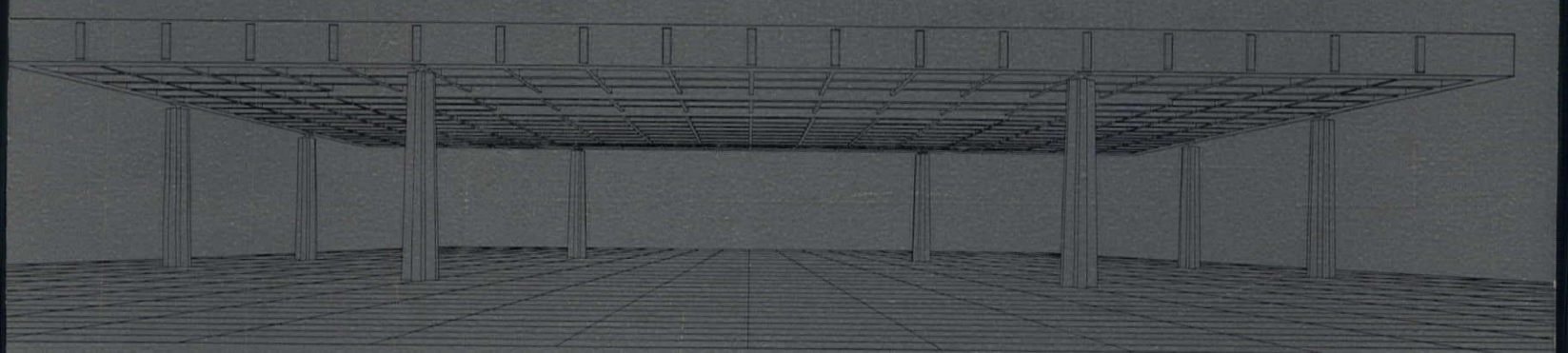
Architectural Forum / the magazine of building / February 1959



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Cover: Drawing of proposed Bacardi office building, Mies van der Rohe, architect (story, page 94).

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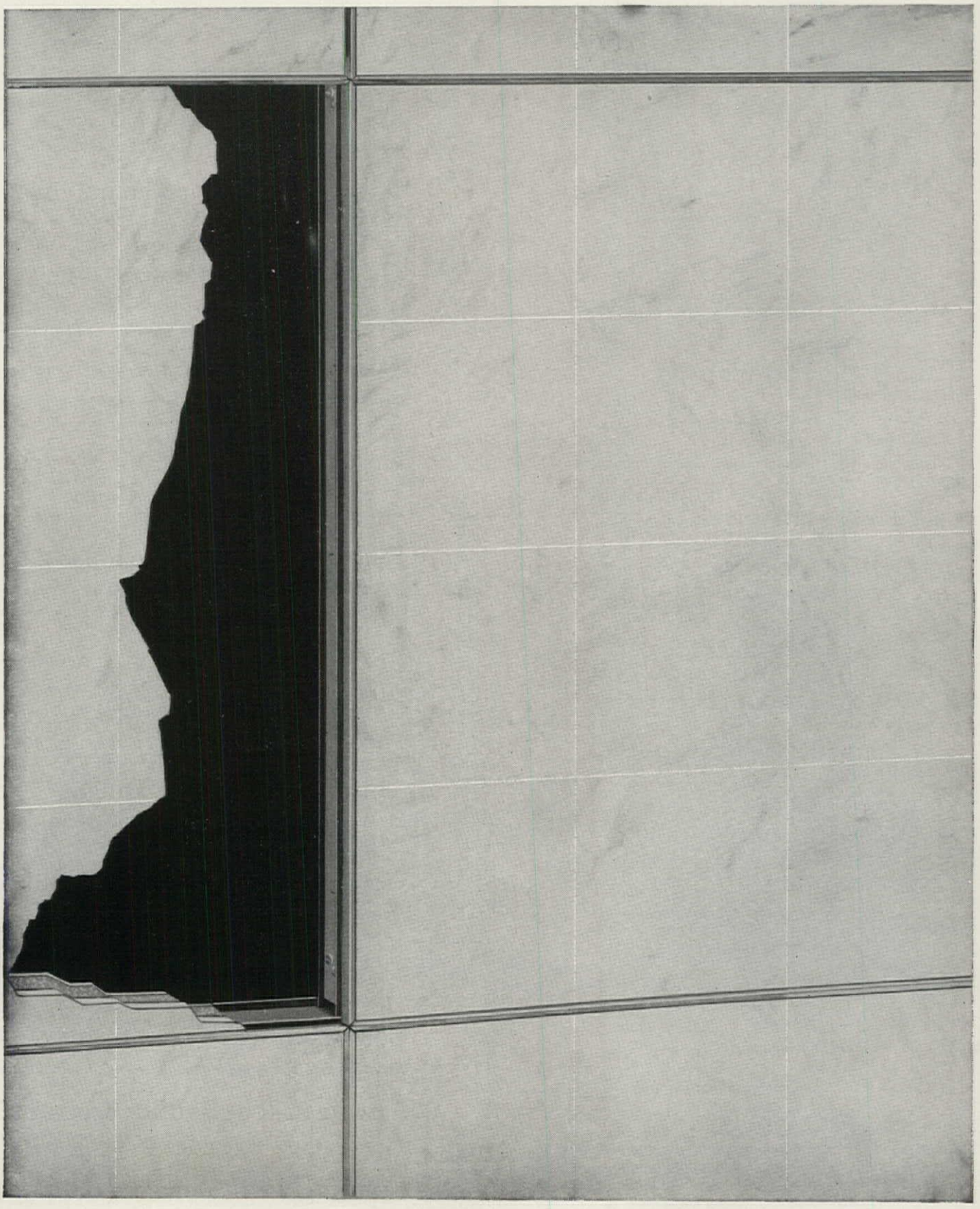

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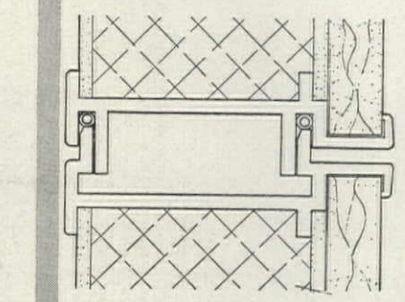

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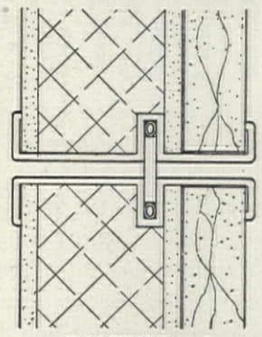

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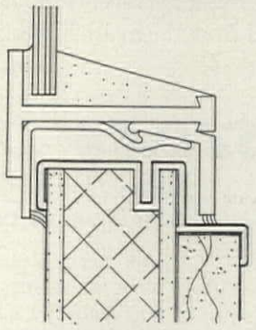

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Eisenhower tries to hold tight rein on spending, but Democrats push for bigger building programs

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LIFE: ED CLARK

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AP

Key figures in the battle for building legislation

Even before President Eisenhower delivered his Budget Message to the 86th Congress in mid-January, the battle lines on spending had been drawn between the Administration and Congress. The message, however, was a virtual declaration of war, with the opening skirmish coming in the building field. For with the Democrats already trying to outdo one another with liberal housing bills (story below), the President, striving for budget balance, outlined the most conservative economy program of his six years in office. Over-all, the Budget Message indicated the Administration's major building proposals would be modest, indeed, contrasted with the sort of programs Congressional leaders want:

▸ Item: The message proposed airport construction aid of $200 million over the next four years, after which it would expire completely. Senator A. S. Mike Monroney (D, Oklahoma) and Representative Oren Harris (D, Arkansas) have introduced measures calling for $575 million in federal aid over a five-year period.

▸ Item: The President asked for no new funds for college dormitory construction after fiscal 1959; such loans would total $400 to $500 million in various Democratic-sponsored housing bills. (Eisenhower advocated a switch to a loan guarantee program for college housing.)

▸ Item: The President wants the federal public housing program to die after current-year authorizations for new units expire. Democrats want at least to extend authorization for 35,000 units a year until fiscal 1961, and at most to boost new units to 200,000 over a longer period.

▸ Item: The budget recommended urban renewal outlays of only $250 million a year for the next three fiscal years, $200 million a year for the three years after that (with the federal share of renewal costs dropping to 50 per cent by fiscal 1963). The Democrats, by contrast, have proposed renewal programs ranging from $350 million a year for six years to $600 million a year for ten years, and they want to keep the federal share at two-thirds or even raise it to 80 per cent.

These differences in spending intentions are probably too great to be peaceably reconciled. To keep the lid on federal building and housing programs, the President will very likely have to resort to use of the veto. But this year, for the first time since Mr. Eisenhower became President, the opposition may have the strength, and perhaps the determination, to override his vetoes.

Democrats ask expanded housing programs

The 86th Congress wasted no time in devising new housing legislation. A scant week after its opening session, and despite President Eisenhower's continuing pleas for budget balance and curbs on spending, there were no fewer than seven housing bills, several school building measures, two airport construction bills, and a handful of lesser building measures rattling around in Congressional hoppers.

As the President's Budget Message indicated (see above), the Administration hopes to "hold the line" on spending for housing and other federal building, neither initiating any new programs nor expanding existing ones, except on an emergency basis. In view of Congressional sentiment, however, and of the character of the legislation already introduced, these hopes will be hard to realize. Senate Majority Leader Lyndon Johnson said that housing legislation has "top priority—we want to get it through as early as possible."

Against this background, Congress paid scant attention when the Administration's "emergency" housing bill was introduced in the Senate. This called for $200 million for urban renewal in fiscal 1959 ($100 million to be held in reserve for the President's discretionary spending), $200 million for college housing, and an additional $6 billion of mortgage insuring authority by the Federal Housing Administration. The measure was obviously designed for two basic purposes: 1) to plug the most gaping holes in the present housing program (urban renewal, college housing, FHA insurance authority), where funds are already exhausted; 2) to do this without creating further pressures on the

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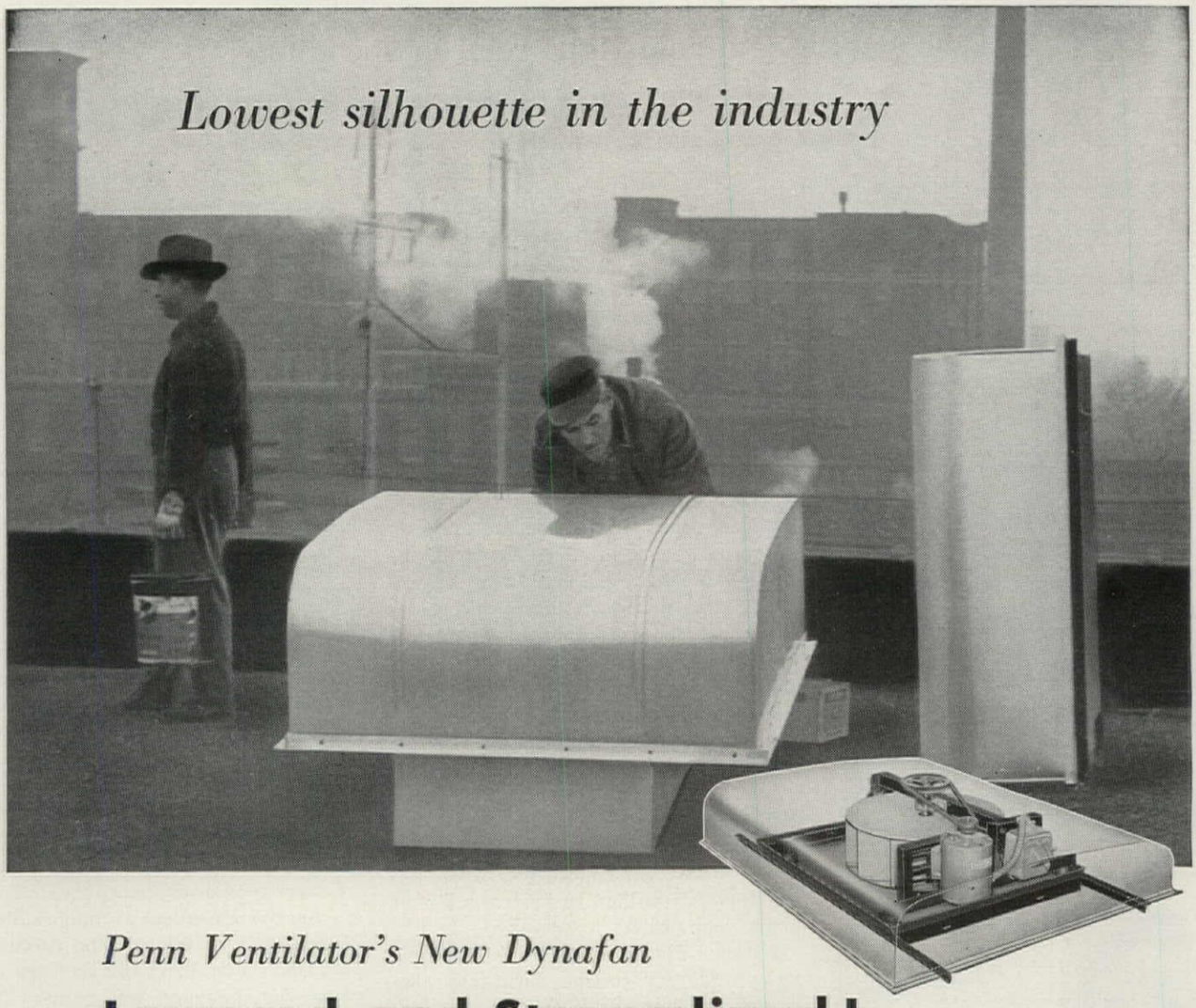

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already deficit-heavy 1959 federal budget. A week later, Senator Wallace Bennett (R, Utah) introduced the Administration's housing bill, which follows President Eisenhower's budget recommendations—including expiration of public housing and airport building programs (after four years) and a declining share of federal participation in urban renewal. Senator Prescott Bush (R, Connecticut) introduced his own urban renewal bill, similar to Bennett's, except that it recommends priority for federal funds to cities in states which have made some contribution toward urban renewal costs.

Senate Democrats brushed the Administration bill aside as "ridiculously inadequate," but the same schism that split the Democrats in the fight over the filibuster rule cropped up in the engineering of a Democratic housing bill. Senator John Sparkman (D, Alabama), chairman of the subcommittee on housing of the Banking & Currency Committee, resurrected the same housing bill that passed the Senate (but barely missed a necessary two-thirds vote in the House) last year. A significant change from last year's measure, however, was made when Sparkman decided the renewal program of $300 million a year for six years in last year's measure was inadequate. (He based this on an estimate that the "net demand" for capital grant funds in 1959 would equal or exceed the $477 million in applications for fiscal 1958.) So Sparkman sketched out a $350-million-a-year program for six years, with an option that in any one year the total amount could be stretched to $500 million, providing the $2.1 billion six-year total is not exceeded.

NEW YORK CITY'S NARROWS BRIDGE

New York City's Board of Estimate, after months of bitter debate, finally approved the Brooklyn approaches to the projected Narrows Bridge linking Brooklyn and Staten Island. The $320-million, 2½-mile-long bridge will cross New York harbor with the longest center suspension span ever built—about 60 feet longer than the 4,200-foot center span of the Golden Gate Bridge.

Sparkman would also allow 15 per cent of the total capital grant reservations to be used for projects that are not predominantly residential (only 10 per cent of the total can be so used under present law). Also included in the Sparkman bill are: $10 million more in urban planning grants to small communities; $400 million more for college housing, plus $125 million for loans to build classrooms and laboratories; $4 billion in new FHA mortgage insurance authority for the remainder of fiscal 1959 and another $4 billion for fiscal 1960. The bill would authorize 35,000 public housing units for fiscal 1960 and 1961 and half that number annually until 1963.

The ink on Sparkman's bill had barely dried when his colleague, Senator Joseph S. Clark (D, Pennsylvania) termed some features of the measure "inadequate," and introduced his own housing bill. This called for $600 million a year for ten years for urban renewal, up to 200,000 new public housing units over an extended period, and $250 million a year for a program of loans to build college dormitories, labs and classrooms. Clark also introduced a new rental housing loan program which would grant loans at 3 per cent interest to nonprofit corporations and cooperatives to build middle-income housing that would meet construction standards and rent levels set up by the program's special administrator.

The two Democratic housing bills may precipitate a battle over some sections of the measures that are far apart —such as urban renewal. Any compromise could raise the spending level provided in the Sparkman bill and simply make the Democratic measure more unpalatable to President Eisenhower, who may well veto even the Sparkman bill.

In the House, no such split has appeared in Democratic ranks, and none is expected. The Democrats' edge on the Banking & Currency Committee was stepped up from 17 to 13 to 19 to 11 in the new committee alignments last month, and this improves the prospects of Representative Albert Rains's (D, Alabama) housing measure, which is fairly close in most respects to that of Senator Sparkman. Most significant differences are that Rains has asked for $500 million for three years in urban renewal funds, $500 million for college housing, and $500 million more for direct purchases of federally backed mortgages by Fannie Mae. (Sparkman did not ask for new purchasing authority by Fannie Mae, which Eisenhower opposes.)

Mason succeeds Cole as head of HHFA

MASON

COLE

After six years as Administrator of the Housing & Home Finance Agency, Albert M. Cole resigned last month to become executive vice president of Reynolds Aluminum Service Corporation, the Reynolds Metals Company subsidiary which contracts for building projects. Cole's new job will be to promote uses of aluminum in residential and commercial building, and his office will be in Washington.

The 57-year-old former Kansas Representative was praised by President Eisenhower for his "long and devoted term of service." Shortly after accepting Cole's resignation, the President announced that Norman Mason, now Commissioner of the Federal Housing Administration, which is a subsidiary agency of HHFA, had been nominated as new HHFA Administrator. A few days later, Mason was approved by the Senate, and HHFA General Counsel Julian H. Zimmerman was nominated to become the new FHA chief.

Cole was known to have been at odds with Eisenhower's chief economic counselors for some time, even as long as two years ago when Secretary of the Treasury George Humphrey was spearheading drastic moves to cut federal spending. Cole tried to preserve some housing programs and reportedly fell into disfavor as an uncooperative member of the "Eisenhower team." Since then, rumors have recurred that Cole was on his way out as HHFA chief. These rumors became stronger last fall when Cole was quoted as saying he did not believe the federal government has any responsibility for enforcing racial integration in federally aided housing programs. Following that statement, the National Committee against Discrimination in Housing demanded Cole's resignation, and the incident was, at least, discomforting to the Administration. Despite this demand, however, it seems certain that Cole was not pressured into leaving at this time. More

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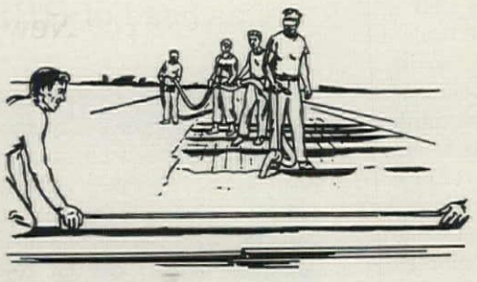

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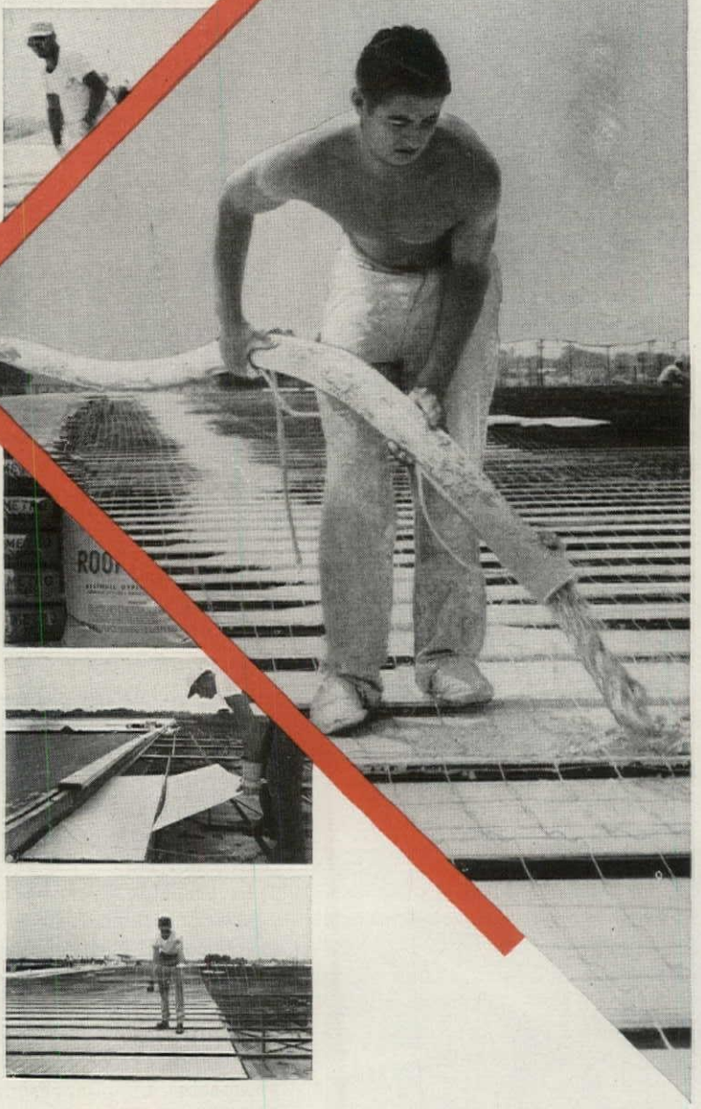

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likely, he saw in the Reynolds offer a golden opportunity to move on before the new battle over housing programs begins.

Mason, a former Massachusetts lumber dealer, will find HHFA a different proposition from FHA, where he has been for four years overseer of a program that has always been popular in Congress. As chief of HHFA, the overall agency, he will have to defend the administration's position on urban renewal, public housing, and other programs that are more controversial—and in some respects less popular—than the widely accepted FHA mortgage insurance system.

Record building year confirmed by federal figures

The official Department of Commerce-Bureau of Labor Statistics figures now confirm that 1958 was a record year for new construction put in place ($49 billion, up 2 per cent from 1957). However, the federal report said that "preliminary indications are that the over-all physical volume of new construction put in place during 1958 (expenditures adjusted for price changes) was about the same as in 1957 ($35.4 billion), and slightly below the peak of 1955 ($35.7 billion)." Building costs were relatively stable in 1958, but apparently they increased just enough to offset the 2 per cent rise in dollar spending.

The dollar volume of private building in 1958 was about 1 per cent below 1957, due largely to a sizable drop in industrial construction (31 per cent) and a smaller, but related, drop in construction of telephone and telegraph utilities structures (15 per cent). Residential construction, which declined in both 1956 and 1957 after hitting a peak of $18.7 billion in 1955, rose 5 per cent last year, to $17.9 billion.

As expected, public building was the brightest spot in last year's construction picture, rising 6 per cent. Yet even here there was some disappointment, as highway construction, which had been expected to shake loose after lagging in 1957, rose only 8 per cent, instead of the 17 per cent FORUM predicted a year ago. The rise of $380 million in spending for highways nevertheless accounted for over 40 per cent of the total increase in public building. Another indication of the continuing vigor of public building, and one which augurs well for the future, is the record volume of state and local bond issues which were floated in 1958—a whopping $7.4 billion, or 7 per cent higher than 1957's $6.9 billion.

Most key materials should be in good supply throughout the year, and prices for at least two key items, cement and aluminum, will be stable at least until summer. The biggest question mark is structural steel. There is a growing belief that the steel industry will be shut down for an uncertain period this summer when the United Steelworkers present their demands. Feeling in the industry is that a strike, at least of short duration, is almost a sure thing. But last month, H. B. Dietrich, president of the American Institute of Steel Construction, said that "The industry is better prepared than ever before to meet the challenge of a promised ten-year construction boom." Dietrich said that total capacity for heavy structural shapes would reach a record high this year, and that the industry's backlog was pared last year by 1 million tons, to 1.7 million tons, or six months' production backlog at current operating rates.

Builders can expect relatively stable building costs, and readily available materials this year, but there is still a growing problem of the cost and availability of construction money. Last month, further pressure was put on interest rates for long-term funds when the U.S. Treasury sold $750 million of 4 per cent 21-year bonds at 99 per cent of par, which means an effective yield to the buyer of 4.07 per cent. This effective yield was the highest on any Treasury bond in over 25 years, and its effect was immediately felt in the trading market for other government—and municipal—issues, where prices fell nearly to the lows of last year. The coincident rise in yields on Treasury issues is sure to be reflected soon in higher interest rates on mortgages, where rates on conventional loans for large buildings are already near last year's highs (6 to 6½ per cent).

Standard & Poor's Corporation last month predicted that long-term interest rates would stay high all this year, as demand for credit is expected to rise 40 per cent over 1958. Standard & Poor's expects the biggest increase in demand for credit to come from consumers and business rebuilding inventories after last year's substantial cutbacks. And it estimates that about $100 million (or 3 per cent) less will be invested in apartment and commercial mortgages this year than last.

Regional planning unit advised for New York

The greatest metropolitan area in the nation—New York City and environs—took a first cautious step toward area-wide planning on an official basis last month. The impetus for such a move was provided by a report of an eight-man committee of the Regional Plan Association, a citizens' group that has volunteered planning advice to the New York metropolitan region since 1929. RPA recommended that the Metropolitan Regional Council, a loose-knit organization of elected officials from the area's 21 counties and 20 municipalities, be given official sanction as "a leadership institution with the capacity to foresee the region's difficulties, to develop alternative solutions and to lead the way for the region, step by step, from specific recommendations to official action to firm accomplishment." MRC would have to be chartered by the state legislatures of New York, New Jersey, and Connecticut, as

continued on page 11

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FOR FIFTH AVENUE, A GLASS TOWER

As might be expected, the 28-story Corning Glass Works tower at Fifth Avenue and 56th Street in New York uses vast quantities of glass—4½ acres of it, in fact. Besides showing off its main product outside, Corning has used many of its own materials (Fiberglas curtains, glass hardware, and Crystopal lighting panels) inside, too. The building will have a 3,000-square-foot landscaped plaza at the tower's base. Harrison & Abramovitz & Abbe are the architects for the almost-completed tower; George A. Fuller Company is contractor.

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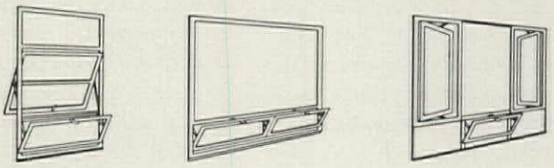

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well as the U.S. Congress, in order to have the sort of official status that RPA thinks it should have.

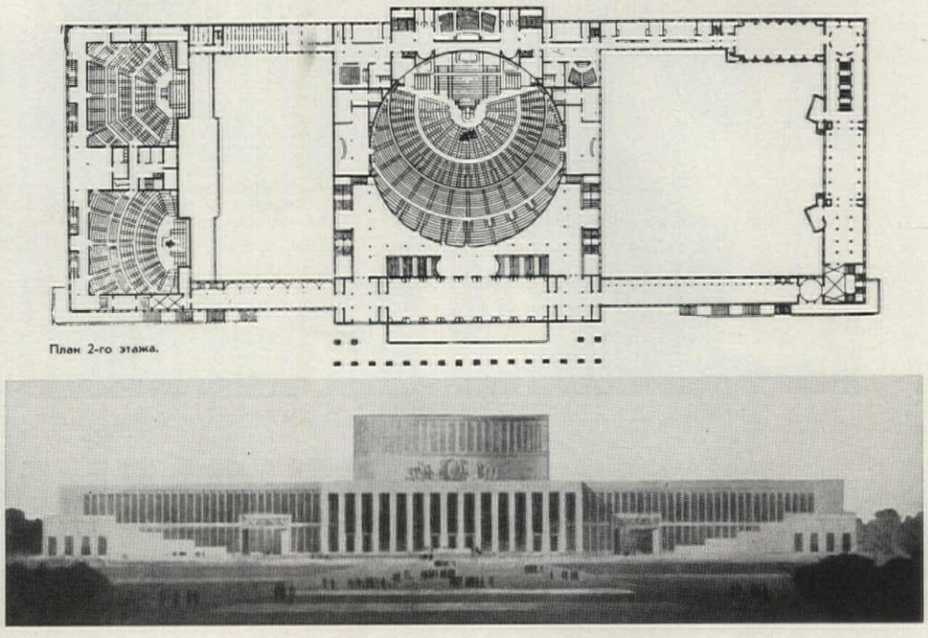
The RPA report would make MRC an official advisory agency to initiate and coordinate area-wide planning. It would have a "full-time, talented and experienced secretariat," which would focus its attentions on the "discovery and identification of the region's potential for growth," and the "formulation of regional goals which will maximize the usefulness of the region's human and material resources." MRC would analyze the area's problems, and make recommendations, but would have no direct authority to enforce them.

At an open hearing to discuss the merits and weaknesses of the RPA report, many planners and public officials pointed out that MRC's lack of direct authority was the scheme's greatest weakness. Many participants at the hearing, including Dr. Luther Gulick, who was one of the eight who prepared the report, feel that MRC should at least have the power to set

continued on page 13

A new Palace of the Soviets—almost

PALACE OF THE SOVIETS, 1931 MODEL



TOP AWARD WINNER, 1958

The changing trend in Russian architecture was forcefully reflected in the entries for a recent competition for a new Palace of the Soviets in Moscow. The first Palace of the Soviets was designed in 1931, and was to be not only the showpiece of all Soviet architecture, but the tallest building in the world (around 1,050 feet, not including a 329-foot-high statue of Lenin crowning the building). The original building (picture above) was a monolithic wedding cake, in the heavy-handed Russian tradition. Fortunately, construction had to be halted in 1941 and only the foundation was built.

Two and a half years ago, the USSR Council of Ministers made a momentous announcement: there would be an architectural competition to design a new Palace of the Soviets. But the Council made it clear that this time they did not want another clumsy spire of mortar. Specifically the Council said "the competition is being held for the purpose of designing a project whose architecture will be understandable to the people," and added that "it must be borne in mind that the requirements with regard to architecture and construction have been considerably increased, that rich experience has been accumulated, and that new materials and engineering equipment are being applied." The implication was clear: the design concepts of those earlier days of the Soviet Union are as outmoded as Stalinism. Come up with something new.

The competition did reflect an awareness of new design techniques, but the jury was apparently not satisfied; no architect was awarded the top, 100,000-ruble first prize. However, two second prizes of 50,000 rubles each were awarded, and the most interesting of these is shown above. The design, by M. Barkhin and E. Novikova, features a central circular auditorium, with a flat roof, and two identical wings, one containing two smaller auditoriums (with seating capacities of 1,500 persons each, compared to the 4,600 persons that can be seated in the main auditorium) and the other wing containing offices and a suite of reception rooms. The smaller auditoriums and the reception rooms and offices contained in the wings are separated from the main auditorium by open courts, flanked by corridors. The height of the central portion of the building is only 161 feet.

Even though this building will not be built as the new Palace of the Soviets (the Council has not revealed any new plans), it is considered a significant step in the evolution of Soviet architecture. This evolution has obviously been slow—the Soviet designs in the competition showed little of the imagination and inventiveness of most Western design—but it does reflect a definite trend away from the grandiose superfluity on the gargantuan scale that typified earlier Russian design.

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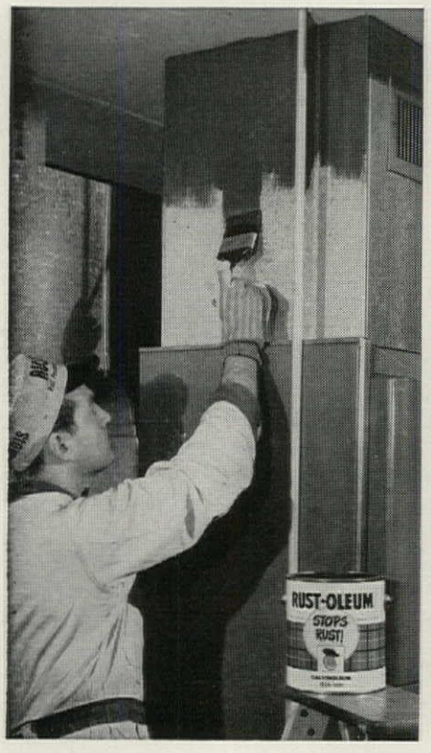

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policies for the area's many authorities (e.g., the Port of New York Authority and the Triborough Bridge Authority), leaving those authorities to execute the policies of MRC.

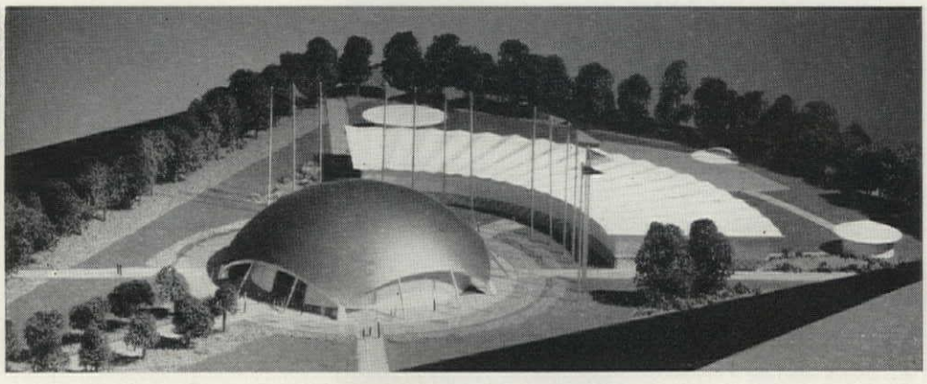
Goodhue Livingston, a member of the New York City Planning Commission, declared that MRC should have "real teeth to carry out policy," particularly regarding the independent authorities, which he said, "have become the personal empires of their managers, subject only to satisfying their bondholders."

The report of the special committee pointed up several instances of the need for over-all leadership. Transportation was called the "most obvious and immediately urgent problem," and as if to underscore this belief, both New Jersey's Governor Robert Meyner and New York City's Mayor Robert Wagner again stressed the need, in speeches made shortly after the plan was announced, for an area-wide attack on the question of metropolitan transit. Land use, water and air pollution and a whole range of other problems will become more perplexing, the report notes, as the area's population booms from its present 16 million to better than 20 million by 1980.

In another recent report, the Regional Plan Association outlined an incipient trouble spot for the New York area: the growth of "suburban slums" which could result from the burgeoning apartment boom in the fringe counties near New York City. In the first half of last year, RPA says, there were 17,160 new apartment dwelling units built in these counties, compared to 11,000 during the same period of 1957. Not only is this a jump of 56 per cent, but the apartments represented 46 per cent of all dwelling units built in the area in the first half of 1958, whereas apartments accounted for only 30 per cent of the total in the first half of 1957.

Apartment building in itself is not bad, RPA points out but "to the municipalities and counties in the inner ring which surrounds the core counties, the challenge is one of maintaining high standards of community development in the face of this shift to very much higher population densities. For unless the patterns of streets, highways, parks, schools, and the myriad other facilities originally structured to serve low density one-family areas are expanded and restructured to serve the higher densities, the seeds will have been sown for a premature deterioration of these areas. In the history of city growth it has been just this failure to maintain effective relationships between facilities and population in rapidly changing areas that has speeded their early abandonment as desirable neighborhoods and their subsequent decline as slums."

HERBERT BRUCE CROSS



GOLD DOME FEATURES FIRST PERMANENT U.S. EXHIBIT IN MOSCOW

Next summer, while visitors to New York's Coliseum will be getting a look at life in Soviet Russia via a vast exhibit of photographs and cultural, scientific and industrial crafts, Muscovites will be sampling U.S. art, industry, and science housed in the first U.S.-built permanent structure ever erected in Russia. The building, which will be part of the exhibit as "a striking example of our building technology," according to Architect Welton Becket, will have a gold-anodized aluminum dome made by Kaiser Aluminum & Chemical Corporation on the Buckminster Fuller pattern. The dome will be 200 feet in diameter, and will stand in front of a 500-foot-wide building with a crinkled, fan-like roof and perforated grille exterior. Inside the dome itself will be a special exhibit of U.S. scientific achievements, comprising a special show sponsored by the State Department and USIA. The Soviet government has agreed to buy the exhibit buildings (for ½ their cost or $375,000, whichever is less) and keep them as permanent features of the park.

Briefs

The U.S. pavilion at the Brussels Fair was accepted last month by the Belgian government as a gift. The building, which cost $6 million, will be shorn of its metal grillework walls and its plastic roof, but Architect Edward D. Stone says: "The Belgians have come up with a brilliant, practical and realistic solution to the problem of transforming the pavilion into a permanent exhibition hall." The theater at the U.S. exhibit will also be preserved.

The Los Angeles Dodgers will get their new baseball stadium in L.A.'s Chavez Ravine. The State Supreme Court reversed a Superior Court decision barring the city from giving the Dodgers the 300-acre site. The $12-million stadium (FORUM, July 1958) is scheduled to be ready by 1960.

Architects must pay federal minimum wages to nonprofessional employees who work on projects that are in a different state from their own office, according to a recent decision of the U.S. Supreme Court. The Court held that work on such projects constitutes "interstate commerce."

Discrimination in private housing was outlawed in Pittsburgh. Effective June 1, any real estate salesman, agent, broker, or even mortgage lender that discriminates because of race, religion, etc. may be fined up to $100 or imprisoned up to 30 days.

A rapid transit system for Washington, D.C. was approved by both the National Capital Planning Commission and the Regional Planning Council last month, now goes to the White House. Top feature of the system: a giant crisscross of subway lines stretching from Virginia suburbs to Maryland suburbs, crossing roughly underneath the Mall in front of the U.S. Capitol.

Newest urban renewal developer is the Protestant National Council of Churches, which has set up a program for developing national objectives to be carried out by local church groups working as urban renewal sponsors. Behind the Council's move is dissatisfaction with some current renewal work. Reverend Jon L. Regier said: "Business organizations sometimes let the profit motive upset the social aspects of community redevelopments. We have to counter that." END

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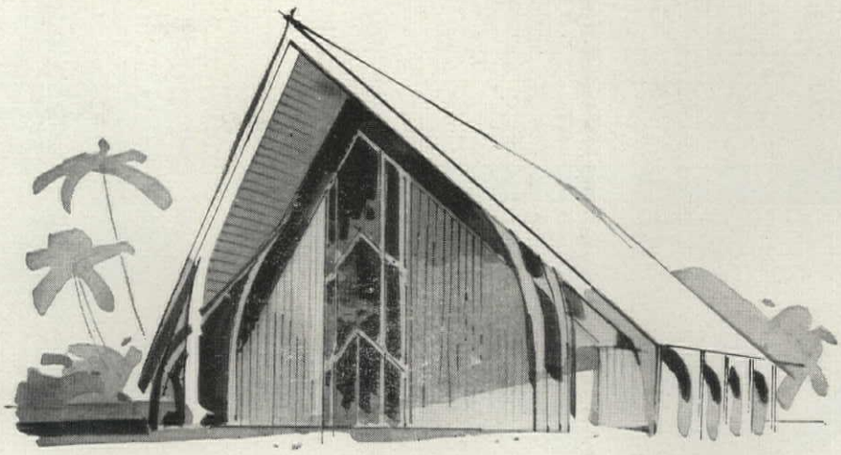

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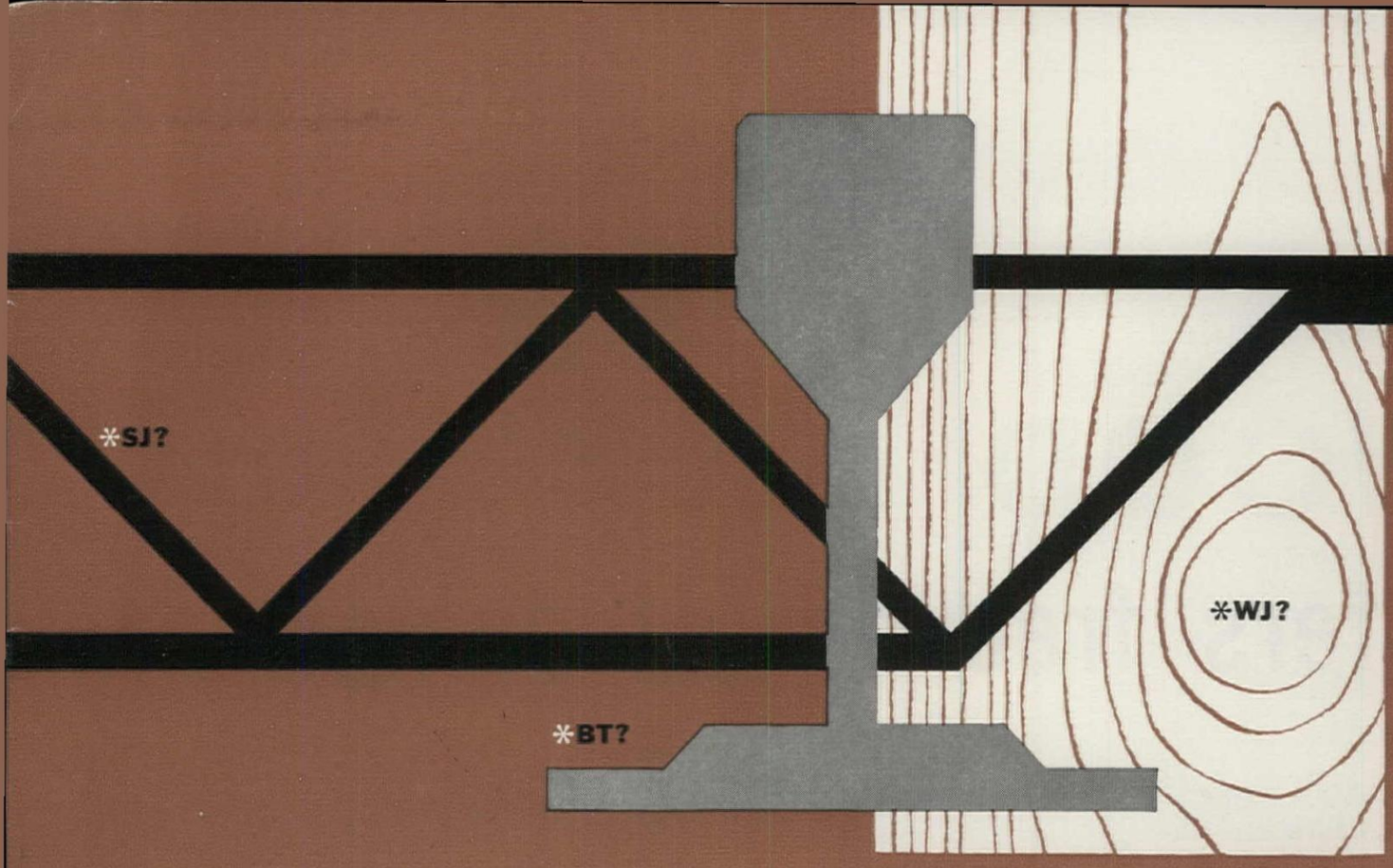

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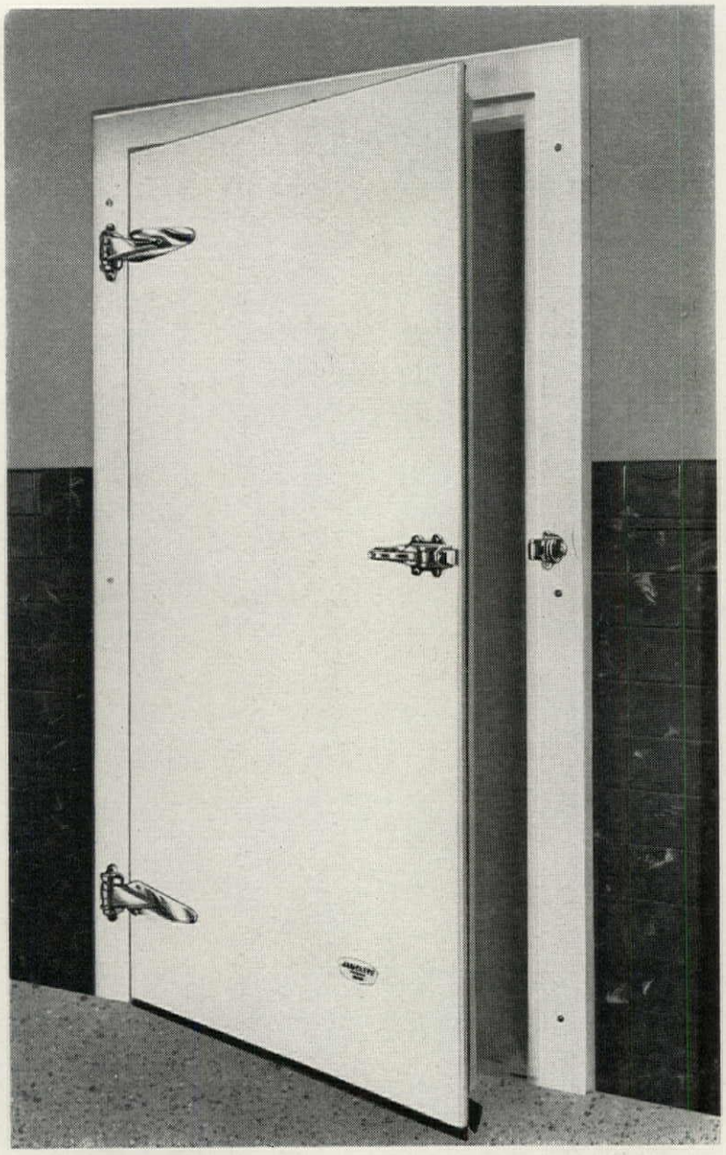

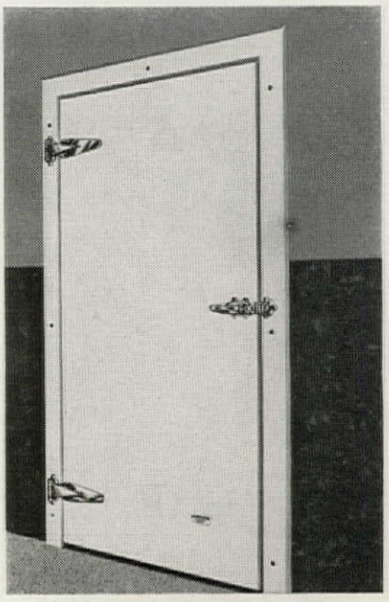

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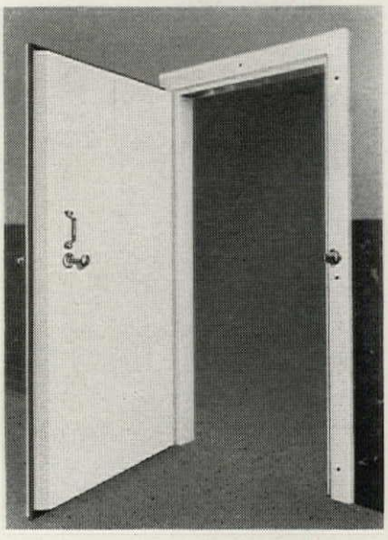

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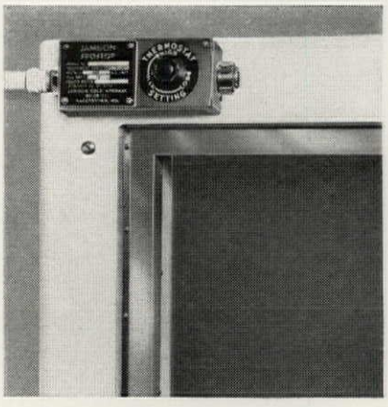

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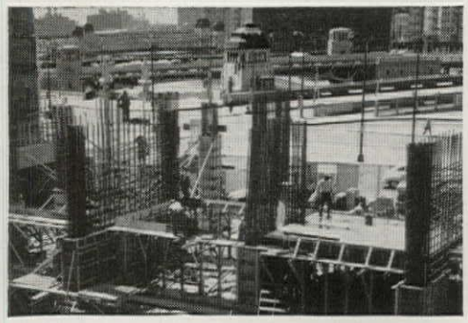

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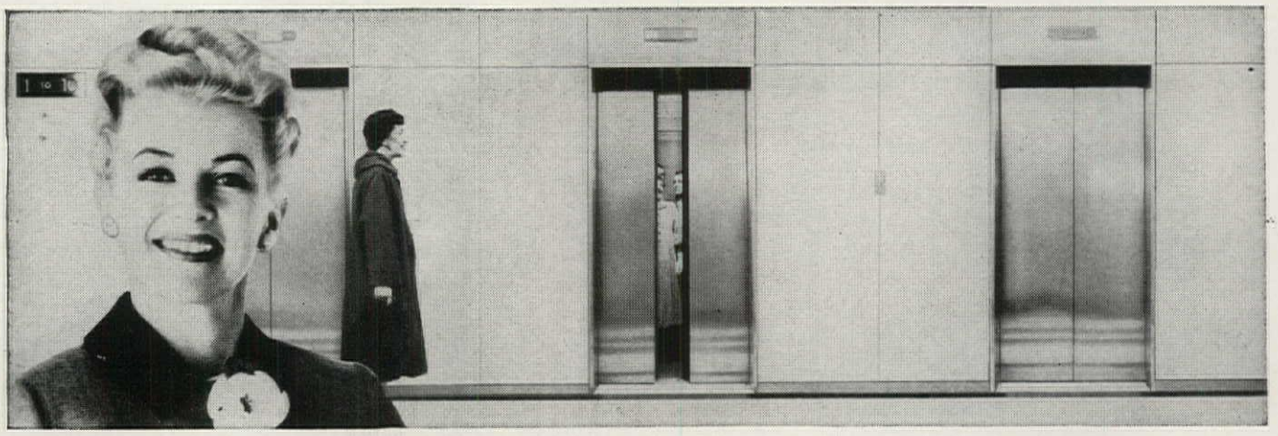

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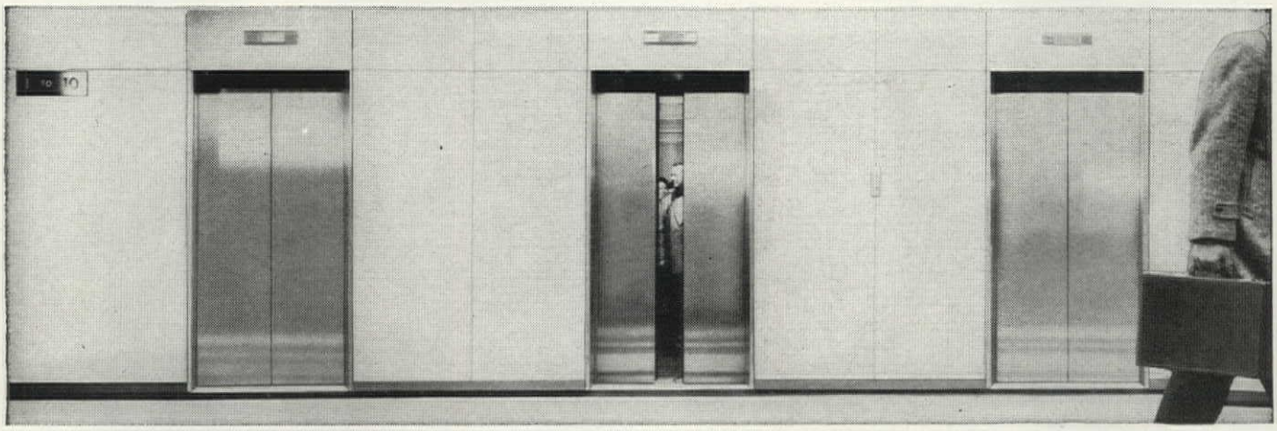

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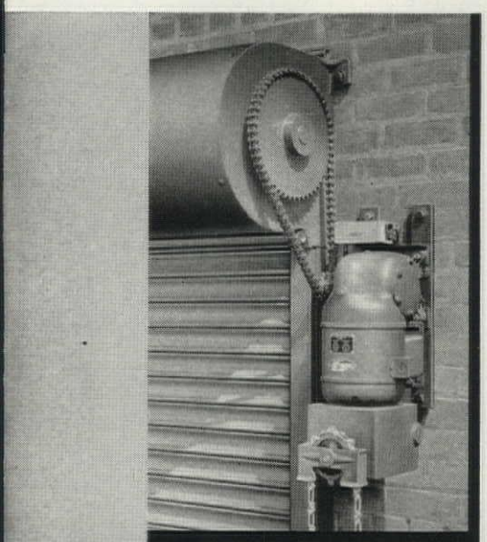

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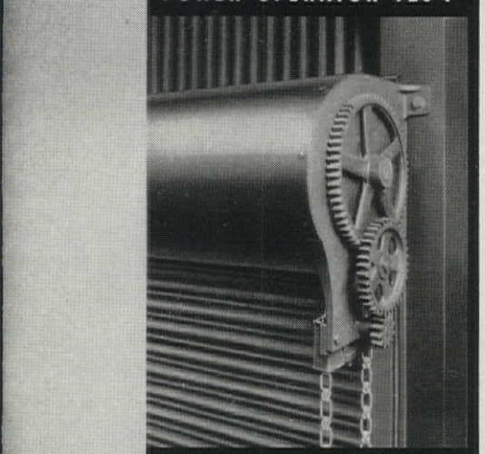

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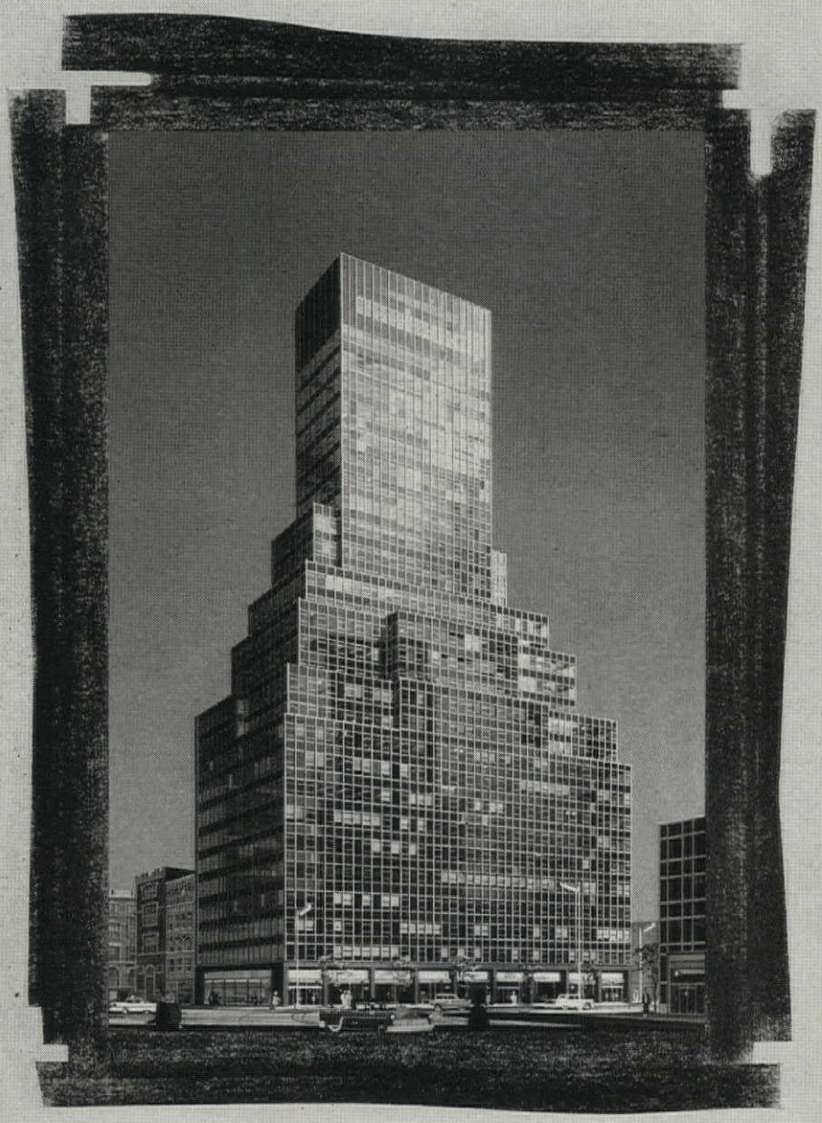

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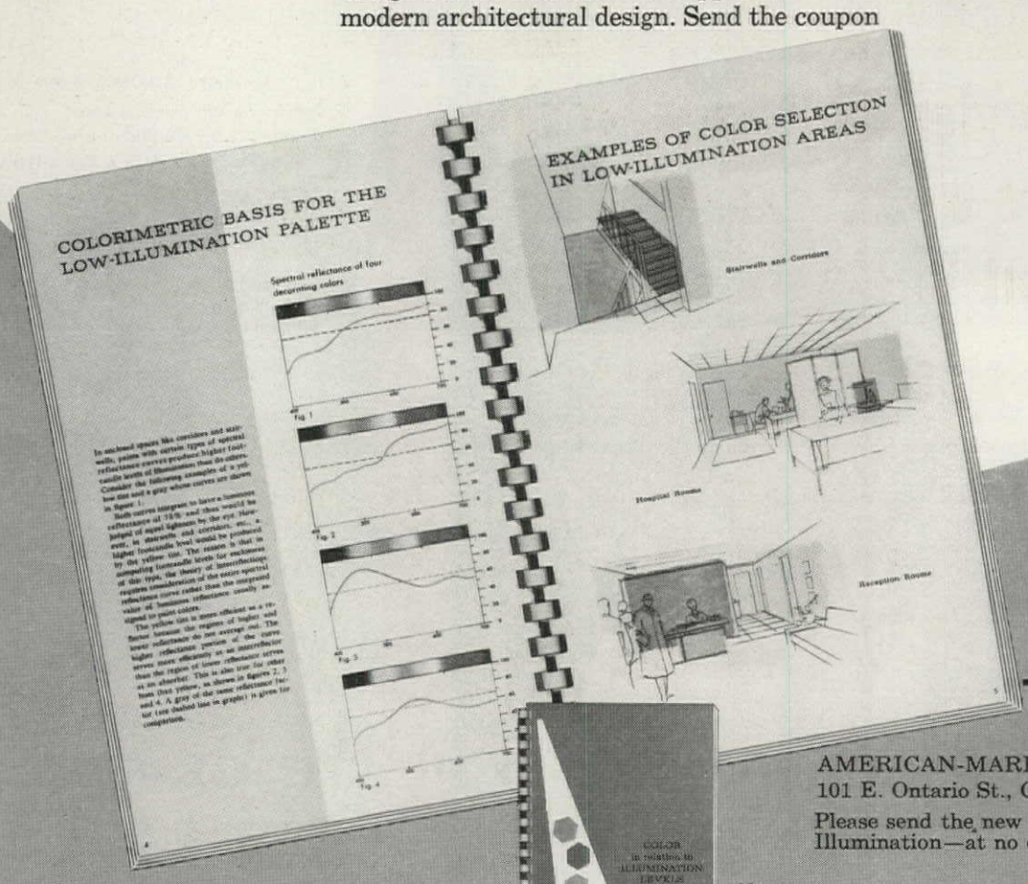

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City & State_____ AF58

SPANG Underfloor Duct provides for future wiring expansion at Moisant International Airport

"We've used SPANG Underfloor Duct before," says Mr. Walter J. Barnes. "Its adaptability to future expansion was an important factor in its selection for the Moisant job." Airport serves 14 airlines.

"We installed over 6,500 ft. of SPANG Underfloor Duct on the second and third floors and West Pier at Moisant International Airport Terminal Building in New Orleans to handle power and telephone wiring," says Mr. Walter J. Barnes, proprietor of Walter J. Barnes Electric Company, New Orleans, Louisiana.

Offers many advantages

"SPANG Underfloor Duct offers ease of handling and installation plus clearly-marked junction boxes that practically eliminate installation mistakes. Power and phone lines are readily accessible at regular intervals. Future expansion and office changes in the terminal building will be easily handled, regardless of wiring requirements, without extensive or costly construction."

Helps you save money

Get all the facts about how SPANG Underfloor Duct . . . and SPANG Header-duct and newly-designed SPANG Fittings . . . can help you make fast, *top-quality* installations. Write for complete literature, or phone your nearest SPANG Representative.

Architect: Goldstein, Parham & Labouisse; Herbert A. Benson and George J. Riehl, New Orleans, La.

Electrical Engineer: Louis N. Goodman & Associates, New Orleans, La.

General Contractor: J. A. Jones Construction Company, Charlotte, N. C.

Electrical Contractors: Walter J. Barnes Electrical Company, and Gibson & Odom, Electric Contractors, New Orleans, La.

SPANG Underfloor Duct is quickly installed. Light-weight aluminum junction boxes contribute to easy handling; box design helps prevent costly installation errors. Laid over a steel sub-floor, duct was covered with concrete after it was positioned and fastened down.

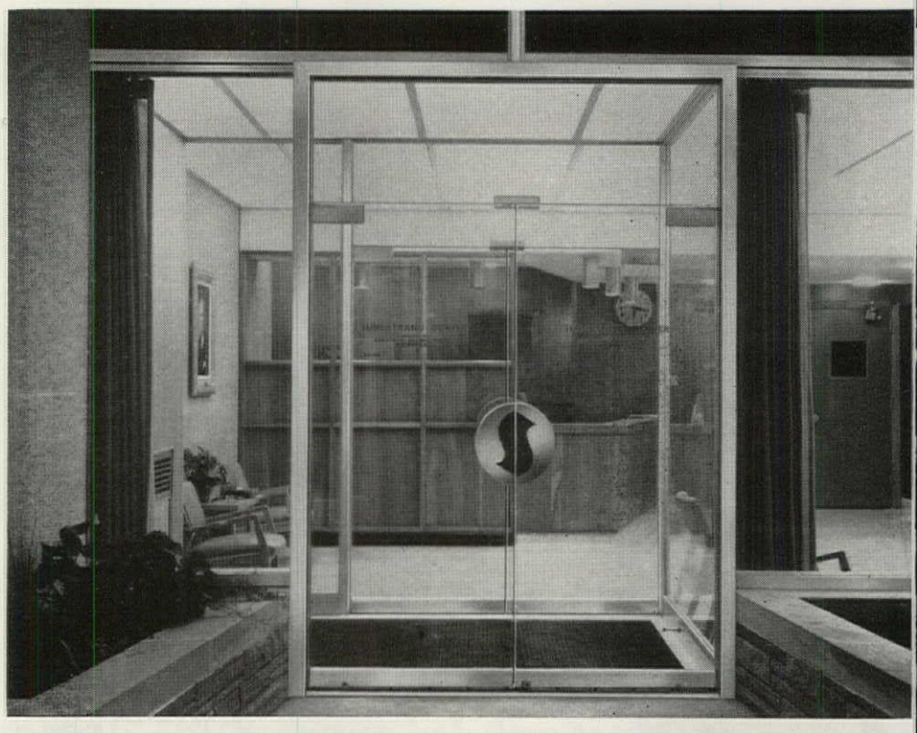
SPANG UNDERFLOOR DUCT

THE NATIONAL SUPPLY COMPANY

Subsidiary of Armco Steel Corporation

TWO GATEWAY CENTER, PITTSBURGH, PA.

When it comes to doors



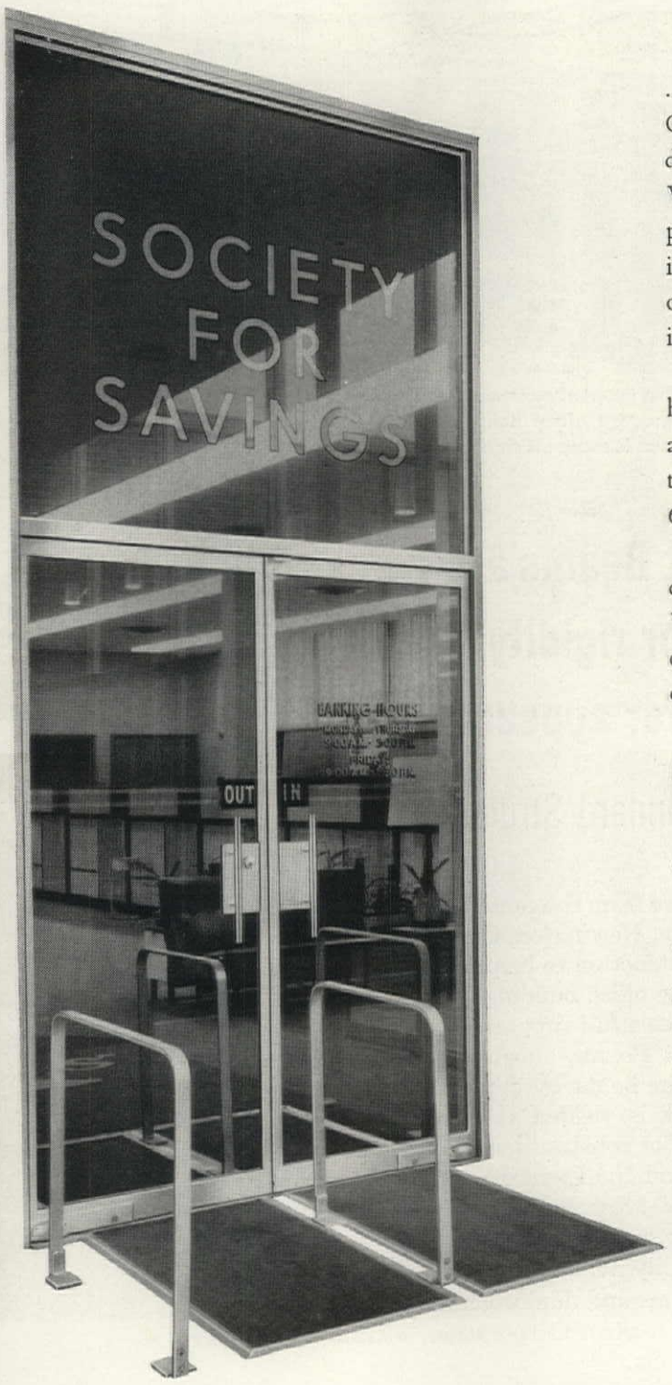
HERCULITE DOORS

add to the beauty, dignity and open-vision effect of this entrance to the Sundstrand Machine Tool Company, Denver, Colorado. HERCULITE Doors are strong, sturdy and long-lasting. They are available in both ½" and ¼" thickness, and their design possibilities are almost unlimited. Notice here how the architect utilized the HERCULITE Door Plate to reproduce the Sundstrand trademark. Architect: Olsen, Urbain & Sandstrom, Chicago, Illinois.

TUBELITE DOORS

and Sidelights create an unusual approach to this Walgreen Drug Store, one of the drug chain's eastern units. Architects Abbott-Markt & Co. & Ely Jacques Hahn & Robert Allan Jacobs, New York, New York, have made a special feature of this angled, recessed entrance through the use of special TUBELITE Doors. TUBELITE Doors are fabricated of heavy extruded, hollow aluminum tubes, with no exposed seams. They offer the greatest possible value at the lowest cost.

—come to PITTSBURGH



. . . to get the right door for your new building. Only at Pittsburgh can you find a complete line of different door types—HERCULITE®, TUBELITE® and West Tension Doors. These doors are *different* in price, in construction and in design. They are *alike* in quality, in beauty and modern smartness. And one of them will be exactly what you need for the building you are erecting or remodeling.

Sweet's Architectural File, Sections 16a and 16b, has complete details on Pittsburgh Doors, hinges and accessories for doors. For additional information, contact Pittsburgh Plate Glass Company, Room 9128, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

PITTCOMATIC® . . . the nation's finest automatic door opener . . . may be used on all HERCULITE, West and TUBELITE Doors. The hydraulic, motor-driven control may be installed for *mat* or *handle* operation.

PITTSBURGH DOORS

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WEST TENSION DOORS

provide a smart, modern and completely convenient entrance for this Society for Savings—Hartford National Bank, West Hartford, Connecticut, designed by Architects Jeter & Cook, Hartford, Connecticut. These West Doors are equipped with mat-operated PITTCOMATIC door openers, and they open quickly, safely, smoothly every time a depositor steps on the mat. West Tension Doors are constructed from ½" thick glass, held under compression by a thin metal frame. They are strong, rugged, will not sag or get out of alignment.

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In Canada: Canadian Pittsburgh Industries Limited

J&L Light Beams are used in this suspended beam construction for The Standard Structural Steel Company's modern office building. Results: interior columns are eliminated; use of floor space is more efficient.

14" J&L Light Beams are twice right— right depth for rigidity, right design for appearance

...reports The Standard Structural Steel Co.

In an interesting departure from conventional design, The Standard Structural Steel Company, Newington, Conn., utilized J&L 14-inch Light Beams in roof construction to help achieve more efficient use of floor space in their new office building.

The new design provides a full-supported ceiling without interior columns. The J&L Light Beams, weighing 17.2 pounds per foot, are suspended from main bents by pipe hangers and bolts. An acoustical steel roof deck is welded to top flanges of the Light Beams between bents. The construction exposes the bents on the outside of the building and the Light Beams on the inside.

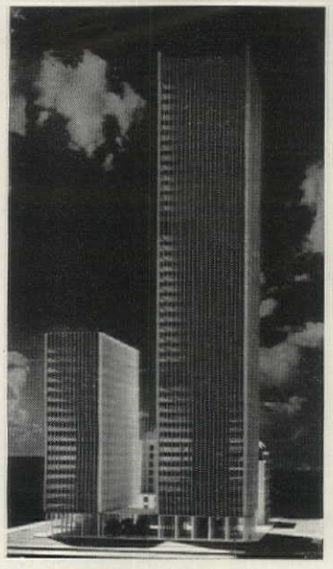
Take full advantage of these economical Light Beams in your next project design. They are available in regular carbon and high tensile grades. Other readily available lightweight J&L structurals are hot rolled Junior Beams and Junior Channels; for information, write to Jones & Laughlin Steel Corporation, 3 Gateway Center, Pittsburgh 30, Pennsylvania.

J&L STEEL

Jones & Laughlin Steel Corporation

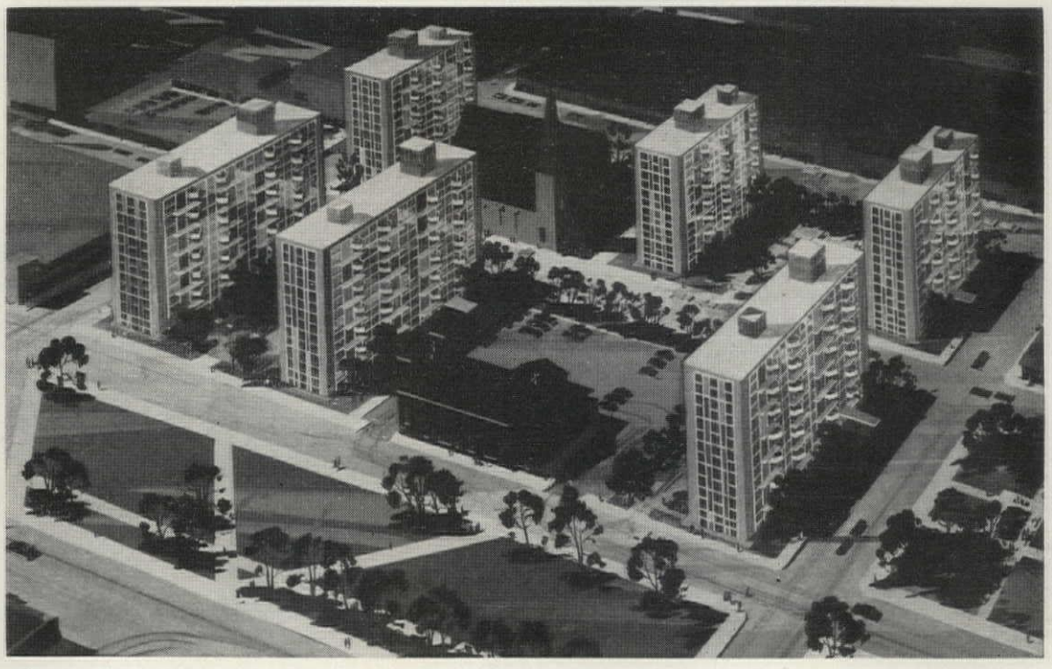
PITTSBURGH, PENNSYLVANIA

A roundup of recent and significant proposals



MONTREAL OFFICE TOWERS

On a two-acre site facing Dominion Square in Montreal, Canada, the 42-story, $22-million Canadian Bank of Commerce Building (right in photo above) will be started next September. It is to be the first part of the $45-million Windsor Plaza project. Designed by Peter Dickenson Associates of Toronto, with Associate Architect Max Roth of Montreal, it will be sheathed in glass, granite, and panels of green slate. Completion is scheduled for 1961. No starting date has been set for the second part of the project, the 22-story office building at left.



MIDDLE INCOME HOUSING FOR DOWNTOWN ST. LOUIS

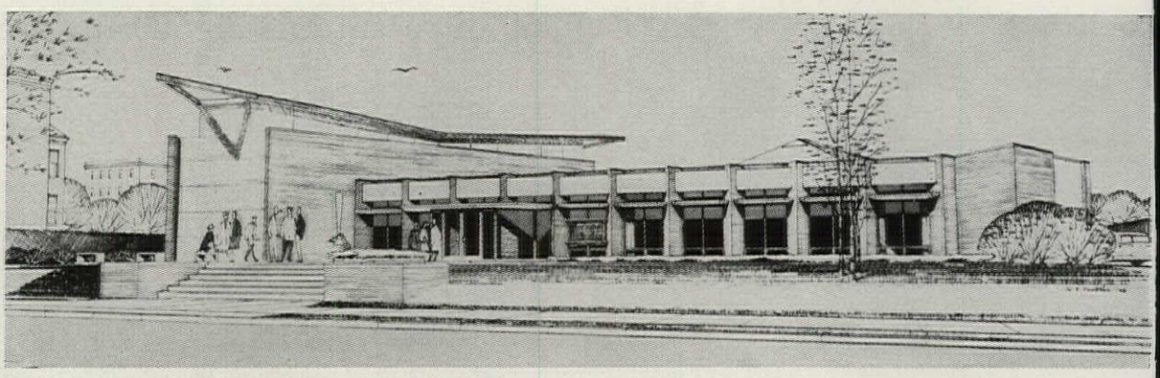
At the western edge of downtown St. Louis, construction has begun on Memorial Plaza, a group of six 13-story, glass-and-brick apartment towers (above). Financed by the privately owned Urban Redevelopment Corporation, the project is being erected on property originally purchased and cleared by the city's Land Clearance for Redevelopment Authority. It will have 1,090 apartment units (which will rent for $102 to $150), surface and underground parking for 878 cars, and more than three acres of landscaped parks. Two old churches will be left on the site. Architects are Hellmuth, Obata & Kassabaum and Harris Armstrong. Completion is scheduled for 1961. Cost: roughly $13.4 million.

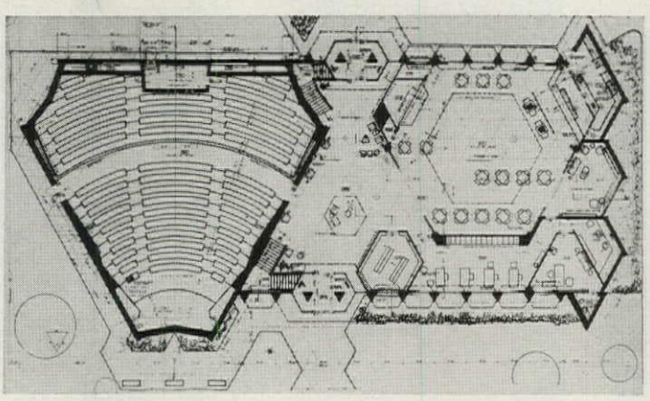
DEARBORN CIVIC CENTER

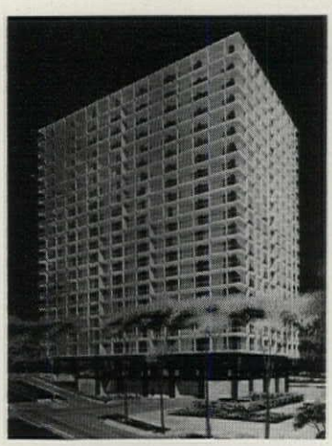
The model at left is of the vast civic center, now being built in Dearborn, Michigan, on 54 flat, treeless acres donated to the city by the Ford Motor Company. The project, to cost from $11 to $12 million, includes a 40,000-square-foot youth center (upper middle), a 65,000-square-foot police-fire headquarters (lower right), a 14-story city hall (middle left), a 6,000-seat auditorium-sports building (upper left), and a stadium (upper right), as well as a power house, skating rink, pavilion, band shell, and various play areas. The youth center, police-fire headquarters, and power house will be finished later this year. The architects are Harley, Ellington & Day of Detroit.

ST. LOUIS ENGINEERS CLUB

The Engineers Club now being built in St. Louis, Missouri, is designed around a most appropriate motif—the equilateral triangle. As shown in the rendering and plan at right, the building will have a triangular shaped auditorium seating 400, triangular shaped supporting piers, sunshades, offices, and recreation rooms—even the pattern of the sidewalk expansion joints will be triangular shaped. Scheduled for completion by next September, the building will be faced with glass, Pennsylvania green stone, and rust-colored brick. Over-all floor space: 15,000 square feet. The architects are Russell, Mullgardt, Schwarz & Van Hoefen of St. Louis. Cost: about $350,000.





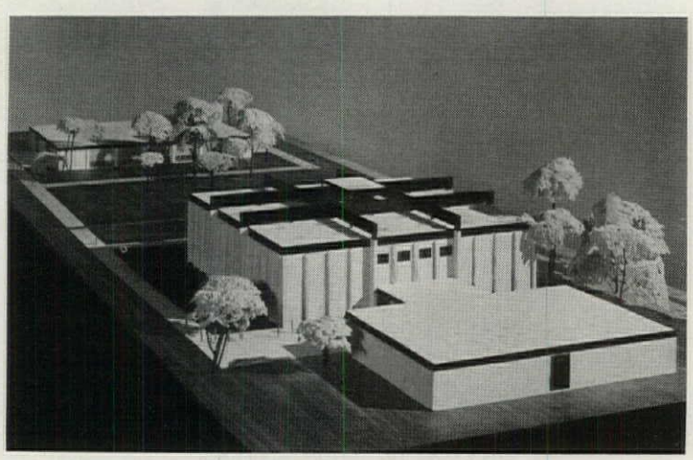


TULSA APARTMENT HOUSE

Dallas Realtor Raymond D. Nasher will build the $5-million apartment house shown above, on a six-acre tract overlooking the Arkansas River about one mile south of downtown Tulsa, Oklahoma. The building will be 21 stories high, and have 102 apartment units renting at about $100 per room. A swimming pool, putting green, greenhouse, garden, and three penthouse apartments will be located on the top floor. Completion is set for December 1960. Architects: Harrell & Hamilton of Dallas.

FEDERAL HEALTH BUILDING

The National Institutes of Health Building (left) will be built for the Department of Health, Education and Welfare in Bethesda, Maryland. To provide office space for 1,600 government employees, the 11-story structure will be faced with glass, aluminum, and precast concrete. The $9.8-million project, which will also include a seven-story office building (not shown), was designed by Keyes, Lethbridge & Condon.

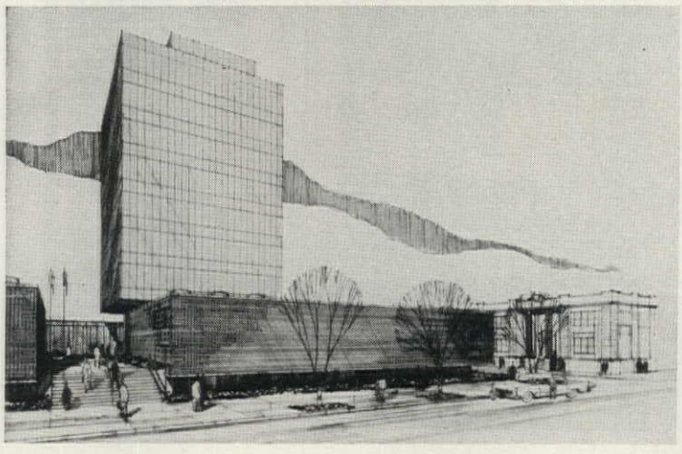


GARY HIGH SCHOOL ADDITION

Four exposed girders 108 feet long and welded in a tic-tac-toe pattern will hold the suspended gypsum roof on the gymnasium benig built at Gary, Indiana's Tolleston High School. Designed by Gary Architect Leonard Klarich, the square-shaped building is part of a $500,000 addition which includes a one-story shop-and-science building (right foreground in photo at left). Both buildings will be faced with buff-colored brick. Girders and trim will be black.

CHEMICAL RESEARCH CENTER IN OHIO

The Diamond Alkali Company will build a campus-style, chemical research and development center on an 800-acre site a few miles south of Plainsville, Ohio. The first step in a long-range expansion program, the $2.5-million project (right) consists of two buildings facing a landscaped mall: one a two-story Central Research Building with space for 60 laboratories, 22 offices, library, and patent department; the other, a three-story product development building. The architects are Giffels & Rossetti of Detroit.



TALL CITY HALL FOR CANTON, OHIO

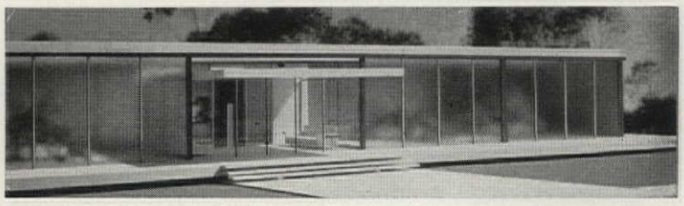
Shown above is the City Hall and public Safety Building soon to be erected in Canton, Ohio, from plans by New York Architects Kelly & Gruzen. Municipal offices and courts will be located in the glassy, seven-story tower, which will be the city's second tallest structure. Police headquarters and a jail will be on the plaza level. Cox & Forsythe are associated architects. Completion date: 1960. Cost: $2.9 million.

MOTEL-HOTEL FOR MIDTOWN DETROIT

Ground has been broken in mid-town Detroit for Harlan House, a motel-hotel to be built off the John Lodge Expressway two blocks from the General Motors Building and only a few minutes away from the convention area now under construction downtown. With an over-all floor space of 42,000 square feet, the project will have 45 units in the four-story hotel building, 81 units in the three-story motel building. Scheduled for completion by May, it will cost about $1 million. King & Lewis of Detroit are the architects.

SCREENED OFFICE BUILDING FOR LONG ISLAND

This spring, in Valley Stream, Long Island, construction will begin on an unusual seven-story office building designed by Long Island Architect Frank Greenhouse. The building (below) will be screened on three sides (east, west, and south) with a terra-cotta grille and will have 49,168 square feet of rentable floor space. To be ready for occupancy by February 1960, it will cost $1 million. Owners: John Totaro, Leonard Goldberg, and Christopher Maffucci.



CALIFORNIA RESEARCH BUILDING

By next September the trim, one-story, office-and-research building shown above will be completed in Pasadena, California, for Pegasus Laboratories Incorporated, manufacturers of electronic remote control devices. Estimated to cost approximately $900,000, it will be of steel frame construction, with purple columns and walls of glass, and white brick. Over-all floor space: about 9,000 square feet. The architects are Thornton Ladd & Associates of Pasadena.

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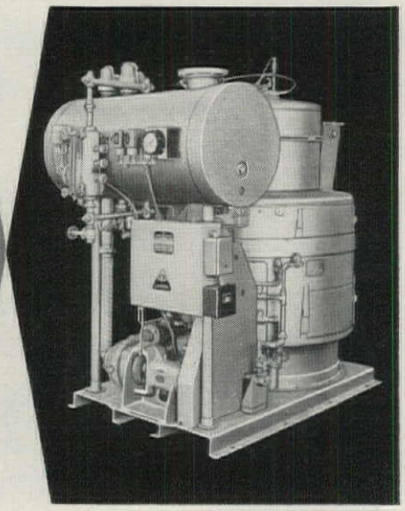

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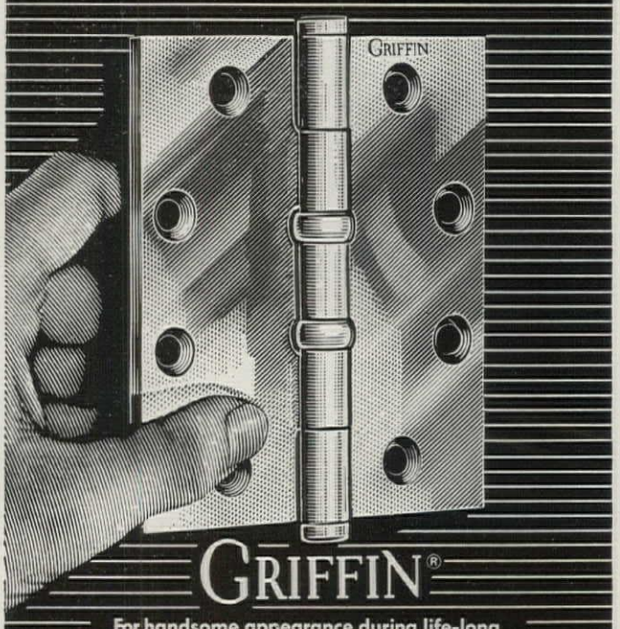

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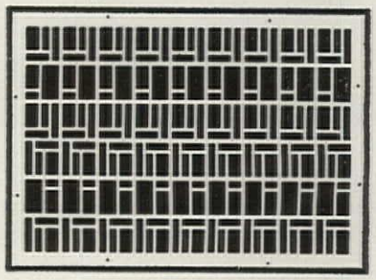

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Tuesday, February 24th

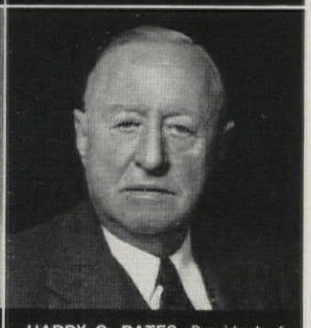
see and hear these authorities discuss the use of structural clay products in new construction

PAUL RUDOLPH, A.I.A., Chairman Architectural School, Yale University, will discuss "Aesthetics in New Construction"

OTTO L. NELSON, Jr., Vice President in charge of Housing, New York Life Insurance Co. will discuss "Ultimate Building Costs"

FRED N. SEVERUD, Consulting Engineer, will discuss "The Importance of Structural Flexibility in New Construction"

JOHN B. KELLY, prominent mason contractor will discuss "Productivity and Workmanship"



HARRY C. BATES, President of B. M. & P. I. U. will discuss "Workmanship and Productivity"

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Philadelphia, Pa.	Columbus, Ohio
Washington, D. C.	Cleveland, Ohio
Raleigh, N. C.	Detroit, Mich.
Atlanta, Ga.	Denver, Colo.
New Orleans, La.	Toronto, Canada
Pittsburgh, Pa.	Hamilton, Canada

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WATCH FOR LOCAL ANNOUNCEMENTS

The structural clay products industry is proud to present this stimulating, informative discussion by top authorities on subjects of vital importance to you and the construction industry. A nationally-known moderator will act as host. Introductory remarks by Edmund R. Purves, F.A.I.A., Executive Director of the American Institute of Architects, who recommends this program to all architects. If your city is on the list, don't miss this unique and important event that promises to be one of the finest architectural programs of the year.

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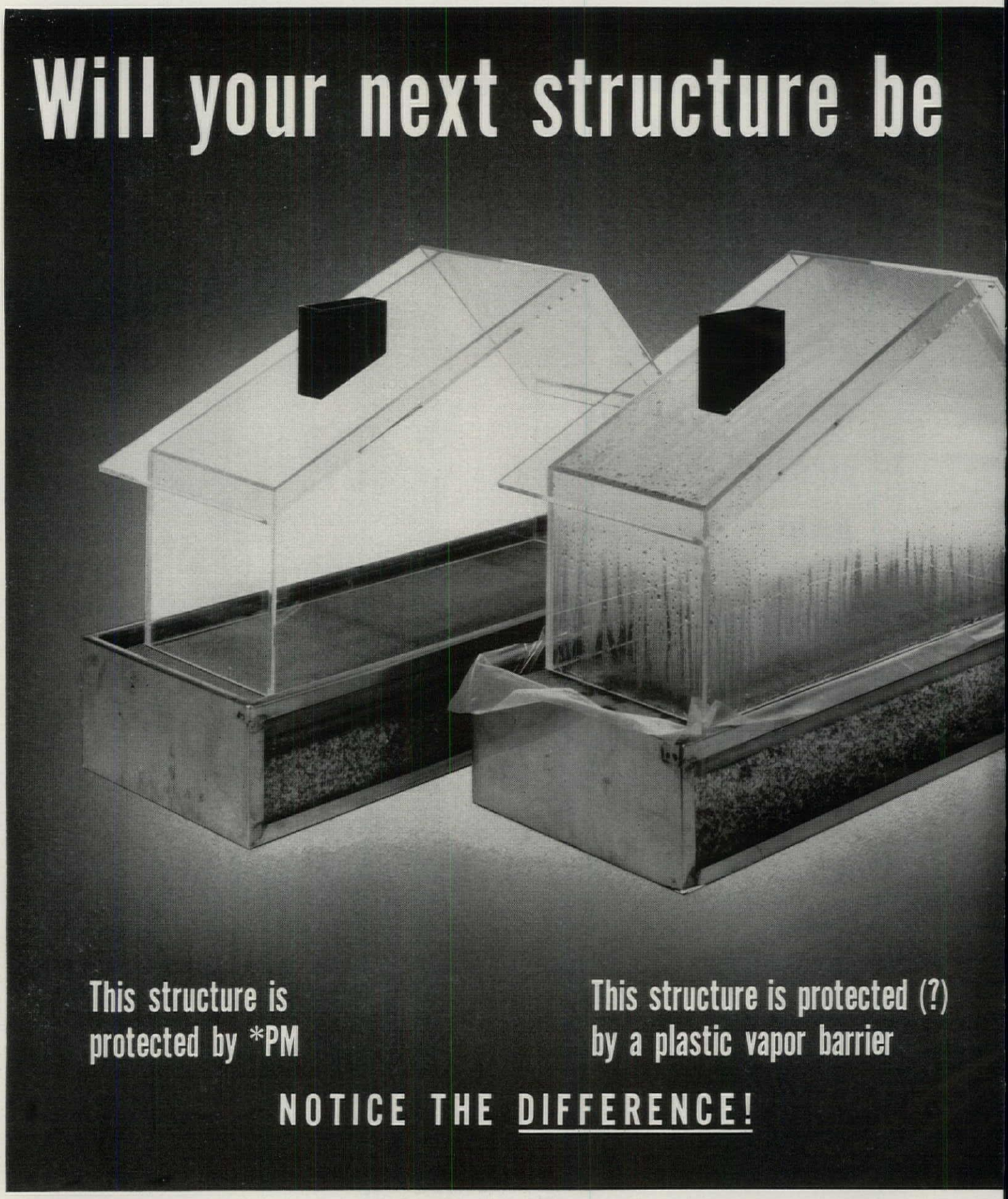

Pictured above is a display that has attracted widespread attention wherever it has been exhibited. Both houses, concrete slabs and tanks are identically constructed. The tanks are filled with sand, to represent soil, and water is added. On top of the soil is placed a vapor seal . ."PM" under the house on the left and a plastic film under the house on the right. Heat is applied to the tank to accentuate the creation of vapor and the results are very apparent. Notice that the house protected by "PM" (left) is completely dry while the house on the right has become a virtual steam bath. The results are even more amazing when you consider the fact that the plastic film under the house on the right is a monolith without the seams, openings and ruptures that would be present in full-scale construction.

a virtual "steam bath"?

...not if it is protected by *PM!

Moisture migration into the structure from the site is an age old problem . . . a problem that is accentuated in today's modern buildings. Old buildings, constructed without benefit of new materials and better construction methods, permitted excessive moisture to escape. Today's tightly and expertly constructed buildings trap this moisture inside and the problems resulting from excessive moisture soon follow. Dampness, window condensation, paint failures, mildew, rust and rotting wood are all problems that can be eliminated if the structure is isolated from the site, the source of 80% of this moisture.

Fortunately, the building industry has recognized the need to install a vapor barrier . . . unfortunately, it has been guilty of the promiscuous use of permeable materials as vapor barriers. Plastic films and other similar materials would never be used to replace glass in windows because they would not eliminate weather penetration and would easily rupture. These same reasons disqualify these products as vapor barriers. Even more important, a vapor seal is installed permanently at the time of original construction . . . it cannot be replaced at a later date in case of a product failure.

A vapor seal must be impermeable; monolithic without voids, open or lapped seams and strong enough to provide a permanent installation without rupturing under installation foot traffic, trundling of wheelbarrows and pouring of aggregate. Only *one* product on the market meets all of these necessary qualifications—"Premoulded Membrane" Vapor Seal. To prove this, we sincerely advise and invite your comparison of *PM against all other so-called vapor barrier products on the market. What could be fairer? Also important is the fact that "PM" is actually the most economical vapor seal available when you consider the possible elimination of sand and gravel fill plus the reduced maintenance and redecorating costs realized through the *complete* elimination of moisture migration into the structure.

*PM is a recognized abbreviation for Premoulded Membrane TRADEMARK, the industry's only TRUE vapor seal!

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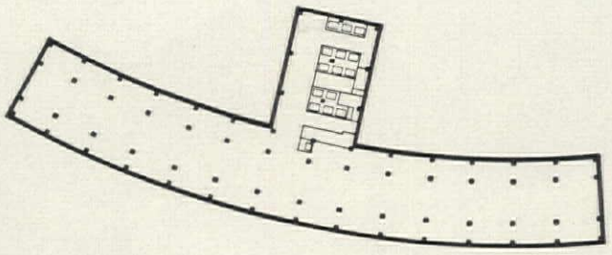
Floor areas electrified in the West's largest office building

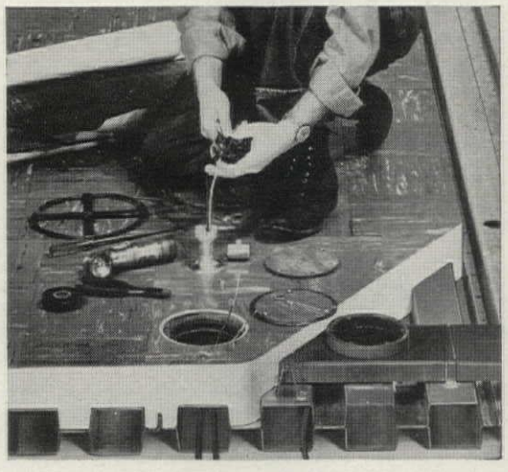


Milcor Celluflor anticipates tomorrow's electrical load in new Kaiser Center

Here, to provide unlimited electrification at low cost — and meet the challenging construction requirements of a fan-shaped floor layout — the architect has combined four types of Milcor Celluflor panels.

In addition to being the structural floor, the underfloor cells serve as raceways to handle the complex cable systems required by illumination, communications, and hundreds of pieces of electronic office equipment in this new 28-story building. And — there's electrical capacity to spare! Service outlets can be installed practically anywhere on the floor. They can be relocated or new ones added — or circuits can be changed — without costly alterations.

There are other advantages of Celluflor — savings of steel, footings, and construction time. For details, see Sweet's Architectural File, section 2a/In — or write for catalog 270.



Electrical header duct carries electrical feeder circuits from the distribution panel transversely across Celluflor cells. Definite patterns of service repetition are established so that proper raceways are easily located, when electric power, telephone, signal, or other service outlets are required in any floor area.

MILCOR® Celluflor

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MILCOR RIBFORM:	*Sweet's, section 2h/In*
MILCOR WALL PANELS:	*Sweet's, section 3b/In*
MILCOR CELLUFLOR	*Sweet's, section 2a/In*
MILCOR METAL LATH:	*Sweet's, section 12a/In*
MILCOR ACCESS DOORS:	*Sweet's, section16j/In*

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Automatic sprinklers (see arrows) blend with the modern decor of Hillsdale High School, San Mateo, California. Any starting fire will be automatically controlled by the sprinkler poised above the blaze. Water will be sprayed only where fire exists.

Pupils study in safety from fire

CONSTRUCTION ECONOMY AND FLEXIBILITY KEYNOTED

Fire safety, construction economy and flexibility were primary design considerations in the construction of Hillsdale High School in San Mateo, California. A complete automatic sprinkler system providing maximum fire protection was installed to decrease construction cost by eliminating the need for insulating steel members and installing fixed fire walls.

To anticipate school program changes which would require alteration in room size, movable interior walls were used. The result was a highly flexible and adaptable modern school. Architects John Lyon Reid & Partners received two awards from the American Institute of Architects.

The parents of the 1,750 pupils are assured of their children's safety in the event of fire. The taxpayers' $3.5 million *investment is secure, and the school's continuity of operation is assured.*

Your School . . .
Whether it is old or new, or just an image in an architect's mind; whether its construction is combustible or "fire resistive", it is within your power to make it indestructible from fire.

Lives and building are safe.

Remember, there is no "fireproof" building. Sufficient heat from burning contents in the most fire resistive building can cause irreparable damage.

Only a completely sprinklered school assures life safety, *saves construction and operation dollars;* and insures against inflated replacement building cost.

For particulars, write to the:

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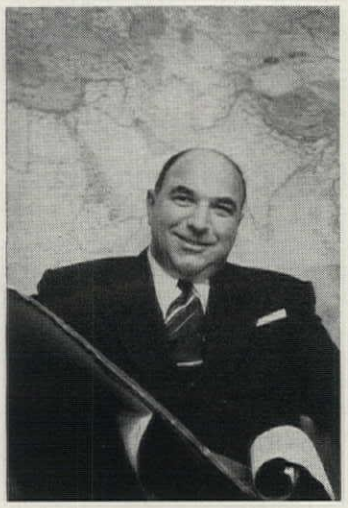
Zeckendorf in $60 million deal to develop Fox's movie lot; India's busy builder handcrafts U.S. Embassy



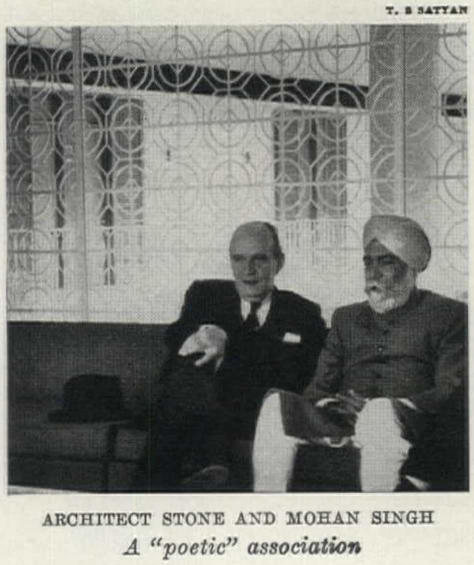
ZECKENDORF
A $60-million city-within-a-city

Peripatetic Developer **William Zeckendorf** last month was reported to have clinched one of the biggest deals of his colorful career. It involves the purchase of 176 acres of the Twentieth Century-Fox movie lot in West Los Angeles, which he will develop as a mammoth city-within-a-city, to be called Century City. This scheme, which includes everything from apartments, office buildings, and hotels to a movie museum, was first announced by Fox President **Spyros Skouras** about 18 months ago (FORUM, July 1957) when Los Angeles Architect **Welton Becket** was asked to develop a plan for the area. Now, Fox has evidently scrapped its ideas for developing the property itself, will sell the property to Zeckendorf for around $60 million, probably with the proviso that he develop it along the lines of Becket's plan (FORUM, February 1958). Becket himself will still be the top planner on the job, but presumably **I. M. Pei** will do Webb & Knapp's architectural work.

Not included in the deal are oil rights on the property. However, Fox may also sell another 80-acre parcel, on which its present studios stand, to **Zeckendorf,** who would lease the property back to the moviemakers. Regardless of how the Zeckendorf-Skouras negotiations for Century City evolve, Architect Becket still plans to build his own new headquarters on the site, and his $3.5 million building could well be the first one finished in the mammoth project.

"INDIA'S GREAT BUILDER"

T. S SATYAN



ARCHITECT STONE AND MOHAN SINGH
A "poetic" association

In the flood of publicity attending and preceding the opening last month of the sparkling new U.S. Embassy in New Delhi (FORUM, January 1959), the spotlight focused chiefly on Architect **Edward Durell Stone.** But Stone himself was the first to credit the importance to the project of the man whom he calls "India's great builder"—**Mohan Singh**, bearded, turbaned, 58-year-old builder and businessman who gave form to Stone's design under conditions which few Western builders would consider tolerable. (Stone, in a cable to New Delhi last month, said that his association with Mohan Singh had been "poetic.")

The logistics of constructing a large building in India are mammoth, for India's system of hand labor has changed little in hundreds of years. In the first place, almost all of the materials that went into the embassy were handcrafted at the site. Small shed-factories were scattered around the site, with makeshift workshops manned largely by semiskilled or unskilled labor under the direction of a few highly skilled artisans. (There were 1,400 laborers in all, working under five local architects and engineers.)

Mohan Singh, who started as a decorator of maharajahs' palaces and today is one of India's leading builders and businessmen as well as a Sikh religious leader, not only welded his scattered horde of artisans and factory sheds into a cohesive operation, but may have started a small revolution in Indian building methods by assuming a contract which gave him full responsibility for all phases of the project, including plumbing, wiring, and detailing.

Singh himself knows well the difficulties that can arise from an unorganized building operation. A few years ago, he had the contract for the foundation of the Ashoka Hotel in New Delhi, now run by the Indian government. But no sooner had Singh finished his walls than the plumbing contractor began punching holes in them, and no sooner were the holes patched up than the air-conditioning contractor repeated the performance.

Singh finished the U.S. Embassy in a little over two years—after several delays resulting from changes demanded by Ambassador Ellsworth Bunker and the State Department's Office of Foreign Buildings. Largely as a result of his able work on the U.S. Embassy, Singh has already been commissioned to build three other foreign embassies in New Delhi—for Norway, Burma, and Pakistan. All of these, together with the U.S. Embassy, will form part of the new 25-nation enclave of embassies in the Indian capital.

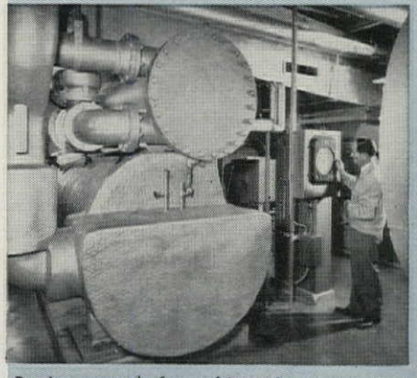
TWO TOP NEW YORK JOBS

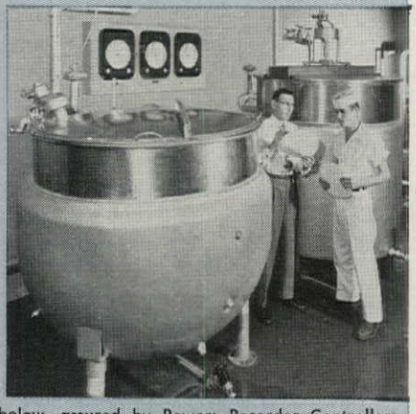
New York Governor Nelson Rockefeller filled two of the state's top building jobs last month with two professionals in their respective fields. He named 59-year-old **John Burch McMorran** to head the State Department of Public Works, replacing John W. Johnson, and shortly afterward designated **James William Gaynor,** 49, to be the new State Housing Commissioner,

continued on page 57

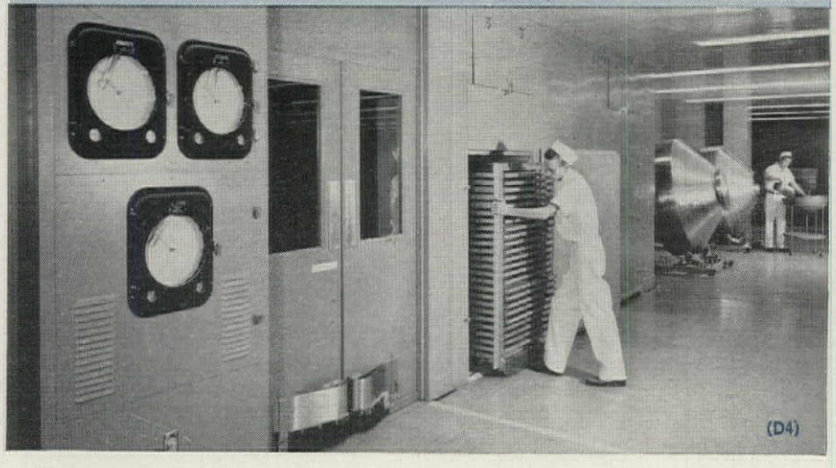
Entrance to Stuart Co. pharmaceutical plant, Pasadena, Cal., winner of American Institute of Architects Award. Reflecting pool has planted islands and fountains.

Architect: **Edward D. Stone** • Mechanical Engineers: **Stockly & Bamford**
Air Cond. Contractor: **Cal-Air Conditioning Co.** • Gen. Contr.: **Meyers Bros., Brumett & Demblon, Inc.**





Precise control for refrigeration compressor above, cooking kettles right and drying ovens below, assured by Powers Recorder Controllers.



(D4)

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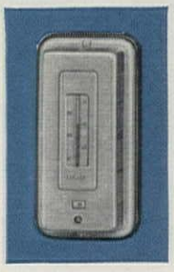
Inside this white and gold screened building with its atmosphere of lush splendor is a two story garden court. Surrounding it are balconied executive offices, conference room, library, testing and research laboratories. On the lower level are production and storage areas, dining lounge and swimming pool.



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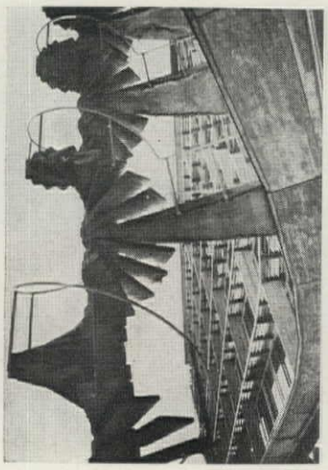
Letters from readers:

spirals . . . temples . . . blue pencils



LUCIEN HERVE

UNESCO'S SPIRAL

Forum:

I was very much interested in your story on the new UNESCO headquarters in the December issue.

However, I respectfully suggest that you, along with me, hope that it never becomes necessary to use the spiral fire escape (photo left).

Use of a spiral stairway is a treacherous way of descending under normal conditions, and when the possibility of panic from fire is considered, coupled with the slender, single handrail, I cannot help but picture in my mind a stream of people slipping and stumbling and falling to the ground from a height of six or eight stories.

HARRY D. JACKSON, *engineer*
Brockway Glass Company, Inc.
Brockway, Pennsylvania

YALE HOCKEY TEMPLE

Forum:

The December issue of the FORUM is one of exceptional excellence. You have two arresting buildings in the UNESCO building and in the Yale hockey rink. Hockey is a ritual at Yale and deserves a temple.

JOSEPH HUDNUT
Dover, Massachusetts

BLUE-PENCIL CRITICISM

Forum:

I am very impressed with the new element in architectural journalism that you have instigated with your criticism of current architecture. Your article on the Guaranty Mutual Building at Omaha was expertly handled (FORUM, October 1958). I do not envy you the responsibility and challenges of integrity that this effort brings with it, but I definitely feel this is a wonderful addition to your magazine.

BRUCE M. WALKER
Walker, McGough & Trogdon, architects
Spokane, Washington

Forum:

The article, "The church in a modern world," in the December issue is the beginning of something which can be quite significant both to the church and to architecture.

May I suggest that you now do a real criticism, using the blue-pencil technique with illustrations that you used in your October article, "Temple on a hilltop—almost." A blue-pencil article on churches which have been built recently would help us immeasurably.

The church may in our day provide opportunity for the architect to create great art. Such art is fostered by able criticism.

REVEREND H. RICHARD SICILIANO
Director of Industrial
and Interracial Relations
Presbyterian Church in the U.S.
Harrisburg, Pennsylvania

LIGHT ON THE EYE

Forum:

Your December article, "New Light on the Eye," is perhaps most notable for the comprehensiveness of its approach. It clearly indicates why illuminating engineering cannot rest simply on the application of physics—to the neglect of physiology and psychology.

To some of us, one of today's most challenging aspects of illumination research and practice is the esthetic-psychological effect. The mind and the eye cannot be isolated from one another—an often discouraging fact for researchers.

GEORGE W. CLARK,
manager-engineering
Sylvania Lighting Products
Wheeling, West Virginia

MATERIALS CAPACITY

Forum:

I take exception to the methodology of the article on materials production capacity (FORUM, November 1958) and to the inelastic conclusions caused by the method.

Past relations between various phenomena are necessary but dangerous tools even for an experienced forecaster. Whenever used for long-range predictions (and ten years ahead falls into that category), they should be adjusted for technological change and for innovations in the use of materials —by judgment if in no other way.

The ratios behind your projections for cement and structural steel, for example, do not take into consideration the fact that the coming highway program is different from that of 1948-57 in terms of design standards and material requirements. Having been responsible for estimating the building material requirements of the

continued on page 66

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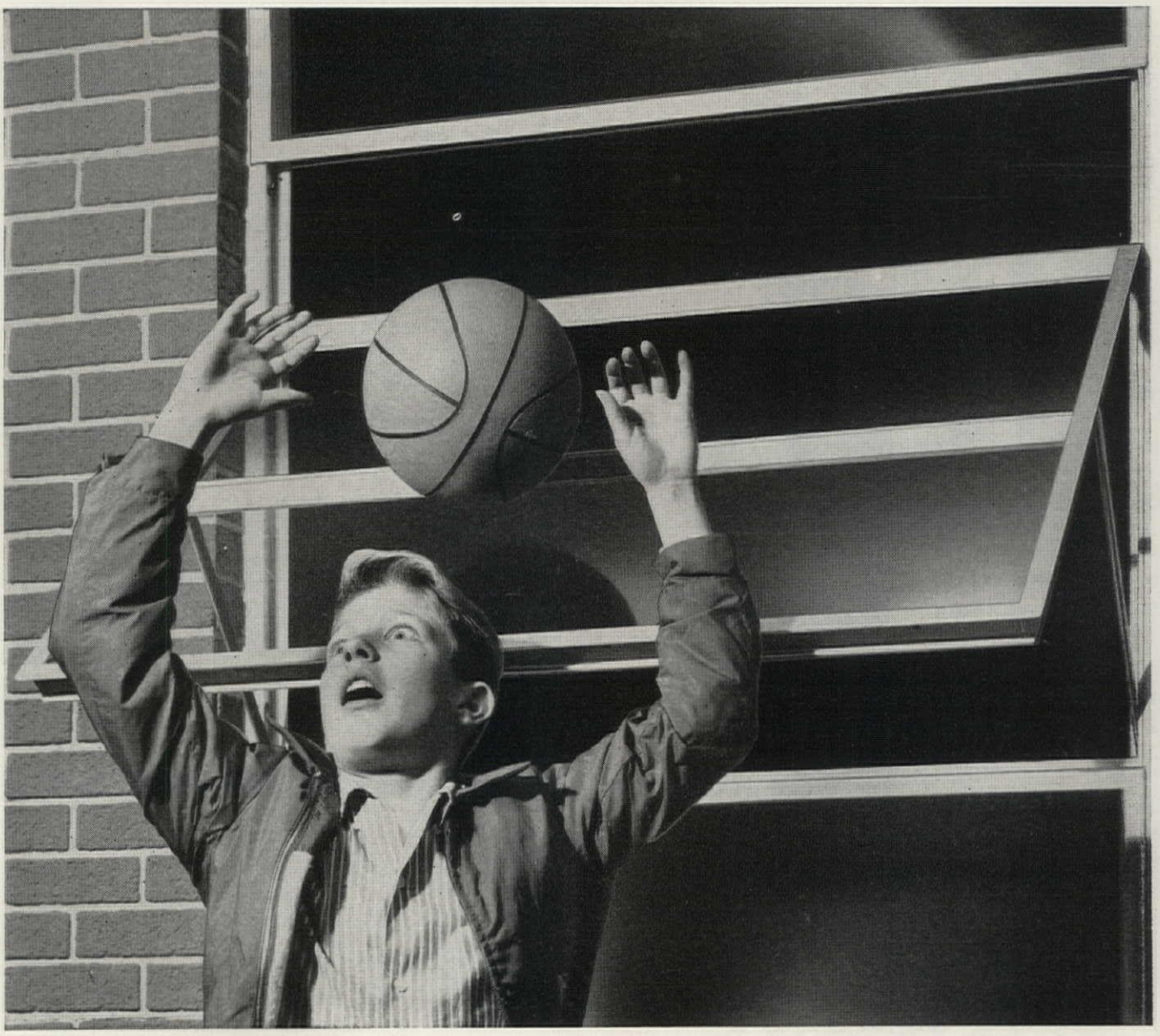

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Corps of Engineers during the war, I know that the most important question is: "How will construction standards and methods change tomorrow?"

FRANK PIOVIA,
Economic & market analyst
Washington, D. C.

MULTIPLE MODULES

Forum:

Your article, "New hope for standardization," in the November issue discusses a proposal by Mr. Ehrenkrantz which would include in the 4-inch modular system a number of sizes that are not multiples of 4 inches. This springs from a misunderstanding of the nature of the module. The module is effective precisely because it is defined as the *unique* coefficient and unit of size that is common to *all* the sizes required for building components.

To introduce new standards for components in sizes not divisible by the module is to introduce nonmodular sizes. The whole purpose of the module is to rule out sizes that are not its multiples, because to do so leads to sizes which are few in number and which also combine easily. For instance, in the true modular system, there are five possible sizes for components to fit a 20-inch space: 4, 8, 12, 16, and 20 inches. In the Ehrenkrantz proposal there are fourteen sizes: 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 15, 16, 18, and 20 inches. The simplification produced by the exclusive application of the 4-inch module is obvious.

Purely from a design point of view, the Ehrenkrantz proposal is unworkable in relation to a 4-inch reference system because, if components were made in the additional sizes proposed, they would not fit a 4-inch grid. For example, 27-inch and 45-inch components cannot by themselves fit the 4-inch grid. It is no good to say that when the two dimensions are added together they equal 72 inches, since the components may not be next to each other in the design. Indeed, on might just as well include 27½ inches and 44½ inches, which also add to 72 inches.

These Ehrenkrantz proposals would complicate, confuse, and undermine the modular technique before it has even been properly tried out. They ought therefore to be treated with extreme caution.

BRUCE MARTIN
British Standards Association
London, England

• FORUM *agrees that the 4-inch cubic module is the most important standard, by common consent, for reaching greater economic coordination in building components. But this module has some undeniable*

continued on page 70

Here's a multi-material sealant that rubber welds curtain walls, glass enclosures, store fronts, gas stations, roofs, copings, flashings, expansion joints, mullions, sidewalks, flooring, pipe joints and passages, air conditioning ducts and units.

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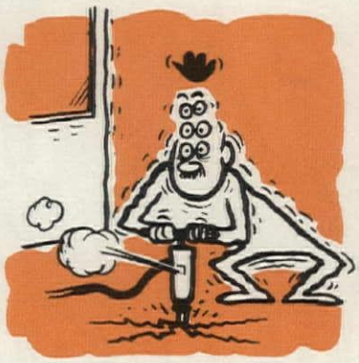

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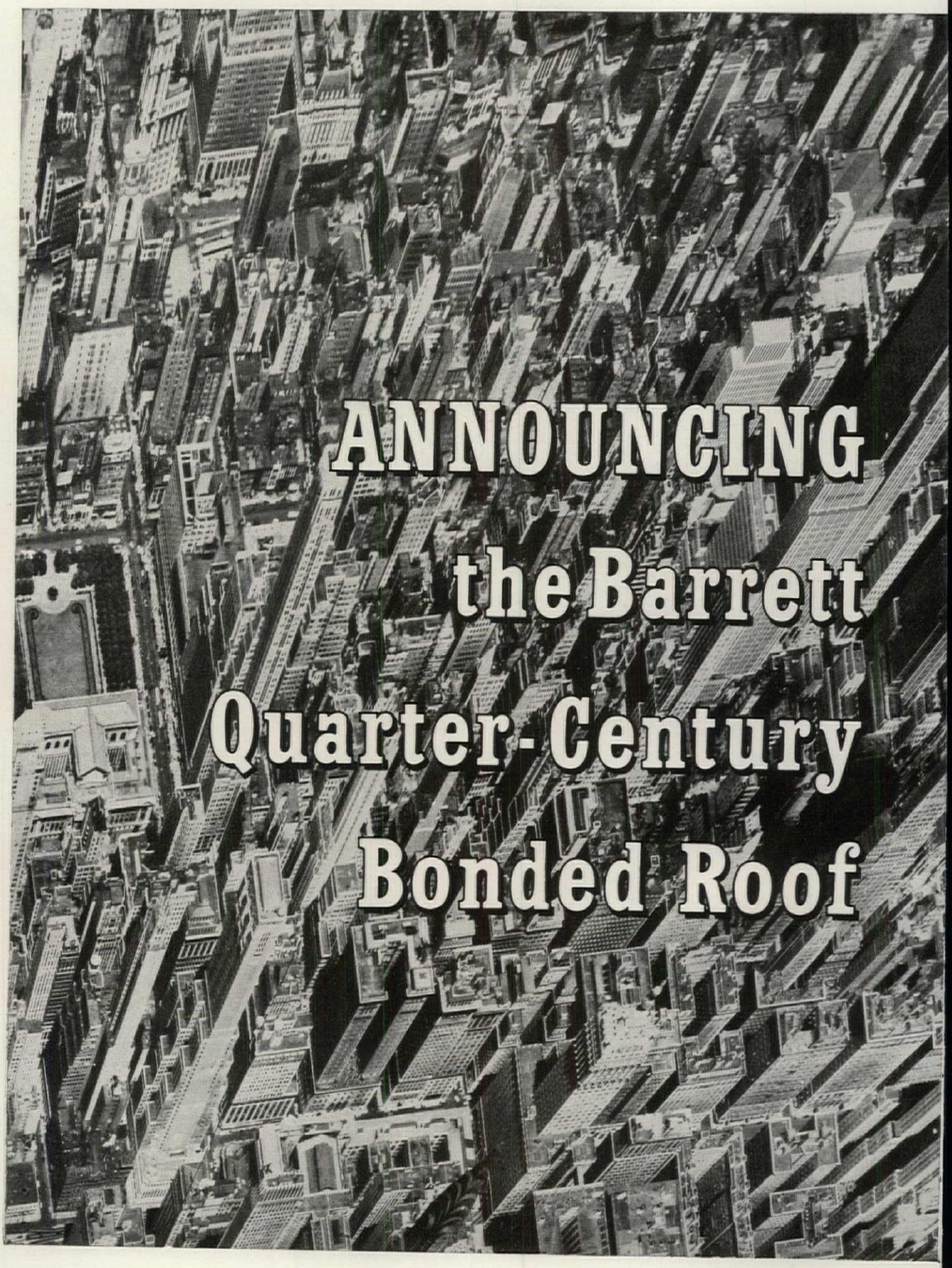
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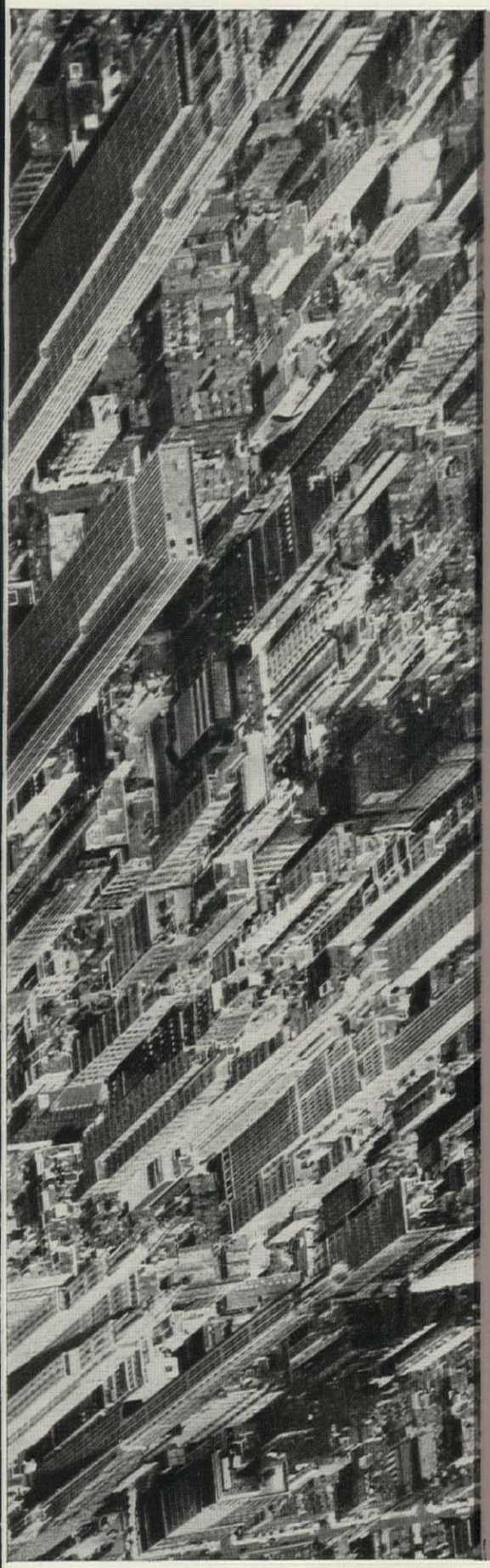

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limitations and continues to meet wide architectural resistance. Hence FORUM equally believes that the way should be left open for experimentation in additional modules and dimensioning systems. The native caution of the building industry precludes any precipitous action.—Ed.

Forum:

Your article "New Hope for Standardization" in the November issue was a very informative and interesting treatment of modular design. Having a direct interest in the success of this standardization program as an American Standards Association project, we appreciate your giving it the attention which we believe it does need. In our "Project A62" the means exist for the development of all of the necessary modular standards. The sectional committee has recently been reorganized and is ready for action. The subcommittees are likewise under review and reorganization looking toward resumption of full scale activity. It is true, as your article states, that additional research in this area would be most helpful. It is true also that further financial support which would underwrite the necessary technical staff is a very important factor.

We believe and hope that your article will be a significant contribution to the stimulation so necessary to this end.

F. C. FROST, *Civil engineer*
American Standards Association, Inc.
New York City, New York

END

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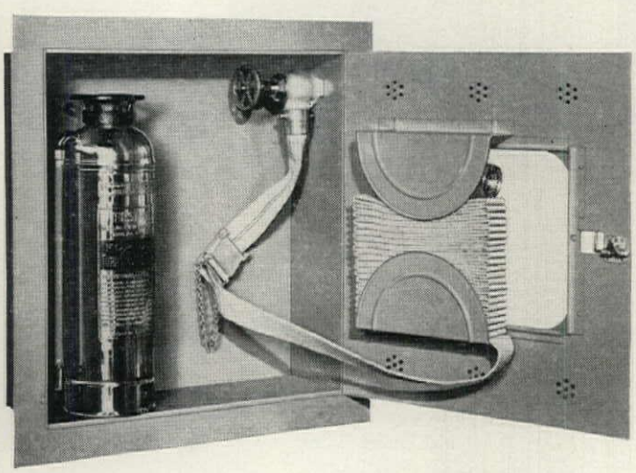

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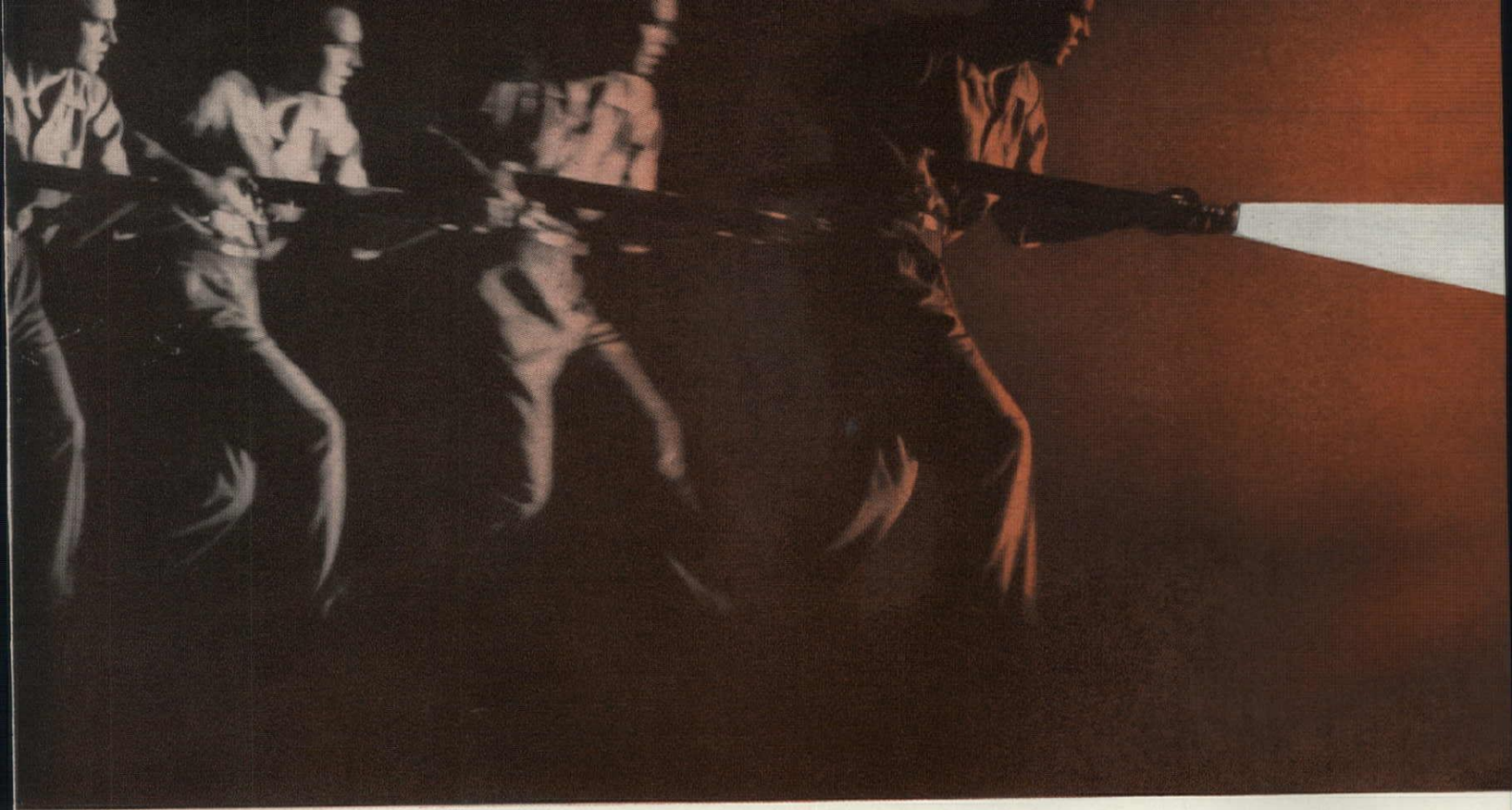
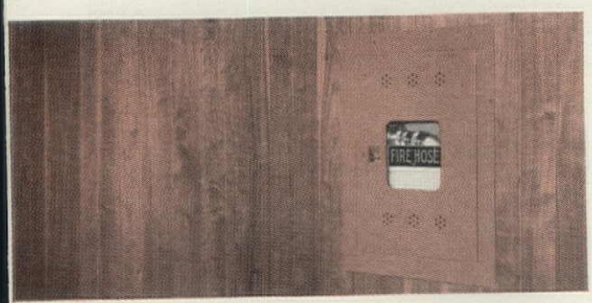


FOUL-PROOF door rack



NOTE TO THE DESIGNER

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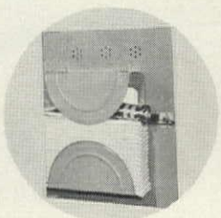
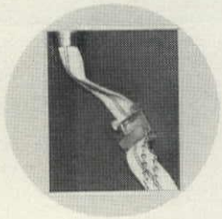


Free swinging door rack means foul-proof withdrawal and ready aiming at fire.



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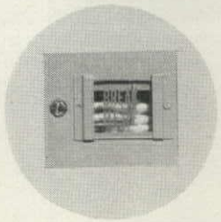

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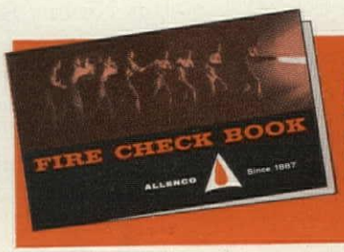

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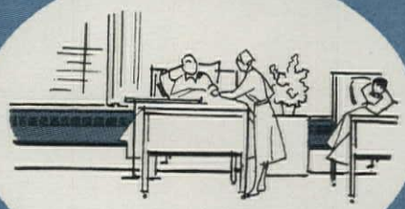

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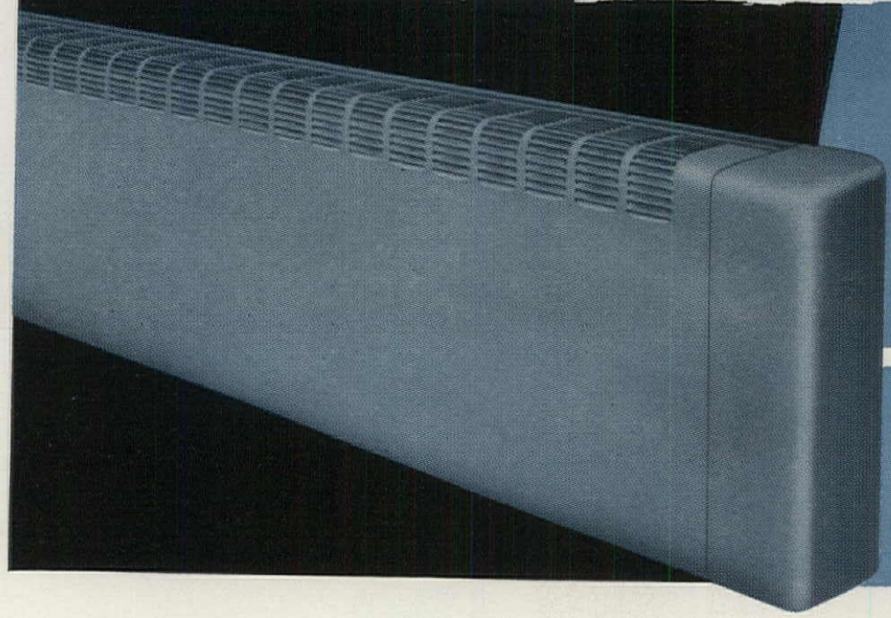

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Editorial

The artist as hero

We are in a period of U.S. history in which everyone suddenly seems to want to do something for the artist—or wants the artist to do something for society. Both publicly and privately we seem determined to make the artist a new sort of national hero.

Art, for example, was officially mobilized into the cold war effort last December with the creation of a Special Assistant to the Secretary of State for the Coordination of International Educational and Cultural Relations, charged with the overseas promotion of our artistic wares. It has been suggested that a Department of Fine Arts be established in the executive branch, and last year 9.4 acres of Foggy Bottom land in Washington were set aside for the eventual construction of a $25 million National Cultural Center. Last August the President of the U.S. anxiously dispatched a Special Assistant to find out whether American art at the Brussels Fair was good propaganda. All these events indicate, at least, a greater governmental awareness of the value of art.

Unofficially, too, voices are being raised in support of art from all parts of society. In Brooklyn, of all places, defenders sprang up to justify artistic amenity when New York City Comptroller Gerosa launched his politically inspired drive against "frills" in school construction last autumn. The lobbies of office buildings and the façades of public buildings all over the U.S. are blooming with artistic embellishment again. When the Architectural League of New York announced that its discussion theme for the year 1958-1959 would be "Collaboration of the Building Arts," its meetings took on a new liveliness.

This growing national urge to domesticate the artist, to investigate him, to put him on committees, is viewed, naturally enough, with some alarm by the artist himself. "Reconciliation between the artist and society is desirable," Sculptor Constantino Nivola declared at a recent Architectural League meeting, "but it should not be achieved at the expense of the artist's integrity and taste. . . . The creativity of the artist takes place in the studio, in a private atmosphere

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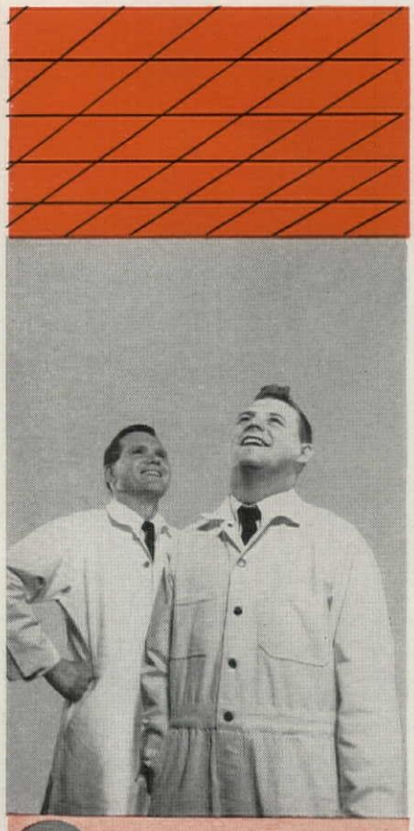

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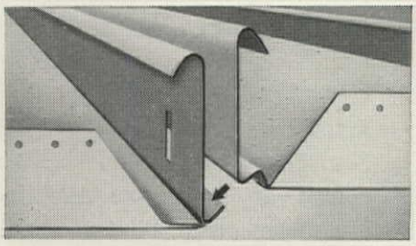

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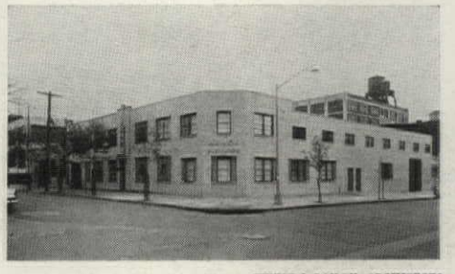
of disinterested speculation, he should not be asked to design a picture or a sculpture to specification like a piece of furniture."

Sculptor Nivola's point is well taken. The U.S. enthusiasm for art and artists is basically encouraging. But perhaps the most rewarding thing to do with the artist, therefore, is to stop badgering him, start understanding the work he creates. As Nivola put it later in his talk: "The architect, in his attempt to harmonize the art of the painter and the sculptor with his architectural design, may have to consider a new relationship. It is up to the architect to see in the artist's work something which may be fitted into a given environment."

Too many prizes

EZRA STOLLER

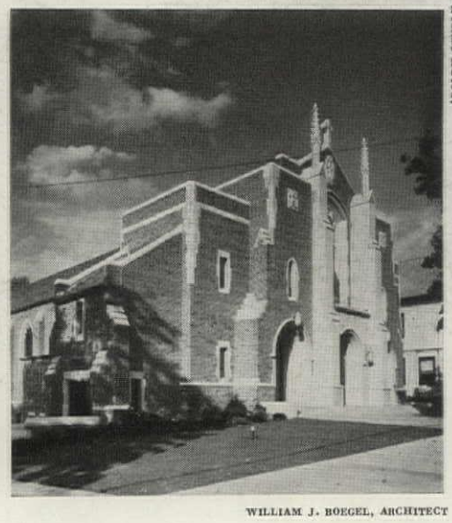
ULRICH FRANZEN, ARCHITECT



WUEST & BAILEY, ARCHITECTS

FRED ROLA

CHAPMAN, EVANS & DELEHANTY, ARCHITECTS



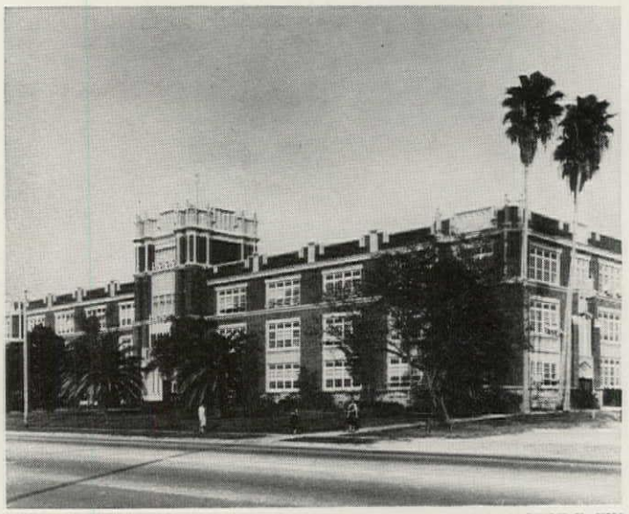
ADOLPH STUDLY

WILLIAM J. BOEGEL, ARCHITECT

When the Queens Chamber of Commerce in New York City went on a borough-wide hunt for new buildings worthy of its 1958 Building Awards, the stated criteria were to be "excellence in design and construction." But as may be seen from a glance at four of the winners, pictured above, something apparently went wrong in the judging process.

The explanation, an all too common one in public art competitions, is that the well-meaning judges were excessively generous. Apparently determined to find winners and runners-up in all 15 award categories, they made no award distinction at all between an impressive vocational high school (lower left) and a Tudor-gothic Roman Catholic church (lower right); both got bronze plaques. Nor was much distinction made between an excellent garment manufacturing plant (upper left) and a grim headquarters building (upper right); the former got a bronze plaque, the latlatter, an honorable mention.

Sarasota's old High School (right) is typical of the dull, fortress style now being superseded in Sarasota County by such light and airy structures as Architect Paul Rudolph's new Riverview High School (below and page 81).

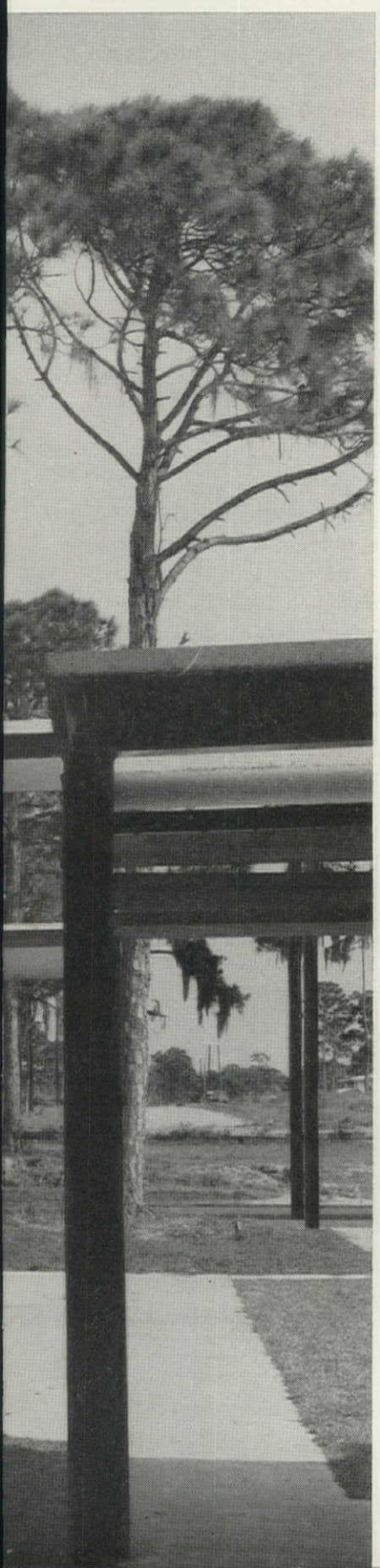


PHOTOS: PHILIP H. HISS

The determined and imaginative school board of Sarasota County, Florida, has commissioned the most exciting and varied group of new schools in the U.S.

The school board that dared

BY WALTER McQUADE



The total number of classrooms in the U.S. has been increased by a whopping 15 per cent over the past four years. In Sarasota, Florida, however, this national accomplishment does not seem particularly impressive. For Sarasota is a booming resort area, whose permanent population spurted from 42,600 in 1954 to 70,000 in 1958, and the Sarasota Board of Public Instruction in the past four years has added 181 classrooms in nine schools—a startling 77 per cent increase. Of the district's 11,200 school children, close to half now attend class in brand-new buildings.

The dimensions of this expansion program actually are less remarkable than the attitude of the school board in charge of it. Having decided that Sarasota should provide better than minimum facilities for its children, the board took a crew of talented young local architects by the elbow and simply told them to design schools different from the concrete-block boxes that have characterized the postwar Florida boom. Most of the architects had never before been given a school to design, for school building is a tough architectural specialty to crack. "Don't just sit down and follow the requirements," the school board urged, "give us buildings that will sing."

Stravinsky, Ravel—and Hiss

Fortunately, talented architects are plentiful in Sarasota, and fortunately, too, the younger ones practice varied approaches. These range from the brilliant intellectual style of the Stravinsky of the group, Paul Rudolph (at 40 the grand old man of the new generation of Florida architects and one-time employer of several of the others) to the Ravel romanticism of Victor Lundy, a vivid soloist with a melodic approach to shaping buildings. Over the ensuing four-year period Rudolph, Lundy, and seven other architects were commissioned to design the eight schools (five elementary, two junior high, one high school) shown on the following pages.

Major credit for the city's proud new schools, however, belongs to an unlicensed builder-architect. Sarasotans point to the tall, debonair figure of Philip Hanson Hiss—or, more often, actually, point to his Mercedes-Benz 300SL as it mutters down Main Street with Hiss crouched inside. A 49-year-old native of New Canaan, Connecticut, whose uncle left him a comfortable income, Hiss came to Sarasota ten years ago as a tourist, and stayed. A lean man with a creative itch, Hiss in the past has been a photographer, a writer of travel books, an explorer, and he served with the O.S.S. and O.W.I. in wartime. In Sarasota he bought a large slice of prime real estate, got the more advanced architects to design houses for him, and shortly began to design houses himself, including a $200,000 home of his own. He succeeded well enough to evoke a few sighs in local AIA meetings.

By 1952 Hiss was looking for new ventures and he saw plenty of opportunity in the Sarasota schools. The father of five children and grandfather of one, he despised the existing schoolhouses, which contradicted almost everything he tried to build into his own designs. "They drove me wild. Some of the schools were downright unsanitary—they were built of materials that *couldn't* be maintained. The rest rooms were so bad the kids wouldn't even go to the bathroom." So in 1952 he filed for the school board, and, with Dwight D. Eisenhower at the head of the Republican ticket that year,

he was swept into office. As half of a Republican minority of two on a five-man school board, he immediately began to pound the table at board meetings, and to rally support in newspapers for his paradoxical campaigns against "progressive" education and for progressive architecture.

It is a tribute both to Hiss's sense of public relations and to his energy at table-pounding ("The inkwells would be hopping up and down . . . at that point I still could lose my temper without meaning to") that by 1954 he had been able to persuade the board to let William Zimmerman, of Ralph and William Zimmerman—one of the local non-school architects—design a cluster school. "It won't cost any more than the old barracks type," Hiss argued. The drawings were made—although the majority of the board still was worried—and the school was put out for bids, only a few days after another local school addition of conventional design had come in nearly $50,000 over its estimate. The Zimmerman school came in $45,000 *under* its budget, and, says Hiss: "This cleared the decks." Having proved to everyone's satisfaction that *architectural* schools are not more expensive than just plain schools, he has not been headed since.

Winged victory

The next school commission went to Architect Victor Lundy, who added a graceful outstretched wing of classrooms to Alta Vista Elementary School (page 87) at an astonishingly low cost—12 classrooms plus toilets, for $154,000—$8.36 per square foot. The Republicans took control of the school board in 1956, and Hiss was elected chairman. Acting on this vote of confidence, he persuaded the board to commission six new schools which were put into service in the fall term of 1958 (see pages 81 to 87).

Of these schools, Rudolph's Riverview High is the biggest and most generally admired; its success has led Rudolph to another coveted commission, now in the design stage: a 14-classroom addition to Sarasota High School, a separate building which will be expanded gradually until it surrounds and assimilates the antique building there now.

How did the architects react to the challenge of the new schools? Says Architect Mark Hampton who, with John Crowell, designed the new junior high on page 82: "I just held my breath and plunged in." Some of the designers were more hesitant, searching for a stricter program than the school board had presented them. "At first the architects were too conservative," says Hiss. "They were afraid to shock. But they've learned they have a free rein."

"All that glass"

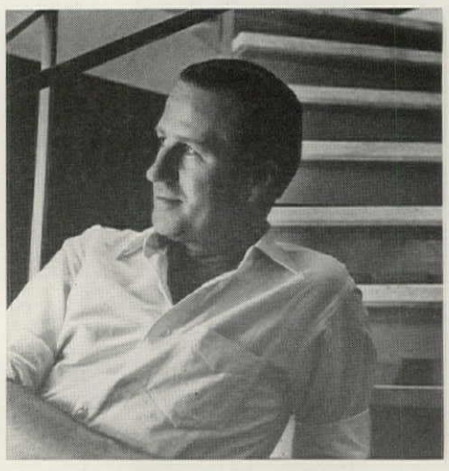
There are still divisions of opinion about the schools in the community; attacks still are made on "all that glass," and the buildings admittedly did include some mistakes. Rudolph's high school, for instance, needed several added ventilators, and the locker rooms turned out to be a little tight. The glass-roofed corridor of Lundy's design was something of a sun trap, and will have shading added. But when this school's radical design first roused some mothers' ire because they thought the classrooms would be uncomfortably hot and glary, Superintendent of Schools Carl Strode decided to find out how it rated in comparison with the original wing, built in 1954. He asked all the teachers in the old wing if they would prefer to stay where they were or to shift to Lundy's new wing, and all but one said "shift." But this was not possible; every teacher in the new wing wanted to stay there.

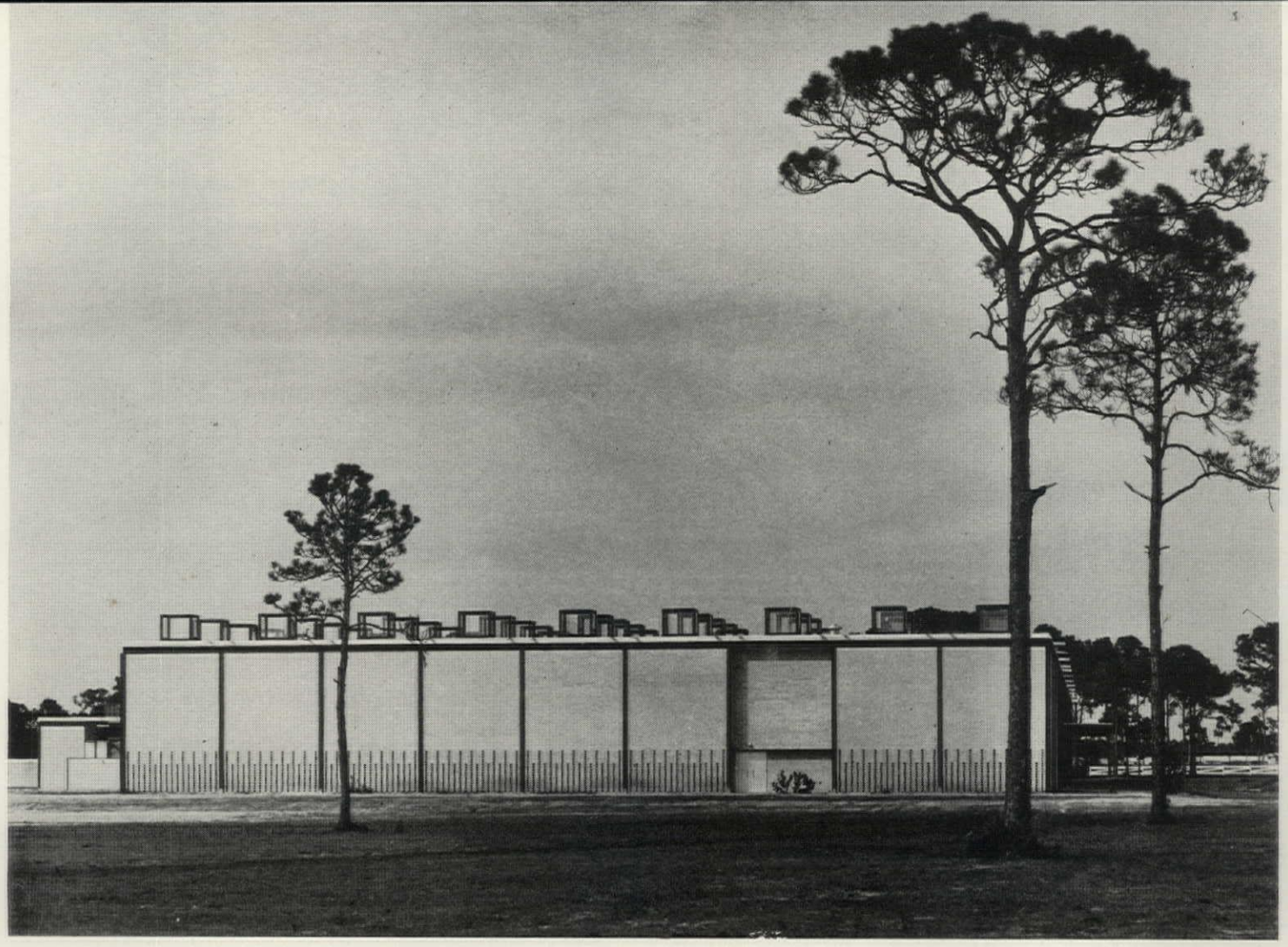
The most notable shared characteristics of all the new schools are a tropical emphasis on air movement, outdoor hallways, and outdoor teaching areas. Only one is tailored to an experimental teaching program, the Englewood addition (page 84) by Bolton McBryde, Jack West, and Elizabeth Waters, where a program of mixed age groups in "ungraded" classes is taught. Here classrooms of various sizes are required, some with flexible partitions. This experimental program has been backed by grants from William H. and Alfred G. Vanderbilt, Jr. (who in 1952 bought 40,000 acres of nearby pasture land for $20 per acre, and last December resold 10,000 acres to a subdivider for $400 per acre).

The Sarasota school board has been daring about more than its buildings. One of Hiss's first satisfactions was seeing the superintendency taken out of politics, made appointive instead of elective. Teachers' salaries were raised more than 10 per cent in 1958, and Hiss, with cold glee, has consistently parried the usual political attacks on the teaching staff. When, early this winter, a local newspaper demanded an investigation into "un-American teachings," he refused to consider it. "We have a fine group of teachers," he said officially, "and we feel that they should enjoy academic freedom and the right to teach as they see fit. We don't want to see this freedom destroyed. This is an extremely serious thing." Unofficially, he remarked: "Rabble-rousers don't really have much chance in Sarasota. There just isn't much rabble here. In education and in wealth, the county rates very high in the state."

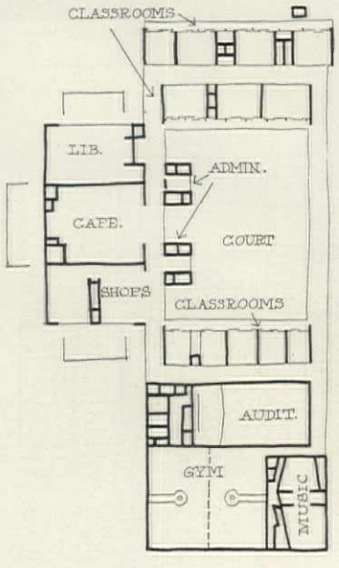
Teachers and architects, both, have come to feel fervently about the kind of school board that has enough confidence to champion them in this way. The electorate responded last fall by making the Republican school board majority five members to one, an isolated G.O.P. umbrella in the middle of a state-wide Democratic deluge; and Hiss was named chairman again last month. Said one of the architects recently: "It's nice to have a client who can read blueprints, but is also decent enough to let you design the thing. Does this happen often with schools?"

School Board Chairman Philip Hiss

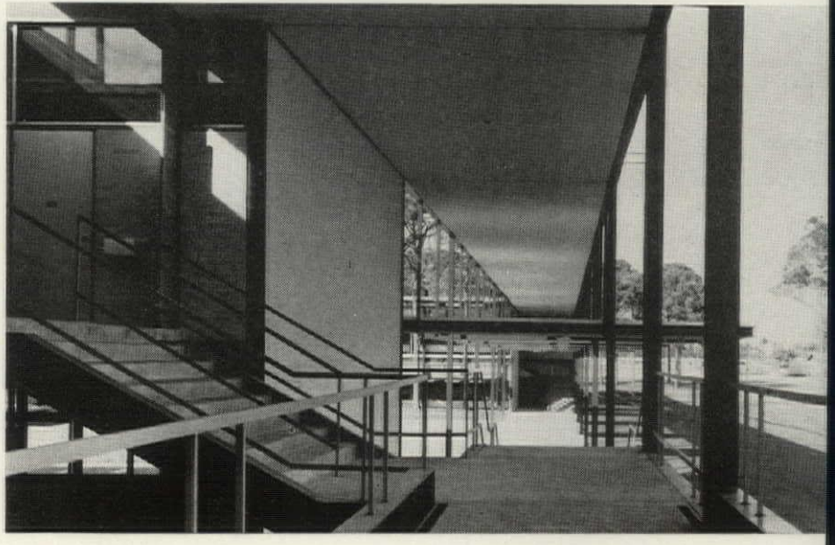


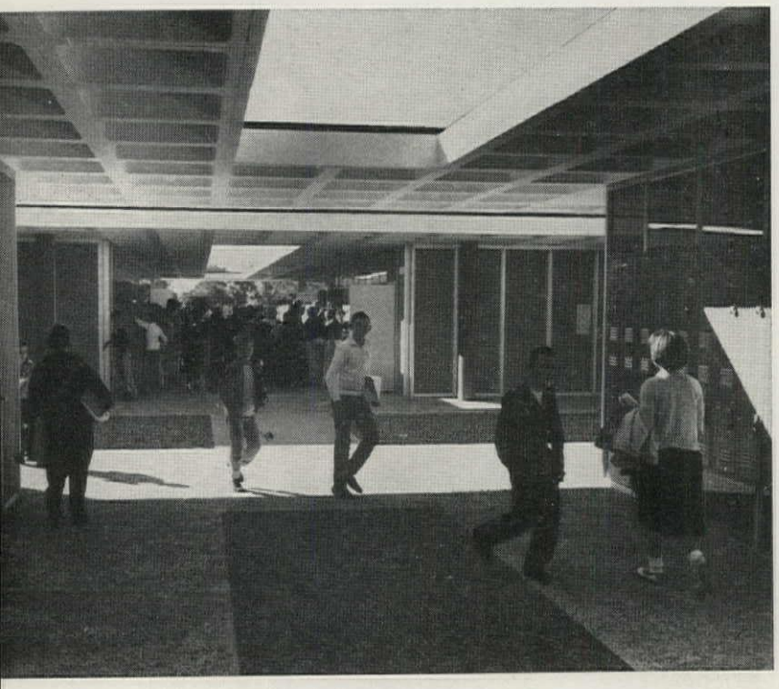


1 Rudolph's new high school; 37 classrooms: $1,205,300.



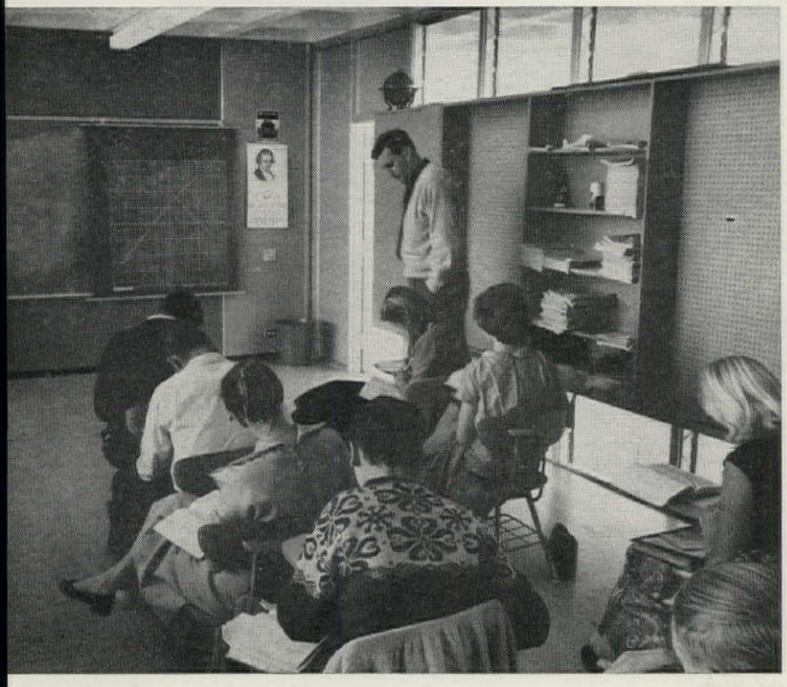
The only two-story structure in Sarasota's eight-school expansion program is Riverview High, a large composition in cast brick and steel. Airily elegant, it is a real landmark in the city. On a flat site—as are all the schools shown on the following pages—the building's framing repeats the character of Florida's tall, skinny pine trunks. A brigade of small skylights jut up from the flat roof, and openings for ventilation of the gymnasium create a pattern low on the walls (photo above). Classroom hallways are outdoors, both upstairs and down. Architect Paul Rudolph calls this his first "building" in Florida, distinguishing it from the many residences he has designed there, and points out the "overtones of classic Mediterranean" in the design of the building, specifically its shadowed court. (This school will be shown in more detail in a subsequent issue of FORUM.) Structural engineer: Russello & Barker; mechanical and electrical engineers: Charles T. Healy & Associates; general contractor: J. L. Coe Construction Company.

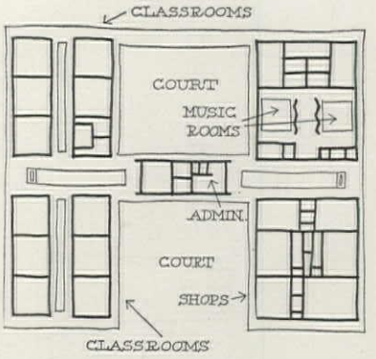


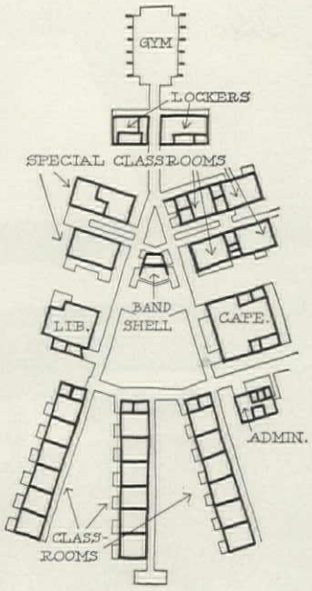


2 Nucleus for a junior high; 17 classrooms: $550,300.

More classroom wings will sprout from Venice Junior High School in the future, but the basic services for a large school are in place. (The pupils use the cafeteria and auditorium of a neighboring school). The structure is concrete, with sturdy round columns and two-way "waffle" slabs cast on removable metal pans. Lockers are hung in outdoor corridors, which are a particularly nicely scaled part of this strong design (photo left). Associated architects: Mark Hampton and John Crowell; landscape designer: B. B. Bradley; structural engineer: Russello & Barker; mechanical and electrical engineers: Charles T. Healy & Associates; general contractor: Chester Mabry Construction Co.

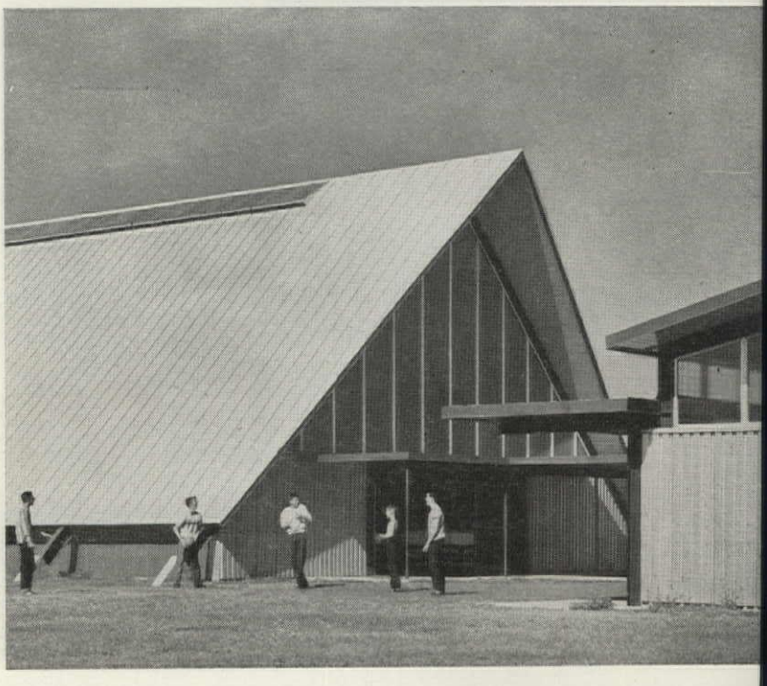


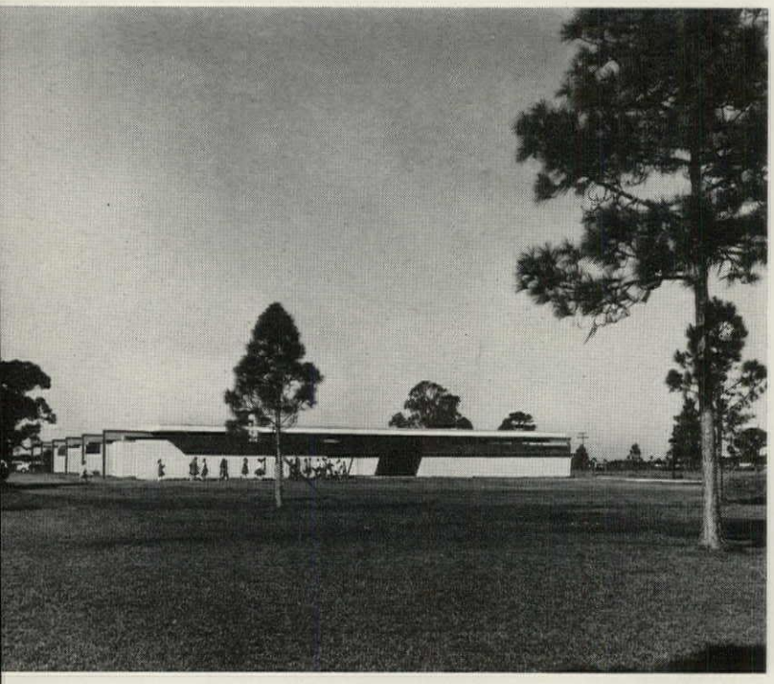


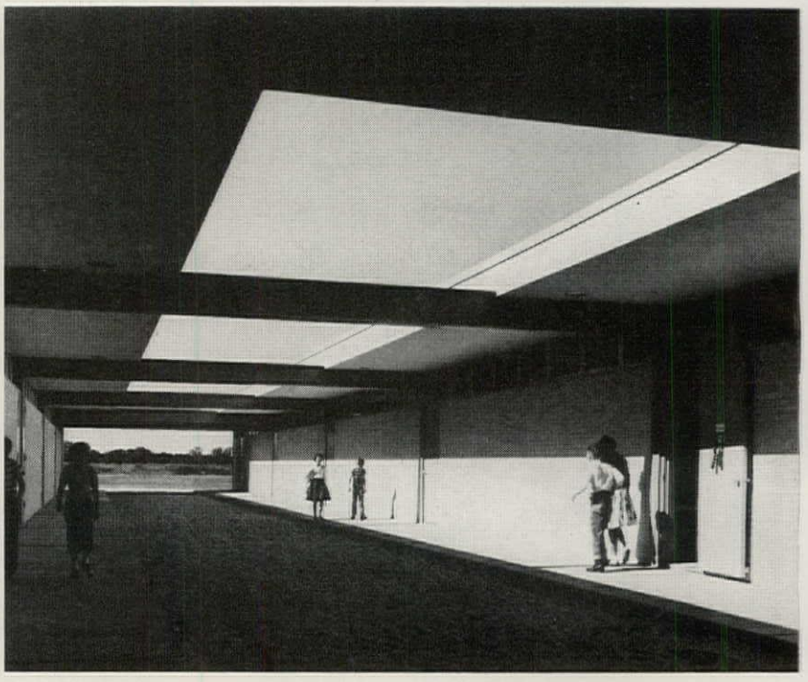


3 Complete Junior High; 26 classrooms: $498,200.

Brookside Junior High School fans out in wings of classrooms from a sharply roofed gymnasium (air view and bottom photo, right). The first product of the new Sarasota school building program, this building relies heavily on industrial materials such as aluminum wall panels, and all the classrooms are framed with identical steel bents. In the notch of the V plan is band shell (center photo). The architect attempted "a feeling of domesticity by building the classrooms with low ceilings. The school is oriented to take advantage of the cooling trade winds, with 8-foot-wide overhangs to keep the sun off desks in the classrooms. Architects: Ralph and William Zimmerman; mechanical and heating engineers: Maurice H. Connell & Associates; general contractor: L.W. Ross.

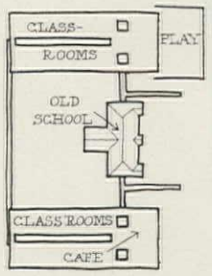






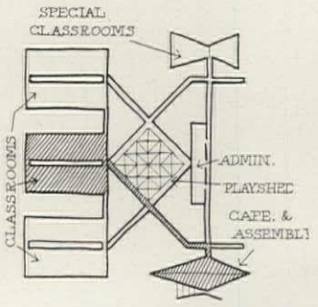
4 New elementary wing; 11 classrooms: $203,000.

The wings added to both schools shown on this page are similar. At Fruitville Elementary School (above) the immediate demand simply was for more classrooms, so the old school was flanked by two double rows of rooms (see plan) separated by a pleasant moat of gravel between the outdoor hallways (photo above). Characteristics of the classrooms: north-south orientation for easy sun control; wide overhangs; classroom partitions ending in fixed glass planes near the ceiling (to add "unity" to the school). Associated architects: Bolton McBryde and West & Waters; structural, mechanical, and electrical engineers: W. W. Prewitt; general contractor: B. R. Brown, Incorporated.



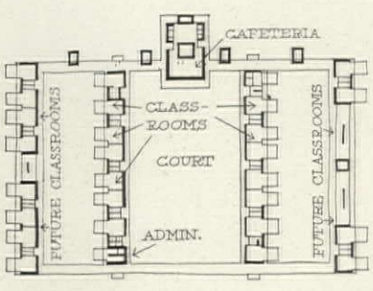
5 Elementary addition; 9 classrooms: $294,000.

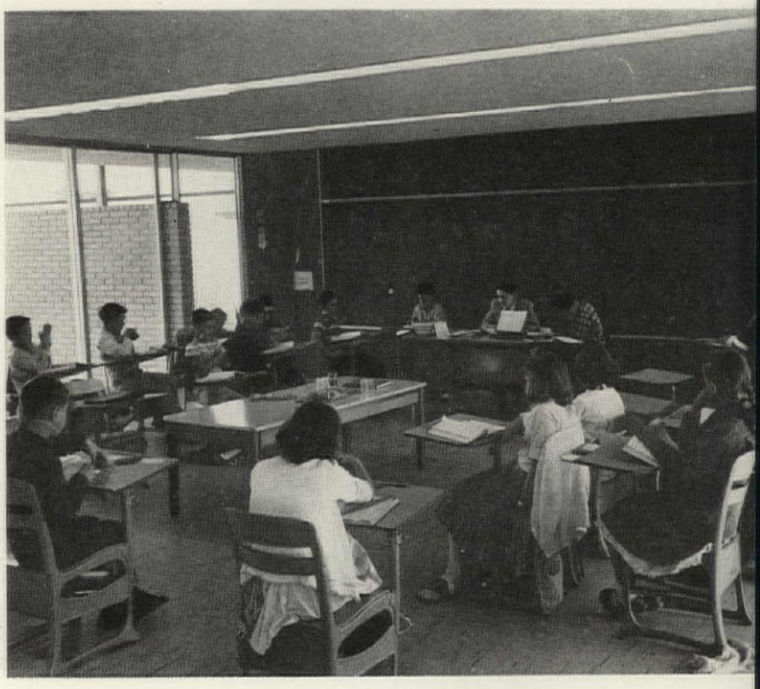
The two new units just added to Englewood Elementary are designed eventually to surround and supplant the old classroom building next to the new diamond-shaped "cafetorium" (air view, below). The latter is designed not only to accommodate the ultimate school (only shaded areas in sketch are now complete) but also to serve as a community center. Classrooms have flexible partitions; they average 1,000 square feet in size but may go down to 750 square feet or up to 2,000. Associated architects: Bolton McBryde and West & Waters; engineers: W. W. Prewitt; general contractor: R. M. Thompson Company.



6 Complete elementary school; 26 classrooms: $642,000.

Rangy and serene, Brentwood Elementary separates its wings of classrooms by wide lawns, and connects them with long sheltered walkways. Another connecting element in the design is the fact that the whole vast stretch of the school is raised several feet on a platform of fill surrounded by a retaining wall. This was not an esthetic device, but a necessary measure to drain the campus. Each classroom down the long fingers has a separate yard completely enclosed by a brick wall; inside, the children will have classes, grow gardens, and play. The classrooms are spacious and simple. Associated architects: Gene Leedy and William Rupp; mechanical and electrical engineers: Charles T. Healy; general contractor: H. J. High Construction Co.



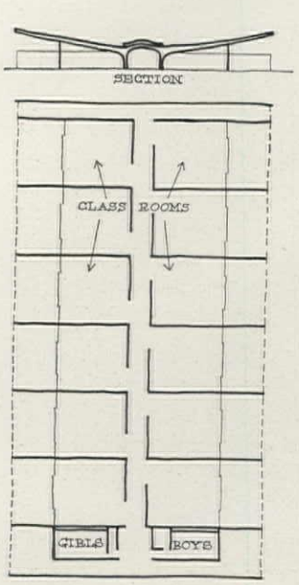


7 Compact elementary school; 25 classrooms: $453,400.

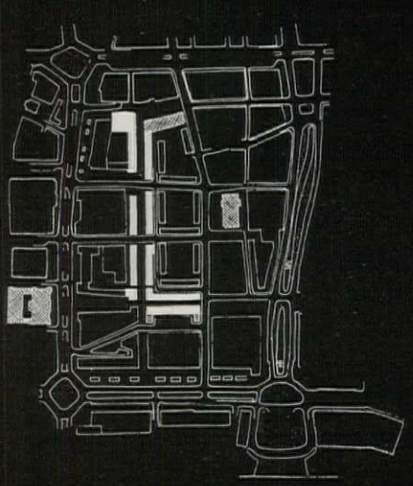
In Booker Elementary, a Negro school in still-segregated Sarasota, classrooms are grouped in four "villages" arranged around interior courtyards. As shown in the air view (left), each classroom also has its own fenced play area, facing outward. All of the enclosed courts have pools and podiums for plays and other performances, and the entrance of the school (two bottom photos) also has a handsome pool. Despite its size, and the fact that no classrooms really are entirely cut off from others (there are no doors inside the school), this large complex has been made to seem calm as well as compact. And despite the facts that its steel framework is exposed, and maintenance-free materials such as brick tile, aluminum doors, etc. were used wherever possible, the building has a very friendly air. Architects: Ralph and William Zimmerman; electrical engineers: Kenneth Brumbaugh; general contractor: Settecasi & Chillura.

8 Lundy's school addition; 12 classrooms: $154,200.

This new wing of Alta Vista Elementary School stands entirely separate from the older school building, connected only by a covered walk. From a central glass-roofed corridor, classrooms open on both sides. Framed with dramatic bents of laminated pine, the addition was designed, says the architect, "for the effect it would have on the kids. It has a feeling of optimism; it shoots upward and outward . . . it is an attempt at a real Florida school." Large sliding glass doors open the exterior walls to sheltered outdoor classrooms, and the masonry partitions continue outdoors too. The cast brick in the end walls is laid up in a protruding pattern to produce a play of shadows. (Orientation of the addition is east-west.) All classroom furniture, including even the chalkboards, is easily movable. Architect: Victor A. Lundy; structural engineer: William E. Poole; mechanical engineer: Louis H. V. Smith; electrical engineer: Kenneth D. Brumbaugh; general contractor: George D. Brown.



European model: Rotterdam's famed Lijnbaan, leveled by bombs during World War II, has been rebuilt as a traffic-free shopping mall for pedestrians, paved and planted in lively patterns and unified by canopies that protect shoppers and stores from weather.



Closed to traffic

More and more U.S. communities are eyeing the pedestrian shopping mall as a device to help bring the customer back downtown.

BY OGDEN TANNER

By all odds the most fashionable theory in city planning for the past few years has been an alluring device called the Pedestrian Shopping Mall. Virtually every new urban redevelopment plan has included a vision of traffic-plagued downtown streets transformed into a paradise for shoppers on foot, complete with flags, fountains, outdoor cafes, and a little tractor train carrying customers around from store to store.

Recently, however, the vision has shown signs of becoming a reality. Nearly 100 U.S. cities of various sizes are now actively considering some kind of downtown pedestrian preserve as the core of their land-use and traffic plans. A handful of towns have actually closed off streets temporarily and measured the results. To no one's great surprise, these experiments have proved that people prefer the relaxed atmosphere of a shopping mall to the rush and roar of a traffic artery, and will stay longer and buy more while shopping under these circumstances.

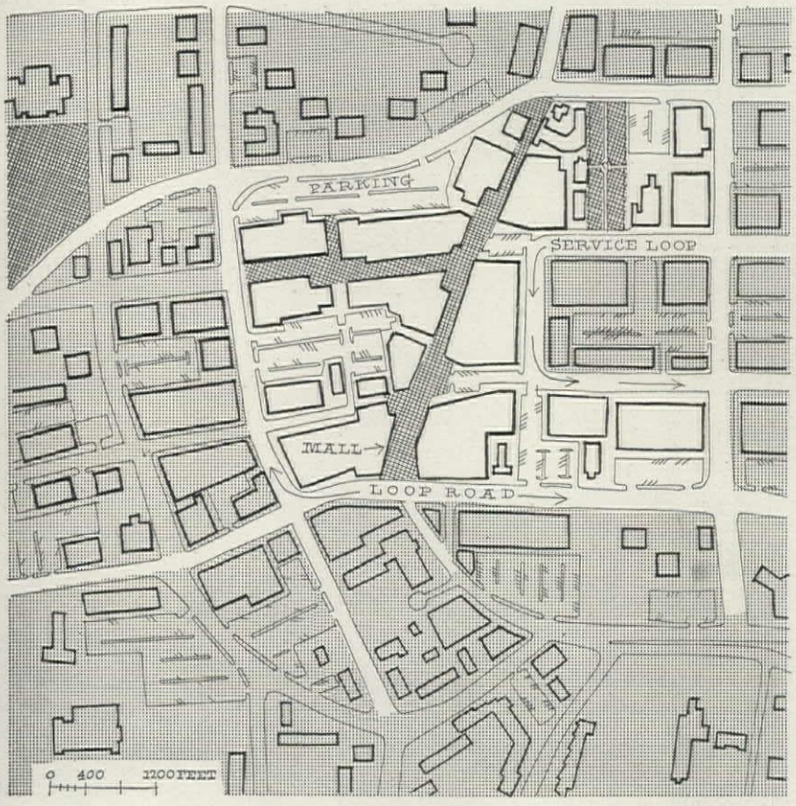
A Main Street without cars will not solve all of the problems of downtown, of course. But the increasing popularity of the mall idea has, nevertheless, been stimulated by the increasing competition between downtown retail districts, and the rise of big suburban shopping centers, whose ample parking and pedestrian conveniences have been drawing business away from older downtowns everywhere.

So far, the only major shopping malls in operation downtown are all in Europe. Probably the most famous is the Lijnbaan in Rotterdam, where the devastation of the whole downtown area during World War II gave planners a unique chance to create a model pedestrian shopping street (photos left). Stockholm, already notable for the traffic-free shopping district in its planned suburb of Vallingby, is now at work on its own "Rockefeller Center" of malls and squares downtown (see page 198). In Italy, Verona and other cities have blocked off shopping streets for foot traffic only. In Germany, Cologne and Essen now exclude vehicles from major retail avenues during the shopping day. In all, perhaps a score of streets in Europe have been "closed to traffic" since World War II.

The mall gimmick

In the U.S., the only major street-closings to date have been experimental —and temporary. Few, in fact, have been more than a new kind of retail merchandising stunt. Numerous cities, such as Waco, Texas, for example, have shut off a few blocks downtown briefly and crammed them with displays of new automobiles or farm machinery. Lubbock, Texas has had its "Million Dollar Mall," Rome, Georgia, its "Bargain Carnival," Waukegan, Illinois, its "Little Fort Days." In larger cities, such as Boston, a more long-range attempt to close off Temple Place and West Street merely aggravated traffic on surrounding streets and interfered with deliveries to bigger stores nearby. The idea was dropped. And in Fort Worth, a three-day promotion downtown met with some success, but the

U. S. experiment: Grand Haven, Michigan (population: 11,000) closed off two blocks of its main street for a month last summer, added trees, plant boxes, exhibits, and a children's play area. Most townsfolk favored a permanent mall, but the trial raised problems of parking and traffic.



DAVID A. ORNSTEIN

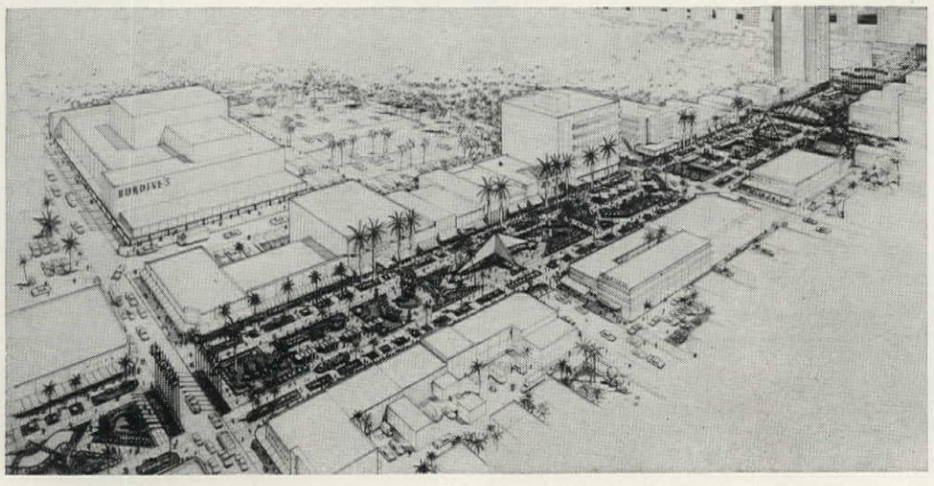
Intersecting malls are proposed by City Planners Raymond & May for the two main business streets of Peekskill, New York (population 18,300). Traffic would be moved out to streets forming a loop around downtown. A small service loop would penetrate the new core from one direction. Parking lots for 1,000 cars would be placed behind groups of stores and on new dead-end streets. Main Street (above) would have patterned paving, trees, pools and benches in a new scheme by Architect Norman Klein (right). The rhythmical arcades would shield shoppers and form a framework for signs and new store fronts.

permanent malls, plazas, and parking garages of the famous Gruen plan have been all but forgotten of late.

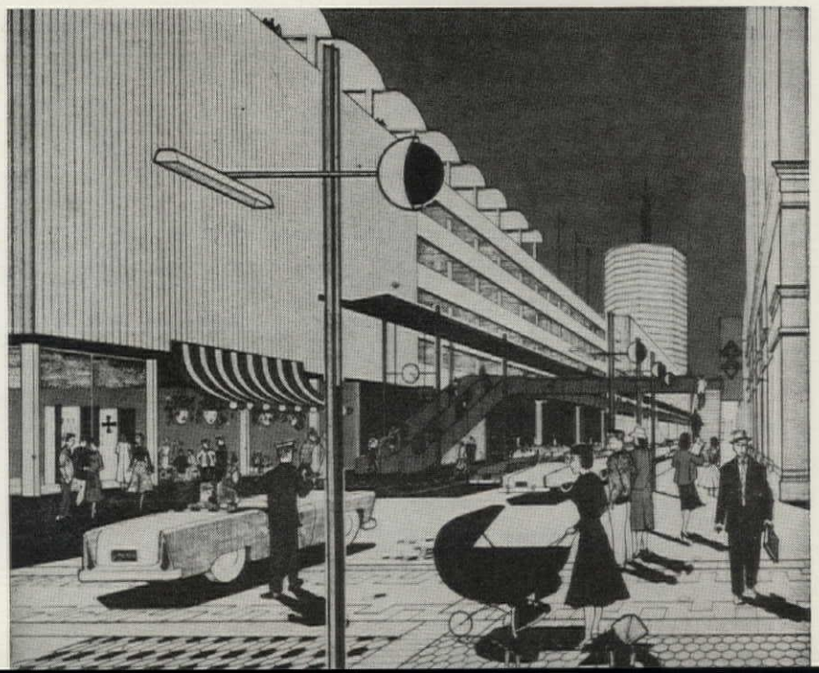
Where the mall idea has been seriously tested, the results have been more positive. In Springfield, Oregon (population: 13,500), two and a half blocks of Main Street were roped off for ten days and spruced up with flags and foliage. Merchants on the mall averaged a 14-per-cent increase in business; 78 per cent of them considered the experiment a success, and 52 per cent were willing to go along on a permanent mall. Shoppers voted a full 77 per cent in favor of the idea, praising in particular the elimination of traffic noise, the freedom of movement back and forth across the street, the pleasant atmosphere of music and exhibits. Merchants off the mall, however, watched their business fall off slightly (5 per cent), and nine out of ten of those surveyed turned thumbs down on the plan—perhaps as good an indication as any of its success.

A similar trial in Oxnard, California (population: 34,500) showed that a majority of shoppers favored a mall, but that even the 100 extra off-street parking spaces leased for the occasion were not enough to make up for curb parking lost to the mall. More disturbing was the fact that only one small store in the four-block mall area was owner-occupied. Even if merchants agreed on a permanent mall, Oxnard planners ask, could both lessees and owners be persuaded to endorse the plan—and to invest in new rear entrances to parking lots, new store fronts on the mall itself? The ownership problem was brought into even sharper focus recently in Pasadena, Texas, where merchants commissioned architects to draw up a downtown redevelopment plan, only to meet staggering indifference from five absentee landlords who owned much of the real estate in question. Some of the merchants have since moved to newer shopping centers in the suburbs. Even the Pasadena City Hall has been moved to greener pastures, and downtown values are starting the familiar downward trend.

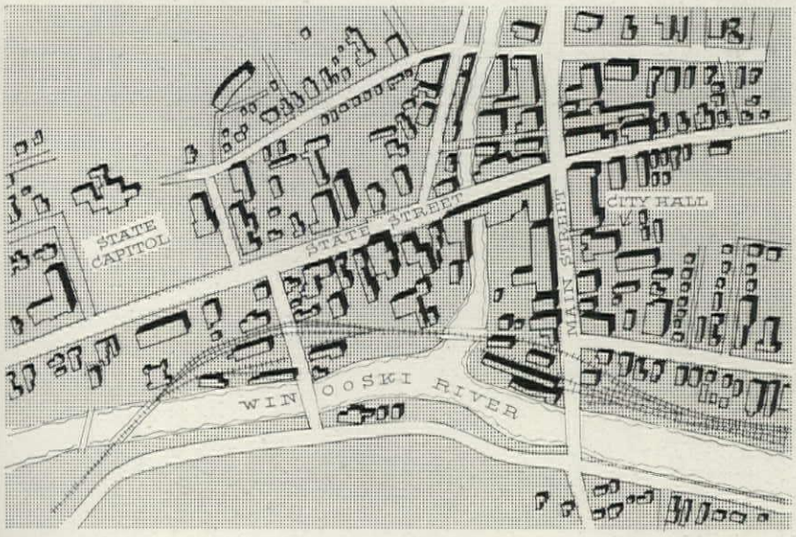
One fact that the various mall experiments make clear is that adequate parking is essential to any successful street-closing plan. By increasing their off-street parking, some towns are not only staying abreast of competition from nearby towns and shopping centers, but also placing themselves in a more favorable position to test the pedestrian shopping idea. With a good start on a parking program, merchants of Grand Haven, Michigan last summer had the city close off two blocks for a ten-day trial mall. Even after the initial novelty had worn off, 25 of the 35 merchants on the mall were still doing a substantially higher volume of business than before, and the trial was extended (some who did not benefit, including restaurant and service station operators, threatened to get a court injunction before the street was finally restored to normal traffic after 26 days). A survey of shoppers showed a majority in favor of the mall, but many complained there was still not enough parking. The city is enlarging its rear-lot parking program, merchants are

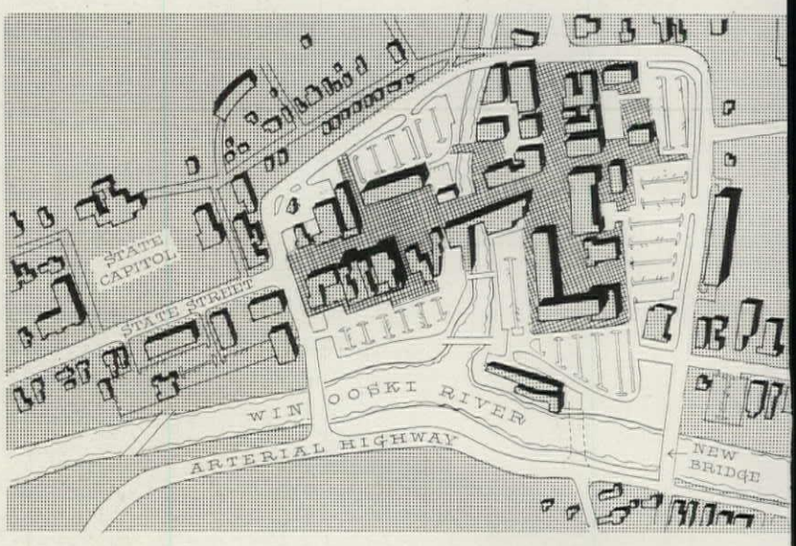


World's Fair look pervades this lavish scheme (left) by Architect Morris Lapidus for Miami Beach's broad, palm-lined Lincoln Road. The mall would be financed by a special tax on merchants and served by parking areas already expanding behind the stores.



Overhead conveyor belts help pedestrians downtown from perimeter parking garages in this proposal for Cincinnati by Architects Garber, Tweddell & Wheeler. Street across foreground, one of a network of shopping malls, is crossed at this point by service traffic at the edge of the downtown core.





FAIRCHILD AERIAL SURVEYS, INC.

Montpelier, Vermont (population 8,600) is considering this scheme by Northeast Planning Associates to close State and Main Streets (map and photo, left), reroute traffic on outer roads tied to a main arterial highway across the river. This will make for a traffic-free island downtown (light area, sketch above). New buildings set back from and across the malls would gradually create a lively new sequence of squares and plazas landscaped for pedestrian use (hatched areas in island). Improved values within the $3.6-million project would net the city an estimated $26,000 per year in additional tax revenues.

opening up new rear entrances to take advantage of it, and there are indications that, someday, there may be a permanent mall in Grand Haven.

Similar measures are being taken in Mooresville, North Carolina (population: 10,000): two of three major off-street parking lots have been finished, and merchants are now taking bids on a 10-foot-wide aluminum sidewalk canopy to unify and shelter Main Street stores. The final stage of the plan is to turn the main intersection into a landscaped plaza for half a block in each direction, with parking and turnarounds at each dead end.

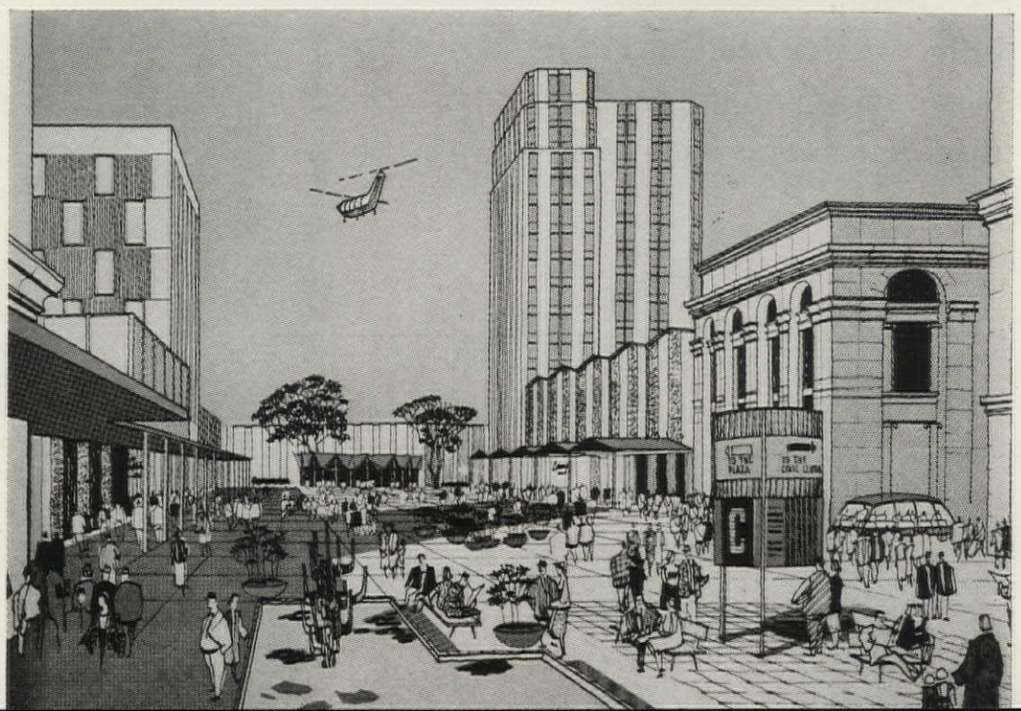
Larger cities have their plans, too. Cincinnati, for instance, has in hand detailed design and cost studies by Architects Garber, Tweddell & Wheeler for a downtown mall ingeniously served by overhead pedestrian conveyors coming in from peripheral parking lots (see sketch, page 91). In Akron, the Chamber of Commerce has turned over to the Planning Commission Architect Edward Stone's scheme for a pedestrian oasis, enclosed by his now familiar grillework and hanging gardens. Kansas City's AIA chapter recently exhibited a long-range plan to turn 12 downtown blocks into a network of landscaped pedestrian ways tied to the city's loop highway and perimeter parking system.

Obstacles and opportunities

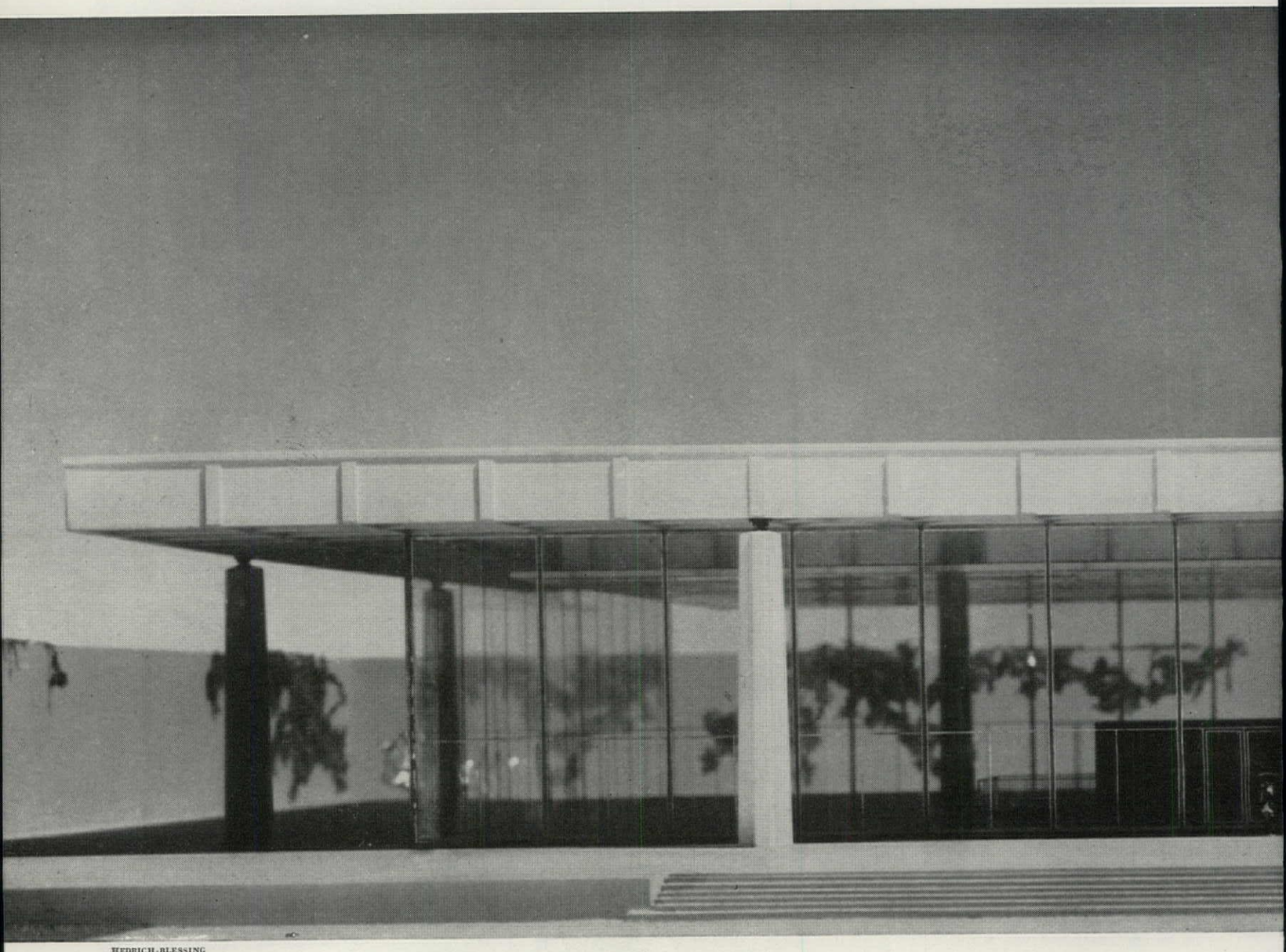
The most promising plans, whether for large cities or small, do not hold forth the pedestrian mall as a magic cure in itself. As the sketches on these pages indicate, malls, squares, and plazas would form the lively and liveable cores of whole new downtown organisms, nourished by loop roads that bypass through-traffic but bring customers close into points where they can park and walk to offices and stores.

There are, of course, plenty of obstacles to be overcome. People used to parking right in front of stores—or at least trying to, and succeeding now and then—will have to be persuaded that they should walk in some distance from perimeter parking lots, and walk out again with packages. Merchants and owners will have to accommodate customers as well as delivery trucks coming in to the rear of stores, and will have to help pay for the development of the new mall in front. Traffic, police, and fire departments will have to be assured of a smooth flow of cars around the core, and emergency access to all locations inside. Street closings are also bound to raise legal problems, as well as problems of securing equal benefit to all property owners in the area. And the bigger the city, the tougher and more costly the problems.

Bringing such schemes to reality, of course, depends on a degree of understanding and cooperation not yet too widespread in American civic life. But if downtown is to stay healthy in the face of increasing competition—and increasing traffic—it is going to have to become a more convenient and pleasant place to go to. The mall idea, in all its forms and ramifications, merits close study by merchants and city leaders, and more detailed development by architects and planners. No one has hit on a more logical answer yet. END



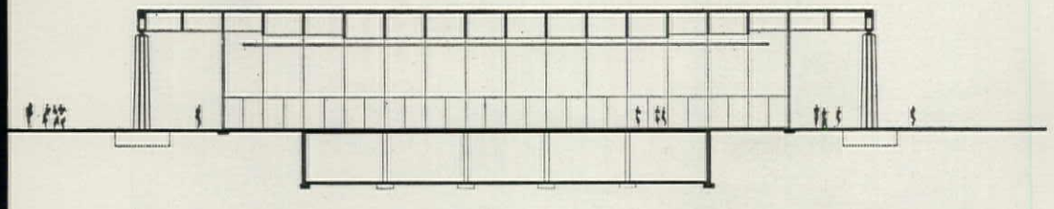
Downtown Kalamazoo, Michigan (population 57,700) would become a giant new regional shopping and civic center for pedestrians in a plan done for local businessmen by Architect Victor Gruen and Real Estate Consultant Larry Smith. Heavy through-traffic would be moved progressively farther out on a one-way street system as central streets are converted to pedestrian use. Present industrial and residential land on the downtown fringe (see aerial photo above) would be given over to bigger and bigger parking lots serving the core. In the final stage (sketch, right), a permanent loop road connects the center with new major bypass highways to neighboring cities. Within the core, prime business and civic buildings are preserved while new ones are added, and a large central park is tied into the new system of pedestrian greenways. In one of the main new plazas (bottom sketch), old and new buildings are unified by patterned paving and arcade canopies. Small electric buses shuttle shoppers from parking lots to major points within the center.



HEDRICH-BLESSING

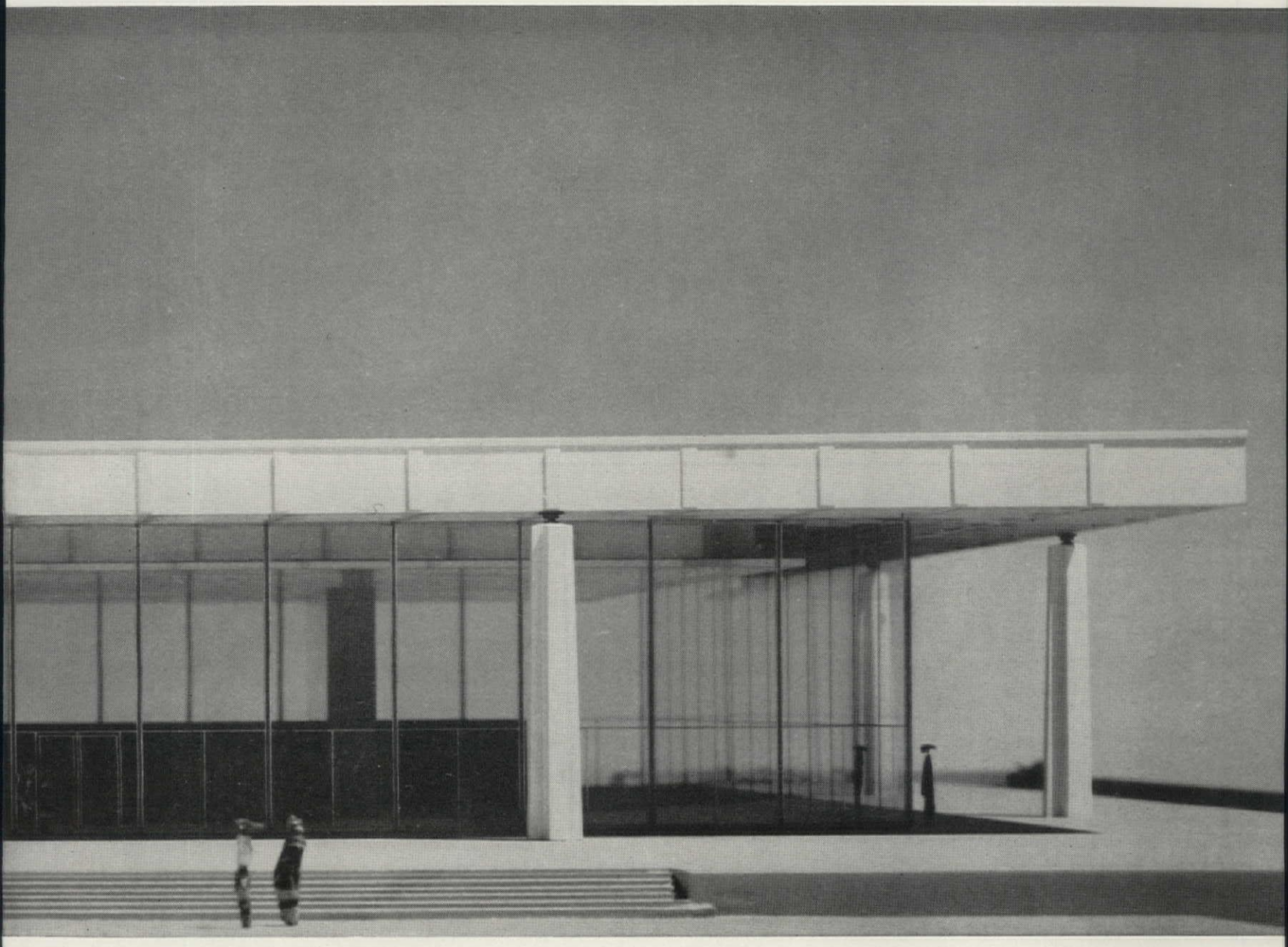
Mies's one-office office building

Mies van der Rohe has designed a Cuban rum company's headquarters in starkly simple reinforced concrete and glass.



Ludwig Mies van der Rohe's next vast and beautiful room will differ significantly from his recent designs in two respects. In the first place, the modern master of steel here turns to a compressive material, concrete. The other innovation is that the Bacardi building which he has designed for construction in Santiago, Cuba, unlike other recent Mies buildings, has deep overhangs shading its completely glass walls.

Both departures from the customary Mies method ("I do not want to build something interesting; I want to build something good") are based on practical building considerations. In Cuba rolled

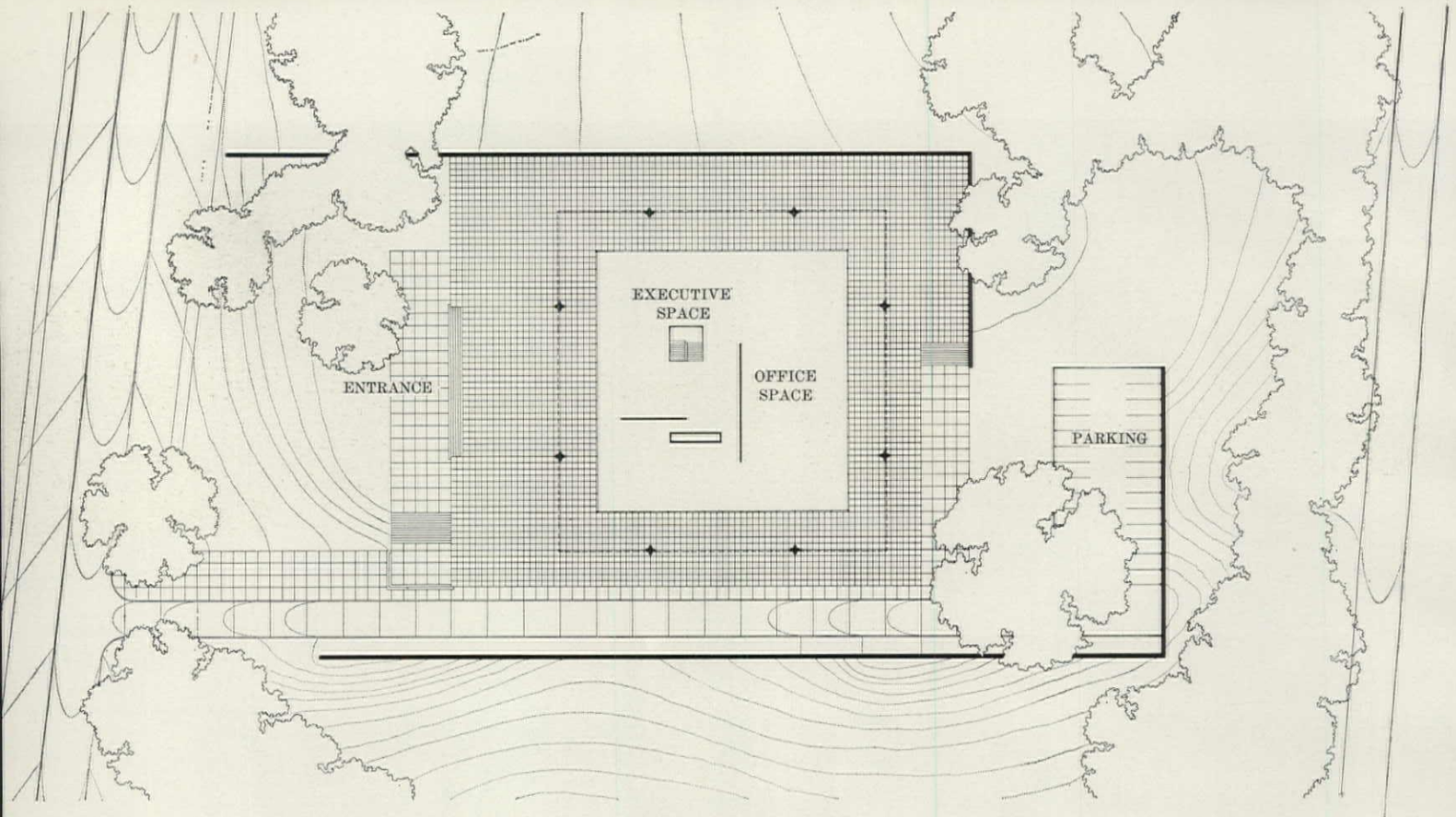


Inside the building's 140-foot-square space low movable walls will imply some division, but there will be no interior columns.

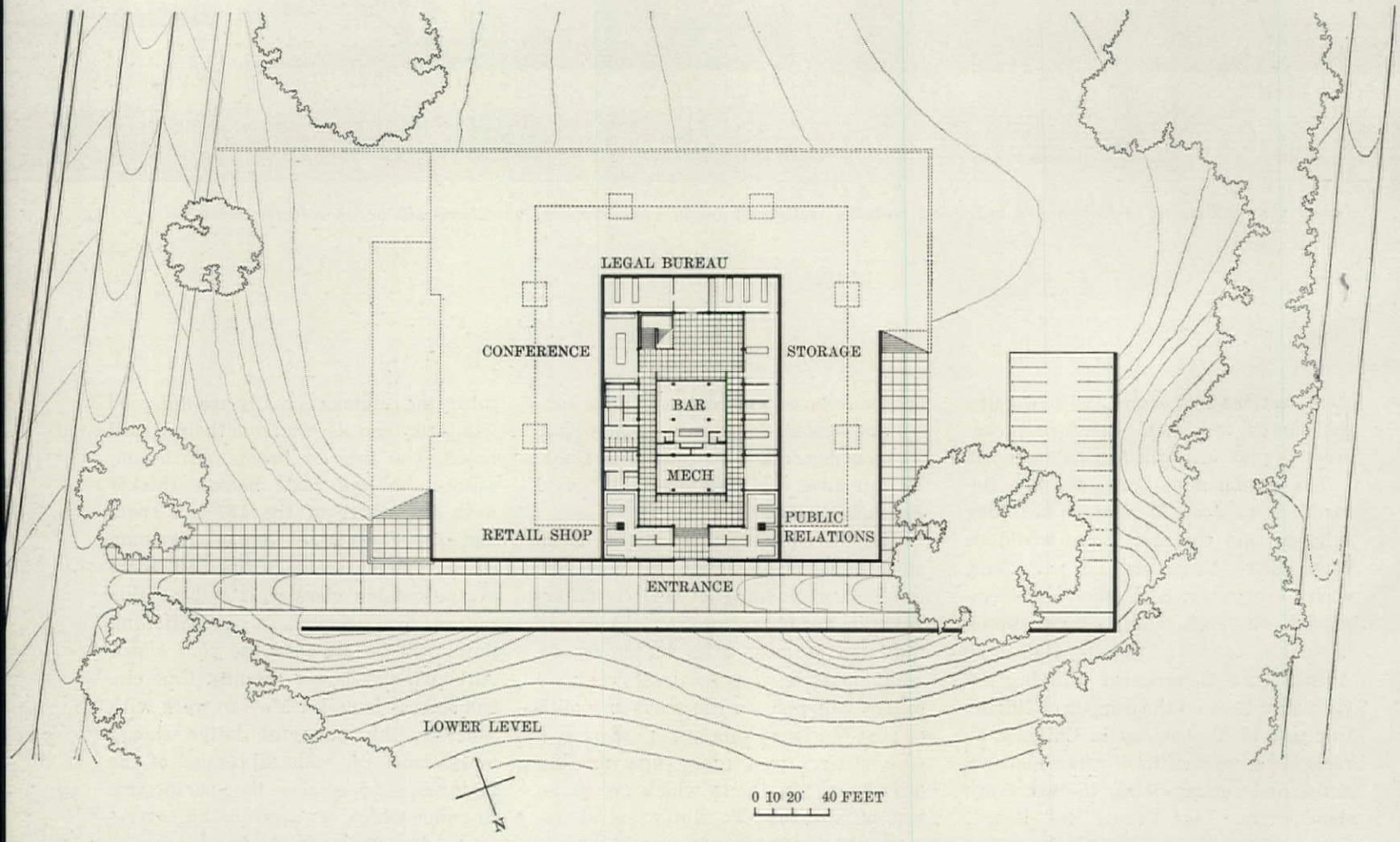
steel sections are scarce, and in Cuba the sun is very hot. Reinforced concrete is practical; shading is essential.

The president of Compañia Ron Bacardi, S.A., José M. Bosch, has long believed that the ideal office would be "one where there are no partitions, where everybody, both officers and employees, see each other." When Bosch happened to visit Crown Hall, the Architecture Department building designed by Mies on the campus of Illinois Institute of Technology in Chicago, he recognized an architect after his own mind, and commissioned the structure shown here. Like Crown Hall it will have one large glazed room, with subsidiary spaces downstairs. "Now that we have democracy and justice in Cuba, we can have this building built," said Bosch last month.

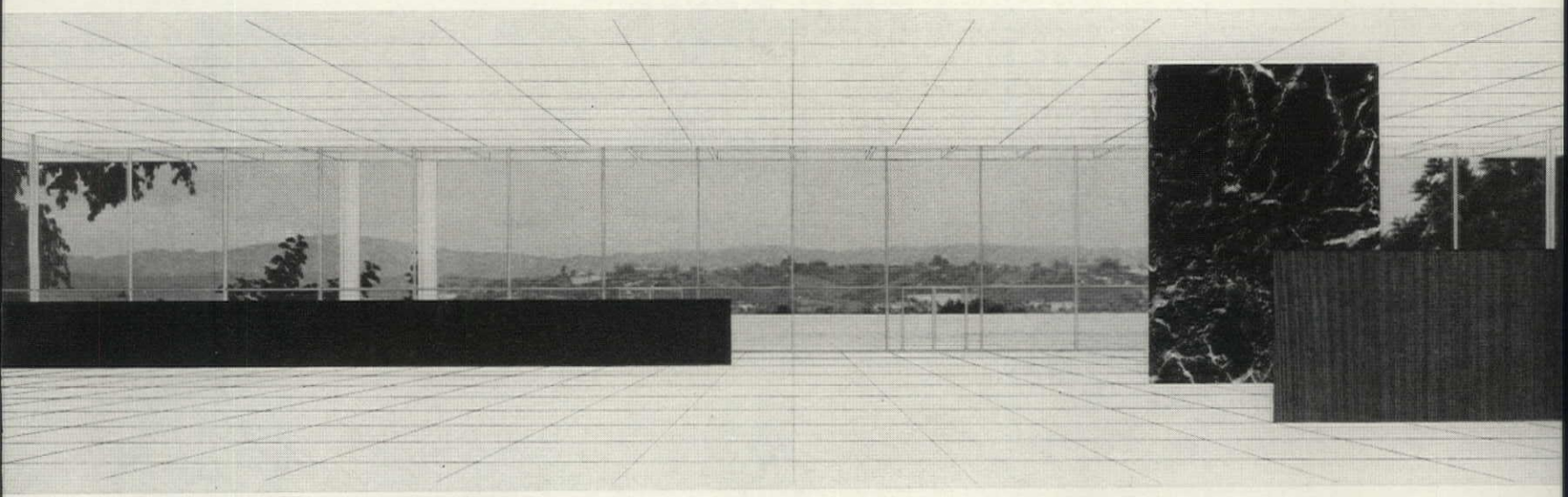
The shift in structural method from steel to reinforced concrete will give the Bacardi building an entirely different scale and character from the sinewy lightness of most Mies buildings. On eight massive, tapered cast concrete pillars will rest an enormous monolith of post-tensioned reinforced concrete, a true plate, its girder edge floating heavily on pin joints which accept no horizontal thrust. To supply lateral stability the columns actually are designed like husky cantilevers from their buried bases. The interior beams which constitute the roof plate become thicker near the center of the 177-foot span, and support a hung ceiling of aluminum grillage which ceases a few feet short of the outside glass walls (above this ceiling five separate air-conditioning units will be set into the roof slab). Although this is not the first time circumstances have led Mies to work with concrete, this powerful design should be his most emphatic expression of the material. (See also the perspective drawing which appears on the cover.)



Staff of 75 people will work in the open office space upstairs, 20 downstairs.



Architect: Mies van der Rohe. Structural engineers and associate architects: Saenz-Cancio-Martin and Alvarez y Gutierrez.



Perspective of interior space suggests general effect of open office areas.

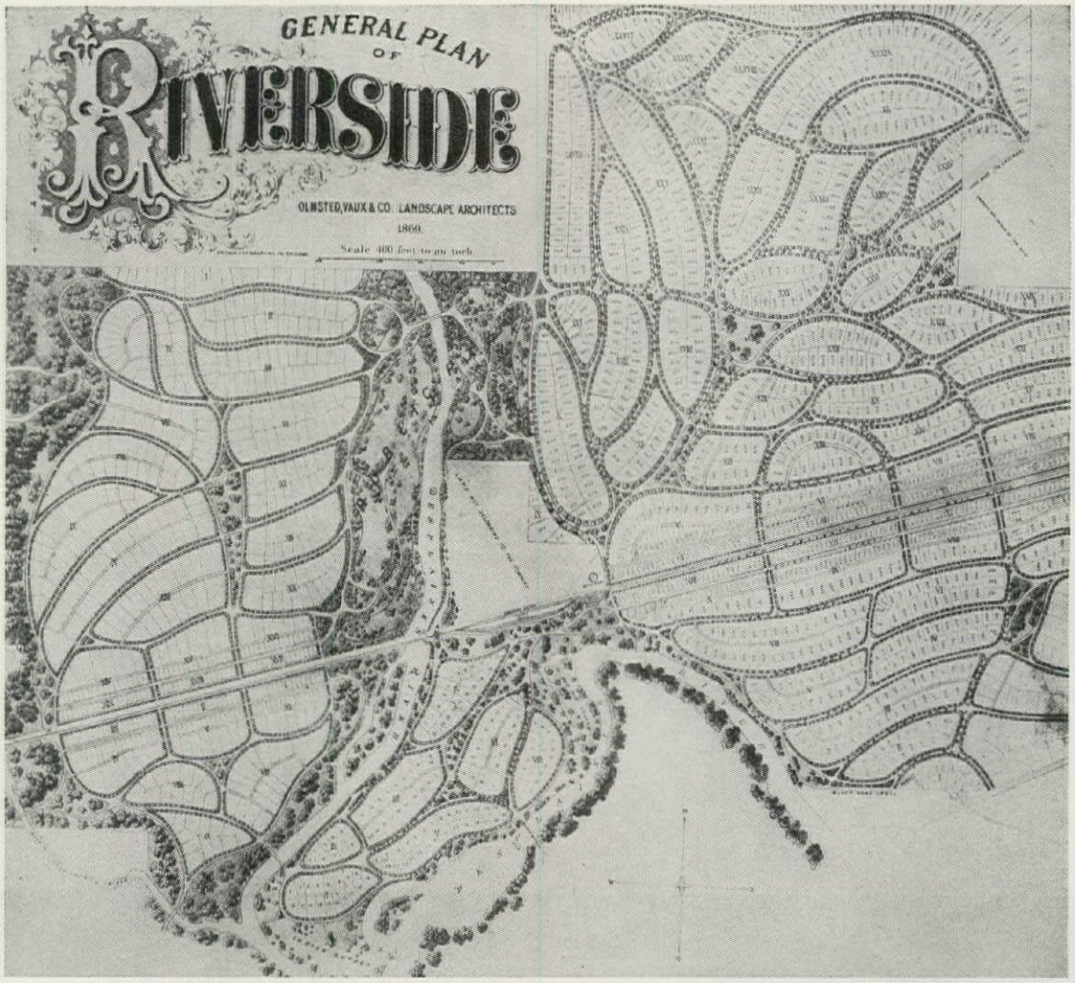
Stairs, terrace, and retaining walls of main approach emphasize the design's horizontality.

HEDRICH-BLESSING

How much progress?

1869

The first naturalistic subdivision in the U.S. was Riverside, a suburb of Chicago planned by Landscape Architects Olmstead, Vaux & Company. Although its general characteristics became literally standard during the years following, its sensitively varied street system and the interweave of parks and open space have kept it exceptional. After 90 years, it remains a fine place to live.



COURTESY OF OLMSTED BROTHERS

1959

Today's subdivisions like this one in Wheeling, Illinois, follow the Riverside precedent of curvilinear streets with startling exactness. But the subtle forms and varied parks and parkways are gone. The single-family house on the single-income-bracket street has become the lot of nearly all suburban dwellers. What is needed is a thoroughgoing rethinking of conventionality.

LOREE'S PHOTO SERVICE

Zoning restrictions and subdivision regulations have discouraged new ideas in the layout of suburban developments.

The slumberous state of subdivision planning

BY RICHARD A. MILLER

"When an idea becomes conventional," wrote Clarence Stein in *Toward New Towns for America*, "it is time to think it through again." But although the basic ideas about suburban subdivision planning have become so conventional as to be virtually codified, there has been little rethinking about them for almost a century. The naturalistic subdivision, with its curvilinear streets and large, free-form blocks has become the almost universal suburban pattern.

The naturalistic subdivision was itself the product of rethinking a conventional idea. When, in 1869, Olmsted, Vaux & Company, the landscape architects who designed New York's Central Park, applied their planning ideas to the subdivision of Riverside outside Chicago, the conventional subdivision was laid out along the very practical, but terribly dull, lines of the gridiron. Seldom has a new innovation come so full-blown as it did at Riverside with its gracefully curved streets. Indeed, looking at its 90-year-old plan (left, above), it is hard to see how, as an idea for subdivision planning, it has been much improved since.

To be sure, the present-day subdivision (left, below) shows improvement in intersection design for automobile traffic safety. And, because most garages now face the street, the long alleyways have disappeared in most new developments. Cul-de-sac and loop street patterns have been added to the curved street system and a segregation of the streets themselves into arterial, collector, and minor categories is more evident in the good, new plans.

But the basic features of the Riverside plat remain unchanged in nearly all modern subdivisions. And with the advance of stereotype "planning," there has, sadly, come a decline in subtlety, contrast, and imaginative design. In the Riverside plan, for example, parks weave a texture through the entire suburb. Wide parkways lead into narrower streets and small neighborhood parks stand at the ends of streets or at their intersections. Even Riverside's "old-fashioned" alleys provide a place to plant telephone and utility poles, leaving the street boundaries for natural trees which give the entire district a soft unity. Few contemporary subdivisions possess these charming qualities. And despite lip service paid to the principle of laying out streets to natural contours, today's streets curve indiscriminately on flat land as well as hilly land, and, in truth, the "spaghetti" pattern is often calculated to obtain the maximum number of lots from the average, odd-shaped land parcel.

Forgotten turn-around

The advent since the 1930's of planning commissions, and local subdivision regulations, together with the FHA's "advisory" services to subdividers has brought a modicum of amenity and design quality to the average subdivision. But like all "standards," subdivision design standards have not only prevented very bad design, they have discouraged very good design and new ideas. Indeed, the most important subdivision design improvement since Riverside—that of turning houses away from the streets and toward interior parks and pedestrian walks, as applied in the famed Radburn, New Jersey development of 1928 by Henry Wright Sr. and Clarence Stein—is largely ignored in most new subdivisions.

Like progress toward fine park systems, and high-quality schools, progress in subdivision planning largely came to a halt with Radburn and then retrogressed all during the depression years. Indeed, today's best subdivisions were, for the most part, planned before 1929. Subdivisions like the Van Sweringen brothers' Shaker Heights near Cleveland, where estates, small houses, and flats were woven together and mixed with apartment houses, or J. C. Nichols' Country Club District in Kansas City, which was carefully nurtured through a 35-year development period, or Frank Vanderlip's Palos Verdes Estates near Los Angeles, where a magnificent stretch the Pacific Coast was turned into a subdivision without violence to the natural virtues of the site, are not exceeded by any of their post-1930 neighbors.

One of the principal reasons for the declining incidence of fine subdivisions is that few of today's subdivisions are even planned by landscape or other architects. Firms like Hare & Hare, landscape architects who planned the Country Club District, or Olmsted Brothers (the continuation of Olmsted, Vaux & Company), who planned Palos Verdes, are still active in subdivision design, but they are indeed exceptions. Instead, in consequence of all the laws of land transfer and platting, the surveyor has taken charge—and most designs are delivered to developers at no more cost than would be involved in surveying, engineering, and prepara-

tion of plat drawings alone—without design. The contemporary architects who engage in good subdivision planning—like Architect Charles Goodman, who designed Hollin Hills near Washington, or the Architects Collaborative, which planned Five Fields near Boston, or Architect Carl Koch, who planned Conantum outside Boston—are as rare as the high-quality designs they prepare.

The irony of this is that the increased cost of hiring a landscape architect or architect (although complicated by the fact that some survey and engineering work would be done by the architect) would, according to Landscape Architect Sidney N. Shurcliff of Shurcliff, Shurcliff & Merrill, cost only $8 to $12 per acre depending on lot and plot size. And the result would be a *design* rather than a plat that merely conforms to the community's rules and ordinances.

Losing shirts

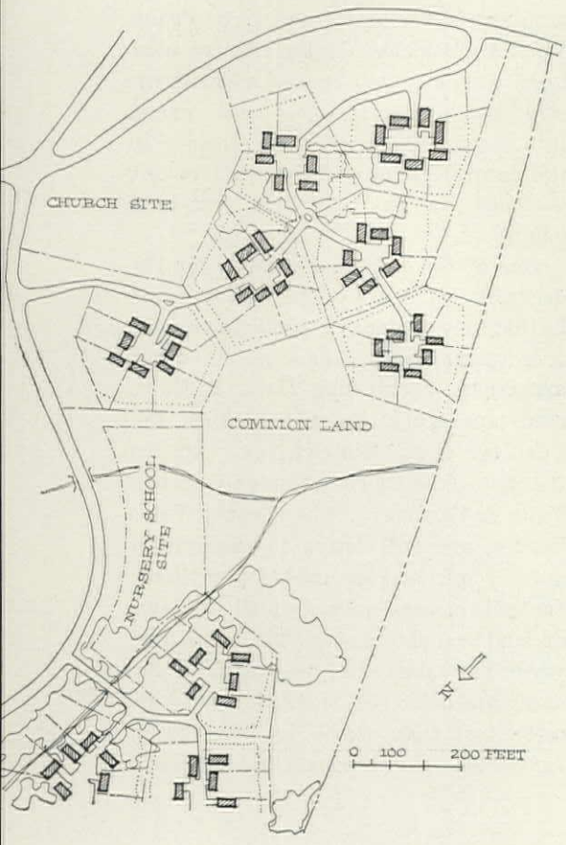
The most enervating influence on subdivision planning, however, has been regulation, that medicinal by-product of the 1929 crash. When the depression began there were a total of 375,000 recorded lots in the City of Cleveland and 175,000 were vacant. The U.S. Department of Commerce estimated that "their absorption will be measured in generations rather than in years."

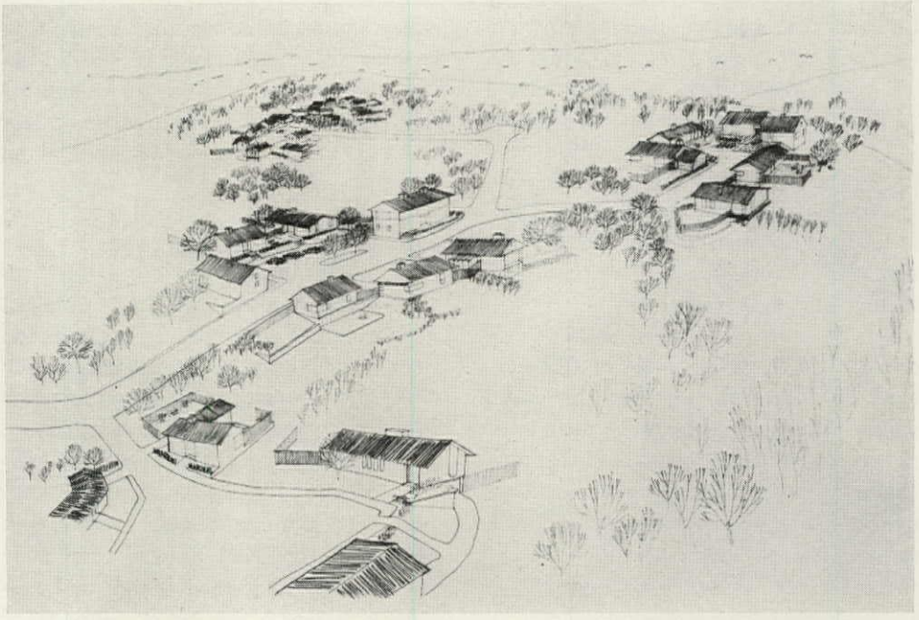
Although the Commerce prediction was far too pessimistic, the tax-delinquency and city expenses caused by so many empty lots in nearly every U.S. city was very real and the reaction of government, at all levels, was swift. Like the securities market after the 1929 crash, the real estate subdivision was quickly put under surveillance and regulation. Cities packed their zoning ordinances with minimum lot sizes and setback requirements; they set up stringent standards for streets and sewers and drainage. In the more enlightened cities, subdivision regulations were established as a specific code to stand beside zoning laws but in others, they were simply added to a hodgepodge of existing laws. And when the FHA was established, a Land Planning Division was set up to "guide" developers to better planning.

Essential as all this was to prevent irresponsible fly-by-night land selling, the result tended to punish the innocent as well as the guilty. The heavy cost of development before any land could be sold under the new rules forced developers, increasingly, to play it safe. Land subdivision became a game for politically expert professionals who could shepherd a plat through the regulations, and the game was to sell out a development fast. Any other policy was a sure way to "lose your shirt."

Spiraling costs

Hollin Hills in Fairfax County, Virginia is a good example of a well-designed and imaginative subdivision that was caught in this regulatory squeeze. The first group of 238 lots (one-third acre and up in size) developed from 1948 to 1954, carried average development costs (for building streets, sewers, water lines, etc.) of $1,282.42 per lot. But the last group of 36 lots, developed after 1956, cost $3,020.81 apiece to develop. The reason: progressively tighter county subdivision regulations. Architect Charles Goodman's design for Developer Robert C. Davenport carefully employed natural drainage courses for surface drainage, for example. This method, which is best and cheapest to maintain if properly designed, worked well in the first group of lots. But, in the last group, Davenport was forced to install storm sewers because storm sewers had become a "rule"—a rule that increased development costs by $750 per lot for this item alone. And





Cluster subdivisions, like the one proposed by Architect Roger Montgomery for the Ballas Development Company in St. Louis County, Missouri, offer an imaginative variation on the standard spaghetti layout. Houses, grouped around small paved parking courts, face out to open fields and wooded areas. Nearly 20 acres remain in their natural state as joint-ownership common land.

Davenport's difficulties with a board of supervisors whom he acknowledges to be progressive were minor compared to the problems of developers working in other areas.

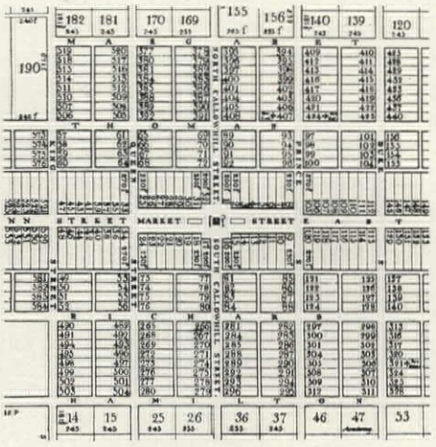
In many towns and cities, the rules applying to subdivision development are capricious, varying, and buried in the minutes of the controlling government body. Where these conditions exist, the first and most urgent need is for a thoroughgoing overhaul and reform of the relevant regulations which should be clearly and concisely set down, and made easily available to all concerned. The regulations should establish logical standards for construction (i.e., paving, water, and sewage service, surface drainage). However, construction standards should not be used (as they are in many cities) as a device to block development entirely, by setting standards so high that no subdividing will be economically feasible. Other, more direct techniques for limiting an area's growth are available and should be used if that is the community's wish ("Exurbia's last best hope," FORUM, April 1958).

Great care should also be exercised in establishing design standards for subdivisions. Requiring minimum street curves of 300-foot radius on minor streets, for example, often makes it impossible to fit the plat to the site with any sensitivity at all. Street grades of 5 per cent often mean excessive grading on a site. Or again, many subdivision regulations establish minimum right-of-way widths of 60 feet, and paving widths of 26 feet, when 40-foot rights-of-way and, if the design is right, 18-foot paving can work very well (as in Elbert Peets' plan for Greendale, Wisconsin, for example). In many cases, excessive requirements like these are established because planning commissions have not done their own homework; they prefer to err on the safe side and require developers to leave room to turn a minor street into a collector street or arterial street. Perhaps the worst regulation is the not uncommon one that all trees be removed from the right-of-way.

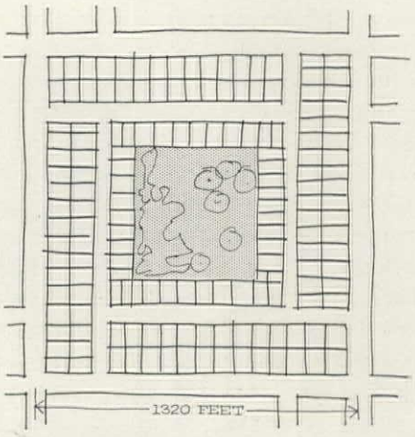
Subdivision regulations must impose the minimum, essential standards of design, but provision should also be made for giving an exemption or special treatment to so-called "community unit plans". Under this provision, an unusual development

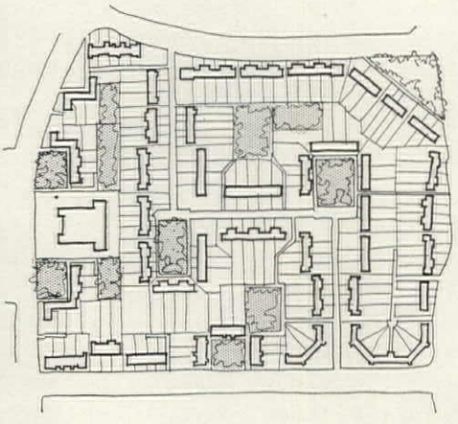
continued on page 174

The versatile grid-iron



Reading, Pennsylvania, one of the first U.S. gridiron plans, platted in 1748, had a market square at its center.

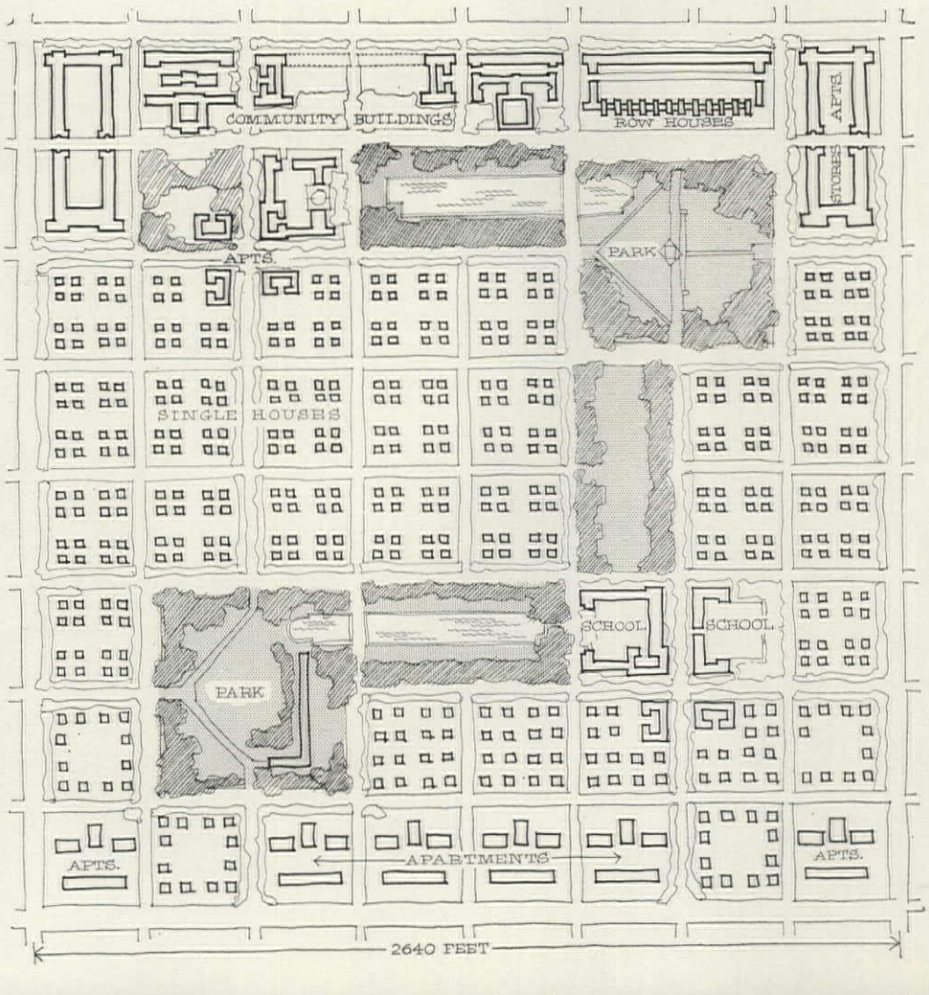




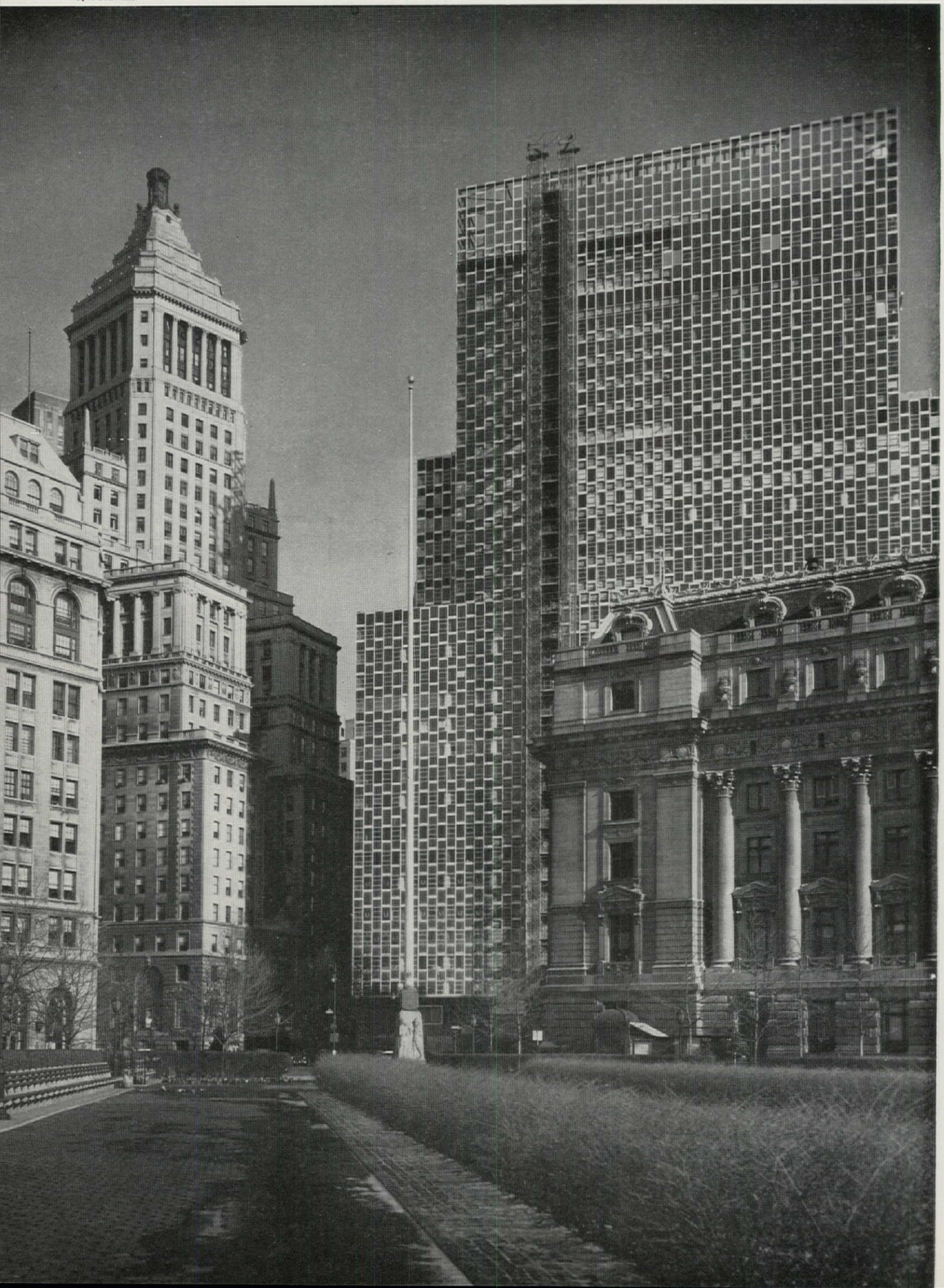
Swastika version of the gridiron plan, (above), first proposed by Henry Wright Sr. in the early 1930's, shaped traffic-safe streets around a large interior park.

Letchworth, England's first garden city designed by Sir Raymond Unwin, had two interior "Greens" connected by a straight interior street (center of plan, left).

Quarter-section plan (160 acres), designed by Frank Lloyd Wright in 1913, proposed mixing dwelling types in a geometrically planned superblock.



P. E. GUERRERO

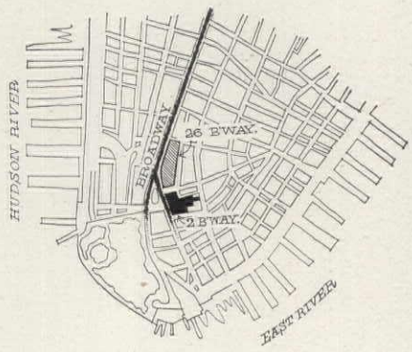


Criticism

A new glass-and-aluminum office building plays it solo in downtown Manhattan, disturbing its neighbors.

Off-tune on Broadway

BY DOUGLAS HASKELL



Until the financial district of New York began recently to be heavily invaded by new buildings, such as the 30-story Uris Brothers office building now being completed at 2 Broadway, the skyscrapers at the tip of Manhattan were of a special type. They were heavy and stony, not light, glassy and steely. They were modeled on Rome. Back in 1924 when modernism in architecture was still young, critic Lewis Mumford deplored this "imperial façade," and pioneer skyscraper architect Louis Sullivan lambasted Wall Street's traditionalism as "the virtue of a culture snobbish and alien to the land."

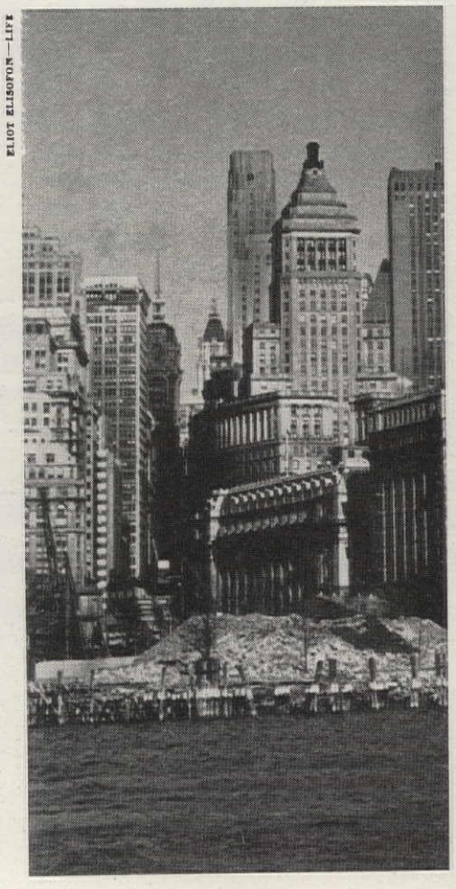
At least the style of the financial area had the virtue of its defects. Its façades may have been overpretentious but they were composed; the buildings may have been miscast in stone, but the stone was carved and molded to catch the sun; the columns and pediments and sculptures both at the base and the top of these buildings furnished enough visual entertainment to justify sight-seeing walks which are back in style today. Even the incidental details were moreover carefully scaled to the new skyscraper height, and the frontages were narrow enough so that not only did the picture of the street constantly change but the building fronts could be bent without too much trouble to the narrow crooked streets. Where such a building had a tower, as did, for example, 26 Broadway (originally constructed as the "Standard Oil Building"—see photo left), it was most carefully adjusted for a total symmetry even if the building had to have a curved or distorted shape along its base.

It was in the commercial midtown area of New York, meanwhile, that the "modern" style came in, and it took two distinct forms. One was the "high-style" building, from Rockefeller Center to Lever House or Seagram. The other was the quick-return, low-cost rental office building, which might have more plentiful elevators and which displayed large acreages of modern "curtain wall," but contributed architecturally little else. Enough of these workaday money-makers were produced to swamp the masterpieces; and by these American civilization has been usually judged.

In New York, both of these types of "modern" are now moving southward into the "Street" area, and Hannibal's elephants could scarcely have been more startling moving down on Rome.

An important location

Compared with a high-style modern building moving downtown, such as the new 60-story slab for the Chase Manhattan Bank, which fits with its neighbors surprisingly well despite the big change in scale, style, materials, and shape, the effect of a new rental modern building such as 2 Broadway cannot really be called very harmonious. There is, of course, nothing wrong with constructing space for rent, quite the contrary, but today there is a new situation in city building that has to be faced. In earlier days those more modest, and quite necessary, workaday buildings which made up the "background" of historical Rome, Paris, or London, were built on modest "background" streets. But, in America today, these buildings suddenly appear at



ELIOT ELISOFON—LIFE

"Broadway chasm was a city asset."

"Older neighbor to left is now outweighed."

P. E. GUERRERO

"A single pattern endlessly repeated."

those very points of climax in the city picture which are most important to the city as a whole. The foot of Broadway is just such a climax for New York. Not only has the tip of Manhattan, as viewed from the sea approach or the Battery, been New York's most powerful magnet, but it has been enormously enhanced by the dramatic view of Broadway opening down the middle as a great cleft (photo, right). Millions have felt the magic of this suddenly appearing canyon, for it divides the great skyscraper agglomeration sheerly in two, with the consequence that the tall buildings appear twice as tall, and the whole spectacle appears to have several times as much depth and power as it would possess if seen only head-on. And this Broadway canyon has had its "marker," too. At its very entrance stood the old Standard Oil Building, with its curved base guiding the eye into the great chasm, and its tower, topped by a curious oil lamp, standing like a sentinel at the gate. Nor was this architectural effect an accident: the building was deliberately so contrived. And this was done out of more than sentiment: for nobody in America has known better than the Rockefellers how to make architectural drama yield money in the bank.

But 26 Broadway with its tower has, in effect, been upstaged. Its neighbor, 2 Broadway, now being completed just south of the older tower to the design of Emery Roth & Sons, architects, is not quite so high as the top of the tower but is very much bigger in bulk. Consequently, even in those views in which the older building is not obscured by the new, it is overweighed. To be sure, some routine concessions were made to the existing 26 Broadway neighbor by the designers of 2 Broadway: here and there a horizontal line was picked up from the older structure and repeated; but nothing could mitigate the effect of that strong high horizontal roof line topping off Number Two, parallel with Broadway and at a height just below the tip of the old tower, which begins to look insignificant, dwarfed.

It would be wrong to put this sad result under the heading of "things that can't be helped," because more than one contour is possible even under the setback ordinance. Nor is the ordinance in itself sacred, and it may be that the city itself is the responsible party here, and must soon change its antiquated setback ordinance.

Of course, an all-glass structure is in itself something of a shocker amid that stone all around, but there need be nothing disagreeable about that: the all-glass Lever House was always an ornament among the masonry buildings of Park Avenue and the Chase Bank promises to be one downtown.

Setback ordinances beget cubism

Since glass is so neutral looking in itself, the effect of a glass façade is produced largely by the handling of its metal framing members. In the case of 2 Broadway, the over-all pattern that is produced uniformly across all the building faces is a jazzy staggered one, better described in pictures than in words (photo, left). It obviously has its ambitions to be interesting and different, and there is nothing unusual in using some appliqué in making this attempt. But unhappily for mass-production in design, when one and the same pattern is all that will be seen over several thousand square feet of "curtain wall," this pattern has to be really good, both in its own intrinsic proportions and in the optical illusion of *direction* that it gives to the building itself. In this instance the internal proportions of the design itself would not be called distinguished, and its directional emphasis on the building is neither vertical nor horizontal but neutral: from a distance the wall looks not unlike a great piece of magnified and glass-filled chain mail. This is unfortunate because, the walls being very broad and big in a neighborhood where other walls tend to be tall, narrow, and smaller, the use of trim to produce strong *vertical* divisions, breaking the wall, so to speak, into a series of vertical panels, would have been welcome.

What is perhaps most fascinating about the Uris building is to be seen not from the Broadway side but from Beaver Street to the north (photo, below). For probably the most important difference between rental buildings like this and high-style modern buildings is that high-style designers fight the setback ordinance all they can in order to achieve the simplest possible shape—preferably a straight tower like Chase—whereas rental building designers generally do all they can simply to fill the "envelope" that is available

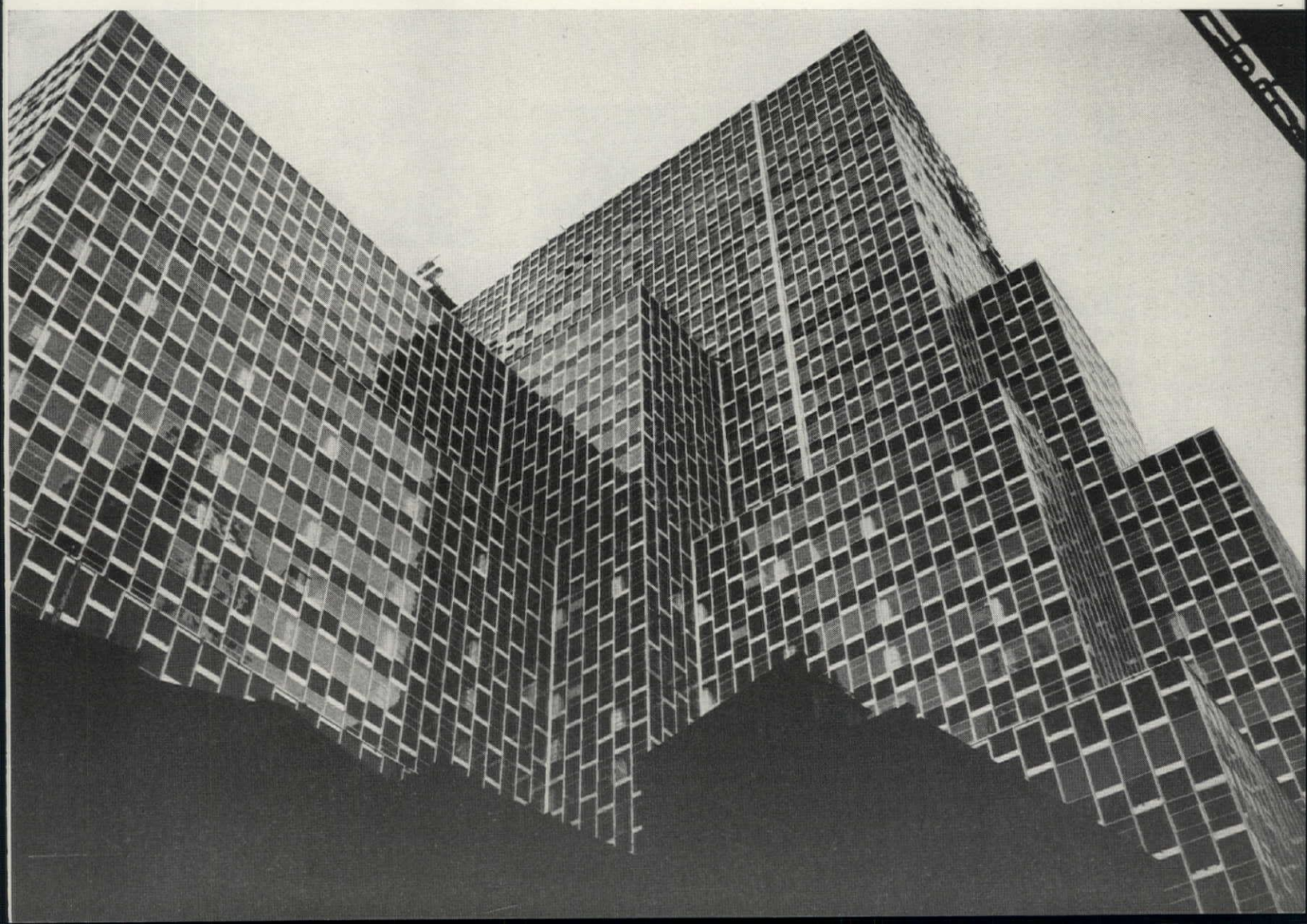
to them under the setback ordinance at any particular spot. This leads into a cubistic method of composition, for above the setback line the necessary recessions are achieved with quadrangular prisms piled together. When the building lot ramifies in all directions, as this property does (see plan, page 103), the result is setback prisms of all manner of shapes; and when the building is all glass and all covered with the same filigree pattern of aluminum, like this building, and the edges of the prisms are the thinnest aluminum bars, exact definition becomes all but impossible to the eye of a stationary observer. Under the bewildering play of light and shade and reflection and cross-reflection, the whole cubistic pile-up takes on a fascinating aerial quality. Moreover, as in modern jazz, and in some kinds of modern painting, the process seems simply to go on and on, being "made up as it goes along," and there is no such thing as a definite, strongly willed final shape, but simply an endless play with a set of themes.

Tantalizing as this perhaps more or less accidental effect is, and tempting to pursue for its future implications to design, it is, however, not worth surrendering more positive qualities for. Although it would be too much to ask that a rental building go to the expense of a building for the Chase Manhattan Bank in adjusting to other buildings close by, it must be remembered that a rental builder who has taken a premium piece of land at a critical point in the city has an extra obligation to the neighborhood, and in this kind of an instance it would seem that more could have been done, not overlooking the passage of the long overdue ordinance revision by the city.

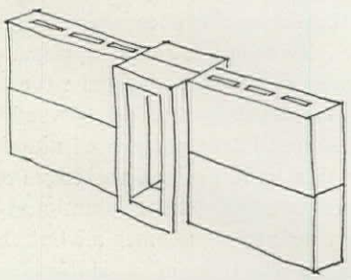
In view of the criticisms voiced above, it is a pleasure to report that, through the efforts of Uris' B. H. Friedman, a distinguished mosaic mural by Artists Lee Krasner and Ronald Stein has been installed over the main entrance of the building. END

ALTERNATE APPROACH: *the Chase Manhattan Bank building, by Skidmore, Owings & Merrill, has a simple shape surrounded by free space, is divided into panels vertically and horizontally.*

"Cubism derived from the setback ordinance."

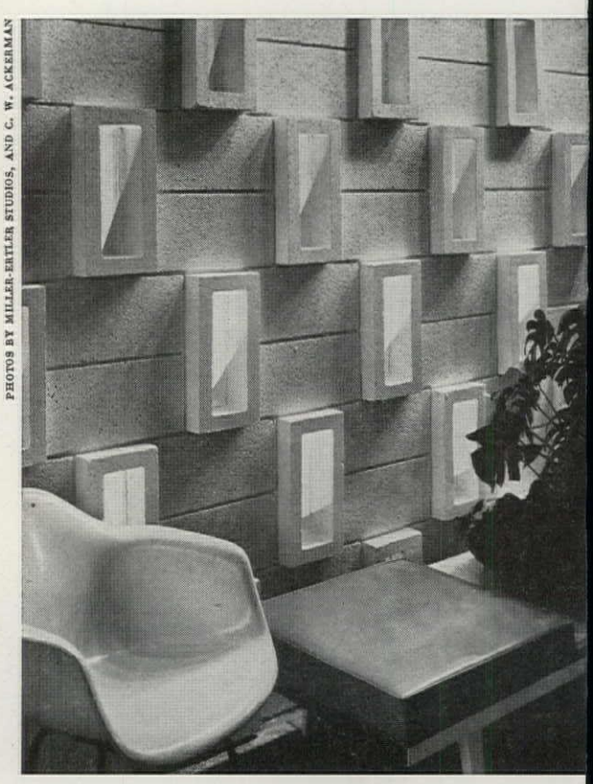


Concrete block fashion show



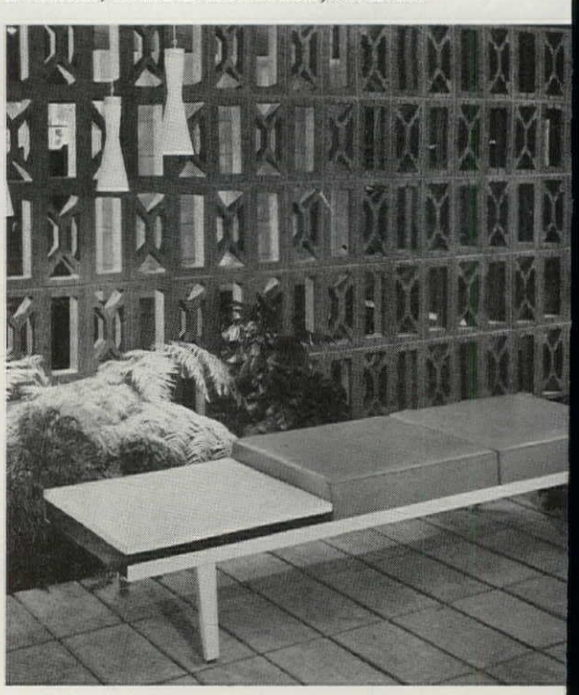
Ever since concrete block was first made by machine about 60 years ago, its low cost and plain-Jane appearance have relegated it to the basement—figuratively and almost literally. But, last month at the annual convention of the National Concrete Masonry Association in Cleveland, the lowly block put on a new dress and came up out of the basement. The dress was designed, at NCMA's request, by nine of the nation's more imaginative architects, each of whom contributed one wall of commercially available block to a demonstration pavilion erected in the center of the convention exposition hall. NCMA hopes, of course, that this new look will gain block a higher place in the society of building materials and increase the industry's production even beyond the 2 billion units turned out last year.

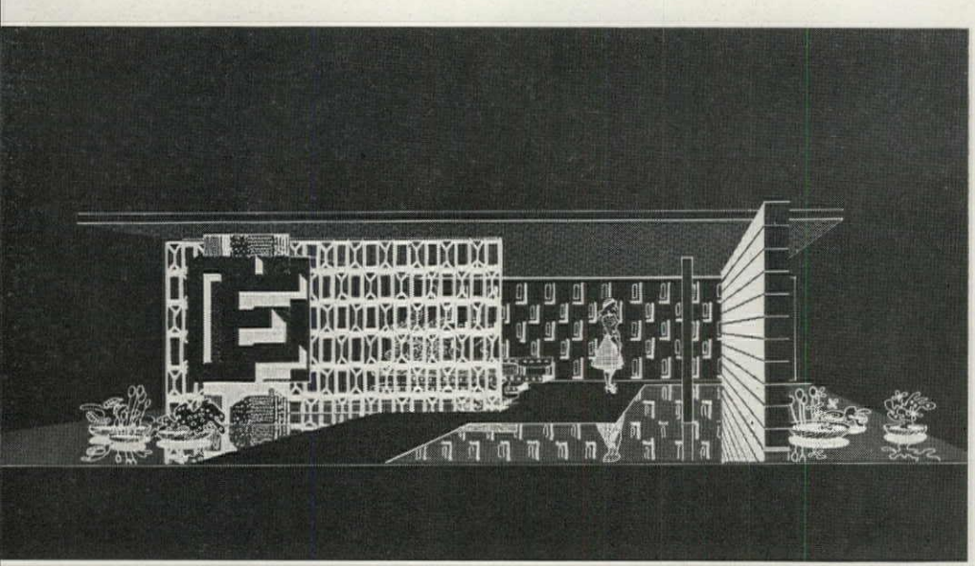
PHOTOS BY MILLER-ERTLER STUDIOS, AND C. W. ACKERMAN



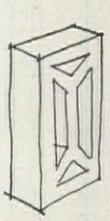
Marcel Breuer & Associates, New York

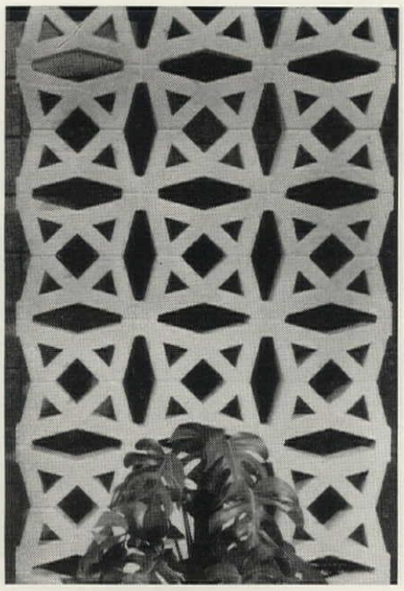
Hellmuth, Obata & Kassabaum, St. Louis

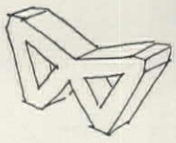




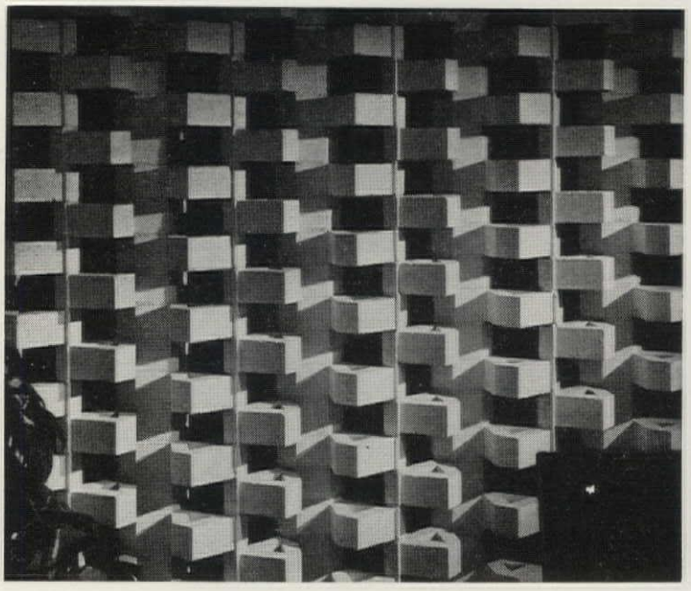
EXPOSITION PAVILION, combining the concrete block walls of nine architects, was designed by Robert A. Little & George F. Dalton & Associates of Cleveland who also coordinated the project for the sponsor. The CIE emblem, which stands for Concrete Industries Exposition, was designed in concrete block by David C. Juliano of Loebl, Schlossman & Bennett, Chicago.



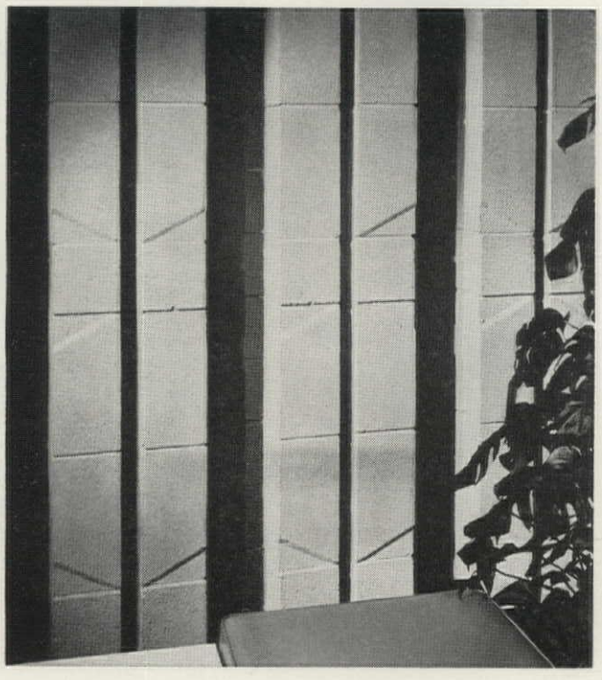




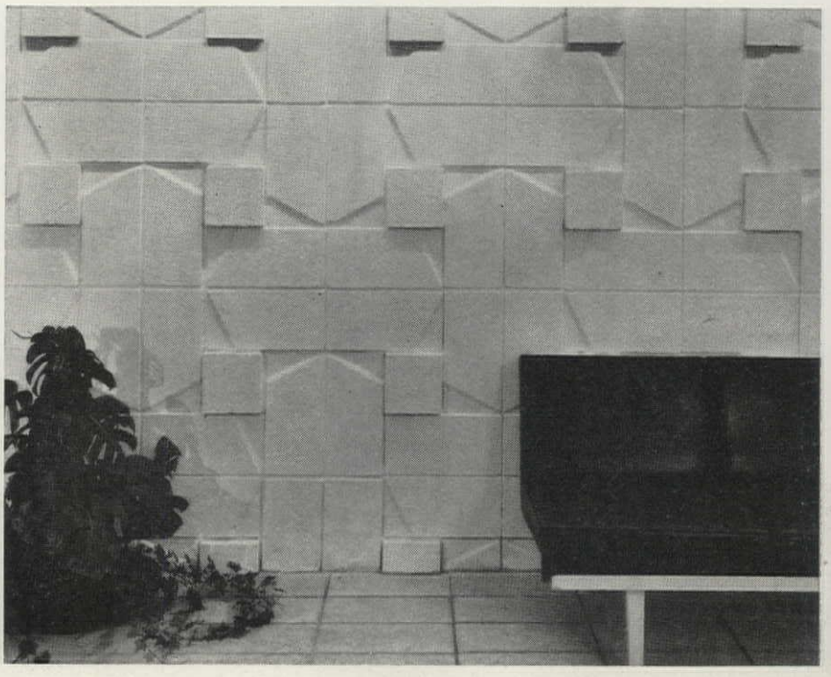
Jones & Emmons, Los Angeles



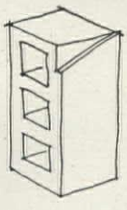
Victor A. Lundy, Sarasota



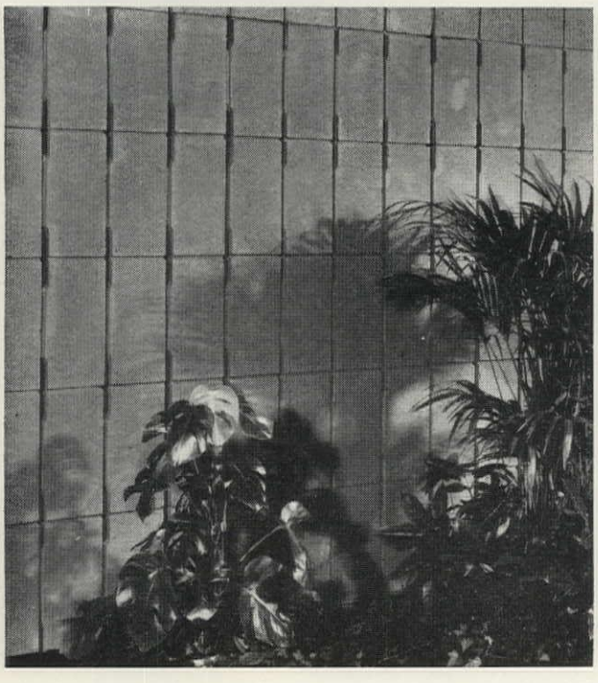
Burk, Le Breton & Lamantia, New Orleans

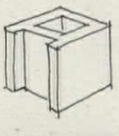


Mario J. Ciampi, San Francisco

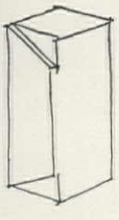


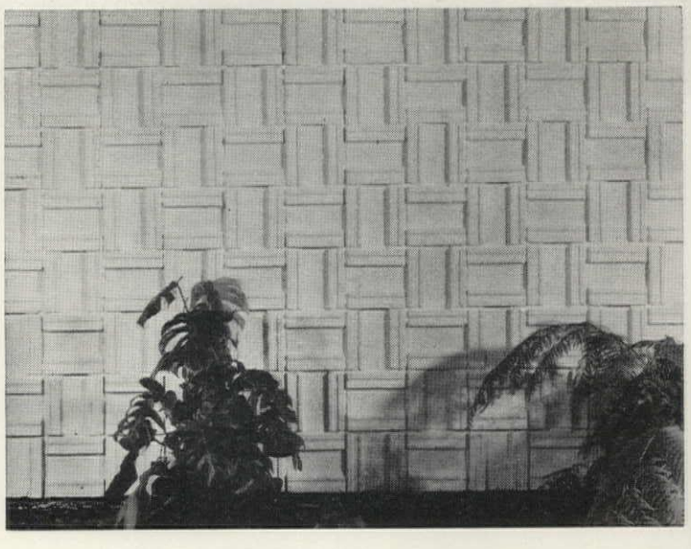
Paul Rudolph, New Haven





Alfred B. Parker, Miami





Drenched in summer sunlight, three of the many chapels built by the families of Mykonos form a rich composition of textures, solids, and voids.

Soft-contoured walls of the island's largest church, mostly in ruins, reach into space as do the shapes of Le Corbusier's Ronchamp.

Corbu's island of beauty

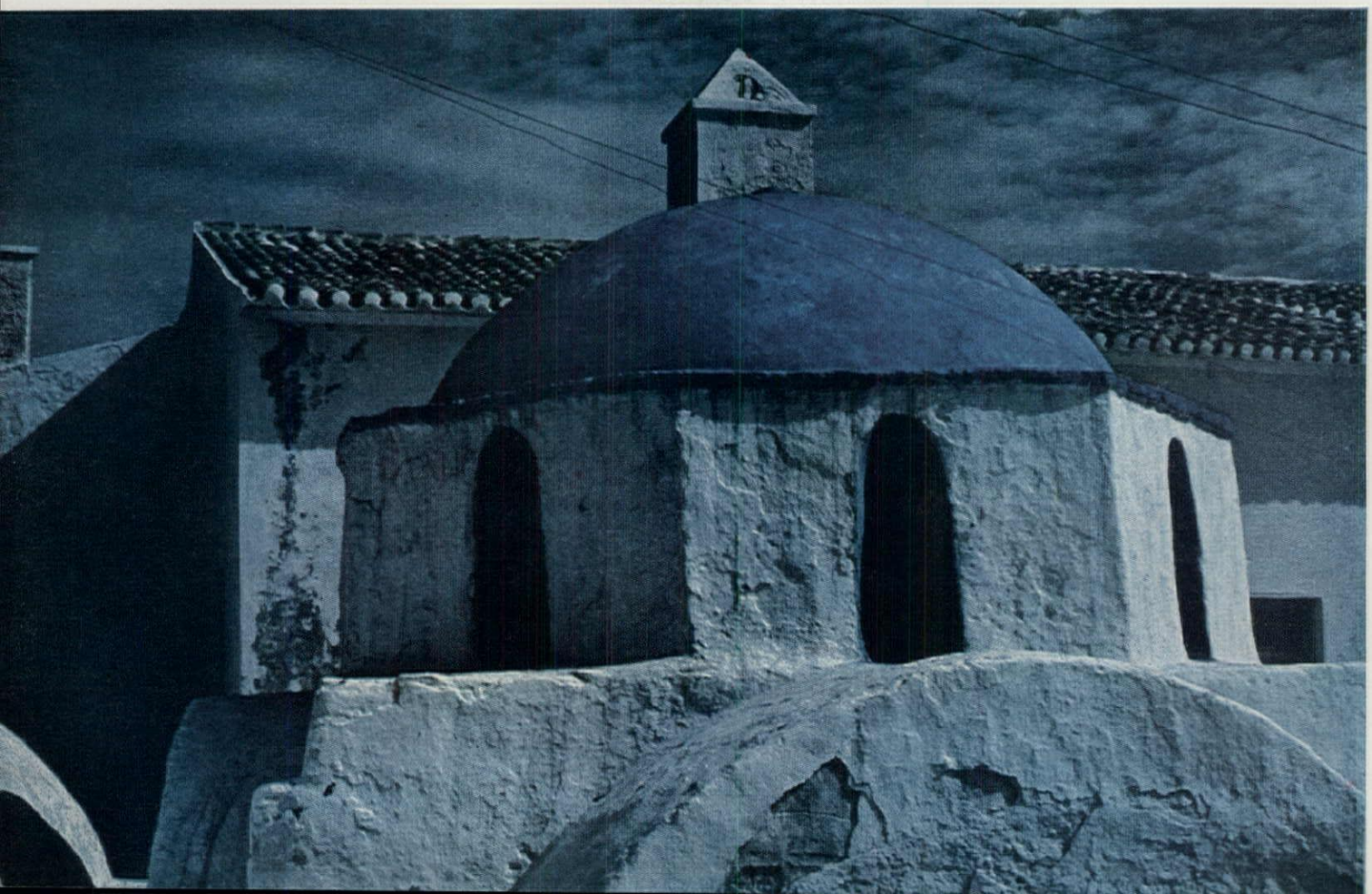
Gallery

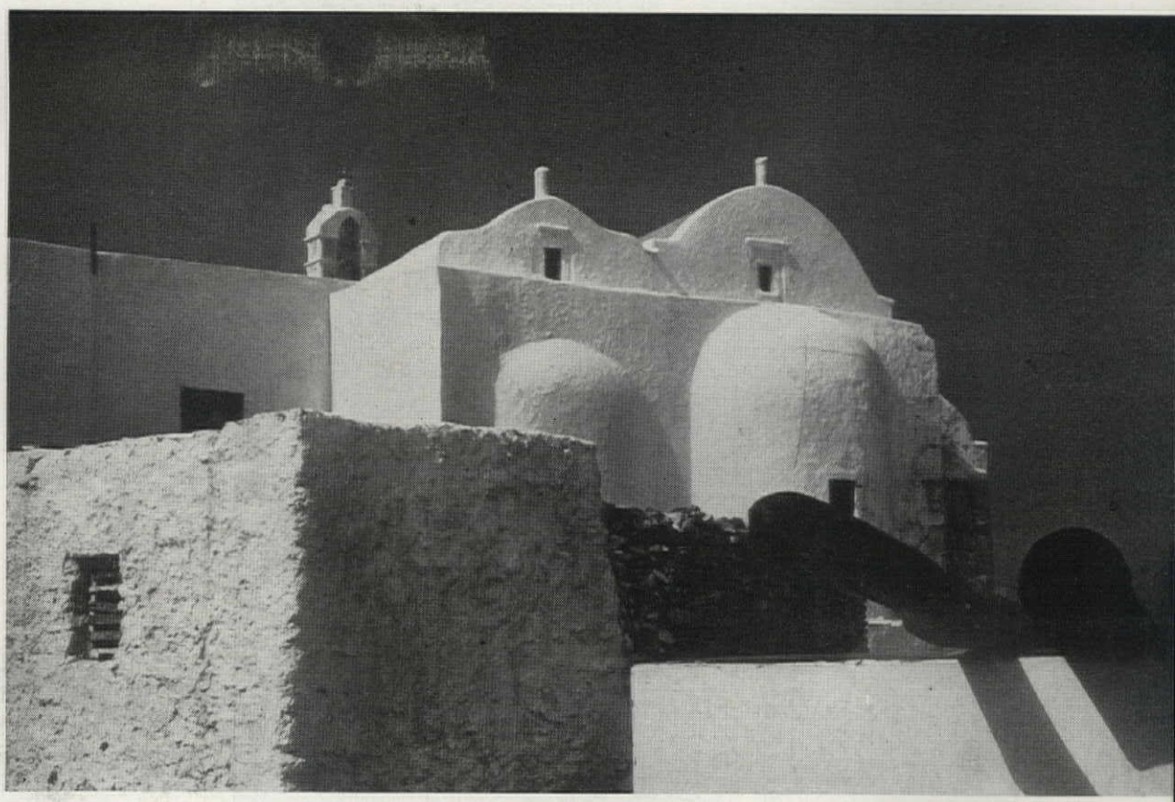
When Le Corbusier visited the Greek island of Mykonos in 1933 (see map), he came away haunted by the sculptured shapes, chalky textures, and blinding whiteness of its homes and churches. "Beautiful," he recalls, "the most beautiful forms." The civilization that he found on the tiny island has sustained itself economically for twenty-odd centuries on the classic trades of fishing and weaving. And it has sustained itself culturally by a devout, inbred instinct for exquisite building. The gleaming shapes of Mykonos have a universal appeal: they speak of an idyllic society in which each man is naturally an artist.

The forms and colors of Mykonos were recorded last year by two well-qualified American visitors. Dan Branch, whose pictures appear below and on the following two pages, is an instructor of architecture at Columbia University and is a student of the building techniques of several indigenous cultures. Architect Paul Mitarachi, whose pictures are shown opposite and on the concluding two pages, is an instructor of architecture at Yale and, it happens, is of Greek descent.

The roof sculpture of a Mykonos house is composed of such common elements as a chimney, a gutter spout to carry off the frequent rains, and a wind-molded parapet.

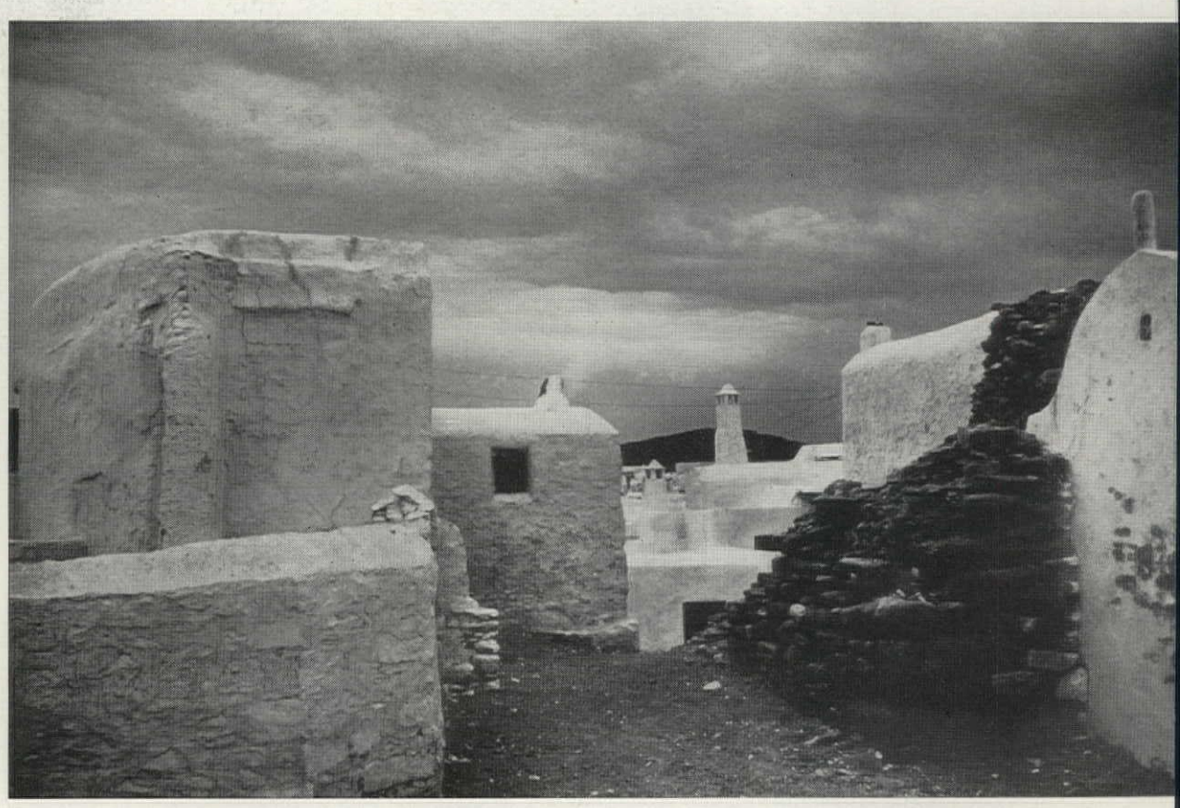
The brilliantly blue dome of one of the island's 365 Greek Orthodox churches rises into the equal blue of the Aegean sky.

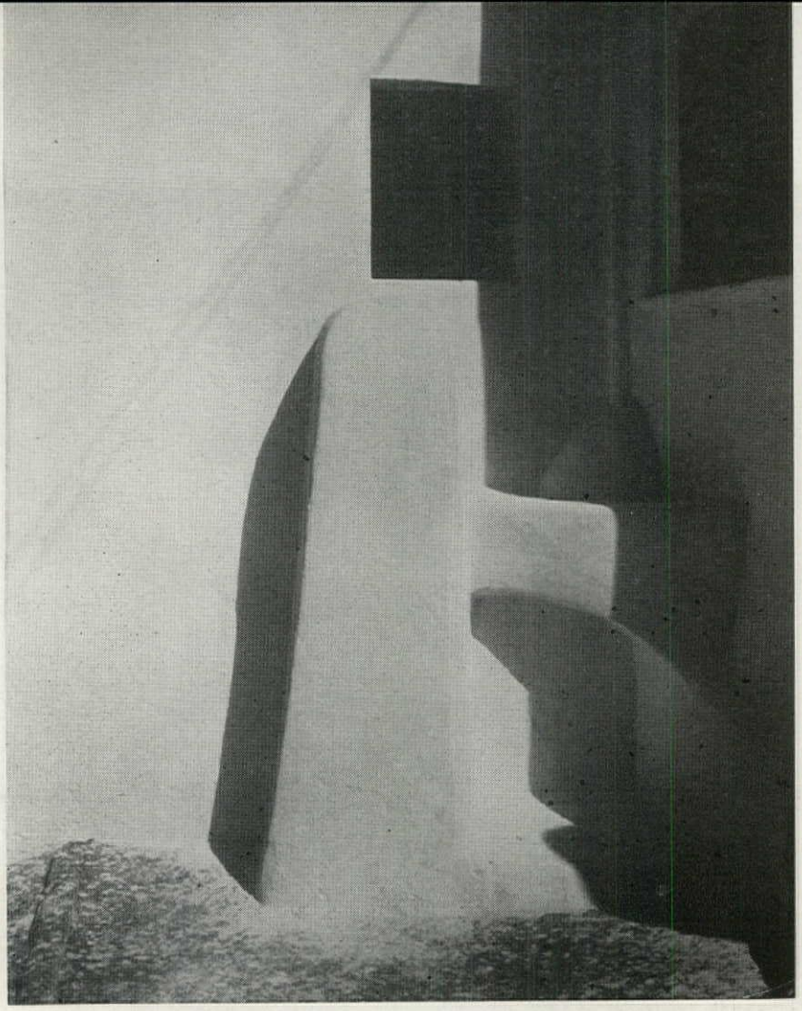




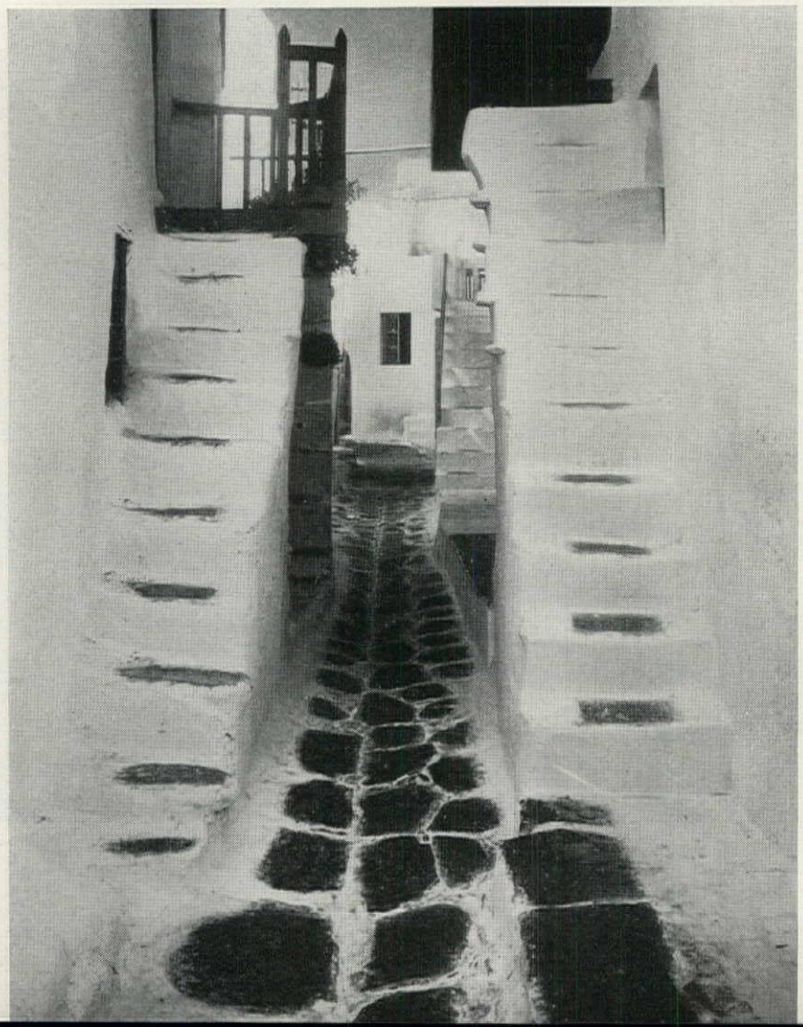
A house beneath a double-vaulted church shows the secret of Mykonos construction: rock walls plastered with whitewashed sand and dung.

Beyond a cluster of simple, crumbling chapels stands one man's expression of individuality, the lighthouse-shaped chimney of his island home.





In an obscure back yard, the play of sun on drains and water pipes shows the functionalism of Mykonos' Corbulike sculpture.



Whitewashed watertight and hollowed by donkey hoofs, a narrow Mykonos street rounds at the gutters into the sheer house walls that climb above it.

Open to time, a Mykonos doorway, carpentered and hung by a forgotten shipwright, is approached in the modern manner by railless steps.

How today's clients pick architects

Most big building clients now carefully canvass the field before choosing a designer. Some, in fact, may be too careful.

BY FRANK FOGARTY

On a January morning in 1954, Architect Callix Miller, project-planning manager of International Minerals & Chemical Corporation, then headquartered in Chicago, boarded a plane at Midway Airport and began one of the most arduous assignments of his career. Miller's task: to inspect for IMC all the important new commercial buildings around the country, to interview the architects and contractors of each building, and to recommend on the basis of what he saw and heard the architect who seemed best qualified to handle a $5-million, five-building administrative center that IMC planned to build in Skokie, Illinois (for a report on the completed project, see page 116). In the months that followed, Miller traveled some 20,000 miles, talked with more than two dozen architects, and spent more than two years in detailed review, preplanning, and report making. Finally, in March 1956, 27 months after he began his tour, Miller recommended Architects Perkins & Will of Chicago to design the project, and one month later the company inked the contract.

IMC's prolonged deliberation is a striking example of the lengths to which a good many building clients have been going lately to decide which architect they should hire. The answer to this question, which is one of the most important that a building owner has to face, has never been easy. But in the last decade, as the organization of U.S. corporations and institutions has grown more complex, with more and more group decisions and divided responsibilities, architectural selection has become an increasingly complicated and protracted process—perhaps too much so.

To be sure, many clients, probably even a majority, still choose architects in a relatively casual way: i.e., they rely for their choice on the recommendations of friends, on their own acquaintance with an architect and his work, or on retaining the same architect they used the last time they built. But the ranks of these clients have been thinning, and today elaborate screenings and investigations of architects, once a rarity, have become commonplace. While this trend has had its merits, it has also presented architects with some annoying problems.

On the plus side, there is now greater client attention to the choice of an architect, and this has been an ideal of the profession for years. The American Institute of Architects has emphasized repeatedly in its publications that "it pays to give time, earnest study, and sober judgment to the business of selecting the most suitable" architect. The AIA has always advised a thorough look at the field where a client lacks personal knowledge and recommendations to go on. And it has even suggested three basic steps for a building client to take in going about picking a designer from a list of candidates:

1. Review the experience and qualifications of each firm being considered, including the size and quality of the architect's staff.
2. Conduct personal interviews which will allow enough time to find out how well the architect and owner are likely to work together.
3. Investigate the architect's past work by visits to his buildings and talks with the owners and, perhaps, the contractors who have worked on their construction.

The price of zeal

Against this heightening of client interest, the new corporate approach to the selection of an architect has unquestionably worked to the disadvantage of some designers. For one thing, the zeal of clients for investigation has often meant such wholesale screenings that architects have had only a brief time in interviews (in some cases not more than 15 minutes) to plead their case. Talented, though inarticulate, designers have thus been handicapped in competing against the more skillful talkers of hard-selling firms. Further, in measuring the qualifications of so many architects, clients have been forced to put such heavy emphasis on past experience that young, clever designers have found it almost impossible to get much consideration. Finally, the screenings have unquestionably increased the administrative burdens of architects—e.g., the filling out of a detailed six- or eight-page questionnaire can consume a day in itself—and has made job-getting a far more arduous process than it once was.

This is true of dealings with clients ranging from corporations to school boards and hospitals.

The corporate screen

Corporate clients, particularly large ones, today usually have a building committee or a permanent construction division to screen architects. A FORUM survey of 2,380 building clients, for example, shows that 35 per cent of the firms have permanent building committees, while about 80 per cent have architectural, engineering, or construction departments. The screening process varies. International Business Machines Corporation, for instance, which has used an array of distinguished architects (e.g., Eero Saarinen, Harrison & Abramovitz, Eliot Noyes & Associates) does not choose a designer until a member of its Facilities Planning Group has first sifted out a half-dozen or so likely candidates and rated them against a ten-point check list (creative ability, cost consciousness, geographical location, experience, depth of organization, etc.). The candidates are then further scrutinized by a committee from the Facilities Planning and Facilities Design Groups, which interviews the architects and makes a specific recommendation. This recommendation is then passed on to the Director of Facilities Planning and Construction, who in turn forwards it to the Vice President for Manufacturing Services, Corporate Staff. If the Vice President approves, and the head of the division for which the new plant will be built concurs, the architect is finally in.

Connecticut General Life Insurance, when it built its new headquarters outside Hartford (FORUM, September 1957), started off by having its director of planning, Malcolm F. Hood, compile (with the help of the country's top architectural schools) a list of five outstanding architects. An executive building committee then interviewed all the firms, talked to former clients and inspected their buildings, and finally, by a committee poll, voted to retain Skidmore, Owings & Merrill.

Johnson & Johnson, on the other hand, paid five architects to submit preliminary plans for a plant for its subsidiary, Ethicon, Incorporated, in Somerville, New Jersey (the plant was completed in 1956) and used the results to arrive at its choice of Architect Serge Petroff. The nation's biggest building client, American Telephone & Telegraph Company, decentralizes its building decisions, but its subsidiary telephone companies will normally use building committees, made up of the heads of various departments, to choose architects for all large projects.

While there are still many corporate clients who do not fine-comb for architects (e.g., H. C. Price Company picked Frank Lloyd Wright for its office tower in Bartlesville, Oklahoma, without screening), the exceptions are rapidly becoming confined to local organizations and particularly those with relatively few stockholders. Banks, for instance, while they often have building committees, do not as a rule canvass widely for their architects. A.G. McNeese Jr., president of Houston's Bank of the Southwest, says that in picking an architect for a new bank building "we were so familiar with [Architect Kenneth] Franzheim's work that he was the only one the building committee really considered." Much the same is true for local manufacturers and retailers who tend to approach one or two architects and look no further. However, even at the local level there are some signs of a small, though increasing amount of screening. Barkin, Levin & Company, a New York clothing manufacturer, for instance, interviewed more than a dozen architects to find one—Architect Ulrich Franzen—who satisfied it and who was willing to undertake a small plant it planned in Long Island City.

Speculators don't speculate

Clients for speculative buildings—i.e., builders who construct apartments or office buildings for sale or rental rather than for their own use—have so far made little use of formalized selection procedures. There are two reasons for this: speculative builders operate primarily for themselves, or a small group of backers, and do not have stockholders or directors to contend with; they generally know from experience precisely which architects will give them the sort of work they want. In most cases, the main criterion in a speculative builder's choice of an architect will be the goals he has in mind for the building. If, as in a majority of the office and apartment buildings built today, the aim is a maximum profit in a minimum amount of time, then economics will usually dictate the choice of an architect who has proved his cost consciousness, has shown ability to capitalize on every square foot in the zoning envelope, and who is known to be able to turn out a fast set of plans at a low fee.

Builder Erwin S. Wolfson of Diesel Construction Company concedes quite frankly that the reason most New York office buildings are designed by three or four firms is that these architects know exactly the sort of cost-saving structure that the owners want. "And it's not the architect's fault that we don't get more distinguished buildings," Wolfson says. "It's ours."

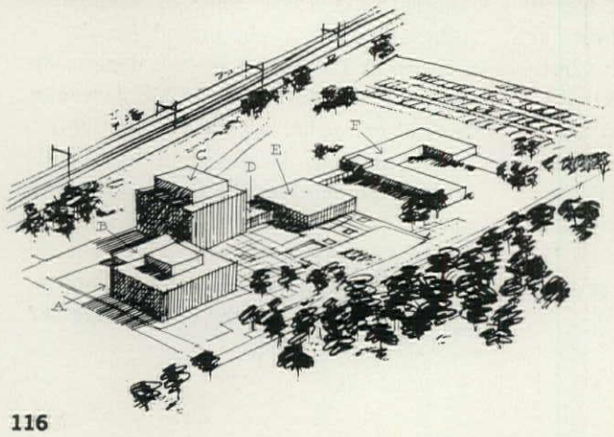
Developer Raphael D. Silver, who has completed one renewal project in Cleveland and who hopes to start soon on others in Cincinnati, St. Paul, and Passaic, New Jersey, is even more candid about the role that costs play in the choice of an architect for a speculative project. Says Silver, who has retained Richard A. Keller on all his projects: "My concern was to find someone who, in addition to solid understanding of esthetics, had a real appreciation of the economics of construction of renewal projects and could take a low-cost approach to the work."

When a speculative builder's aim is a prestige office or apartment building, however, or an upper-bracket renewal project, different considerations take hold, and he often looks to an architect who has been linked with prestige jobs in the past. Thus when Norman Tishman, president of Tishman Realty & Construction Company, planned his new building at 666 Fifth Avenue in New York—a building which was several cuts above some of Tishman's others in quality—he picked Architects Carson & Lundin to do the design. In Tishman's mind, the building was a logical extension of Rockefeller Center, and Carson & Lundin had been resident architects for the Center. Herbert Greenwald has retained Mies van der Rohe for his apartment and renewal projects not only because of his appre-

continued on page 182

Engineered for thinking

PHOTOS: (ABOVE & TOP OPP. P.) HEDRICH-BLESSING



Administrative and Research Center built by the International Minerals & Chemical Corporation for its headquarters operations consists of the three-story operations building (labeled A in the sketch at left), the one-story operations annex for business machine equipment (B), the five-story administration building topped by a helicopter landing platform (C), and the one-story employees' lounge (D) and cafeteria (E). Connected to the center is a research building built in 1951 (F). Beyond the research building is the 400-car parking lot that offers a tunnel entrance to the center on wet-weather days.

ARCHITECTS AND ENGINEERS: *Perkins & Will*
GENERAL CONTRACTOR: *Turner Construction Company*
ACOUSTICAL CONSULTANT: *Bolt, Beranek & Newman, Inc.*

The new administrative and research center for International Minerals & Chemical shows headquarters-builders the many benefits of careful planning.

BY RUSSELL BOURNE

The $5-million administrative and research center for International Minerals & Chemical Corporation in Skokie, Illinois is a fascinating collection of ideas on the general subject of how a corporate headquarters should be decided on, situated, designed, and built.

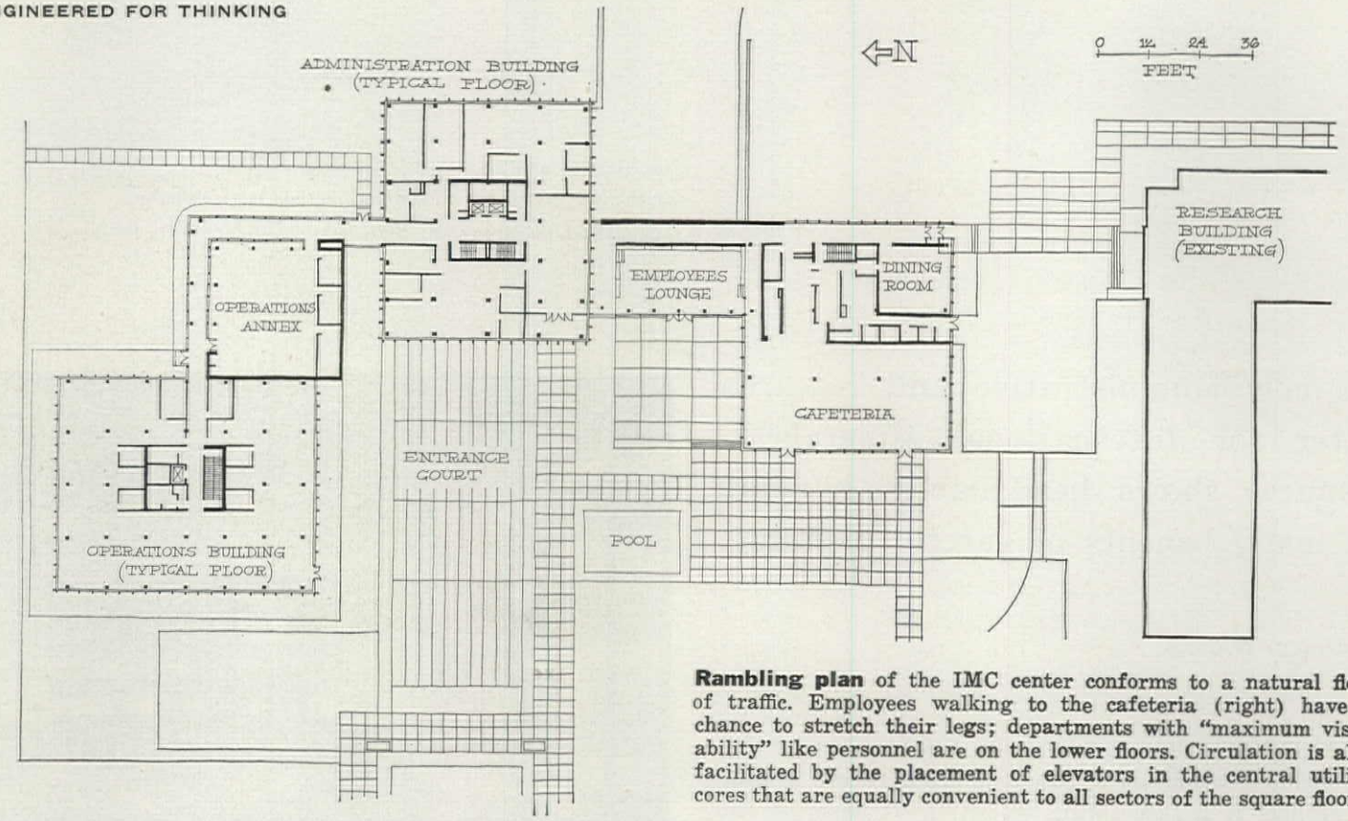
IMC's first idea was to move to the near suburbs (Skokie is only 17 miles northwest of Chicago), counter to the recent trend of similar U.S. firms to stay in the city (e.g. Union Carbide, which is building its new headquarters in mid-Manhattan). Another idea that has had much to do with the machinelike efficiency of the IMC center was that there should be an unusually thorough preplanning phase in the building program and that it should be carried out by IMC's staff engineers. A third idea was to hire an architectural firm (Perkins & Will) that was particularly anxious to do the right thing because of its own ambitions—the IMC center is the largest job that P&W, primarily school architects, have completed to date.

The near-suburban decision was made by Board Chairman Louis Ware, a hearty, boutonniere-sporting gentleman in his mid-sixties. "A modern American headquarters should be in midcontinent, near an airport and other transportation," Ware expounds. "But it should offer its men and women pure, country air, and freedom from big-city tensions. Did you know our people go home at 4:15 in the afternoon? It would be ridiculous for them to waste that good time in city transit snarls." Thus the Skokie site.

But it was the planning for the transfer to Skokie and the outlining of the physical requirements of the company that made the move a success rather than the beauty of the site itself (see right). These steps were carried out by IMC Staff Project Manager Callix Miller. Some of the planning had to do with people, and for that purpose policies were devised to ease domestic strains (aid was offered to employee families who were willing to move to new homes within 25 minutes' drive

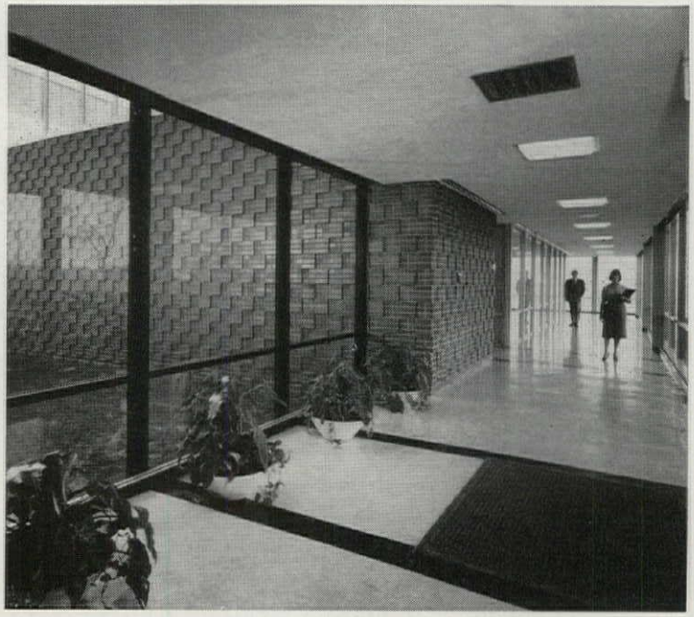
Entrance court, an informal composition of cobblestones, concrete squares, bricks, is designed according to the same 6-foot module that determines all measurements at the center. By spring, the landscaped beds will be planted with large trees that will unite the court and the center itself with the adjoining forest preserve.

Shallow, suburban site of the center appears to be isolated by the North Shore's busy transportation arteries (above) and by the Cook County forest preserve (bottom). Across Eden's Expressway from the center is Old Orchard shopping center and beyond that are the residential developments that stretch east to Lake Michigan.

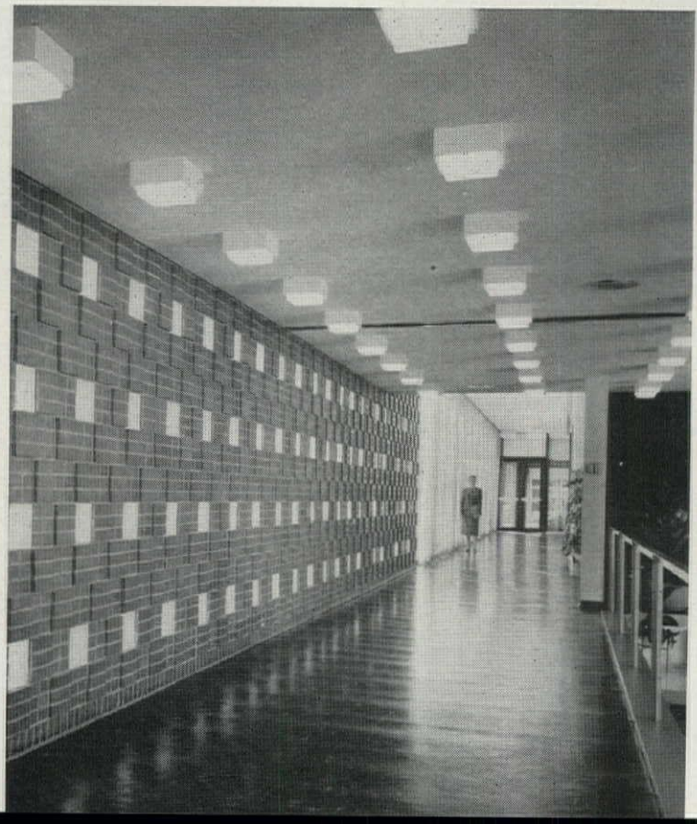


Rambling plan of the IMC center conforms to a natural flow of traffic. Employees walking to the cafeteria (right) have a chance to stretch their legs; departments with "maximum visitability" like personnel are on the lower floors. Circulation is also facilitated by the placement of elevators in the central utility cores that are equally convenient to all sectors of the square floors.

PHOTOS: HEDRICH-BLESSING



The patterned brick wall and glass corridor (above) that connect the center's operations annex with the administration building borrow scale and character from Perkins & Will's school design. The annex houses the electronic business machines, is the calculating heart of IMC's operations.



Informal atmosphere results from careful detailing. A pierced brick wall with glass inserts (left) leads from the employees' lounge to the private dining room (in background). Screens in the cafeteria (left, above) may be set up in any pattern to establish group dining areas. That shaker on the cafeteria table contains "Accent," an IMC condiment. Otherwise, corporate images are not obtrusive.

of the center). But most of the planning had to do with space; how to apportion it, heat and cool it, maintain it—and how to pay for it. Miller set about his task with a thoroughness that has already paid off, six months after the on-schedule move-in.

The preplanned design

The actual design of the center as carried out by Perkins & Will took advantage of Miller's elaborately detailed preplanning. Yet P&W are totally responsible for introducing an informal, friendly character to the center, and it is this character that sets it apart from many another well-engineered office building. Unlike Connecticut General's new suburban headquarters (FORUM, September 1957), for instance, it provides an environment that is right for shirt sleeves (although there was a marked improvement in the style of dress of female employees immediately after the move); unlike IBM's recent district buildings (FORUM, October 1958), it is not at all concerned with creating a corporate image. "I know it's an overused word," confesses Miller, "but 'homeyness' *is* the right word for what Perkins & Will gave us."

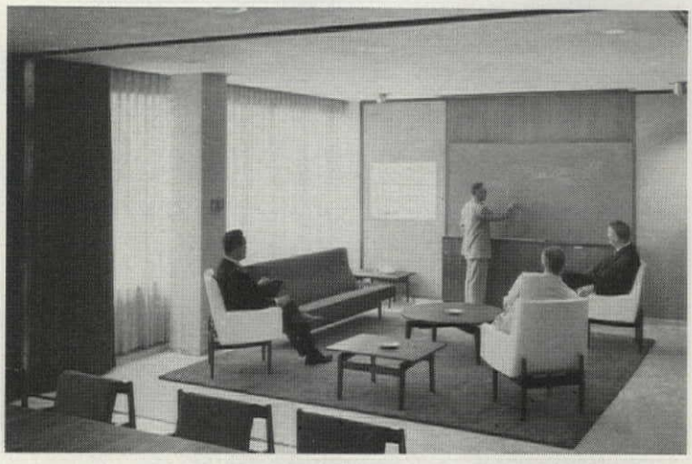
All five buildings and the intervening spaces are built on an unusual 6-foot-square module that is the center's most obvious design feature. It is expressed in all possible ways: structurally in the modular bays of the reinforced concrete frames; horizontally in the design of floor and ceiling tiles; vertically in the pattern of the porcelain enamel steel spandrels striped with porcelainized aluminum mullions; externally in the brick and cobblestone patterns of the carefully scaled entrance courtyard.

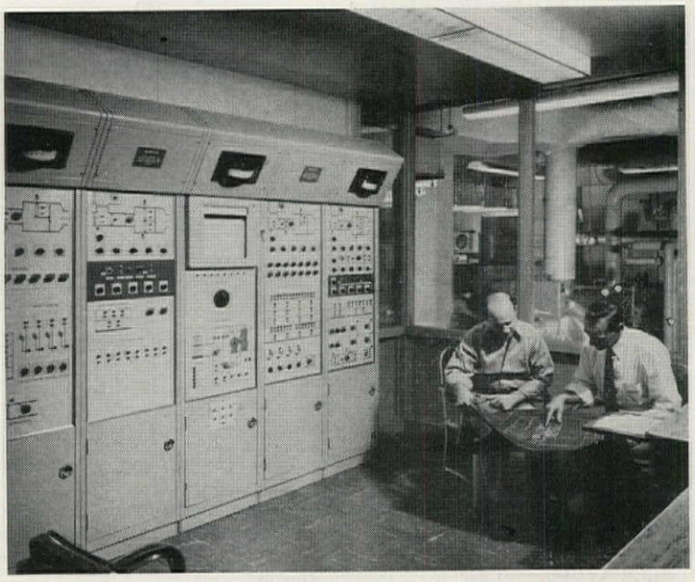
Another design feature is the openness of the floors. Miller's original plan, modified somewhat by P&W, was to strip away all possible walls from around the employees, leaving uncluttered the area between the central utility core and the perimeter windows (see plan, left). All business would be carried on in the open, all workers influenced by the same amounts of music (15 minutes on, 15 off), light, heat, and air conditioning (see page 121). Even executives were to be without private offices except for those on the fifth floor of the administration building and a scattering of others—and would be expected to take desks on the open floor (preferably near the core for more efficient communication with other departments). Current practice has altered this plan only to the extent that a few more executives have managed to partition off their work areas or to have their desks moved out to the more prestigious window perimeter.

The preplanned economy

With all the care that was given to planning the center's physical qualities, almost equal care was given

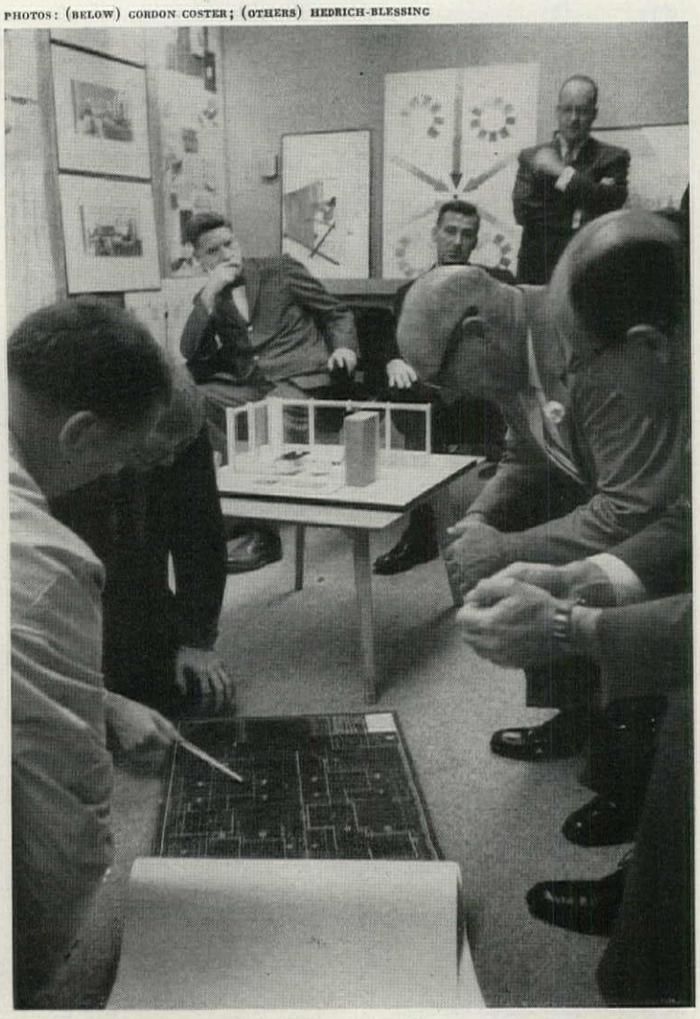
Main executive conference room (above) is designed to facilitate the exchange of complex information between scientists and managers. All of the room's audiovisual versatility (three sound systems; four systems of special spotlights; electrically controlled motion picture screens, maps, tack panels) is operable from five separate control points, one of which is shown against the rear wall. A remote-controlled television has been installed as part of a proposed closed-circuit TV system. The center's three other major conference rooms (like the one below) are somewhat less elaborately equipped and may be divided into smaller rooms. A typical office floor (bottom) shows the omnipresence of the 6-foot module and one of the rare attempts (office at right) to escape the openness of the floor plan by erecting partitions.





Mechanical detailing of the 3-foot space between a ceiling at the IMC center and the floor above shows the unusual "split system" for air conditioning and heating. The double-duct supply-air feedline system is supplemented by a water-cooled (or heated) radiant-acoustical ceiling. The result of this technologically advanced system is even air conditioning and heating throughout the entire floor. The system is managed from the "data control center" (left) which, if it were less elaborate, might be called the building superintendent's office.

PHOTOS: (BELOW) GORDON COSTER; (OTHERS) HEDRICH-BLESSING



A planning session for the center brought Board Chairman Louis Ware (with boutonniere) and President Tom Ware (right) together with P&W Designer Bill Doemland (with pointer). Ware's reaction to the first presentation: "I haven't seen anything I like." From there deliberations advanced to a point of complete, mutual satisfaction.

to the design of its center's financial details. The $126-million company (whose major products are potash and phosphates) had bought the 21-acre site on which the center is now built in 1950, had begun then its deliberations of how to finance an adequate headquarters. The major problem, of course, was how to finance without tying up capital needed for expansion. IMC at length resolved to use a method that has appealed to many other growing companies: lease-back. It found a major industrial pension fund willing to buy the site and existing building for $1.8 million and become landlord of the administrative center, leaving all architectural and contracting arrangements to the tenant. IMC was thus able to build a headquarters that is distinctly its own.

The resultant center, all things considered, costs IMC $725,000 annually for 160,000 square feet of occupied space—$4.53 per square foot. The things considered include utilities and rent paid on the 25-year lease, the two costliest factors, as well as grounds upkeep, labor, repair of heating and communications equipment (a $10,000-a-year item) and cafeteria subsidy ($30,000). The $4.53 rate might be compared with the average rent of $4.00 IMC paid in their downtown Chicago offices before moving out, but the company prefers to compare the present rent with the estimated $5.50 per square foot it would have paid for modernized, air-conditioned space if it had stayed downtown. And, in considering all of these costs, IMC points with particular delight to the estimated $6.00 per square foot it would be paying in New York.

IMC is understandably pleased with the way its careful architectural and financial plans have worked out. And Phil Will of P&W, speaking proudly of his firm's biggest job completed to date, says: "Sure, the center is a direct statement of the way the company functions—a highly scientific organization—but anyone could give them that. What we gave them besides planning and engineering was an environment that reflects their attitudes about people." END

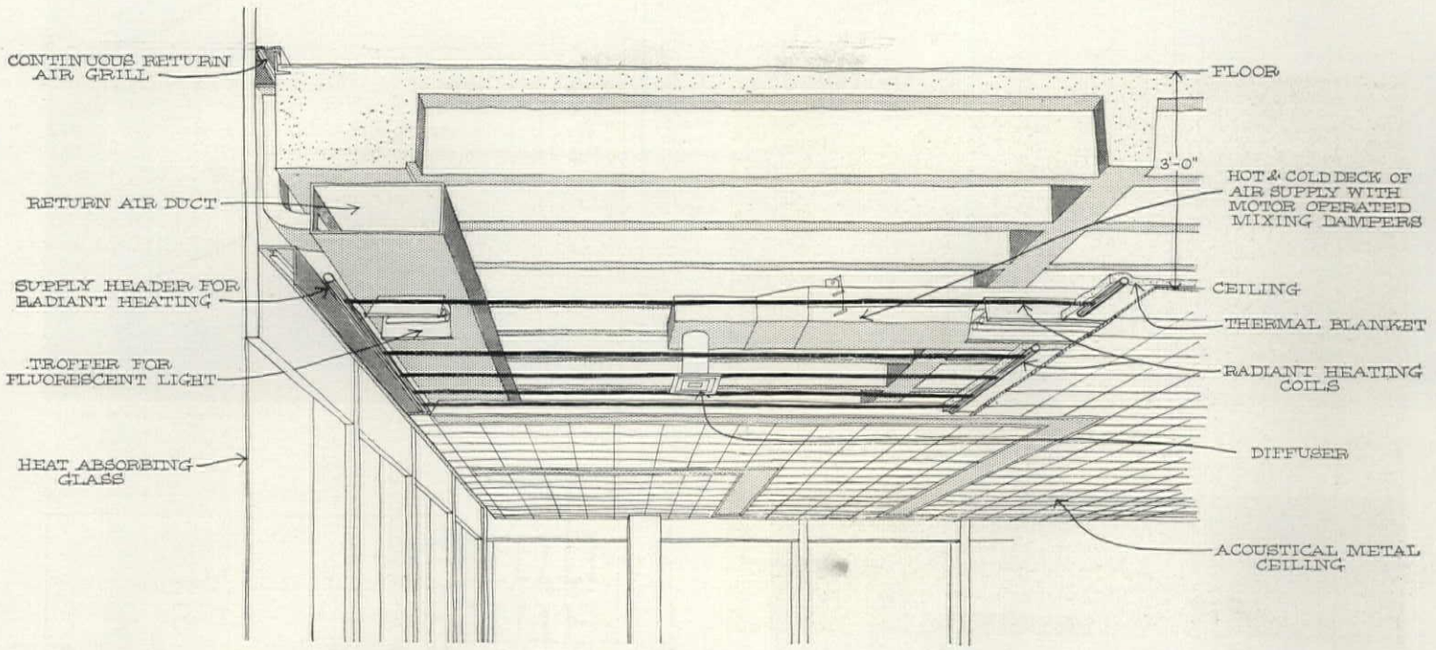


DIAGRAM OF HEATING & COOLING SYSTEM

Raised glass globes in the entrance courtyard give good illumination and are scaled, like the rest of the center, to human proportions.

PHOTOS: JOSEPH W. MOLITOR

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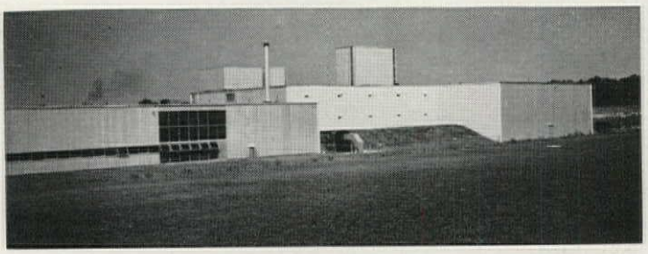

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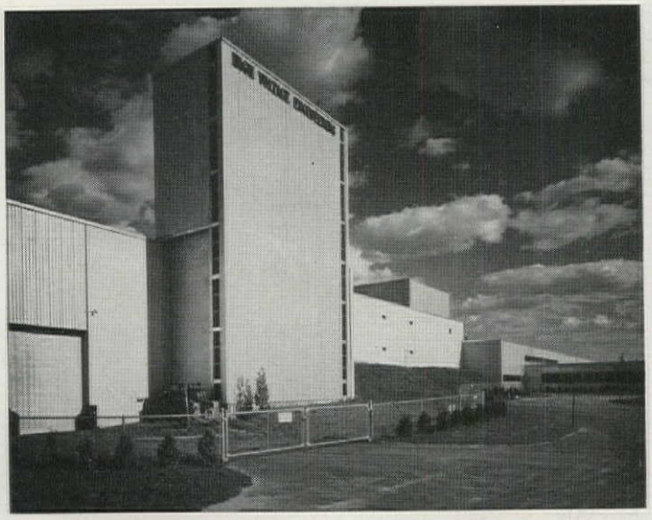

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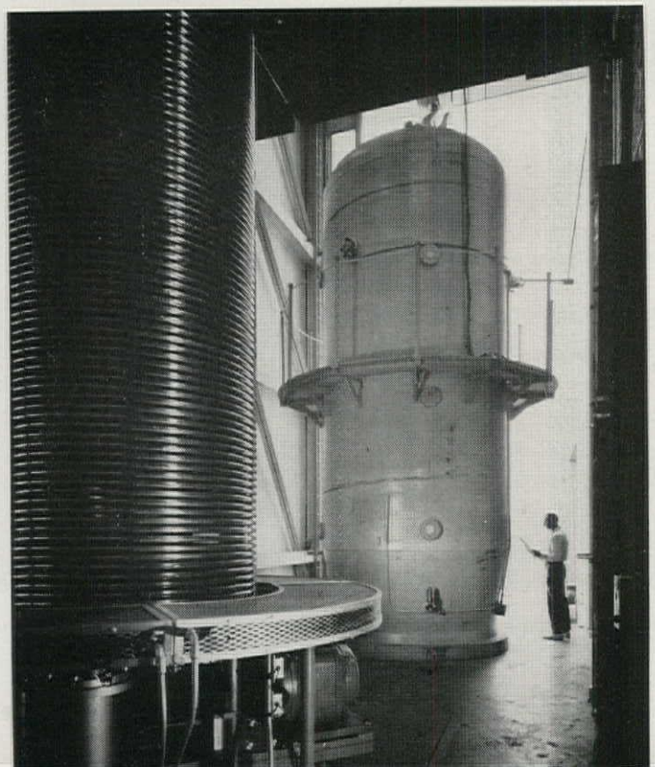

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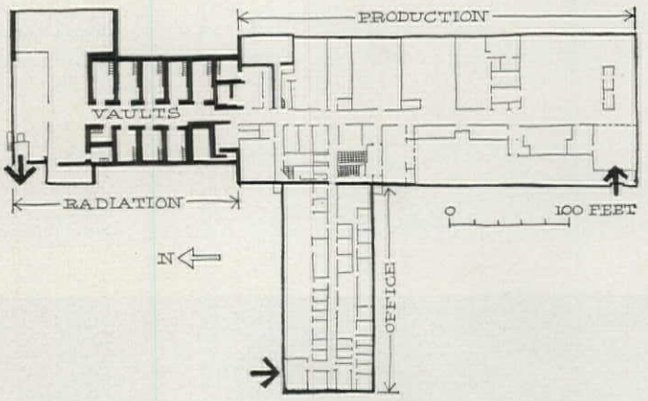
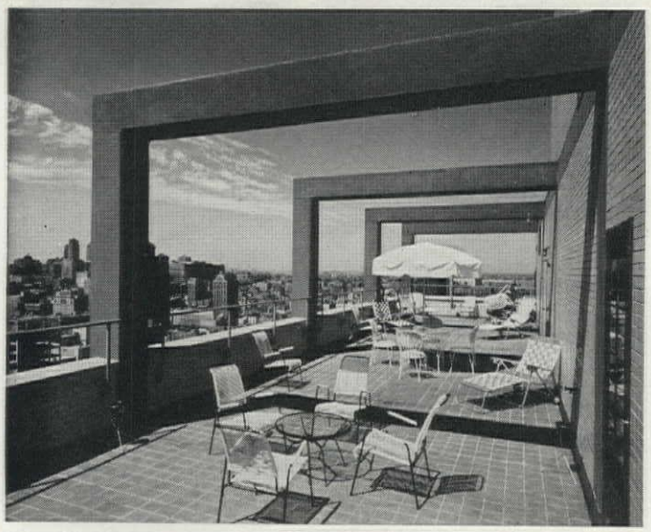


Factory for atom-smashers

Facing Boston's belt Highway 128 near Burlington, Massachusetts, High Voltage Engineering Corporation's new $1.5-million factory-office building reflects a starkly handsome kind of architecture for the nuclear age. Neatly massed and detailed both in front (1), and in back (2), the 88,000-square-foot plant is one of the largest yet built for the manufacture of particle accelerators—the "atom smashers" used in modern X-ray therapy, chemical processing, and research. At the shipping end of the building (3), a 60-foot tower rises between the truck dock and the testing vaults.

In the bottom photo (4), an overhead crane, inside the tower, places a pressurized steel housing over the coiled tubing of one of the company's big 5.5-million-volt positive-ion accelerators. Down the corridor smaller 2- and 3-million-volt accelerators are assembled in individual vaults (see plan) separated by 4-foot-thick block partitions to shield workers, and faced outside with heavy concrete walls and earth embankments to protect passers-by against radiation. Receiving, storage, and subassembly areas feed into the other end of this main corridor in a straight-line production flow. Offices are removed from noise and radiation in the base of the "T," where the drafting room faces north light. Architect: Carleton R. Richmond Jr. Contractor: Aberthaw Construction Co.



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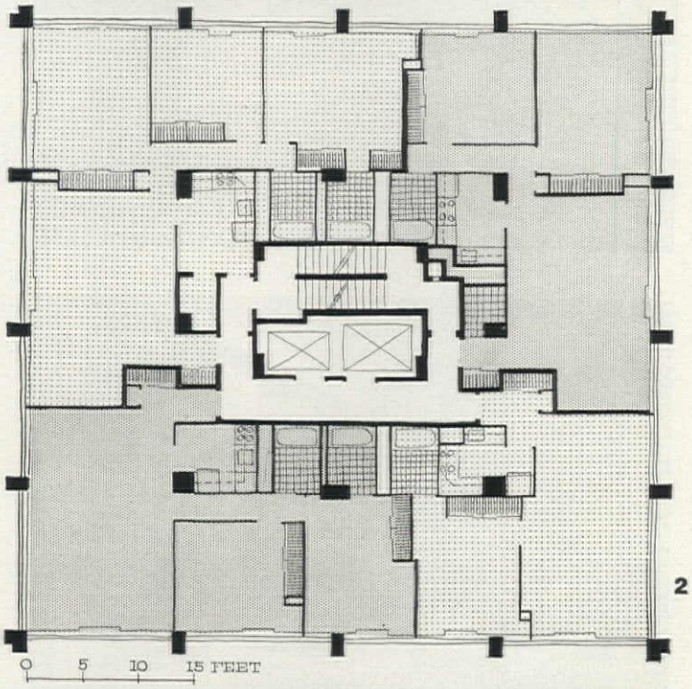

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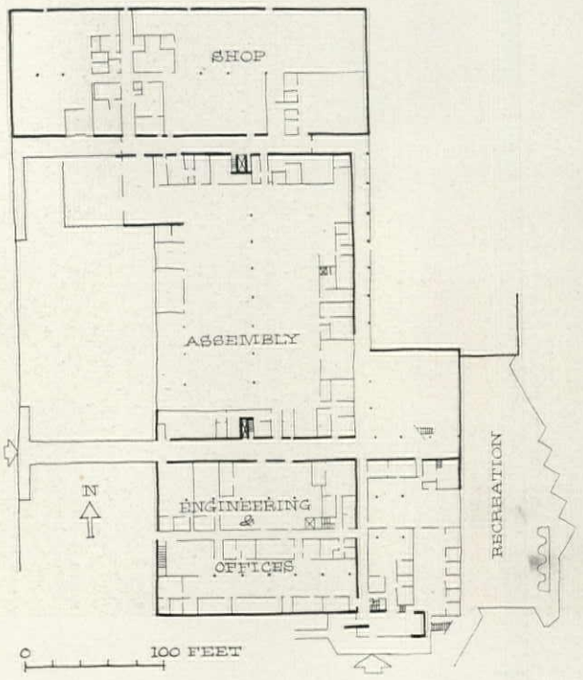
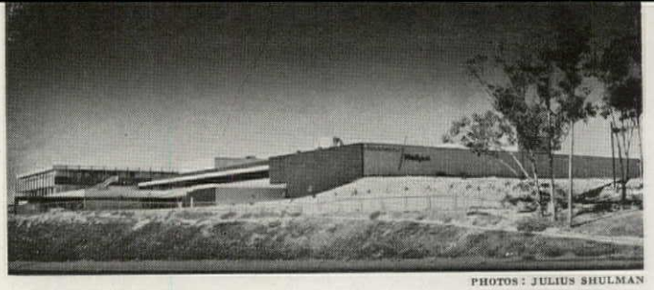
PHOTOS: HEDRICH-BLESSING

3

Low-cost luxury apartment

Just a block south of Mies van der Rohe's famed Lake Shore Drive apartments in Chicago stands a new building designed in the Miesian idiom, but offering some economical ideas of its own. The handsome black skeleton of the new apartment house at 247 East Chestnut is not steel, but reinforced concrete; economical flat-plate slabs and columns are clearly exposed on the exterior and simply painted black. Within the grid, spandrels of pinkish brick conceal fan-coil heating-cooling units. Atop the building on the south, the structural cage has been left open for one bay's width as a tenants' sun deck (1). The rest of the top floor is devoted to a superintendent's apartment, tenant storage, and mechanical equipment (for economy and because of unfavorable ground conditions, the building was built without a basement). Below the roof, a typical 4,760-square-foot tenant floor of four apartments (2) shows disciplined organization: a stair-elevator core on four small columns; at the center, kitchens, bathrooms, and entrances all arranged in a service band around this core (neatly incorporating the main interior columns); and living spaces free to enjoy the view. Rents average $55 per room per month, ranging from $175 for a one-bedroom apartment to $380 for three bedrooms on a high floor. The lower three floors of the building contain lobby and service rooms and tenant parking for 70 cars. Simplicity of structure and materials are credited with keeping construction costs to $1.6 million, or about $14 per "finished" square foot. Engineers and architects: A. Epstein & Sons, Incorporated. Contractor: Sumner Sollitt Company.





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PHOTOS: JULIUS SHULMAN

2

3

Expandable electronics plant

Shelved neatly on a hillside above Newport Beach, south of Los Angeles, this $2.4-million office-factory building built for Beckman-Helipot Corporation (electronic components) stands out, even in sunny California, for its attention to good looks and employee relations. Below the office wing, a spacious cafeteria opens out to a terrace overlooking the harbor (2 and 3). Here employees can lunch in style, shaded by beach umbrellas, lulled by the cooling sound of spray fountains above an undulating pool. After hours, both the cafeteria and its fresh-air extension can double for employee meetings, dances, and the like. Above the terrace the sliding glass windows of the offices are sun-shielded by a colorful gallerywork of cement asbestos panels, finished in enamel and mounted on a steel frame (4). Assembly and shop areas have one exterior wall of 20-foot insulated panels faced in aluminum, which can be demounted for future expansion. The plant, designed by Architects Pereira & Luckman before the dissolution of their partnership, won an AIA award of merit. Landscape architect: Fred Lang. Contractor: M. J. Brock & Sons, Incorporated.

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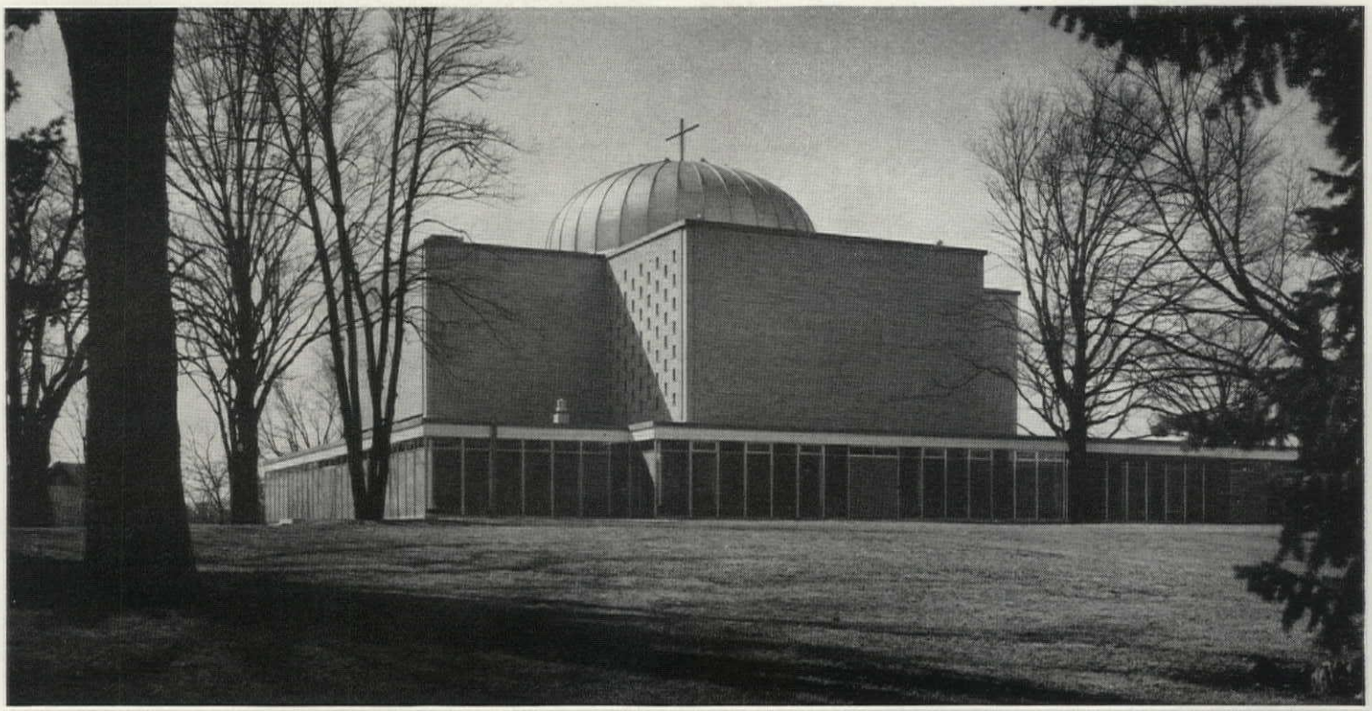

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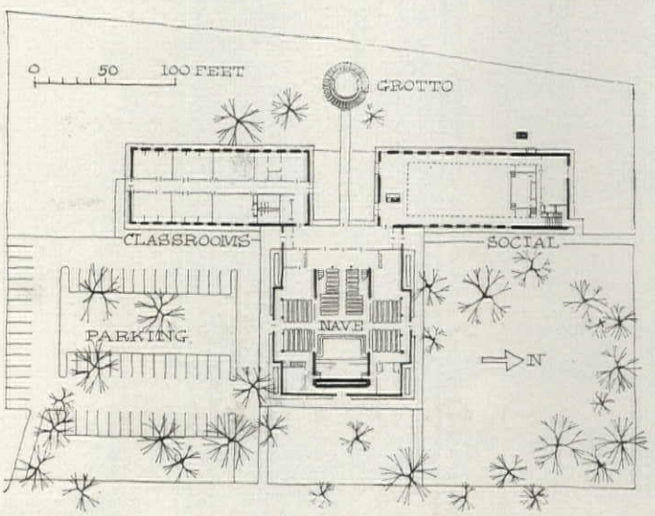
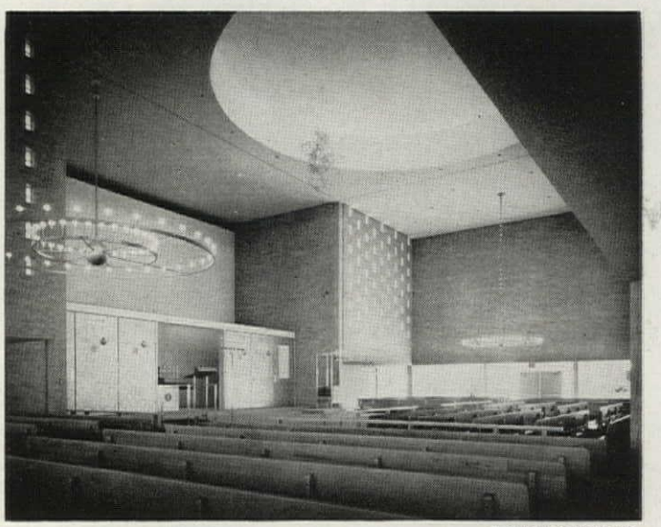


Byzantine in modern dress

Rising near the shore of Lake Calhoun in Minneapolis, the new $600,000 St. Mary's Greek Orthodox Church recalls its Byzantine ancestry in a distinctively modern manner. Like earlier churches of the eastern Mediterranean, it is built in the shape of a Greek cross (see plan) and topped with a gilded dome—in this case gold-anodized sheet aluminum. A gallery on the periphery of the main building (1) allows processions to move completely around the church. Inside (2), pews seating 540 face in toward the dais, which leads back to an altar framed by richly decorated screens. Daylight enters through the gallery and through a pattern of small windows punched in the brick walls—practically the only other adornment in the church. Light also enters through windows around the base of the dome above a reflecting cove. From the nave, the main entrance and lobby of the church open out not toward the street, but toward the lake, into a little court formed by the outstretched arms of a church school on one side and a 700-seat auditorium-banquet hall on the other (3). The two arms, with the church itself, form a larger cross, which culminates in a little grotto on the lake. Architects: Thorshov & Cerny, Incorporated. Contractor: C. H. Peterson Company. END



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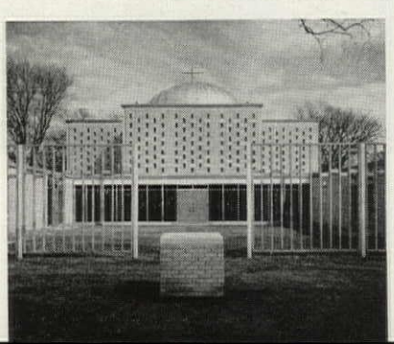
PHOTOS: INFINITY INC.



3

Are we still designing firetraps?

ART SHAY—LIFE

Chicago school fire last December cost the lives of 90 children, three adults. The cause: no sprinklers to extinguish the fire, which spread quickly from the basement to the second floor; inadequate fire doors and no automatic detectors.

Last year 7,000 people were killed in fires which destroyed a billion dollars of property. This record must improve, and one place to begin is at the drafting board.

During the next decade, building design must undergo an important change. Rather than attempt to make all buildings "fireproof" as in the past—a virtually impossible undertaking— architects will design for fire *safety*, i.e., buildings will still be vulnerable to fire, but will be better designed for rapid exit and better equipped for early fire detection. To say that contemporary design recognizes the hazards of fire is dangerous complacency, for too much of it is literally of the firetrap variety, albeit "pretty" firetrap or "firetrap modern."

This inglorious era of the so-called fireproof building must end. During this period past, which reaches back more than 20 years, building has experienced the introduction of more fire-resistant materials than ever before and it has seen a great strengthening of building codes, often made outlandishly rigid, in efforts to make buildings more fire-resistant. But for all the effort, the cost of fire in both human

BY DAVID ALLISON

and dollar loss has mounted steadily: since the mid-thirties, the annual cost of fire, measured in building and contents losses, has quadrupled, with not the slightest indication of a downward trend (see chart, right). Measured in constant dollars, the annual U.S. fire loss has doubled over the past 20 years. In 1958, for the second consecutive year, the people of the U.S. lost more than a billion dollars in building fires: $1,095,000,000. And immeasurably more costly was the loss of life: 7,000 Americans, including 2,100 children, were killed last year in building fires. Indeed, the nation has not sustained such tragedy and waste since the early years of the century, when whole cities, constructed in wood, went up in flame.* Such destructiveness—more than flood, drought, or hurricane—demands an intensified program against fire, and a greater effort to understand its complex and ephemeral behavior and thereby, perhaps, to reduce its danger and cost. First must come building design, for as one scientist puts it, fire prevention and protection must begin on the drafting board.

Fire and the architect

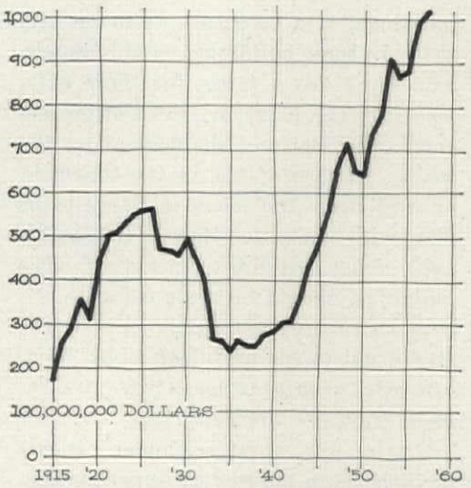
According to the AIA, "many architects have been rather thoughtless about fire." But this is hardly surprising, for others with equal responsibility for human life are just as thoughtless, including some of the most dedicated members of school boards, church vestries, and industrial enterprises. The fact is that fire will probably never happen "here" and, further, that fire safety, to most people, is a terrible bore, like hygiene or the national debt. But when fire does strike, as it did so tragically in Chicago in December, killing 90 children and three adults in Our Lady of the Angels school, such thoughtlessness is revealed. A report on this fire by the National Fire Protection Association's engineers concludes, desparingly: "It is obvious that there are no new lessons to be learned from this fire, just old lessons tragically reemphasized."

Over the past six years, the AIA Committee on Human Safety has studied hundreds of fires and has issued four reports, including scores of recommendations to architects for improving fire safety in building. "The architect," says John C. Thornton, the committee's chairman, "can do more to protect lives in fire than any other person, because he is at the seat of the fire first, before it occurs." Included here, and in the sketches on the following pages, are summations of the AIA's major recommendations, all of which are aimed at the saving of life.

▸ *Ventilators*, which, by prearranged and directional control, allow smoke and the gases of combustion to be exhausted from a building, should be considered at the design stage in every structure, particularly where people sleep or congregate in large numbers. If not properly vented, smoke collects quickly in a burning building, preventing both escape and fire-fighting. And the gases, which are the great killer in fire, may build up and explode if ventilation is inadequate.

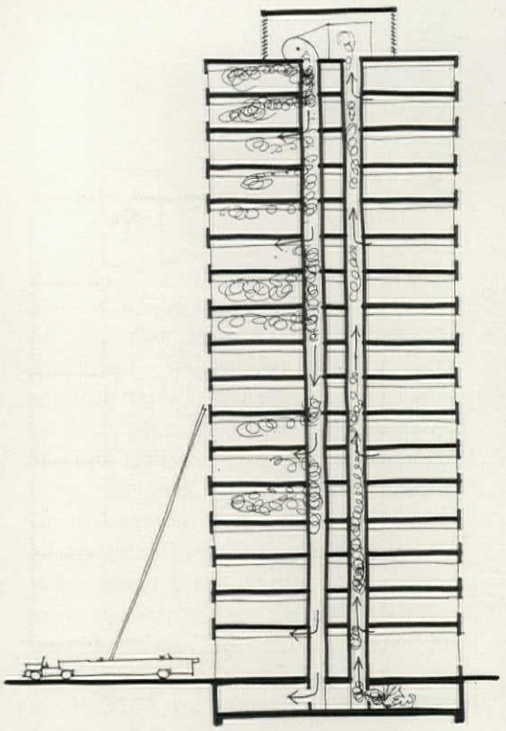
Industrial plants are often provided with no means for venting a fire, particularly where the roof is of concrete or steel deck construction. With modern lighting, skylights have been omitted in many industrial structures, making venting in case of fire a most serious problem. If automatic vents are not provided, there should be other means of ventilation for fire control. As a result of its 1953 Livonia plant fire (FORUM, September 1955), General Motors Corporation initiated a comprehensive study of roof ventilation requirements for industrial plants, in cooperation with the Armour Research Foundation. Among the recommendations made for GM plants, in a report issued last year, was one calling for emergency roof ventilation in all new and existing buildings, through the smoke and heat release. In a few years, proper venting, through better building design and wider use of automatic devices, will be common practice, and will perhaps be required by law.

▸ *Air conditioning*, if improperly designed, will help spread fire and smoke through a building. After many years and many deaths, open stairways were eliminated in certain kinds of new buildings, e.g., hotels, but today, air-conditioning systems are sometimes more dangerous than open stairs ever were. In some high buildings, the automatic dampers in air ducts have been omitted. In such structures, which are often tightly sealed, with fixed windows, the air ducts will pull the gases and smoke from the fire location and send it into every room (sketch, page 128). Even today, some new buildings do not have automatic devices which turn off the fans when smoke is present in the air ducts, or which reroute the smoke to outdoors. In many buildings, the janitors must actually go to the



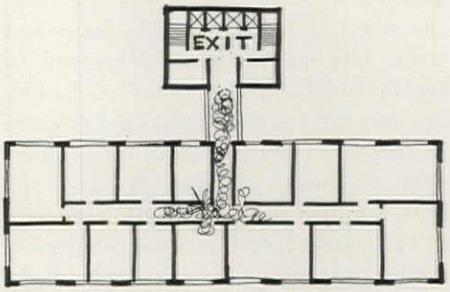
Cost of fire continues to mount, despite the effort to make buildings "fireproof." In 1935, losses of buildings and contents equaled $235 million; by 1958, the losses had jumped fourfold, to $1,095 million (a 100-per-cent increase in 1940 dollars).

*Today's ratio of fire loss to accumulated national wealth is about one-third of what it was in 1900.



Air-conditioning system in some buildings actually helps to spread smoke. Sometimes, too, air conditioning can only be shut down at penthouse control.

Four common exit hazards



Fire stairs are placed only in separate tower of office building, ignoring the principle that building should have at least two avenues of escape, diversely placed.

penthouse to turn off the system. Many sound-absorbing materials are unsuitable as acoustical linings in air ducts, because of their combustibility.

Gradually, the codes are being revised to outlaw these hazards. In case of fire, exhaust ducts should act as ventilators and be so designed that smoke and gas are pulled out of rooms and hallways.

▸ *Exits* must lead outdoors, or to enclosed fire escapes in the case of tall buildings, if a structure is to be fire-safe. In some buildings, notably hotels, exit signs are a farce, for these exits lead into the lobby or, more often, become open stairs at the floor above the lobby. In case of fire in the basement or first floor, the lobby is likely to be filled with smoke and thus an impossible exit. Such buildings, including office buildings, should be designed with enclosed fire escapes which exit to the street, not to the first-floor lobby. Modern codes require at least two exits, remote from one another.

One of the worst examples of exit facilities is in the modern supermarket; most supermarket exits are useless in an emergency: the front exit is acessible only through the check-out counters, with its aisles cluttered with carts; this is a trap in a crowded store. The rear exit is accessible only through the service section, where some 80 per cent of all supermarket fires originate. Supermarkets should have additional exits along their side walls; such exits are not provided there now because of fears that some of the clientele will use them to avoid the check-out procedure up front. But emergency exits along the sides of the market could easily be wired to warn of unwarranted exiting.

▸ *Windows* are often the only means of escape or rescue. In modern schools, with walls of glass or glass block and window ventilators beneath the glass, the ventilators are often too small for escape or rescue. Designers of such sash give no thought to escape in fire. Windowless buildings present a special hazard, permitting no chance, in many instances, for firemen to reach the fire and limited chance of rescue. False fronts on renovated buildings, usually windowless, offer the same hazard as well as providing a new means for fire to travel and putting an added strain on the wall, which introduces still another hazard in fire. In all buildings, every room without an outside door should have one window that can be opened and used for escape.

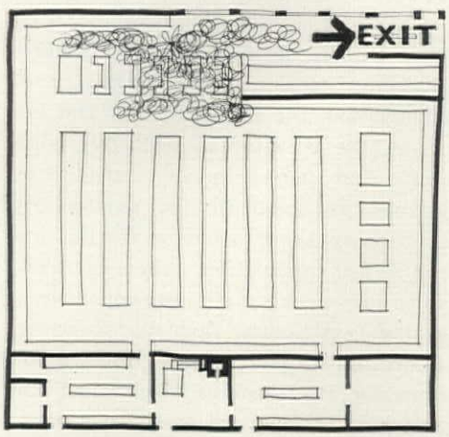
▸ *Panic* is a great danger in fire, and often when there is only the mistaken fear that a fire exists. Panic may not be eliminated, but the architect can design to give a sense of security, e.g., if avenues of escape are made as prominent as entrances are. If the building's occupants sense that it is easy to exit, if occupants feel that there is little combustible material present, or if they can see sprinkler heads, there will be less danger of panic. The architect who conceals the sprinklers or, as was the case in a museum building which burned in New York in 1958, "disguises" the fire alarm boxes, lest they clash with his decor, is threatening human safety for highly questionable esthetic pleasure. These are safety considerations which the architect can make in his design. And, indeed, according to the AIA, such safety factors as these are gaining adoption within the design profession.

Illusory safety

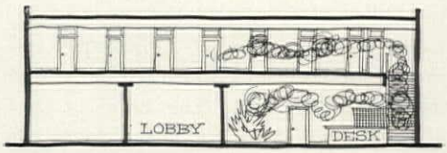
Perhaps because we are so inept at controlling fire, we have fallen back on two convenient, if illusory, devices for convincing ourselves that we are really its master. One is regulatory, expressed

Sketches made with the cooperation of John C. Thornton, chairman, AIA Committee on Human Safety.

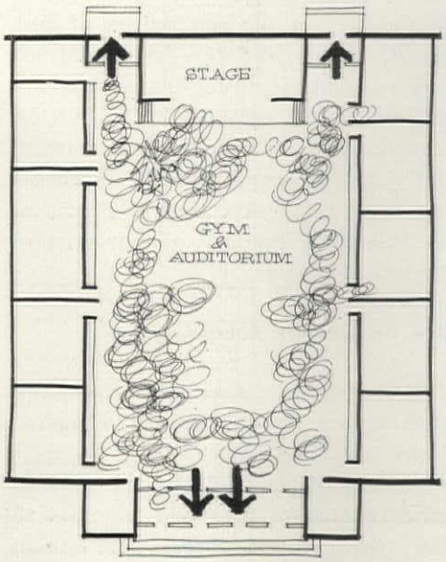
which may trap occupants in burning buildings



Too few exits makes firetrap of this modern supermarket. Front and rear exits are unsatisfactory in emergency. Exits should also be provided along side walls.



Open stairway in small hotel allows fire to spread quickly to upper floor. The stairway should be enclosed, as is required by most codes for taller structures.



No corridors in school, with rooms opening onto auditorium, creates fire hazard. In a southern school recently, auditorium fire cut off normal escape route.

through the building codes, and its objective is simply to make fires illegal. The other is mere semantics, e.g., if a material is capable of burning or failing structurally, but only on exposure to intense heat, call it fire-retardant; if it smokes and smolders, but does not go up in flame, call it flame-retardant or flame-resistive, or perhaps even flameproof. Neither device can make us safe from fire; we only feel safe.

Regarding code regulations, and granting their necessity, Chief Engineer Horatio Bond, of the National Fire Protection Association (the U.S. clearing house on the causes of fires and the means for protection), says: "Safety cannot be dependent on law; it must depend on people's understanding of the hazard and doing something about it." Furthermore, although standards for fire protection and prevention, such as NFPA's, are under constant revision, individual communities are often slow to adopt them. As Thornton of AIA emphasizes, the architect must think beyond the codes as he designs, foresee what will happen in case of fire in the building he is creating and how the occupants will act.

With regard to the meaningless euphemisms which have been cropping up, such as fire-resistant and flame-retardant, outdated codes are often responsible for these as well. The result of loose usage and free interchange of such terms, says Research Director Mathew Braidech, of the National Board of Fire Underwriters, is confusion and a false sense of security. Says Braidech: "No material is totally immune to fire."

Dangerous euphemisms

According to A. J. Steiner, managing engineer of the Fire Protection Department of the Underwriters' Laboratories, the use of such euphemistic terms, which he believes is increasing, is inspired by the development of new fire-test procedures, "promulgated by groups not primarily interested in fire protection, but whose prime interest is to demonstrate comparative behavior of materials as used in buildings under fire exposure conditions." Publication of such test results, says Steiner, causes much uncertainty in the field, because materials carrying identical fire classifications are often classified by entirely different test methods. Warns Steiner: "Do not be misled by results obtained in fire tests which have no relation to fire conditions with which you are concerned. When the results of tests are presented, and you are ready to accept them on a fire-protection engineering basis, assure yourself that the materials to be used on the job are the same as those tested and installed as tested." Architects should note that the fire resistance of a building element is accurately definable in terms of specified conditions as measured by NFPA's widely recognized Standard Method of Fire Test of Building Construction and Materials.

Thornton and the AIA Committee on Human Safety advocate a further step to guard against the use of potentially dangerous materials: Make it mandatory that manufacturers label all building materials with surface flame spread characteristics, i.e., how rapidly fire will spread over the surface of a material. This, says Thornton, would produce two results: architects and the public would know what they are using, and such labeling would provide an incentive to improve the fire-safety characteristics of building products. The National Bureau of Standards is testing a flame-spread test which might be used for this purpose. Seven other organizations, including materials manufacturers and testing laboratories, are cooperating in this test and measuring flame-spread of unknown materials,

using Bureau of Standards–type equipment. Their results will be submitted to the Bureau for comparison of test results. If adopted, this test would not become a substitute for the more rigorous and widely accepted tunnel testing procedure of Underwriters' Laboratory, but it could become valuable in checking manufacturers' claims on products, as well as in research and production control.

Are fires really necessary?

Man is a foe of fire, notwithstanding such cynics as the Roman Emperor Nero and the American Economist Thorstein Veblen (Veblen is said to have pointed to fires and funerals as the two greatest forces for human progress). But in terms of a scientific approach to its cause and the means of fire's control, there has never been an effective fight against it. There are, to be sure, several outstanding organizations engaged in specific areas of fire research, including the nonprofit Underwriters' Laboratories, in Chicago, which is the largest independent organization in the U.S. with a program of standardizing and testing all sorts of equipment related to fire and other hazards, the insurance company–supported Factory Mutual Laboratories, in Norwood, Massachusetts, which tests materials and fire detection devices for industry, and the U.S. National Bureau of Standards, in Washington, which has done important work in the field of combustion, including testing of materials, for many years, e.g., some two-thirds of the 600 materials classifications of the National Board of Fire Underwriters' list of resistant ratings are based on tests of the Bureau of Standards.

A number of scientists and engineers in the U.S., alarmed at the large year-to-year losses from fires and the threat of the H-bomb, warn us that basic research on fire had been too small and neglected. In 1955, under the chairmanship of Hoyt C. Hottel, of Massachusetts Institute of Technology, a Committee of Fire Research was set up by the National Academy of Sciences-National Research Council; its objective is to formulate a research program addressed toward the broad problem of the nature of fires and their control.

Some of the areas the committee considers worthy of investigation are these: (1) research in the fundamental natural laws involving the origin and spread of fires, (2) investigations of methods to improve the use of water as an extinguishing agent, (3) models for the study of large fires, (4) wind and weather factors involved in fire development and fire spread, (5) new and unconventional methods of fire control and prevention.

At present, the committee's work in stimulating fire research is supported with an annual budget of $50,000 by the Office of Civil and Defense Mobilization, the Department of Defense, and the Department of Agriculture, through its Forest Service. The hope is that some $3 million a year can be made available from interested government agencies to begin specific research projects, probably in university or independent laboratories, in order to speed the scientific advances in fire research. Says Hottel: "There have been phenomenal advances in fluid mechanics in the last two decades (i.e., the behavior of liquids and gases) and equally impressive growth in fundamental combustion studies. These provide the research worker with the necessary tools for a more scientific approach to the fire problem, and now offer the promise of good progress in describing fire, and later of controlling it."

Fire in the laboratory

In Great Britain, where a program of fire research is already underway, sponsored jointly by the government and the insurance companies, one such technique for controlling combustion has been suggested by experiments with inert gases. D. I. Lawson, director of the Joint Fire Research Organization, says that certain gases may provide more rapid fire extinction than water. The gases enter the burning building at ground level, traveling at high velocity: the object is to replace the air and smoke of the building with gas. At the Stanford Research Institute, in Palo Alto, California, scientists are studying the phenomenon of propagation of fire, under a military contract. Eventually, they expect to learn how flame inhibitors can be built into materials; thus far, they have worked with bromine, a good inhibitor, but toxic; they hope to modify bromine, reducing or eliminating its toxicity, or possibly find a substitute for it.

Until very recently, it has been virtually impossible to study building fires in a scientific way, because too little was known of fire's many variable characteristics, i.e., the chemistry of combustion, the motion of air and hot gases, the transfer of heat by radiation. And, indeed, much is still to be learned of these things, particularly concerning their behavior during uncontrolled combustion, when all variables are working simultaneously in a highly complicated fashion. However, according to Hottel and Howard W. Emmons, Professor of Mechanical Engineering at Harvard and also a member of the Committee on Fire Research, new knowledge in the related field of controlled combustion now may be applied to a study of uncontrolled fires, such as building and forest fires. The work in controlled combustion, with strong emphasis on military needs, e.g., the laws of thermodynamics, fluid mechanics, and chemical kinetics in relation to aircraft power plants, has yielded recent phenomenal advances.

Burning models

Translating this knowledge into meaningful information for building will require extensive work with scale models of buildings, a field in which the Japanese and British have made notable progress. The great difficulty with models, at the present state of the science, is the problem of simulating full-scale conditions: the behavior of fire in a model does not coincide with a fire at full scale; the best that can be done now is to determine which variables, e.g., temperatures, velocities of gases and flame spread, are important, and then build models so that relationships between variables are preserved.

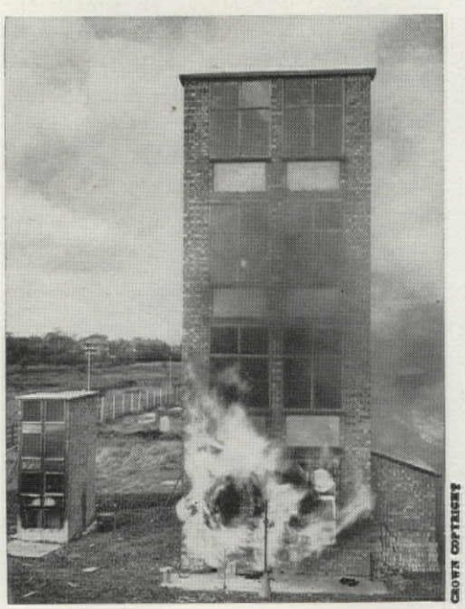
Without models, the scientists who study fire are limited to two alternatives: actual fires, where they must depend upon the reports of fire departments, wholly unsuitable for scientific investigation, or experiments which involve premeditated fires in full-scale buildings, which are costly undertakings and rarely performed. In Canada, where an outstanding fire research pro-

gram is underway, in the National Research Council's Division of Building Research at Ottawa, a team of fire-research scientists took advantage of a rare opportunity last year to carry out eight experimental burns on complete buildings: six two-story dwellings, a two-story school, and a two-story community hall. The buildings were located in Aultsville, Ontario, which was destined soon to be inundated by the new St. Lawrence Seaway. The studies were concerned only with the development of fire in buildings, not with extinguishment, and thus were limited to the development of fire as it affects survival of occupants, spread by radiation, and ventilation rates. The data, now being evaluated, will enable the Canadian scientists to determine the validity of current work with model studies, by comparing their full-scale measurements with those predicated by model work. The measurements of radiation intensities should be valuable in determining safe separations between buildings and the data on minute-by-minute fire development should yield some important facts regarding interior finishes and their contribution to fire spread.

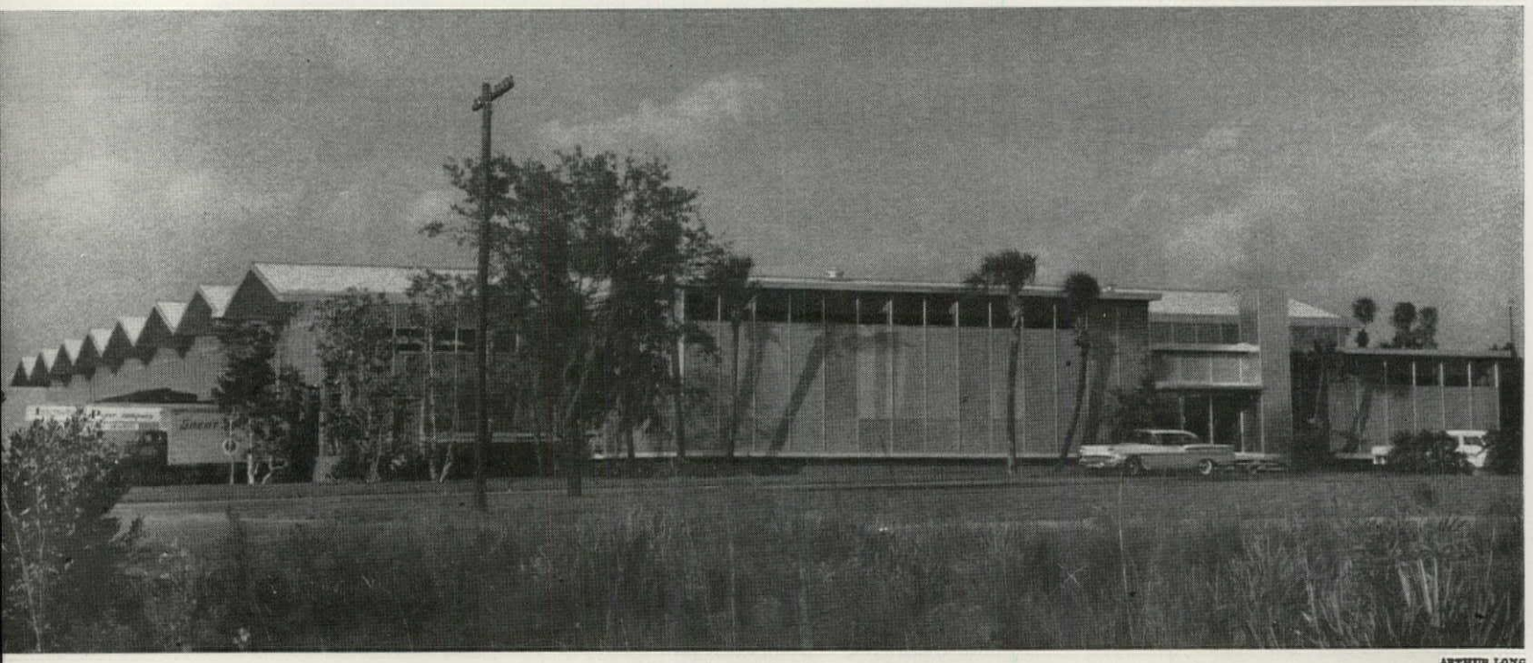
Until the proposed program of the U. S. Committee on Fire Research is set underway, the U.S. will have nothing in the way of fire research which compares with the work of the British, who have 80 professional scientists on the staff of their Joint Fire Research Organization, or the Japanese, with a professional staff of 69. Many smaller countries, including France, Holland, the Scandinavian countries, are engaged in fire-research programs which are comparable to the present program at the U.S. National Bureau of Standards. The Bureau's staff of 13 scientists and technicians, headed by Dr. A. F. Robertson, is certainly one of the best in the world, but its research budget, estimated at some $60,000, restricts seriously the scope of its activity. The work of Robertson's section includes studies of the causes of fires, including self-ignition phenomena, and a continual evaluation of fire detection and extinguishment equipment. And through outside sources, which bring new materials to the Bureau for testing, it studies the fire-resistance and fire-behavior characteristics of various building constructions. (To be sure, the insurance laboratories are engaged in applied research, e.g., Factory Mutual's work on roof deck construction, after the 1953 General Motors' fire at Livonia, Michigan, but their primary function is that of testing and evaluating of materials, not fire research. A few university laboratories carry on fire-research activities, but usually on a limited scale.)

According to an estimate of the National Fire Protection Association, the nation's total expenditure for fire research amounts currently to only about a million dollars a year. But if carried through, the recommendations of the Committee on Fire Research would increase this effort and would direct new research funds to government agencies, universities, and private research institutions. Together, such new work—in addition to the programs already underway—can be meshed to build greater safety into future building design. And with a better knowledge of such factors as the nature of combustion, future fires may soon be fought with something more than the brute force of the fire hose. Balanced against the annual billion-dollar loss, and the loss of 7,000 lives, it would seem that this nation could well afford such undertakings. END

Experimental fires, one in a full-scale building and the other at one-third scale, are observed by British scientists. Fires in both are compared to find how model fires can be properly scaled down to simulate full-scale building fires.



Burning buildings enabled Canadian fire-research team to study the development of fire as it affects human survival. The eight buildings burned by the scientists were to be demolished last year to make way for the St. Lawrence Seaway.



ARTHUR LONG

Building with plywood and paper

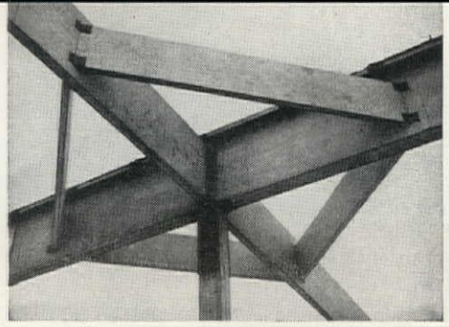
An unusual experimental building has come out of the recent merger of International Paper Company with the Pacific Coast's Long-Bell Lumber Company. Combining the major products of the two firms, plywood and paper, a trim new $380,000 plant has been raised at Auburndale, Florida, for International's Container Division, which represents the most extensive use of prefabricated plywood, paper, and plastic structural components so far attempted in one building. Not only did International Paper get a 50,000-square-foot working plant with a pleasantly cool Scandinavian birchwood air (Architects: Ralph and William Zimmerman of Sarasota), but it got a plant that went up about 20 per cent faster than conventional steel construction, saved 20 to 25 per cent in weight, and, despite the fact that it was an experimental job, came in about 10 per cent under conventional costs at an all-inclusive $7.54 per square foot.

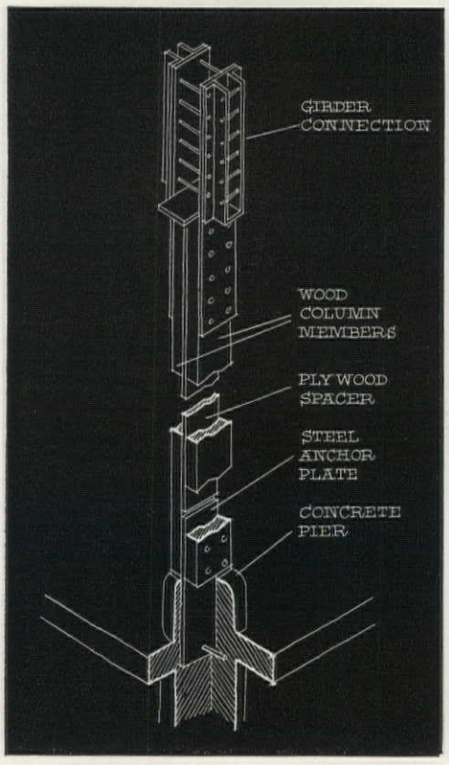
International Paper had been expanding for five years at the rate of five or more new plants a year, all of conventional construction. When proposals for the new plant came up, the designers* explored new construction techniques and compositions that would lead not only to a more economical plant but a showcase for all-wood construction and the versatility of plywood.

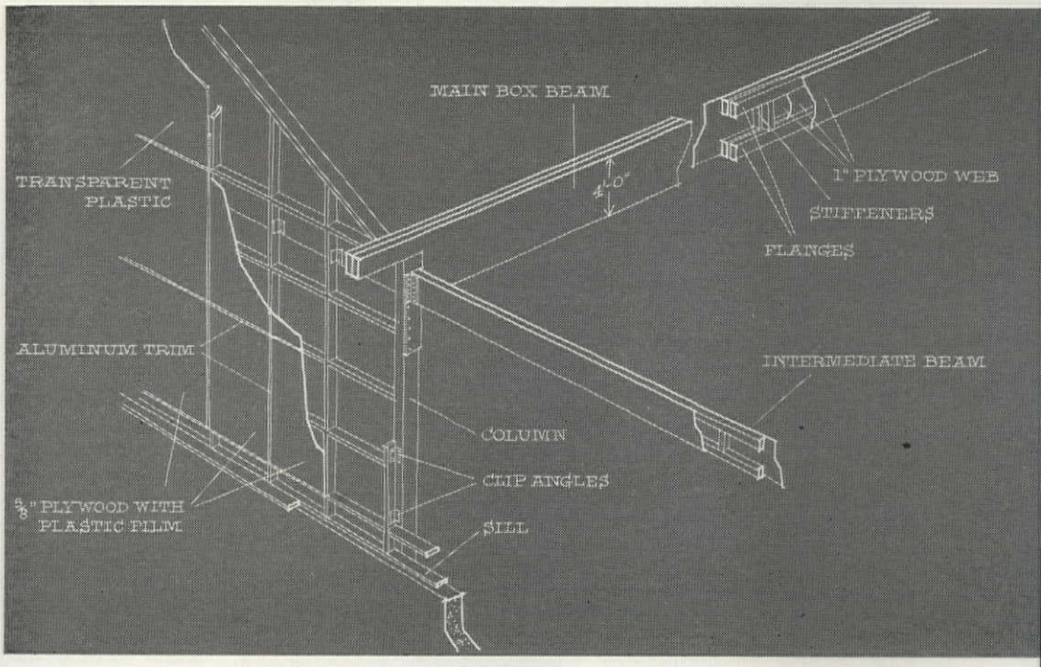
The main structural features of the new plant are 48-foot, hollow, plywood box beams (see sketch) supported on slender wood-and-plywood laminated columns spaced 40 feet apart to give 40 foot by 48 foot free-span bays. Lightweight, economical, and strong as steel, due to plywood's cross-ply sandwich construction, the box beams were prefabricated in Sarasota and erected on the site in ten working days. (Contractor: Gilbert & Shields Constructors, Incorporated of Tampa, Florida.) For the building's roof, the designers developed pairs of 20-foot prefabricated plywood panels formed of two stressed skins held 8 inches apart over web bracing, which also gave a structure of great lightness, strength, and good insulating properties (due to the dead air space).

For walls, two ingenious sandwich panels were developed. To sheath the main plant area, standard plywood sheets, affixed to a prefabricated framework, were hot pressed on both sides with a phenolic-plastic film that gives a hard, weatherproof finish, allowing the wood to shine through with no further maintenance. To wall the office area, a sandwich panel was created consisting of an egg-crate "filler" of corrugated paperboard, impregnated and bonded to two thin slices of veneer plywood, finished on the exterior with a clear, transparent film of du Pont's polyester plastic that will last the life of the building. This panel withstood test loads exceeding 300 pounds per square foot, far above the peak load of many ordinary curtain-wall panels.

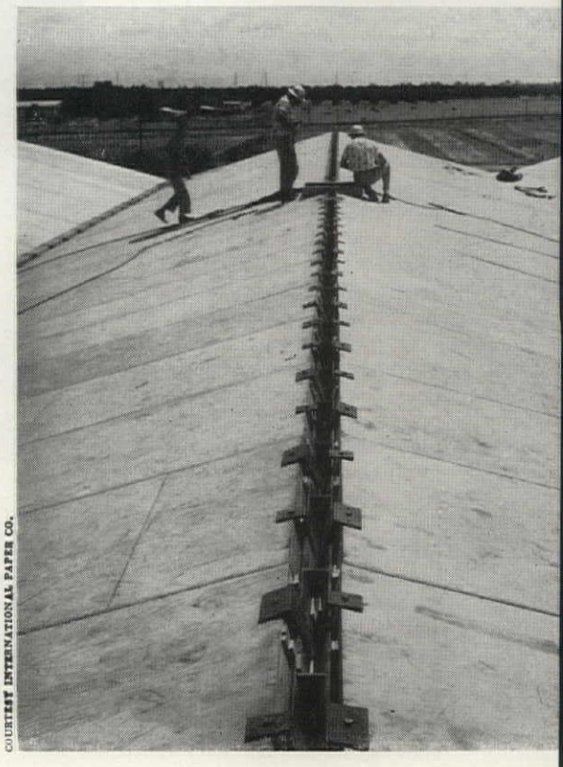
*The project architects and company engineers were aided by the Douglas Fir Plywood and West Coast Lumbermen's Associations.







Plywood structural system (above) shows prefabricated box beams, formed of 1 inch plywood sheets, 4 feet deep and 48 feet long, stretched over lumber spacers, supported on prefab plywood-core columns (detail, left), which allow rigid dovetail joints at beam and base (top left). Columns, 40 feet apart, provide frame for light, plastic-surfaced plywood wall panels.

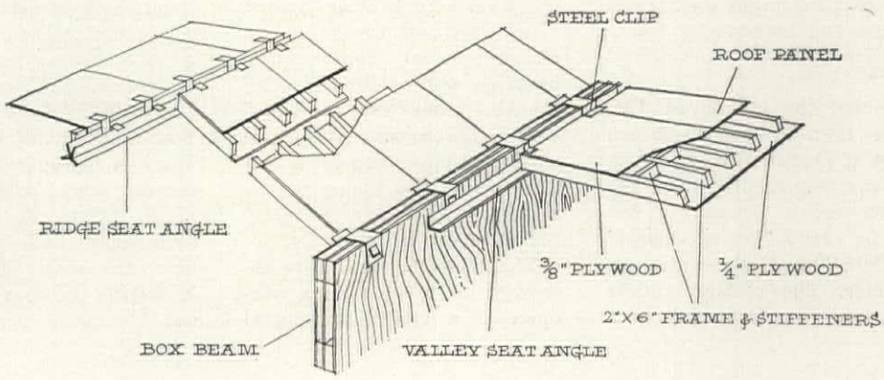


COURTESY INTERNATIONAL PAPER CO.

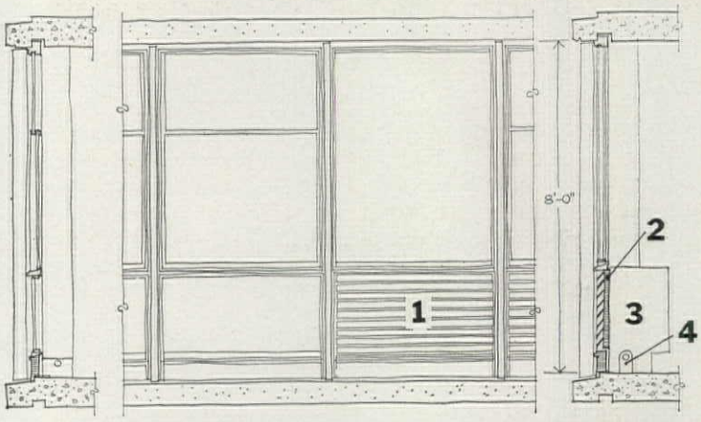
Plywood roof (right and below) is formed of hollow, 20-foot-long, prefabricated panels of stressed-skin construction: two plywood sheets over lumber framing, with an 8-inch dead-air space providing good insulation. Roof panels are fastened to steel clips and peak angles (one of few uses of steel in the building), went up rapidly in ten working days, resist hurricane winds.

None of these components was entirely new, but their welding together in an integrated structure produced a building which, in its pleasant landscape and reflection pool, showed the high value of and need for more such research. International Paper has no intention of entering the plant design or construction business, and is even uncertain whether it will attempt to market any of the products developed, but it has proved its point, which is that wood construction, with the aid of prefabrication and plywood's versatility, can be handsome and low cost.

The well-sprinklered, open-bay Auburndale plant, moreover, has won a "superior" fire insurance rating. With more experience, construction costs can probably be brought well under $7.50 per square foot. Indeed International Paper is so pleased with its Auburndale prototype that it plans this year to erect four more all-plywood plants, with more advanced details, in Kansas, California, and Mississippi. END



Bright ideas



How to hide air conditioners, gain design at low cost

The details in the drawing above show why the handsome Chicago apartment building pictured at right will never be ugly with random projecting window air conditioners. The façade did not even have to be cluttered with the framed openings for flush units that are the usual "better" alternate. Loebl, Schlossman & Bennett are the architects.

In the sketch, the figure (1) represents a set of continuous wide louvers (in yellow porcelain enamel) that extend horizontally under whole groups of windows, reaching from the window sill to the floor. These continuous louvers are interrupted only where *some* of the windows extend to within 6 inches of the floor (on the long sides of the building, these full-height windows are the two end ones in every group of six). The louvers let through air but no view, so no one on the ground can see where an occupant has installed an air conditioner behind the louvers, or where another occupant can't afford one.

Behind the louver, at (2), there is a metal-clad 2-inch sheet of fiber insulation, which has the requisite two-hour fire rating for a "spandrel," but can be easily "keyhole-sawed" for installation of an air conditioner. The electric outlets are provided. Item (3) is a cabinet which conceals the air conditioner if there is one, or which tenants having none can use to store toys or liquor.

HEDRICH-BLESSING

The figure (4) indicates the heating convector, in its own compartment of the cabinet. Heating is another chapter of this history of ingenuity, for the entire building has only four vertical heating risers, from which, at every floor, a circumferential feeder loop branches out horizontally; all the convectors "ride the loop." Under the many living-room windows that extend from ceiling to within 6 inches of the floor, the convector is neatly tucked under a cover (left).

The frame for the entire assembly, including the six windows of a typical structural bay, plus louvers, spandrels, and cabinets, is a single unit which is laid on the floor and tilted up into vertical position. The floor slab is allowed to extend 6 inches out beyond the window line. This is a great convenience to window washers, a handsome element of architectural expression, and, in the opinion of the architects, a weather protection since expansion or contraction of the wall stops at every floor instead of accumulating as it can in a continuous outer skin.

Designed for framing in either metal or wood, the unit was bid cheapest in steel, with baked-on enamel finish. The 324-unit building is the first completed of five low-cost middle-income apartments by the same architects for the Michael Reese Hospital redevelopment area.

How to mass-feed school children

The speed and efficiency with which food is propelled into school children in certain large cities from central kitchens, on the familiar principle of airline "in-flight" feeding, has become an almost frightening factor in new school design. Efficiency hound Richard Flambert, food service consultant and engineer of San Francisco, reports that his central school kitchen for the Norwalk, California school system is the largest in the world, serving 6,000 to 12,000 children in 23 schools a hot-and-cold meal every school day from a kitchen employing only 15 to 20 people. (Kistner, Wright & Wright, architects.) Involved are 100-gallon steam cooking kettles each with an automatic pump to send beef, spaghetti, or what have you into serving pans fitting the hot compartment of food carts that have chilled compartments also, one cart holding food for 400 meals. Food carts in sets of six, accompanied by the needed trays, go on trucks leaving on a split-minute schedule, and the carts also carry back dishes for central washing. Kirksville, Missouri is building the *smallest* central school kitchen (Hellmuth, Obata & Kassabaum, architects) and, says Flambert, the most efficient. The Kirksville kitchen will turn out 20 meals per man-hour (10 is considered low today and 16 highly efficient); Kirkville's 2,000 daily meals will be produced in a 2,300-square-foot area (3,000 would be "par"). At Kirksville, says Flambert, it will be possible to serve meals to children at the rate of 20 per minute, each child taking 5 seconds to clear the entire line.

Flambert is now modernizing the Los Angeles school system food operation, largest in the U.S., turning out $12 million of meals a year.

How to finance a new hotel

Chicago's new steel-clad, much balconied Executive House on Wacker Drive, which opened last month, is America's most up-to-date hotel—but it was financed as an apartment house. Backers Joseph Rosenberg, Louis Kanne, George Lurie, Jerrold Wexler, saw the great hotel need (no new hotel had been built in convention-crowded Chicago since World War II), but found financing hard to get from insurance companies still remembering American hotels' depression record. The promoters' answer: Architect Milton Schwartz was instructed to design the building as an apartment house. This got a $3.5 million commitment from Aetna Life Insurance Company of Hartford on what became a $7 million building; Draper & Kramer of Chicago loaned the construction money.

Aetna had no qualms over the owner's subsequent switch to a hotel use because of the underlying security of the apartment design and the fact that the four hotel operators, headed by Morris R. DeWoskin, who have leased the building for 40 years, are in the small group considered capable as hotel men.

In consequence of its unique plan, Executive House, with its 448 units of about 510 rooms—75 per cent rented to transients—is the only predominantly transient Chicago hotel with a kitchenette in each unit; most of its suites and its many "efficiencies" have balconies; moreover, its 200-car underground garage is highly accessible from a Wacker Drive underpass. Architect Morris Lapidus of Miami designed the lobby. END

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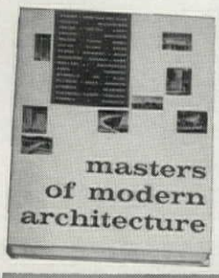

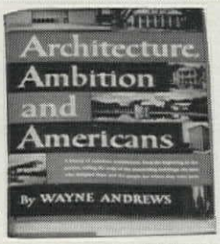

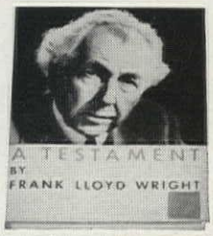

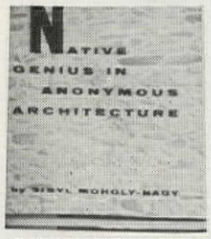

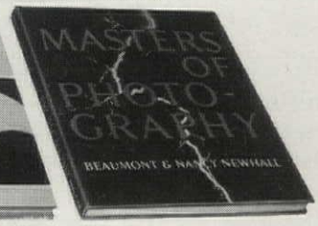

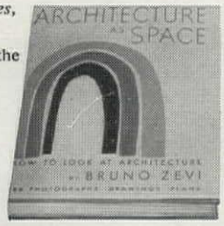

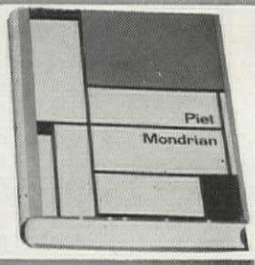

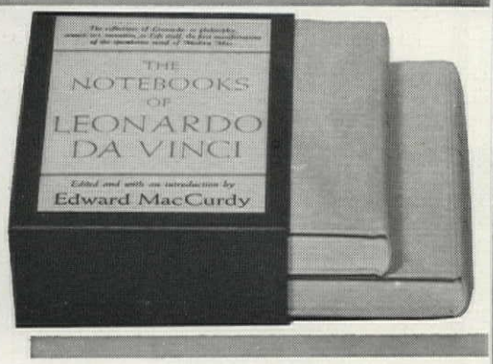

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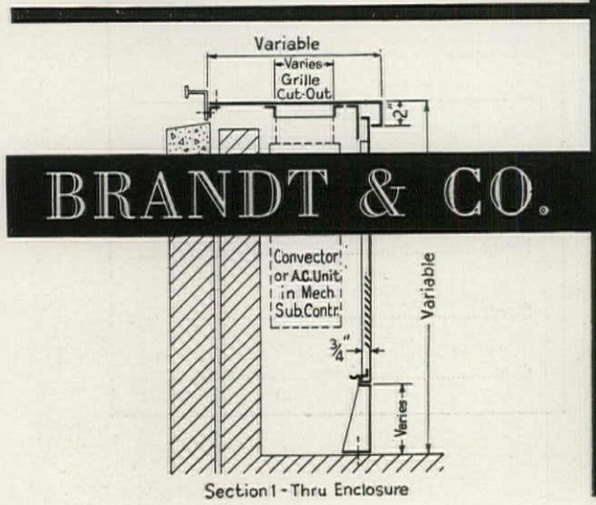

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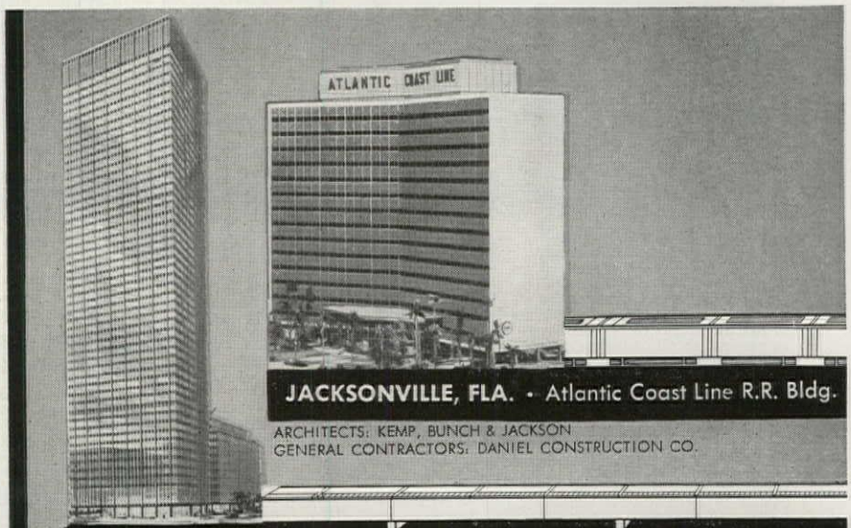

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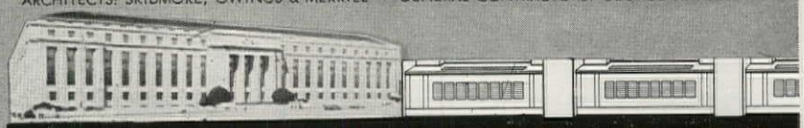
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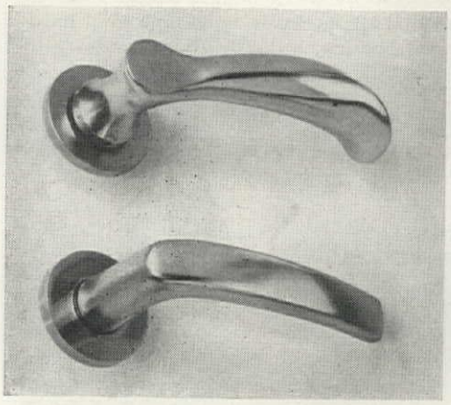

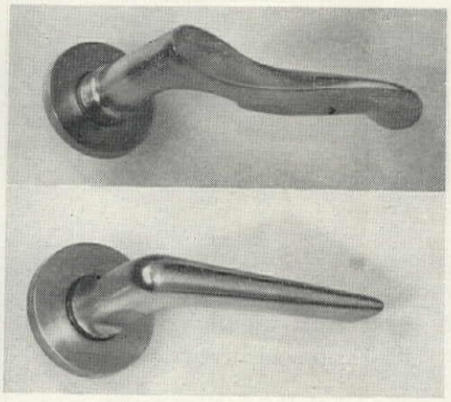

WEST GERMAN LEVERHANDLES
have sleek, custom-designed look

Shown at left are four leverhandles, the European-style door handles now replacing the traditional doorknob in many new U.S. office buildings. (Best example: the Seagrams Building in Manhattan where Yale & Towne's Philip Johnson–designed leverhandle is used throughout.) They are part of a handsome German-made line, recently introduced in this country, which includes, in all, a dozen stock designs. Made of sleek, satin-finished aluminum, trimly tailored, and easy to operate, they sell for about $5 a pair.

Manufacturer: Wehag, West Germany; *U.S. Distributor:* Imported Hardware, Box 322, Bloomfield Hills, Mich.

CONCRETE ADHESIVE
forms tough, water-tight joint

A new structural bonding agent called *Uniweld* solves one of the oldest, most formidable problems in building construction—joining fresh, wet concrete to dry concrete. Newly developed by the Permagile Corporation of America, the product is an "alloy" of epoxy and nylon-type resins mixed in equal parts. Without any mechanical interlocking, it forms a permanent, waterproof, vapor-proof joint, which is reportedly many times stronger and more durable than the hardened concrete.

Application is fast and simple. The material is brushed, sprayed, or rolled onto a clean, oil-free base surface to a thickness of approximately 0.01 inch; then, about 15 minutes later, the wet concrete is poured on directly. Chipping or notching the base surface is unnecessary—as are lugs, bolts, anchors, or other holding devices.

The same technique can be used to form a bond between fresh concrete and brick, stone, cinder block, etc.—making it possible, for instance, to resurface old walls without using wire lath. Other uses for the material suggested by the manufacturer: field assembly of concrete components, a bonding agent for resurfacing highways, airport runways, factory floors or swimming pools. *Uniweld's* coverage and cost vary according to the job—but on the average, one gallon will cover roughly 200 square feet. Cost per gallon: about $11.

Manufacturer: Permagile Corporation of America, 37-23 33rd St., Long Island City 1, N.Y.

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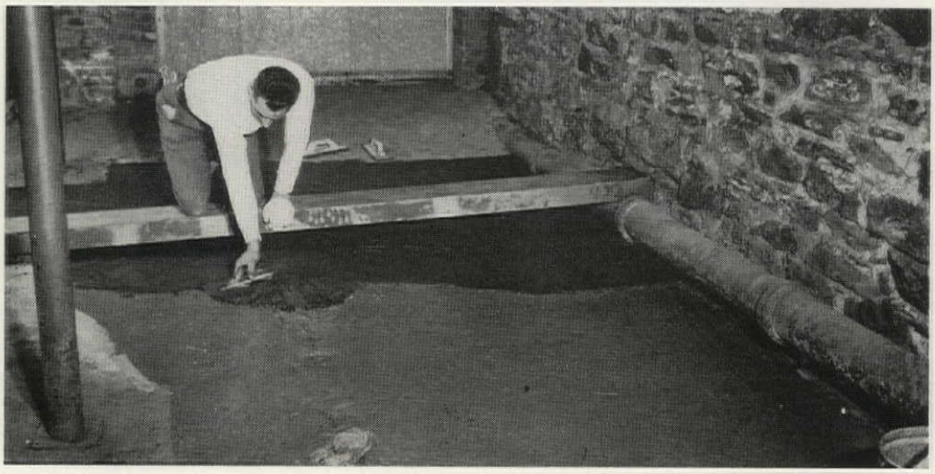


LOW-COST WOOD FLOORING
can be applied directly on concrete

Higgins Industries, Inc. of New Orleans has introduced a most unusual floor tile. Made of a single, flexible sheet of African hardwood, it is only ⅛ inch thick, but is said to be five times more wear resistant than conventional hardwood floorings. It is priced at about 22 cents a square foot—or about half as much as conventional hardwood flooring, about the same as low-cost

resilient flooring. Like resilient floor tiles, it is applied with an adhesive, directly to concrete surfaces including those below-grade (no vapor barrier is necessary). A patented process, whereby the new tiles are stretched at the factory prevents their expanding or contracting, due to heat, cold, or humidity, once they have been installed. Available in a standard 9 by 9 inch size, the tiles are prefinished with a baked-on, stain resistant, lustrous surface.

Manufacturer: Higgins Industries, Inc., Box 8169, New Orleans 22, La.

ALL-ELECTRIC AUTOMATIC DOOR
has no protruding power mechanism

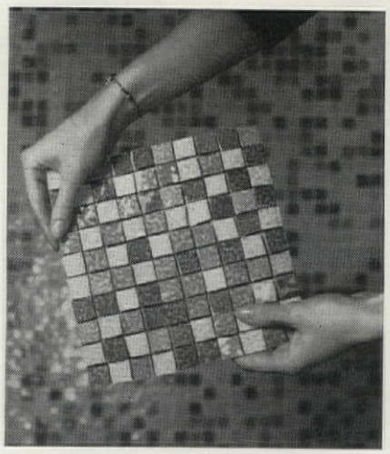
The recently developed automatic entrance shown below, unlike conventional pneumatic or hydraulic types, is completely electrical, and therefore, has no protruding mechanical devices affixed to the

frame. Instead the operating mechanism is concealed within the 4½-inch-wide transom bar above the door, activated by a treadle in the floor. Marketed as one neat, trim, integral package—including door, frame, and operating mechanism—it is said to be about as easy and economical to install as a standard, manually operated door—since no subfloor or overceiling preparation is necessary for installing power units, control units, or compressors. A reasonably convenient electrical socket is all that is needed. Cost per single entrance unit is about $15,000, installed.

Manufacturer: Kawneer Co., Niles, Mich.

DECKLE-EDGED WALL TILES give mosaics a textured look

Horizon Tiles, shown in the photo below, are glazed ceramic tiles which are manufactured with uneven surface textures and deckled edges. The first domestic tiles to be made with intentional irregularities,



they give interior wall mosaics an informal, textured look much like that of some handmade European tiles. The new tiles are 3/4 by 3/4 by 3/16 inches, and are mounted on 1 by 2 foot paper sheets. They are available in 58 stock colors and cost from $2.25 to $3.60 per square foot.

Manufacturer: Cambridge Tile Mfg. Co., Caldwell Drive, Cincinnati, Ohio.

ALUMINUM GRILL PANELS available in stock designs and colors

To help satisfy the growing demand for contemporary architectural grillework which heretofore has been supplied on a made-to-order basis, Morris Kurtzen Inc. is now manufacturing a series of decorative grille panels in stock sizes and patterns. These are made of color-anodized aluminum and range in sizes from 2 by 4 feet to 4 by 12 feet and in thickness from ⅛ to ¾ inches. The new screens can be

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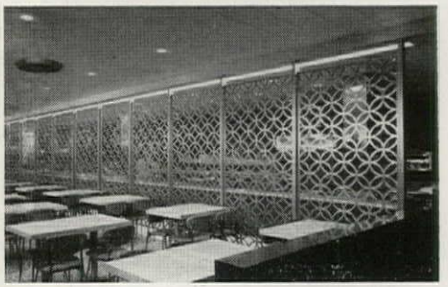
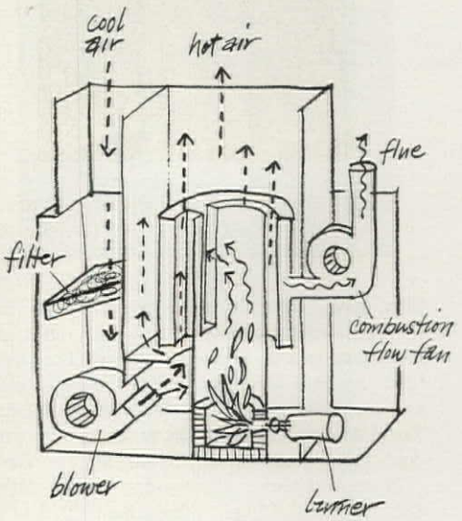


used either outdoors or in, as room dividers, sun shields, patio walls, etc., and can be installed with standard mullion hardware, much like glass. Six stock colors are available, seven stock designs—or any custom design or color specified. Panels with interior finishes are priced at about $6.50 per square foot; panels with exterior finishes, about $7 per square foot.

Manufacturer: Morris Kurtzen Inc., 1420-30 So. Talman Ave., Chicago 8, Ill.

CLEANBURNING OIL FURNACE offers 33 per cent fuel savings

The Iron Fireman Manufacturing Company's new oil furnace makes one of the most significant advances in heating equipment since the development of modern oil heating. Unlike conventional oil furnaces,



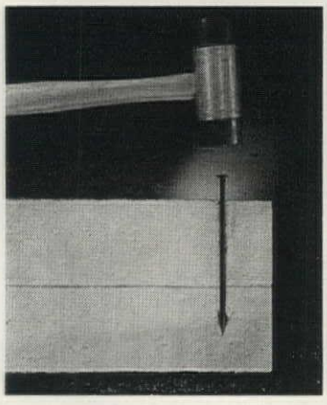
it requires no natural draft chimney vent in the furnace room and, in fact, no chimney—a small exhaust vent outdoors is sufficient. It burns cleanly, with almost no smoke or soot. It is quiet, and it is efficient—tests indicate up to 33 per cent fuel savings over conventional types. Behind all of these improvements is a completely new method of injecting fuel and air into the combustion chamber. Instead of the usual gun-type burner which *blows* air into the furnace, a special "combustion flow assembly" above the combustion chamber creates a mechanically induced draft which *draws* fuel and air through the furnace. This precisely controlled air flow

is steady, even, unaffected by hot or cold chimneys. Since there is no "blowtorch" type of fuel combustion, operation is quiet, and the furnace need not be installed in an out-of-the-way place. Called the *Custom Mark II*, the new furnace is currently available in vertical and horizontal systems, and output capacities of 84,000 Btu through 250,000 Btu per hour. Costs range from $451 to $848, F.O.B. Cleveland.

Manufacturer: Iron Fireman Mfg. Co., 3034 West 106th Street, Cleveland, Ohio.

DURABLE PLASTIC SKEWERS
secure foam or cork insulation

New plastic (polystyrene) skewers for fastening together layers of foam or corkboard insulation are now available in various lengths. Each has a conical tip which is larger in diameter than the shank and a large flat head designed to hold each layer of insulation tight against



the adjacent layer. Odorless, rot-proof, unaffected by most adhesives, the skewers are available in lengths from 3½ to 5½ inches and cost from $4.65 to $6.75 per thousand.

Manufacturer: Armstrong Cork Co., Lancaster, Pa.

VINYL-FACED RUBBER RUG
is soft, tough, easy to clean

Velvetex, the DuPont Company's new floor covering material, is soft to the step, stain and wear resistant, and easy to vacuum or wash clean. Made of foam rubber, with a tread surface of tough, patterned vinyl, it is being marketed primarily for institutional stairs, halls, and entrance areas. It is said to be nearly twice as durable as rubber floor coverings, about five times as durable as rubber-backed hair carpeting, and almost six times as durable as wool carpet runners in the same price range. Available in 27-inch rolls, in beige, green, or gray, *Velvetex* is priced (retail) at about $4 per linear yard.

Manufacturer: E. I. Du Pont De Nemours & Co., Wilmington, Del. END

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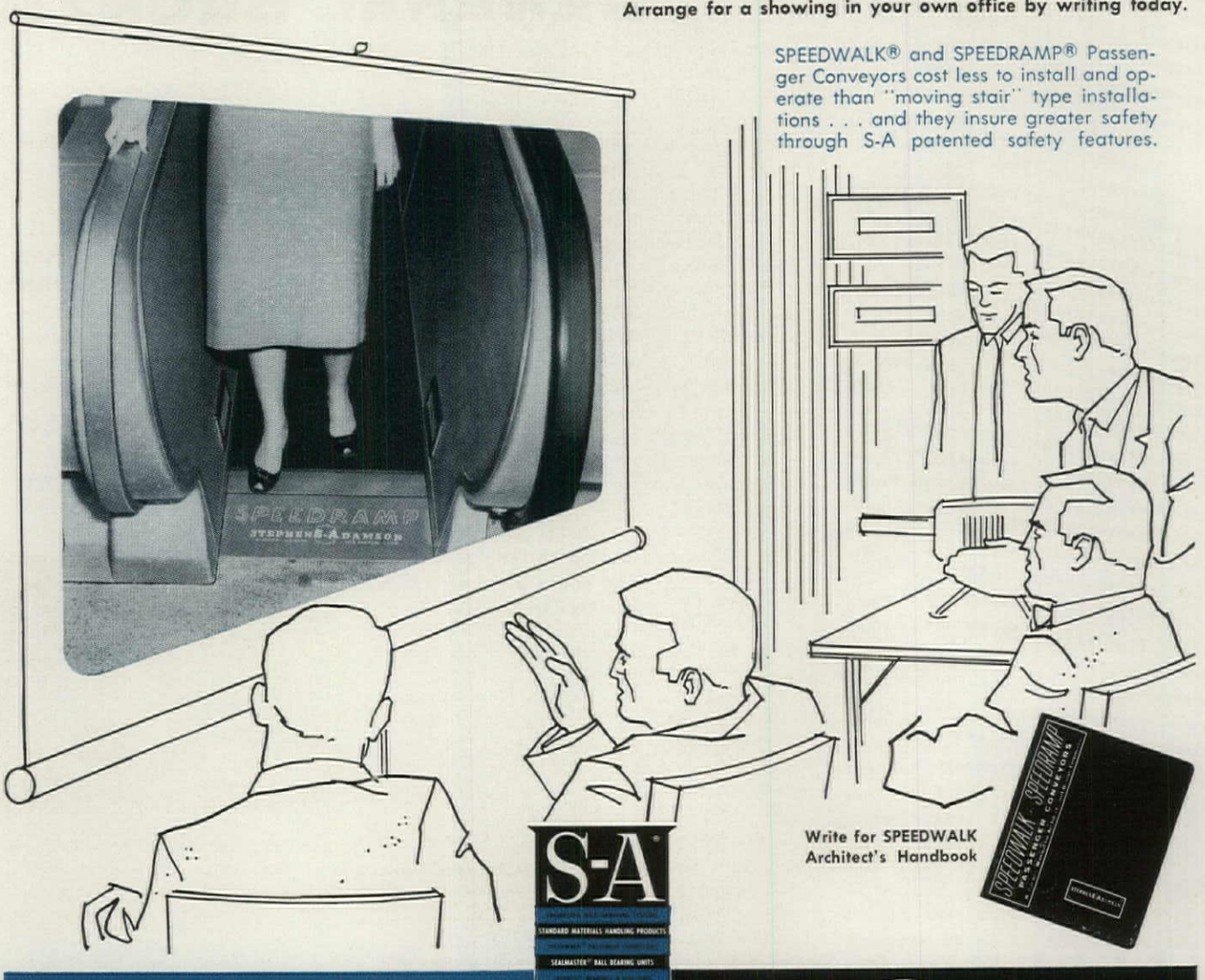

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Architecture . . . parking . . . barns

ARCHITECTURE — NINETEENTH & TWENTIETH CENTURIES. By Henry-Russell Hitchcock. The Pelican History of Art, edited by Nikolaus Pevsner. 692 pp. 7½" x 10½". Illus. Penguin Books, Baltimore, Md. $12.50.

Henry-Russell Hitchcock is our most distinguished architectural historian, and the book he has just written on the formation and growth of the modern movement is probably the most scholarly work on the subject to date. It is a monumental work of incredible thoroughness; not a single architect of any significance has been omitted, and some of the chapters on specific artists and their work—e.g. the ones on Horta and Behrens—seem superior to more elaborate monographs published elsewhere. This is indeed a magnificent addition to the excellent, multi-volume Pelican *History of Art.*

Professor Hitchcock's approach is perhaps best described by comparing it with Dr. Siegfried Giedion's famous (and, until now, unchallenged) *Space, Time and Architecture.* Giedion's concept of cultural history is, in a sense, parallel to the Marxists' interpretation of history: a succession of developments, influenced largely by economic and technological forces, which in turn are thought to produce certain predictable effects. Giedion's sources of artistic invention, by and large, are the wealth of anonymous industrial and handicraft products thrown up by successive technological revolutions until they finally become "respectable" in cultural or esthetic terms.

On the other hand, Professor Hitchcock is an art historian in the German tradition, he believes that the history of art is the history of what has been produced by outstanding individual artists. He also believes in the "historical accident"—indeed, he sometimes appears in the guise of a kind of scholarly Private Eye, tracking down minute clues to prove that Artist A was in city B at the exact moment when Artist C first exhibited Object D—*ergo* (as a German *Kunsthistoriker* would put it), Artist A's supreme work E was directly influenced by Artist C who created D. The U.S. past master of this game, of course, is the Museum of Modern Art's Alfred Barr, a frequent and close associate of Hitchcock's, whose famous "Cubism and Abstract Art" actually contained charts, tracing the development of the modern movement that looked as complex as a diagram of the corporate structure of General Motors. The charts, of course, attempted to prove beyond doubt and once and for all, who influenced whom, when, where and how.

However, the Hitchcock-Barr approach does contain certain dangers that are recognized primarily by artists and architects themselves. For if your value-judgments are too greatly conditioned by the "who-influenced-whom" sort of chart, then there is a very real danger that you may ignore or misunderstand a new, creative artist working within no recognizable or established tradition—however esoteric—simply because there is no filing card for him in the historical index. Le Corbusier's recent plastic work is a case in point: Hitchcock files it away under "Gaudi": others might file it under "Mykonos" (see page 108); yet chances are his dramatic departure of Le Corbusier from his pre-1940 "machine forms" represents a powerful, independent, creative act by a master perfectly capable of engaging in such acts. To an art historian like Hitchcock, who believes above all in the individual creative act, the dangers inherent in the filing-system approach to art history should surely be evident.

Professor Hitchcock's book is divided into three distinct sections: The first 430 pages contain the main body of text, together with some line drawings of plans, elevations, and sections. Next comes a 40-page appendix of scholarly notes and bibliography. And, finally, there are some 200 glossy pages of photographs. Still, though Hitchcock's book in some respects is pretty rough going, it is worth every minute of the trouble involved.

PARKING. By Geoffrey Baker and Bruno Funaro. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. 202 pp. 8" x 10". Illus. $9.50.

Why is parking such a problem? Here, in the first few lines of a book just published by Geoffrey Baker and Bruno Funaro, is a partial answer for planners and builders to this question:

"The average adult dressed in a business suit and overcoat can stand comfortably in a space of 5 square feet. Packed in a subway rush hour he may be reduced to 2 square feet or less. Walking briskly—about 3 m.p.h.—8 square feet is a reasonable and safe allowance on a crowded sidewalk.

"But dress this same adult in a 1958 Ford, Chevrolet, or Plymouth, and he needs a road space of approximately 200 square feet just to stand still in a traffic jam. To get out of the car or to move in any direction except straight forward or backward—sideways for example—he will require at least another 150 square feet for maneuvering. Driving at an average speed of 35 m.p.h., to move with reasonable safety, he will need approximately 600 square feet of roadway. . . ."

After this fearsome statistical opening, Baker and Funaro (who died when the book was nearly finished, and to whom it is dedicated) go on to describe the methods which twentieth-century man has developed to try to cope with his Frankenstein V-8, and they do it well, with many photographs and astute evaluations of the success of the devices. These range from such radical methods as that used by the Port Authority Bus Terminal on Manhattan, which simply lifts all its traffic off the grid of public streets, ramping buses from the Lincoln Tunnel up to its terminal roof (rated as a very good solution by the authors), to self-parking and attendent-parking in commercial garages (of the two methods self-parking is given the nod; even if it takes equally as long to extricate the car, the owner is *doing* something, not just standing around downstairs glaring at the gas pumps, so the time passes faster for him).

The book is not all-inclusive of methods; it is not big enough for that. But for a current recapitulation of what is going on, and a glossary of the better recent attempts to cope with the parking problem, the Baker-Funaro book will pay its freight with all readers.

PENNSYLVANIA-GERMAN BARNS. By Preston A. Barba, editor-in-chief. Published by the Pennsylvania German Folklore Society, 150 Main St., Emmaus, Pa. 312 pp. 6½" x 9". Illus.

This well-organized and well-researched volume by Architects Charles H. Dombusch and John K. Heyl should be of great interest to barn buffs across the country, particularly to those in the Middle Atlantic States. But readers will be disappointed to find that, despite a promising monk's cloth cover and some handsome illuminated capitals, the production and photographic reproduction in the rest of the volume leave much to be desired. END

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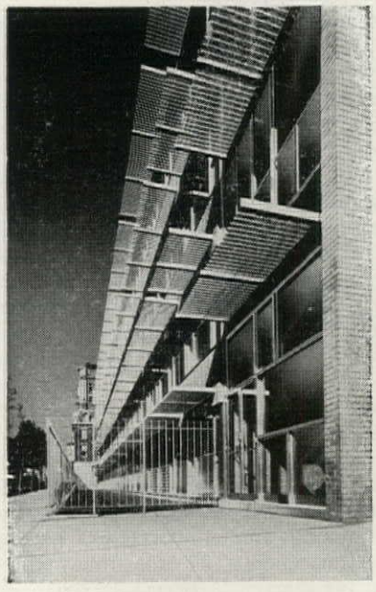

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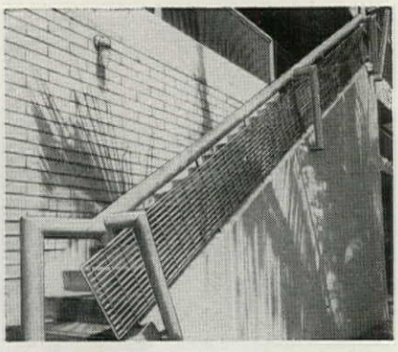

Capital Building, Waikiki, Oahu, Hawaii
Wimberley and Cook, Architects

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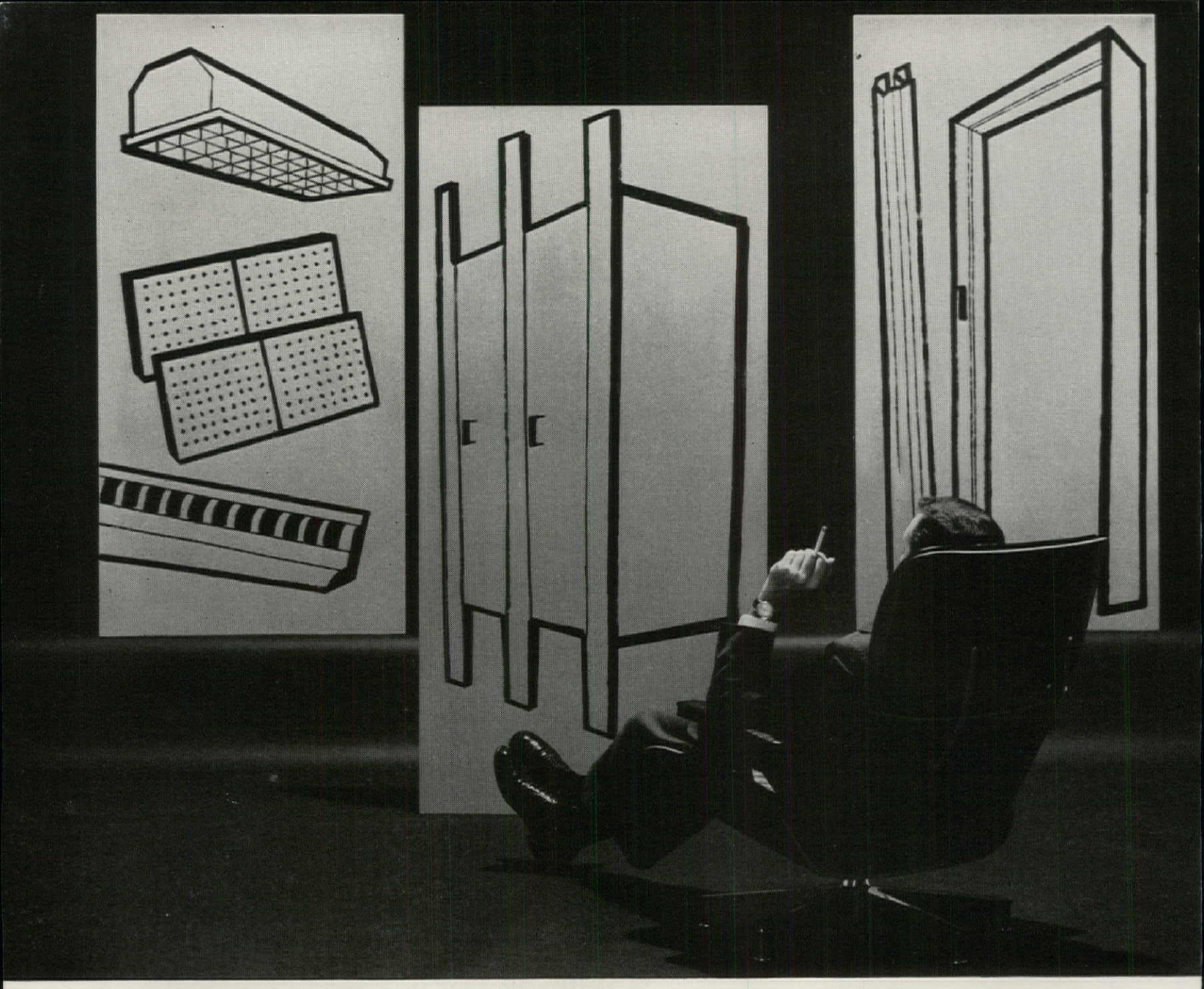

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What other people are saying

BIGGEST CLIENT'S BUILDINGS

In the Bell Telephone Magazine, *A. T. & T.'s building engineer, Howard E. Phillips, describes what his company got for the $322 million it spent on buildings in 1957.*

A compilation published in the August 1958 issue of ARCHITECTURAL FORUM revealed that the Bell System topped a list of the 100 corporations in this country which had spent the most in 1957 for building construction.

That fact is correct. The System spent $322 million in this fashion in 1957. In that year it built 2,000 buildings.

What did the Bell System get for all this money? In brief, 14 million gross square feet of badly needed floor space.

The 2,000 buildings built in 1957, like all of the 15,000 owned by the System, display an astonishing variety in their size, use, and location. The simple community dial office in a pleasant Pacific Coast community, the outstanding headquarters building in a proud metropolis, the businesslike garage in a southern city, the heavy blast-resistant toll center on the outskirts of a great and populous center, the factory manufacturing telephone equipment, the accounting building with gleaming porcelain enamel walls, the little repeater station in an Iowa cornfield, the distributing house stocking telephone supplies, the two-story central office in a smaller city, the radio relay station in the Southwestern desert or perched high in the Rocky Mountains, the colonial business office on a New England village green: all these and countless others are part of the composite that is the System's building program.

Experience in many big industries and government agencies has shown that design work that is "farmed out" has resulted in lower over-all costs; for in this way the owner's design and construction organization does not have great variations in size and changes in the work load. The telephone companies usually make similar arrangements with outside architects for all major structures.

The Bell System has relied upon the architects to create beauty in our buildings within reasonable costs. And yet we, among other corporations, have been criticized by architects and in architectural magazines for obtaining mediocre architecture. When we have good architects, we should give them the latitude and authority that will enable their designers to create beautiful buildings.

We have found that good architecture costs no more than poor architecture. Even within the strict bounds of our economy, we are able to get good architecture without extra cost, and many of our best-looking buildings are the lower-cost ones.

ARCHITECTURE WORTH SAVING

Sir John Summerson sees something sinister in the growing enthusiasm for historic architecture: the end of modern architecture. This was the conclusion he reached in a paper read before a recent meeting of the Royal Institution of Chartered Surveyors in Britain.

Today more people are more conscious than ever before of architecture as history and architecture as art. Such waves of curiosity and expanding interest are not easily explained, but I sometimes wonder if this one has something to do with our lack of success in producing a contemporary architecture which is warmly and instinctively loved. I wonder if the present enthusiasm for historic architecture foreshadows a parting of the ways in the history of the art—if it may not be that architecture, as the word has been understood since the Renaissance, is now virtually a closed book and if the architecture of the future will be a kind of industrial designing: fine and elegant, exquisitely convenient, but impermanent, impersonal, classless, and of low emotional content. If that proves to be the case, then the retention of the ancient, from Stonehenge to the Albert Memorial, from hut settlements to model villages, may take on an even more striking significance than it does today.

PRIVATE EFFORT IN PUBLIC WORK

Alarmed at the tendency for government agencies to try to do the whole job, New York City's construction coordinator, Robert Moses, advocates increased participation by private contractors. This thesis was the basis of an article by Moses in The New York Times *"Magazine."*

Renewed efforts are being made to force public officials to use only permanent civil service technicians in the preparation of plans and specifications for public works and for supervision of construction. Civil service associations, ambitious and jealous bureaucrats, and innocent people misled by plausible propaganda have been triggering these attacks.

Relying on the rank and file of public

continued on page 162

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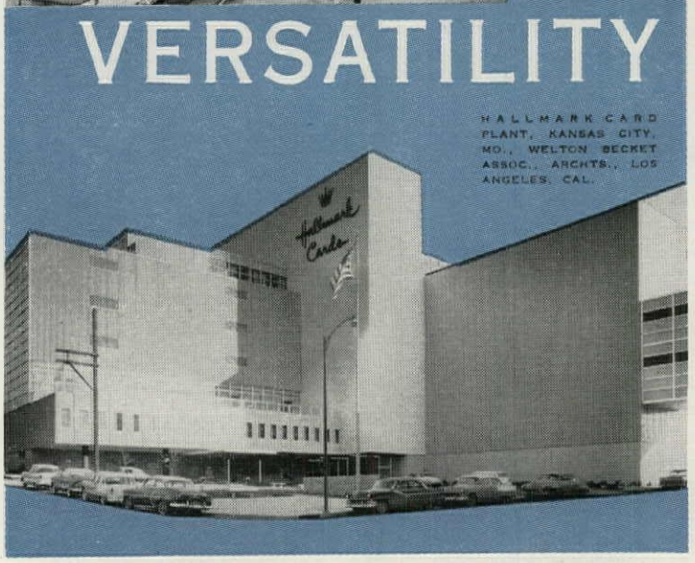

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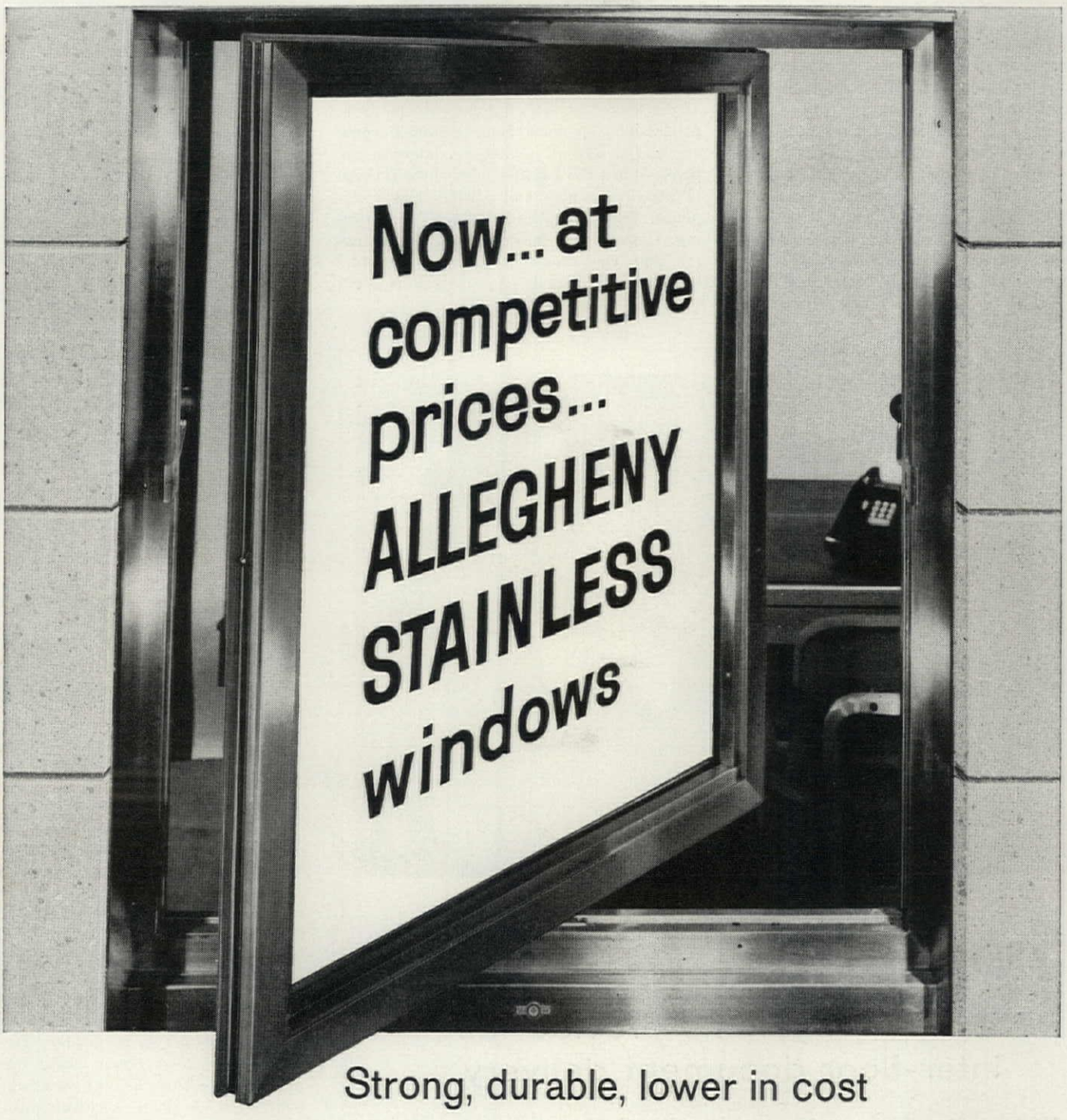

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There is a familiar, almost constitutional, three-way separation of powers in big public building—that is, in major, original, nonrecurring projects. The government which conceives, initiates, and controls, the outside consulting engineering or architectural firm, which makes the detailed plans and sees that they are conformed with, and the private contractor, who does the actual construction on the ground. Labor is involved in each of the three; public employees in the first; professional, private, field, and office workers in the second; and union labor in the third. When the balance is disturbed, there is usually trouble and always heavy expense. The checks and balances are missing. Disturb that balance, fuse their powers and you create a private or public monopoly which is no good for government, the professions, management, labor, or the citizenry in general. The present and prospective total volume of public building is staggering, whether subsidized in one way or another by the federal government or designed and built by private enterprise. It runs to billions annually and a drastic departure from the conventional pattern and balance governing professional work may well send us on the long dubious road to socialism.

THE ARCHITECTS' JOB

The architect must captain the building team if he would again be called master builder. This is the theme of Editor Joseph Watterson in the November issue of the AIA's Journal.

All the great architects of the past—and the lesser ones too, in their way—were master builders. They contracted, or accepted a command, to build a building for a client. They bought the stone—supervised its quarrying in fact, hired the labor, hovered over the work like a mother hen, and personally saw it through to completion. That touch is lost today.

Yet in that loss, something else has been lost, too—or is in danger of being lost: the prestige of the architect. He is no master builder, designing all, overseeing all, deciding everything.

Parallel with that loss of position a new concept has arisen: the "building team." When this term was first broached by one of the architectural magazines [the FORUM—ED.] it was much decried by members of the profession. It seemed to deny the architect his natural position of leadership—yet I sometimes wonder if the architect hasn't abdicated that position in favor of the promoter. Maybe the concept of the building team isn't so bad—*as long as the architect is its leader.* The design professions *must* retain their leadership, and architecture is the leading design profession. A team is certainly necessary to design and supervise the erection of one of today's complex structures, but a team must have a captain.

Perhaps these two concepts, the master builder and the building team, can be reconciled. Perhaps the answer is that each architect's organization must be organized to furnish the *full* and *complete* service that is required nowadays—even the small office. Coupled with this, the practice of taking bids may be abolished (except where required by law on public projects)—at least on large buildings—in favor of picking, with the client, a contractor at the very beginning, who will then work as a part of the team, furnishing cost estimates in at least two stages of the process and advising on materials and processes. If all this is done *by the architect,* then and not until then will he be entitled to be called the master builder again. END

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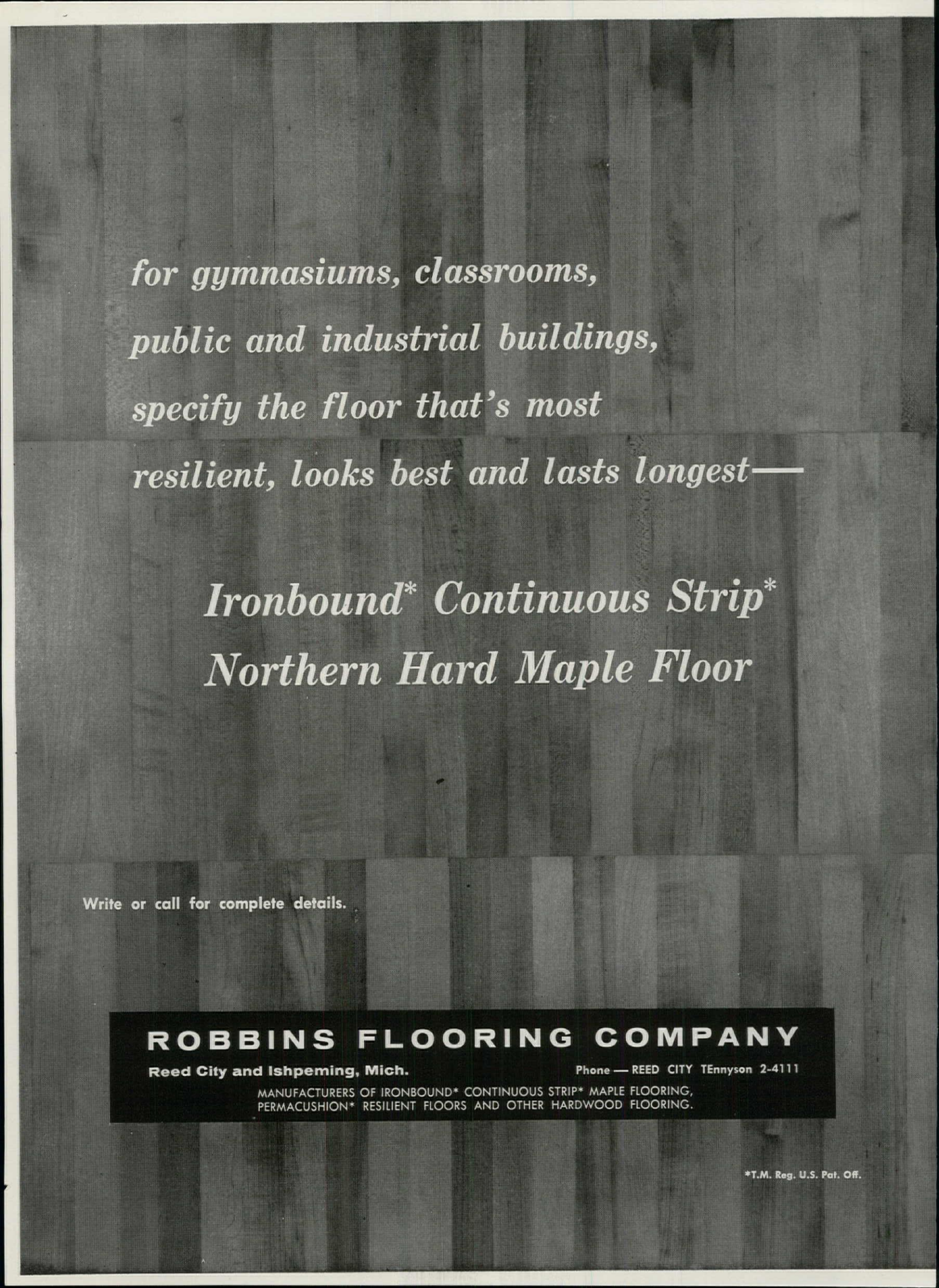
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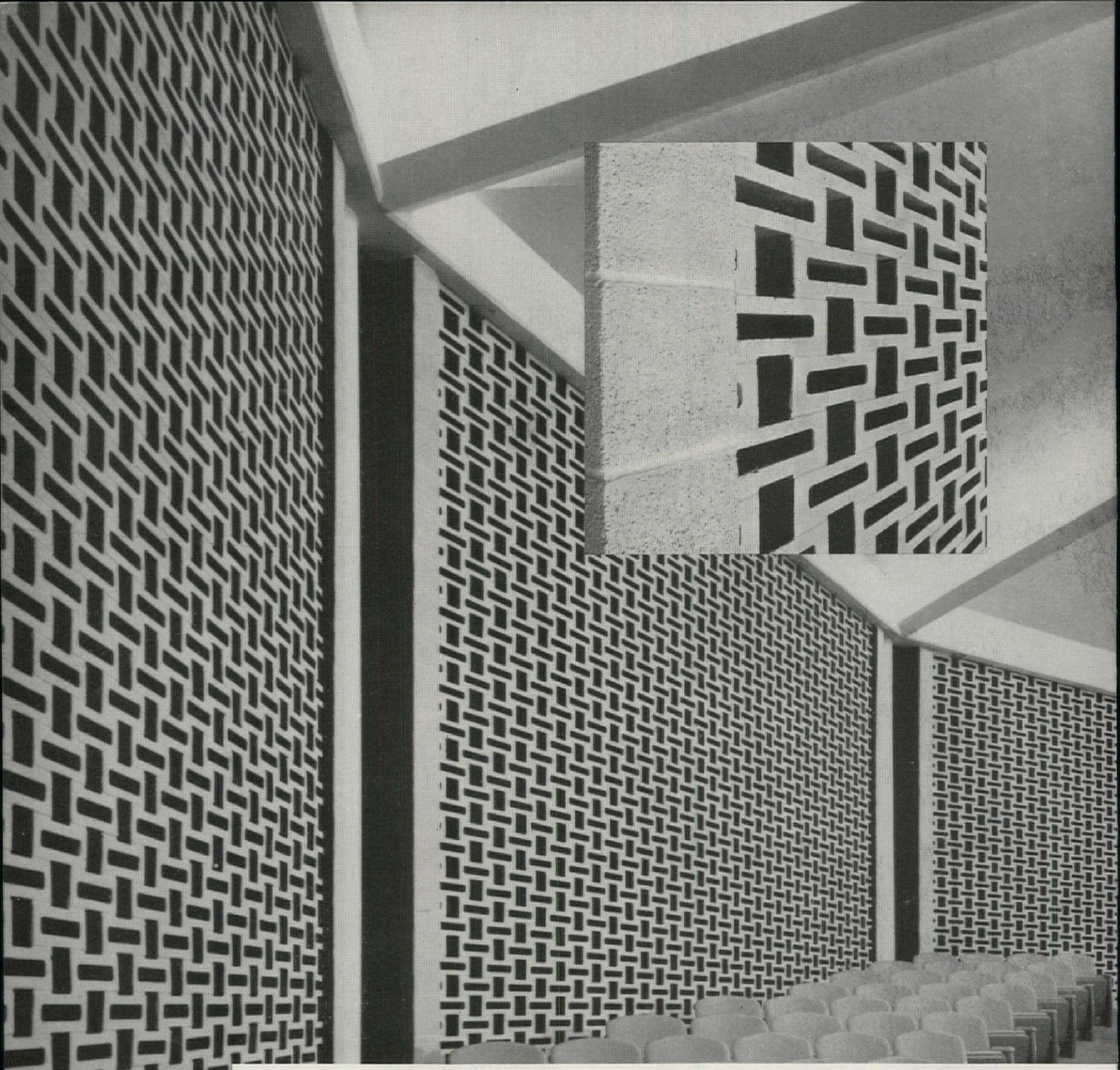

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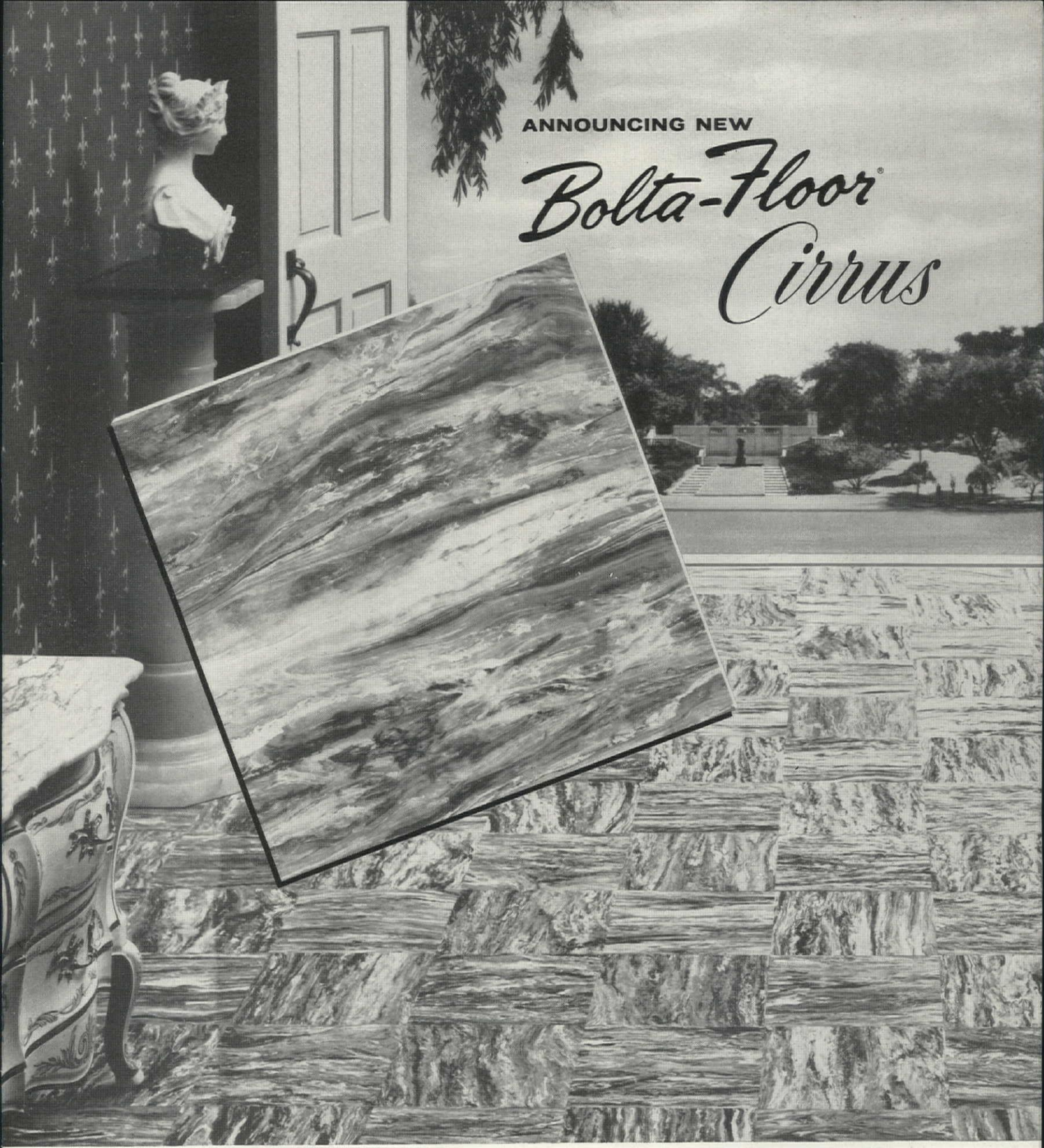

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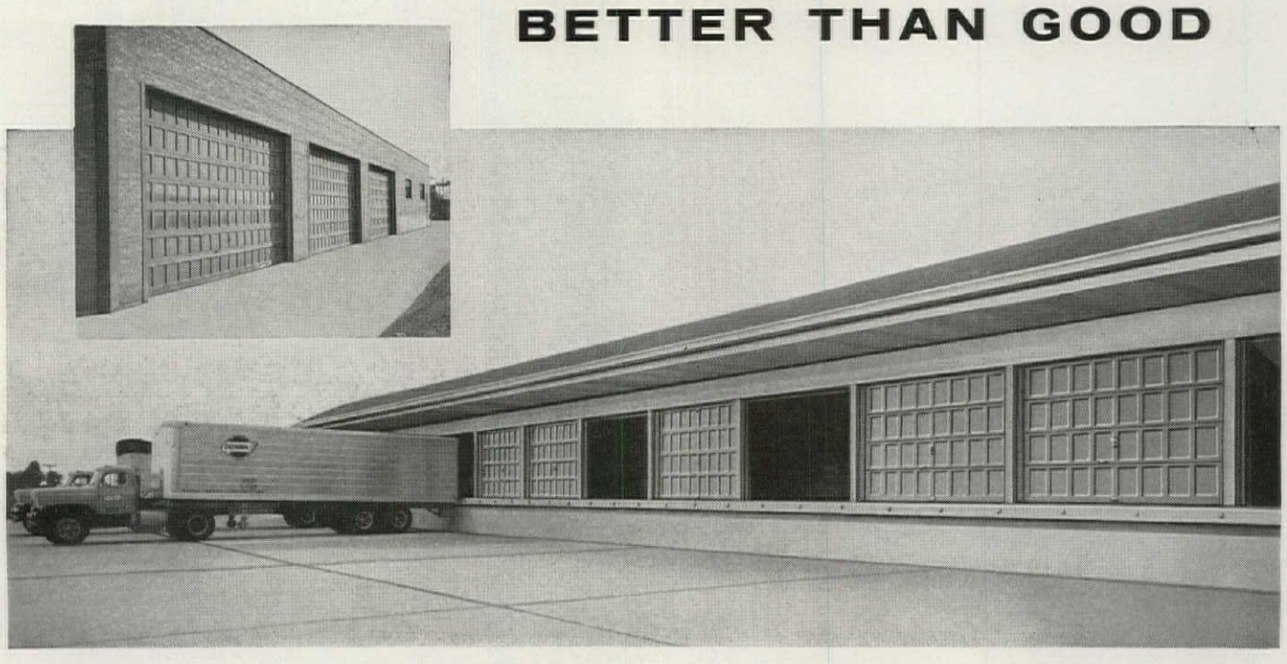

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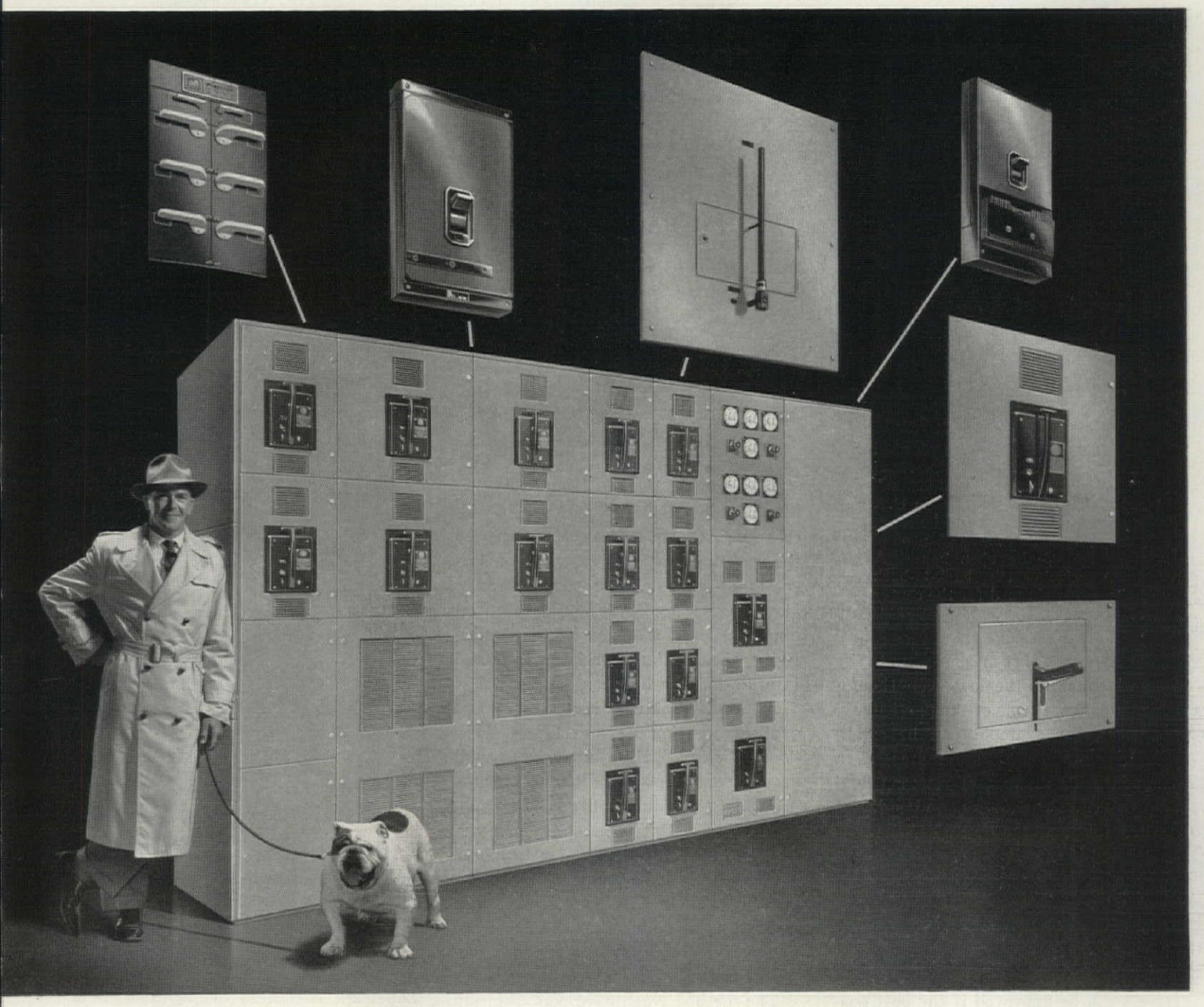

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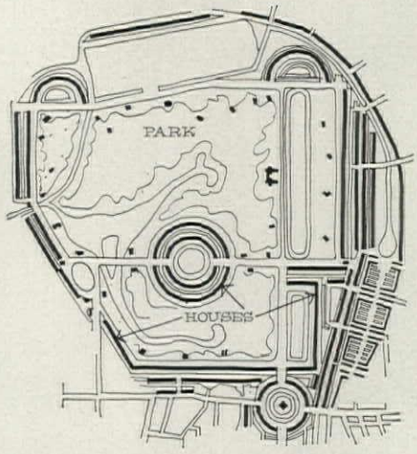


Regent's Park in London, planned in 1812 by Architect John Nash as a development "subdivision," could inspire new patterns in U.S. suburbs. Houses were built in groups called "terraces" around the edge of the open space. A great circle of back-to-back houses was planned for the center of the park.

can be approved if it measures up to the general spirit of the law even though it deviates from some of the particulars. Lot sizes, for example, can be established below stated minimums if a commensurate amount of common land is provided. Front, rear, and side lot limits, for another example, can be eliminated if the allotment allows a belt of open land around its edges. Private access lanes to lots without street frontage can be allowed if the contours of the land makes them reasonable. Short radius curves and steeply pitched streets can be approved if the best possible plan makes them necessary. But these exemptions should be allowed only where the spirit of the law and the interest of the community as a whole is served.

Oddly enough, however, in communities where this provision is already in the subdivision regulations, it is rarely used because designers and developers — and city authorities — have only rarely had the imagination to exploit its potentialities. In St. Louis County, Missouri, for example, where the provision has been on the books for five years, Architect Roger Montgomery's cluster subdivision (page 100) is the first to use the law.

This blindness to opportunity suggests that the lack of good subdivision planning is not, at base, a matter of legal restriction. Landscape Architect Artemas P. Richardson of the present-day firm of Olmsted Brothers, who sits on the Needham, Massachusetts planning board, says quite simply that "good planning cannot be legislated. Subdivision regulations can only limit bad planning." And good planning requires more: a spirit of bold and thoughtful design experimentation. Indeed, Riverside is a great precedent because it was a bold and thoughtful design. When Riverside was first considered, there were few American suburbs, and fewer known precedents for their design. The sponsors first thought of their Riverside development as an "estate with more than one house in it" —like Olmsted, Vaux & Company's earlier Tuxedo Park in New York. Frederick Law Olmsted, however, convinced the sponsors that the "essential qualification of an estate or park is range [i.e., open space], while the essential qualification of a subdivision is domesticity [i.e., intimate relationship and interdependence between families]."

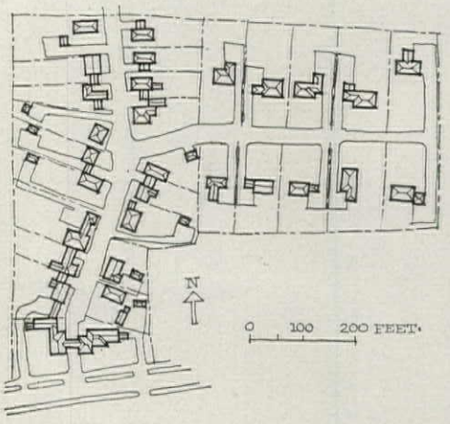
Olmsted, deciding that these two qualities were mutually exclusive, chose "domesticity." His precedent will surely continue to be one pattern—probably the dominant one—for suburban living. But it must be acknowledged that an earlier "development" suburb—that of Regent's Park in London, planned by Architect John Nash in 1812 (plan above, left)—is another alternative. And Nash's plan does provide range as well as domesticity.

The method Nash used was to group houses in and around the park. His plan worked well—so well that when some of the houses were scheduled for demolition last year, the general hue and cry caused the Crown, to whom the properties had reverted after long leases, to renovate them instead.

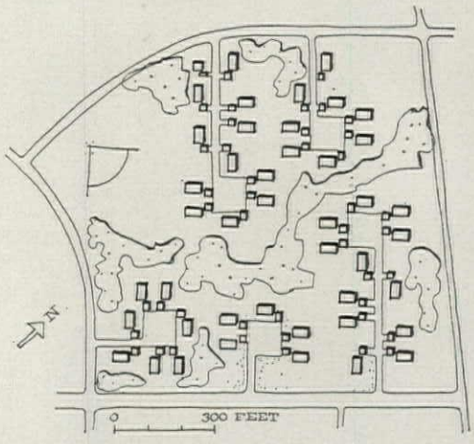
Geometry revisited

One avenue of investigation for today's rethinkers about the Olmsted precedent ought to be the traditional grid-iron plan. On flat land, it works well, and even where the sacrosanct rule of not running streets up and down hills has been violated (as in San Francisco) the results often yield great charm and beauty. As Sir Raymond Unwin, the designer of Letchworth, England's first garden city, proved by designing a large square block with

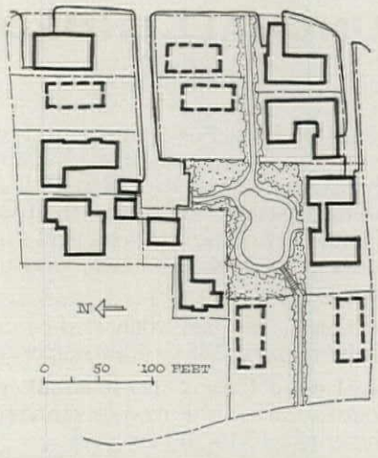
continued on page 178



Sessions Village in Columbus, Ohio violates nearly all current rules of subdivision planning. There are no setback restrictions and no turn-arounds for the cul-de-sac. The unconventional 32-year-old development remains one of the choice subdivisions in the city.

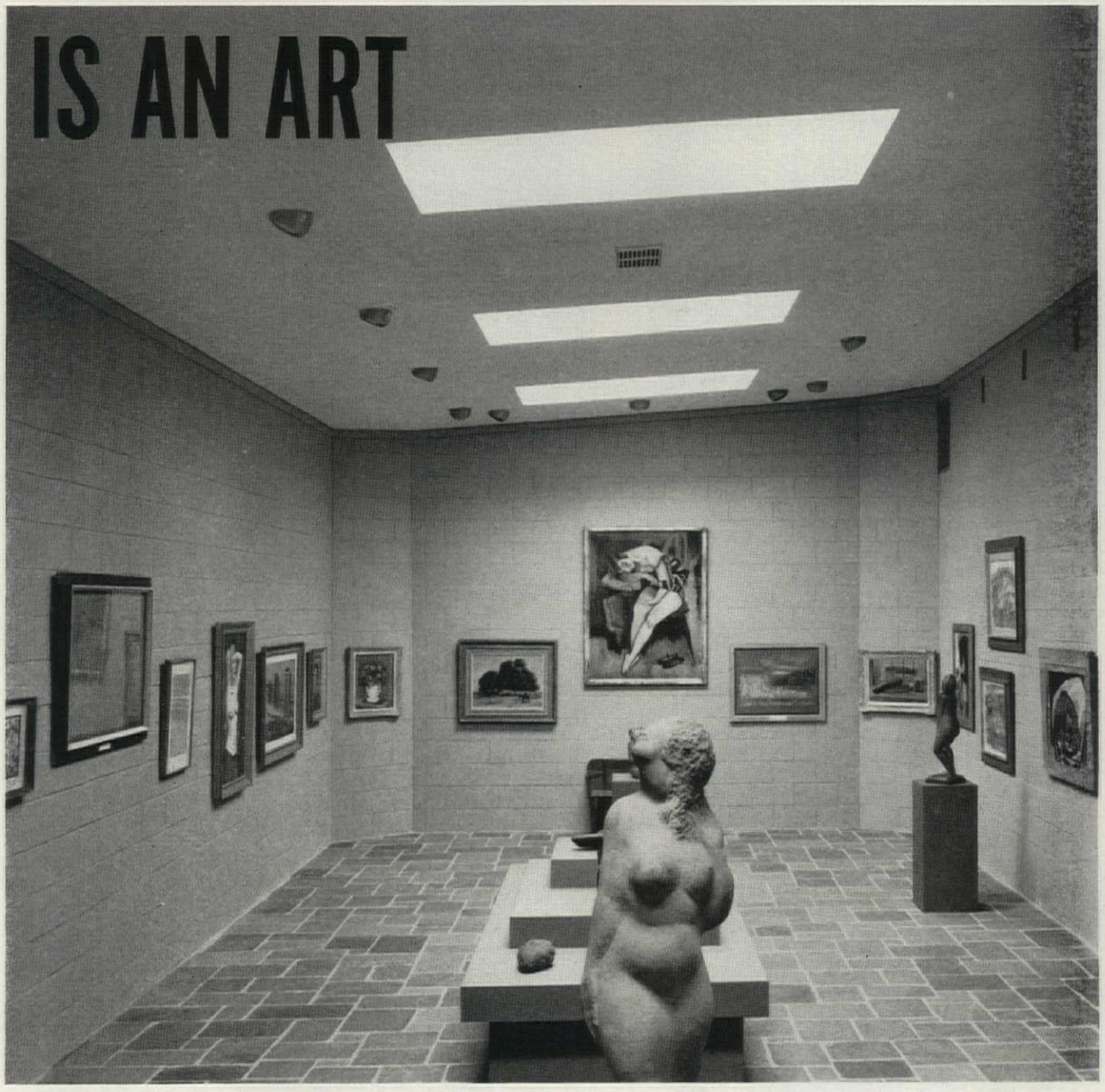


Officers housing at Fort Detrick, Maryland, by Architect Milton Schwartz and Landscape Architects Collins, Simonds & Simonds, uses cul-de-sacs reaching into a park to link houses in closely built groups.



Greenwood Common in Berkeley, California, developed by famed Architect William Wilson Wurster, substitutes a private park for the street. Narrower driveways provide auto access to houses.

GOOD DAYLIGHTING DESIGN IS AN ART



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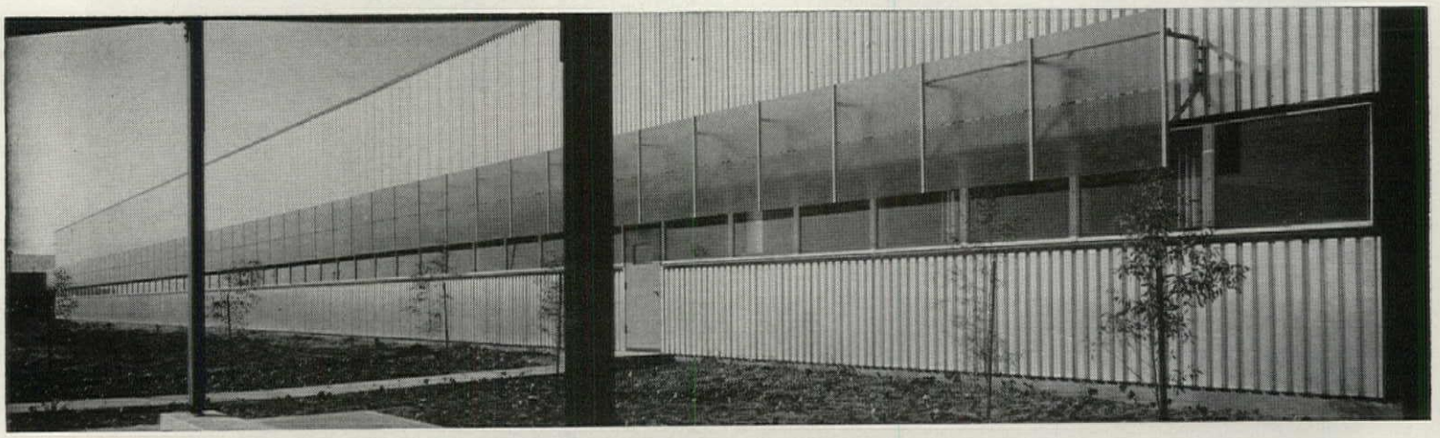
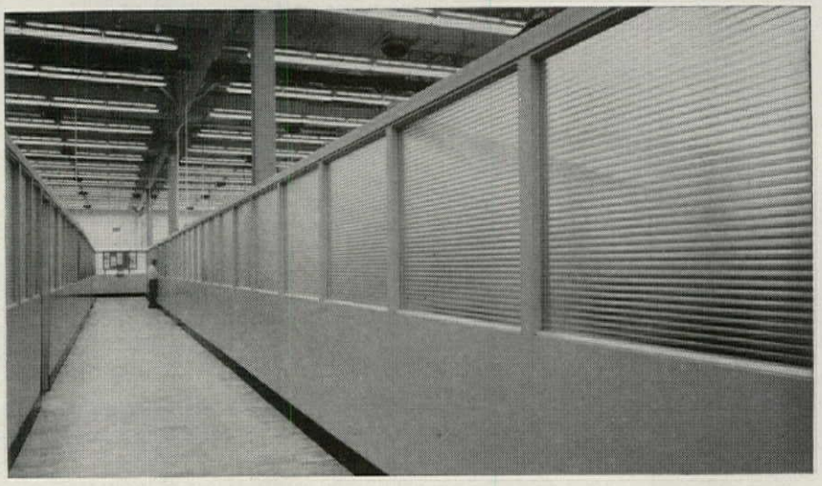


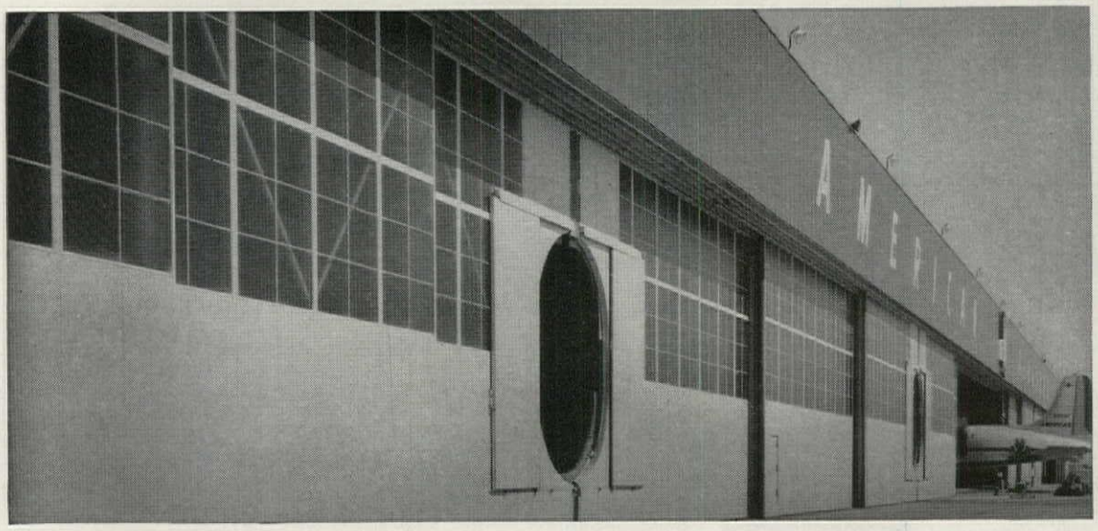
Architects: Marcel Breuer and Associates
Supervision: Craig Ellwood

A point of special architectural interest in the new Torrington Manufacturing Co. plant at Van Nuys, California is the sunshade of Coolite heat absorbing wire glass that spans the western elevation.



Complementing the spectacular new IBM offices in San Jose, California are these Hauserman partitions, glazed with lustrous Mississippi Broadlite glass.

Architect: John S. Bolles, San Francisco, Calif.
Partitions by: E. F. Hauserman Co., Cleveland, Ohio



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Glazing by: W. P. Fuller and Company, Los Angeles, California

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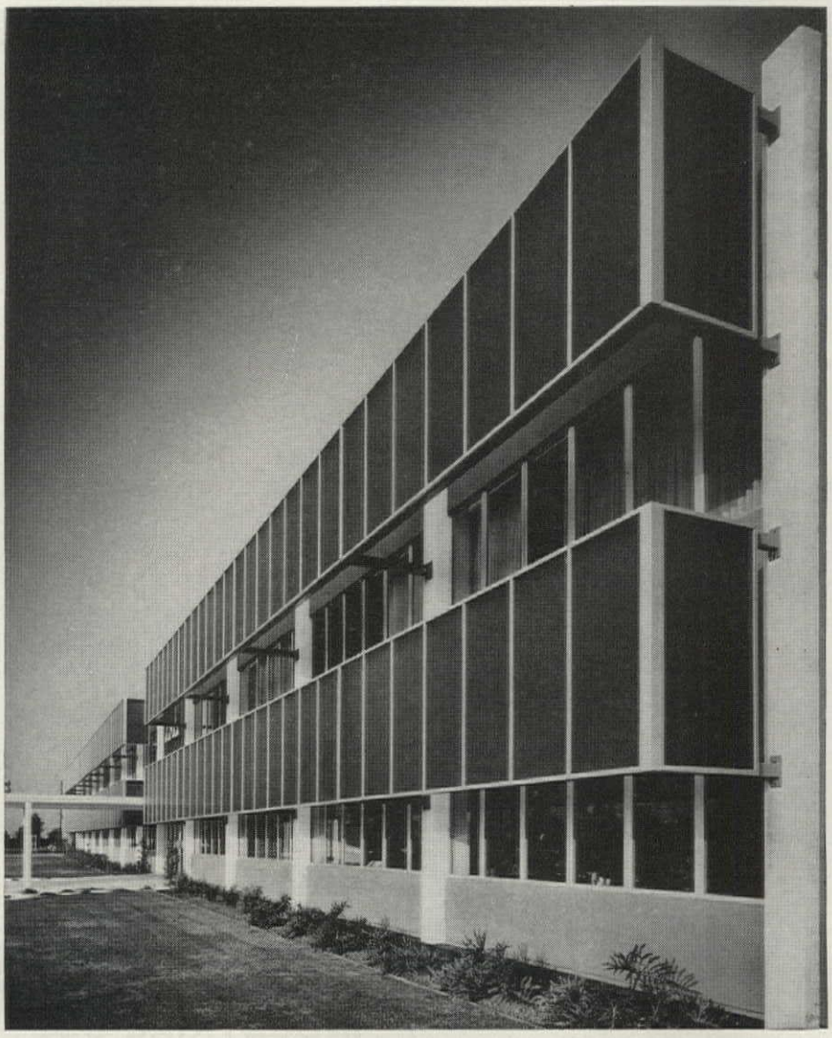

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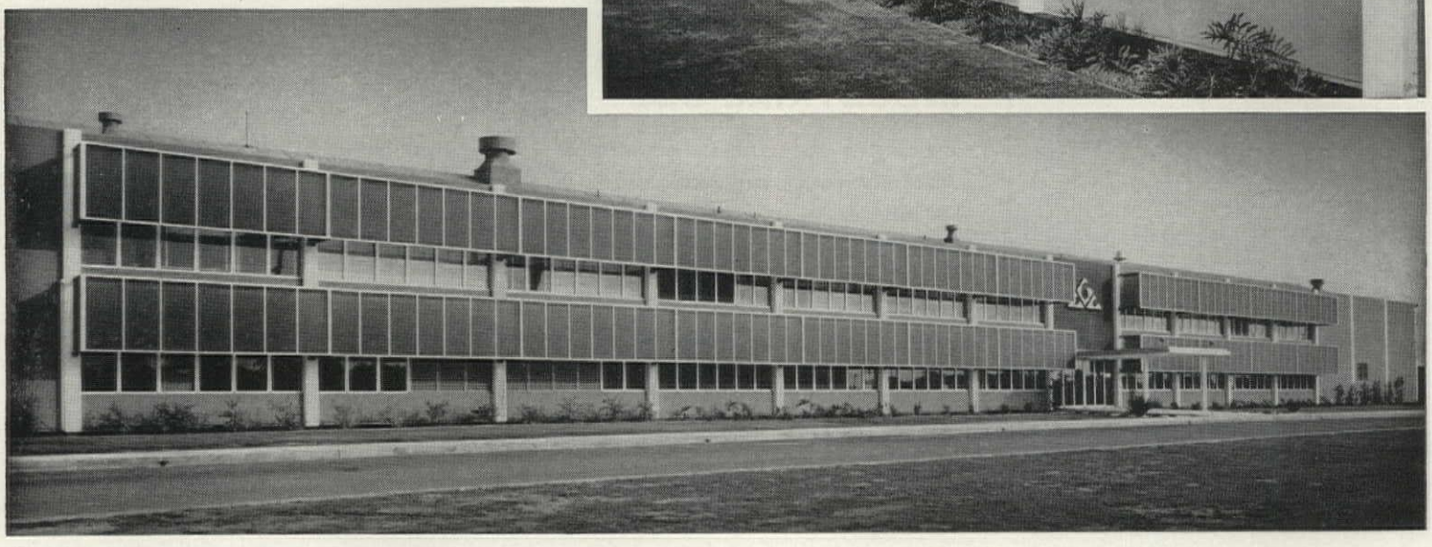
Architect: Falk and Booth, San Francisco, Calif.



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ciation of good architecture but because he finds Mies's designs an asset in renting or selling to a prestige market. Much the same is true of other developers when they choose first-rate architects: the purpose of the building is what counts.

Screening in self-defense

Hospitals and schools use a mixture of selection procedures, but the trend is unquestionably toward routinized screenings. Hospital boards today will generally interview at least a half dozen architects (from a list recommended usually by the hospital's administrator). However, the interviewing is apt to be a fairly hit-or-miss procedure, for board members as a rule do not work from a uniform set of questions. In their final choice, boards will often give the ultimate say-so to the administrator or to the most influential board member. And in most cases today, it will be a local man who is chosen. "The tendency is decreasing," says Hospital Consultant Isadore Rosenfield, "for boards to go outside their regions in hiring."

School clients, particularly public school boards, are probably the most consistent users, and abusers, of intensive screening to be found anywhere today. The shortened patience of taxpayers, and the violent attacks of economy critics, have forced school board members to build their defenses with stacks of longer and longer architect questionnaires and with more and more interviews and on-site inspections. Where once a board might have interviewed three or four architects over a period of two or three weeks, it now may feel compelled to talk with 20 or more, sandwiching in perhaps a half-dozen or so in a single evening (one board in southern New Jersey invited 22 architects to show up on the same night). The net result of all this screening is often bewilderment. Board members may find themselves so exhausted physically and so surfeited with information that in final selection they may simply turn to the local architect they know best and let it go at that (one survey of 48 school jobs, by Architects Joseph Baker & Associates of Newark, Ohio, showed that in 15 cases, or nearly one-third of the total, the architect finally selected after all the screening was a local man).

In the end, for all their criticisms of the screening process, few architects argue that it should be eliminated. Granted that intense screenings can never assure that the best architect, rather than the best salesman or the closest friend, will be picked for the job. But if screening is intelligently carried out, it can improve the chances of a superior choice, and it does expose the client to at least a cursory education in architecture. There is certainly a need for such education, for corporations and other institutional clients have, with some brilliant exceptions, accepted surprisingly low architectural standards in the past. Thus for all its complexities and frustrations, screening does possess a strong potential for good. And in the long run, if screening produces only a slightly better America, its advantages will have far outweighed its drawbacks.

END

Photo by—HEDRICH-BLESSING

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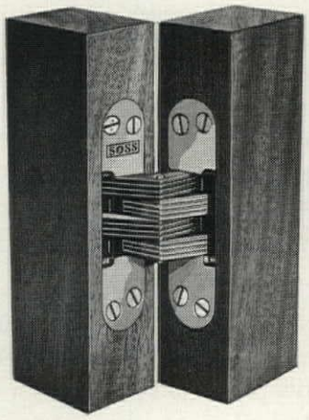

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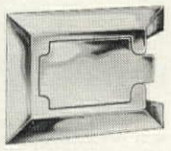

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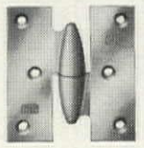

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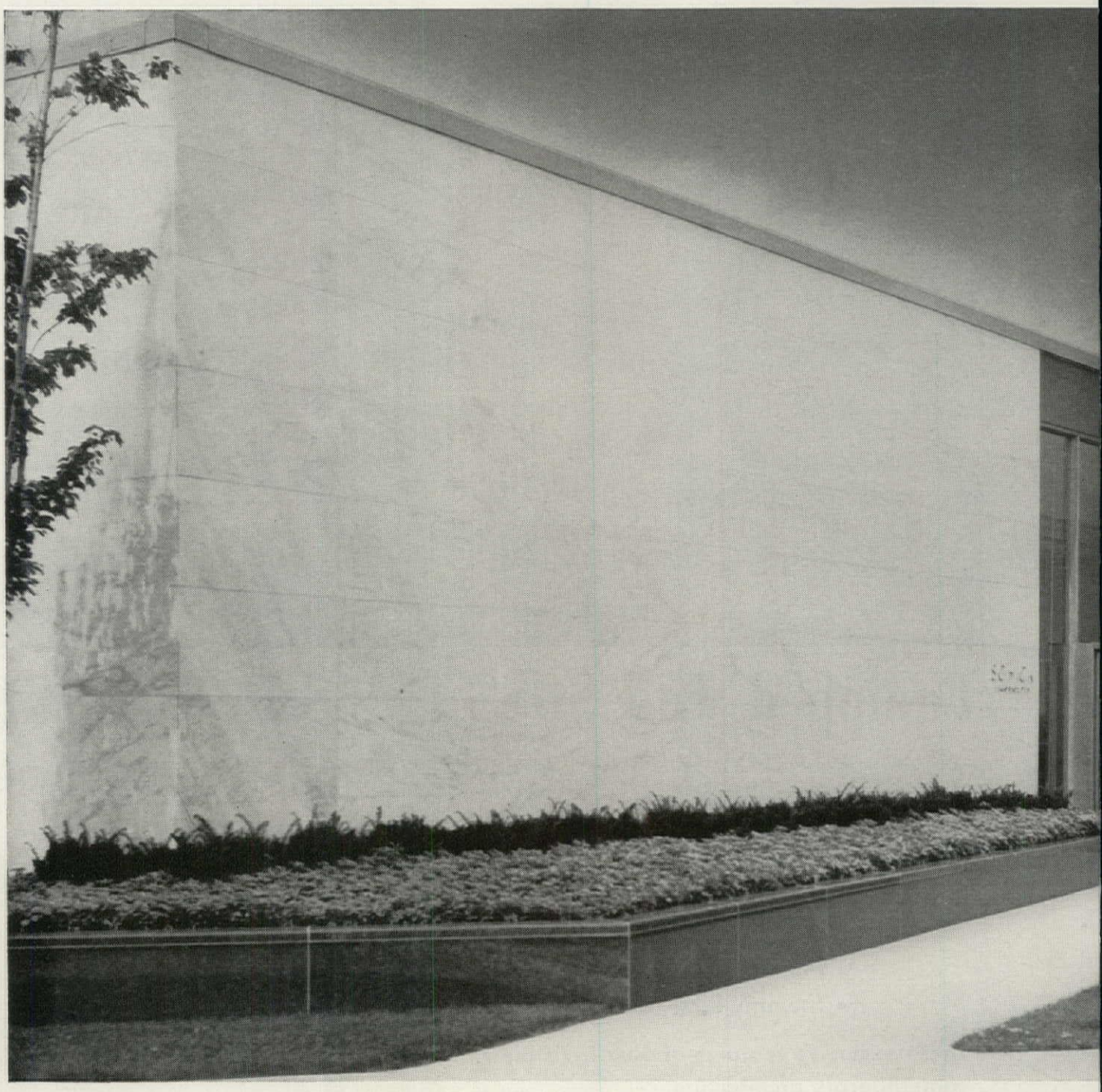

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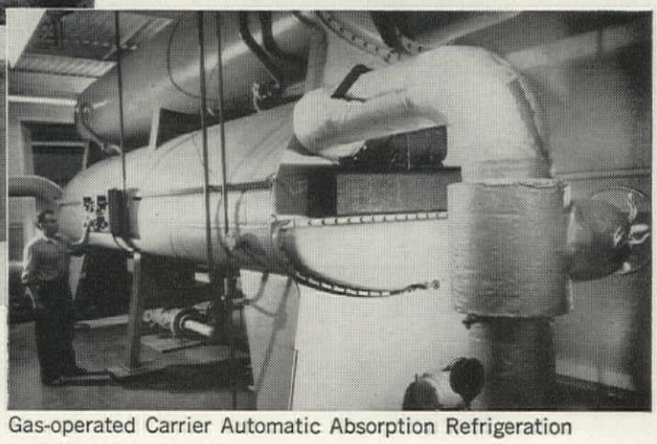

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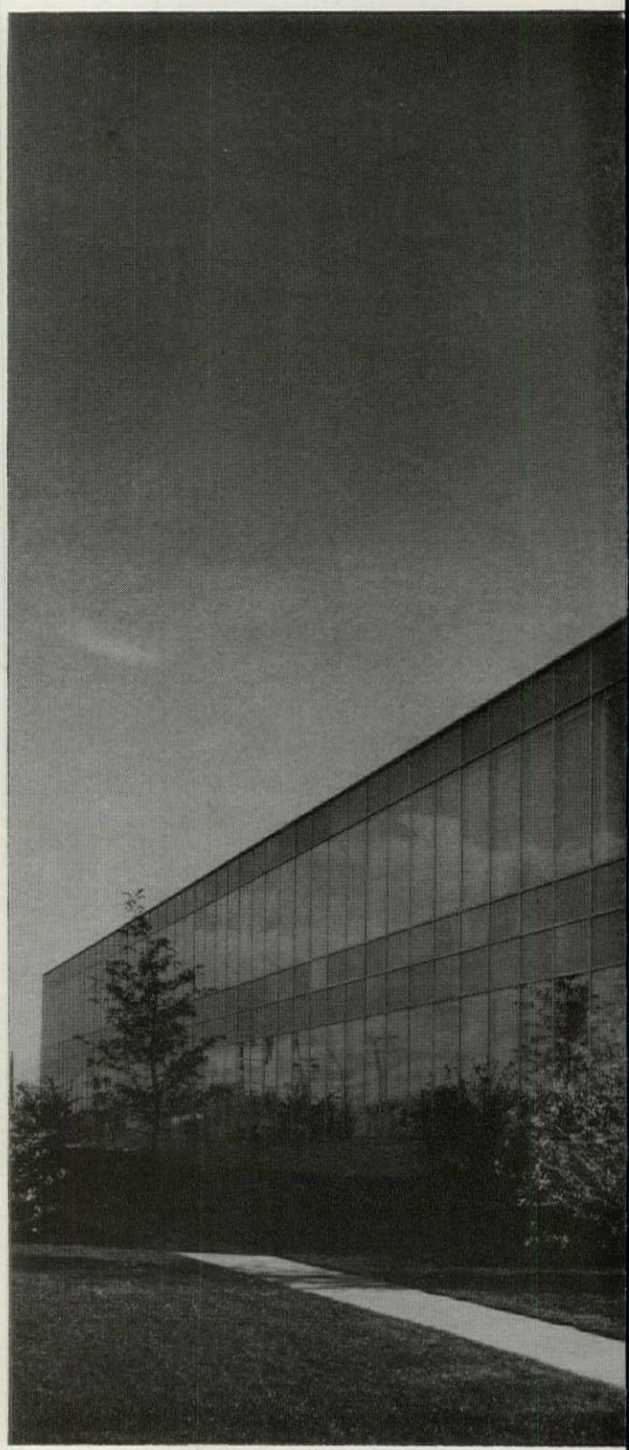

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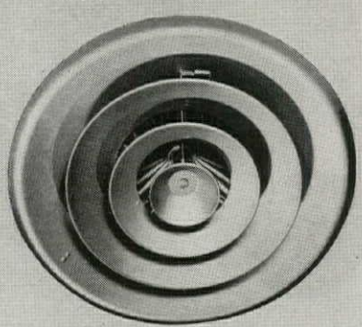

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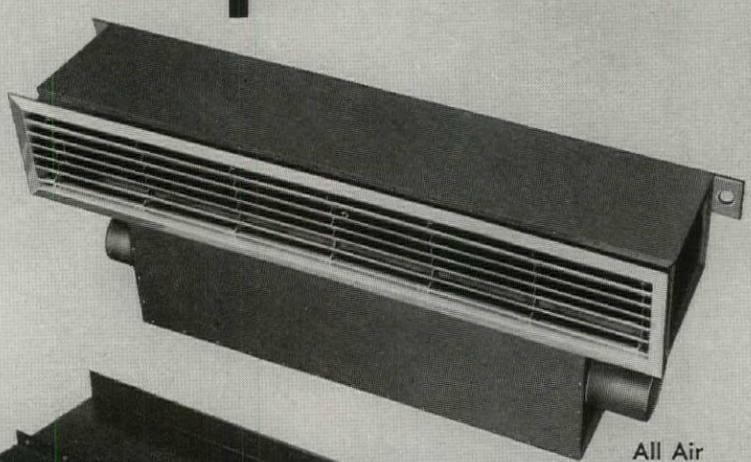

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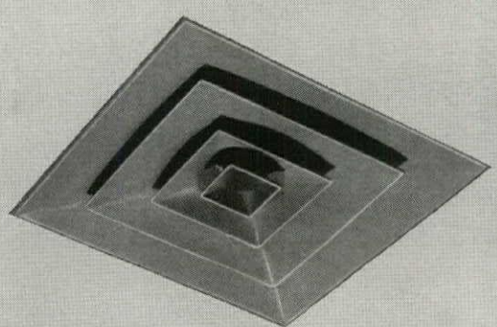

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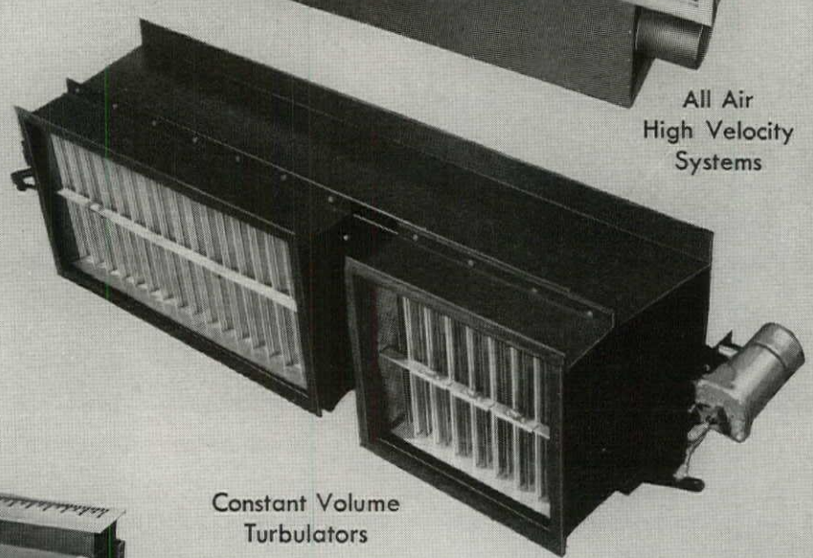

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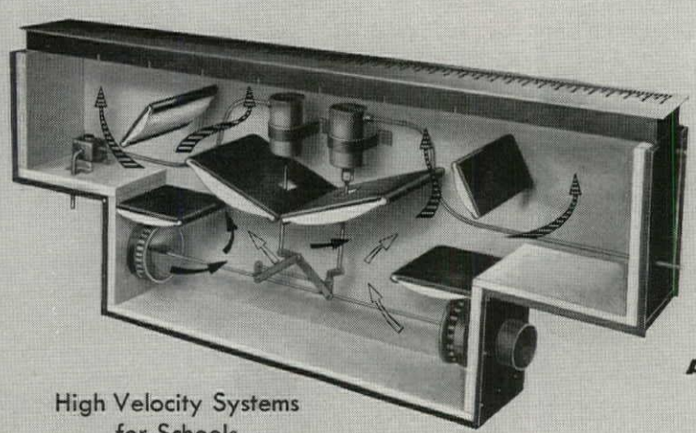

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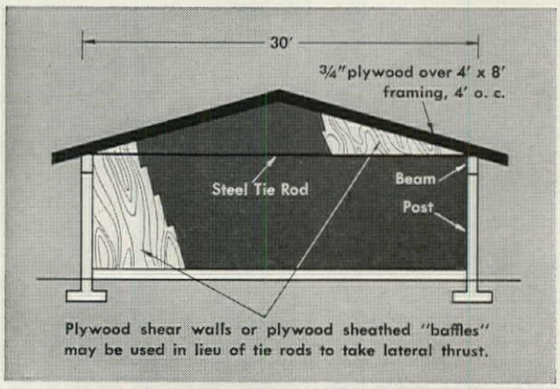

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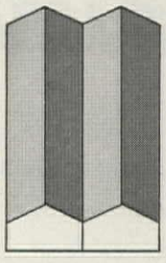
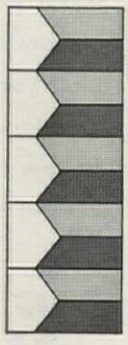
THIS folded plate plywood roof system developed for an expandable community school offers a straightforward solution to the problem of obtaining a high degree of design flexibility at low cost.

The basic tent-shaped canopy units may be placed separately or combined in series or rows to cover any given area. With supports needed only at wide intervals, walls and partitions may be arranged or re-arranged as needed.

Structurally, the system relies on the outstanding diaphragm strength of the plywood sheathing. The roof planes—each a rigid plywood diaphragm—are inclined to form a giant inverted "V" beam, eliminating posts or trusses normally required for support under the ridge. Because the roof is self-supporting at the center, rafter spans can be nearly doubled, e.g., up to 50 feet with 4 x 14's on four foot centers. Diaphragm action also permits ties and supporting columns to be placed at wide intervals.



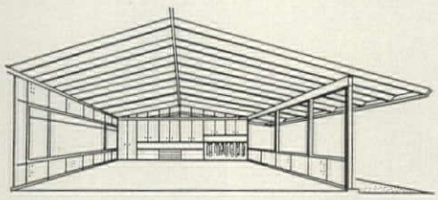
Basic units can be arranged in series or rows as needed



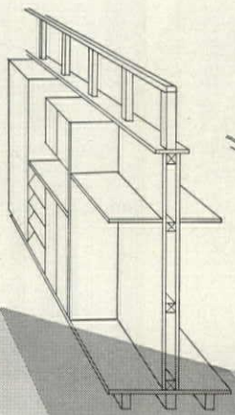
ONE OF A SERIES FROM "SCHOOLS OF THE FUTURE"

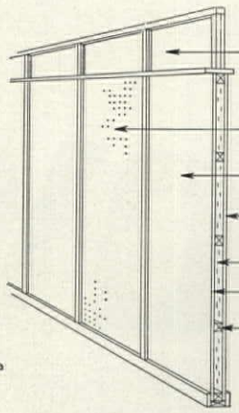
. . . a portfolio collection of outstanding designs by six leading architectural firms. Material includes details on folded plate roof system shown above. For free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Wash.

Also write for information about design and engineering consultation services.



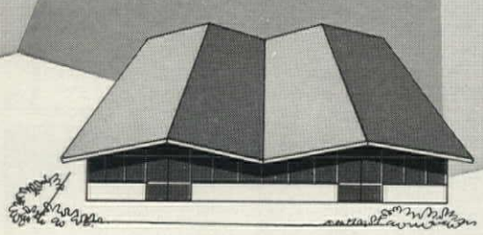
The interior may be left open for classroom uses
. . . or divided into smaller areas by movable partitions



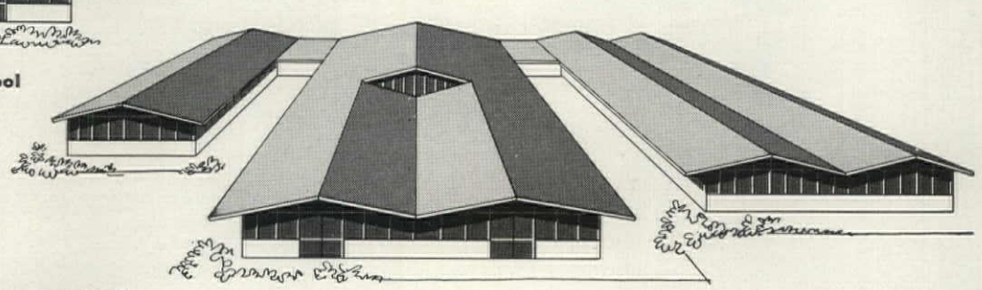


FOLDED PLATE ROOF

PROVIDE MAXIMUM FLEXIBILITY FOR AN EXPANDABLE SCHOOL



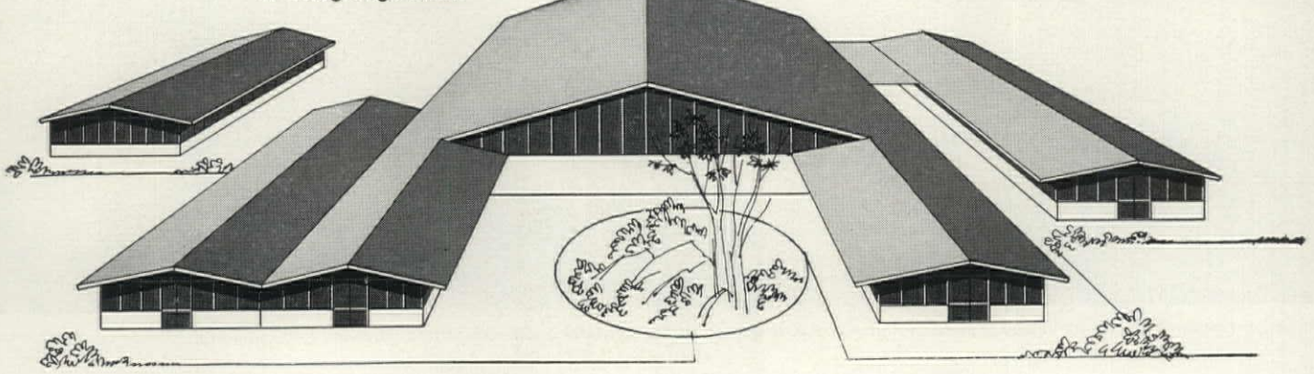
1. a small elementary school

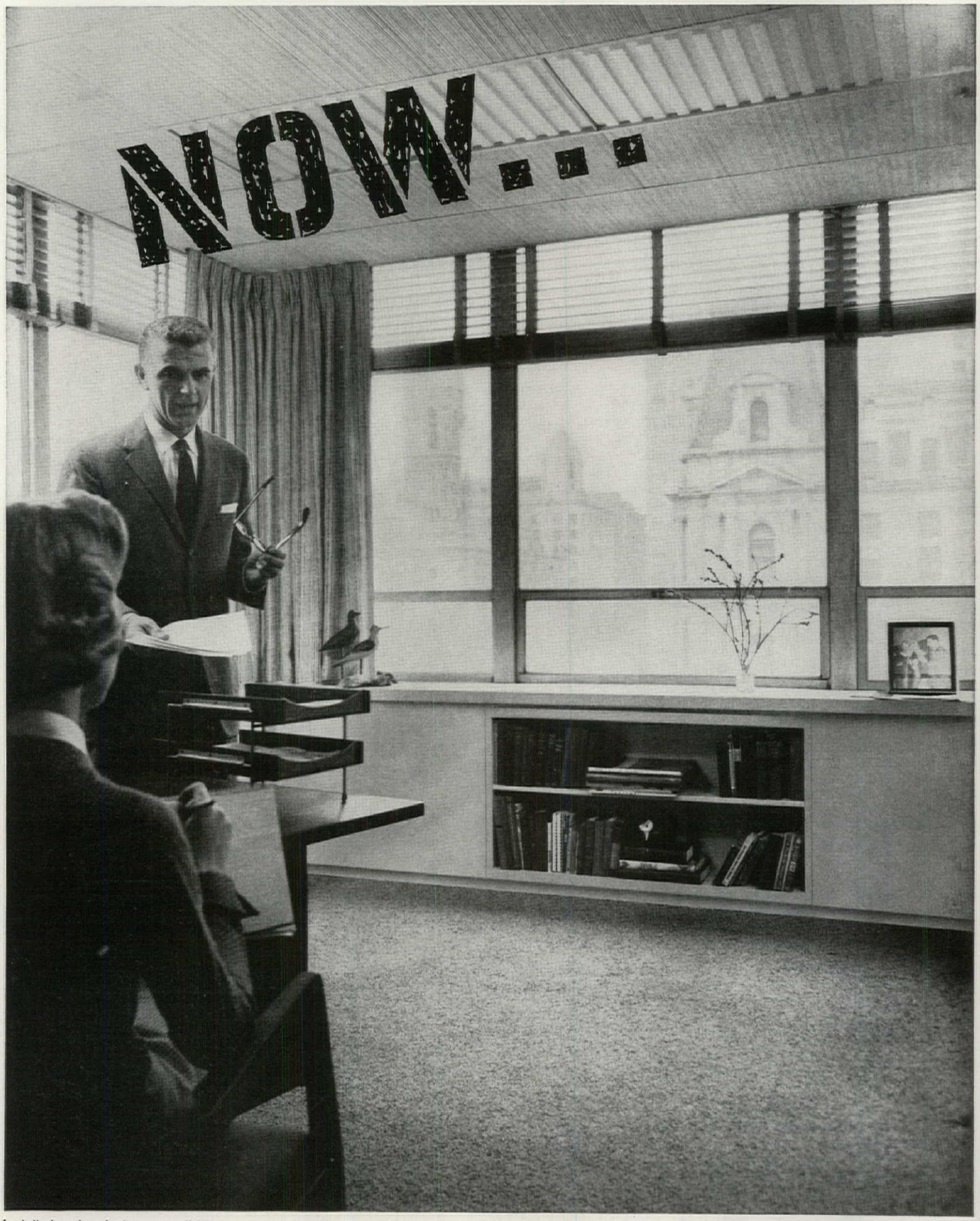


Units can be added as needed

Illustrations based on designs by John Lyon Reid & Partners

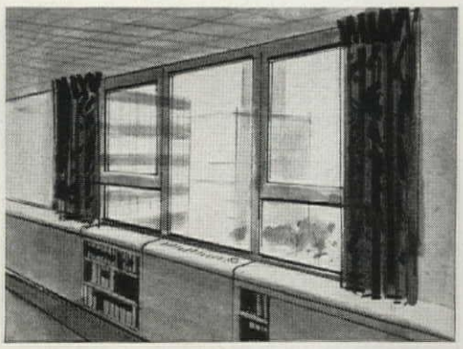
3. a large high school





Installed under single responsibility . . . all in one unified system—LUPTON curtain walls, comfort-conditioning units, shelves, and cabinets.

LUPTON makes individually-regulated comfort conditioning an integral part of a curtain-wall system



On the inside, a sill of normal depth tops the compact comfort-conditioning unit as well as its adjacent cabinets—presenting an extremely attractive decor.

Reduces installation costs 40-60% from previous air-conditioning methods for all true "perimeter" buildings

Now that comfort conditioning has been combined with LUPTON curtain-wall systems, you can forget about unsightly, expensive cooling towers . . . bulky, space-eating ductwork and plumbing connections. The only apparatus necessary for LUPTON comfort conditioning is electrical connections.

Skilled LUPTON crews will assemble the units . . . giving you one-source responsibility for outside wall and inside cabinets, shelves, and comfort-conditioning equipment. This eliminates the problems of specifying and coordinating these various parts. The curtain wall and comfort-conditioning system are installed together to form a complete exterior-interior wall.

Two interchangeable units

LUPTON gives you two comfort-conditioning units to work with: heavy-duty for areas with a particularly heavy cooling load, and lighter-duty for average loads. Both units have the same dimensions, and can be interchanged as loads increase or decrease. All components are selected for low noise level and durability. They're precision-balanced for maximum over-all efficiency.

LUPTON comfort conditioning is designed and installed to give room-by-room control of air-conditioning, filtration, ventilation, and exhaust. These advantages, plus the space it saves, are among comfort conditioning's major rental features for building owners.

Another is lower air-conditioning costs. Because temperature is regulated from each unit by the occupant of each room, there's no costly over-air-conditioning. Individual comfort control allows complete variation from room to room.

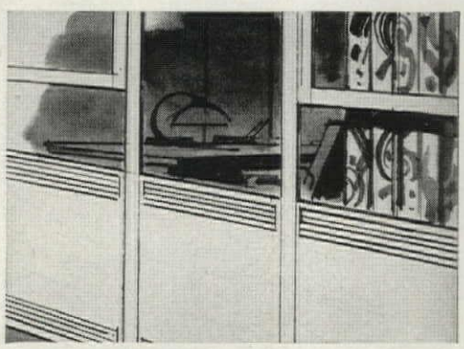
System widely flexible

With advance planning, your LUPTON comfort-conditioning system is simple to re-arrange. You can make changes in the number and location of comfort-conditioning units with ease and speed . . . at relatively small cost.

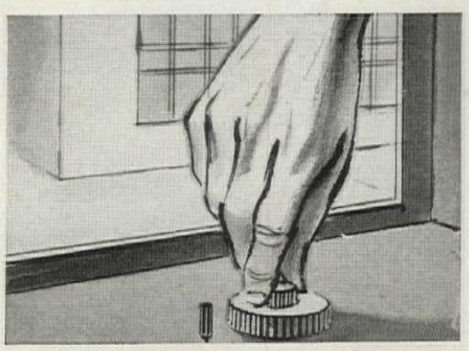
Just treat all exterior panels in a uniform manner to provide for comfort conditioning. Install as many LUPTON Comfort-Conditioning Units as you need at first. Combine them in each office with shelving, bookcases, or storage cabinets. Then, you can replace these latter units, when required, with additional LUPTON comfort conditioners.

You can also conceal or expose the air-circulating function of the panels. This feature allows you endless opportunities for variations in spandrel proportions and surface treatment.

Write today for more information about Comfort Conditioning. Explore the almost unlimited possibilities of LUPTON's newest advance in aluminum curtain-wall design and function.



On the outside, nothing protrudes. Wide separation between air intake and discharge gives faster, more efficient dissipation of heated air, prevents it from re-circulating.



One panel controls temperature, fan, and exhaust for smoke or odor removal . . . allows each occupant individually to regulate comfort conditioning for his office.

Through advance planning, you can readily expand or decrease comfort-conditioning capacity, interchange units quickly, easily, and at small cost.

LUPTON®

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MICHAEL FLYNN MANUFACTURING COMPANY

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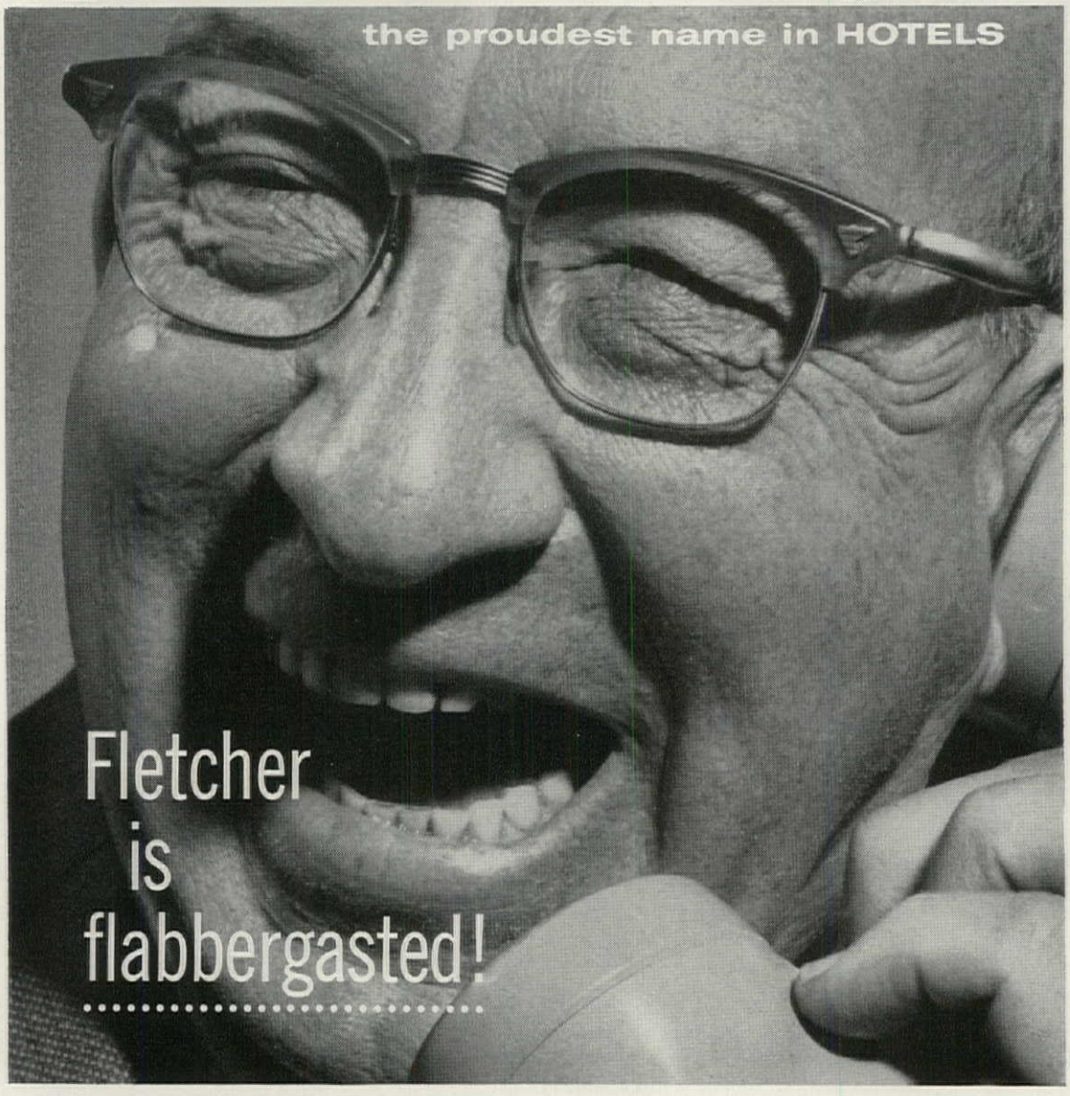

Which of these 39 cities is your next stop?

EAST
NEW YORK
BOSTON
WASHINGTON
PITTSBURGH
BALTIMORE
PHILADELPHIA
PROVIDENCE
ATLANTIC CITY
SPRINGFIELD, Mass.
ALBANY
ROCHESTER
BUFFALO
SYRACUSE
BINGHAMTON, N.Y.
(opens early 1959)

MIDWEST
CHICAGO
DETROIT
CLEVELAND
CINCINNATI
ST. LOUIS
OMAHA
AKRON
INDIANAPOLIS
FRENCH LICK, Ind.
RAPID CITY, S. D.
SIOUX CITY, Iowa
SIOUX FALLS, S. D.
CEDAR RAPIDS, Iowa

SOUTH
LOUISVILLE
DALLAS
(opens early 1959)
AUSTIN
MOBILE

WEST COAST
SAN FRANCISCO
LOS ANGELES
PASADENA
PORTLAND, Oregon
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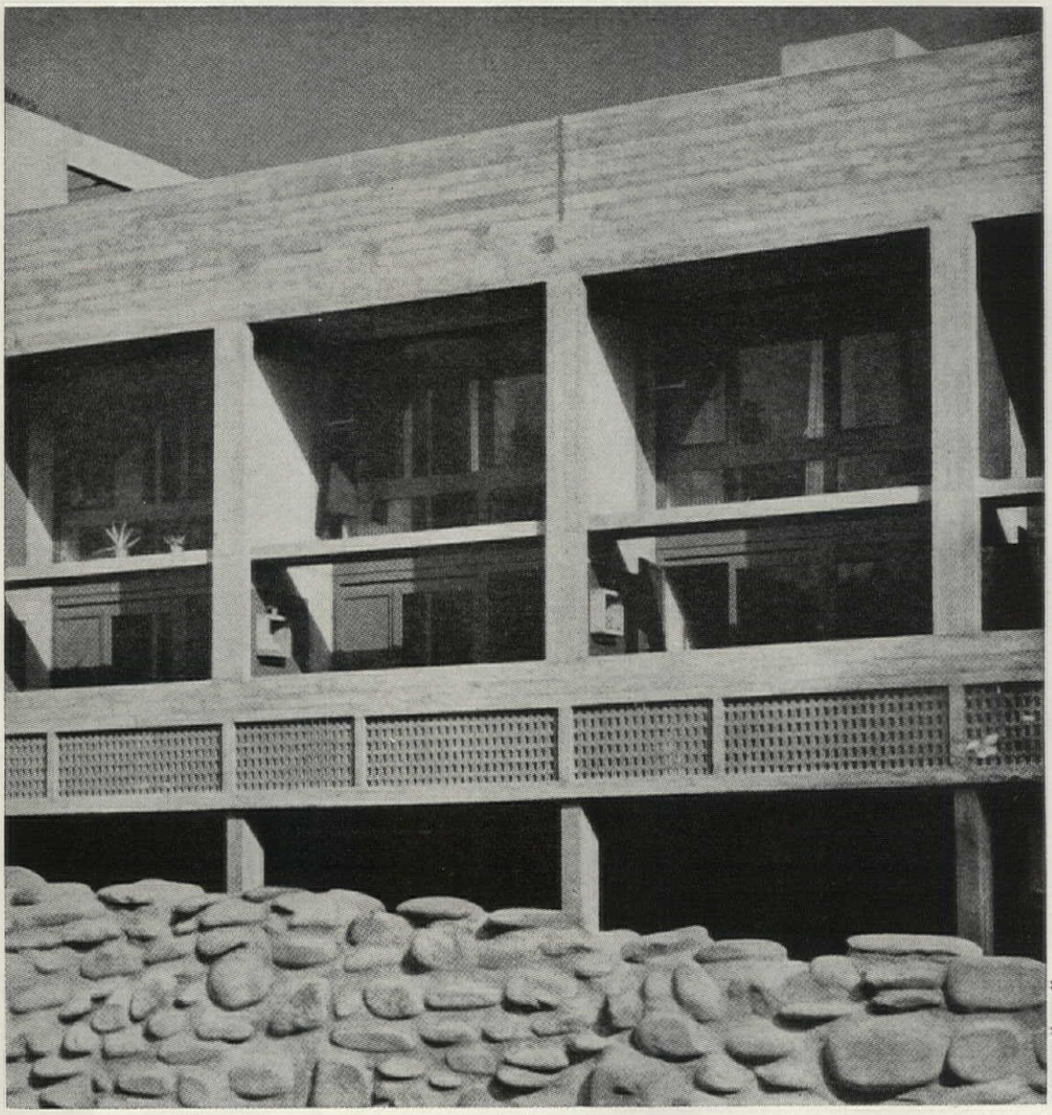
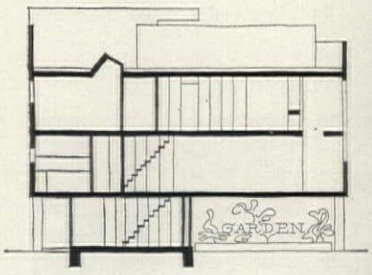
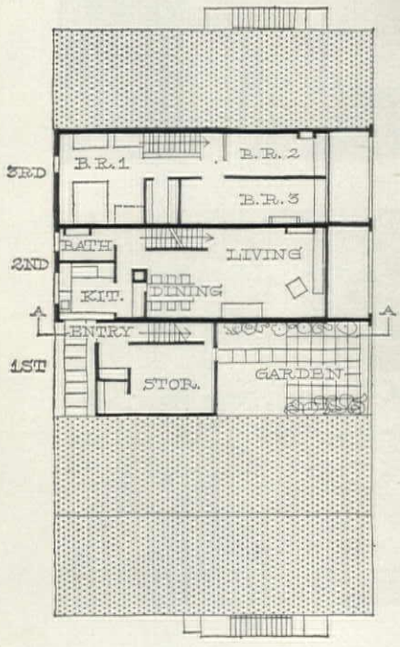
A continuing review of international building



COURTESY "WERK"

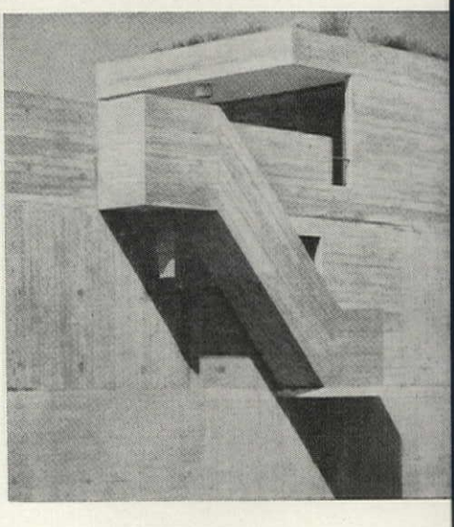


SECTION A-A

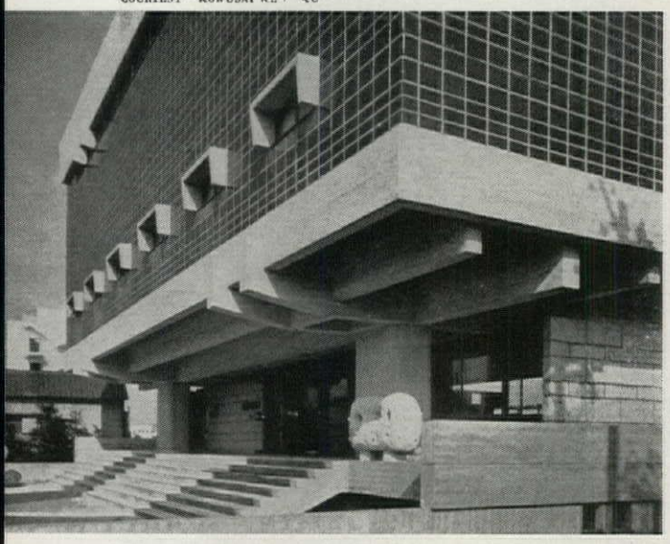


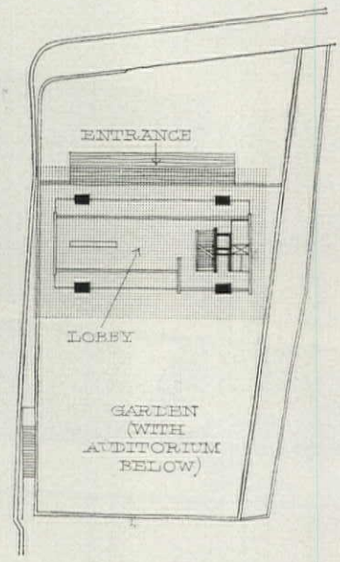
SWISS COOP

A group of Swiss architects who call themselves "Atelier 5 Bern," and who seem to derive inspiration from Le Corbusier, have built a block of cooperative row houses in suburban Flamatt. Recognizable Le Corbusier trade-marks: the deeply recessed, geometrically patterned façade (above); the extremely narrow apartments (each unit—see floor plan at left—measures only 6 feet by 12 feet wide); the sun-drenched roof terrace; and the rugged concrete structure and finish (right). The economies of the plan are as notable as the design—the owners put down only $2,500 for their six-room houses, pay a mere $30 monthly for service.



COURTESY "KOKUSAI KENCHIKU"





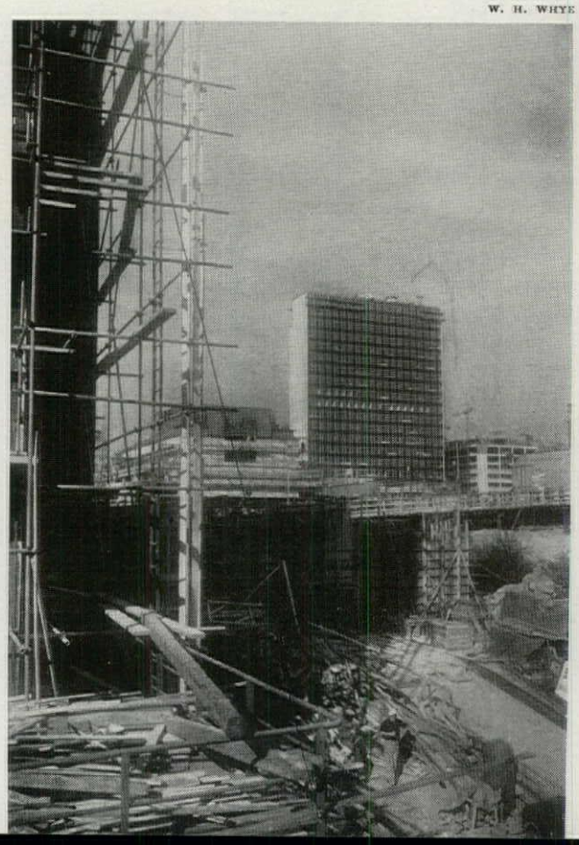
JAPANESE ART

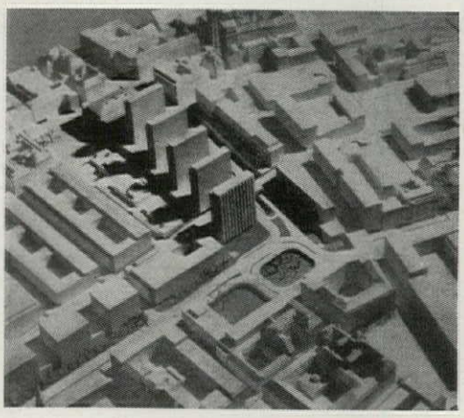
Its side walls faced with purple terra-cotta blocks, Kenzo Tange's new art center in Tokyo is a colorful exception to his recent run of stark civic buildings. And although the art center is strongly structural, cantilevered out on reinforced concrete beams from four central columns, its balanced forms and fine lines make it appear less brutal (and more like an art center) than his many structural tour de forces. Original specifications called for prestressed concrete beams, which would have allowed the lines to be even slimmer, but the city's building codes ruled them out.

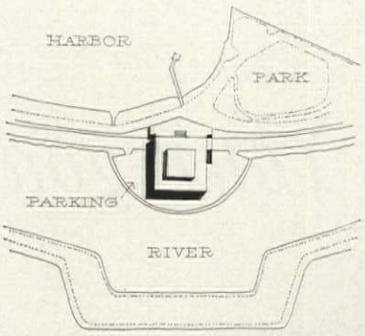
SWEDISH DOWNTOWN

Swedes like to live in cities as well as in such carefully planned, nicely proportioned suburbs as the new Vällingby (FORUM, September 1956). The most recent evidence of Swedish urbanity is the five-block Hotorget development in downtown Stockholm. There (as seen in the model at far right, below), five apartment towers are being erected in the midst of a multilevel complex of stores, theaters, office buildings, and transportation arteries. The project began to be seriously considered only when it appeared that work on a new subway system would be so extensive that a large-scale housing development should go along with it. One tower of the Title I-type scheme has already been completed (right) and a subsurface market is already functioning (far right, above). City Planner Goran Sidenbladh is responsible for the development.

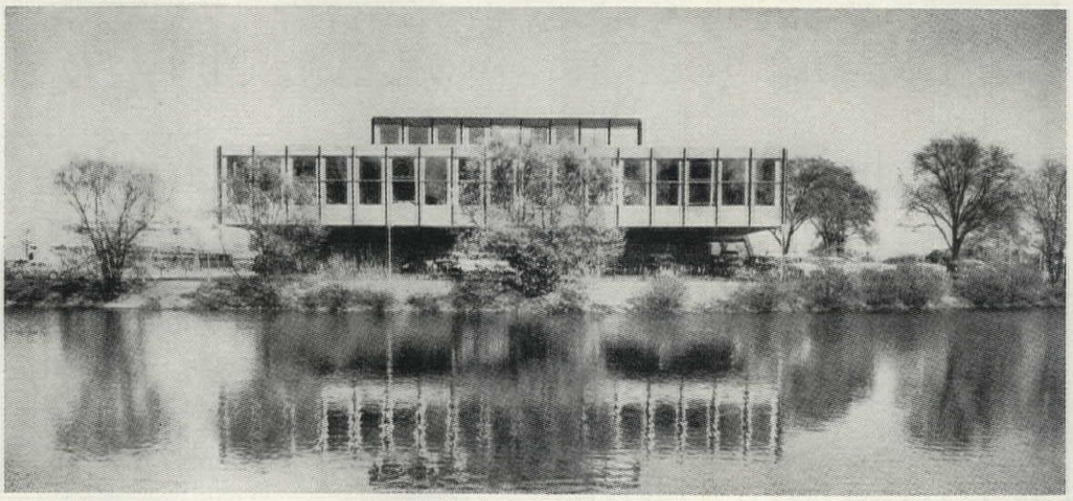
W. H. WHYTE







COURTESY "CASABELLA-CONTINUITA"

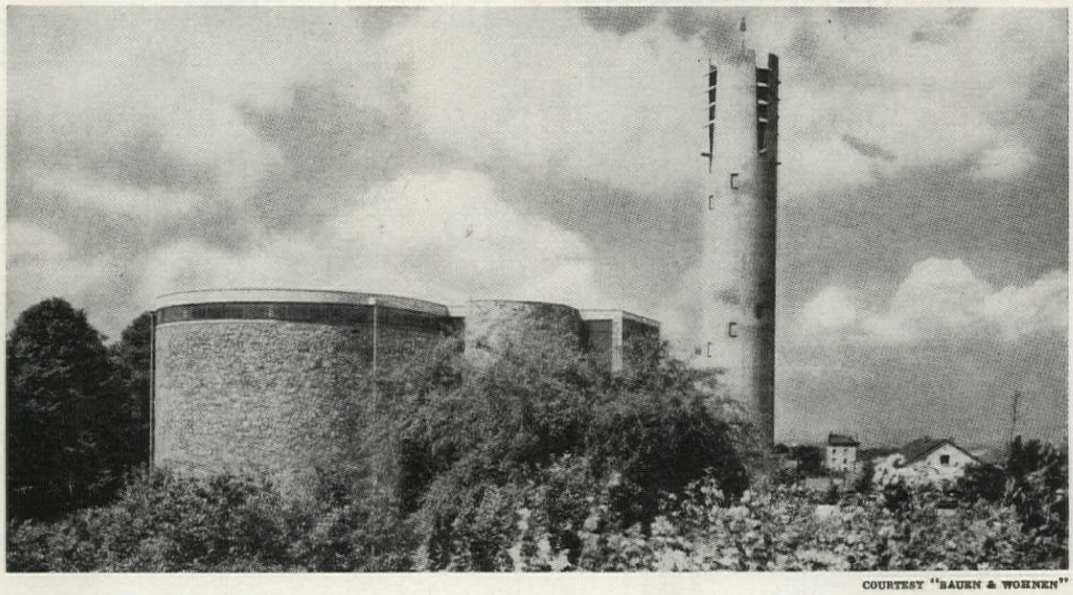


DANISH CLUB

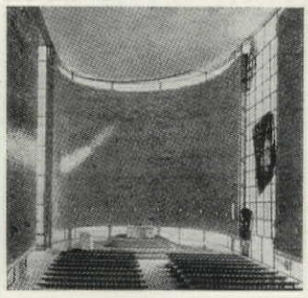
Clever planning and design have gone into this clubhouse outside Copenhagen, Denmark. Because the building was located on an inexpensive strip of marginal land between Copenhagen Harbor (at top in the sketch) and a tidal stream, more money could be spent on high-quality materials. Architects Eva and Nils Koppel designed the clubhouse so that all four sides offer a handsome glass and aluminum façade precisely striped with steel mullions (left). The main floor of the reinforced concrete structure is cantilevered out from the base (in which service facilities are housed) so that the public dance floor and dining rooms appear to be suspended over the water. The club's private rooms are placed atop the main structure in the nautical, bridge-like penthouse.

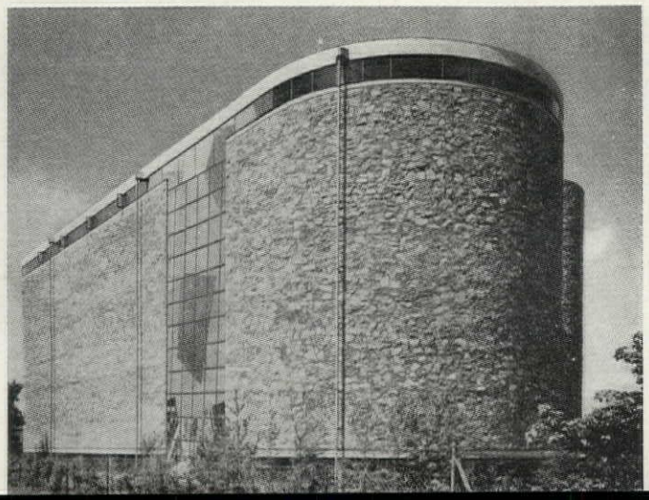
GERMAN MYSTIQUE

Architects of modern Catholic churches in Germany have succeeded in giving their buildings a special look that has been called "militant mysticism." St. Wendel's Church in Frankfurt, by Architect Johannes Krahn, appears to be almost a definition of that term. Its sheer, 1½-foot-thick stone walls and watchtower-like campanile (right) give it the appearance of a mighty fortress. And yet, inside the church, because of the architect's handling of space and light, the wall behind the altar achieves a magical quality of massive weightlessness (below).



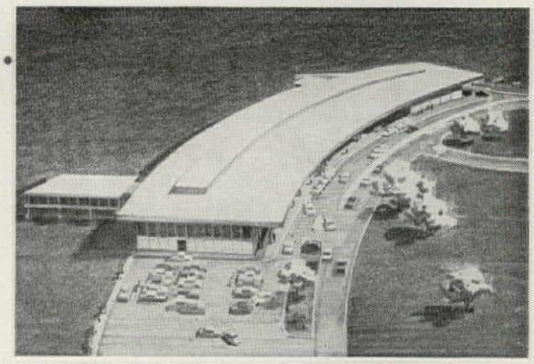
COURTESY "BAUEN & WOHNEN"





Your goal and ours

Your goal as an architect is to design new and exciting buildings... esthetically pleasing, structurally sound.



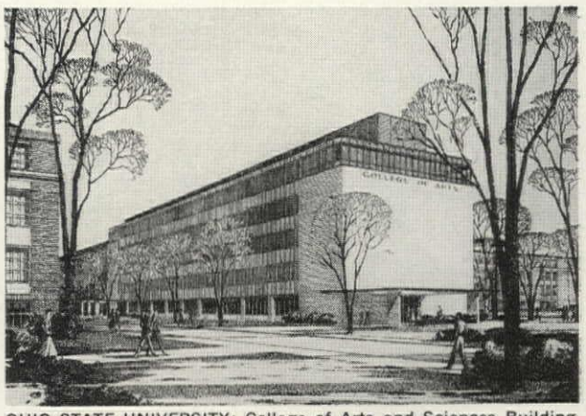
NEW YORK: United Air Lines Passenger Terminal. General Contractor: Humphreys & Harding, Inc. Architect: Skidmore, Owings & Merrill. Aluminum Materials: Kaiser Aluminum and Chemical Sales, Inc.

Our goal is to manufacture and produce architectural metals that allow you this esthetic freedom – yet are economical, easy to erect, enduring.

BROOKLYN: America Fore Loyalty Insurance Group Building. General Contractor Owner: Brooktown Building Corporation, White Plains, New York. Architects: Morris Lapidus, Kornblath and O'Mara, New York. Aluminum Materials: Aluminum Company of America.

North American Architectural Metals are custom-designed but economically produced... equally adaptable to simple one-story structures and lofty skyscrapers.

Architectural Metals



OHIO STATE UNIVERSITY: College of Arts and Sciences Building. General Contractor: Geo. W. Lathrop & Sons, Inc. Architects: Hays and Ruth. Aluminum Materials: Aluminum Company of America.

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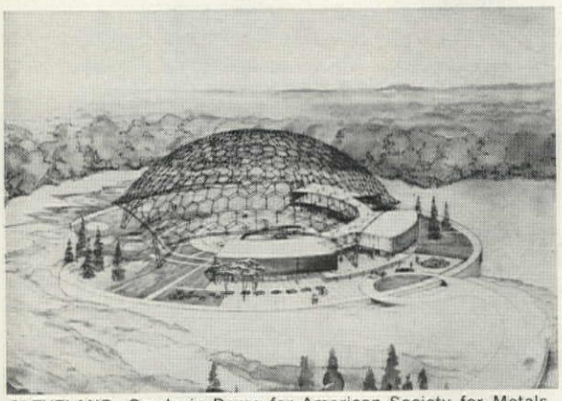
The architects who are now using North American Architectural Metals are creating modern structures of lasting beauty.



CLEVELAND: Geodesic Dome for American Society for Metals. General Contractor: The Gilmore-Olson Company, Cleveland. Architect: John Terrence Kelly, Cleveland. Dome design: Synergetics, Inc., Raleigh, N. Carolina. Aluminum Materials: Kaiser Aluminum and Chemical Sales, Inc.

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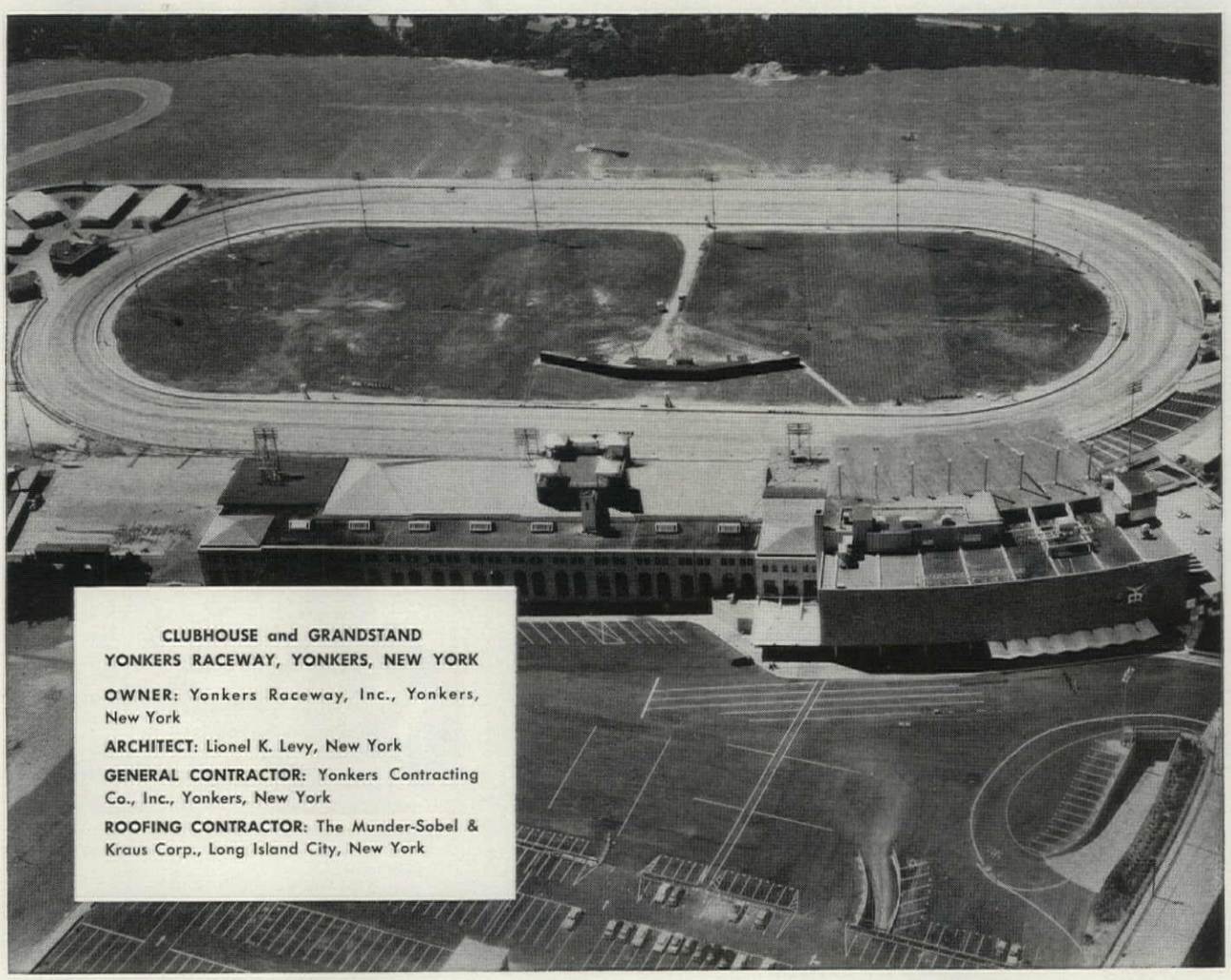

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YONKERS RACEWAY, YONKERS, NEW YORK

OWNER: Yonkers Raceway, Inc., Yonkers, New York

ARCHITECT: Lionel K. Levy, New York

GENERAL CONTRACTOR: Yonkers Contracting Co., Inc., Yonkers, New York

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They're off! Yonker's ultra-modern trotting track has quickly won acclaim from architects and fans alike. Its smooth, functional lines represent the latest design, offering a perfect view of track events from every part of the grandstand. Even more important, from the structural viewpoint, it offers all-weather protection throughout the summer and fall racing seasons.

Ruberoid Built-Up Roofing on Club House and Grandstand Extension contribute a significant share to the weather protective features of both structures. 668 squares of Special Roofing Bitumen Spec. 203-A over Insulation Board, and Special Roofing Bitumen Spec. 202-A over nailable concrete contribute, economically, to this dream track's full-time protection.

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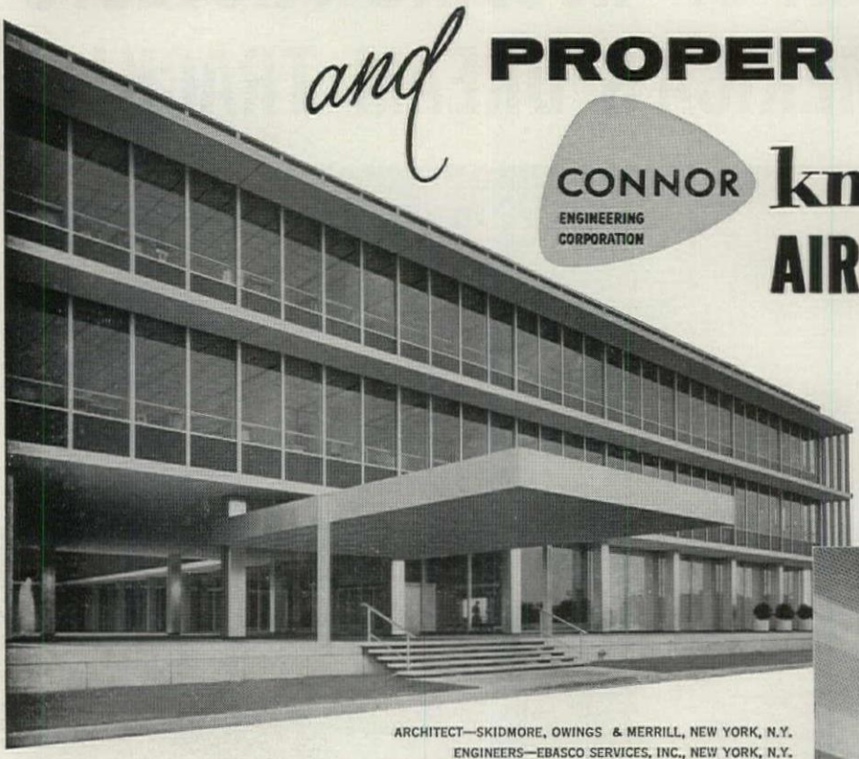
kno·draft® AIR DIFFUSERS

FOR THE NEW REYNOLDS METALS BUILDING



ARCHITECT—SKIDMORE, OWINGS & MERRILL, NEW YORK, N.Y.
ENGINEERS—EBASCO SERVICES, INC., NEW YORK, N.Y.
CONTRACTOR—HUFFMAN-WOLFE SOUTHERN CORP., CHARLOTTE, N.C.

Connor engineers and equipment solved a unique two way air conditioning problem at the new Reynolds Metals office building, Richmond, Virginia.

A. Functionally, Connor equipment permitted *complete* concealment of *both* the air diffusers and return registers above a grid ceiling, with proper air distribution assured.

B. Architecturally, Connor equipment, where necessarily exposed, hardly reveals its purpose by stylistically conforming with the striking simplicity of the building's interior.

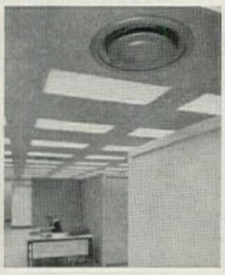
Diffuser installation above ceiling is an engineering accomplishment previously believed unworkable.

Pre-installation tests conducted at Connor's laboratory proved conclusively that the high degree of air entrainment produced by the Kno-Draft single stream diffuser satisfactorily would move air upward through the grid ceiling, where it would mix thoroughly with the supply air, and provide the areas below with constant, highly efficient air conditioning. And since installation, the equipment has been serving the Reynolds building to complete satisfaction.

Contact Connor for recommendations on your air distribution problems . . . common or uncommon. Our research and long practical experience guarantees you constant comfort conditions.

In grid ceiling areas, diffusers and return registers are entirely hidden.

In the plastered ceiling cafeteria, black, rounded contour units conform with the decor.



A standard Kno-Draft diffuser in an office area.

In other areas, linear diffusers, virtually unnoticeable from below, are mounted along the wall.

The above ceiling diffusers and the specially designed round and slotted units perfectly fulfilled stylistic requirements.
And not unexpectedly, Connor equipment is of all-aluminum construction.

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high velocity air diffusers