contained in the Company's standard 'Condition of Sale' (except that this warranty is for a period of ten years)."

Attesting to an integrity of manufacturing that has guided the Dunham-Bush product lines since 1903, this latest step insures continued quality with today's modern production and pricing methods.



The Dunham-Bush vacuum and condensate pumps with copper bearing steel receivers, offer many outstanding features for dependable and economical operation.

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Type VR, Model C2. Single Unit. 2500 through 20,000 EDR.

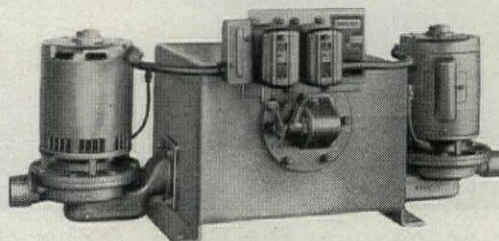
Type VRD, Model C2. Duplex Unit. 2500 through 20,000 EDR.

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Type VRD, Model B2. Duplex Unit. 25,000 through 65,000 EDR.

## How Simple Two Cycle Operation Works

One simple moving element—the pump impeller—(1) forces water through the exhauster, creating a vacuum for constant circulation of steam, vapor and condensate through the heating system piping, and (2) creates a positive pressure for delivering condensate to the low pressure boiler.



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Dunham-Bush pumps efficiently handle hot condensate at above normal rates assuring dependable operation under all conditions. Efficiency and capacity are not dependent on close tolerance of parts. This means continuous, trouble-free operation. On all duplex pumps, automatic stand-by service is standard. Fuel is saved by returning hot condensate to boilers rather than wasting to sewers. This reduces amount of make-up water and minimizes difficulties from boiler incrustation and system corrosion.

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Dunham-Bush Type CHV pumps are manufactured in capacities of 2,000 through 20,000 EDR with discharge pressures at 15 and 20 pounds.

Type CH pumps provide capacities 2,000 through 50,000 EDR with discharge pressures from 10 through 70 pounds and are designed for heavy-duty applications.

## Product Data Available

File 1401 B gives complete Dunham-Bush vacuum pump specifications and data. Form 1403 details the condensate pumps. Sample Warranty available for inspection. Request direct from manufacturer.

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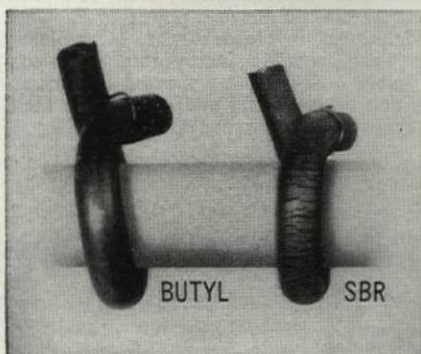
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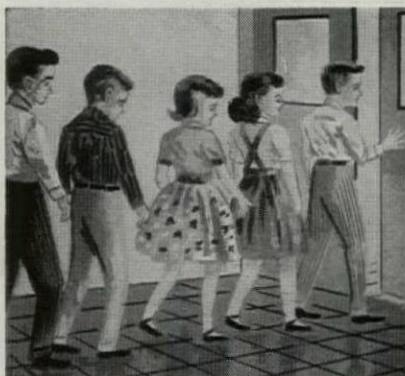
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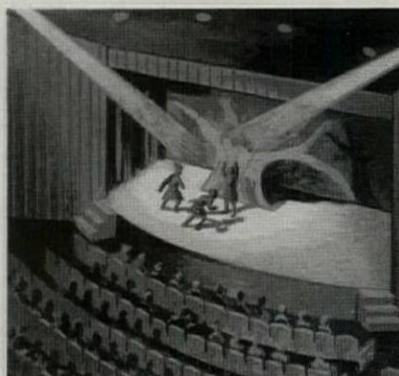
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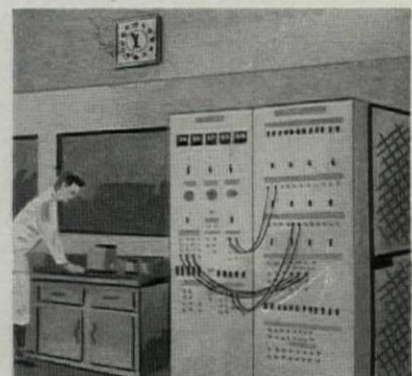
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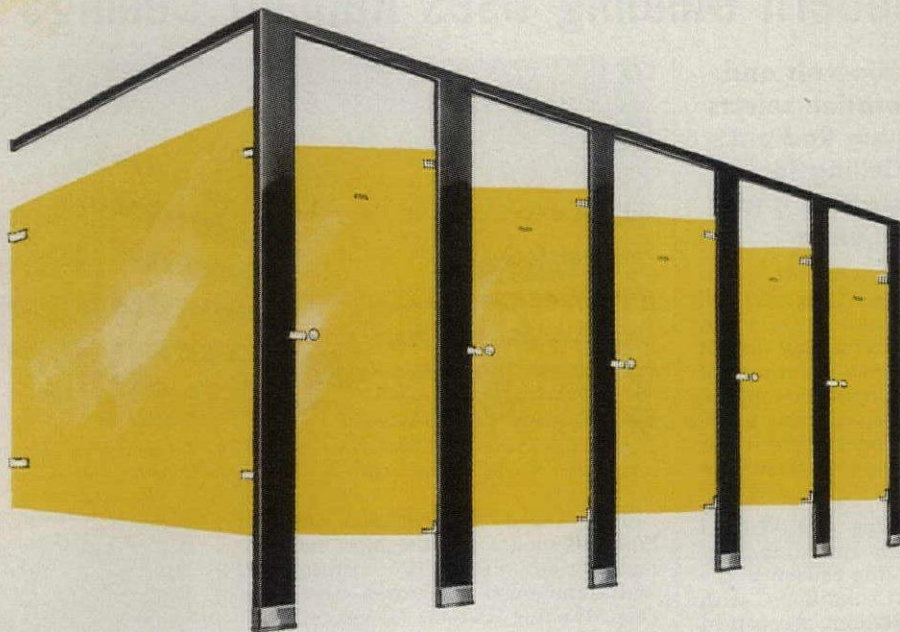


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# Radiant Ceiling News

With Burgess-Manning Ceilings — Your Building Is Better — Your Building Budget No Bigger

## Modern Building Uses Radiant Ceilings...

### International Minerals and Chemical Corporation selects Burgess-Manning Radiant Acoustical Ceiling for new Administrative and Research Center

The group of buildings recently occupied by International Minerals and Chemical Corp. in Skokie, Illinois represents 15 years of careful planning. It consists of six connected buildings, of modern design and construction, located on a broad plaza adjoining a forest preserve and is one of the show places of this Northwest Chicago suburban industrial area.

Designed by Perkins and Will of Chicago, for maximum employee comfort as well as operating efficiency, the buildings are comfort conditioned with Burgess-Manning Radiant Acoustical Ceilings. Utilizing radiant energy from the ceiling for heating purposes, all convection type radiators are eliminated from the curtain perimeter walls.

This radiant energy heating provides uniform room temperatures from floor to ceiling. Virtually instant response to changing outdoor conditions is another of the advantageous features of Burgess-Manning Radiant Acoustical Ceiling as used at this installation.

In the summer, cool water is circulated through the ceiling coils, causing the cooled aluminum ceiling panels to absorb 40% to 50% of the sensible heat and helping maintain comfortable room conditions. Water temperatures, during the cooling cycle, are kept above the dew point to avoid condensation.

With the elimination of radiators, base board convectors, etc., maximum usable floor space is obtained, and, since the entire radiant ceiling, including suspension grid, coil and acoustic insulation, is only a little over 3 inches in depth, a substantial saving in building height can be effected.

It is quite appropriate that this care-



New administrative and research center of the International Minerals and Chemical Corporation at Skokie, Illinois, built by the Turner Construction Co. of New York.

fully planned, modern and efficient building should use the most modern and efficient method for institutional and commercial structures—the Burgess-Manning Radiant Acoustical Ceiling.

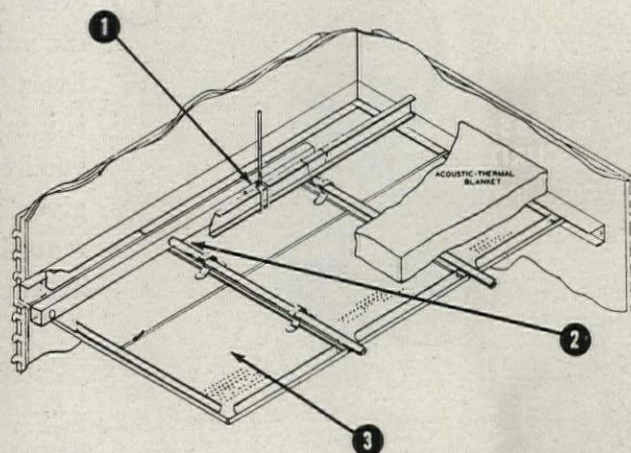
### Basically Simple Construction of Burgess-Manning Radiant Acoustical Ceiling

This isometric drawing illustrates the compact assembly of the four primary parts of the ceiling and the relatively simple, easily erected construction.



A typical view showing the Burgess-Manning Radiant Acoustical Ceiling installed in a general office area.

A standard 1½" channel suspension grid (1), supports the water circulating coil (2), made from pre-fabricated headers to which ½" laterals are welded. The perforated aluminum panels (3), are fastened directly to the coil. These panels are finished in easily maintained baked enamel. A sound absorbing blanket is laid over the channel grid. The whole assembly is only a space-conserving, 3½" in depth.



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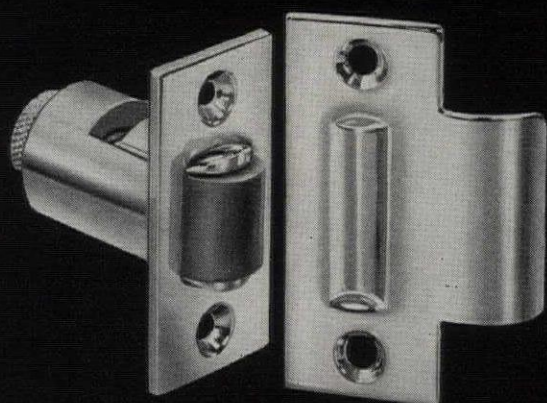
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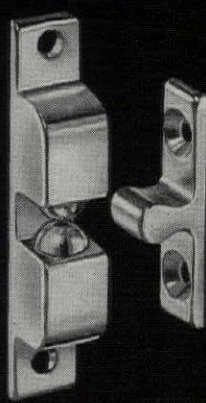


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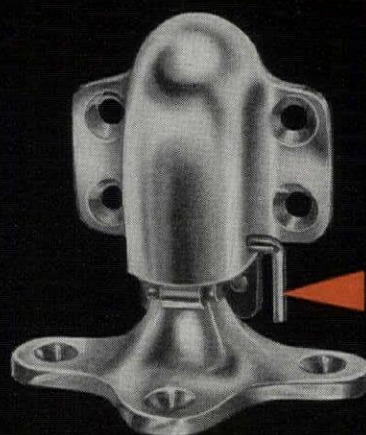
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**GJ 235 . GJ 245**

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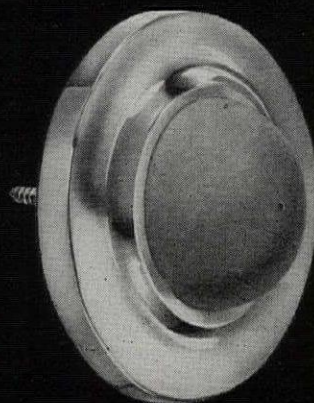
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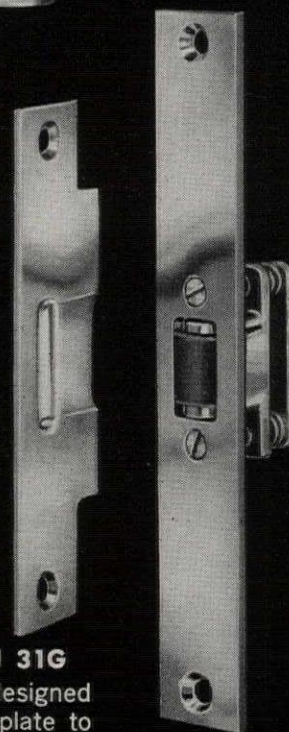
**GJ 555 .  
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- 4 — A reduction of \$462 per season in cooling costs — for electrical energy and maintenance of equipment.

And these direct savings are in addition to the benefits of better condensation control, and increased comfort for the occupants.

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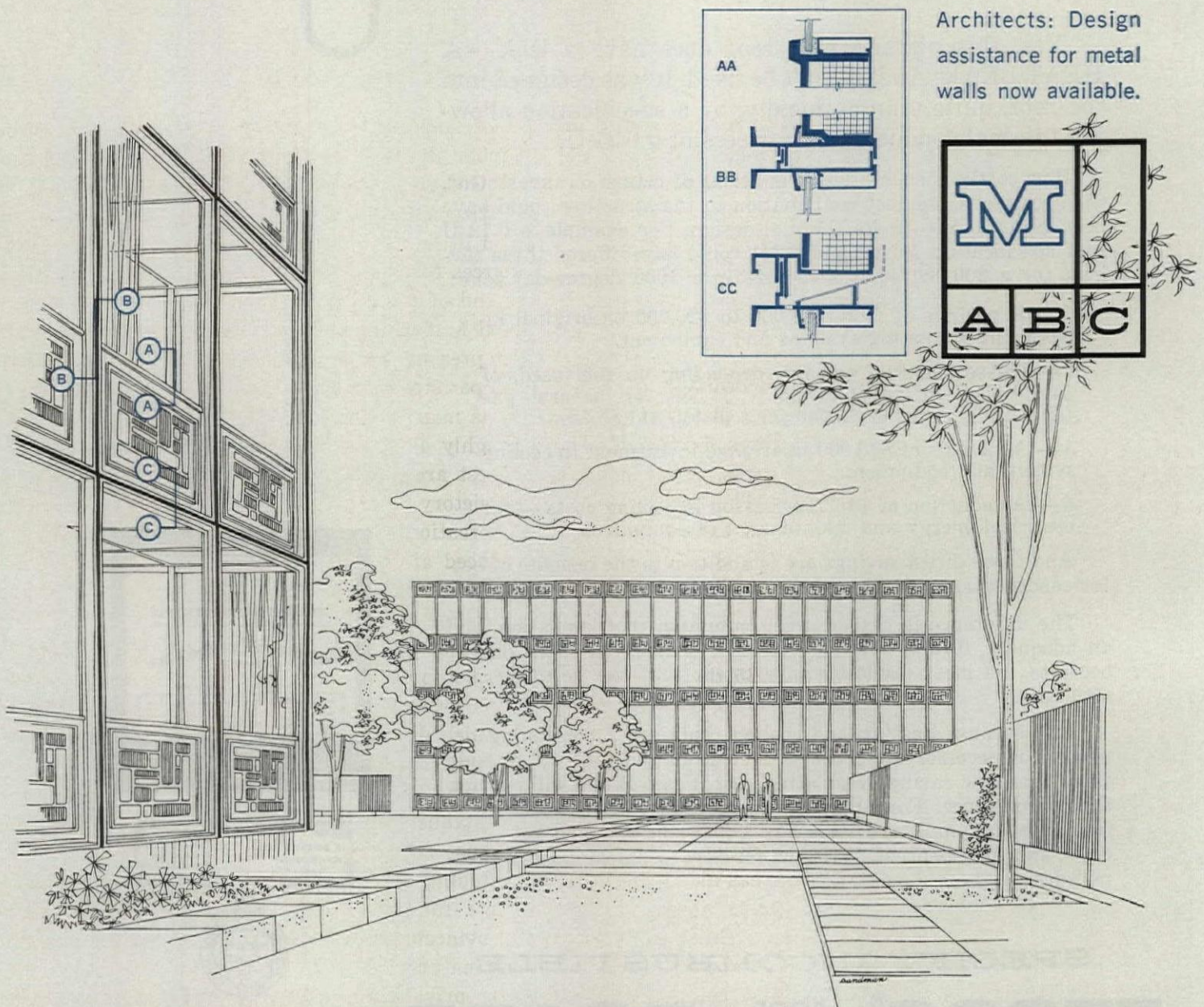
Developers and producers of incombustible mineral products including Ebbstone Acoustical Tile, Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Mica Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.



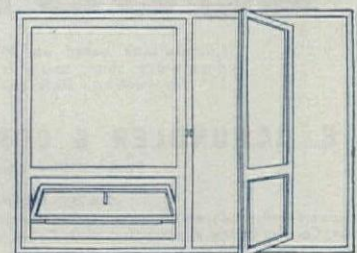


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## Editorial

# Saving the shore line

To an increasing number of Americans beginning to feel the population pinch of the city and suburbia, the most precious of all pieces of architecture is becoming a plot of God-given, unreconstructed open space, left as nature shaped it. These citizens, now suffering the heat of summer in metropolitan areas, will find little refreshment in predictions of the Ford-Foundation-endowed Resources for the Future, Inc.: the situation is going to get a lot worse. By the end of the century, when twice as many people will be trying to enjoy about half again as much leisure time as they have now, on about double their present income and travel budget, Americans, according to RFF, will need perhaps four times the number of in-city parks and playgrounds, 16 times as many regional parks and lakes close enough for a day's outing, and roughly 40 times the amount of land in national parks, scenic spots, and forest areas now being badly overtrampled.

The latest chance for a victory in the long, painful battle to preserve and expand the nation's recreation areas comes in the form of a Senate bill, S 2010, recently introduced at the request of the Department of the Interior, "To preserve, for the public use and benefit, a portion of the remaining undeveloped shore-line area of the U.S." This is not the first time, of course, that the voices of the wilderness have been heard. Back in 1935 the National Park Service proposed the creation of 12 national seashores. The only result is visible on Cape Hatteras; the other 11 national shore lines have largely vanished under the more pressing demands of private development and commercial exploitation.

In an early, optimistic version, the Park Service's new bill would have authorized \$70 million to establish ten new national seashores, and an additional \$30 million to assist states (on a fifty-fifty basis) to acquire areas along their coasts, including the Great Lakes. The proposed national areas and maximum acreage for each: Cape Cod, Mass., 30,000 acres stretching 40 miles from Provincetown to Nauset Beach (the last magnificent ocean beach left in its natural state in the crowded Northeast, and fast being nibbled away by private interests); Cumberland Island, Ga., 25,000 acres; Padre Island, Tex., 60,000 acres; San Miguel and others of the Channel Islands north of Los Angeles, 76,000 acres; Point Reyes above San Francisco, 28,000 acres; the Oregon Dunes and Sea Lion Caves in southern Oregon, 35,000 acres.

Inland, in the populous Midwest, four more national seashores were proposed on Lake Michigan: Huron Mountains, 90,000 acres; Pictured Rocks and Grand Sable Dunes, 100,000 acres; Sleeping Bear Dunes, 26,000 acres;

*continued on page 87*



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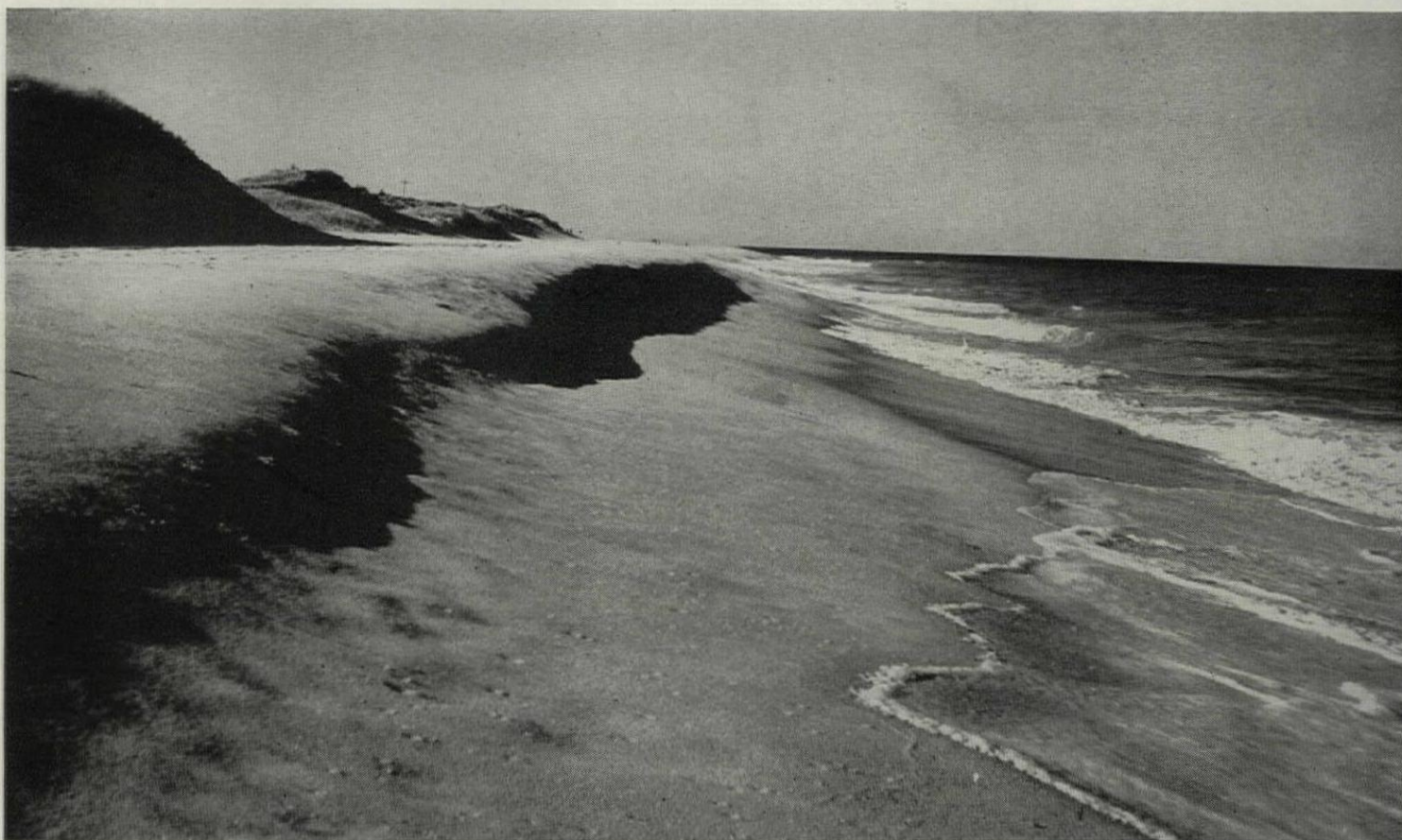
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RUTH BLOCK

## Editorial *continued*

and Indiana Dunes, 5,000 acres.

By the time the proposal had been readied for Congress, however, S 2010 (and its counterpart in the House, HR 7407) had been whittled to a \$15 million bill to preserve not more than three national shore lines totaling 100,000 acres or less. It has been referred to The Committees on Interior and Insular Affairs,

where it joins specific bills for Cape Cod, Padre Island, the Oregon Dunes, and the Indiana Dunes (the latter is being hotly contested by steel and port interests). In the hearings that follow, let it be hoped that the new proposals will not die aborning. Support must be rallied to make the long-discussed shoreline program a reality.

## An architect for the Nation

Architecture cannot help but benefit from the passage of Senate Bill S 1847, introduced by Senator Paul H. Douglas with concurrence by Senators Ernest Gruening of Alaska, William Proxmire of Wisconsin, and Robert C. Byrd of West Virginia. Architecture can do nothing but lose if the bill dies on the vine. Informal tests among architects indicate virtually unanimous support, and indeed the bill ought not to be controversial. What it provides is that the Architect of the Capitol shall be appointed by Congress instead of the President and shall be a qualified architect.

Since the change is designed to take effect only in January 1961,

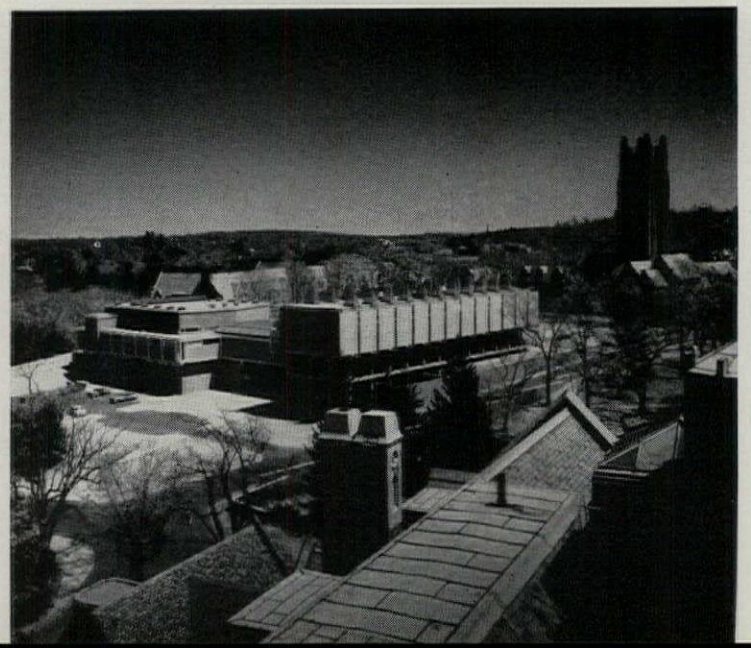
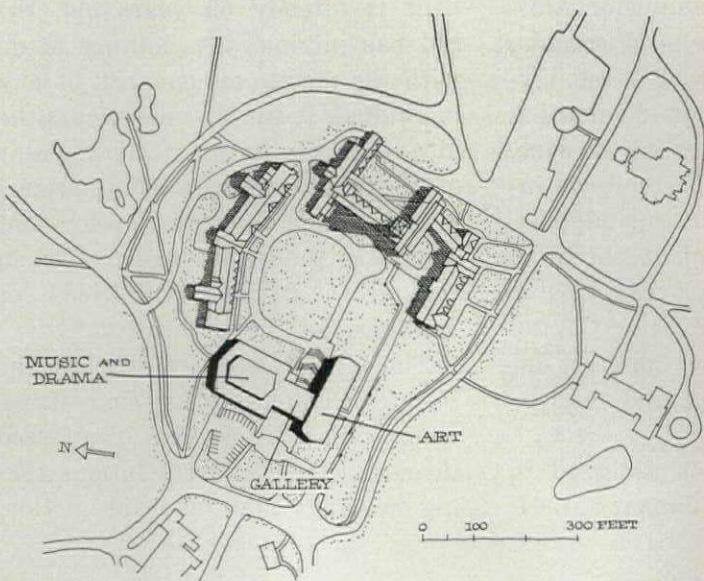
at the start of the 87th Congress, or upon the death or resignation (or ouster) of the present incumbent, and since the present incumbent is already 69 years old, the bill has intrinsically nothing to do with the merits or demerits of any individual. It simply implements the idea that the national civic center of a great democracy is a cultural manifestation and its development should be guided by men versed in the great cultural traditions of building: i.e., by architects.

The bill has been referred to the Senate Public Works Committee, which must now be impressed through letters and resolutions asking hearings and favorable action.

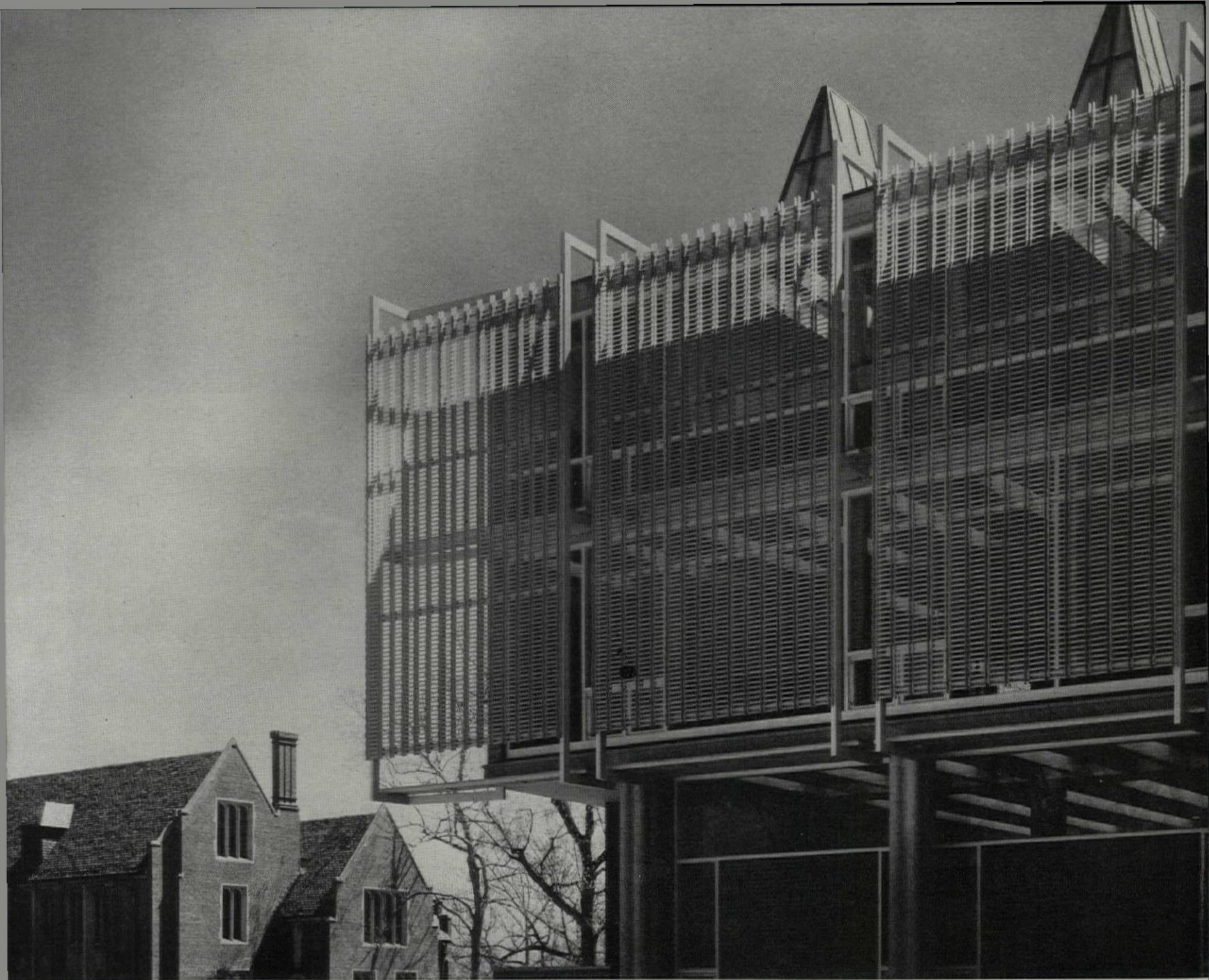




# Wellesley's







PHOTOS: LIONEL FREEDMAN

## alternative to "collegiate gothic"



The new Jewett Arts Center at Wellesley College is an entirely modern building: modern in its materials (sandblasted concrete, porcelain enamel, glass, etc.); modern in its equipment (recording studios, slide libraries, movable stages); and modern in its complex teaching program. Yet the thing that makes Architect Paul Rudolph's first big building in the North so unusual is that it represents an effort to blend a modern structure into a "collegiate-gothic" campus.

How successful Rudolph and his associates (Anderson Beckwith & Haible) have been in this attempt is discussed by Critic James M. Fitch on page 94. On these first six pages are shown some of the highly original devices used by them.

Briefly, these devices fall under three headings: first is the siting and massing of the new building to recall the



siting and massing of existing buildings nearby. Second is the detailing and proportioning of the new building, which recall the details and proportions of older campus structures. And, third, is the relative scale of the new building.

### Siting and massing

Most of the older buildings at Wellesley are grouped around courtyards. Rudolph followed this precedent: he used his new structure to complete a quadrangle already suggested by two existing red-brick buildings. This quadrangle is now the real center of the college; and, like other clusters and courtyards on the campus, it occupies high ground.

In developing the mass of the arts center, the architects again followed precedent: most of the older campus structures are drawn-out and articulated in plan. Because the program for the new arts center called for many different, new, and intricate teaching spaces and devices, any building growing out of that program was bound to be complex also. Rudolph managed to resolve these complexities by creating three separate elements: a visual arts department, a music and performing arts wing, and an art gallery. The first two are linked by the gallery in a clearly articulated composition. Actually, the gallery is a connecting bridge between the arts and the music and drama wings, and pedestrians enter the new plaza by passing under the bridge and across an elaborate series of steps that lead up to Klauder's neo-gothic tower, seen in tantalizing views en route.

### Proportions and details

To relate the new building to existing structures, Rudolph chose a bay width of 15 ft. because this corresponded to the width of existing structural bays on the campus. He also topped one wing with sharply pointed, triangular skylights that recall the pattern of existing dormers, and used red brick and concrete copings that bear an intimate family resemblance to similar details in older campus structures.

Perhaps the most intriguing device is the use of a hung, porcelain-enamel-on-aluminum grille outside the north and south walls of the visual arts wing. This white sun-and-glare-protector has the lacy scale of "man-made ivy," cost about \$9 per sq. ft. installed.

### Scale and interest

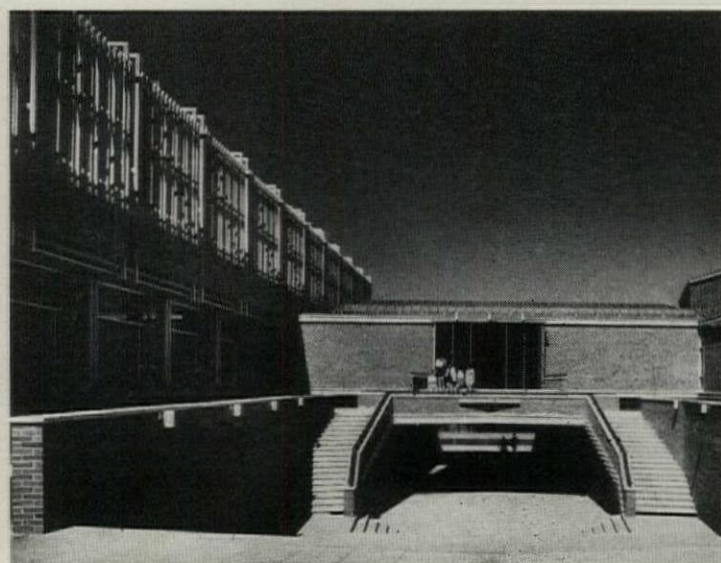
From a distance, the arts center looks simple, diagrammatic, and clear. But as one approaches it, the over-all aspect becomes less important, and the detail of structure, surface, landscaping, and so forth reveals itself in all its complexity. Rudolph feels that this change of scale and interest has been a cardinal principle of good architecture through the ages, and he found a similar approach in some of the neo-gothic buildings on the campus.

Moreover, he felt that large details would seem out of scale at Wellesley, and so he deliberately made his details small and complex. For example, a 15 in. square column would have looked brutal—but a cluster of four, 7½ in. diameter columns looks graceful and in keeping with gothic column profiles.

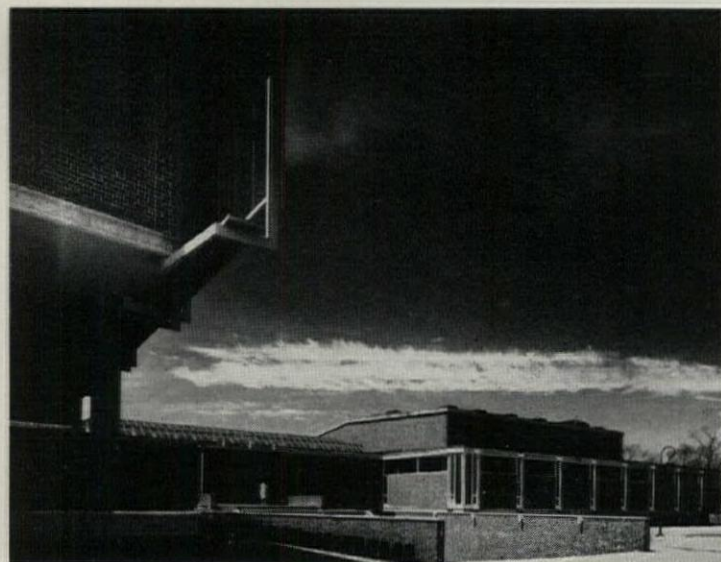
As the U.S. begins to become a middle-aged country with a large inventory of sound, traditional buildings, attempts like Rudolph's to bridge the gap between past and future become increasingly significant.



*Elevated west end of the visual arts wing is supported on columns formed by clusters of circular posts. Art gallery is in bridge at left.*

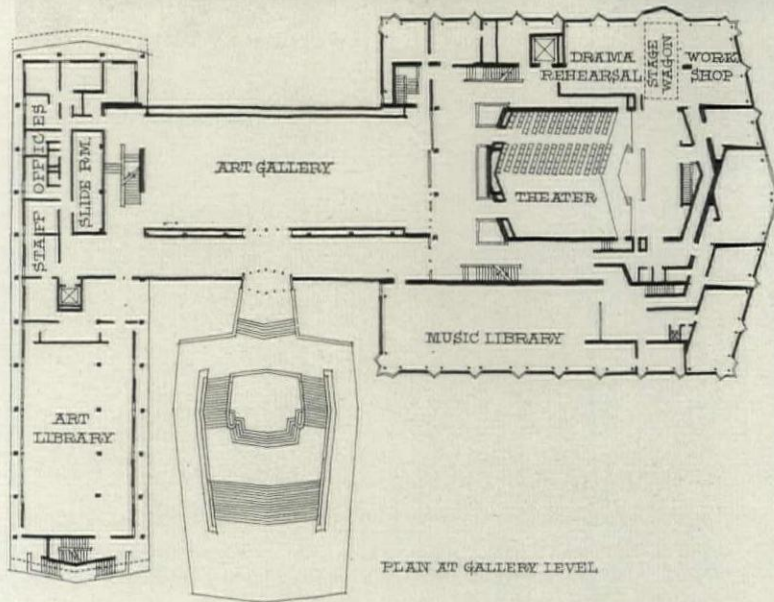


*Art gallery bridge seen from the courtyard to the east. Twists and turns in the stair approaches are meant to dramatize changing vistas.*

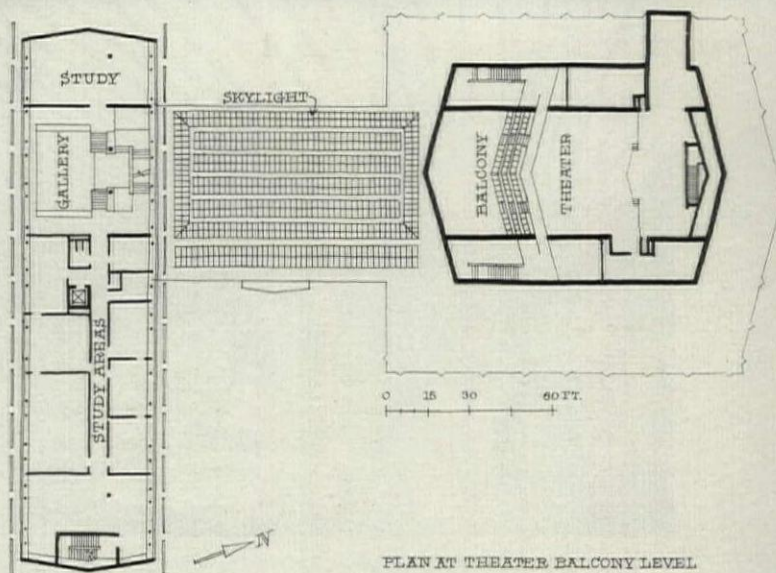


*Performing arts wing at far right (seen here from the east) is very different in expression from rest of building, since it needs less light.*





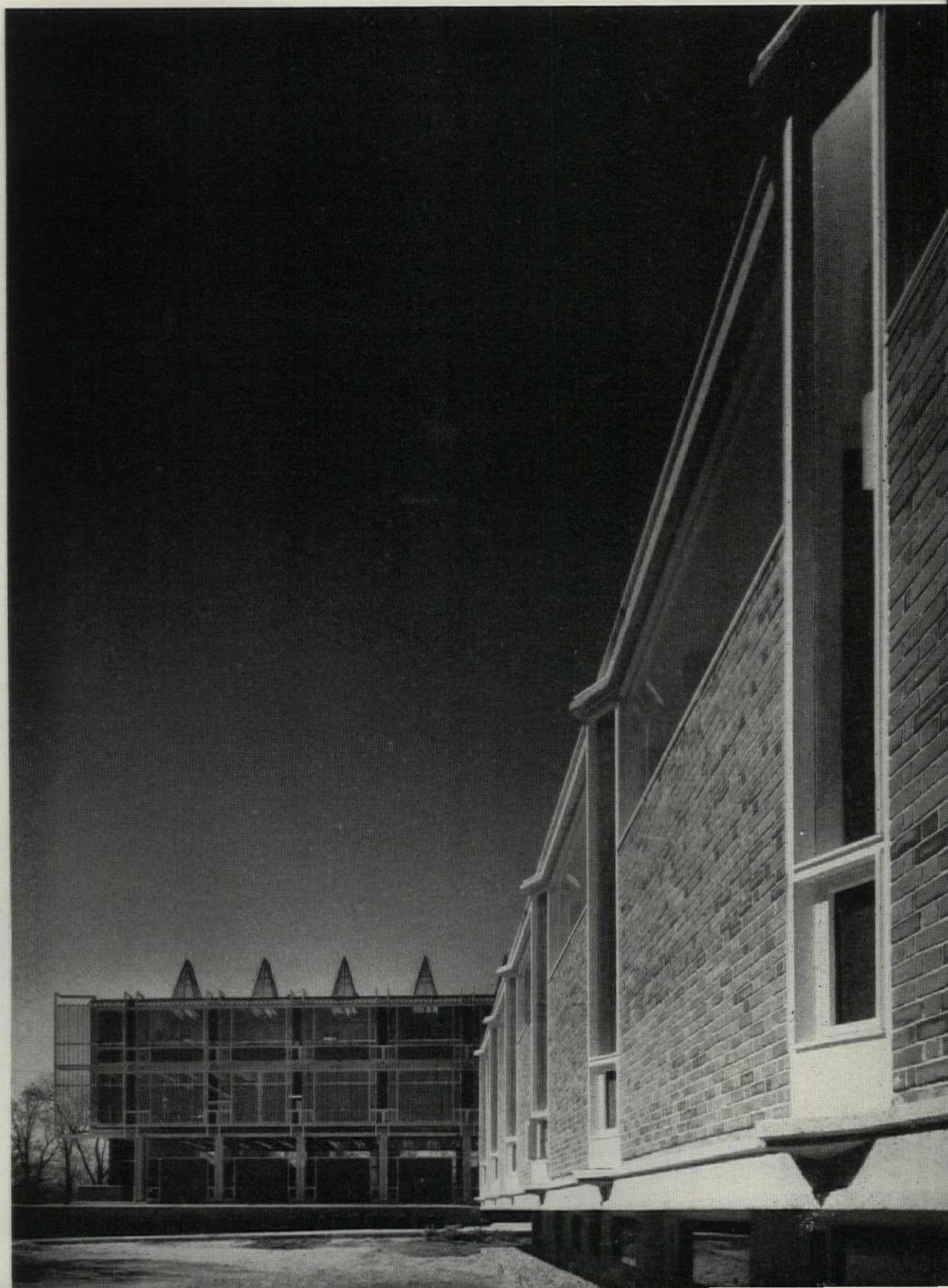
PLAN AT GALLERY LEVEL



PLAN AT THEATER BALCONY LEVEL

Plans at art gallery and theater balcony levels (above) reveal complexity of teaching program at Wellesley, show how architects were led to a complex solution to express the nature of that program. Much of the teaching equipment (especially in the recording studios) is intricate and costly, so that this part of the building has been burglar-alarmed for security. Incidentally, the total cost of the arts center was between \$2.5 and \$3 million.

View from the north, past the performing arts wing (right), shows vertical slots of glass not unlike the perpendicular windows of existing neo-gothic buildings. Pointed skylights on the visual arts wing in the distance recall the pattern of triangular dormers visible all over the older campus.







*Art gallery roof is almost all glass, with a translucent ceiling suspended below to diffuse natural and electric light. All partitions are movable.*



*Acoustics of theater have been highly praised by Budapest String Quartet. Scenery can be moved onstage by wagon stored in the wings.*



*Study room in visual arts wing, designed for teaching by comparative method, has slanted display racks for reproductions of works of art.*

MARY COOPER JEWETT ARTS CENTER, Wellesley, Mass. ARCHITECT: Paul Rudolph; ASSOCIATED ARCHITECTS: Anderson, Beckwith & Haible; LANDSCAPE ARCHITECTS: Sasaki & Novak; ENGINEERS: Goldberg, Le Messurier, Associates, structural; Stressenger, Adams, Maguire & Reidy, mechanical & electrical; ACOUSTICAL CONSULTANTS: Bolt, Beranek & Newman; CONTRACTORS: George A. Fuller Co.

*Complex of "floating" and cantilevered stairs is the key to circulation in the visual arts wing. Below is the sculpture gallery off to one side of the stairs; opposite is a view from a half level above that gallery, showing screened-glass wall at right. Note the handsomely ribbed concrete roof slab and the fluorescent lights in its troughs.*



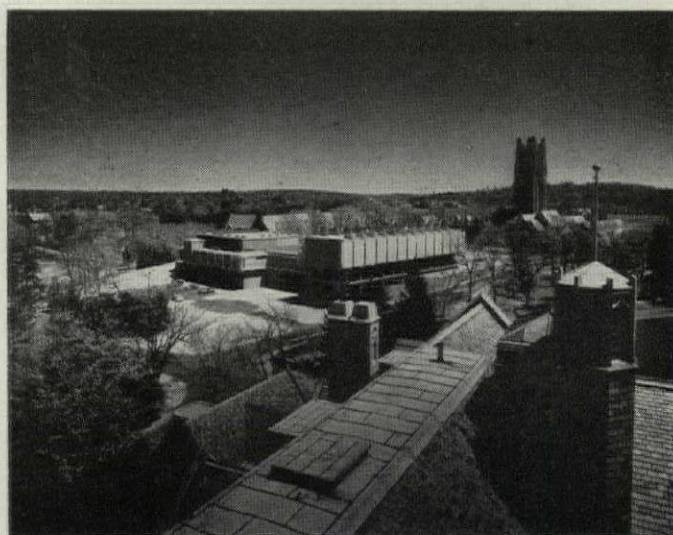






Although not successful in all its details, Wellesley's alternative to "collegiate gothic" is a fitting building and an important development

BY JAMES MARSTON FITCH



1

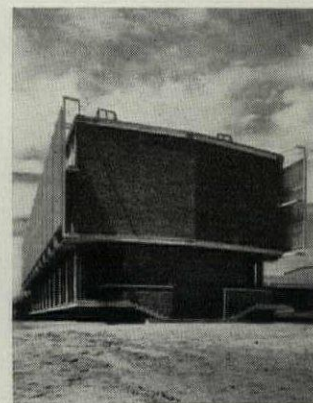
Many contemporary architects, who are dropping their new buildings into old campuses with all the destructive power and malice of a bomb blast, could learn a lesson from Paul Rudolph at Wellesley. Here he has chosen to work within the limits of scale, color, and silhouette established by the earlier structures around him (1). His new building completes a quadrangle whose other two faces consist of a "collegiate gothic" bell tower and buildings of 1925 vintage. He has used their salmon brick and—in an oblique sort of way—their "gothic" forms; but he has used them only as points of departure and he has proved that acceptance of such a reference frame, far from being a crippling limitation, can be made into a stunning asset by the imaginative designer (2).



2

In this building, Rudolph, if I read him correctly, is engaged upon a deliberate program of expressionism—this is, of designing a building in such a way that the facts of its structural assembly, of its organization by planes and volumes, are made readily apparent to the observer. He accomplishes this by a technique of *separation*. He separates the column from the wall. He breaks the wall down into three kinds of membranes (opaque, translucent, and transparent) and breaks the column down into paired or clustered rods. He separates his walls from the floors below them and from the ceilings above. The great *brise-soleils* (sun screens) float in a plane of their own, entirely free of the glass they protect. The stairs rise free of contiguous surfaces. Each of his volumes, seen externally, is distinctly separate: they slide along one another, intersect, or cross over, but they never lose their identity.

All of this is done, of course, for perfectly valid esthetic reasons. By separating his elements into their basic constituents, he can reassemble them into richer and more varied compositions than the merely solid cube or the spidery skeleton of so much recent architecture. This permits him to "compose" a wall on a kind of contrapuntal, three-dimensional rhythm like a complex orchestral passage. Where he is successful—that is, where he is in full control as in the long, lacy screened walls of the fine arts wing—the result is magnificent: you will travel a far piece to find anything handsomer than these façades (2 and 3). Where he fails, it is never because of carelessness (a more immaculately detailed and executed building I have seldom seen) but rather because his policy of separation gets out of his control, producing either a confusion of brackets and pieces necessary for execution or anticlimax.

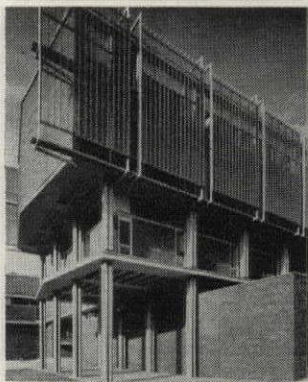


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The visual richness of the fine arts wing derives largely from its aluminum *brise-soleil* and sharply peaked aluminum skylights. Both of these features have functional origins—the need for more precise control of natural light in the library and the range of classrooms and studios above it. It is a measure of Rudolph's talent that he is able to extract such excitement out of such pedestrian necessity. He has been criticized for using these sun screens on the north wall. But such criticism overlooks that fact that, under conditions of light overcast, north-facing glass will need protection from sky glare quite as much as south-facing glass needs protection from direct sunshine.

The visual movement set up by these screens is, in fact, so powerful that Rudolph has a bit of difficulty stopping it. The eastern end seems to me the most successful: here the cantilevered façades are firmly received by the splayed end walls and monumental divided stairs. The result is serene and secure. The western end of the same movement does





4

not conclude so gracefully (4). Instead, its momentum carries it out into space, overrunning its stylobate and creating a sort of blind portico which leads nowhere and shelters nothing but a clutch of bicycles.

The music wing is organized around a lovely

little theater (despite the fact that it seats 350, the dominant impression is one of intimacy—see page 92) and this theater is most satisfying both acoustically and visually. Once seated here, you have a strong sense of the clarity and precision of the designer's concept. Yet he chooses to bring you into it through a really confusing interlude. A U-shaped lobby, surrounding the theater on three sides, reveals its form. But in order (presumably) to dramatize its function even more, Rudolph cuts the lobby floor back, away from the theater walls, and throws



5

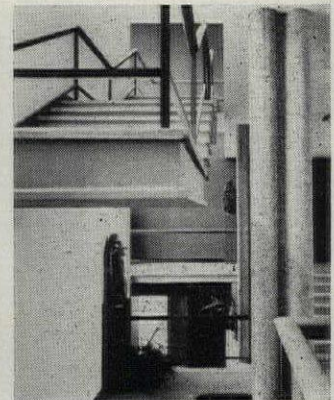
bridges across the resulting void to bring you to the doors (5). Compositionally this is not so successful a device as, perhaps, it seemed in the drawings. The bridges seem precarious, the railings inadequate, the tall floor-to-ceiling doors seem somehow hostile. But most confusing is the fact that, seeing the theater walls carried down to the floor below, you assume that you are entering the theater at a balcony level. You are thus disoriented when you step through the doors and find yourself instead on the theater's main floor. What, you wonder, could be below? (It develops, upon inquiry, that the "basement" is occupied by two rehearsal rooms whose shape and position bear no necessary relation to the auditorium.) Here, in short, Rudolph is violating his own principle of using separation to make explicit a true volumetric relationship.

In this building, Rudolph remembers (what many of his colleagues have forgotten) that walking up or down stairs can be a pleasant experience. His outside stairways are, in this respect, unqualifiedly successful. In the fine arts wing, success is less complete. Here, instead of confining his stairs in a dull, conventional tower, he cantilevers them out from a vertical slab. This does have the advantage of leading

you through a series of open, shifting volumes of space instead of up (or down) a sealed and airless tube as do most stairs. But the experience is not wholly satisfactory. Technically brilliant though they are, the stairs do not have enough air in which to act (6); Rudolph's policy of separation has led him astray. The cantilevered treads do not clear the adjacent columns and floor slabs with enough space to be significant esthetically (7). And the floating runs require railings which, for all their lightness,



6

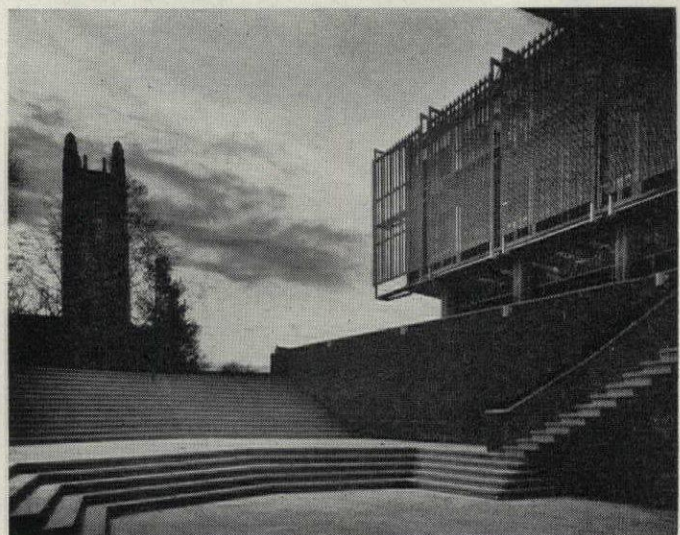


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complicate the picture unhappily. The lesson seems clear: such architectural acrobatics are esthetically justifiable if the building affords adequate space in which to view them: otherwise, they seem fussy and confusing, not worth the effort they must have cost.

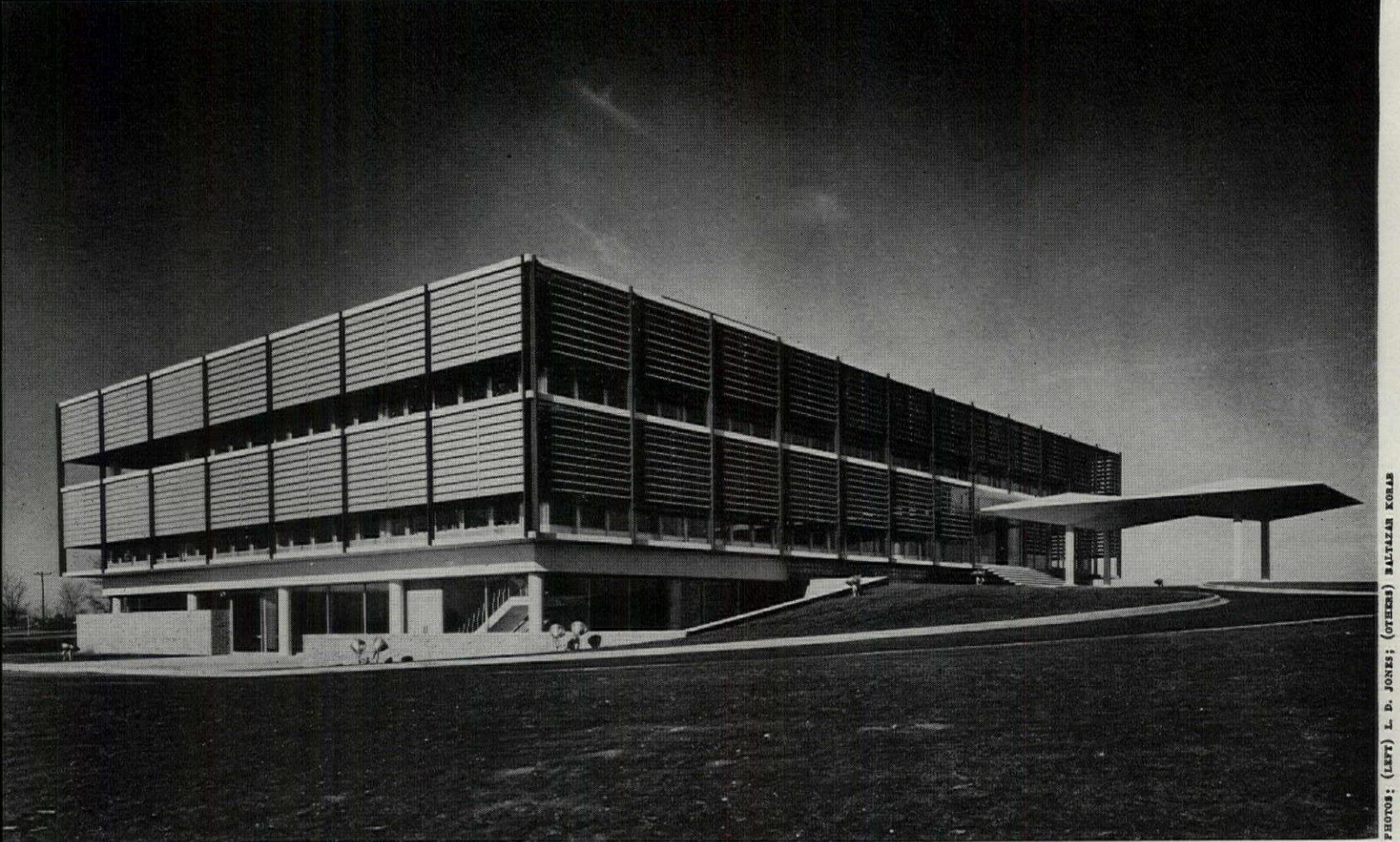
As a part of his policy of expressionism, Rudolph has exposed most of the essential features of his reinforced concrete frame. This exposition, generally speaking, is both graceful and imaginative. All floor levels, for instance, are clearly indicated by the exposed edges of the floor slabs. These are trimmed in sandblasted, special-aggregate concrete moldings with the same profile as the exterior stairs. By this means, Rudolph marks his floor levels and explains the connections between them as clearly as with a loudspeaker. And it has the further advantage of yielding some extremely handsome effects. His cantilevered stairs are cast not as a single diagonal slab but as a series of separate corbelled slabs—a device which gives the soffits great refinement. When these are then used to carry a recessed brick parapet, the result is a form of great wit and lightness (8).

Here, as throughout the building, Rudolph reveals an attention to nuance, a refinement of details, which is all too rare in contemporary work.



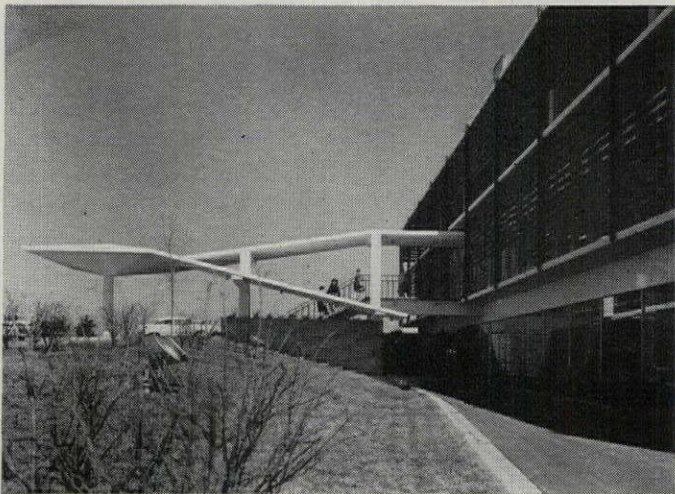
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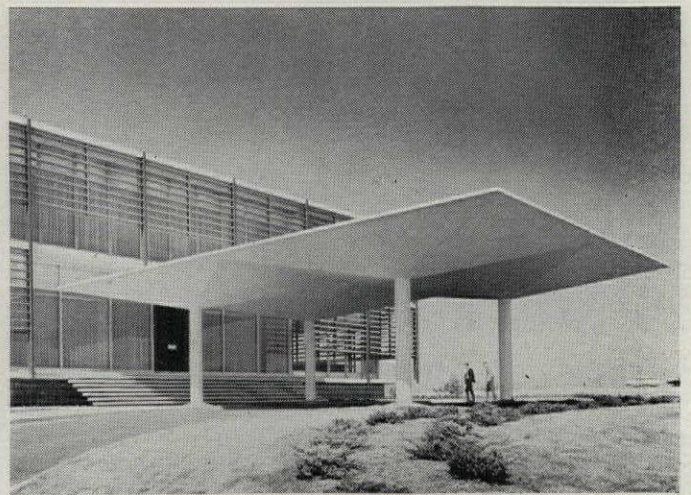


PHOTOS: (LEFT) L. D. JONES; (OTHERS) BALTAZAR KORAS

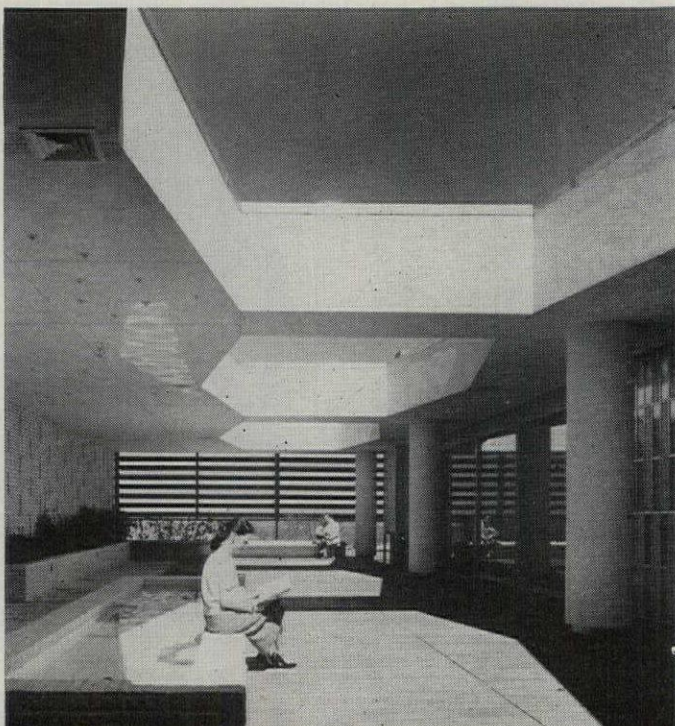
*Self-adjusting louvers form handsome galleries around the new Missouri Public Service building.*



*Canopied bridge from rear parking lot serves two floors.*



*Four concrete umbrellas form a striking porte-cochere at the entry.*



*Employee lounge opens out to a terrace at the lower level.*

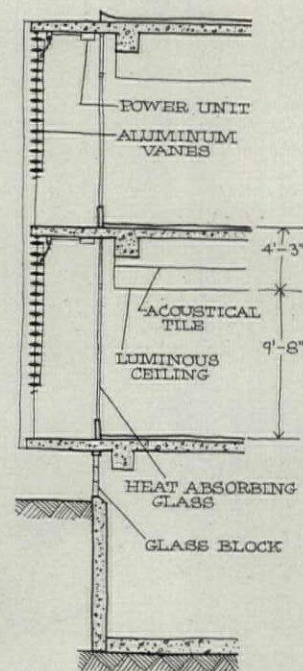
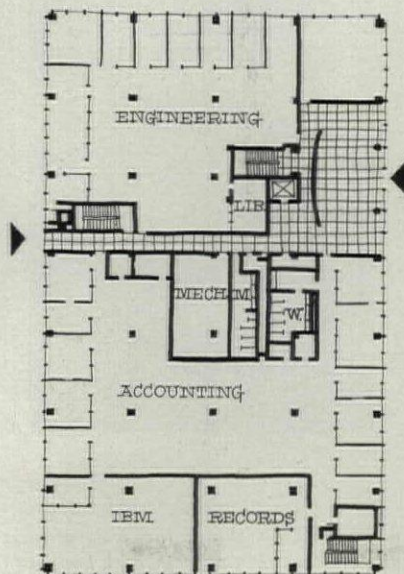
*Patio on the upper executive floor is partly open to the sky.*



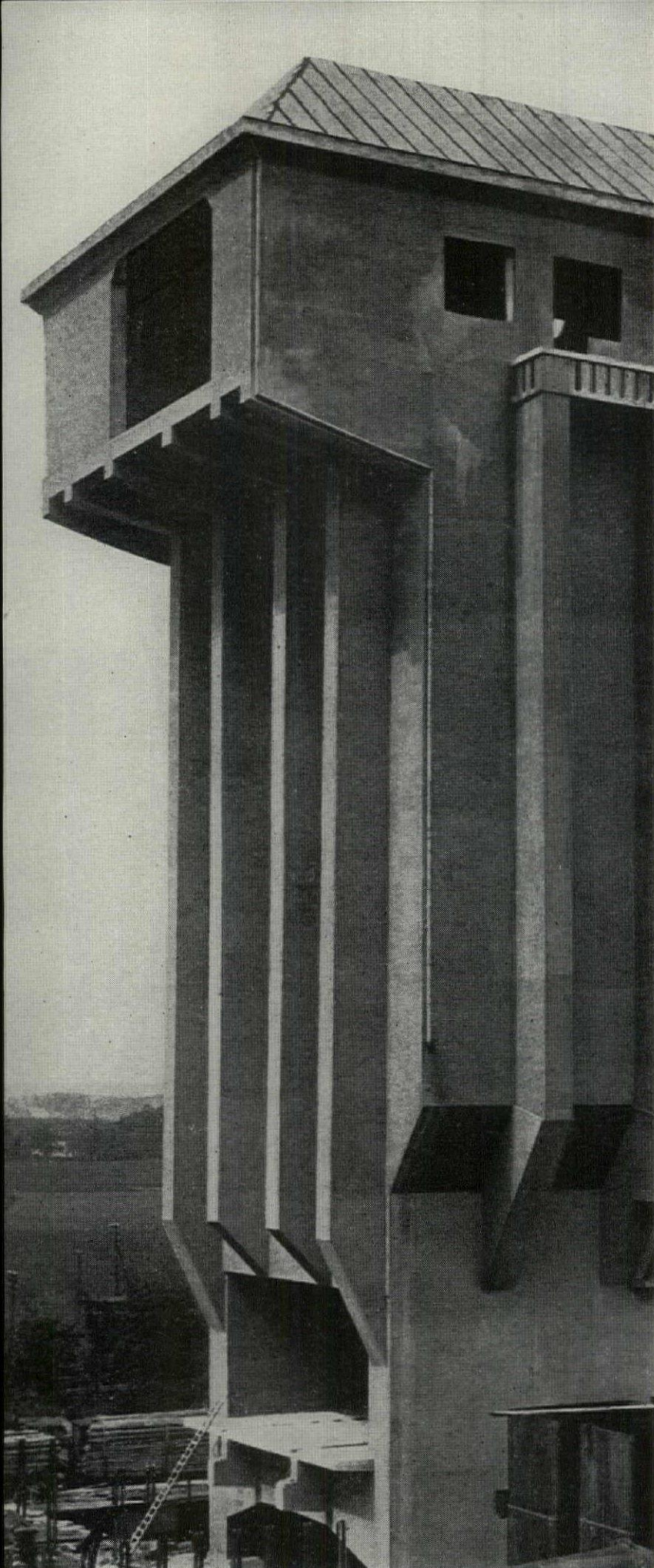


## High-powered headquarters

Utility and sharp good looks are nicely fused in this new \$1.2 million general office building for Missouri Public Service Co., a growing private utility that supplies electricity, gas, and water to some 200-odd communities in the western part of its state. Faced with an unusually prominent site—a grassy rise between the widely separated lanes of U.S. Highway 50 outside Kansas City—Architects Kivett & Myers & McCallum were careful to give their design four equally handsome sides, not just one monumental front. The most striking features are the enameled aluminum sun louvers that gird the two main floors in broad bands of sky blue. Powered by small electric motors, the louvers open and close automatically as photoelectric cells on the roof react to changing sun position and overcast (the system is credited with reducing air-conditioning needs 28 tons, down to one 243-ton unit). Set back 4 ft. behind the louvers (section, right), office walls of heat-absorbing glass further reduce sun and sky glare inside. On the main floor (plan and photo above), private offices around the exterior admit the controlled daylight through glass partitions to central accounting and engineering areas. Alternating with the glass sections are solid panels containing doors, which provide a measure of privacy and brighten the interior with rectangles of warm color contrasting with the broad luminous ceilings and white plastic-tiled floors. MPS has not neglected to “live better electrically” itself: in addition to the powered louver system, the building is equipped with high-voltage distribution, low-voltage switching; lighting controlled by time clocks; electric snow-melting coils under walks and drives; sound systems; dimmer controls; and a fully automatic air-conditioning plant. Contractor: J. E. Dunn Construction Co.

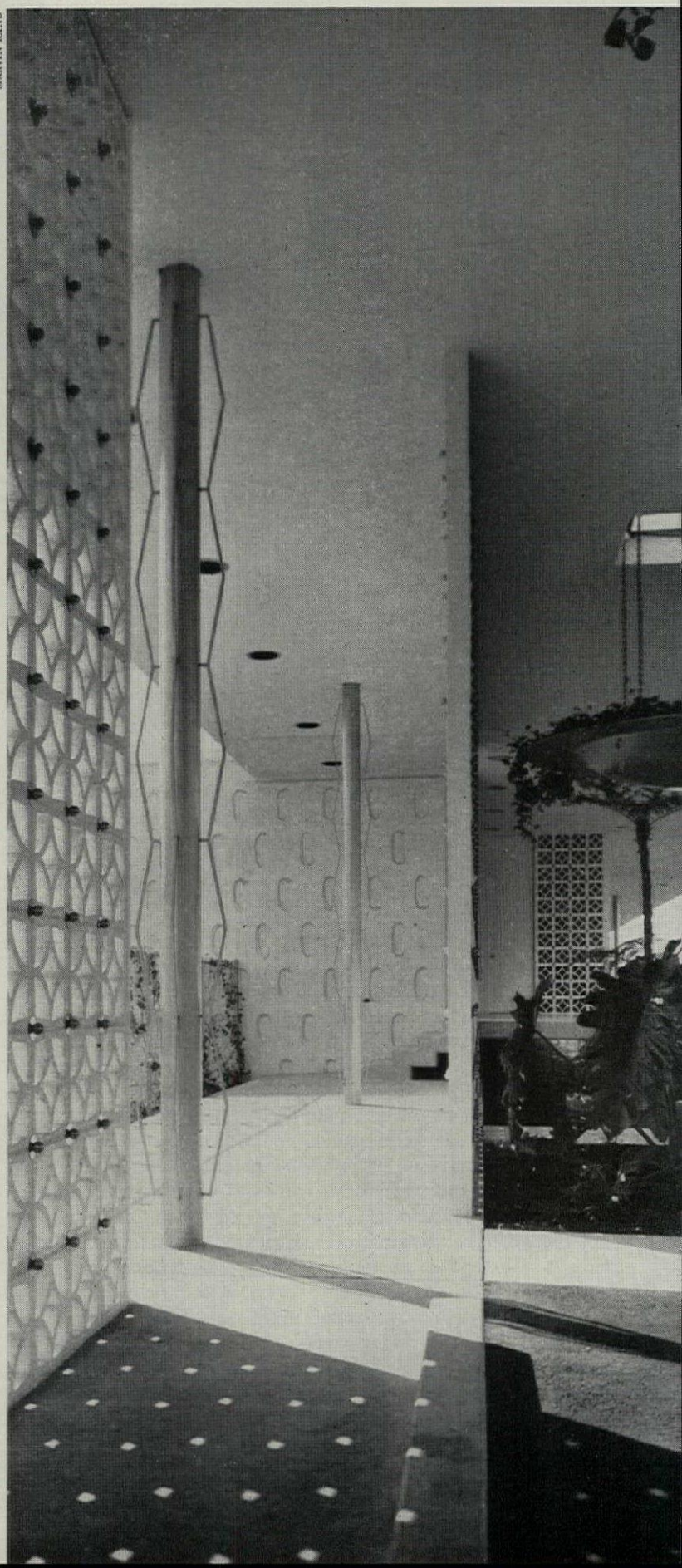






COURTESY "DIE BAUKUNST DER NEUESTEN ZEIT," BY GUSTAV A. PLATZ-PROFILAER-VERLAG

MARVIN RAND



**1910:** "The early moderns . . . wanted the look of a functioning thing, the look of a naked, guileless thing." Concrete coal hopper in the Ruhr District, Germany; Ernst Stahl, architect. Today (right): "Beauty is a private secret; it cannot be a target." Stuart Co. Plant & Office Building in Pasadena, Calif., designed by Edward D. Stone in **1957**.



# Has success spoiled modern architecture?

BY ROBIN BOYD

*Modern architecture, like nearly everything else in this age, is in crisis. At the precise moment when its principles have reached their greatest power and public acceptance thus far, so many new elements have been flooding in, so many innovations, experiments in structure, and crosscurrents of ornamentation, that the principles themselves are in serious question. (Nuclear physics, with its embarrassment of new "fundamental particles," is in an analogous fix.) Until some new unifying principle for modern architecture is worked out there will be a furious fermentation and debate, which FORUM will cover from time to time as some compelling issue is well stated. The following article, by an articulate Australian critic, makes a good beginning.—ED.*

Any revolutionary movement changes its character after the decisive insurrection has been won. No one would go so far as to suggest that modern architecture grew as coarse and corrupt as George Orwell's pigs after it gained control. Nevertheless, success has changed modern architecture, though not immediately in a way that was noticeable on the surface to its supporters. Gone with the hot eyes and manifestoes was the brightness of the white light in front.

The simplicity remains. The love of industrial processes and the attraction of mathematics are as strong as ever. But the spirit of the architecture is transformed, the motivation and the disciplines are so altered, that only sentiment stops most contemporary architects from denying outright the masters of the early twentieth century. Already with a terrible air of self-righteousness they have renounced functionalism and practically the whole rationalist philosophy on which it was based. Yet the manner of their renunciation is interesting. It is not yet fashionable to admit purely esthetic motives. Grilles are justified on the grounds that they reduce air-conditioning loads—as tail fins stabilize a car. Nor is it popular yet to embrace symbolism publicly and un-selfconsciously. Churches shaped like fish are said to get that way inadvertently. . . .

The only article of faith which the new modern architect can state with any fervor is that functionalism was not enough; it was materialistic, narrow, dull, even undemocratic, because it reduced man to a sack of flesh and bones and denied him psychological demands, let alone spiritual aspirations.

Furthermore, the old argument which cites a rose or a cat or Miss Universe as evidence of the involuntary beauty of functional design is spurious pseudologic. Granted that a perfectly functional thing may automatically be beautiful, architects are not God, nor

even Mother Nature, and they have only a fraction of the knowledge required to duplicate the natural processes of creation.

With these arguments (and more emotional ones) a conception of functionalism was demolished. But whether it was really the original conception or the best interpretation is another matter. In fact, what the new modern demolished was a myth of an architect who designed purely to suit functions, and then deluded himself that the ungainly result was rapturously beautiful. Such a man is rare enough in architectural circles (if more familiar in real estate) at any time; certainly he was not to be found in De Stijl group or at the Bauhaus. The early masters of the old modern did not fit this image for three reasons: 1) They were no more obsessed with the desire to satisfy the physical demands of their clients than any other reasonably conscientious architects. 2) They were about as concerned with appearances as any architects can get. 3) Most importantly, their concern with appearances was not esthetic.

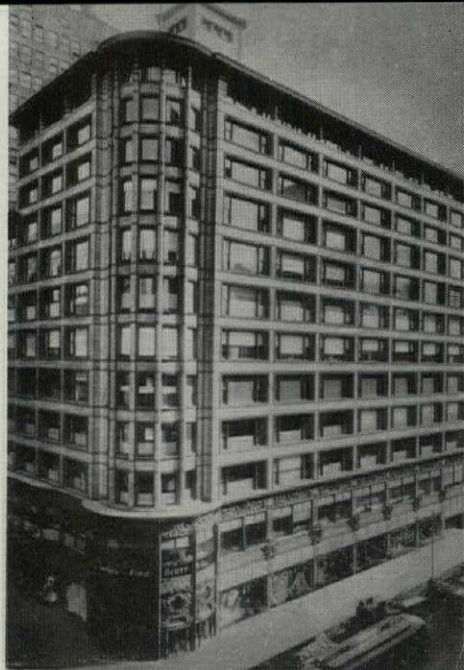
Now, in these heart-warming days of McCall's and Billy Graham, it is hard to reconstruct the thoughts of a less-righteous period when there was more questioning about the nature of goodness, and reality seemed more important than beauty. In the battles fought by Sullivan and Behrens and the little Loos army, the opponent was not dull and callous commercial utilitarianism, but estheticism.

## Early modern was against the esthete

Though Sullivan built some decorative buildings, what really mattered to Sullivan was not the beautiful diversions of his ornament but the realities beneath it, the "ten-fingered grasp of things." The arch-enemy of the European pioneers was the esthete.

Looks were important to the early moderns, of course, but not what





*"What really mattered to Sullivan was not the beautiful . . . ornament, but the realities beneath it." Schlesinger-Meyer Department Store in Chicago, Ill. Designed by Louis Sullivan and built in 1900.*

*"The aim of the old modern was clear and unconfused"—Bauhaus buildings in Dessau, Germany, built in 1926 by Walter Gropius. "But as time went on . . . the discipline became merely a nuisance—especially restricting and irritatingly austere in a rich, expansive era."*



COURTESY "WALTER GROPIUS," BY A. GEDDIS

would be called good looks. They wanted the look of a functioning thing, the look of a naked, guileless thing. They wanted in seeing to be intellectually convinced of the necessity of every part of the thing. They knew of nothing smaller than an architect who thought he could improve on the necessary minimum. And on this concept of physical necessity they built up a moral code for building, demanding "honesty" in expression of functions, "truth" in construction, and "integrity" in the whole—the first secular architectural theory in history.

Here is the crux of the whole situation in architecture today. The classical esthetic code, for instance, was pagan, with its exacting gods of orders, proportion, and ornament, which would sanction almost any delinquency if they were appeased. *Present-day* architecture on the other hand is moving toward theism, without concern for a moral code but sustained by a blinding faith in the unerring rightness and self-justification of one god: Beauty. But the very idea of any sort of deification was anathema to the early moderns, who were brothers of the religious rationalists. They may have been agnostically unable to describe the actual shapes into which their architecture would eventually turn, but they would have snorted at the thought of introducing a mystical riddle to cover the unknown.

There was nothing new in the old moderns' demand that every building show integrity, wholeness, and devotion to its own idea; every architectural or esthetic code requires as much. There was nothing new in "truth": some of the maddest excesses of the Gothic Revival were done in the name of Honest Architecture. Even the application of science to design was as old as Pythagoras. Indeed, the past was littered with mathematical and geometrical systems intended to guide the designer from plan-shape to proportioning. There was, in short, nothing of world-shattering novelty in the old moderns' theories of design practice. What *was* revolutionary was their concept of principle, of the aim and the end of design. For the first time a definable goal was substituted for the indefinable qualities hitherto referred to as "delight" or, with varying de-

grees of unctuousity, as "beauty."

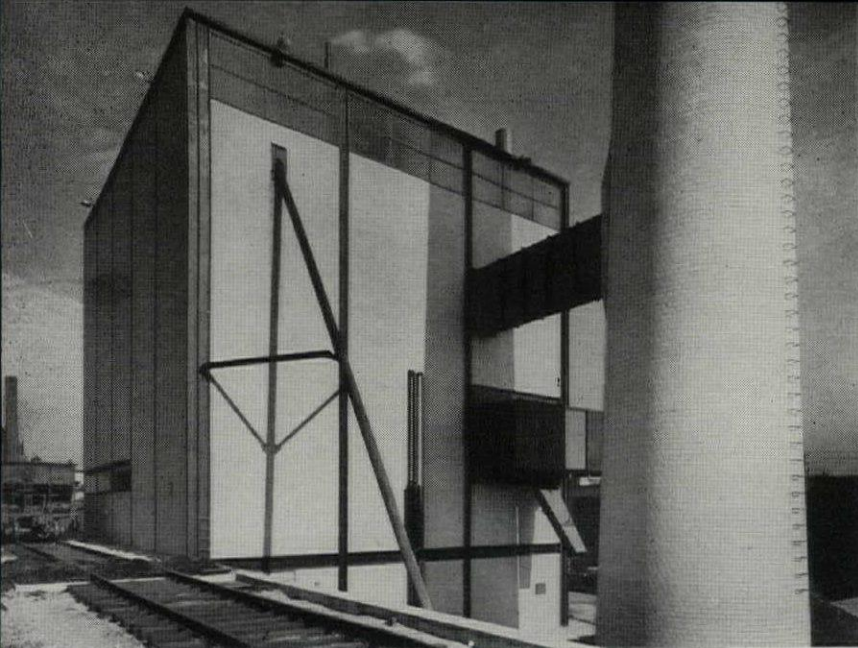
Functionalism promised much more than cold, articulated efficiency: it held a beacon up there at the top of the hill at the end of the road. For if architecture were eventually able to serve every physical need of man with scientific purity and exactness (while understanding and obeying precisely the physical laws of matter), then it would succeed in identifying itself with creation; or, if you like, architecture would merge into the cosmic pattern—not directly but through man. When that day came, fashion, taste, and style would slough off, and pure architecture would stand alone, the supreme art of man. Along these lines the materialist philosophy promised ultimate exaltation, which raised it from the level of the time-and-motion studies and made it a religion—like atheism.

#### How early modern was abandoned

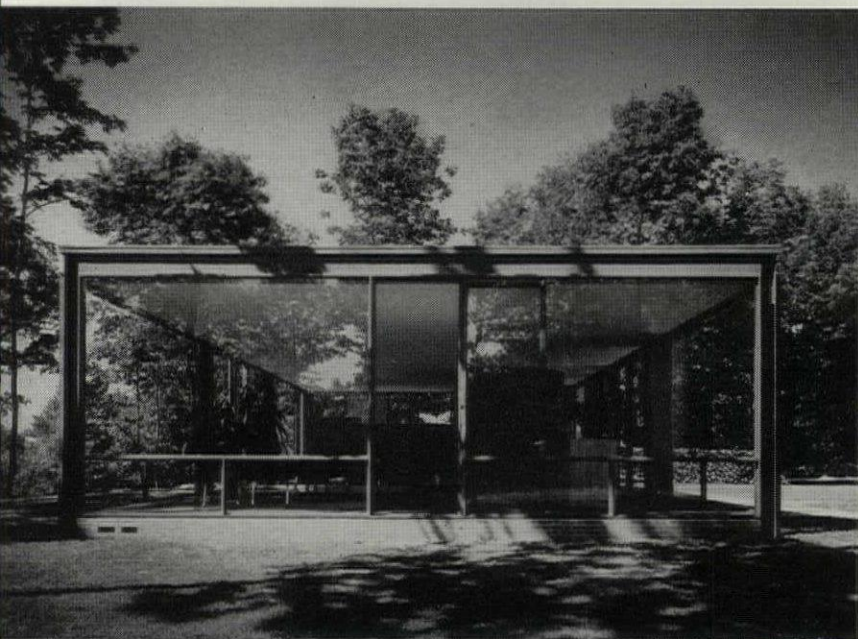
Every architect in every new design had the opportunity to push a little closer to the ultimate in physical perfection. The aim of the old modern was clear and unconfused. And because of this the discipline along the way was accepted without question. But as time went on and a lot of the practice within the discipline turned out to be concentrating on the more mundane aspects of creature comfort—much of it something less than inspired—architecture gradually lost sight of the beacon at the end. Then the discipline became merely a nuisance—restricting and irritatingly austere in a rich, expansive era. Gradually the code was broken.

The glass box—basic unit of functionalism—sought ways of making itself not more suited to housing the human frame but more interesting, more pleasing to the hedonistic eye. The box began adding fascinating textural effects, gift wrappings, artwork at the entrance, and water, water everywhere. The irrelevant formality of the symmetric revival spread out from New Canaan. Shell structures took on extraordinary forms as architects sought to make them not more related to human activities but more evocative or more fun, like abstract sculpture or mud pies. Thus the new modern grew up, seeking to win back the attention of the wavering eye, seeking to enchant, to uplift, to excite,



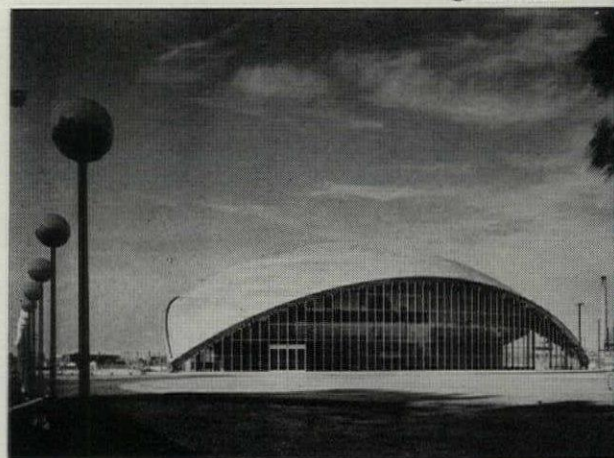


HEDRICH BLESSING

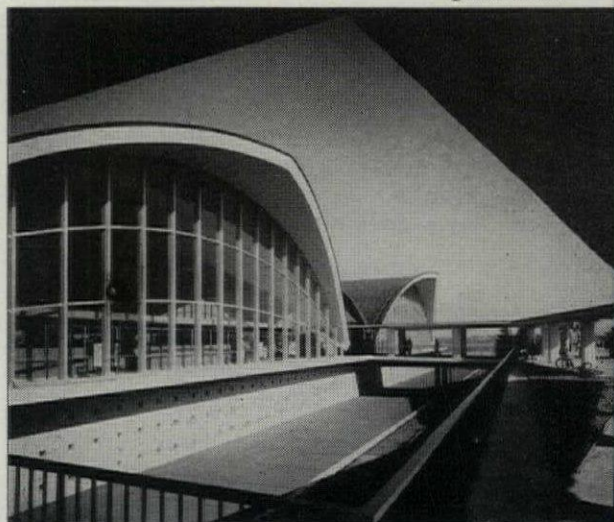


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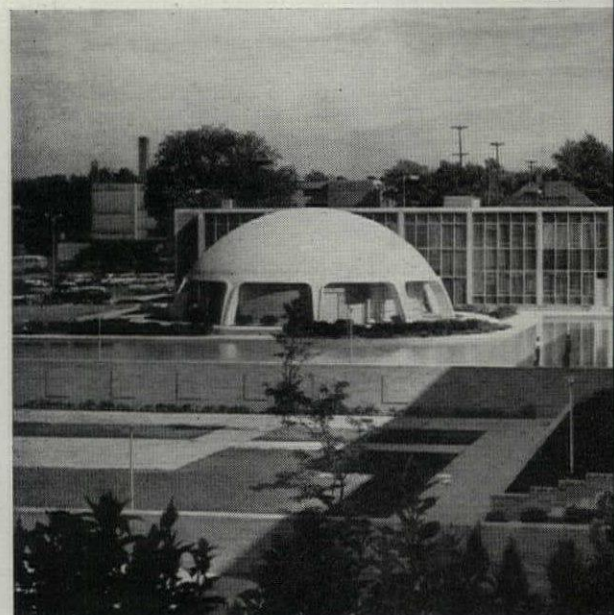
"The early moderns . . . knew of nothing smaller than an architect who thought he could improve on the necessary minimum . . . [but] gradually the code was broken. The glass box . . . sought ways of making itself . . . more pleasing to the hedonistic eye." Top: Mies van der Rohe's "early modern" heating plant for I.I.T., 1950. Below: Philip C. Johnson's own house in New Canaan, Conn., 1948, "new modern."



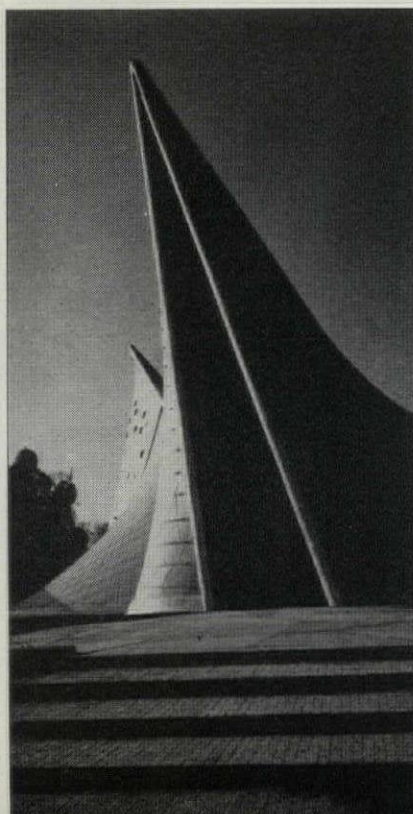
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LENS-ART



GRAHAM WASHINGTON

"Shell structures took on extraordinary forms as architects sought to make them not more related to human activities but more evocative or more fun, like abstract sculpture or mud pies." Right, reading clockwise: MIT Auditorium by Eero Saarinen, 1951; St. Louis Airport by Hellmuth, Obata, Kassabaum & Leinweber, 1955; Flint Center Auditorium, Michigan, by H. E. Beyster & Associates, 1958; and the Philips Pavilion at the Brussels World's Fair, by Le Corbusier, 1958.



to create the Kingdom of Heaven here and now, suddenly, by intuition.

This is not to suggest that architects have now revolted against all disciplines. On the contrary, only the overriding central conviction is gone. Minor private disciplines and personal dogma under the broad umbrella of the beautiful aspirations are as numerous as ever. The shell gymnastics are still kept in bounds ethically as well as physically by the engineer's mathematics. Mies van der Rohe tightens his own disciplines continuously as he moves further away from functionalism.

When Edward Stone's ornamental effects get more intricate and frivolous it is usually a sign that his formal discipline is most rigidly foursquare. To the discipline of symmetry the purist new modern adds the discipline of proportional systems. Some adopt universal formal disciplines like the Golden Section or the square and apply them willy-nilly. Others prefer to select a particular formal discipline for the job in hand—a cylindrical tower, for instance, if there happens to be a few historic cylindrical forts in the neighborhood to act as inspiration.

#### Lost among the shells

The new architecture is not short of disciplines, nor of explanation and instructions along the road. All it lacks is a main signpost. The disciplines in force are all more or less expedient, all more or less individual, sophisticated techniques for reaching up to—to what? What is there to replace the old moderns' functional ethic and the firm conception of an ultimate goal of physical perfection? What is the aim of architecture, anyway? What are architects seeking among the shells?

The new architecture will not be tied down to a definition of its goal. It is inclined to get vague and evasive and to rely eventually on a semimystical paraphrase of Vitruvius' somewhat insipid definition of the architect's artistic aim: "pleasing effect." Wright, of course, continued to the end to see organic architecture as a clear white light, but his explanations of his vision, proud and poetic as they may have been, were not really much more helpful to others than when Edward Stone quips "I'm a fall guy for beauty." And when Saarinen demands

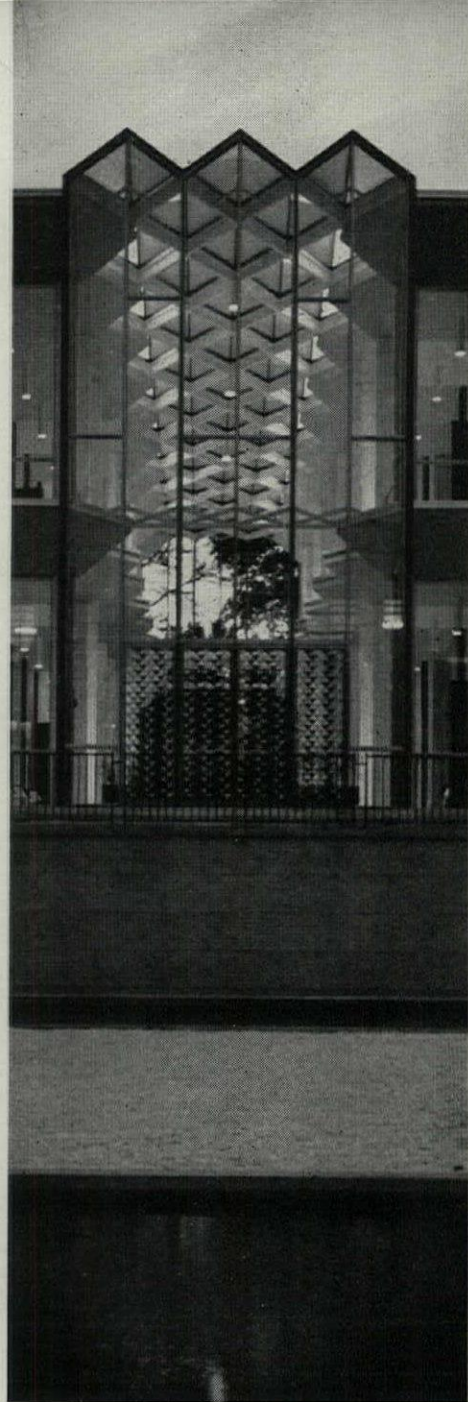
that a building should be "all one thing" he is stating a point of artistic discipline but not committing himself to an architectural faith.

The new modern is not yet prepared to confess that it has forsaken practically all the old principles, but rather hopes to retain a selection of them while readmitting richer visual delights. If it hopes for anything at the end of the road, it hopes to find a universal key to a beauty which might one day hold all the works of man in some sort of noble esthetic spell. This is so fundamentally opposed to the old moderns' concept of fitness and appropriateness to the task that it constitutes a revolution back to mysticism.

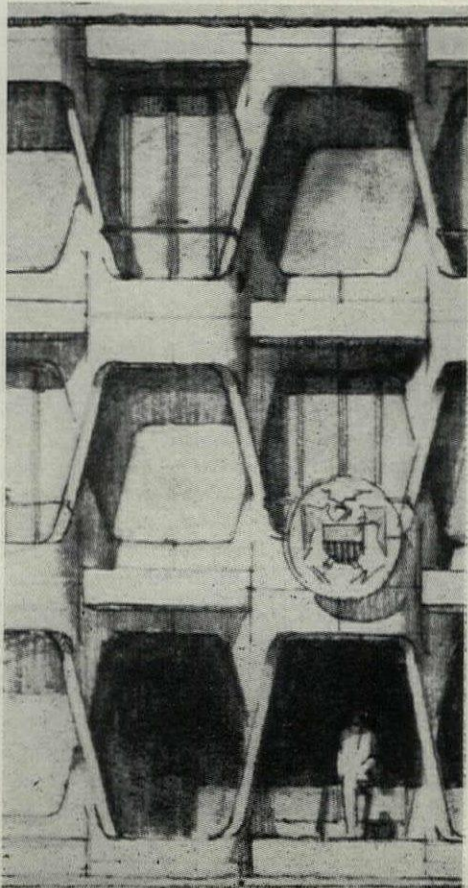
The new modern will argue that this is overstating the case—that there is nothing particularly mystical about beauty, hard as it may be to define. But if the word is not mystical, it is at least muddy, and unqualified for leadership. Expressions like "beauty" are widely acceptable only while they are allowed to remain enshrouded with mist. As soon as they are analysed and described in concrete terms the sense is narrowed so that all meaning is lost to the poets in the audience. Beauty is a private secret; it cannot be a target. Any attempt to pin it down invariably finishes with some stiflingly inflexible dogma like William Hogarth's "completely new and harmonious order of architecture": his rule of maximum variety, which finally reduced to "one precise line, properly to be called the line of beauty." The better the formula, the more fixed is the one expression on the pretty face of architecture.

Today the unsophisticated disciplines are gone and the old goals fail to beckon; and nothing much can be done about it. The whole artistic temper is very different now from the days when architecture had to kick free of patently false eclecticism. Moreover, the intellectual rat race is faster now. Everyone would like to be a one-man avant garde.

To be sure some details of the moral code of the early twentieth century were limited in relevance to their particular time and place. Nevertheless the sensible, sensitive, and concrete aims were timeless. Perhaps one of these days overindulgence in shell fish will upset the new modern sufficiently to make it pause and remember.



BAITAZAR KOBAR





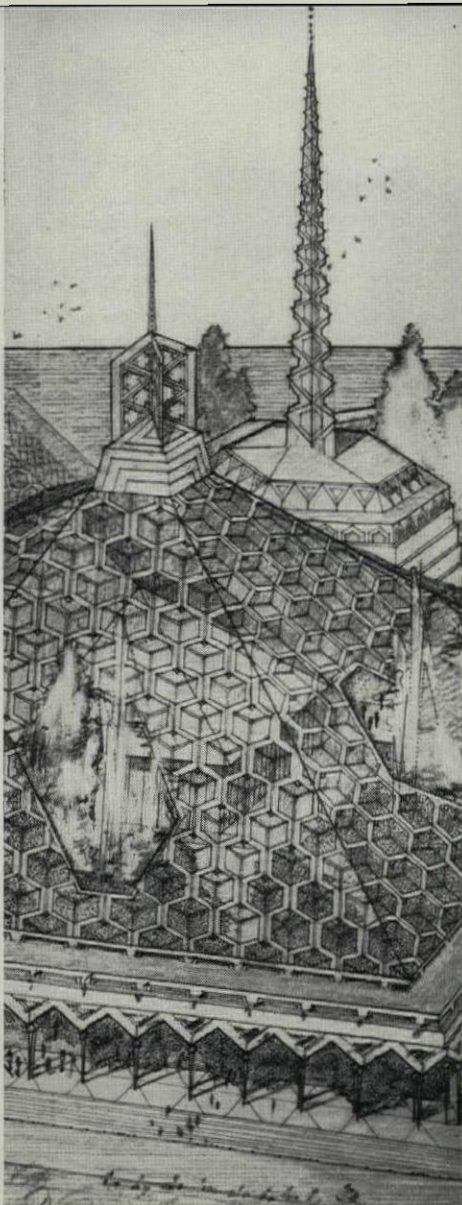
"Minor private disciplines and personal dogma under the broad umbrella of beautiful aspirations are as numerous as ever. . . . The disciplines . . . are all more or less expedient, all more or less individual, sophisticated techniques for reaching up to—to what? . . . The intellectual rat race is faster now. Everyone would like to be a one-man avant garde. . . ."

Six different interpretations of "beauty":  
 1) decorative use of structure by Architect Yamasaki at Wayne University, 1958; 2) plastic structural elements designed by Architect John Johansen for U.S. Embassy, Dublin, 1958; 3) refinement of steel cage by Mies van der Rohe at Crown Hall, I.I.T., 1955; 4) organic cellular structure becomes integral ornament in Frank Lloyd Wright's proposal for Arizona State Capitol, 1957; 5) brutalist use of raw concrete in Milan boys' home by Architect Vigano, 1958; and 6) Eero Saarinen's "search for form" as exemplified in Hockey Rink at Yale, 1958.

3



HEDRICH-BLESSING

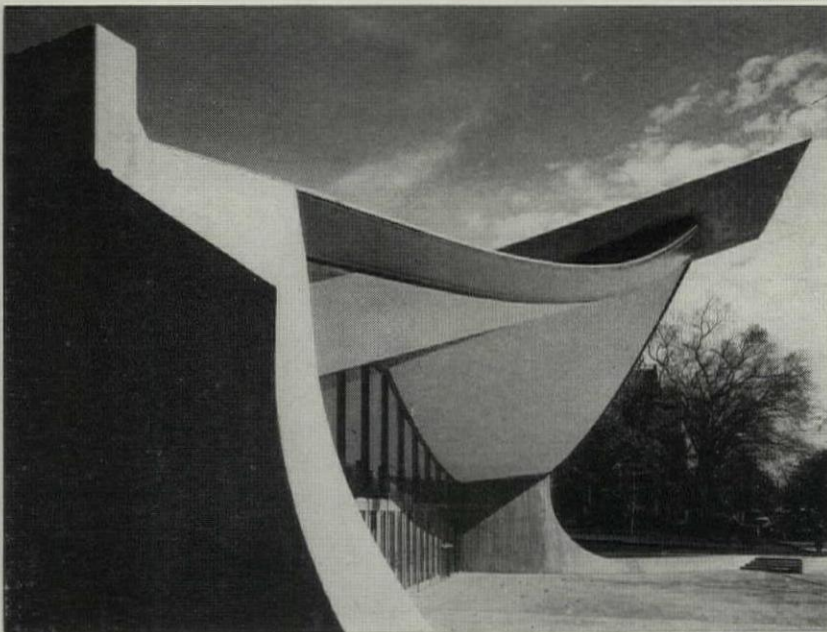


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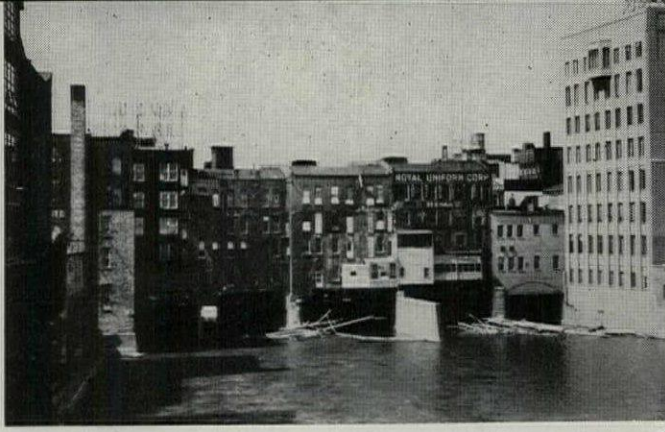
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P. E. GUERRERO



6





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2

## Renaissance on the Genesee

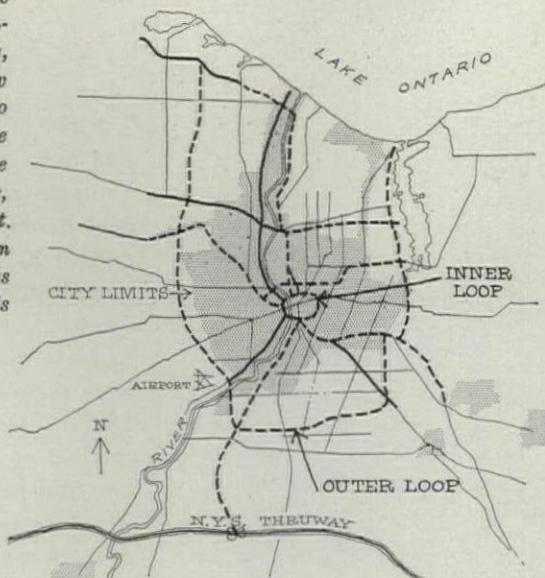
PHOTOS: (BELOW) DIV. PUBLIC INFORMATION, CITY OF ROCHESTER; (ABOVE) OGDEN TANNER

3



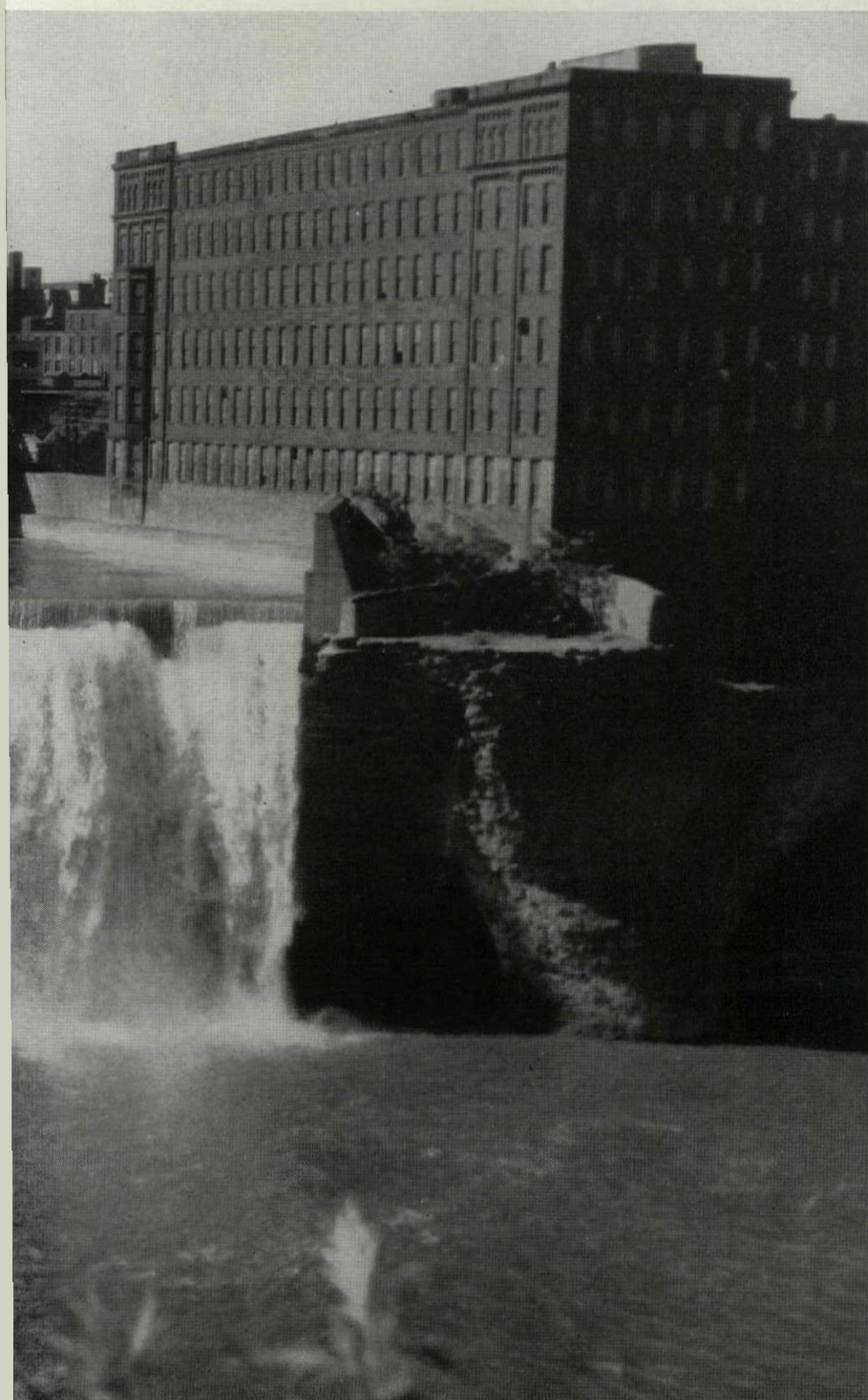


Rochester's river awaits urbane renewal. Its picturesque but ramshackle "Ponte Vecchio," sadly, shuts off Main St. from the view (1). The Aqueduct, which used to carry the Erie Canal across the river, is now decked over as the Broad St. bridge (2). The Falls, a young Niagara nearly 100 ft. high, are largely hidden from sight (3). Map (right) shows river, city, lake, and loop roads now abuilding.



Conservative Rochester, N.Y. launches a bold, well-rounded renewal program with a \$50 million civic center, and the first new downtown shopping center in the U.S.

BY OGDEN TANNER



On both sides of the Genesee River at Rochester, N.Y., where the waters flow northward over a spectacular 100 ft. drop on their way to Lake Ontario, a unique reconstruction program is getting into full swing this summer. Its most notable feature is one which other cities may watch with considerable interest and profit: a whole new \$40 million downtown shopping center and related facilities as a bazaar under one roof, financed by local business with the city paying for a huge and self-amortizing parking garage underneath—the first bull's-eye answer of an aging American city to the threat of the suburban shopping center. But this climactic project, shown in detail on page 109, is not the whole story. Bit by bit over the past decade, Rochester has pieced together the elements for one of the most imaginative, well-rounded urban renewal programs in the U.S., and unlike some cities stunned by the suddenness and magnitude of their own new master plans, is actually in a position to carry it through.

The story of Rochester, like that of many cities, begins with its river, not at the high falls which were once a smaller Niagara drawing tourists, but at the rapids just above, where flour mills gave the town its birth and soon were sending their products over the new Erie Canal. With the growth of electric power, railroads, and motor vehicles, however, the river and the obsolescent mills along its banks degenerated into a mere obstacle splitting the growing town in two, until only good luck and good management have put Rochester in shape to bridge the gap and pull itself together again.





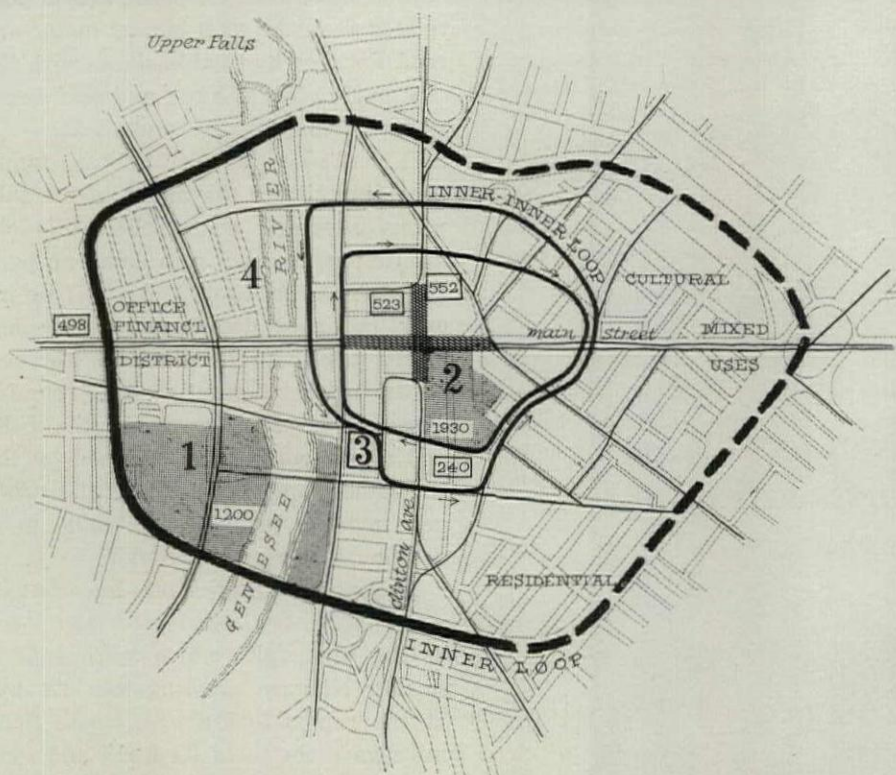
FAIRCHILD AERIAL SURVEYS, INC.

First of all, conservative Rochester had been saving its money, taking advantage of war years to reduce its debt from some \$60 million to \$18.5 million by 1952. Rochester was consequently not pressing against a debt limit when the new work started. It had also been developing its city-manager form of government, instituted in 1927, into an effective, businesslike method of running a city. And it had two unusual young public servants willing to push for needed projects and cooperate with businessmen to see them through: Mayor Peter Barry, political leader of the city council on part-time loan from Rochester Gas & Electric, and City Manager Robert Aex, an energetic, full-time city administrator who moves to Albany this month to head Governor Rockefeller's new State Office for Local Government.

Back in 1947 Rochester, with a growing metropolitan population of close to 500,000, also had the foresight to lassoo its river with a plan for a downtown traffic loop, now almost two-thirds completed around its central business district. Perhaps a little awkward by present ideals—it has quite a few accesses and grade crossings, and is a number of blocks out from the real concentration of parking and stores—this inner loop (map, left) nevertheless relieved congestion and acted as a catalyst for further developments.

The first of these was a scatter of new municipal parking ramp structures, which the city began building in 1955 behind major downtown stores and office areas to take the traffic from the loop. Other cities might well study these highly successful experiments in low-priced, metered self-parking, with a splash of gay colors, piped music, and free umbrellas and kiddy-strollers on loan to marketing mothers.

Meanwhile, on the aging west bank of the river, the city and county had begun putting together a new civic center to replace scattered, worn-out government facilities and give increasing city-county cooperation on metropolitan matters an efficient and symbolic new headquarters. A 26-acre site has been largely cleared behind the new civic auditorium, completed in 1955, and construction is under way on a monumental, \$50 million complex embracing office, courts, and public safety



## Out of projects, the start of a plan

Rochester's renewal began with construction of an "inner loop" highway, and a series of city parking garages, whose location and car capacity are shown on the map above. Next came the start of a civic center (1) and the Midtown Plaza shopping center (2), both above large

underground garages. Now in the talking stages are a new 500-room hotel (3) and redevelopment of the run-down Front St. area (4). One proposal to bind these projects together: an "inner-inner loop" which would route traffic around the retail core, leaving it to pedestrians.



buildings above a 1,200-car, two-level underground garage (see photos, right). Lately, in view of the shoppers' carnival under way across the river, there has been talk of livening up the center's great stone plaza with fountains, benches, flowers, sculpture, and restaurants, perhaps one cantilevered out over the river view.

#### Carnival in the snowbelt

By 1957, Rochester was well on its way to building multideck parking garages behind the mammoth Sibley's department store and a slightly smaller competitor, Edward's, and proposed to build another on the opposite side of Main St. to serve the general area of McCurdy's department store and Forman's specialty store. But Gilbert and Gordon McCurdy, and the brothers Maurice and Fred Forman, along with Real Estate Consultant Larry Smith, decided that something beside more parking was needed to bring people downtown. They hired Architect Victor Gruen and his associate, Edgardo Contini, who with characteristic flair came up with a shopping-center plan to beat the suburban plazas at their own game.

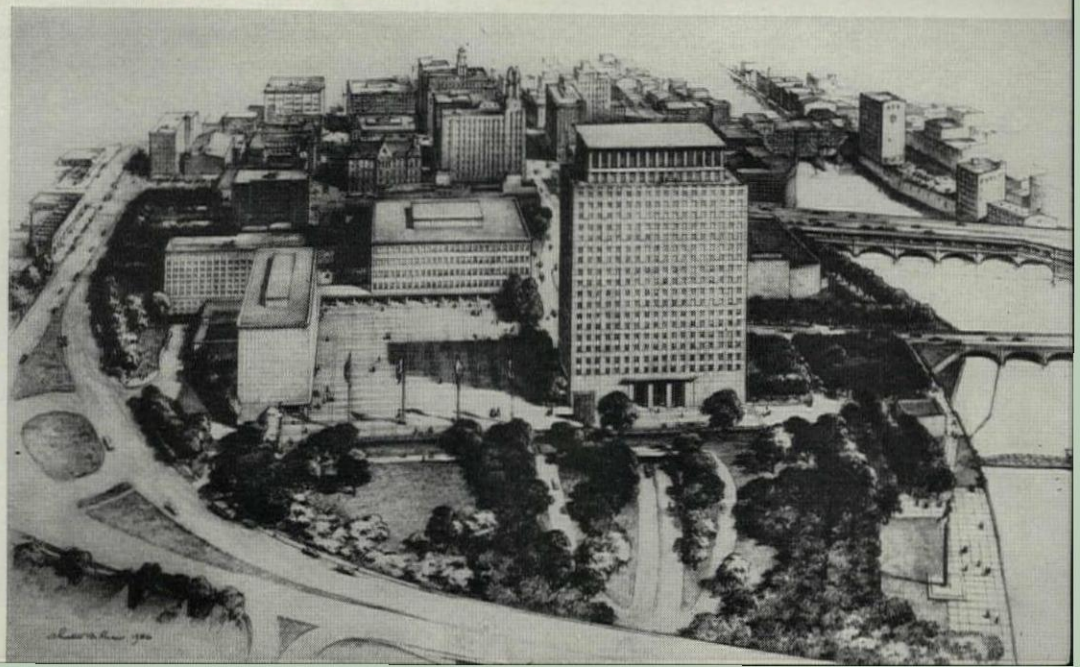
The result, Midtown Plaza, promises to be a unique, and possibly brilliant, answer to the sliding retail situation confronting Rochester and most other older cities. Centered on a two-story pedestrian shopping mall, skylighted and air conditioned year around, it combines the ancient lure of the European "gallerias" and store arcades with the design principles of the newest suburban shopping centers. The important differences: 1) Midtown Plaza will depend heavily on perfectly good existing downtown stores and a hotel, remodeling them as the major anchors for smaller new stores and an 18-story office building; 2) it will place the vast parking areas and service docks of the suburban shopping center neatly underground in a three-level, 1,930-car garage and truck tunnel, where the cars are mercifully out of sight, do not use up expensive downtown land, and, in fact, add greatly to the convenience of patrons, the value of the project and, as a result, the over-all tax revenues of the city.

As the plan matured, a new Midtown Holdings Corp. organized by the McCurdys and the Formans started



#### A new civic center in a river-front park

*In 50 years Rochester has had proposals for no less than eight civic centers, one a grandiose plan rising right out of the river itself. Out of this, a library was built on one bank (1) and, more recently, a 9,000-seat war-memorial auditorium on the other (2). Now the city has cleared 26 acres of old buildings in the curve of the new inner loop (photo right). Above a two-level 1,200-car underground garage, steel is going up for a new courts building (3) tied by arcades to city and county public safety buildings containing police, fire, and building departments and the county jail (4). Next, across the center's broad plaza, will come a city-county office tower straddling an under-passed street (5), a welcome river-front park (6), and federal and state buildings across the river (7, 8). Chief architects: Faragher & Macomber, and Voorhees, Walker, Smith, Smith & Haines.*





quietly assembling some 17 parcels of land at a cost that will eventually total close to \$5 million. The city agreed to lease the underground rights for \$1 a year, build and operate the \$8 million underground garage. It also agreed to close off an alley for the center's pedestrian entrance from Main St., move ahead on an old plan to cut a major street through for automobile access from the rear, and relocate utilities—a total city investment of some \$18 million. Meanwhile Midtown Holdings Corp. will spend close to \$14 million on new building, not including remodeling of the two principal stores and the hotel. Once preliminary plans for the garage had been authorized last October, the city moved with rare speed, and excavation was under way within six months. Construction is staged so that no business will be disrupted; the first half of the garage should be finished by early 1960, the whole project by the summer of 1962. The city hopes to liquidate its garage investment through metered parking over a period of some 30 years, and to gain some \$400,000 a year in new taxes from the improvements in the shopping center itself.

#### Return to the river

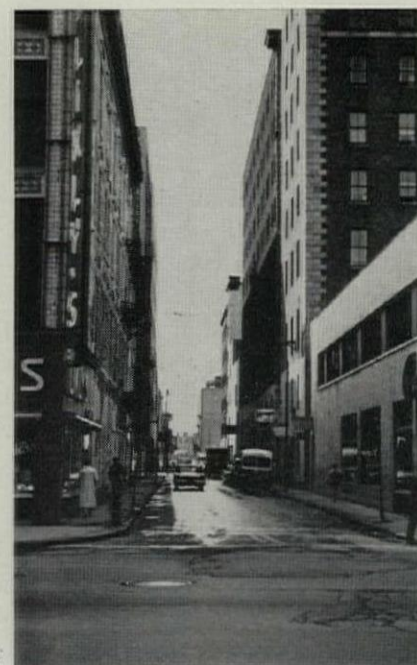
Between these two bold projects, which planners hope will anchor their respective sides of Rochester's bisected, aging downtown, a new confidence is beginning to spread back toward the river in the middle. Local investors have combined with Roger Sonnabend's Hotel Corporation of America to plan a new 500-room hotel near Midtown Plaza. Across the river from the rising civic center, land has been set aside by the city in hopes that new federal and state office buildings will be built there. North of the civic center, beyond Rochester's unique, shop-lined Main St. bridge, an old dream has been revived with the advent of New York Developer William Zeckendorf, whose architects and planners have been studying the possibilities of new apartments, stores, offices, and parking for Rochester's run-down Front St. area. If land were also redeveloped on the opposite side, the last major area downtown where old buildings crowd the bank, Rochester could be well on its way toward a river-front renaissance worthy of the name.

To try to tie the mounting number of projects together into some sort of coherent pattern, the city planning commission and its consultant, Ladislav Segoe, are now developing an over-all land-use plan to consolidate gains, and an intricate one-way traffic system dubbed the "inner-inner loop" which could eventually take the heavy load of through-traffic off Main St. and turn the innermost retail core into a version of that widespread shoppers' dream: the pedestrian mall (see map, page 106).

Consistent support for civic projects has come from the local Gannett newspapers, the *Times-Union* and *Democrat and Chronicle*, who share the administration's views ("For Rochester, like most cities, not developing downtown is the greater risk"). Most important, the papers have also sponsored awards for new and remodeled buildings that will spread the benefits to the business community as a whole, including smaller merchants.

On the fringes, the city's Rehabilitation Commission, set up in 1955, has had notable success in upgrading neighborhoods with fix-up campaigns, backed by a new housing code. In addition, a 70-acre slum area is being cleared for Title I middle-income housing, and the city's "workable program" has been recently cleared by Washington and can now be used as a lever for wider redevelopment. Still farther out in the northwest industrial section, beyond the vast Eastman Kodak Park and other manufacturing giants, the city is developing a 325-acre industrial park of its own on reclaimed land to bring in still more industry for balance. And on Lake Ontario, the Rochester-Monroe County Port Authority is dredging its port entrance channel to a depth of 22 ft. to lure some St. Lawrence Seaway traffic, which has encountered bottlenecks farther on at the Welland Canal.

But the biggest news of all is that Rochester is now considering its city as a whole instead of as a series of unrelated parts. It looks as if Rochesterians, now justifiably proud of their industry, their universities, and their music, would some day not too far distant be able to point also to a traffic-free and handsome Main St. full of spatial variety and surprise, and to a river front stretching green and festive along the banks of the Genesee.



4



3



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ODDEN TANNER



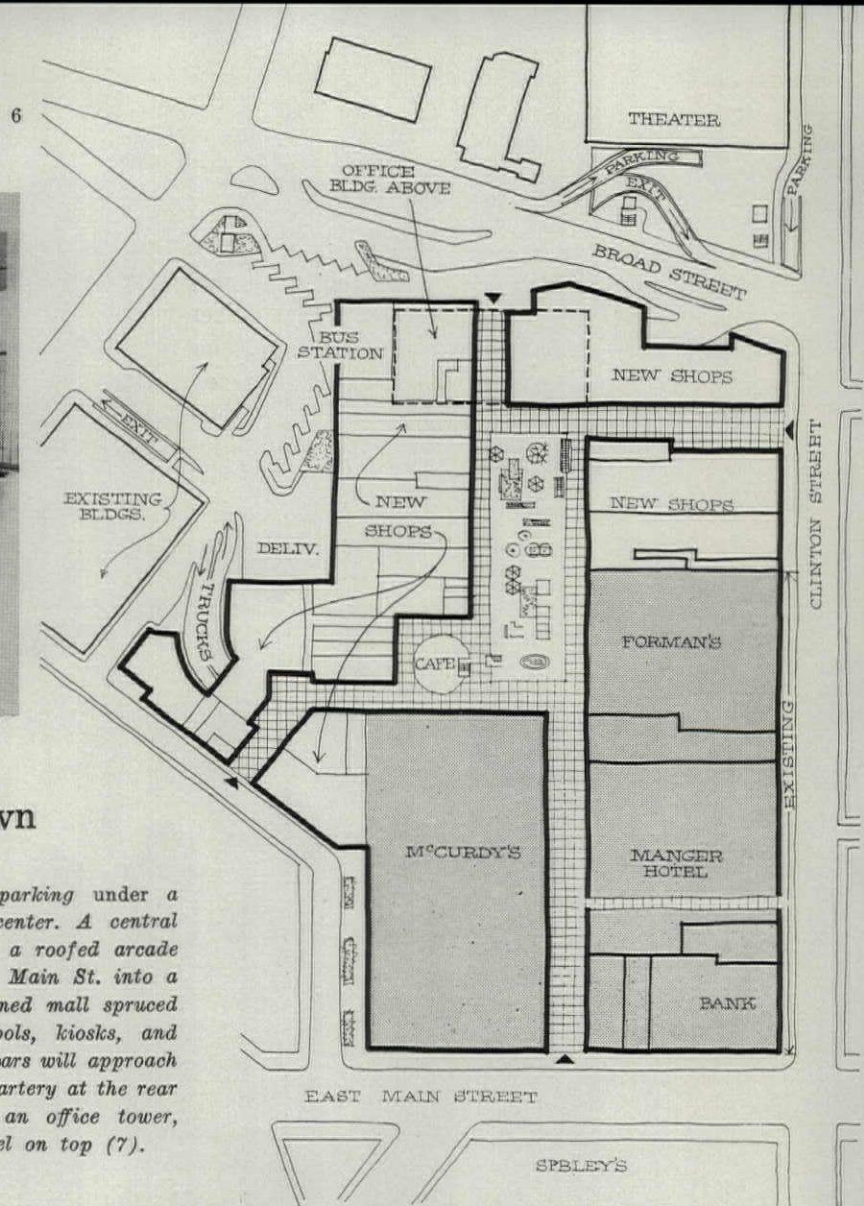


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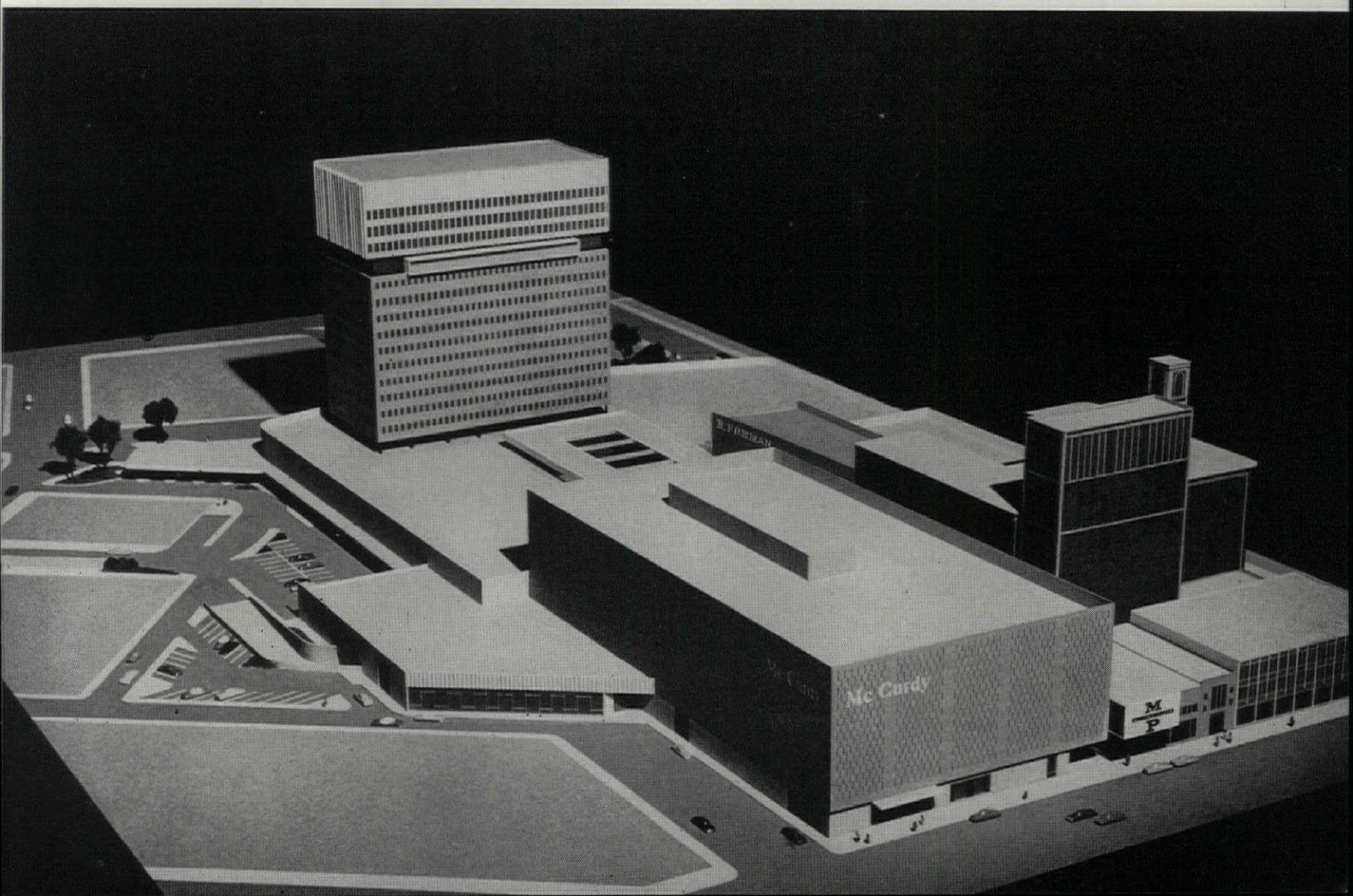
## Midtown Plaza: new key for downtown

Rochester's first moves downtown were new city parking garages behind Main St. department stores (1). In front of such stores as giant Sibley's (2) congestion persists and is visually compounded by odd blocks and corners piled high with billboards. Directly across Main, however, the owners of McCurdy's and Forman's have bought up old properties behind their stores (3) and are

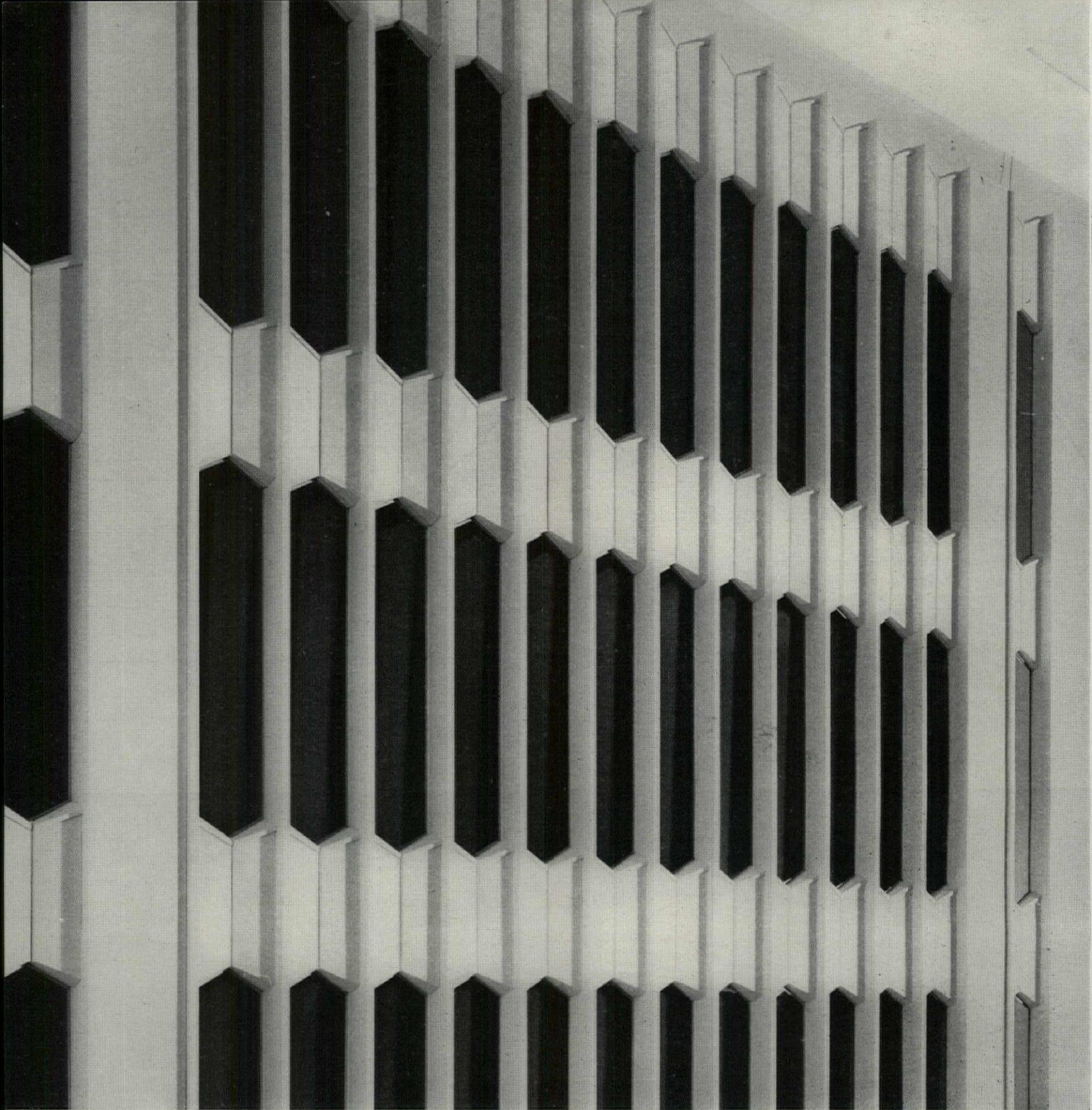
neatly putting their parking under a whole new shopping center. A central alley (4) will become a roofed arcade leading shoppers from Main St. into a skylighted, air-conditioned mall spruced up with planting, pools, kiosks, and cafés (5). Buses and cars will approach from a new Broad St. artery at the rear (6). Above will rise an office tower, with a three-story hotel on top (7).



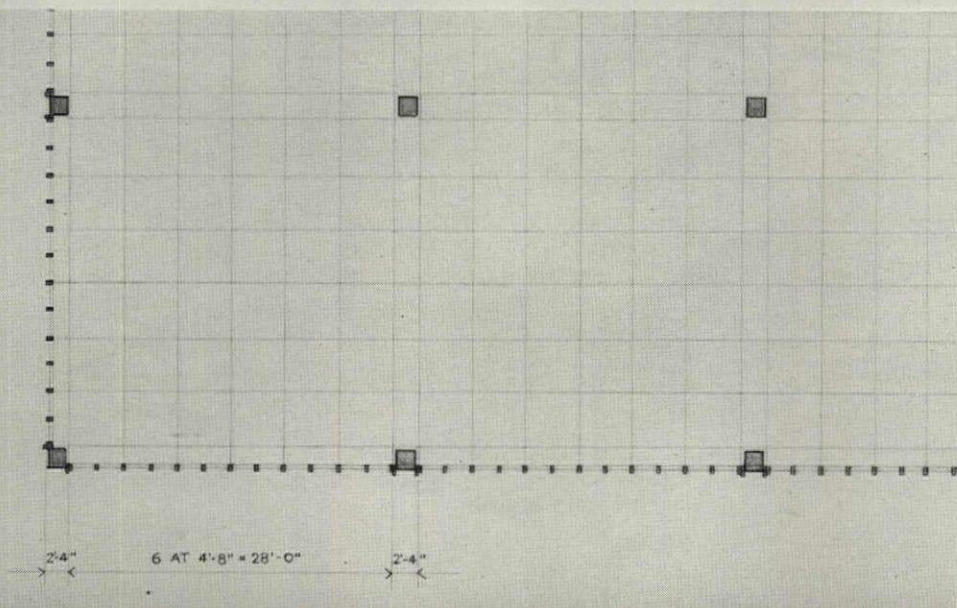
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PHOTOS: BALTAZAR KORAB



Precast concrete wall of the projected 30-story Michigan Consolidated Gas Co. building in Detroit was designed to provide small-scale close-up interest as well as over-all continuity at a distance. It has two window units for each 4 ft. 8 in. module. Structural columns are the same width as the window units, making possible the complete coordination of the structure and the module. A typical bay is shown at the left, a model of the building on page 112.



One of today's leading architects reveals the thinking behind his skylit central spaces, his devotion to human scale, and his new interest in precast concrete

## A conversation with Yamasaki

Talking to Minoru Yamasaki, one gets the impression that his best-known buildings represent key positions in a personal odyssey. The famed St. Louis Airport done by the partnership of Hellmuth, Yamasaki & Leinweber is a work of anxious and adventurous youth. The McGregor Conference Center at



Wayne State University (foreground, in model above; Education Building in background) reveals a new attitude toward life and a new approach to architecture following his recovery from a serious illness (FORUM, Aug. '58). His latest projected work, notably the new buildings for Oberlin, Carleton, and Wayne and the 30-story headquarters for the Michigan Consolidated Gas Co. in Detroit's civic center (done by the Associated Architects and Engineers Minoru Yamasaki-Smith, Hinchman & Grylls) mark the emerging assurance of a mature artist.

Unlike his contemporaries, 46-year-old Minoru Yamasaki is not frantically widening his range of forms—he is narrowing it, much in the way he has narrowed his activities to concentrate on the buildings themselves. But now, having earned rare freedom and opportunity to select commissions, he faces a new and typically American challenge—a challenge of success. That

he is aware of this was evident as he hung up the telephone in his deceptively tranquil office and faced his visitor again:

"This really gets to be silly. That was another invitation to give a speech. One day you are nothing and the next day you are something—and then you don't have time to work. You know, going to dinner and being applauded and that kind of thing is not the joy of architecture. The joy of architecture is walking into the building you've just finished and seeing that somehow it has come off. And this joy means months and months of hard work.

"I suppose this is part of the public's eagerness for architecture. The popularity of the architect tends to go along with it. But there's no point to it if it is just an advertisement. This is something we confuse our youngsters about. So many of them try to do a sensational job instead of seriously attacking the problem as such. They have to go through a period of growing pains such as I have gone through before they can say 'Boy—this is really serious business.'"

*Certainly a building of the size and location of the Gas Co. building is serious business.*

"And a great opportunity. First of all, this building has the finest site in Detroit—on Woodward Ave. opposite the City-County building and in the center of the open area of the civic center (model photo, page 112). And then, we've got a great client in President Ralph McElvenny—it takes one, you know, to do a good building. Another thing: rarely do you get a chance

to do a skyscraper with all four sides exposed. Usually you have to back up to another building.

"From the start, I felt that the Gas Co. building shouldn't merge completely with the governmental buildings around it. But if we did a metal building, for instance, in this marble civic center, it would be rather rude to the neighbors. So we wanted to do a white building. Obviously, if we did a white building, we'd do a precast concrete building.

"Being in the center of the civic center, it made sense to be higher than the City-County building, but we had to prove it—first to ourselves and then to others. The proof came when we made models of various low buildings for the site. With those buildings, the Union Guardian building, which is the red brick building behind us, looked like the top part of our building.

"With our first shaft-type design we had a girdle or porch around the bottom of the building, but then we got floor areas that were too small—the site is only 130 ft. by 160 ft.—and the building seemed complicated. So we finally settled on this tall, quiet shaft."

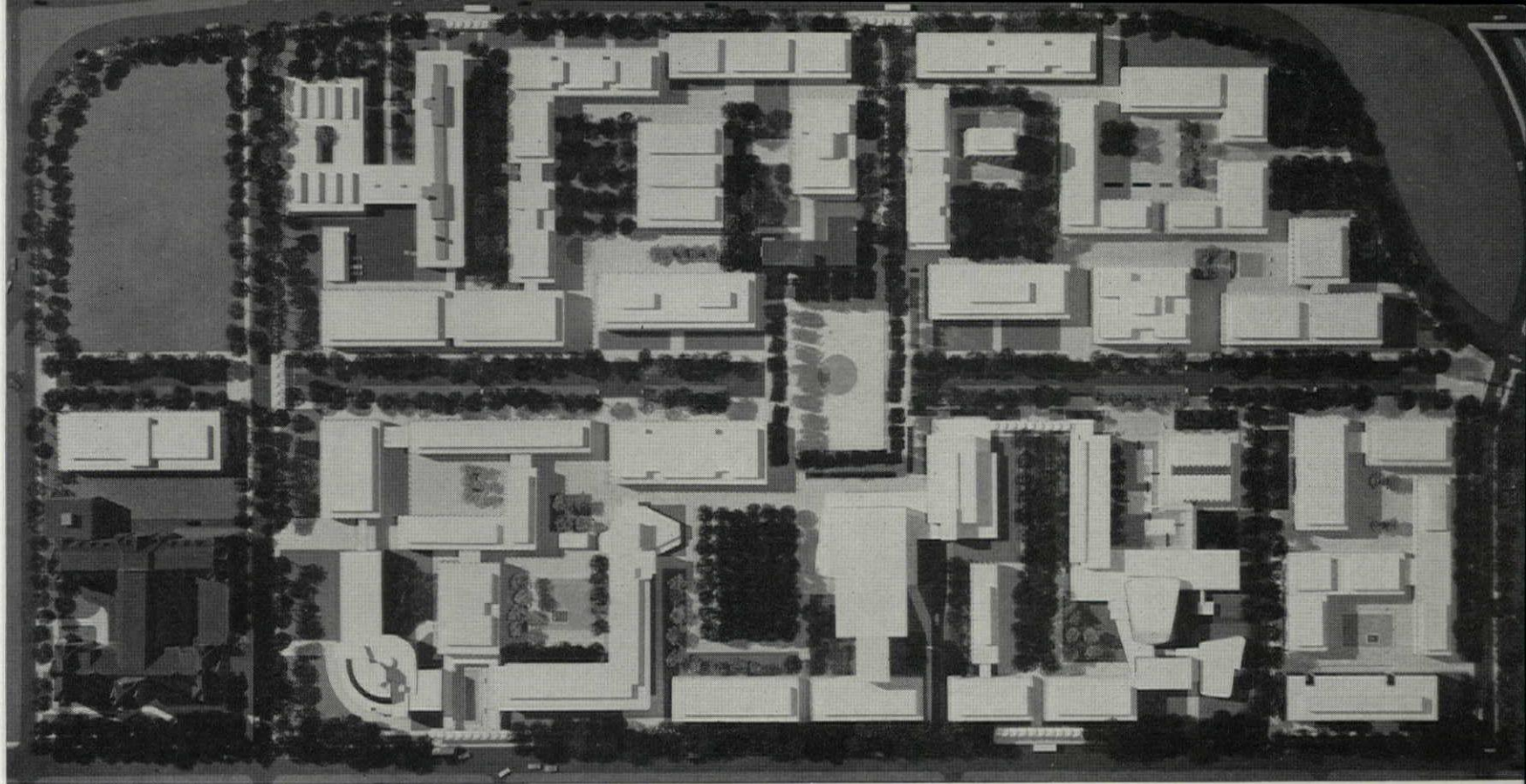
*To my knowledge, this is the first tall building in which the structural column facing and the window panels are the same half-module width. Why did you break the module into two window units instead of one?*

"By breaking it up into two units, first of all, we get a slender, vertical look. Personally, I like the vertical line much better than the horizontal because it seems to give an aspirational quality. Incidentally, that's one of the reasons for the angled window heads and sills.









PHOTOS: BALTAZAR KORAB

Wayne State University master plan forms an urban landscape by using a sequence of small courts reaching off of a main spine. Buildings cover 60 per cent of the land. High coverage and a rectilinear court plan fit the large university (37,000 students are expected by 1970) into 63 available acres.

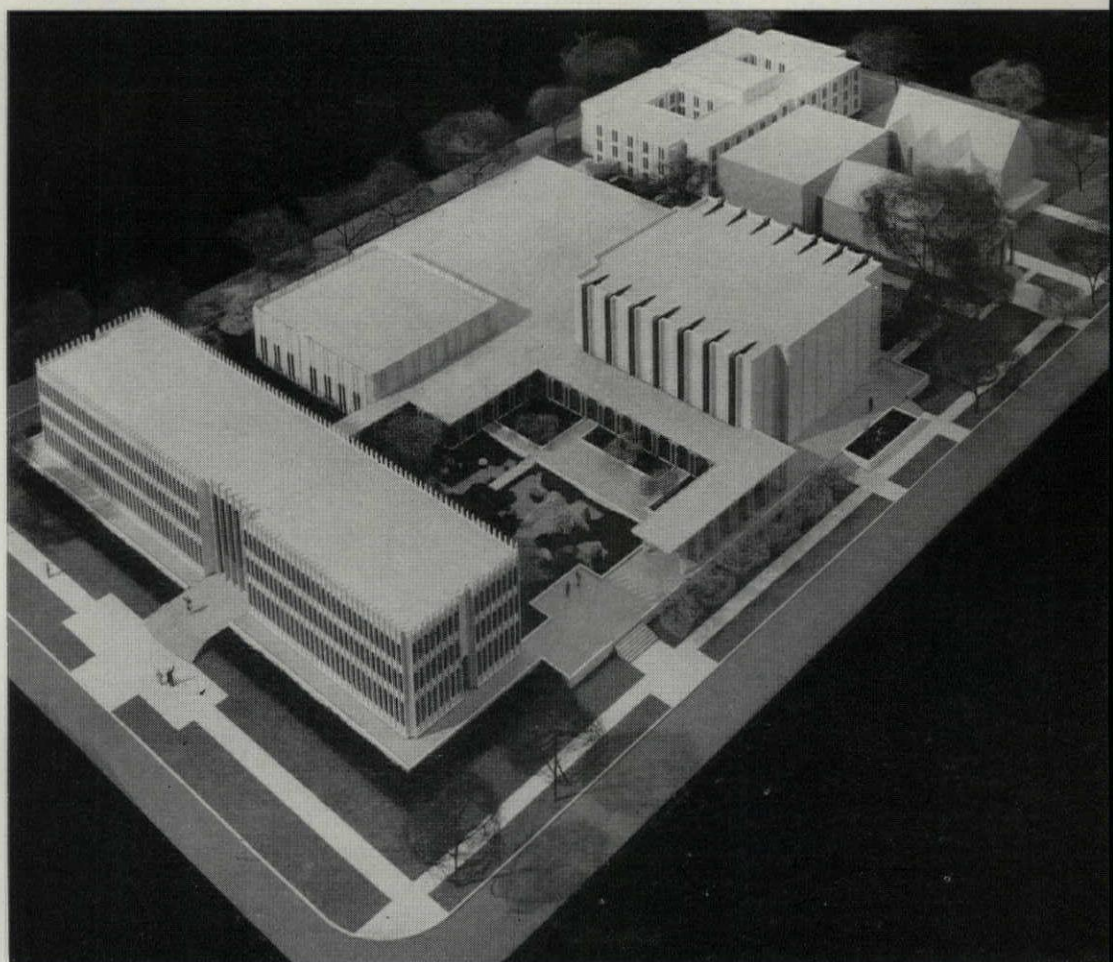
me when I check it mentally against a lot of basic convictions. Every serious architect knows that an honest structure is a very important thing. We know also that we have to be true to technology. All this is second nature. Then, beyond that, we have certain images of beauty which, I suppose, are matters of preconception. For me, these images of beauty have to do with Emerson's notion that a plant is made of only the essentials arranged beautifully. In other words, there's no padding. I believe in thinness—not economic thinness but esthetic thinness.

"And then there is delight within the building—whatever that means. I guess some people would call it a 'space sense.' Every building should have an interior quality beyond good detailing that is, well, call it surprise, call it almost anything. But it is an emotional experience."

*How do you get the idea for a building which leads to this concept?*

"Well, let me tell you how Reynolds happened. This was one that I worked on by myself for three weeks before I talked to anyone about it. But I just don't sit down and draw all the time. I sit here, or I look at books, or I go for a walk—but at any rate I think about the problem. After three weeks

Music buildings for Oberlin College are scaled to fit the small-town campus. The large teaching unit faces the town square. Behind the small court is a rehearsal building. At the upper right, behind an existing church, is the practice unit.







PHOTOS: (LEFT) BALTASAR KORAB; (RIGHT) RICHARD MILLER



Reynolds Metals building, now nearly complete, has a gold anodized sun screen broken into panels and separated at the third-floor level to mark the building's floors. Interior is arranged around an open court crowned by a lightly framed skylight. The building, which is opposite Northland Shopping Center, will house Reynolds' Detroit office—and provide a showcase for aluminum in construction.

of this I was getting pretty frustrated when I went to the office one Saturday to pick up a sweater—the family was waiting for me, we were going someplace—and when I got to the office I thought ‘Really I ought to work on this for five minutes.’ And I hit it like that—it came very quickly.”

*How long were the five minutes?*

“I guess about an hour. But by then, I had basic drawings and a perspective sketch—enough to know what I was doing. Actually, I work this way all the time. Often I have one of the people in the office working on something for weeks. He does all the space analysis and some basic planning and then I think ‘What am I going to do about this?’ And at some point I sit down and it hits me. But it’s really not a matter of inspiration—it’s a whole process of thinking that builds up and finally breaks through.”

*But with building becoming increasingly standardized isn’t there precious little opportunity for that kind of individual problem solving?*

“That’s one reason why I’m so excited about precast concrete. Here’s where the architect gets control again of what goes into a building. As long as the manufacturer is in control the

architect can’t use his sensitivity. In conventional curtain-wall systems the owner is almost always compelled to choose a stock system because it is dollars cheaper. But in precast concrete, once you cast fifty pieces out of one mold, the mold is paid for and worn out.”

*Is precasting best done at the job?*

“Oh no! One of the reasons I like precast concrete is that we can do it in a shop. I believe in fine finishes, and if you build in a shop you have absolute control of the finish. The work comes out a precision thing—like a piece of steel or plastic. With precise elements you get buildings you love to touch—which is very important.”

*What about weathering? An argument for cast-in-place concrete is that it’s rough to start with and therefore stands up better to weathering.*

“That’s nonsense. Concrete is a highly absorbent material. In the shop, you can produce 6,000 to 9,000 pound concrete, against say, 2,500 to 4,000 pound concrete in the field. If you really shock it, as in the *Schockbeton* process, you can make this strong concrete very dense. And if you set it up so that you have 80 to 95 per cent aggregate surface, you can get excellent weathering.

Then, if you use a silicone on top of that, our tests show a 0.6 absorption factor.

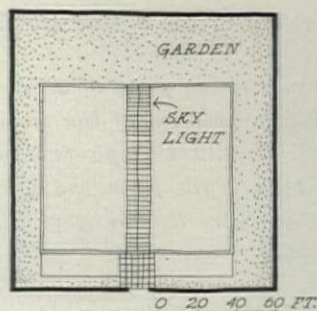
“I think it is very important that we move as much of the building process into the shop as possible. From time immemorial good architecture has meant preciseness. Why should we, who are most technologically able to do the precise thing, accept something crude?”

*Isn’t precast concrete more like steel construction than cast-in-place concrete? It’s an affair of joints, connections, and individual pieces.*

“I think of it as large-unit masonry. Masonry is also an injunctive material, but it is only available in relatively small units. Consequently, a conventional masonry building has millions of joints. But in the Gas Co. building we’ll cast panels at least 12 ft. by 10 ft., and maybe we’ll cast them two stories at a time, which would make them 24 ft. by 10 ft.

“Now, we hope to eliminate the masonry joint and replace it with a piece of spring stainless steel in a formed channel between the panels to keep the water out. Then we’ll calk behind the spring steel and design the front of the joint so the water can run out. The horizontal joint will be a lap joint. This makes a marvelous system. The





Arts and Crafts Society in Detroit has a "controlled environment." The building is a "glass box" behind an intricate brick wall built at the lot lines. Space between building and wall (sketch plan, above) is paved with gravel and planted like a Japanese garden. A utilitarian central corridor (below) becomes an elegant exhibition gallery by virtue of a skylight and an open stairway.

neighboring panels can move independently without expensive expansion joints, too."

*How are the precast members fastened to each other or to the structure?*

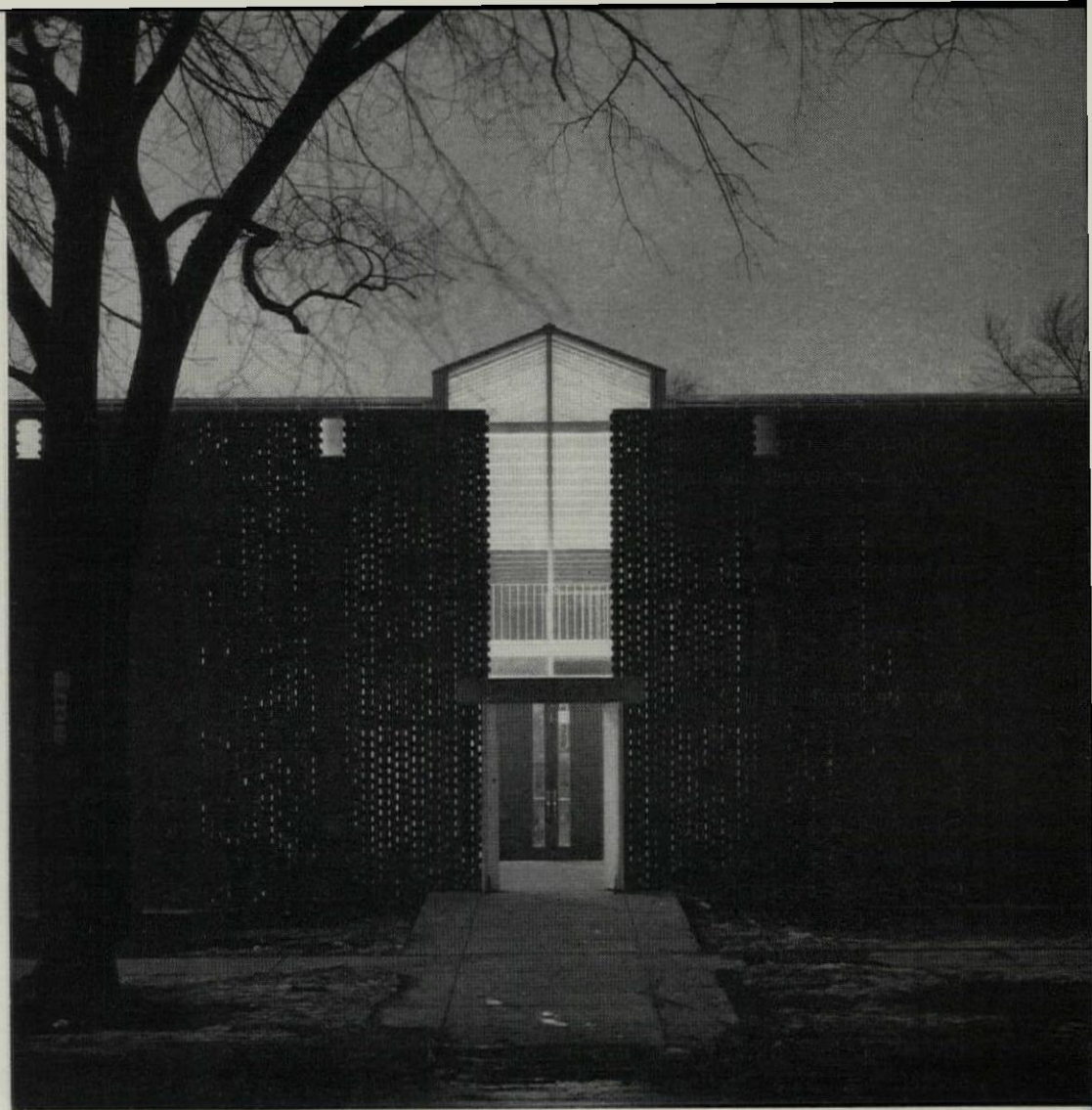
"There are angles buried in the concrete at critical joints. These are welded to the structural frame on the job."

*How do you insulate the panels?*

"It really isn't necessary. When you think of all the  $\frac{1}{4}$  in. glass buildings around the country, why should you insulate a 6 in. piece of concrete? All we do is put enough heat on the inside of the wall. I think we have to play it that way, because if you start to make sandwich panels it really gets to be expensive. This is one reason we make the concrete at least 6 in. thick. I'd also be afraid that thinner sheets would crack in an outside wall. Concrete has to have some mass."

*It has been said that this is a steel building country. If this is the technological fact, isn't it the job of architects to develop a series of steel systems which could be standard and used for vernacular building everywhere?*

"I don't agree at all. In New York, or in a few other big cities, perhaps



PHOTOS: BALTAZAR KORAN





steel is predominant. But elsewhere most buildings are more logical in concrete because they're low. The Wayne education building, for example, came in for \$19.40 a sq. ft. Certainly you could get a steel and curtain-wall building for that, but our building is going to be a much richer building.

"As for vernacular building, I think this is a real false goal. What we ought to do is to decide what kind of an environment we want in our society and then work toward it as naturally and simply as possible. I think it is quite wrong to say 'Look, this is the way we must all go.'

"At any rate, I don't think we ought to think about the vernacular style until we've got the models for it. We really have only one or two buildings that take the top of your head off. In every other contemporary building we admire the technical details, or the craftsmanship, or the proportions, but never the whole thing. In Rome alone you can wander around and see hundreds of buildings which are really something. The Italian Renaissance was derived from a philosophy and a technology, but within it people like Bernini and Michelangelo could really work individually. That's why I'm so interested in precast concrete. Right now we're fettered by the grid system we've had to work with. With precast concrete much more individual expression can come out."

*But do we have room for individual expression in our tightly built cities? For example, don't you wish you could build a city all by yourself? Wouldn't it be a pretty wonderful place?*

"I don't think it would be wonderful at all. I think it's wrong for one person or one group to build a city. A city ought to grow naturally with the help of many minds. It ought to represent the fact that we are an individual thinking society. Consequently, I don't think an architect ought to stamp himself all over the city. An architect contributes best when he can do individual buildings or complexes."

*Does this jibe with your master plan for Wayne University (photo, p. 113)?*

"Actually, I agreed with the university right off that we weren't going to pinpoint or plan every building. All

we were going to say was this is *about* the way we should do it. The philosophy we came to is that Wayne, as an urban university, should make intense use of land. The campus is a superblock of 63 acres broken into courts. Some of these courts will have a water floor, some a grass floor. But most of them will have a paved floor because the pedestrian traffic demands will be so heavy that grass would be ruined. We think of this as urban landscape, like an Italian city.

"Before we prepared our plan, the university was thinking in terms of building one square foot of building for every one square foot of land. Averaged over four floors that means 25-per-cent coverage. Now, we've gone two and a half times that, which boosts coverage to 60 per cent. In a campus where the automobile will be excluded, I think that's an advantage. It reduces walking distances and I think spaces are actually nicer when they are small."

*The only thing a small court-type scheme lacks is an organizational sense. How do you supply this organization at Wayne?*

"We expect to close Second Boulevard, which is the north-south axis of the campus, in a year or two. It will become a landscaped mall which will be the main point of reference, so that the number of courts on either side of it will not be so many that you can get lost. Although we don't intend to connect the buildings with arcades, we do plan that the new buildings will have arcaded first floors as much as possible. So you can use the arcades to walk through the campus. The framed scene that you get as you walk along an arcade is very pleasant, especially when the outdoor spaces are small."

*There will be many architects working on Wayne buildings, won't there?*

"Yes, with 16,000 students now on campus, and 37,000 due by 1970, they need a lot of buildings. And when there are this many buildings close together in an urban scene, I don't think one architect ought to do them all. Not only does this make the campus monotonous, but a university is a place of many ideas. So why shouldn't there

be a variety of the best ideas in architecture as long as they stay within the framework of the master plan?"

*From a siting point of view, how did the design problem of the music building at Oberlin College (model photo, page 113) differ from the problem of McGregor or the Wayne Education Building?*

"Of course, at Oberlin, Douglas Orr is doing the master plan. But the building design problem we had there was very different from the building problems at Wayne. First, Oberlin is a small town and the campus is on the streets of the town. Land need not be so intensively used. That is one of the reasons why we moved back from the Square with smaller buildings. We didn't want the buildings to overshadow the residences. We needed three units—one for teaching, one for rehearsal, and a practice unit. Since the teaching unit was symbolic of the school and was the largest unit in the program, we located it on the Square.

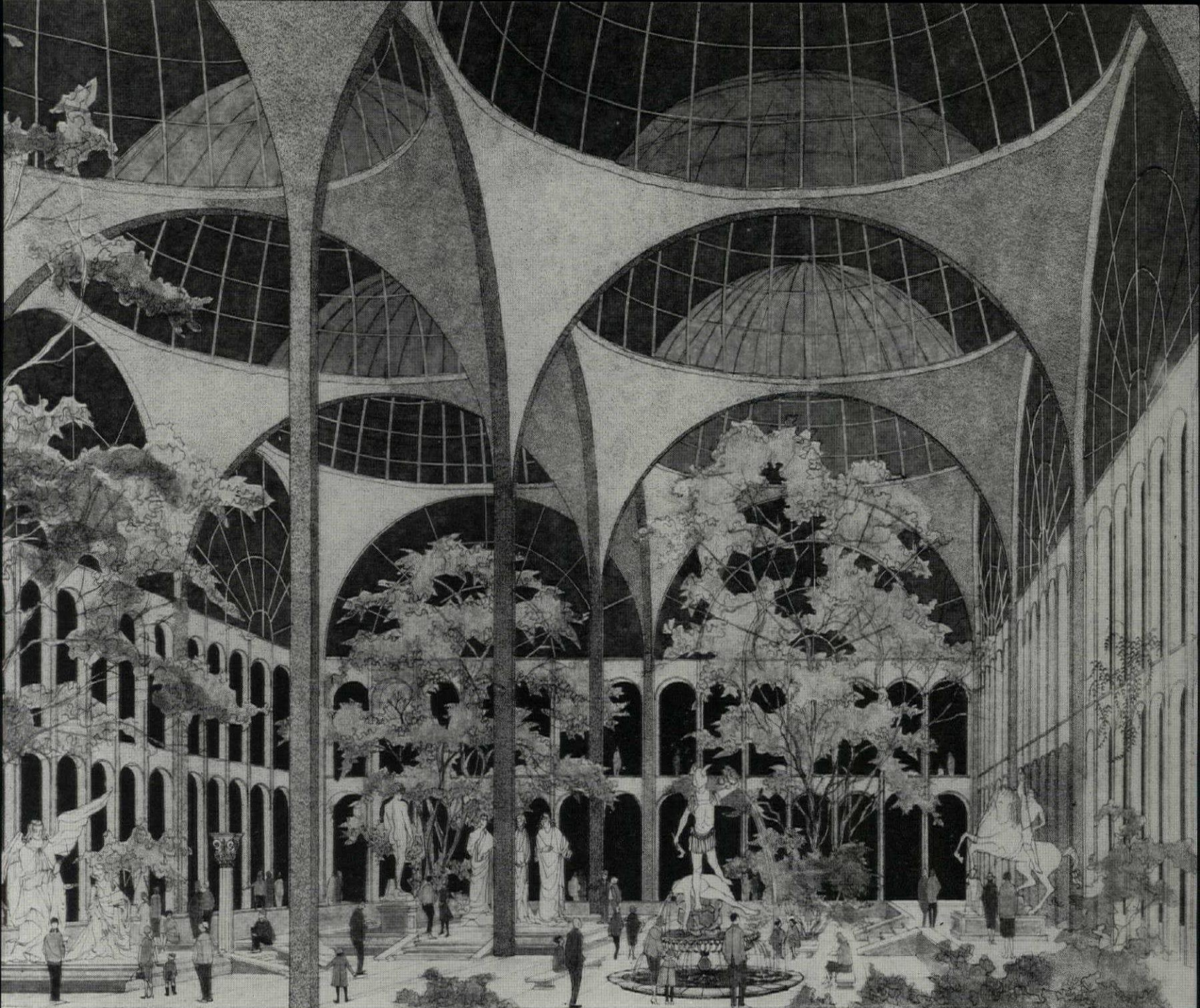
"We wanted to fill in the perimeter of the Square as much as possible. This hasn't been done at Oberlin, and it needs to be done, because Tappan Square is a very large, treed area. If you have more treed areas beyond the Square, then the Square itself becomes nothing—it leaks out to the sides. We also thought that a white building would be very good on the Square because as you looked past the dark trunks of the trees the building would sparkle in the distance."

*This morning, when you were having a conference on the Butler Library, you talked about the need for a central space. This feeling that you need a central space is very common in your design thinking. Is it because great architecture is really a single room, a temple, a cathedral?*

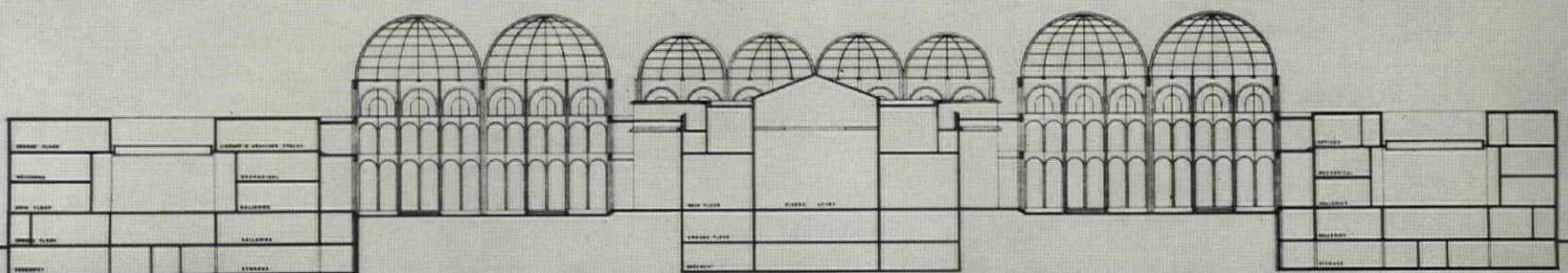
"I'm not quite sure that I like the use of your word 'great' architecture. There's an implication there that everything we try to do is great architecture and that's a wrong premise.

"The reason we want to do this central space in the Butler University Library is this: The library committee, before we were called in, laid out a very practical plan that worked like

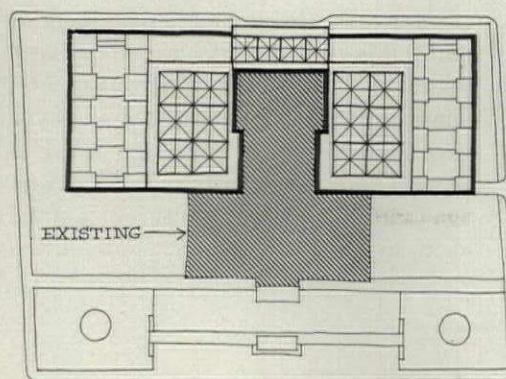




DRAWING BY ASTRA HANER



Proposed scheme for an addition to the Detroit Museum of Fine Arts is organized around two interior courts crowned with glass and concrete domes. Galleries, which will open in clusters off the large courts (160 ft. by 200 ft.), will triple the space available in the present building facing Woodward Ave.



WOODWARD AVENUE



mad for them. But after looking at this plan I felt sure that we could not translate their plan into an interesting building by just putting a façade around it. I think every building must express the experience a person has in it. When you have read intensively for an hour or so in a library, it's very good to get up and go elsewhere for a change of scene. If this can be accomplished in a beautiful way within the building instead of running down to the corner drugstore for a coke, then the library becomes a more useful instrument for the school. This is what the central space should do. It will be a very different kind of central space from McGregor or Reynolds. I don't visualize it as a grandiose space at all. I visualize it as a very intimate space, a lovely space which is fun to be in."

*Of course, at the Arts and Crafts Building (photos, page 115) you have a different kind of central space again. It's really a simple corridor with a skylight.*

"Well, the skylight is a feature of many of our buildings. The excitement of coming from a room with a low ceiling into a room with no ceiling—which is what the skylight does, you see—is really quite wonderful. In our buildings we try to think of what happens to a human being as he goes from space to space and provide the delight of change and surprise for him. If we can have these totally different kinds of experiences within one framework, then, each time you're in the building it's fun to be there. When you have a monotonous fluorescent feeling for instance, and you're there forever—which as far as I'm concerned is eight hours—then it's real boring."

*What if a builder were to walk in here and ask you to do a 1,000-house subdivision?*

"A builder did just that and we turned him down. I think that too many architects in our time take on too much. If you take on 10,000 acres to develop, you necessarily, because of convenience in the office, stamp out repeated units. This is the thing that's hurting us most, whether it's the builder or the architect who does it. We have to care more for our environment than to rubber-stamp it."

*Of course, you're in a very fortunate position—you have enough work so that you wouldn't have to consider doing that job.*

"Yes, we are able to select pretty well what we want to work on. But it's more than that. A long time ago I used to go around ringing doorbells and asking people to vote the liberal way. I spent a lot of time working on the Japanese-American situation. But as I grow older in life I find that it is really better to concentrate on a smaller area. I've been accused of not being interested in the social side of architecture. But I feel that there are plenty of people interested in this—thousands—and there are too few of us trying to create real beauty. And beauty is well worth dedicating a life to. How can you pay attention to every detail and do every piece of a building with loving care if you take on too much? I feel that perhaps we are doing too much."

*You apparently feel that beauty is an outcome of infinite love and care. But isn't it also, in part, an outcome of social attitudes and social convictions?*

"Everything is, in a sense, intertwined and integrated in life. But supposing I had a wheel that was made up of spokes of things that had to be done in our world. Some people would take half the wheel, others would attempt to deal with the whole wheel. I'd rather concentrate on a few spokes."

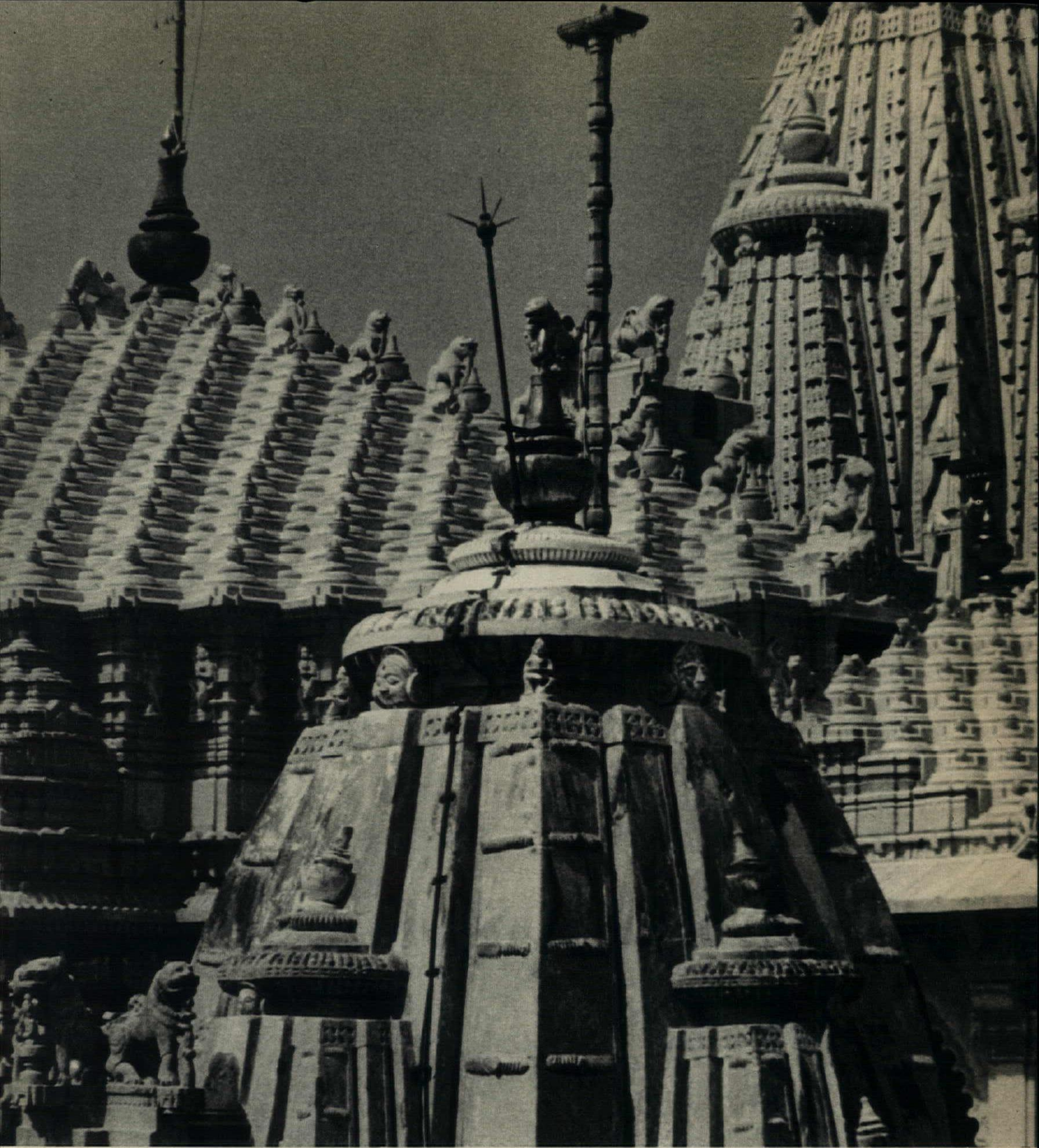
*Obviously you are a much different person than you were ten years ago.*

"Ten years ago I tried to do everything—and I did nothing."

*This is youth, isn't it? Would you advise people to try to do everything before they settle down to one area?*

"I think people have to grow up themselves. I try to tell my children, 'Look, I think these are the values in life.' And I think that's the only thing you can do. I don't think you can take them by the hand and guide them. I don't think this works at all because pretty soon, if they are lazy, they'll let you lead their life for them, and this is very bad. The most important thing is to bring out the creativity in each person and his ability to think and be an individual."

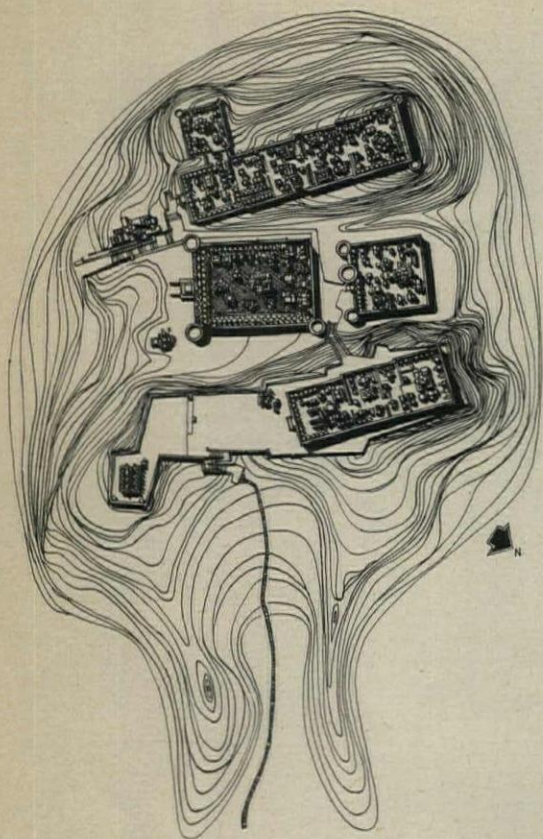




Gallery

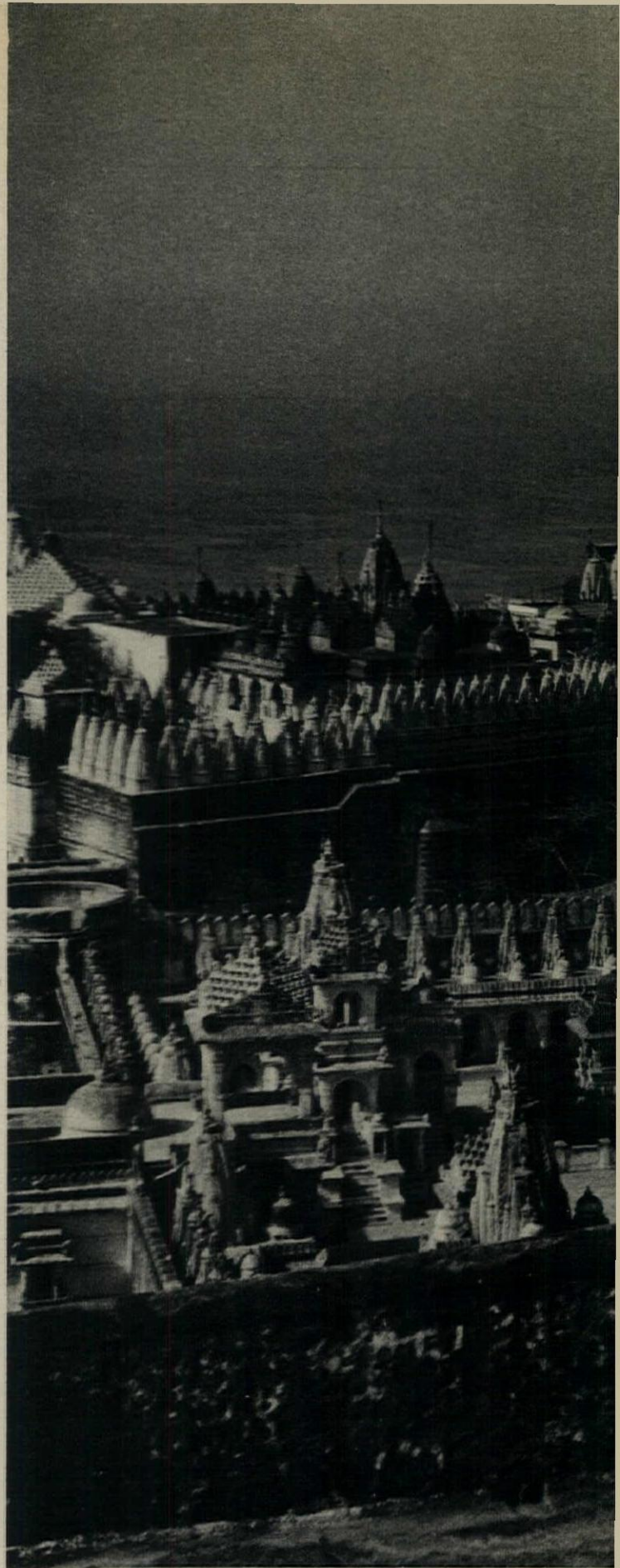
Mountain of a thousand temples





High atop a sacred peak in western India, well hidden from the casual traveler's eye, stands one of the most richly fantastic complexes of religious buildings in the world. Satrunjaya, holiest of the "five hills of the Jains," is a walled city of close to 1,000 temples and shrines, grouped in four compounds on two ridges and a valley in between. It was built steadily over a period of nine centuries by wealthy Jain princes and merchants seeking their own salvation, and was patiently repaired and extended after repeated earthquakes and invasions until it was finished about 1800 A.D. Today it stands as a veritable city of saints, tended only by priests, visited by pilgrims from all over India.

Not long ago David Jacob, a Prix de Rome fellow in architecture on his own pilgrimage in search of form, took the mountain path that winds for four hours up from the village of Palitana. As he topped a final rise, his whole field of vision, and his camera, were filled with sparkling shapes and textures, carved out in infinite detail against an infinity of plains and sky (photo right). Above the visual riches of this acropolis rose the smell of burning incense and the sound of little rooftop bells stirring in the mountain breeze. "Obviously, for these gods," observed Jacob, "there could be nothing less than a total environment!"



PHOTOGRAPHS BY DAVID J. JACOBS







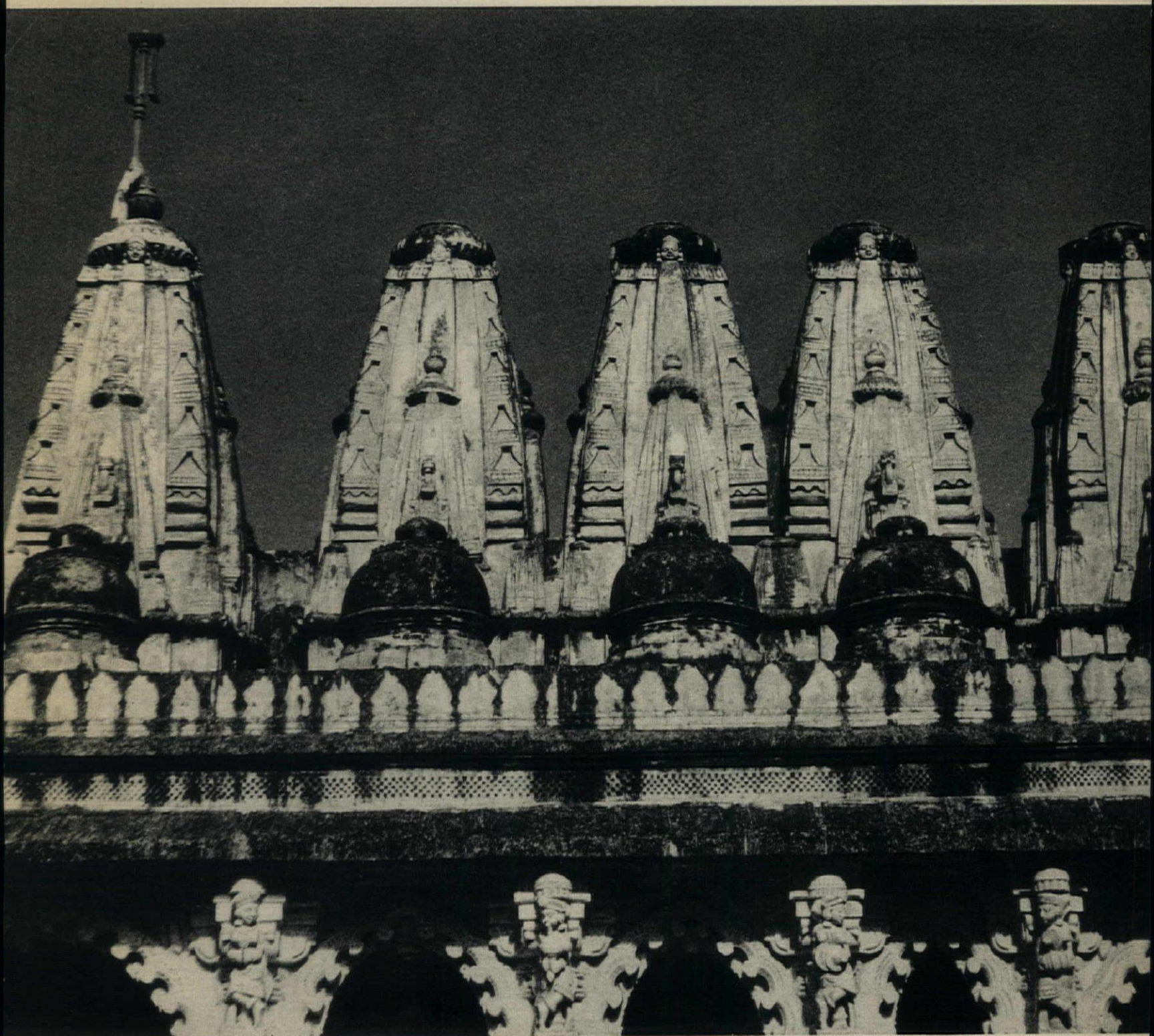






*Like intricate chessmen on a lofty board, Satrunjaya's temples rise from fortlike compounds above the plains and sea.*

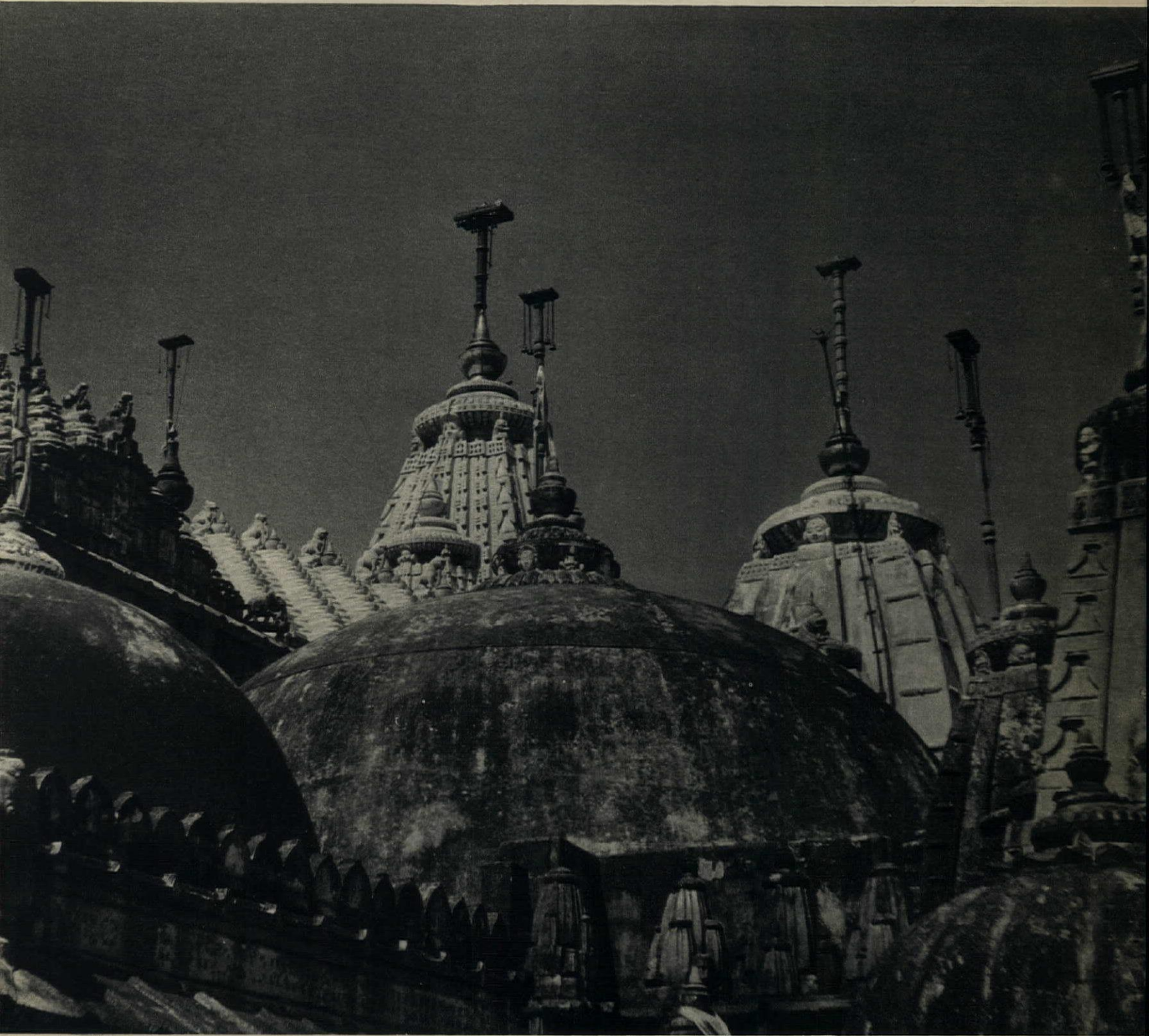




*Stone-hatted shrines march in rough-hewn rhythms along an outer compound wall.*

*Families of low domes and pyramiding "sikras" look down on silent, patterned streets.*





*Above the images of gods and animals, sacred masts transmit the silver sound of bells.*

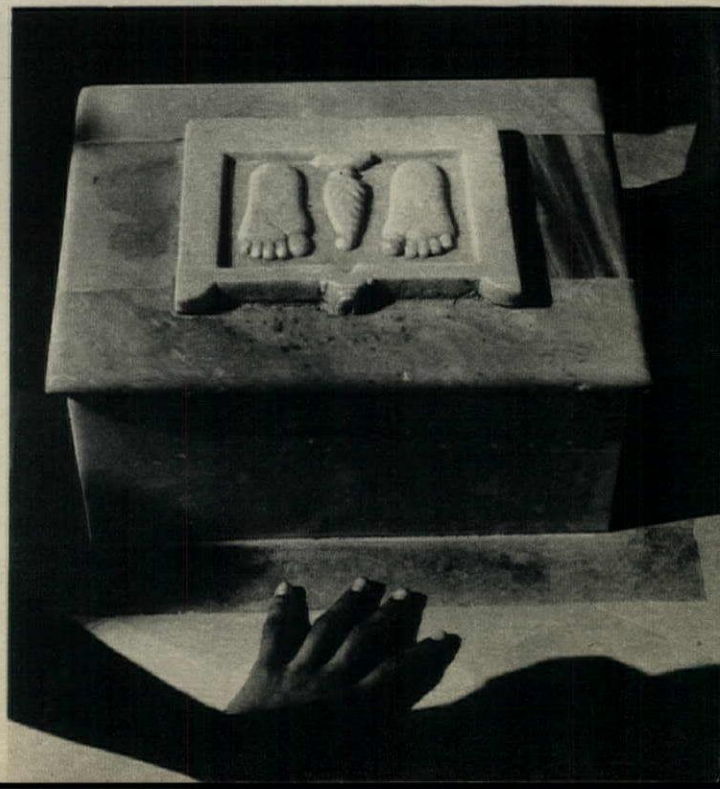
*On faceted temple walls, saints (and possibly some sinners) dance mysterious pantomimes in stone.*





*Detail of a tower: a sharp, simple pattern of overlapping shields ascends in ever larger images of the tower itself.*

*At a temple entry, a quiet, carved reminder: shoes stay at the door.*





# Trailer parks: the wheeled suburbs

Every tenth new home in the U.S. is a trailer, and most of them are now permanently parked in ugly clusters—a new problem for community planners

BY FRANK FOGARTY

In the past decade the U.S. trailer park, one of man's more ingenious efforts at defacing the landscape, has been wheeled around completely. Once the "tin-can" camp of depression and wartime migrants, trailer parks have survived a prognosis of death-by-prosperity to become a brand new kind of semi-permanent settlement. Some three million Americans—two-thirds of them skilled workers, professionals, and retired people—now live in 13,000-odd trailer courts. And the wheeled boxes they call home are far more house than van; all have a living room, one or two bedrooms, a kitchen and bath; many have such embellishments as fireplaces and picture windows (see page 129). What is more, the bulk of these people stay put. Dismal as most trailer parks still are—only about half could even be called adequate—the average mobile home owner now remains rooted to one park for at least two years.

This sudden sedentary turn of mobile life, propelled by boom production of bigger and bigger trailers (since 1952, the median length has grown from 33 ft. to 50 ft., while industry output has soared to 103,000 units last year) has made the trailer park increasingly difficult for communities to wish away or ignore. Historically, of course, cities and towns have done just that: they have either excluded trailer courts entirely from their boundaries, a practice of dubious constitutionality, or consigned them indifferently to industrial or commercial zones where, with few restrictions, they were free to fester with other eyesores. But today, because of the change in trailer habits, there is a growing suspicion within communities that the trailer park may, indeed, fulfill a genuine human need for minimum-involvement housing that it is likely to be around for a good while. The intelligent, democratic policy may be neither to exclude nor to ignore the trailer park but to zone and regulate it conscientiously so that it may be a more pleasing part of the community, as some parks already are.

Trailer living is still relatively new. True, there was the Conestoga wagon,

and there have always been gypsy caravans. But the first mass-produced trailer, generally credited to the now-defunct Covered Wagon Co. of Detroit, did not appear in America until about 1933. And until World War II, trailers were not taken seriously as housing. Though thousands of the depression unemployed lived in factory-built trailers or ramshackle homemade models, the trailer of the thirties, which ran about 20 ft. in length, was intended primarily for travel or weekend camping trips and was considered just too cramped for day-to-day settled existence.

The federal government gave trailers their first real recognition as housing during the war when it bought 38,000 25-footers to house workers around war-production centers. But the idea that they were anything more than stopgap shelter did not emerge until after 1950, when manufacturers first began putting bathrooms into models over 25 ft. in length. (Trailers 25 ft. or under are now classed strictly as travel trailers, and account for only about 20 per cent of total production.) Since 1950, the number of trailers in use as housing has climbed steadily from an estimated 500,000 to about 1.2 million this year. Last year shipments from 200-odd manufacturers, mainly small firms concentrated in Michigan, Indiana, and California, not only topped the 68,000-unit output of the much-touted prefab housing business, but came close to being 10 per cent of all private U.S. housing starts.

Except for the fact that trailers are not eligible for mortgage financing, today's models rate as houses in nearly every sense of the word. They are on the average 50 ft. long and 10 ft. wide (the maximum width allowed by state highway laws), which means they are far too big to be hauled by car and must be towed by trailer-truck. All have at least three rooms and bath, cost between \$3,500 and \$13,000, and are generally fully furnished and equipped. While quality varies widely from one manufacturer to another—the industry is now trying to remedy this lack of a construction





HANK WALKER—LIFE

**Typical park, Hitching Post Trailer Range** near Cape Canaveral missile center, has room for 120 trailers on its 6 acres of flat, sandy land. Raw and crowded, it is laid out on gridiron plan with lots of 35 ft. by 55 ft.

**Outstanding park, Solana y Sombra at Tucson** (below), was designed by Landscape Architect Guy S. Greene. Its 91 trailer spaces, some as large as 5,000 sq. ft., are set back in shade from curved streets.



TUCSON NEWS SERVICE PHOTO

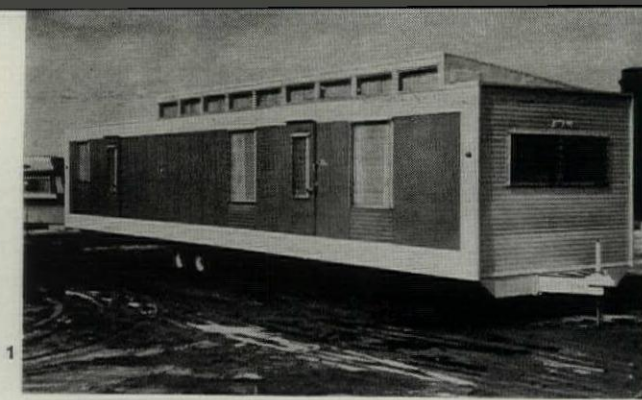
code—the best-selling models, though they are as graceless as diners, are well engineered, ingeniously laid out, and reasonably comfortable, provided one is not a claustrophobe. Indeed, if the standards of the average trailer were even remotely approached by those of the average trailer park, there might be considerable community tolerance of trailer living, which there is not. The rub is the trailer park.

### Scorched earth for rent

Generally speaking, trailer-park operators have made few concessions to the advent of the semimobile home. While the number of parks has been slowly increasing, most camps look as mean and makeshift as they did in the early postwar era. There are many exceptions, of course, particularly in resort areas of California, Arizona, and Florida, which together claim about one-third of all the parks in operation. But the majority, built on a shoestring and run as a “mom and pop” business, are laid out on barrackslike grids, are treeless, devoid of open space, overcrowded (as many as 20 sites to the acre, with individual lots running as small as 25 ft. by 50 ft. for a “ten-wide” 50 ft. trailer), cluttered with wires and TV antennas, and indifferently maintained. In a phrase, the average trailer park possesses all the charm of a motor pool in Kansas in July.

Why this should be is not hard to fathom. For years, park operators have been basking in a sellers’ market brought on by the boom in trailer sales. Good and bad parks alike have been full, and there has been little incentive for quality construction because the cheap park with a full house is often more profitable than a good one. The “normal” return for a good park, which may charge monthly rents of, say, \$40 a site (some luxury lots rent as high as \$150), is figured at 10 per cent a year of the over-all investment before income taxes, plus a 10-per-cent-a-year recapture of the cost of the capital improvements, assuming these to have a ten-year life. This is a far better take-out than that from most real estate investments, but it can be jacked even higher, to 13 to 14 per cent, plus recapture, by shaving costs and by crowding 17 or 18 trailer sites to the acre instead of nine or ten. And, if the operator is lucky enough



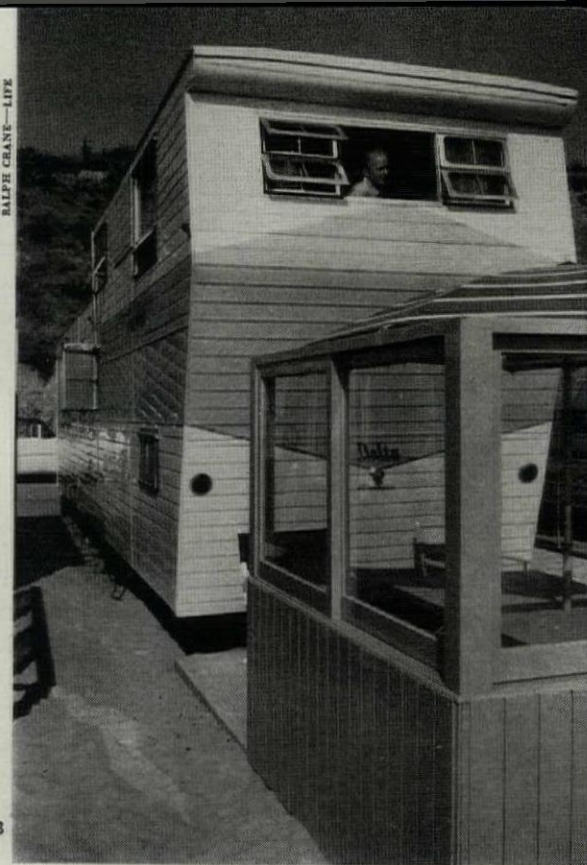


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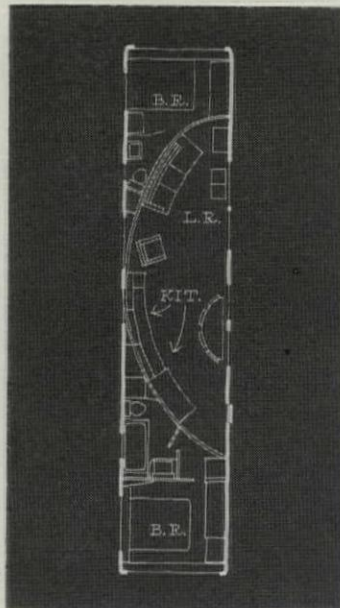
RALPH CRANE—LIFE



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RALPH CRANE—LIFE



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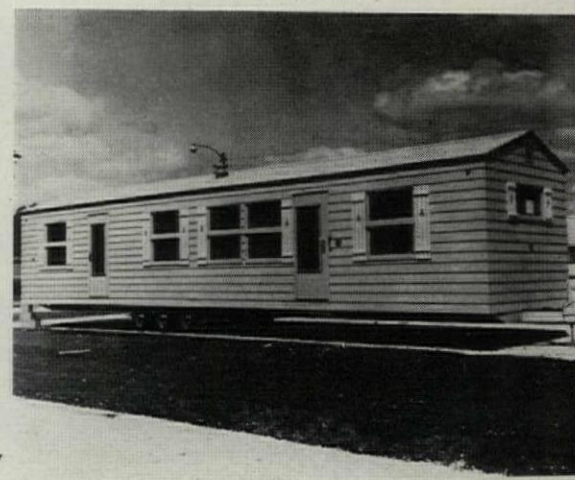
## Today's trailers —inside and out

Trailers, like most autos, have been getting longer, wider, more gimmicky. Best sellers today measure 10 ft. by 50 ft. and some have clerestories (1), and split levels (2 and 3), which add an upper-deck bedroom to two below. One model makes a big living room out of a semicircle (4); several expand walk-through layouts with sections that telescope out (5). All trailers come furnished, right down to draperies, and some have fireplaces (6). A few look like houses (7) or windowed box cars (8), but most just look like huge trailers (9).

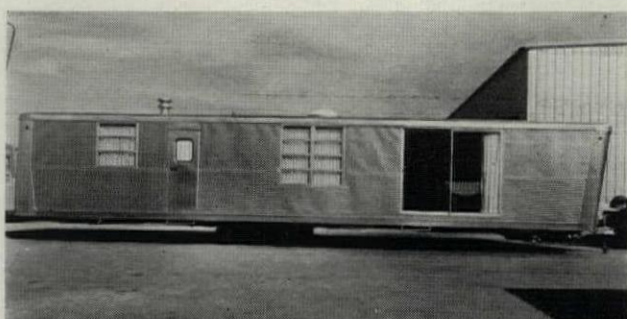


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TONY BOLLO—NEWSWEEK MAGAZINE

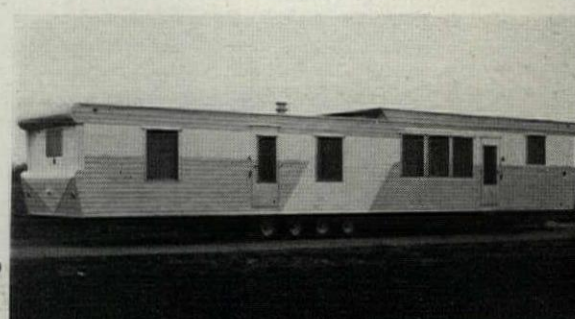


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HOPKINS PHOTOGRAPHY CO.



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to get financing, which normally will have to come from nonbank sources (institutional lenders still consider parks unproved investments and are almost unanimous in refusing to mortgage them), he can really make a bonanza. If, for instance, he can borrow 60 per cent of his entire costs, he can boost net return on his own money to 18 to 22 per cent, plus recapture.

Such inflated profits would be impossible, of course, if communities really imposed stringent standards on park construction. But most local statutes and ordinances which permit parks are minimal, and this perhaps is the nub of the trailer-park problem. Because dense barren parks comply with the law, they get built. And because they do, and apparently operate successfully, the minimums tend to become entrenched as maximums.

Actually, there is no shortage of machinery to regulate parks effectively. Despite a fairly common impression that trailer camps, being hybrids, are beyond the pale of most tax and zoning laws, they are governed by a formidable battery of legislation. Thirty states now have statutes providing for the licensing and regulation of mobile home parks, and towns and cities regulate them, too, usually by specific ordinances drawn under their general delegation of powers to prescribe for the health and welfare. As for taxation, both parks and trailers are now taxed in most states (the latter either by license fees, in addition to highway licenses, or by personal property or real estate taxes). Though the revenue undoubtedly does not pay for the services that park dwellers receive, the trailer population no longer gets a free ride.

The trouble with all the ordinances regulating trailer parks is that they do not go far enough. Many, for instance, fail to meet even the minimum property requirements set by FHA to determine the eligibility of trailer parks for Section 207 mortgage insurance (in practice, the insurance has not meant much, since banks consider the FHA rates too low for parks). And the FHA standards are themselves no great shakes. They do ban the gridiron plan and prescribe "adequate" set-asides of space for recreation and buffering. But they still allow more than 13 spaces per gross acre, which means lots as small as 2,400 sq. ft., and they set no specific requirements for open space.

To accommodate today's block-buster trailers, parks should provide at least 3,000 sq. ft. per space and should reserve at least 200 ft. per space for play and recreation areas. Architect George Muramoto, who is one of the few architects specializing in trailer-park design (as consultant to the Mobile Homes Manufacturers Assn. he has drawn plans for some 500 parks over the last ten years) believes that, considering the tastes of trailer dwellers for close living and the problem of scatteration, there is a maximum to the amount of space per unit, possibly 4,200 sq. ft. But up to this point, park design could be considerably improved by opening up the sites. In place of row-by-row plotting of trailer spaces, towns should require that lots be angled or perhaps laid out in clusters of four or more around cul-de-sacs. Beyond this, regulations should specify a landscaped buffer zone, at least 10 ft. wide, between the park and its environs; should require underground installation of utilities; and should be concerned to

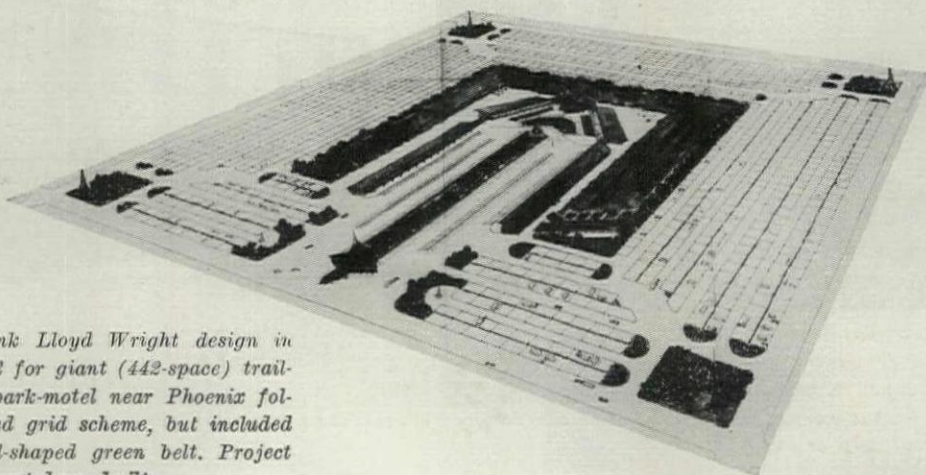
some extent with scale for streets, walks, and street lighting, since the dimensions of a trailer park are not those of the FHA suburbs.

Finally, comprehensive zoning ordinances should give some serious attention to the placement of trailer parks. If they do not incorporate an outside business of any kind, such as trailer sales, which probably should be banned from parks anyway, do they really belong in industrial or commercial zones? Or are they best in some transitional area between commercial and residential?

### The intolerable prospect

Within the trailer industry there is serious concern today about the woeful state of parks and the problems of getting better ones constructed. Manufacturers have gone so far as to form a Mobile Homes Park Development Corp., initially capitalized at \$100,000 to finance worthy parks and also to accumulate credit information on them to the end of breaking the lending log jam. The industry's trade association also has vastly increased the budget of its park department, which supplies guidance and plans to prospective park operators, and combats as well the continuing harassment and exclusion of parks by communities. It has even put up the money for a study, by Professor Ernest R. Bartley of the University of Florida and Planner Frederick R. Blair Jr., of the place of mobile-home parks in the comprehensive plan.

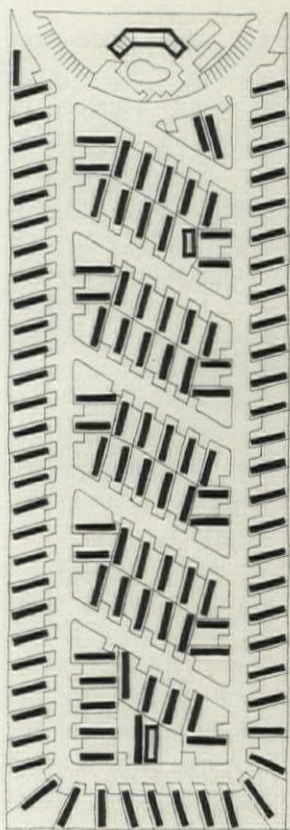
This industry concern is selfish, of course, but it does indicate strongly that most communities are laggard in evolving a rational, democratic policy for dealing with trailer parks. How much longer they can duck this responsibility is questionable, for the pursuit of discriminatory exclusion, or the condoning of slums, eventually becomes intolerable to an aspiring society. What communities are probably going to have to do, and soon, is tackle realistically the problem of parks by requiring them to conform to some meaningful standards. For trailer dwelling is probably going to persist, even if it is hard to understand, and the solutions to its problems are squarely up to America's towns and cities and their planners and architects.



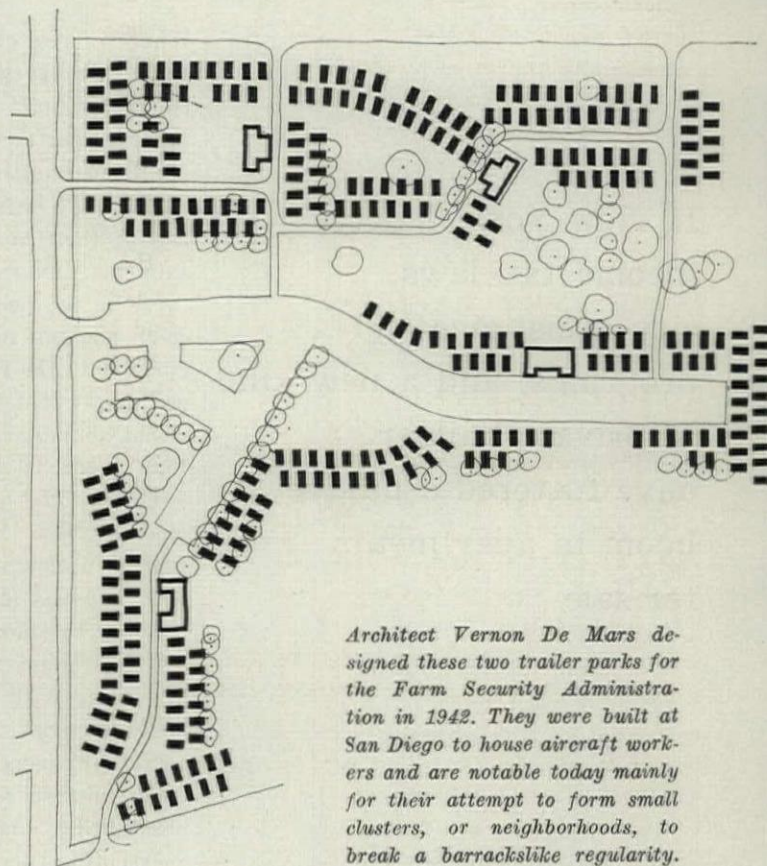
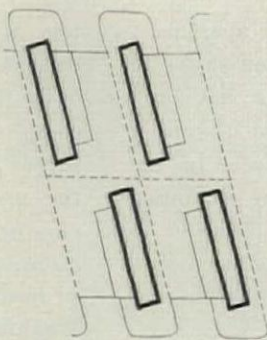
*Frank Lloyd Wright design in 1952 for giant (442-space) trailer park-motel near Phoenix followed grid scheme, but included broad-shaped green belt. Project has not been built.*



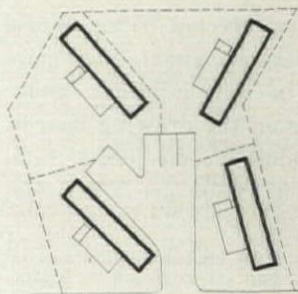
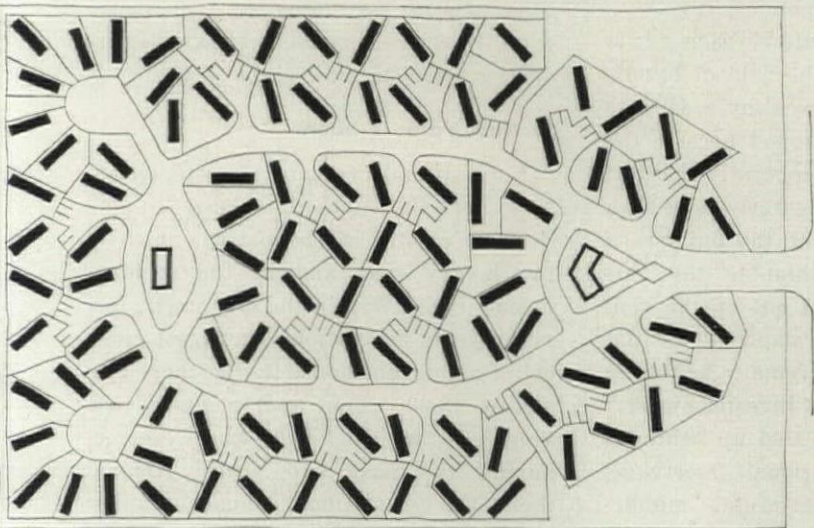
## Four plans for better trailer parks



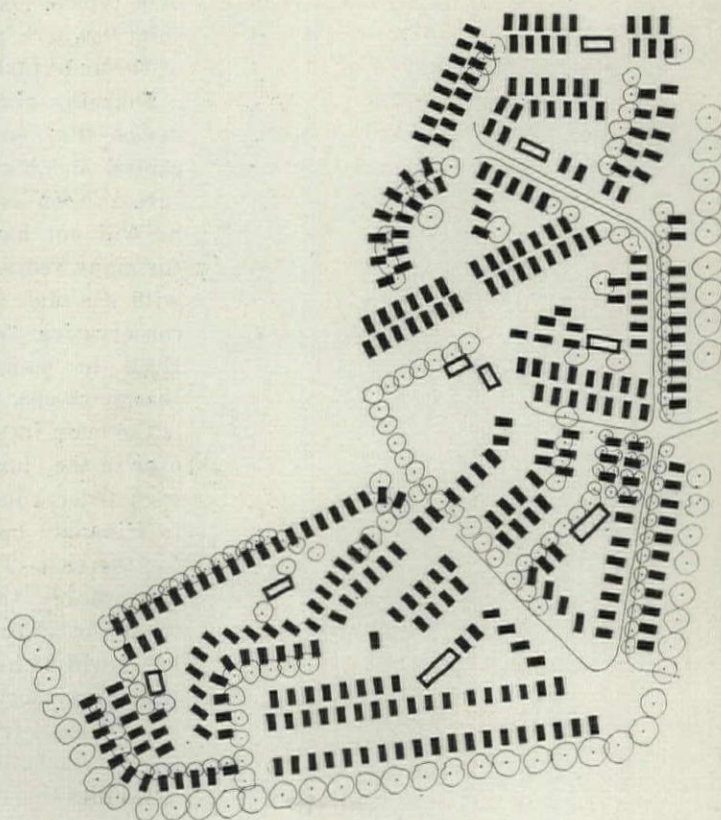
Angling of trailer sites is the simplest way to break some of the monotony of the gridiron pattern. This plan, by Charlotte Johnson for Errol E. McRill, a California firm specializing in trailer-park development, also varies the orientation and size of sites. Basic lot is an above-average 40 ft. by 75 ft., but some sites run as big as 45 ft. by 75 ft. Pool, play area, and guest parking are grouped in a semi-circle at entrance to park. Density: about nine sites per acre.



Architect Vernon De Mars designed these two trailer parks for the Farm Security Administration in 1942. They were built at San Diego to house aircraft workers and are notable today mainly for their attempt to form small clusters, or neighborhoods, to break a barrackslike regularity. Although De Mars had to work with high densities, he did preserve trees and as much of the landscape as he could. And he achieved a graceful movement in his plans, something entirely lacking in most parks today.



Cluster scheme, designed by Architect George Muramoto, is recommended by Mobile Homes Manufacturers Assn. This particular version calls for ten trailers per acre and specifies a 110 ft. by 130 ft. module for every four sites. Streets are curved, and each module has its own five-car parking "Y." Muramoto reserves roughly 300 ft. per trailer for recreation areas and also sets aside a 10 ft. strip around the park as a buffer.





# Co-op housing: N.Y.C. vs. U.S.A.

In New York, federal income tax laws, city assistance programs, and a new kind of private builder have fostered a unique boom in apartments for sale

BY STEPHEN G. THOMPSON

Wherever real estate men or apartment builders congregate, talk soon shifts to co-op housing. It concerns not only luxury apartments but also the need for large multifamily projects in the nation's big cities to halt the continued loss of their middle-income families to suburbia. Invariably, too, the discussion turns to the peculiar preponderance of co-op housing in New York City, compared with the rest of the country. It is not simply that New York has an exceptional abundance of luxury co-ops, but that there is a conspicuous lack of middle-income co-op apartments elsewhere. New York has built 32,000 middle-income units, mainly since the war, and has almost as many in prospect for the next few years.

Co-op housing is full of paradoxes beginning with the contradictory term "luxury co-op." In other fields, cooperatives are usually organized in behalf of consumers for reasons of economy, eliminating middleman costs, securing rock-bottom prices on stable commodities; they are usually shunned by middlemen and producers, who would not think of selling automobiles, say, on a reduced-price "cooperative" basis. It is just the opposite in the field of luxury co-ops. Although the wealthy occupants of a typical luxury project become the joint "owners," the "cooperative" aspect of the undertaking is scarcely more than a financing gimmick of the builder—a device that enables him to take his capital and his profits out of the venture as soon as it is completed, so that he will not have to remain locked in for many years as an "investor-owner," with a sizable equity tied up behind a conservative, "conventional" mortgage. Even in many lower-profit, middle-income co-ops, this quick builder profit is the main incentive to building. Moreover in the "luxury" market, ironically, high federal income taxes have tended to stimulate housing construction only for the rich. The higher a purchaser's tax bracket, the higher he is willing to go on a co-op apartment, for the lower will be his relative expense, after deducting mortgage interest and real-estate taxes from his taxable income. So when a builder decides to build luxury units, he might as well go wholehog for luxury and cater to the very

top of the market where sales are easiest.

In the slow but steady increase in co-op construction around the nation, there has been no way to measure the growth in conventionally financed (mainly luxury) projects. But more and more builders are announcing plans for projects of this type in such cities as Washington, Milwaukee, San Francisco, Phoenix, and lately in Florida resort and retirement towns.

Much easier to tabulate has been the nationwide expansion that has occurred simultaneously in the more truly "co-operative" middle-income market, as measured by the number of Section 213 FHA-insured projects. In the year that ended April 30, for instance, FHA insured 25 new "management type" projects containing a total of 3,279 dwelling units. This raised the total for the nine years that FHA has been insuring co-ops to 179 projects containing 29,803 units—mainly in the New York City area. Outside of New York State, FHA insured ten projects containing 1,002 units during the year ended April 30. This was a fat 25-per-cent increase over its entire non-New York activity during the previous eight years.\*

## In New York: a boom

For special reasons, metropolitan New York City is the unrivaled "co-op" housing capital of the nation, both in the luxury type and in the middle-income type. Within the city itself, for many years the nation's strongest citadel of apartment-house living, there are almost 43,000 co-op apartments of all kinds—of which 3,600 were erected during the past two years. Among these, the conventionally financed units (primarily luxury co-ops) total close to 11,000, including about 3,200 units in 26 buildings erected since World War II, and there are about 1,500 more luxury units in ten buildings under construction or on the drawing boards. The city's middle-income units total 32,000 of which 19,500 are FHA Sec-

\* Through April 30, FHA also insured 826 developments containing a total of 24,239 units of Section 213 "sales type" cooperative houses. In these co-operatives each member is a stockholder in a construction corporation that erects houses, but upon completion each receives title to an individual house and plot on a separate, individual mortgage.



tion 213 units built during the past nine years (virtually two-thirds of all the FHA co-op apartments in the entire nation), and 12,500 are units aided by various public subsidy programs (Title I land write-down, 90 per cent state and city low-interest mortgage loans, and various degrees of real-estate tax abatement).

#### **... aided by federal tax laws**

There is no mystery in the boom in luxury co-ops in New York City, where some new buildings sell for more than \$8,000 per room plus cooperative mortgages averaging another \$8,000 per room—a total “cost” of \$16,000 per room! The city has an exceptional concentration of wealthy (and tax-conscious) residents who can afford such housing. It also has a considerable number of speculative promoter-builders eager to serve this market.

A somewhat different set of circumstances explains New York's large volume of middle-income co-ops. The builder of nonluxury housing is in business for his own interest first—to make savings that will increase his profits or enable him to lower his prices so he can match or better his competition. As long as he can rent apartments in the ordinary manner, there is little incentive for him to organize a “cooperative” for the benefit of his purchasers.

The rules governing a Section 213 co-op offer an incentive for a builder, however, because, upon completion of a project and after its purchase by its co-op tenants, the builder is able to obtain from it his modest FHA-restricted “builder's profit,” whereas in ordinary apartment construction he usually ends up with his profit and perhaps even an out-of-pocket cash investment frozen into an equity in the building (as in FHA Section 220 and Section 207 apartments). Thus, Section 213 co-ops have provided an opportunity for some New York City area builders to put up apartments solely for the sake of a reasonably sure “builder's profit,” notwithstanding the annoyances and hazards of bureaucratic FHA supervision, which includes site approval, design control, “cost certification,” and various restrictions on costs and on sales prices.

Under FHA “high-cost area” certification, New York builders may obtain Section 213 mortgages for as much as \$3,850 per room, or \$1,000 over the regular ceiling. Some new projects are now being sold for down payments of only \$300 per room, and monthly charges of \$28 per room. C. Franklin Daniels, special assistant FHA administrator, has estimated that savings for the average Section 213 purchaser run at least 20 per cent, compared with rent for identical units.

#### **... and city encouragement**

The greatest challenge to other cities around the country is New York City's program of “publicly assisted” middle-income co-ops. These have been sold for down payments in the range of \$300 to \$650 per room, with monthly carrying charges of only \$16 to \$21 per room. These now total 12,500, and there are over 21,000 more in planning.

To reduce the costs and expenses in these projects, the city's principal tools, used in various combinations, have been: 1) land sales to builders at greatly reduced prices under the Federal Title I redevelopment program; 2) varying degrees of real-estate tax exemption, and 3) long-term state and city mortgage loans for 90 per cent of costs at only 3½-per-cent interest.

New York's first “publicly assisted” middle-income co-ops were erected under the State Housing Law of 1926, which authorized the city to grant tax relief to limited dividend (6 per cent) housing corporations or cooperatives. In 1942, further assistance was authorized under the State Redevelopment Companies Law, which allows cities to use their condemnation powers to assemble housing sites and to “freeze” real estate taxes at the amount that was assessed against a site before its redevelopment. The latest aid program, inaugurated in 1955, is operated under the State Limited Profit Housing Companies Act (usually known as the Mitchell-Lama Law). This permits 40-per-cent tax abatement on city-approved middle-income co-ops (or limited dividend rental projects), and so far also has authorized \$150 million of state funds for 90-per-cent mortgage loans for such projects. Co-op project loans by New

York City authorized under this same law have totaled \$70 million to date.

#### **... and a man named Kazan**

Of almost equal importance, however, has been the work of New York's unique United Housing Foundation, established in 1951. This is directed by Abraham E. Kazan, a former garment-union employee who has lived and breathed cooperative housing for the last 32 years—ever since he was placed in charge of starting the co-op program of the Amalgamated Clothing Workers of America in 1927. Without UHF, and Kazan's energetic leadership, many co-op projects would not have materialized.

Ostensibly, UHF is a nonprofit clearing house or research and educational organization, a federation of housing cooperatives, labor unions, neighborhood associations, fraternal organizations, and other nonprofit groups interested in developing middle-income co-ops. At the same time, however, it also has a strong, effective but less publicized, subsidiary, Community Services, Inc. When unions or other local civic, business, or fraternal groups become interested in starting a co-op project, the foundation is able to offer them competent executive direction, on a contract basis, through CSI. In other instances, UHF itself may start a project, and then persuade a labor union or fraternal organization to become the formal sponsor, with the help of CSI to handle the details. In still other instances, if no other organization takes on the sponsorship role, UHF will form a separate co-op corporation that will become the sponsor. In such cases CSI represents the sponsor in negotiating mortgage loans, in winning approval for tax abatement, in arranging building contracts, selling to tenants, and handling all other construction complications.

UHF estimates that New York City's several partial tax abatement programs available to co-op projects save purchasers from \$3 to \$4 per room per month, or \$144 to \$192 per year on a four-room unit. However, speaking about UHF-proposed Warbasse Houses, a 5,200-unit co-op in Brooklyn that would be the largest in the world, UHF director Kazan has said that carrying charges for this project could average

*continued on page 178*



# Those ballooning air buildings

Out of aeronautics has come a new structural principle, and some startling new ideas in air-supported buildings

BY DAVID ALLISON

The most exciting idea to come of age in building since Buckminster Fuller's geodesic dome went into production several years ago is the pneumatic structure. Air supports it and a thin, lightweight plastic fabric is its skin and total structural material. Like Fuller's geodesic domes, and in much the same spheroidal shapes, these air buildings first appeared in the early fifties in the far north as radar-antenna shelters. Both structures proved so useful under these rigorous conditions that traditional shelter systems were quickly forgotten and, ironically, the two new ideas in structure were left to battle it out for the radome and other markets. Today, the air building, reaching spans of 150 ft. and more, in a dozen varieties of structure, has nearly caught up with its older rival, and must be reckoned among the durable new ideas for architecture.

Oddly enough, both domes began to creep back to civilization and into commercial development at about the same time about three years ago. The geodesic dome, under the energetic hand of Industrialist Henry Kaiser (FORUM, March '58), sprouted up from Honolulu to Virginia Beach to Moscow, where, at the U.S. exhibit just opening, it won admiring words from Khrushchev, who said he might steal the idea and put up domes all over the U.S.S.R. The pneumatic dome went commercial on a much more modest scale in 1956, when its pioneer developer, Walter W. Bird, left a career in aeronautics research to set up a new company, Birdair Structures, Inc., devoted to the development and production of many types of air buildings.

To the building industry this event may be a historic one, for the air-supported structure brings to building a new potential: the ability to cover great areas with an easily portable and demountable structure. Indeed, it might be said that the air building is the greatest invention since the tent, except that the tent, by comparison, does not seem to have been such a great idea after all. No nomadic visionary could imagine tenting an entire city with a single fabric, yet this is a possibility, albeit still a remote one, with

the air structure. Moreover, with an air building (but not with a tent) clear spans of 300 or 400 ft. are easily possible: an air dome of half that size was recently designed and built for a missile maintenance structure (photos, right), and a larger one of entirely different design has been worked out for the Ford Motor Co.—with an inside diameter of 300 ft.—for possible use as an automobile exhibit hall (p. 137).

## The ballooning idea

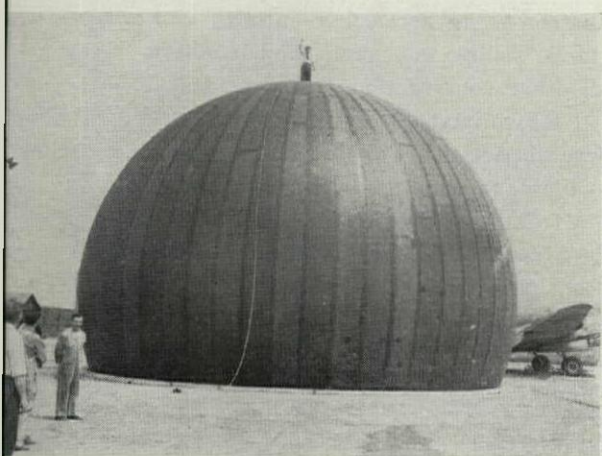
In 1946, when the air-building development began\*, Walter Bird was a 33-year-old engineer at the Cornell Aeronautical Laboratory in Buffalo, a non-profit, independent research adjunct of Cornell University. The U.S. Air Force had come seeking a new method of enclosing the large radar antennas planned for the Arctic, and the laboratory had proposed an air-supported rubber-impregnated fabric enclosure. During the next two years, a C.A.L. task group under Bird's direction designed, built, and successfully tested a prototype air building, and by 1954 there were hundreds of these bubble-like plastic structures scattered across the U.S. and Canada. Two coincident developments had to take place to make such buildings practical: one was the development of materials able to withstand severe exposure; the other was the creation of designs stable under wind loads in excess of 100 miles per hour. The chemical industry succeeded in developing synthetic yarns with strength-weight ratios equal to that of aluminum or structural steel.

As the practicality of air buildings became apparent, Bird's group talked about forming a company to design and produce them. In 1955, as Alvin C. Smith, one of the group, relates it: "We got together in Wally Bird's kitchen one night and tried to think of as many uses for these buildings as we could. We finally stopped at about 70." It was at this session that Bird and four associates concluded that the commercial possibilities were worth risking their

\* After many unsuccessful experiments, going back as far as 1917, among which Herbert H. Stevens' pneumatic factory projects were prominent.

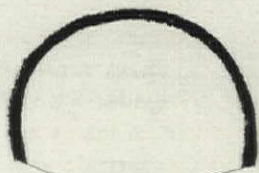
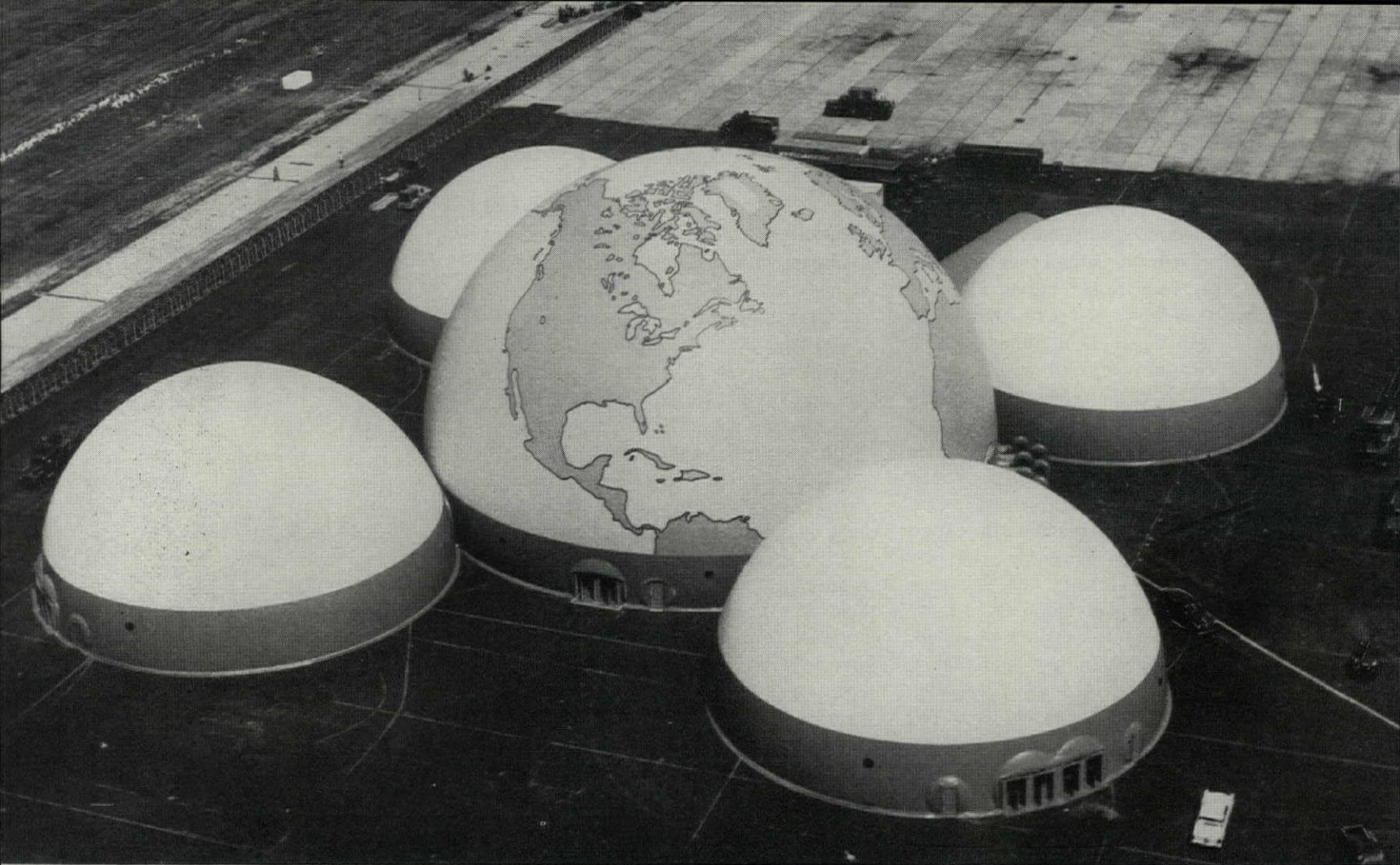


Design team at Birdair: Walter Bird (center), Anson Baschmann (left), production supervisor, and George Reitmeier, chief engineer. Below: Walter Bird atop his first air building, 1946.

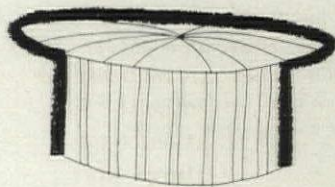


PHOTOGRAPHIC SERVICE, CORNELL AERONAUTICAL LAB





AIR SUPPORTED



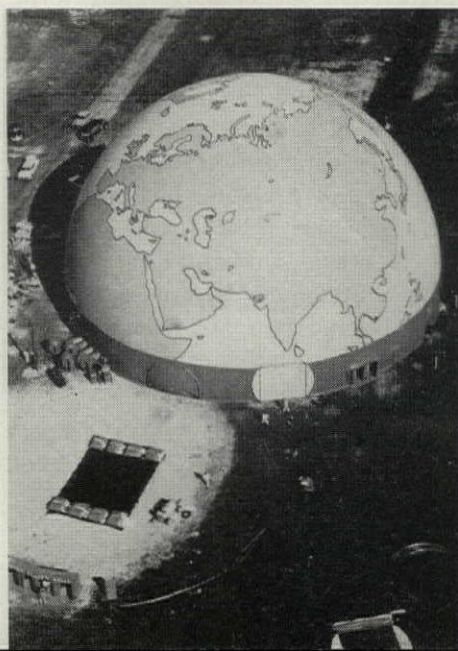
AIR INFLATED



RIB + AIR SUPPORTED

Three basic ideas: Dome building (top) is air-supported. Round building (center) has air-inflated double-walled roof and side panels; pressurized walls carry the roof load. Combination structure (bottom) is normally rib-supported, but in heavy wind it is closed and air-supported.

**Pentadome**, largest military air building so far built, was designed and fabricated by Birdair for the U.S. Army, which will use it as a missile maintenance shelter. Main dome is 150 ft. in diameter, 85 ft. high; smaller domes are 100 ft. in diameter, 50 ft. high. Below: still packaged and awaiting inflation, one of the smaller 100 ft. domes shows the air structure's portable compactness. At right: (top) 12 blowers keep the domes inflated on pressures only 0.03 pounds per sq. in. above atmospheric; (bottom) a long corridor forms an air-lock entry to the main dome. Cost of pentadome, including design, was \$180,000, or about \$3.50 per sq. ft. of covered space.





personal fortunes on. (Collectively, their annual salaries at Cornell then exceeded \$50,000.) They raised nearly \$100,000 among themselves and a few outsiders, and were in business in January 1956.

The new firm started with what it thought were three fairly firm military contracts, which soon fell through, but enough unexpected work fluttered in to see the company through its first hazardous year. Birdair's first major contract was for the design and fabrication of an air-supported radome, but its objective from the start was to spread out into the commercial field, e.g., to produce shelters for swimming pools, enabling year-around use, and temporary warehouses for large, seasonal inventories of crops or machinery. The prospects, in fact, soon looked so good, and the buildings themselves so deceptively simple, that about 50 firms leaped into competition with Birdair, coming from such fields as awning manufacture, tents and tarpaulins, parachutes. Many have since dropped by the way-side, but the popularity of these structures has grown rapidly: Birdair's volume has roughly doubled every year since 1956, when its sales were \$125,000. This year, its fourth, sales will probably exceed \$1 million.

There are a number of reasons for this tingling growth. For one, the idea is so new and imaginative that it quickly finds its way into print: before Birdair was two years old, one of its buildings (a transparent swimming-pool cover) popped up on *LIFE's* cover. But beyond this, Birdair is likely to continue to grow briskly because of its research position: most of the key developments in air buildings have originated either with Bird himself or his engineers. Indeed, the company's most serious problem at the moment is to find some way to slow down its output of new ideas and designs and settle on producing two or three air-building types in volume. The best bets for mass production outside the military market appear to be swimming-pool enclosures and temporary or portable warehouses.

### Three ideas in one

From Bird's basic idea, the air-supported skin, have come two related building types. One is the air-inflated structure, typified by the Ford building

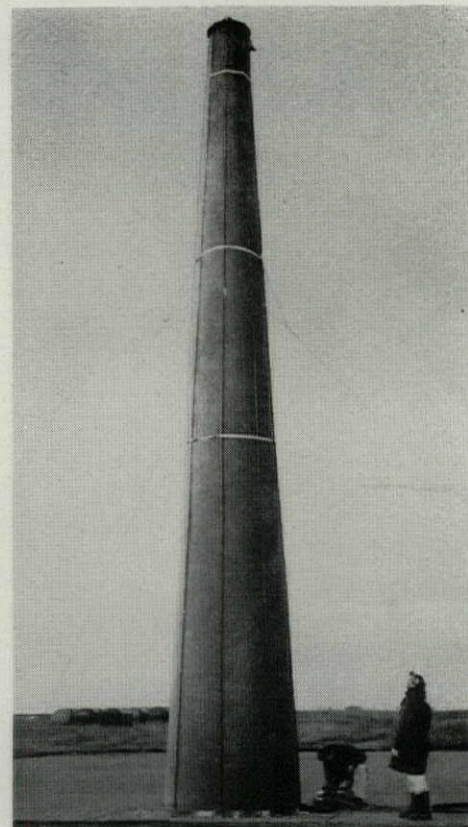
(opposite), which uses low-pressure air as a sandwich material between sheets of plastic. The other, also a plastic skin, is supported by a combination of metal ribs and air (sketch, p. 135): in normal use, the thin ribs alone carry the lightweight plastic, which weighs 2 to 4 ounces per sq. ft.; when excessive loads are anticipated, such as snow or wind, the building is closed and pressurized, thus carrying the additional load by air pressure.

Bird believes that the single-wall air-supported building, his original idea, holds the greatest potential. It is the simplest form and the least expensive, costing less than \$1.50 per sq. ft. of floor area. And structurally, it is perhaps the most interesting, because it requires such a minute force to hold it up: a typical enclosure, regardless of size, can be supported by raising internal air pressure only .036 pound per sq. in. above atmosphere pressure. Internal pressure is created by a small blower—one-third horsepower would be sufficient for most swimming-pool enclosures. A blower of this size consumes only about as much power as a 100-watt light bulb.

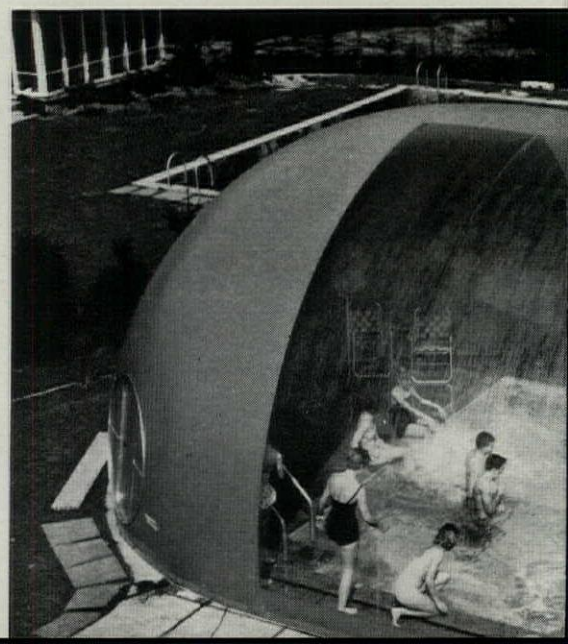
The greatest disadvantage of this type of air building is that it must be kept fairly airtight. (It need not be completely sealed. Indeed, this would be undesirable, because the air would soon grow stale; hence, small air outlets are designed into the skin.) Because only small air losses are tolerable, large permanent openings, such as would be demanded for a truck terminal, are not permissible. This is not a serious handicap in all cases, of course, but only where continuously open doorways are a rigid requirement.

Two other air-building types, variations of the basic unit, have been devised in order to overcome the disadvantage of the airtight requirement. The first of these is characterized by the proposed Ford exhibit structure. With its low pressure, dual wall (air sandwich) construction, large openings can be provided, because the interior occupied area is not pressurized. (Only the walls and roof are inflated.)

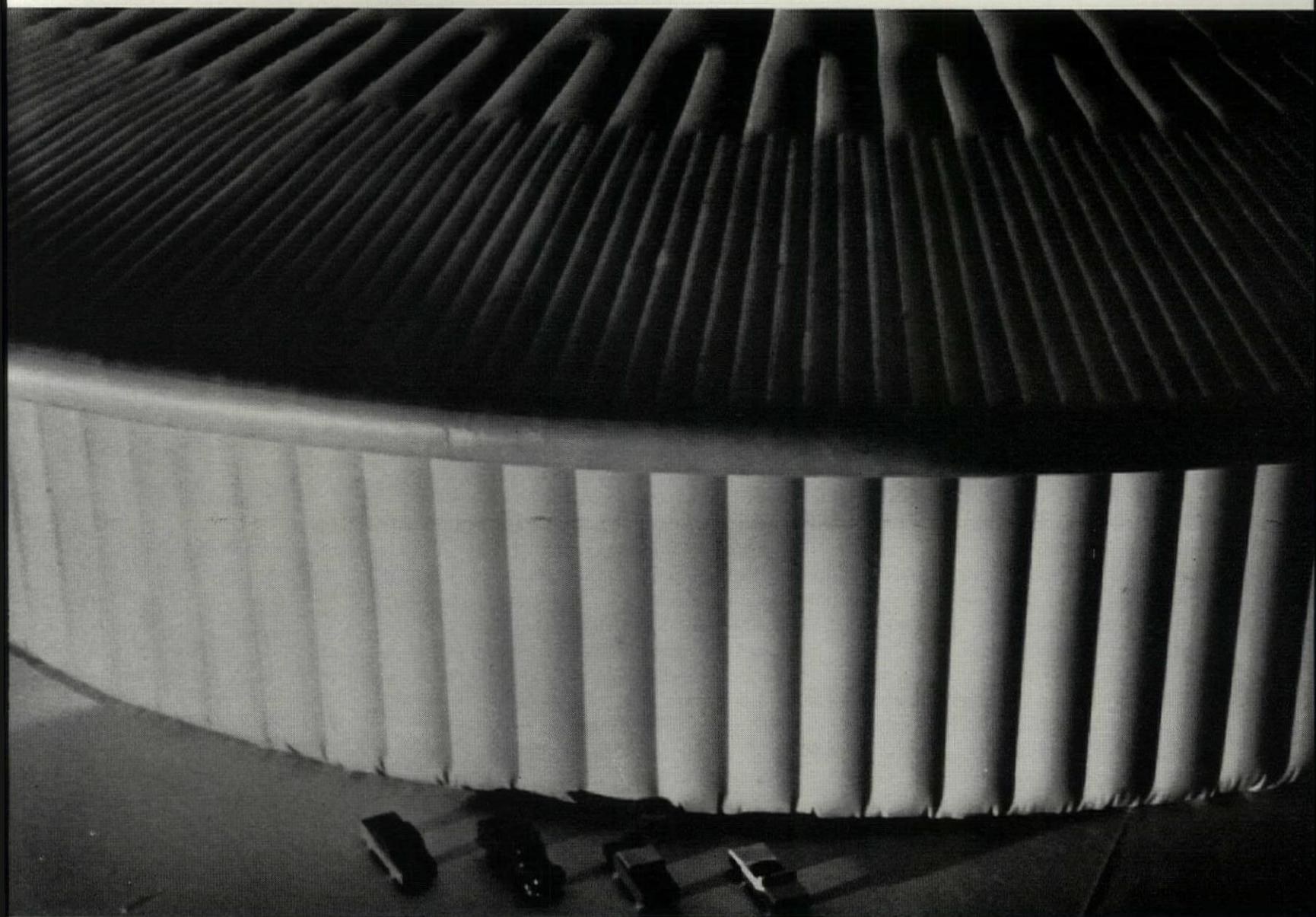
Of all the air-building varieties, these air-inflated types probably have attracted the most attention from air-structure designers. Most of the major



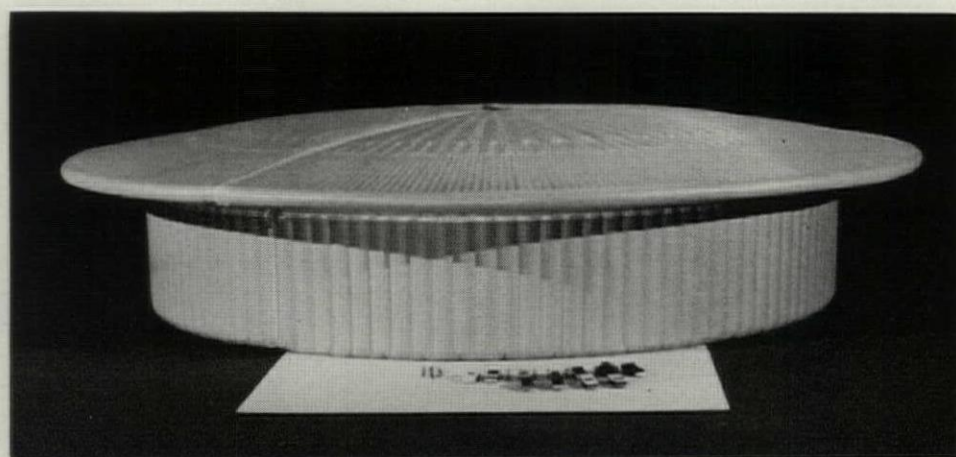
Odd shapes in air-supported structures are shown by the air-supported tower (top), which may reach a height of 80 ft., the spheroidal radome (above), and the oblong swimming-pool enclosure (below), with its sides of transparent plastic.







**Air-inflated building** is shown in this model design for Ford Motor Co. Air is pumped in and held between thin sandwich walls of plastic. Thus, the air-inflated walls (under pressure of about 0.75 pound per sq. in.) support the air-inflated roof, and the building need not be airtight.





rubber companies, along with Birdair and others, have experimented with various air-sandwich wall systems and air-inflated beams (FORUM, Apr. '57). All these systems must be maintained at higher pressures than the air-supported type, with some requiring as much as 15 or 20 pounds per sq. in. internal pressure above atmospheric. At these pressures, a simple blower unit is no longer sufficient and a compressor must be used, which means higher operating costs and, of course, higher susceptibility to leakage. (Moreover, the air-inflated building is more costly than the basic air building, because it uses more materials.) Birdair has spent much of its research effort developing relatively low-pressure systems, within the range of 0.36 to 2 pounds per sq. in.—the Ford building is within this range—because Bird believes that the higher pressures get into the area of impracticability.

Bird's third building type, which combines air support with metal ribs or other auxiliary rigid support, may yet prove to be the most practical alternative of all, because it embraces good qualities of both systems: pressures, when required, need be no higher than with an air-supported building (in normal use, the metal ribbing carries all weight, so that no pressurization is needed), yet entrances can be open, as in an air-inflated structure. This is the newest system at Birdair, however, and the least developed in terms of commercial use. Only two modifications of this building type have been built, a 40 by 60 ft. theater building (also for Ford), costing about \$3 per sq. ft. of floor area, and a summer arts theater, to open later this month in Boston (see sketches on opposite page).

#### The future of air buildings

Perhaps the most remarkable fact about air buildings is their quick rise in popularity. (It was some 25 years before Buckminster Fuller's geodesic domes won real commercial recognition.) Three important differences between the air buildings and the geodesic account for this. The air building, unlike many geodesic domes, is not a permanent structure and, therefore, is not in competition with conventional building types. At its price, it can be

discarded and replaced after, say, ten seasons of use. Furthermore, the seeming simplicity of the air building has attracted many inquisitive people to the idea, whereas the geometry of Fuller's geodesics was so mystifying that for years many failed to understand the idea itself, and thus failed to gauge its great commercial significance.

This second point, regarding the air building's simplicity, could easily hamper its future. If these buildings are designed and erected indiscriminately, without regard for the technology which underlies them, they will not perform satisfactorily. A number of inexperienced builders have ignored this, only to see their structures blow over with the first strong wind, swell up in size, completely out of control, or split open, as the fabric lost its strength. The material suppliers—such as du Pont, Wellington Sears, Sawyer-Tower, U.S. Rubber—have made major contributions to the development of the air-supported structure by their research and improvement of fabrics and coatings. But misuse of these materials, such as making them undergo stresses which they cannot withstand, will surely lead to failure.

The only other hazard standing between the air building and full commercial development is the building code. To be sure, this will not be a serious matter once these buildings become familiar to code officials, for they are inherently quite safe structures. The fabrics will not support combustion, nor is there any heavy structure overhead; in case of power failure, where no standby power is at hand for blower operation, the skin settles very slowly, usually taking several hours to deflate completely. Few new ideas have come into the building industry with such a background of field testing, and fewer still have undergone the rigorous climatic trials of the air building, as demanded by the Arctic radomes. Indeed, these buildings—among the first to arise directly out of plastics and synthetic fabrics as building materials—seem now to be safe from all perils except those of misuse and human error. If these can be avoided, the air buildings should go on to provide the building industry with a type of portable or temporary shelter it has always needed.

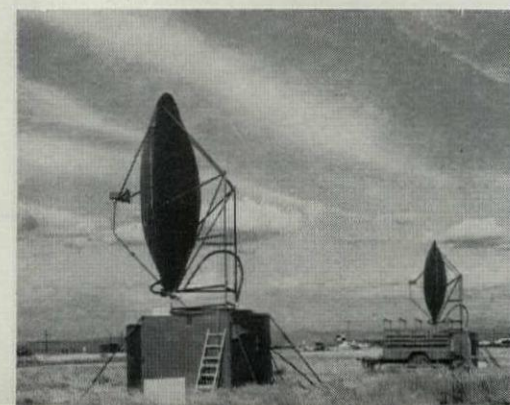
## An air roof for Boston

*The Boston Arts Center Theater (sketches, right), designed by Architect Carl Koch and Engineer Paul Weidlinger, started out to be nothing more than a tent. (There was insufficient money available to build a permanent theater.) But no tent could be found to span such distances and provide an unobstructed view for 2,000 people. So the designers chose a disc-shaped, air-filled roof with a clear-span diameter of 145 ft. The roof, designed and fabricated by Birdair, is 20 ft. in depth at its center, 5/16 in. at the edge; its two skins, zippered together, rest atop a column-supported steel frame ring. A pair of compressors keep the roof inflated, and one compressor continually feeds cool air into the envelope, thus keeping the roof at a moderate temperature and providing the occupied area below with a novel sort of cooling system. The roof is tilted for acoustical reasons.*

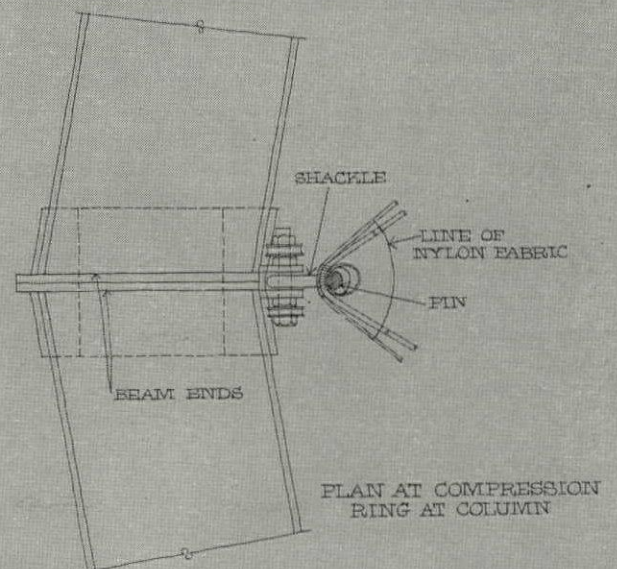
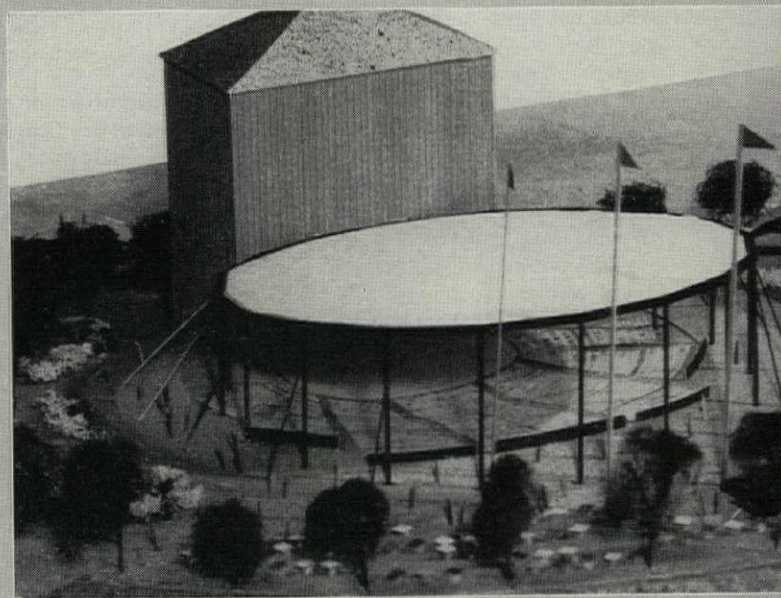
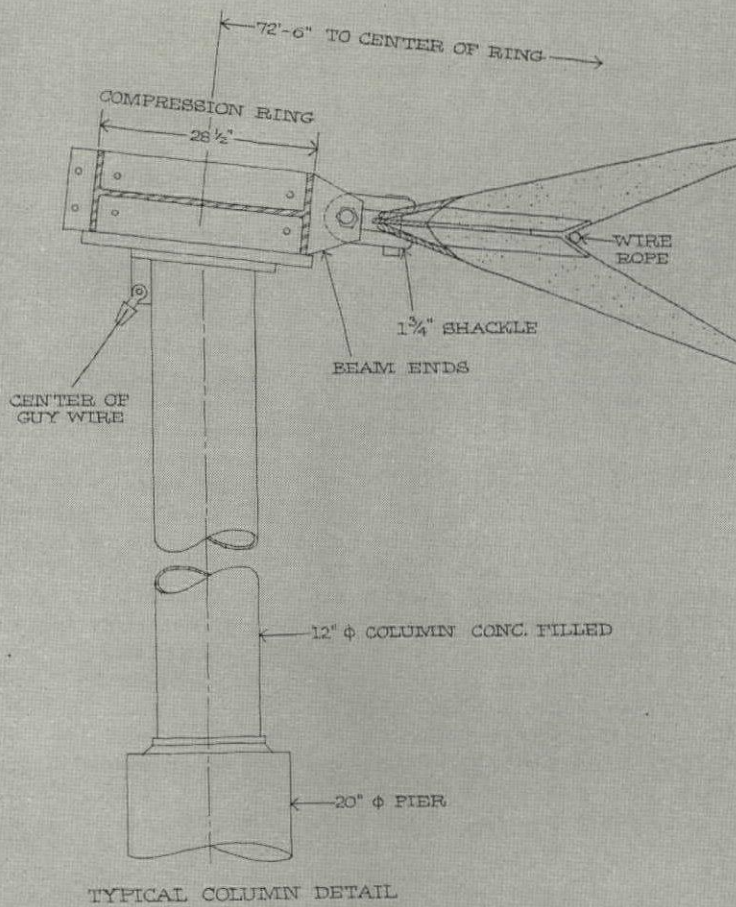
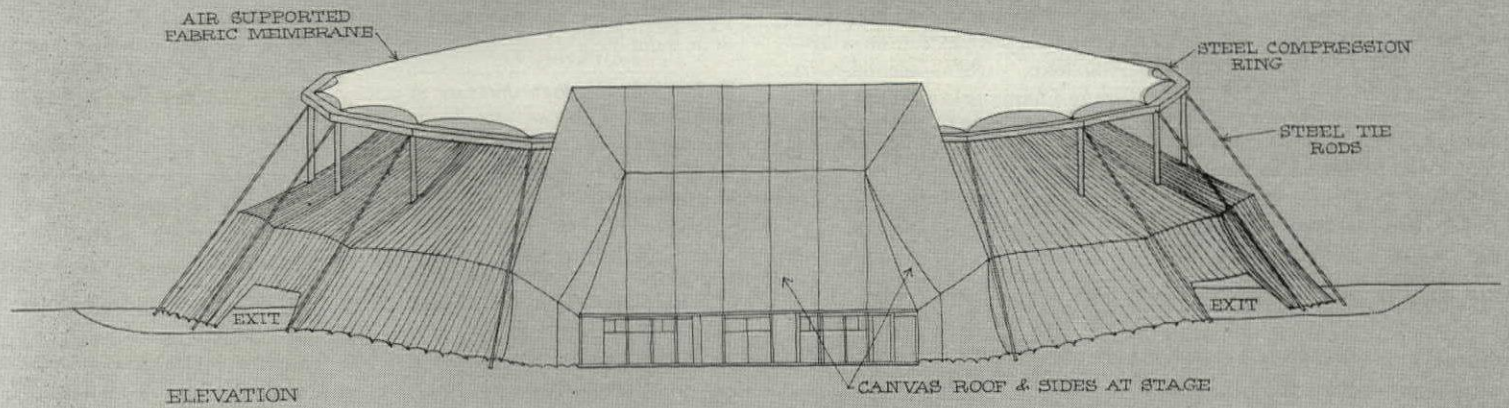
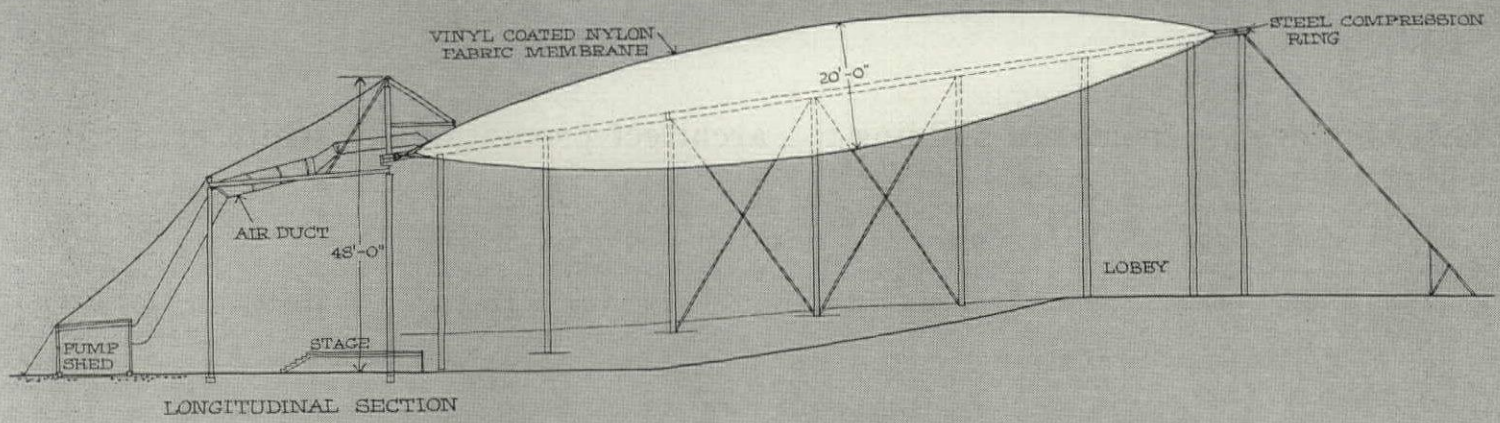
*The roof weighs 0.25 pound per sq. ft., or about 1/100th that of a comparable permanent structure. In winter, it will be detached from its frame, deflated, and stored away. In some future year, if the Bostonians should decide to enclose the building permanently, Weidlinger may use this air roof as a form for reinforced concrete.*

*The cost of the roof will be about \$30,000 (\$2 per sq. ft. of covered space), and to this, of course, must be added the cost of the frame and other components. Koch estimates that the theater's total cost will be about \$163,500, or \$11 per sq. ft. including landscaping.*

*Below: Genesis of the air-inflated roof—an air-inflated antenna, designed and fabricated by Birdair for military applications.*









## "Gift" finance . . . frameless building . . . architect promotion . . . white brick

**?** *How to induce a landowner to make a substantial cash contribution to a builder seeking a long-term lease on the building site.*

**!** *Show the landowner how he can recover far more than his contribution through an increased ground rent.*

A New Jersey builder recently had an opportunity to erect a new store that a national chain was prepared to lease on favorable terms for a long period. The structure was to cost about \$80,000, and the land was valued at about \$100,000. But financing posed a problem: because sale of the property would entail a large capital gains tax liability, the owner wanted to lease it and would not agree to subordinate his land ownership to any leasehold mortgage that the builder might obtain on the store building. As a result, the builder would have had to make a large cash investment (over the leasehold mortgage) in the store construction and would have had to wait several years to recover this sum.

But Herbert Bernfeld, of Hoboken's C. B. Snyder Realty Co., worked out an arrangement that got the building up and benefitted all parties. He showed how the landowner could make more money in the long run if he "gave" \$20,000 to the builder to be applied toward construction of the building. This contribution largely eliminated the builder's cash investment problem, and likewise his need to earn a "yield" on \$20,000 of equity. Instead the builder could use a larger portion of the rent from the chain store to pay a higher ground rent to the landowner (an additional \$2,000 a year for the first 21 years and \$1,000 a year for the duration of the lease). The chain store's rent did not have to be changed at all: it was already based on the prospective full value of the project.

Inasmuch as the landowner's \$20,000 contribution to the builder was a capital expendi-

ture to create a lease, over a period of years the landowner would be able to take \$20,000 of lease depreciation for tax purposes, in effect recovering his contribution tax-free. The builder, by paying the landowner an increased ground rent—instead of paying interest and amortization on a \$20,000 loan, such as second-mortgage financing—in effect would be able to return the principal of the \$20,000 contribution to the landowner out of deductible before-tax income instead of expensive after-tax dollars.

**?** *How to avoid the expense of formwork in erecting a small concrete park building.*

**!** *Shape the walls and roof of undulating wire mesh and then spray on concrete.*

For the construction of an economical oceanfront park comfort station in Newport Beach, Calif., Architects Smith & Williams specified undulating walls and roof. Reason: the walls and roof would be self-supporting and, incidentally,



would blend with the rolling beachscape (see sketch). To minimize construction costs the walls and roof were made of preshaped panels of expanded metal, sufficient code-required earthquake-resistant reinforcing bars, plus a 6 in. thickness of high-strength sprayed-on concrete. With no further "finishing" inside or out, the total cost of walls and roof was only \$1.10 per sq. ft., or 55¢ per sq. ft. for both interior and exterior surfaces. The enclosed space measures 18 ft. by 21 ft., and the vaulted overhanging roof, 28 ft. by 35 ft. At each end there is an open, semicircular outdoor shower for bathers and an

entrance court formed by an extension of one of the longer walls.

**?** *How to counter the expensive public relations brochures published by big architectural firms on the budget of a relatively small office.*

**!** *Periodically distribute an inexpensive, office-produced, service-type bulletin that will give the office an identity and a personality.*

In Decatur, Ill., the young and energetic architectural office of Livergood-Caldwell-Sweetnam & Associates decided that its small size (three partners, two draftsmen, three secretaries) should not deter it from competing against the bigger, richer firms in producing attention-getting brochures to establish its public identity. The income of the Decatur group, based on design commissions covering a building volume of about \$1 million a year, could not support the preparation of an expensive publication. But, reasoned partners Don R. Livergood, 32, Harry N. Caldwell, 36, and Edward W. Sweetnam, 31, they could capture the attention of many prospective clients with a series of inexpensive bulletins of an intellectually stimulating service character. The most recent one was a timely three-page mimeographed report on lawn preparation and maintenance, coupled with an offer to send a supplementary 20-page landscaping manual to those who requested it. Other bulletins have covered such subjects as home swimming pools, home buying, church design, and building costs.

The Decatur architects send their bulletins to about 1,100 persons who might have a direct or indirect interest in their architectural service. Usually the only expense is for paper and postage. About every two months the secretaries stencil and address a bulletin during their spare

time, oblivious to deadlines.

The bulletins have built the firm's prestige, and at least one design commission has "walked into the office" as a direct result of one of the bulletins being seen.

**?** *How to get a white textured brick wall that will not look machine-made and will require no painting.*

**!** *Persuade a manufacturer to apply two coats of white glazing to produce a rippled-surface brick.*

For years, Chicago Architect Richard M. Bennett searched in vain for white bricks without a slick factory-made appearance. Rejecting machine-smooth white glazed bricks, he was forced to specify common brick plus periodic painting.



LEWELLYN STUDIO

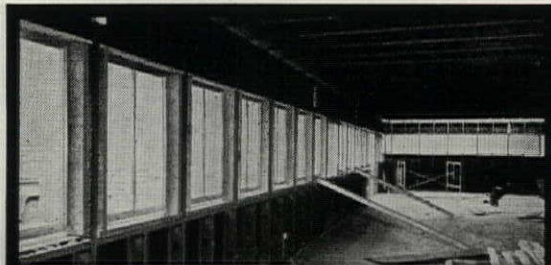
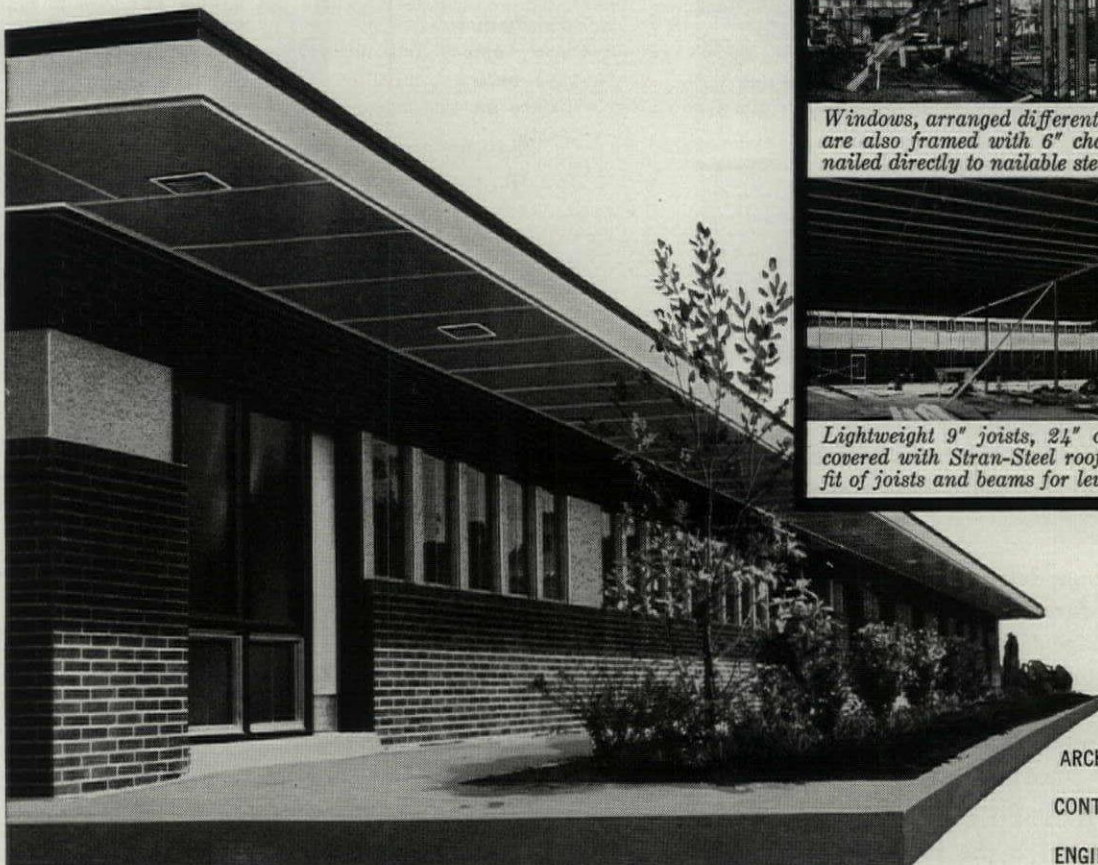
Finally Bennett's challenge was accepted by the Claycraft Co. of Columbus, Ohio, producer of the special glazed bricks that Eero Saarinen specified for the General Motors Technical Center in Warren, Mich. Result: volume production of a standard-size, glazed, low-gloss, white brick that has an irregular or nonconformist rippled surface. Method: give the brick an "overcoat," or rough second glazing.

The new brick's surface, which catches and reflects the light from many angles, gives it an attractive soft white-on-white appearance. And, despite its mass production, it looks very much like shimmering water, instead of precision machined glazed brick. Its first use was on Goldblatt's Department Store, designed by Loebel, Schlossman & Bennett, in Chicago's Lake Meadows shopping center. **END**



# STRAN-STEEL SPEEDS CONSTRUCTION

Framing for Memphis Medical Center up 30 days after order!



Outside bearing walls of 6" Stran-Steel studs, with 6" channel at head and base, have heavy-duty asphalt sheathing nailed to studs beneath brick veneer.



Windows, arranged differently in this exterior wall, are also framed with 6" channel. Metal lath was nailed directly to nailable steel studs.



Lightweight 9" joists, 24" o.c. and 28' long, are covered with Stran-Steel roof deck. Note integrated fit of joists and beams for level ceiling.

MEDICAL CENTER, INC.,  
MEMPHIS, TENNESSEE

ARCHITECT: Thomas F. Fairs  
and Associates

CONTRACTORS: Allen Brothers  
Construction Co.

ENGINEERS: Ellers and Reaves

Stran-Steel structural components reduced construction time for Memphis Medical Center and can do it for you, too. Here's why:

Nailable joists and studs permit quick, direct attachment of lath or sheathing.

A combination of strength and light weight makes handling and on-the-job fabrication easy and, in this instance, required only a concrete block foundation.

Pre-punched holes in joists and studs speed the installation of pipes and wiring.

Integrated design assures snug joist-beam fit, needs less bridging, and reduces building height.

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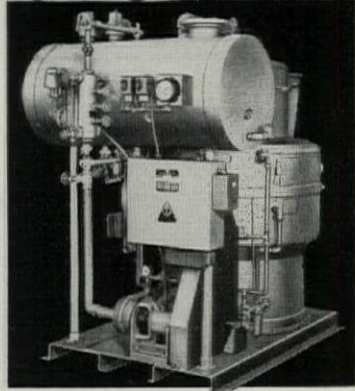
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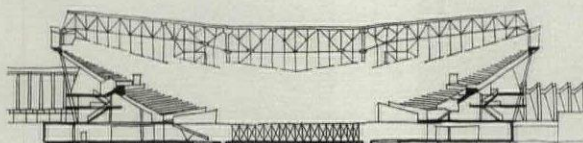
For over 50 years we have made transportation heating systems—in fact, almost every Diesel passenger train uses a Vapor Water Tube Boiler. Now the same efficient, compact principle is yours for any industrial heating, power or processing application. And, Vapor has a nationwide reputation for standing behind every one of its products! You may not know us now, but chances are we'll soon be *very* good friends!

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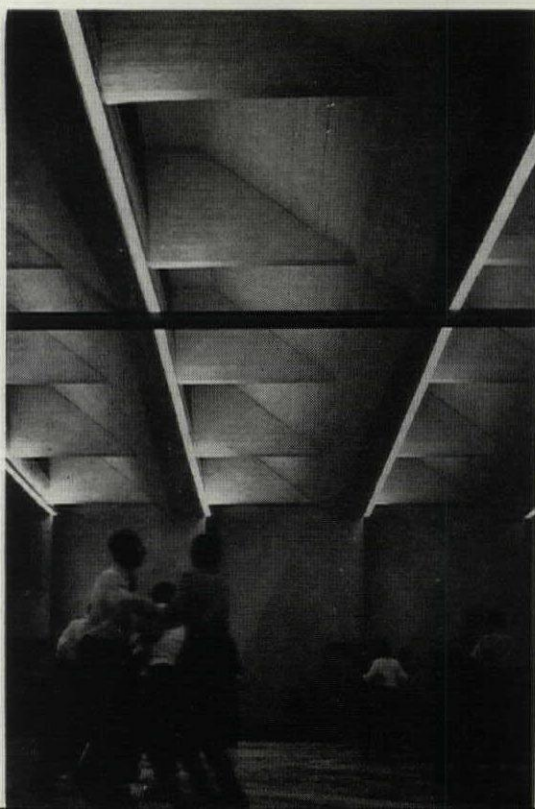
## A continuing review of international building



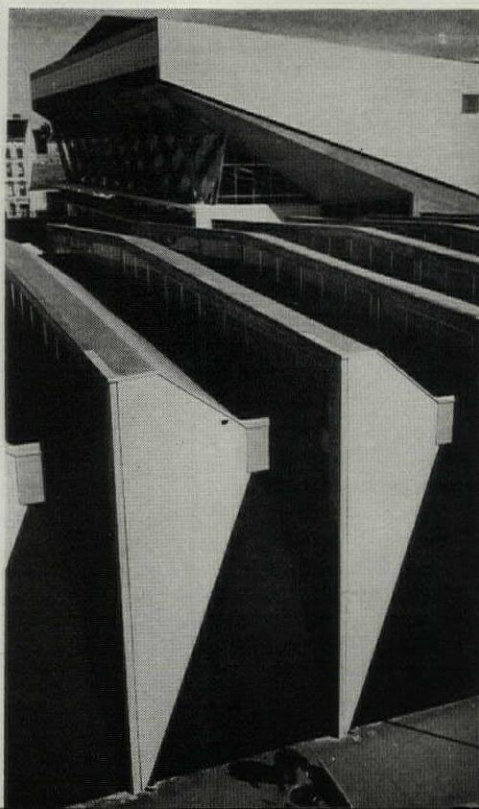
**VIGOROUS IN VIENNA**

One of the biggest civic centers in the world and perhaps the most flexible is Architect Roland Rainer's new "Stadthalle" in Vienna. Four of the center's five buildings are relatively small, housing a basketball court, a gym, an ice skating rink, and a dining room. The fifth is a 300 ft. by 300 ft. hall (above) that looks something like Noah's ark before completion, its "hull" covered with corrugated aluminum, its out-swooping ends resting on exposed piers of rough concrete. From the hall's truss roof are hung the elaborate lighting and acoustical devices that the great variety of the program demands (a boxing match one night, an intimate theater group the next). Not the least exciting part of the center is its architectural detail, such as the jagged roofs of the rink (left), which seem to be urging the Viennese into a faster tempo.

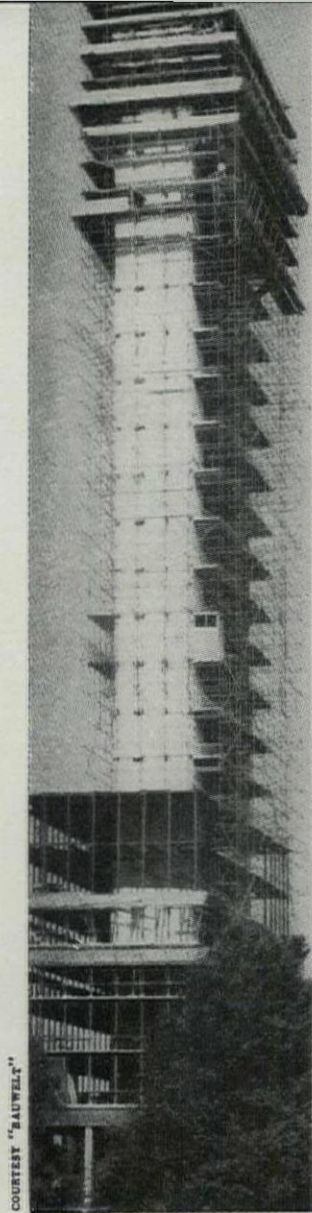
LANDSBERG/STELLE



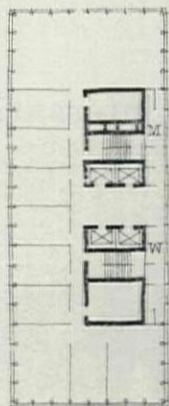
HUBMAYER





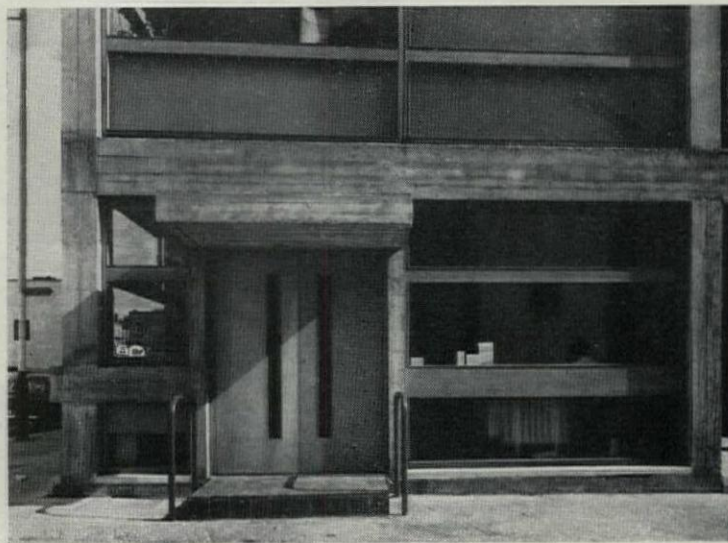


COURTESY "BAUWELT"



#### UPRIGHT ON THE RHEIN

On the bank of the Rhein at Duesseldorf stands the 24-story headquarters of Mannesmann, designed by Architect Paul Schneider-Esleben. Mannesmann is West Germany's largest manufacturer of steel tubes; the most outstanding structural feature of its headquarters is, understandably, an exterior wall of steel tubes. Because the interior core of reinforced concrete (see plan, above) carries most of the building's weight and was constructed first, the floors could be built as easily from the top down (left) as they could from the bottom up.



PHOTOS: DE BURGH GALWEY



INCE COURTESY-SAUER



#### SHOCK IN LONDON

Admirers of the Old Vic Theater may be shocked to learn that the annex recently completed for the theater deliberately turns its back on olde England. At first glance (above) the building, which is used for storage, workshops, and administration, appears to have revolted against all cul-

ture—the rough-board concrete exposed structure, the bulking shapes too tough for art. But on closer examination (middle photo), the detailing is revealed as surprisingly fine. And the building itself, when seen from the right angle (top), fits into the London scene with proper decency.



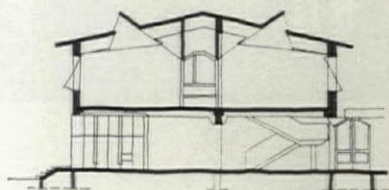


COURTESY "KOKUSAI-KENTIKU"

## AMBIVALENT IN TOKYO

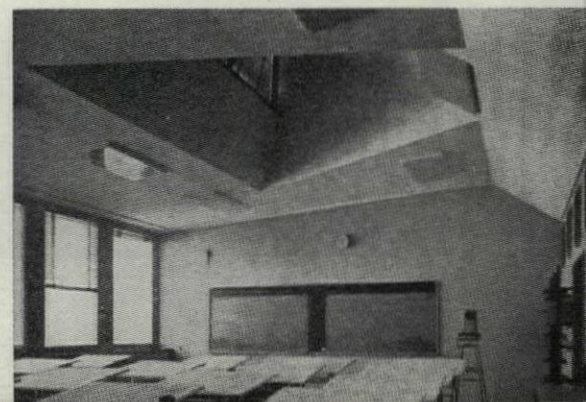
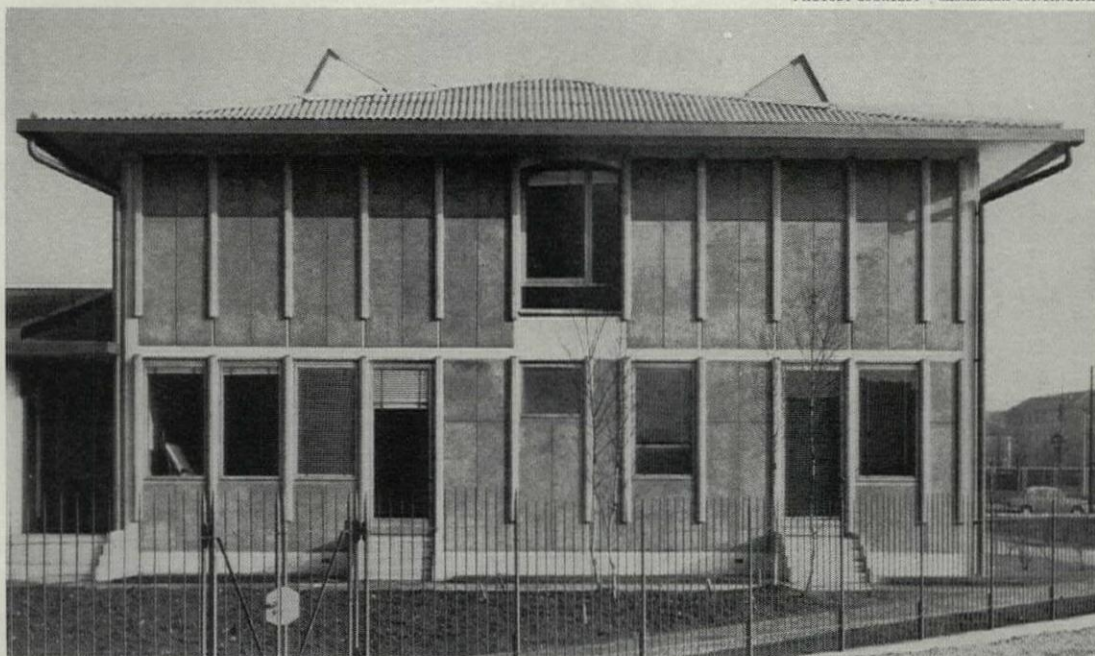
To filtrate water for metropolitan Tokyo, a new plant has been built at Nagasawa by the Tokyo Waterworks and Architect Mamoru Yamada. The plant is an astonishing combination of modern architecture's two most popular styles: concrete brutalism and glass sophistication. The functional justification for the contrast is that the main building (left) is used both for laboratory work (left side) and for plant administration (right side). The working part of the plant, which stretches out in back of the administration building, repeats the mushroom-shaped columns and beamless structure of the right, and less sophisticated, side.

PHOTOS: COURTESY "CASABELLA CONTINUITA"



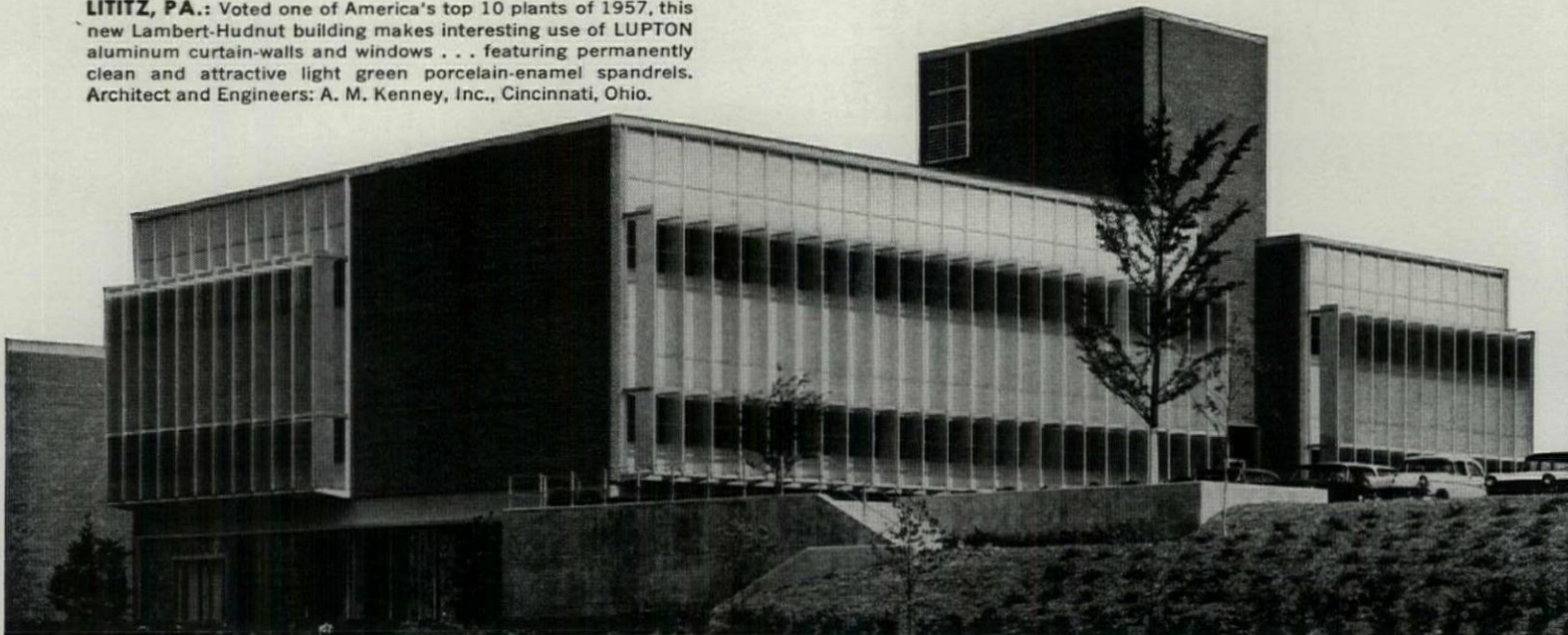
## OFF-BEAT IN MILAN

Architect Roberto Menghi's building for an industrial design school near Milan is another convincing argument for the vernacular architecture that is being developed in that city. The building's off-beat rhythm and awkward but strong details (the exaggerated mullions, the extraordinary dormers) give the school a definitive character. The dormers (see structural detail, above) may also have been necessary to bring light into the drafting room (far right).

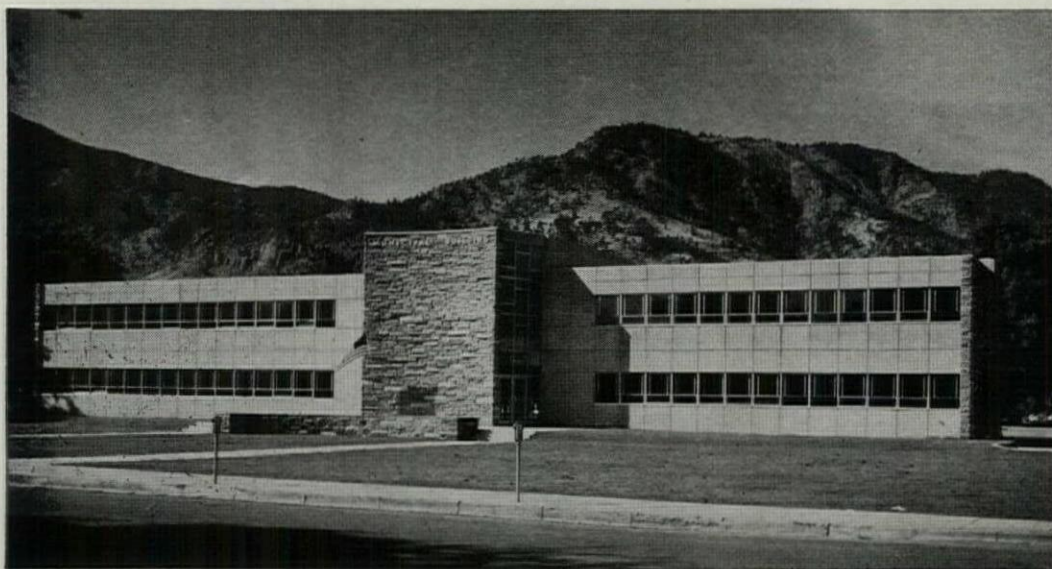




**LITITZ, PA.:** Voted one of America's top 10 plants of 1957, this new Lambert-Hudnut building makes interesting use of LUPTON aluminum curtain-walls and windows . . . featuring permanently clean and attractive light green porcelain-enamel spandrels. Architect and Engineers: A. M. Kenney, Inc., Cincinnati, Ohio.



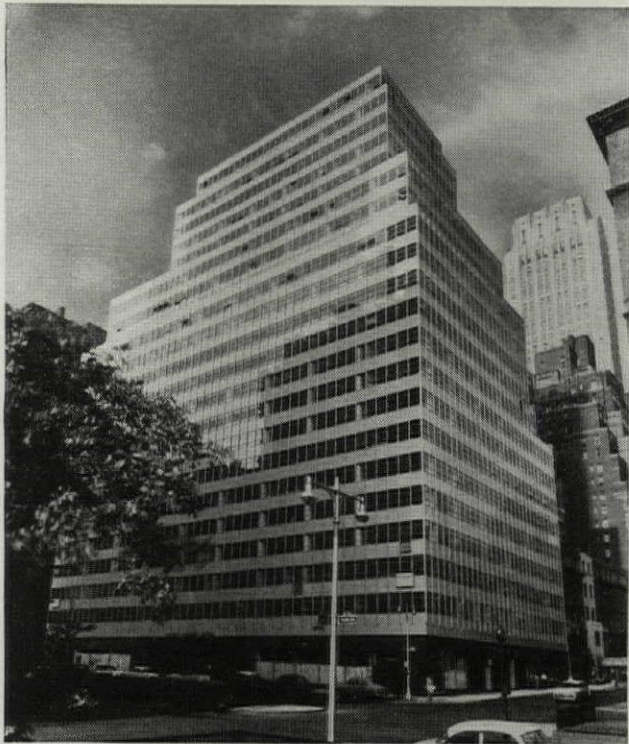
**KELLOGG, IDAHO:** Extreme climatic conditions (wind and dust storms; smoke from a nearby smelter; a wide variance in atmospheric temperatures) made the selection of precisely-engineered weather-tight LUPTON metal windows unusually important at Kellogg High School. Ruggedness and simplicity characterize construction with these tight-fitting steel architectural projected windows. Architects: Culler, Gale, Martell & Nourie, Spokane, Wash. Photograph: Hendrick-Blessing.



**BOULDER, COLORADO:** 115 aluminum "Master" projected windows were installed on this handsome municipal building. These windows are attractive, yet functional, and require a minimum of maintenance. Architect, James M. Hunter, Boulder, Colorado:



# Typical examples of modern buildings designed with LUPTON aluminum curtain-walls and windows



**NEW YORK CITY:** LUPTON supplied and installed Type "H" fabricated aluminum curtain-walls for this building at 300 Park Avenue. Mullions are aluminum tube with expansion joints at alternate floors. Non-insulated spandrels of opaque structural glass were used. Architect: Emery Roth & Sons.

North. South. East. West. All over America, architects are designing modern buildings with LUPTON aluminum curtain-walls and windows. And no wonder! LUPTON has 75 years' manufacturing experience and a reputation for reliability... for delivering parts on-time and as specified. And, whether you're designing a school, hospital, municipal building, or other, LUPTON construction offers you significant advantages like these: design freedom, lasting modern beauty, low cost installation and maintenance, and single-source responsibility.

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**DALLAS, TEXAS:** LUPTON met the design requirements of this modern Clinical Science Building at the University of Texas with opaque panels of blue anodized aluminum—insulated with 1½" fiberglass, and with aluminum interior surfaces. Alternate mullions have special decorative fins. Architect: Mark Lemmon, Dallas, Texas.

**DES MOINES, IOWA:** The striking beauty of the Memorial Chapel and Charles Medbury Hall, College of the Bible, Drake University, exemplifies the variety of design easily achieved with LUPTON construction. LUPTON Master Casements alternate with fixed glass in LUPTON Type "H" curtain-wall units. Architects: Eero Saarinen & Associates, Bloomfield Hills, Michigan.







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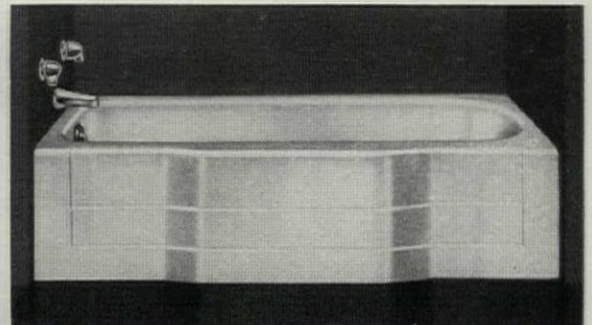
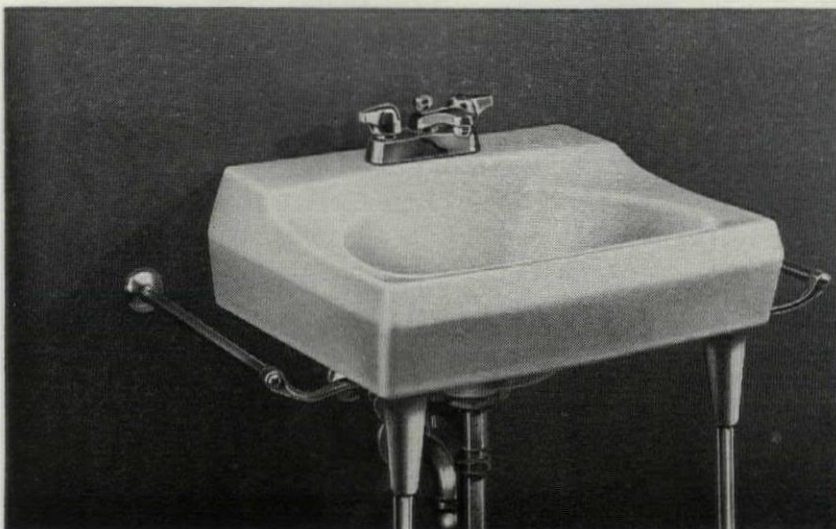
The new *Emblem*, shown on opposite page, is an example of Eljer's ability to combine fine styling with many decades of manufacturing experience.

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And when you do, see how the *Emblem* fits into the family of classic designs offered by Eljer—modern designs with clean, flowing lines. Your clients will be pleased when you specify Eljer.

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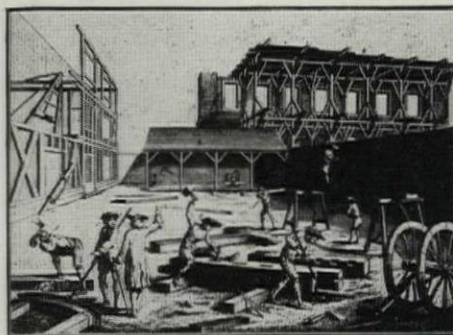
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## Church architecture . . . schools . . . concrete



**A DIDEROT PICTORIAL ENCYCLOPEDIA OF TRADES AND INDUSTRY.** Edited by Charles Coulston Gillispie. Published by Dover Publications, Inc., 180 Varick St., New York 14, N.Y. 2 vol. 9" x 12". Illus. \$18.50.

The reason for Denis Diderot's success in the Age of Enlightenment was not merely that he produced a pretty good encyclopedia. It was rather that he succeeded in supplanting the trade secrets and occultisms of the medieval crafts by rational industrial processes. And one of the industries that he thus helped bring into the light was construction.

Diderot's encyclopedia was, among its other virtues, handsomely illustrated with copper-plate engravings that gave an excellent picture of eighteenth-century France at work. Professor Gillispie has reassembled and reprinted those engravings in two large volumes. The illustrations that show the medieval builder on the site are full of recognizable details (note the labor-management conference, above), reminding the reader how little the business has changed.

**PLUMBING FIXTURES FOR EDUCATIONAL FACILITIES.** By James D. MacConnell and William R. Odell. Published by the School Planning Laboratory, School of Education, Stanford University, Stanford, Calif. 43 pp. 8 1/2" x 11". \$2.

This modest pamphlet is important both for what it says and for the way it was done. What it says is that requirements for washroom facilities in different types of schools vary widely, but that the architect can be given certain standards to guide his planning. And the standards that are supplied come not from the top of somebody's filing cabinet but from exhaustive analysis of questionnaires sent to teachers and architects and health officers who have been conducting the most intimate kind of field research. The study, financed by the Plumbing Fixtures Manufacturers Assn., should be helpful to architects and to school-board members.

**REHABILITATION CENTER PLANNING.** By F. Cuthbert Salmon, AIA, and Christine F. Salmon, AIA. Published by the Pennsylvania State University Press. University Park, Penn. 164 pp. 9" x 12". Illus. \$12.50.

Another good example of technical advisors working with architects for a mutually worth-while result, this handbook is a guide to all who would play a part in the planning or administering of rehabilitation centers. And as the authors point out, rehabilitation of our mentally and physically handicapped people is being increasingly regarded as a community-wide responsibility, one of the most potentially rewarding areas of all public service. The book represents the coming together of two distant organizations, the Conference of Rehabilitation Centers and the American Institute of Architects, with the financial blessing of a third organization, the U.S. Office of Health, Education, and Welfare.



**SYMBOLISM IN LITURGICAL ART.** By LeRoy H. Appleton and Stephen Bridges. Introduction by Maurice Lavanoux. Published by Charles Scribner's Sons, 597 Fifth Ave., New York 17, N.Y. 120 pp. 5 1/2" x 8 1/2". Illus. \$3.50.

The purpose of this attractive and instructive little book is to awaken artists' interest in the symbols of the Christian Church. The 134 symbols most commonly employed in religious art and liturgical art are shown and described.

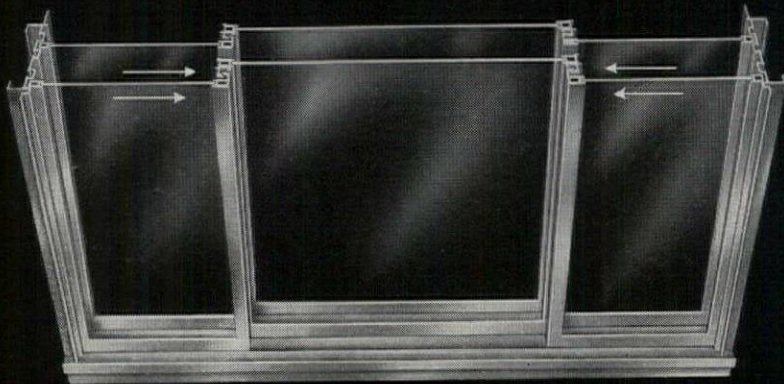
**CONCRETE: THE VISION OF A NEW ARCHITECTURE.** A Study of Auguste Perret and his precursors. By Peter Collins. Published by Horizon Press, 220 West 42nd St., New York 36, N.Y. 307 pp. 6 1/2" x 11". Illus. \$12.50.

This scholarly study, by a lecturer on the history of architecture at McGill University, Montreal, who also worked as architectural assistant in Auguste Perret's offices in France and Switzerland, provides a thoroughgoing review of the past, present, and future of modern reinforced concrete design. It opens with a 104-page section of historical pictures, comprising everything from the earliest *pisé* or rammed earth construction in France in 1812 to the Yale Art Gallery

*continued on page 156*



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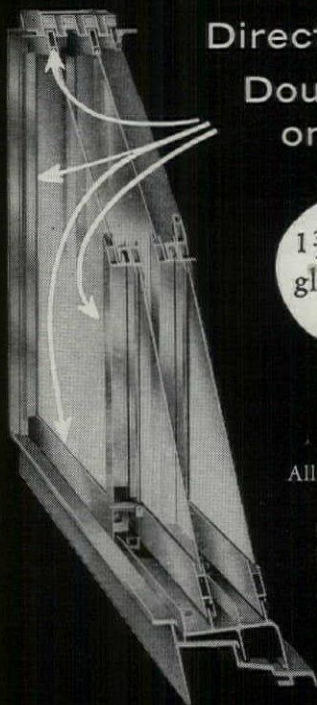
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by Louis Kahn, which may well be worth the price of admission. The book then undertakes a highly detailed history of concrete in building, its handling in the nineteenth and twentieth centuries, and ends with a long analysis of Perret, the first master of concrete, classicist, theorist, and coiner of a famous definition of architecture, "that which makes beautiful ruins." For those readers who like to get to the roots of things, with discursive commentary, a provocative and helpful book.

**ARCHITECTURAL PRACTICE.** By Clinton H. Cowgill and Ben John Small. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. 8 1/2 x 11. 264 pp. \$12.

The third edition, revised, of a standard reference for architects first published in 1947, this detailed volume is characterized in a new foreword by Architect Ralph Walker as "a foundation for further personal accumulation of data." It is a firm foundation, with wide bearing.

**AMERICAN STANDARD METHODS OF DETERMINING AREAS IN SCHOOL BUILDINGS.** Sponsored by the Office of Education, U.S. Department of Health, Education, and Welfare and the National Association of Building Owners and Managers. 8 pp. 8 1/2" x 11".

This is a very basic description of categories of school building areas, intended to be of assistance in the difficult problem of comparing one school with another. Six headings (instruction, administration, general use, service, circulation, and construction) are defined, but unfortunately they are not in any way weighed.

**HOW I TURNED \$1,000 INTO A MILLION IN REAL ESTATE—IN MY SPARE TIME.** By William Nickerson. Published by Simon & Schuster, 630 Fifth Ave., New York 20, N.Y. 500 pp. 5 3/4" x 8 3/4". \$4.95.

The nub of Nickerson's 500-page how-to: buy low, sell high.

**BAUENTWURFSLEHRE.** By Professor Ernest Neufert. Published by Ullstein A. G., Berlin. 445 pp. 8 1/2" x 12". Illus. \$16.50.

The twentieth edition of Neufert's world-famous compendium of basic design standards—in German.

**SCANDINAVIAN ARCHITECTURE.** Buildings and Society in Denmark, Finland, Norway, and Sweden from the Iron Age until Today. By Thomas Paulsson. Published by Charles T. Branford Co., 69 Union St., Newton 59, Mass. 256 pp. 6 1/2" x 10". Illus. \$7.50.

As expounded by Mr. Paulsson, the influence of architecture and society on each other in Scandinavia is powerful and worth watching.

END



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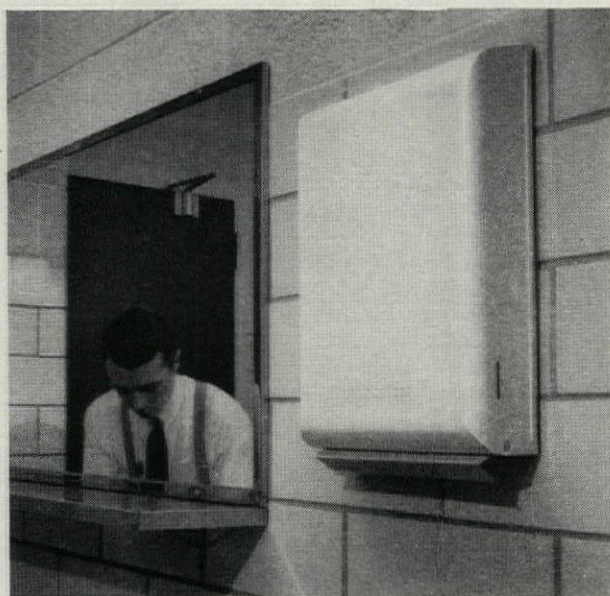
\*Flint, Michigan. Architect: H. E. Beyster, Detroit

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Clark and Monroe Street  
Chicago, Illinois

Designed by:  
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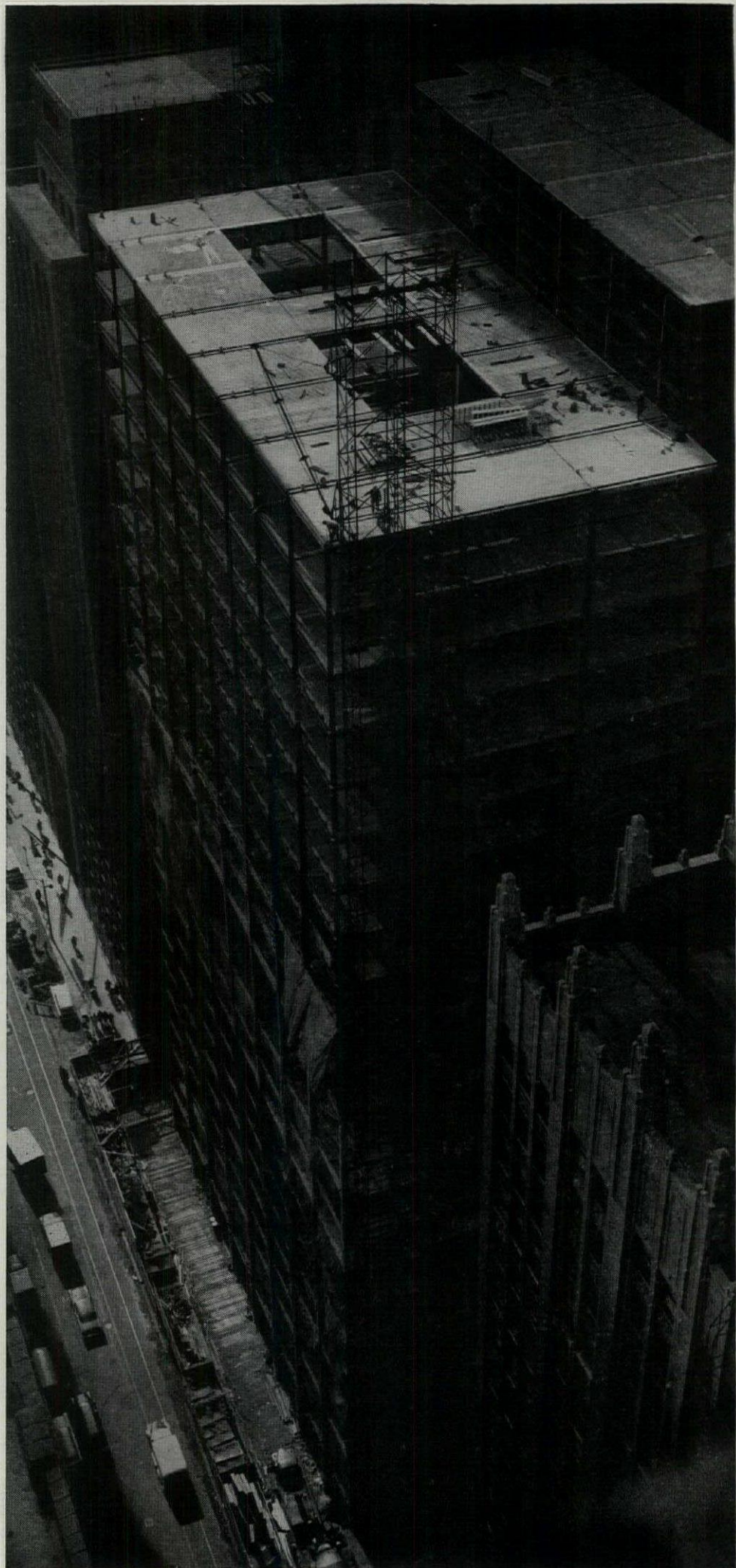
Contractor:  
Turner Construction Company

Structural Steel  
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American Bridge Division  
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## What other people are saying

### STONE'S DON'TS

*Before an assemblage of the American Institute of Decorators early this spring, Architect Edward D. Stone confessed the precepts which have shaped his life and practice.*

To cope with the marvels of our age Lenin to Lanolin, from golden oak to chrome tubing, and from horses to jets, I've had to work out certain rules for myself that enable me to be carefree and barefoot in the atomic age:

*Don't work too hard.* If you find that you do not have enough ideas in an eight-hour day, the chances are your soul needs therapy. You are in need of inspiration, and for that you should look into the eyes of the woman you love, or go to Chartres Cathedral and see the sunrise through the beautiful stained glass windows, or sit among the flowers in your garden.

*Beware of progress.* Progress invariably means that you sacrifice something good for something less attractive. A simple example: 20 years ago we had living rooms 20 by 30; now you can only tell a room from a closet by the hook-strip on the wall.

*Don't be modern.* Being modern simply consists of closing your mind to 2,500 years of Western culture and proving yourself content to copy the next-door neighbor's glass building, house, chair, drapery, and poodle clip.

*Don't be afraid to go to bat for beauty.* If we are afraid, we're going to find flashing neon signs on the pearly gates when we get there. If a few militant dames can sell this country prohibition, we certainly should be able to do away with neon signs, billboards, roadside honky-tonks, and used-car lots.

*Don't fall in love with your first idea.* If you are jealous of your ideas, it is a sign you have too few. Keep an open mind: the janitor's suggestion is probably the best.

*Don't get in trouble.* This fortunately is the easiest of all and simply involves avoiding certain people: the landlord, the doctor, the dentist, the psychiatrist, intellectuals, morticians, and beatniks.

*Don't be a money-changer in the temple.* If you're an artist you've earned the right to starve with dignity.

*Don't talk back to your wife,* because she is smarter than you are. H.L. Mencken said in the twenties that no man should make any decision without first talking it over with his wife, because she was a creature of superintelligence. If I had listened to him, I would have saved

myself some 25 years of exhausting research.

*Don't be too worth-while.* Always keep a few character defects handy. People love to talk about your frailties. If you must be noble keep it to yourself.

I do not wish that the frivolous nature of my comments detract from our purpose which I believe to be worthy. It is our obligation to create an environment of beauty and a cultural heritage worthy of our generation and good enough to permit future generations to enjoy it with pride.

### ANALYSIS FOR ARCHITECTS

*The prospect of a school that would grant degrees to "architectural analysts" was opened up last year when Architect William Caudill addressed the Wisconsin AIA Chapter on the subject of architectural education.*

You folks here in Wisconsin are thinking about a new School of Architecture. I wish you would consider a new kind of school as well as a new school. This new kind of school would recognize that architects-to-be must have a thorough knowledge of people—how they live, how they travel, how they worship, what they think of their physical environment, how much money they are willing to spend in improving it, and how the culture of the day may be affected by an improved physical environment.

I hope that the program of this new school will recognize that learning to analyze is sometimes as important as learning to do, that finding out what the problem is must precede its solution. I hope that the curriculum will give considerable stress to architectural analysis, that there might even be a major that leads to a degree which would qualify certain students with analytical minds to practice as architectural analysts.

### BEWARE OF INDUSTRY

*Industrialism is now threatening to take over the prerogatives of U.S. construction, according to John A. Volpe, vice president of the Associated General Contractors of America. He spoke before the annual dinner of the Massachusetts State Association of Master Plumbers.*

The fact that construction is the nation's largest single production activity is just now becoming widely recognized.

To this singular fact about construction  
*continued on page 161*

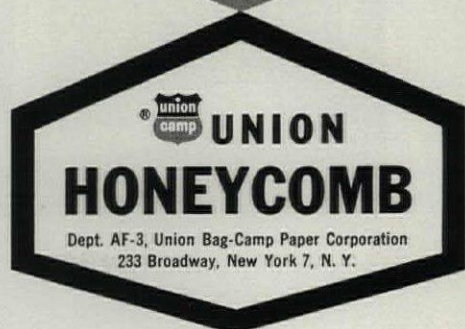


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Glass light being lifted into place. Neoprene gasketed edges make lights easier, safer to handle.

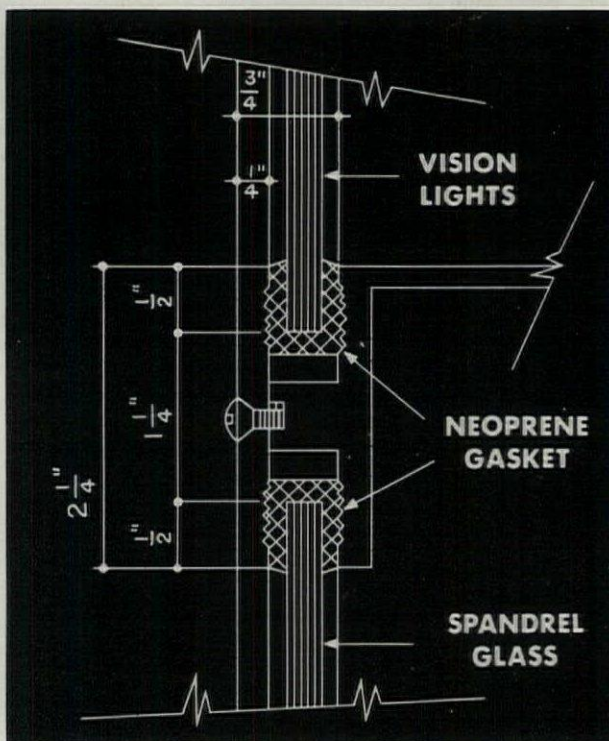
Three major reasons prompted the architects to specify neoprene for Corning Glass Works' New York City office:

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tion's role in the national economy must be added another important point: This giant industry is made up of more components, and is scattered more widely, reaching into every city and hamlet in the land, than any other form of industrial enterprise. In addition to the vast numbers of workmen of many crafts involved, construction depends on hundreds of thousands of architects and engineers who design the structures; general contractors and mechanical and specialty contractors of many types whose responsibility it is to build the structures; the manufacturers, distributors, and dealers in many kinds of equipment and materials, and others allied with construction, such as the surety industry.

These two facts—construction's bigness, and its many, loosely connected segments—are the keys to its fortunes and its difficulties.

We find ourselves today faced with an increasing erosion of the construction market through new challenges that, if continued unabated, threaten eventual disintegration of the construction industry as we have known it. Powerful industrial unions, through coercion of docile or helpless managements of industrial firms, are taking dead aim at work normally performed in their plants by contract to construction organizations which employ construction craftsmen. Too many of these efforts have been successful, and many other attempts can be expected to force restrictive agreements which deprive management of the right to employ the construction industry for the work that it traditionally has done. Maintenance work, plant alterations, and expansions are being constructed by industrial workers instead of building trades craftsmen employed by contractors.

The construction market is being reduced by hundreds of millions of dollars annually in this manner. I might add that the majority of this volume probably is in work that normally would be performed by mechanical and specialty contractors.

This is a problem of major proportions which deserves, and requires, united action—action by all segments of the construction industry in forcefully selling the contract method which is the keystone of your business and mine.

## "GOOD-BY, MOPSIK"

A recent report from Moscow in the *British New Statesman* indicates, surprisingly, that the Russians may also be ahead of us in attempts to raise esthetic standards.

One of the most unexpected campaigns at present being waged in the Soviet press and other media of mass communications is that against bad taste. Esthetic considerations never played a part in the previous drives for a more *kulturny* mode

of life . . . they were more concerned with manners than with the cultivation of good taste. Now, however, we read of exhibitions in the provinces under the title "Down with Vulgarly," of a Comsomol raid on kolkhoz markets where young men and women lectured would-be purchasers of gaudy china dogs and sentimental paintings and chanted "Good-by, Mopsik" (the Russian equivalent of Fido). Contributors to the widely read youth newspaper *Komsomolskaya Pravda* are advising tenants of new flats that the possession of ornate furniture, tasseled silk lamp shades and poorly executed paintings is a mark of "petit-bourgeois, philistine taste." Even that venerable trio of indoor plants—the aspidistra, the ficus, and the rubber tree—is being condemned as an unesthetic as well as unhygienic form of decoration; and as much is being said about antimacassars.

This campaign, like so many others, was heralded by an article in *Kommunist*, entitled "Esthetic Training in Shaping New Man." It is to the schools that the *Kommunist* writer looks both for the causes of low esthetic taste and for a solution of the problem. On all forms of art, he wrote, literature was the only one studied in school and this merely as an illustration to history or sociology, no attention having been paid to literature's esthetic qualities. The fundamentals of the fine arts, music, the theater, the cinema, applied arts, and architecture were not taught at all. It was necessary to introduce music, art, and literature appreciation as well as training in manners and behavior.

Meanwhile an interesting attempt to fill the gap is being made by the organization of what are known as people's universities of culture and art. Consisting of two-year courses of Sunday lectures, organized visits to theaters, artists' studios, museums, etc., these might at first sight be mistaken as an extension of the conventional type of workers' education. They are, in fact, something different. The public filling to capacity local factory clubs and "places of culture" is composed mainly of young people with secondary education who appear to be attending these courses in the arts not in order to acquire diplomas or certificates (none is offered), but to acquire a better understanding and appreciation of the subject. The lectures, whose papers are illustrated by "live" performances by professional actors, extracts from films, and musical turns, seem to be making a genuine attempt to teach art appreciation. And one usually comes away with the impression that the young working-class public is ready for a more sophisticated approach to life than contemporary Soviet writers, painters, and so on have hitherto reckoned. More than 1,000 of these people's universities have been organized, and they must already be catering for fully a million people.

continued on page 162

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## HANDRAIL, HO!

British Architect N. Keith Scott visited this country for three years, studying at MIT and working in various architectural offices. His resultant "An Architect Looks at America" was published in the Journal of the Royal Institute of British Architects in April. Its criticism of "appalling" architectural details, while perhaps somewhat harsh, is nevertheless interesting for its historical perspective.

My first impressions of America were twofold. Firstly I felt there was an almost complete banishment of the study of the history of architecture. Secondly I was impressed with American architects' preoccupation with mathematics. I say quite candidly that I had a terrible inferiority complex when I first attended lectures in the U.S. Every one of my classmates knew calculus, and this gave them a head start in the studies which I was to do—except perhaps for the acousti-

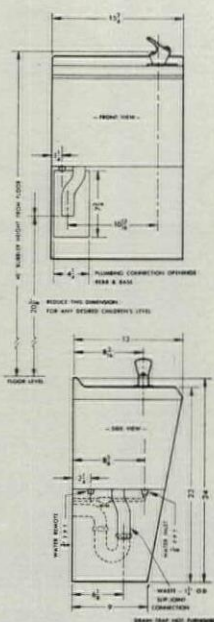
cal studies. In the structural seminars it helped them considerably.

How did these two impressions enable me to understand a little more clearly the American architecture which I was later to see? First of all I think this better knowledge of mathematics gives rise to some of the very exciting structural shapes found in American architecture.

For confirmation of that I think you have only to look through *Architectural Review*, or the *Architects' Journal*, and compare them with the *FORUM*.

This lack of any perceptive historical background, however, is subject to criticism, because having thought of these wonderful shapes, U.S. architects very often lack the understanding to lift them into great art, and their detailing, quite frankly, is appalling. Much of this is due to their lack of appreciation of the way esthetic problems were solved in the past. I am not comparing America particularly with this country, about which one must also have some grave reservations, but with, say, the Scandinavian countries where history is taught very perceptively. There the standard of both the architecture and the detailing is very fine.

Architecture should be a tactile expression as well as a purely visual one. When you walk up a staircase and hold the handrail, if it is a Georgian handrail, something happens to you. It is a beautiful shape, and it feels right. I always remember going to the Lion and Unicorn Pavillion at the Festival of Britain as a young student. I remember the grip of the handrail of the staircase, it felt good and positive, so I looked at the detail of it. It was just the same section as my Georgian handrail at home. There is really no substitute for that kind of thing, you know, and a 2 by 1 piece of hardwood just screwed on to a core rail is simply not good enough.

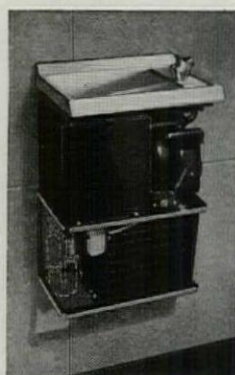


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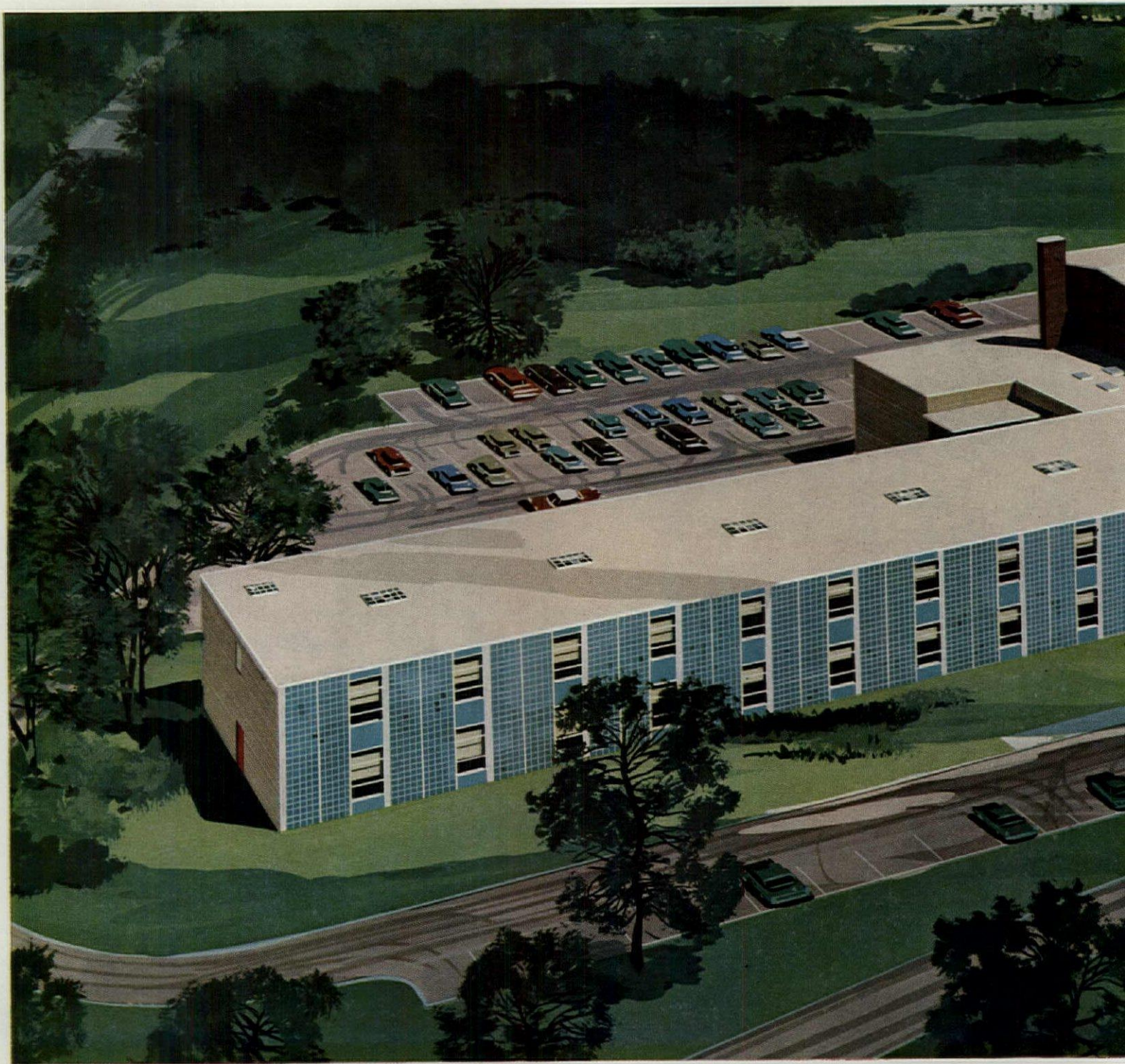


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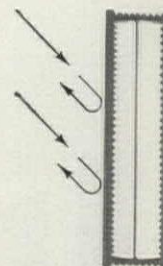
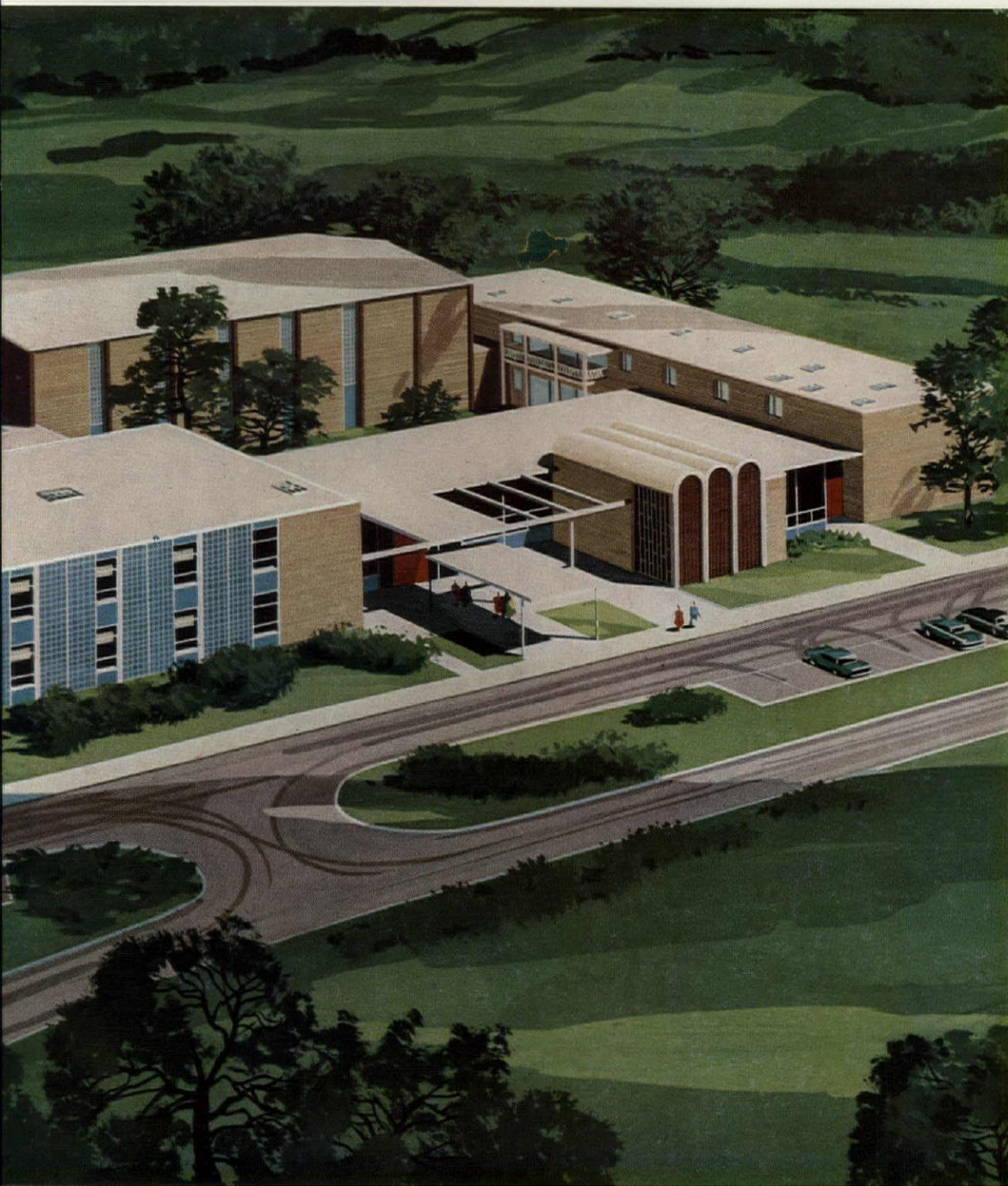


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Contractor: Hallmark Construction Co., Birmingham, Ala.  
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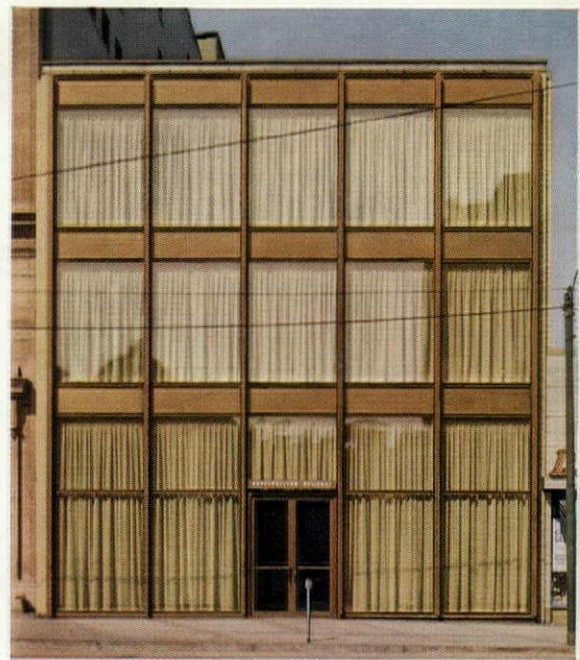


## CREATIVE DESIGN IN WALLS OF GLASS AND ARCHITECTURAL BRONZE

Here are excellent examples of the broad range of curtain-wall design made possible with Architectural Bronze. At the right the metal components consist of bronze extrusions, including a large I-beam shape for the mullion, and Muntz Metal sheets for the spandrels. Below, the design for the glass framing incorporated standard sizes of Architectural Bronze angles, bars and Red Brass rectangular tubes.

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Details of these and other curtain-wall designs are given in our new publication, "Architectural Metals" by Anaconda. Its 64 pages also give practical and detailed information on the available metals, their compositions, colors, forms, physical properties, architectural applications, instructions for obtaining various finishes, detailed specifications and many pages of fabricators' shop drawings. Send today for your copy. Address: The American Brass Company, Waterbury 20, Conn. In Canada, Anaconda American Brass Ltd., New Toronto, Ont.



Northeastern Pennsylvania National Bank and Trust Company, Scranton, Penn., George M. D. Lewis, Scranton, architect. Standard Iron Works, Scranton, fabricator.

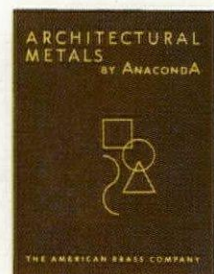
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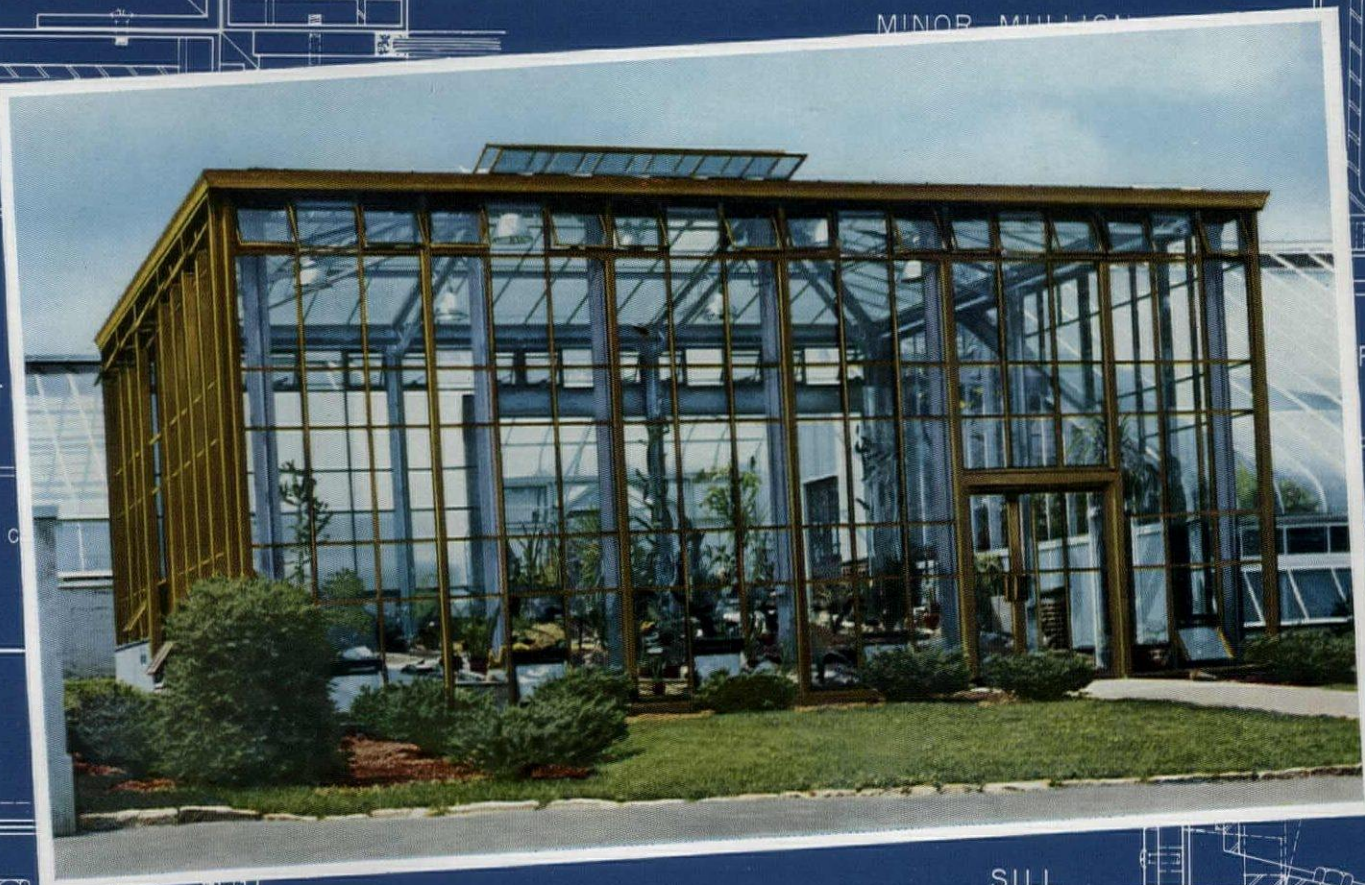
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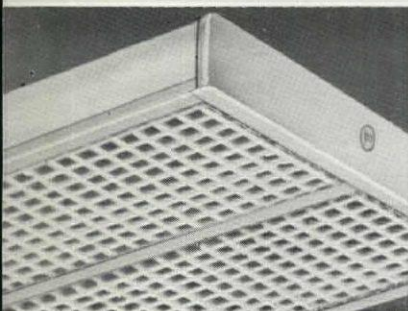
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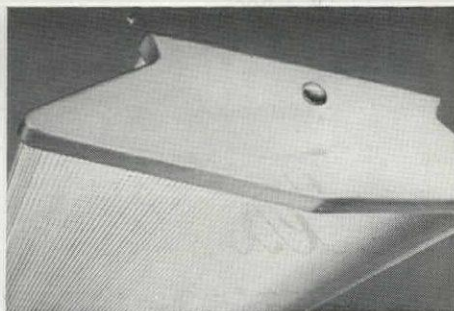
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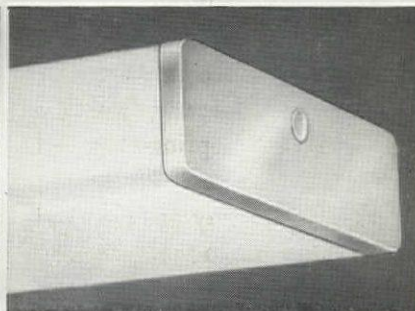
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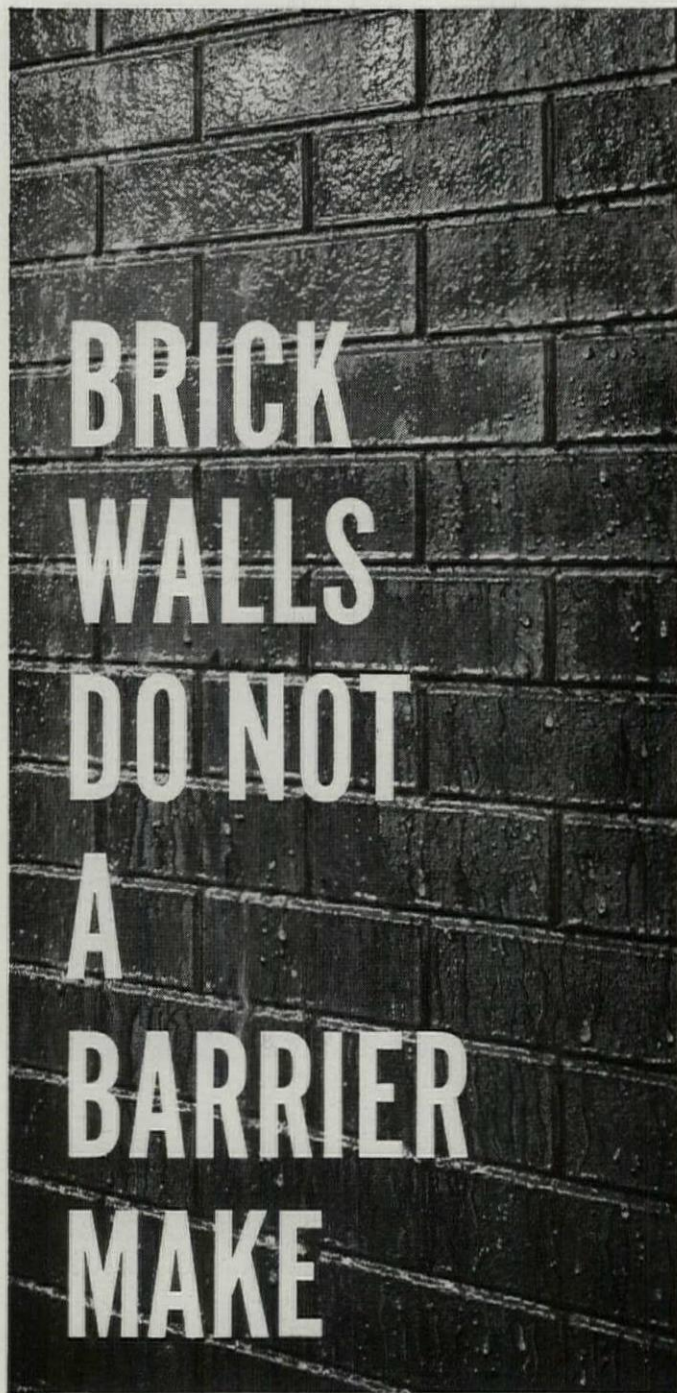
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## CO-OP HOUSING *continued from page 133*

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Sol Shaviro, manager of a Bronx cooperative project that is a member of UHF, has cited another factor that has helped reduce the costs for some New York co-op projects: "One way to bring down costs is to eliminate the general contractor and builder, as UHF [CSI] has done."

### In other cities: signs of growth

Away from metropolitan New York, the volume of co-op housing is small but growing steadily.

Chicago has only about 500 units of prewar middle-income co-ops, and about 10,000 units of upper-middle and luxury units. Last month, one of that city's co-op specialists offered his explanation for its lack of any substantial volume of middle-income co-ops. "A major reason," he declared, "is because we do not have a law like those in New York that give limited-dividend or cooperative projects real-estate tax abatement. Conventional financing requires down payments that are too large. And under Sec. 213, with 90-per-cent mortgages, you have to have a builder who does not want a big profit. That isn't easy." A lawyer who has been trying to persuade several Chicago labor unions to follow the lead of New York unions that sponsored co-ops says that "unions in Chicago are not interested in this sort of housing. One of the problems, I think, is integration. The kind of projects I'm interested in having built here would be for income groups from \$5,000 to \$8,000 a year and the integration issue might arise. I think some of the unions here might be hesitant about getting involved with the integration issue." (In New York virtually all publicly assisted co-ops have integrated occupancy, and in a new Section 213 project on upper Fifth Avenue nonwhites own 15 per cent of the apartments).

In Detroit sales of upper-middle-income co-op garden apartments have been started in the Lafayette Park Title I project which was designed by Mies van der Rohe for the late Redeveloper Herbert S. Greenwald. Twenty-three of the 186 garden units to be completed by fall have already been sold or reserved. Consisting of six rooms, a full basement, and a private yard, they are priced from \$21,800 to \$32,000, on down payments of about \$750 to \$1,200 per room, and carrying costs of \$175 to \$250 per month, including gas. Company sales literature points out that FHA approved an alternative rent of \$275 a month for one of these typical three-bedroom apartments that will cost only \$188 a month after a down payment of \$5,170 (on a total sales price of \$23,500). In the first 22-story building in the same project, two-bedroom apartments (without basement or yard) are being rented for \$250 a month.

Elsewhere new co-ops are limited to a modest number of Section 213 projects, and scattered, although growing, numbers of luxury or semiluxury buildings.

What other big cities outside of New York seem to lack more than anything else in getting any extensive middle-income construction is a dedicated, pushing, and if-need-be sponsoring organization like New York's United Housing Foundation—an agency to fill the "promoter" role for purchasers that one cannot ordinarily expect the builder to assume, unless he is undertaking a project on a reduced-profit, semiphilanthropic basis.

END



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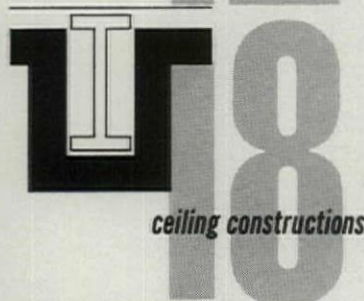
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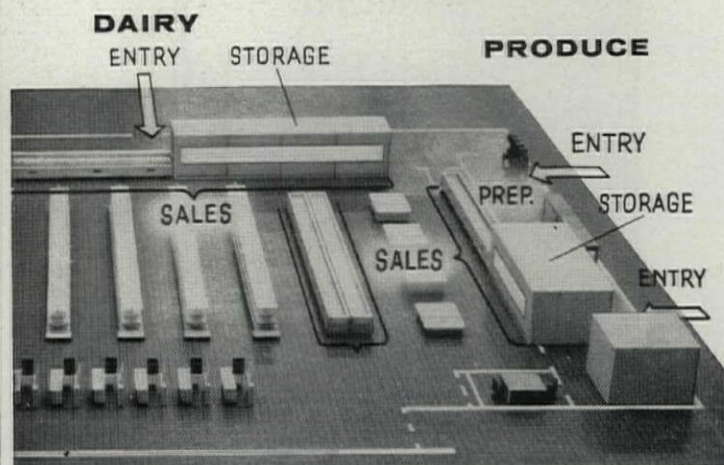
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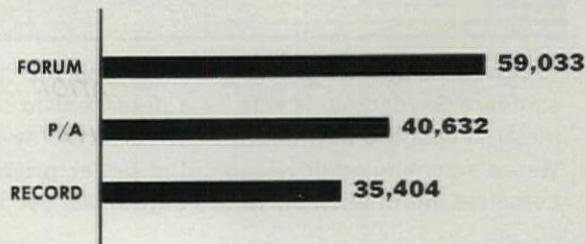
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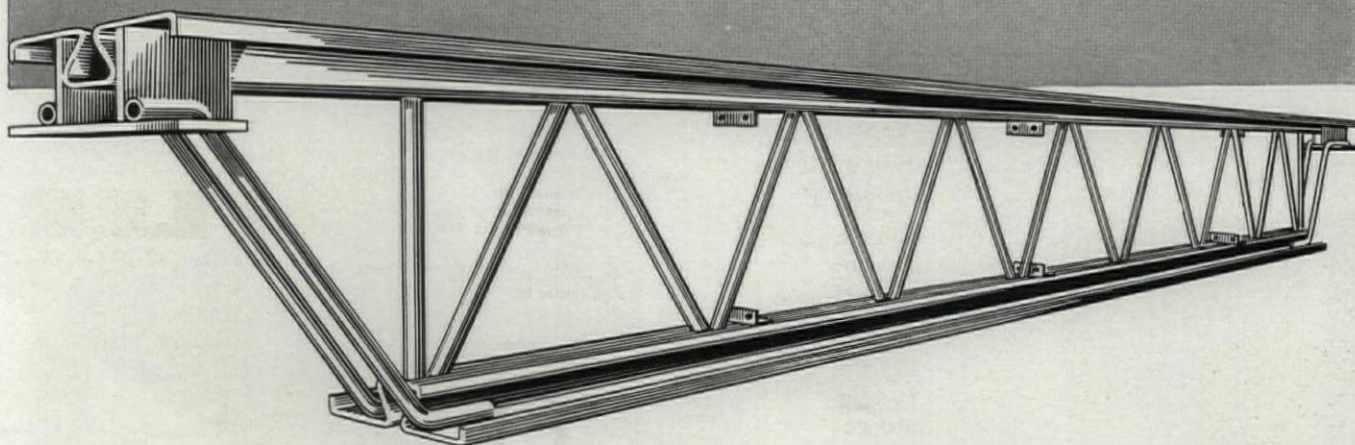
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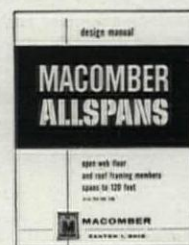
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# M-DECK Provides Roof Structure



Entrance Foyer of Men's Intramural Building, Michigan State University, Lansing, Mich. The building houses Classrooms, Swimming Pool, and other Sports and Conditioning Facilities. 89,200 Sq. Ft. of Mahon Acoustical M-Deck was used in the construction of the Combined Roof-Ceiling. Mahon also Fabricated and Erected 830 Tons of Structural Steel for this project. Lewis J. Sarvis, Architect. Granger Brothers Inc., Gen. Contrs.

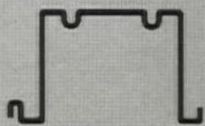
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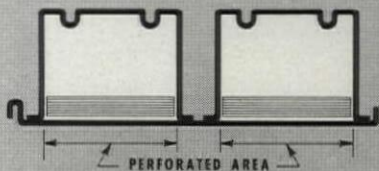
Acoustically Treated Cellular Deck Sections Present  
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## MAHON Long Span M-DECK SECTIONS



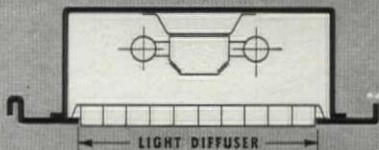
SECTION M1-OB

OPEN BEAM DEPTH 3", 4½", 6" or 7½"



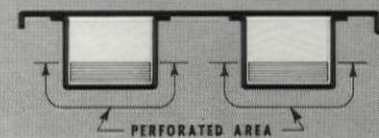
SECTION M2SR (Acoustical)

CEL-BEAM DEPTH 1½", 3", 4½", 6 or 7½"



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At Left: Cross Section of Long Span M-Deck  
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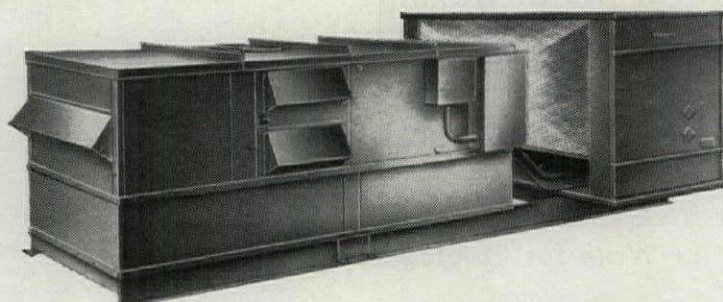
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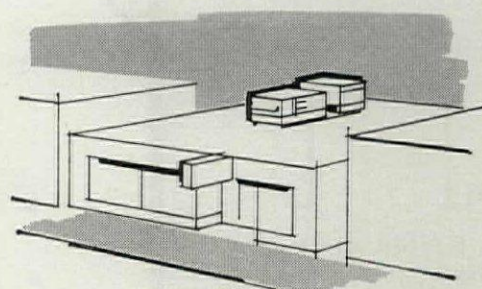
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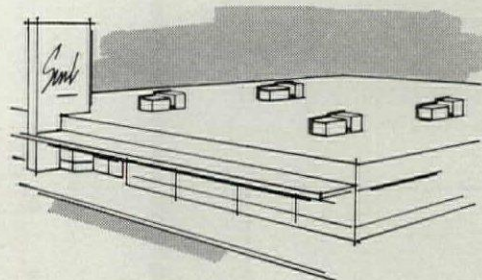
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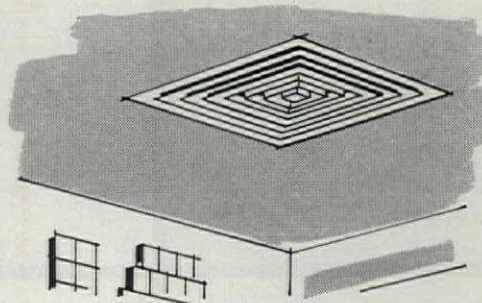
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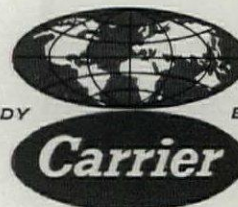


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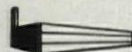
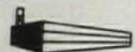
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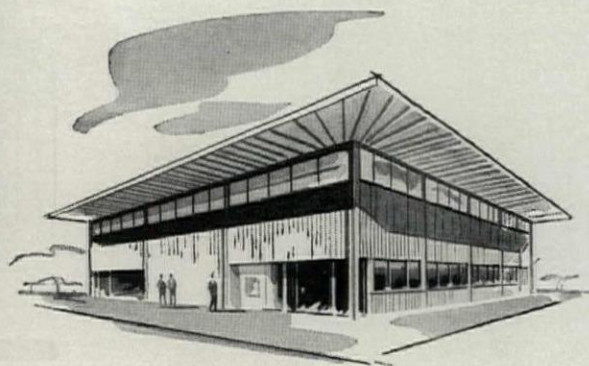
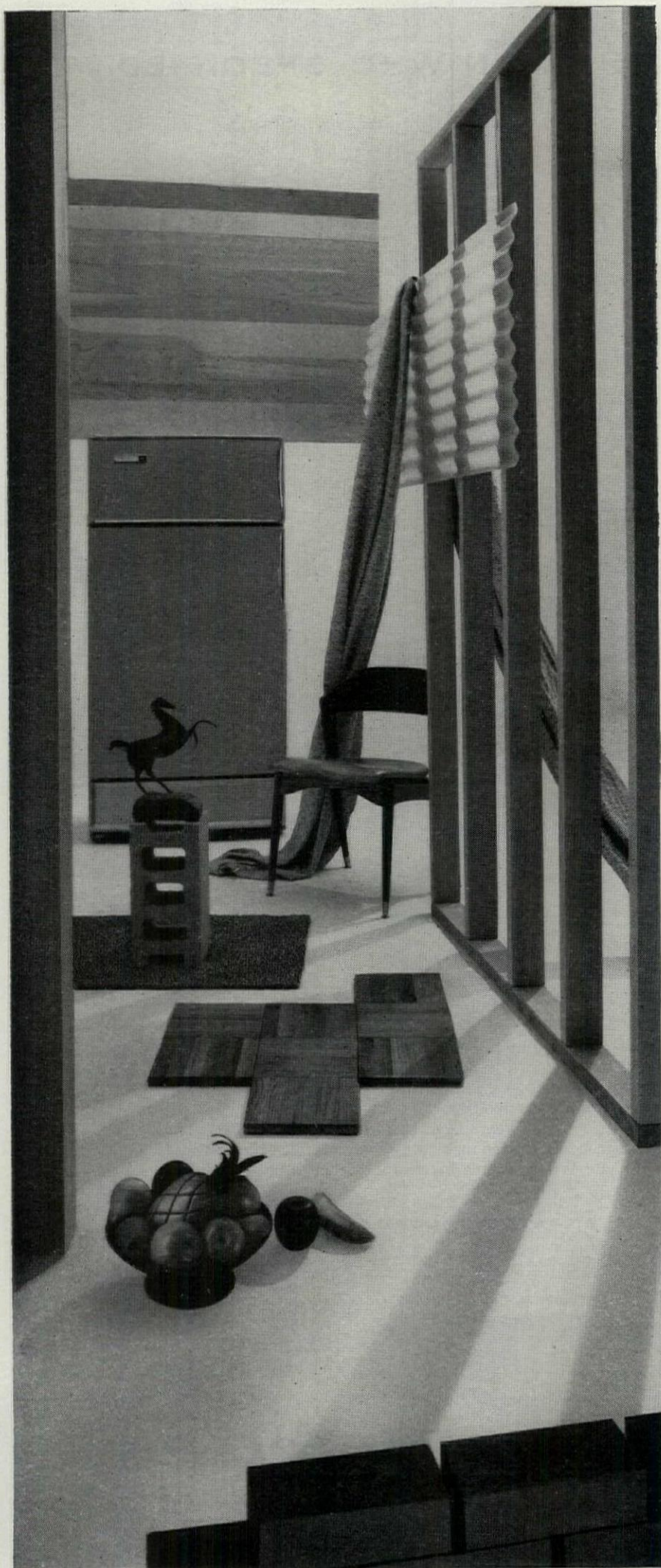


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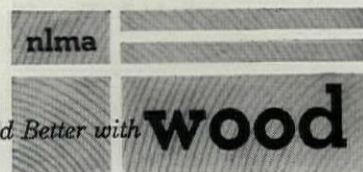
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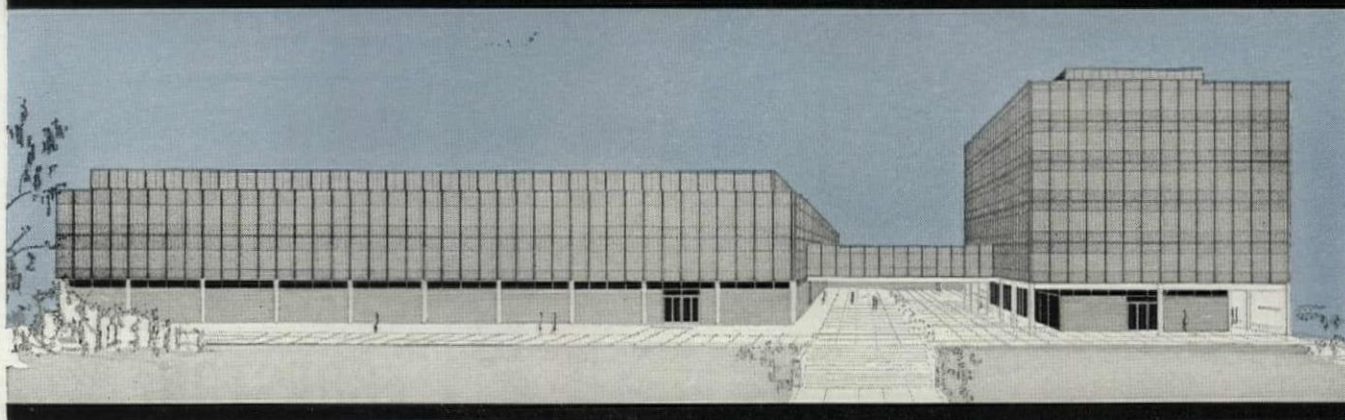


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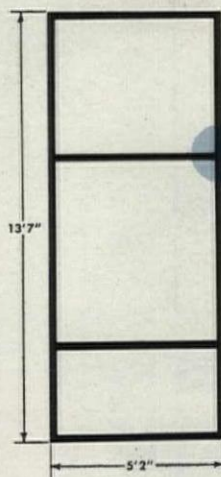
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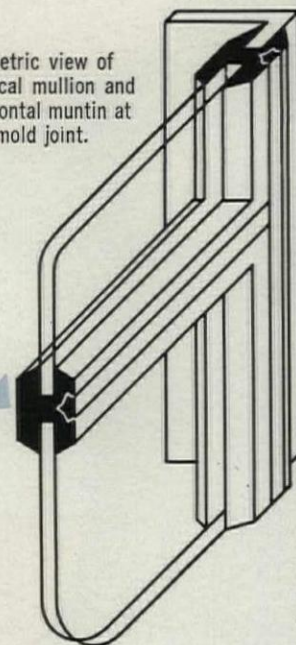
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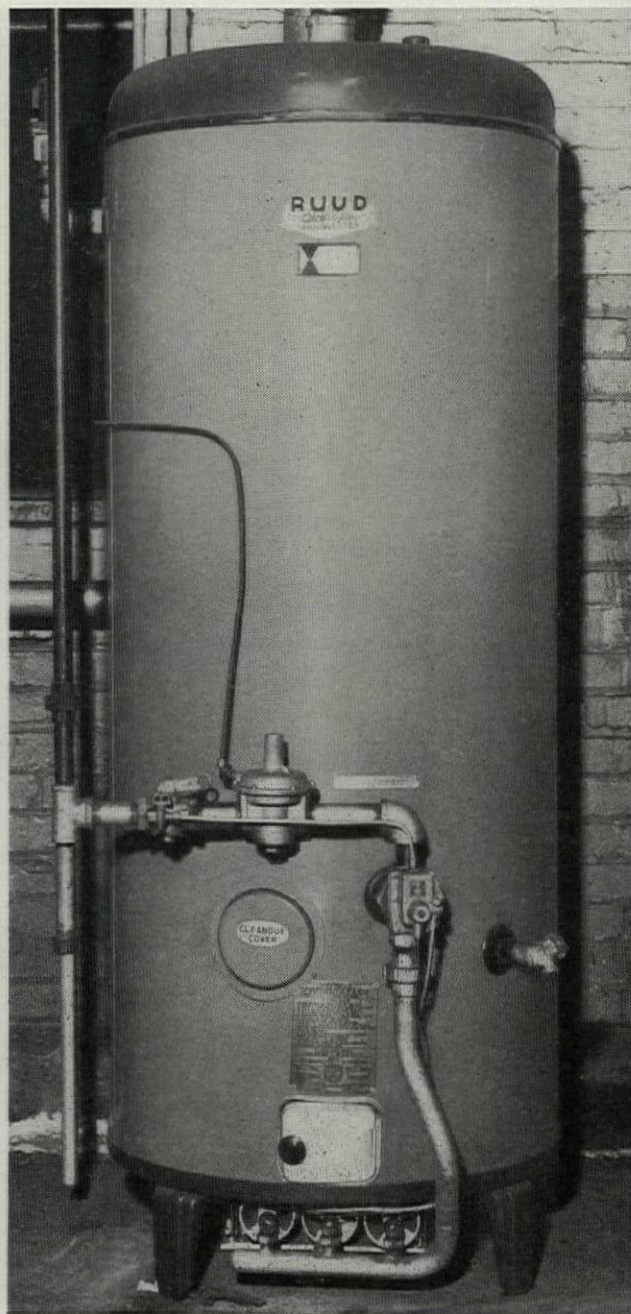


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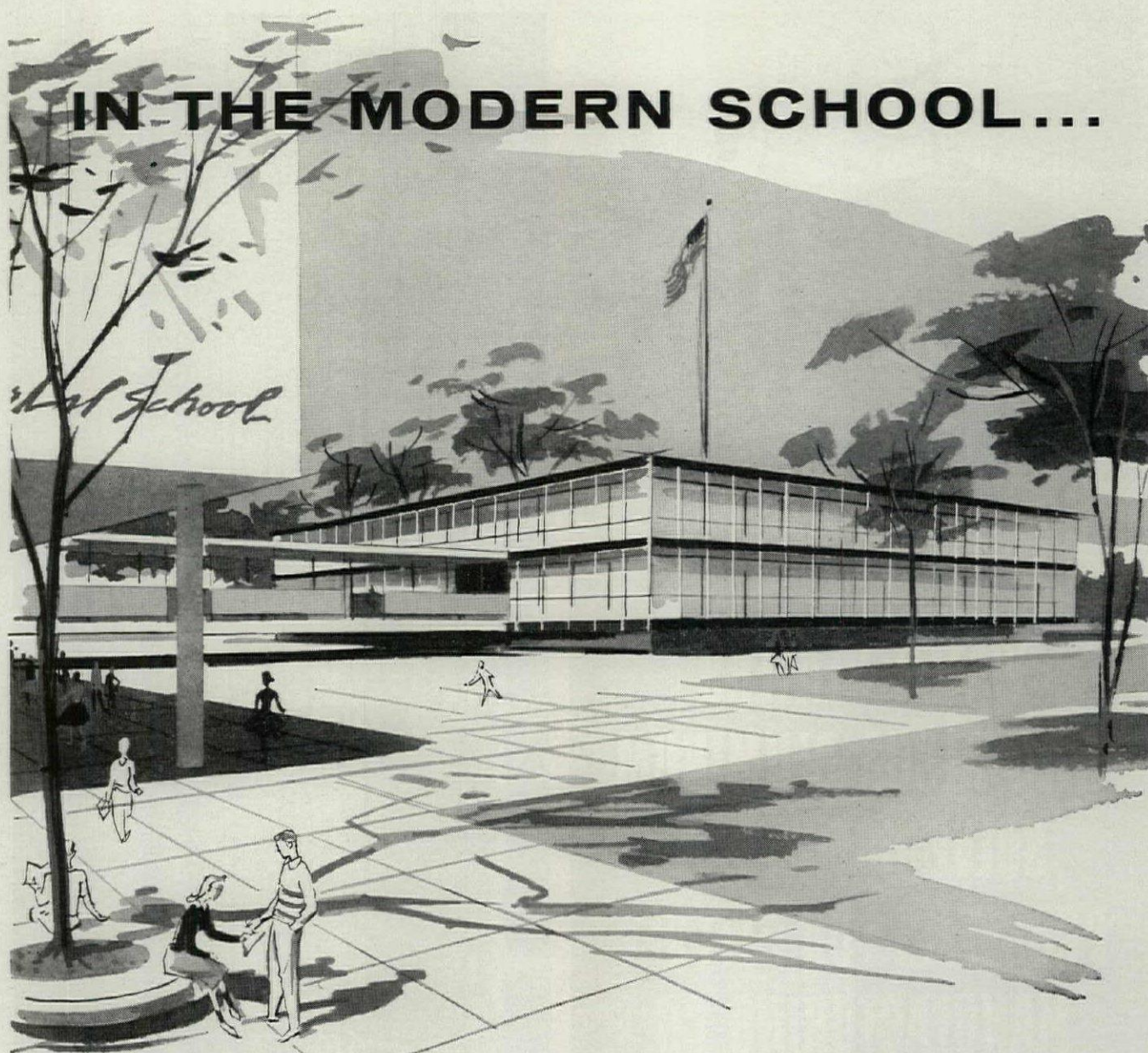
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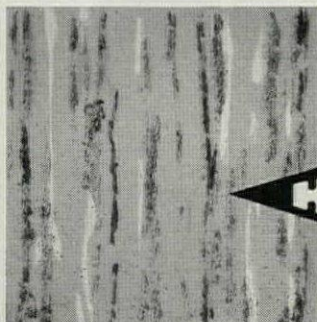
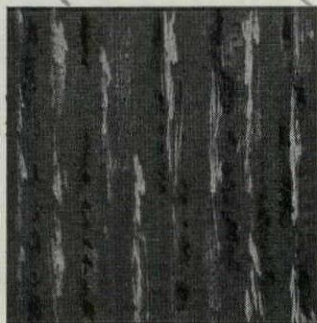


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Architect (of the Capitol): J. George Stewart, Washington, D. C. Associate Architects: Eggers & Higgins, New York City.

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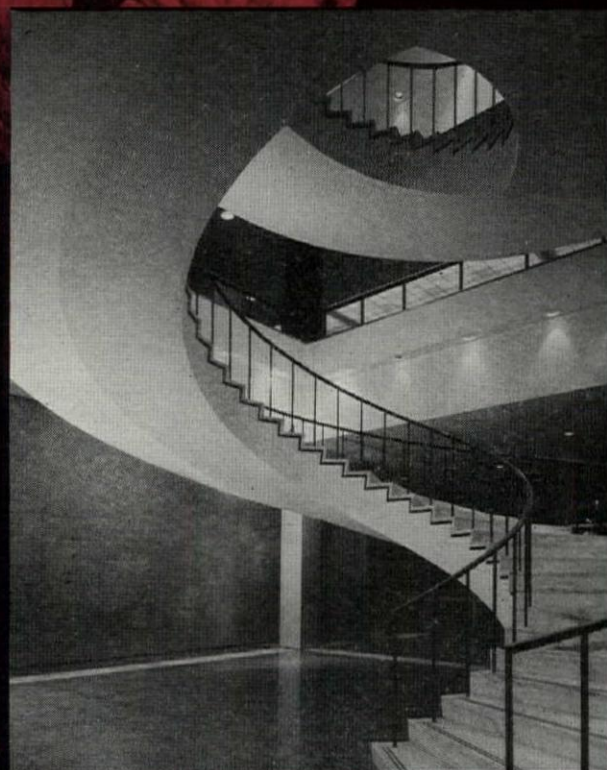
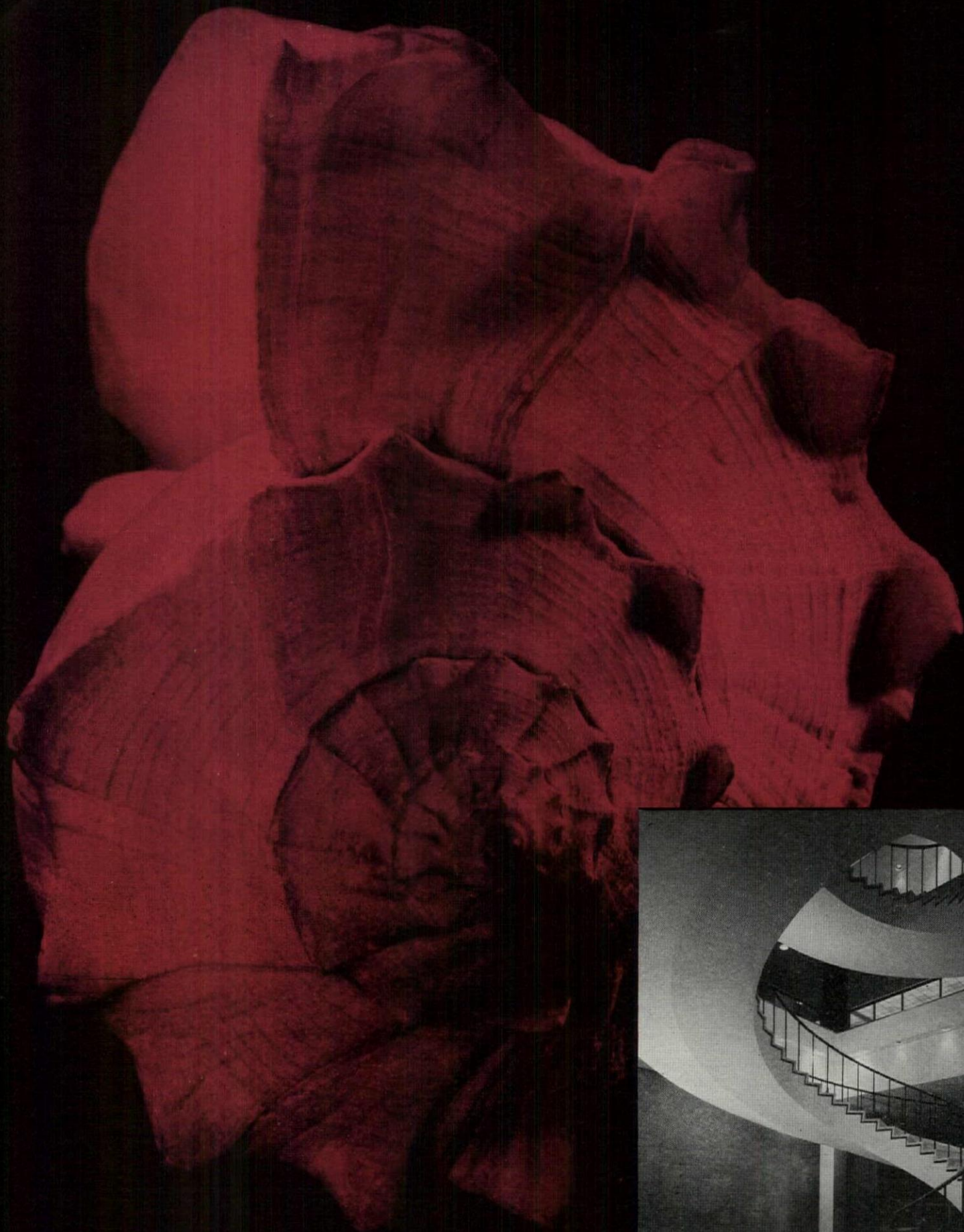
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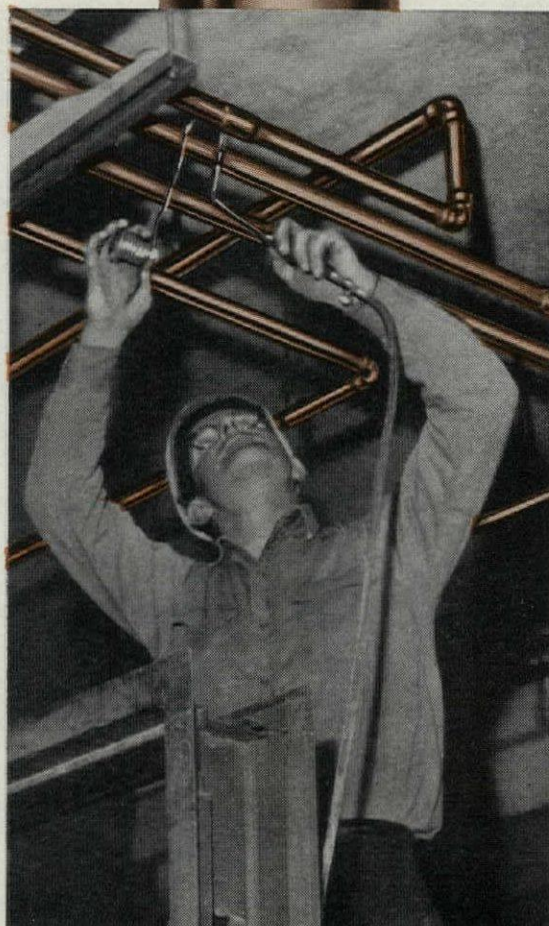
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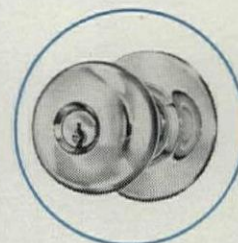


## Fresno Community Hospital Addition—

### QUALITY IN EVERY DETAIL



### SCHLAGE LOCKS THROUGHOUT



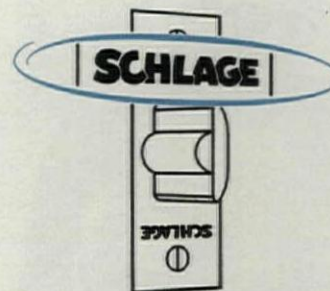
KNOB DESIGN: Plymouth  
CHASSIS: Heavy-duty stainless steel

PAINSTAKING attention to the requirements of the staff and the well-being of the patients has made the 200-bed addition to the Fresno Community Hospital a showplace in its field.

Such refinements as wall-to-wall carpeting in public rooms and corridors; television, radio and telephone for each room; oxygen piping into each room and individual air-conditioning control for each room add to the efficiency and comfort of this modern hospital. The natural lock choice was Schlage, with its corrosion-resistant, stainless-steel trim so necessary to resist the strong cleaning solutions used in hospitals.

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## Letters from readers:

### Architectural criticism . . . boresome planning . . . risky real estate

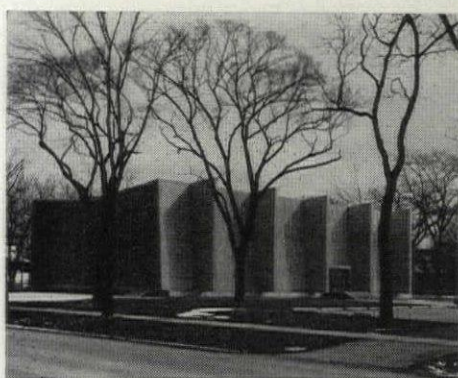
#### CRITICIZED CHURCH

Forum:

Your criticism of my Unitarian Church in Evanston (FORUM, May '59) was fair, straight, thoughtful writing. I am pleased to have had the building selected and handled in this way. Criticisms of this kind have more meaning and importance than routine documentation. You are courageous to do it, and I hope that you will continue.

I wanted coarse, rough concrete, and I will use it whenever I can, even if we learn to stop the cracking. In this case, the method (tilt-up) got in the way: the bents were poured on concrete slabs on the ground; the walls were poured over the basement floor slab. The surfaces of these slabs were smooth to make separation easy for tilting. With one side of each bent and of each wall smooth, the other had to be smooth, too. The interior is not finished; the acoustics are to be a part of finishing.

PAUL SCHWEIKHER, *architect*  
Pittsburgh



AARON SISKIND

located park and dead-end streets have definitely been a sales asset. The one perimeter collector street which allows use of the 50 ft. cul-de-sac saved many acres of land.

D. B. WHITTET, *land planner*  
Lincoln Lumber Co.  
Lafayette, Calif.

#### FLLW TRIBUTE

Forum:

Your tribute to Frank Lloyd Wright (FORUM, May '59), a truly native genius, was eloquent and fitting. His works, philosophy, and life will be an inspiration and guidance to many generations of architects.

NORRIS R. GUTHRIE  
Herald's Engineering College  
San Francisco

Forum:

The June issue of FORUM is one of the best memorials to a late friend, Frank Lloyd Wright, that I have yet seen—a magnificent job.

SAMUEL A. LICHTMANN, *architect & engineer*  
Chicago

#### CRITICISM BREAK-THROUGH

Forum:

I have been following your continuing publication of architectural criticism and extend my congratulations.

It seems to me that the big job ahead is some way to get the whole subject of good architecture vs. bad architecture to the general public. If we could get a major newspaper to feature architecture in regular fashion, it would certainly be a major "break-through" for the entire architectural and building industries.

WESLEY W. WISE, *managing editor*  
American Lumberman  
Chicago

#### REAL ESTATE AND INFLATION

Forum:

The article "Is real estate an inflation hedge?" in the June FORUM is indeed timely. Well-chosen real estate has historically been a sound investment for the American people. It is wise, however, in this heady period, to be reminded that there is no riskless investment. Prudent investment in real estate requires experience, thoughtful analysis, and sound judgment. The small and unsophisticated investor should approach this medium with great care.

MILFORD A. VIESER, *financial vice president*  
Mutual Benefit Life Insurance Co.  
Newark, N.J.

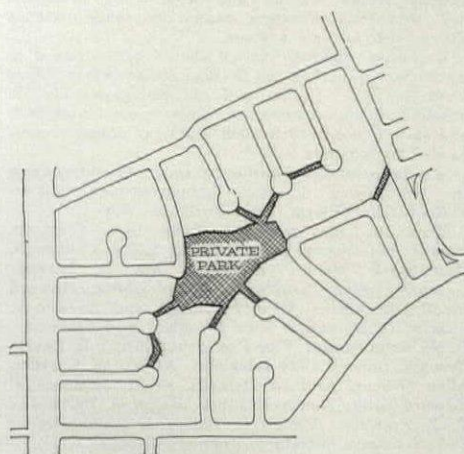
#### BORESOME SUBDIVISIONS

Forum:

The article "The slumberous state of subdivision planning" in the February issue was very interesting.

Subdivision design is probably the most challenging, yet forgotten, aspect of planning today. The city planners are too busy planning the whole region to bother with the neighborhood, while the architects and landscape architects blame the planners for our boresome suburbs.

The enclosed sketch of the Webstertown subdivision incorporates many of the ideas mentioned in your article. The centrally



Forum:

Your article on real estate and inflation is not only a seasoned, well-considered statement of the problem but one which is most timely. In a very straightforward way you have pointed out some of the dynamics of change which may destroy land values as well as create them.

You state that "investment in a new shopping center or office building can, if conditions are right, be far less speculative than dabbling in raw land." Perhaps this should be qualified, for it leaves the impression that shopping centers, particu-

*continued on page 200*



larly, are per se foolproof investments. On the contrary, we are finding that the rapid evolution of the shopping center, plus the changing conditions which can take place in a relatively short time in terms of new and more modern competing centers, increasing taxes, construction costs, etc., can render a shopping center relatively obsolete in a short time.

MAX S. WEHRLY, executive director  
Urban Land Institute  
Washington

## Forum:

Your article on real estate and inflation is interesting and timely.

In order for this country to develop in the future, it may be necessary for the public to invest rather heavily in real estate or to purchase various interests in real estate. If the public does, I hope that the loans which are made for development will be held to conservative amounts, for without good timing, without good planning and management, and without conservative financing, the risks are very great.

GEORGE H. DOVENMUEHLE, president  
Dovenmuehle, Inc.  
Chicago

## UNFRIENDLY CONTRACTORS

### Forum:

You nibbled at the truth in your article "Friendly Electricians" but did not get at the real facts of the tremendous domination by the International Brotherhood of Electrical Workers over the National Electrical Contractors Assn. I have seen it work with autocratic vigor in at least three communities: in a great majority of IBEW-NECA towns the union is boss.

In Kansas City, for example, an IBEW man right out of the IBEW office took over the NECA chapter when the IBEW chieftain became irritated by the efforts of the NECA committee to discuss with him his contract demands. IBEW in this town doesn't tolerate too much management thinking, and, if its attitude is typical of the nationwide attitude, then sheer contempt for NECA operations is more in line with the relationship than the lovey-dovey union you cautiously wrote about.

Moreover, IBEW in Kansas City openly boasts of a wall-around-the-city policy. It will not let any outside electrical contractors in and, of course, this goes a considerable way toward discouraging outside industries which would like to locate in the community.

In our town, too, when the IBEW chieftain enters the room (usually 20 to 40 minutes late), every one of us rises in deference to his eminence.

Frankly, you had a good article cooking,

if only you had been brave enough to tell what you know or had dug a little deeper. It is not a healthy situation, by any measure. The fact that there have been no strikes here for 20 or more years is proof irrefutable that someone is calling the shots. You just can't have that kind of peace without some subservience. In Kansas City's case it is more than subservience; it is more nearly enslavement. As one Kansas City contractor puts it: "I lead two kinds of lives. The one I live at the office, which I am ashamed of, and the other with my family, who knows nothing about how I must degrade myself to stay in this business."

NAME WITHHELD, electrical contractor  
Kansas City, Mo.

■ FORUM's policy is not to publish anonymous letters, but an exception was made in this case because the very fact that the writer would not sign his name illustrates the reluctance of contractors to level with the press concerning their relations with the IBEW. Most contractors surveyed by FORUM in preparation of its article either ducked the questions completely or replied with pap which even an innocent child would not swallow. Even promises of anonymity were not enough to persuade them to talk. FORUM's story went as far as it could—far enough to indicate for the first time that there is some evidence of collusion between IBEW labor and NECA management at the expense of the public. The press cannot carry this story further until contractors are ready to put more facts on the record.—ED.

## SCHOOL FIRES

### Forum:

I heartily endorse your comments about building design practices which can only lead to disaster in the event of fire (FORUM, Feb. '59)—particularly your comments on ventilating systems and exits.

Following a rather costly recommendation for automatic sprinkler installations in several local schools, the Finance Committee asked if I would survey the schools and advise us as to the need for the recommended sprinklers.

My recommendations were based on the four principles that: 1) an immediate automatic alarm in the event of fire should warn all occupants of the building, 2) an immediate automatic alarm should summon assistance in the form of the public fire department, 3) the integrity of all escape routes should be maintained constantly and, where ventilating systems negate the fire cut-offs, such systems should be abandoned and replaced with other means of ventilation, 4) automatic sprinklers are

needed in basement areas and storage rooms from the standpoint of safety to life. Automatic sprinklers throughout the buildings would be justified on the basis of possible savings and insurance costs and the importance of the school building, considering what its loss would mean to the educational program.

There is need for a careful study of each and every classroom in our schools to see that they have two completely independent means of escape. This can be accomplished by interconnecting the rooms and, at the ends of the corridors, providing small vestibules with exits from the end classrooms.

M.H. NICKERSON, assistant director  
Factory Mutual Laboratories  
Factory Mutual Engineering Division  
Norwood, Mass.

## CLEVELAND'S MESS

### Forum:

Congratulations on the good job you did on Cleveland in the April issue.

In the personal editorial page in the AIA Journal I have a couple of times had occasion to make remarks about the sorry mess that Cleveland has become.

Cleveland is my native city, although I have been away from it for a good many years, so I feel particularly concerned at seeing the horrible blight that has crept over all of downtown Cleveland and its east side as far as 105th St. It had already started when I was a boy; by this time it has reached a truly horrendous state.

JOSEPH WATTERSON, editor  
The AIA Journal  
Washington, D. C.

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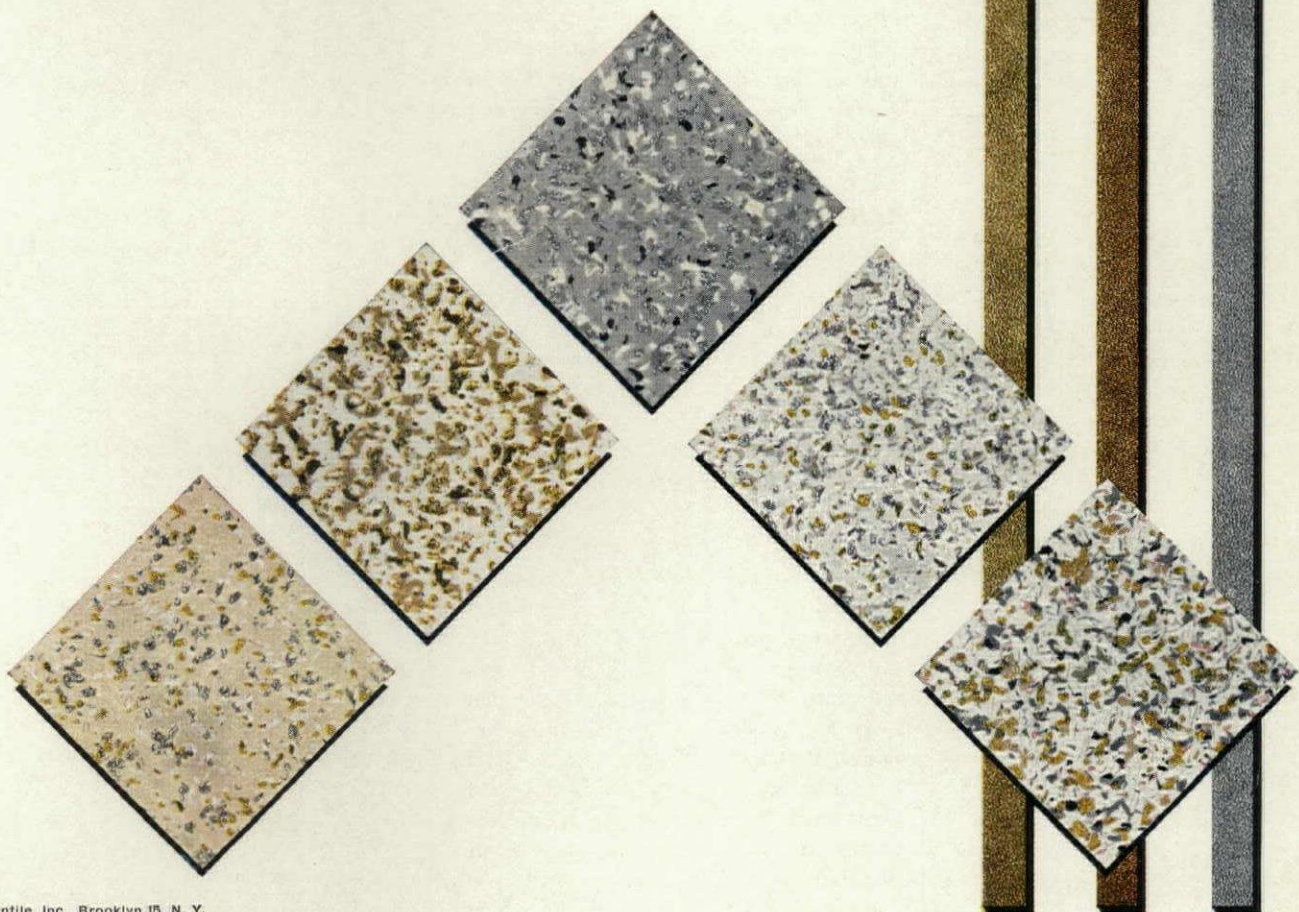
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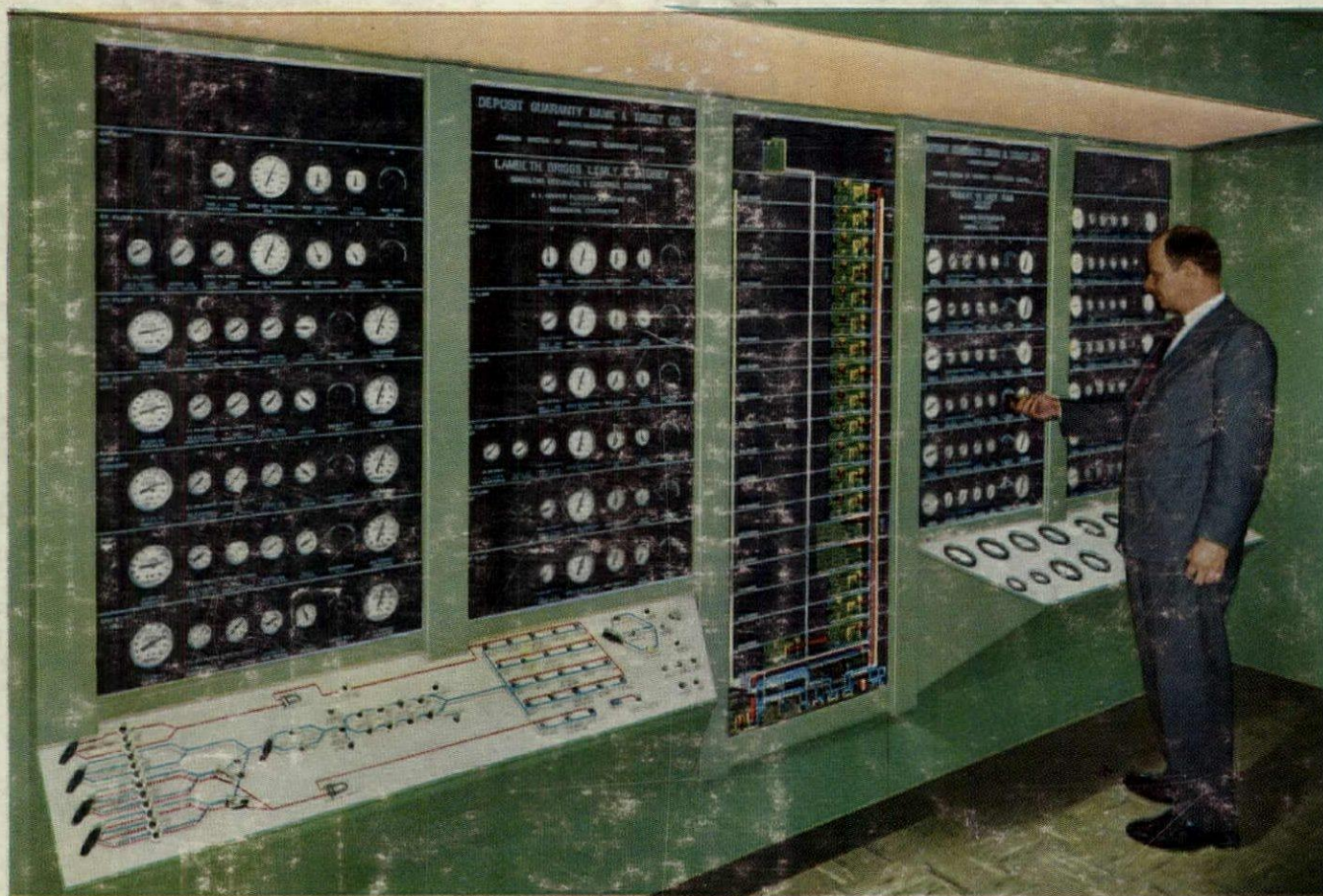
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Deposit Guaranty Bank & Trust Co., Jackson, Mississippi. R. W. Naef, architect; Lambeth, Briggs, Lemly & Storey, consulting engineers; M. T. Reed Construction Co., general contractor; F. L. Cooper Plumbing & Heating Co., mechanical contractor; all of Jackson.



*Another complex job simplified with . . .*

## JOHNSON PNEUMATIC CONTROL

Air conditioning of the Deposit Guaranty Bank and Trust Co., Jackson, Mississippi, and its new 18-story addition posed some unusual problems, including the precise regulation of 22 central fan systems and 304 centrally supplied underwindow air-conditioning units.

A Johnson Control Center was installed to simplify the operation and over-all control of this extensive system. For example: key temperatures and pressures throughout the system are shown on the panel *continuously* . . . a feature obtainable only with pneumatic instrumentation. At the center, the engineer can also start, stop, supervise, and regulate all basic equipment. He has before him, at all times, a graphic diagram of the entire system and, by observing operational conditions as constantly shown on the panel, can anticipate load changes and compensate in advance.

The simplicity, flexibility, and reliability of a Johnson Pneumatic Control Center are impressive. At the same time, it quickly returns its cost in terms of comfort, fuel and power savings, ease of maintenance and operation, and greater productivity. For complete data, consult your nearest Johnson branch. Johnson Service Company, Milwaukee 1, Wisconsin. 105 Branch Offices.



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