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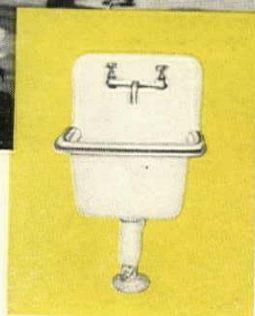
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based on the President's
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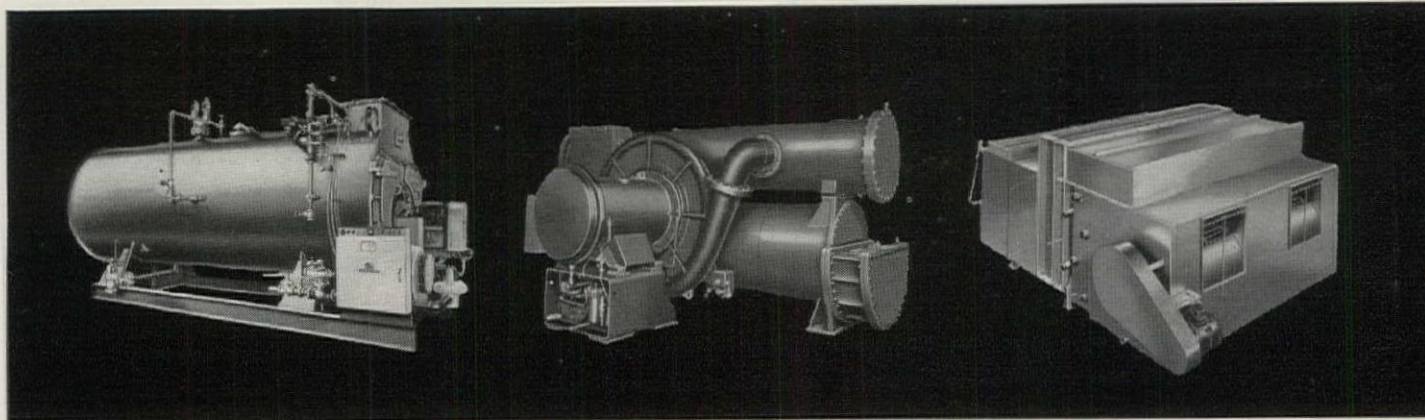
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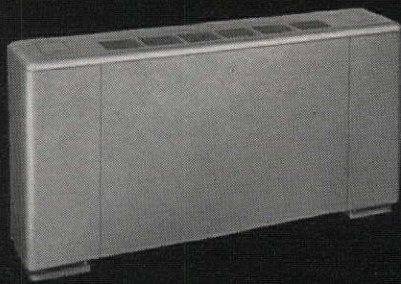
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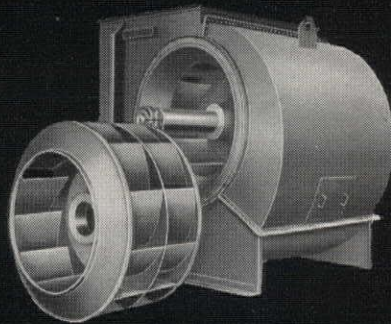
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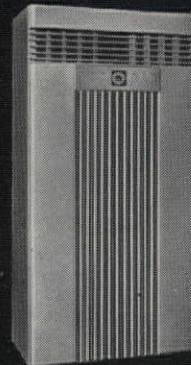
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green and the patterned walls are of white cement with small white marble aggregates. Private offices line the north wall and executive offices are in the penthouse. Here the walls are similar to those in the lobby while the curved roof of thin-shell concrete demonstrates another use of the company's versatile product. Accounting, mailing and other facilities are in a one-story wing and the entire project is air conditioned. Installed in all washrooms on all floors are SLOAN *Flush VALVES*, most favored of all.



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Construction spending sets monthly records on way to \$51-billion year; money rates continue to rise

Last month, the Congressional Joint Economic Committee heard testimony on administered pricing, inflation, and "quasi-monopolistic" practices, but paid little attention to what is still the most important single factor in the economy. This is the increasing vigor of the booming construction industry, as it surges strongly into its first \$51 billion year.

In the first two months of this year, total spending for new construction was \$7.1 billion, an all-time record for the period—11 per cent above last year's January-February level. The major force in the strong revival from last year's early slump has been residential building. Spending for new dwelling units rose 30 per cent in the first two months of this year (to \$2.2 billion), and apartments continue at a good rate—about 17 per cent of new starts. Other strong areas of private building in the first two months of 1959 were stores and restaurants, up 15 per cent from January-February of last year, churches, up 8 per cent, and private school construction, up 7 per cent.

The weakest area of private construction continued to be industrial building, which dropped another 35 per cent from last year's first two months. The situation in industrial construction probably will not get much better this year, either. The latest government report on anticipated outlays for new plant and equipment indicates a slim 4 per cent increase in over-all spending this year compared to 1958. Spending in the second half of this year will probably run at an annual rate of \$32 billion, only slightly higher than the estimated seasonally adjusted annual rate for the first half. Other minus signs showed up in office building (–8 per cent), where the boom seems to be losing its momentum, and in building of telephone and telegraph utilities (–9 per cent).

Public building is still at record levels, as it was all through last year; for the first two months of this year it stood 16 per cent higher than for the same period last year. Public housing, particularly at military installations, was up 59 per cent, and building of military facilities rose 27 per cent. Highway construction, largest single factor in all nonresidential building,

increased 22 per cent, but may hit a serious snag as a result of lower-than-expected funds in the Highway Trust Fund, which supports the federal highway aid program. Several weeks ago, Maj. Gen. (ret.) Louis W. Prentiss, executive vice president of the American Road Builders Assn., warned that Congress must take action at this session, if the fund is not to be dry by fiscal 1961. The biggest reason, said Prentiss, is that federal highway spending (which accounts for roughly one-third of all spending for highways) can only come out of the trust fund, and costs have risen an estimated 37 per cent since this fund was established in 1956. The rise in predicted cost of the 41,000-mile interstate system and the so-called "ABC" roads is owing not only to a rise in building costs (up around 12 per cent since 1954, says Prentiss) but also to predictions of an expanded program itself, based on higher vehicular traffic forecasts. Yet Congress has been loath to raise federal gasoline taxes, chief source of revenue for the Highway Trust Fund, because so many states, themselves squeezed by rising costs, have recently voted higher gasoline taxes. President Eisenhower a few weeks ago asked a 1½¢ gas tax increase, and Federal Highway Administrator Bertram D. Tallamy warned that unless Congress made a move to find new highway funds, the program could not continue on a pay-as-you-go basis. Tallamy estimated that an additional \$13 billion would be needed to finish the highway net by 1972.

Aside from the approaching clouds of trouble over the highway program, there were a few other smaller clouds on the building horizon. Building costs continued to edge upward early this year, continuing at about the same pace as last year, when they rose an average of 3 per cent. (The biggest factor behind rising costs has been recent wage increases.) Moreover, applications for FHA-insured new home mortgages showed a 2 per cent decline for the first two months, on a seasonally adjusted annual basis, probably owing to the bogging down of the omnibus housing bill in Congress (page 11). Many home builders and

continued on page 7

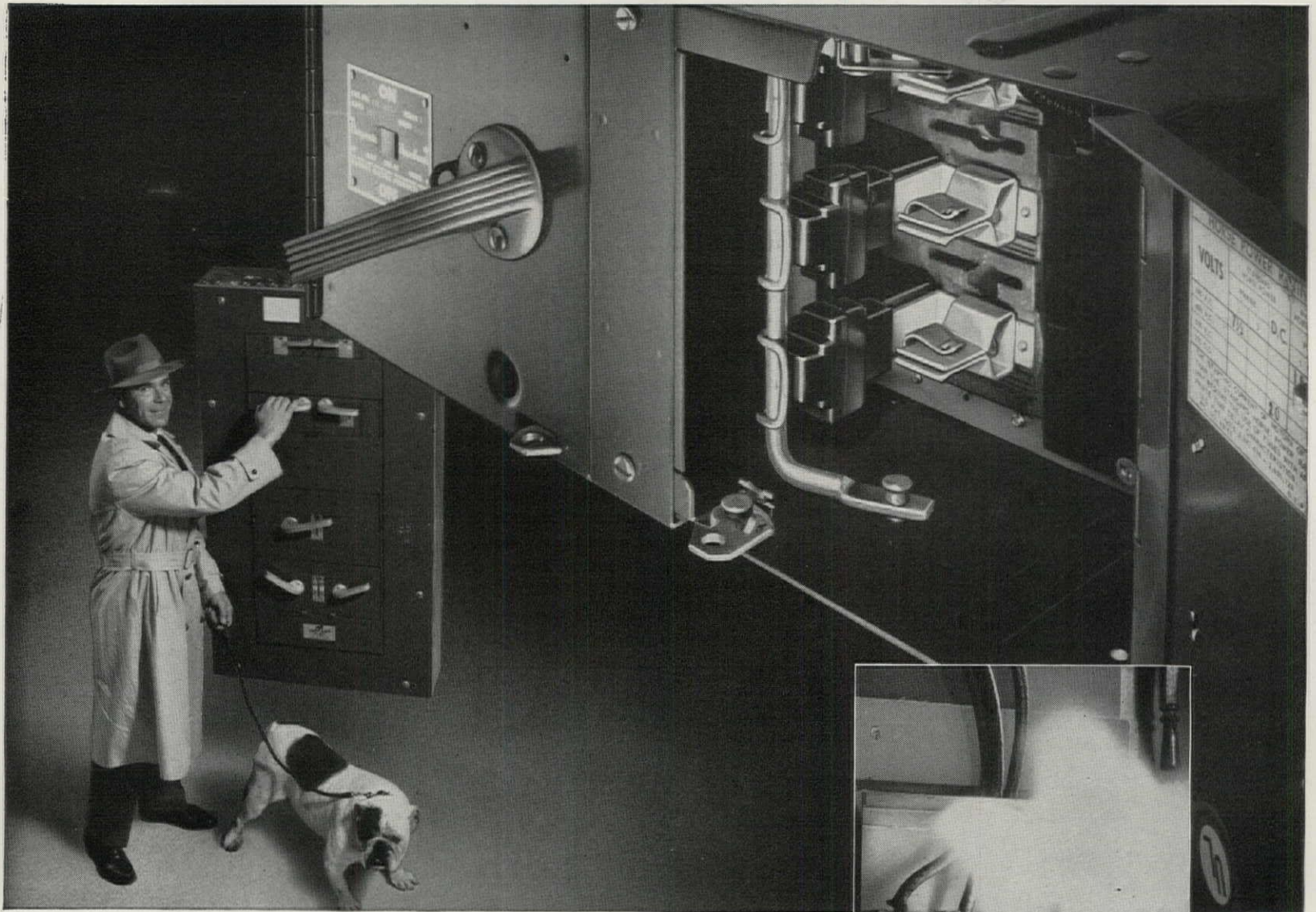
BOX SCORE OF CONSTRUCTION

(Expenditures in millions of dollars)

	Feb.	Jan.-Feb.		
	1959	1959	1958	±%
PRIVATE BUILDING				
Nonresidential	638	1,298	1,451	–11
Industrial	167	340	526	–35
Commercial	262	530	528	**
Office buildings, warehouses	148	301	328	–8
Stores, restaurants; garages	114	229	200	+15
Religious	70	143	132	+8
Educational	44	91	85	+7
Hospital; institutions..	47	95	101	–6
Residential (nonfarm)..	1,369	2,817	2,243	+26
Public utilities	380	778	757	+3
Total Private*	2,500	5,118	4,678	+9
PUBLIC BUILDING				
Nonresidential	322	678	655	+4
Industrial	27	55	57	–4
Educational	197	420	426	–1
Hospital; institutions..	29	59	49	+20
Military	98	203	160	+27
Residential	92	183	115	+59
Highways	265	550	450	+22
Sewer; water	96	201	190	+6
Total Public*	975	2,031	1,754	+16
*GRAND TOTAL	3,475	7,149	6,432	+11

* Minor components not shown, so total exceeds sum of parts.

** Change of less than 1 per cent.



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Here are some basic facts why Bulldog Power Panels with Vacu-Break® units are tops in safety and performance. Vacu-Break design minimizes destructive arcs because contacts are housed in compact chambers that extinguish the arcs immediately. Result: maximum safety . . . virtually no pitting or burning of contacts . . . minimum maintenance. Vacu-Break switch units are "quick-make, quick-break" with an interlocking safety mechanism. Contacts are *directly* attached to operating handle. No tricky toggles or springs. You get positive, safe switching always. And when the handle is in OFF position, you *know* the switch is off!

The Clampmatic® design provides clamped-pressure switching con-

tacts to prevent overheating at these points. Needless heat-generating areas are eliminated because there are no hinged, current carrying parts . . . and all conductors are silvered. Bulldog switches also withstand severe fault currents. In recent tests, standard Bulldog switches with Amp-Traps® were subjected to a 100,000-amp short circuit current. *They were undamaged!*

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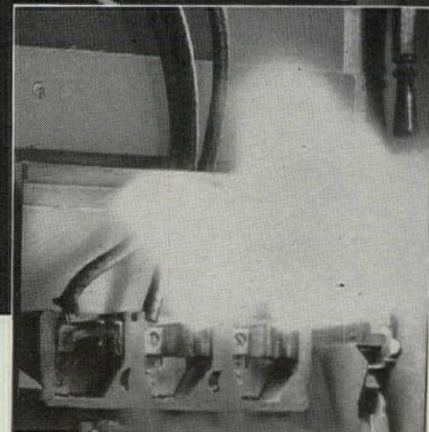


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Dangerous flash explosion occurs at instant of "break" in open knifeblade switch . . . causing blades to burn, pit, deteriorate. (This photograph and the one below are untouched.)



Bulldog Vacu-Break chamber smotheres arcs before they can cause damage. Both are 100-amp, 600-volt switches, operating under 90-ampere, 440-volt load with 40% to 50% power factor.

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lenders are understandably waiting to see what sort of housing program will emerge from Congress—and what the President's reaction will be.

A more hopeful augury appeared in the form of the Federal Reserve Board's annual survey of consumer attitudes, which indicated that the public intends to spend more on new homes in 1959 than in any year since 1956, and that it is showing more interest in home modernization than in any postwar year.

Cost of building money slated to rise

As the construction industry moved into the peak season of its biggest year yet, it was becoming obvious that at least one vital building factor would soon be more costly—money. In a market that is increasingly dominated by federal fiscal policy, these moves last month highlighted the trend toward more expensive building money:

► The Federal Reserve Board approved increases in the discount rate—the rate which the Fed charges its member banks on borrowings—from $2\frac{1}{2}$ per cent to 3 per cent, the first such increase since last October.

► The Federal Housing Administration increased interest rates on Section 803 military public housing (Capehart Act) from $4\frac{1}{4}$ per cent to $4\frac{1}{2}$ per cent “to improve the flow of funds to that program.”

There are other difficulties besides the cost of funds. For one thing, the Federal National Mortgage Assn.'s special assistance program will soon run out of funds, and Congress shows no inclination to expand it. Last year at this time, Congress passed special legislation giving Fannie Mae an emergency fund of \$1 billion for buying mortgages under its special assistance functions, thereby creating an estimated 100,000 more housing starts. Walter Nelson, president of the Mortgage Bankers Assn., a few weeks ago told members that, although money would undoubtedly get tighter in coming months, he still expects 1.2 million housing starts, slightly better than the 1.1 million starts last year. He pointed out that “the present tightness of long-term money is due more to a diversion of funds rather than to an extraordinary demand for funds. It reflects an effort to compensate in some measure for the loss of the buying power of capital that investors fear they may

experience over the period of a long-term debt.”

The difficulties of coping with this “loss of buying power” in an economy not yet fully recovered from recession made the Federal Reserve postpone the discount rise until last month and the same difficulties are causing some bizarre deviations by the U.S. Treasury to avoid putting further pressure on the already heavy deficit. The Fed pointedly stated last month that it would have moved to tighten money—thereby easing inflationary pressures—long before last month but for the nagging fact of continuing high unemployment. Finally, however, it felt it could wait no longer. The Treasury, also attempting to mitigate the inflationary bias of deficit financing, has proposed to exchange \$335 million of Fannie Mae issues (and possibly more later) for Treasury issues, retire the latter, and credit Fannie Mae for the amount involved in the swap. This devious bit of bookkeeping would not aid new building, but would make a dent in the Treasury's deficit.

A possible serious “diversion of funds,” aside from that which Nelson mentioned, was forecast by Bankers Trust Co. The bank indicated that re-

cent Congressional proposals, if passed, would add substantially to the tax burden of life insurance companies and mutual savings banks and cause those institutions to shift more of their investment funds away from taxable instruments—e.g. mortgages—into tax-exempt municipal bonds. Coming on top of what Bankers Trust already estimates to be a shortage of money this year, such a shift would be even more injurious to building volume than higher interest rates would be.

San Francisco plans water-front renewal

San Francisco's Embarcadero, long touted as the busiest (and sometimes the roughest) water front on the Pacific Coast, is due for a major face-lifting that will not only change its character but should broadly influence the redevelopment of the whole downtown area. Several weeks ago, the San Francisco Port Authority announced plans for a \$300 million redevelopment of some 80 blocks that form a rough crescent along the docks between the

continued on page 9



LOS ANGELES' BUNKER HILL RENEWAL PROJECT WINS APPROVAL

After nearly eight months of hearings and ten years of controversy (page 110), Los Angeles' City Council recently approved the drawing up of an ordinance which would permit work to proceed on its \$315 million Bunker Hill urban renewal project. The 136-acre project, one of the largest in the nation, will be in the heart of the city, adjacent to the Civic Center and Pershing Square, and will feature a 24-acre cluster of high-rise apartments (3,100 units)

ringed by commercial buildings, including a hotel, a 14-acre motel area, office buildings, and shopping malls. The residential and commercial areas will be interlaced with pedestrian walkways, and 10,000 parking spaces will be provided in the plan. The plan, drawn up by Charles Luckman Assoc. and William L. Pereira, architects, will be initially financed with a \$15.9 million federal grant and a \$58.7 million federal loan.



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Ferry Building and Aquatic Park, north of the Bay Bridge (see rendering, right). The plan was developed by San Francisco Architects John S. Bolles and Ernest Born, and has so far been hailed by planners and politicians alike. California Governor Edmund G. "Pat" Brown recently called it "bold and imaginative—the kind of thinking we need," and Mayor George Christopher has already announced his support.

The plan calls for a broad promenade stretching from the Ferry Building all the way to Aquatic Park, with all the new structures built out over the water. These buildings would replace all the dilapidated piers that now line the Embarcadero, excepting Fisherman's Wharf and Pier 15-17, which would be kept as much for the spectator appeal of ship traffic as for commercial reasons. A new passenger liner pier would also be included in the project.

Working northward from the Ferry Building, the Bolles-Born plan calls for a hotel and world trade center, which would feature commercial exhibits from abroad. Next to this would be a new school and museum for the San Francisco Art Assn., of which Bolles is president. A small boat basin, office buildings, and restaurants would be blended with a performing arts theater near pier 15-17, and beyond that would be a convention-exhibition hall, with an adjacent retail market center. Finally, at Aquatic Park, there would be a hotel, fronting on a plaza. Throughout the Embarcadero development, parking would be provided one level below the promenade, on which no vehicular traffic would be permitted. Through traffic would travel on an extension of the elevated freeway that now cuts in front of the Ferry Building.

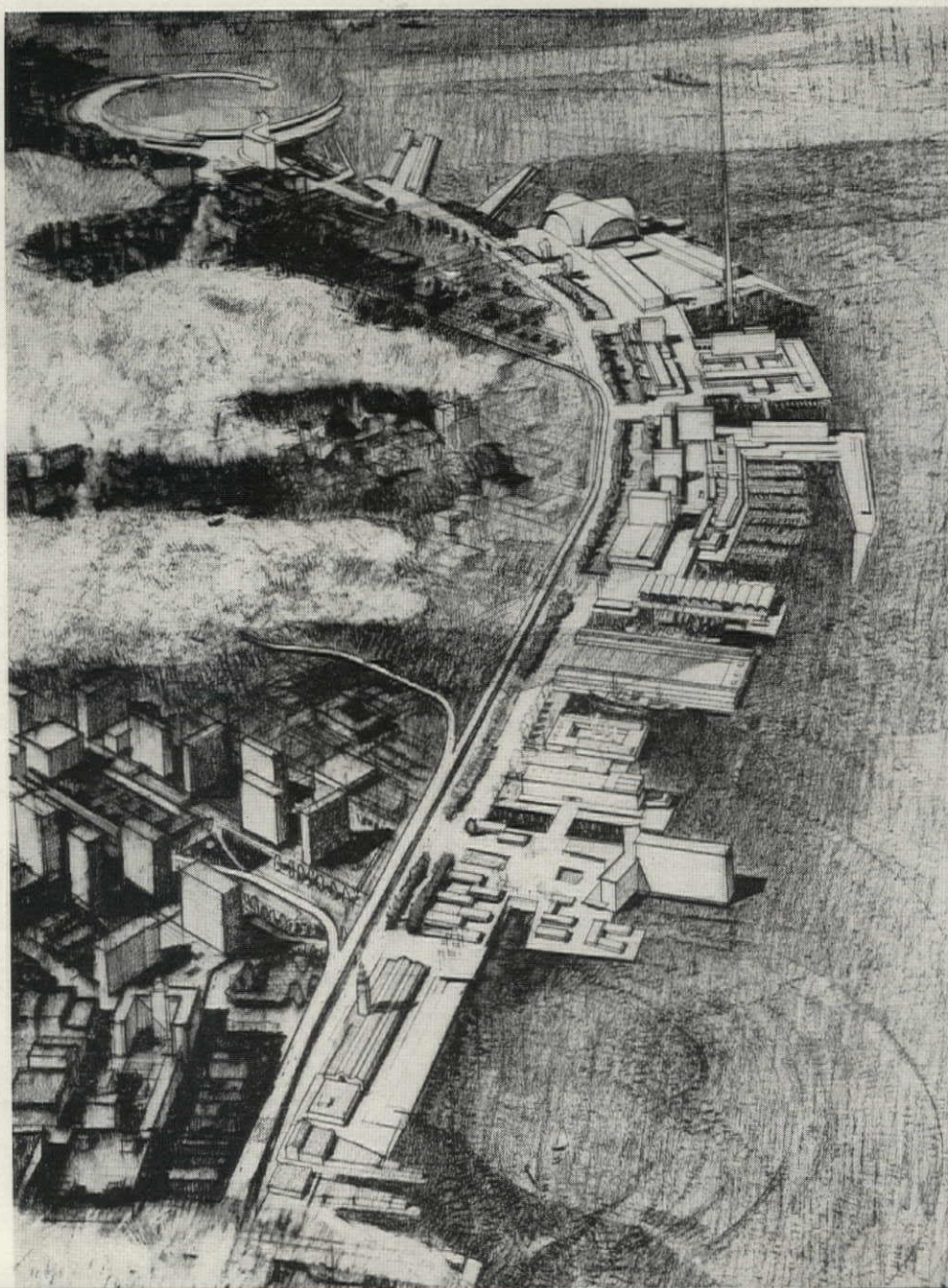
The plan would be financed entirely by private capital—it is not an urban renewal project, although there is a key renewal project near the Embarcadero. Bolles and Port Authority President Cyril Magnin foresee no problem lining up developers. Magnin says that "we have been approached by numerous investors from all over the country," and hopes to get under way within the next two years. The first obstacle to be overcome is that the Port Authority is now limited to a 40-year lease and must obtain the State Legislature's approval to write 99-year leases for its properties.

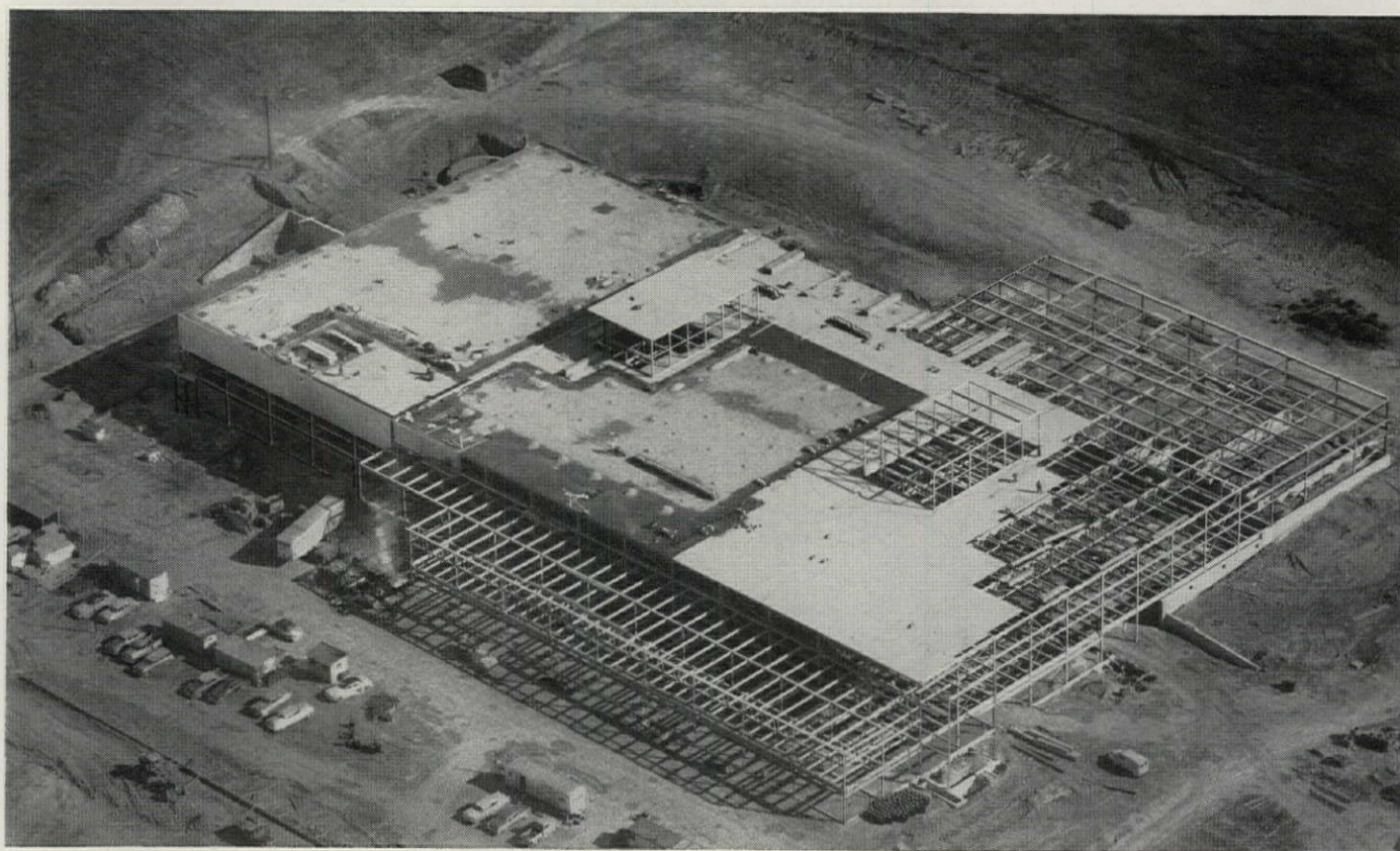
Bolles himself sparked the whole Embarcadero redevelopment plan when he approached Magnin about getting a site near the Ferry Building for a new art school. Magnin suggested an over-the-

continued on page 11



SAN FRANCISCO'S EMBARCADERO, curving for two miles north of the Bay Bridge (picture, above), would be redeveloped into a glittering string of commercial and cultural buildings, all built over water (below).





Steelwork for Sylvania's new Altoona plant by American Bridge

THE large and handsome building shown above is the new receiving tube plant of Sylvania Electric Products, at Altoona, Pennsylvania.

This 310' x 400' two-story steel-frame building provides 190,000 sq. ft. of manufacturing space—enough to replace two smaller tube plants, with room to spare.

Here again is another progressive industrial firm which plans its manufacturing facilities with an eye to the future. For, whenever it becomes necessary to further expand its Altoona operations, the steel-frame structure

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water site where the present piers were slated to be abandoned, contingent on the Port Authority selling \$50 million of bonds for development of new piers south of the Bay Bridge. Bolles got Born to design a new school on the pier site; Magnin liked it and suggested that Born redesign the whole north waterfront.

Housing bill bogs down in Rules Committee

Following a rousing opening, in which the Senate set some sort of record for speeding controversial legislation, the omnibus housing bill last month began to follow a familiar plot. The House Banking Committee reported out a housing bill which calls for less spending (\$2.1 billion compared to \$2.7 billion) than the Senate version, and the bill then went to the House Rules Committee for action. It was the Rules Committee, chaired by Virginia's conservative Howard W. "Judge" Smith, that effectively bottled up the omnibus bill at the last session of Congress, thereby precipitating the crisis that now finds both the Federal Housing Administration and the Urban Renewal Administration nearly out of funds for their respective programs. At the start of the current session, House liberals threatened a rules change to prevent further obstruction by the Rules Committee but were headed off when Speaker Sam Rayburn (D, Tex.) gave his personal pledge to expedite important House measures through the Rules Committee. Last month, housing bill backers were still waiting for the pledge to be redeemed, but it seemed unlikely that anything would happen before the Easter recess.

The bill that the House Banking Committee approved had several different features from the Senate bill passed several weeks ago (FORUM, March '59). Where the Senate bill provided for only 51,000 more units of public housing, the House committee measure in effect asked for full authority to use up the total authorization first passed in 1949, which would mean about 190,000 more units on an unlimited basis. The House committee also passed a \$1.5 billion, three-year urban renewal program. The Senate asked for \$350 million for six years, with a proviso expanding any year's spending to \$500 million. Both House and Senate will ask new insuring authority (\$10 million) for FHA.

Although the bill passed by the House Banking Committee calls for less direct spending by the federal government than the Senate bill does, the President is more likely to veto the former than the latter. Reason: the public housing provisions, according to Housing & Home Finance Administrator Norman Mason, will cost an additional \$3.7 billion, or a total of \$5.8 billion. Both House and Senate bills would add only about \$100 million to fiscal 1960 spending, and on this basis they are defended as putting a minimum of pressure on the budget for that year.

In other Congressional moves, the House last month passed an airport construction aid bill that was scaled down considerably from the bill originally introduced by Rep. Oren Harris (D, Ark.). The House chopped \$140 million from Harris' bill, and passed a measure calling for \$63 million in aid

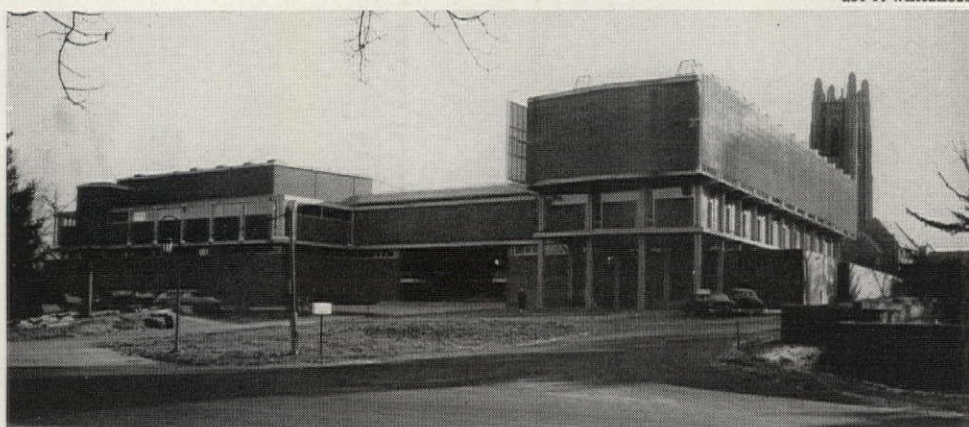
each year for the next four years, plus \$45 million to be spent at the President's discretion. The Senate a few weeks ago passed a \$465 million airport construction bill, so there will have to be some broad compromise on airport building aid before a bill can be sent to the White House—at which time President Eisenhower is expected to veto it.

Lawmakers offer solutions to urban problems

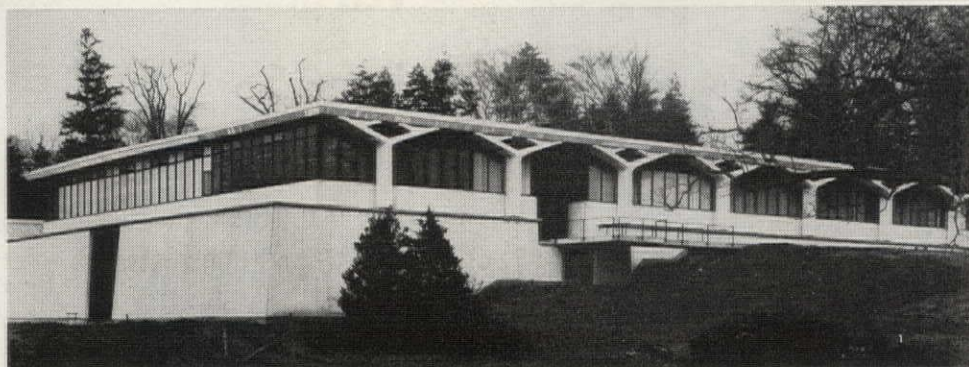
Throughout the nation last month, a growing awareness that prompt action is needed to meet metropolitan problems resulted in varied and significant approaches at all levels of government:

► In Congress, Senator Joseph S. Clark (D, Penn.) introduced a bill proposing a federal Commission on Metro-

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ROY F. WHITEHOUSE



RONALD BENKS

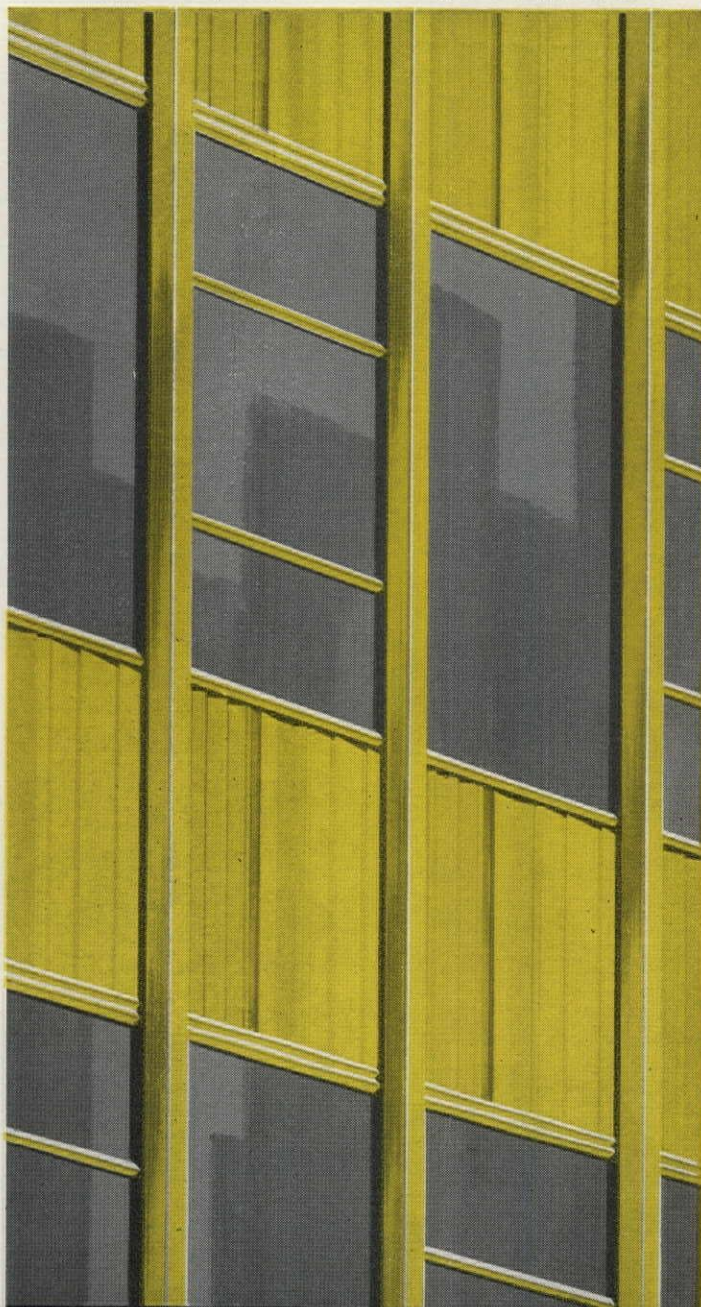
TWO BY RUDOLPH: ARTS AT WELLESLEY, FORESTRY AT YALE

Yale's Chairman of the Dept. of Architecture, Paul Rudolph, recently has been turning his considerable talents to the problem of campus building, both on his home grounds at New Haven and at Wellesley College. At Yale (lower picture), Rudolph last month could stroll a short distance from his own office to see workmen polishing up his one-story School of Forestry, which features a concrete roof supported by precast concrete "trees." At

Wellesley, his new arts center was ready for landscaping. It harmonizes in scale and materials with older Wellesley buildings: red brick and concrete to match the brick and limestone on its Gothic neighbors. Porcelain enameled aluminum screens serve as light baffles and provide what Rudolph calls "built-in ivy." Anderson, Beckwith & Haible of Boston were consulting architects. (Both buildings will be shown in more detail in future issues.—ED.)

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politan Problems, to be composed of six members of the House, six from the Senate, and six presidential appointees, including two from the executive branch, two state governors, and two mayors. The commission would study all urban problems, and investigate new forms of aid to cities. Senate Majority Leader Lyndon Johnson is backing Clark's bill, which gives it a somewhat better-than-average chance of passing the Senate.

► **In California**, Gov. Edmund G. "Pat" Brown last month warned against "super, big-brother commissions" not directly answerable to the electorate, and then offered his own blueprint for tackling the state's considerable urban difficulties. Brown would set up a state commission on urban problems, similar in approach to Clark's but on a state level, and strengthen county governments so that they could not only meet county-wide problems on a firmer footing, but also, through intercounty cooperation, tackle area-wide problems as well.

► **In Washington, D.C.**, a report by the staff of a special joint Congressional committee recommended establishment of a complex of regional agencies covering four Virginia-Maryland counties as well as the District, to administer public works for the area. A \$4 billion program for construction of sewer and water treatment plants and

transportation facilities was outlined, and a special regional fiscal agency was proposed to finance these improvements. The report also proposed a land-use plan for the whole area, including a land-bank scheme of purchasing vacant land for future public use. To coordinate all these regional efforts, a special agency would be established, and a coordinator for National Capital Regional Affairs would work directly from the President's offices.

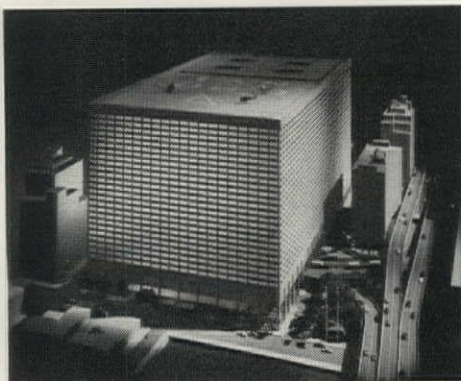
► **In Chicago**, a state legislative commission recommended greater cooperation between local governments in the Chicago area, rather than area-wide metropolitan government. The latter, they said, may be theoretically desirable, but is practically undesirable because of widely divergent attitudes—political, social, and economic—between city dwellers and suburbanites.

"Governmental Georgian" on Louisville's mind

Modern architecture lost out in Louisville a few weeks ago, and, as a consequence, Louisville's new civic center will probably look like most civic centers built several decades ago.

The focus of Louisville's design con-
continued on page 15

N. Y. TIMES

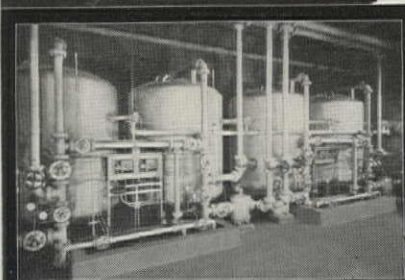


NEW MANHATTAN POST OFFICE—MAYBE
Two of the nation's leading "entrepreneurs" in building, Robert Moses and William Zeckendorf, shown at left with Postmaster General Arthur Summerfield and New York's Postmaster Robert K. Christenberry, joined forces with the U.S. Post Office Department last month for the mutual benefit of those concerned. Zeckendorf will build a \$75 million office building, covering two blocks just behind the post office's present building on Manhattan's West Side near Pennsylvania Station. Not surprisingly, it will be the biggest office building ever built (5 million sq. ft.), and the post office plans to occupy about 10 per cent of it. The rest, Zeckendorf says, can be easily rented to thousands of prospective commercial tenants now in inadequate quarters in the nearby area. Moses' plans for a 30th Street elevated crosstown expressway are the key to whether the building is built. Moses must have his expressway plans approved by various city agencies within the next year, when Zeckendorf must have the project's plans completed. The expressway would carry post-office traffic directly into the building. There already is considerable opposition to the expressway, although Moses officially anticipates no trouble getting it started. The building was designed by I. M. Pei, with Kahn & Jacobs, associate architects.

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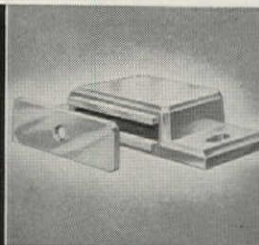
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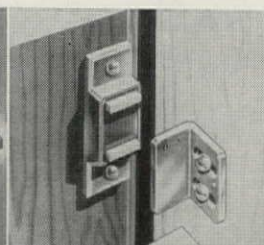
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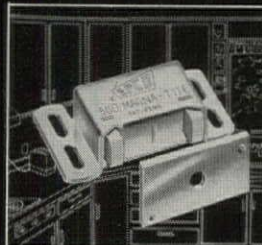


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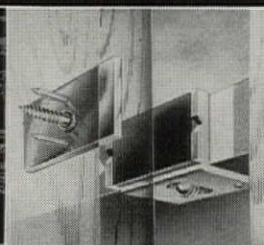


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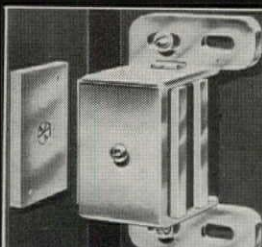


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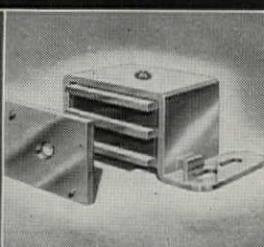


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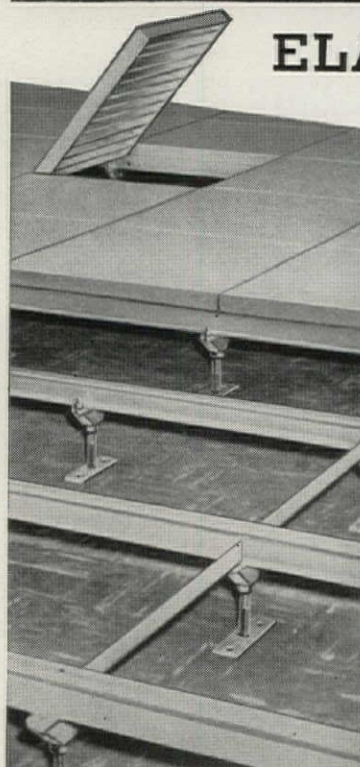
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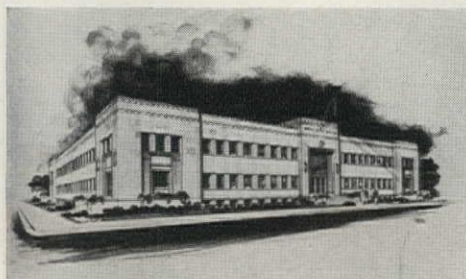


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trovery is a proposed \$1.7 million, 67,000 sq. ft. state office building (drawing, below). Originally planned for a site some blocks away from the civic center, which is still in its formative stages, the state office building was moved to the center only after Louisville officials offered to foot the \$160,000 difference in site costs, which will be financed by an urban renewal bond issue. Because of the difficulties of changing the location, Louisville officials have tried to quiet restive critics of the new state building's design, on the grounds that if too much of a furor is raised, the state may decide to move the building again.

By late last month, the controversy had died down, and the design seemed set. A stormy, four-hour session of the West Kentucky chapter of the American Institute of Architects had resulted in no official criticism of the building, designed by Kentucky's biggest architectural firm, Meriwether, Marye &



LOUISVILLE'S STATE BUILDING
Starting in the red?

Associates. But many of the architects unhesitatingly voiced their criticism privately. "I find this dull and uninteresting," said one. "Such a building should have a modern feeling, but this could have been built in the last century," commented another. "A contemporary building would be best," said another member. "If they wanted to do a period piece, a better period might have been selected—classical, Renaissance, or even Greek revival."

Architect Hugh Meriwether, who designed the new state building, replies that over-all comment from state and local officials and citizens about the project has been favorable in the ratio of four to one. He calls the design "governmental Georgian," and adds simply, "I thought it best to be conservative. A contemporary building might have been too frivolous."

Meriwether, who has designed many large state projects, including the state hospital at Danville, the state prison at La Grange and a \$26 million Medical Center at the University of Kentucky, also defends his design on other

grounds. He says: "I sense a reaction, against contemporary style," and adds, "I don't think we should do modern, just to be modern."

What particularly bothers Meriwether's critics now is that his design for the state office building will probably set the trend for the whole civic center. All agree that anything will be better than the slums and parking lots now on the present civic center site. But, as one Louisville architect noted: "Buildings get obsolete enough without starting in the red, so to speak."

Briefs

"Economic rape" is what Washington Builder Morris Cafritz called New York Builder William Zeckendorf's contract with the District's Redevelopment Land Agency. Zeckendorf has for five years been working on redevelopment of Washington's Southwest Area "C," but last month Cafritz, at a public hearing required by law, unexpectedly jumped into the picture, upped Zeckendorf's long-standing bid for Town Center land by 50 cents per sq. ft. (to \$3.00). Zeckendorf finally won out, although Cofritz' intervention caused the New Yorker to up his bid to between \$2.50 and \$3.00 per sq. ft.

Philadelphia's Society Hill urban renewal project (FORUM, Dec. '58) will be entirely designed by architect I. M. Pei, who originally was to do only the eastern section of the \$55 million redevelopment for Webb & Knapp. Philadelphia Architects Stonorov & Haws, who, in association with New York Architects Harrison & Abramovitz, had won a competition to design the western section, will work with Pei.

AIA convention notes: Architect Walter Gropius, 76, will be given the Gold Medal of the American Institute of Architects at the annual convention, scheduled for June in New Orleans. But the former Chairman and now professor emeritus of Harvard's Dept. of Architecture may be facing a skimpy audience. Last month, further evidence of dissatisfaction with the convention site boiled up (FORUM, March '59) in Bloomfield Hills, Michigan, where 61 staff members of Eero Saarinen & Associates sent a strongly worded letter to AIA, asking that the convention be moved, or canceled altogether. Saarinen himself did not sign the letter but was understood to have backed his staff's action.

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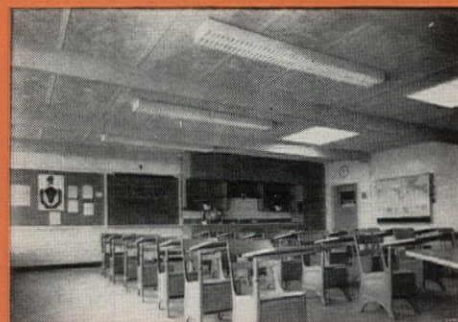
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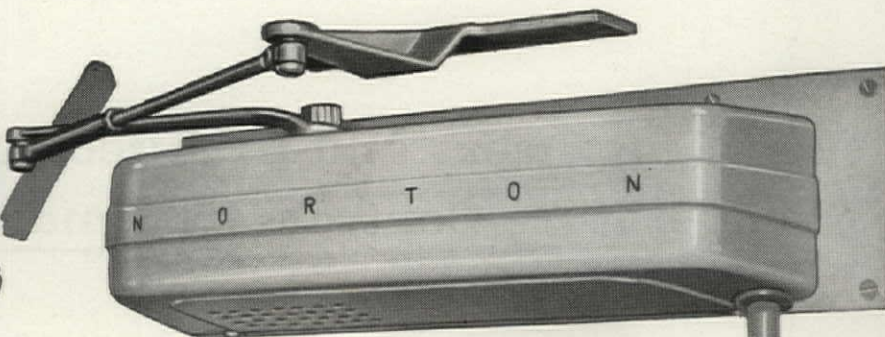
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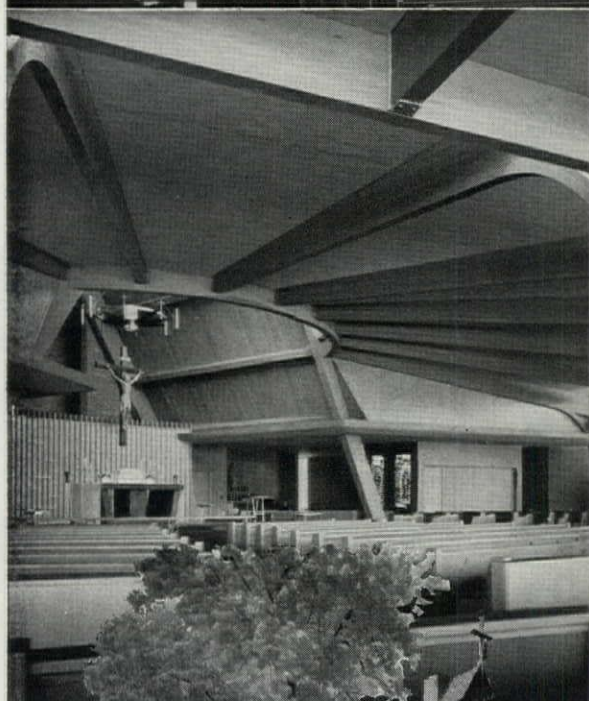
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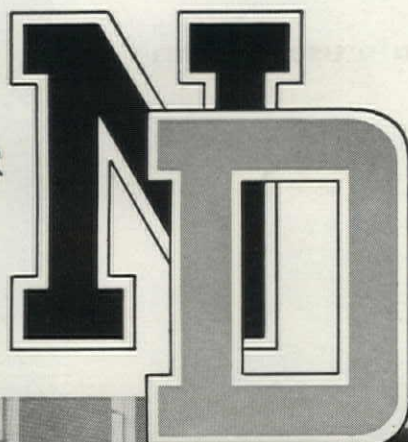
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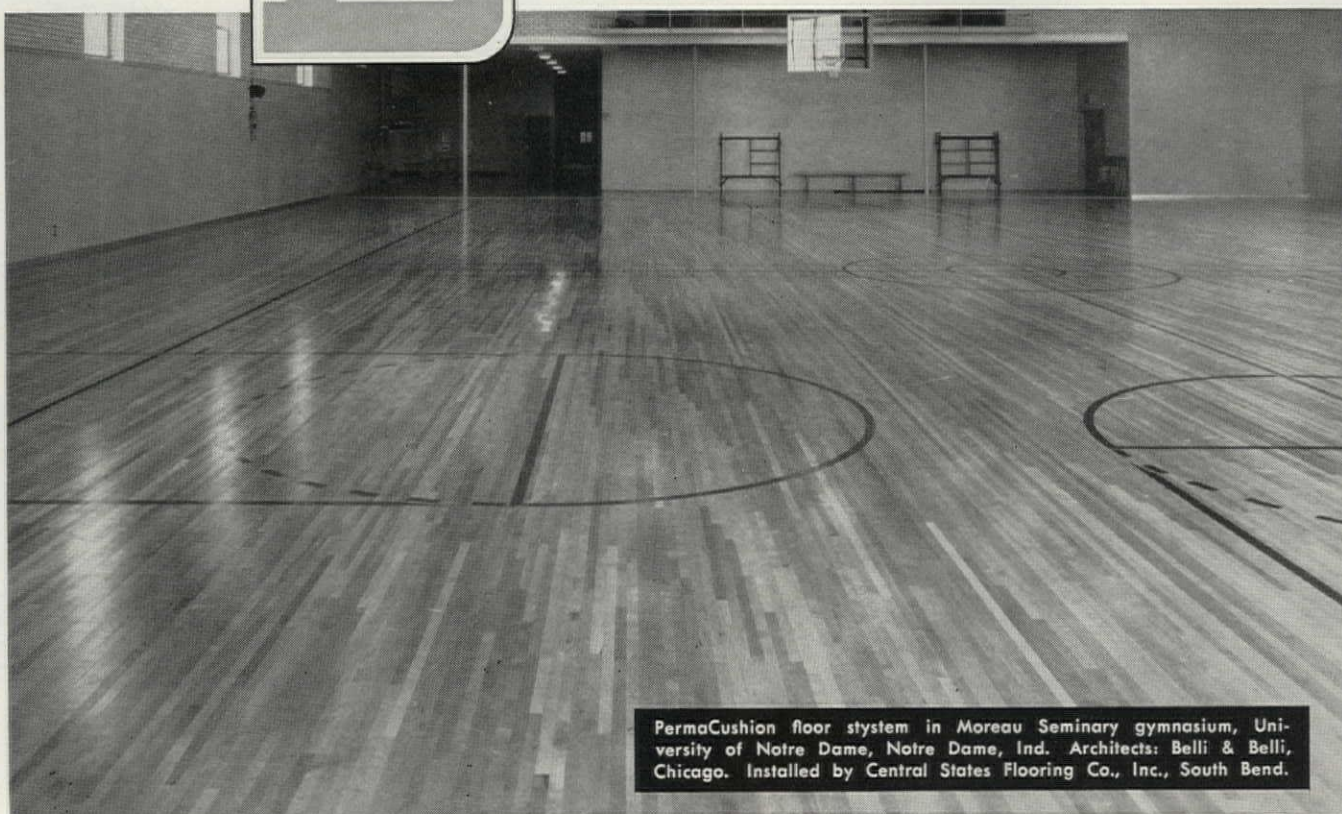
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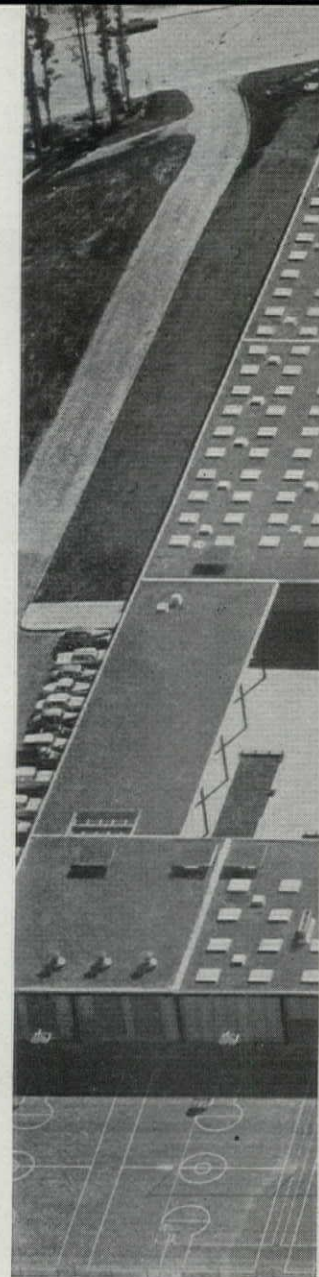
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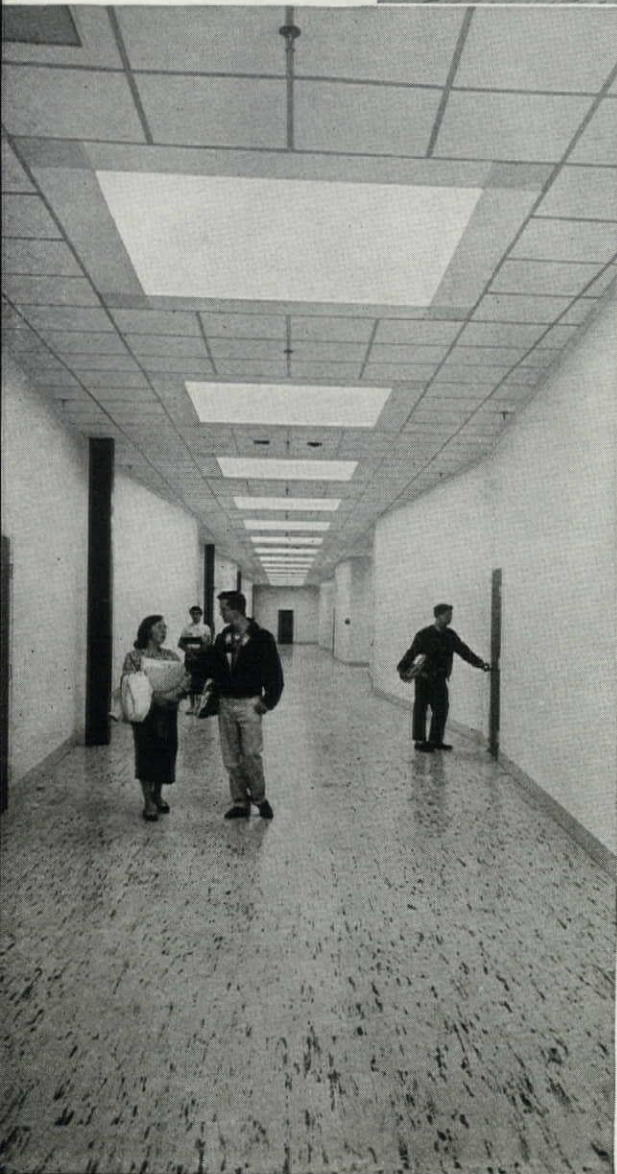


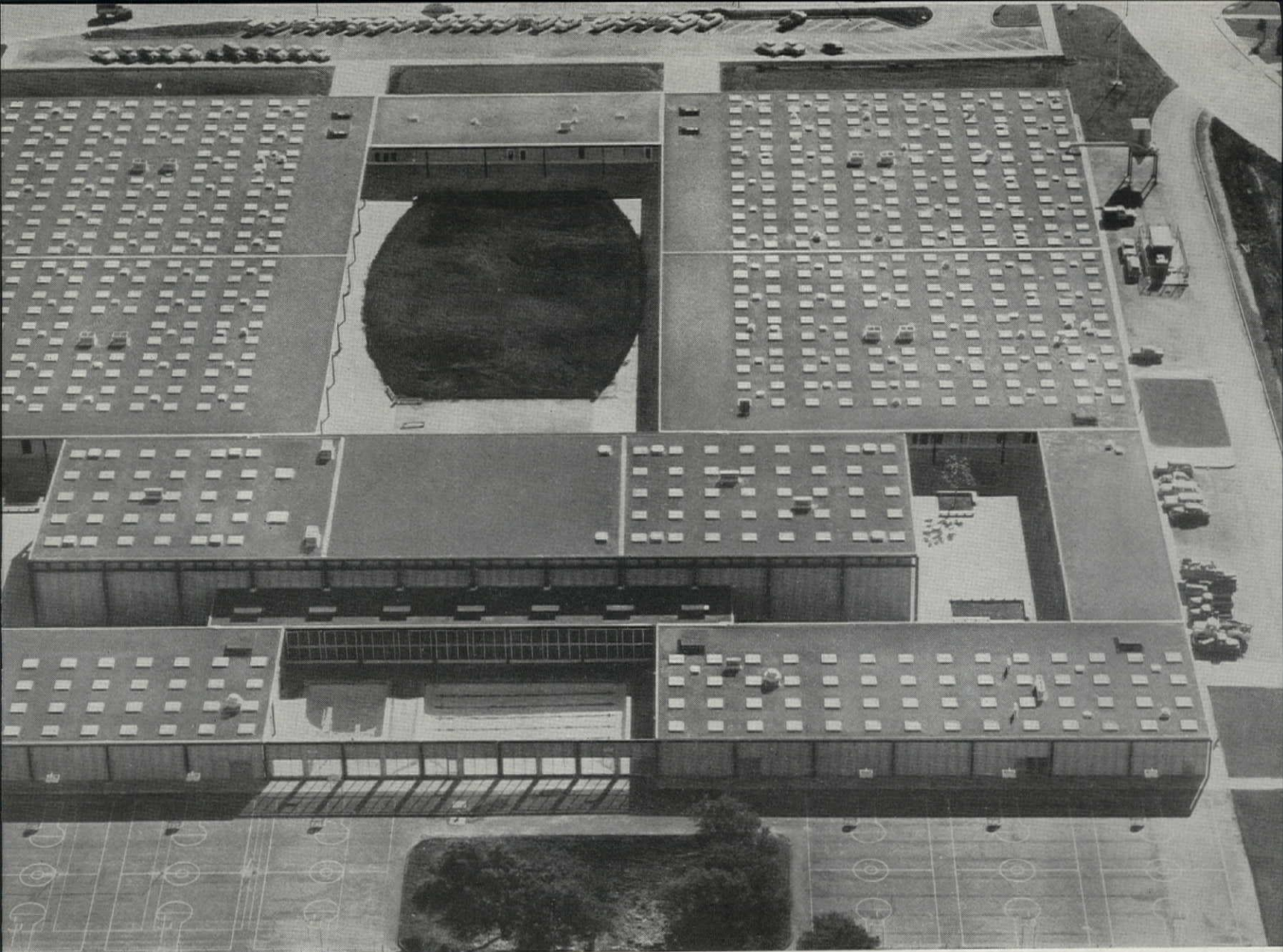
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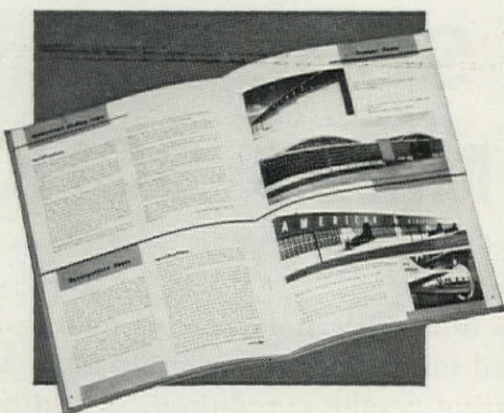
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Byrne engineers have had over 30 years' experience in the development of doors of all kinds, and particularly in the design and construction of hangar doors. Their abilities can be put to work for you . . . at any time.

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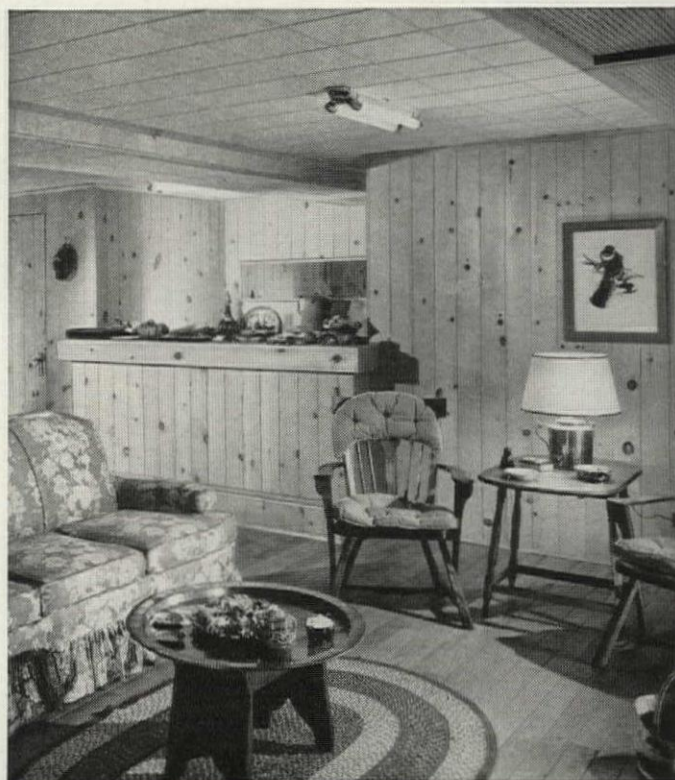
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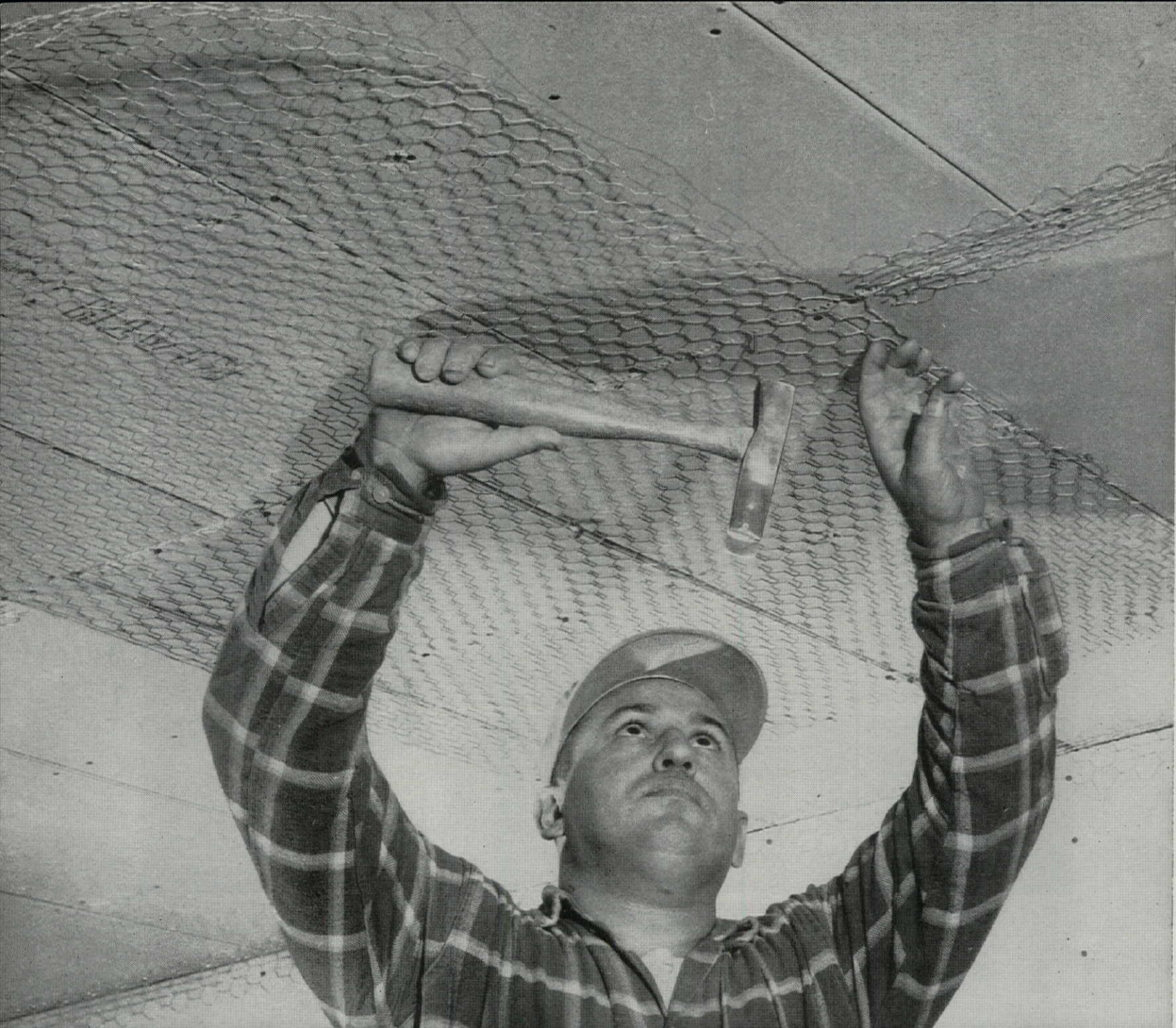
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"I guarantee NO PLASTER CRACKS in ceilings lathed with KEYMESH and KEYCORNER"

PROMISES WILLIAM E. EBY, CHICAGO LATHING CONTRACTOR

Everybody wants crack-free ceilings. That's why Bill Eby's guarantee is so important to you. "Believe me, I wouldn't make such a guarantee unless I'm sure," emphasizes Eby. "This lathing system will give you crack-free ceilings every time. And anybody can use this system. It's no Eby patent.

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

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

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

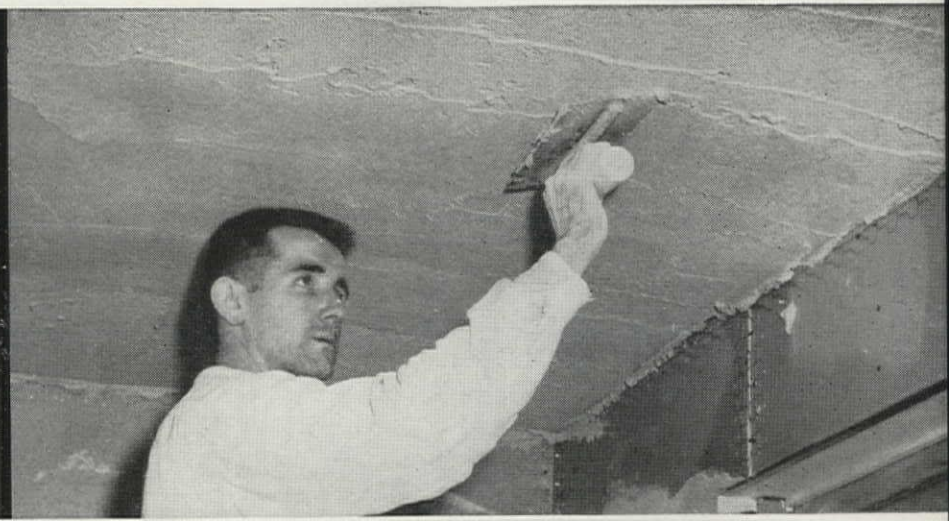
"Absolutely no ceiling cracks with this lathing system. You get added life from plaster. Upkeep costs are slashed. Yet Keymesh and Keycorner let me hold costs in line."

* * *

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



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



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

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CONVENT AND ACADEMY of the SACRED HEART, Bloomfield Hills, Mich. Architects: Smith, Hinchman & Grylls Associates. Plumbing Contractors: Harrigan & Reed Heating & Plumbing Co.

New Academy of the Sacred Heart features the compatible color of Briggs Beautyware



Briggs Milton Lavatories specified for Sacred Heart Academy are of fine vitreous china in two sizes, 24"x20" and 20"x18", for 8" combination fittings. 4 colors were used.



Briggs Jupiter Fountains for the Academy are vitreous china wall-hung models, in 10" high, used in the 3 Beautyware colors.



Briggs Tot Water Closets, vitreous china syphon-action models, 10" high, used in the Academy kindergarten.

Balanced design, functional superiority, the modern beauty of color! The architectural firm of Smith, Hinchman and Grylls Associates found that Briggs Beautyware met each demand in their design for the Academy and Convent of the Sacred Heart. For the girls' academy the architects specified Briggs Beautyware fixtures, many of them in color. For your own commercial and institutional work, you'll find that Briggs Beautyware commercial fixtures offer decided advantages. Specify from a complete easy-to-work-with line of well-balanced designs, created by Harley Earl, Incorporated, for Briggs, in fine high-density vitreous china. Rigid quality controls insure that Briggs fixtures meet every specification, as well as every test of the designer's eye.

BRIGGS

B E A U T Y W A R E

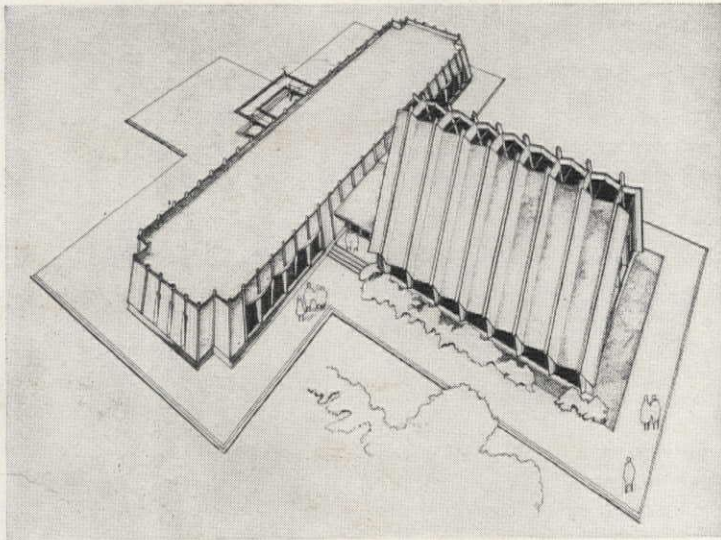
A roundup of recent and significant proposals



RED CROSS HEADQUARTERS FOR MANHATTAN

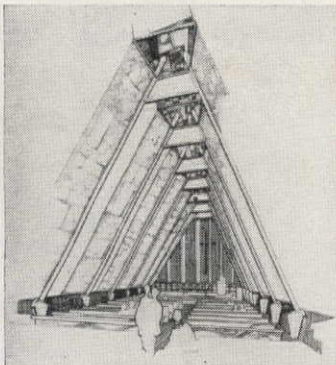
For the New York Chapter of the American Red Cross, Skidmore, Owings & Merrill have designed this five-story, \$6.5 million headquarters which will be erected in midtown Manhattan as part of the Lincoln Square redevelopment. To occupy only half of its 50,000

sq. ft. site, the building will be of steel, aluminum, and glass. But unlike most other projects by this architectural firm, it will have window walls set back 5 ft. behind the frame, leaving aluminum-faced recesses along which window washers may walk.



NEW YORK AIRPORT CHAPEL

For the 14 million or so people who pass through New York's International Airport each year a new Protestant chapel (sketches above and at left) will be erected close by a recently completed Roman Catholic chapel and a synagogue now under construction. Built upon a cruciform-shaped platform, the tentlike structure will be supported by precast concrete arches and clad in oxidized copper sheeting. The roof will be a skylight of tinted glass. To cost approximately \$250,000, the chapel is the design of New York Architect Edgar Tafel.

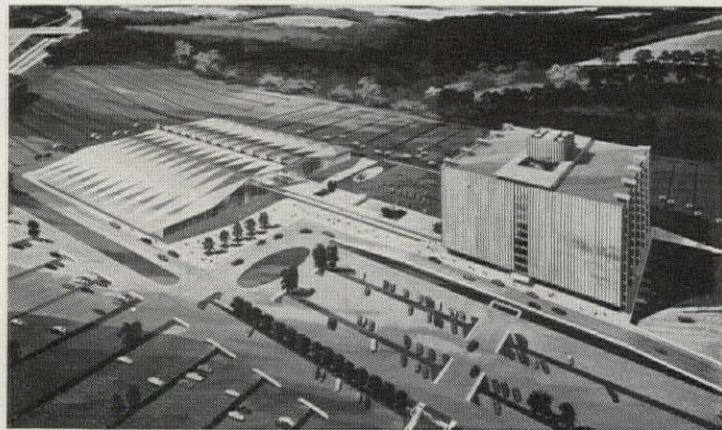


HUGE HOTEL FOR CLEVELAND

In Cleveland, the first new downtown hotel to be erected in 30 years may be this Hilton Hotels Corp. project planned for the south end of the city-owned Mall overlooking Lake Erie. Designed with all public rooms underground, the \$20 million building would have a total of

1,000 bedrooms, underground parking space for 300 cars. Construction is scheduled to start in the fall if the plans can be steered through City Council and Planning Commission approval. Completion is set for 1961. Architect: William Tabler of New York.





TWO INDEPENDENT CONVENTION CENTERS FOR ATLANTA

In Atlanta, a city long in need of just one good-sized convention center, plans were unfolded recently for two such projects, one to be built downtown on Peachtree Street, the other to go up 30 miles outside the city limits. The latter project, the \$20 million Southern Merchandise Mart and International Coliseum (above) is the more grandiose of the two. Designed by Heery & Heery, it will consist of an 11-story windowless Mart build-

ing and a huge (350,000 sq. ft.), truss-supported Coliseum. Financial backing is being organized by Robert M. Holder, Atlanta's famed realtor-developer (see *People*, page 61). The in-town project (left) is a 22-story reinforced concrete skyscraper sponsored by a local investment firm headed by John C. Portman Jr., partner in the architectural firm of Edwards & Portman, which has planned the building. Cost: \$12.5 million.



CHICAGO OFFICE TOWER

When plans for Chicago's LaSalle-Jackson Building (left) were first unfolded two years ago, it was to be 36 stories tall. Now slated for construction starting in July, it has been cut down 12 floors; the backers, National Properties Inc. of Los Angeles, figure 24 floors of office space is about all they can rent in the Loop area. The rooftop heliport has also been added. To be faced with glass and white marble, the project will cost \$17 million. Architects: A. Epstein & Sons of Chicago.

DALLAS CHURCH-IN-THE-ROUND

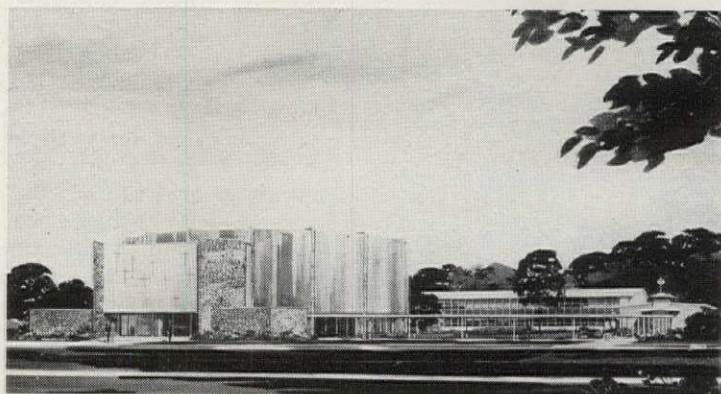
The sketches at right and below are of St. Luke's Episcopal Church, which was planned to create more "unity and community" among its congregation. A round building now under construction in Dallas, it will have its altar located at dead center of the structural circle, around which will curve nine rows of seats for 600 people. Scheduled for completion by next winter, the church will be faced on the outside with aluminum and precast stone. Architect: William Hidell Jr. Cost: \$444,000.



LUXURY HOTEL FOR BEVERLY HILLS

On Wilshire Boulevard in Beverly Hills, construction will start this summer on the Beverly-Imperial Hotel, a \$12.5 million luxury hotel and office building designed by Charles Luckman Associates. To be faced with glass, stone, and

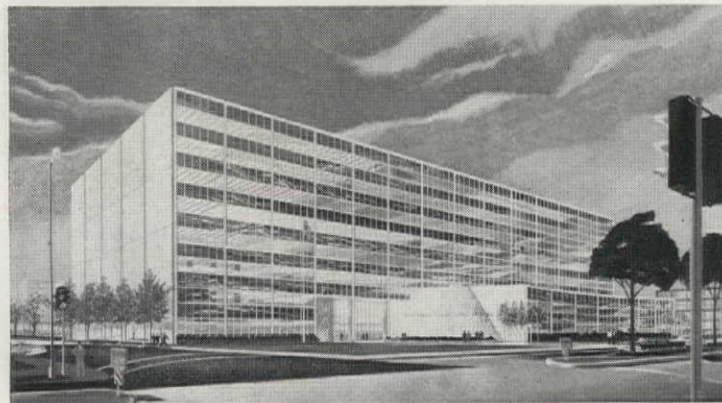
marble, the building will have roughly 350 rooms, parking facilities for more than 1,000 cars, and a swimming pool with cabanas on a second-floor balcony overlooking the street. Completion is scheduled for late 1960.



FORUM welcomes nominations of new projects for this section. Send a brief description and a photograph, addressed to Projects Editor, ARCHITECTURAL FORUM, 9 Rockefeller Plaza, New York 20.

SAN FRANCISCO AIRPORT

The rendering at right shows the master plan drawn by Architects Welton Becket & Associates for the expansion of San Francisco's International Airport. Designed to provide 60 jet aircraft gate positions, the complete complex will form an oval, with the existing terminal building at one end (upper left) and two new terminals—each with two, two-story loading piers and connecting concourse — on either side. Landscaping and four parking garages with space for a total of 6,000 cars will fill the center. Containing approximately 300,000 sq. ft. each, the two terminal buildings will be two stories high with vaulted roofs. The south terminal is scheduled as the first step in the development. Estimates put its cost at slightly less than \$8 million.

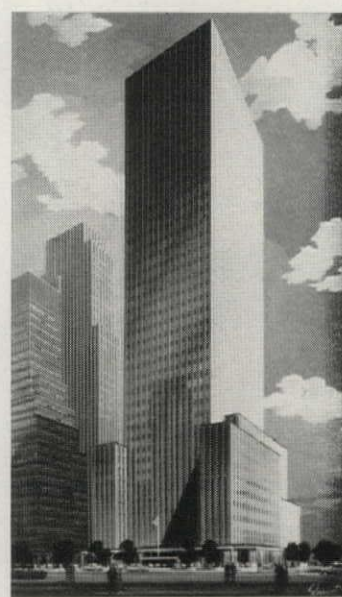


THREE FEDERAL BUILDINGS

The three big buildings pictured at left will be built by the federal government in (from top to bottom) Washington, Little Rock, and Sacramento. The seven-story Washington project, to be known as Federal Office Building Number Six, will have a total usable floor space of 432,000 sq. ft. and will cost \$15.5 million. The architects are Faulkner, Kingsbury & Stenhouse of Washington.

The glassy, seven-story Little Rock Federal Building will have 358,762 sq. ft. and will cost in the neighborhood of \$10 million. It is the design of two local firms, Swaim & Allen & Associates and Ginocchio-Cromwell & Associates.

Sacramento's eight-story courthouse and office building, to be sheathed with glass and quartz-faced concrete panels, will provide 344,600 sq. ft. of floor area. The design is by Sacramento Architects Harry J. Devine, Herbert E. Goodpastor, and Franchesi, Dreyfuss Rickey & Brooks. Cost is approximately \$11 million.



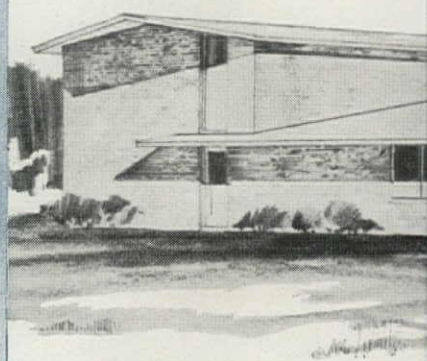
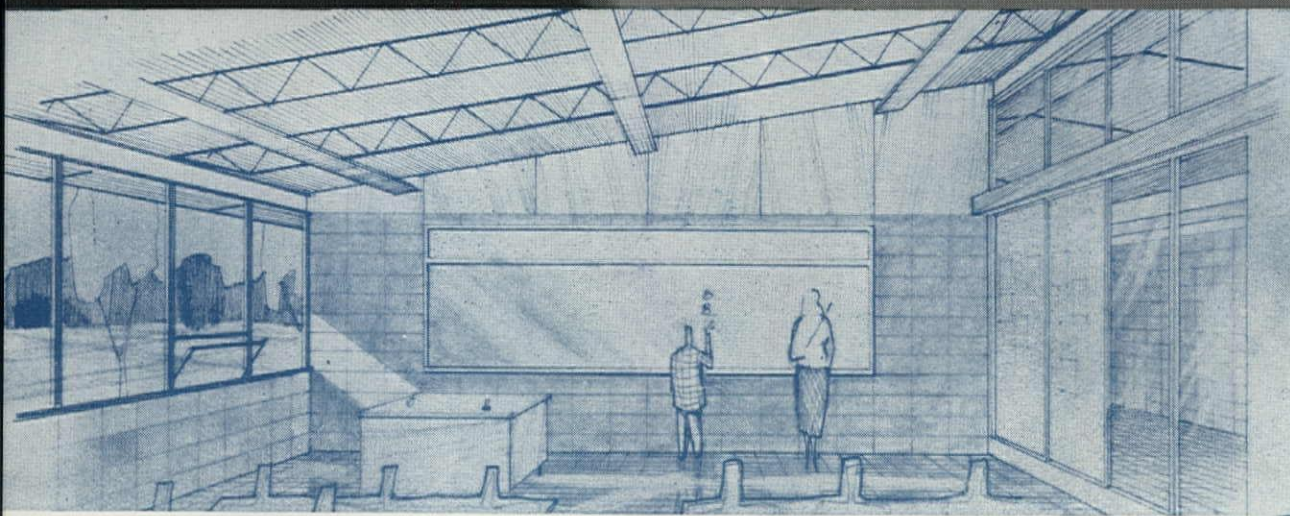
NEW YORK OFFICE TOWER

Unlike the general run of new Manhattan office buildings, the 41-story skyscraper pictured above will be faced with masonry. Designed by Harrison & Abramovitz, it will be erected on Third Avenue, a few blocks south-east of Grand Central Station, and will have a total rentable floor area of 800,000 sq. ft., 65 per cent of which will be leased by three major firms: Continental Can Co., Socony Mobil Co., and Chemical Corn Exchange Bank. Cost: about \$25 million. The financiers are Peter B. Ruffin and John W. Galbreath. **END**



Pre-cut sound-absorption batts of inert fiber fit into the $2\frac{3}{8}$ " rib-openings of Acoustideck, under cover of 1" rigid board insulation. Standard methods are used for application of bonded roofing.

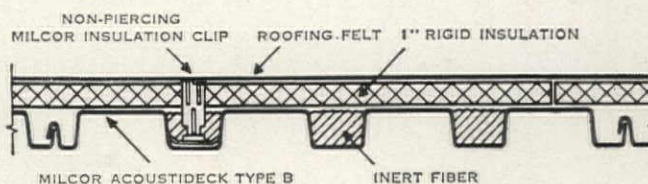
Using Acoustideck was one way the architects of the Fennimore Community School, Stitzer, Wisconsin helped the community to hold down building costs, and at the same time to get more value for its school dollars.



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RD-26

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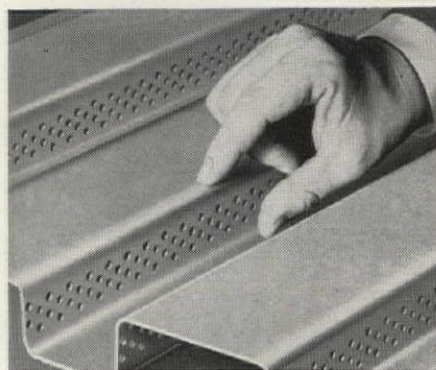
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This satisfies the requirements of classrooms, gymnasiums, offices, industrial plants, and other noise-problem areas.

Acoustideck is Bonderized, and prime coated with a baked epoxy-resin enamel which resists the wear and tear of shipping, storage, and erection. Only one field coat of paint is usually required instead of two; field painting costs are cut in half. Acoustideck is also available in galvanized steel or aluminum.

See Sweet's Architectural File, section 11a/In — or write for catalog 241.

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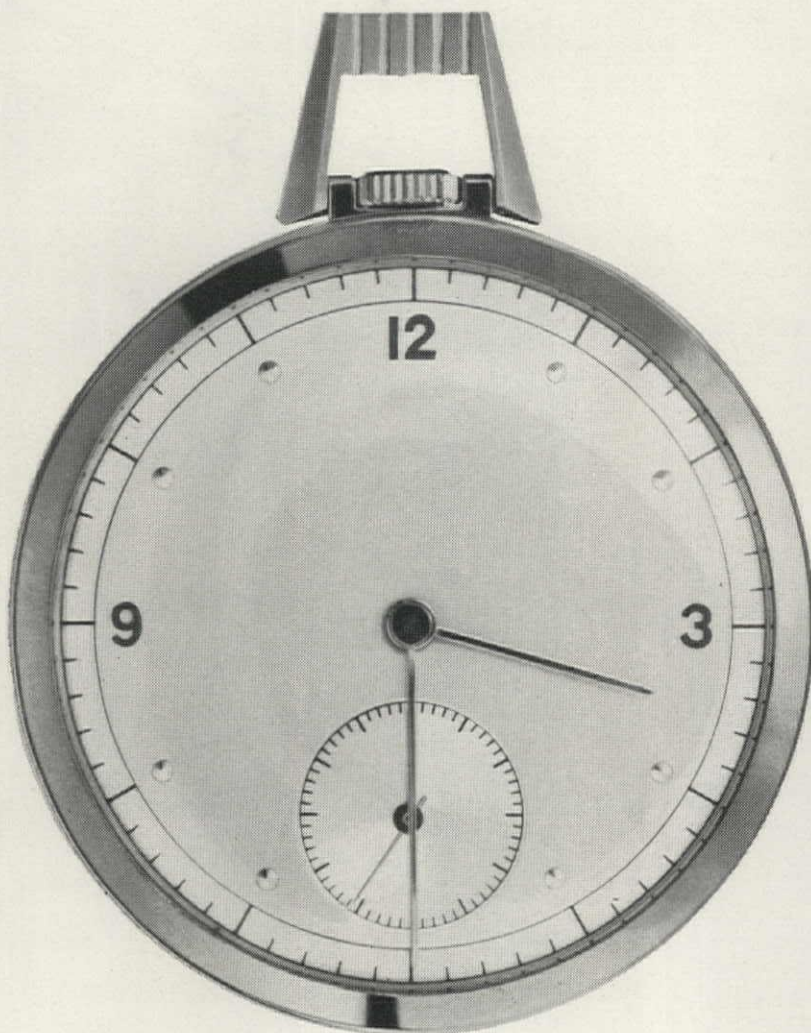


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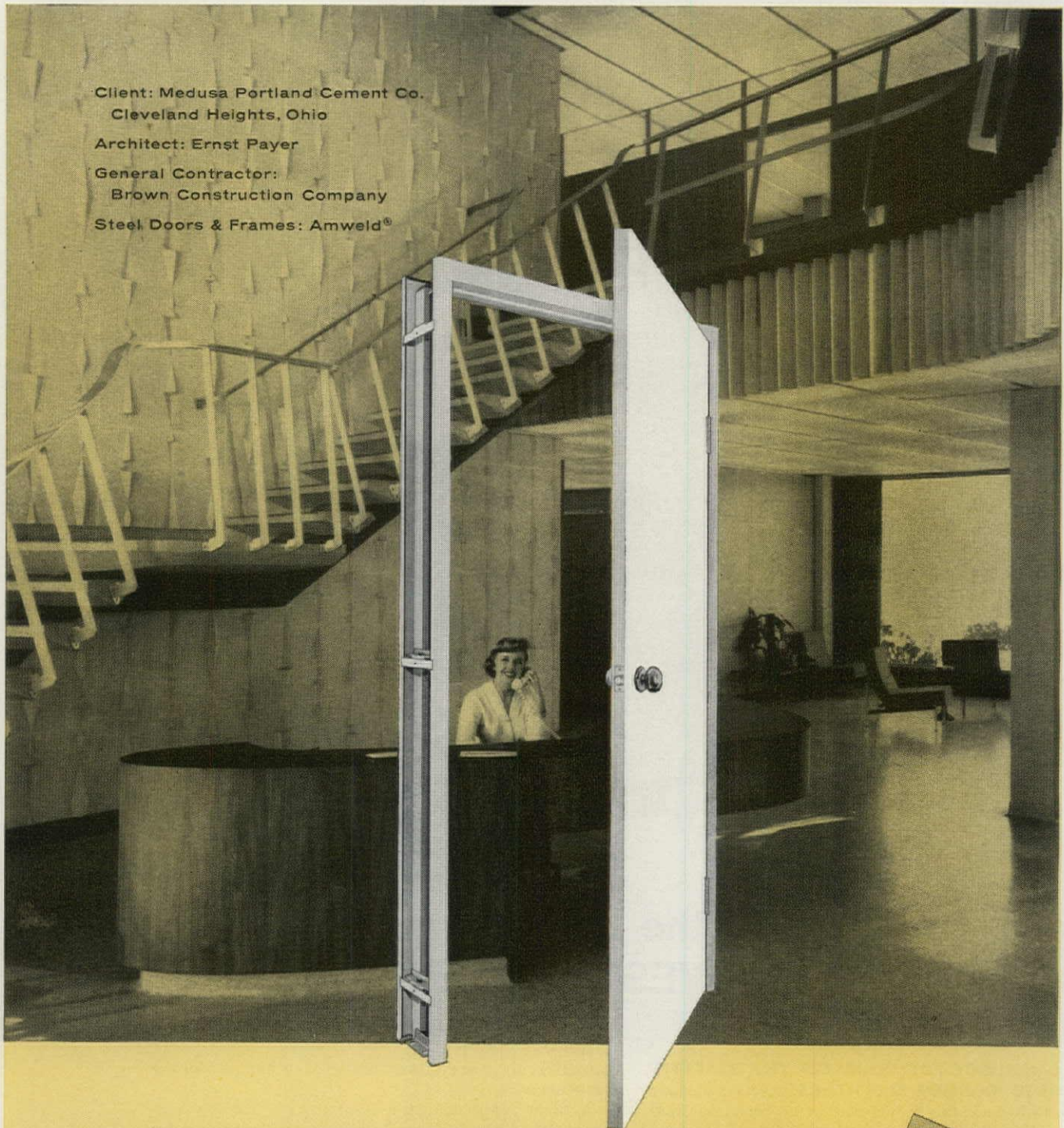
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Architect: Ernst Payer

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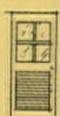
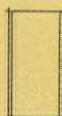
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Atlanta's Robert Holder plans \$20 million suburban mart; Nebraska's governor hits bouncy floor

TRACY O'NEAL



GAMBLER HOLDER

"The boom just ran over me."

Gambling is illegal in Georgia, but **Robert M. Holder** has been gambling for years in and around Atlanta, and lately has been making a rather tidy living at it. Holder calls himself a real estate broker, but actually he is a speculative land developer on a scale that ranks him with the biggest in the nation. He has already put together a huge industrial park called Peachtree Industrial Boulevard just outside the city limits, where 79 plants and offices generate \$200 million of sales a year. In his 58 years, Holder has developed everything from country clubs to cemeteries (where he bought open land for \$1,300 an acre, resold it as cemetery plots for \$30,000 an acre). This month he broke ground on the biggest gamble of his life—a \$20-million exhibition hall—merchandising mart 30 miles north of Atlanta (see *Projects*, page 54).

Holder is betting that Atlanta will continue to grow, and that most of its growth will be to the north, where he owns large chunks of acreage and where new links to the federal interstate highway system are being forged right at the site of his proposed coliseum. He is making his bet in the face of growing criticism from fellow Atlantans (who object privately to his development of raw land outside city limits, luring new business outside Atlanta's tax jurisdiction) and despite the fact that a new merchandise mart is due to go up in downtown Atlanta.

Bob Holder's success has not come easy, although he is the first to say it has.

("I've been lucky as hell," says Holder deprecatingly. "The boom just ran over me.") He travels over 100,000 miles each year in search of new business for his various schemes and lately has become interested in other parts of the country. He has taken options to lease or purchase most of the New York Central Railroad passenger terminals in the Great Lakes region (which he plans to develop as office buildings or shopping centers), and he is currently lining up industrial clients for a new project on Pelican Island, off Galveston, Texas.

Conservative Atlanta bankers say Holder does too much seat-of-the-pants operating, but they grudgingly admire him for it. One typical comment: "Don't sell Holder short. He has vision and foresight. We have all underestimated Atlanta's future."

With his vision and foresight—and luck—Holder has parlayed what was once a puny, sporadic realty brokerage business into a big \$6-million-a-year hand. Along the way, he dragged himself out of economic and alcoholic despair. "My own depression and the country's coincided," Holder says frankly. Today, he complains that the real estate business lacks "creativity" and bemoans the "inertia that this industry develops." Last month, as Holder plunged into a new scheme to build cooperative apartments on an island off Miami, he manifested again the peculiar ability that marks him as Atlanta's number-one gambler.

RALPH FOX



NEBRASKA'S GOV. BROOKS

"I won't be poltrooned by ignoramuses."

NEBRASKA'S QUIVERING HEIGHTS

Last November, **Ralph G. Brooks** became the first Democratic governor of Nebraska in 22 years, and since then he has stirred up Lincoln's most controversial building row in many a year. Brooks started it all early this year when he grumpily announced that the first floor of his spanking new \$249,000 mansion, across the street from the famed State Capitol designed by Architect Bertram Goodhue, sagged and trembled at every step. Brooks tabbed the mansion "Quivering Heights," and thereby set off a tremor with political complications. The mansion was built during the regime of his Republican predecessor, Victor E. Anderson, who evidently did not expect to be defeated. The pseudo-

Georgian, off-center, pink-brick building was finished about a year ago, but Anderson did not move in until shortly before the election because of difficulties in getting housekeeping help. Anderson says he never noticed the shaky floors downstairs, but adds: "Maybe we didn't jump up and down as much as the Brooks do."

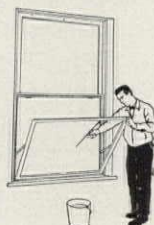
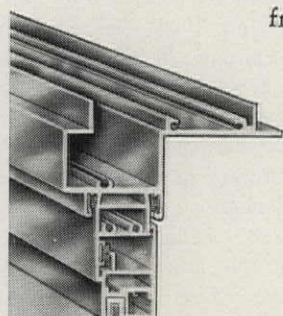
Anderson supporters, particularly members of the Nebraska Capitol Building Commission, claim the building is structurally sound, as do the architects, Selmer Solheim Associates of Lincoln. The building, they say, is of steel bar joist construction, with a 2½-in. concrete slab as a floor base.

continued on page 62

A Product Report for Architects...

Inside Window Washing with the new Fleetlite double hung Monumen-tilt!

For the architect engaged in conventional and curtain wall design of offices, schools, hospitals and other high rise buildings, Fleetlite offers the only monumental double hung aluminum window that can be fully screened and still cleaned at floor level from inside the building.



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DESIGN FEATURES Upper and lower sash have extruded glass-frames hinged at the lower rail of each sash. For inside cleaning, glass-frames pivot "hopper style" when in the lower position. Jambs of adjoining windows fastened with male and female screws and splined for weather tightness. Continuous head and sill for mullioned units up to 20' wide.

HARDWARE Sash balanced with removable spiral type balances. Glass-frames lock into sash by concealed stainless steel cam locks. Installation anchors of heavy gauge steel cadmium plated.

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AIR INFILTRATION Shall not exceed .50 cubic feet per minute per foot of crack length under static air pressure equal to winds of 25 mph velocity.

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MAXIMUM SIZE 4'6" x 8'0" frame over-all dimensions.

SCREENS Fiberglass half or full length screens available.

FINISH Lustrous satin-like finish. Anodizing provided if specified.

Complete specifications and full size details available upon request.

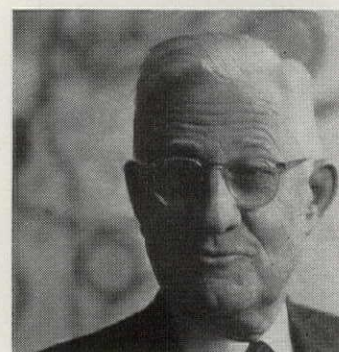
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Governor Brooks, however, was not mollified. He replied: "I don't deny the mansion is structurally sound. So are merry-go-rounds and ferris wheels, but you don't take baths in them." In a final bit of grandiloquence, Brooks rebuffed the defenders of his home by snapping: "I am not going to be poltrooned by ignoramuses."

PEOPLE IN BRIEF

Harland Bartholomew, 69-year-old dean of American planners (FORUM, Feb. '58), announced his retirement as chairman of Washington's National Capital Planning Commission when his term ends April 30. Bartholomew has chaired the commission since 1953, has been a member of or



BARTHOLOMEW

consultant to the commission since it was first established in 1927.

George Edson Danforth, 42-year-old architect and educator, was named several weeks ago to become professor and chairman of the Department of Architecture at the Illinois Institute of Technology, succeeding **Ludwig Mies van der Rohe**, who retired last September to work in his own practice. Danforth is presently chairman of the Department of Architecture at Western Reserve University in Cleveland. He worked with Mies on the plans for IIT's glass-cube campus, and in 1940-43 did his graduate work under Mies.

Henry O. "Doc" Talle, former congressman from Iowa, was sworn in a few weeks ago as Assistant Administrator for Program Policy in the federal Housing & Home Finance Agency, replacing **Annabelle Heath**, who has been named HHFA regional chief in San Francisco. Talle served in Congress for 20 years, much of it as ranking Republican on the Housing Subcommittee of the House Banking & Currency Committee. He was defeated for re-election last fall. HHFA Administrator **Norman Mason** also named **Walter Rosenberry**, who had been Mason's special assistant at FHA, to be Deputy HHFA Administrator.

END

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Chase Manhattan Bank Bldg., New York City
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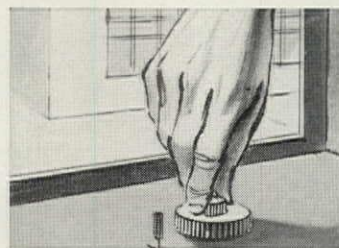
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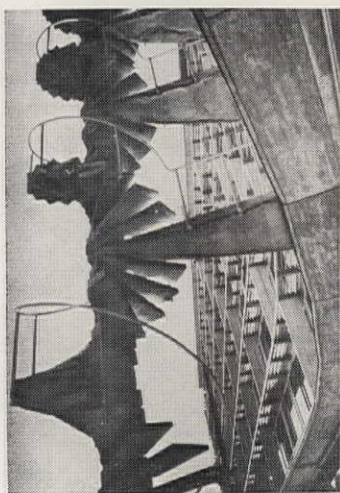
spirals . . . schools . . . sick transit

FIRE INSCAPE

Forum:

Might I add a further note on the UNESCO spiral (FORUM, Dec. '58 and Letters, Feb. '59)?

Speaking at the Rhode Island School of Design on the UNESCO building, Architect Marcel Breuer described the spiral



LUCIEN HERVE

fire escape in detail, and (unless he was kidding us) it would seem that the staircase should be labeled a fire inscape.

Breuer stated that these stairs are an expression of a Paris Prefecture regulation requiring a special entry for firemen in very large buildings (necessitated by the lack of aerial ladders). There are hose connections at each landing, and the doors to the interior open from the outside—for the firemen. So I guess there won't be any people getting dizzy running down the spiral. I hope the firemen don't get dizzy going up.

MARTIN ADLER
City Plan Commission
Providence, R. I.

BETTER SCHOOLS

Forum:

Congratulations on the interesting, educational, and, in our area revolutionary, article "The school board that dared" in the February issue. It is only through "gadfly" articles like this and progressive school board members like Philip Hiss that we can hope to achieve better classroom buildings for our children.

WILLIAM R. DALE
Edmond A. Pachner, architect
Palm Beach

Forum:

Thanks for your article on the daring school board. For a more profound architect-composer analogy (assuming analogy is plausible), you might have equated Architect Paul Rudolph to Debussy rather than Stravinsky and Architect Victor Lundy to Tchaikovsky instead of Ravel.

Being the "grand old man of his group" is actually about all Rudolph has in common with Stravinsky. Rudolph's quiet innovations and brilliant intellectual style bear more similarity to those of Debussy. Like the latter, in his quest of refinement and conscious restraint, some of Rudolph's work is dubbed as anemic and retractive in spirit. Subtlety, charm, and sublimity of style are the hallmarks of these two men.

Contrastingly, crescendos, expressive themes, and exotic overtones call to mind the musical world of Tchaikovsky. The bulk of Ravel's compositions as well-detailed orchestration still remains a paragon for the other two. Both Lundy and Tchaikovsky have such a strong personal approach to solving their problems that somehow they transcend "good taste" and their experiences become our own.

DELANO A. WILKES
Edward J. Seibert, architect
Sarasota, Fla.

■ For Tchaikovsky fans FORUM replays a bar of the Lundy music (photo below); for



VICTOR LUNDY

Debussy fans the full score of the Rudolph work is presented elsewhere in this issue.
—ED.

SICK TRANSIT

Forum:

Your article in the January issue titled "Sick transit: the city's number one problem" well describes situations and trends in the central district of Chicago. Articles of this type by authors outside the transit industry will probably do more to impress merchants, property owners, and planners with the importance of public

continued on page 84

TEMPRITE WATER COOLERS SERVE PRUDENTIAL

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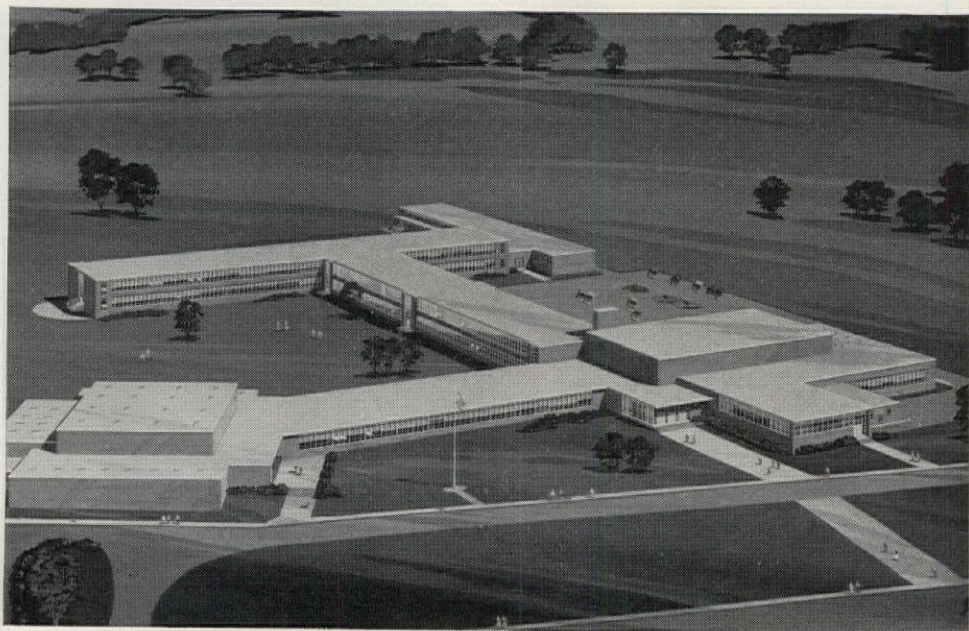
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L. M. TRAISSER, *staff engineer*
Chicago Transit Authority
Chicago

SPADES

Forum:

I congratulate FORUM both for its recent discussions of the problems of urban and suburban America and for its new policy of architectural criticism. In a magazine written for the client as well as the architect, an intelligent examination of the esthetic, in addition to the purely functional, aspect of our civic troubles is much needed. It's high time someone started calling all these spades about us by name.

WILLIAM K. GOODWIN JR.,
Second lieutenant
Office of the Post Engineer
Fort Belvoir, Va.

PLEASURE PARKS

Forum:

I thoroughly enjoyed your article on "Parks are for Pleasure" in the January issue. A significant omission was made, however, in not bringing out the part that forest industries in the U.S. are playing in providing millions of acres of land for recreational purposes.

A nationwide survey conducted in 1957 by American Forest Products Industries covered 74 per cent of the commercial timberlands owned by forest industries in this country. It revealed that 42 million acres, or 92 per cent of the total area covered in the survey, are open to hunters in season, that 44 million acres, or 96 per cent, are open to fishing, and that 65 companies have gone so far as to establish public parks. Thirty-one companies were planning to open additional parks during 1957, and 69 other companies listed plans for such parks in the future.

ARMAND ROTONDA, *district manager*
American Forest Products Industries
New York City

Forum:

With regard to your article on greedy states and municipalities selling off public land ("Parks are for pleasure," FORUM, Jan. '59), I call your attention to a glaring example here in Pennsylvania.

About a year ago the state leased some 18,000 acres to Curtis Wright, the airplane people. This was land bought and paid for by fees on hunting in Pennsylvania, and was supposed to be kept forever for that purpose. But Curtis Wright said they needed a big plot of land for

continued on page 86

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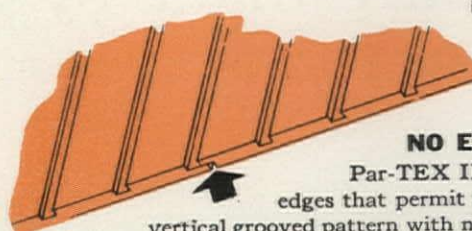
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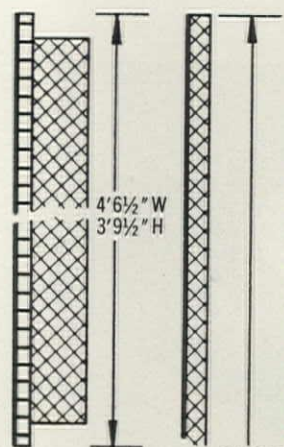
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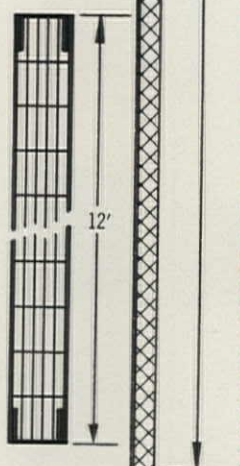


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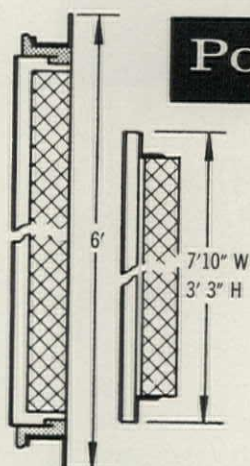
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testing. Our Legislature swallowed the plea, despite objections by sportsmen and other groups. Actually, the land is now being used for production of foam insulating rubber.

CHARLES J. POTH
Pittsburgh

Forum:

This splendid article should go a long way in convincing the public of the need for good design for parks.

WILLIAM PENN MOTT JR.,
Superintendent of parks
Oakland, Calif.

COMMUNITY BUILDING

Forum:

I read with great interest your January issue on "Building for the community." Hawaii is planning to build a new capitol, and for several years has struggled with the problem of what is capitol architecture and what is Hawaiian architecture.

Your issue was quite helpful in planning some discussion on the subject now facing us. Kudos for a job well done!

FRANK LOMBARDI, director
Territorial Planning Office
Honolulu

Forum:

I found your article on civic centers extremely interesting. I am glad to know that other people besides librarians have doubts about the advantages of these monumental developments.

ELEANOR A. FERGUSON
Executive secretary
Public Library Assn.
Chicago

FIRETRAP DESIGN

Forum:

Your very fine and timely article in the February issue, "Are we still designing firetraps?" should be read by every fire official in the country.

WILLIAM M. DONAHUE, fire marshal
Newark, Dela.

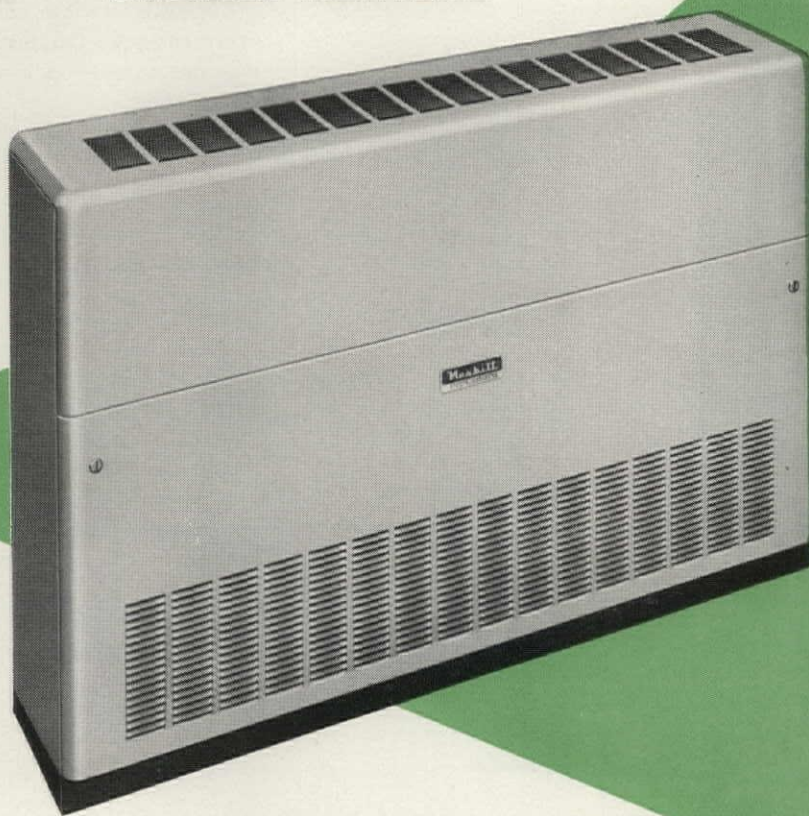
Forum:

Your article on fire prevention may have given the impression that the Factory Mutual Laboratories do little research in the loss prevention field. Actually, our budget last year for loss prevention research in the fire, windstorm, and explosion fields was 50 per cent greater than the figure you quoted for the National Bureau of Standards [\$60,000—ED]. Here is a list of some of the major research accomplishments of our laboratories in recent years: development of the standard spring

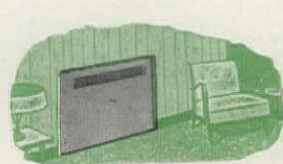
continued on page 88

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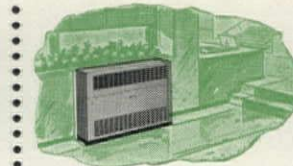
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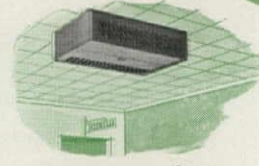
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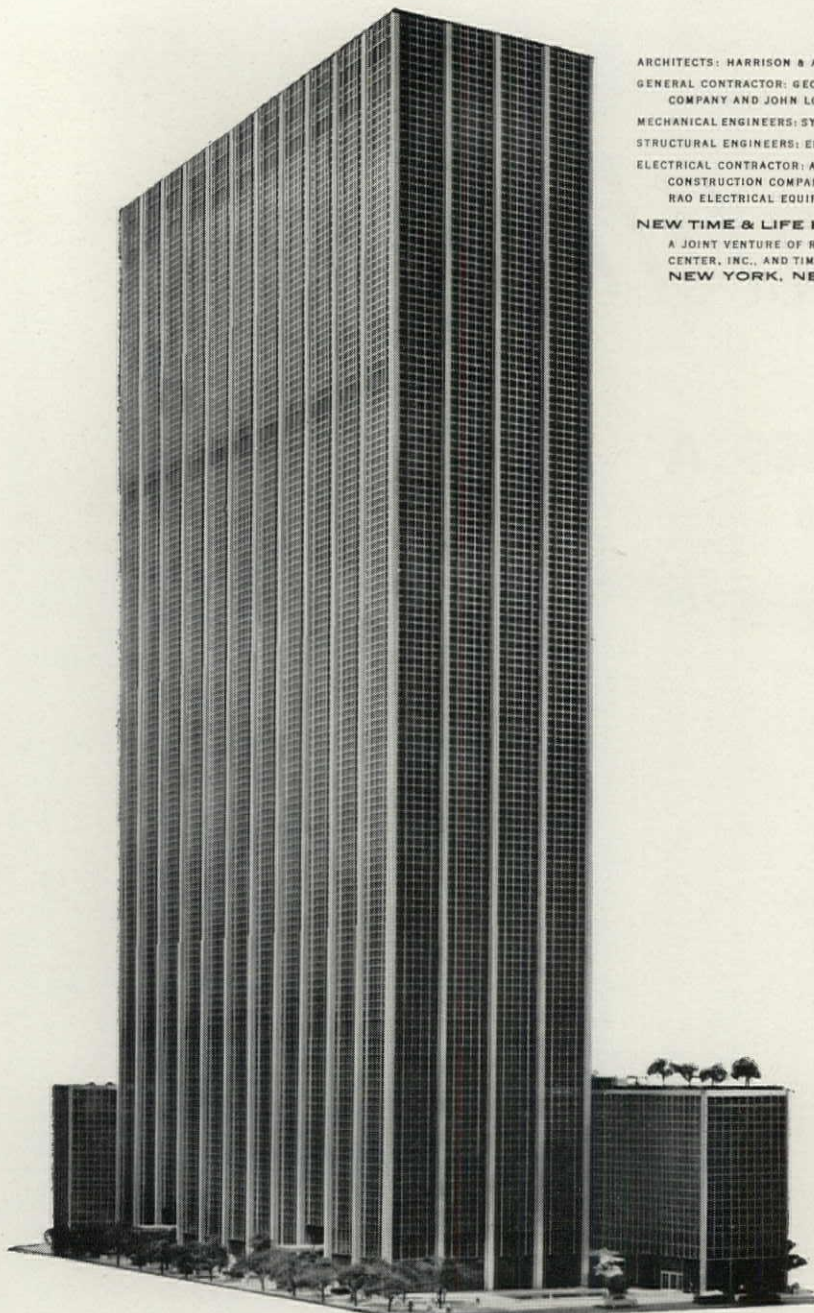
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M. H. NICKERSON, assistant director
 Factory Mutual Laboratories
 Norwood, Mass.

TEN YEARS NEW

Forum:

We have read in the *Abroad* department of the November FORUM a short critique of a "new" tobacco processing plant near Budapest. This building was constructed ten years ago; the architect who designed it died last year. I am his son. We always have highly estimated the FORUM for its objective information.

JENO RIMANOCZY, architect
 Budapest, Hungary

■ FORUM's information came from the Hungarian magazine Magyar Epitomuveszet, which apparently was misinformed.—
 ED. END

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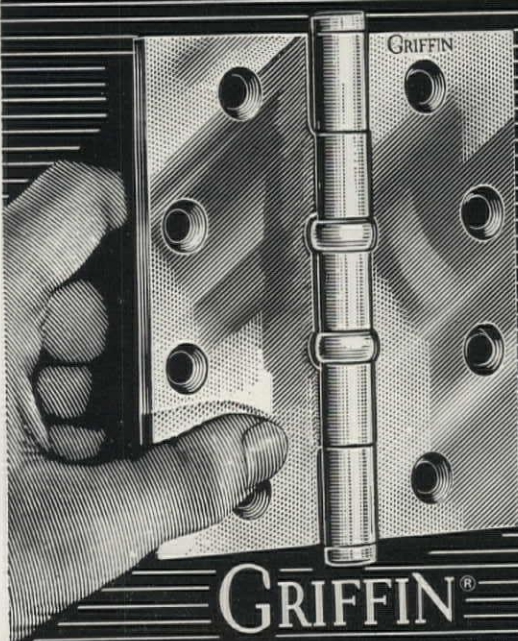
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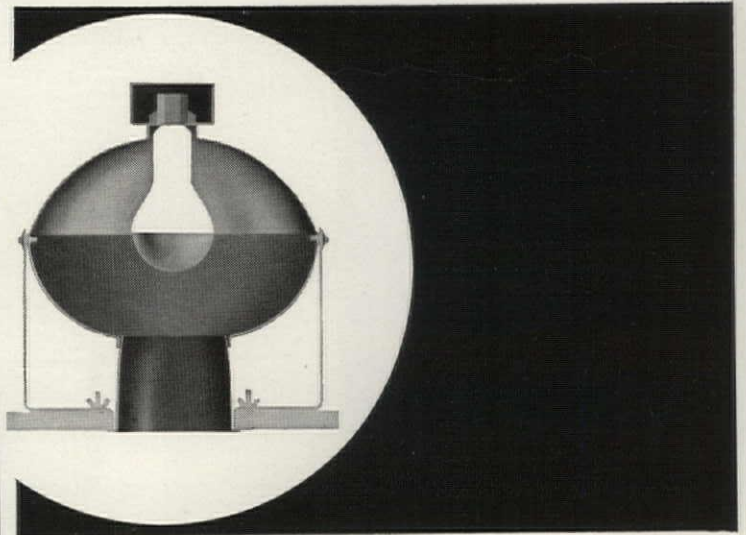
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Wimberley and Cook, Architects

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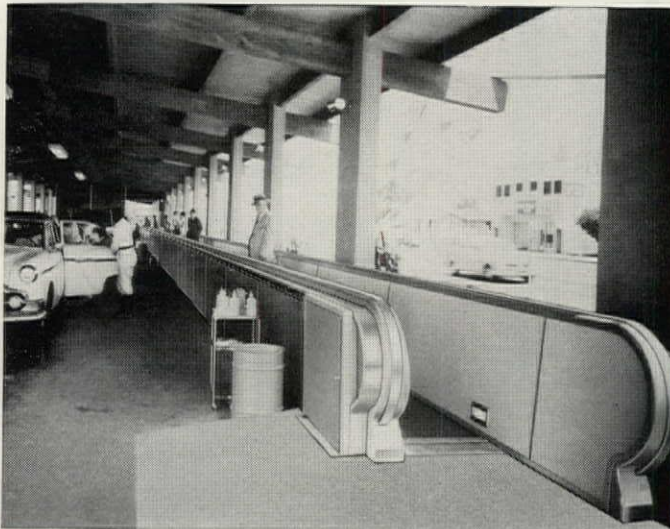
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Editorial

Arresting the highwaymen

There is more significance than meets the eye in San Francisco's recent "tea party," in which the city's board of supervisors unanimously threw overboard into the bay seven new freeways, planned and ready to receive some \$87 million in state and federal funds, because they would have cut massive concrete thruways heartlessly through the city's picturesque and distinctive heart. This is the first concerted revolt of a city against the highwaymen's single-minded urge to drive freeways through a city by the most convenient engineering routes without regard for the city's tissue and fabric of life.

Many factors fed the San Francisco revolt, more details of which may be found in the news department of this issue. Some property owners would have been hurt by the cut-through and made their pain known. Others felt that the freeways would take too much valuable land from San Francisco's cramped, hill-bound central city area (44 square miles), removing that much more from the city's tax rolls. Another group urged that expenditures be directed instead to the building of a really modern rapid transit system, elaborately planned but almost totally quiescent since 1956. But the really decisive factor that moved the supervisors to unanimous action, concurred in by Mayor George F. Christopher, was a tremendous groundswell of protests from plain citizens, businessmen, architects, and civic cultural groups who, finding pride in the native character of their city, did not want to see San Francisco go the way of Los Angeles, with all its views and *plaisances* in the Laocoön-like grip of a swirl of elevated superhighways.

Realization of what the proposed freeways would do to the city came late, as it usually does, with little time for maneuver. The state highway department usually brings its cross-country thruways up to the rim of a city and then presents it with a *fait accompli* in the form of a neatly drawn plan for cutting its connectors and interchanges through the city's grid. Such two-dimensional plans on paper are hard for the average citizen to visualize. But San Francisco had finally seen in three dimensions what three freeways already under way could do, and they did not like it. A sharp battle was fought and lost over lowering the new Embarcadero Freeway along San Francisco's water front so that it would not obstruct the city's great harbor view. When the seven additional freeways moved up for final approval, therefore, the board of supervisors seized the only weapon left—its control of city street rights-of-way—and blocked them.

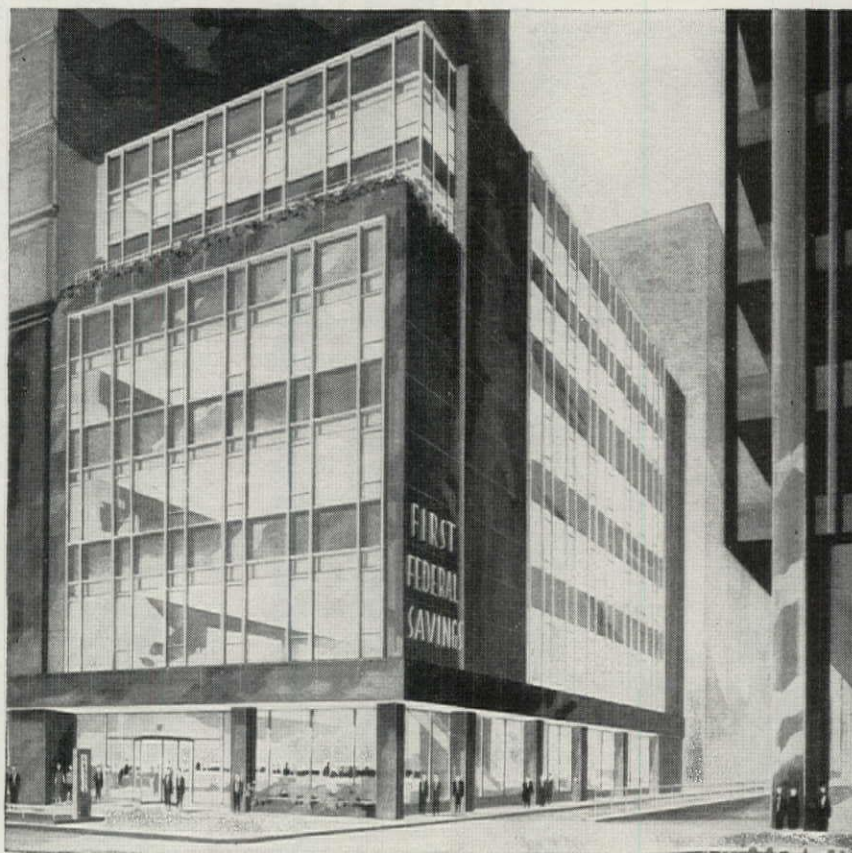
This is not a neat or rational solution, and the city is in a turmoil. For at stake are not merely the \$87 million in immediate freeway funds, which the state legislature threatens to allocate elsewhere, but a long-term city highway and freeway program totaling some \$500 million. The board of supervisors says it will consider any new freeway routes proposed by the state as

continued on page 95

Since

HOPE'S ALUMINUM WINDOW WALLS

1818



NINETEEN SOUTH DEARBORN STREET BUILDING

First Federal Savings and Loan Association, Chicago, Illinois, Owners
Ralph Milman, Architect *Dahl-Stedman, General Contractors*

The special character of this handsome building is created by the pattern of tubular aluminum mullions three by five inches in cross section. Within the areas so framed, Hope's Aluminum Window Wall units accommodate both windows and spandrels. The spandrels are insulated panels whose outside surface of opaque glass is in the same plane as the clear glazing of the windows. The aluminum of both sash and mullions is bright dip finished, then anodized. Since the building is completely air conditioned the windows are stationary.

Write for Hope's Catalog No. 162, containing full description with diagrams and detail specifications of three window wall systems, single and multi-story and grid. Included are the safe-limit tables of aluminum mullions.

This unusual development of a multi-story window wall building is custom construction throughout. Window installation is by Hope's field staff. In the planning, engineers of Hope's Aluminum Division have worked closely with the architects, from the conception of the design. There are many benefits from this procedure. The versatility of Hope's window wall systems can be fully used in harmony with the architects' purposes, obtaining the utmost economy in construction and securing the most soundly engineered window system.

HOPE'S WINDOWS, INC., Jamestown, N. Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

alternatives. The state's highway division, shocked and mad as a wet hen, says it is up to the city to develop and propose alternatives. The regional chapter of the American Institute of Architects suggests that architects be called in, as was done in Toledo, where the residential character of a suburb was preserved by sinking a disputed freeway instead of building it above ground. San Francisco may be ready to accept sunken highways or any other alternative, but it is adamant in not wanting the seven freeways in prominent view.

Beauty and the law

New York, America's largest city, is the last in the U.S. to face up to the fact that a zoning resolution which made a good deal of sense in 1916 makes practically no sense at all in 1959. But, as if to make up for its tardiness, the big city has produced a new zoning proposal that has some fresh thinking in it for other cities' attention (see page 122).

Zoning is a complicated business. It takes in such varied things as how high you can build and where; how you can keep smoke out of people's eyes; whether your maiden aunt can find an apartment down the block from your house; and at what point a city's population bubble is likely to burst.

New York's major proposal is to remove the old zoning "envelope" for individual, tall buildings which, ever since 1916, has not only turned Manhattan into a Babel of bashed-in ziggurats, but has misled countless other cities. In place of the envelope, the proposed law has bulk and open-space controls which will make it both easier and more profitable to build good-looking tall structures. It also proposes, among other things, a new kind of "general residence district" of mixed composition

which will discourage the deadly monotony of endlessly repeated single-family residences, encouraging a more varied residential pattern.

All these suggestions can, of course, do only one thing: they can make it possible for the metropolis to become more beautiful some day—and good to live and work in. They can make this possible—but they can not guarantee a millenium.

In theory, architects will still be able to design ugly ziggurats if that is what they want to do; builders will still be able to vulgarize the townscape; greed, blindness, and plain stupidity will still be free to express themselves. It is true that there will be bonuses for those who agree to be good. But there is no way of legislating beauty.

A slogan now current in many places says that "a cleaner city is up to you!" True enough. But a more beautiful city is up to those who know how to achieve beauty—those who know how to manipulate space, how to contrast tall and low structures, how to alternate large squares with narrow passages, how to compose raised levels and sunken plazas. City planning, in short, is a four-dimensional art, not a two-dimensional chart. Cities will become more beautiful only if the judgment of how best to interpret zoning laws is left to those who are trained and qualified to exercise such judgment. So now it's up to the architects and planners to assume the responsibility for interpreting the laws.

In 1916, New York lead the country in zoning. Now, more than 40 years later, New York has a zoning proposal that embodies the experience gained in Chicago, Philadelphia, and elsewhere—and adds to it a whole bag of new tricks. The proposal is sure to be studied and reviewed; before long, it may be law. If so, the rest of the U.S. will look upon New York's innovations with more than casual interest. **END**



The monuments come first in the new capital city for Brazil which Oscar Niemeyer and Lúcio Costa are creating in the uplands

Brasília's beginning

BY WALTER McQUADE

Far from Copacabana Beach, 600 miles northwest and inland from the lively luxury of one of the world's great cosmopolitan cities, Rio de Janeiro, 25,000 men are living in a tough construction town by night and creating a tender essay in architecture by day. The author of the architecture is Oscar Niemeyer, and his theme is Brazil. On a city plan of great breadth and sweep—and imagination—sketched out by Architect-planner Lúcio Costa in the red dirt on a plateau in the state of Goiás, Niemeyer is building a totally new capital for the fifth largest country in the world. It is this frail-looking architect's responsibility to shape every single public structure in the 400 sq. mi. site set aside for Brasília. His first building, Palácio da Alvorada—the Presidential Palace, comparable in use to the U.S. White House—is now complete and is shown on the facing page and the pages that follow.

Brasília, begun in October 1957, is scheduled to be fully occupied by the government in April 1960. Sponsored by a specially created Brazilian government corporation, it will eventually be a governmental city of 500,000 with all major industry barred forever. Now hard under construction are vast housing blocks, government buildings, and services, and a dam which eventually will create a 25 mi. long lake beside the city, its shore line placed precisely where the designers will it.

Architect Niemeyer's devotion to the job is entire. He does not fly in and out with blueprints and executive assistants, but is resident. One reason for this is that the 51-year-old architect is nervous about flying—and flying is the only feasible transportation from the coast at present. But his professional character has also been sobered by the tremendous historical commission given him by his friend and Brazil's president, Juscelino Kubitschek. Until Brasília, says Niemeyer, he regarded architecture as an exercise "to be practiced in a sporting spirit—I accepted projects and executed them in a hurry, confident of my capacity for easy improvisation." Today he will accept no other commissions save Brasília.

But if the great opportunity has tempered Niemeyer's gay approach, the first finished building, the president's palace, is no puritan. Though the idiom may have become

"more geometrical, more simple, more pure," it retains the old Niemeyer feeling for drama: the old swoop and instinct toward excitement still guides his soft sketching pencil. The architect is keenly aware as ever of the effects of Brazil's brilliant sunshine upon the architecture, not only in the sunshading which has long been one of his favorite means of expression, but in the whites of the buildings and their shapes. His recent interest in the limpid curve in architecture continues. And most of all, his antigravity feeling persists—he possesses the ambition and ability seemingly to divorce his buildings from dependency on the ground, to make them appear instead to be suspended just off the ground, comparatively weightless.

Also very apparent in the Presidential Palace is Niemeyer's ready willingness to add to his architecture with art outdoors and glittering decoration indoors. This official residence is tailored to the kind of man he thinks should lead his country, a man of vivid imagination and high taste—a description which President Kubitschek fits. Evidently Niemeyer hopes future Brazilian presidents will all be like this one and is doing his part in this formal, flashing mansion to shape a suitably influential environment.

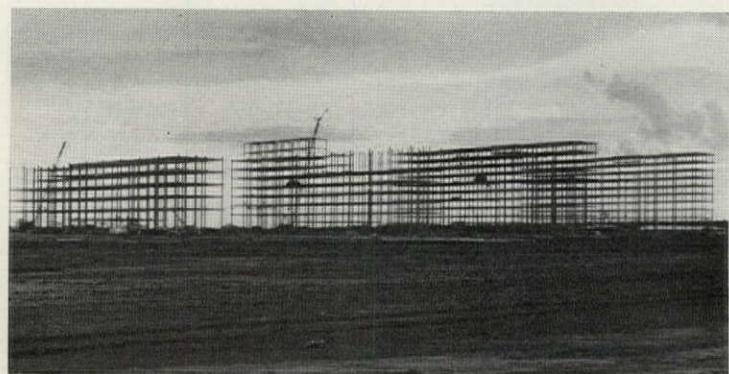
There are those in Brazil who think Kubitschek has too much imagination. The building expense of Brasília (current budget, \$150 million) has sustained several political attacks. Final cost estimates range from \$500 million to \$2 billion, private investment included. Kubitschek himself will occupy the presidential mansion less than a year, for Brazilian presidents cannot succeed themselves. But even now, before his government has moved in, the president is spending as much time as he can in Brasília, inspecting the growth of the thicket of office buildings and apartments. His purpose in moving the capital is a serious one: to turn Brazil's attention away from the sea, inland, to encourage the interior development he thinks is the future solution



PAULO MÜNZ—LIFE



Hotel, sited near the Palace, has 180 suites.



Ministries are well under construction.

for his country's economy. He could hardly have thought of a better attention-getter than the dedicated Niemeyer.

Only a few people in the building world have been able to see firsthand what is going on in the new city, but recently Chicago Architect Alfred Shaw, of Shaw, Metz & Dolio, did fly into Brasília, to be given a tour of the job by its architect. Shaw had been chosen by the AIA to travel through South America with a "People to People" troupe of U.S. professionals, government people, businessmen, and labor leaders, each to meet and talk with his counterpart in all the countries. Brasília was what impressed Shaw most. From his report:

"Oscar Niemeyer sent a car to the airstrip (the first piece of construction in Brasília) and very kindly took me on a tour. He lives in a little house very different from his two fascinating houses in Rio and evidences the sacrifice of being in a construction camp as an opposite emotion to the dedication he gives to Brasília.

"He is doing all the buildings—only two of which are finished. They are complete and beautifully furnished except for landscaping. In various stages of completion, other structures, with distances up to 15 kilometers between them, are starting to show against the sky. There are multistory buildings for the ministries and the offices of the embassies. In the central triangular court of the three powers, one can see the foundations for the supreme court and the two circular meeting places for their 'Senate and House.'

"Housing, I would guess for perhaps 15,000, is well under way. It includes multistory slab buildings whose partitions form structural wing-walls less than 6 in. thick; row houses; and garden communities for all classes of inhabitants from the garbage man up through government and white collar employees, including the top ones.

"In its scope and vastness the street and boulevard system looks as if it would service an even greater development of the automobile. The main arteries for circulation are over 400 ft. wide—I would guess, four lanes in each direction and service streets on each side. Intersecting pedestrian traffic will be above or below.

"The hotel (photo above, left) is brutally simple and

rectangular to the point of laughter. Four stories high, the rooms are all on one side of a corridor 750 ft. long. The special glass block is claustrophobic, and I understand will be relieved by some clear-glass 'openables.' The foyers and public rooms are smart and habitable, and a blue mural over 100 ft. long backs up the glass lounge very pleasantly.

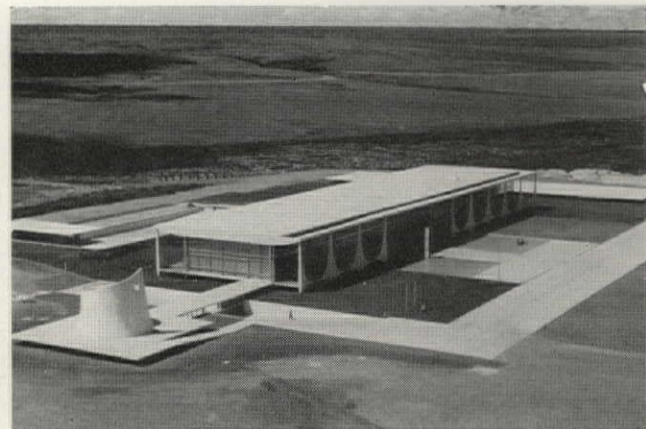
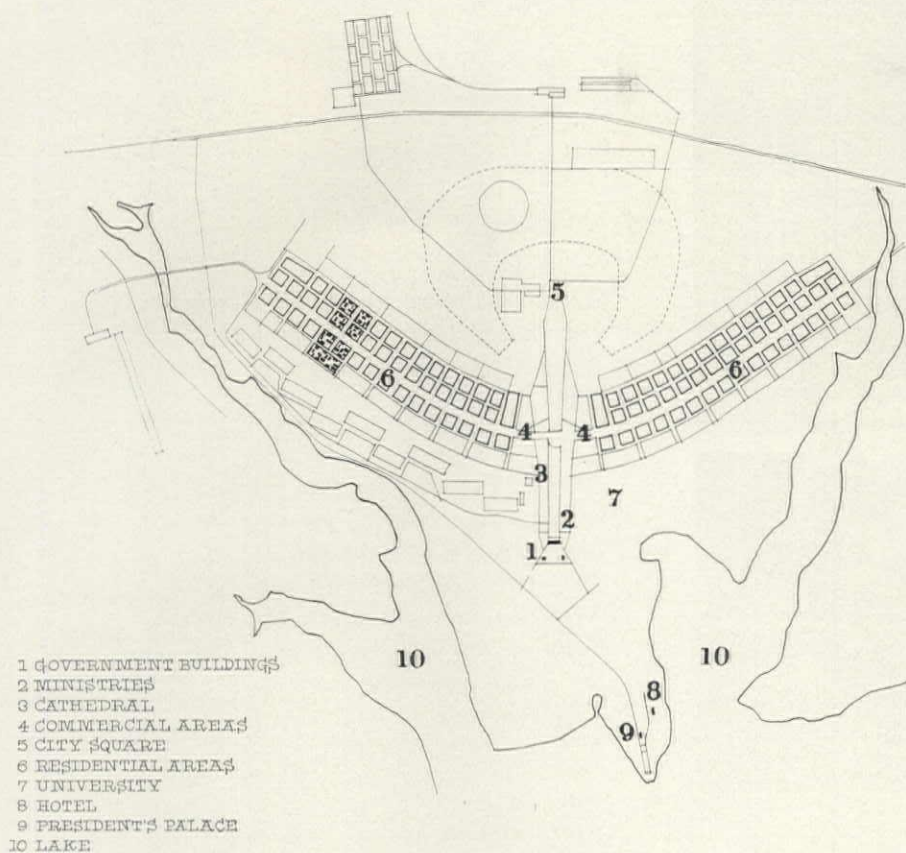
"Niemeyer is proudest of the palace, and well he might be. It is completely furnished, down to the ash trays, for the president and guests. Its site is at the tail of a peninsula. The lake will be on three sides: on the fourth side, toward town, a 400 ft. wide basin with two portals at the ends forms the barrier to the palace park.

"Not the least interesting area is the temporary shanty town, complete with pool parlors and alleys, bars, stores, bawdy houses, and other emporia. Everyone carries a gun or knife, and life is cheap as in a mountain mining town. Police are not in evidence except for traffic.

"Even with or perhaps because of its isolation, Brasília has an atmosphere of dedication at all levels. When Oscar described his self-imposed isolation here, he asked me: 'What would you do? Don't you think it's worthwhile?' I could only answer 'Yes,' thinking of a great architect designing practically a whole city and an idealized and dramatic one.

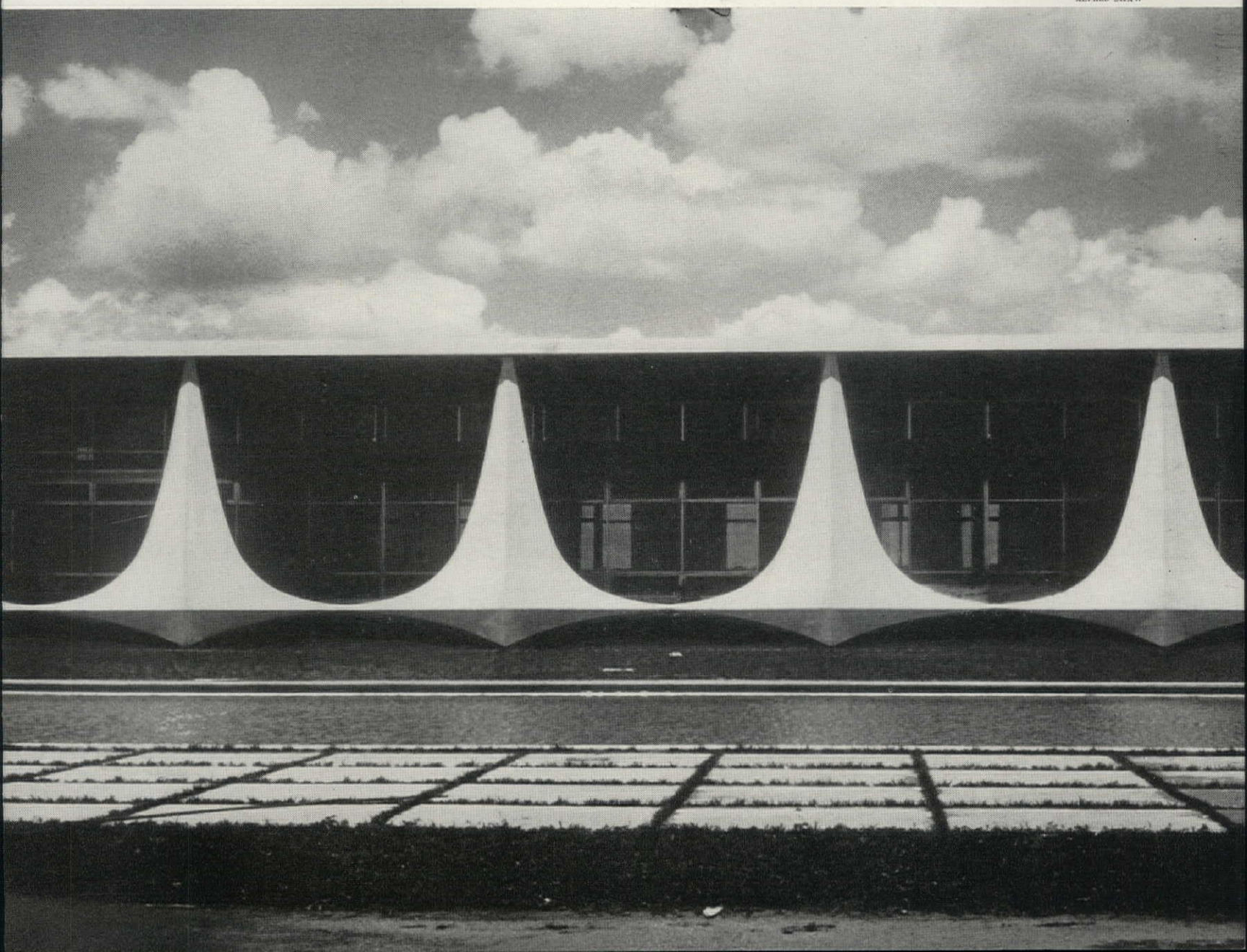
"I have used Niemeyer's first name because all the draftsmen refer to him as 'Oscar' in a respectfully, dedicated hush—a little like 'Mies.' They have come from all over the world and work for small wages in an atmosphere of creative construction."

On the following pages is
a gallery of photographs
of the Presidential Palace



Swept-wing plan for Brasília is based on two intersecting axes: a straight 5-mile-long "monumental axis," crossed by a curved "residential axis" 7.5 miles long. Parliament and other government buildings are going up near the crossing of the axes; Presidential Palace (photos above and below) and hotel are nearer the lake. Palace is of reinforced concrete construction. Its overhanging roof slab is supported partially by curved columns cast in concrete, covered with marble.

ALFRED SHAW





Bronze sculpture by Alfredo Ceschiatti sits on a platform in the pool in front of the palace entrance.

Chapel, viewed from the porch of the palace (right), presents the appearance of a stage set. Its interior is lined with gold tile. Niemeyer's daughter was the interior designer for both buildings. They are linked by a bridge over a sunken road.

Entrance hall has an immense mirror as an end wall. Reflected in it is the opposite partition, which is gold mosaic, and a ramp leading up to the reception suite.

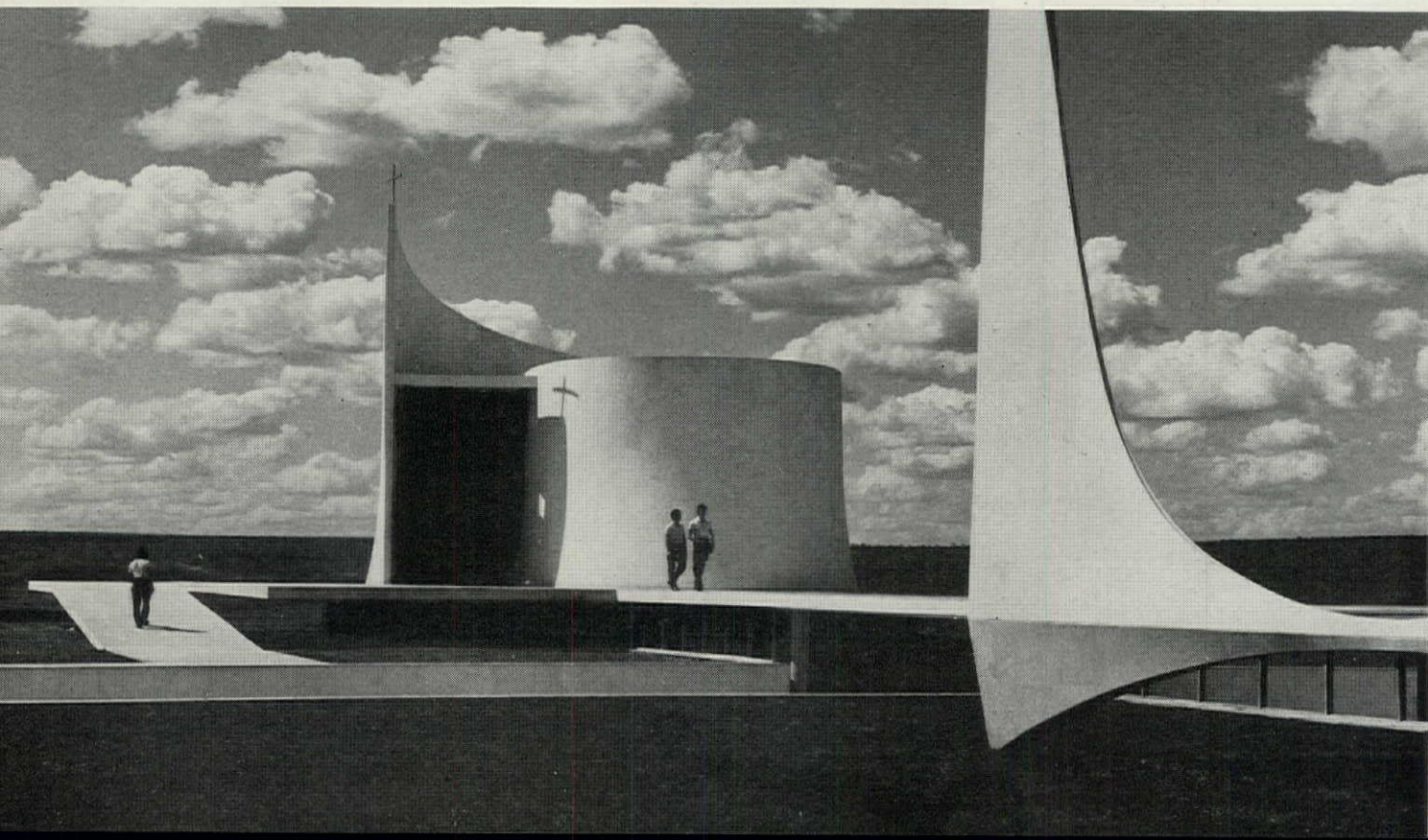






Balcony adjoining the president's sleeping quarters has the air of a gondola hung from a zeppelin.

President's chapel, standing near the palace, unwinds in a curl of marble-faced masonry.



Foyer wall of the Presidential Palace bears this inscription on its tile wall: "From this high central plateau, from this solitude which soon will be the brain from which will emanate decisions of vital national

importance, I look once more to the future of my country and I foresee this dawn with unshakable belief and unlimited faith in the greatness of our destiny."
—Juscelino Kubitschek.

END

PHOTOS: (BELOW) JOHN & BINI MOSS; (OPP. P.) MARCEL CAUTHEROT

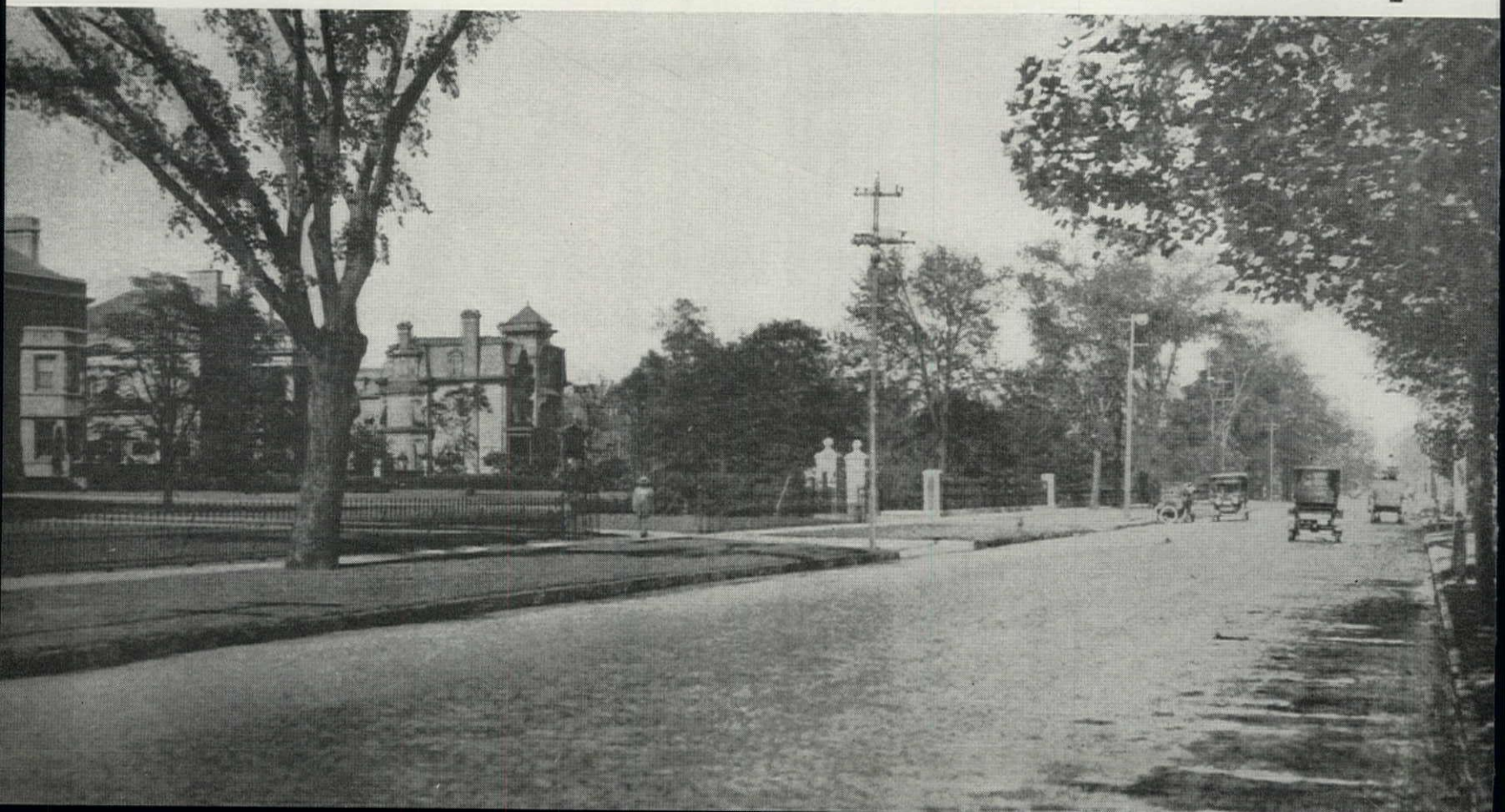




1

*Cleveland's Euclid Avenue:
yesterday "a seemingly endless vista of beauty,"
today just another glass-walled Main Street.*

2



The glittering slum on Main Street

BY RICHARD A. MILLER

One of America's once-beautiful avenues is now being lined with office buildings for blue-chip corporations. The result is a spectacular real estate success—and an architectural and planning fiasco.



Few people driving downtown on Cleveland's Euclid Avenue see anything wrong with the rows of new office buildings which line the street on the edge of the central business district. The clashing competition of curtain-walled façades, the odd jogs and gaps between the buildings, and the incongruous proportions of neighboring buildings (1) pass, for the most part, unnoticed.

Even the intimates of the district see little to disturb them as they walk down the narrow alleys to the rear parking lots or wait patiently in their cars for a chance to dive into the torrent of five o'clock traffic. Indeed, if the visual chaos, bad planning, and general disorder are noticed at all, they are dismissed as inevitable postscripts to "progress," like thunder to lightning.

The sign "now leasing" stands at the beginning of the process; the sign with the clam shell waiting behind it. (3) With leases in hand, a promoter can obtain a mortgage, lay out the steel frame, order brick and concrete, and, incidentally, determine the "architecture." On Euclid Avenue, this simple process, repeated many times over in the last decade, has built a new district where 10,000 to 12,000 people work in more than 450,000 sq. ft. of office space. At the same time, in the five-eighths-mile stretch from the now-abuilding Inner Belt Freeway to East 40th Street, more than 200 motel rooms have been built, and 150 more rooms (in a "Miami-style" motor hotel) will be added this year.



Ten years ago, the typical office building was a low, walk-up structure with less than 15,000 sq. ft. of floor space rented to up to ten tenants. These structures were followed by three- to five-story buildings occupied largely by single tenants (like International Business Machines, Equitable Life Assurance Society, and B. F. Goodrich Chemical Co.). The newest structure indicates a new trend: it is an eight-story building with 95,000 sq. ft. to be occupied by more than 25 tenants (among them Johns-Manville Corp. and Cities Service Oil Co.). At the back of this building will be a five-deck parking structure (one space for every 500 sq. ft.) as a departure from the predominant ground-level rear-lot parking. An indication of the rise in land value is the fact that the land on which the new building stands was sold for \$3.50 a sq. ft. in 1955, resold in 1958 for more than \$8.00. (There is some conversation in the area that some of the land values on the street reflect "basketball playing" or selling between associates to build up value for mortgage take-outs, but, in general, the increase in value is real.)

All of this sounds like the traditional American success story. But the story palls for those who look past the clutter of signs (4) which replaced the trees and realize that this street was once declared, according to Planner Christopher Tunnard, "America's most beautiful avenue." (2)

This disillusion is not merely a sentimental affair. It is relatively unimportant that the house being

torn down for the "Miami-style" motor hotel was the place where Mark Hanna met William McKinley. It is very important that the motel will be a separate entity on a separate lot, and architecturally unrelated to the district as a whole, despite the fact that the developers are the same ones who built the two large adjacent office buildings between 1955 and 1957.

The significant point about Euclid Avenue—and about "Euclid Avenue" in nearly every major American city—is that American enterprise and architecture today seem totally incapable of *street formation*. Buildings are erected one after another as if each building existed in a vacuum. An old church, which, unlike the houses, is likely to remain, is depleted, obscured, and deformed by the competitive design of the buildings around it. (5) And the opportunity to take positive advantage of the church to provide, by a proper setting, the impressiveness which is so self-consciously attempted in the individual façades, is ignored.

Even new buildings, built almost simultaneously, lack relationship to each other. The general proportions and the architectural character of the WEWS Scripps-Howard television station (designed by the Austin Co.) and the IBM building across the street (6) go their totally separate ways. (Architect Irving D. Robinson, who also planned the Goodrich, Equitable, and USF&G buildings, designed the IBM building as well as several others elsewhere on the street.)

One-half block down the street, the practice of lot-by-lot (or mortgage-by-mortgage) design is carried to the ultimate where two curtain-walled buildings, each on stilts with their ground floors largely open to parking, were built within a year of each other. They were designed and built by the H. L. Vokes Co., and are owned by the same real estate syndicate. The gap between the two buildings (8) may be defended as some sort of way to gain more "outside" offices, but the casual, "offbeat" relationship of the two curtain walls cannot possibly be considered a good design solution.

The frantic individualism of the new buildings is parodied in the older ones which house the restaurants and service stores for the area. (7) But here, the attempt to give an establishment



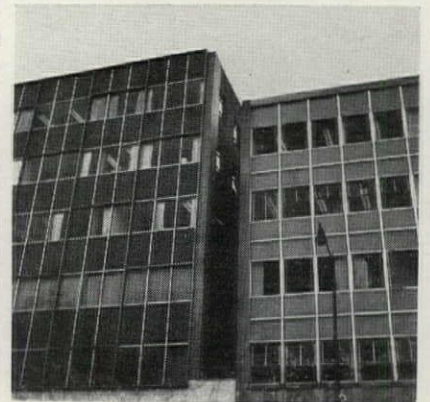
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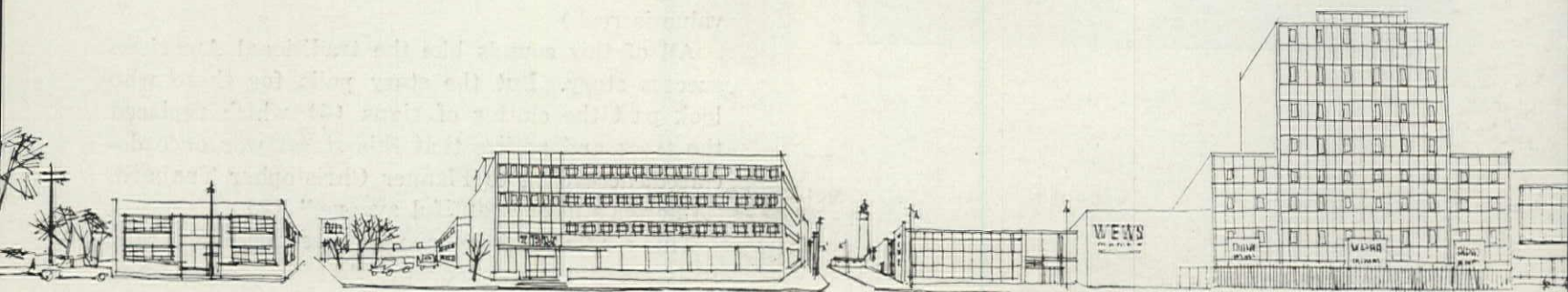
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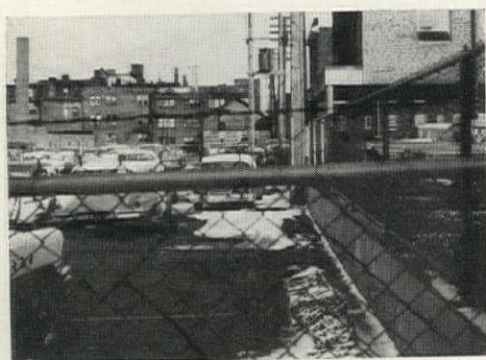




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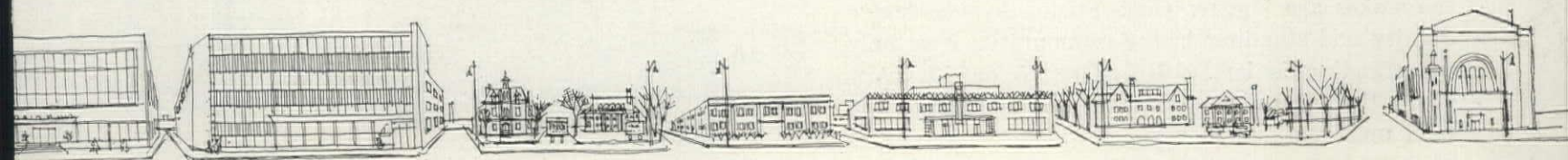
"tone" with stone is outweighed by the "classier" corporate hulks nearby. Under the circumstances, the best solution might well have been a sophisticated paint job on the old store front (and sides) coupled with the establishment of a general orderliness and a severance of the sheet metal bridge across the drive.

"Dickey" fronts are not confined to the old buildings. Wherever possible the new buildings have them too. Peculiarly, the rather pompous front entrances (9) of many of the buildings are rarely used because the parking is at the back. Because the district is located out of range of public transportation (except for buses), most visitors and employees come to the district by car. But the buildings give little evidence that this has been noticed. (10)

At the Equitable and Goodrich buildings, the sides and backsides at least continue the general color treatment of the front and are neat and honest (which may well be a virtue vis-à-vis their fronts). But in the motel down the street, "Mount Vernon" faces the avenue as if it were the Potomac, disdaining even the slightest relationship to the air-conditioned clutter of its side. (12)

The backsides of the buildings are actually more important than the fronts. The chance for convenient parking, indeed, is the primary reason for the popularity of the section. Unfortunately, however, parking arrangements are often less than adequate. Fundamentally, the reason for this inadequacy is the same as the reason for the disturbing appearance of the street: bad planning.

The parking lots are almost all organized on a lot-by-lot basis. Each lot has its own parking spaces arrived at by way of its own independent alley from the street. On the south side of the street, where the original residential lots were comparatively small, there is, perhaps, some excuse for the variation in grades, the inefficiency in circulation, and the need for wire fencing to keep one lot separate from its neighbors. (11) But on the north side of the street, where the properties were originally ten acres in size and where single developers built neighboring buildings, the only excuse for the breaks in grade and the tortuous paths is the insistence of financing agencies that each building be on its own complete and independent "parcel," and this insistence is coupled with a lack of over-all planning



for such practical matters as drainage and traffic.

This back-of-the-lot individualism (13) is traditionally defended as the inevitable consequence of a free-enterprise development. But municipalities are generally empowered to control street access, to enforce planning for proper drainage, and to establish sensible standards for off-street parking (Cleveland,

unfortunately, has no provisions for off-street parking for commercial properties in its zoning ordinance). Moreover, the architecture could be improved by a civic design ordinance that would seek



13 to achieve a semblance of organization on the street. But, in the final analysis, the best way to obtain civic design is by the simple free-enterprise recognition that architecture is more than skin deep.

In the atmosphere of the street, conscientious designs on structures like Architects Weinberg & Teare's Community Chest building cannot attempt much more than a well-detailed entrance canopy, a good color scheme, and a clean curtain wall. (14) And the civic gesture must be confined to something that the individual building can bring off all by itself, like the ivy and terrazzo sidewalk plaza (15) at the Austin Co.'s building for WEWS.

The street, in fact, is the visual testament to the unwillingness of people to work together for mutual advantages. The villains in cases like Euclid Avenue are all of the people involved:

- ▶ Municipalities for neglecting to enforce sensible zoning, traffic, and parking controls.

- ▶ Architects for working alone, on one project at a time, often without even considering what they did next door.

- ▶ Developers for not valuing architecture or planning, for not having the vision to contemplate the magnificent opportunity for a better (and more profitable) development.

- ▶ Mortgage holders for looking only at the lease and not at the long-range future of the neighborhood.

- ▶ Tenants for not insisting on better planning, for not understanding that a corporate "face" is more than a slick display room or a smart lobby.

- ▶ The general public, for not seeing the mess, for dismissing their unhappiness at the decline of the street as mere sentimentality.

Unfortunately, the problem of Euclid Avenue is matched in nearly every American city. If there are any examples of a group of architects and developers who have solved the problem of street formation on contemporary terms, they have not yet come into evidence. And the one-architect, one-developer shopping center or the corporate office complex can only demonstrate the vision—not the process. Somehow these successes must be transferred to the typical development of the street. The problem is big, but the stakes are bigger. Once Euclid Avenue had a dignity and standing in the community. Now only the standing is left. (16) After 15 or 20 years, when the leases run out and the mortgages are paid up, even that may go. END



Where realty leaders stand on urban renewal

Despite the energetic opposition of some spokesmen, most real estate leaders favor federally aided redevelopment as the last best hope for city centers

BY STEPHEN G. THOMPSON

For a long time the impression has been held that one of the deterrents to a more effective federal urban renewal program has been a subtle opposition from the nations' real estate entrepreneurs. And there are a spate of speeches, statements, and pronouncements to lend support to such a view. But like most blanket observations, this one is somewhat less than true. And some recent activities of leading real estate men, mainly in the largest cities, suggest their strong support for urban renewal—growing ever stronger.

One difficulty in confidently appraising the real estate industry's attitude is the sheer number, variety, and contrariness of real estate men. The 65,000 members of the National Association of Real Estate Boards (NAREB) form the largest, most influential body, but no consistent mass. NAREB's officers say firmly that the association is not anti-redevelopment, and point to testimony as early as 1940 in which they supported slum-clearance and redevelopment through federal aid. Yet as late as last fall, NAREB's San Francisco convention adopted a policy recommendation that federal capital grants for urban renewal be gradually reduced. NAREB has conflicting interests between its majority of suburban and small-town members, whose interest in urban renewal is dim or nil, and its big city realtors, many of whom have come to see its necessity. Moreover, many of these and other real estate men are to be found in the National Association of Building Owners and Managers (NABOM) and the Urban Land Institute, both of which have been more generally favorable to federal renewal aid. Hence any view of the situation is bound to be mixed.

The issues are further confused by the many meanings attached to the term urban renewal, which includes not

only redevelopment, the clean sweep of a blighted area for large-scale rebuilding, but also rehabilitation (minimum demolition with a voluntary upgrading of usable existing structures) and conservation (general improvement of a neighborhood through encouraging residents to refurbish properties against decay). Generally, real estate boards have been most favorable toward the latter two, for obvious economic reasons. Indeed, some critics have charged that this is a diversionary effort to switch all funds away from full-scale redevelopment. And it is on redevelopment that the widest divergence of views occurs, ranging from those who believe that all urban renewal should be private, with no intervention by federal or state governments, through various shadings of this opinion to the authoritative real estate voices, growing in volume, who are now convinced that no urban renewal will go forward in the older and larger cities without the federal instrument.

The education of NAREB

How did NAREB get into the posture in the public eye of being a furtive opponent of redevelopment? From a generally conservative and Republican background, realtors were moved, in a way now privately regretted by many leaders, to join with home builders in opposition to all public housing of whatever stripe. And the conservative principle of reducing federal spending wherever possible has moved behind most of the proposals since then to curtail urban renewal funds, or to divert what would always be insufficient funds to rehabilitation and conservation, serving the greatest number of people. This interweaving of motives earned lambasting on several occasions from President Harry Truman, who tagged NAREB as "the real estate



CORDON PARKS—LIFE

Greenfield: "Our renewal goals will not be served by 'clean-up, fix-up, paint-up' programs."

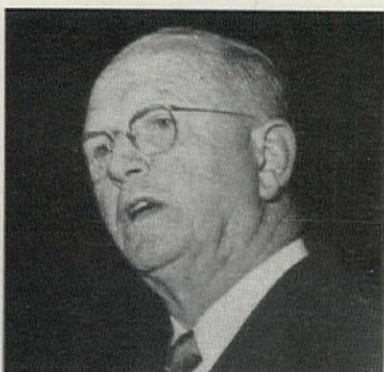


PHOTO ARTS

Shattuck: "I'm afraid redevelopment will fail . . . and we'll be right back in the public housing business."

lobby." The term stuck, and as the decade wore on NAREB slipped into a number of other painfully educational missteps.

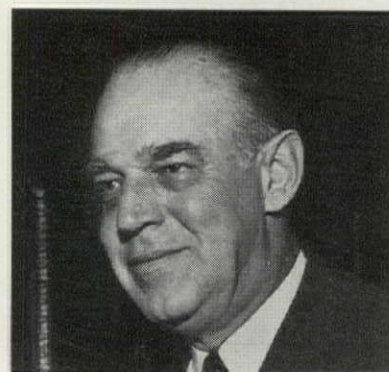
In 1953, NAREB's Los Angeles convention, sparked by a big Los Angeles realtor, home builder, and highly vocal attacker of federal urban renewal, Fritz Burns, launched an elaborate Build America Better program with the worth-while purpose of showing that rehabilitation can work. But the mistake made in this restricted-purpose program was that rehabilitation cannot be used as a substitute for broader urban renewal in acute situations, as a report of the President's Advisory Committee on Government Housing Policies and Programs pointed out in the following year. And NAREB was so ill-advised as to attach to its program the slogan "No Slums by '60"—which it would now like to forget. With national and local fanfare, the zealous Fritz Burns rehabilitated two "demonstration" houses on Los Angeles' blighted Bunker Hill, where a large-scale redevelopment project was being proposed. Eventually he rehabilitated a total of five two-apartment houses, and built one six-unit apartment structure on the Hill, but disclosed that he had no intention of entering the rehabilitation business on a large scale. It is not adaptable to his mass home-building operations. And, though NAREB has continued to put appreciable funds and staff effort into its Build America Better campaign, with some encouraging results, this has never galvanized the nation into any massive slum clean-up or rehabilitation activity. Periodically, one renewal authority or another still spices an address with the declaration that the nation's slums are still growing faster than they are being eradicated.

One of the biggest setbacks for advocates of rehabilitation rather than redevelopment occurred only three months ago, again in Los Angeles, where the heaviest part of NAREB's anti-redevelopment sentiment is centered, over the hard-fought Bunker Hill renewal project. The Los Angeles Realty Board was persuaded to oppose this project publicly in 1956, mainly by former NAREB President Charles



PHILLIPS STUDIO

Graves: "The alternatives are a vast U.S. subsidy with meager results or an economic conservation approach."



WALTER DREAN

Turley: "The average U.S. taxpayer will derive big benefits from urban renewal projects."



CURTIS STUDIOS

Burns: "Grandiose ventures to plow under large city areas are thwarting the natural growth of cities."



Lund: "The federal program is needed as assistance; we're foolish if we don't take advantage of it."

B. Shattuck and Fritz Burns. But as the fight waxed hot, a schism appeared in the board's ranks, and less and less of an official position was put forth on the matter. The fight was ended early this year by City Council ordering ordinances to be drafted to make this a full-scale redevelopment project (see *News*). Even those realtors who swung around to supporting it, mainly downtown interests, viewed the result with mixed feelings from their long-held base against "federal intervention."

As one of them ruefully rationalized it, preferring to remain anonymous in the still highly charged atmosphere: "The more organized we get, the more civilized we get, the more sacrifices we have to make. One of the sacrifices of living in a large metropolitan area is wrapped up in the Bunker Hill project, the approach to which I am basically against. However, for the over-all benefit of the city and Greater Los Angeles it is important and should go ahead."

The switch of leaders

Meanwhile, the same type of reassessment has been going on, less dramatically but more wholeheartedly, in one after another aging major city. For it has become increasingly clear to more farsighted real estate men that, on an economic basis alone, no one realtor or even group of realtors can do anything about large slum or blighted civic areas without some federal-state support, carrying with it the important right of eminent domain to put together many small parcels of land in the increasingly tight situation of finding space for any major development. Moreover, there was the example of William Zeckendorf, James Scheuer, and a growing number of other responsible real estate developers—good NAREB members all—who got into federally sponsored redevelopment and made a go of it. The latest contender for a big redevelopment site, in Philadelphia last fall: former NAREB President John W. Galbreath, of Columbus, Ohio. Nevertheless, only last August, while NAREB president, Philadelphia's H. Walter Graves took a sideswipe at such realty men. "Renewal," he declared, "can remain a field only for the giant redeveloper who comes into a

city from outside and builds an institutional-type environment having nothing of local civic expression, or it can be made a field for local investors, developers, and contractors working on segments of conservation programs within their capacities."

Despite such contrasting attitudes, over the last two or three years there have been a growing number of significant speeches and statements coming from real estate leaders in various cities in support of urban renewal, including major federal aid for redevelopment. Their views are summed up well by James C. Downs, real estate authority and former redevelopment coordinator for Chicago, whose statement appears on page 214. On the more active front, there are no less than half a dozen major realty figures in as many major cities who are now promoting and speaking up for urban renewal in all its phases. These include Albert M. Greenfield, well-known Philadelphia realtor and investor, former chairman of the Philadelphia Planning Commission, who took a leading part in organizing the Old Philadelphia Development Corp., as a "backstop" of business leaders to undertake the big Society Hill redevelopment and other projects if no regular redevelopers came forward. He finds federal Title I grants "excellent" for making private construction in these areas economically feasible, and favors large projects over "spot" redevelopments as safer investments. The new spokesmen include Boston's Joseph W. Lund, president of NAREB in 1952, when he personally opposed Title I federal subsidies, who is now chairman of the Boston Redevelopment Authority, with three large Title I redevelopments under way and three more in the working-up stage.

Perhaps the most forthright is St. Louis' Clarence M. Turley, NAREB president in 1956, who has a leading role in St. Louis' extensive renewal program, mainly large Title I projects. He also has served as an officer of Civic Progress, Inc., a downtown business and civic group sponsoring the city's Plaza project. Turley not only feels that formulas for federal and local grants to "write down" the costs of redevelopment sites are equitable, but

he believes that states should not be expected to provide funds for urban renewal because they have their hands full with other problems. The St. Louis projects are approved by both the St. Louis Real Estate Board and the Building Owners and Managers Association, and some board members have formed a corporation to buy apartment building land in one of the projects.

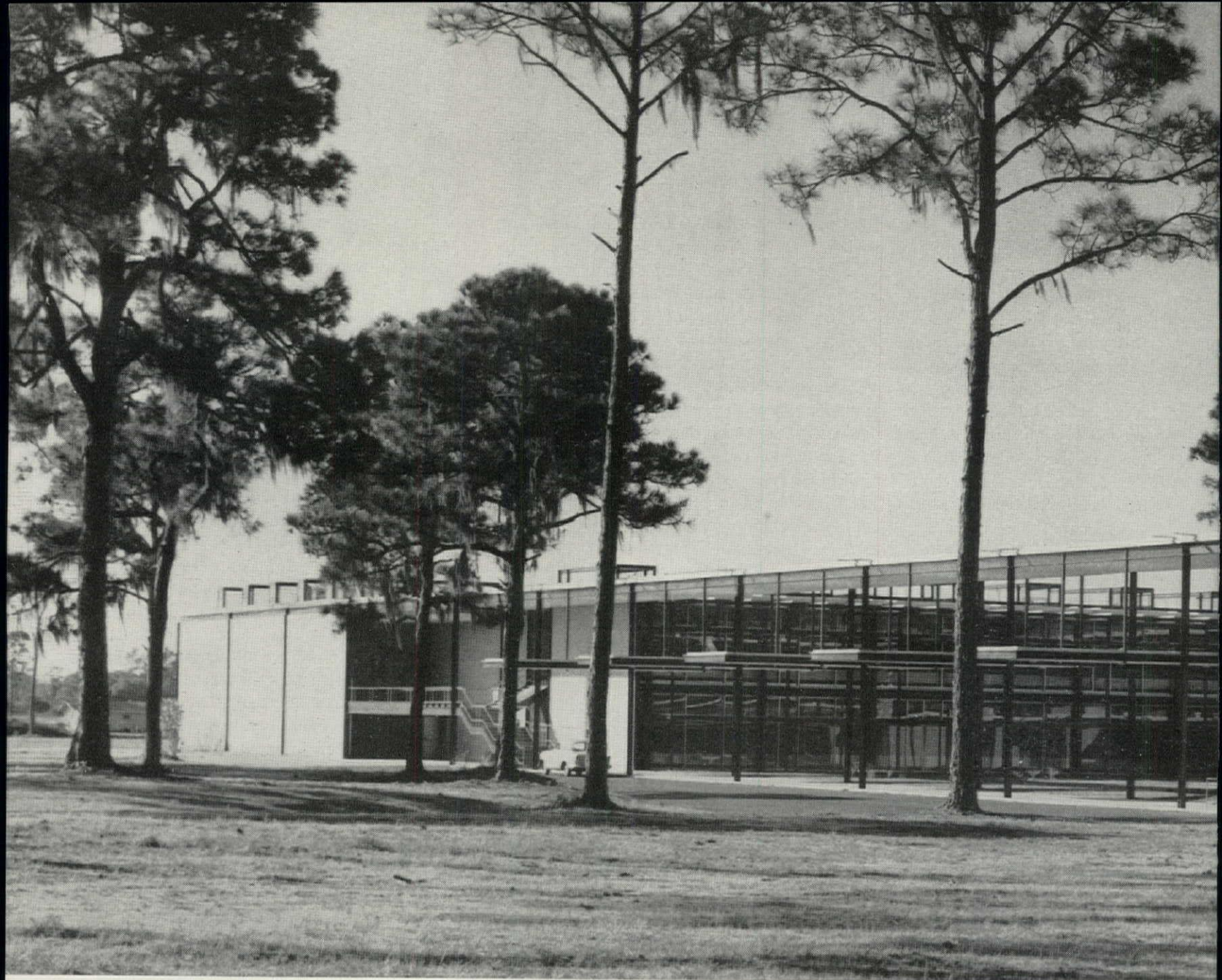
Just across the river in East St. Louis, NAREB Regional Vice President Frank Rukavina has taken the chairmanship of the city's Public Housing and Redevelopment Agency. Its first project will be to clear a 73-acre area near downtown for new commercial and light industry buildings. Rukavina thinks that all levels of government should help advance all types of renewal activity, and, until state and local governments can increase their contributions, the federal government should take the lead in supplying most funds.

A coming together

NAREB, being the large and diverse body it is, still tends to sound as if it were talking out of both sides of its mouth on urban renewal, sending out press releases on speeches attacking "grandiose" federal renewal projects alternating with other statements more favorable to them. One of its current policies practically nullifies its own core of subtle resistance to federal grants by proposing a fantastic federal tax liberalization policy—depreciation allowances up to 20 per cent a year on all new construction, or on improvement of old buildings in renewal or conservation areas. This program would in effect be another huge indirect subsidy for real estate operators who get into redevelopment. NAREB also proposes several other bountiful tax deductions as a sweetener, but these, because they constitute "special privilege" legislation, do not appear to have much chance of passage, either.

The more plausible evolution of urban renewal is the one that is underway on the local level, in which more and more realtors, forsaking their die-hard companions opposed to federal intervention in anything concerning real estate, are finding the way to accommodate to the pressing needs of

continued on page 214

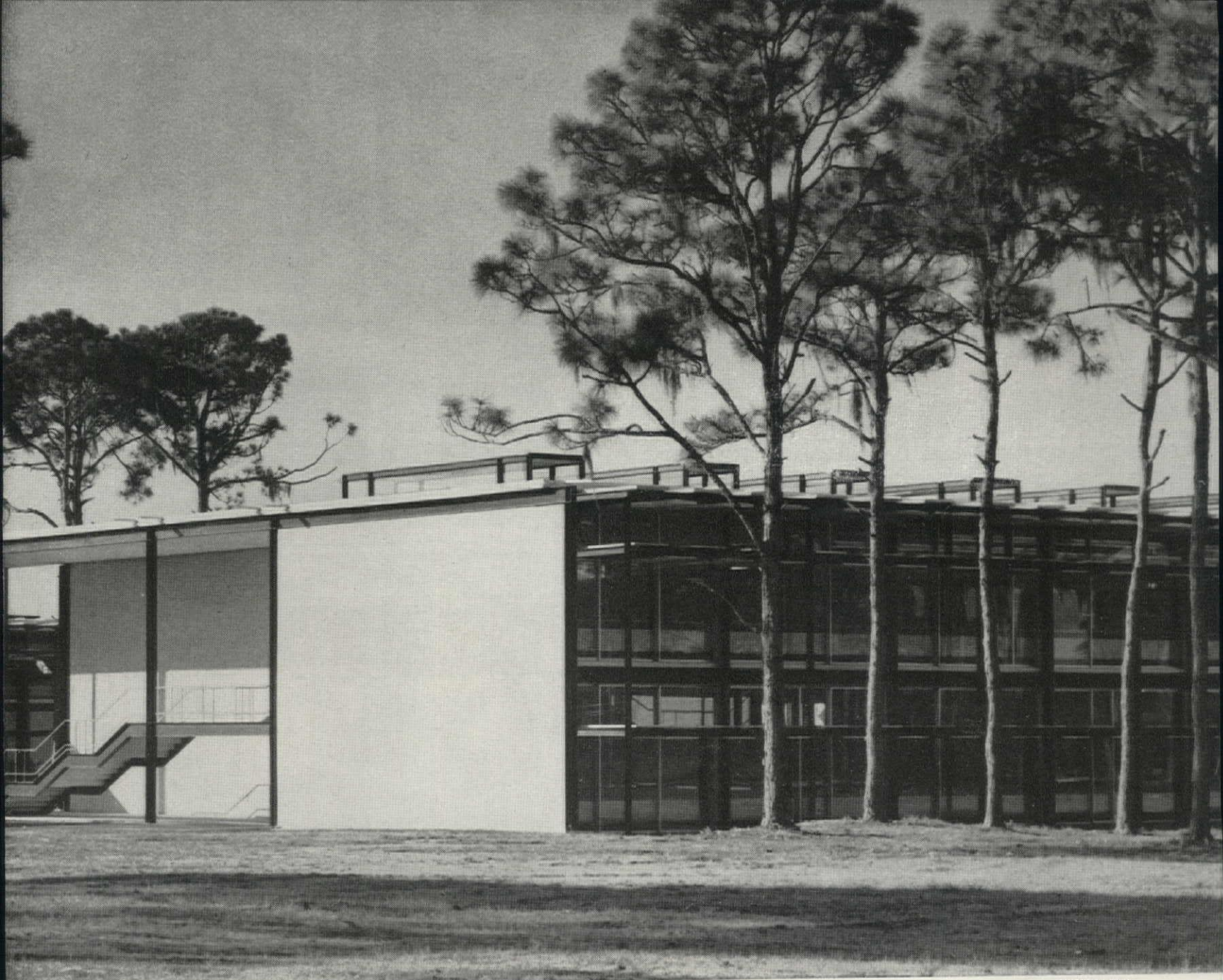


A steel frame in the pines

Architect Paul Rudolph's
contribution to Sarasota's
daring schoolhouse
program is a light and airy
structure designed
for a semitropical climate

In design terms one of the most erudite new public school buildings to appear in recent years, Architect Paul Rudolph's Riverview High School in Sarasota is also his first major non-residential structure in the South, where he began both life and professional practice. This is the most acclaimed building of Sarasota's notable new school-building program (FORUM, Feb. '59), which commissioned a number of architects who never before had attempted schools.

The carefully delineated steel frame of Riverview High, filled with glass and concrete brick, creates a consistent



PHILIP H. HISS

ARCHITECT: Paul Rudolph
 STRUCTURAL ENGINEER: Russello & Barker
 MECHANICAL AND ELECTRICAL ENGINEER: Charles T. Healy Assoc.
 GENERAL CONTRACTOR: J. L. Coe Construction Co.

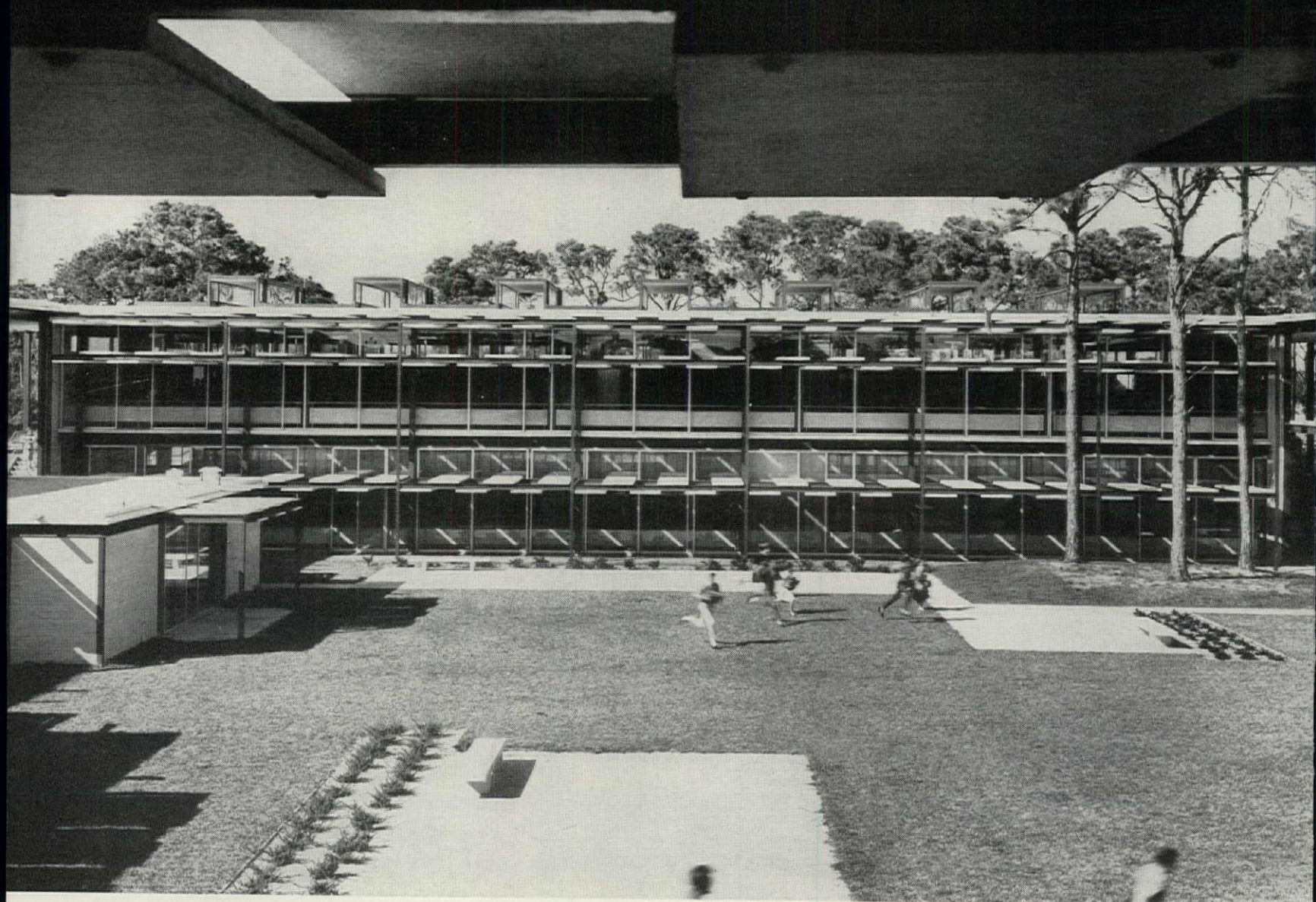
rhythm all through the 1,000-student school. This over-all consistency is important, because the various elements of the school are rather firmly separated in plan: the list includes three two-story rows of classrooms and labs (above, right and left), another block which houses the gymnasium, auditorium, and music rooms (far left, behind classrooms), and a third major element containing shops, cafeteria, and library. Even the administrative offices and the health suite are built in separate little one-story buildings, within the grass enclave embraced by the bigger buildings. This dividing was neces-

sary to secure free air circulation in all the rooms, large and small. The other trade-mark of the school is also attributable to Florida's semitropical climate: tiers of horizontal precast concrete slabs hung in front of the classroom walls for sunshading.

The building was made two stories high because Florida is so flat, and the designers and the school board had decided a high school should be an important building visually in the community. It also fits nicely among the steep, straight trunks of the southern yellow pines on the site. Economy entered the equation too. Because heating

is seldom necessary in Florida, all hallways and stairs could be outdoors, sheltered only from the rain. This made building *up* more economical than it would be in the north, where the enclosed stair wells of a multistory school are an expense in fuel forever.

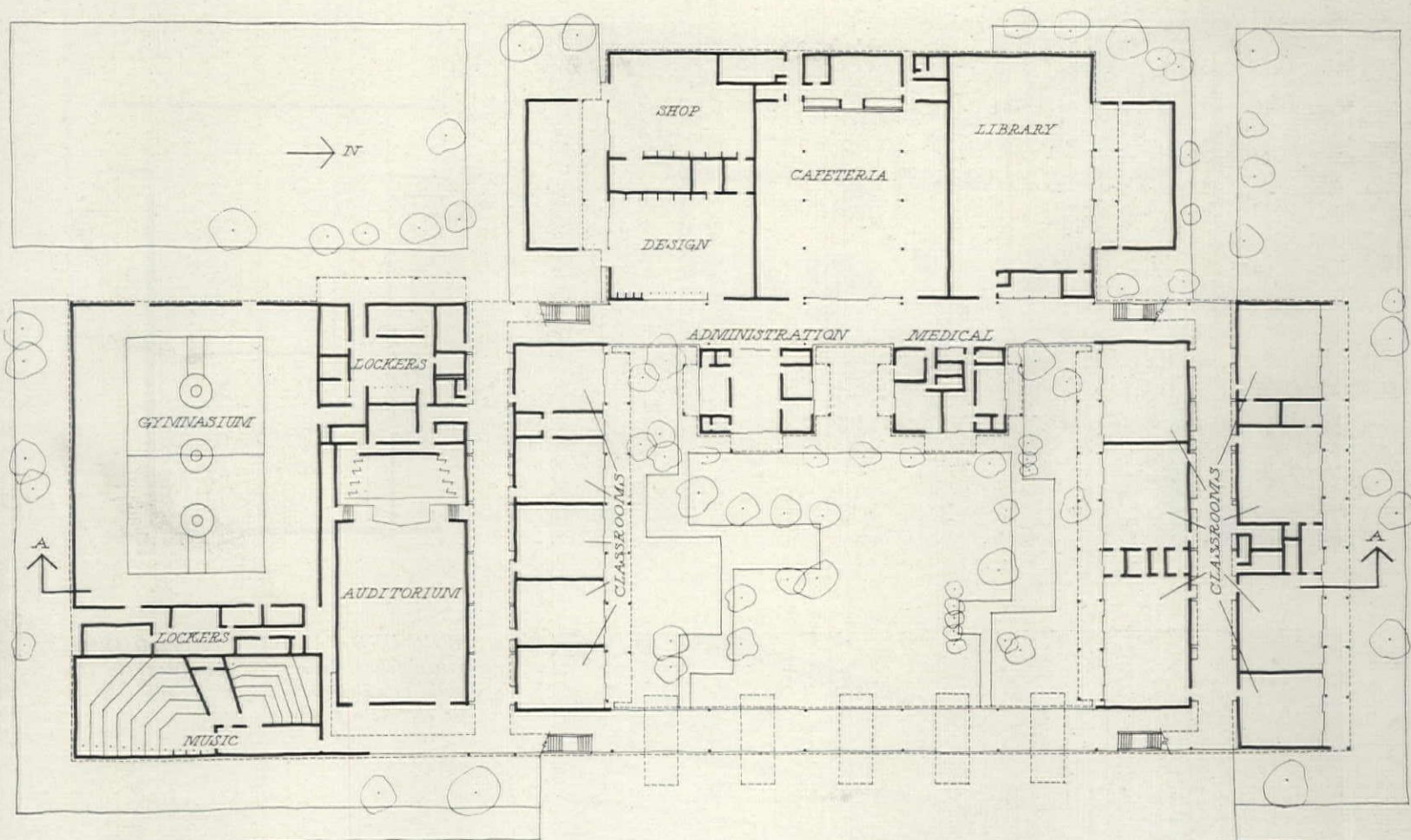
But it is in the over-all architectural feeling of this building that stacking the classrooms may have been most pertinent. It permitted all the separate blocks, large and small, to be piled carefully together into one simple serene shape. The final touch: tying it all together across the front with a modern colonnade of steel.



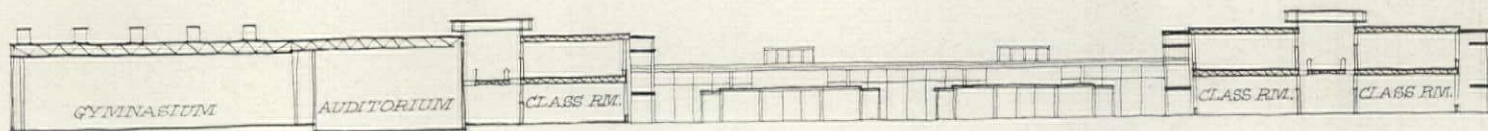
SUNSHADES projecting out from the glass wall of the classrooms are of precast lightweight concrete. Their staggered arrangement blocks out almost all direct sunlight but passes through diffused daylight and allows free circulation of air. Sunshades give an impressionistic effect of foliage, taking away the formidability of the usual big wall.

CANOPIES are hung from the high roof over bus loading stations along the walk fronting the school. Parking spaces are provided for 100 faculty and visitor cars and for 260 student cars.





PLAN

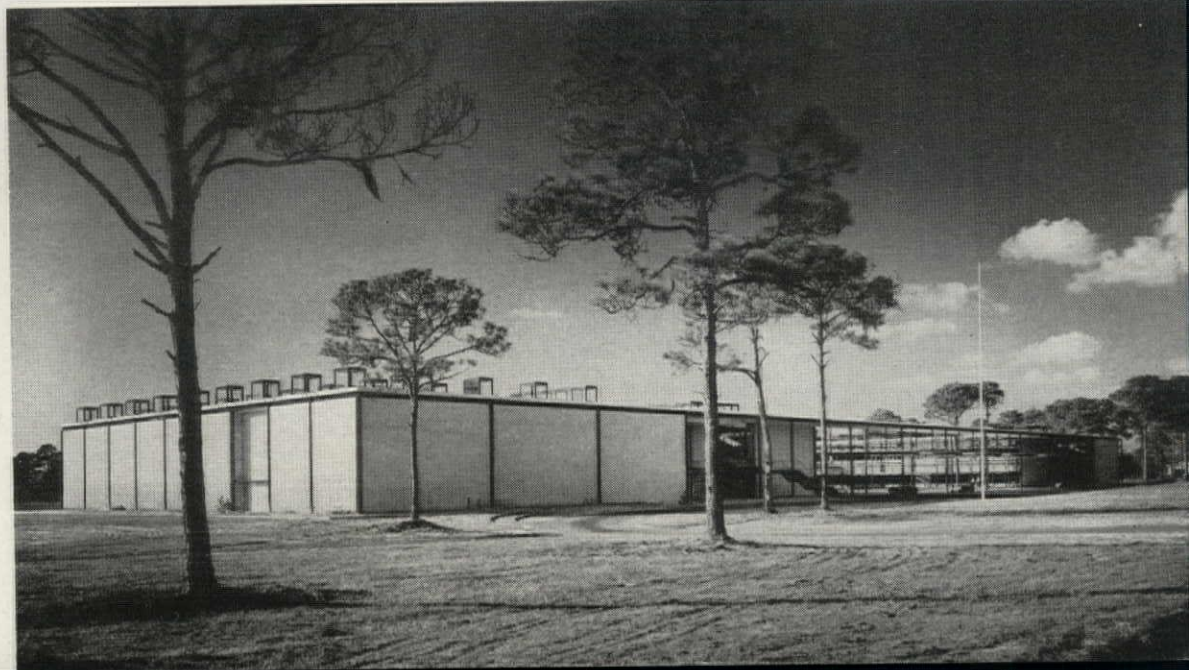


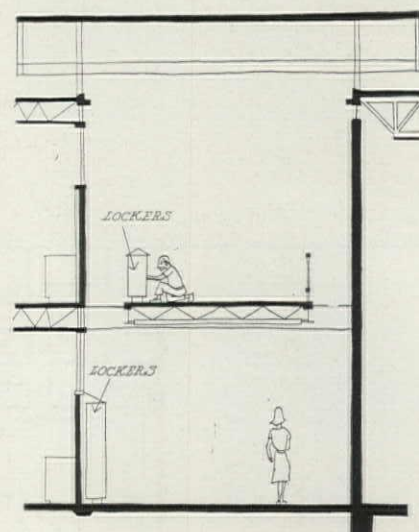
SECTION A-A



MONITORS, site fabricated, of glass and steel, are set in the roof over the gymnasium. They are interesting in appearance but of dubious practicality, for they pepper the shiny gymnasium floor with spots of sunlight.

PHOTOS: (BELOW) © EZRA STOLLER; (OTHERS) PHILIP HISS





OPEN-END HALLWAY (above, left) has a bridgelike floor with slots next to the walls to enhance the open feeling and let air circulate freely.



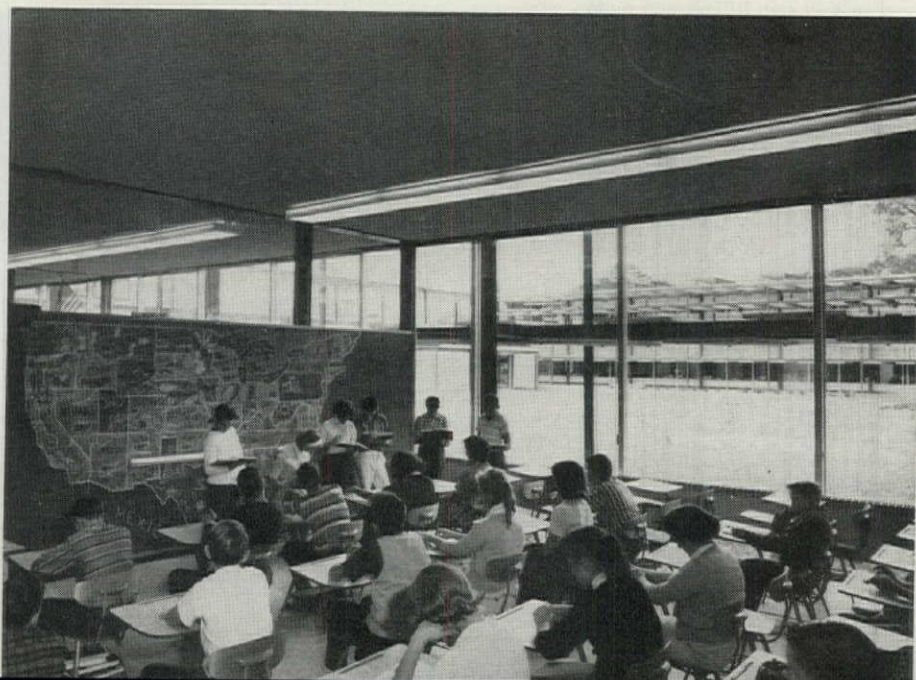
PAVILION, one of two in the court, contains the medical suite. High canopy does more to bind the school's wings together, visually, than to supply shade.



LIBRARY, photographed from up under one of its two skylights, has its own reading yard, enclosed by a head-high wall.

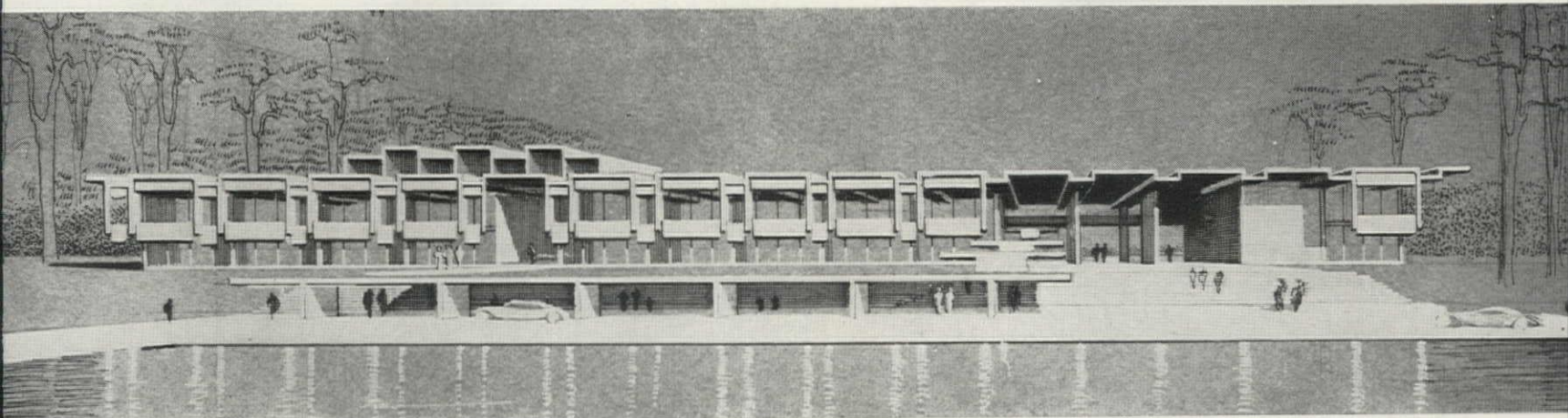


TYPICAL CLASSROOM has sliding glass walls on the exterior and a partition that is all chalkboard except for a topping of sheet glass.





PHOTOS: PHILIP HISS



RUDOLPH'S NEXT, a new wing for the old Sarasota High School, will stand independent in both structure and style. There are several marked dissimilarities from *Riverview* in the design approach: the roof will be a folded concrete slab; the sun-

shades will this time be hung vertically, not horizontally; and the entrance is marked by a reflecting pool and a broad, formal stairway. This building will be close to the center of town, but on a large site on one of Sarasota's few rises. **END**



The friendly electricians

BY FRANK FOGARTY

Clubbiness between electrical workers and contractors has benefited union and industry alike, but the club dues are high—and paid by the public

Few U.S. labor unions have refuted so thoroughly the Marxist thesis of class warfare as the International Brotherhood of Electrical Workers. Runner-up to the Carpenters as the biggest union in the building trades, though only 200,000 of its 715,000 dues-paying members, mainly electrical, utility, and electronic industry workers, are actually in construction, the IBEW has achieved a rapport with employers remarkable for even the cliquish construction industry. Not in 38 years has the union waged a major strike against an electrical contractor, and since 1927 it has not even bothered to keep a strike fund. Powerful and secure, IBEW has used its strength, as unions rarely have, to work closely with management—too closely, some critics say. It has cooperated not only in obvious ways—such as participating on joint boards to settle disputes and developing an “enlightened” attitude on work rules and featherbedding—but in myriad ways far more intimate.

This deportment has seemed to many observers almost faultless, and has earned IBEW a largely deserved reputation as the best of the building trade unions (“tough, demanding, but clean”). Widely applauded, the union has, in fact, served itself and its employers, many of whom are ex-union men, extremely well. For the union’s construction workers, cooperation has meant steadiness of jobs and security benefits, both priority items for a rank and file

that is mature (the average age is 41) and well paid (present average earnings: \$3.58 an hour). Management, too, has gained stability in a dependable supply of efficient workers from the union, which in most cities is the only source of trained electricians for big construction. Indeed, were it not for the interests of a third party—the public—the accommodation would appear ideal.

A certain indelicacy

There is no way of telling for sure today just how far the clubbiness in electrical construction goes. People who know something of the relationship—architects, engineers, general contractors—are loath to talk about it, except in the most general terms. The great calm that has gripped the union’s affairs for many years, so unlike the scarred histories of other unions, has not unnaturally raised repeated rumors of collusion between union and contractors. But in only one city—Chattanooga—has there been any court proof of it.

In 1953, in a case which eventually went all the way to the U.S. Supreme Court, a charge of conspiracy under the antitrust laws was brought against a Chattanooga local of the IBEW and an area chapter of the National Association of Electrical Contractors. The indictment contended that the two had set up a bid-rigging system under which they decided in advance which electrical contractor would submit the

low bid to general contractors for electrical work. Any member of the association who failed to go along with the system would not only be fined but would get no workers or inferior workers from the union. The indictment concluded that the effect of this system was to boost the cost of electrical work out of all proportion to the rise in other materials and labor costs, and that the added markup, of course, was passed onto the public. For their part, the contractors pleaded no defense, and the union, though it carried an appeal all the way to the highest court, was found guilty.

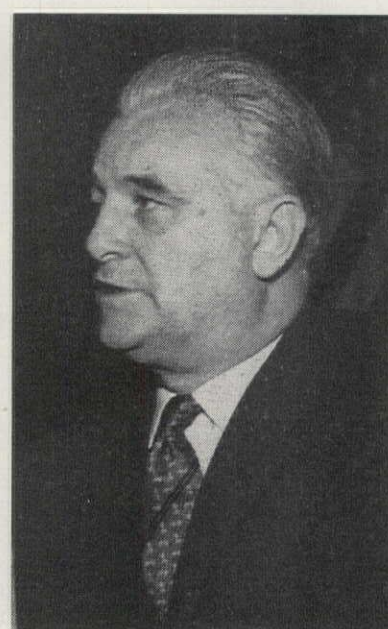
Bid-rigging may or may not exist elsewhere in the country. But there is no doubt that the price of electrical work is high today, and that union-management accommodation, however innocent, has helped make it so. Since 1950, electrical wages have climbed 52 per cent, outstripping in all likelihood whatever gain there has been in productivity (which is impossible to measure precisely). Moreover, extensive fringe benefit agreements between management and the union have put added leverage on costs. In New York City, for instance, where IBEW’s construction workers are headed by chunky, powerful Harry Van Arsdale Jr. (“when Van Arsdale arrives at a contractor’s dinner,” said one builder recently, “it’s like the entrance of the Pope”), an electrical contractor now pays out about 26 per cent of his pay-



GORDON M. FREEMAN



JOSEPH D. KEENAN



HARRY VAN ARSDALE JR.

Old unionists hold top posts in IBEW today. Gordon Freeman, 61, was a long-time vice president of IBEW before he became international president in 1955. Joseph Keenan, also 61, was named international secretary in 1954. A one-time director of Labor's League for Political Education, Keenan was later secretary-

treasurer of AFL's Building Trades Department. Harry Van Arsdale, 53, probably the most controversial figure in the union, has been well-entrenched as business manager of IBEW's biggest construction local, New York's Local 3, since 1933. He had troubles with previous IBEW leaderships, gets on well with this one.

roll in "fringe" benefits. One per cent of this goes into a national worker-pension fund administered by IBEW and NECA, another 12 per cent into a local annuity program, plus almost 13 per cent for other benefits, such as a free dental clinic, a medical department, hospital and disability payments, a rest home for workers recuperating from illness, and a college scholarship program for members' children whose cost is levied against those contractors doing a million-dollar business annually.

All this makes for a steep bill indeed for the building client who in the end must pay for all. Yet despite some rebellion—notably by some industrial clients who have recently been by-passing contractors entirely and using their own industrial union men, or nonunion workers, to do electrical work—the majority have no choice but to go on paying more and more for installing the mounting stacks of electrical equipment which their buildings require. Since 1950, NECA estimates, the electrical "content" of all buildings has risen from roughly 5 per cent of total building value to more than 11 per cent. Meanwhile, enjoying it while it lasts are the contractors and union, still going strong together.

The IBEW is an extremely business-like union. Rich (total assets: \$86.8 million, of which \$48.8 is in real estate mortgages and construction loans), sprawling (1,741 locals in the U.S. and Canada), and growing (more than 100,000 new members since 1954, mostly in nonconstruction fields), IBEW has a reputation for disciplined efficiency almost unmatched in the construction industry. Its members, an elite corps by the very nature of their jobs, are generally honest and well trained. Moreover, their output is high and craftsmanlike, for the union has never had much truck with obstructionism or quarreled with the idea of increased productivity (it made a clear statement years ago, for instance, in favor of power tools). And beyond all this, it has managed its affairs with prudence, at least most of the time.

Unlike the Carpenters (FORUM, March '58), the conservative IBEW is no monument to human frailty. It has not in years been involved in public scandal or racketeering (its name has not even been mentioned in the investigations of the McClellan Committee), its contracts certainly do not suggest pay-off concessions to management, and its leaders appear largely to have been

immune to such common vulgarities as till-dipping and the common pay-off. Indeed, the only serious transgressor to be identified with IBEW in recent times was the famed "Umbrella Mike" Boyle*, who for 39 years was business manager of the union's big Chicago construction local and who at his death last year was an international vice president. Boyle, a man who once saved \$350,000 in eight years on a salary of \$35 a week ("It was with great thrift," he explained), was jailed twice during his career, once for conspiracy to restrain trade, and once for contempt of court.

Actually, the power in IBEW is well diffused. The international has had no strong-man leaders of the John L. Lewis or Maurice Hutcheson type, and its current president, 61-year-old Gordon M. Freeman, a pleasant, mild-mannered ex-wireman, is no exception. Possibly because of this its history has been fairly colorless. Founded in 1891, the union's dramatic highspot was a five-year factional fight, which ended in

*So called because in his early days he carried an umbrella, rain or shine, which he would hang on the bar rail of a favorite saloon. Boyle would then stand by innocently while contractors dropped tribute into its folds.

1913, for control between the inside and outside electricians. Through the years, the international's main function has been that of overseer. "We like our locals to live as close to the constitution as possible," says International Secretary Joseph D. Keenan. "If they do, we don't bother them."

Be that as it may, the international has set policy, and it has worked some significant changes on the industry. The most notable of these was its joint creation with NECA in 1920 of a Council on Industrial Relations for the Electrical Construction Industry. The council is largely responsible for making electrical construction a near-strikeless field—though it still has some jurisdictional stoppages, 24 occurred in 1958—by acting as a last-resort voluntary arbitrator to settle local union-management disputes. Last year alone the 12-man council (six each from labor and management) disposed of 91 cases, and its docket continues to build up despite a proliferation of disputes settlement groups at area and local levels.

Keepers of the realm

The international has led on other issues, such as a 1946 agreement which brought contractors into sharing the costs of IBEW's \$50-a-month pensions to retired workers. But the real power in the union is in the hands of the elected, though normally well entrenched, business managers of its locals. The international constitution, which bars members from attending outside meetings where union affairs are discussed, puts something of a damper on opposition electioneering. The business manager is unquestionably the most important single force within the union: in the bylaws of some locals, for instance, his actions cannot even be interfered with by the local's executive board or its officers. The business manager's control is traditionally tight, but he is usually careful to create a democratic aura which makes the local's breath of freedom partly real and partly illusory.

It is the business manager who controls IBEW's apprenticeship policies and thus the union's supply of trained electricians. No other dominion is so

important, for this—the tight supply of man power—is the source of IBEW's strength and the reason it can afford its concessions to productivity. For years, many locals had an unwritten rule that only sons of local card holders could be admitted as construction members. This is now passing (as is, more slowly, the unwritten ban on Negroes), but the limits on apprentices remain severe: the common ratio is one apprentice to every five journeymen, but sometimes it is one to ten. While contractors have no quarrel with the high standards set for apprenticeship training—in fact, they have cooperated on a national program calling for a four-year stint of combined on-the-job and classroom training—they have balked hard at the over-all restrictions on membership. Indeed, this is one of the few areas where they have publicly criticized the union.

In reporting in eight cities, FORUM found that, apart from apprentices, IBEW on the whole gave contractors a minimum of trouble. To be sure, it has some restrictive practices. It normally requires that the cutting of concrete for electrical installations and the unloading of electrical equipment be done by electricians rather than laborers. It also demands that there be standby electricians to service temporary light and equipment on the job, whether or not these men do any work. In some cities, it will not install Romex cable (a flexible, nonmetal-covered cable, which is low in cost and easy to install), and it still will not let all workers use powder-actuated tools (special training is needed, it maintains, for safety). Finally there are certain restrictions, extremely difficult to pin down, on equipment which it either will not handle or insists must be rewired before installation. (This is a particularly touchy issue, for the New York local was once indicted, and its business manager later reprimanded by the international, for refusing to hang fixtures that were not wired originally by members of the local; the indictment, however, was eventually dropped.)

But all of this, as one Midwest builder said after ticking off his complaints against the electricians, "is no

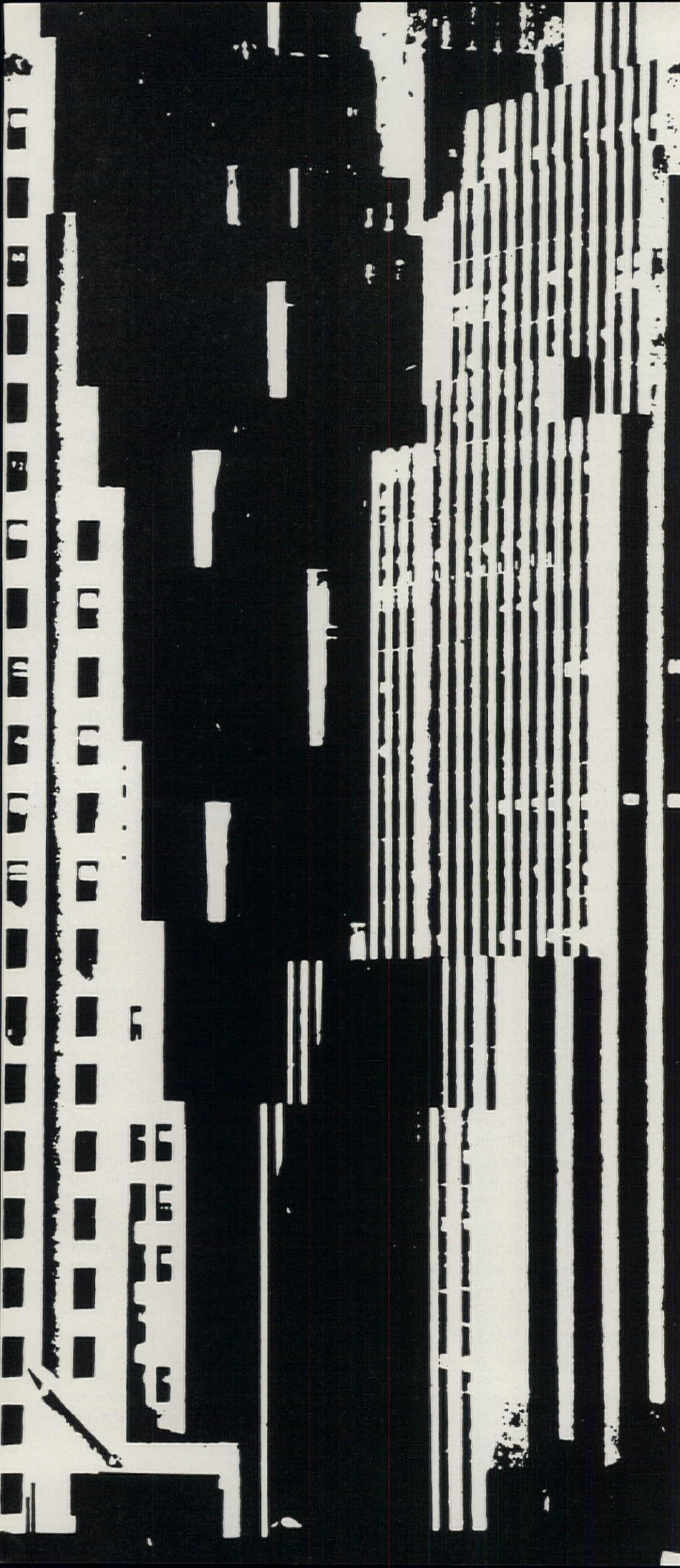
bomb. The worst you can say about the IBEW would be a compliment to some of the other unions. Sure, they're sticklers on a lot of things. But the work's fairly good, and the men largely honest. At least, they don't give you the feeling, as some other unionists do, that they got their training in prison."

The bonds endure

Like all building trade unions, IBEW today faces some problems in bringing its hiring relationship with contractors into line with at least the letter of the Taft-Hartley law's anticlosed shop provision. The 1958 Brown-Olds decision of the National Labor Relations Board decreed that a union found guilty of practicing closed shop could be forced to reimburse its members for as much as six months' dues, initiation fees, and other charges. This has made continued winking at the law a potentially expensive thing for construction unions. Consequently, last August IBEW, along with NECA, proposed a new job referral plan to its locals and chapters, which would comply with NLRB's interpretation of what the law demands. Under the plan, the union would remain the sole referral source of workers, but it would have to send job applicants to the contractor without discrimination against non-union members.

How much difference this will make in the union's tight control over jobs remains to be seen. But there will probably be no revolution. For one thing, the union will be able to use a priority system for its referrals which will be based on residence and length of experience. This means that, in most cases, the nonunion man will be low on the list. Further, even if a non-member does get sent to a job he will still have to be accepted by the contractor, and there are probably few employers who would be willing to risk the trouble that almost certainly would start if a nonunion man tried to work. Thus it will probably take more than law to sever the strong and enduring bonds that union and contractor have formed through the years. For as a certain Tammany congressman once remarked: "What's the Constitution between friends?"

END



Zoning: New York tries again

This new proposal offers encouragement to better architecture and better planning, and an example to all badly zoned cities

If New York's latest proposal for modernizing its antiquated zoning code becomes law, chances are that that city will, some day, be airy, sunny, efficient, clean, and even beautiful. And it may become all these things without tearing down 99 per cent of New York and starting from scratch.

That is the significance of a 376-page document prepared by Architects Voorhees, Walker, Smith, Smith & Haines after a two-year study, and released last month by the city's planning commission. In making their house-to-house, block-to-block survey, the architects covered more than 30,000 miles by car, rented harbor launches to cover the water fronts, took bird's-eye views of New York from helicopters. Their conclusion: it is high time for changes.

The most important changes proposed are these:

First: flexible controls to regulate the bulk of buildings and ensure access of light and air—in place of the cake-mold controls that have turned Manhattan into a nightmare of ziggurats.

Second: density controls that will limit New York's eventual population to a maximum of some 11 million people—mainly by controlling the lot area per dwelling unit—in place of the present, lax "controls" which could, theoretically, permit the city of New York to house as many as 55 million people.



Old zoning law has forced many New York skyscrapers into stepped-back shape of Babylonian ziggurats.

Third: performance standards that will regulate the location of industries—rather than blanket controls that make sense in isolating “skunk factories” but discriminate against nuisance-free industries.

And, fourth: residence-district innovations that will permit the creation of residential areas of mixed building types (in addition to single-family districts) in place of controls that presently condemn residential districts to the monotony of single-type buildings.

Whether these proposals will be accepted by New York’s Board of Estimate remains to be seen. Similar studies have been sidetracked and killed in the past (FORUM, Sept. ’50). But this time there are reasonable grounds for optimism. For one thing, New York’s Mayor Robert Wagner is a long-time advocate of zoning reform and has put himself squarely on record in support of such moves. For another, the city’s Planning Commission Chief James Felt is a practical idealist of proven effectiveness. Finally, the framers of the new proposal are architects with a long record of city planning work and enthusiasm for it. Says Commissioner Felt: “I am confident that we will have modern zoning before the end of this year.”

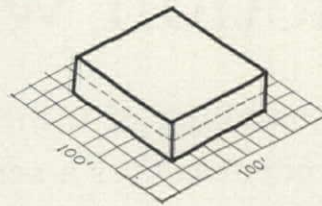
There are advantages in being first, and advantages in being last. New York has been both: it was first with zoning in 1916 and influenced zoning resolutions from coast to coast. Now, more than 40 years later, after having been passed by other cities in some respects, New York has come up with some of the latest thinking on urban growth control—and may, once again, give other cities a push into new directions.

Bulk: control and freedom of design

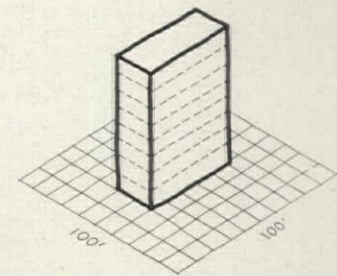
The cakemold which has been the city’s maximum zoning envelope since 1916 has forced any builder who wanted a full return on his investment to put up a contorted ziggurat, whose shape was determined not by structural or esthetic considerations, but solely by a complicated and arbitrary law of setbacks. The new proposal recognizes that the setback law had a valid objective (i.e., to let light and air into adjoining properties and streets), but that it is too restrictive and inflexible. To take its place, bulk and open-space controls are proposed which, working

continued on page 206

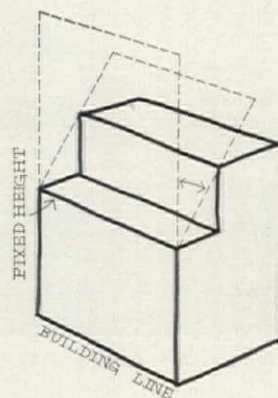
Three ways of controlling bulk



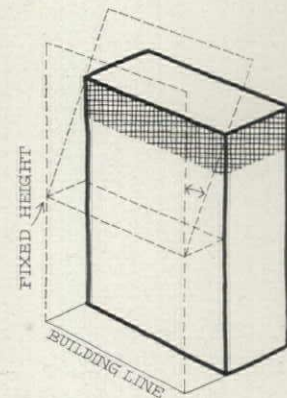
Floor area ratio (FAR). This ratio indicates how much gross floor area may be built over a specific lot area in any given zoning district. Both diagrams above show buildings with a FAR of 80—yet, obviously, their shapes differ radically. The building at left, above, has two 4,000 sq. ft. floors; the building at right has eight 1,000 sq.



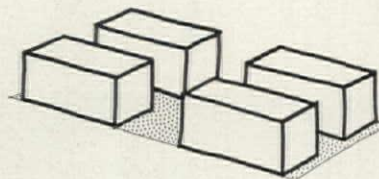
ft. floors. The lot area is 10,000 sq. ft. The FAR is the total floor area (8,000 sq. ft. in each case) multiplied by 100, and divided by the lot area (10,000 sq. ft.). Result: a FAR of 80, for both buildings. For midtown Manhattan a FAR of about 1,000 is proposed. This is the FAR of the new Seagram Building (FORUM, July '58).



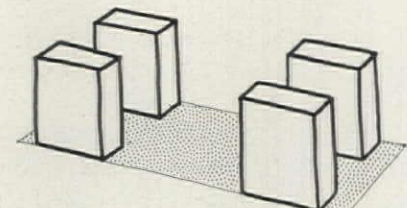
Sky exposure plane (SEP). This device is designed to control the heights of buildings on a given street. The zoning proposal suggests two different standards—one for narrow streets, the other for wide streets. There would be a fixed height to which any structure may rise directly from the building line; after reaching that height, the building must be set back. The depth of setback and height of any additional floors will be determined by the slope of a plane which is assumed



to start slanting back and away from the street once the fixed height has been reached. No part of the building, except for the tower, may penetrate this theoretical plane (diagram above, left). However, if a builder agrees to set back his building from the building line, he gets a bonus in terms of added building height. This bonus is determined by making the angle of the SEP a little steeper, so that the building can go farther up before hitting the plane (diagram above, right).



Open space ratio (OSR). This ratio indicates how much communal park space is available in any given apartment project. The drawings above show two kinds of apartments—low and high—both conforming to the same FAR. However, the taller development has a much higher OSR, because it has opened up a much more generous park area to communal use. The OSR is figured by multiplying the area of open



space by 100, then dividing by the total area contained within the buildings on the property in question. If the required OSR in a specific district is 50, then an apartment development containing 100,000 sq. ft. of floor area must provide at least 50,000 sq. ft. of open space. Where a builder goes beyond the required minimum, the proposal offers him a bonus of an increased FAR and slightly higher densities.

Function with a flair

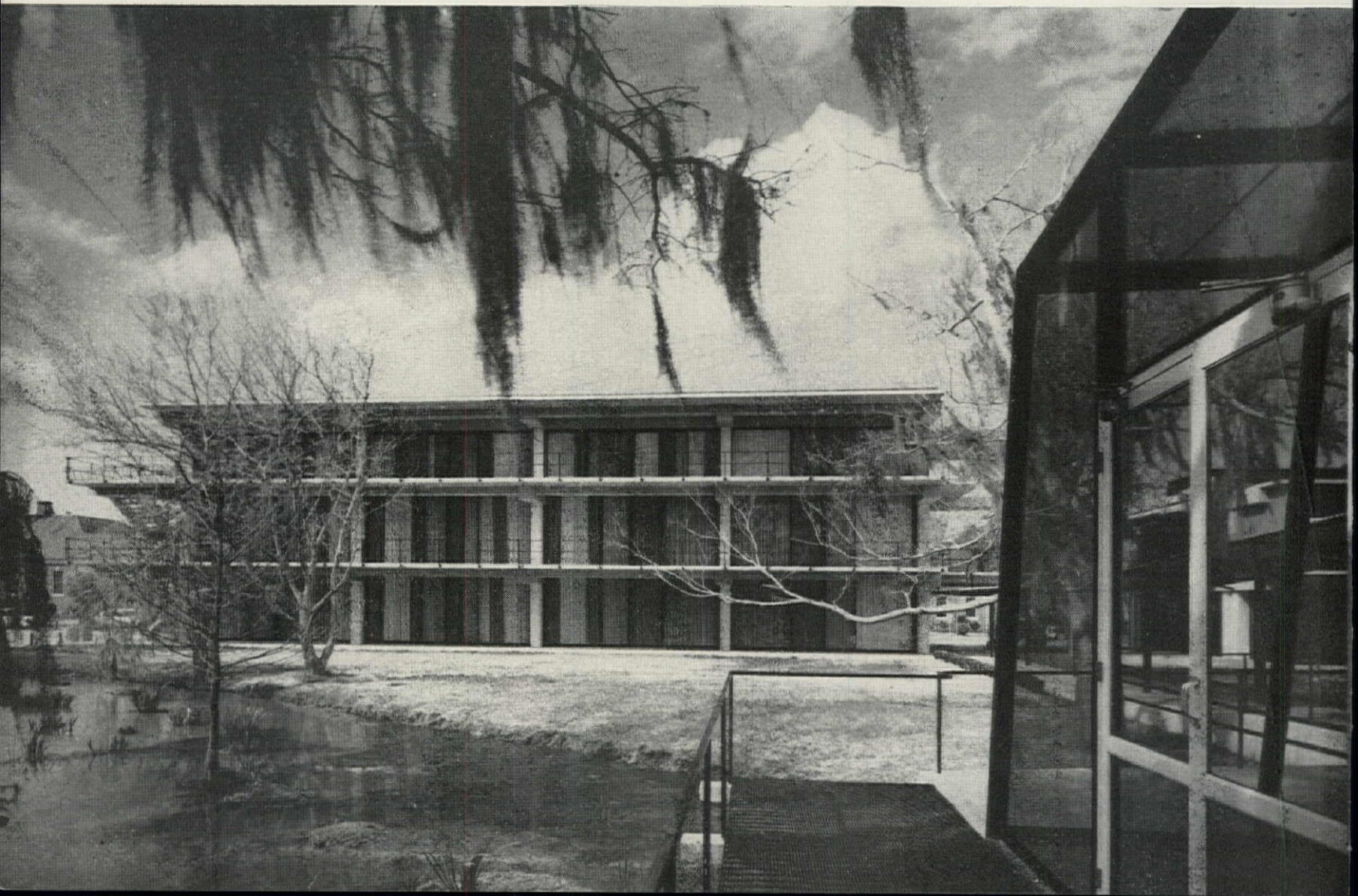
A bright handling of utilitarian parts gives this new college student center a sculptural character of its own



PHOTOS: FRANK LOTZ MILLER

1. Residence building and bookstore (left) face the street.

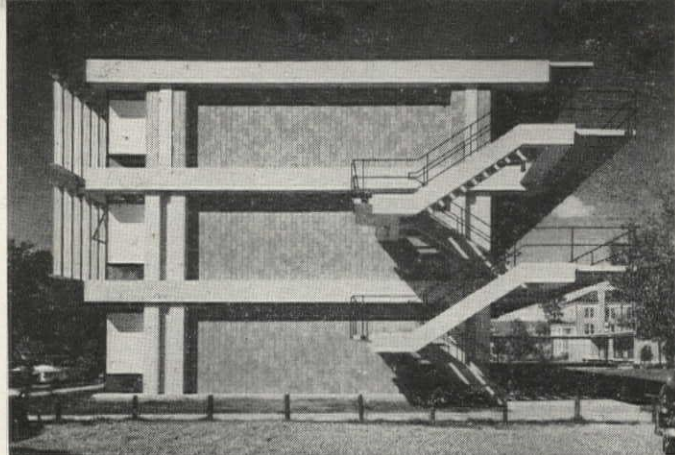
2. In back, balconied lounges and apartments view the pond.



In Southwestern Louisiana Institute's new \$630,000 student union at Lafayette, Louisiana, Architects Burk, LeBreton & Lamantia have taken a wide range of non-academic activities, organized them logically into a group of three different buildings, and in the process have managed to liven things up with a little structural fun. As the pictures on these pages show, the architects have turned quite a few homely details, from awnings to fire escapes, into a kind of sculpture with a vigor all its own.

Since a large percentage of SLI's students drive in from outlying parishes and have no other place to relax between classes, the student center plays a central role in college life. One of the buildings is devoted to separate men's and women's lounges, each equipped with special rooms for typing papers, changing clothes, and staying overnight. Above these lounges is a third floor with eight small apartments for graduate students and faculty members. On the street side of this building (1) the upper lounge and apartments are shielded by a pronounced sunshade structure of beige and white vertical louvers, angled to exclude the hot southwest sun. On the back, these floors open up toward a pleasant cypress pond on balconies which also serve as outside halls (2). Seen from the end (3) the architectural details come together in a strong sculptural pattern.

The complex circulation between this building and its neighbor is solved by an energetic sculptural open-

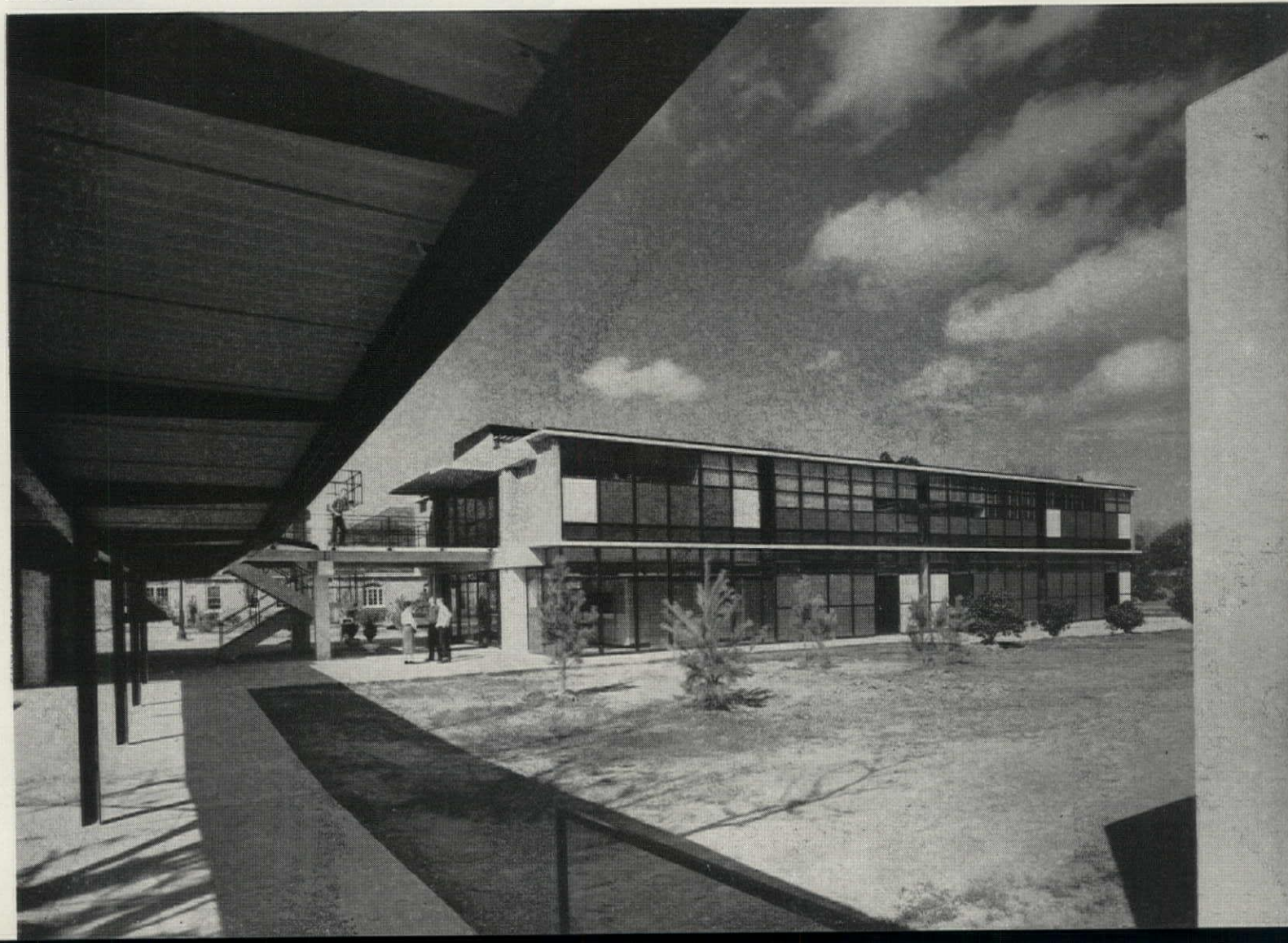


3. End wall: a sculpture of structure, louvers, stairs.



4. Main entrance: intricate openwork in concrete.

5. A canopied walk leads back from the main entrance link to the social hall. Rear of bookstore building is at right.

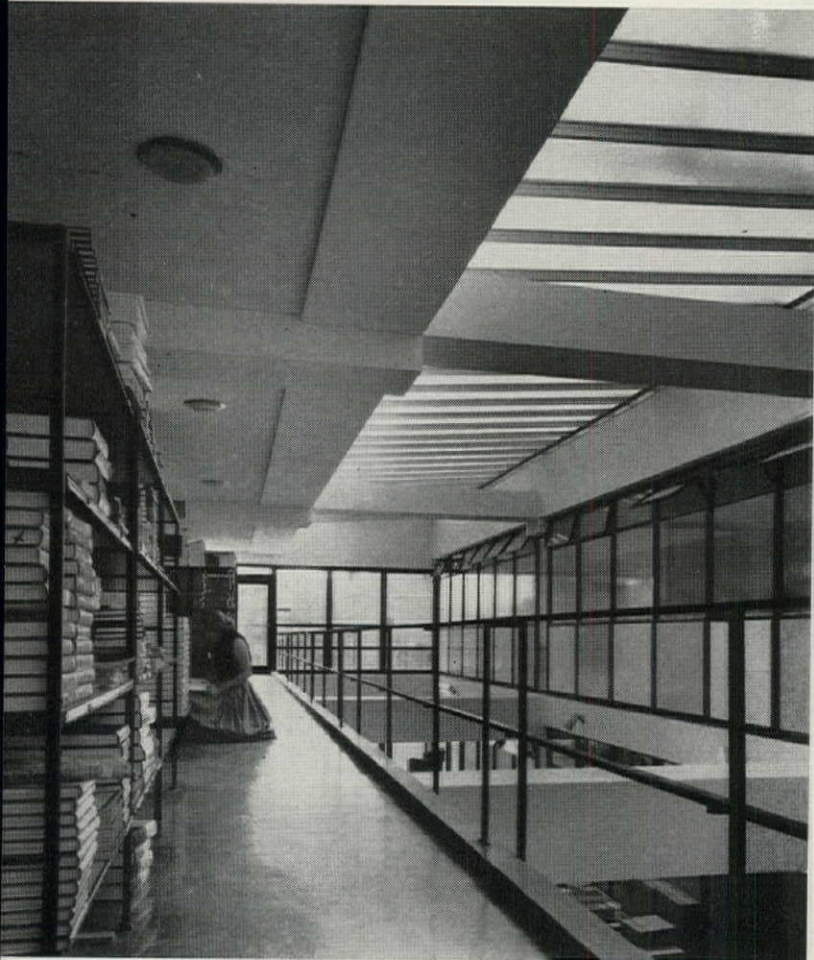


work of stairs, platforms, and canopies in reinforced concrete. These lead to a bookstore and post-office building facing a busy campus corner. Upstairs, on either side of a skylighted central well (6), are open storage racks for books and supplies, and enclosed offices for student government and publications.

Behind the two buildings on the street, a covered walk leads back to a major social building, where students can get together for meals, snacks, or meetings, or hold full-dress banquets and dances for as many as 800. The big central hall (7) is spanned by a butterfly roof on concrete bents and lighted by clerestory windows above the flanking roofs. A step up from the main hall along the sides are lounges for students and faculty (8). These can be screened off by folding partitions for private use, or thrown open to the main space during major functions. At the end of the hall opposite the kitchen, another lounge (9) focuses on a playful, free-standing fireplace, one of whose stacks serves to vent the smoke, the other to drain rain water from the in-sloping roof. Metal steps leading up from the central hall into the lounges are also handled as incidental sculpture and are hinged so that they can be raised for easy cleaning underneath. On warm nights, couples can step onto a screened porch jutting over the pond (10), where camellias and Spanish moss grow in lush profusion.

Contractor: Barksdale & LeBlanc.

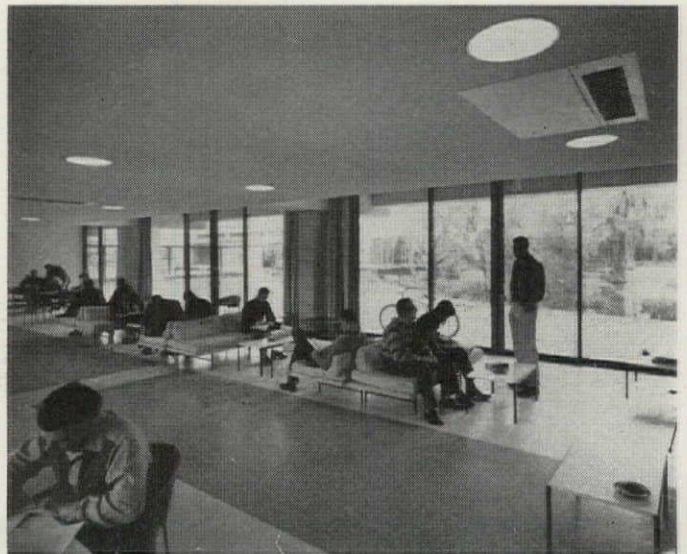
6. Skylight serves storage, offices above, bookstore below.



PHOTOS: FRANK LÖTTE MILLER



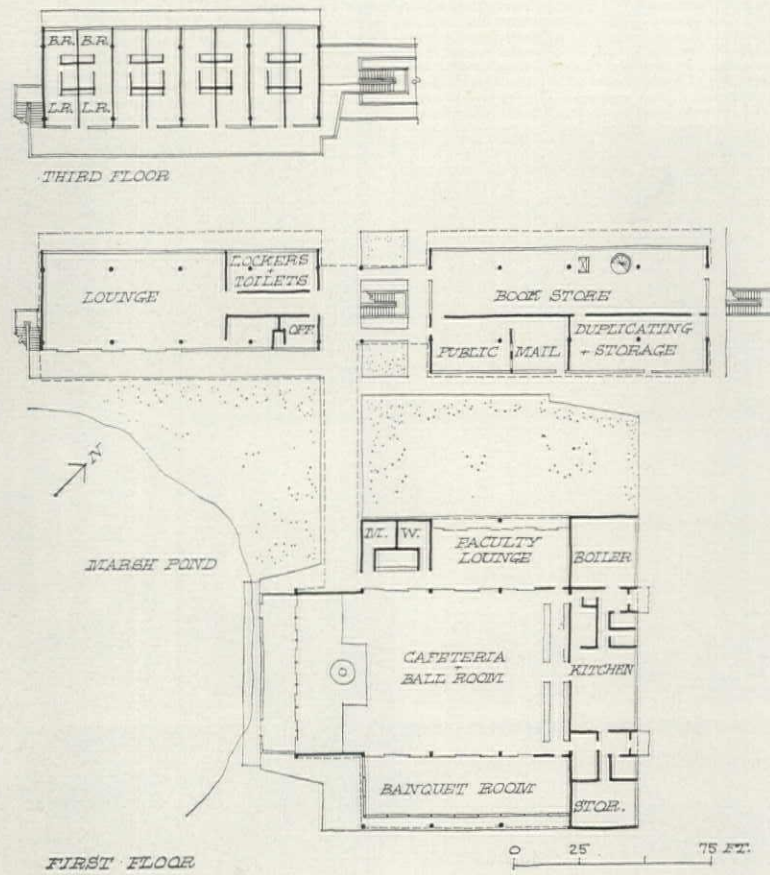
7. Folding walls open side lounges to main banquet hall.



8. Lounges are used for meetings, coffee, just plain sitting.

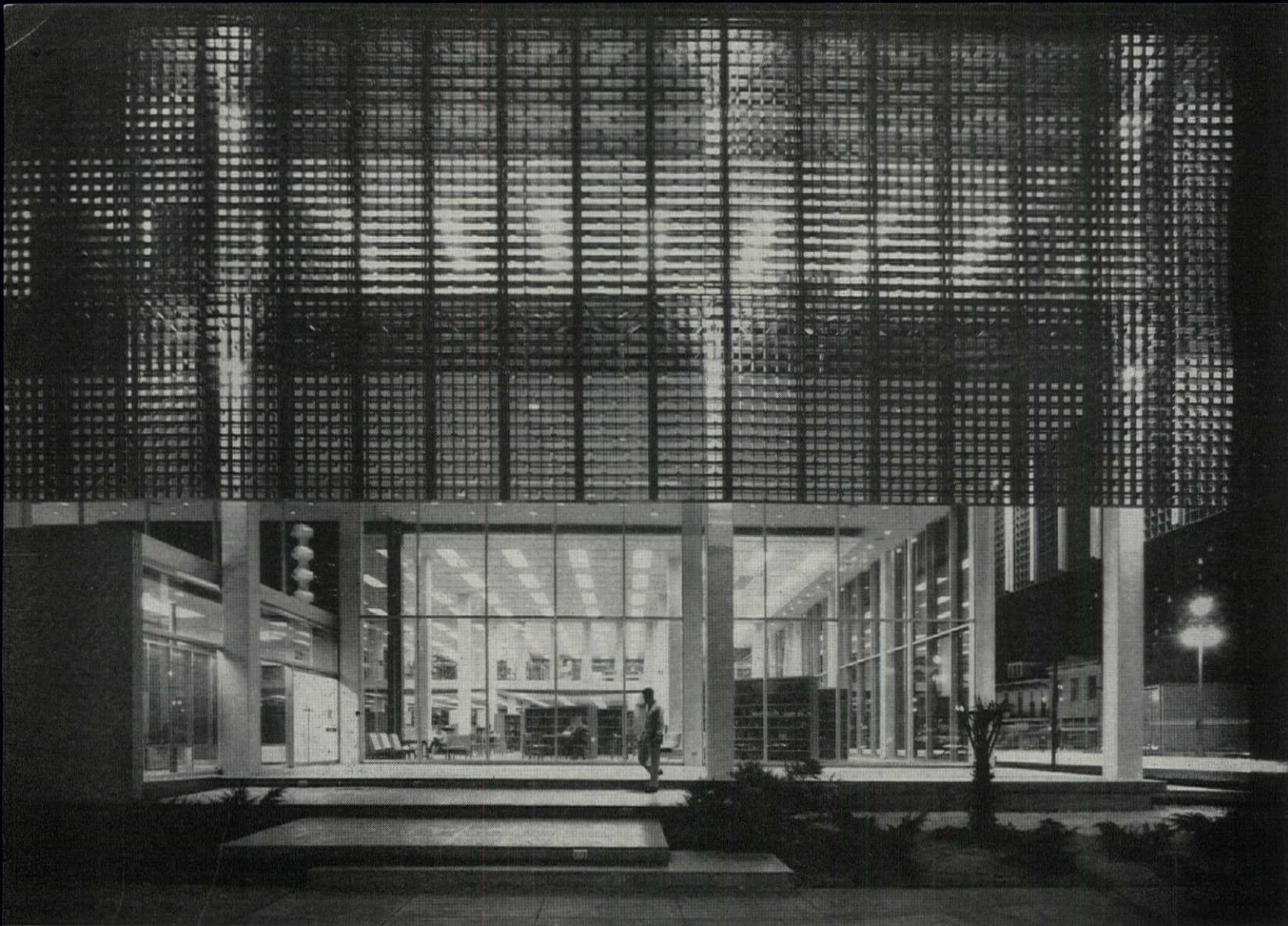


9. End lounge has a focal fireplace, broad screened porch.



10. Screened porch and balcony take in the prize view: a pond with live oak, cypress, and Spanish moss.





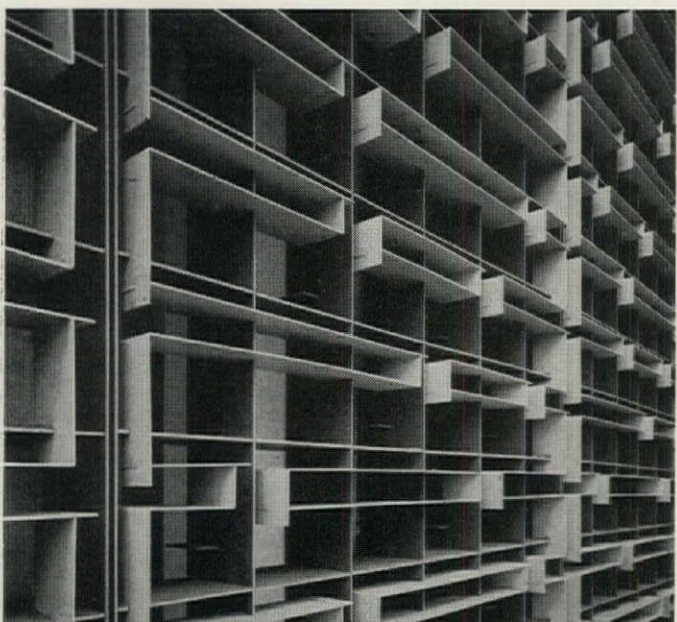
PHOTOS: FRANK LOTTE MILLER

1. At night, the library's grille is a bright transparent veil.



2. By day, the grille shields interiors from Louisiana sun.

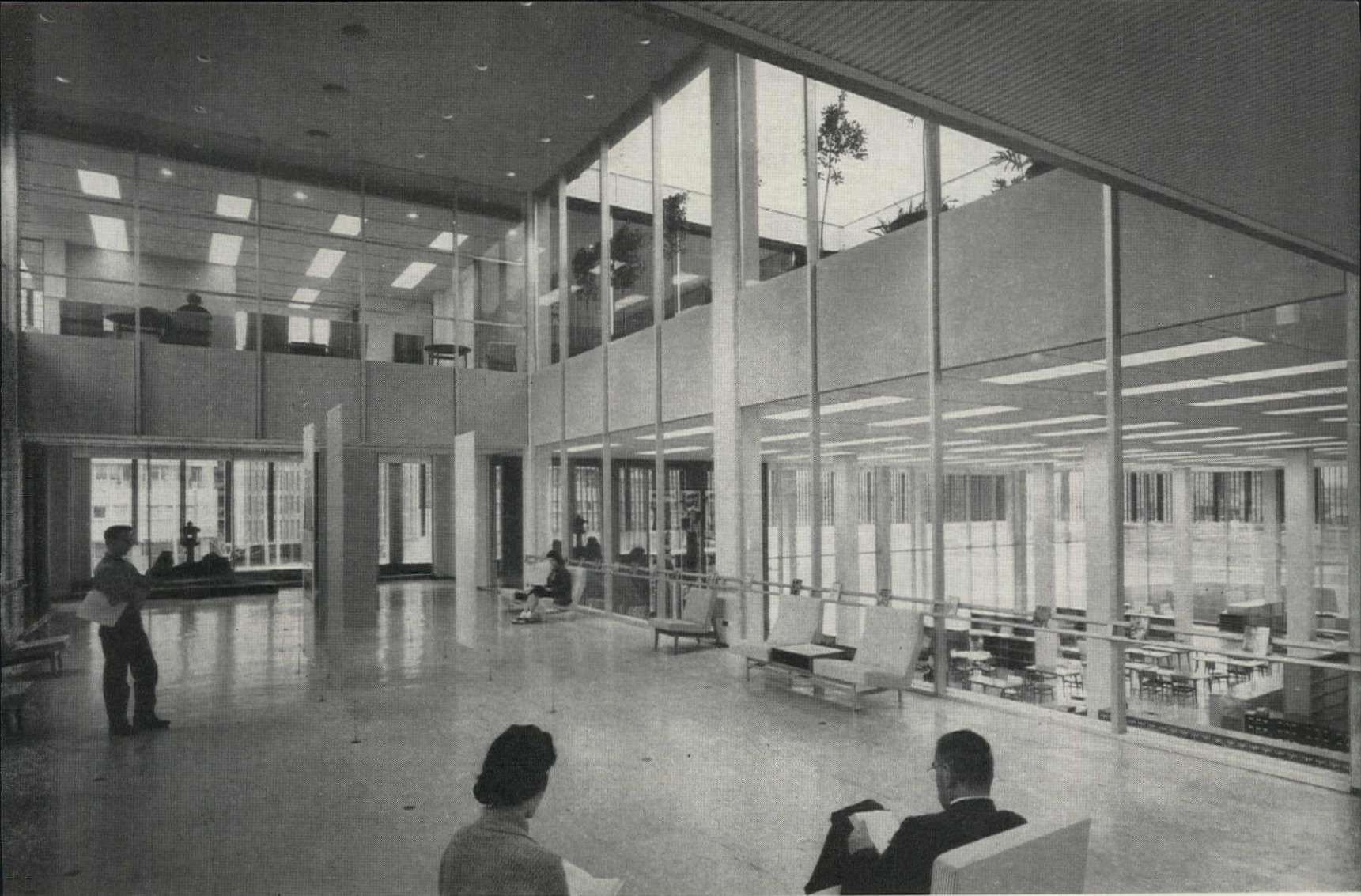
3. The sunshade is efficient, imaginative in pattern.



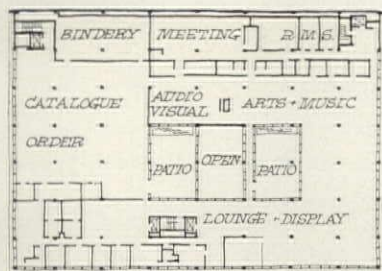
Book showcase

New Orleans' new \$3.5 million public library might well be the envy of librarians and department store executives alike. Behind its lacy sunscreen—a new kind of New Orleans grillwork—glass walls and a flow of bright interior spaces have made reading so popular that library activity has gone up 30 per cent since opening day. Visitors enter the one-story lobby structure from either side (1), pass by a central control desk, then go through glass doors into the main building itself (6). On either side, big reading rooms reach up to two-story height; in the middle, a glass-enclosed display bridge (4) leads from stairs above the entrance to a mezzanine floor across the back. Above the mezzanine and bridge a full floor of special departments is pierced by two small landscaped patios open to the sky, creating a three-story play of space visible from almost anywhere inside. Departments are defined simply by furniture and movable stacks, encouraging readers to “shop around,” allowing easy supervision by a small staff and rearrangement according to departmental needs (5). The exterior sun grille (3) consists of a dark-anodized aluminum grid, 8 by 8 by 6 in. deep, with light-colored aluminum members notched into the front and rear.

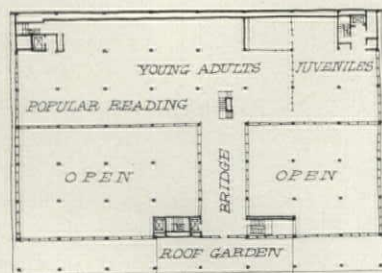
Architects: Curtis & Davis; Goldstein, Parham & Labouisse; Favrot, Reed, Mathes & Bergman. Contractor: R. P. Farnsworth & Company, Inc.



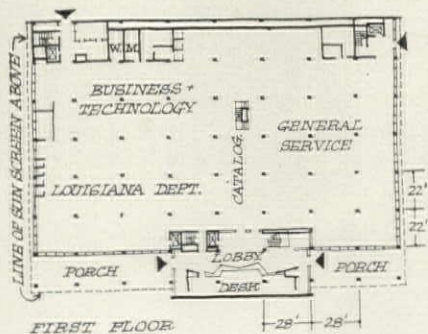
4. Glass-enclosed display bridge dividing the library looks down to main reading rooms, up to landscaped courts.



SECOND FLOOR



MEZZANINE



FIRST FLOOR



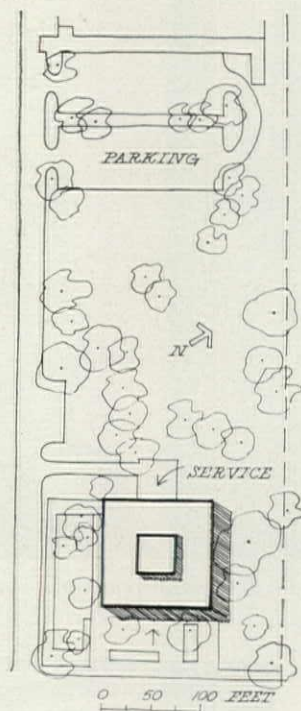
5. Book rails and displays invite browsing on the bridge.

6. Entrance lobby leads into the library under the bridge.





1. At the rear, plain concrete panels exclude the western sun.



Artful G.H.Q.

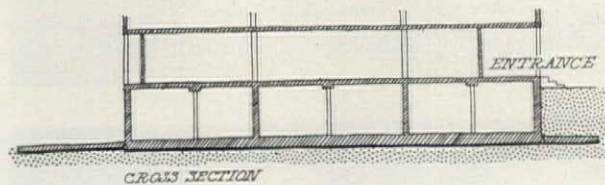
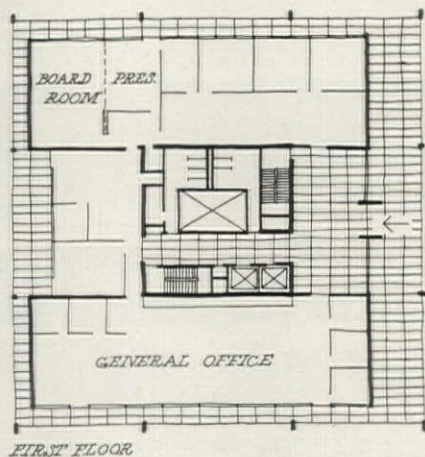
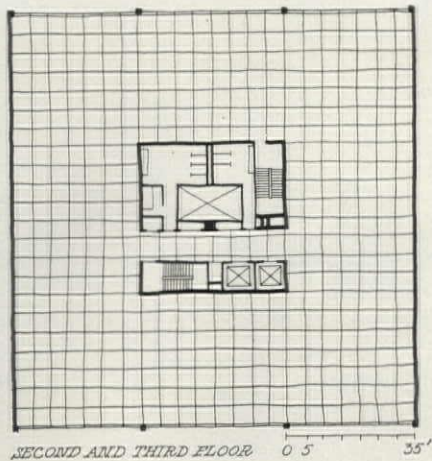
Seldom is wall sculpture so grandly integrated with architecture as it has been in the new \$1.3 million headquarters of the Mutual Insurance Co. of Hartford, Connecticut. A brilliant backdrop for a pleasant street-side plaza, Mutual's already-famed east façade (below) is, for a small building, one of the more monumental bas-reliefs of modern times—110 ft. long and 30 ft. high. Its 132 big concrete panels are richly textured from the sand molds in which Sculptor Costantino Nivola cast them. No literal portrait of an industry, it gains broader interest from a vigorous play of light and shadow on forms abstracted from everyday life.

Behind the big sand sculpture, Architects Sherwood, Mills & Smith have provided Mutual and its upper-floor tenants with handsome, compact, and flexible space. The recessed main floor (plan, right) groups offices around a tight central core containing stairs, washrooms, main corridor, and service shafts. On the upper floors, a 40 ft. span from core to outside columns leaves office spaces free to be partitioned at will. In the basement, business machines, utility spaces, and an employee dining room are housed in a unique concrete "boat" hinged to outrigger slabs (section, right), an arrangement that floats the whole building on a broad base without the expense of sinking foundation piles through soft silt to stable ground 130 ft. below.

Structural engineer: Werner-Jensen & Korst. Interiors: Associated Designers, Inc. Contractor: Industrial Construction Co.

2. In front, Nivola's huge bas-relief faces a pleasant sitting plaza off the street. Landscape architect: Bryan J. Lynch.





3. Entrance vestibule leads into a bright reception lounge.



4. Sliding wall merges board room with the president's office.

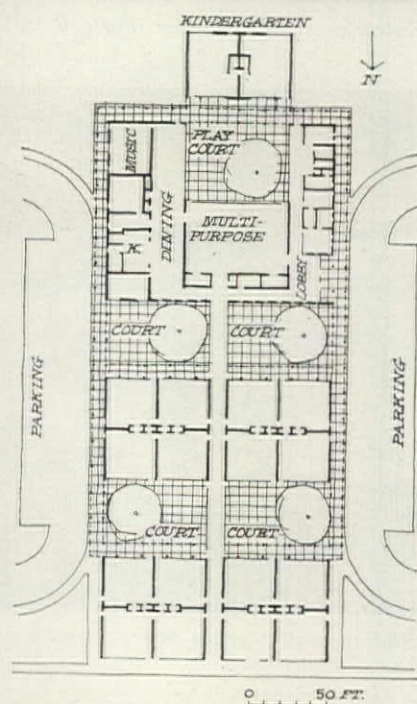
5. In the basement, the employee cafeteria overlooks a terrace at the rear.

PHOTOS: ROBERT STAHLMAN





LENS-ART PHOTOS



Garden school

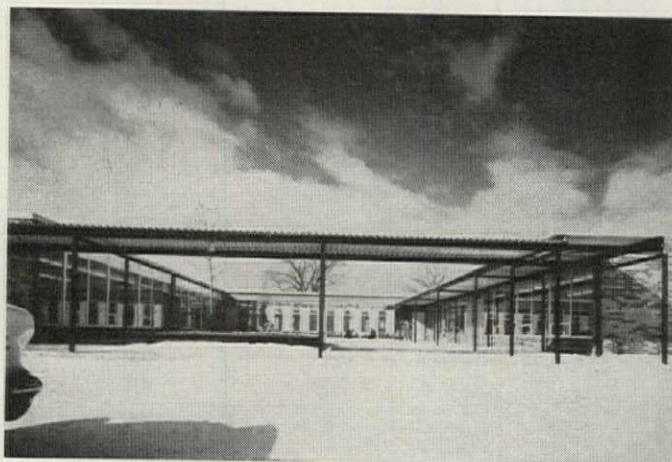
In Southgate, a burgeoning suburb downriver from Detroit, the new \$532,000 Fordline Elementary School makes notable use of a long narrow site, accommodating 560 children without resorting to a two-story scheme that might have dominated the small one-story houses around it. Classrooms are arranged in compact clusters of four (1 and plan), connected by a glass-enclosed corridor to the main unit and to kindergartens at the opposite end. Each classroom (2) is a generous 950 sq. ft. in size, with an 8 ft., 4 in. ceiling, and faces into one of the five landscaped play courts. Inexpensive corrugated canopies (3) serve as covered walkways around and through the school and as sheltered play areas and sunshades for the glass along the south sides of classrooms. On one side of the school's peak-roofed multipurpose room a widened main corridor doubles as a dining hall; here brightly colored fold-up tables make a decorative wall pattern when not in use (4).

Architects: Eberle M. Smith Associates, Inc. Contractor: Ferguson & Philip.

1



2



3

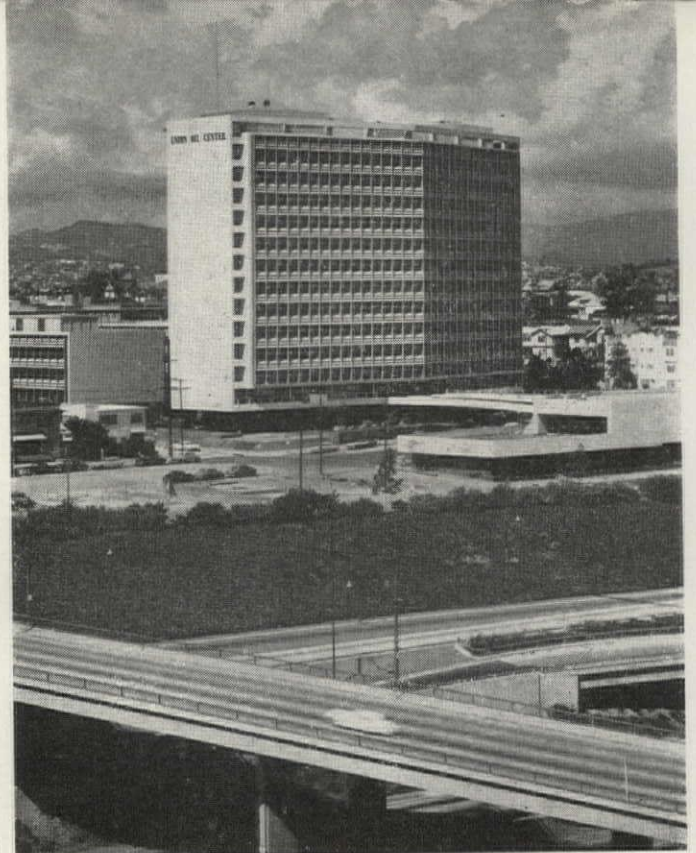


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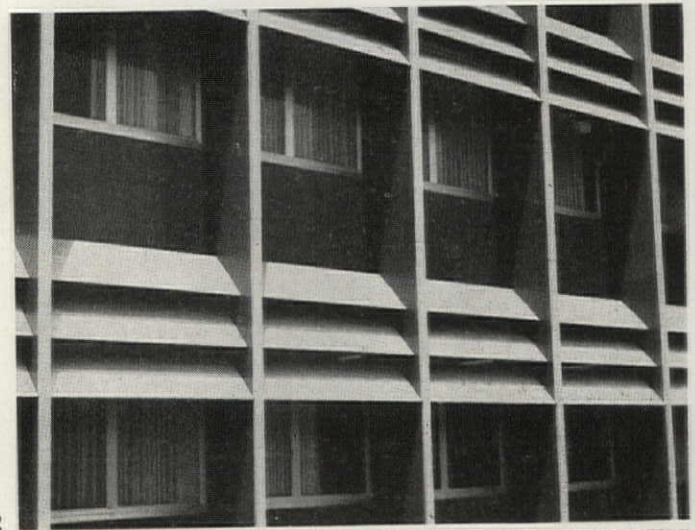
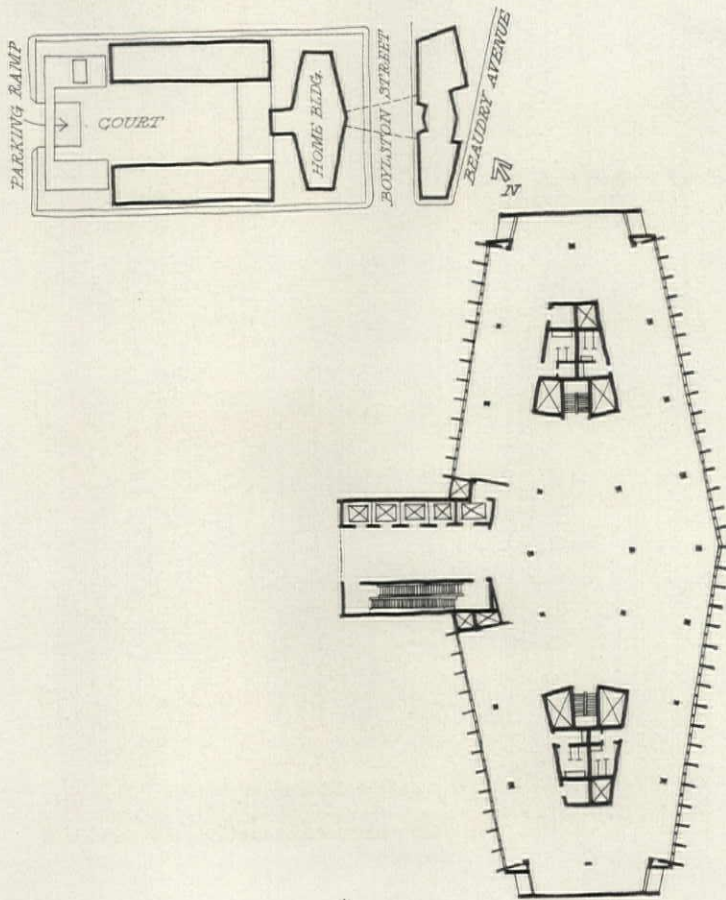
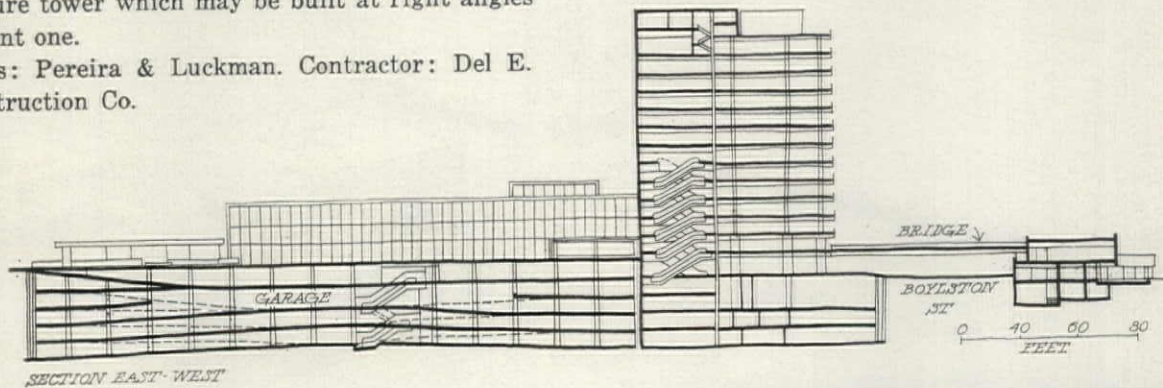
Louvered tower

Looming above the Harbor Freeway near downtown Los Angeles (1), Union Oil Co.'s new \$20 million office headquarters stands well equipped to handle three of the city's major problems: sunshine, smog, and automobiles. The smog is filtered out by air conditioning, the sun by an exterior grid of big aluminum fins on the broad east and west façades (2). The autos—1,400 of them—are taken care of in four basement levels (see section). Since most employees work on the lower seven floors, moving stairways in this area are used to speed travel between the luminous-ceilinged offices (3). Linked to the center by twin pedestrian bridges above the intervening street is another building with a 500-seat cafeteria and a 550-seat auditorium. The main tower is built in the shape of a truncated diamond, with wash-rooms and duct risers grouped in two cores which brace the building against earthquakes (see plan). Elevators and moving stairs are in an exterior stack, where they can serve a future tower which may be built at right angles to the present one.

Architects: Pereira & Luckman. Contractor: Del E. Webb Construction Co.



1

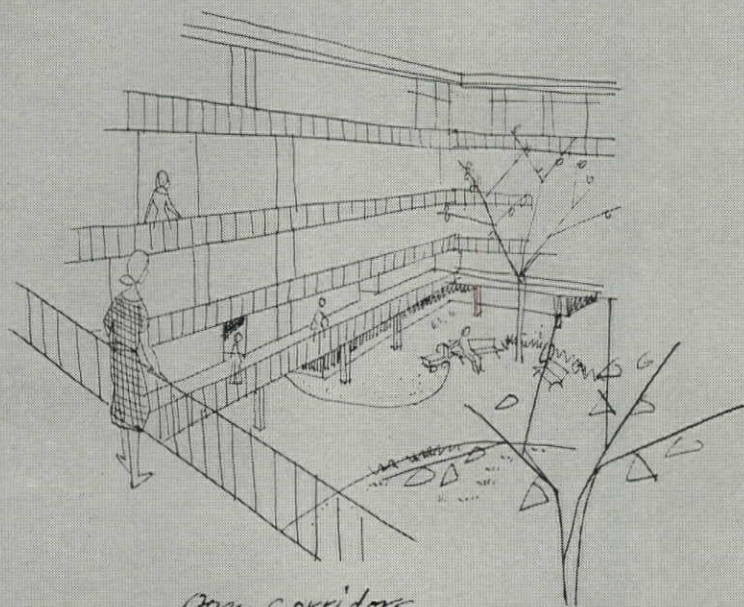


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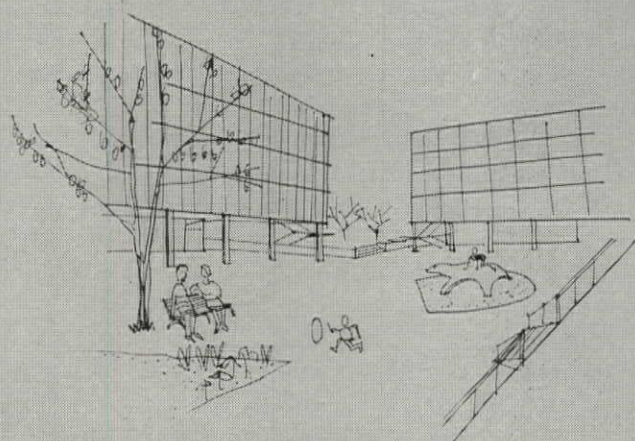
PHOTOS: TOP: JULIUS SHULMAN; ABOVE: GLENN OTTO; BOTTOM: JULIUS SHULMAN



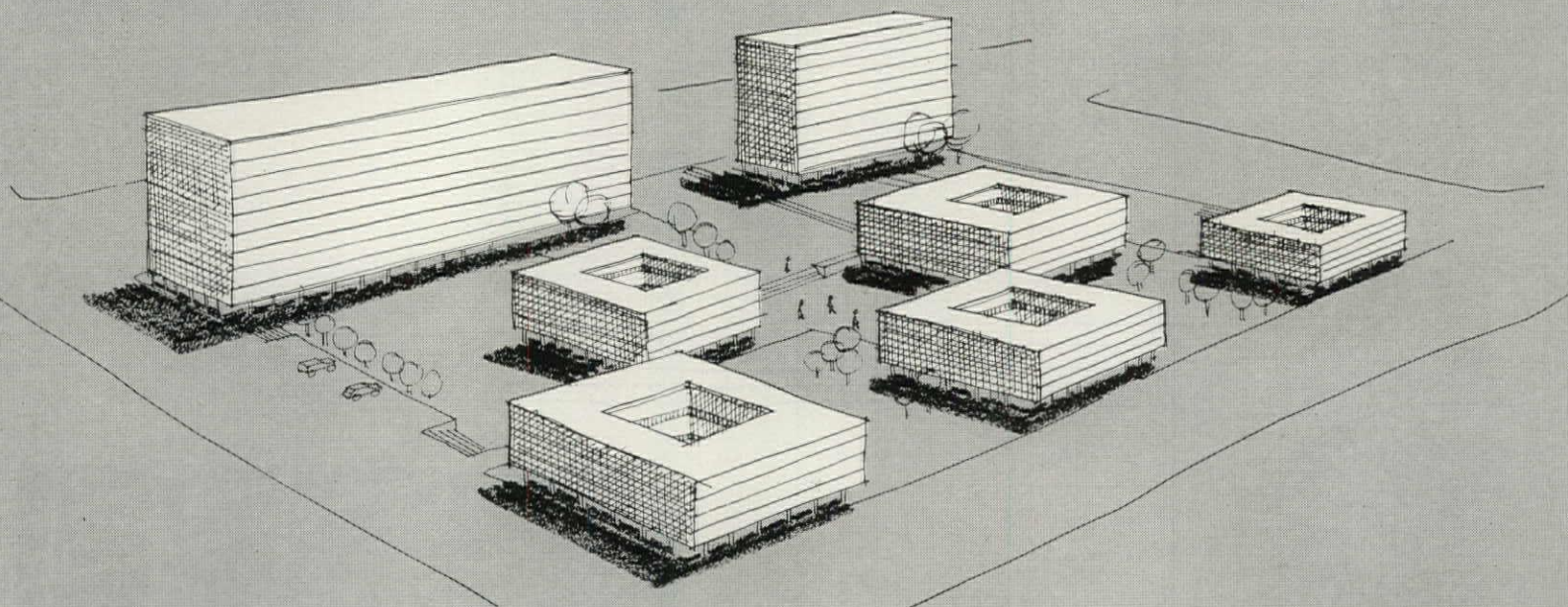
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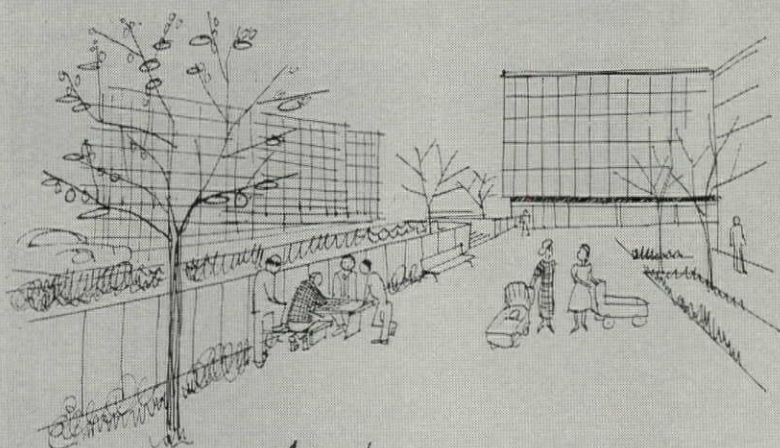
Open corridors overlooking neighborly courts



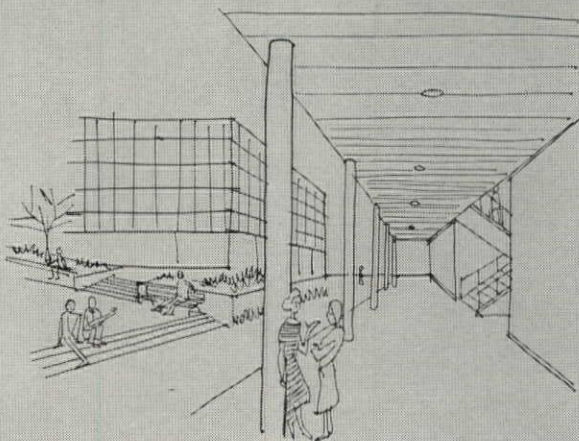
Playspace within calling distance of home



Low buildings, yet high density and ample open space



A sunken terrace next to the busy street



A pedestrian street for sociability

The need for overhauling U.S. public housing policies and dropping the shackles and shibboleths that encumber project design is demonstrated in this study for a project in New York's East Harlem

Public housing... for people

BY RICHARD A. MILLER



CONTRAST between the high-rise, antisocial jungle of existing public housing (above) and the study project by Architects Perkins & Will (left) is more than a matter of scale. The sketches (by Richard Ziegler) demonstrate the social environment which was the basic goal of the project planners. This environment would be, in many respects, more like nonproject slums (overleaf) than public housing.

Last January, Philadelphia Architect J. Roy Carroll Jr., speaking for the AIA at the housing hearings of the Senate Committee on Banking and Currency, called for complete overhauling of the public housing program. At the same time in New York, as if to emphasize the need, the Housing Committee of the East Harlem Council for Community Planning decided the time had come to ask some blunt questions about what the public housing program had done for the area above 96th Street on Manhattan's East Side, which probably has had more public housing for a longer time than any other area in the U.S. "Why," they asked, "hasn't the immense concentration of housing projects in East Harlem resulted in significant social gains? Why, in fact, do stores go broke and good housing units go to seed in areas adjacent to projects? Why, with passing time, do the projects themselves show evidence of ever greater social weakness until the older projects become appalling case studies, not of community growth, but of community disintegration?"

For most large cities, the questions were not new, nor was the evidence behind the questions: the wall scrawls and broken windows, the gang wars in the "pastoral" project malls, and the sexual offenses in the automatic elevators of project towers.

This time the questions were not asked by cranks or callous reporters, but by informed social workers and community leaders who worked daily in the East Harlem area to cure its social ills. And the questions were not asked in a sensational press exposé but as the beginning of a report containing some solid constructive suggestions for alleviating social problems by changing the housing projects—changing them in design based on principles

that would apply in any major American city. Unusual, too, was the attitude of the New York City Housing Authority. Recently reformed under the new Chairman William Reid, the Authority has a refreshing attitude toward planning, design, and management of their projects. With uncommon temerity, the Authority listened to the critics and aided their study. Without drastic revisions of federal policy, even the best of local authorities could do little more.

The East Harlem group's report was in the form of a hypothetical design solution, diagrammed by their architects, Perkins & Will, for a typical two-block project area (sketches, left). The purpose of the design was to demonstrate that the major faults of public housing projects could be corrected without any major change in typical density (300 to 500 persons per acre) or cost (\$17,000 per dwelling unit). But despite a serious effort to satisfy federal PHA requirements while achieving the objectives of the East Harlem Committee, Architects Perkins & Will found it impossible to satisfy the myriad mandates of setback, interspace, and site-planning which have been heaped upon public housing design by bureaucrat after bureaucrat (e.g., 35 per cent of a site must be "landscaped"). Their most substantial violation was carefully premeditated: the basic unit in the scheme is a 4½-story walk-up, though PHA rules limit walk-up apartments to three floors. But the 4½-story walk-up seemed a sensible choice because of the desire to rid the project of high-rise buildings. And, in fact, by a rearrangement of the third and fourth floors as duplex units, the problem could be completely resolved.

In these buildings, three- and four-bedroom apartments are organized

around an open court, which is another violation of a sort—public housing experts dislike courts per se because they think only of the trash-ridden inside courts of slum buildings. But the reason for the courts and the open corridors and stair wells—and, indeed, for the walk-up apartments—is to bring



STORES move onto the street in warm weather, act as social focuses all year in big-city neighborhoods.

families with children closer to the ground and to control spontaneously the public spaces which are actually extensions of the "street." The interior courts in the hypothetical design are a far cry from the tight, useless spaces that are given the "court" designation in slum buildings. Largely open to the outside on the first-floor level, the proposed courts are ringed on the upper floors by open corridors providing access to the individual apartments. Gone are the dark corridors, interior stairways, and unsupervised elevators where fights, sex crimes, and property damage are most frequent.

The number of dwelling units around each court is limited to 30, based on the discovery that 30 families in a tenement can get acquainted sufficiently to act as a social unit, where the typical project building (with 70 to 140 units) is overpowering and becomes a social vacuum.

The site plan of the demonstration project carefully sustains the social life which would center around the court-type walk-ups. Buildings would be entered from the street at the first-landing level of the stairways. One-half level down are planted and paved sitting and play spaces which are linked together through the project area, weav-

ing a pattern under the buildings, through the courts, and up to the sidewalk perimeter of the site. Small pavilion structures, containing a few five-bedroom apartments and the required community facilities, occupy only part of the ground-floor space under the buildings. The rest is left open to connect the inner courts to the outside space.

Only two buildings are higher than 4½ stories. They have a few one- and two-bedroom apartments mixed with the predominant three- and four-bedroom units on the first four walk-up floors. One- and two-bedroom apartments (for single persons and families without school-age children) are concentrated in the upper six floors, which are served by the only elevators in the project.

New as these design features are for high-density projects, the basic thinking behind them is even more indoc-trinaire. According to the East Harlem group, "present-day public housing practice disregards the social structure of city neighborhoods. The projects are designed for a kind of sophisticated family individualism, which is beyond the range of social opportunities and the financial resources of their tenants, and which is the opposite of the highly communal and cooperative society that

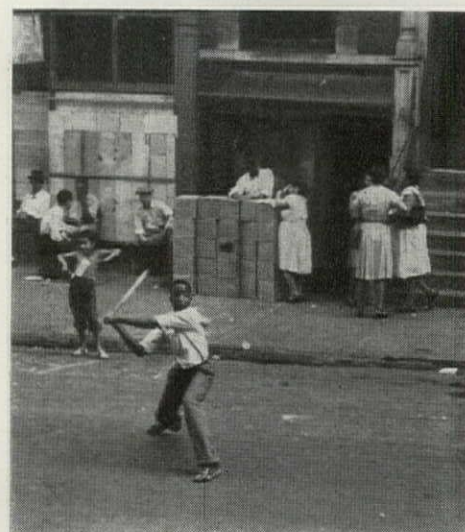


CHURCHES are found behind bright doors of old stores, filling the otherwise unrelieved lives of the poor.

exists among families in the old slums. Moreover, the projects exclude the constant, informal social controls needed by every society, including that of the poor; they fail to observe the vital difference between privacy and isolation; they sacrifice the constant human

contacts which provided not only the controls, but also the avenues to opportunity in the old slum. Only the most artificial, institutional, and impersonal substitutes have been supplied instead."

While the new design could do much to encourage the special qualities of community life in the largely Negro, Puerto Rican, and Italian settlement of East Harlem, other cities have similar problems. Everywhere, public housing projects will continue to be very disappointing until there can be achieved an expression of the positive character of poor neighborhoods and also of their integration with community-wide planning, including urban renewal and rehabilitation programs. With few exceptions (e.g., Cleveland, where Housing Director Ernest J. Bohn is also



STREETS are often better than far-off playgrounds for stick ball, because parents are only six floors up.

chairman of the Planning Commission), such a comprehensive approach is impossible in large U.S. cities. Under existing political circumstances—and existing federal policies—separate agencies are forced to take unilateral and uncoordinated action.

The insight of the Housing Subcommittee* into what an ideal project ought to be came largely from knowing East Harlem and its day-to-day life. Intimate episodes had been observed. For example, a Christmas tree in a large project mall was stolen the first day it was up last season, while an-

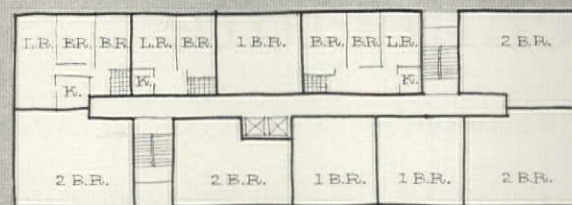
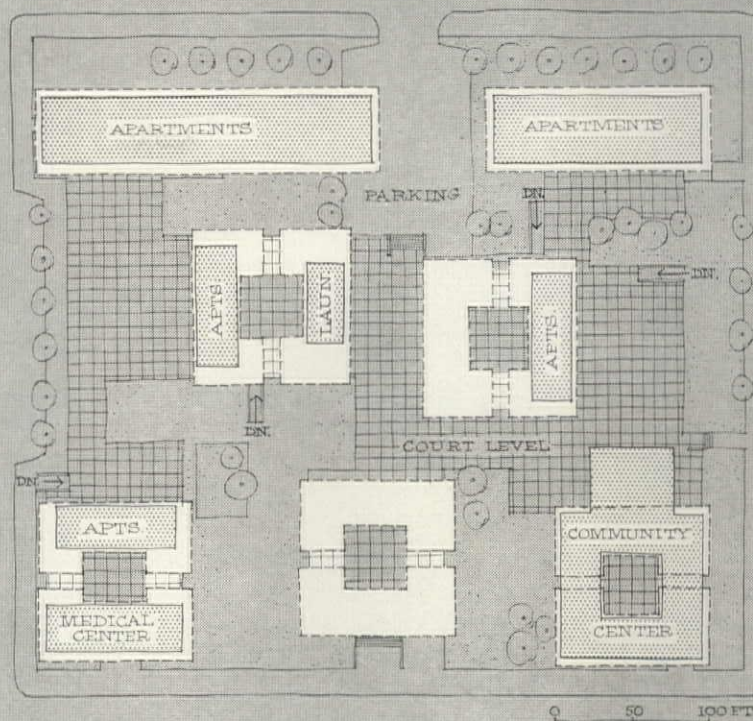
*Consisting of Chairman Mildred Zucker, director of the James Weldon Johnson Community Center, William Kirk, headworker of Union Settlement, Ellen Lurie, program director of the East Harlem Project, and Jane Jacobs, member of the Union Settlement's Board of Directors.

other in a smaller court adjoining a lively street remained intact and cared for by the tenants who erected it. These episodes were compared and the findings used in the new design. Statistics of light-bulb snatching, elevator breakdowns, and fourth-floor tenants who preferred to walk to their apartments, even though elevators were available were considered equally with statistics relating to population density. Consideration was given to the queries of project tenants ("What is that lawn behind the fence good for?"), to the value of store-front churches and clubs, and to the reasons why the streets in nonproject areas are more secure.

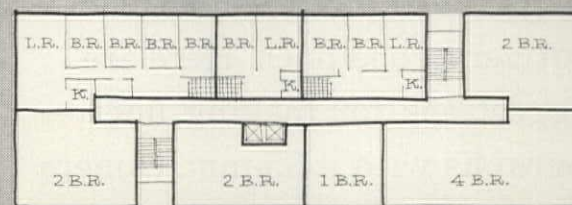
In one major particular, the Perkins & Will design was barred from fulfilling the desires of the East Harlem Housing Committee: no small stores could be introduced because federal PHA rules bar them from new projects, important though they are as neighborhood focuses in big cities. The best that could be done was to allocate some of the project grounds to pushcarts, which still lend color, life, and humanity to the community scene in East Harlem, and to hope that stores on the edge of the project could survive. And, if this policy were changed, the design leaves room for stores along the street under walk-up apartments.

Architects Perkins & Will, like many other architectural firms, will not accept actual public housing commissions until design requirements, fee schedules, and contract provisions established by PHA in Washington are reformed. Perhaps the most startling element in the East Harlem episode is the revelation of the far higher quality of thought that good architects working for good local authorities could bring to public housing if the shackles and shibboleths of the Washington PHA office were removed.

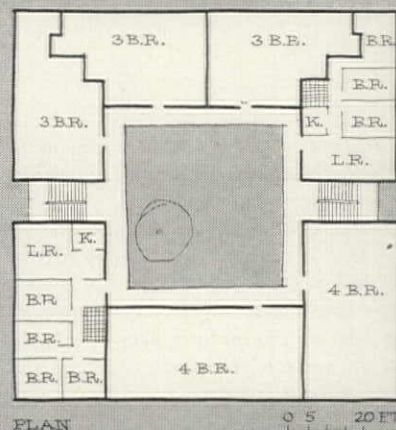
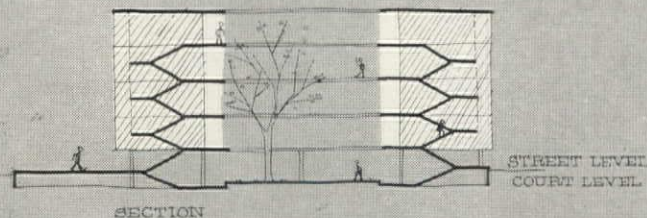
FIVE COURT BUILDINGS, containing 30 family units (plan and section below, right) and two ten-story buildings (plans, center right) house 395 families on a 3.8-acre site. The ten-story buildings have one- and two-bedroom units serviced by elevators on the upper six floors. Lower floors contain larger walk-up apartments. The two-level site plan (above, right) allows buildings to be entered from street level one-half flight above the courts. Apartments, most of which are at least one-half flight above the street, have adequate privacy without being isolated. END



ELEVATOR FLOORS (5-10)



WALK-UP FLOORS (1-4)



PLAN

0 5 20 FT.

How to photograph architecture

BY G. E. KIDDER SMITH*

Nearly everyone interested in buildings takes pictures of them—but not very good ones. Here are 13 suggestions for making finer photographs with a 35-mm. camera

**An architect by profession, G. E. Kidder Smith is noted for his architectural photographs and his richly illustrated books and lectures on Brazil, Sweden, Switzerland, and Italy. Although he claims little of the skill, know-how, and equipment—and none of the lights—of the professional photographer, his architectural photographs are acclaimed here and abroad. On these pages he reveals the simple secrets of his success, illustrated by some of the best photographs from his world-wide collection.—ED.*

Although a 4 by 5 in. architectural camera with rising front, tripod, and other paraphernalia can obviously accomplish considerably more than a hand-held 35-mm. camera, the smaller machine can bring home a lot of architectural bacon if its limitations are realized and anticipated. All the illustrations for this article were printed from 35-mm. Kodachrome originals.

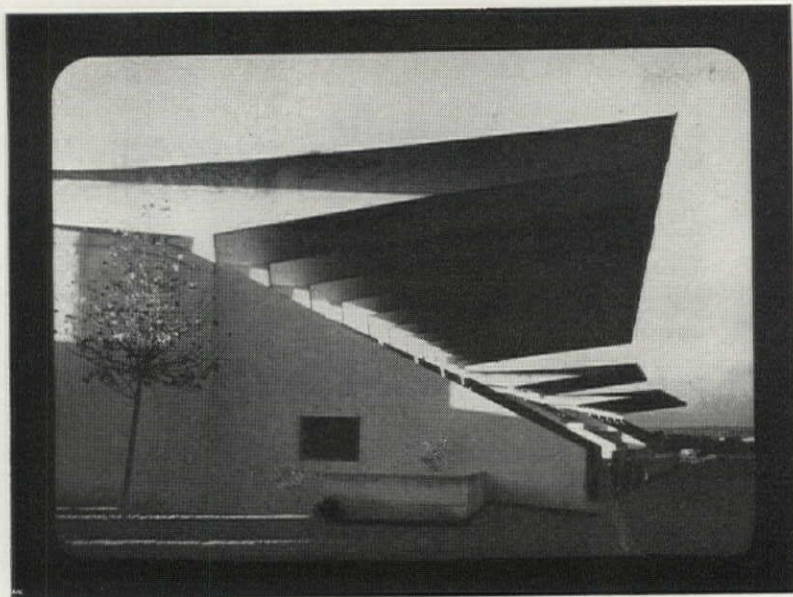
It should be emphasized at the beginning that all methods of approach and all techniques of the medium will mean little unless one can "see" photographically, imagining how an unlimited view in three dimensional space will appear in a flat picture. Architects in particular should be able to do this.

To reduce three difficult dimensions into two more manageable ones, I first of all squint while searching for what I hope will be the proper point of view. Squinting looks ridiculous and causes friends to wag their heads, but it suppresses the unessential and lets me concentrate on the prime composition elements of the picture. Second, I use only ground glass cameras: a 35-mm. single lens reflex, twin lens reflex, and an aged (21-year-old) Zeiss film pack camera. A 35-mm. single lens reflex is far superior to the range-finder camera for architecture. The greatest shortcoming of any miniature camera is, of course, the lack of a rising front by means of which vertical lines can be kept parallel (or walls from "leaning backward"). However, a great deal can be done with a fixed lens camera, if the camera is kept level. This, as will be seen later, involves using the foreground as an important composition element.

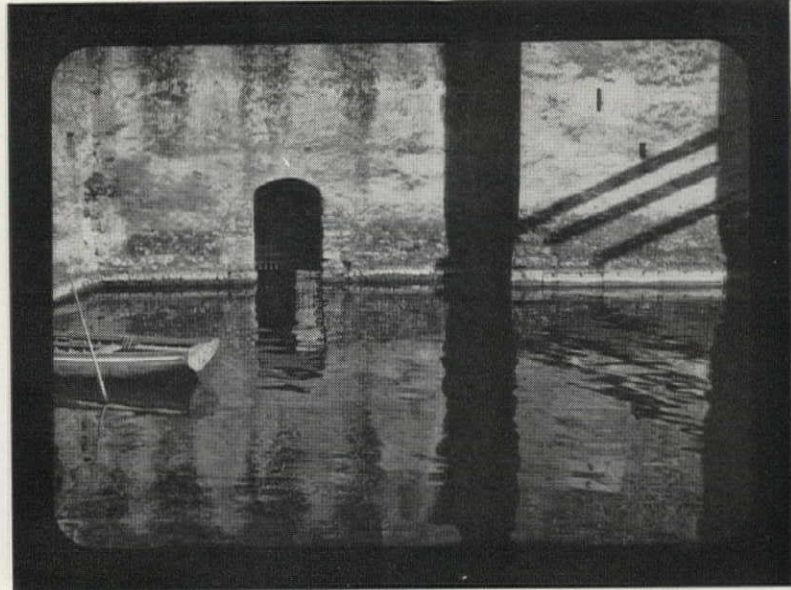
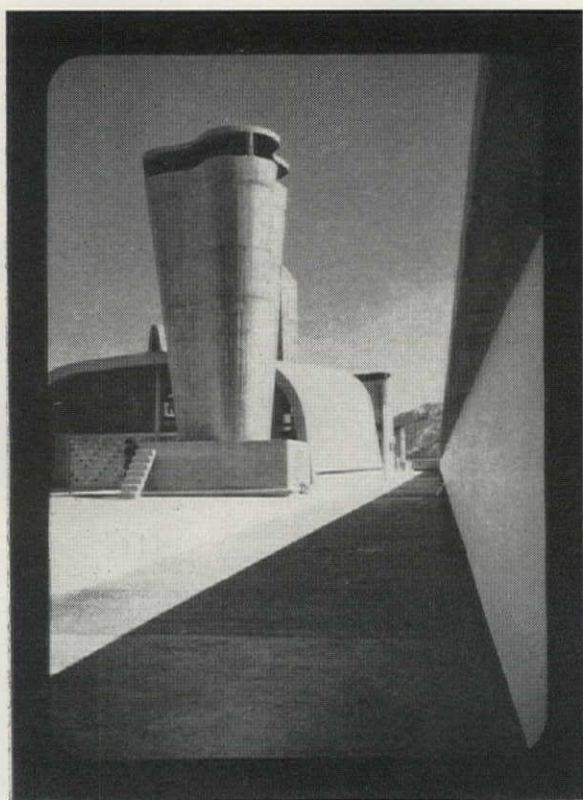
A word about exposure: for virtually all outdoor pictures set the shutter at 1/100 of a second and forget it. This speed stops people in motion, which is much better than using posed figures, and minimizes body vibration. The only unknown then is the diaphragm opening, the focus being taken care of by the ground glass. Using 1/100 second and Kodachrome film, four out of five exposures in sunlight will range within a half-stop plus or minus of f.5. By thus standardizing, one builds up an empirical knowledge which is often more reliable than an exposure meter. With other films the process is similar. Even if a longer exposure is required because of poor lighting conditions or because of the need for greater depth of focus, think at first in terms of the shutter at 1/100, and then adjust to meet local conditions. For interiors (and very important work outdoors) I do as the professionals do and bracket exposures. If, for instance, the meter estimates 1 second exposure at f.8, make additional exposures at f.6 and f.10, and then choose the best result. Bracketing is particularly important with color film, for it has little exposure latitude.

There are two general points of approach in architectural photography which I always try to follow. The first of these is to plan a sequence of pictures in space before beginning to shoot. Frank Lloyd Wright has given us a new horizon of space in architecture; to interpret this we need a new photographic approach. The one-position "Renaissance" viewpoint is no longer adequate. Do not take a dozen random shots *hoping* that a few will come out; take a sequence of half a dozen (from the over-all to the particular), bracket the exposures, and *know* that a useful set of photographs will result. The second major point is to seek a picture *in* the subject rather than *of* the subject. Search for composition first of all. The building will take care of itself, especially if a sequence has been followed. If the aim is merely to get a picture of the building, the result will rarely be worth looking at.

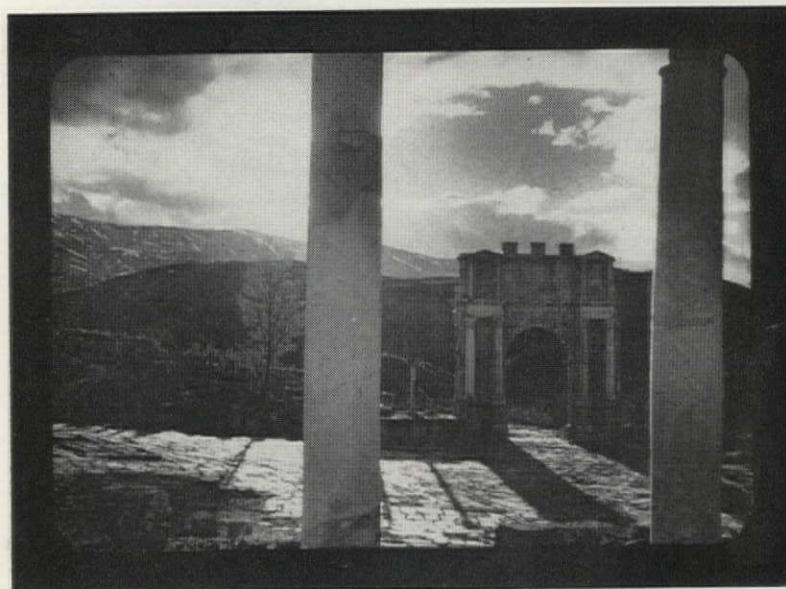
The illustrations which follow have been broken down into various categories to illustrate specific photographic points. Each picture or group of pictures, of course, combines a number of these points, but the primary emphasis in each case is on one.



2. Capturing an expressive play of light and shade generally means that the sun must be on one side of the building and not on the other. As the sun is rarely on more than two sides at once, the photographer has only to move his camera until it is roughly at right angles to the sun. In the picture of Corbu's Unité at Marseille (below), just as much architecture would have been shown by shooting from the other end of the roof, but the form would have been washed out by uniform lighting. (Later in the day the reverse would, of course, be true.) With sun on one side and shade on the other, fuller expression and substance is given this extraordinary architecture.



1. Le Corbusier has written that "The elements of architecture are light and shade, walls and space." In photographing architecture it is essential to express a brilliant play of light and shade because through them a building is revealed. Note how they are used in the two pictures above: in the first—of Eduardo Torroja's Hippodrome in Madrid—the low light not only brings out the form but emphasizes the roof's elegant floating quality. In the second—at Sirmione on Italy's Lake Garda—light and shade reveal the castle's plasticity, while the strong vertical and diagonal shadow bands are themselves main elements of the composition.
3. To add variety and to be more interpretative, the photographer can shoot into the sun, or against the light, if he shields the lens with a hood or, as in the picture of the Arch of Caracalla at Djemila, Algeria (below), with an element of architecture.

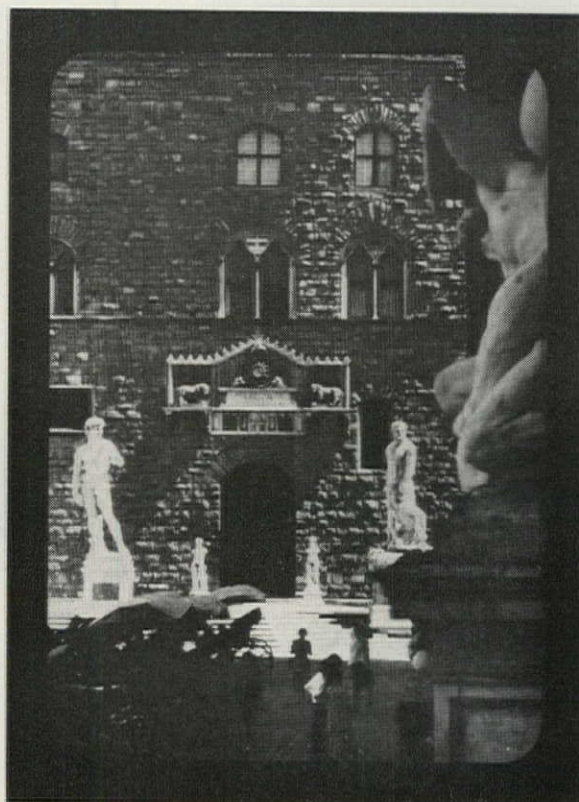


Composition must be "felt," but lighting can be analyzed. Given reasonable sunshine, the two main determinants are where one stands and when one stands there. Both aspects are usually closely interconnected, but in some cases one determinant can be of prime importance (see next page).

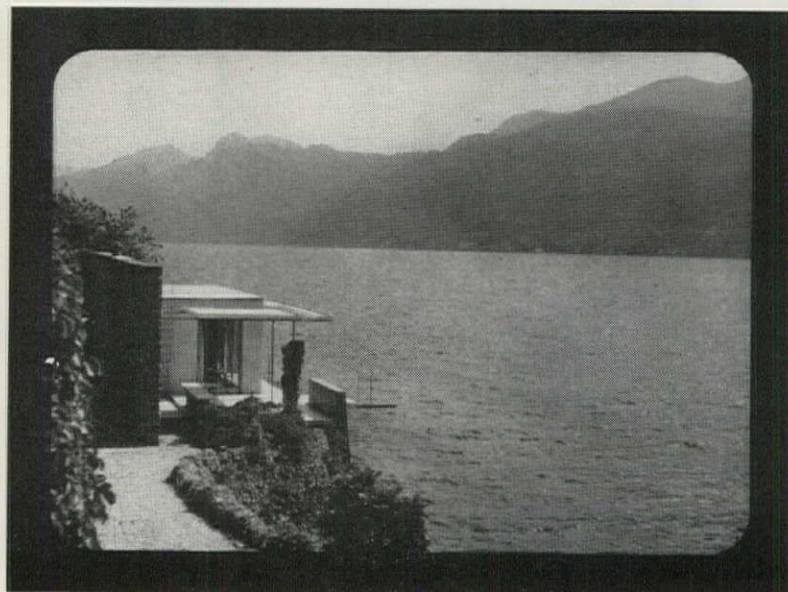
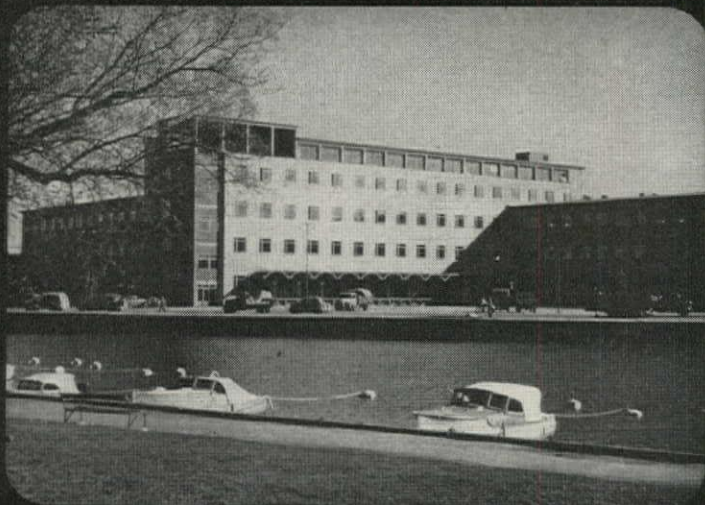


4. *Where:* In this picture of poplars in Italy's Piedmont, the camera position was all-important; lighting was secondary. A shift of only a foot to right or left would have made a marked difference in the composition. In photos 2, 3, 5, and 9, a shift of a few inches would have upset the compositions.

6. After considerations of light and shade and "where" and "when," the first photographic task is to relate the building to its setting. Start from the over-all and work around the building, closing in until the sequence of pictures ends up with details and interiors. The picture of the Railway Post Office in Stockholm (below) shows that the building's location is pleasant, and, in addition, reveals something about Swedish town planning. In the photograph of a weekend villa on Lake Como (below, right), the whole rationale of the design was generated by the lovely location. If the picture did not show this, it would not explain the architecture.

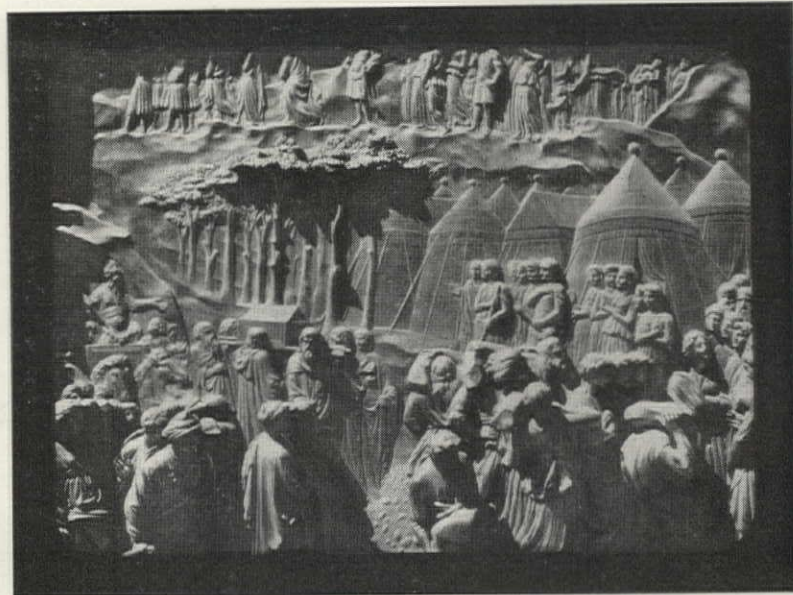


5. *When:* Use the sun as a private spotlight while taking photographs. In the early morning or late afternoon the sun obviously can pick out a building with particular emphasis. However, even in the middle of the day a subject can be highlighted by the sun when it bursts through a hole in the clouds, or, as in the picture of the Palazzo Signoria in Florence (above), when it starts to creep around the corner—as it does once every day. With the light source almost parallel to the façade of this building, all the rustication and all the importance of the statues in front were forcefully brought out. Flatter lighting would have been far less interesting.



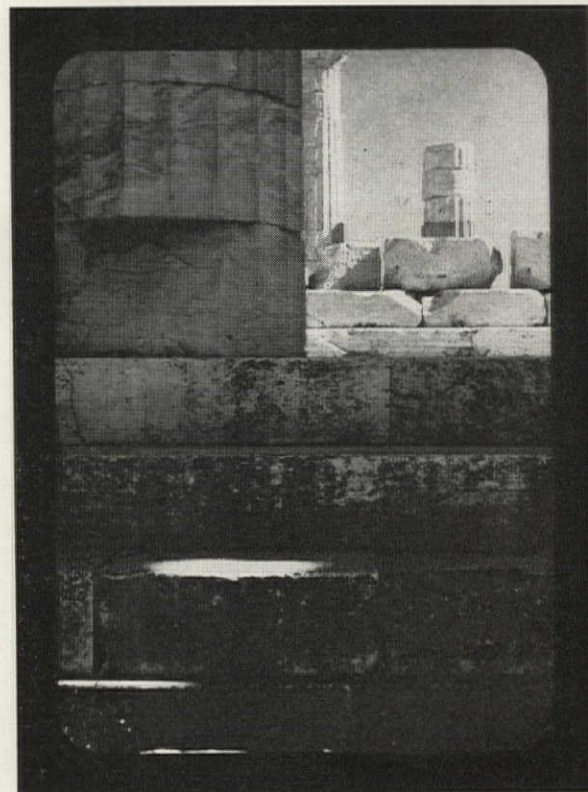


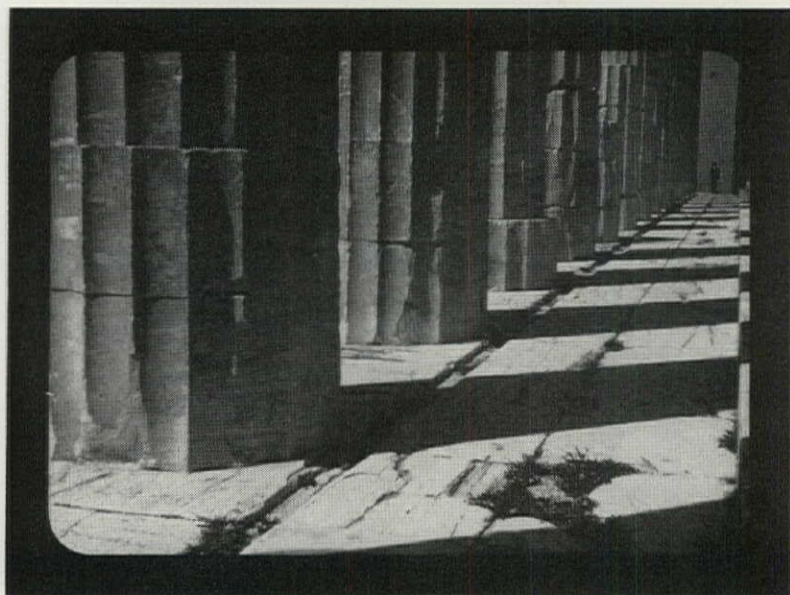
- 7.** After the building has been established vis-a-vis nature, relate it then to its neighbors. This can be most effectively done by using a neighbor as contrast. In the illustration above, the clean simplicity of a modern apartment house in Milan is counterpointed by the elaborateness of the Baroque street front. Another method of relationship is shown in photos 4 and 9 wherein a foreground "detail" is played against a background entity.



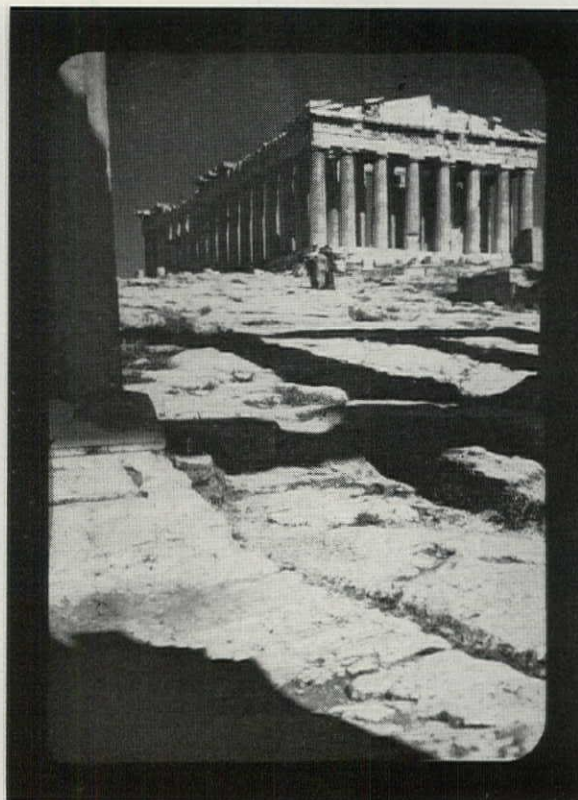
- 8.** Next, move in and concentrate on those sections or details of the building which reveal the main character, the essence, the spice of the building—as do Ghiberti's bronze doors in the Baptistry of Florence (above). Most buildings say as much—sometimes more—in a well-chosen section as in the over-all. Seek this photographically. Always take one picture no more than 10 ft. from the subject.

- 9.** One of the cardinal rules for use of 35-mm. cameras is to keep the camera level; otherwise, most annoying distortions will result. This means use of much more of the foreground than is theoretically desirable, and it generally means that the photographer must back off farther than planned. However, if the "excess" foreground is consciously pulled into the over-all composition, much of the limitation of having no rising front on the camera can be overcome. Note how the foreground was brought into the photograph of the Parthenon in Athens (right). Similar examples can be seen in photos 2, 10-right, and 12-left. Using the foreground as an active composition element can also be done with wide-angle lenses, if one is doubly sure the camera is level. In many cases the composition will have to be adjusted to fit the limitations of a 35-mm. machine, as in photo 13 (following page).

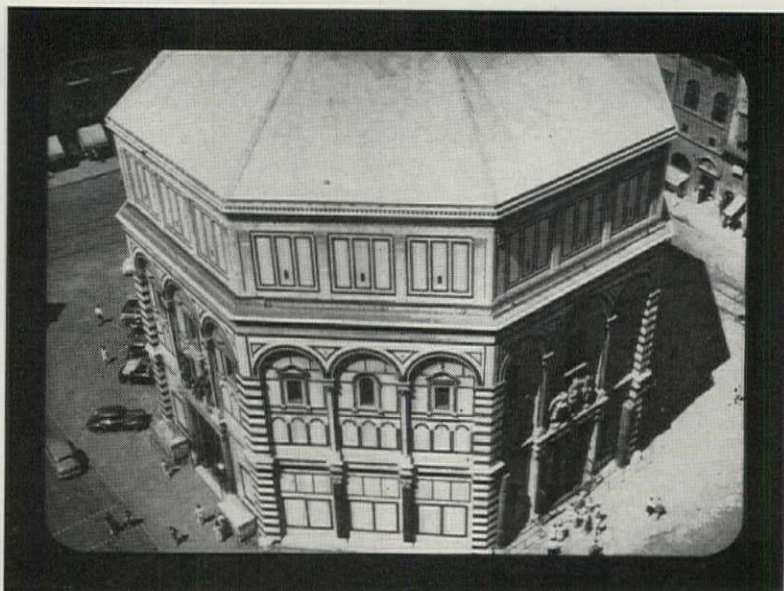
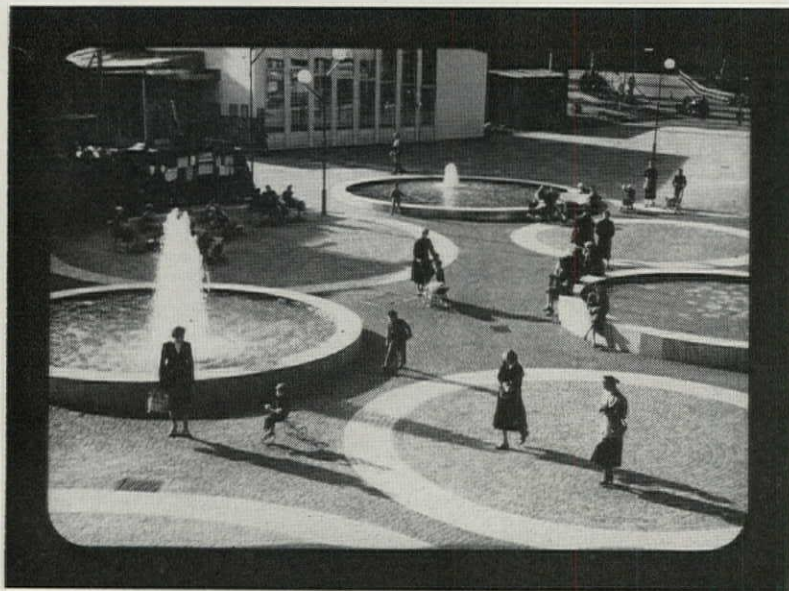


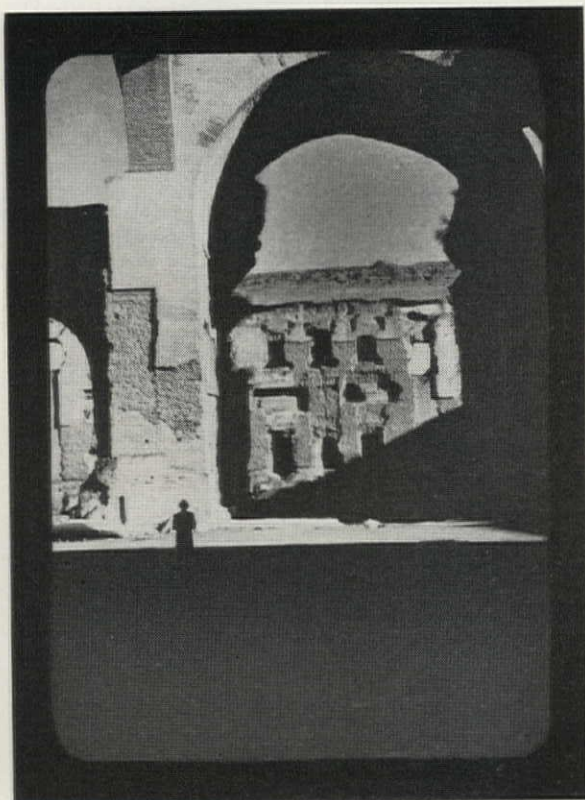


10. Sometimes a low camera viewpoint will be more informative or expressive than a high one. In these two pictures, both of the Parthenon, the low camera brings out the skill with which Ictinus and Callicrates joined column to stylobate (above) and emphasizes the superb crowning quality of the Parthenon on the Acropolis (left).



11. At other times a high vantage point will reveal more or give a better comprehension than an eye-level shot. The handsome paving at Vällingby in Stockholm (below, left) is spirited and delightful at eye level, but it can be best grasped from above. A photograph of the Baptistry at Florence taken from Giotto's Campanile shows an entire building, not just a street façade. Note that when this picture is combined with the detail in photo 8, much of the impact of this building and its art is revealed in just two photographs.



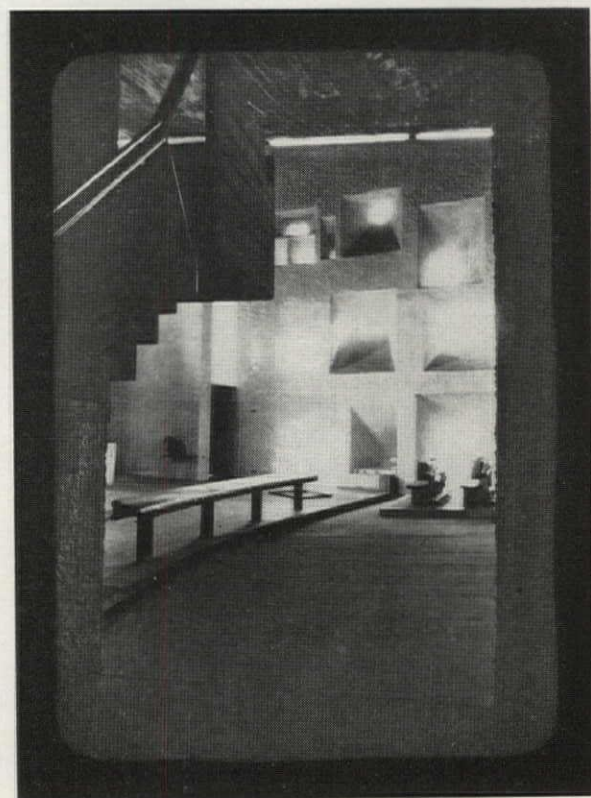


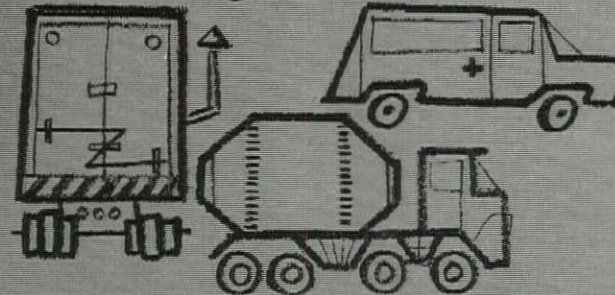
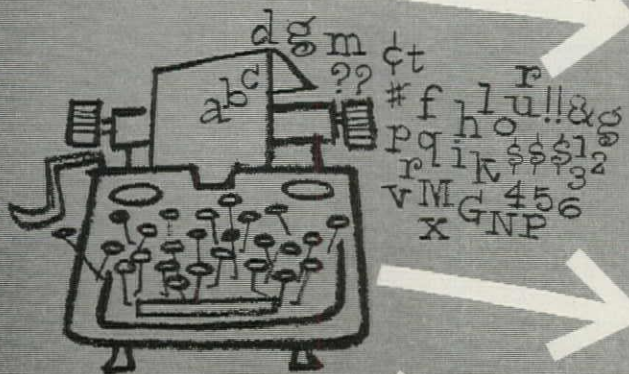
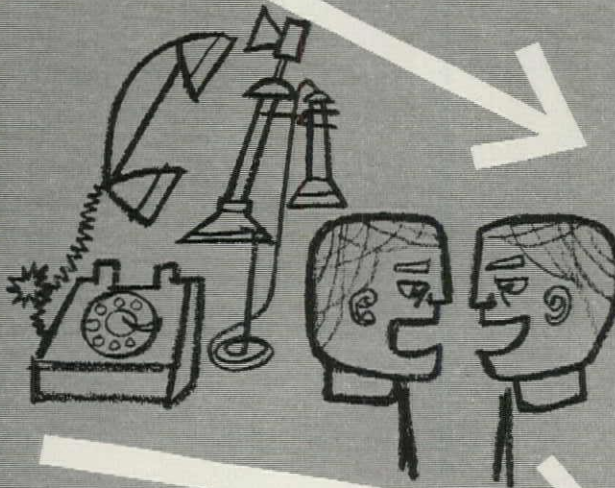
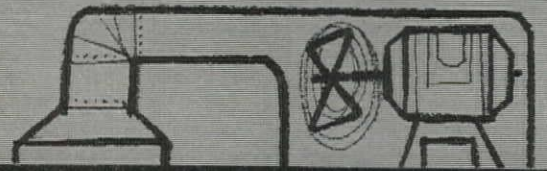
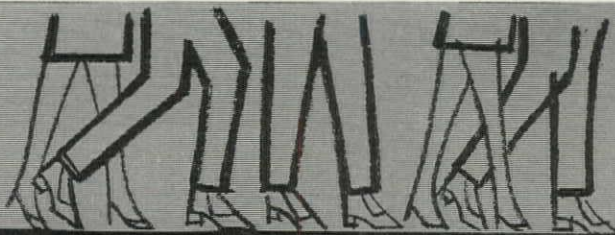
- 12.** Human figures, singly or en masse, are almost universally desirable in architectural photographs if they are gracefully, or anonymously, worked in. Not only can figures give scale and vitality to the picture, they also can have an important effect on the composition, as above, in Rome's Baths of Caracalla. If the figure here is covered up, the whole composition falls apart. Scale figures are often best in silhouette; backing a friend against the wall is photographically fatal. In the view of the Pieve di Santa Maria in Arezzo (above, right) the lovely little square would be doleful without the market animations.



- 13.** The last category, interiors, might seem the most difficult of all. I personally know nothing about lighting architectural interiors; I own no lights and would not know what to do with them if I did. But a great deal can be done by natural daylight, especially with large-scale rooms such as Corbusier's Chapel at Ronchamp (right). And in many instances the use of natural light will result in a less artificial impression than flooding the place like a stage set. A tripod is, of course, called for in most interior work, and a wide-angle lens is useful (but not essential) if the camera is kept strictly level.

In recapitulation: plan a photographic sequence in space; seek compositions in the subject; have sun on one side and not the other—or occasionally shoot against the light; be careful where you stand, and when you stand there; relate the building first to nature about it, then to its neighbors; close in and seek the character-giving parts; keep the camera level always; consider the low viewpoint vs. the high; use scale figures; and remember that much can be done indoors with existing natural light. END





Acoustics for modern interiors

The trend toward open planning and mechanization is inspiring new respect for the science of sound—and some new sound-control ideas

BY DAVID ALLISON

A number of important developments in building acoustics and noise control indicate that the words "quiet" and "contemporary" need not be opposites. Contemporary buildings can be decently quiet, despite the whirl of air conditioning and the noise-carrying propensities of air ducts, lightweight partitions, and open planning.

New developments range from a movable 2 in. partition as effective in isolating sound as 6 in. of masonry to a trio of new ceiling systems that combine acoustical treatment with other functions: lighting, fire protection, or air diffusion. Apart from development of such components, which are described more fully later on, the science of noise control itself is developing through physical study of new materials and psychological study of human attitudes and reactions.

With knowledge now available, it is possible to analyze any room or space and predict how many people will feel able to work, or relax, there. Psychological tests have made it possible to forecast that speech sounds transmitted from one office will distract, say, seven out of ten people in the office next door. As these sounds are modified and reduced in intensity, acoustical engineers can predict at what levels transmitted speech sounds will distract half, then one quarter, and finally only 1 per cent of those hearing them. Moreover, it is now known how much noise is tolerable within various environments to such a precise extent that sound engineers can predict how much noise is tolerable in a conference room where conversations must be heard at a distance of 10 to 15 ft., and how much more noise is allowable in a smaller conference room where conversations are normally carried on at

shorter distances, say between 6 and 10 ft.

Virtually all of these advances have come through an improved ability to apply the principles of noise control in building, rather than through advances in the basic science of sound, which was well developed many years ago. But the application of noise-control principles by architects and builders is predicated on their understanding of the science of sound and, indeed, on a desire to have decent acoustics in building. (In the U.S., unlike Europe, most building codes neglect noise control completely.) Those who strive for quality noise control, as they strive for good lighting and good ventilation, find that there is nothing unfathomable about this science, nor is it always costly to design for adequate noise control levels. Of course, there is an uncommon amount of misinformation standing between acoustics and architecture, as between all science and art, and it is very often the misinformed who find noise control too costly.

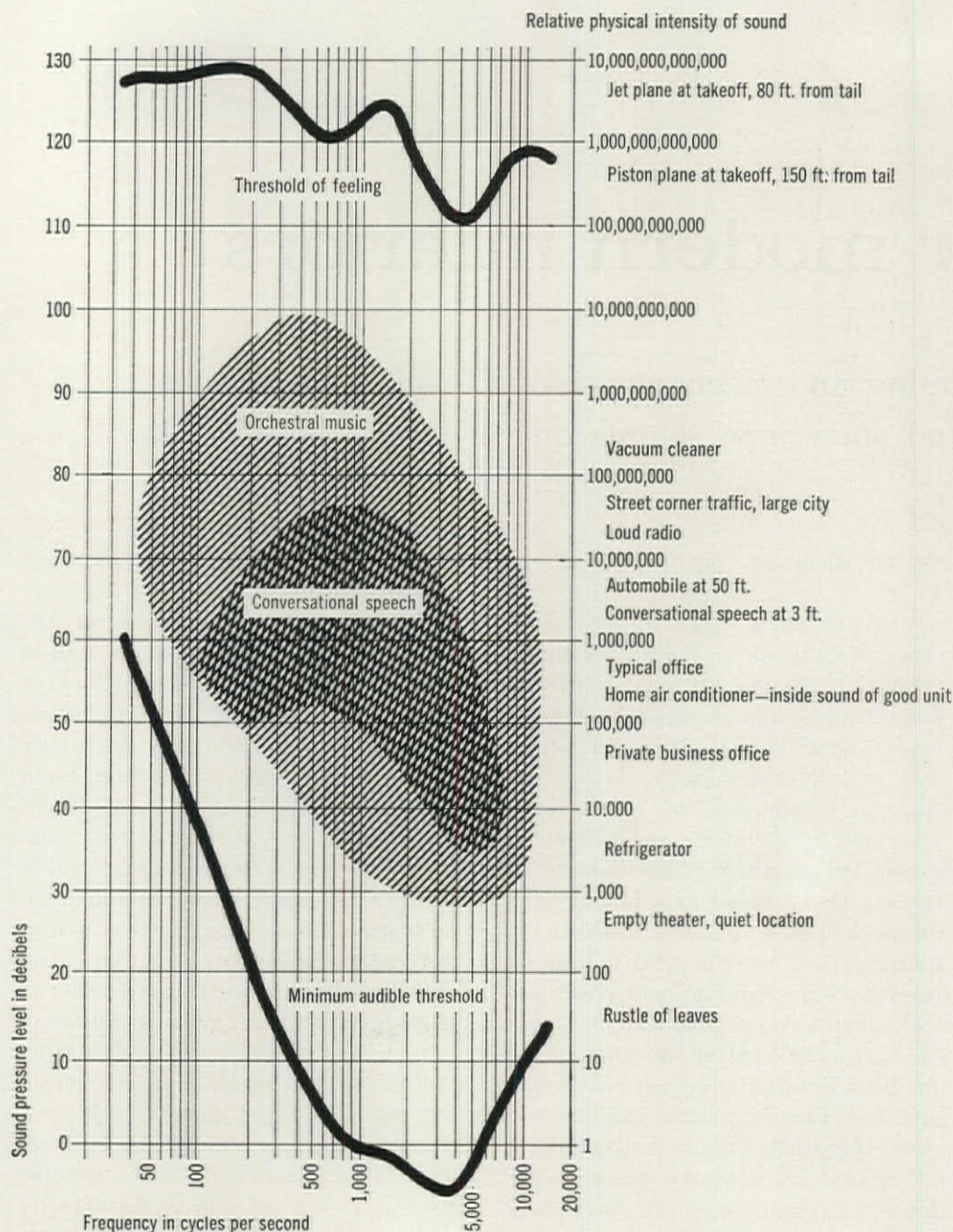
The basic science of sound

Although most noises are weak bundles of energy, the relatively friction-free medium through which they pass makes them difficult to control and to suppress. In passing through air, sound energy sets the air molecules into a minute forward and backward motion, compressing at some points, expanding at others. Once in motion, the air has momentum—as do ocean waves or a rolling billiard ball—which is passed along to the air ahead of it. Thus, under ideal conditions, a booming 100-watt sound, e.g., a powerful foghorn, could travel as far as 1,000 miles and still be faintly heard.

Another element which makes sound energy difficult to control is the fantastic range of the sound receiver, the human ear. For example, if the loudest noise the ear can tolerate, say a nearby jet engine at take-off, were to be reduced in volume until it was just faintly detectable, the power of the faint sound would be one ten million *millionth* of the loud sound. And through this great range, the ear can make useful discriminations and comparisons of sound intensities. The ear is capable too of discriminating between various frequencies of sound, though within a more limited range. Most humans can hear sounds between frequencies of 16 cycles per second and 16,000 cycles, but not all sounds equally well. For example, as the graph (page 146) indicates, the human ear is more sensitive to the rather high-pitched tones of 2,000 to 3,000 cycles (the highest notes on a piano).

One of the most misunderstood facts concerning sound relates to how it can be suppressed. Sound energy must encounter a heavy, solid barrier if it is to be isolated, a point often overlooked in the building field. If, for example, sound can *move* a wall, shaking it by infinitesimal amounts in harmony with the sound waves, then sound is capable of being transmitted through the wall. On the other hand, if the wall is heavy and limp, like a soft, lead sheet, it is less capable of moving with the sound waves, and sound is less likely to go through it.

Applied in building, these characteristics of sound suggest several ways by which noise can be controlled. Because sound travels so freely in air, behaving somewhat like a liquid or gas, there should be no cracks or openings between adjoining rooms. Otherwise,



What the ear hears

Good building acoustics must obviously be based on an understanding of the capabilities of the human ear. For example, the ear can hear some sounds more readily than others, as shown by the minimum audible threshold line (at left). Note also: most speech sounds fall within this area of maximum ear sensitivity (between frequencies of 600 and 6,000 cycles), this indicating the importance of proper noise control within this range. Loud sounds (above the threshold of feeling line) are painful. Note the extraordinary range of sound intensities over which the ear can discriminate: a shattering 1,000 cycle sound at the threshold of feeling, for example, could be reduced to one millionth its intensity and still be heard faintly. (Based on chart from Bell Telephone Laboratories.)

tile should not be expected to prevent sounds within one room from passing through the ceiling into the next one. (Heavier ceiling tile, with good isolating characteristics, is becoming more plentiful.)

Sense and science

When these sound characteristics are understood, their application to specific noise problems appears to be "good sense" as well as "good science." Effective acoustical design demands quantities of both. Here, for example, are three instances of good sense applied in noise control; supporting each is a firm understanding of the basic science of sound:

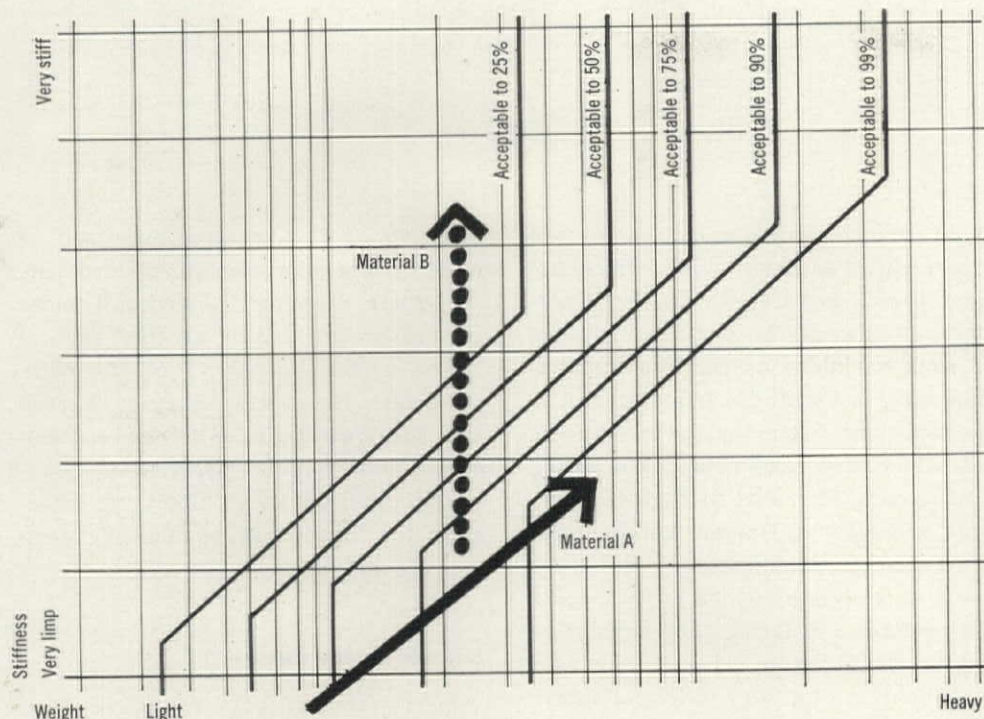
Item: An office door allows excessive noise transmission from the adjoining room. A special sound-isolating door might yield some improvement (at a relatively high cost), but a strip of gasketing, sealing cracks around the existing door, might be all that is required.

Item: The occupants of an office or school room "cannot think" for the distracting conversations in neighboring areas. Better partitioning between the rooms would help, but a satisfactory expedient, with walls of lightweight aggregate block, might be to seal the porous block with a coat of cement-base paint.

sound will "leak" through the heaviest wall or over the best partition. The ultrasensitivity of the ear suggests that a single noise isolator, such as a wall, will not be sufficient to suppress a great and annoying sound, such as an air-conditioning compressor; the noise source itself should be made quieter, largely a responsibility of the manufacturer, and it should be located far away from areas likely to be annoyed by it, largely the responsibility of the architect. Further, because the ear is more sensitive to some sounds than others—generally, those sounds which fall within the speech range (see graph above)—these readily heard sounds are the ones which must be most carefully controlled. Finally, since sound energy must encounter mass if

it is to be isolated, a lightweight material should not be expected to perform well as an isolator unless specially designed. As an illustration, the 100-watt blast mentioned earlier, which could be faintly heard 1,000 miles away, could be heard only faintly at a distance of 6 ft. if it were sealed tightly in a thick lead box. (Because it is a heavy, limp material, lead is an excellent sound isolator.)

But sound isolation should not be confused with sound absorption. A suspended acoustical ceiling is usually designed to absorb sound, not to isolate it; its porous quality makes it effective in reducing a room's noise level (by absorbing sound energy generated in that room), but because of its porosity and light weight, conventional ceiling



Partitioning for speech-privacy

The diagonal lines on chart at left represent percentages of acoustical acceptability of various partitions—the area to the right of the 99 per cent line represents partitioning systems which will be acoustically acceptable to virtually everyone; the area to the left of the 25 per cent line represents partitioning which will be acceptable to fewer than one person in four. Thus, Material A, having a given weight and stiffness, might satisfy only seven out of ten persons; increasing its weight significantly and its stiffness only slightly improves the sound isolation so that 99 per cent occupant-satisfaction is achieved. (Thus, on chart, the arrow moves diagonally to the right.) Material B, acceptable to more than 90 per cent, is made less acceptable as it is increased in stiffness, with no increase in weight (and its arrow moves upward). An example would be a solid metal partition which was changed to a stiff honeycomb sandwich partition. (Data from Bolt, Beranek & Newman, Inc.)

Another satisfactory expedient might be to increase the background noise level in the room by some modification of the air supply diffusers. (The little fans in telephone booths produce some acoustical as well as cooling benefits; they “drown out” distracting noises from outside.)

Item: Some of the most sensitive ears in creation belong to corporate executives, and some of the most bothersome modern-day noises emanate from the heart of a building's air-conditioning system. Further, executives, by nature, enjoy heights, preferring suites on their buildings' top floors to those at lower levels. Thus, the prudent designer does not place a troublesome noise source, such as a clattering compressor, on the floor immediately above the executive, who is likely also to be the designer's client. (There is no law requiring such placement.) Instead, he relegates these noise-makers to the basement, where they are unlikely to annoy anyone.

The thin-wall problem

Years ago, before the popular use of the lightweight, movable partition, acoustics was of minor consideration in building, for the noise “problem” had not yet been discovered. But the emphasis on open planning in contemporary architecture and the upward

spiral of building costs have fostered a trend toward thinner and lighter partition constructions. And this leads to a most urgent consideration in building noise control: the judicious selection of effective partitions.

Considerable confusion surrounds the movable partition, particularly with regard to how its effectiveness as a noise barrier can be determined. Customarily, partitions are given an average sound-transmission loss rating in decibels; the rating is based on the partition's performance under a testing procedure standardized by the American Standards Assn. and the American Society for Testing Materials. A partition's sound transmission loss rating is an indication of the amount of sound energy which is dissipated as sound passes through a partition. Thus, a 40 decibel partition should be a better sound isolator than, say, a 30 decibel partition. (A decibel is a ratio between two amounts of power or sound intensity. A 0 decibel sound, so called, simply represents a sound that can barely be heard; a 10 decibel sound is ten times as powerful or intense; a 20 decibel sound, because the scale is set up logarithmically, is ten times as powerful as a 10 decibel sound, and a 30 decibel sound is ten times as powerful as a 20 decibel sound, and so forth.)

In the standard testing procedure,

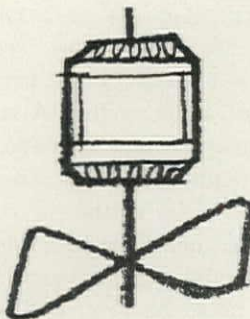
a partition's capability as a sound isolator is measured at nine frequencies, from a low of 125 cycles per second to a high of 4,000 cycles. A transmission loss measurement is made at each of these frequencies, then an average transmission loss rating is computed for the partition. This is a convenient way to describe a partition's effectiveness as a noise barrier, but, unfortunately, it is not an accurate description, despite the accuracy of the measurements which lead to it. This average transmission loss figure can only indicate very roughly a partition's noise-isolating capability. For example, two partitions may carry identical ratings—say 40 decibels—but one may be a much more effective noise barrier in the critical frequencies, i.e., of the speech range, between 500 and 2,000 cycles per second, while the other partition is less effective in this range but more effective at isolating the less-disturbing, very high-pitched noises. A partition's effectiveness as a sound isolator at each of the nine frequencies (125 to 4,000 cycles per second) is usually available. These data, rather than simply the single average transmission loss rating, should be considered in selecting a new partition.

Another shortcoming of the standard rating is the fact that it is a laboratory rating, not a rating of actual performance in the field. A wall which is rated

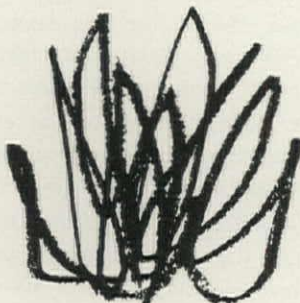
The integrated ceiling



LIGHT DIFFUSION + ACOUSTICS are provided in a rigid vinyl plastic sheet which is now marketed by several manufacturers of lighting fixtures.



HEATING + COOLING + ACOUSTICS are combined in a multipurpose ceiling system. Several types have been developed, speeding and simplifying field work.



FIRE PROTECTION + ACOUSTICS are integrated in a new ceiling by Armstrong; the thick mineral tile prohibits heat's passage through the ceiling.

at 40 decibels transmission loss by the standard test is likely to perform somewhat below that level in the field, possibly as low as 25 decibels, because of such variables as careless installation, size, and stiffness. In an attempt to develop some better rating procedure, one which will take field performance into account, Physicist Richard Hamme, head of Geiger & Hamme Laboratories in Ann Arbor, Michigan is working out a testing system by which partition and ceiling sound-isolating characteristics can be predicted in advance for field performance. (A wry critic, Hamme describes the modern wall as being made up of "panels, posts, and leaks.")

When properly understood and evaluated, of course, a single rating figure is helpful in gaining an approximate indication of a partition's true performance. Indeed, it is better than no rating at all. The danger, as Hamme and others point out, is the utter faith of architects and builders in the rating's infallibility: "The catalogue said that it was a 40 decibel wall. But listen to it! It sounds like about 20 decibels."

To many naïve architects, the decibel is probably the greatest discovery since tracing paper. It seems to make noise control so simple, so crystal-clear: a wall whose transmission-loss rating is 40 decibels is ten times better than one with a 30 decibel rating, because a transmission loss of 40 decibels is, by definition, ten times better than only a 30 decibel loss. The only fallacy in this logic is that it does not happen to be logical. Indeed, it is as illogical as selecting a piano solely on the basis of its tonal quality at Middle C.

Another problem in partitioning relates to sound varieties, such as speech, typewriter, and plumbing noises. A partition which performs well at stopping the noise of a typewriter may be poor in providing speech privacy. About a year ago, at the request of Owens-Corning Fiberglas, Acoustical Consultants Bolt, Beranek & Newman, of Cambridge, Massachusetts, set out to determine what criteria had to be satisfied to assure privacy between offices. They have concluded that the sound

isolation of the construction itself is only one consideration in the problem. A certain level of background noise is also essential and another critical factor is the sensitivity of the office occupant. Engineers Ranger Farrell and Bill Watters, of BBN, have developed a small handbook for Owens-Corning from which an architect can determine the kind of sound-isolating components his client will require.

Sounds in the future

Are tomorrow's buildings likely to be better designed acoustically? Or is the present trend to continue toward thinner, lighter-weight materials, more clatter, and less privacy? The answer will depend upon the desires and wisdom of those who commission, design, and produce the buildings, for it is possible even today to create good acoustical environments. And with some of the new noise control materials coming along, noise could become an even less troublesome problem in the future. The developing pattern indicates a growing tendency among manufacturers to blend acoustical treatment with other elements, e.g., Celotex has developed an acoustical ceiling system which can accommodate lighting and air-conditioning equipment of various types. In the future, such systems will differ from any existing today in that all of these elements will be designed as a whole and come as a package, installed in fewer steps by fewer men. And, since there will be no fitting together of separate components at the site, it should be an improvement in noise control over most of today's suspended ceilings, for there will be fewer chances for carelessness and leaks.

A review of some of the acoustical materials now coming into building points up this trend toward integration of noise control with another function:

► Johns-Manville will soon unveil an integrated ceiling system incorporating heating, cooling, and noise control. It includes perforated metal tiles, heating and cooling coils, which are installed

immediately above the tiles, and insulation blankets, installed over the coils. Several other manufacturers have developed units incorporating this integration concept, including Burgess-Manning and National Gypsum. The significant point concerning the Johns-Manville system is that it permits the installation of an acoustical ceiling to be made without attachment to the heating and cooling coils.

► In another area—the integration of fire protection and noise control—Armstrong Cork has recently introduced a densely packed mineral-fiber ceiling tile which can be incorporated with open-web steel joists and a 2 in. concrete slab. In tests made by Underwriters' Laboratory, this system earned a two-hour fire rating. The tile ceiling itself—suspended directly from the joists and 10 in. below the concrete slab—acts as a fire protective membrane. Under most fire codes, ordinary acoustical tile can be applied only in conjunction with reinforced concrete construction or some type of intermediate fire-stop of metal lath and plaster or certain spray-on materials. The new tile can eliminate these protective measures. (For more on this acoustical development, see *Products*, page 155.)

► Along with the growing popularity of luminous ceilings has come still another type of dual-purpose component, combining acoustical and luminous properties. This material, a clear core sheet of perforated, rigid vinyl plastic, faced on both sides with porous cellulose film, is used as a luminous ceiling material. Light is diffused by its facing sheets and sound is absorbed in the tiny pores of the facings and in the air space behind the sheet. Several lighting firms now use the plastic in their fixtures. It is fabricated by Contrex Co., under license from Bolt, Beranek & Newman, Inc.

Perhaps the real significance of these isolated examples is the fact that they suggest a breaking away from such long-held concepts as the belief that sound absorbers must be of a consistent size and shape, and that they should absorb sound and do nothing more. As

Lyle Yerges, of U.S. Gypsum, says: "There is nothing sacred about tile. We must get away from thinking in terms of flat surfaces and develop new concepts of sound control."

To a degree, the same restlessness exists concerning partitioning, although there is less evidence of impending change. U.S. Gypsum is known to be

working on a multipurpose partitioning system (possibly to include provisions for heating, cooling, electric, and telephone services, along with sound isolation), though the details are still secret. Bolt, Beranek & Newman is developing several new partitions which will feature both structural and acoustical advantages. The conventional approach in

continued on page 218

Acceptable office noise conditions

The chart below, developed by Bolt, Beranek & Newman, indicates the various background noise levels at which typical office functions can be performed satisfactorily. For example, in designing a small conference room (second column) a background noise level of 30 to 35 decibels (first column) should be the designer's objective. This over-all objective should influence the selection of all noise generating equipment, such as air conditioners, and all noise abating equipment such as partitions.

BACKGROUND NOISE LEVEL RATING IN DECIBELS*	TYPICAL APPLICATIONS	COMMUNICATION CONDITIONS
	20	
	Executive office, large conference room.	Very quiet. Telephone use satisfactory. Suitable for conferences of 50 people.
	30	
	Large private or semiprivate office, reception room, small conference room.	Quiet. Normal conversation possible 10 to 30 ft. Suitable for conferences of 20 people at 15 ft. table. Telephone use satisfactory.
	Industrial business office, medium size office.	Moderately noisy. Normal conversation possible at 6 to 12 ft. Telephone use satisfactory. Small conferences satisfactory at 6 to 8 ft. table.
	40	
	Large engineering or drafting room.	Noisy. Telephone use sometimes slightly difficult. Normal conversation possible at distances of 3 to 6 ft.; raised voices at 6 to 12 ft. Satisfactory for conferences at 4 to 5 ft. table.
	50	
	Typing area, blueprint room, accounting area.	Telephone use slightly difficult. Normal conversation possible at 1 to 2 ft.; raised voices at 3 to 6 ft. Unsatisfactory for conferences.
	60	
	Not recommended for any type of office.	Very noisy environment. Unsatisfactory for office use. Telephone use difficult.

*The ratings above show the allowable background noise levels over a wide frequency range (in 8 octave bands between 20 and 10,000 cycles per second) with particular emphasis on the speech interference range between 600 and 4,800 cycles per second.



PHOTOS: COURTESY "WOOD PRESERVING NEWS"



POLE BUILDING rises in easy stages (shown above) in new lumber storage sheds for Long Bell Division of International Paper Co. at Kansas City. Top to bottom: poles are set 8 ft. apart in 8-ft. holes; prefab timber trusses are bolted to tops; six support poles are set around the rim, and aluminum sheet roof nailed over purlins; trim open shed is up in 137 man-hours at 90 cents per sq. ft. Poles are usually of Douglas fir, southern pine, or western hemlock.



Pole buildings leave

The Bell Telephone Laboratories, which probably know more about poles and pole setting than any other organization in the world, recently decided in constructing a needed storage structure at Chester, N. J. to experiment with a new pole-type building that economically requires no foundations. Twenty-five holes were bored by a hydraulic digger directly in the ground in a rectangular pattern to receive regular telephone poles, which became the structural frame supporting 40 ft. wooden roof trusses, corrugated aluminum roofing and siding. A 4-in. reinforced concrete floor was then poured. In three weeks flat, Bell Labs got a neat, sturdy 40 by 60 by 11 ft. building for less than \$3 per sq. ft. It is recommending the technique to its affiliates for fast, low-cost utility building.

This is only one incident in a type of construction that began about 20 years ago in barn building and other low-cost farm structures and is now

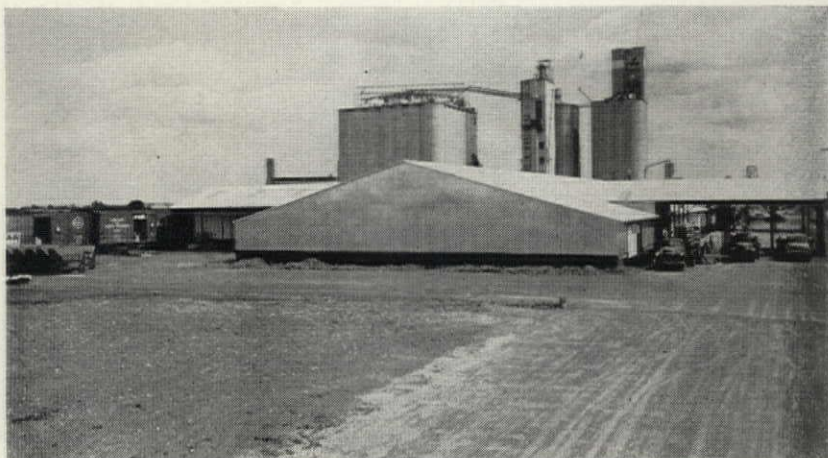
moving rapidly, under the need to cut building costs, into the industrial-commercial field and even into low-cost home building. Pole building, of course, may be traced back to prehistoric and primitive builders. But its modern form dates from the wider development in the thirties of pressurized treatment of wood with creosote compounds and the superior new pentachlorophenol, which extended the life of wood in the ground up to 50 years or more. In addition, the development of light aluminum siding and roofing gave pole building new impetus.

Advantage on poles

The major advantage of pole building is that it requires no site and foundation preparation beyond grading, and not even that on a sloping or uneven site if floor load is light enough to be suspended on the poles. But in addition, the anchoring of all supporting poles in the earth produces a remark-



POLE WAREHOUSE (left), for Southern Chemical Cotton Co., Chattanooga, Tenn., has 184 pine poles spaced 14 ft. and 19 ft. With metal sheathing and roofing, 39,900 sq. ft. of warehouse came to \$1.05 per sq. ft., without concrete floor.



POLE GRAIN TERMINAL (above) was built for Anderson family enterprises at Maumee, Ohio. Aluminum-sheathed, it cost \$1.63 per sq. ft.

the farm

ably light but strong structure that has withstood hurricanes that flattened conventional buildings. Simple to erect, pole buildings may be varied in design, made to cover wide clear spans, built to almost any one-story dimensions. The largest so far is a warehouse covering three acres. Costs, including flooring, have ranged from less than \$1 per sq. ft. (erected with owner labor) up to \$4.50 per sq. ft.

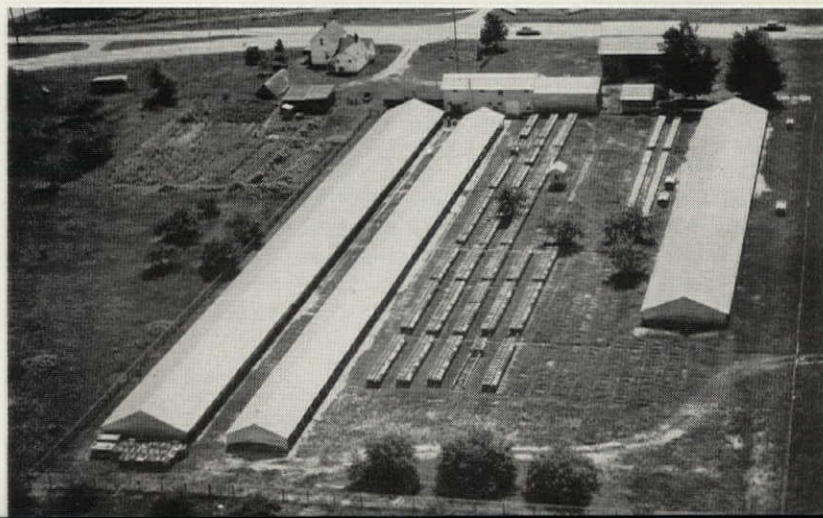
A host of pole-building designer-erectors have sprung up across the country, with one recent directory listing some 120 major ones in 34 states. Pole-building types likewise have been expanding into warehouses of all kinds, grain elevators, transportation garages, aircraft hangars, and, with the recent development of pressure-preserved sawn timber instead of poles, into the housing market. Almost untouched as yet by master designers, this humble native building form has a vigor that can carry it far.

END

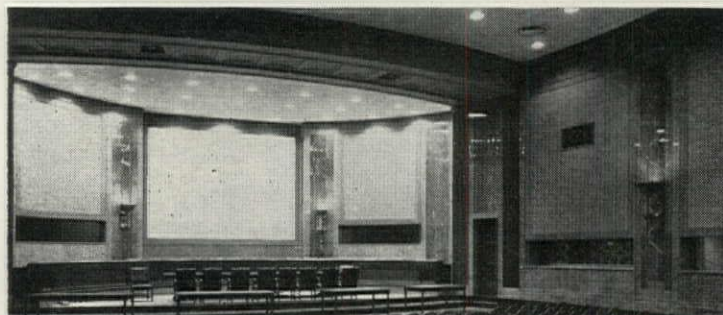


POLE BUS TERMINAL (above) provides a 144 by 176 ft. garage and service center for 26 school buses in Battle Creek, Mich. Cost: \$1.85 per sq. ft.

POLE BARNS (below) for Mink Rancher Benjamin Kosar at Grawn, Mich. run up to 350 ft. in length. Aluminum sheathing keeps interiors cool.



Innovations in meeting room design . . . steam heating . . . real estate dealing



CAMERAMEN INC.

Slots for photographers

Still photographers and TV cameramen will be able to cover hearings in the main hearing room of the new \$25 million Senate Office Building without the normal disruption of procedures because of the thoughtful inclusion of eight long slots (photo above) in the walls surrounding the room. The slots, which are covered by ornamental grilles when not in use, open to a photographer's gallery running around the sides and rear of the auditorium. By tucking the obstreperous photographers out of sight, Architect of the Capitol J. George Stewart and building Architects Eggers & Higgins have insured that photojournalists will not break flash bulbs on senators, as one once did on the late Senator Carter Glass to the mutual discomfort of both journalist and senator.

The gallery is only one of the features for built-in photojournalism in the new building. The ceiling of the main hearing room, for example, is equipped with recessed klieg lights to provide sufficient illumination for photography. Additionally, the building contains a still-photo studio, three darkrooms, a small TV studio, and several booths for direct-line radio broadcasts.

These features should set an example to other legisla-

tive bodies (including the House of Representatives, whose current rules do not allow photography while committees are in session). The gallery idea could be the answer for courtroom photography, which is still taboo in most U.S. courts. And the ideas could have further applications: the board rooms and president's offices of publicity-conscious corporations might well be equipped with klieg lights to light executive offices during press conferences.

Steam heat slims down

Steam heating, still one of the most effective space heating methods, has not experienced many significant changes in engineering design over the years, and consequently has lost out to newer heating methods, usually for reasons of economy. Two engineering groups have been working on new design criteria for steam heating systems which promise to reduce markedly the installation cost and thus make steam heating a stronger competitor again. The engineers at the American Society of Heating, Refrigerating and Air Conditioning, in Cleveland, and at the Nash Engineering Co., in South Norwalk, Conn., have succeeded in slimming down by more than one-third the piping dimensions in steam heating systems. The saving in instal-

lation costs, according to calculations of the Nash engineers, will amount to upwards of 10 per cent. "Years ago," say the engineers, "costs of material such as pipe, valves, and pipe fittings were a fraction of what they are now. And of greater importance has been the rise in labor costs. The combined increases are of such magnitude that to use piping larger than necessary is an economic waste that cannot be justified today."

These new design criteria, some being changed for the first time in more than half a century, will be published, in part, in the Society's handbook, due to be out in another few weeks.

Tax-free swap

Early this year Realtor Leon Pearce was given the New York Real Estate Board's award for "the most ingenious real estate transaction in Manhattan in 1958." Although press and Real Estate Board announcements made no reference to the fact, a tax regulation was really the key to the entire deal.

The transaction was this: an unusual three-way deal that enabled Sam Minskoff & Sons, office and apartment builders, to acquire a choice 13,000 sq. ft. corner plot for another new office skyscraper on booming Third Avenue just one short block from Grand Central Terminal.

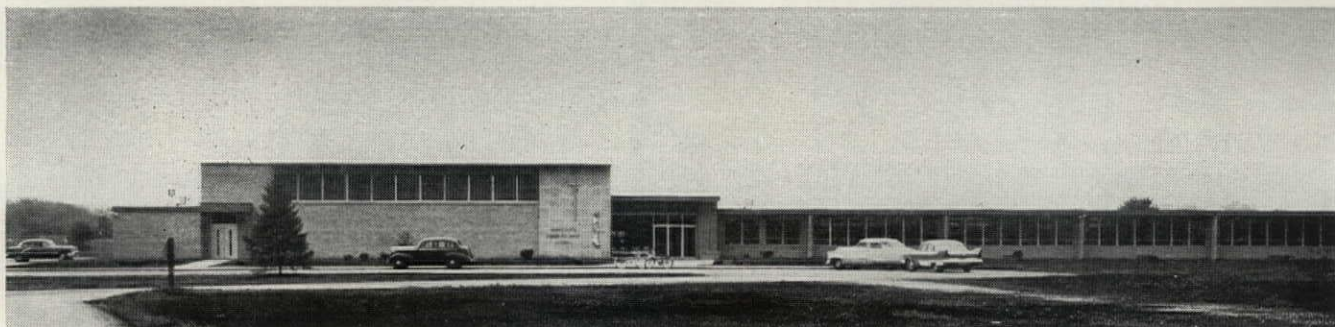
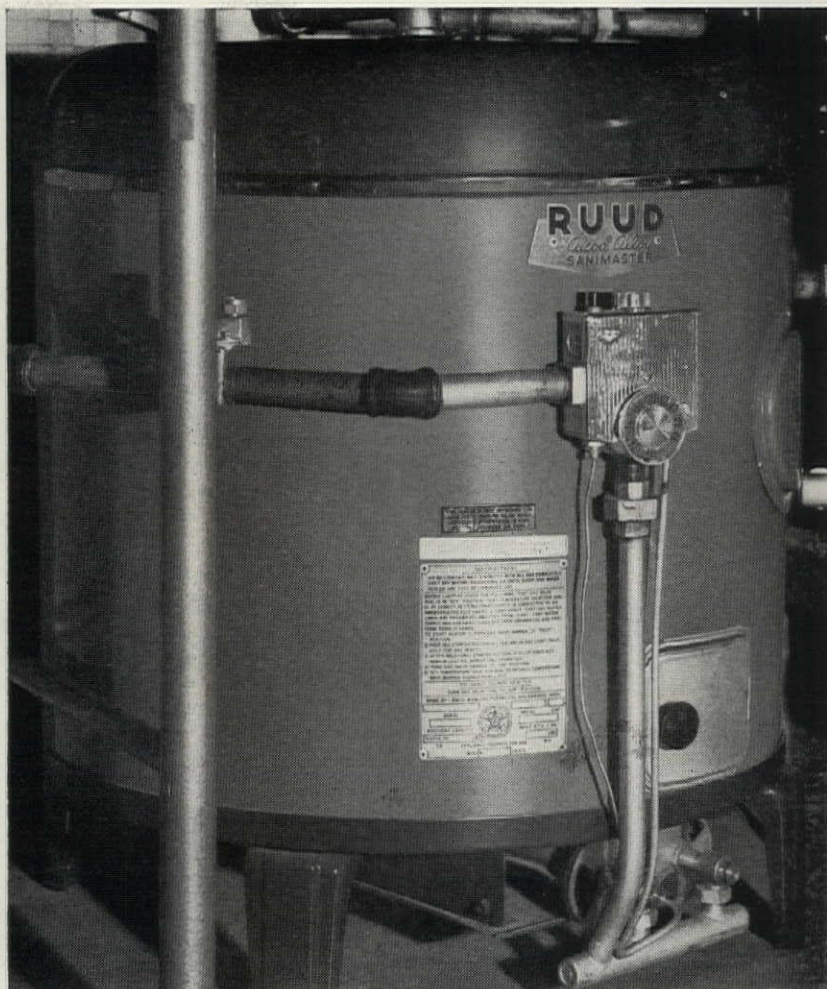
Pearce persuaded the plot owner to accept a "partial payment" a 12-story apartment house the Minskoffs had erected in upper Manhattan in 1939. The plot owner agreed to accept this property, which he did not want, only on condition that Pearce would resell it for him at full "exchange" value as soon as title

was received. Pearce found a buyer for the apartment at that price, and when all the papers for this three-way deal were signed simultaneously: 1) the Minskoffs obtained the building site they wanted, 2) the seller received the price he wanted for the site, because 3) immediate resale of the apartment in the deal made him end up exactly as if he had never owned that property at all.

The key tax rule: when owners exchange real estate of similar or related use, no capital gains taxes are due on the trade.* The Minskoffs, by "trading" their apartment property in partial payment for the future office building site (old residential properties), were thus able to convert the apartment's entire present value into purchasing power. If they had "sold" it in ordinary fashion, and paid the tax on the "profits" from its big inflationary increase in value since 1939, they would have had to raise that much more cash to buy the office building site. Usually realtors think of "trades" only in connection with deals involving existing buildings. The Minskoffs swap, however, indicates how variations on this tax-advantage technique could also be used in certain situations to facilitate the launching or financing of new construction. END

*Technically, federal tax liability is only deferred in a real estate exchange. On a subsequent sale of a traded property its owner must pay a tax based on the net profit above the cost of his original property. But for practical purposes—as long as there is no subsequent regular sale—the tax is postponed indefinitely. And, if the owner dies, no capital gains tax is payable at all; only the estate taxes.

COMPACT WATER HEATER WITH ALCOA ALUMINUM SAVES SPACE IN NEW SCHOOL BUILDING



Plumbing Contractor: Ekstrom Plumbing and Heating Sales, Galesburg, Ill.

A single Alcoa alloy gas water heater so compact that it fits snugly under a drying table meets all the hot water needs for the kitchen of the new Immaculate Heart of Mary School in Galesburg, Illinois.

The new Ruud-Alcoa unit keeps a constant supply of 180° water always on tap for the heavily used dishwasher. Although 30,000 meals have been served by the kitchen since the installation of the unit in October, 1957, no maintenance or repairs have ever been necessary.

Compact Alcoa alloy water heaters are an economical answer for schools, institutions and other applications where space requirements are tight. The aluminum alloy tank is strong, solid and corrosion resistant for longer life and complete freedom from water discoloration. High thermal conductivity assures rapid recovery rate and low-cost operation. Specially designed units meet American Gas Association Laboratories' requirements and those of the National Sanitation Foundation's Standards Nos. 3 and 5. For more information on any application—commercial, industrial or residential—send in the coupon,

or write Aluminum Company of America, 1898-D Alcoa Building, Pittsburgh 19, Pa.

*Your Guide to the Best
in Aluminum Value*

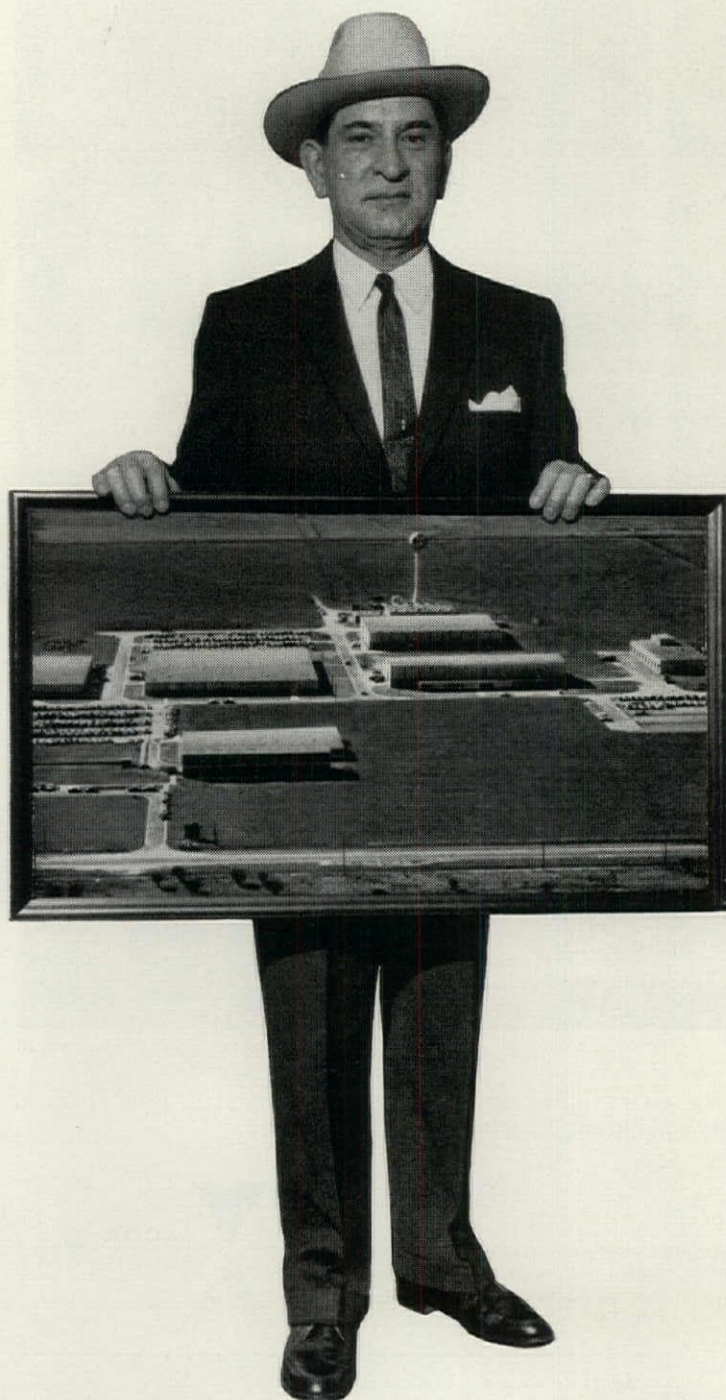
For Exciting Drama Watch "Alcoa Theatre," Alternate Mondays, NBC-TV, and "Alcoa Presents," Every Tuesday, ABC-TV



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Please send me *Water Heater Applications of Alcoa Aluminum*, the 12-page FREE booklet that tells why Alcoa alloy water heaters outperform other water heaters, gives the easy way to figure hot water requirements, lists case histories.

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Company _____ Street _____
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**tames Houston's heat at
Dresser Electronics Center!**



"We'd need 2,400 tons of ice—every day—to cool the eight buildings in Dresser Electronics Center*. It takes just *four* Chrysler Centrifugal Units to do the job. And, with Climate by Chrysler, we get many other important benefits, besides.

"Reliability, for example. Chrysler engineering has developed air conditioning equipment designed for years of trouble-free service—and our first year's experience has proved it. Or, take operating costs. They're held to a minimum—thanks to unique engineering features like Chrysler's true volute compressor casing.

"Since our equipment operates winter and summer, safety is vital, too. So each of our Airtemp centrifugal units is complete with automatic purge system, oil and temperature control, and other special protective devices."

Whether your air conditioning job requires 30 tons, or 3,000—it will pay you to get the Chrysler story. Contact your local Chrysler Applied Machinery and Systems sales office. Or write: Airtemp Division, Chrysler Corporation, Dept. W-49, Dayton 1, Ohio.

*New Houston, Texas home of Southwestern Industrial Electronics Co., a Division of Dresser Industries. Shown above: E. L. Andrews, Facility Director for Dresser Industries, Inc. *Architects:* Pierce & Pierce. *Consultants:* Bernard Johnson & Associates; Weldon W. Henderson, Consulting Engineer.



CHRYSLER AIRTEMP

FIRST WITH THE FINEST IN AIR CONDITIONING

Fireproofing soundproofing . . . marble panel system . . .

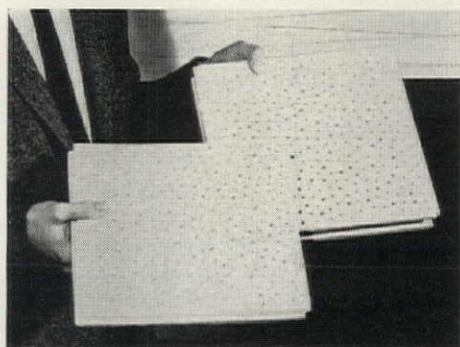
plastic-skinned steel sheet . . . no-drip faucet



ceiling, serving as a fire protective membrane for the structural steel framework to which it is clipped. Other acoustical tiles will not do this. Though many are "fireproof" (will not support flame), they cannot withstand excessive heat over any extended period of time. *Fireguard* will. In fact, it is the first acoustical ceiling tile to gain a two-hour fire-retardant time-design rating, which means that it will maintain its structural strength and resist transmission of heat from its exposed surface to its unexposed surface for two hours.

The benefits offered by such a ceiling are obvious—it not only serves as sound-conditioning for the room below, but, where codes permit, it will eliminate elaborate fire protection of the structural members above (see *Technology*), thus reducing construction time and money by perhaps 25 to 30 per cent. Available in white only, the tiles are a foot square, have a tongue-and-groove edge detail for interlocking. Their sound-absorption properties and appearance are about the same as conventional acoustical tiles. Cost is slightly higher—90¢ to \$1 per tile.

Manufacturer: Armstrong Cork Co., Lancaster, Pa.



INCOMBUSTIBLE ACOUSTICAL TILES cut ceiling construction costs

The Armstrong Cork Co.'s recently introduced acoustical ceiling tile, called *Acoustical Fire-Guard*, represents one of the more important developments in the 50-year history of the acoustics industry. The new tile will withstand exposure to flame, as well as the high temperatures generated by the flame, without losing its structural form or strength. Therefore, it will remain intact and in place on the

MARBLE-FACED CURTAIN WALLS are light in weight, low in cost

Marble, one of the oldest building materials known to man, has been adapted to the modern curtain wall. Heretofore its use as a sheathing for multistory structures has been limited by two formidable drawbacks: weight and cost. But a new marble-faced panel developed by the Vermont Marble Co. is both light in weight (about 10½ pounds per sq. ft.) and low in cost (about \$6 per sq. ft.).

A typical wall panel measures 4' x 5'. It consists of 20 marble squares ½" thick

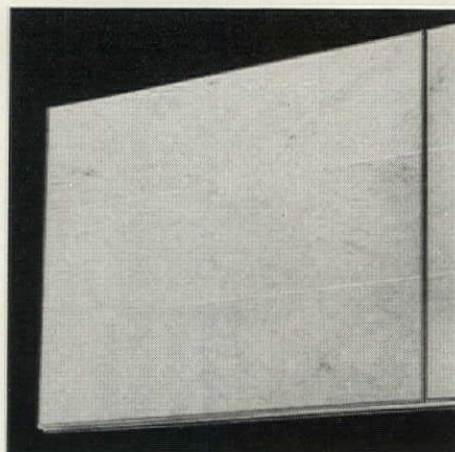
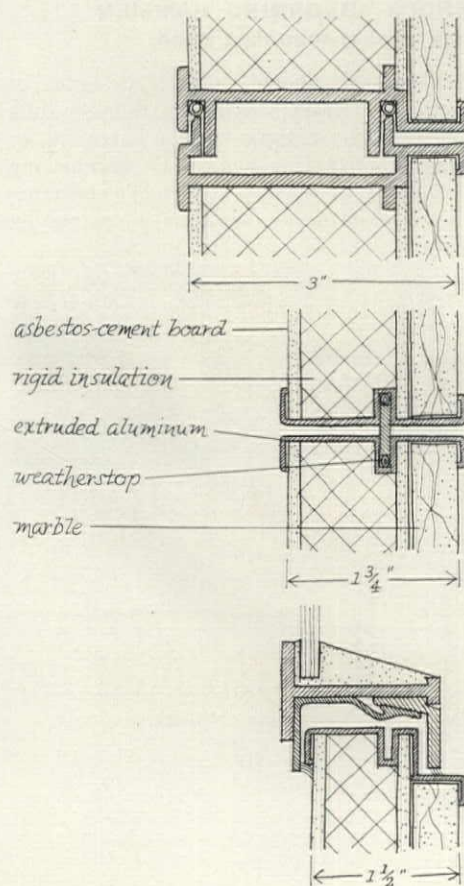
and a foot square bonded to an ⅛"-thick asbestos cement board which in turn is bonded to a 2¼"-thick rigid foamed-plastic insulation and an interior wall finish, also of cement board. This entire 3"-thick sandwich is enclosed in an extruded anodized aluminum frame which fastens to adjoining panels with a tongue-and-groove jointing system. Three types of panels, in a variety of natural colors and in three thicknesses (see sketches, left) are available—each with a different aluminum joint, one structural, one non-structural, one for spandrel use.

Manufacturer: Vermont Marble Co., Proctor, Vt.

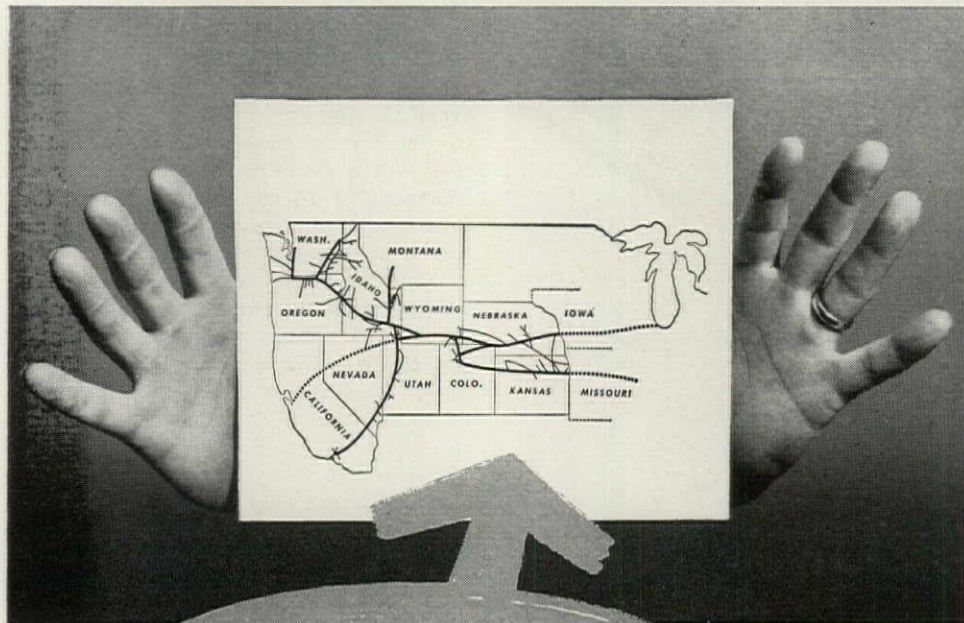
VINYL-COATED STEEL is tough, colorful, inexpensive

Vinyl-coated steel which has the appearance of leather or linen and can withstand extensive drawing and forming operations has been developed by the U. S. Steel Corp. and is now being used in the manufacturing of numerous new products, including movable partitions, furniture,

continued on page 156



Plenty of room to EXPAND



IN THE UNION PACIFIC WEST

As we all know, the territory shown on the map always has been a tremendous source of agricultural products... of raw materials for processing and manufacturing.

Today, due to its growth in population and wealth it has assumed new importance as a consumer market.

This emphasizes the need for dependable, near-at-hand rail service... not only to transport raw materials but also to act as a carrier for finished products to distribution points within and beyond the western states area.

This is the freight job that Union Pacific is well equipped to handle, in addition to providing modern passenger facilities.

Yes, there's plenty of room for industrial expansion in the "Union Pacific West." For further information contact your nearest U.P. representative or get in direct touch with—

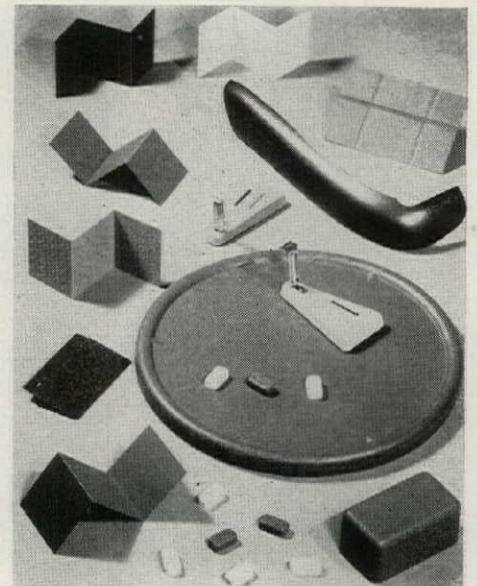
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Products cont'd

doors, room coolers, and portable electric heaters.

Available in many surface textures and in any color, the new product is not a laminate but a liquid vinyl bonded and cured directly to the steel by a continuous mill-

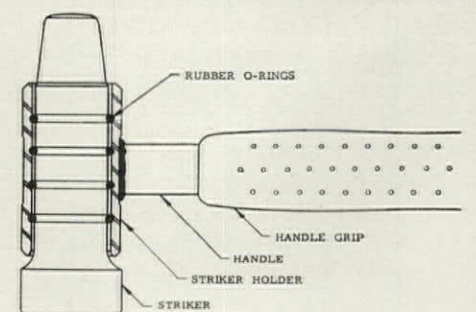
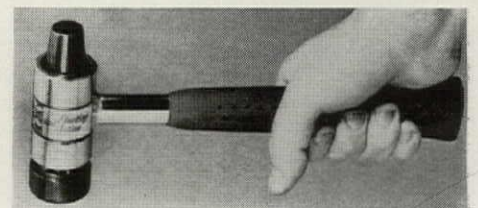


coating process. Its colorful stain-resistant plastic finish is remarkably tough, virtually unaffected by heat, moisture, and abrasion. Costs, in general, are competitive with such other decorative materials as stainless steel, anodized aluminum, and porcelain enameled steel: 20,000 sq. ft. of a single color in an 18-gauge weight sells for about 35¢ a square foot—or roughly 2½ times the price of steel alone.

Manufacturer: U. S. Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa.

SHOCK-ABSORBING HAMMER has rubber-mounted head

The hammer shown below is designed to minimize impact shock and thereby take much of the fatigue out of extensive or heavy hammering—such as hammering into concrete or steel. The tool's construction is quite novel: the head is not rigidly

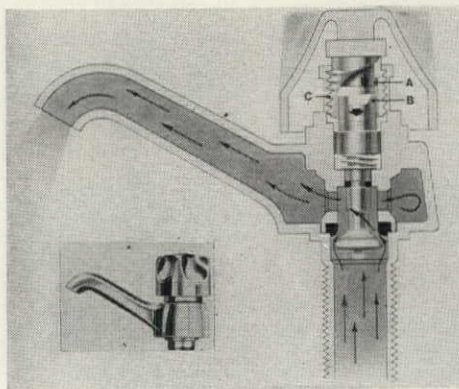


connected to the handle but suspended from it by rubber shock absorbers within the head housing. These shock absorbers not only reduce vibration in the handle but are said to make it possible for a worker to deliver more power per blow with less effort. Called the *Shure-Drive*, the hammer weighs two pounds, sells for about \$10.

Manufacturer: Ramset Fastening System, Olin Mathieson Chemical Corp., 12117 Berea Rd., Cleveland 11, Ohio.

LEAKPROOF FAUCET has novel water-forced valve

The new water faucet illustrated below is virtually leakproof and is said to reduce as much as 36 per cent the amount of water normally wasted in institutional use.



Called the *Kel-win Self-Seating Faucet*, it is operated by a patented cam and straight-lift, nonrevolving piston. Unlike the spring loaded faucet that snaps shut when the handle is released, the *Kel-win* faucet remains open and can be adjusted to any desired water flow. But the final closing is automatic. It works this way: after the faucet knob has been turned off halfway manually, a spring (see sketch above) and the water pressure itself take over and close the valve and secure it in place. There is no manual or mechanical pressure applied on the washer or valve seat as with manual faucets. Hence maintenance is reduced substantially. (According to the manufacturer, tests indicate that a *Kel-win* faucet will operate without repair for more than 25 years.) A standard two-knob faucet is priced at about \$16.50.

Manufacturer: Kelwin Mfg. Co., Inc., 3021 W. Clay St., Richmond 30, Va.

TRIM ROOM AIR CONDITIONER camouflaged by metal baffle

The General Electric Co. has developed a neatly packaged room air conditioner, the *Built-in Thinline*, designed for easy installation in a frame or masonry wall. As shown in the picture below, the unit's controls and grillwork are concealed (but still easily accessible) behind a metal

continued on page 158

the leaders in lighting CONTROL SOUND with NEW SOUNDSHEET

Luminous ceilings inc.



Acusti-Luminous Ceiling with Corrugated Soundsheet. IBM Showroom, Chicago. Architect: Shaw, Metz & Dolio.

by **CONTREX**

Smithcraft



Smithcraft Overall Illumination with Corrugated Soundsheet. Engineering Lab, Tufts U., Medford, Mass. Architect: W. A. Pollack, NEGEA Service Corp., Cambridge.

SYLVANIA



Sylvan-Aire Translighted Ceiling with Corrugated Soundsheet. Drafting Room, typical of Soundsheet's many applications.

WAKEFIELD



Wakefield Ceiling "58" with Flat Soundsheet. Office area, The Mills Company, Cleveland. Architect: John T. Kelly, Cleveland.

"The miracle of sound and sight", Contrex Soundsheet Translucent Acoustical Element, is a basic architectural tool — featured in the lighting and acoustical equipment of the nation's leading manufacturers.

Soundsheet has unlimited applications, because it is the only medium that successfully combines acoustical and light diffusing properties.

Attractive in appearance, competitive in cost, easy to install, and washable, Soundsheet is now available in corrugated or flat sheets, translucent or opaque, in white or color.

SOUNDSHEET is featured in the lighting equipment of: The Wakefield Co., Vermilion, Ohio; Luminous Ceilings Inc., Chicago, Ill.; Smithcraft Lighting Div., Chelsea, Mass.; Sylvania Electric Products, Wheeling, W. Va.; Fullerton Manufacturing Co., Norwalk, Conn.; Litcraft Manufacturing Corp., Passaic, N. J.; Luminated Ceiling Div., Thermatank Inc., Detroit, Mich.; Wakefield Lighting Ltd., London, Ontario, Canada; Lighting Products Inc., Highland Park, Ill.; Lumi-Lucent Ceilings Co., Cleveland, Ohio; Canadian Westinghouse Supply Co. Ltd., Montreal, Canada; Louverall Lighting Corp., Beverly Hills, Calif.

Developed for Contrex by Bolt Beranek and Newman Inc.

MAIL TO:

CONTREX

CHELSEA 50, MASS.

- ☐ Please send me a reprint of IE's "Acoustics and Lighting" by George W. Clark.
- ☐ Please send me literature and a sample of Soundsheet.
- ☐ Please have your representative call.

NAME _____

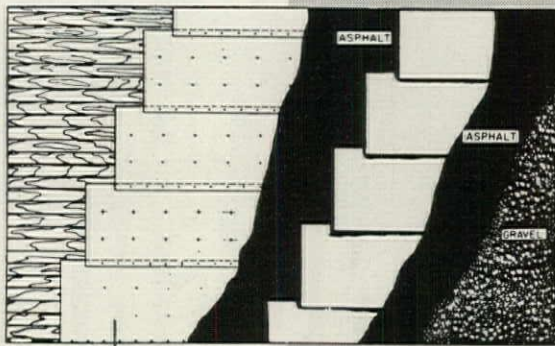
COMPANY _____

ADDRESS _____

CITY _____ STATE _____

WRITE TODAY for a reprint of ILLUMINATING ENGINEERING'S "Acoustics and Lighting" by George W. Clark, a factual report on lighting and sound conditioning equipment.

New! 40# ROOFERS' BASE SHEET OFFERS QUICKER "DRY IN"



Certain-teed's new 40# coated base sheet is designed as an alternate to two "dry" sheets of 15# Asphalt Felt required on all previous "nailable" specifications.

Being a coated sheet, it is a roofing material in itself and, as the basis for Certain-teed's Base Sheet Specification Series, offers these advantages:

1. Can be applied to wet deck or exposed to elements without absorbing moisture or wrinkling.
2. Because it remains flat, it makes a better mopping surface for subsequent layers.
3. Has better nail holding power than two 15# felts or one 30# felt.
4. Enables roofers to "dry in" building at earliest possible time by nailing one layer of 40# Base Sheet over complete deck without carrying all plies along at same time.
5. Remaining plies and gravel can be applied at roofer's convenience.

Full information on this new Base Sheet series is available in Certain-teed's just-published, "Built-Up Roof Manual." Obtain your copy from your Certain-teed representative or write direct.



Certain-teed®

Superior Products through Creative Research

CERTAIN-TEED PRODUCTS CORPORATION

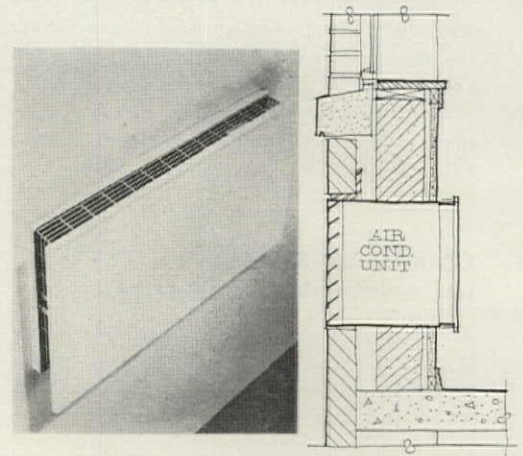
Ardmore, Pennsylvania

Plants and offices throughout the United States

Products

cont'd

baffle which can be painted or papered to match a room's decor. It is 26" wide and 15 5/8" high, and it fits into two standard stud spaces and is the same height as

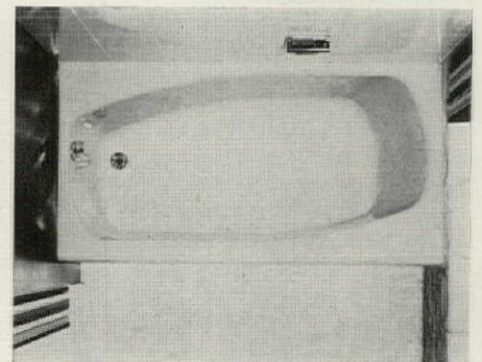


two conventional building blocks plus mortar, joint, or six courses of standard brick. Two depths of case are available: 12" and 16 7/8", including the 3 1/2" projection into the room. Cost: about \$200.

Manufacturer: General Electric Co., Appliance Park, Louisville, Ky.

OFF-CENTER BATHTUB is roomy and easy to install

American-Standard, the world's biggest manufacturer of bathtubs, recently introduced a new tub (below) which represents the first major design change in the

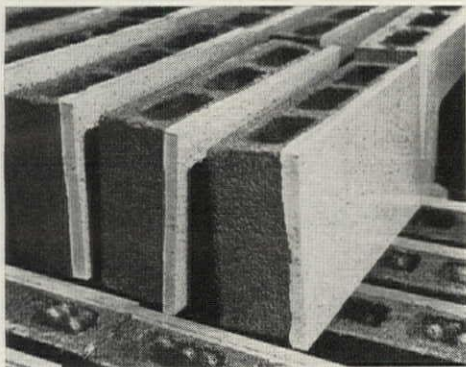


company's line in almost 25 years. Made of enamel-coated cast iron, the *Contour* bathtub is shaped to provide a more comfortable back rest and more arm room. Its narrower rims permit easy hand gripping, and, like some of the square-shaped tubs on the market, it has wide corner ledges for sitting or for holding bath accessories. Installation is simplified by the tub's straight front apron (floor tiles can be put in place without any fancy cutting) and its 32" depth (equal to two standard stud spaces). Cost: \$110.

Manufacturer: American - Standard, Plumbing & Heating Division, 40 W. 40th St., New York 18, N. Y.

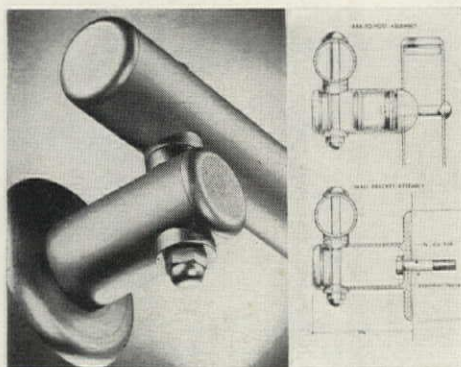
PREFINISHED CONCRETE BLOCK
faced with plastic and marble chips

A familiar concrete block faced with a composite layer of plastic and marble chips has been put on the market as a load-bearing construction material which creates a finished exterior or interior wall—eliminating the need for lathing, plastering, or painting. Called the *Aristocrat*



block, it is available in ten colors, looks much like granite, and is particularly suitable for institutional kitchens, lavatories, locker rooms, swimming pools, etc. Several manufacturers will be licensed to produce the product, and costs will vary according to locale, but in St. Louis, where the glazing process was developed, each 8 inch by 16 inch block sells for \$1.14.

Licensors: Volz Concrete Materials Co., 8801 Page Ave., St. Louis, Mo.



LOW-COST ALUMINUM RAILING
looks neat, is easy to install

For industrial, school, and commercial installations the Aluminum Company of America is selling a neatly styled aluminum handrail system which costs about half as much as other aluminum railings on the market, and can be installed in about half the time. Friction joints and simple mechanical fasteners (see diagram above) make field assembly quick and easy—no threading or welding is required. A conventional two-rail system, which will accommodate any stair angle, costs slightly less than \$3 per running foot, plus about \$1 per foot for installation.

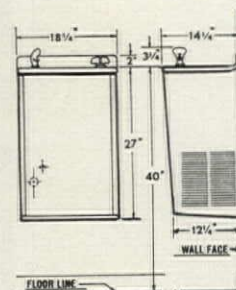
Manufacturer: Aluminum Co. of America, Alcoa Bldg., Pittsburgh, Pa. **END**

***NOW... a cooler that's
mounted on the wall
off the floor!***



... here by popular demand!

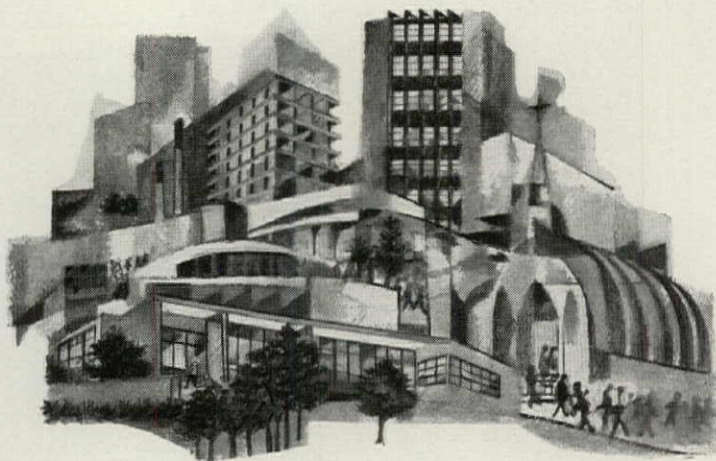
- A Beautifully Proportioned Water Cooler Mounted on the Wall, Off the Floor
- Plumbing & Electric Connections Within the Water Cooler—Out of Sight
- Cleaning Maintenance Problems Eliminated—No Dirt Catching Corners or Crevices
- Stainless Steel Top Contoured for Easy Cleaning
- Wall Face Splash Designed as an Integral Part of Top



The Wall-Mount is available in sizes 6, 11 and 16 gallon.

For further information write

The Halsey W. Taylor Co., Warren, Ohio

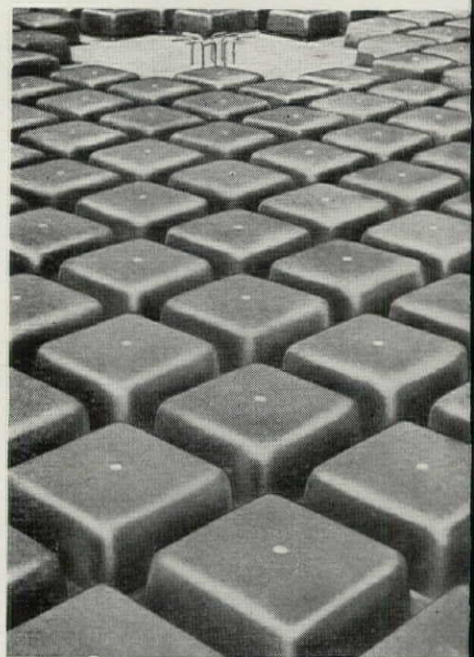


How Ceko teamwork helps architects shape the skyline of America

STEELDOMES . . . STEEL JOISTS . . . CECOFRAMES . . . CURTAINWALLS
Only Ceko has the variety to allow architects the fullest freedom

Every architect should have freedom in design—freedom to make best use of knowledge and imagination. He needs building materials which will give him that freedom. And here is where Ceko provides welcome assistance, especially when called in before plans are drawn. Result: almost every skyline in the U.S.A. reflects Ceko teamwork with architects. Yes, from Littletown to Middletown to Metropolis, Ceko products are specified by architects in creating the building face of the nation. Ceko Steel Products Corporation. General offices: 5601 West 26th Street, Chicago 50, Illinois. Offices, warehouses and fabricating plants in principal cities.

*Consider
these 4
engineering
concepts:*



■ If open floor area is wanted in reinforced concrete, the answer is waffle-type flat slab construction formed with Ceko Steeldomes. Wide column spacings are easily achieved with Steeldomes, because of (a) the basic economy of two-way construction, and (b) the savings of dead-load through use of a joist framing system. Projecting beams are eliminated—story heights kept to the minimum. Splayed heads and drop panels can be eliminated, too. Your client saves on concrete, steel and labor . . . gets, in return, wide open spaces he can convert to profit. R/C duct underfloor electrification is readily installed, allowing electrical and telephone outlet flexibility for the life of the building.

What other people are saying

WRONG-WAY HIGHWAYS

In the Louisville Courier-Journal Real Estate Editor Grady Clay chastises the highwaymen for paving city park lands—particularly Louisville's.

Until now, Louisville citizens could plan their future in the hope and belief that parks were permanent—that these open spaces would remain green and light-filled oases in a crowded and dirty city.

This hope has been dumped overboard. No citizen can rest assured that these green and lovely places won't be ruptured by the next set of eager beavers armed with federal money for roads. Not only in Louisville, but in many other American cities, the eager highwaymen and their heedless allies are threatening the treasures of open spaces.

Park land can now be poached for a pittance.

It is now obvious that the state and federal governments intend to pay Louisville only for the land taken—and at its appraised value as ordinary land. This means Louisville will get only the "going rate" (or its equivalent in a few fences, buildings, or other facilities) for open land. Since the going rate for open land is hardly above \$6,000 per acre, Louisville will find itself armed with far too little money for replacing the land taken.

How do you replace park land in the same neighborhood, when most of the land is already built up? Only by buying houses and clearing the land. Obviously, Louisville will get shortchanged in this deal.

HOME VS. REGIONAL RULE

Unless cities are willing to turn their regional problems over to metropolitan, state, or federal authorities, they run the risk of forfeiting home rule altogether. This is the conclusion reached by Dr. Luther Gulick, president of the Institute of Public Administration, in a talk before the recent National Conference on Metropolitan Growth.

If the Devil had looked for a technique to prevent the people who live in a metropolitan area from agreeing among themselves as to how they will solve their metropolitan problems, it is hard to see how a more effective and disruptive instrument of governmental chaos could have been invented than the fractionalization of local

governments and local leadership we have now evolved for ourselves in these United States.

The way to preserve home rule, it seems to me, is not to fight all metropolitan government, but to separate the local aspects of each function from its regional aspects, and then turn these regional aspects, only, over to a broader authority. The truth is, this takes nothing away from the home rule localities except some responsibilities they are now bungling so disastrously and can never perform in any case.

The sure way to lose home rule is to continue to fall down on the job, for then, the state and federal governments will be called in to perform the local as well as the broader aspects of the needed activities.

VISUAL HIGHWAY JOLTS

Motorists on thruways need a splash of red now and then to keep them awake. But according to Carl Goldschmidt in the Journal of the American Institute of Planners, billboards are not the only answer.

There is no quarrel with the assertion that long drives on turnpikes and free roads, combined with the ease and quietness of operation of today's automobile, may result in serious mental fatigue in the driver long before he is physically tired. Neither can we deny that on occasion a billboard or two may provide the mental stimulus to keep the driver alert. But the frequently too clear implication, by advocates of this sort of advertising, that billboards are the only practical way to accomplish this, has no foundation whatever.

There is little question that after miles and miles of green viewed from a freeway a good splash of red is just the thing to give the driver's senses a good jab. But has anyone ever painted the exposed steel parts of highway structures anything but gray or aluminum? Might abutments perhaps profit by some concrete stain? A stone veneer on a parkway bridge preserves insofar as possible the natural appearance of the environment. This is very fine, but architects long ago stopped trying to make buildings look like what they are not, with most agreeable effects. And if the stone bridge blends well with the background, we might suggest the possibility that this is precisely what it should not do.

END

**NEW
FUNCTIONAL
DESIGN
BANISHES
FINGER
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**Castell
LOCKTITE**

**NO SLIP
FUNCTIONAL
GRIP**

*—the lead holder that now offers
perfect balance and comfort for
drawing and drafting.*

Nimble fingers are just as vital to you in your profession as they are to a violin virtuoso. Why punish them with out-of-date, cumbersome lead holders?

Our new LocktiteSG in your fingers will be a revelation in lightweight comfort and balance. LocktiteSG now has a brand new functional finger grip. Made of gold-plated aluminum, it is designed with special serrations to caress your fingers and let you work all day with a minimum of fatigue.

All Locktites are equipped with gun-rifled clutch that grips the lead like a bull dog and TEL-A-GRADE, the indicator that reveals degrees at a glance. For that true "golden touch" be sure to use imported Castell 9030 Black Gold graphite in your LocktiteSG. For the sake of finger comfort—start today.

FULLY GUARANTEED!
If it ever happens, that any part of a **LOCKTITE** Holder breaks in normal usage, the entire holder will be replaced free of charge.



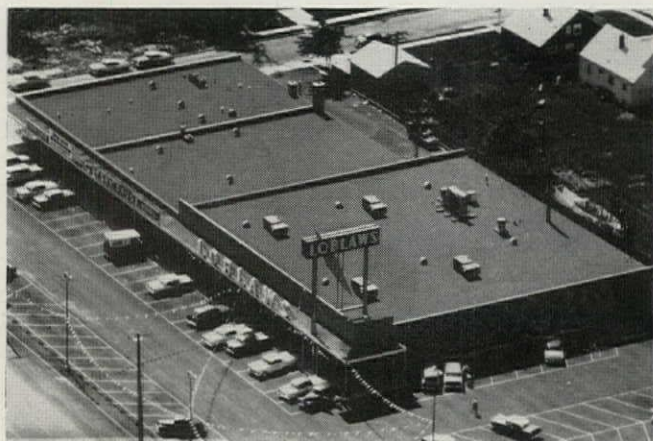
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AW. FABER CASTELL

A.W. FABER-CASTELL
PENCIL CO., INC. NEWARK 3, N. J.



Kroger Warehouse, Charleston, W. Va.



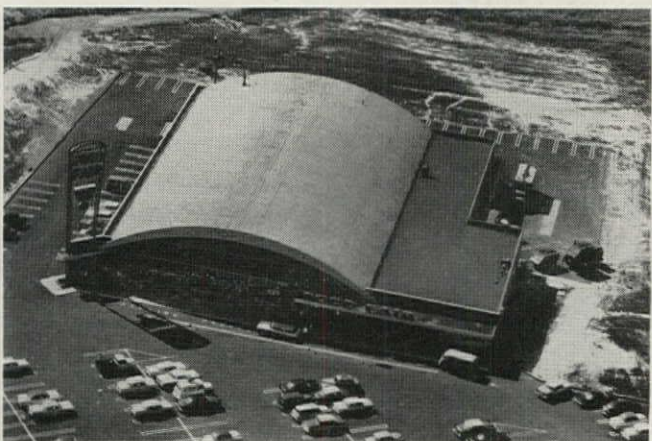
Loblaw Store, Tonawanda, N. Y.



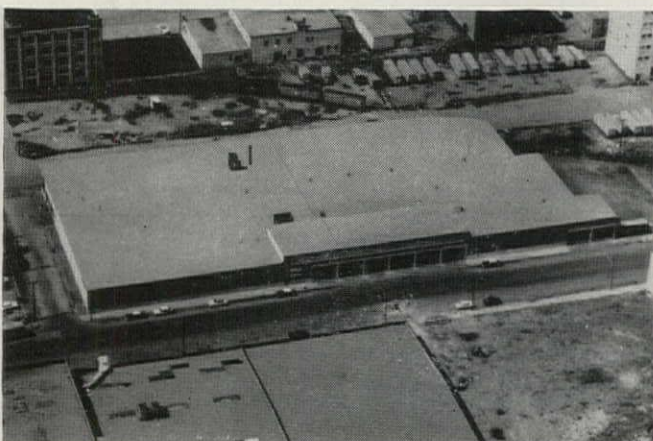
Jewel Tea Co. Warehouse, Melrose Park, Ill.



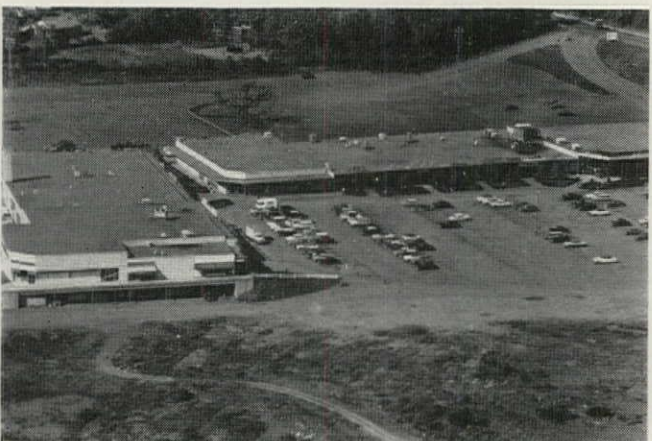
South Gate Plaza, Jacksonville, Fla.



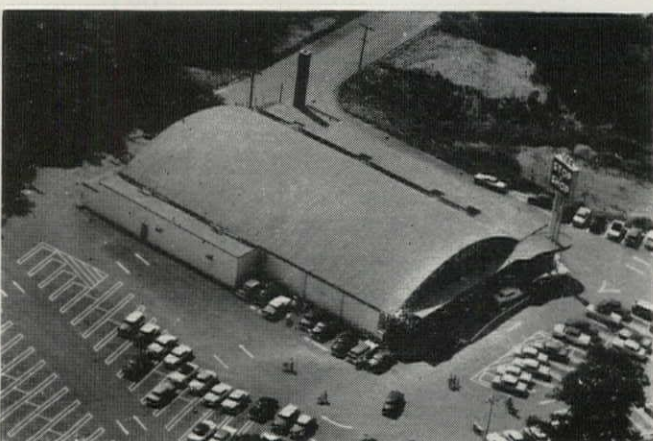
Food Fair Store, Stratford, New Jersey



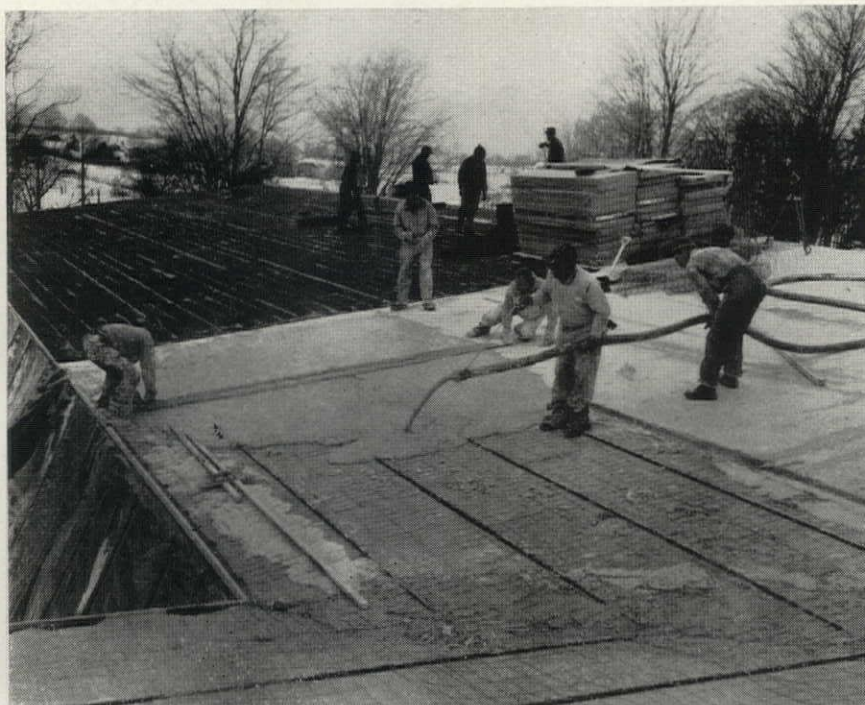
Stop & Shop Warehouse, So. Boston, Mass.



Lincoln Plaza, Worcester, Mass.



Stop & Shop Store, Weymouth, Mass.



"Firefighter" Gypsum Roof Deck being poured at 15° above zero. Heat generated in "setting" offsets freezing conditions

◀ ◀ ◀ Eight customers — One deck: Gold Bond "Firefighter" Poured Gypsum

Each one of these food stores and shopping centers has a poured-in-place Gold Bond Gypsum Roof Deck. Here's why:

Gypsum is non-combustible. This deck is made of gypsum, the rock with the locked-in water supply. Gypsum can't burn, and decks made of it generally are rated non-combustible.

Goes on fast. 20,000 sq. ft. of Gold Bond Gypsum Roof Deck can be easily poured in a day. It sets fast—usually built-up roofing can follow within 24 hours.

Cost is low. Faster construction and flexible load design mean lower building costs. Maintenance is reduced because gypsum is inert—not susceptible to corrosion

Features like these sold over 100 million square feet of Poured Gypsum Roof Decks last year on pitched, barreled and flat roofs. For more information, call your Gold Bond® representative or write to Dept. AF-49.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK



a step ahead of tomorrow

Landscape by Nature – Glass by Pittsburgh



Design your schools better with PITTSBURGH

It's hard to tell where the inside ends and the outside begins in the new Fletcher Judson Elementary School, Watertown, Connecticut. Here, nature seems to be part of the classroom—keeping the children company outside the window and boosting their morale as they work.

The feeling of freedom and openness that dominates this school is caught and held by expansive areas of glass which let in the daylight but keep harsh weather outside. No less

than five Pittsburgh Glass products contribute to the school's spaciousness and beauty: PENNVERNON Window Glass, HERCULITE Heat-Tempered Glass, Pittsburgh Polished Plate Glass, Mirrors, and Heavy Plate Glass.

A school designed with many Pittsburgh Glass products is rich in light, life and beauty. And it's no more than our children deserve.

Architect: Warren H. Ashley, West Hartford, Connecticut



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for information about the use of these famous
Pittsburgh Glasses in school construction:

Solex®.....green tint, heat-absorbing and glare-reducing plate glass
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Herculite®.....shock-resisting tempered plate glass
Twindow®.....the world's finest insulating window
Polished Plate Glass.....for clear, undistorted vision
Pennvernon®.....window glass at its best
Spandrelite®.....glass in color
Pittco®.....glass-holding and decorative metal members

GLASS

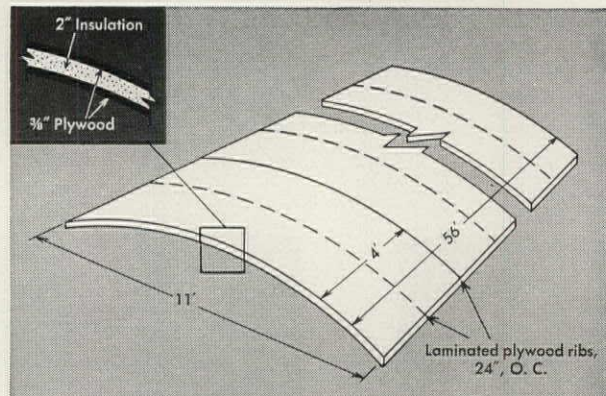


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new approaches to structural design with fir plywood



Prefabricated roof vaults are 11 feet wide at the chord, and 56 feet long (40 foot span plus 8 foot cantilever both ends). Key to system is the outstanding shear strength of the stressed fir plywood skins.

FIR PLYWOOD

ARCHITECT: Theodore T. Boutmy, A. I. A.

George Kosmak, Consultant

John E. Brown, Structural Engineer

PLYWOOD VAULTS designed and engineered
by Berkeley Plywood Co., Oakland

THESE lightweight fir plywood stressed skin barrel vaults designed for a California yacht club provide large clear floor areas at low cost plus an attractive profile and interior.

Combining roof decking, insulation and ceiling, the prefabricated vaults span 40 feet from front to rear and 11 feet from valley to valley, without use of beams or trusses. Vaults are cantilevered 8 feet front and rear; spouts which join units at the spring lines extend an additional 10 feet to act as gargoyles in carrying off water.

The roof system provides complete freedom in interior arrangements. Additions can be made simply by adding new vaults or extending the existing ones.

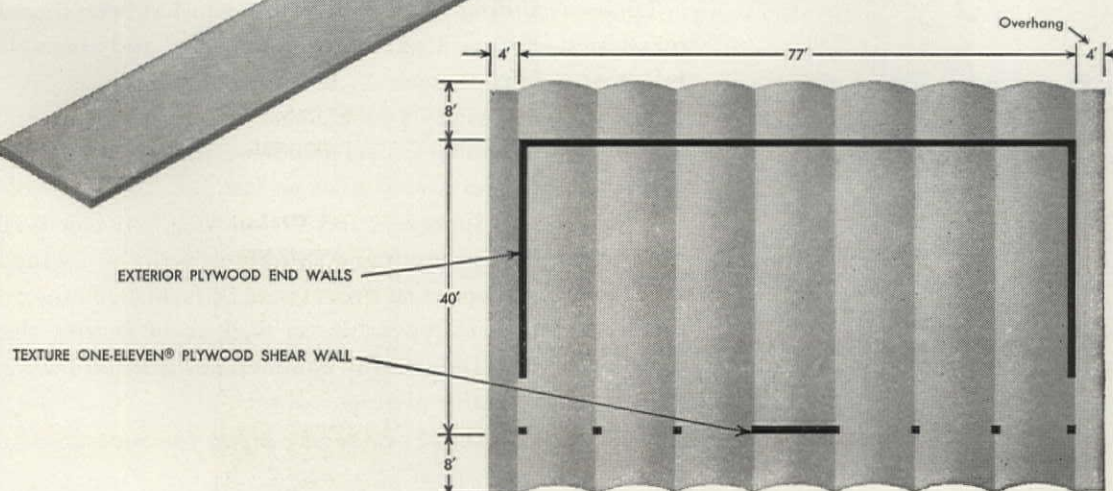
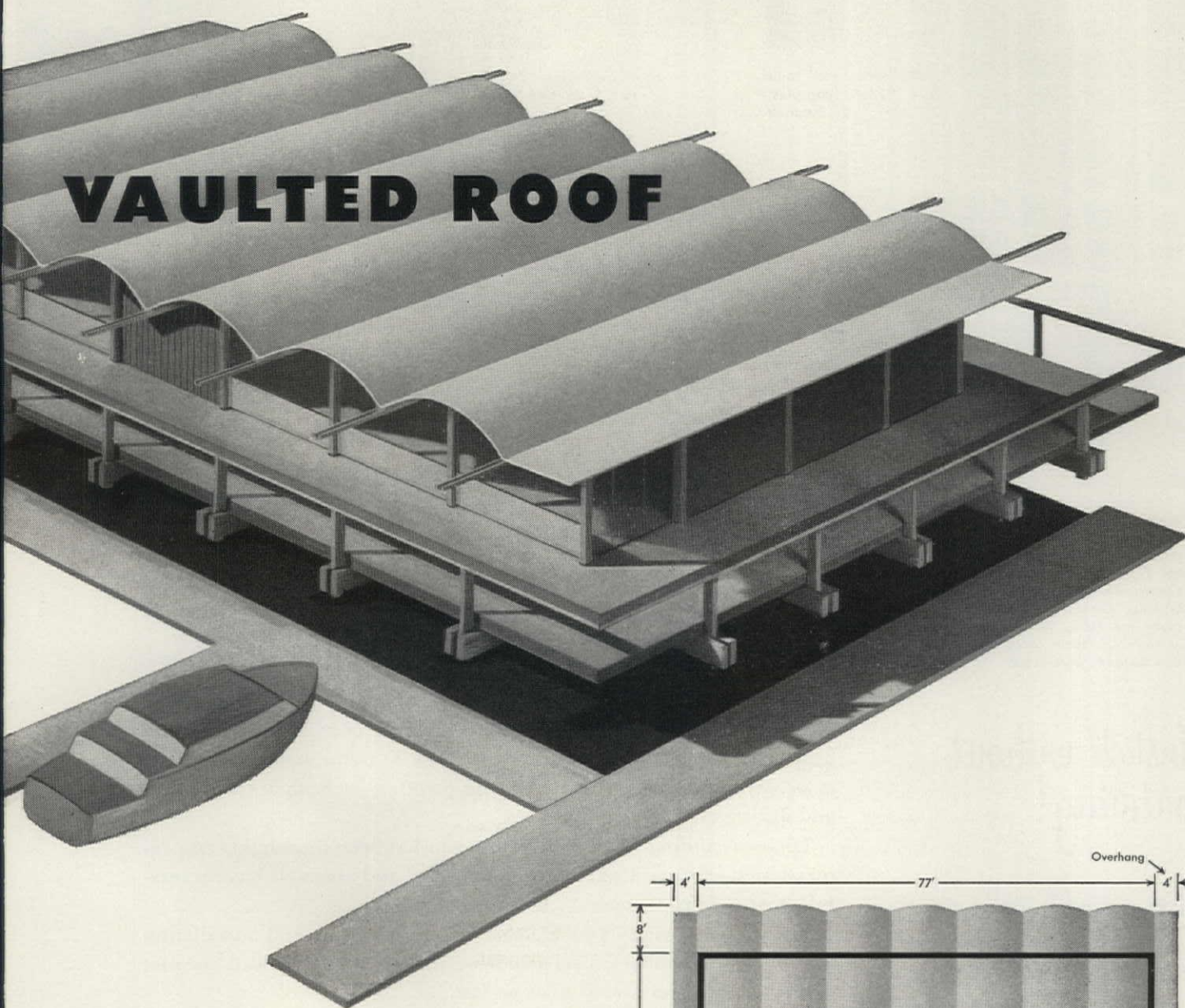
Structurally, the entire roof acts as a rigid plywood diaphragm in transferring lateral loads to the plywood end and shear walls. Two test vaults were successfully used at the San Francisco Arts Festival. Berkeley Plywood is contemplating mass producing the vaults as a standard construction component.

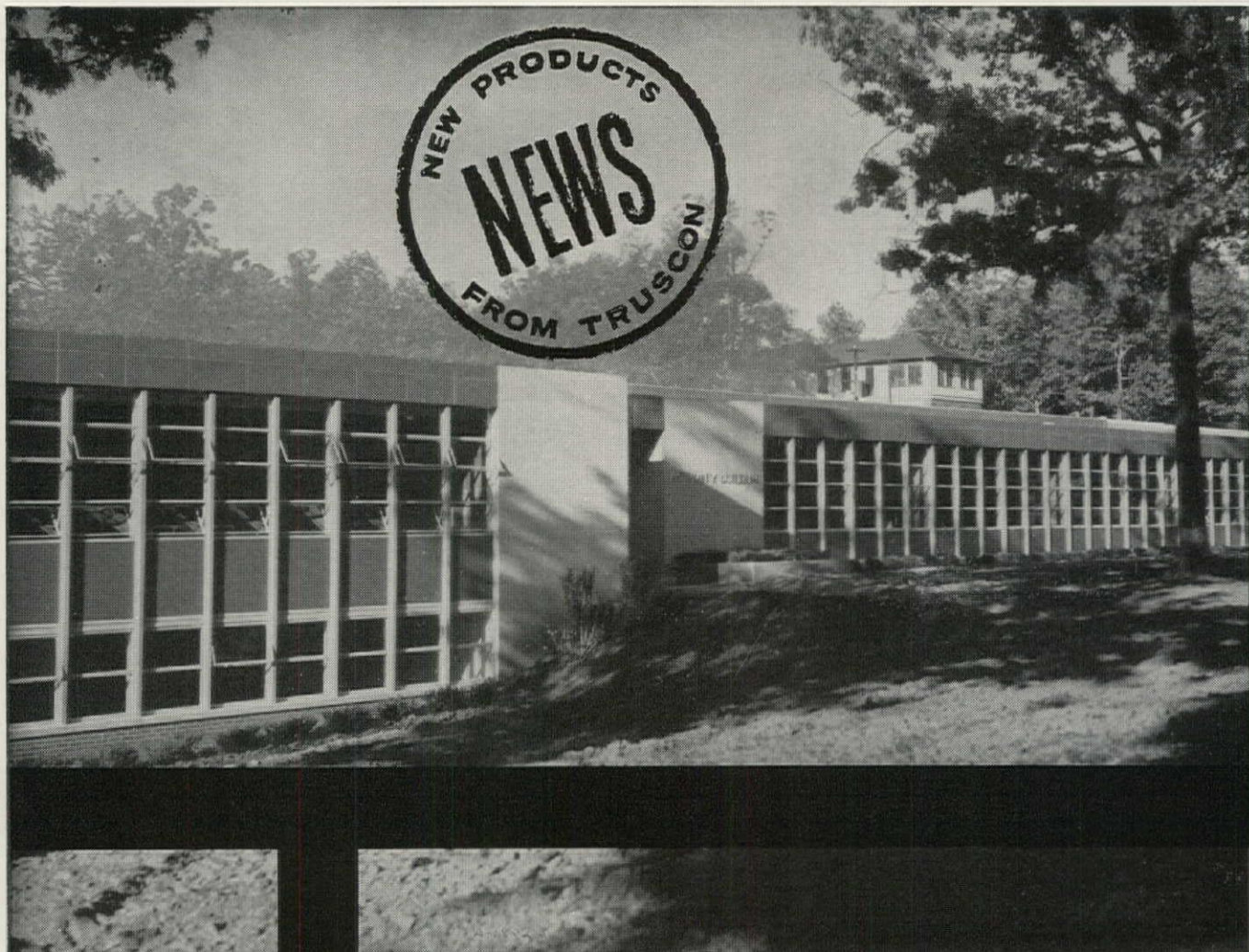
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... a portfolio collection of outstanding designs by six leading architectural firms. Includes 10-page booklet on fir plywood diaphragm construction. For your free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Washington. Also write for information about DFPA design and engineering consultation services.



VAULTED ROOF





Vision-Vent installations such as this now can be specified with exclusive new Truscon Supercoat Finish to eliminate field painting. Pictured is Activities Building, Georgia Training School for Girls, Adamsville, Ga. John J. Harte, architect. Abco Builders, contractor.

New...Truscon Vision-Vent Window Walls with Sensational Supercoat Finish

*Install without
painting!*

*Stave off
maintenance
painting!*

7 Colors!

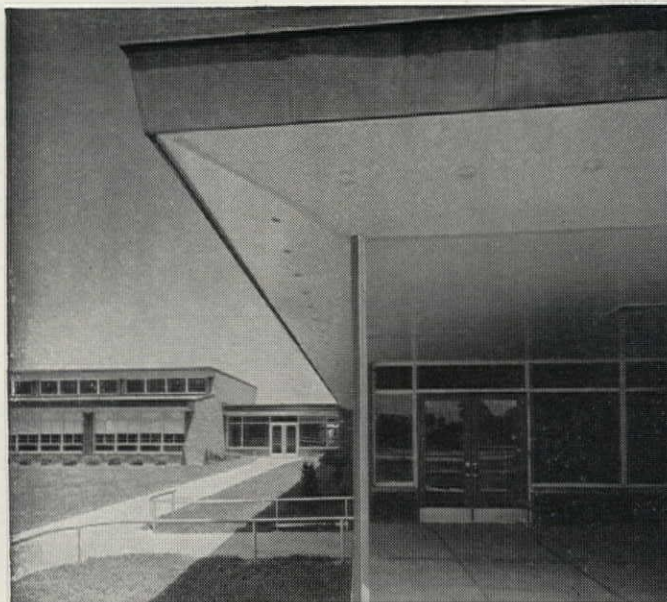
Now, you can get the solid strength of steel for curtain walls and windows and save field painting costs, too. New Truscon Supercoat Process is factory-applied to eliminate all field painting . . . both at installation and during the years.

This outstanding Truscon development has been thoroughly laboratory tested—for weather, atmosphere, time, and abuse. It has successfully met each challenge.

Vision-Vent brings you all the mass-production and installation economies of standard steel windows. It's an insulated wall section, complete with window. It goes up fast.

With Truscon Supercoat and Vision-Vent Window Walls, there is no need to sacrifice strength and solidity in walls and windows simply to avoid painting. Supercoat Process can be furnished now on specification for all Vision-Vent types . . . as well as in factory shipment on all Truscon Steel Windows for commercial, institutional, and industrial construction. Choice of seven colors.

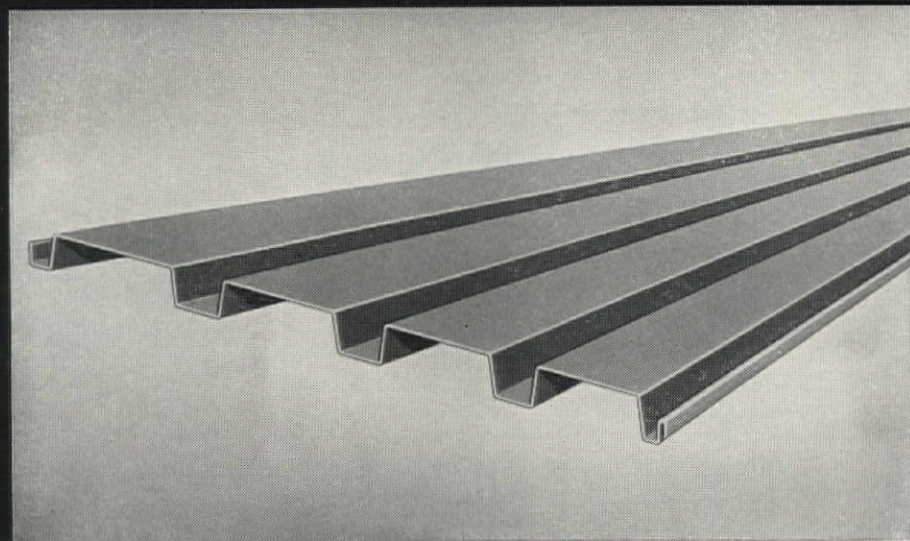
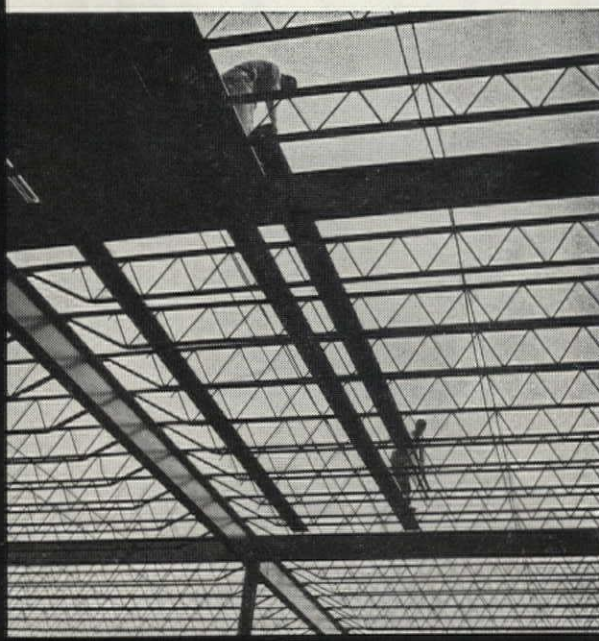
See Sweet's (17b/Tr) or send coupon for Supercoat booklet. Supercoat sample on request.



IDEA! CONSIDER SQUARE WELDED STEEL TUBING. For columns, supports, mullions, rails. Pound for pound, tubing is strongest of all structural shapes. And, square tubing gives a handsome, contemporary architectural effect. Republic's Steel and Tubes Division pioneered the manufacture of electric resistance welded steel tubing—can supply ELECTRUNITE® brand in squares up to 4 inches . . . and innumerable combinations of rectangular sizes in peripheries up to 16 inches in various wall thicknesses . . . out of local distributor stocks. Send coupon for reference data.

NOW . . . TRUSCON CERTIFIES EVERY "O-T" STEEL JOIST. For your protection, Truscon now offers you, upon request, written certification that the "O-T" Steel Joists you specify are manufactured in accordance with the standards of the Steel Joist Institute and are fully qualified to bear the SJI Seal of Approval.

This certification covers each building for which the joists are engineered. It is further assurance of predictable, dependable load-bearing. No extra cost for this protection. Send coupon for facts.



SPEED COMPLETION WITH 24-INCH FERROBORD® STEEL ROOFDECK. New, wider Truscon Ferrobord is available in lengths up to 32 feet, 6 inches. It roofs large areas quickly. Straight lay means that several crews can roof without delay. All work is done from above—Ferrobord is quickly welded to top chords of joists or purlins. Ferrobord is light, strong, fire-resistant. Available now. Send coupon for specs.

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☐ Truscon Vision-Vent Window Walls ☐ Truscon "O-T" Steel Joists
☐ Ferrobord Steel Roofdeck ☐ ELECTRUNITE square tubing

Name _____ Title _____
 Firm _____
 Address _____
 City _____ State _____ Zone _____

NEW 2' x 2' SIZE...NEW RANDOM

Acousti-Celotex Incombustible Perforated

ABOVE: NEW RANDOM PATTERN

- **Larger, more versatile size**
- **Faster application...
more economical**
- **Permanent, paint-proof
acoustical efficiency**

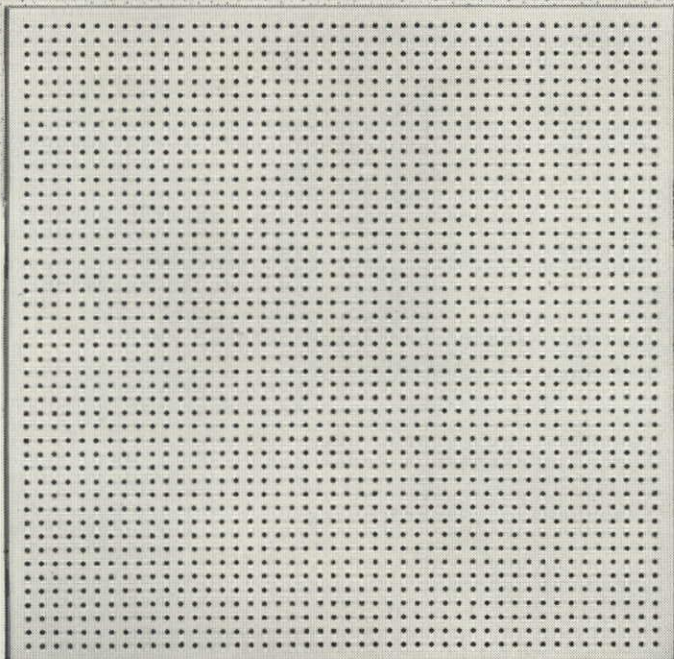
Already famous for strength, rigidity, high sound-absorption and paintability... Acousti-Celotex Perforated Mineral Fiber Tile is now available in new double-size version. These new larger units enhance modern "open" interiors. Note, too, how the new random design (above) minimizes joint lines... creates a monolithic effect.

The need for fewer suspension system parts and faster application combine to make this 2' x 2' module a more economical installation. And your clients will appreciate permanent sound absorption. Periodically tested over the past 25 years, this Acousti-Celotex tile has demonstrated that it retains its original acoustical efficiency after numerous maintenance paintings.

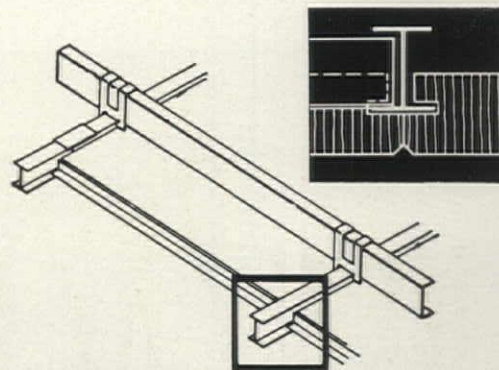
Your Acousti-Celotex distributor will be glad to provide specification drawings for a variety of installation systems.

PATTERN

Mineral Fiber Tile

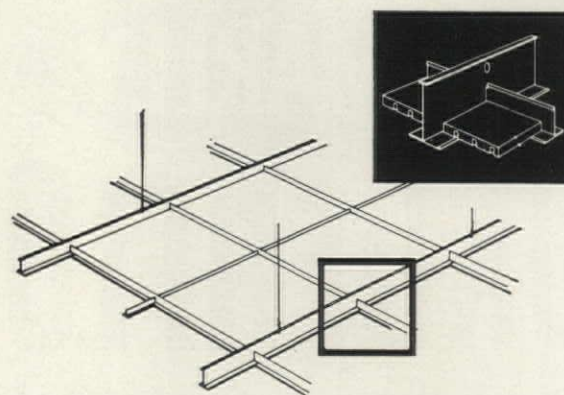


STANDARD PATTERN (Both Random and Standard patterns available with or without kerfed edges)



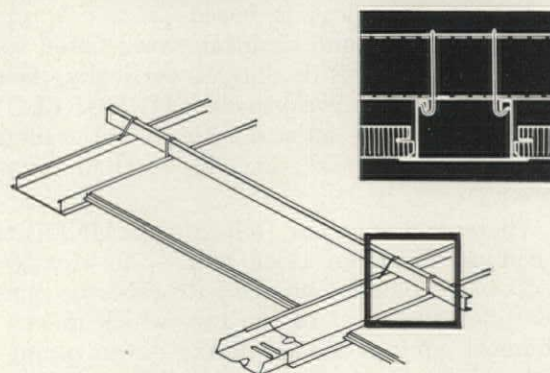
Kerfed 2' x 2' Acousti-Celotex Mineral Fiber Tile on Celotex H&T Concealed Suspension System

Provides uninterrupted ceiling plane. Completely concealed. Non-breathing, so surface stays cleaner.



Butt edge 2' x 2' Acousti-Celotex Mineral Fiber Tile on Celotex T&T® Exposed Suspension System

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Butt edge 2' x 2' Acousti-Celotex Mineral Fiber Tile on Celotex Acousti-Line® Suspension System

Sturdy, structural suspension system designed for effective integration of Sound, Light, and Air Conditioning components, all modular and interchangeable.

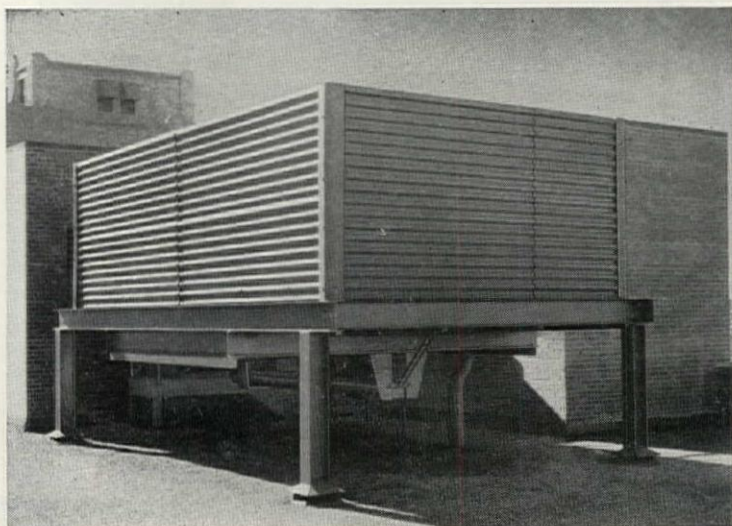
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knows no location limitations

Any area that will accommodate its plan dimensions is good enough for a Marley UNDERFLOW AQUA-TOWER, the tower that supplies its own grillage.

This unique low-silhouette tower for intermediate-capacity water cooling is based on a new principle of operation. The fan and air intake are located *beneath* the cooling cells and air is discharged vertically. Hence, without any sacrifice of performance, UNDERFLOW can be placed immediately adjacent to walled structures that would obstruct air intake and discharge in any other type of tower.

Wherever you choose to locate the UNDERFLOW, it will complement—not clash with—the architectural design. It is completely encased with asbestos cement board on all sides and most of the top, which means that fan, mechanical equipment, air intake—even piping—are out of sight. Inherent in this new design is a sound-baffling effect—a bonus benefit for every owner and one with special appeal for those concerned with installations on hospitals, hotels, and other buildings where whisper-quiet operation is essential.

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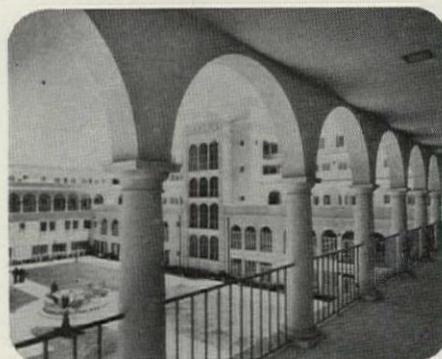
Kansas City, Missouri



Concrete Masonry Needs Concrete Protection

*Tests for a year determine
ideal masonry waterproofing
for the new University of San Diego*

To choose the correct material to protect the concrete structure of this architectural masterpiece, a testing panel was erected upon which various types of waterproofing materials were applied. *The materials were exposed for a year to weather conditions to determine durability and effectiveness.*



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**Architect
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**Contractor
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The finish coat of THOROSEAL was tinted to match the campus color scheme.

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COMPLETE SPECIFICATION GUIDE



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CEILING



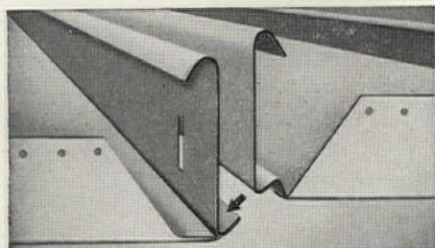
A "Silent Ceiling" is installation-ready the moment the carton is opened. Each panel is complete with pre-fitted sound absorbing pads... the result of integrating the most advanced metal ceiling components into one, easy-to-install system. Widest choice of module-sizes, too... up to 12' long.



B Two men can easily install a 12-foot "Silent Ceiling" module in seconds. Eastern's ingenious self-contained suspension eliminates time-consuming, space-consuming T-bar installation. "Silent Ceiling" panels' exclusive "locking-lip" saves even more installation time, assures faultless alignment.



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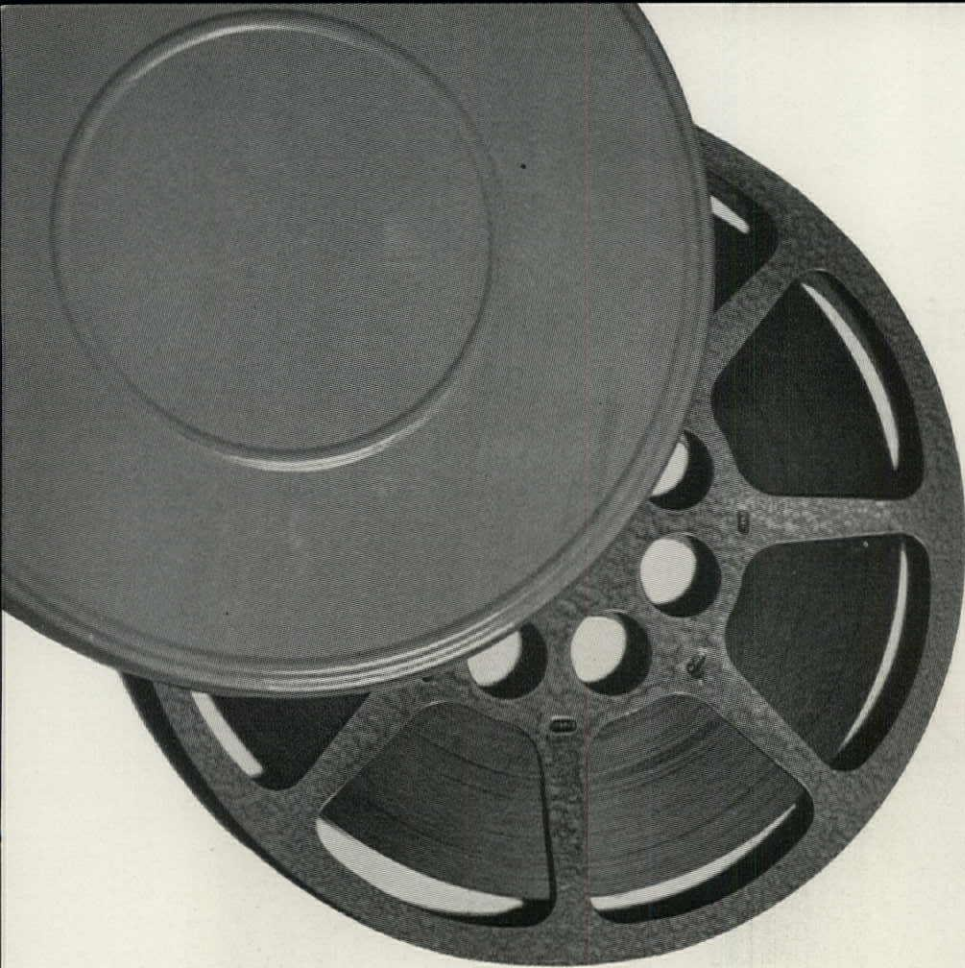
Acoustical Division, Eastern Products Corp.,
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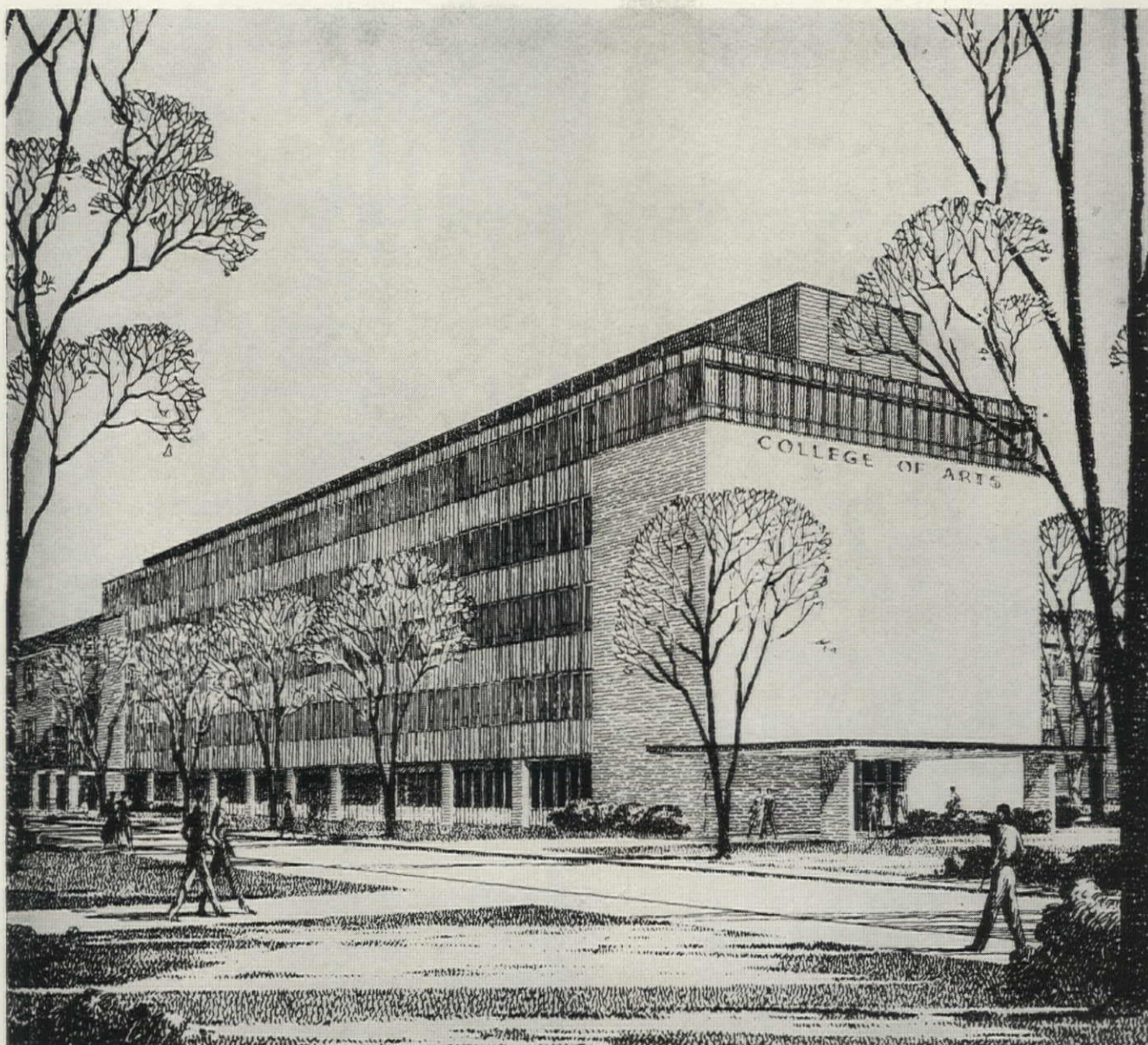
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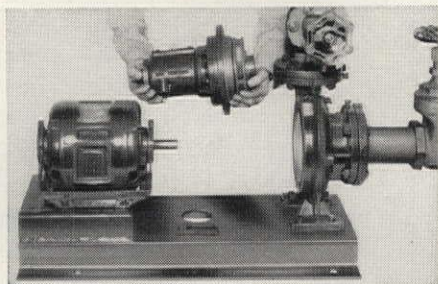
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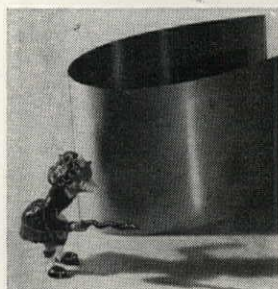
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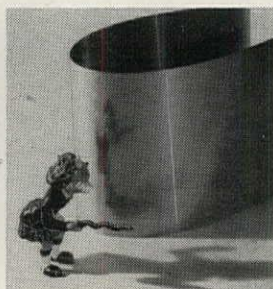
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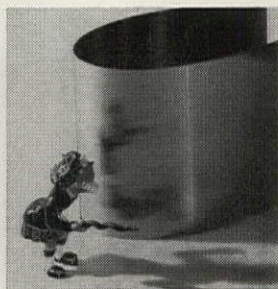
No matter which **FINISH** you like—you can buy it in **Micro Rold® QUALITY STAINLESS STEEL**



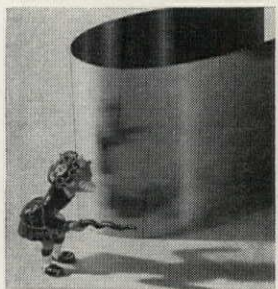
2D—A silvery white, but non-lustrous, surface produced by annealing and pickling cold reduced material. Steel sheets and strip in this condition are most ductile and the surface holds lubricant well for severe drawing operations.



2B—Steel in the 2D condition which is subsequently rolled on a "skin pass" or temper mill. The surface acquires a bright finish from the polished rolls. This surface is somewhat more dense and hard than 2D and is a better starting surface for later finishing and buffing operations.



No. 3—This surface is made by grinding with a No. 100 abrasive. This surface is smooth but not as reflective as 2B.



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Since Nos. 3, 4, 7 and 430 Bright are smooth reflective surfaces, they are not recommended for severe drawing without special precautions as the mill finish may be marred. Applications such as dairy machinery, kitchen and restaurant equipment and architectural decorative work require only local forming, so these highly polished surfaces are not greatly disturbed. All mill polished sheets are carefully packed to avoid handling imperfections. Protective adhesive paper can be specified by the buyer when needed. For specific information on recommended surface characteristics for a particular stainless steel sheet and strip application, address your request to our Product Development Dept.



WASHINGTON STEEL CORPORATION
4-K Woodland Ave., Washington, Pa.

ZONING continued from page 123

together, will assure light and air for the city's sidewalks, yet permit construction of simpler and more varied buildings.

Two principal controls have been suggested: first, the now familiar floor area ratio (FAR) which tells an architect exactly how much gross floor area he may build on any given lot in any given district (see sketch, page 123). And, second, the new sky exposure plane (SEP) whose angle is measured from a given height above the building line. Its purpose is to control the height of a building by prohibiting everything but a 40 per cent tower from penetrating this theoretical plane (see sketch, page 123). The height of the tower is controlled by the FAR.

To encourage architects and builders to set back their buildings from the street, certain bonuses are offered to those who do. For example, the height of a building that is set back will be governed by a somewhat steeper SEP than the height of a building located smack on the property line; and an additional 3 sq. ft. of gross floor area will be permitted (above the FAR) for every square foot of plaza space provided at street level.

Additional controls are proposed for large apartment projects. Two of these are of special interest: the open space ratio (OSR) and a formula to govern the spacing of buildings. The OSR assumes that it is more desirable in an urban apartment development to have tall buildings spaced far apart than to have low buildings close together (see sketch, page 123). Developers who agree to provide generous open spaces are, therefore, offered another bonus in terms of a slightly increased FAR and slightly higher densities. The formula governing the spacing of buildings is a little more complicated; its components are the heights of nearby structures, the extent of their overlap in the site plan, and the distance between them where they are closest together. A minimum for such distances is laid down in the zoning proposal for each specific district. Other regulations that will effectively control the bulk of buildings have to do with tower areas (up to 40 per cent of lot coverage is permitted), off-street parking requirements, and, of course, max-

continued on page 210



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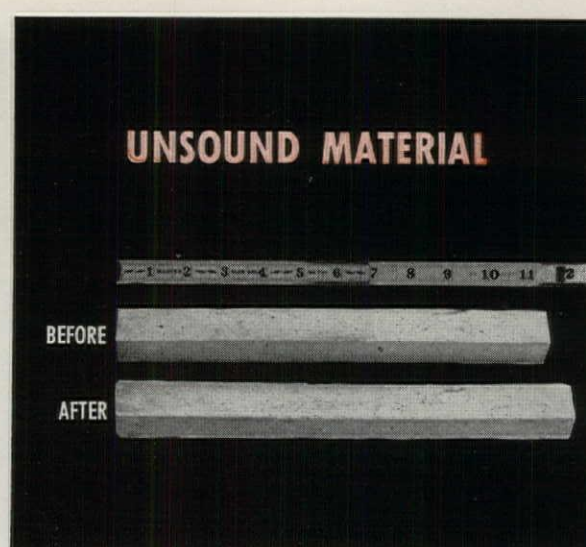
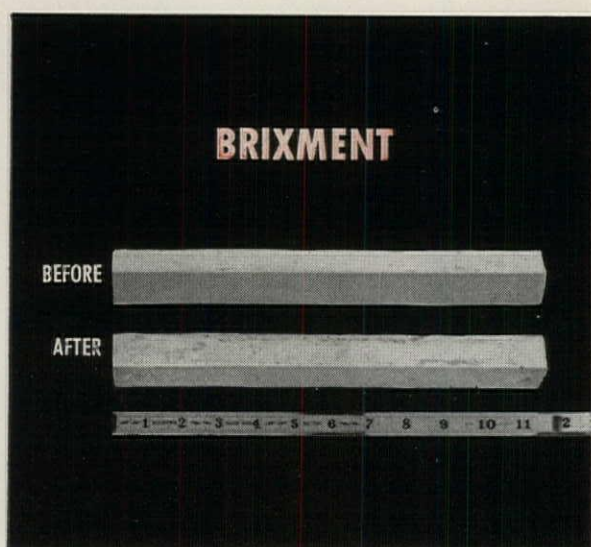
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imum densities. All these devices interlock in ways that can be understood quickly from a glance at a simple chart, which is part of the proposed law.

Industry: control and an open door

To treat a quiet watch-making plant as if it were a stockyard makes little sense in terms of zoning, and less sense in terms of the city's public policy of trying to hang onto taxpaying in-

dustries and to attract more of them if possible. (Such a plant can sometimes be an even better neighbor, especially on quiet week ends, than another apartment building would be on the same piece of land.)

The new zoning ordinance would judge each industrial plant on its own merits—or, rather, according to specific performance standards. These standards will measure the noise, vibration,

smoke, dust, odor, toxic matter, radiation hazards, fire and explosive hazards, heat, humidity, and glare generated by any given plant. If the plant generates such nuisances to a high degree, it will be quarantined in strictly industrial areas; if not, it may be located closer to residential or commercial districts. Present industrial zoning in New York and elsewhere divides plants into "light," "medium," and "heavy" categories—designations which reflect only the character of the product manufactured. As a result, many a "medium" or "heavy" industry, whose operations are quite nuisance-free, is forced to locate in an undesirable area.

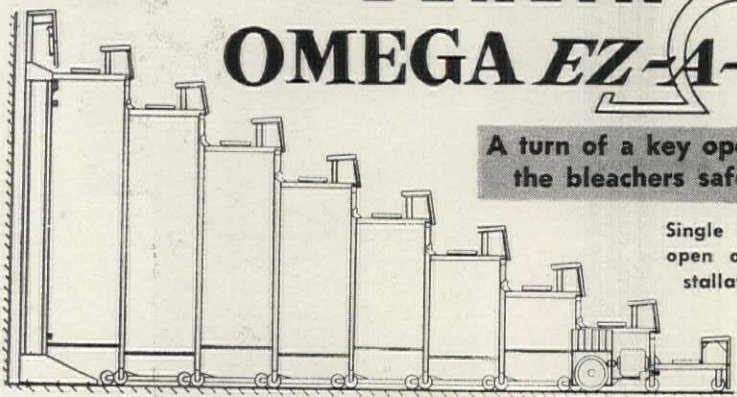
Residences: variety and low density

Planners and sociologists have long deplored the growth of uniform residential districts in U.S. cities and suburbs. Such districts tend to become social and economic ghettos: some will have only younger couples of similar incomes and interests; others will be confined to older people; still others to only young, single persons living in "efficiency apartments"—and so forth. The result is often a social fabric of stifling monotony.

The new proposal has provisions for a "general residence district" which may contain any kind of residential structure—single-family houses, garden apartments, row houses, or tall apartments—as long as the maximum density, FAR, and open-space requirements are not exceeded. The result should be a more varied and interesting social pattern, as well as an opportunity to achieve greater interest in architectural composition by contrasting tall and low buildings, spacious parks and small gardens. Some opposition has come from home owners in single-family house districts; they think that the renters who might, under the proposal, move into new garden apartments next door, would lower the district's economic level. Actually, statistics show that renters in existing mixed districts generally have a higher income than home owners in the same area.

Next move for New York is to hold hearings on the proposal. Whether or not New York adopts its new zoning proposals in full or in modified form, there is plenty in them for every other city in the U.S. to think about. **END**

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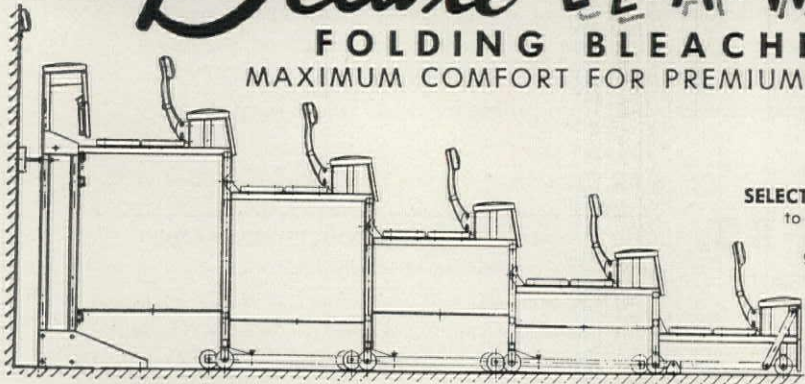
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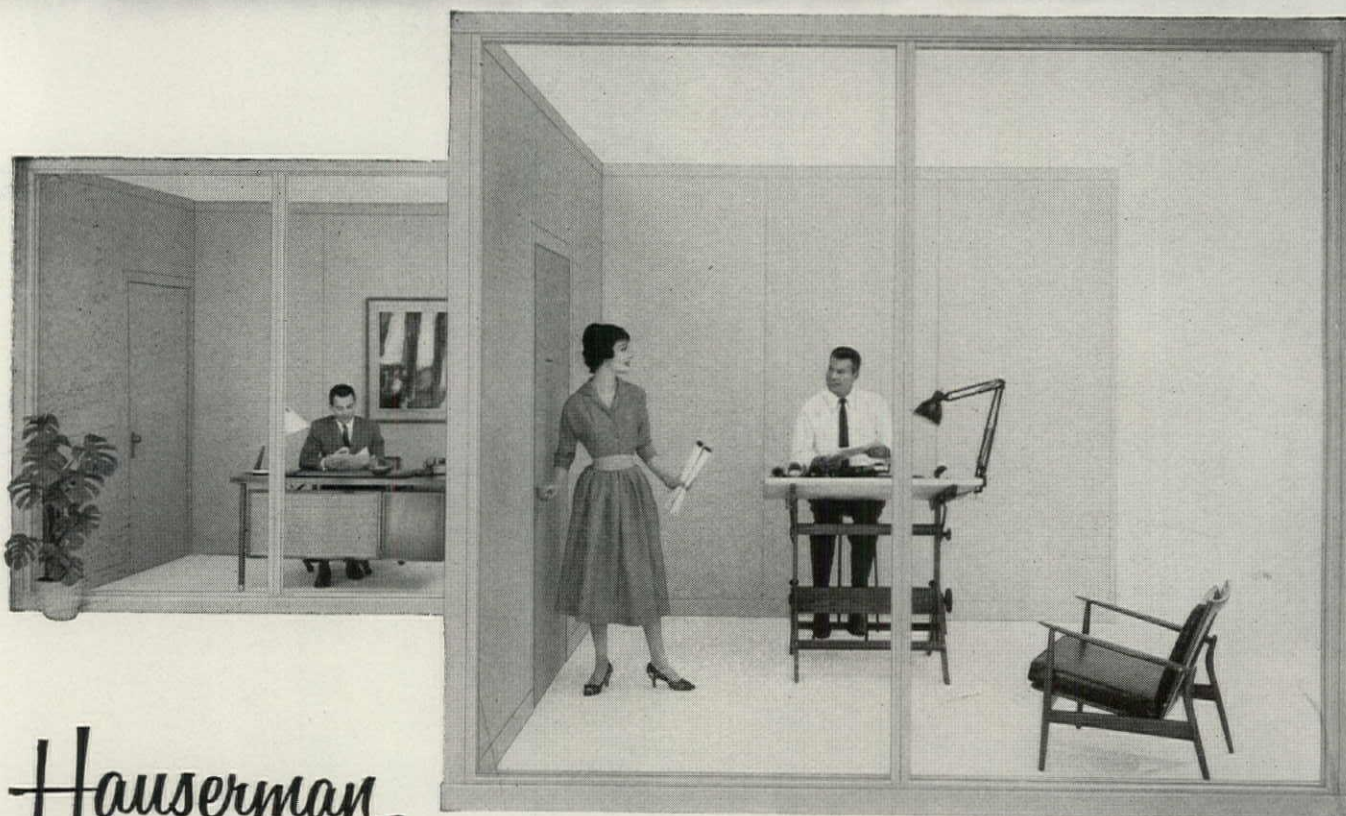
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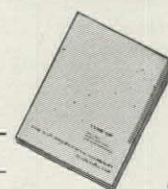
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Project: Barwise Junior High School, Wichita Falls, Texas. **Architects:** Jesse G. Dixon, Arch., R. B. Pardue, Asso., Wichita Falls, Texas. **General Contractor:** W. C. Shelton, Lawton, Okla. **Masonry Contractor:** W. P. Howle, Wichita Falls, Texas. **Dealer:** Stephens Lumber Co., Wichita Falls, Texas.

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the times on the urban renewal issue. And these realists are being met by planners and thinkers who, forsaking their own die-hard companions who advocate only large schemes and full-scale redevelopment, are more and more ready to admit rehabilitation and conservation to large roles in the remaking of cities. It is in this coming together and blending of extremes that the future of urban renewal lies. END

The role of government in renewal.
By James C. Downs, real estate authority and former Redevelopment Coordinator for Chicago (1952-1956):

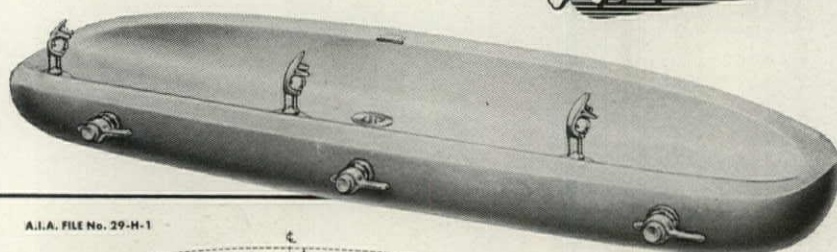
"The role of local government in urban renewal is that of the catalyst. Programs can only be successfully implemented by local government. The state's role is primarily that of granting legislative rights to local municipalities.

"The federal government's role is that of the financing agency. And its collateral activities are those which a financing agency might use to see that the money is being properly used. In other words, the federal government lays down certain rules by which money can be made available.

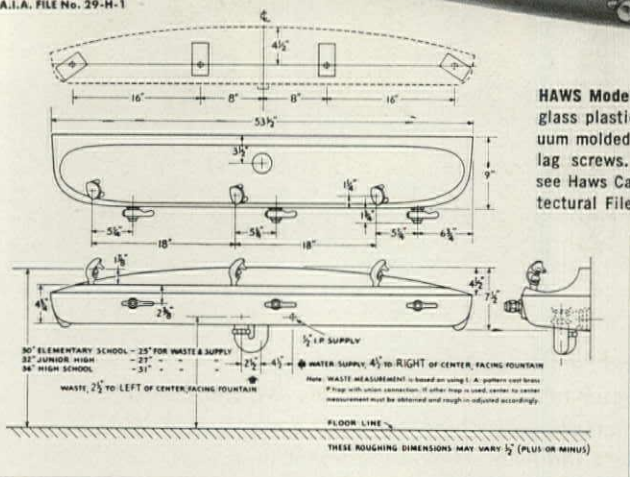
"As to bulldozer redevelopment, there are large areas of cities today where this is the only type of renewal that can be used. As to rehabilitation, unless it is done under an organized renewal program with the same kind of driving impetus from the local government, and the same kind of financing regulation by the federal government,

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DOWNS

it doesn't mean anything. As for conservation, under the American system, investment is made only for the promise of reward. And in most areas in deterioration, the reason they are deteriorating is that there is no promise of reward for investment.

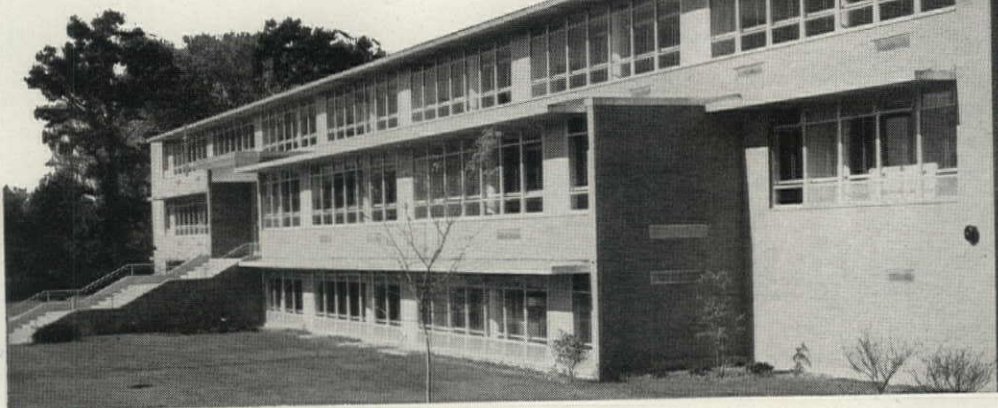
"One thing we have not faced up to yet about urban renewal is that it is preferential government. This means that areas undergoing renewal are getting preferential treatment by the government. This might mean that people living in areas that need renewal will be opposed to other areas getting such treatment if they don't.

"Urban renewal today is in its infinitesimal infancy. To illustrate, it costs about \$93 million a square mile to acquire and make renewal area land ready for building. Any federal appropriation that has been envisaged thus far is a small amount against this background. I firmly believe that the only single activity that can be undertaken by this country as a substitute for an economic stimulus as provided by the cold war is urban renewal."

END

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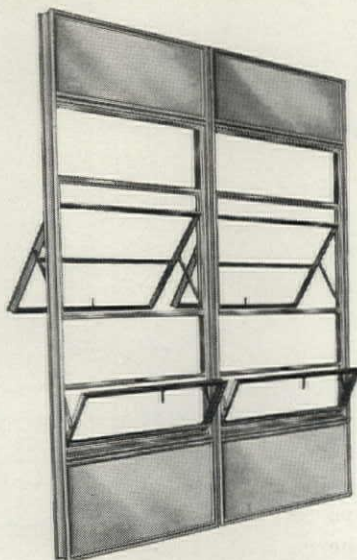
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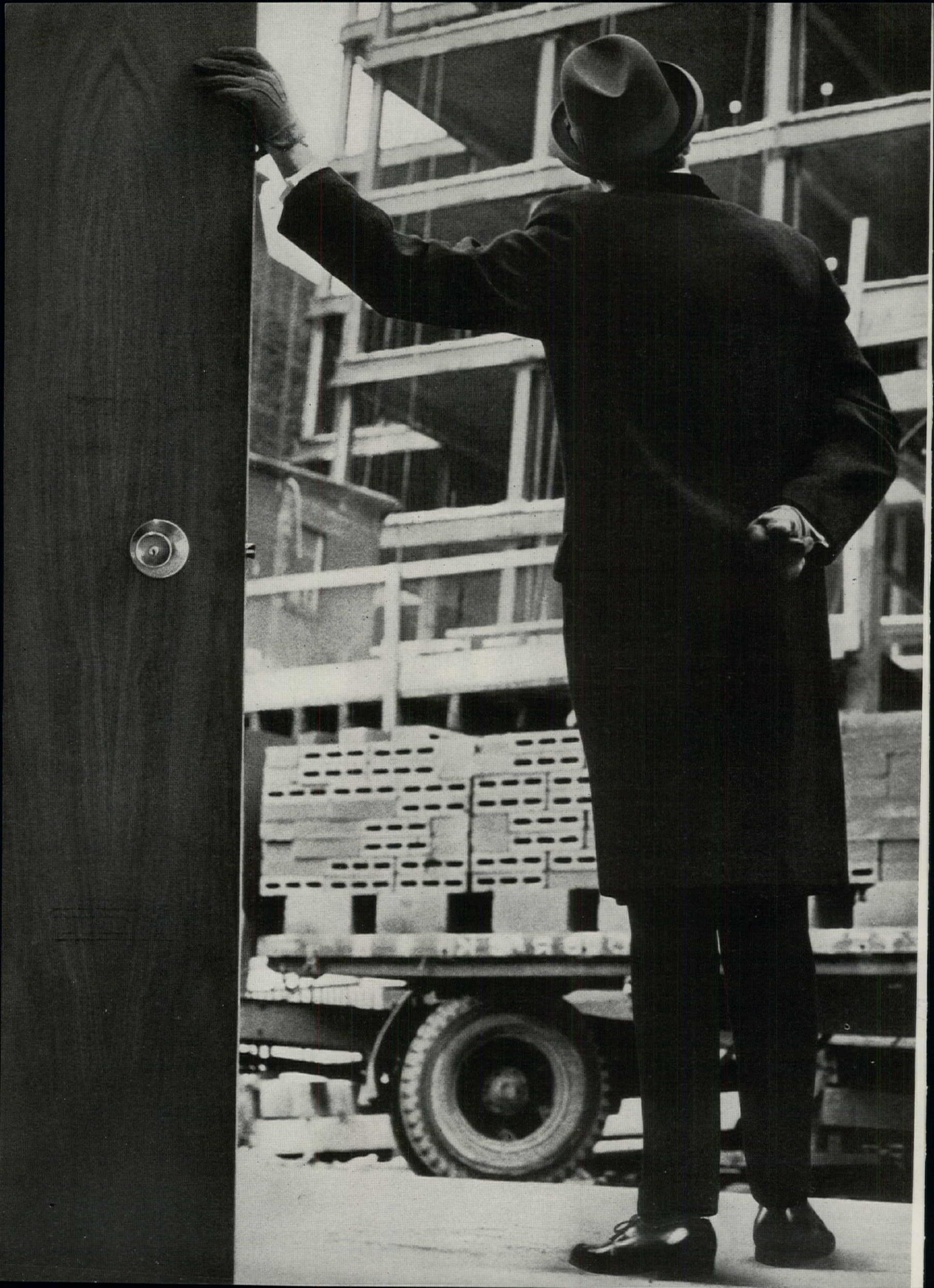
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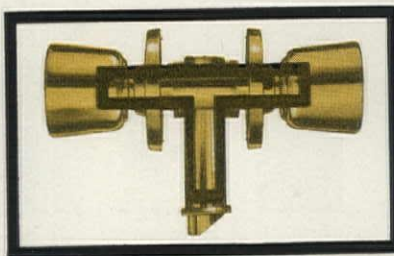


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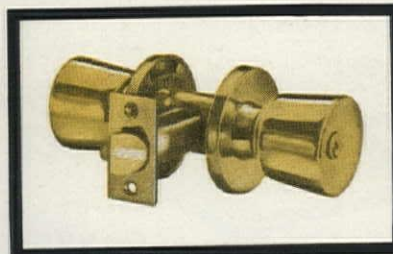
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partitioning has been toward stiff, lightweight construction. But from their studies, the BBN engineers have found that stiffness is a serious detriment to sound isolation (see graph, page 147). Thus, the new BBN partition will be light, thin (2-in.), but fairly limp, because a limp material is much more effective in isolating sound than one which is stiff. (When hit by a sound wave, a stiff partition vibrates like a

drum across its whole surface, becoming a noise source itself. If the partition is limp, on the other hand, the sound wave excites only a small section of the partition's surface and only this section vibrates, thus substantially reducing sound transmission.)

Perhaps because of the widely accepted excuse that "a little noise never hurt anyone" or because of the noisier tempo of modern times, U.S. standards

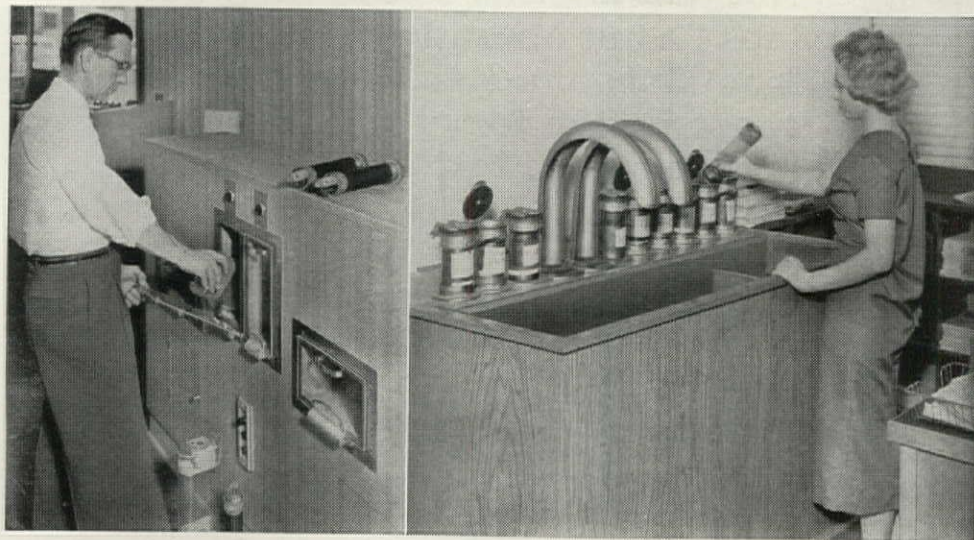
with regard to allowable noise levels are virtually nonexistent. Many authorities on noise are alarmed at this seeming ignorance of the real dangers which may soon be encountered in a noisier society. Indeed, Vern O. Knudsen of UCLA, one of the outstanding acoustical scientists in the world, believes that the increasing loudness of modern civilization may actually threaten life. He says that today's noise level frays man's nerves and impairs his hearing. Knudsen urges that future building design must fight the noise danger through sound-insulation measures, installation of quieter machinery, and control of reverberation.

As building codes are written in the U.S. today, the builder of an apartment house, office building, or home is not required to provide a guaranteed sound-transmission loss between adjoining rooms. He can make the walls as transparent to sound as he wishes. If he builds for speculation, the brunt of complaints and demands for privacy will fall upon the new owner, not on the builder. Such laxness is not tolerated in most parts of Europe, where the codes are more insistent upon noise abatement, requiring that builders meet specific standards of noise control. In Germany, for example, the occupants of new apartments are guaranteed an average 50 decibel transmission loss between walls, ceilings, and floors—a loss level roughly comparable to that provided by 5 in. of concrete.

With no such standards to meet, the U.S. citizen, whose environment is even more noisy than that of his European neighbor, must rely upon the good will of the building industry for decent acoustics. Half a century ago, before the advent of thin, lightweight building materials and before the introduction of many of today's noise sources, building codes did not need to specify allowable noise levels. But today, if buildings are to be adequately designed acoustically by making proper use of the available materials, then something more forceful than an honor system must be established. To be sure, conscientious builders will continue to strive for a high level of noise control. But what of the speculative building? Unless standards are established by means of new code requirements, the improvements in environmental acoustics may pass these buildings by. **END**

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Left: Nurse inserts carrier. System handles test tubes, charts and other hospital items. Right: Pneumatic tube station in laboratory office of steel mill.



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*Architects: Associated Architects, Dallas, Texas.
Engineer: James McDade, Texas Instruments, Inc.*

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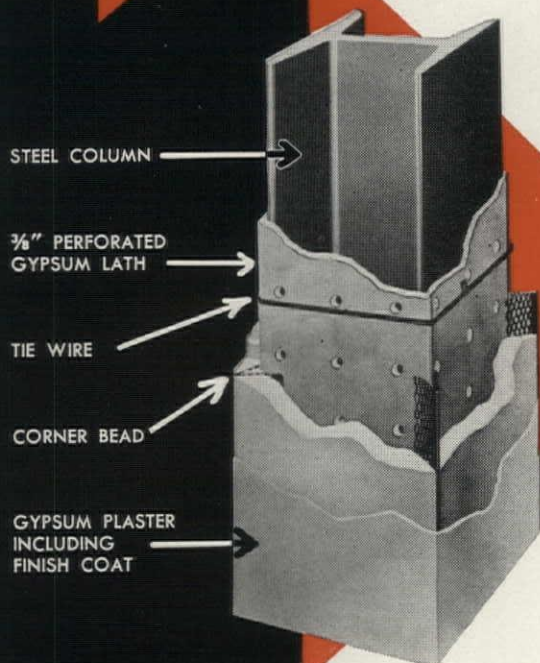
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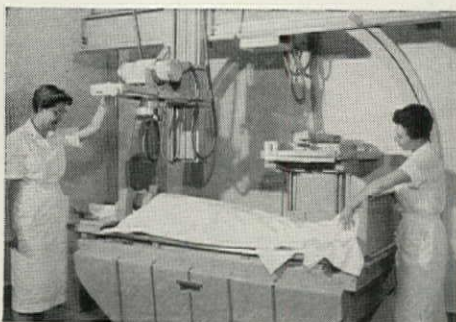
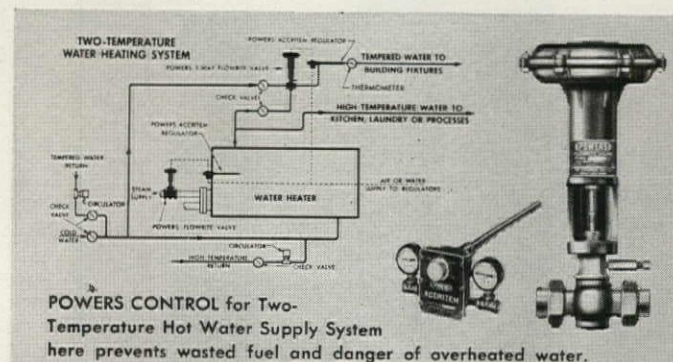
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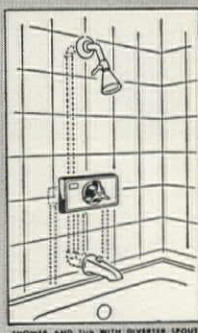


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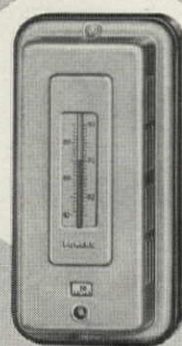
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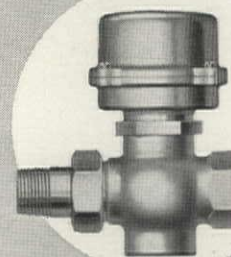
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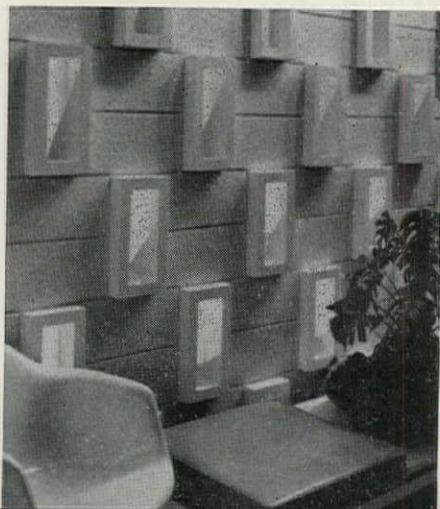


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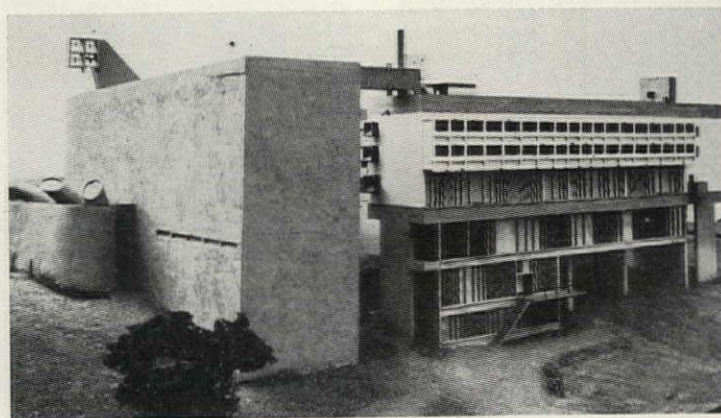
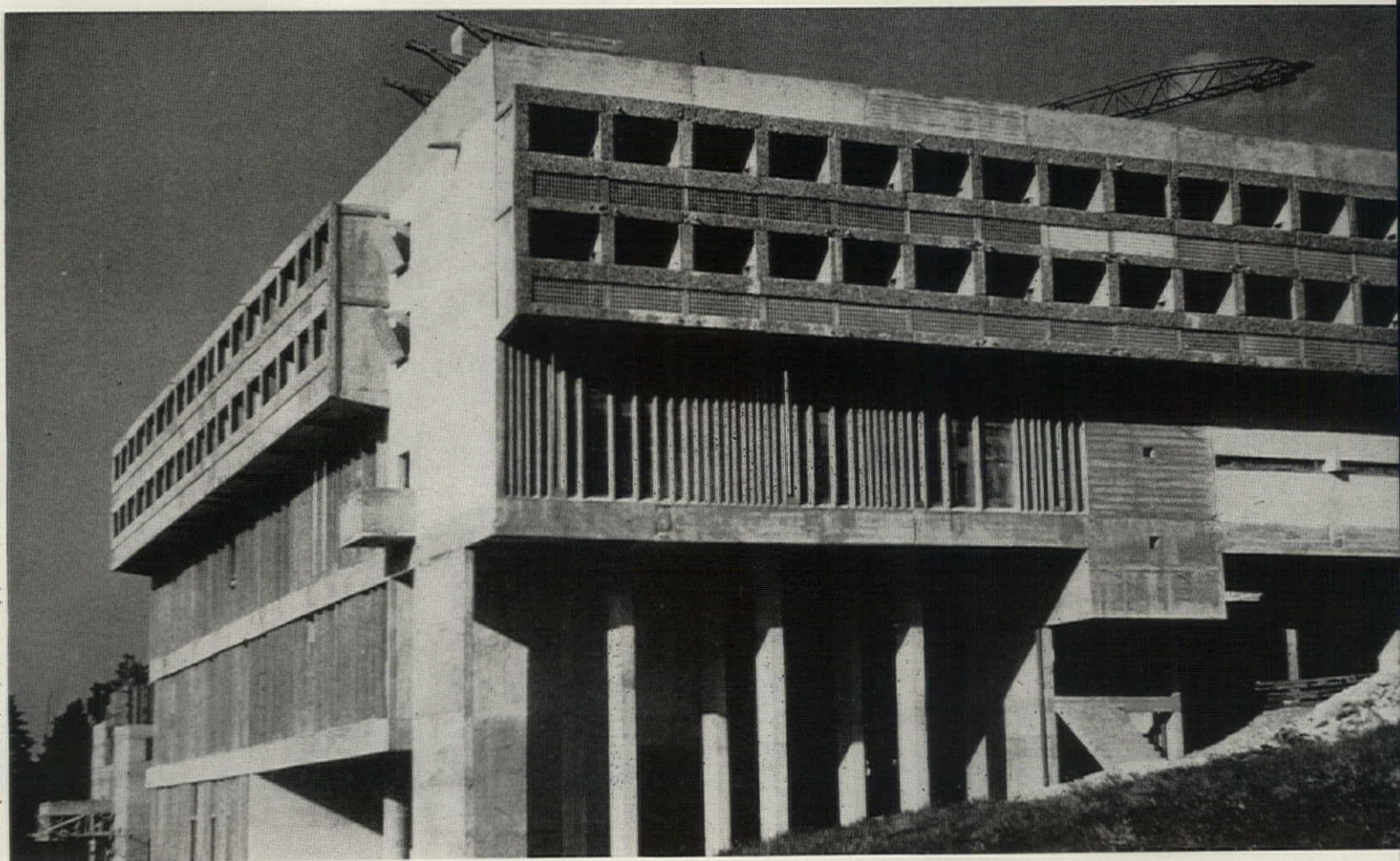


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A continuing survey of international building . . .

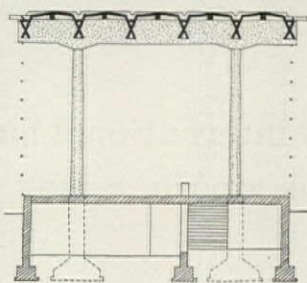
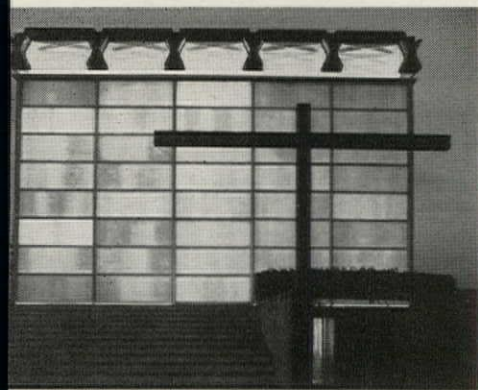
this month, a look at European churches

PHOTOS: (RIGHT & BOT.) JACQUES MICHEL; (OTHER) LUCIEN HERVE



CORBU'S MONASTERY

Contrasting strongly with his swooping, sculpted chapel at Ronchamp, Le Corbusier's second major religious work is a quadrangular monastery near Lyons for the Dominicans. The 5-story monastery, now nearing completion, is a repetitive series of modular forms whose only roundly sculptural element is the lower level bulge formed by the church cloisters (see model, left above). From the outside of the monastery (above), the two tiers of monks' cells look much like the façades of Corbu's *Unité d'Habitations*, deeply recessed and faced with pierced concrete screens. And, within, the monks' classrooms are distinguished by other, appropriate Corbu trademarks: the bare, reinforced concrete structure and the vertically striped *brise-soleils* (left, below).

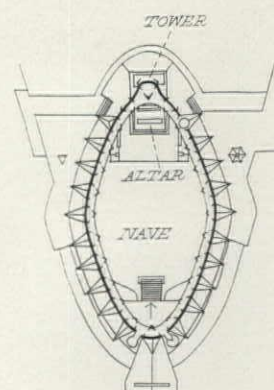


ITALIAN LEVITY

One of the most outstanding religious buildings built in Europe in recent years, this glass-walled church in a residential development near Milan was designed by Architects Angelo Mangiarotti and Bruno Morasutti, assisted by Engineer Aldo Farini. They developed an engaging structural system that makes the roof beams appear to float above the rest of the building. Actually the x-shaped beams are cantilevered out from two transversal beams supported by four interior columns of rough-formed concrete. The freestanding walls of the church are a steel grid, holding glass and plastic insulation panels. The church stands on a concrete base beneath which is a crypt sheltering the baptistry, sacristy, and chapel. The church is surrounded by a wall of stone and concrete that emphasizes the structure's levitating quality.



PHOTOS: CASALI STUDIO



FRENCH ORGAN PIPES

At New York's Museum of Modern Art last month an exhibition was held entitled "Architecture and Imagery." France was represented by this church, Notre Dame de Royan, designed by Architect Guillaume Gillet to give the impression from the inside of

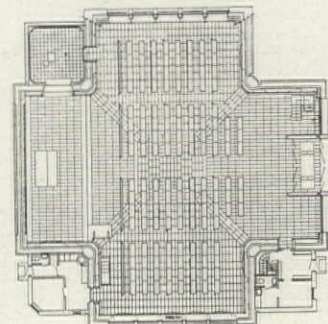
an organ loft. As may be seen from the plan, the "pipes" are actually V-shaped concrete columns which rim the perimeter of the elliptical church. Despite the modern saddle roof, materials, and methods, the church appears brashly imitative of Gothic principles.



BUNE SUNDAHL

SWEDISH CROSS

Unlike most Swedish cultural buildings, which tend to socialize in the heart of town, this lofty church on the Baltic Sea at Oxelösund is off by itself on a cliff-top site. Its bell tower, designed in concrete by Architect Rolf Bergh to resemble Sweden's traditional, wooden "stave" churches, is fastened to the cliff by means of the four-story, cross-shaped church building (see plan, right). The total effect of the towering building suggests an aspiring, yet firmly founded, faith.

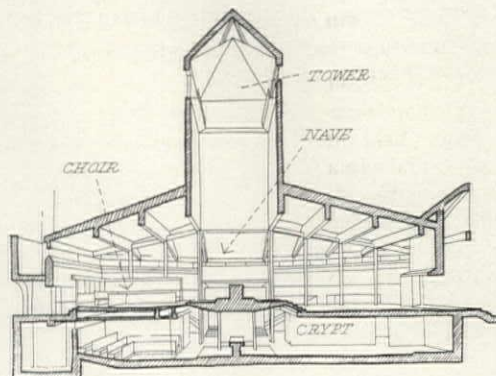


ROMAN STRENGTH

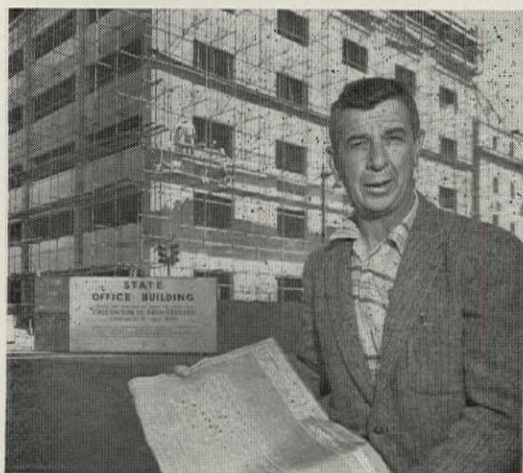
In striving to achieve a strong, three-dimensional form for the Church of the Saints Clarissa on the outskirts of Rome, Architects Mario Paniconi and Giulio Pediconi succeeded in designing an open interior (right) that is cleanly functional (see plan, below), hand-

somely proportioned and excellently lighted (from clerestory windows and a tower that rises directly over the central altar). But the exterior (above) is more awkward than bold, and looks more like a subway entrance than a church of strength and light.

END



PHOTOS: COURTESY L'ARCHITETTURA



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General Contractor: Barrett Construction Company, San Francisco
Electrical Contractor: Patterson-Emerson-Comstock, Inc., San Francisco



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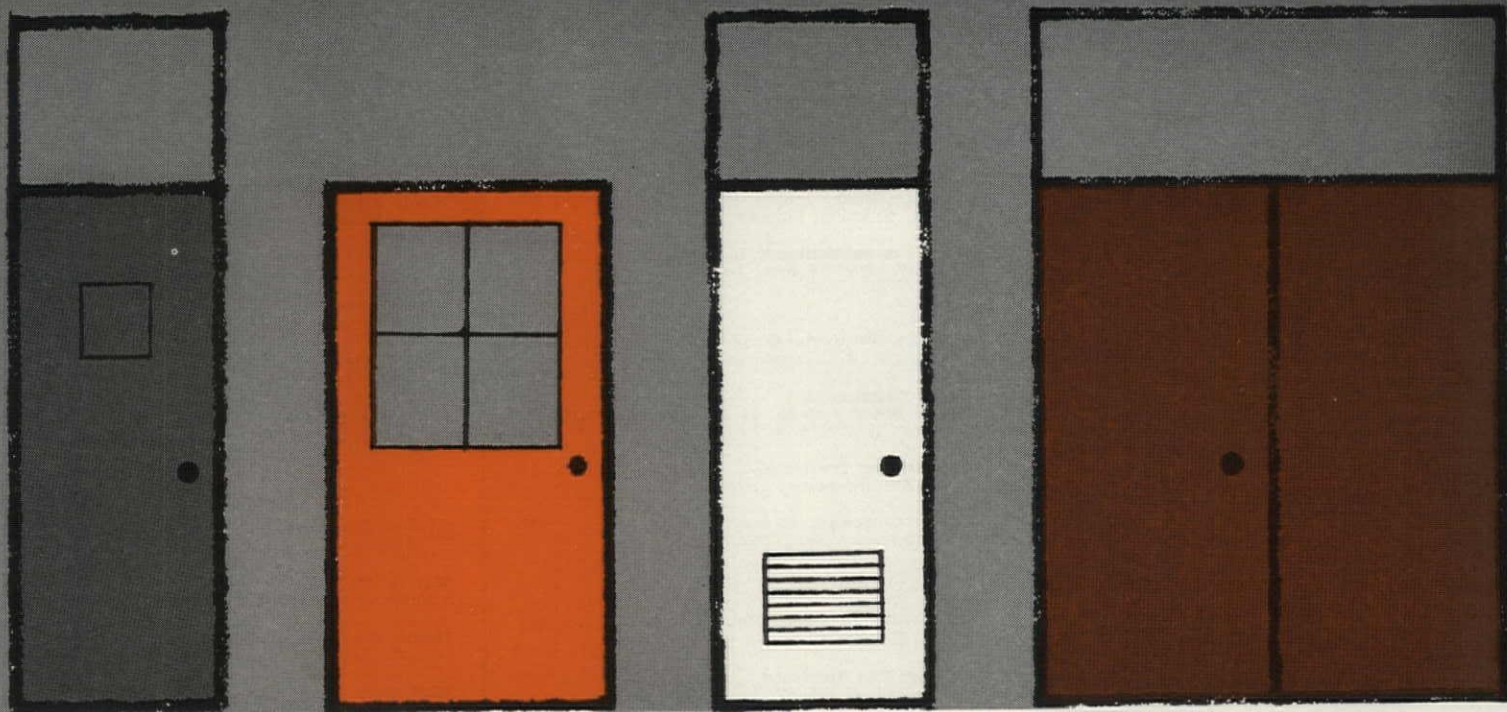
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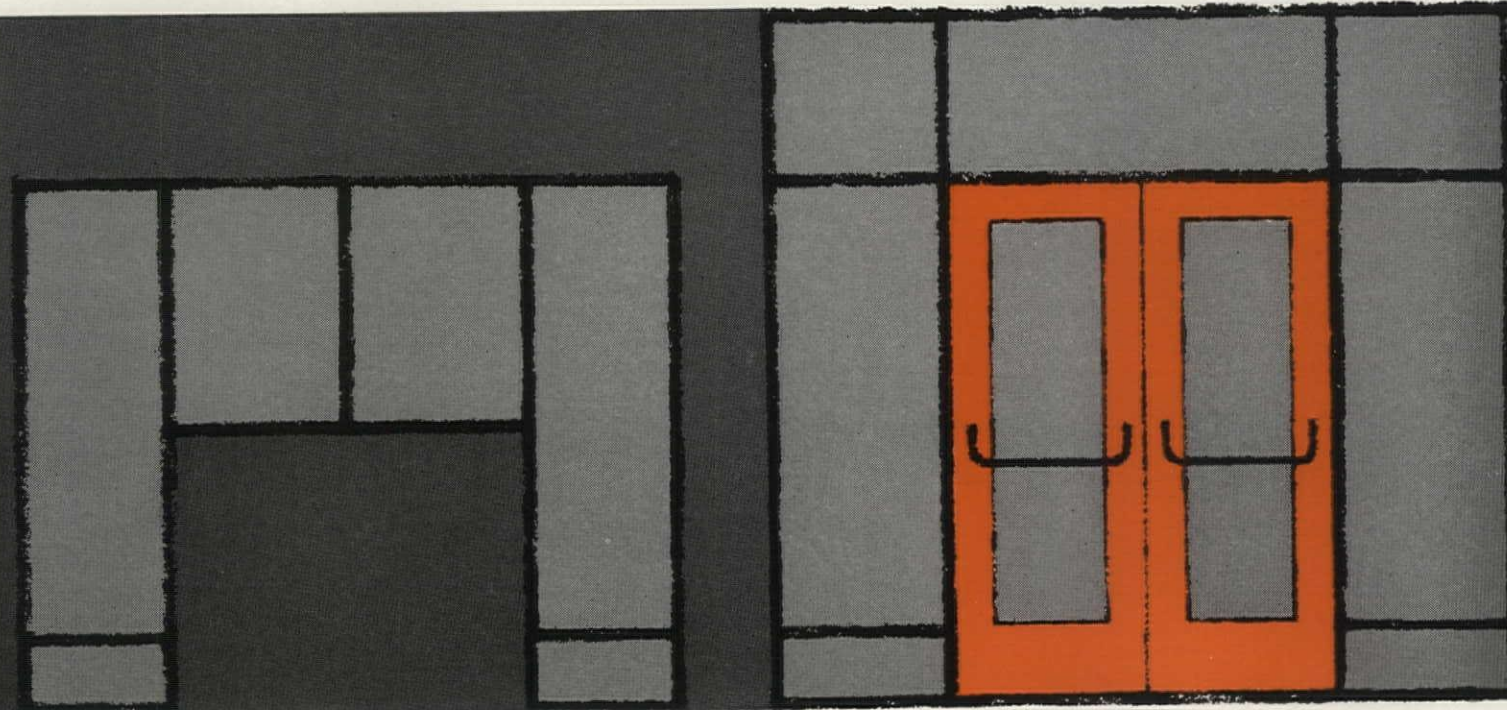
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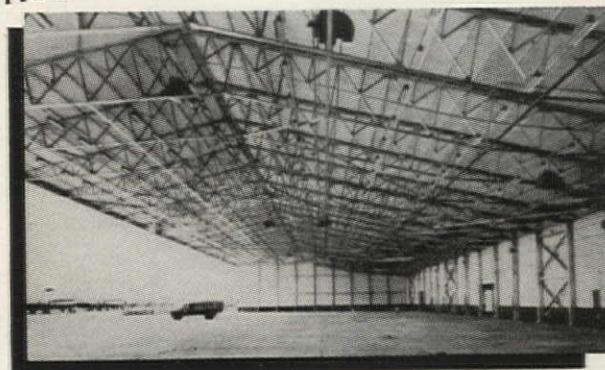
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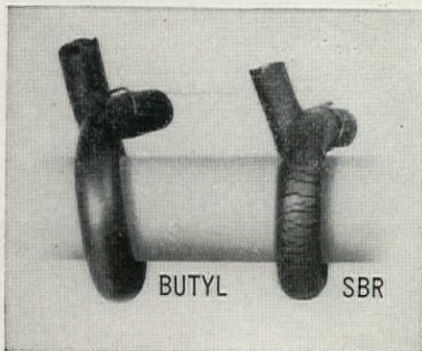
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