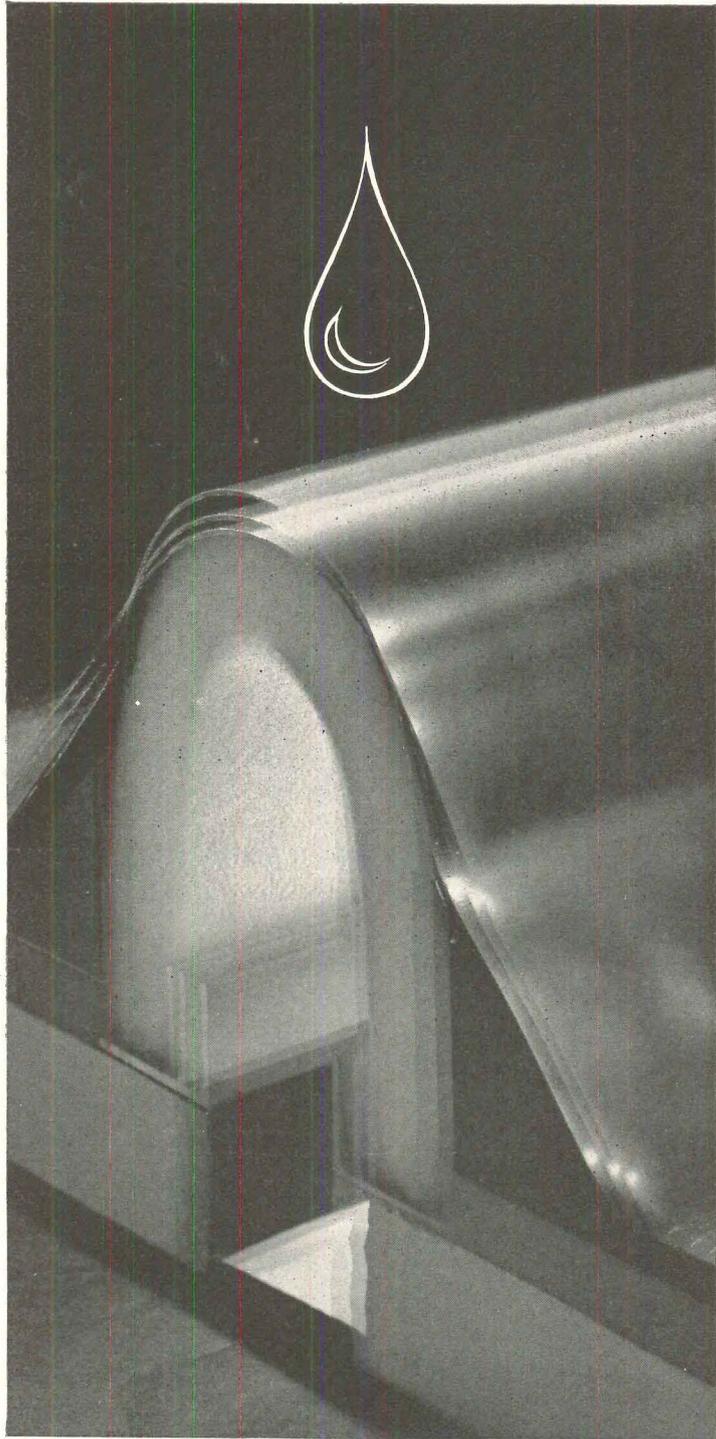


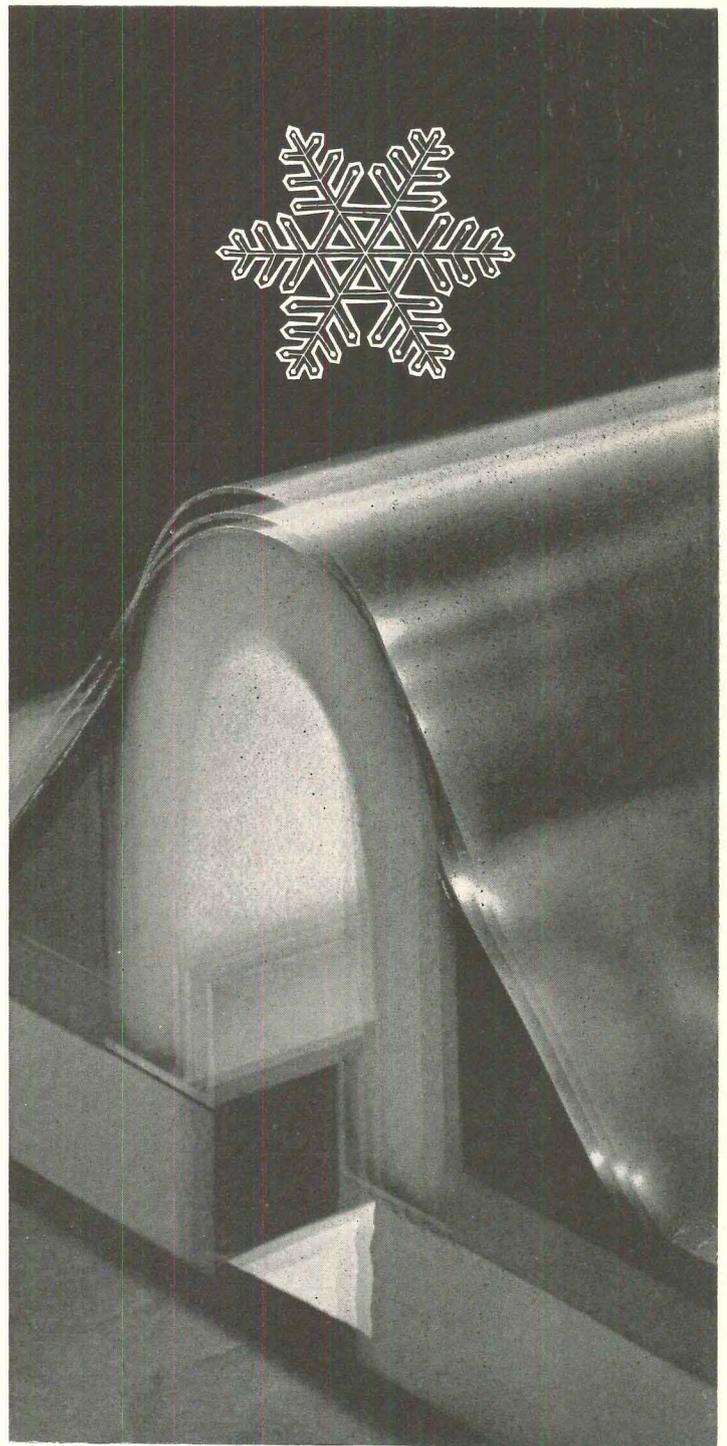
ARCHITECTURAL FORUM THE MAGAZINE OF BUILDING AUGUST 1962

FORUM

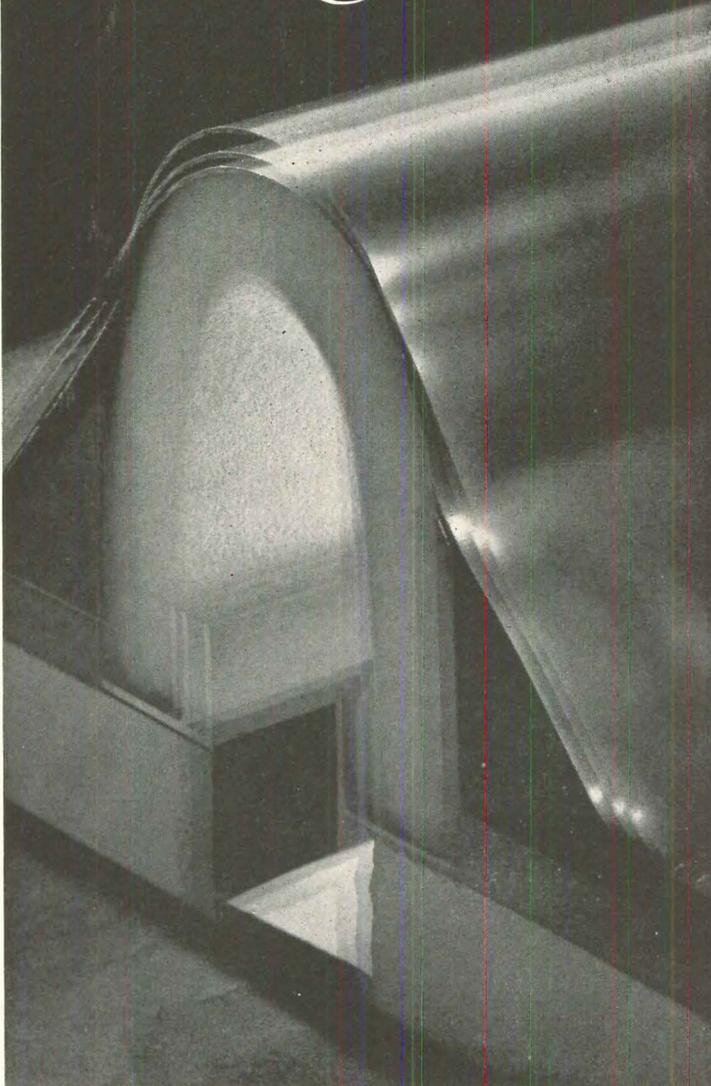
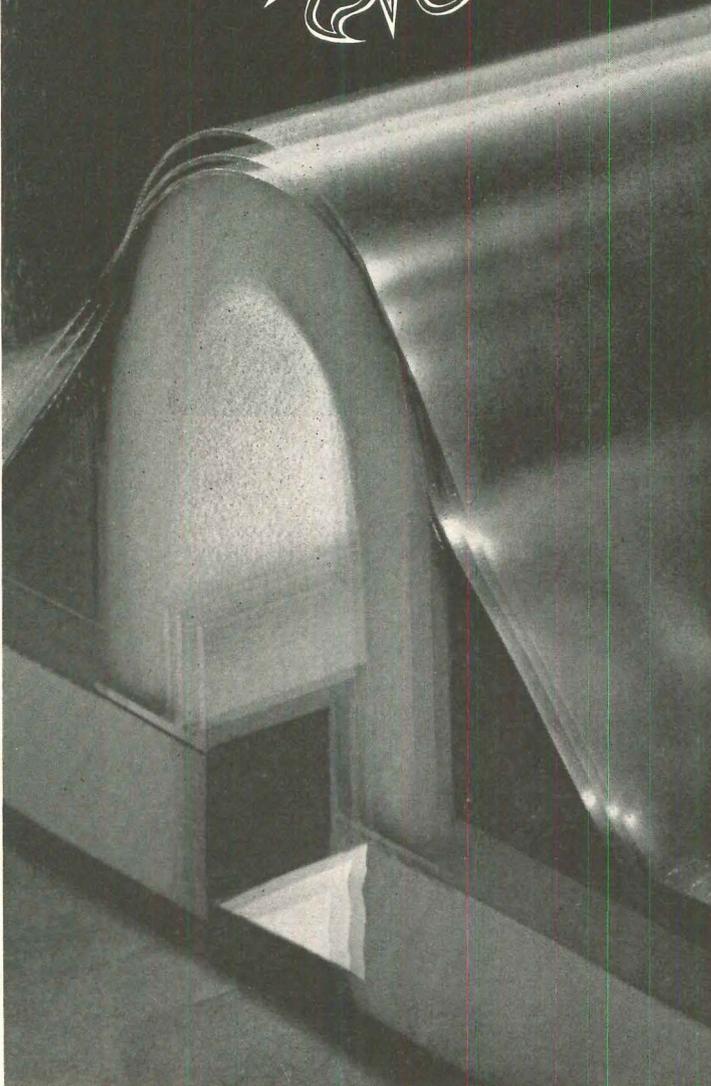
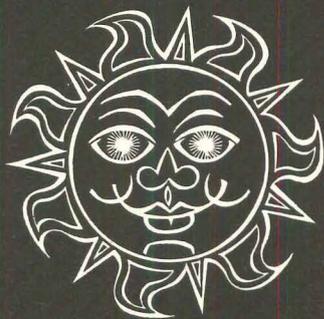




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Midland, Michigan

NO. 4

precast balconies

a.i.a. file: 4-a

Prepared as a service to architects by Portland Cement Association

Clip along dotted line

Precasting simplifies design and construction of balconies. Five towers, each with 24 floors of apartments, are included in the huge James Whitcomb Riley Center in Indianapolis, Indiana. Each apartment (studio, one- or two-bedroom) will have its own sun terrace.

The architectural firm, Perkins and Will, suggested precast concrete balconies as an alternate to cast-in-place balconies. The principal benefits they expect from precasting on this project are:

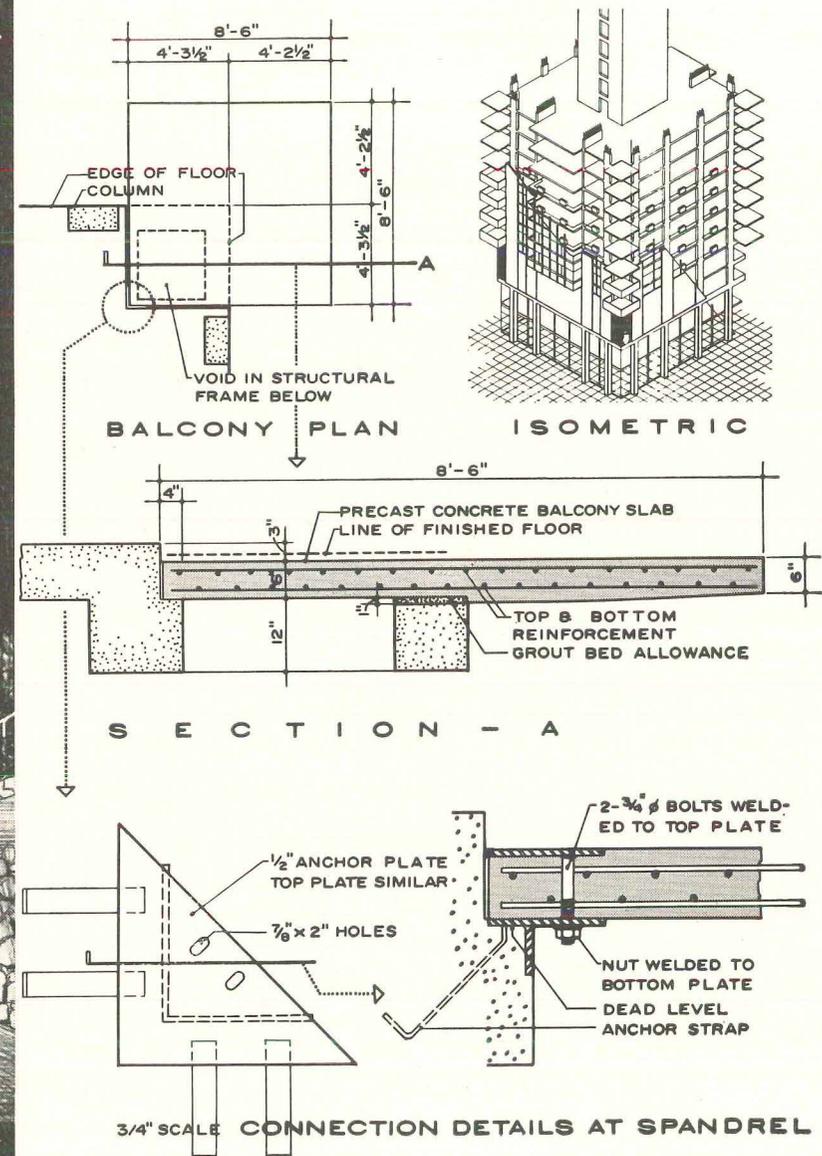
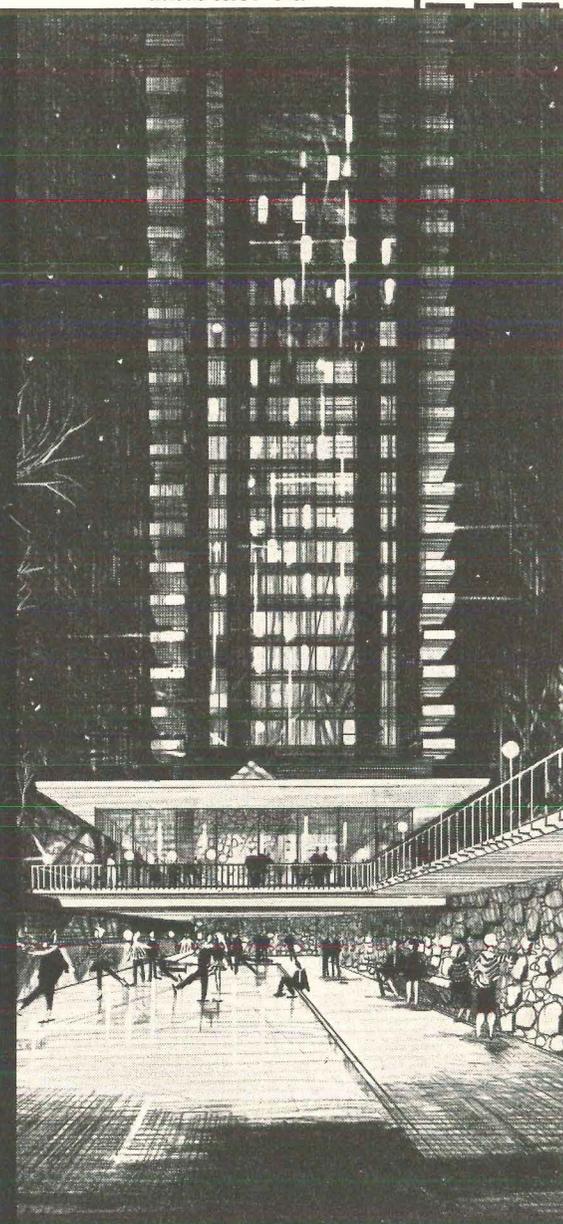
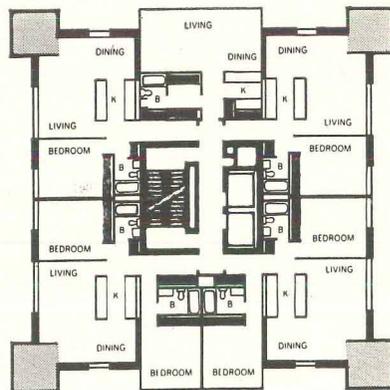
1. Rapid forming of the main structure.
2. Reduction of dead load by casting balconies in lightweight concrete. (Structural frame is conventional-weight concrete.)
3. Quality control in the casting yard assures durability for the exposed concrete balcony components.

Installation and connection details are shown at right.

PORTLAND CEMENT ASSOCIATION

A national organization to improve and extend the uses of concrete

Architects: Perkins and Will, Chicago, Illinois



continued from page 5

recommendations included an endorsement of design competitions, of advisory consultants for the local administrator, and an earnest plea for "a willingness to try new ideas."

Slayton had more than words to back his policy; he also announced that the URA staff would

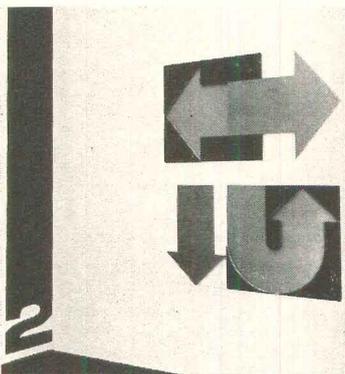
soon include architectural talent capable of design evaluation. Thus, together with the activity of the new commission on Pennsylvania Avenue in Washington (see "People," page 13), the federal government seems to have inaugurated definite, concrete steps toward better design.

TRAFFIC SIGNS AND SYMBOLS IN N.Y.C.

In the good cause of avoiding confusion, New York City Traffic Commissioner Henry Barnes has announced his plan to use pictorial symbols on the city's traffic signs. The first picture signs will be: a telephone, to designate the location of emergency phones on expressways and

parkways; a bus, to show bus stops; and the rear view of a taxi at cab stands. Quick recognition of these symbols and what they stand for is only one by-product of Barnes's plan.

Almost as important, such signs might contribute to the neat, attractive appearance of the city. An almost neglected art in the U. S., pictorial symbols for traffic signs might also start a trend toward general improvement in the design of "street furniture" (fire boxes, lamp posts, waste baskets, etc.), which few cities have concerned themselves with to date. One group working on the problem: a design class at New York's Cooper Union, some of whose work is shown in photo at left.



CONTRACT SETTLEMENTS BENEFIT LABOR

The extraordinary thing about the recent series of strikes in the construction industry is not their number but the success which union demands encountered. Logically, three factors should have hampered labor's bargaining ability: relatively high unemployment in the industry (between 11 and 20 per cent during the first five months of 1962); strong contractor resistance; and the Administration's plea for wage-price restraint.

Logic, apparently, did not enter the picture.

Contractor groups appealed to the federal government to do something about the unions' "exorbitant demands" (FORUM, June '62), but the guidelines set by the President's Council of Economic Advisors did not deter settlements from being generally higher than last year. One union negotiator in strike-plagued northern Cali-

fornia remarked about federal policy: "If Kennedy butts into this, they can shove the whole Democratic party into the ash can."

Settlements across the nation have so far averaged out to increases of 14.7 cents an hour in wages and 6.7 cents an hour in fringe benefits. More significant, well over half of the new contracts are long-term agreements with deferred wage increases. An extreme example: a four-year contract was signed last month which gave San Francisco plumbers and steam fitters wage increases of 40 cents per hour in each of the first three years; by 1966 workers will be on a 35-hour week. Under the previous contract, the plumbers were paid \$5.33 per hour. The new contract, including fringe benefits, will amount to \$7.55 an hour—well above the 1962 average of \$4.22 for all plumbers.



THE LARGER IMPLICATIONS OF UTAH'S RAINBOW BRIDGE

Conservationists are livid when they consider the possible fate of Rainbow Bridge (above), a national monument in Utah. While no one wants to tear down the world's greatest natural arch, the dam-happy U.S. Bureau of Reclamation has failed to urge Congress this year to appropriate funds for protective works to save the bridge from the waters of Lake Powell that will rise behind the huge Glen Canyon Dam on the Colorado River near the Arizona-Utah border. If no protective provisions are built, the least that will happen to Rainbow Bridge is the permanent discoloration of its salmon-pink sandstone sides and the destruction of an exquisite natural canyon setting. Furthermore, the water will possibly erode the foundations of the arch.

What upsets conservationists most are the larger implications of the Rainbow story. In 1956, Congress wrote into law that protective provisions would be built to save Rainbow Bridge. Since then, repeated requests by the Department of the Interior for some \$25 million to construct a barrier dam have not been heeded. Instead, the Senate Appropriations Committee, apparently influenced by a cursory geological survey, now states without further explanation that the new Lake Powell "will make it possible for a larger number of Americans to see one of their natural wonders." Conservationists retort that Congress would do well to read its own law which states quite clearly: "No dam or reservoir . . . shall be within any national park or monument."

HARTFORD SHOWS A NEW USE FOR UTILITIES

Central air conditioning and heating for 15 city blocks became a reality in Hartford, Conn., last month. Using water from the Connecticut River and four high-capacity refrigerating machines, the Hartford Gas Co. has built a new \$4.5 million plant (including some four miles of subterranean piping) to provide the city's downtown urban renewal office and commercial building complex, Constitution Plaza, with heating and cooling.

Everyone, it seems, benefits: Builders get more rentable space

in new structures by eliminating heating and cooling equipment.

► Utilities gain a new source of revenue allowing them to level out peak-and-valley sales.

► Building owners save on the initial cost as well as the expense of maintaining cooling and heating equipment.

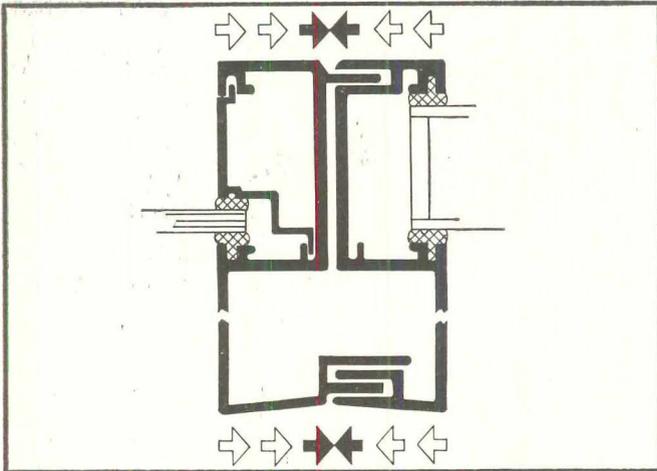
In Constitution Plaza, which now has two of seven major buildings completed, the central utility approach has been estimated to effect a saving of between 10 and 20 per cent over individual systems.

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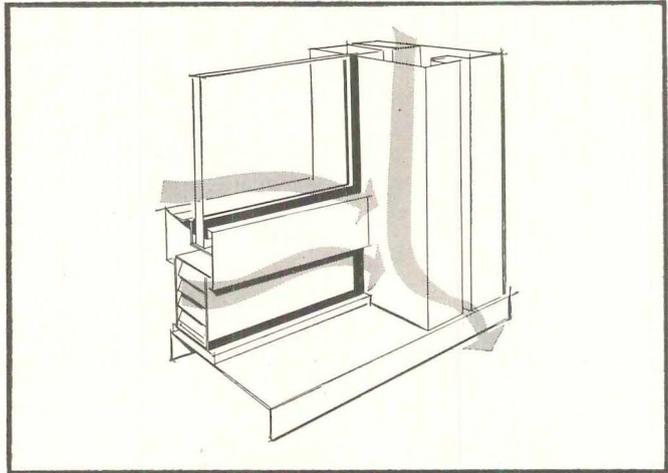
The metal curtain wall with built-in performance bonds

Kawneer Unit Wall

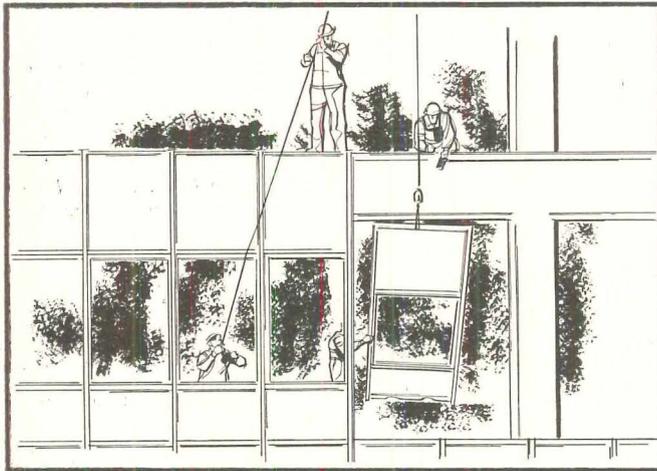
It is natural that you are seeking insurance of reliability, a "bonding of performance," so to speak, when you decide on the curtain wall for your building. After all, this is the key consideration for the appearance of the building, and how well it will perform its major function—keeping the weather out. Paper guarantees are meaningless without the engineering guarantee inherent in the wall system itself. Here are just some of engineering guarantees in Kawneer Unit Wall:



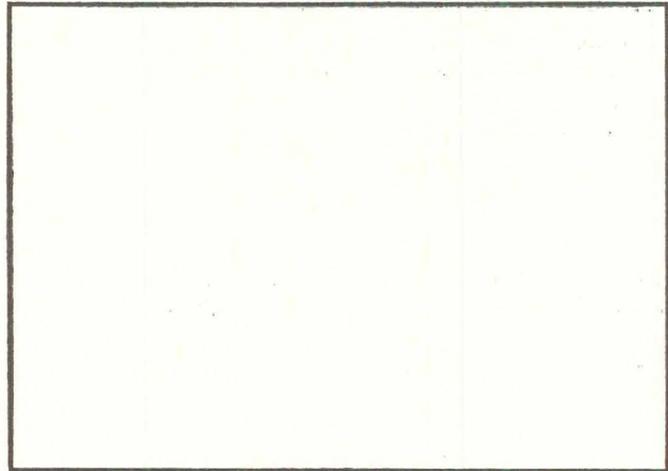
Controls thermal movement differently: Each unit has a half-mullion on each side, which fit into the half-mullions of the adjoining units. Thermal movement of each unit is separated (no buildup), and accommodated by the mullion halves moving toward and away from each other. Hence, metal joints within the units are not loosened by thermal stress, and stay tight against water infiltration.



Two defenses against leakage: Water is kept on the outside of the wall by a system of baffles and seals. This is defense number 1. We know, however, that some time, **some** water is going to find its way through the baffles and past the seals (it happens to practically every wall). So Kawneer Unit Wall systems have built-in internal drainage; defense number 2. Any seepage anywhere into the wall is drained to the mullions, down and flashed out.



Erection is faster: The whole wall is pre-fabricated, unit by unit in the factory. The units are simply joined together on the job. There is less on-site fabrication, less fiddling with pieces, less cutting to fit. Labor costs are kept low, installation goes much faster, and the building is enclosed and ready for occupancy much sooner.



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continued from page 7

COURTESY THE MUSEUM OF MODERN ART

**MENDELSON TO MADIOCRITY**

Architect Eric Mendelsohn's romantic, early-modern Schocken department store (above) in Stuttgart, Germany, built in 1927, has been demolished. In its stead stands the new Merkur store (right), a square building with a fashionable basket-weave façade. The Merkur Co. and Stuttgart, in effect, have exchanged an architectural masterwork for a cliché.

Mendelsohn's projecting glass stair tower, the most successful of Schocken's architectural features, and the ribbon windows served to influence countless architects. Such a landmark was the Schocken store that teachers and students of the Technische Hochschule did everything possible to try and save the building—but in vain.

**NABOM ADVOCATES THE LARGE VIEW**

When the National Association of Building Owners and Managers convened in San Francisco six weeks ago, members were, as expected, especially interested in tenancy and costs. NABOM President Murray E. Randall interpreted the almost stable office occupancy rate in downtown areas as a sign that businesses can absorb large quantities of newly constructed office space. "We've come to realize," he added, "that full occupancy of downtown office buildings in some cities has driven desirable tenants into outlying districts, and in the long run has hurt the downtown area. We now know that vacant space is a good thing to have." Citing the return to the city as a significant trend,

Randall urged building owners and managers to make downtown more attractive by continually improving their properties.

The future of the office building construction boom seems assured, according to Banker Benton F. Hill, because of the continuing need for office workers in service industries. And the ensuing office building boom should benefit most downtown areas—if cities can handle their traffic problems, said Realtor Walter S. Cheesman.

Banker Weeden R. Nichols said that advances in solving technical problems should be incorporated in buildings both to cut costs and keep tenants. To keep building costs down, new materials such

as prestressed concrete beams and wall units bolted onto structural frames must be used, said Contractor John Cahill, who continued with a prediction that future office buildings would reduce the amount of curtain-wall glass to save on air-conditioning expenditures and would utilize

more complete ceiling systems.

Architect Nathaniel Owings also looked to the future. He thought that the "big new issue of tomorrow in office design" would be the building's relationship to its environment, "its contribution in open space, and its recognition of civic responsibility."

A NEW FUTURE FOR LAFAYETTE SQUARE

Lafayette Square, the "front yard of the White House," may once again become the most pleasant town-park in Washington. Threatened with massive destruction on the east and west sides (FORUM, April '62), a number of its old mansions may be refurbished to provide some of the office space needed. Architects John Carl Warnecke & Associates of San Francisco will draw up a new master plan.

Two federal buildings, to be designed by Warnecke, will still be constructed, but the Dolly Madison and Tayloe-Cameron House which were slated for

demolition under earlier plans may be saved. The General Services Administration expects that the new federal edifices—a courthouse and an executive office building—will not compete with the low-scale buildings in the area. The effort, says the GSA hopefully, will be "to maintain the historic character of the Square, with new structures possessing harmonious relationships with existing buildings, thereby providing a quiet and dignified setting for the White House." All of these new plans would seem to bode well for Lafayette Square—if change it must.

CONSTRUCTION HEADS FOR RECORD YEAR

At midyear, building volume was pointed squarely for the biggest year ever. Total construction for the first six months stood at \$27.7 billion, 6 per cent ahead of the first half of 1961. More important, June volume of \$5.8 billion indicated a seasonally adjusted

rate for the year of \$63 billion, the highest in history.

Practically every segment of private and public construction have shared in the first half-year boom, with the biggest gainers being apartments (up 41.5 per cent) and houses (up 8 per cent).

NEW CONSTRUCTION EXPENDITURES, FIRST HALF 1962 AND 1961
(millions of dollars)

	1962		1961		Change Total in Totals
	Private	Public	Total	%	
BUILDING CONSTRUCTION					
Industrial	\$1,357	\$209	\$1,566	\$1,698	-7.8
Office and warehouse	1,147	....	1,147	1,157	-0.9
Store, restaurant, garage	1,076	....	1,076	1,003	7.3
Religious	461	....	461	453	1.8
Educational	286	1,430	1,716	1,731	-0.9
Hospital and institutional	434	188	622	542	14.8
Social and recreational	349	74	423	376	12.5
Public administrative and service	....	311	311	304	2.3
Apartments	2,372	334	2,706	1,912	41.5
Hotel, motel, dormitory	789	70	859	782	9.8
All other building	387	622	1,009	989	2.0
TOTAL	\$8,658	\$3,238	\$11,896	\$10,947	8.7
HOUSE CONSTRUCTION	8,315	90	8,405	7,798	7.8
OTHER CONSTRUCTION	3,012	4,421	7,433	7,331	1.4
TOTAL CONSTRUCTION	\$19,985	\$7,749	\$27,734	\$26,076	6.4

SOURCE: BUREAU OF THE CENSUS AND MILES L. COLEMAN ESTIMATES BASED ON CENSUS DATA.

continued on page 10

All public construction as a whole gained 3 per cent during the first half of this year.

Private building construction is still being held back somewhat by the continuing slump in factories (down 6 per cent) and office buildings (down 1 per cent). However, both these vital sectors

of building construction have recently shown signs of shaking out of the doldrums—both categories declined significantly less in the second quarter than in the first of this year.

At the same time, building of stores, restaurants, and garages rose 7 per cent in the first half.

CAN MOSES BUILD A FIRE ISLAND ROAD?

After the March storm that battered the Atlantic seaboard, Long Island State Park Commissioner Robert Moses proposed to save the long, vulnerable, sandy strip called Fire Island. His solution: a 50-mile road atop a 300-foot-wide mound of sand fill, 18 feet high. "I have little expectation that I shall accomplish more than stimulate healthy if acrimonious discussion," said the Commissioner.

He was partially wrong: a "Temporary New York State Commission on Protection and Preservation of the Atlantic Shore Front" came out in favor of Moses' \$21 million plan. Secretary of the Interior Stewart L. Udall, however, opposed every bit of it (as do a reported 14 out of 15 Fire Island home owners), and he has supported a long-range erosion con-

trol and hurricane protection project by the Army engineers. Meanwhile, Fire Islanders indulged in acrimonious discussion about the road. Composite criticism: the road is unrelated to erosion control, would destroy the island's unique charm as a sanctuary from automobiles, and is unnecessary for access. One resident noted the Moses-inspired roads that hug New York City shore lines and added: "He seems compulsive about barricading water fronts."

At a July 10 public hearing tempers came to a boil: one Fire Island resident recalled a 1938 article on a previous Moses road proposal. It read: "He would save Fire Island the way Hitler is saving the Sudetenland—to the distress of the many inhabitants." The Commissioner stalked out.

Only the House subcommittee has reported out the bill, including two important provisions: one concerns paying the relocation expenses of families and businesses displaced by mass-transit projects; the other is a \$10 million per year research and development program which would provide much-needed insight into technical, practical, and motivational matters connected with mass-transit system and commuters.

However, the Senate Banking Subcommittee, which is still polishing its bill, did approve the main features of the Administration's plan and, surprisingly, voted to add \$300 million not originally requested. It also passed a proposal to extend the existing \$50 million loan program scheduled to end this year. Under this program, the federal government makes loans for transit projects where initial financing is not available, or available only at

exorbitant interest rates.

Both banking subcommittees indicated their approval of an emergency grant program. In it, the federal government would give grants of 50 per cent of required funds for localities where there is an urgent need and where the locality has not completed a comprehensive plan for coordinated mass transit facilities. The emergency grant would be made out of the \$500 million, but the locality would not be eligible for more funds until the comprehensive plan is prepared.

If the proposals are passed by Congress, the government will contribute up to two-thirds of whatever costs cannot be financed by the transit systems from their own revenues. Of the \$500 million authorized, \$100 million has already been appropriated in fiscal 1963's budget.

The outlook at this juncture: favorable action in the Senate; harder going in the House.

BUILDING OVER INTERSTATE HIGHWAYS

Commerce Department Secretary Luther H. Hodges has announced the latest guidelines for building over highways, and endorsed such building as preventing urban sprawl and providing cities with added tax revenues. Highlights:

- ▶ The state will control such features as horizontal clearance, ventilation, lighting, and esthetic appearance of the building.
- ▶ Any buildings over freeways must have a vertical clearance of

16 feet, 4 inches.

- ▶ The buildings will lease air-rights from the state, which would control resulting income.
- ▶ Buildings will not have access to the highway.
- ▶ No federal funds will be used for the buildings or for additional highway costs resulting from construction.
- ▶ Open space must be maintained between buildings to meet ventilation and lighting requirements.

VACANCY RATE FOR FHA UNITS INCHES UP

Results of a nationwide sample survey of the vacancy rates in FHA-insured rental units, released last month, disclosed that vacancies this year are the highest (5.5 per cent) since 1951 (5.8 per cent). Although showing only a one-tenth of one per cent increase over last year, the trend has been steadily upward since 1957's 2.4 per cent. (Figures: 1958, 3 per cent; 1959, 3.9 per cent; and 1960, 4.8 per cent.)

The three most heavily populated regions of the nation (northeastern, north central and mid-

Atlantic) reported higher vacancy rates than last year. The northeastern zone, however, had the lowest regional rate.

On the whole, the nation's great cities had lower vacancy rates than smaller cities, although the rate doubled in Boston and increased significantly in Detroit, Cleveland, Sacramento, and Honolulu. Slightly higher vacancy rates were also recorded in New York, Philadelphia, and Chicago. Cincinnati and Houston have reduced their perennially high rates by 2 and 5.9 per cent respectively.

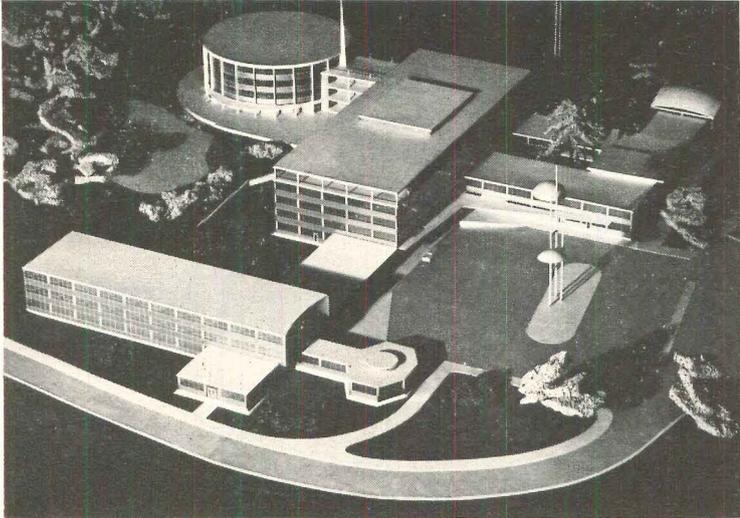


KENNEDY'S TRANSIT BILL MOVES AHEAD

From the moment he first made them, President Kennedy's mass transit proposals (FORUM, May '62) seemed reasonably sure of passage in Congress. The proposals, which have bi-partisan support, included \$500 million in federal grants over three years to

help cities with their highway and rail problems and for acquisition of facilities such as rolling stock, land, and equipment.

Both Senate and House put up similar bills; banking subcommittees of both chambers approved the Administration's plan in prin-



U.S. GIVES A MODERN HOSPITAL TO THE CHILDREN OF POLAND

The American Research Hospital for Children being built in Krakow, Poland, (model photo above) is an example of the kind of humanitarian effort that would be endangered if Congress decided to limit certain types of U.S. aid to Communist countries. The hospital represents an \$8 million gift to Polish children—and should be an inspiration to Polish architects and engineers hungry for American methods and ideas. The brain child of Polish-born Architect Wladislaw Biernacki-Poray, its construction is being financed in part by dipping into the U.S. supply of “frozen” zlotys. Medical equipment and building products, including elevators and curtain-wall components worth \$1.9 million, however, still must be donated.

Among the features of Poray's de-

sign: a circular observation-ward building in which a system of mirrors and glass walls allows core-based nurses to watch the patients; an outpatient clinic that will treat an estimated 200,000 children a year; an auditorium and facilities for 500 medical students on the upper floors of the large rectangular building. The hexagonal structure, in which research animals will be quartered, and the adjacent oblong structure, a research institute, are in the planning stage.

The 312-bed hospital complex, started a year ago, is scheduled for completion in 1964. It will then be turned over to the 600-year-old Medical Academy of the University of Krakow, forming the first unit in the Academy's proposed 10-year expansion project.

PRATT STUDIES NEW BUILDING TECHNIQUES

Last month the FHA approved a grant of \$237,600 to Pratt Institute in Brooklyn for a three-year demonstration of cost-savings methods in apartment-house construction. One such method is “box frame” construction, in which walls and partitions are expected to carry the load of floor slabs without use of columns or beams. All the methods which will be under study have been tested elsewhere in this country or

abroad. A Pratt spokesman added, optimistically, that the possible savings for multifamily housing construction might run as high as 25 per cent. Pretesting and construction of the demonstration project will take place in Edgewater, N.J. Thereafter, Webb and Knapp, Inc. is expected to build structures containing about 100 apartments in the New York metropolitan area, using the techniques developed at Pratt.

AID—HHFA WILL COOPERATE ABROAD

On July 12, Administrators Robert C. Weaver of the HHFA and Hamilton Fowler of the Agency for International Development signed an agreement for inter-

agency cooperation in staffing and developing U.S.-aided programs in the fields of housing and urban development. HHFA experts will provide underdeveloped na-

tions with U.S. know-how in such key areas as:

- ▶ The construction of self-built homes which are to cost around \$1.45 per square foot because labor is contributed.
- ▶ The establishment of credit institutions to promote saving and provide long-term housing loans

at reasonable rates of interest.

▶ The development of technical assistance programs to handle a wide variety of problems running from city planning to construction methods.

Objective of the agreement: to intensify aid to underdeveloped nations in this crucial field.

HOUSING FOR THE AGED: MONEY REQUESTED

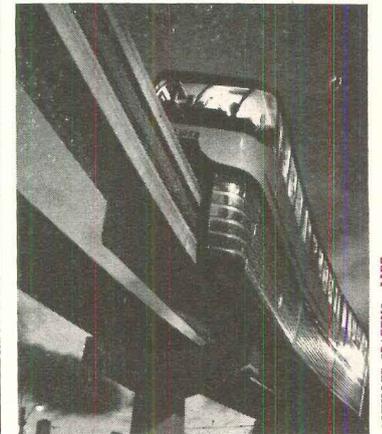
The subcommittee on housing of the House of Representatives held hearings last month on the problems of housing “senior citizens.” Subcommittee Chairman Albert Rains proposed doubling the amount (\$125 million) available for direct housing loans to the aged, and received support from HHFA Administrator Robert C. Weaver, who called attention to the fact that demand for direct

loans already exceeds the total amount available. Expansion of the program, he added, “is vital if we are going to meet the housing needs of a large number of the elderly whose incomes are too high for subsidized public housing and too low for the housing available under FHA programs or the conventional market.” Favorable action on the bill is expected, hopefully before Congress adjourns.

SEATTLE LIKES THE MONORAIL, KEEPS IT

After the Seattle Fair is over and the crowds have returned home, the monorail (right) will continue to make its mile-long trip from downtown to the new civic center and Space Needle. The decision to keep the monorail, announced early last month, was based on its utility, low maintenance costs, and ability to pay for itself. Receipts from passenger fares will reportedly reimburse the Swedish firm of Alweg for all costs, including construction, by the beginning of July. The monorail will be turned over to the city of Seattle gratis and will thus save Alweg dismantling costs. Although rumors persist that exten-

sions will be built inward to the city and possibly outward to northern suburbs, no definite plans have been announced.



SCHELLER-CHAYENS—LIFE

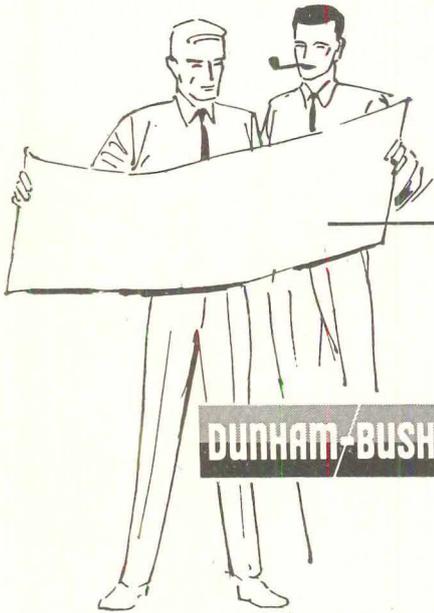
BRIEFS: AGBANY BORN, METRO FORMED

A group of architects and architectural commentators banded together last month to oppose “all antiplanning and antiarchitecture developments” in New York City. Enthusiastic support for the Action Group for Better Architecture in New York (AGBANY) has already been received from such well-known figures as Critic Lewis Mumford, Special Consultant to the President on the Arts August Heckscher, Architects Philip John-

son and Paul Rudolph. First of their tasks: an attempt to save McKim, Mead & White's Pennsylvania Station from the wreckers and redevelopers.

Nashville, Tenn., and adjacent Davidson County formed a single “Metro” government early last month. In a record vote—and against the wishes of Mayor Ben West—a consolidated government charter was approved, and, by June 1964, will go into effect.

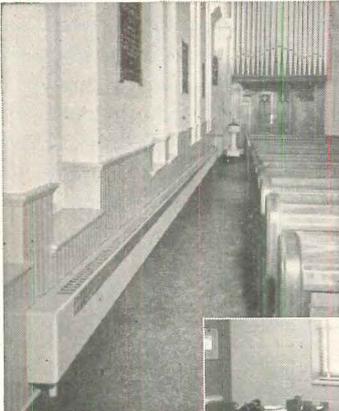
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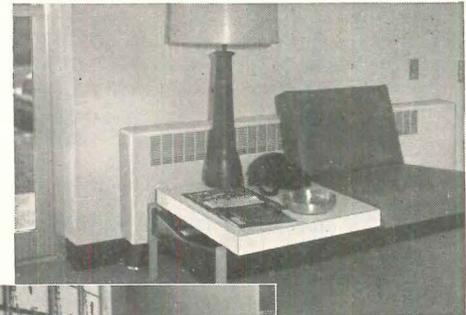


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COURTESY THE ARCHITECT'S JOURNAL



F.R.S. Yorke

OBITUARIES

One of Britain's leading modern architects, F. R. S. YORKE, 55, died in London several weeks ago. "Kay" Yorke's books, especially *The Modern House*, were most influential on both sides of the Atlantic ever since the 1930s. Once a partner of MARCEL BREUER, Yorke established, with EUGENE ROSENBERG and CYRIL MARDALL, a successful and highly respected practice. Their best-known building: London's Gatwick airport, in which Yorke took a particular interest.

CHESTER B. PRICE, FAIA, died last month in Bronxville, N.Y., at the age of 77. A consummate, much-honored architectural renderer, he presented the designs of many prominent architects in this country, and taught rendering at various educational institutions. For the past ten years he had been associated with the architectural firm of Voorhees, Walker, Smith, Smith & Haines.

NEWMAN KRAFT STUDIO



Eugene Masselink

FLW's long-time secretary and trusted friend, EUGENE MASSELINK, 51, died last month of a heart attack at Taliesin East in Wisconsin. Gifted as a musician

and draftsman, he was also an accomplished muralist whose work is displayed at the Price Tower and other buildings. After Wright's death, Masselink served as Treasurer-Secretary of the Taliesin Foundation.

"THE KING IS DEAD . . .

Energetic, urbane ERWIN S. WOLFSON, 60, died of cancer in late June, leaving a legacy of buildings and ideas. As chairman of the Diesel Construction Co., he had become a leading builder in Manhattan's postwar building boom: the company now has a backlog of \$265 million in projects scattered over the nation. Wolfson's success in construction was more than matched by that in the real-estate investment field with the firm bearing his name,



Erwin S. Wolfson

and both successes were largely due to his combination of personal charm and hard business savvy. A few years ago, a fellow realtor put it this way: "Erwin knows money. He also knows tenants, and location, and construction. . . . But probably the biggest thing, in New York real estate anyway, is that you can count on his word. Wolfson's honest, and he has a lot of friends." He was also neat: he had hand-picked his successor.

. . . LONG LIVE THE KING"

Serious, quiet JAMES D. LANDAUER has taken over the Erwin S. Wolfson organization. A veteran real-estate man and one of the nation's leading realty consultants to industrial corporations, he worked with Wolfson on the development of New York's Pan Am Building. At an early July press conference, Landauer an-

nounced that he would not make changes in the realty company, but would reconsider the \$100 million project to build a complex of buildings over railroad tracks in Chicago (see FORUM, May '62). He also announced that he would go ahead as planned with the SOM-designed office building at 140 Broadway in Manhattan's financial district. Landauer, a highly experienced realtor, said that although he will not become chairman of the Diesel Construction Co., he plans to continue the close relationships between the two organizations established by Wolfson.

PENNSYLVANIA AVE. COMMITTEE

"Pennsylvania Avenue should be the thoroughfare of the city of Washington. Instead it remains a vast, unformed, cluttered expanse at the heart of the nation's capital." So wrote the Ad Hoc Committee on Federal Office Space two months ago. Something is about to be done about this situation: last month, an Advisory Council on Pennsylvania Avenue was appointed by the White House. Included are: Architects NATHANIEL OWINGS (chairman), DAN KILEY, PAUL THIRY, RALPH WALKER, MINORU YAMASAKI, FORUM Editor DOUGLAS HASKELL, Designer CHARLES EAMES, Planner FREDERICK GUTHEIM, Artist WILLIAM WALTON, and DANIEL MOYNIHAN, Special Assistant to the Secretary of Labor. The first meeting of the new council took place on July 16 in Washington.

GRAHAM FELLOWS

When Architect ERNEST ROBERT GRAHAM died in 1936, among his bequests was a substantial amount to endow the Graham Foundation for Advanced Studies in the Fine Arts, and the grants began to be awarded in 1956. This year, 11 fellowships, which carry a stipend of between \$5,000 and \$10,000, have been announced. Among them: Sociologist HUGH D. DUNCAN for work on a book on architecture as a symbol of life in Chicago; Architect RALPH L. KNOWLES, to develop prototype structures that are systematized through geometric ordering of

surface; Historian RICHARD POMMER for a book on the European architectural scene; Film Maker JOHN WHITNEY, to explore and encompass architectural design in sound and abstract image; and Architect JOSEPH ESHERICK, to lead a project to review and redefine architectural practice and education.

HARVARD GETS MAKI

Harvard's Graduate School of Design last month named FUMIHIKO MAKI to be a new Associate Professor. Best known in this country for his design of Steinberg Hall, a



Fumihiko Maki

library on the campus of Washington University, St. Louis, the young (34) Japanese architect has been a teacher at, and consultant designer for, that university since the mid-1950s. A visiting member of Japan's "Metabolism Group" (whose main aim is "to promote a new urbanism"), Maki was included last year in FORUM's "New Talent" issue (Aug. '61).

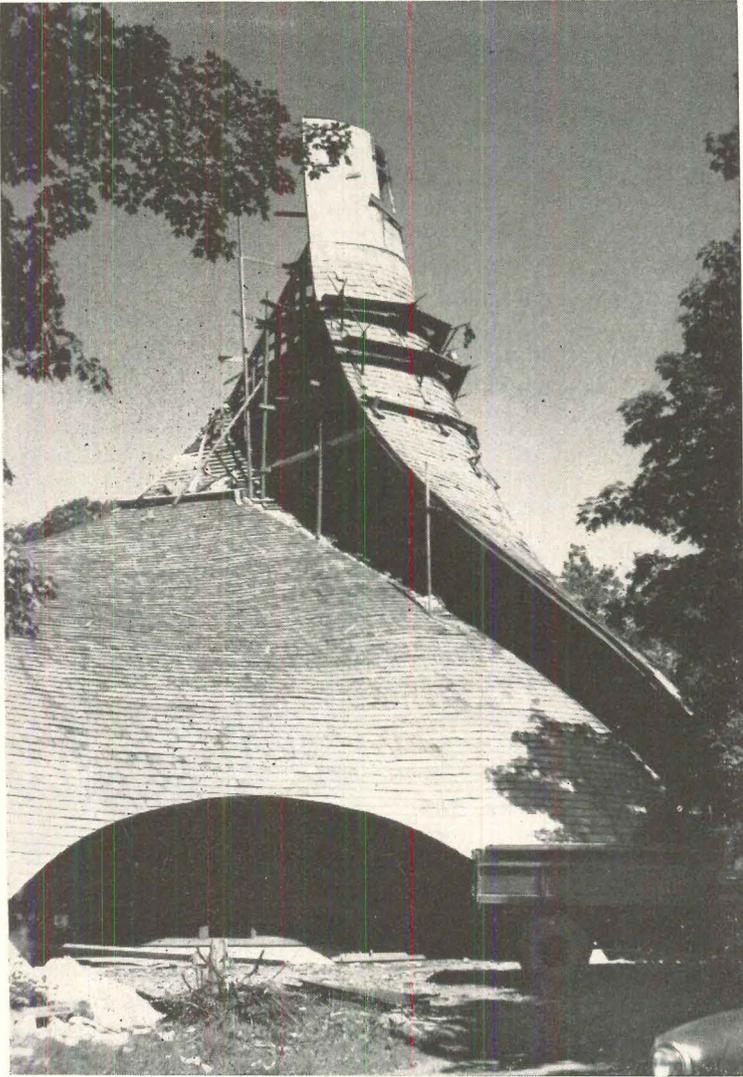
STONE'S LATEST

EDWARD DURELL STONE has been chosen by the St. Louis architectural engineering firm of Sverdrup & Parcel and the owners to act as collaborating architect for the downtown sports stadium in St. Louis. Commented General Lief J. Sverdrup happily: "He's a great guy and one of the greatest living architects."

Stone has also resuscitated an old idea recently. According to one interviewer, Architect Stone would like to see a "dictator of the arts . . . someone who will say 'no' when people want to build a modernistic hot-dog stand in a street of colonial houses." Volunteers to date: none. END

COURTESY WASHINGTON UNIVERSITY NEWS BUREAU

Building in the news



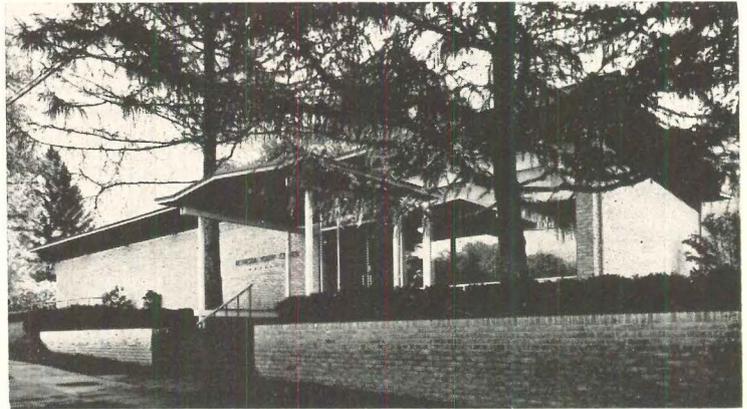
CONNECTICUT CHURCH. Spiraling heavenward in an intricate melding of wood and glass, the United Church of Rowayton, Conn., neared completion last month. Its framework — 19 glue-laminated, arched ribs of Douglas fir, fabricated and shipped from the West Coast—rises to 73 feet at the roof's highest point. Six of the ribs spring from exterior concrete abutments on the ground level, the remaining 13 from the church's floor line. The roof, of wood decking covered with insulation and red cedar shingles, wraps around like a giant conch shell, leaving an opening which will be filled with German stained glass in an abstract design by the architect, Joseph Salerno. The circular nave of the church will seat 260 worshipers and a choir of 30; a lower level houses boiler space and future classrooms. Total cost: under \$200,000. Structural engineer: Wayman C. Wing. General contractor: T. J. Riordan.



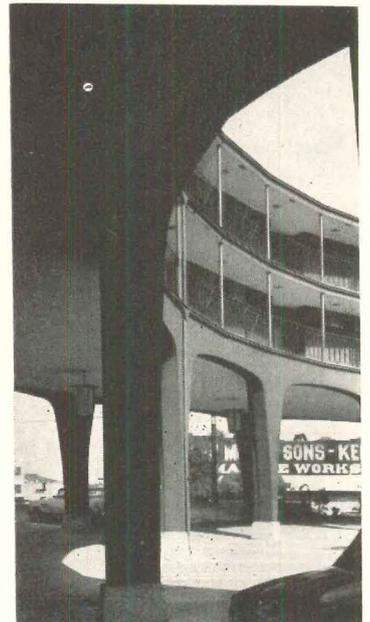
PHOTOS: OC TANNER

MARYLAND YOUTH CENTER. This haven for teen-agers by Architects Keyes, Lethbridge & Condon won a top award in the fourth biennial competition held recently by the AIA Potomac Valley Chapter of Maryland. Built in Bethesda, a Washington suburb, the \$135,000

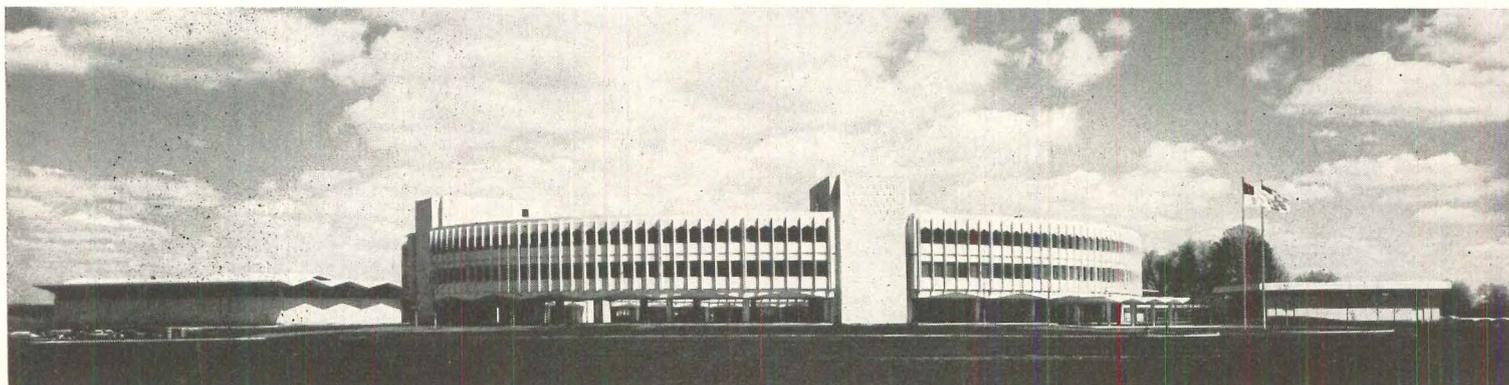
youth center offers a juke box, snack bar, and auditorium on the main floor; ping-pong, ceramics, sculpture and woodworking on a lower level. Engineers: Carl Hansen (structural); Kluckhuhn & McDavid (mechanical). Contractor: E. J. Smith Construction Co.



SAN FRANCISCO MOTEL. Floating on precast concrete stilts 20 feet aboveground, the new Columbus Avenue Motel has opened for business a few blocks from San Francisco's Fisherman's Wharf. Automobiles drive underneath to park around a central court, where there is a raised pavilion containing a bar and lounge. The 47 bedrooms and 12 living rooms have shallow bay windows with exterior railings and sliding glass doors. Perched atop the modern structure, somewhat incongruously, are old-fashioned carriage lamps. Cost: about \$600,000. Architects: Anshen & Allen. Engineers: Robert D. Dewell (structural); K. T. Belotelkin & Associates (mechanical); Charles Krieger (electrical). Owner and builder: Stolte, Inc.



PHOTOS: GEORGE KNIGHT



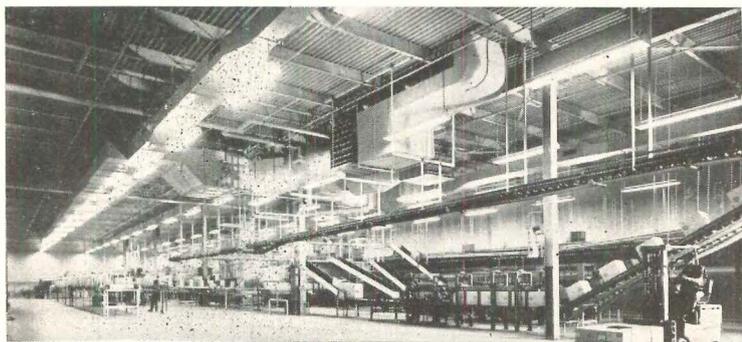
PENNSYLVANIA CENTER. A new headquarters-in-the-round at Valley Forge, Pa., unites formerly scattered facilities of the American Baptist Convention in one \$8.5 million center. The building's 135,740 square feet of office space accommodates 750 workers.

Beyond the three-story office circle of concrete is a fan-shaped printing plant. Architect: Vincent G. Kling. Engineers: McCormick-Taylor Associates (structural); A. Ernest D'Ambly (mechanical and electrical). Contractor: Turner Construction Co.



FLORIDA SHOWROOM. Sleek walls of black Belgian marble and white Italian tile form an appropriately worldly façade for Miami's new International Design Centre, where the latest furnishings are displayed. Concrete frames in the shape of large tuning forks support the walls. The three-level center, with 14,000 square feet of space for 150 exhibits, is open to the public and is also a permanent reference source for designers. Architect: James L. Deen. Cost: \$500,000. General contractor: Taylor Construction Co.

port the walls. The three-level center, with 14,000 square feet of space for 150 exhibits, is open to the public and is also a permanent reference source for designers. Architect: James L. Deen. Cost: \$500,000. General contractor: Taylor Construction Co.



ILLINOIS FACTORY. This odd combination of "Gone With the Wind" architecture and modern manufacturing equipment was recently named one of the "Ten Top Plants of 1962" by *Factory* magazine. It is the Personal Products Corp. office and plant at Wilmington, Ill. The architects, Ralph Stoetzel, Inc., set their colonial-mansie offices behind a

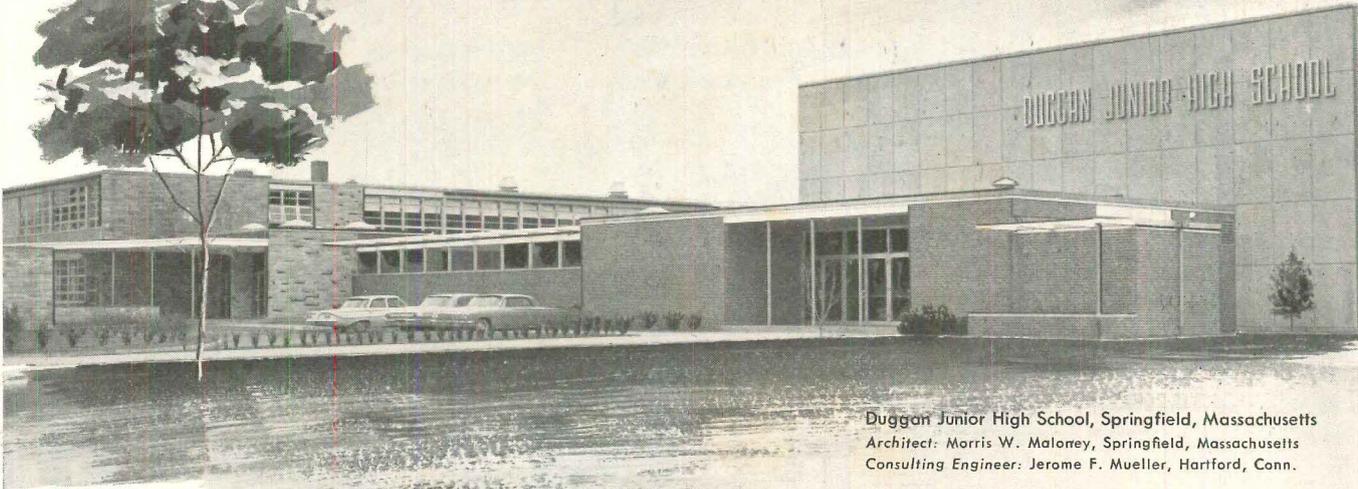
"380,000-gallon, rectangular, oval-ended, multipurpose reflecting pool" used for air conditioning, fire protection, and decoration. Stately white columns front a "great hall and reception area" (complete with crystal chandelier). Beyond, at left, is the highly contemporary-looking factory (see interior, top). Cost: \$2.7 million. Contractor: Joseph T. Carp, Inc.

TENNESSEE BANK. The gleaming roof of this new branch for Nashville's First American National Bank is a faceted, gold-anodized dome spanning 56 feet, its welded aluminum skin of 138 panels supported inside by 160 bolted struts.

John A. Preston & Associates were architects for the \$355,000 building. Structural engineer: Angus R. Jessup. General contractor: W. F. Holt & Sons. The dome was fabricated and erected by Graver Tank & Manufacturing Co.



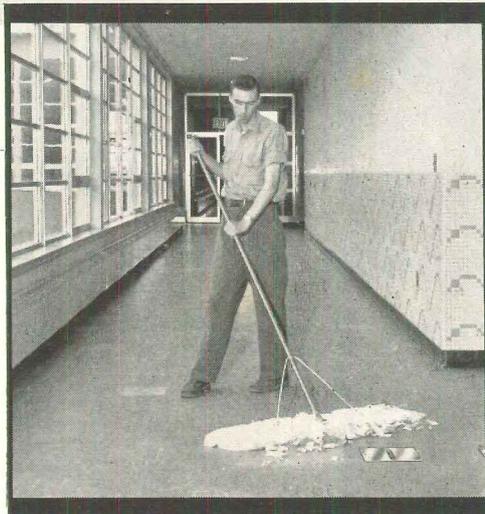
IN THIS NEW SCHOOL . . .
 BETTER MAINTENANCE IS *Built in* . . .



Duggan Junior High School, Springfield, Massachusetts
 Architect: Morris W. Maloney, Springfield, Massachusetts
 Consulting Engineer: Jerome F. Mueller, Hartford, Conn.

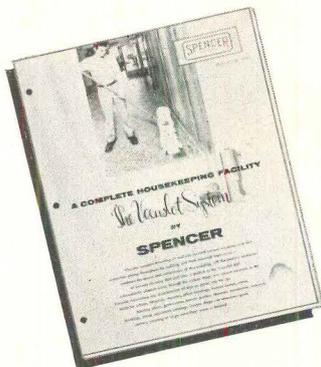
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BOSTON CITY HALL

Forum: I earnestly urge my thousands of colleagues across the country to close ranks in support of the results of the Boston City Hall Competition (FORUM, June '62 and page 104). The debacle of the F.D.R. Memorial Competition must not be repeated.

Perhaps no one will agree fully with the winning design. This is beside the point. The competition was approved by the AIA; the program was carefully prepared by a highly qualified professional adviser; the competition was open to every licensed architect in the nation; and the selection was made by an illustrious jury.

The jury rejected over 200 designs—including mine. However, I feel that the winning design represents the best that the American architectural profession is capable of producing in open and equal competition under the fairest and most favorable circumstances.

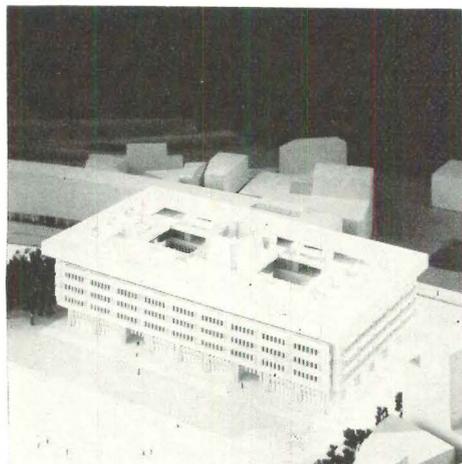
LEONARD J. CURRIE
Architect
Blacksburg
Virginia Polytechnic Institute

ERRATA:

FORUM regrets that in its story the pictures of two of the runners-up and accompanying captions were transposed after final proof-reading. The projects with correct captions:



Architects: F. Bruck and E. Galantay.



Architect: Joseph J. Schiffer.

Forum: Re "Winning Design for Boston's City Hall"—oh, no! You must be fooling!

S. HAROLD FENNO
Architect
Buffalo, N.Y.

Forum: The winner's is the most interesting scheme and needs support. It is still somewhat too busy, but this can be remedied during the working out. It certainly is not Puritan Bostonian; it is a fresh and daring statement which, I believe, will stand its test.

WALTER GROPIUS
Architect
Cambridge, Mass.

EERO SAARINEN

Forum: You did a wonderful job on the Saarinen article (April '62). You're absolutely right: Eero was the complete architect, and a great inspiration to all of us.

WILLIAM W. CAUDILL
Architect
Houston

Forum: You gave me an insight into Eero, and I really had thought that I knew him.

PHILIP JOHNSON
Architect
New York City

Forum: Very thorough and well written . . . a good picture of the sort of man Eero was.

GORDON BUNSHAFT
Architect
New York City

SHOPPING CENTERS

Forum: Re "Must Shopping Centers Be Inhuman?" (June '62), most of Mr. Rouse's comments are in complete accord with our own findings.

We have found, however, that an underground truck route will be the cheapest solution if extensive basement areas are constructed. We have also proved to our full satisfaction, especially where an enclosed pedestrian area is part of the project, that central heating and air conditioning is cheaper in initial cost and especially in operation.

One complaint against FORUM: All of the pictures in this article give credit to the photographer but not to the architect. I would hope that this was only an oversight.

VICTOR GRUEN
Architect
New York City

■ *Apologies to Kenneth C. Welch, Pietro Beluschi, Dan Kiley, and Fisher, Nes, Campbell & Assoc., architects for Mondawmin Shopping Center; The Williams Construction Co., designers for Town and Country Shopping Center; Victor Gruen, architect for Cherry Hill Center, and Kenneth C. Welch, architect for North Star Mall.*—ED.

Forum: It is good when men of Mr. Rouse's position share their positive concerns about shopping centers—and it is reassuring when their findings confirm our own convictions.

His present rejection of truck tunnels follows our decision at Old Orchard seven years ago. We felt there are certain stores—small

shops and especially food stores—which should always be serviced at their selling level.

We like to think we are designing a frame for each merchant and his merchandise. So far, however, most closed-mall projects feel like *one* big store in which the competitive individuality of the many different enterprises is not sufficiently expressed.

I am afraid all of us may be submerged in timid "good taste" and suspect there may be a place for some beautiful, slightly rowdy centers. Elegant, slender blondes are lovely, but once in a while there is a spot for a lusty redhead. Please note I said "beautiful"—there are already plenty of ugly and worse than rowdy centers.

RICHARD M. BENNETT
Loeb, Schlossman & Bennett, Architects
Chicago

CHICAGO

Forum: Your May issue on Chicago was read with great enjoyment. The personality of a city can become very real through this type of exploration in detail. It seems to me that other cities might receive similar commendable treatment.

WAYNE M. SWAN
Palo Alto, Calif.

Forum: A magnificent issue in scope and depth; it rings true all the way.

HARRY WEESE
Architect
Chicago

Forum: Congratulations for a truly fine representation of Chicago . . . an exciting thing to see and read.

J. O. HEDRICH
Hedrich-Blessing, Photographers
Chicago

Forum: With nostalgia I read Douglas Haskell's reminiscence of the proposal for Grant Park Plaza. Had Eliel Saarinen's plans been accepted, one feature alone would have justified, over and over, the Saarinen view; his underground parking scheme anticipated the need for such space and would have proved self-supporting through the years. Fact is, a version of his plan has been put into effect more than a quarter-century after this gifted architect drew up his.

ALBERT CHRIST-JANER
Dean, The Art School,
Pratt Institute
Brooklyn

Forum: Your May issue indeed measures up to its promise: "a milestone in architectural journalism."

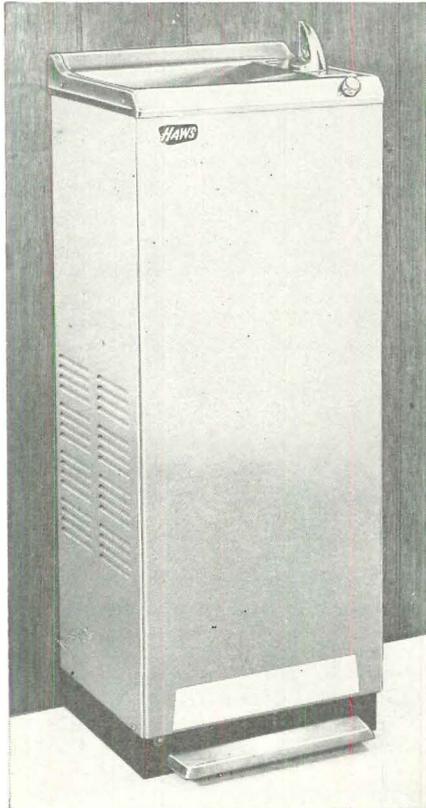
FREDERICK T. ASCHMAN
Engineering & Planning
Consultant
Chicago

SHELL CONFERENCE

Forum: The June issue states that the forthcoming World Conference on Shell Structures in San Francisco October 1-4 is to be sponsored by the University of California. Actually there are two other sponsors: the Building Research Advisory Board of the National Academy of Sciences-Na-

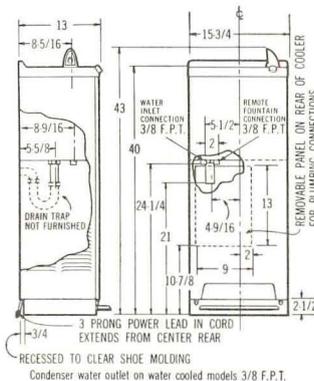
continued on page 18

THE NEATEST WATER COOLER OF THEM ALL!... IT'S HAWS NEW "WALL-FLUSH" MODEL!



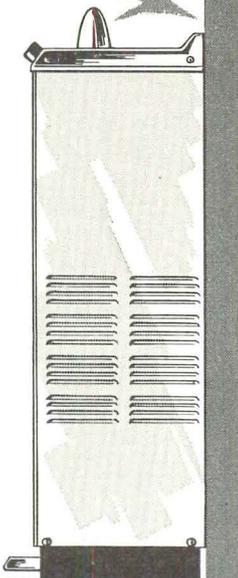
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tional Research Council, and the International Association for Shell Structures.

There are 14 major invited speakers from ten countries. An additional 50 or 60 speakers will be selected to present papers on specific subjects.

ROBERT P. DARLINGTON
Building Research
Advisory Board

Washington, D. C.

Major speakers will include Engineers R. E. Rowe of London, Professor A. L. Bouma of Delft, Professor W. Olszack of Warsaw, and Professor W. Zerna of Hanover; Architects Dr. Frei Otto of Berlin, Felix Candela of Mexico City, and J. A. Stein of New Delhi; and Acoustical Consultant Robert Newman of Cambridge, Mass.—ED.

LIFT-SLAB TOWERS

Forum: Inadvertently a credit line was given to Migdal & Layne as consulting engineers for our Huron Towers project ("Lift-Slab Apartments," April 1962), instead of E. G. Siegel Associates of Detroit.

HARRY S. KING

Detroit

King & Lewis, Architects

FORUM'S FORMAT

Forum: Congratulations on the format FORUM has acquired. It seems to have the clean, crisp refinement of Mies van der Rohe's architecture.

JOHN R. CULLER

Spokane, Wash.

Architect

Forum: We commend the editors of FORUM for their continuing concern for problems involving the entire building industry.

GEORGE ALBERS

Decatur, Ill.

Architect

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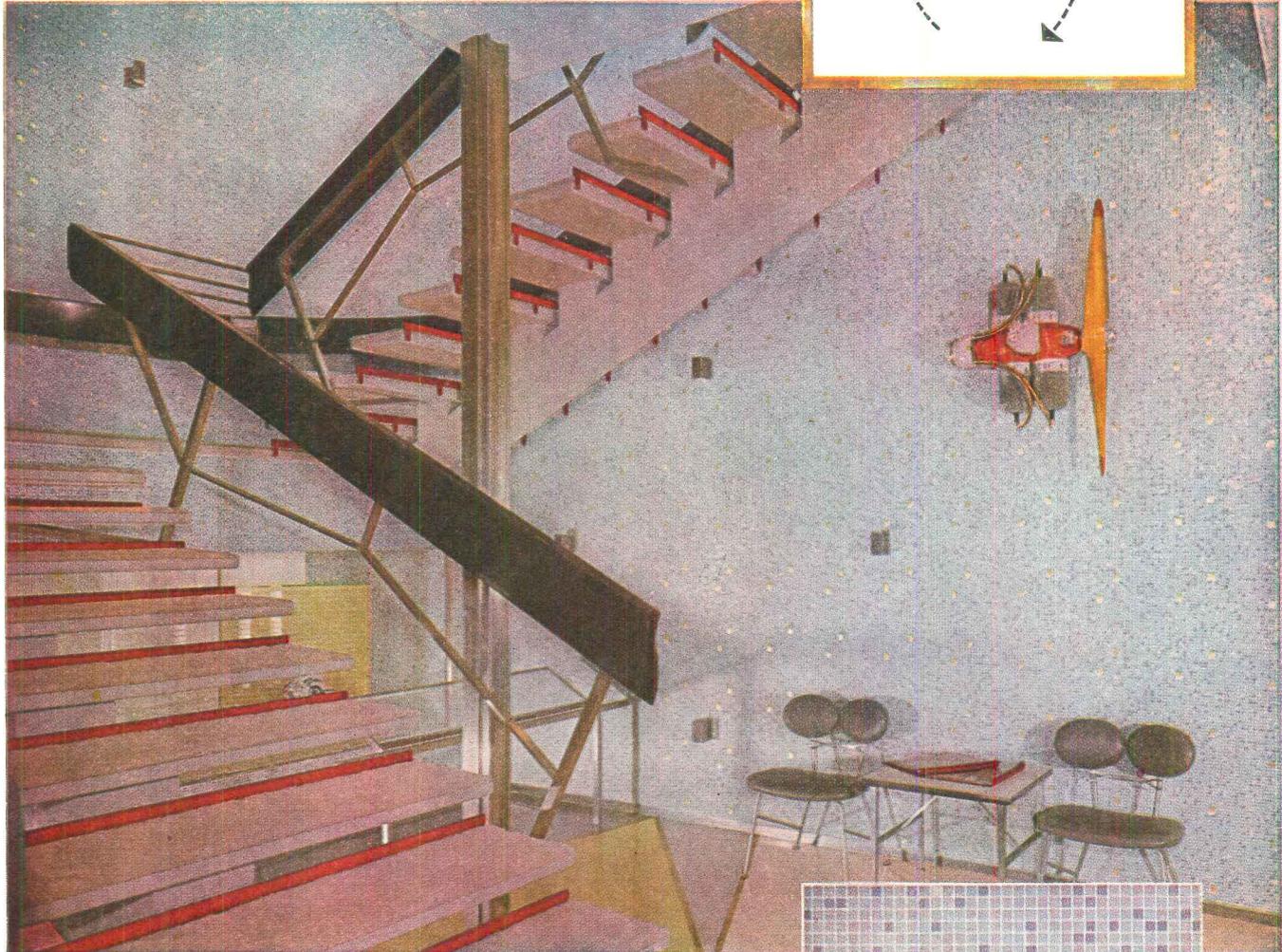
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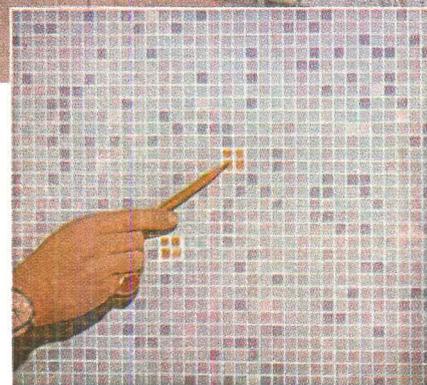
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*U.S. Patent #2,887,867

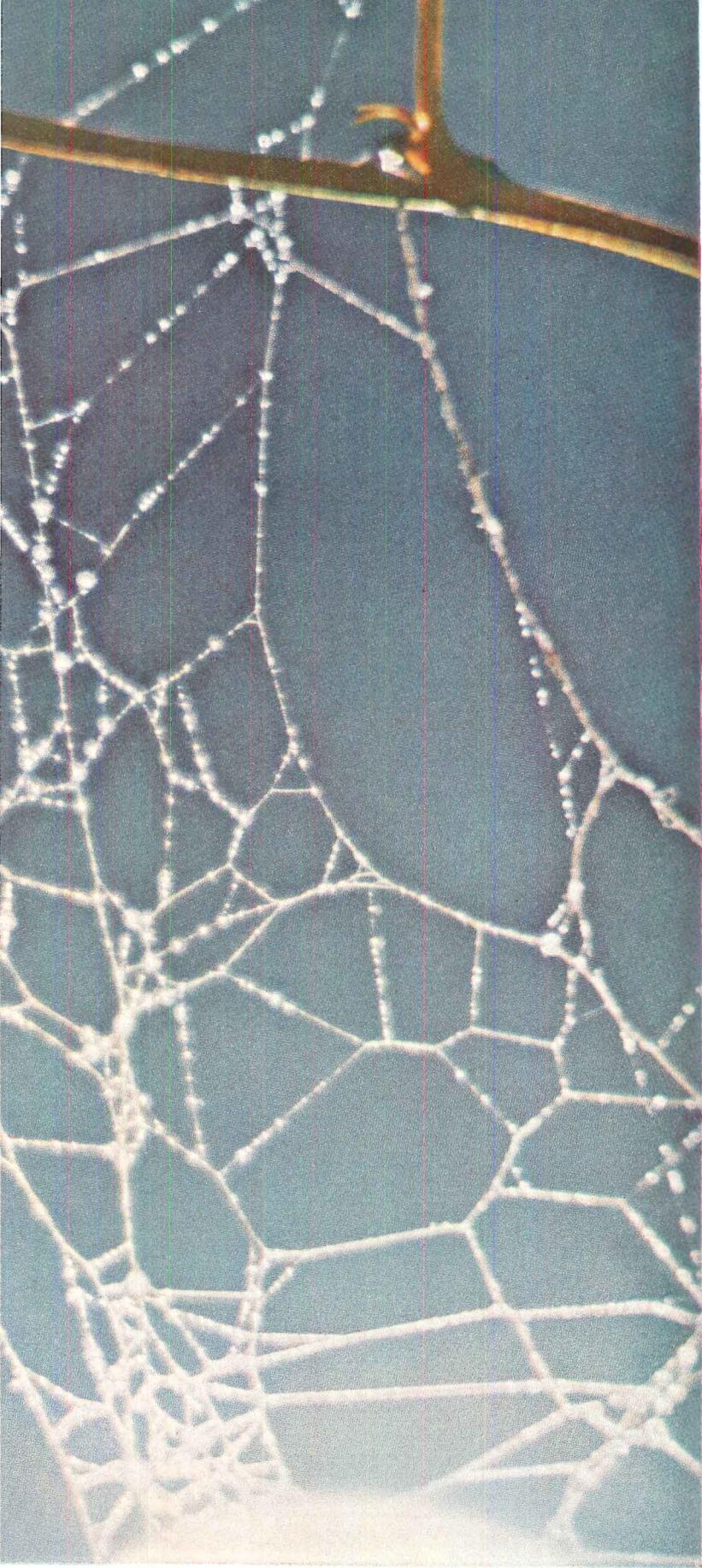


Buckshot pattern on field of Dresden Blue
McCulloch Corp. Showroom, Los Angeles, Calif.
Designed by Paul Laszlo, A.S.I.D., Beverly Hills, Calif.



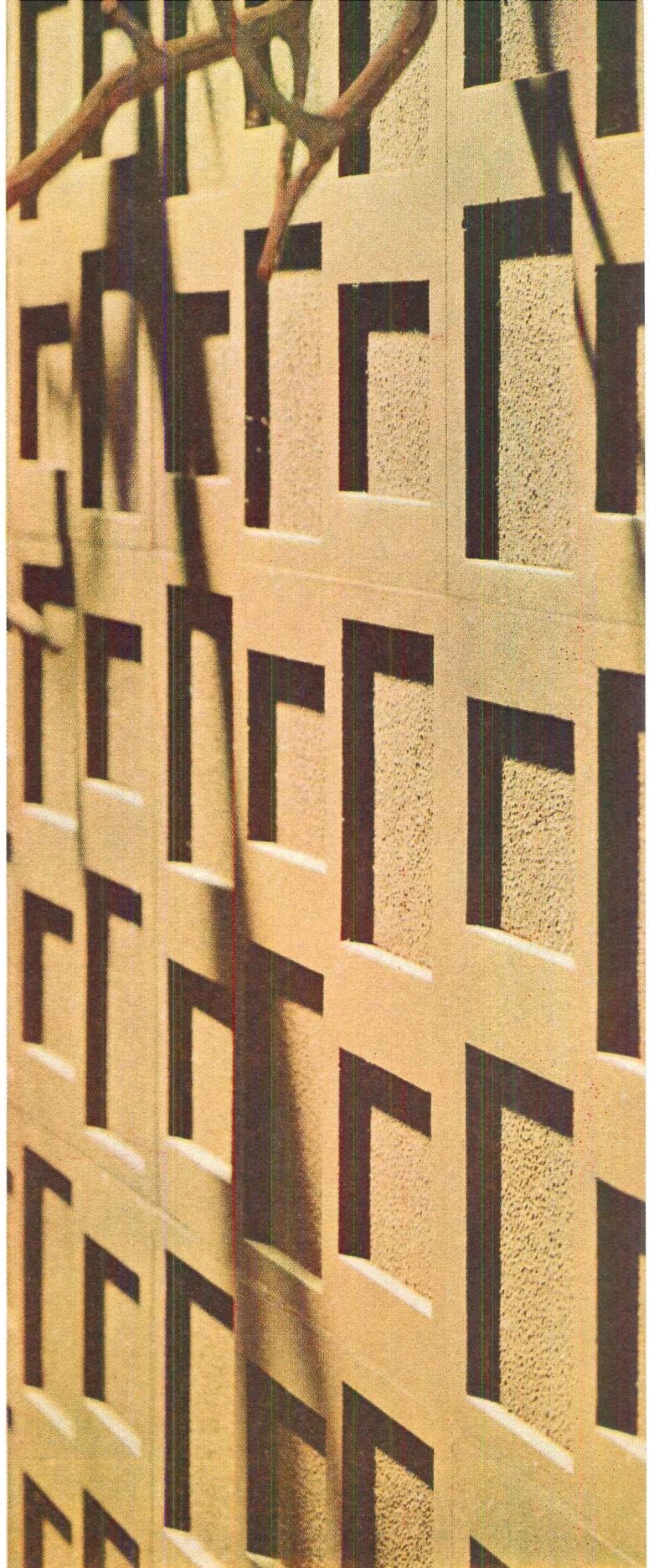
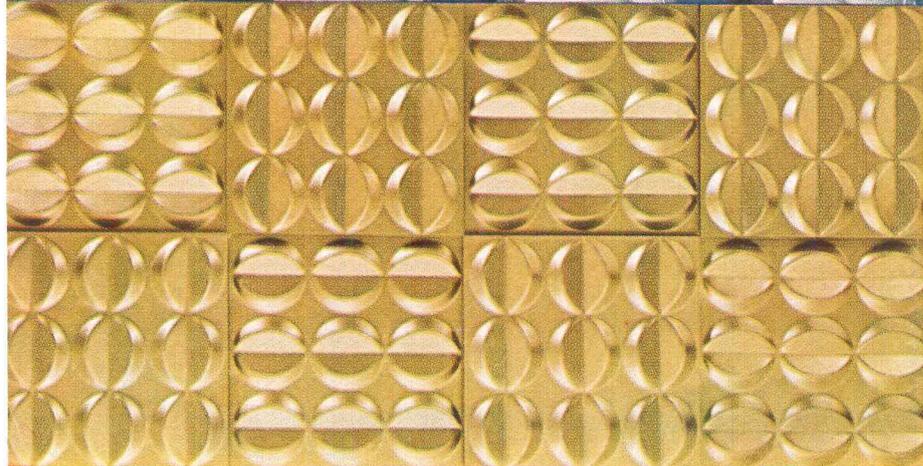
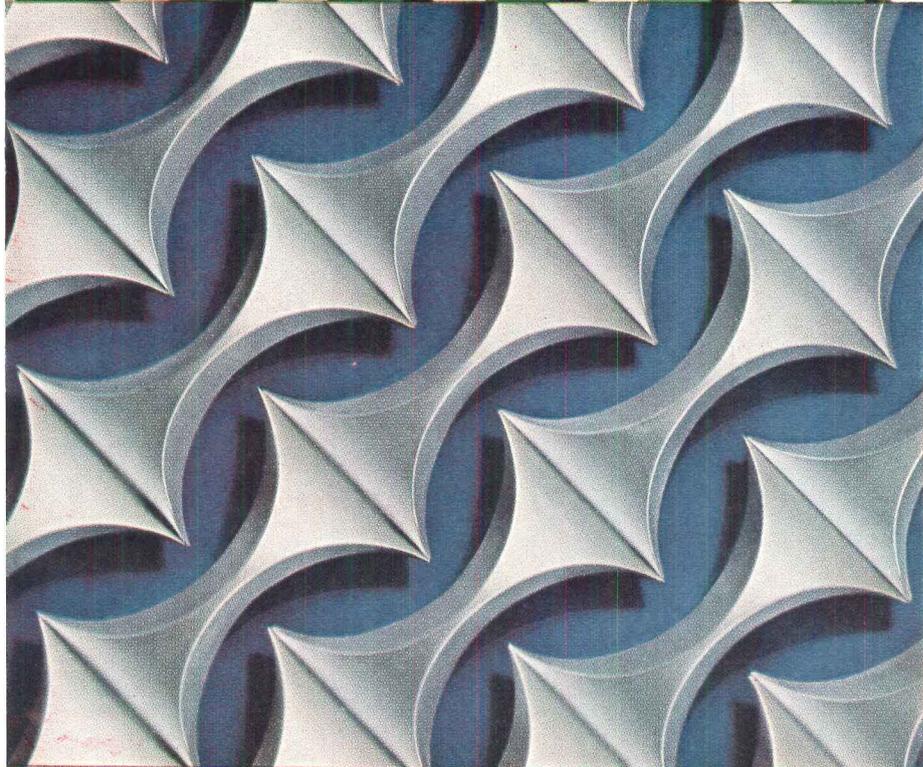
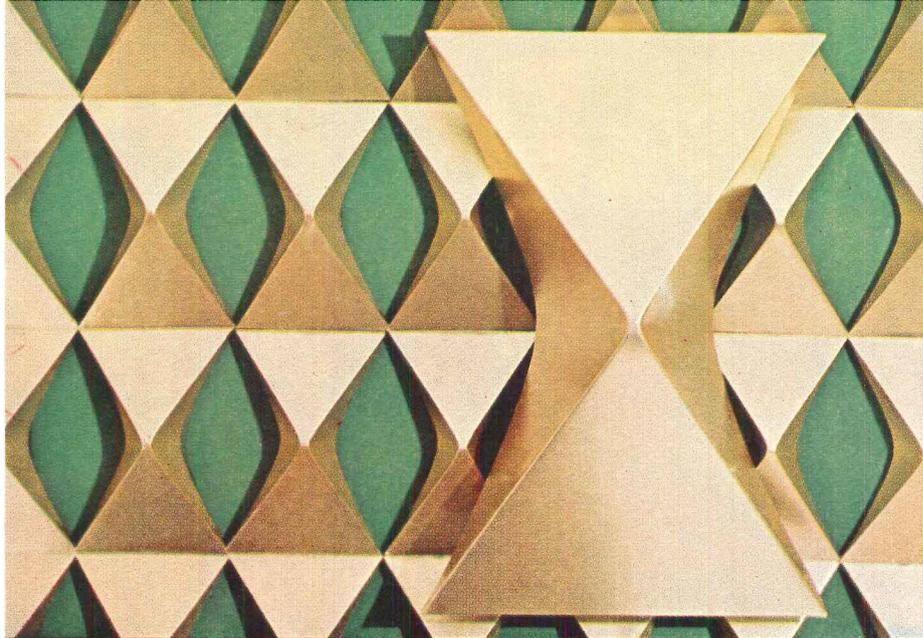
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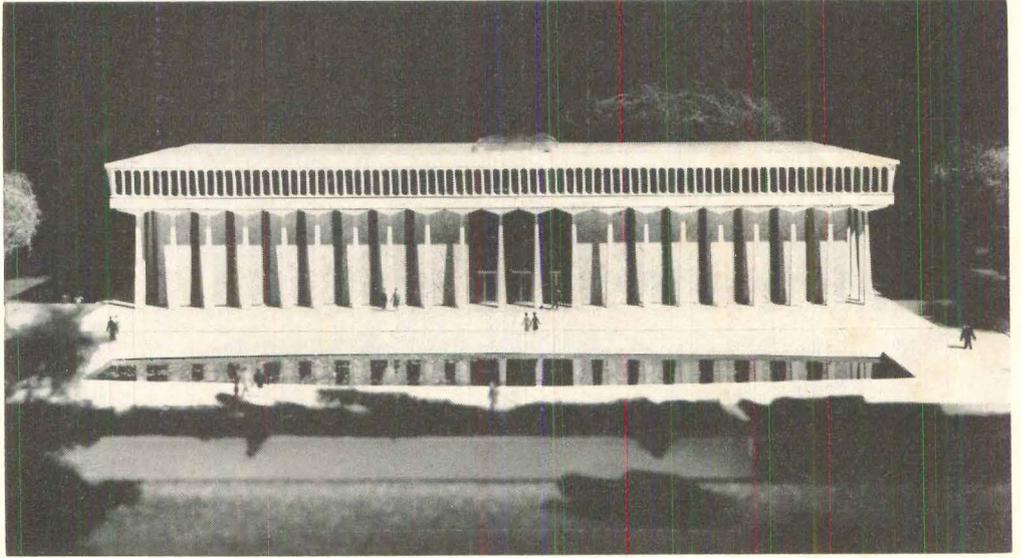
Pittsburgh apartment tower by Webb & Knapp (below)

Winning design for Washington renewal (page 39)

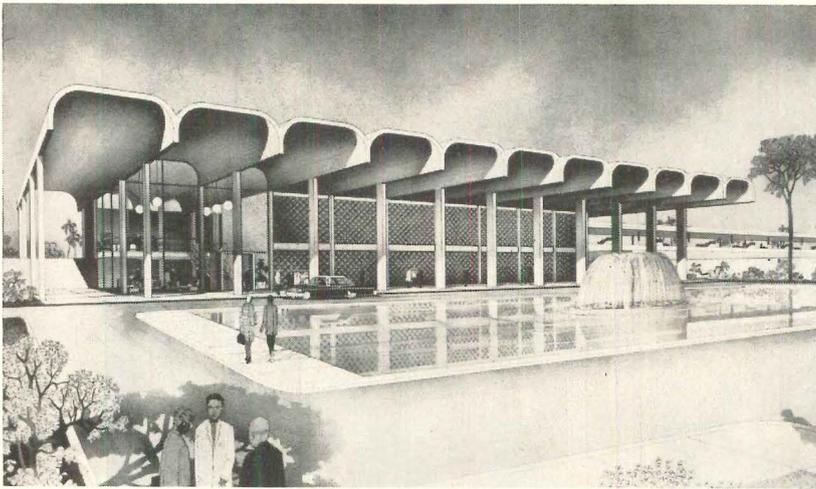
Three plans for rebuilding Manhattan's West Side (page 41)



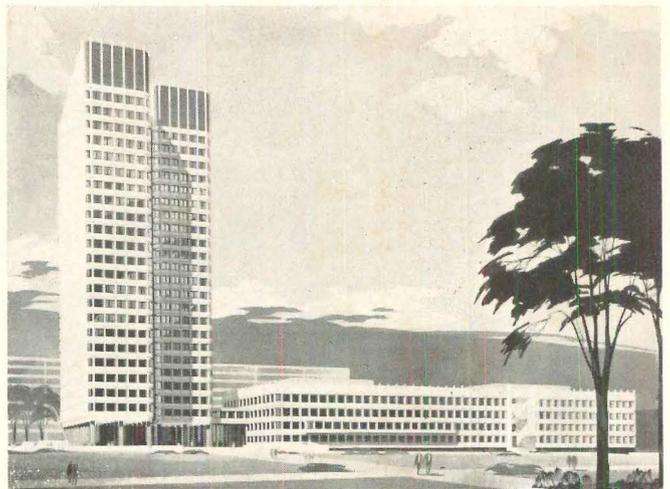
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1. PITTSBURGH APARTMENTS. In the planning stage since 1959, when Pittsburgh's Urban Redevelopment Authority selected Webb & Knapp as the principal private developer for Lower Hill, the Washington Plaza Apartments moved a step closer to reality this summer when ground was broken for the first tower. Somewhat changed since earlier plans, the three towers will be 23 stories tall and of reinforced concrete construction. There will be some 935 apartments in the completed project. Architects col-

laborating on Washington Plaza are I. M. Pei and Deeter & Ritchey.

2. VIETNAMESE WATER PLANT. For the Government of South Vietnam, Antonin Raymond & L. L. Rado have designed an elegant pumping station and water treatment plant on the outskirts of Saigon. There will be a few offices inside, but the bulk of the space will be taken up by machinery, part of it visible through special windows. The structure is reinforced concrete; the roof's flattened vaults overhang all

around, cantilevered at front and back. Consulting engineer: Hydrotechnic Corp.

3. PRINCETON SCHOOL. With part of an anonymous \$35 million gift to the Woodrow Wilson School of Public and International Affairs, Princeton commissioned Minoru Yamasaki to design this new school building. The present Wilson Hall will be moved and another building torn down. On the lofty first floor: a large auditorium and a library with study carrels suspended from the ceiling. In the

"cornice": faculty offices.

4. BOSTON OFFICES. In downtown Boston, already showing signs of radical change, the General Services Administration will build this Federal Office Building sheathed in precast concrete. The twin towers, 26 stories high, one offset from the other, will be for general government offices. Concentrated in the low wing: public services and offices that require large amounts of space. The design is by The Architects Collaborative and Samuel Glaser Associates. Cost: \$28.9 million.

continued on page 39

where the hardware schedule is complex,

this man specifies...assured of

EXPERIENCED ORDER ANALYSIS

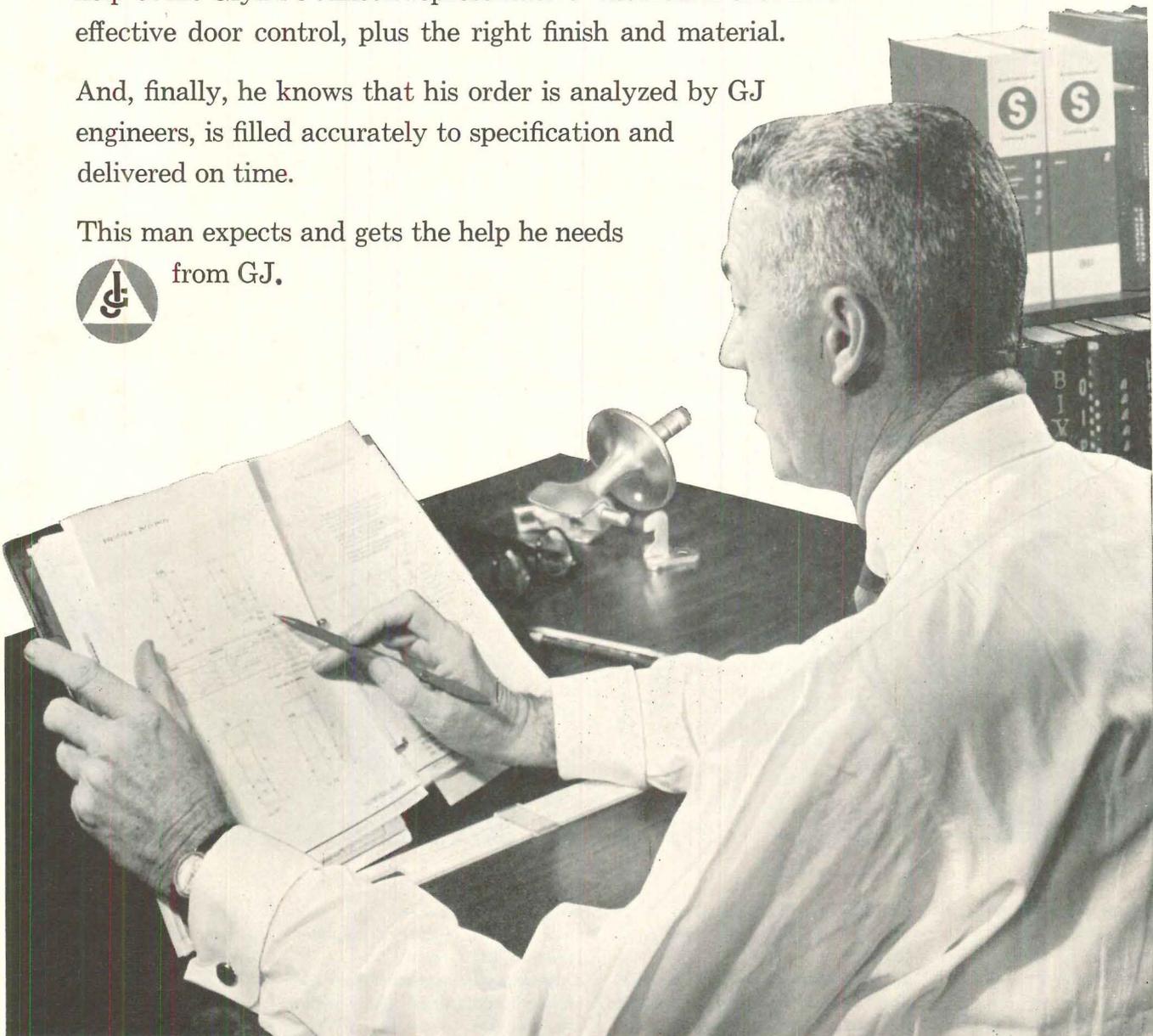
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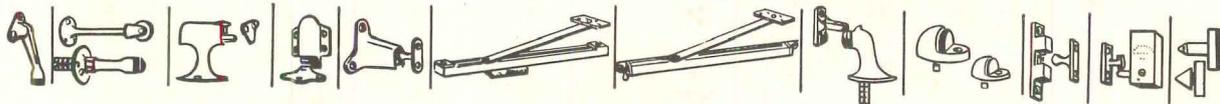
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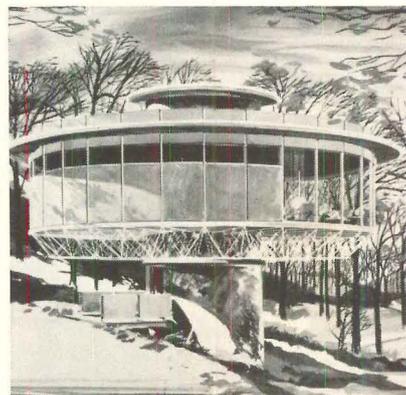


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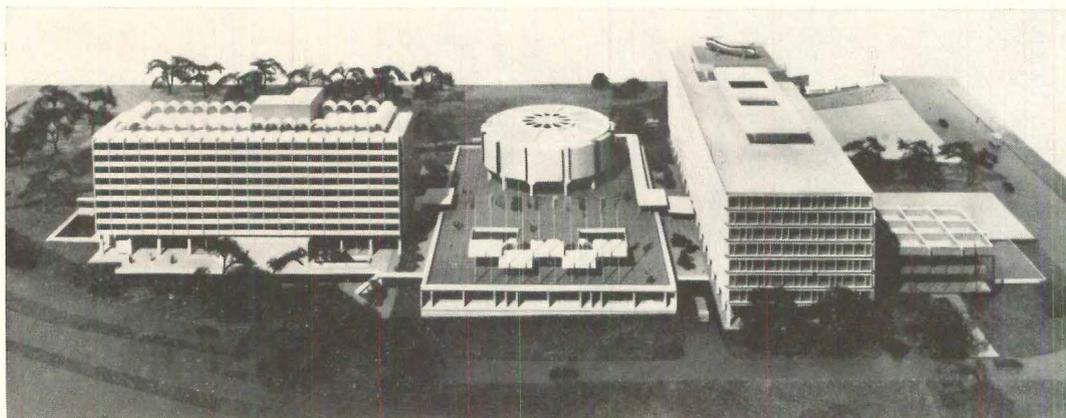
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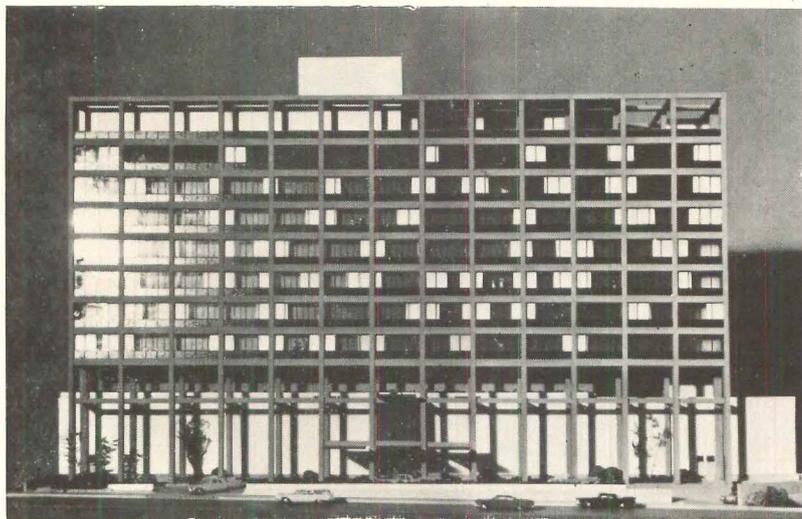
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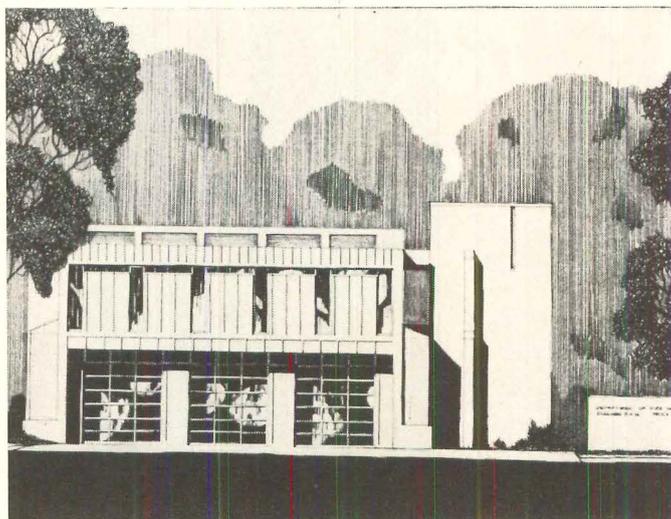
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5. LAFAYETTE LIBRARY. Rough gray brick, cast in large forms and then broken in half to expose the texture, will adorn the walls of Architect Vincent Kling's new library at Lafayette College, Easton, Pa. The soft gray color and limestone trim will match other buildings on the campus. Initially, the college will build three equal units, but a fourth may be added when more space is needed.

6. WASHINGTON RENEWAL. One of the choicest commercial sites at the disposal of the Redevelop-

ment Land Agency in Washington, D.C., the "Portal Site," is likely to go to O. Roy Chalk's D.C. Realty & Development Corp., whose architects are Morris Lapidus, Harle & Liebman. The architectural jury praised the winning designers for their idea of an international trade and exhibit center with motel (left), and offices (right).

7. HOLLYWOOD CLUB. Wielding a bunny-topped shovel, Hugh Hefner, the originator of *Playboy* magazine, broke ground recently for the Hollywood Playboy Club

and Hotel, remarking that "the facilities will enable urban man to spend a complete vacation without leaving the grounds." The exterior, by Curtis & Davis, gives hardly a hint of activities inside: it is a sober concrete grid above a 30-foot colonnade. Behind will be 200 guest rooms, restaurants, a "playpen," and a swimming pool.

8 & 9. HOUSING AT PITT. As an experiment, the University of Pittsburgh is considering these prototype rental units for its faculty. The plan is to scatter them over a steep hillside the

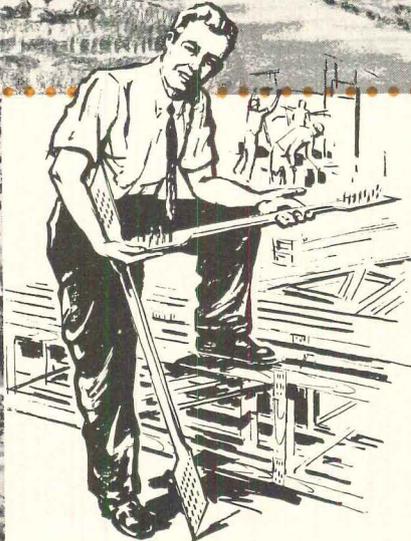
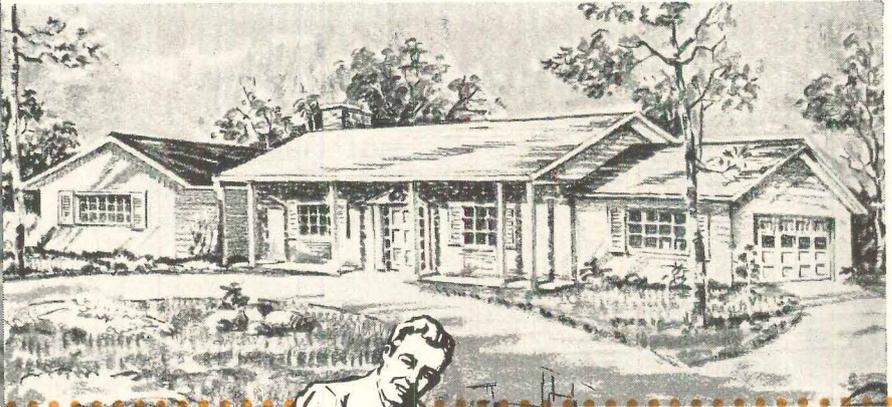
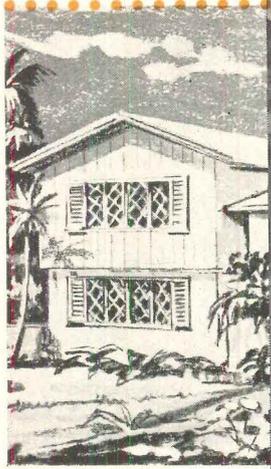
university owns and plans to keep as a big backyard for faculty tenants. Deeter & Ritchey and Max Abramovitz designed these two, both on single floors, cantilevered from central shafts.

10. NEW HAVEN FIRE STATION. Trying to make a fire station fit comfortably on a residential street in New Haven, Architect Earl P. Carlin kept the scale of the old neighborhood, as well as the brick walls and second-story window spacing. No attempt was made to disguise the station's purpose or turn it into a "house."

continued on page 41

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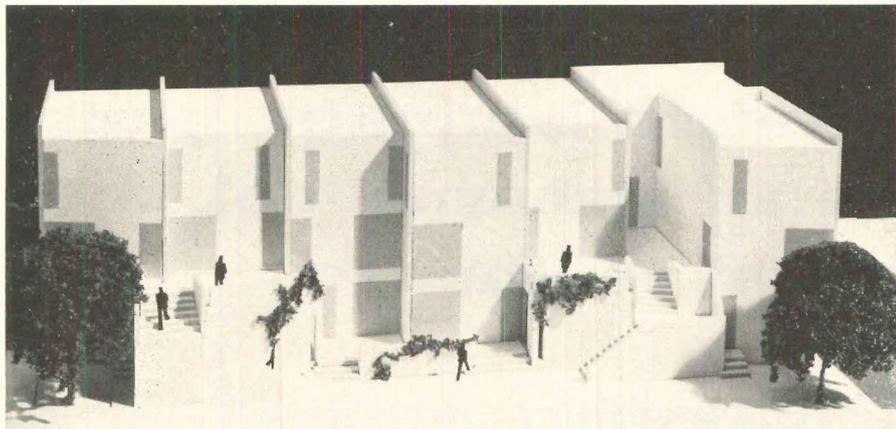
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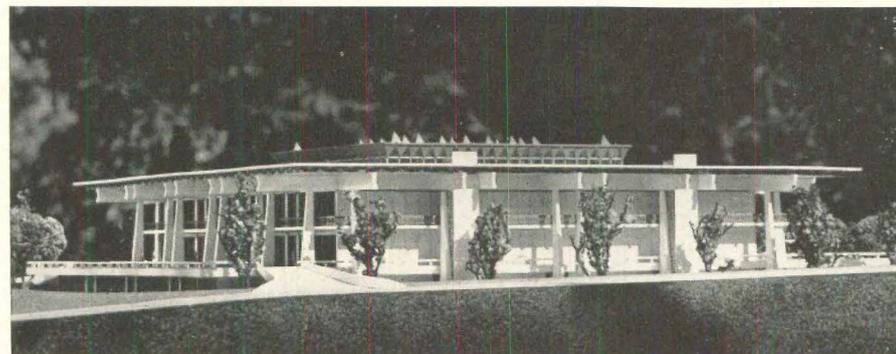
In Canada:

Automated Building Components Inc. (Canada)

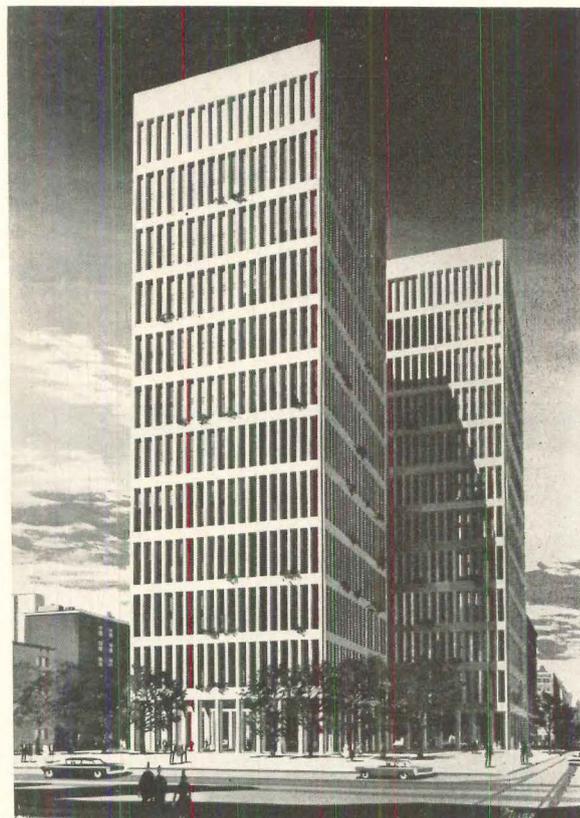
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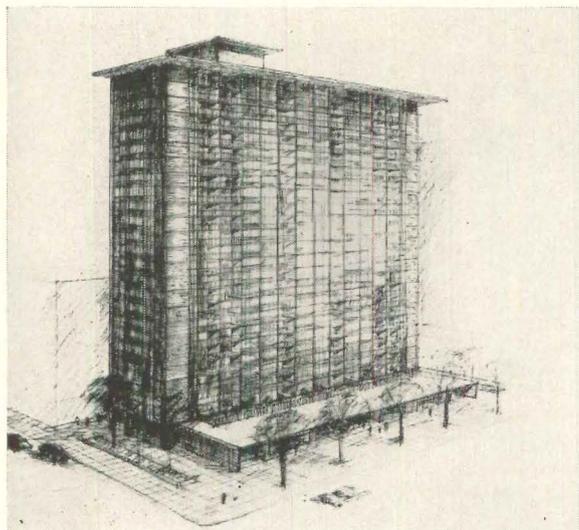
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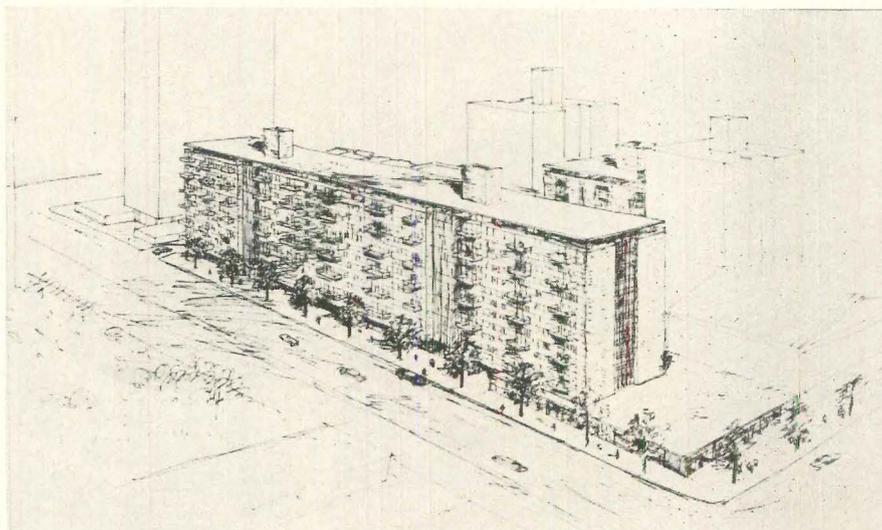
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11. SUBURBAN APARTMENTS. In Evanston, Ill., the new Chicago firm of Tigerman & Koglin has designed this apartment house for Developers Joel Dalkin and Alfred London. Separate entrances, parapet walls between apartments, and the building's small size will give the effect of townhouses. Four apartments will be at grade; the other seven, all duplexes, will have entrances one flight above the street.

12. CALIFORNIA LIBRARY. Deems-Martin Associates, the first local architects commissioned by the

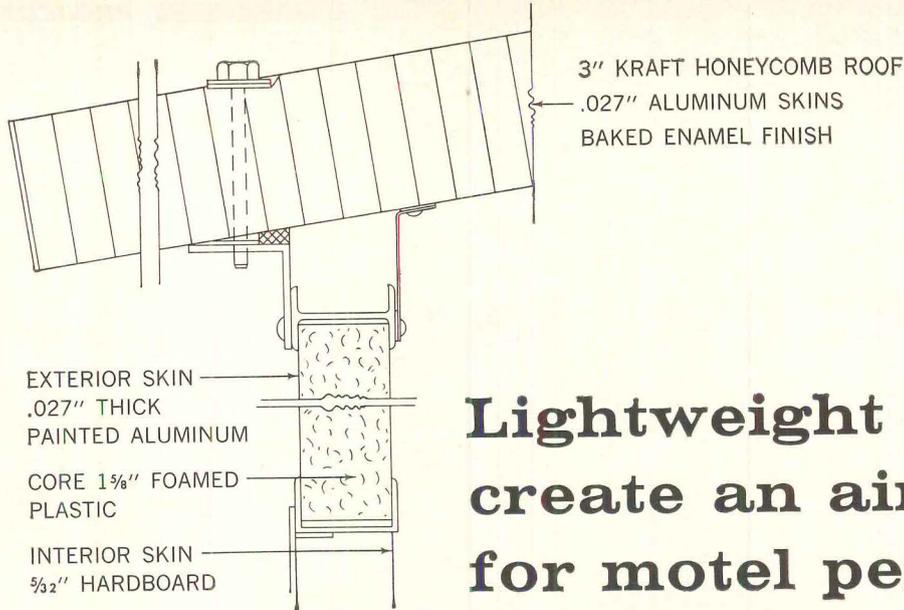
University of California for its new San Diego campus, have designed a combined library and classroom building for the School of Science & Engineering. Set off from the taller buildings around it by a broad open court, the library will be at the focal point of the campus. The central part of the roof will be a raised space frame pierced by skylights.

NEW YORK CITY RENEWAL. Sweeping changes for 20 blocks of New York City—from Central Park West to Amsterdam Ave. and from 87th to 97th Streets—

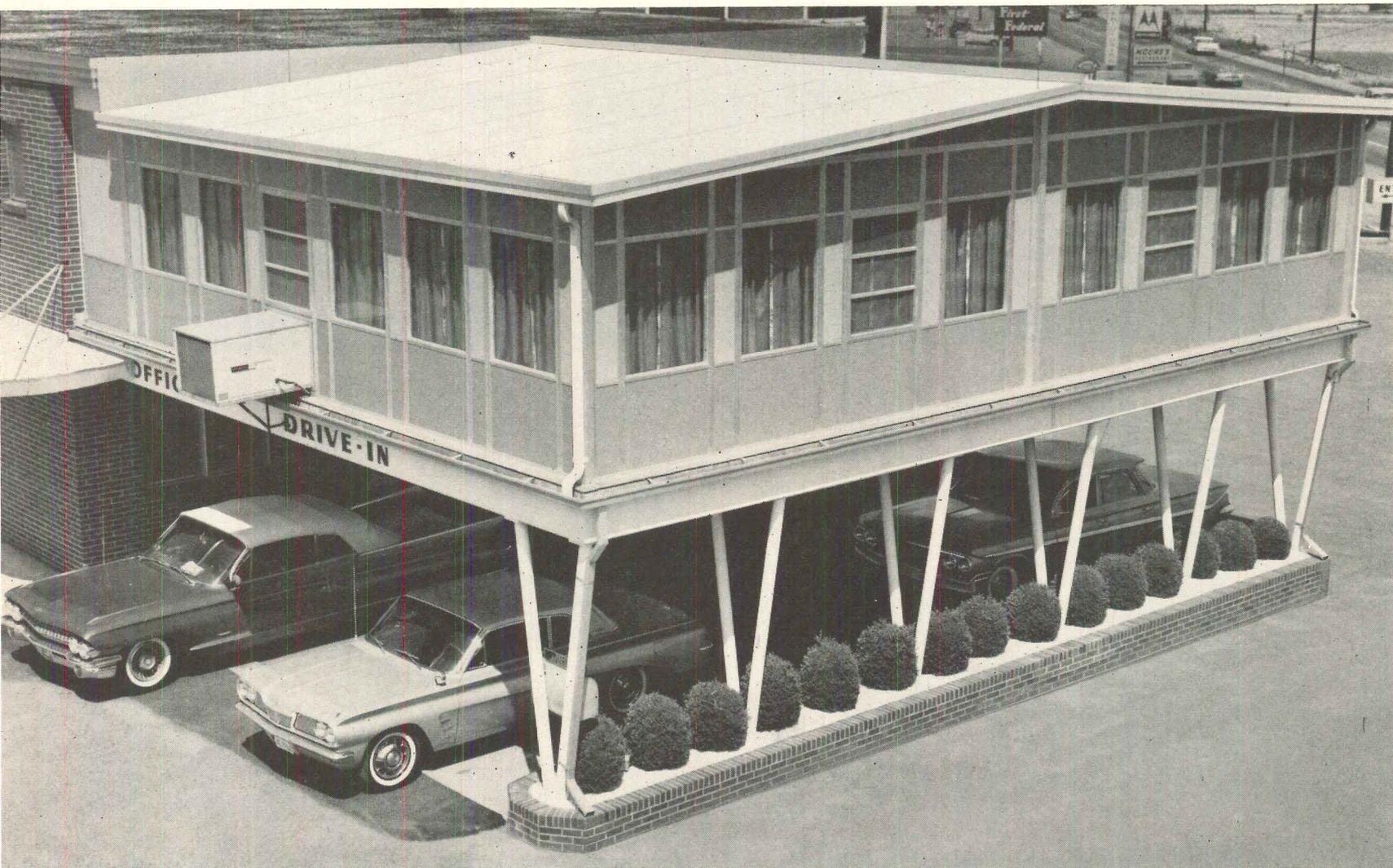
were approved this summer by the city's Board of Estimate. The plan will add to the West Side about 7,800 new apartments of three types: public housing, limited-profit, middle-income housing, and fully taxable units. In addition to all this new construction, the West Side Urban Renewal Plan calls for rehabilitating 350 brownstones and conserving some 3,600 existing apartments.

Above are three of the first designs for tentative sponsors. Columbus Park Towers (13) is a

middle-income co-op, designed by Ballard, Todd & Snibbe. A 24-story slab tower will rise over a two-level platform containing community services. No. 14, for Saul Jarcho and Samuel J. Landau, is one of the largest projects: 350 apartments in two tall towers. Architect Edward Durell Stone has included a colonnade, shops, and a sunken plaza at the base. No. 15, also by Ballard, Todd & Snibbe, is a middle-income rental project for H.R.H. Construction Corp. and Renewal & Redevelopment Co. **END**



Lightweight laminated panels create an airborne look for motel penthouse



Conference room of Holiday Inn® of Chattanooga—East. Roof and sidewall panels made by Bellaire Products, Inc., Bradenton, Florida.

Because the roof and walls of this large motel conference room are made of lightweight laminated panels, only a graceful row of pylons is needed for support. The panels also provide interior and exterior decoration as well as excellent thermal insulation.

The roof panels are 3-inch sandwiches of kraft honeycomb and sheet aluminum, with easily maintained baked enamel finish. Wall panels combine a core of foamed plastic with skins of painted aluminum and decorative hardboard. An Armstrong

contact adhesive bonds these components into strong, rigid panels which, in this case, are load bearing.

Armstrong contact adhesives have high resistance to static load and heat, with excellent weathering and aging characteristics. These properties help designers achieve many unusual effects in panel construction. For more information on contact adhesives for laminated panels, write Armstrong Cork Company, 8008 Drake Street, Lancaster, Pennsylvania.

Armstrong ADHESIVES

Collapsible concert shell (below)
Two heat-removing lights (page 44)
Individual stadium seats (page 45)

MIKE MEYERS



STEEL CONCERT SHELL

This concert shell, which Acoustical Experts Bolt, Beranek & Newman and Theater Consultant George C. Izenour devised for the Minneapolis Symphony in the University of Minnesota's Northrop Auditorium, is being adapted to other theaters and auditoriums whose halls are sometimes pressed into service by visiting symphony orchestras.

Northrop is a very large space, seating nearly 5,000, and is used for many traveling theatrical and musical events as well as the Symphony's concerts. The problem confronting BB&N and Professor Izenour was to improve the hall's acoustics for concerts without interfering with the stage, which had to go on functioning as a working stage for opera, ballet, and theatrical productions. The solution is this demountable shell, mechanized so that side walls and ceiling fold and slide away, leaving only the rear wall in place. The complete operation takes one man 10 minutes.

After some preliminary efforts with a small plywood shell, BB&N and Izenour settled on steel as the lightest material for the purpose. Skins of sheet steel 3/32 inch thick form the shell, coated on the back with 1/8 inch of damping compound. Aware that surface modulation, i.e., a geometric

pattern, is essential to good acoustics, Izenour turned the pattern into a space frame of diagonally intersecting trusses. Result: the acoustical surface is also the primary structure.

Not part of the shell, but essential to it, is a canopy of Plexiglas sheets which extends out over the audience. This reinforces the sound of the string section, which is generally placed too far forward on the stage to be helped by the main enclosure.

The Northrop shell weighs 30 tons, is 50 feet wide, 30 feet high, and 35 feet deep. A somewhat smaller version is going into a new theater planned for Wittenberg University in Springfield, Ohio.

Unlike the Northrop shell, the Wittenberg shell was designed into the theater from the beginning (Izenour is the theater's designer). It will weigh 28 tons and fold into a space 3 feet deep, 60 feet long, and 26 feet high. This smaller version will cost about \$60,000, and will unfold automatically in 20 minutes to convert the space into a full-fledged concert hall.

Acoustical designers: Bolt, Beranek & Newman, Inc., 50 Moulton St., Cambridge 38, Mass.; *Theater design and engineering consultant:* George C. Izenour, 205 Park St., P. O. Box 1699, Yale Station, New Haven, Conn.

FLYING CRANE

The biggest helicopter this side of the Iron Curtain is Sikorsky's new S-64 Skycrane, capable of hoisting a 6- to 10-ton load. The Skycrane's skinny silhouette shows one reason for its big lift: it has a cockpit but no cabin. Instead, it carries everything externally, straddling vehicles or special pods packed with equipment, or even people. Although the first S-64s are likely to be for military purposes, Sikorsky expects that others will be used to ferry equipment to construction projects in remote areas.

The big lift comes from two Pratt & Whitney turbo-shaft engines of 4,050 horsepower each mounted forward of the six-blade main rotor. The fuselage clears the ground by 9 feet, enabling the S-64 to straddle its cargo and taxi with it. A second seat and set of flight controls allows the pilot to face backward for a clear, close-up view of the site where he picks up or deposits cargo. The S-64 also has a hydraulic hoist for raising or lowering cargo in places inaccessible even to a helicopter. Maximum speed: 122 miles per hour. Cost: \$2 million.

Manufacturer: Sikorsky Aircraft, Division of United Aircraft Corp., Stratford, Conn.



continued on page 44

Engineered BEAUTY and PERMANENCE

architectural metal work in doors and framing

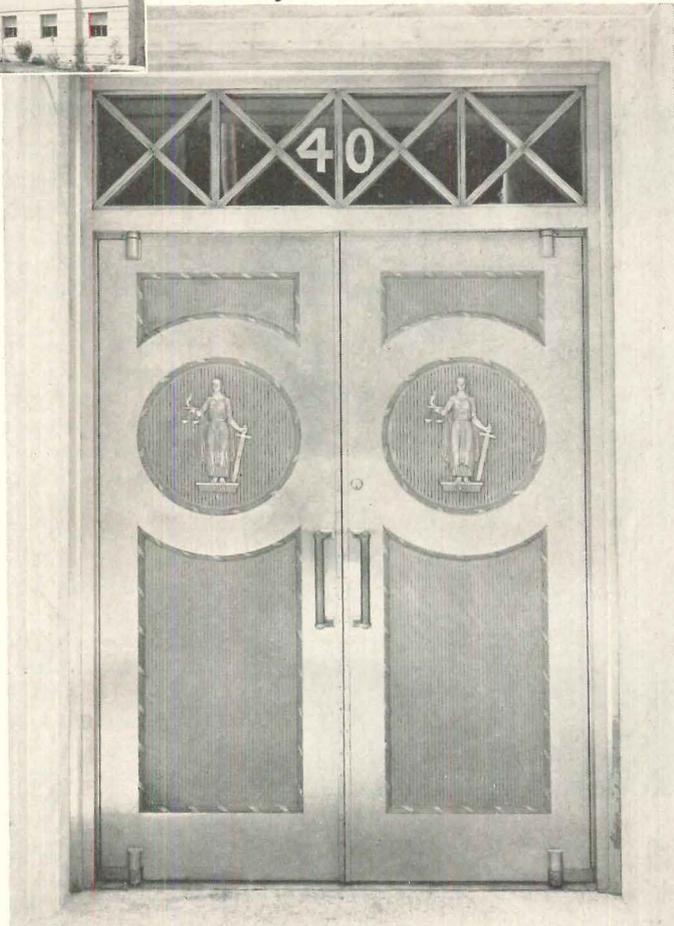


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Architect:
 A. Thomas Bradbury

One of the Bronze
 entrances to the
 Judicial Building is
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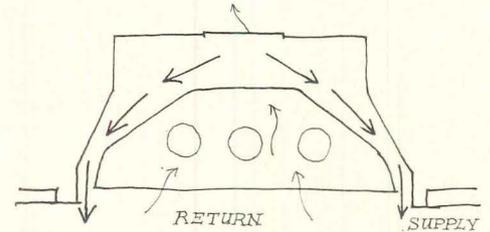
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COOL FLUORESCENTS

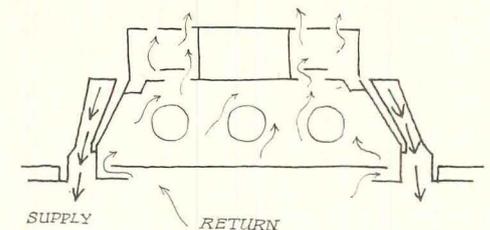
Two new ceiling air diffusers and lighting fixtures remove heat from fluorescent lamps before it enters the room below. Day-Brite Lighting and Barber-Colman call their model *Clymatron*; the Benjamin Division of Thomas Industries calls its version *Heat Removal Troffers*. Both are recessed fixtures in standard sizes that do essentially the same job but differ in the way they handle air flow.



Clymatron, as the arrows on the drawing show, supplies air through openings along both sides of the fixtures; return air from the room enters the fixture at both ends, mingles with heat from the lamps, and is exhausted into the plenum. Some of this heat can be reclaimed for use in the perimeter space of a building, reducing both the original and operating costs of the heating system, according to the manufacturer. Greater efficiency—up to 15 per cent more light—and better lamp color are predictable results.

The basic *Clymatron* fixture is available in two sizes, 1 by 4 and 2 by 4 feet, in a choice of enclosure frames. No prices are available at this stage.

Benjamin's *Heat Removal Troffers* solve the problem in two ways: the *Shallow Line* troffer draws heat into the plenum and exhausts it outside; the *Lumi-Flo* troffer, a triple-shell air diffuser and lighting fixture introduced last year by Benjamin and Tuttle & Bailey (*FORUM*, June '61), draws heat into the air handling system through lateral slots in the lamp compartment (see drawing).



While both Benjamin troffers have been field tested in several installations, exact savings are not yet predictable. Enough data have been collected and evaluated, however, to indicate that they reduce the amount of air needed to cool a room, i.e., cut the consumption of electricity and increase lamp efficiency, particularly at high footcandle levels. There is no indication now that any less air-conditioning tonnage will be required.

MODERN SUN CONTROL

Shallow Line and Lumi-Flo troffers are available in three sizes: 1 by 4, 2 by 4, and 2 by 2 feet. Estimated prices: for the smallest Shallow Line troffer (heat removal only) with a prismatic polystyrene lens, \$26; for the largest Lumi-Flo troffer (air supply and return plus heat removal), \$100.

Manufacturers: Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15; Benjamin Division, Thomas Industries Inc., 207 E. Broadway, Louisville 2, Ky.



PLASTIC STADIUM SEATS

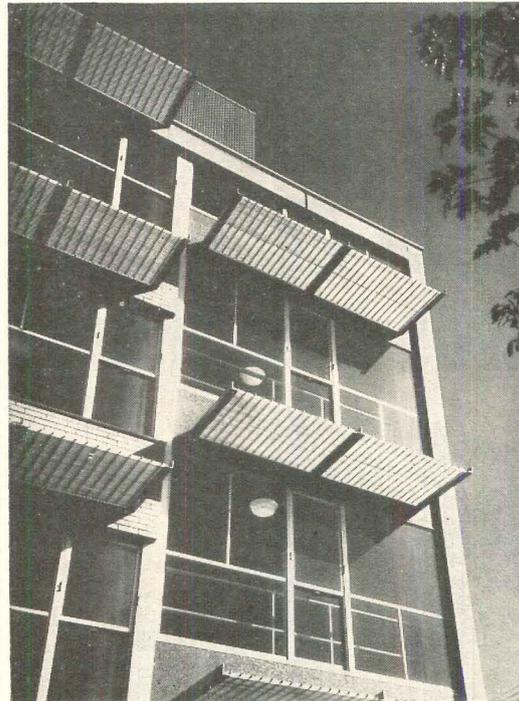
Taking the splinters out of spectator sports, a West Coast firm is manufacturing individual plastic seats to replace the old wooden bleachers. The chairs tilt out of the way when not in use and provide more passage room in the aisles, increasing the row-to-row spacing by 9 inches. Over 4,000 of these new seats, called *Contours*, were installed this summer at a new race track outside Canandaigua, N.Y. Similar ones may be used indoors in gymnasiums, auditoriums, and convention halls, without the special weather-resistant overlay molded in during the manufacturing process.

Each glass-fiber shell is mounted on a steel pedestal. The tilt mechanism, connected to it and moving on a neoprene roller, is a steel channel which slides into a track molded into the chair's underside. Besides adding space between rows, the tilt-up feature makes it easier to clean under the seats.

Chairs like those at the Canandaigua race track, shown here, cost about \$20 each installed. Not shown are chairs with upholstered pads which zip into place, and another version, which is completely upholstered.

Manufacturer: Pacific Seating Corp., 13924 Western Ave., Gardena, Calif.

continued on page 46



★ Temple University, Nolen & Swinburne, Architects

SUNSHADES

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The open mesh won't trap hot air next to glass.

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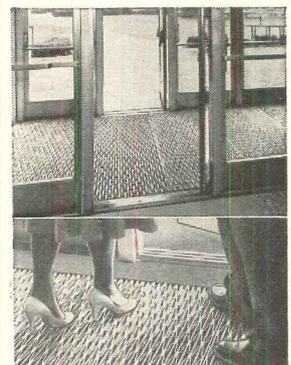
to be used as window cleaning walkways.

They provide a permanent, practical solution

to the problem of sun control.

VESTIBULE MATS

Dirt and slush drop through open-mesh grating into receptacles below then are flushed into sewers, preserving interior cleanliness.



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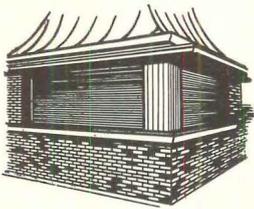
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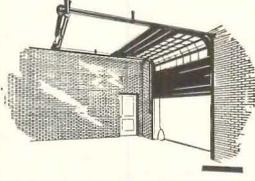
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GYPSUM PARTITION

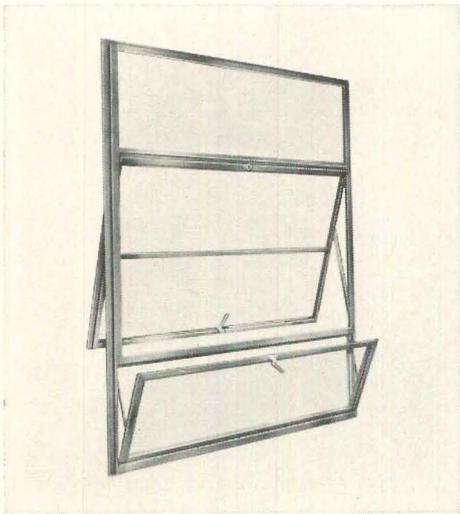
Pleated gypsum studs steady this new partition from Allied Chemical's Barrett Division, the first partition system made by this producer of building materials. The preponderance of gypsum in the *Delta Stud System* accounts for its low cost—70 to 80 cents per square foot, installed, in the New York City area—and its fire rating—45 minutes to two hours, depending on the thickness of the wallboard.

The delta stud is a piece of 1/2-inch gypsum board scored at the factory and pleated on the job. Its top and bottom fit into metal floor and ceiling channels, cut and bent around the studs to hold them in place. With the addition of an adhesive coating and galvanized-steel holding plates, the stud is ready for the last step, that of screwing the gypsum boards in place.

Sizes: 1/2 and 5/8 inch thick, 48 inches wide, 10-foot maximum height.

Manufacturer: Barrett Division, Allied Chemical Corp., 40 Rector St., New York 6.



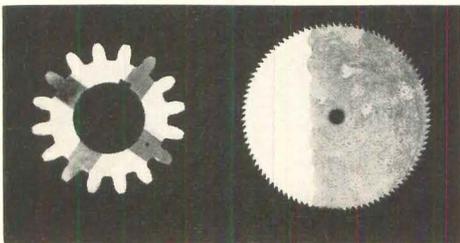


PLASTIC-COATED WINDOW

Ceco Steel is dipping steel windows into a vinyl bath to give them long-lasting resistance to weather, corrosion, abrasion, and chemical action from other building materials touching them during construction.

The coating, applied to a thickness of 10 mils, is a glossy gray film developed by Ceco and the Battelle Memorial Institute. Windows with the new coating are currently available in limited quantities in one type (above), the 1¼-inch projected intermediate frame (suitable for schools, hospitals, and public buildings) in heights from 1 foot, 5 inches to 6 feet, 9 inches. They will also be available shortly in the 1½-inch depth, a heavy-intermediate size.

Manufacturer: Ceco Steel Products Corp., 5601 W. 26th St., Chicago 50.



PREVIEWS

The dark, corroded spots on this steel saw and gear contrast sharply with the portions protected by a new silicone coating, Union Carbide's UCAR 101. So far, the company reports excellent results in preventing tarnish and corrosion on the surfaces of small metal parts like those shown. Other uses, including curtain-wall panels, are being tested, but the company is not ready to guarantee them outdoors.

Grit blown onto bricks as they pass through an air-blast machine colors them permanently for less than a penny per brick. International Minerals & Chemical Corp. developed the process, now in pilot plant production. END

THE MAGIC OF GRILLEWALL*

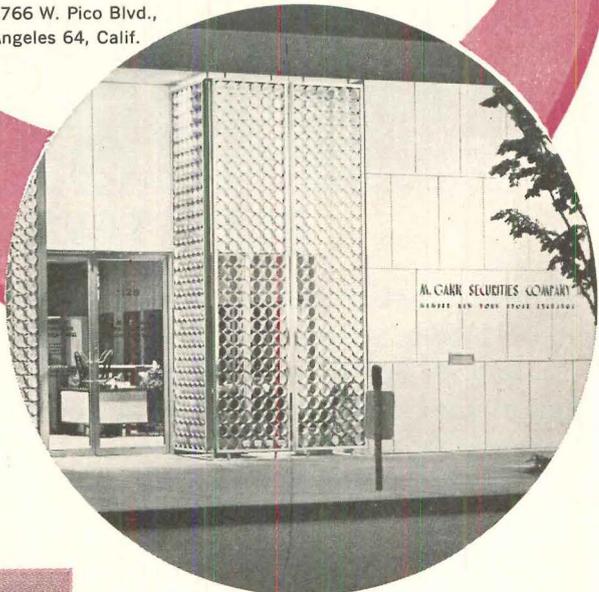
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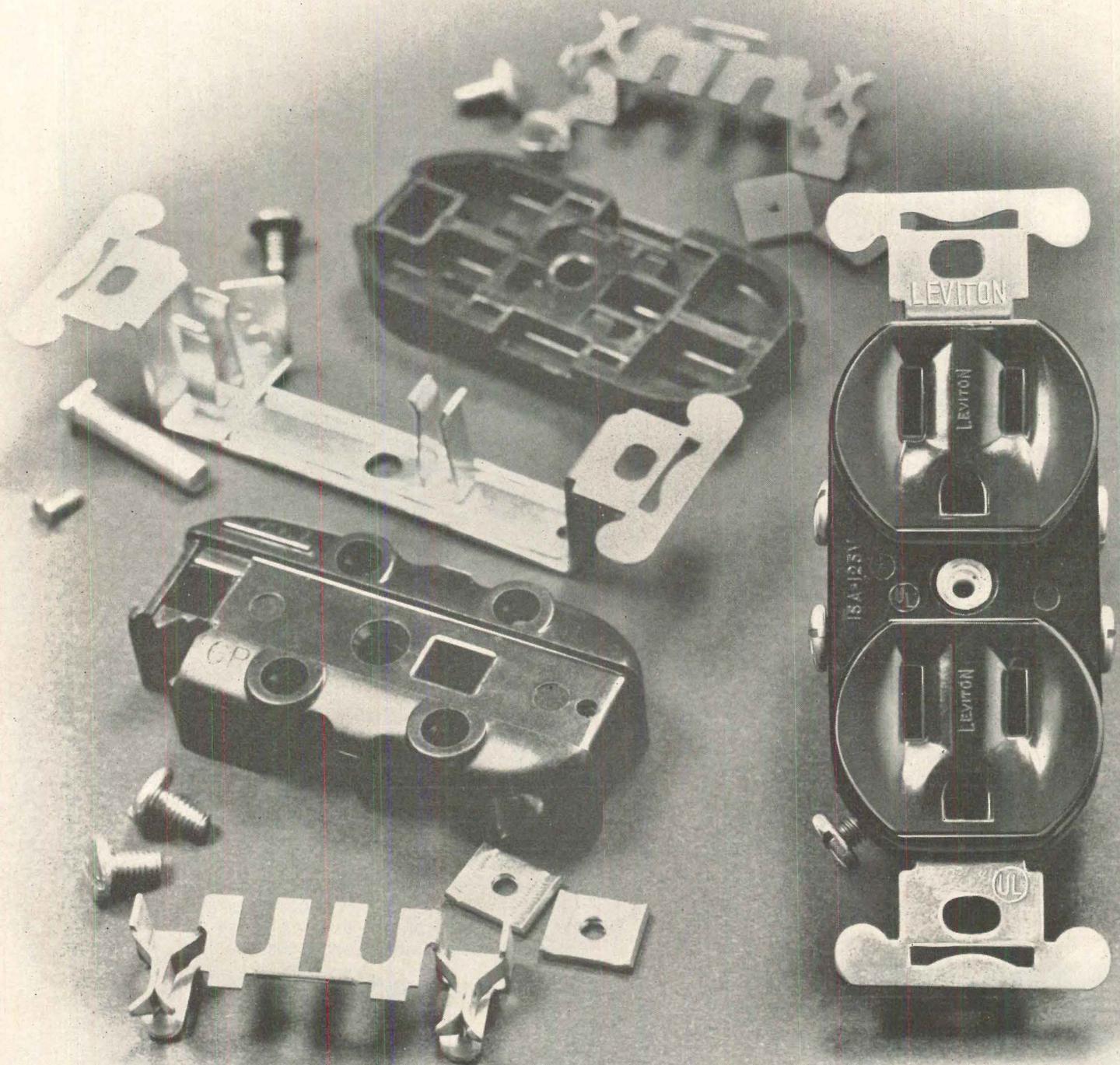
11766 W. Pico Blvd.,
Los Angeles 64, Calif.



Architects: Huebner and Henneberg



*Registered Trademark—Patent Applied For

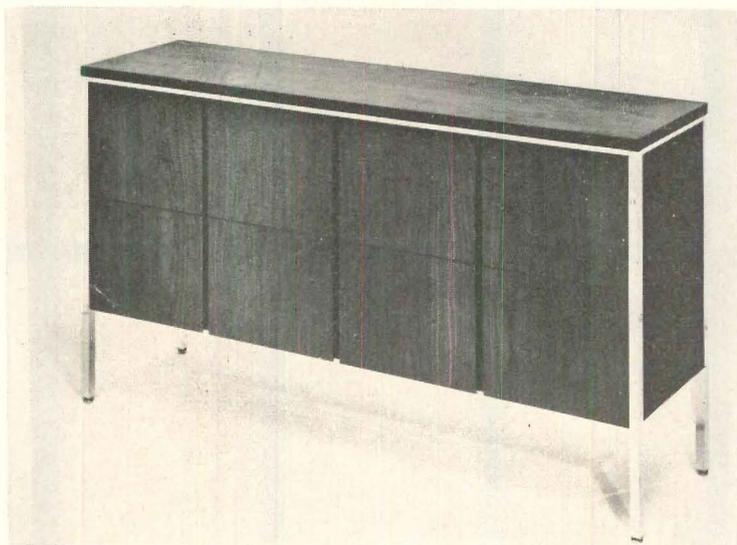


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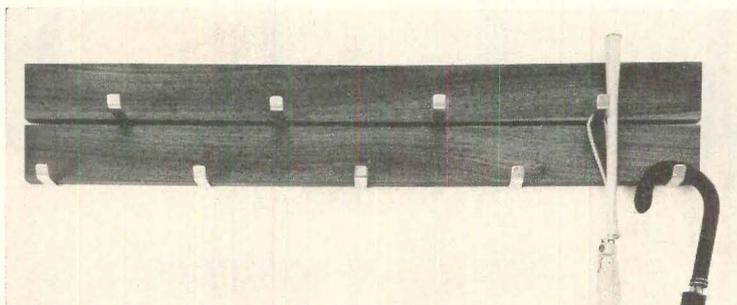
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Office files, coat rack, seats, chairs



1



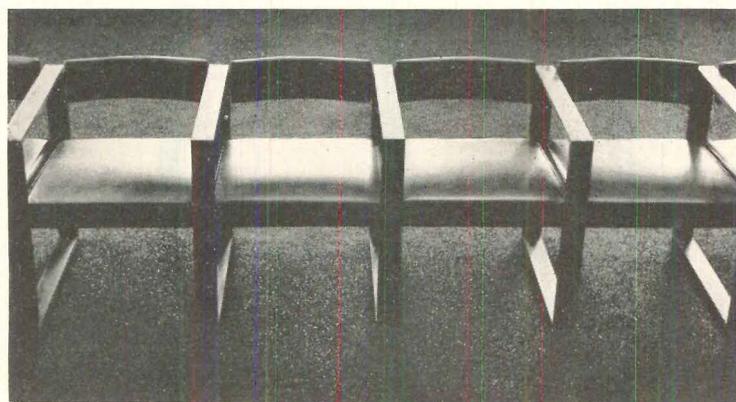
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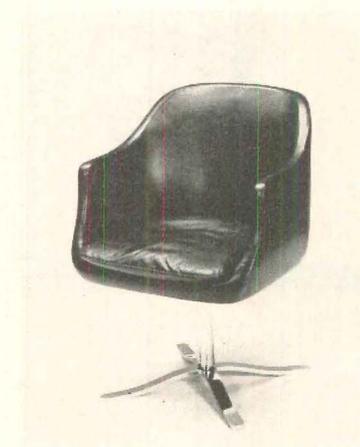
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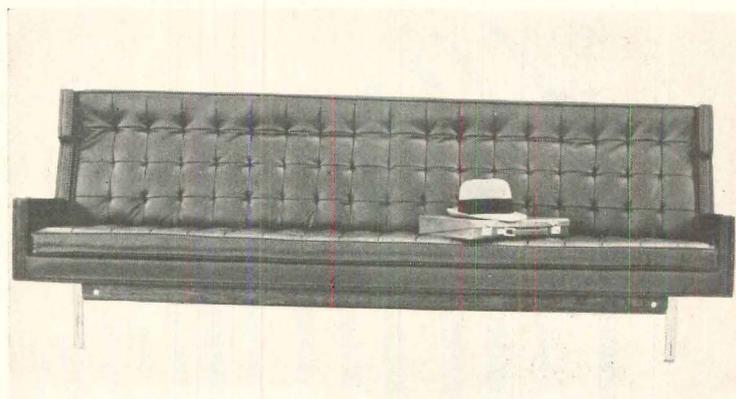
5



6



7



8

1. JG Furniture Co.'s new executive files of oiled walnut have six roomy drawers for standard or legal-size folders. The base is mirror-polished aluminum mechanically joined to the wood, an exclusive process. List price: \$720.

2. A wall-mounted coat rack designed by Bodil Kjaer for CI Designs, Boston, holds seven, nine, or 11 coats or hats, depending on the length. Wood is walnut or lacquered oak. Cost: \$44.50 to \$64.

3. Nessen Studio's tried-and-true swing-arm lamp has a new brack-

et fastening for desks or tables. Light is directed downward by a metal disc inside the shallow drum shade. Price: \$49.50.

4. Andrew Stephens, Inc. of New York City is importing this Mexican version of the officer's campaign chair, dressed up with leather slings and rare woods. The frame is mahogany in a choice of shades, trimmed with brass and cuanacastle wood. Cost: \$295.

5. These new continuous seating units for lobbies and auditoriums are oiled walnut, with uphol-

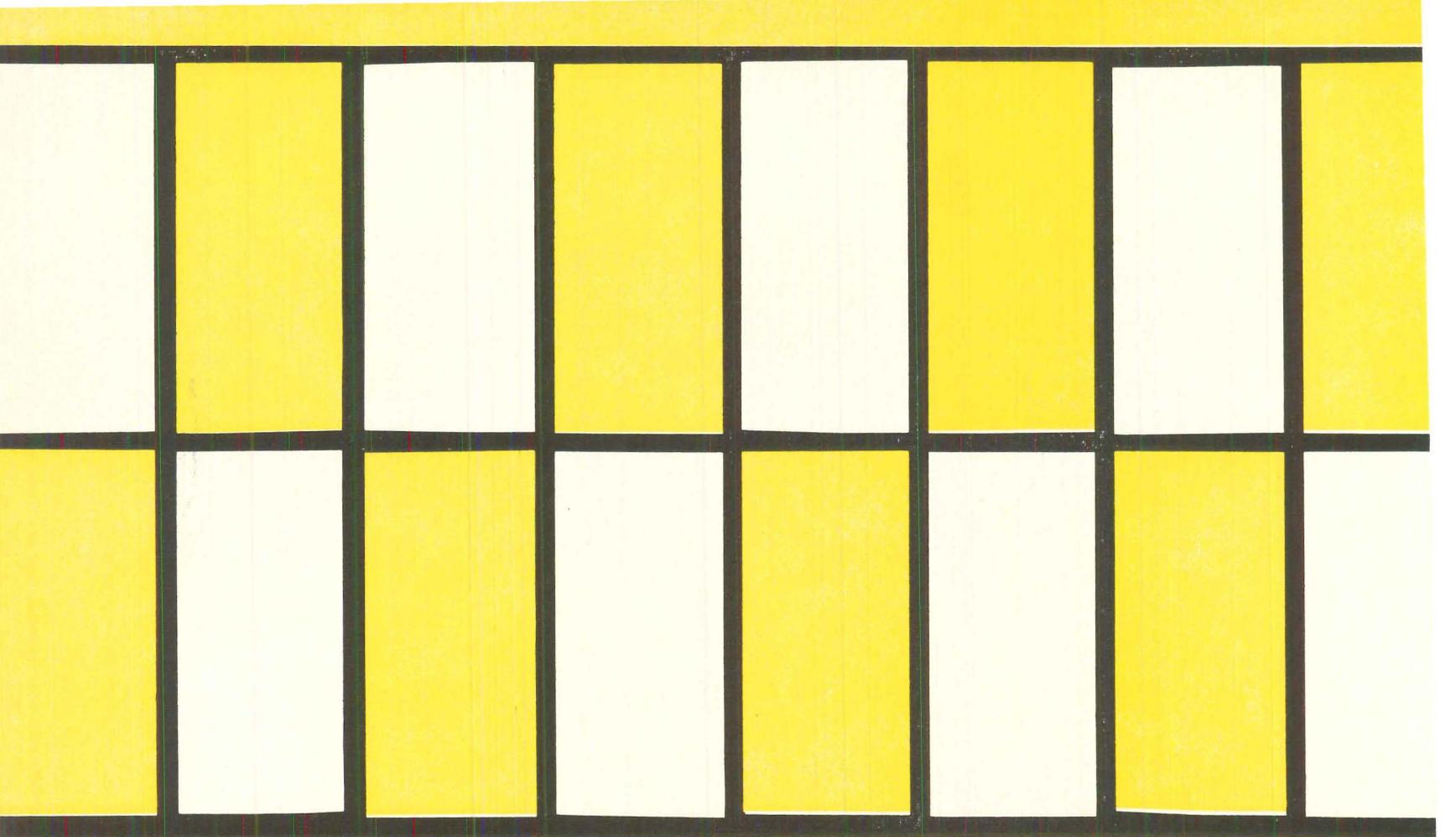
stered seats and backs. For sloping floors, legs of uneven heights may be ordered. Designer: Bodil Kjaer for CI Designs. Cost: about \$59 per unit.

6. Lest executives feel uncomfortable in their swivel chairs, Royal-metal Corp. provides one that has movable arms which expand the chair's girth 3 inches. Foam rubber pads the seat, back, and arms. Cost: \$205 in vinyl.

7. This prestigious desk chair, by Nicos Zographos for Albano Contract Division, tilts, swivels, and

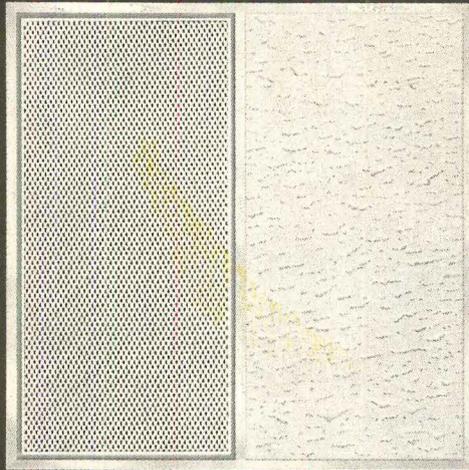
rolls on casters—each of which ups the price a bit. The simplest stationary chair costs \$398 on a stainless shaft, and \$366 on aluminum, not including the covering leather or fabric.

8. A long, low sofa from Metropolitan Furniture's Contract C group, by Jules Heumann, rests on a walnut and polished aluminum base. The tufted back and seat may be covered in fabrics, plastic, or leather. This one is 8 feet long and costs \$1,150 in leather. END



New ideas in
lighting systems
from Westinghouse

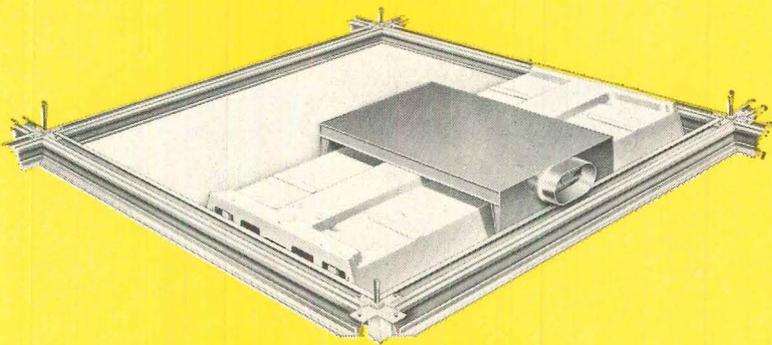




New Westinghouse Colamar Mark 50 controls air, acoustics and lighting

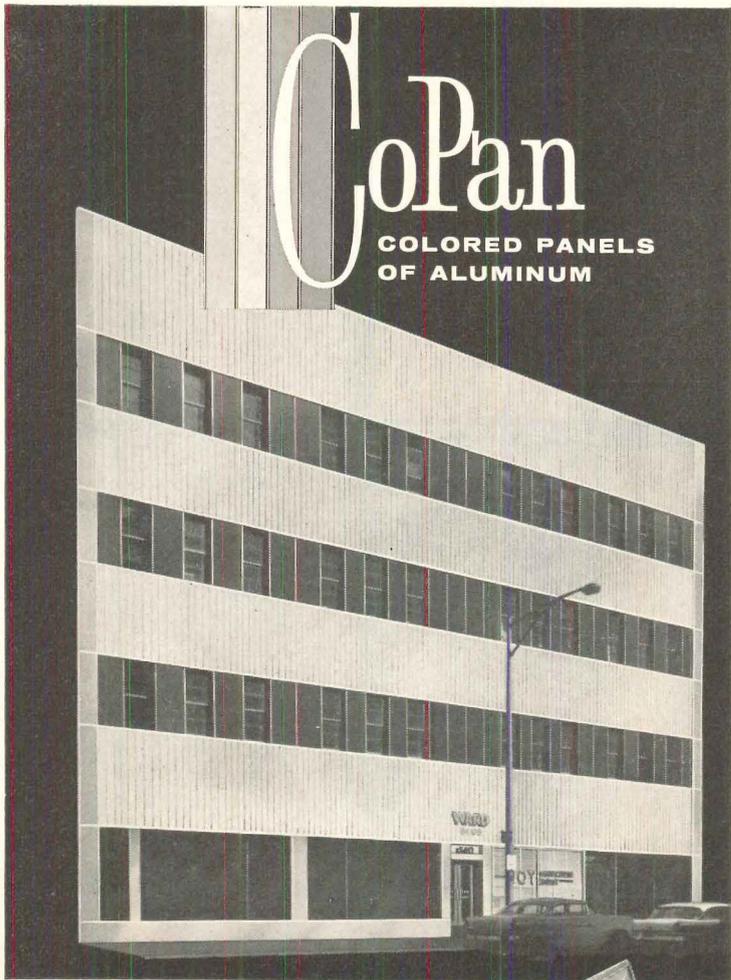
Now you can provide for efficient lighting, adequate ventilation and controlled acoustics—all in one space-saving ceiling system. Westinghouse Colamar Mark 50 gives you complete freedom of design, too. You select the module, specify the ventilation, the desired sound attenuation, the color and the foot-candle requirements. Westinghouse will deliver the complete Colamar ceiling package, tailored to your design in every detail. A unique feature of the Colamar system is an infrared shield that reduces heat radiation into occupied areas. Lamp efficiency is 10 to 15 per cent greater than ordinary lighting systems. For complete facts, write Westinghouse Electric Corporation, Lighting Division, Edgewater Park, Cleveland, Ohio. You can be sure . . . if it's Westinghouse.

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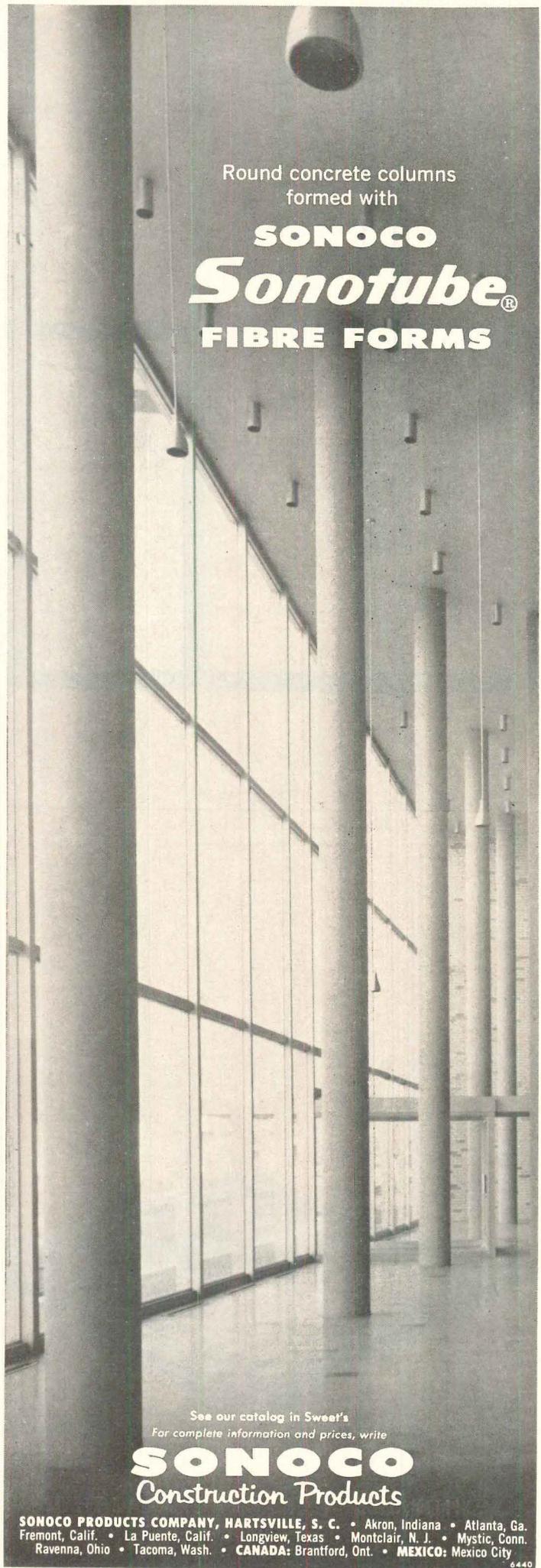
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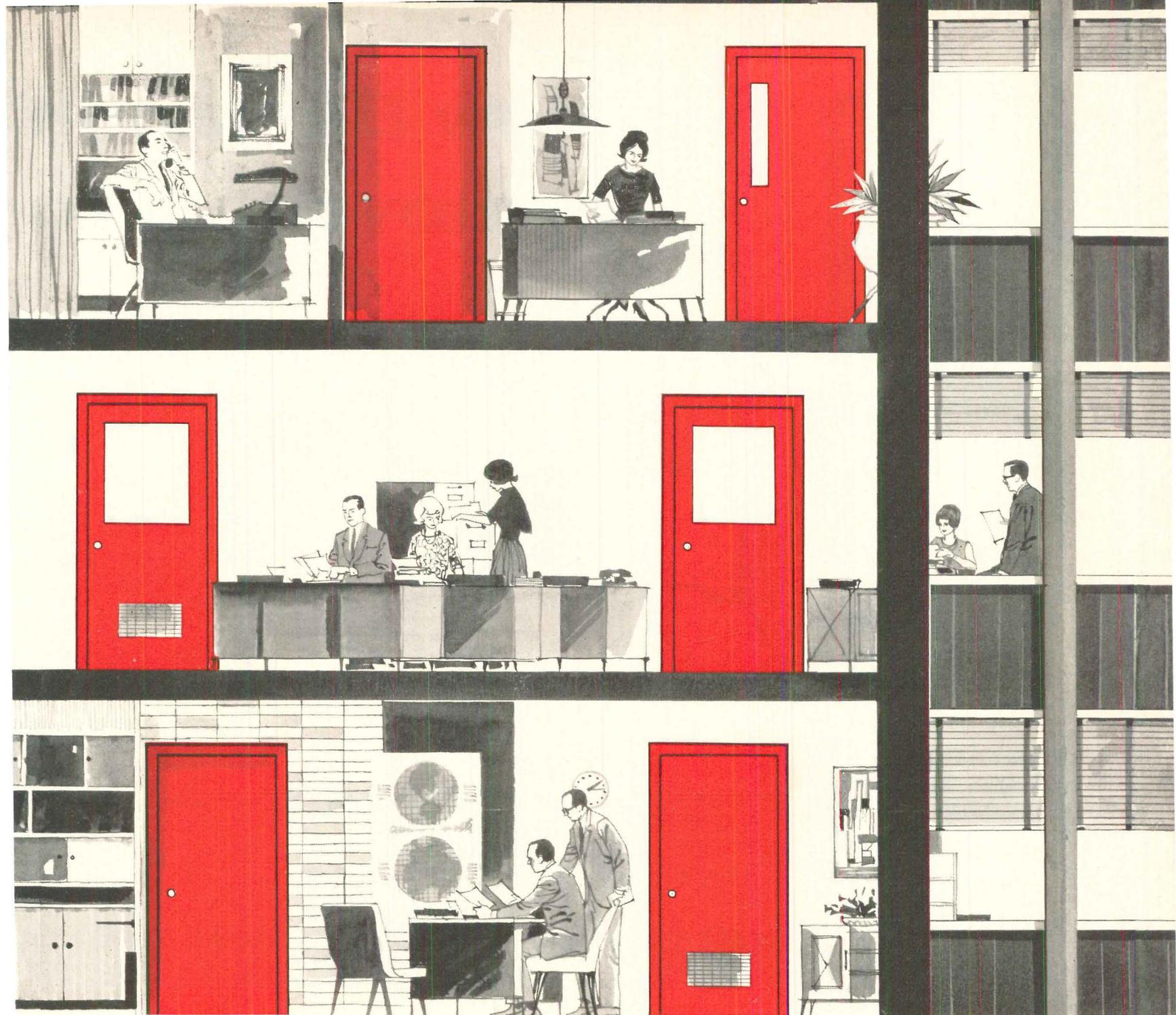
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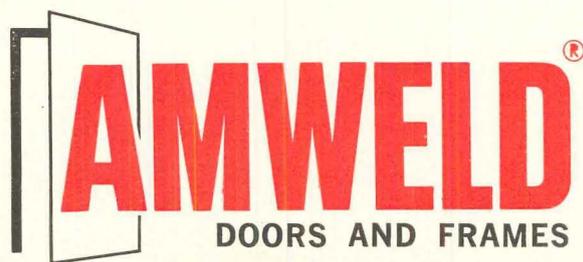
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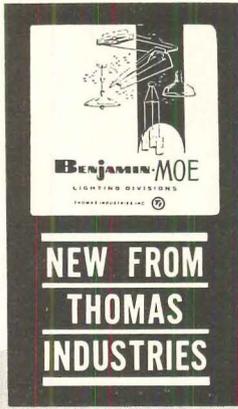


Plan on Amweld *seamless doors* for quality with economy

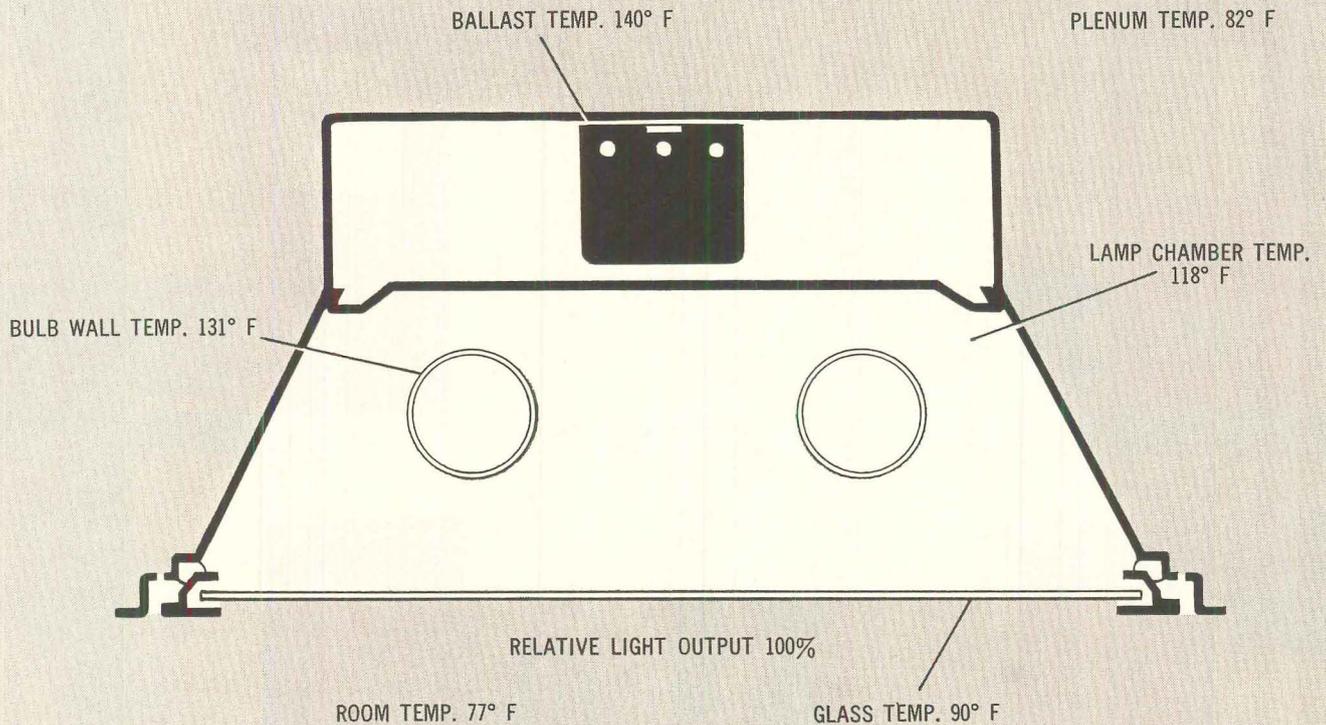
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COMPARE THE STANDARD BENJAMIN TROFFER . . .

Some things you should know about combined lighting and heat-removal

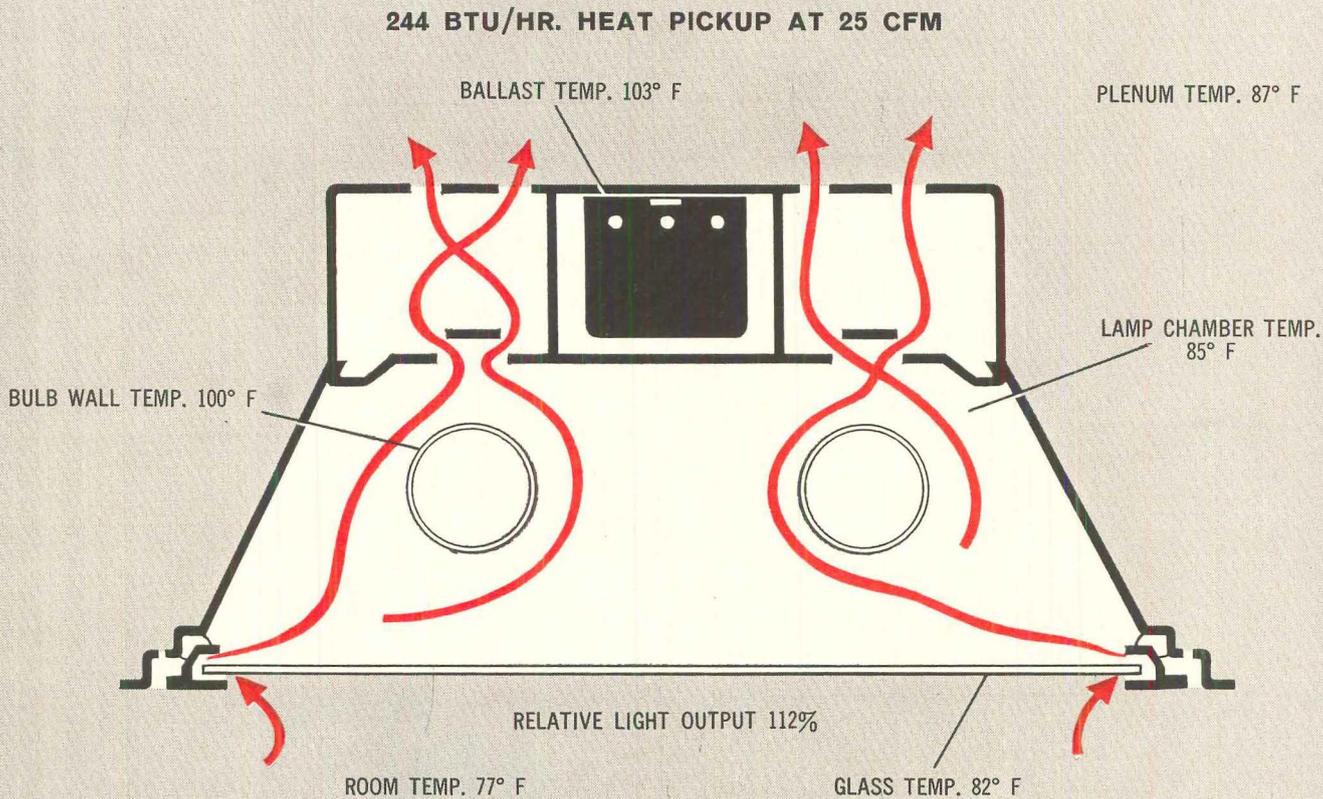
1. It is impossible to generalize about heat-removal troffers. Due to differences in building design and variances in climatic conditions, each application of heat-removal must be analyzed by the architect or engineer on its individual characteristics.

2. Our laboratory is open to you for testing purposes. A portion of the Benjamin Laboratory has been set aside for testing heat-removal performance under different job conditions. If you need to secure exact engineering data about a specific application, write today to:

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Plaid

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Plaid†		*12" x 12" x 3/4" to 24" x 24" x 3/4"	2 Hour	Concrete deck over steel bar joists
Striated				
Natural Fissured	Tongue & grooved and kerfed for concealed suspension system	*12" x 12" x 3/4"	4 Hour	Concrete slab over cellular steel deck, steel beams
Tiffany‡ Random Perforated	Beveled, kerfed for concealed suspension system	12" x 12" x 5/8"	1 Hour	Wood deck over wood joists
		*12" x 12" x 5/8" to 24" x 24" x 5/8"	2 Hour	Concrete deck over steel bar joists
	Tongue & grooved and kerfed for concealed suspension system	*12" x 12" x 5/8"	4 Hour	Concrete slab over cellular steel deck, steel beams
Tiffany Panels Fashion-Fissured Panels	Trimmed edge for exposed suspension system	*24" x 24" x 5/8" and *24" x 48" x 5/8"	2 Hour	Concrete deck over steel bar joists

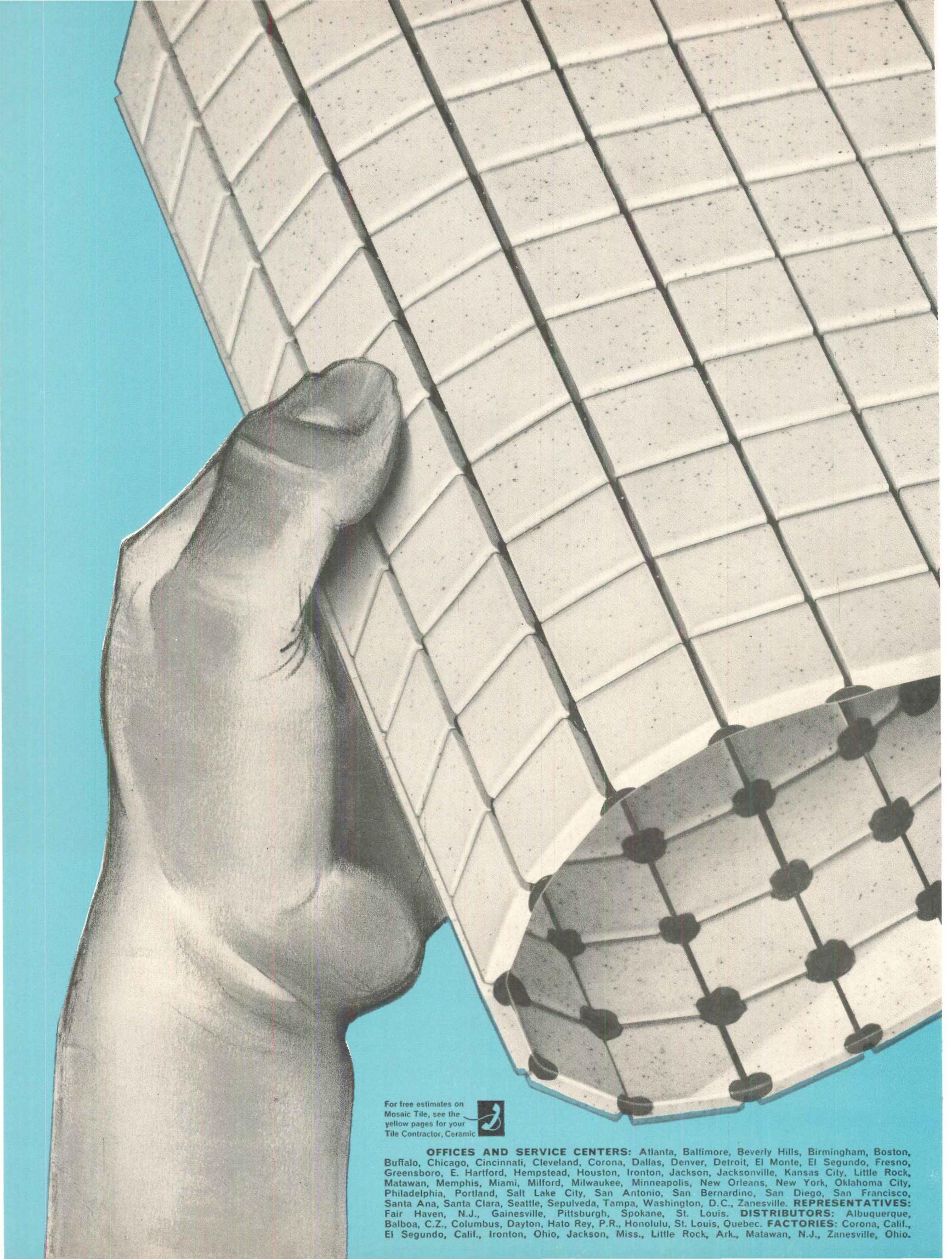
*Includes penetrations (recessed light fixtures and air diffusers)
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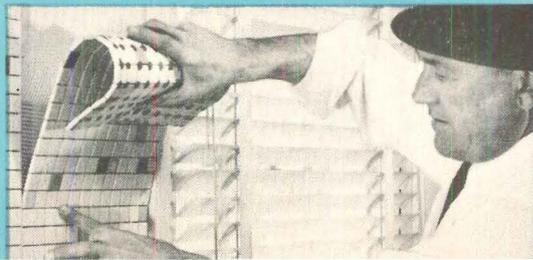
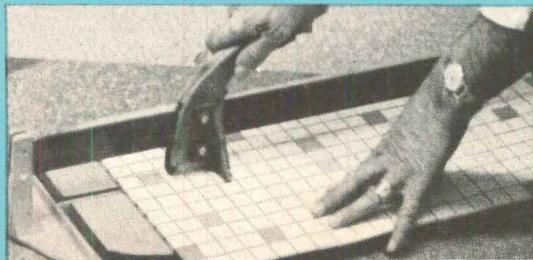


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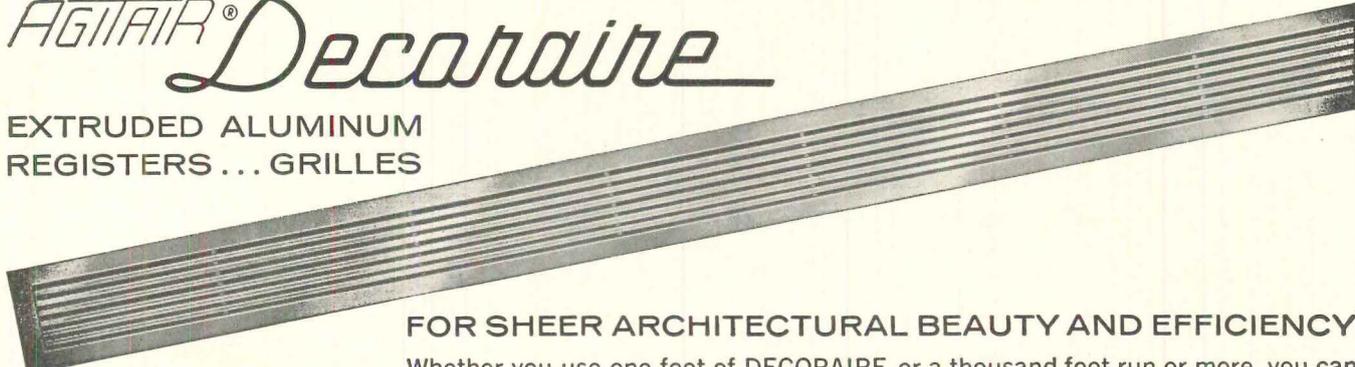
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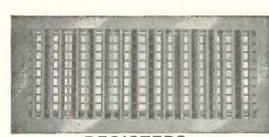


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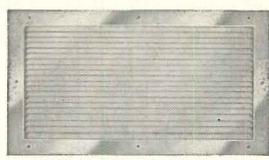
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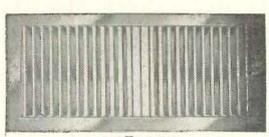
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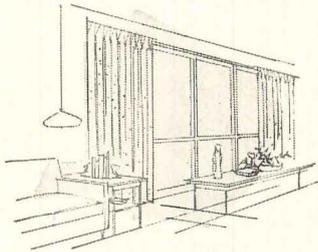


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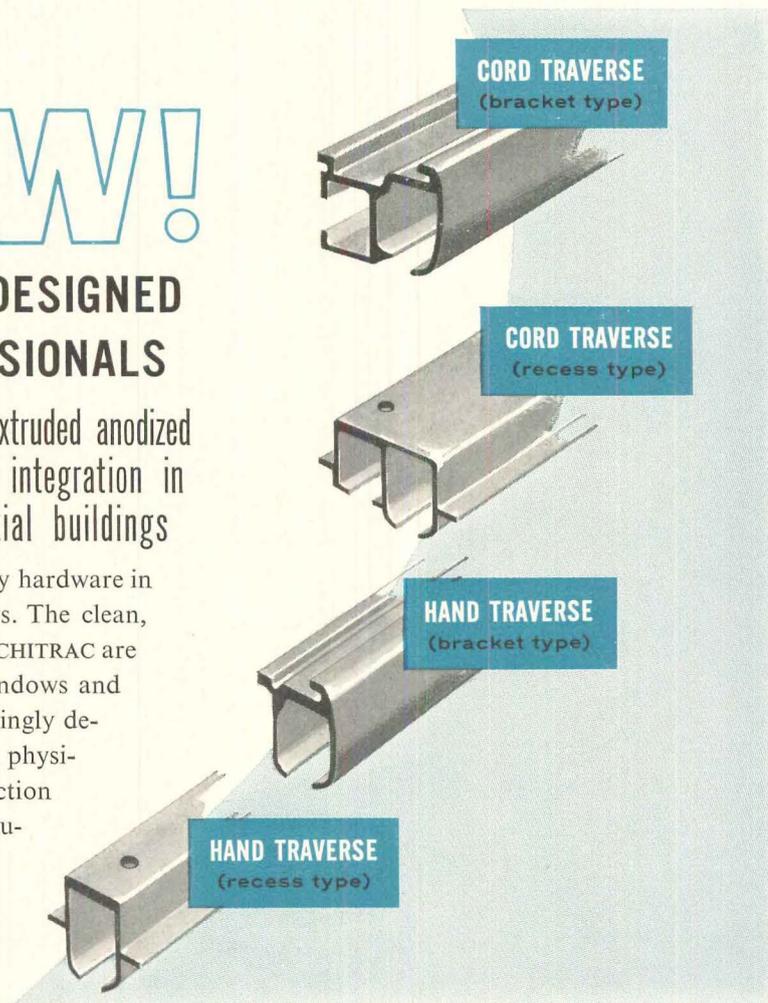


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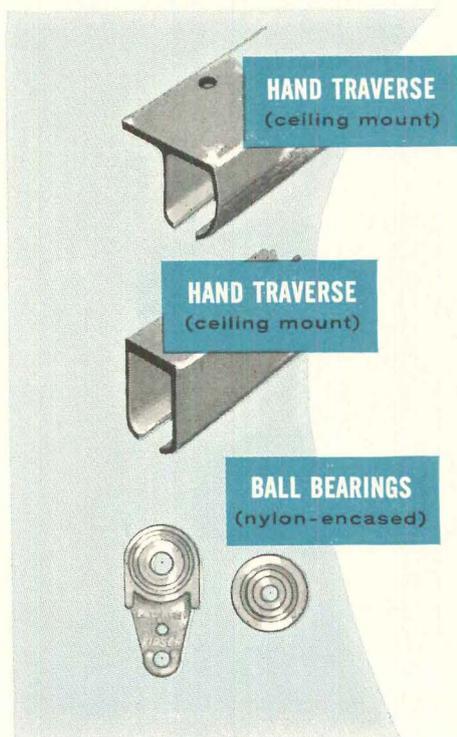
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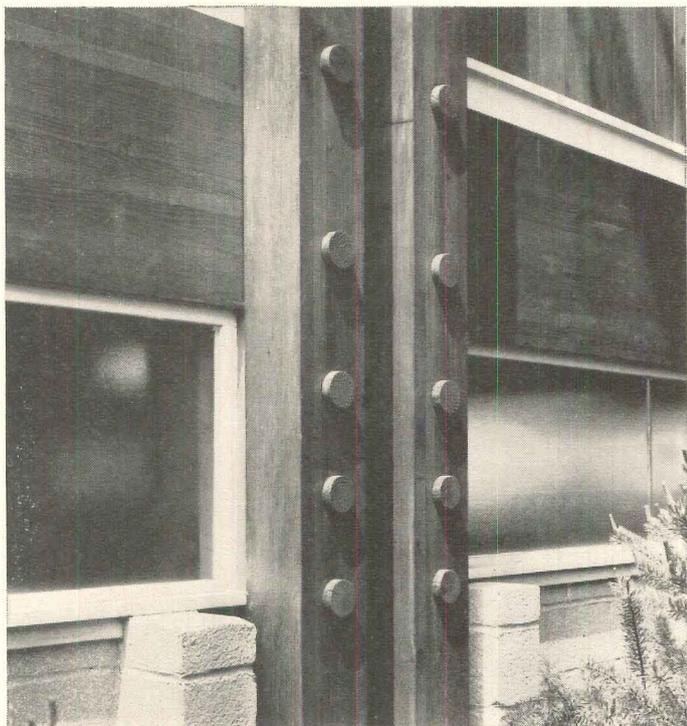
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Lengthy laminated beams, dual-post supports, and a multi-toned planked ceiling create spacious luxury in the club's high clerestory-lighted room for dining and dancing. Wood's natural resiliency adds to dance floor pleasures, too. Interior Decoration: R. F. Associates.

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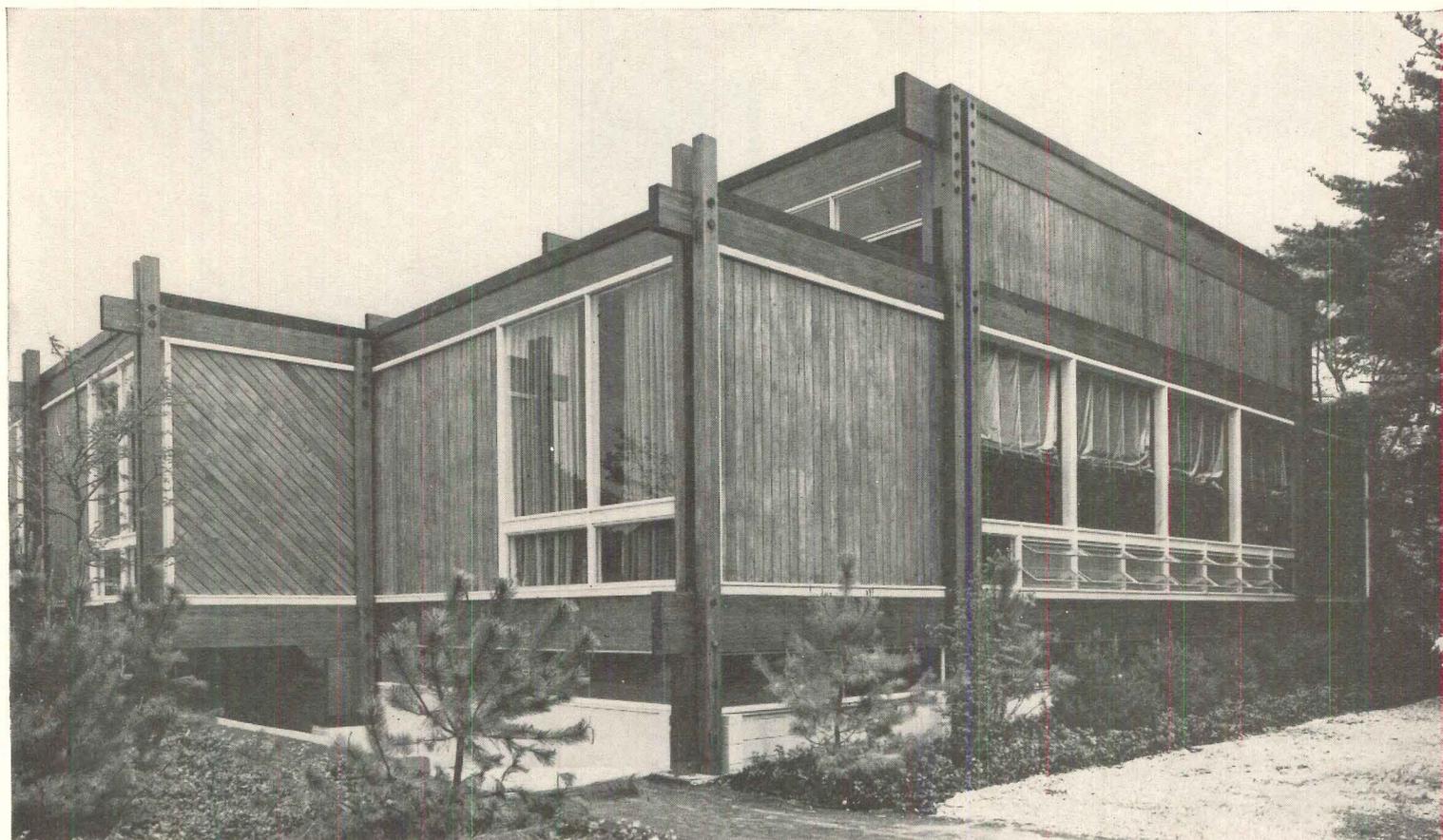
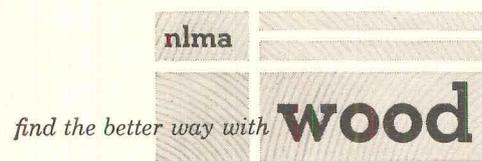


A close-up of the club's laminated posts shows off the inherent strength of wood in fist-sized peg fastenings. This grass-high view also illustrates wood's compatibility with the barest forms of glass and concrete.

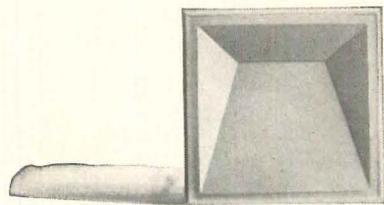
People are partial to a clubhouse or any pleasure-business structure you plan with wood. The adaptability of wood . . . in framing, paneling, flooring, or roofing . . . provides breathtaking splendor in a ballroom, functional ruggedness for a roller rink. The economies of wood permit daring designs on unimaginative budgets. Its many grains, tones, and textures gain special attention wherever they're seen, warm beautifully to other materials whenever they're used.

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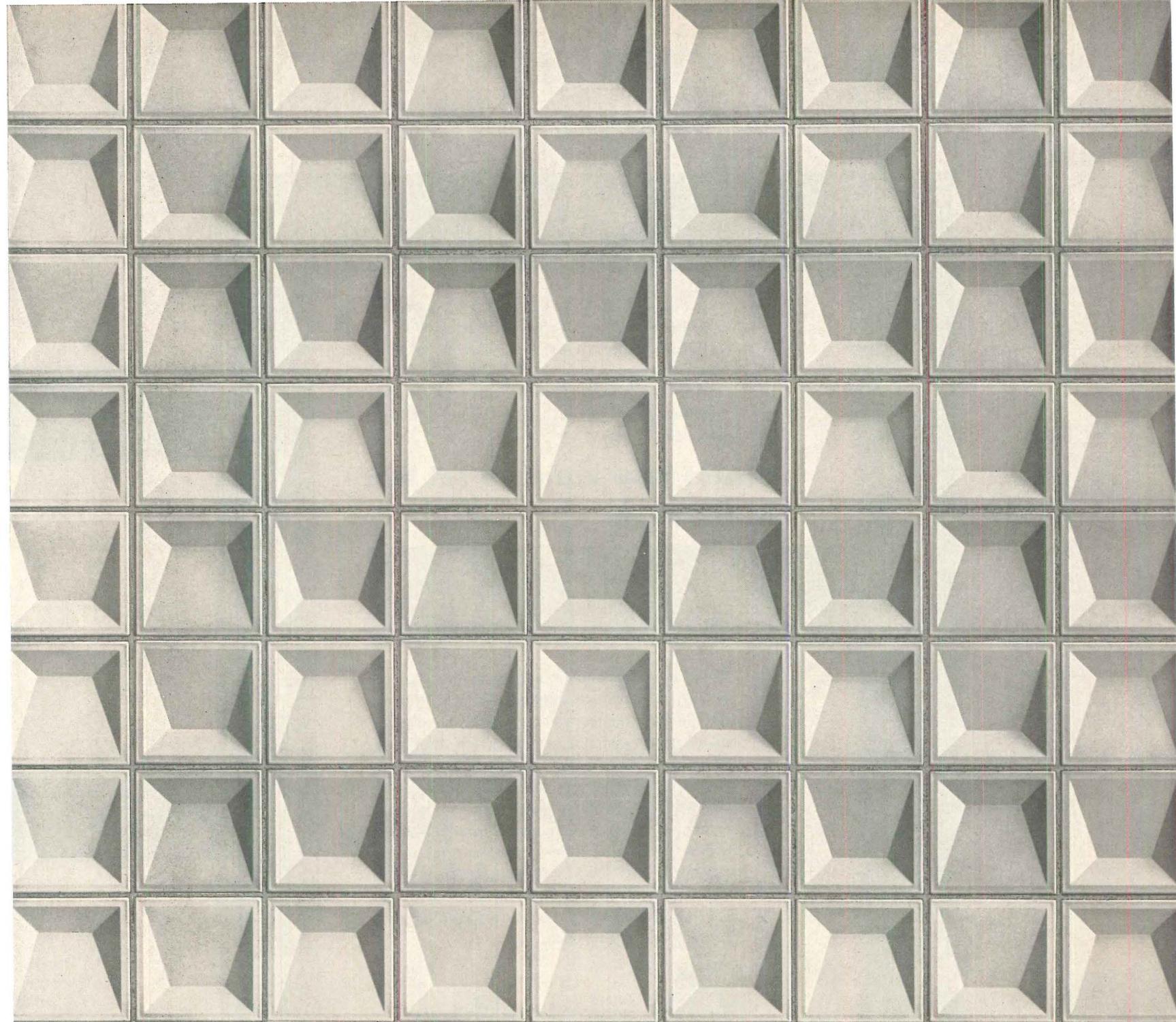
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Weathered vertical and diagonal planked siding complemented with generous areas of glass, bound and supported by laminated wood girders in twos and fours . . . all form a precisely patterned yet warmly welcome facade for the Edgewood Country Club's pavilion-like clubhouse in River Vale, N. J. Architect: Norval White.



Take a Sculptured Glass Module...(Wedge)



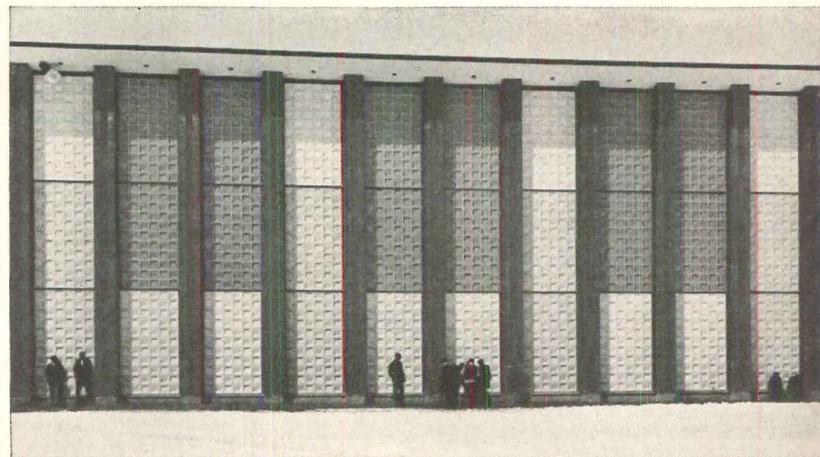
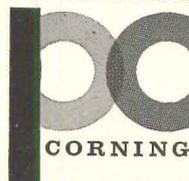
Multiply it to find design values for a wall... texture.

Architect Paul O. Trepanier of Granby, Quebec, Canada, sought the visual richness of texture for this wall at the Ecole Secondaire du Sacre Choeur in Granby. He found it in the shift of light and shade across patterns pressed deep into the faces of 12" square PC Sculptured Glass Modules. The pattern used here is WEDGE, one of four available.

Since the wall encloses the school's auditorium and gymnasium, Architect Trepanier wished to give it color to reflect an air of gaiety and energy. Choosing from eleven available fused ceramic face colors, he designed his Sculptured Module wall in panels of yellow, blue, green and white.

Result: bright, exciting wall design at an installed cost of only \$4.25, p. s. f.

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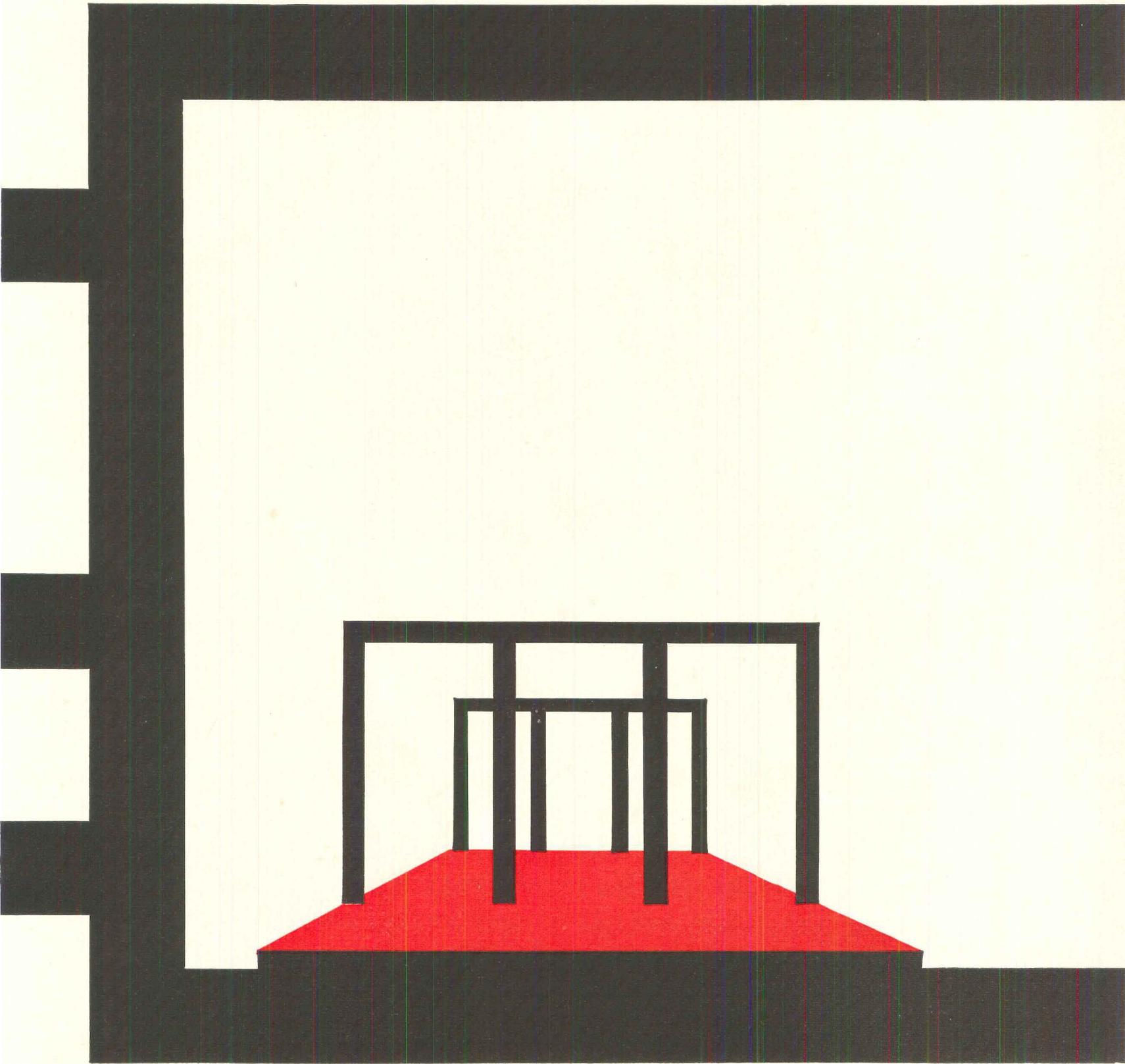
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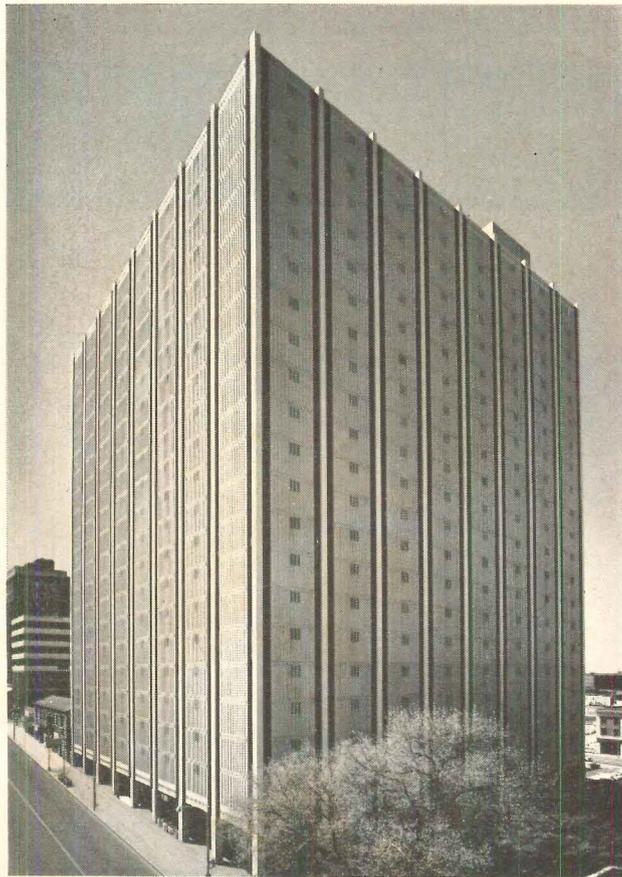
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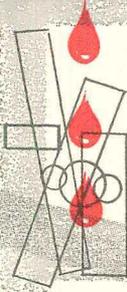
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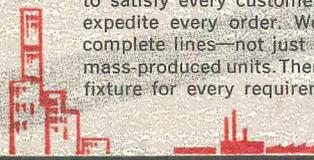
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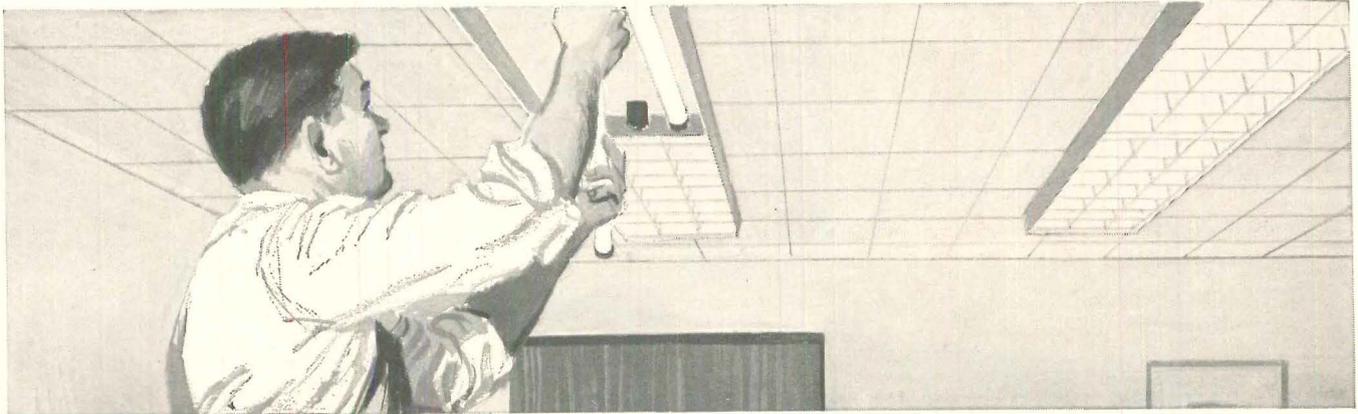
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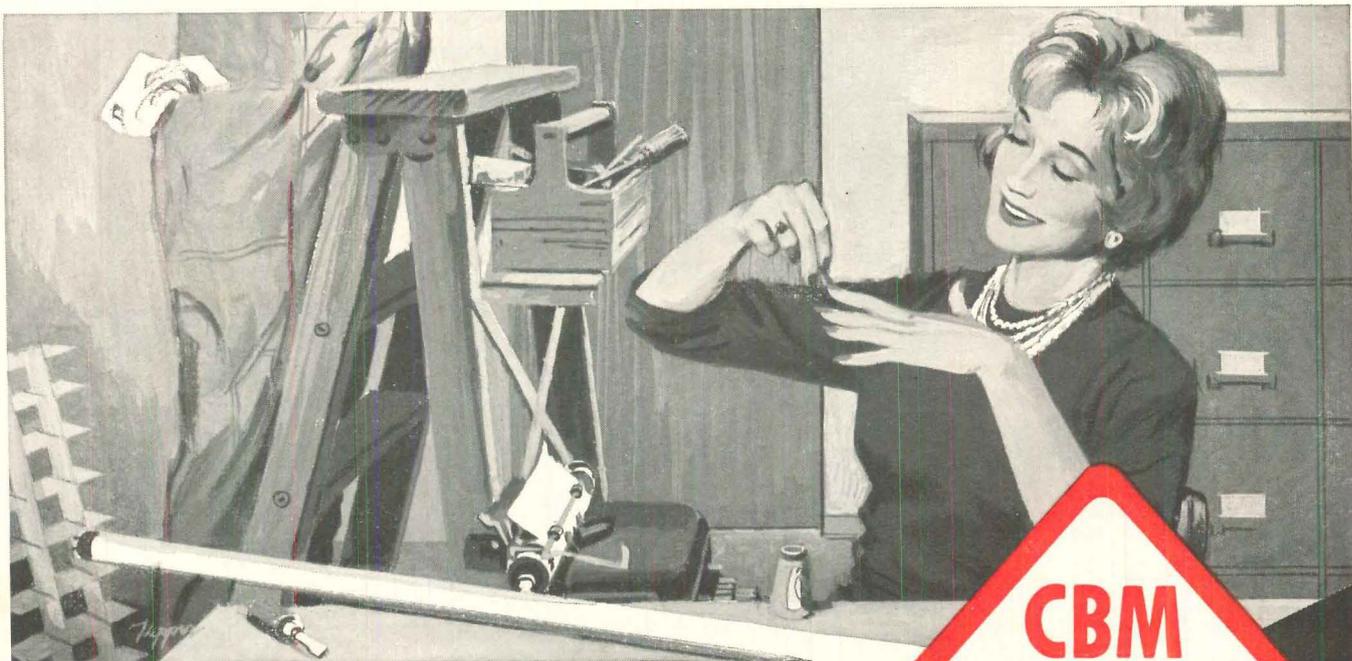
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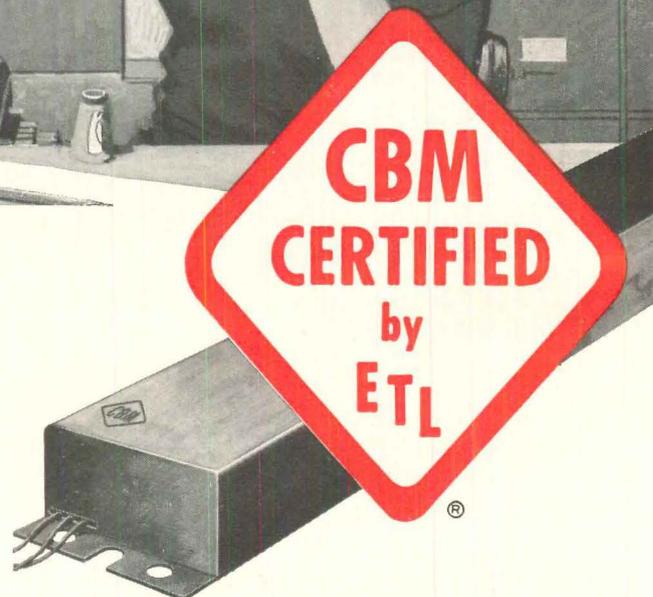
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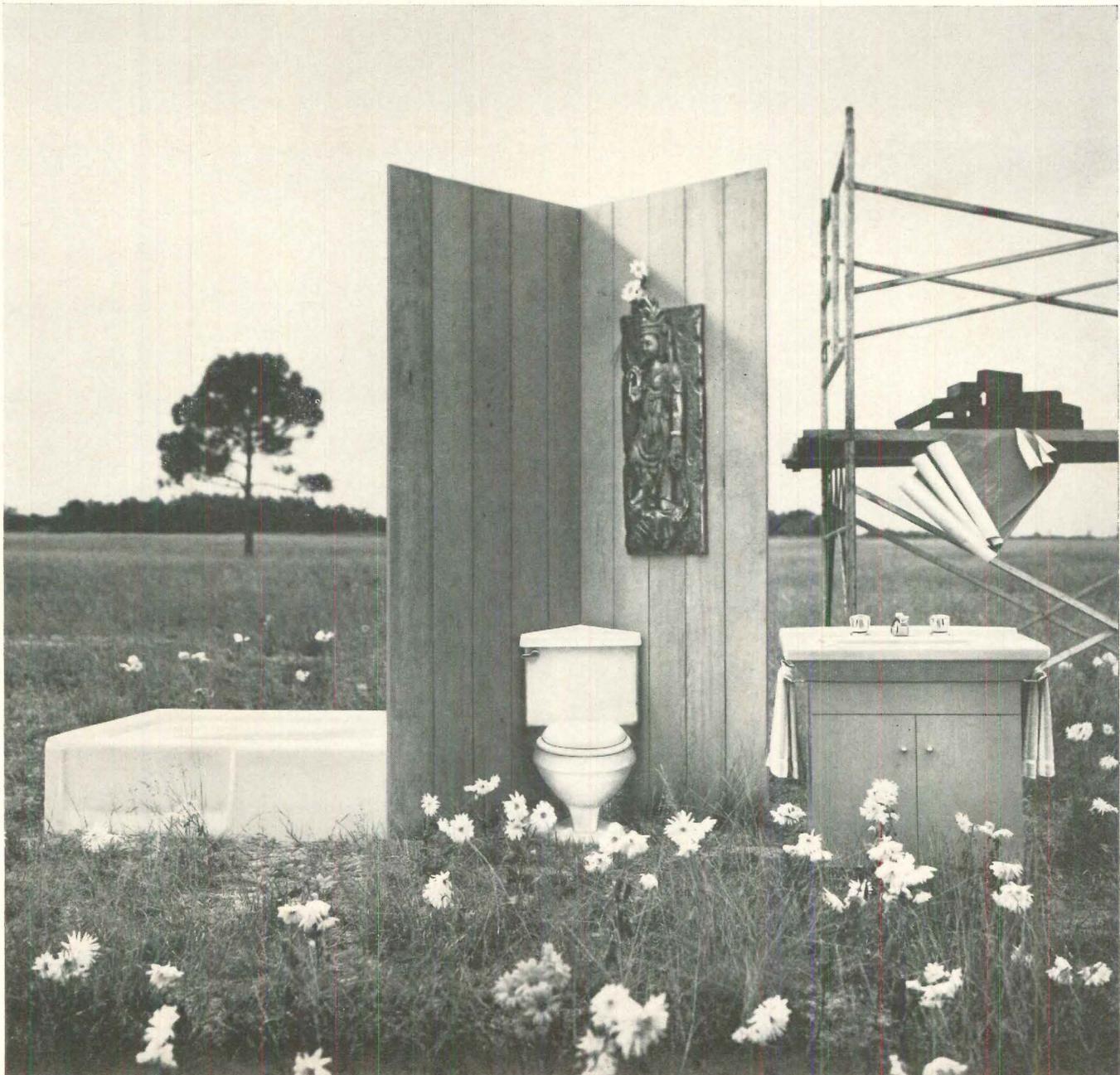
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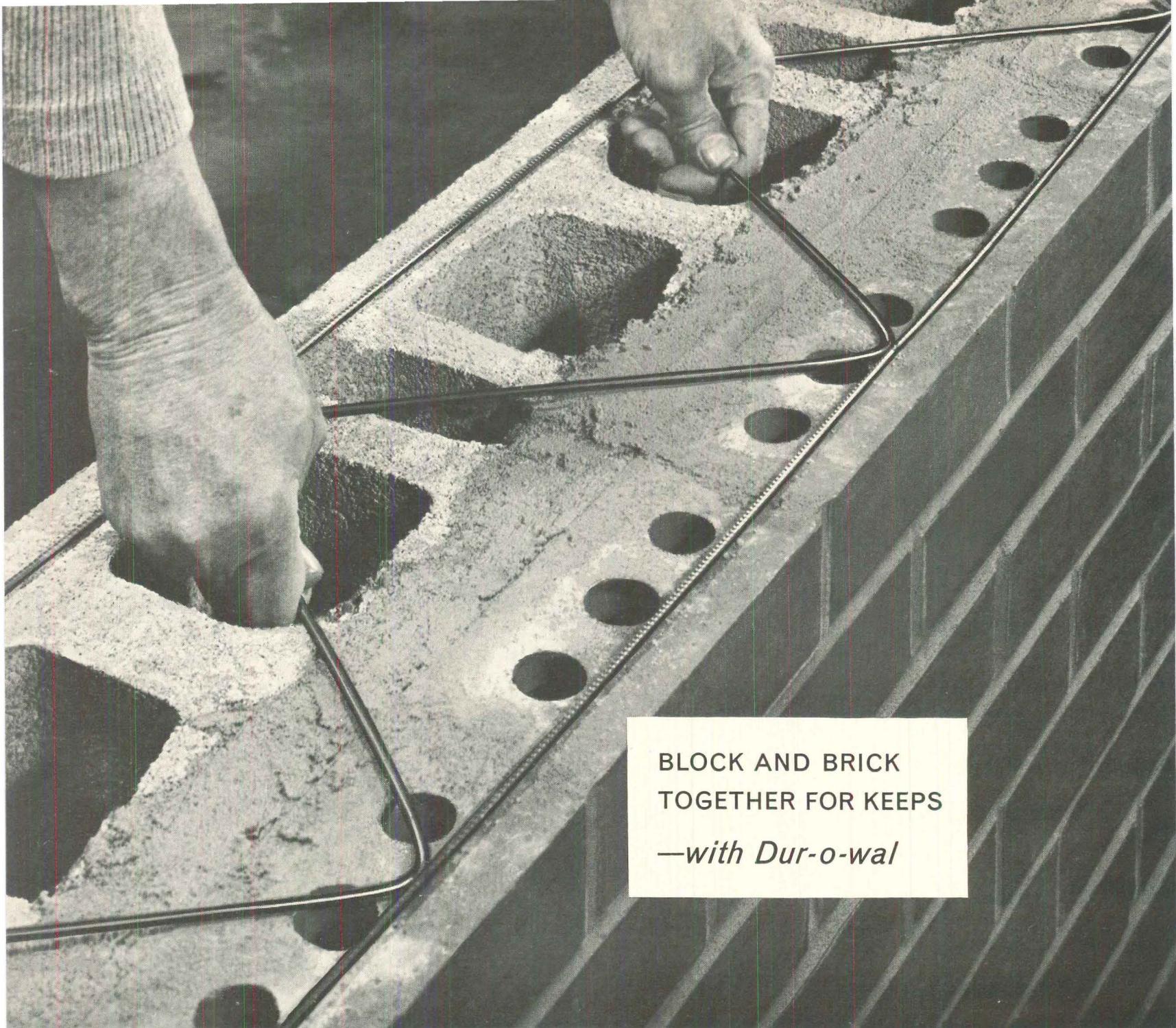




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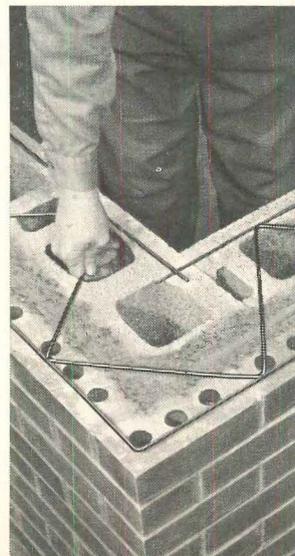
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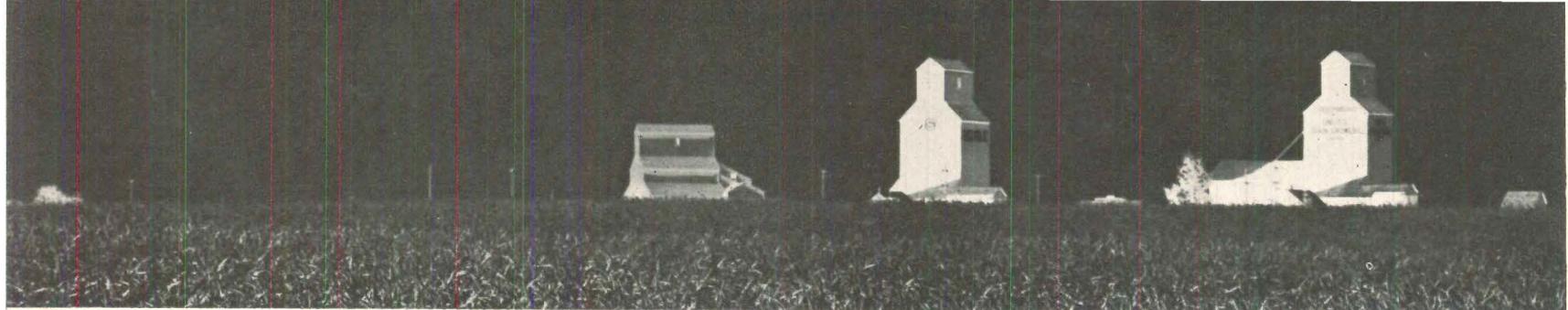
last: leadership from Washington. The nation's capital has had its problems. Its local politics are almost incomprehensible, its planning has frequently been a jumble, and it is a declining city economically. Now, at long last, efforts are being made to remedy some of these deficiencies with thoughtful long-range plans, and a stouthearted attempt by businessmen to upgrade the downtown area. Perhaps most important of all, the federal government has taken a stand on what many consider Washington's most serious problem: the dreariness of federal architecture.

The great names of American architecture have been strangers to Washington's federal buildings: Richardson, Sullivan, Wright, Eliel and Eero Saarinen, Louis van der Rohe, Gropius—none of these has been given a chance to revitalize the city. But now, some current leading practitioners of modern architecture may be called upon to counteract Washington's domination by the Beaux Arts antiquarians: President Kennedy has directed "immediate action" in a report by the Ad Hoc Committee on Federal Office Space recommending a massive (13 million square feet) federal office building program incorporating "the finest American architectural thought."

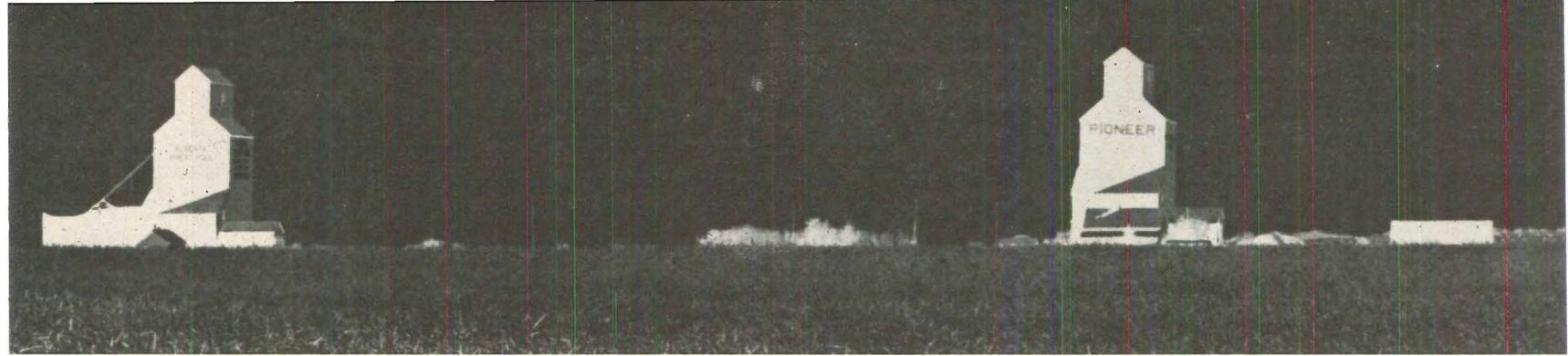
The report itself is a remarkable instrument, considering the resolute indifference to esthetics shown by past administrations. Some statements of the committee would sound naïve in any other context *except* that of federal architecture: "The committee takes it to be a matter of general understanding that the economy and suitability of federal office space derive directly from architectural design. The belief that good design is optional, or in some way separate from the question of the provision of office space itself, does not bear scrutiny." The report warns that "an official style must be avoided" and this presents an open challenge to the Beaux Arts clique that has banished good architecture from the capital city for many decades, and made Washington a cemetery of neo-classic plaster casts, stacking ennui alongside tedium. (One significant effort toward better design was announced last month in the new proposal for Lafayette Square—see page 9.)

The President's committee also recommended that special attention be paid to Pennsylvania Avenue, which Critic Lewis Mumford once characterized as a sordid slum." Realizing that many schemes are afoot to tear down some of the structures on the Avenue, and that the present opportunity should neither be missed nor muffed, the committee recommends wholesale redevelopment of the key artery, utilizing "the foremost architects of the nation: nothing less than the very finest, established talents available will be sufficient for this usually significant undertaking."

The President's determination to bring architectural greatness to the capital must be matched by a fuller realization in Congress that the city cannot do it all less. As the President said in his remarks prefacing the ambitious Year 2000 Plan for Washington: "More than any other city—more than any other town—the nation's capital should represent the finest in a living environment which America can plan and build."

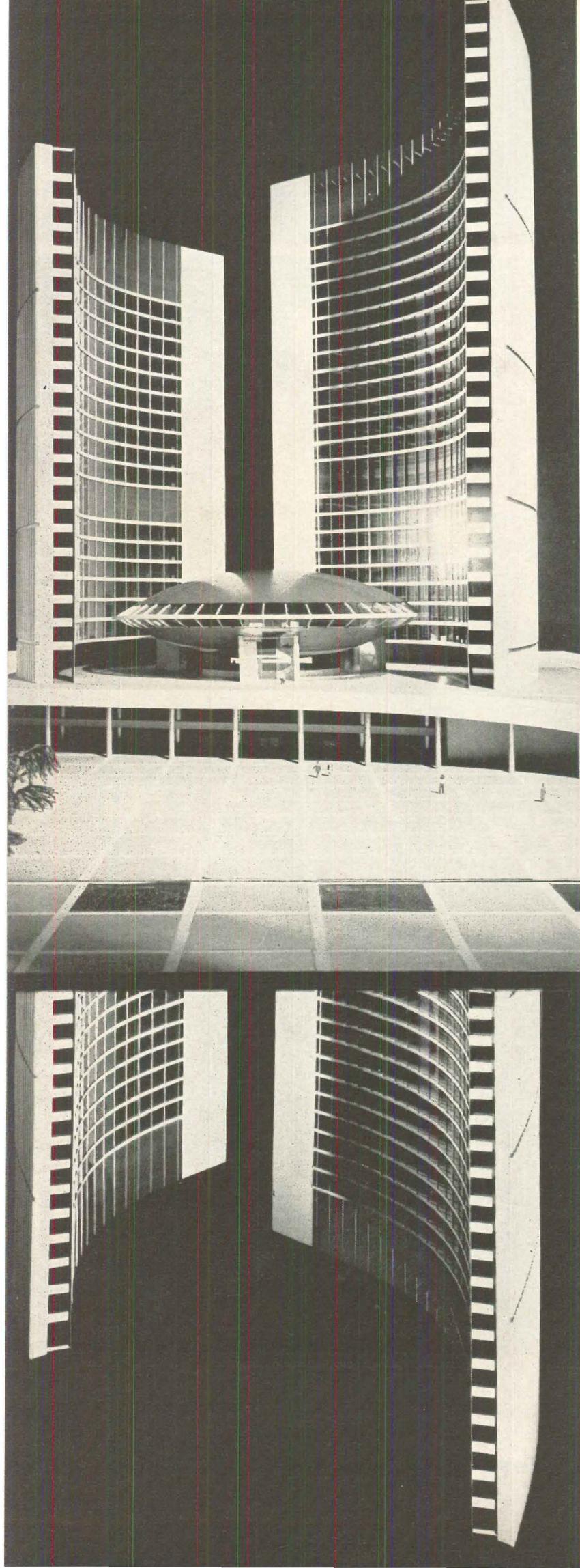


CANADA



MONTREAL SKY LINE, AND GRAINFIELDS IN ALBERTA; PHOTOGRAPHS: COURTESY CANADIAN NATIONAL RAILWAYS

A spacious land is about to grasp its great opportunities



NEW VIGOR IN THE NORTH

For the past twenty years all of us have been looking at European and Latin American architecture; Europeans and Latin Americans have been looking at our architecture; and the Japanese have been looking at everybody's architecture.

In all this curiosity and confusion, we have overlooked a nation and an accomplishment much closer to home: the Dominion of Canada and its impressive efforts in architecture, building, and planning. Canada has always been familiar as a great, largely untapped reservoir of open space; now the country is rapidly turning into a reservoir of ideas as well. It is doing so in the face of several handicaps.

Little Red Ridinghood and the big bad American wolf

■ Canada, which covers over 3.8 million square miles, is the second largest country in the world; only Russia is bigger. Yet in this enormous country live just 18.5 million people, one-tenth the population of the U.S. They are grouped almost entirely in a narrow band which stretches along the 4,000-mile southern border, but the density is still only 4-5 people per square mile (compared with 60 for the U.S.). Lack of cohesion, a scarcity of major urban centers, and extended lines of communication have hampered the flowering of Canadian culture from the start.

■ There are great concentrations of French people in Canada, and Canada has absorbed other emigrants from all over the world; but, unlike the U.S., the country has not yet digested them to a point where the cultural total is richer than the sum of its parts.

■ Canada is used to being overshadowed by Big Brothers. First it was England. But for a long time now it has been the U.S. Claude Bissell, President of the University of Toronto, mocks the

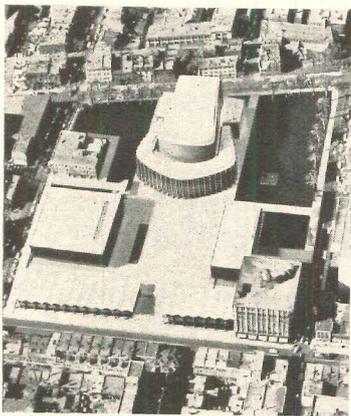
resentment this has caused: "Canadians too often look on their culture as a Little Red Ridinghood in terror of being devoured by the big, bad, materialistic, American wolf." Yet there is no mistaking the fact that, whatever material benefits Canada has gained from its dependence on the U.S., the existence of such a powerful, dynamic culture to the south has not helped Canada develop a strong one of its own.

Against these handicaps Canadian architecture has come far in a very short time. Modern architecture came late to Canada; it has had an established position only since the end of World War II. And all the battles, which had long since ended in the U.S., now had to be won all over again. And they had to be won against a people who, however adventurous and experimental they may

The new Canada (left): Toronto's City Hall, now under construction.



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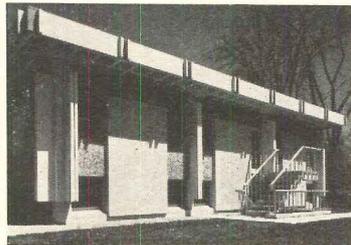
be politically, have a tradition of conservatism in the arts.

One factor that has helped native architecture noticeably is the increasing emphasis placed on architectural competitions in the last 15 years. Sometimes, as in the U.S., these involve grandiose projects: for example, the \$23.6 million Toronto City Hall, designed by the Finnish Architect Revell, with John B. Parkin Associates, and now under construction (left). But many of them are far more modest. Red Deer, Alberta (population 12,000), feels right at home running a competition for a new city hall and civic center and in fact has just done so. James Secord and Saul Herzog won the \$5,000 first prize, but the contest attracted 20 entries, including some from the U.S.

Frequently, the competitions are won by young architects over the big, conservative firms. But, in addition to giving younger men the chance that they might not otherwise have had, Canada's competitions have stimulated an emerging tradition of better public architecture, e.g. Charlottetown's Fathers of Confederation Memorial Buildings (page 88), Vancouver's Queen Elizabeth Theater (left), and Montreal's Place des Arts (above), the latter a straight commission—all by

Architects Affleck, Desbarats, Dimakopoulos, Lebensold, Sise & Schoenauer—or the handsome new town hall for Whitby, Ontario (below), also a straight commission, by Architects Rounthwaite & Fairfield.

No less important than competitions has been the effect of the Massey Medals, named for one of Canada's most distinguished and wealthy families (Vincent Massey was Governor General from 1952 to 1959; the money comes from Massey-Ferguson agricultural machinery). Since 1950, 20 awards for architectural excellence have been given every third year, administered by the Royal Architectural Institute of Canada with funds provided by the Massey Foundation. Though the awards carry no money, they too have helped many a younger ar-



NEIL NEWTON

chitect to become known. The top medal has gone to some very distinguished buildings, e.g. 1961's winner, the Thea Koerner House at the University of British Columbia (page 86).

Medal winning or not, the new architecture of Canada is as varied as the climate and geography in which it is produced. Major influences run the gamut from Japanese, as in the delicate, hand-hewn work of the West Coast firm of Thompson, Berwick & Pratt, to the Mies-inspired industrial esthetic of Toronto's Prim-

The old Canada: grand public buildings on Ottawa's Parliament Hill.

COURTESY CANADIAN NATIONAL RAILWAYS



rose Club by John B. Parkin Associates (below).

Indeed, all the directions and gropings which some U.S. critics have deemed chaotic in their own country are to be found in full flower on Canadian soil. This should be no surprise. For however ardently the new Canadian nationalism may seek to reject



American influence, the common interests and lines of communication are too strong to be readily dissolved.

Building research

If modern Canadian architecture has come far in a short period, there are related fields which may have come even farther.

Research is one of these. Since 1947 there has been a Division of Building Research of the federally supported National Research Council. With an annual budget of \$1.5 million and a staff of 220 men, the division conducts a vigorous program of basic and applied research. Though it is a public agency supported by public funds, it operates outside the framework of normal government departments, thereby gaining a freedom in selecting areas for study which is the envy of many

another research organization.

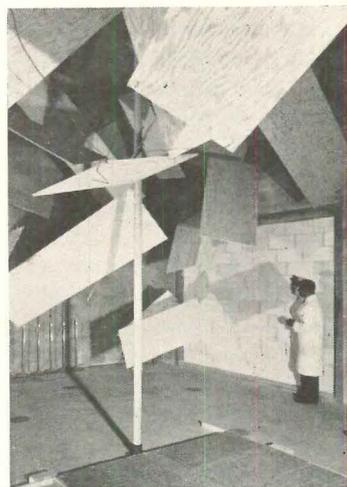
The division attempts to confine its activities to problems peculiar to Canada, its severe climate and geology. Fire problems get special attention, since the combination of wood construction and bitter winters leaves Canada with enormous fire losses each year. But DBR, which maintains four far-flung field stations in addition to its headquarters in Ottawa, also investigates such basic questions as the movement of moisture in materials. And, with an eye to the future, the division is exploring the unique problems of building in the "permafrost" region, a vast area of permanently frozen ground which represents 50 per cent of Canada's total land area but as yet is virtually unpopulated. Since close liaison is maintained between research and industry (each month 12,000 copies of a research digest are printed and distributed by the DBR), and since one central, richly supported but independent agency is responsible for research, architects and manufacturers in Canada have readier access to vital technical information than in almost any other country.

Through a special citizens' committee, the National Research Council administers the National Building Code, first issued in 1941 and revised in 1953 and 1960. Intended as an advisory document to thwart the wild proliferation of different local codes, it has sufficient latitude so that it has been adopted wholly or in part by municipalities which account for over half the population.

The frequency with which it is revised and the very fact that it emanates from the NRC assure that it is a progressive code, based, as much as possible, on performance rather than on speci-

fication of materials by name.

Another potent arm of the federal government is the Central Mortgage and Housing Corporation, described by its Chief Architect, Ian McClelland, as "like all the U.S. housing instruments rolled into one." In addition to insuring mortgages, CMHC is authorized to make direct mortgage loans out of its own funds. It has exercised this authority with a vengeance—about half of all housing built in Canada each year (last year's expenditures totaled \$1.5 billion) is financed by CMHC under the National Housing Act. And, although it does not initiate schemes, CMHC's Architecture and Planning Department, with a staff of 80, is responsible for all public housing built in Canada. Sometimes outside architects are used; more often CMHC designs the project itself. And, last year, the agency sponsored a competition for mixed low- and high-rise housing in Ottawa. Like the National Research Council, CMHC does not merely operate with detachment from Ottawa: local offices with staff architects and planners are maintained in nine cities throughout Canada.



Sound absorption test at DBR

The result has been public housing of extraordinarily high quality.

Planning the capital

Powerful only locally, but significant for all of Canada, is the National Capital Commission. As its name suggests, the NCC is the federal agency responsible for the development of Ottawa along lines appropriate to its symbolic role. And it has been able to control growth and check decay in a way which Washington, D.C., would do well to study.

The basic text comes from the proposals of Jacques Gréber, the late French planner whose National Capital Plan was accepted by Parliament in 1951. These proposals include:

- Provision of open space. Along the Ottawa River dwellings, many of them substandard, have been removed and miles of waterfront returned to a natural parklike state; beautifully landscaped and maintained parkways, 21 miles so far with at least 30 miles more to follow, have been developed to provide impressive approaches.

- Dispersal of government buildings into various campuses on the edges of town. Ironically, many of the buildings which house these agencies—and particularly NCC headquarters itself—are architecturally undistinguished.

- Provision of a green belt to control urban sprawl. To be developed under strict government control, the 37,000-acre green belt is a semicircle 2.5 miles deep located 6 miles from downtown.

- Railway relocation. All major railway installations including the downtown central depot will be moved to a new terminal 2.5 miles south and the land redeveloped as a new office center.

- Development of 75,000-acre Gatineau Park, across the Ottawa

are even greater challenges on the horizon.

NATIONAL FILM BOARD PHOTO

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more modest projects, such as the conversion of three blocks of Sparks Street, a downtown shopping area, into a gay pedestrian promenade (photo, left).

But mostly the NCC tackles big and ambitious problems. And the NCC is big and ambitious. Its current annual budget is \$23.6 million, half of which is earmarked for land acquisition (the NCC already owns a third of the land in Ottawa); the total area of land which it controls numbers 1,800 square miles; its staff varies from 500 to 700 men. And it is pressing hard to complete as much of its work as possible by 1967—in time for Canada's Centennial. Ottawa may seem a small and sleepy town by contrast to the flamboyance of Washington, but, thanks to the efforts of the NCC, it is fast becoming a handsomer, more orderly capital.

River in Quebec, into a gigantic recreation facility.

■ Currently under study is the problem of renewing the entire urban core of Ottawa with projects such as that for a great new government center close by Parliament Hill.

The NCC has also engaged in

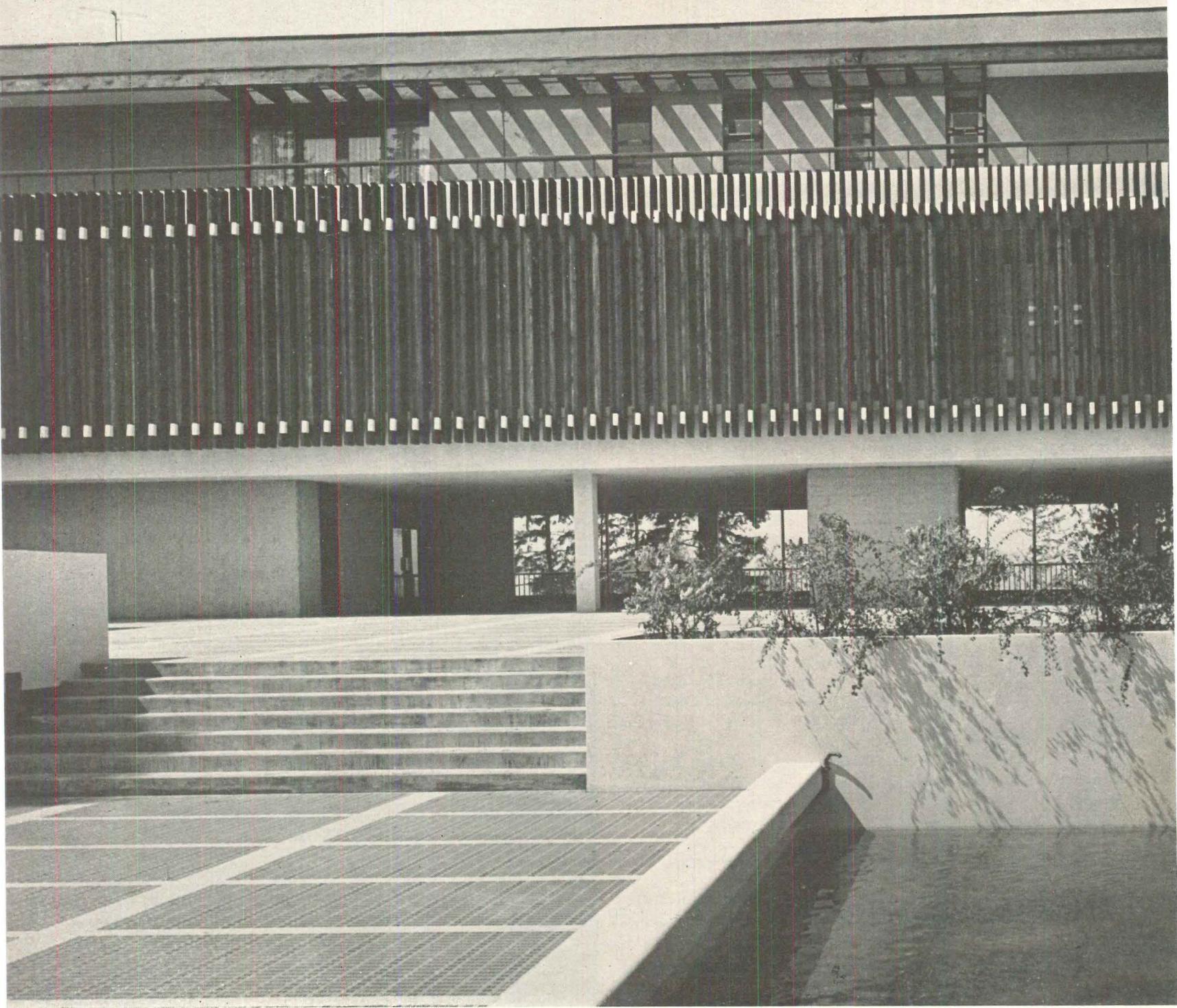
The challenge from without—and the promise within

Where does all this activity put Canada today? Architecture, building research, housing, and planning have begun to make impressive strides; urban renewal, until very recently just a gleam in the eyes of a few men, is fast catching up. Individual efforts, such as the brilliant scheme for Flemingdon Park (see page 92) by the young Toronto architect, Irving Grossman, could have wide significance. Canada, so long a follower, is beginning to come up with answers of its own.

But Canadians continue to face challenges from beyond their borders. Right now in Montreal, foreign architects like I. M. Pei, Skidmore, Owings & Merrill, and the Italians Nervi and Moretti are changing the sky line with Place Ville-Marie, C-I-L House, and Place Victoria. How Canadians answer the challenge will be all important. Once again, there are grumbles about "cultural imperialism" from without. Still, Canada stands to benefit greatly from innovation, whether from outside sources or from within its own growing professional ranks (there are 2,500 registered architects in Canada, like the population one-tenth the number in the U.S.). Canada's opportunities are great. And the talent, as the pages following amply demonstrate, is already there.

Montreal giants (l. to r.): Ville-Marie, C-I-L, Canadian Imperial Bank





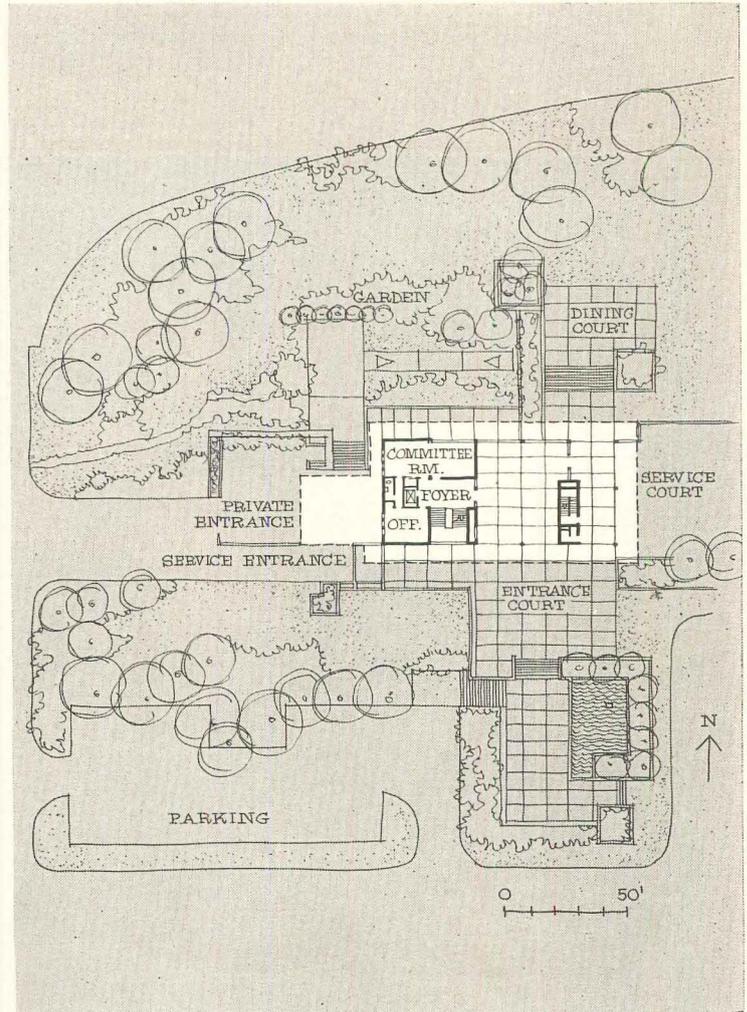
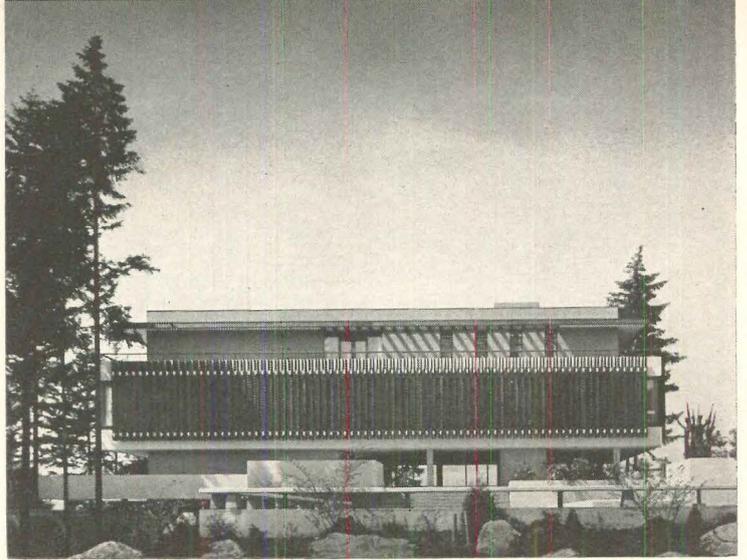
CANADA'S GOLD MEDALIST

It is symbolic of the new spirit in Canadian architecture that the Massey Gold Medal, the country's top design award, went this year to a building that serves as a meeting place for students from all over the world.

The Thea Koerner House, a massively handsome structure by Vancouver Architects Thompson, Berwick & Pratt, is a social center for the 700-odd young men and women doing postgraduate work on grants and scholarships at the University of British Columbia. Its main approach is through a tiled court adorned by a spray pool and a sculpture group

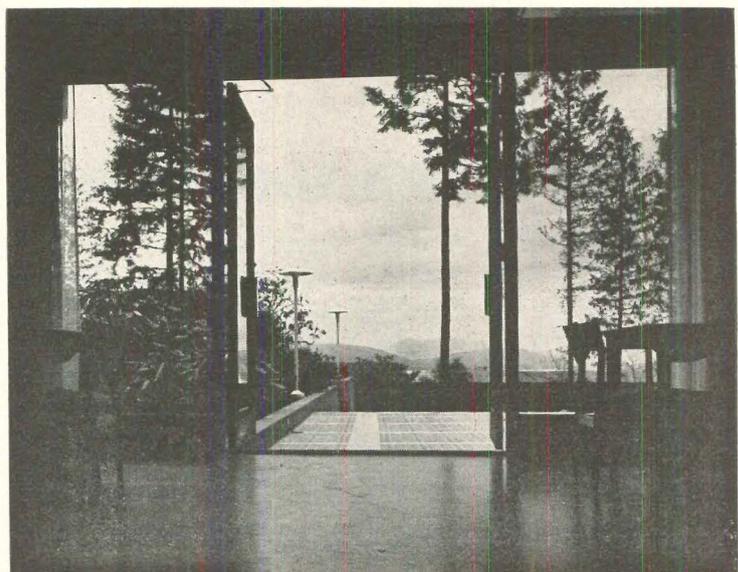
by Jack Harman (photo above). Steps rise to the main entrance plaza, which continues through the building to magnificent views beyond, interrupted only by enclosures for offices and stairs.

Beneath the plaza are services and caretakers' quarters, and a recreation room and canteen facing a dining terrace on the north (plan opposite). Above, the reinforced concrete structure rises solidly on large spans and cantilevers to house a lounge, library, and café behind a striking sun screen of rough cedar boards. The top floor, set back behind a roof terrace, is a penthouse apartment for Dr. L. J. Koerner, who donated the center in memory of his wife.

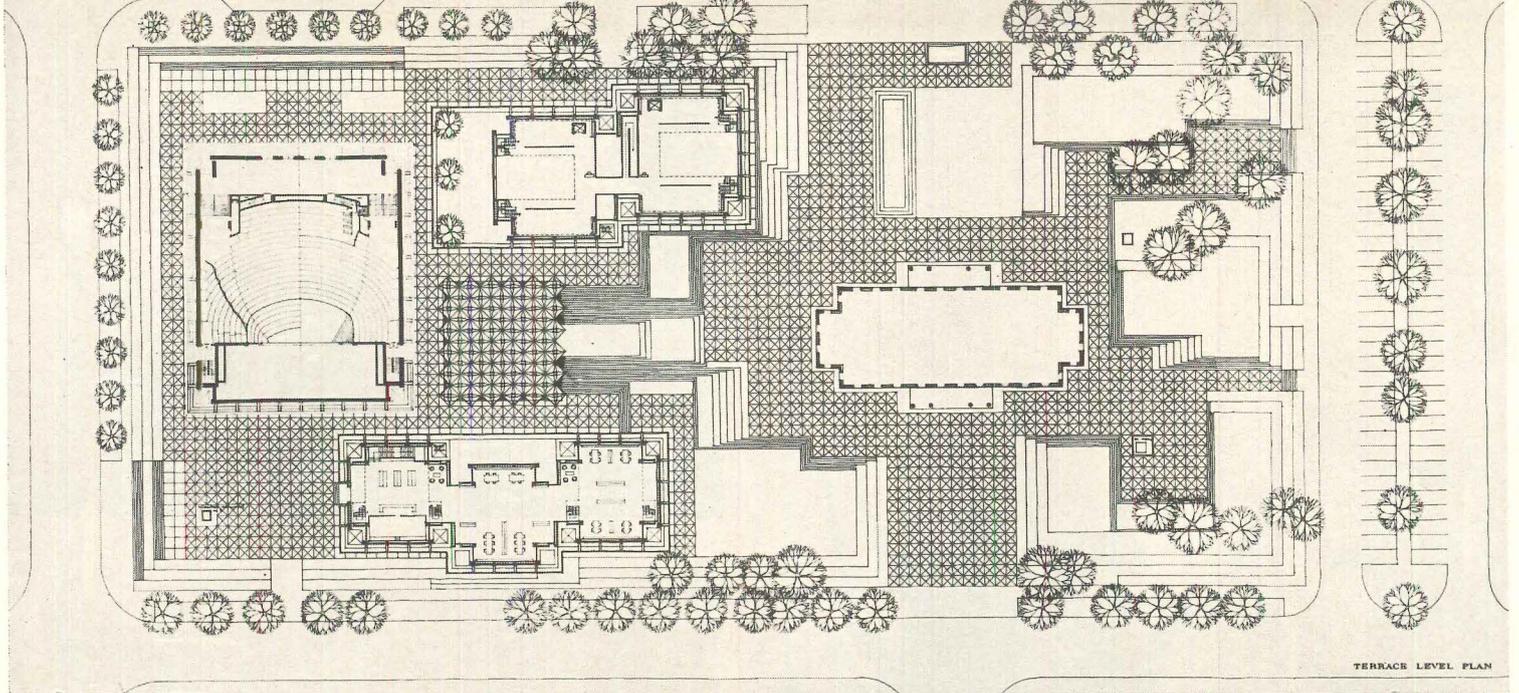


It is not hard to see why the jury saw in this design "evidence of a flowering of modern architecture." It is a building of considerable originality and strength, well anchored and landscaped to its site, rising lightly above it to form a distinct base, middle, and a top with a strong roof line against the sky. Bush-hammered white concrete masses are played with skill against warm paving and wood screens and fasciae.

Architect in charge was C. E. Pratt, with associates Peter Kaffka and Zoltan Kiss, and adviser E. Stewart Williams, AIA. Engineers: O. Safir & Co., Ltd. (structural), D. W. Thompson & Co., Ltd. (mechanical), Simpson & McGregor (electrical). Contractor: Anglin-Norcross Western Ltd.

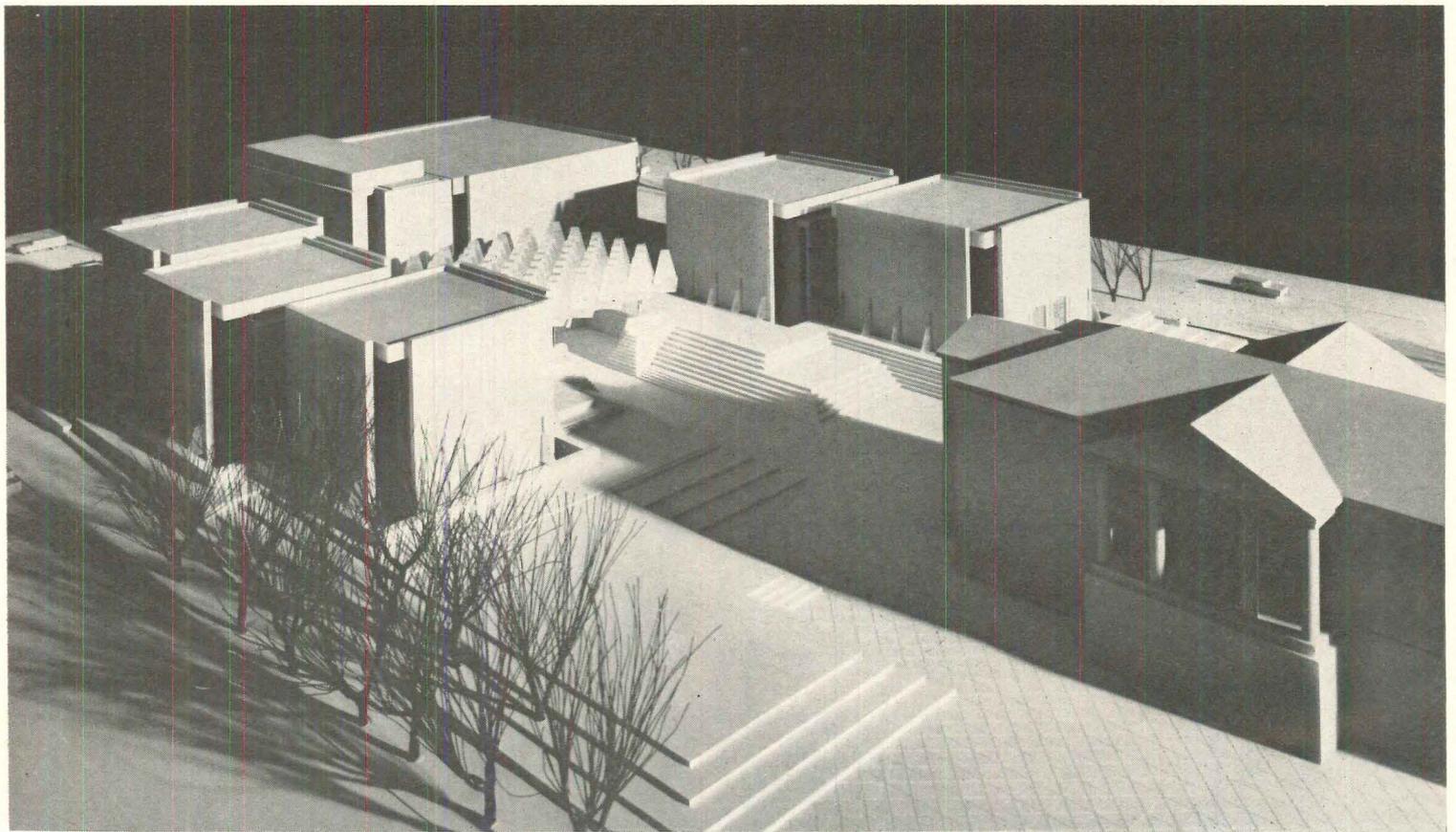


PHOTOS: SELWYN PULLAN



TERRACE LEVEL PLAN

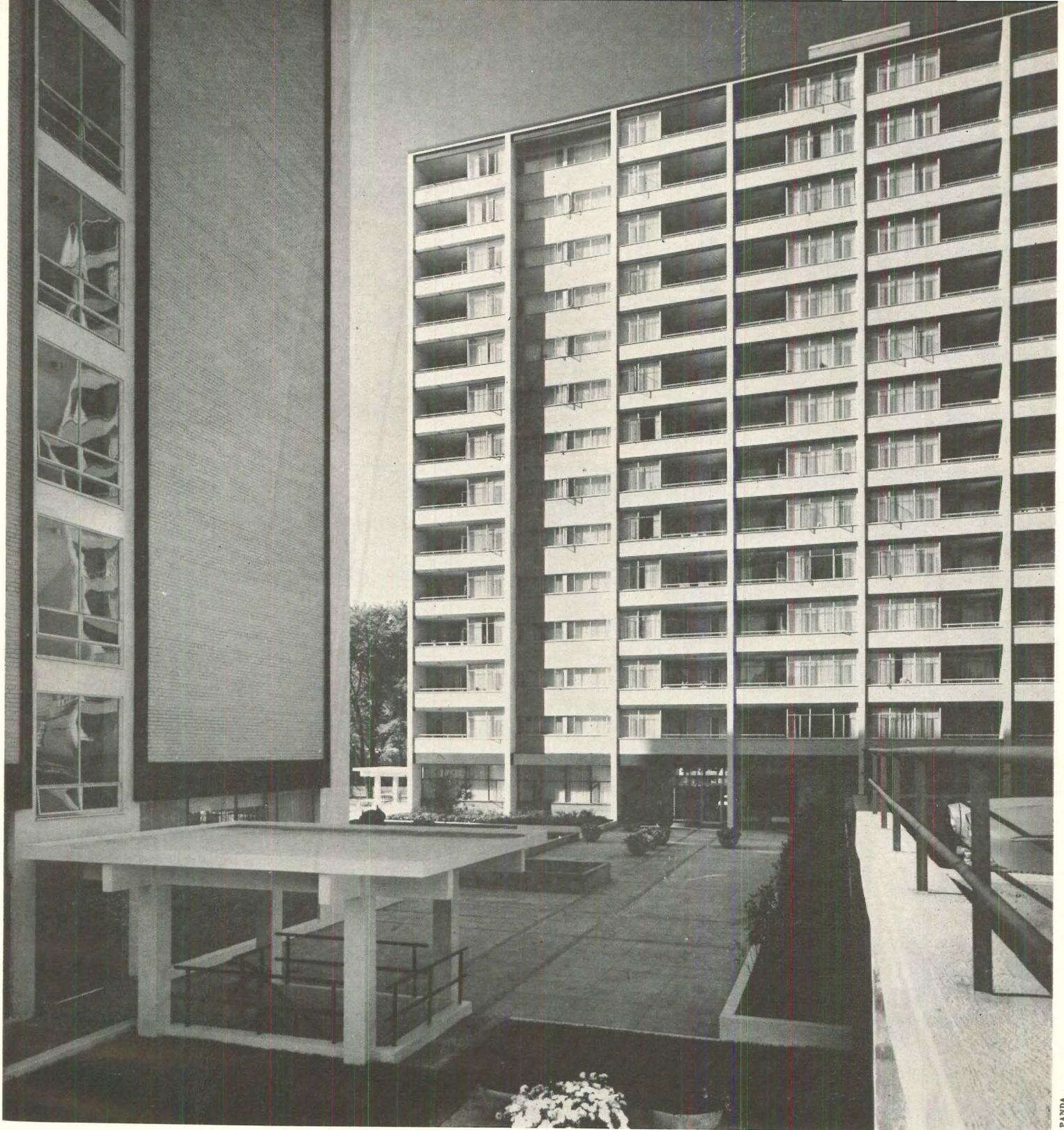
PANDA



A NEW CANADIAN SHRINE

Near the center of the small capital city of Charlottetown on Prince Edward Island stands the historic Provincial Building, where in 1864 delegates from all over Canada first met to discuss confederation. Around this landmark a competition was held recently to plan a complex of buildings, including a library, museum, and theater, that would serve both as a civic center for the town and a memorial to Canada's founding fathers. The challenge was made plain enough in the program: "a national shrine to which Canadians will forever pay homage as the birthplace of their nation."

The jury was impressed with the high quality of the 47 entries for the Fathers of the Confederation Memorial. But the design shown here—by Architects Affleck, Desbarats, Dimakopoulos, Lebensold, Sise & Schoenauer—was considered the most imaginative and sensitive solution. The jurors were delighted with the subtle way in which the winners integrated the old building in their scheme, enclosing it at the center of an open court at the right-hand side of the site (plan above). A carefully controlled vista runs from the richly skylighted memorial enclosure, between clifflike terraces, down to the long axis of the historic hall. The center will be built well before Canada's forthcoming centennial.

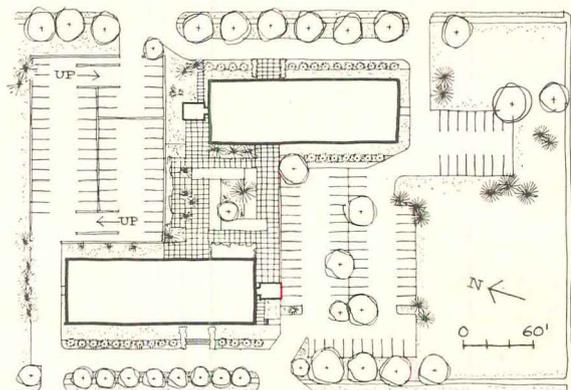


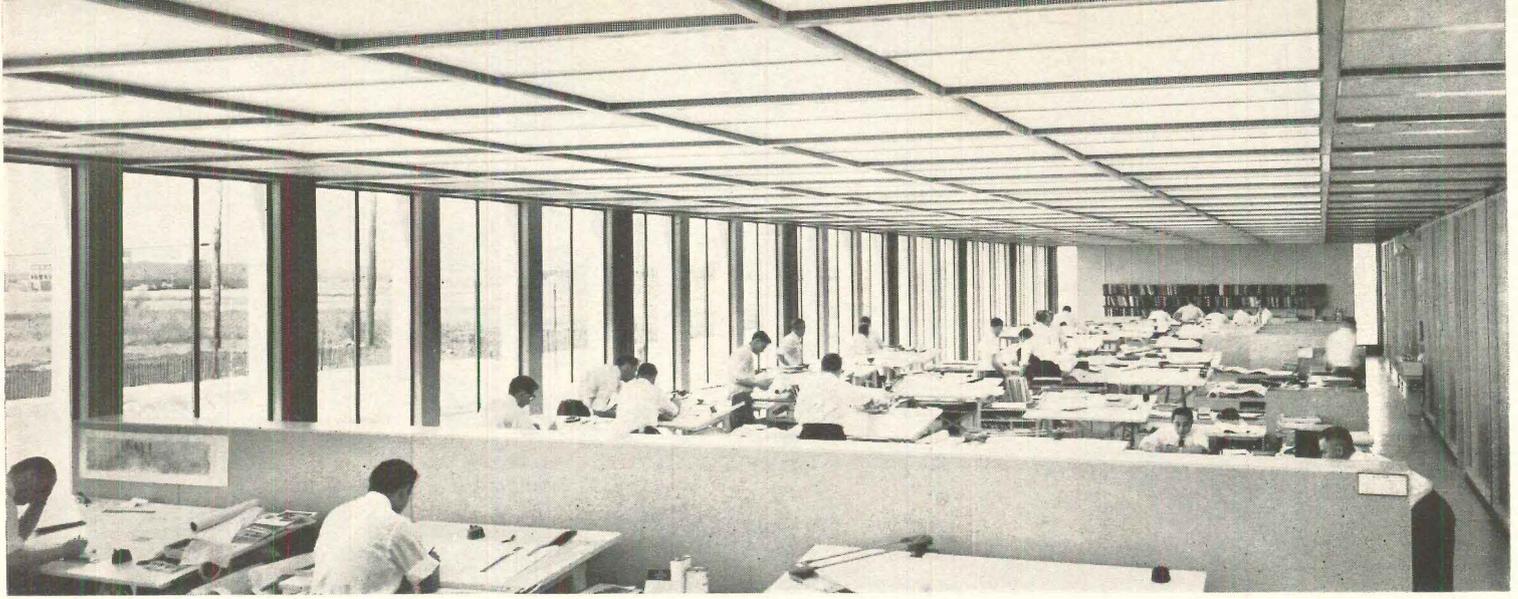
PANDA

TWIN TOWERS IN TORONTO

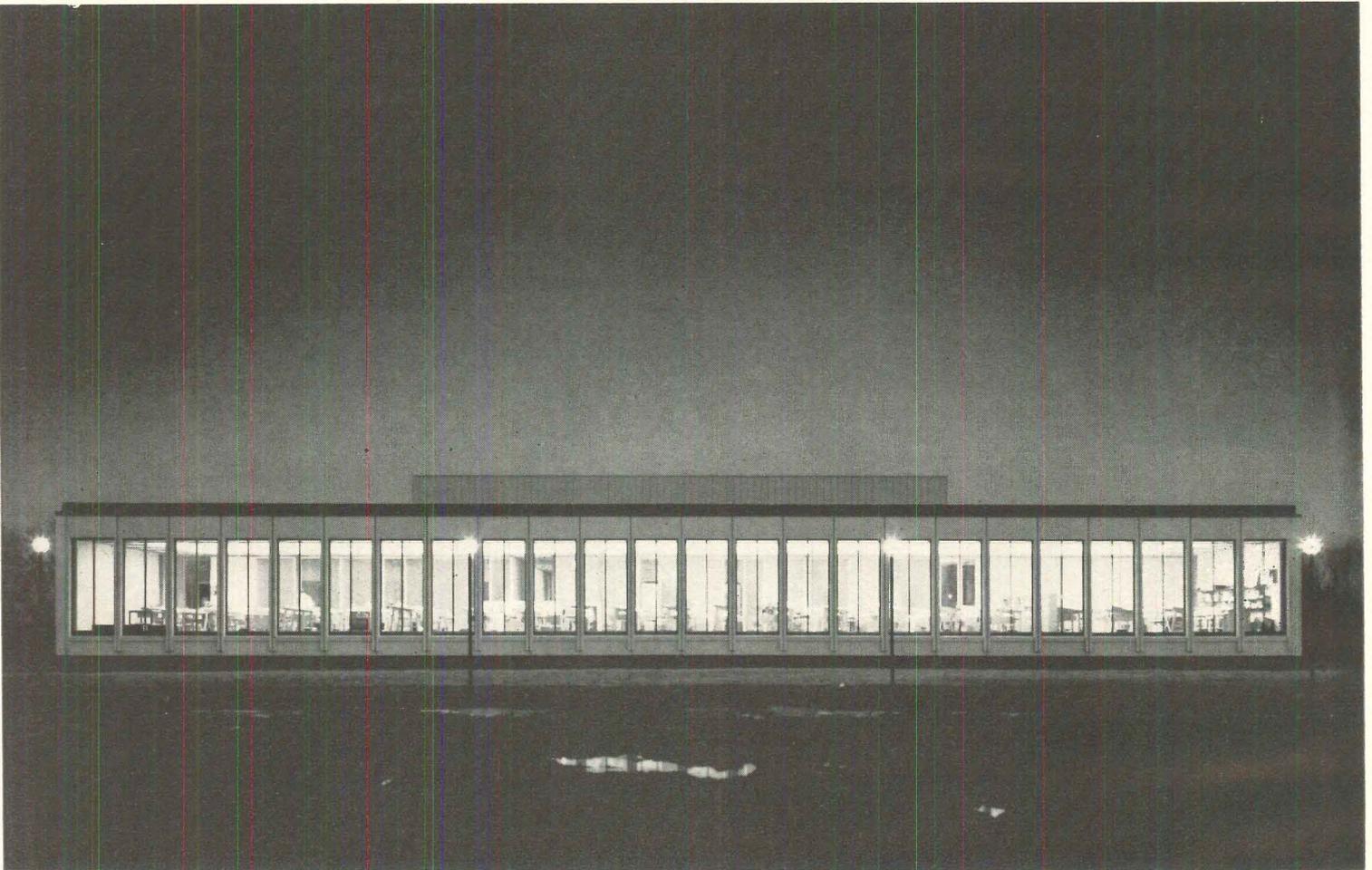
Planted in the midst of what the architects call a "slightly run-down neighborhood," the twin towers of the Holly-Dunfield apartments in Toronto are intended to be a focal point for the redevelopment of the entire area.

The 14-story buildings, which express their concrete structures, are linked by a landscaped walkway running across the site and right through the two building lobbies. Each of the 324 apartments has a balcony, recessed so that it will be private enough for tenants to use. Architects: Burston, Wells & Tampold. Landscape Architect: Austin Floyd.



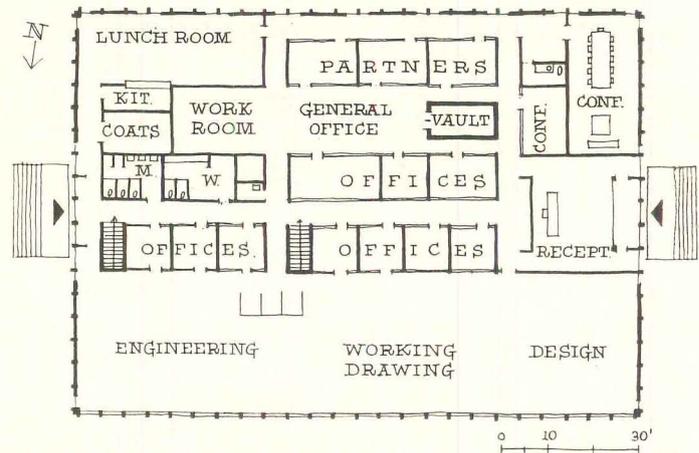


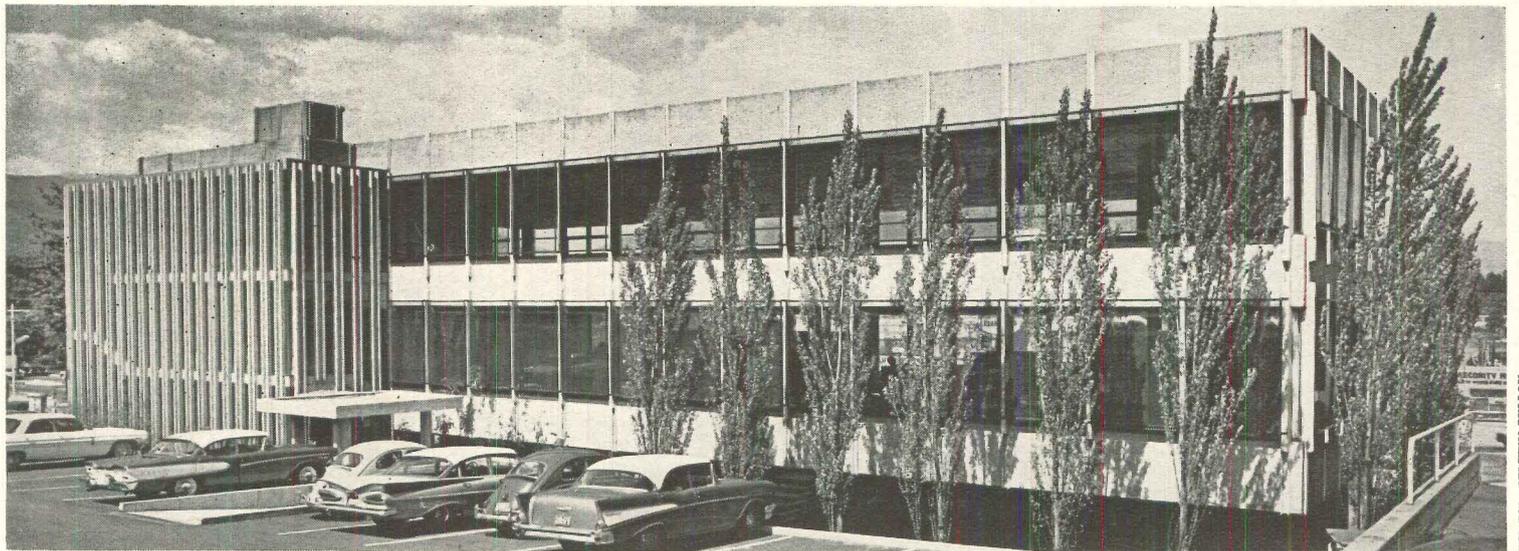
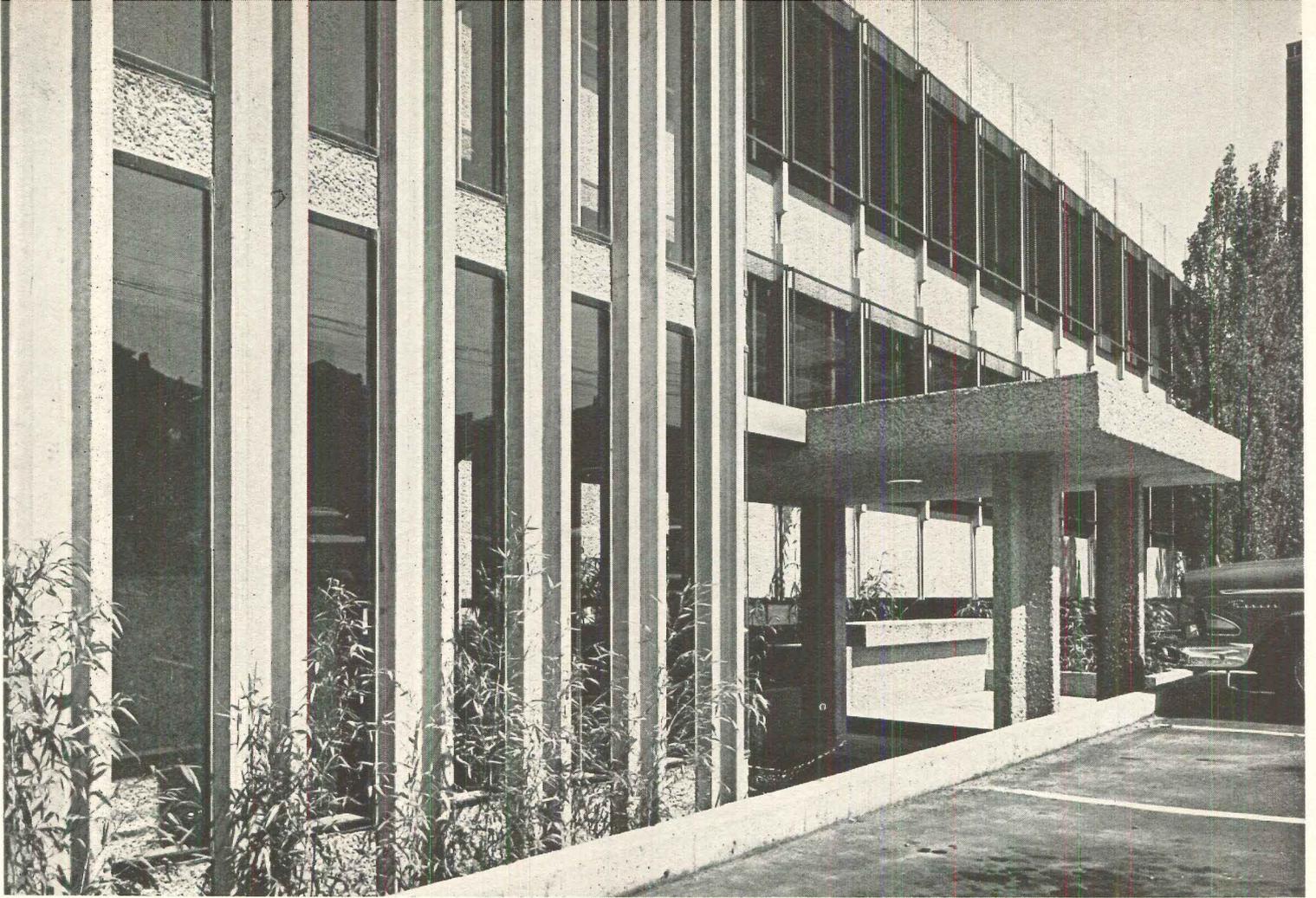
PHOTOS: HENRY KALEN



WINNIPEG DESIGN OFFICE

Typical of Canada's faster-growing architectural and engineering firms is Smith-Carter-Searle Associates, which recently moved its staff of 70 to this trim headquarters in suburban Winnipeg to gain room for parking and still further expansion. The drafting room, 127 feet long, occupies the whole north side of the building, which is completely flexible on a 5-foot, 2-inch module. Walls are of precast concrete frames welded to the steel structure, infilled with gray glass or solid granite-chip panels. Luminous ceilings rest on slotted aluminum grids carrying the main air-conditioning supply.

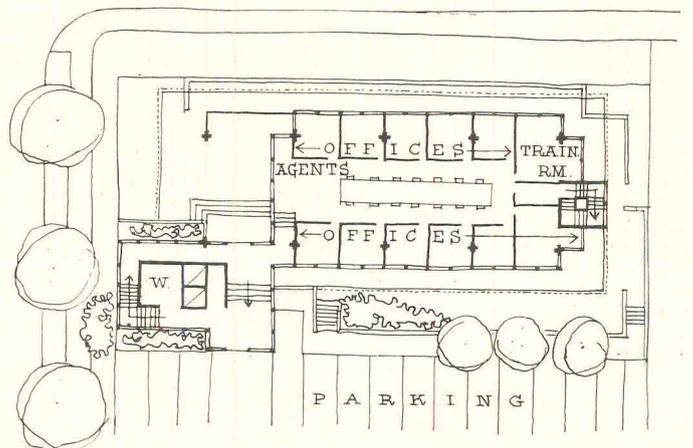


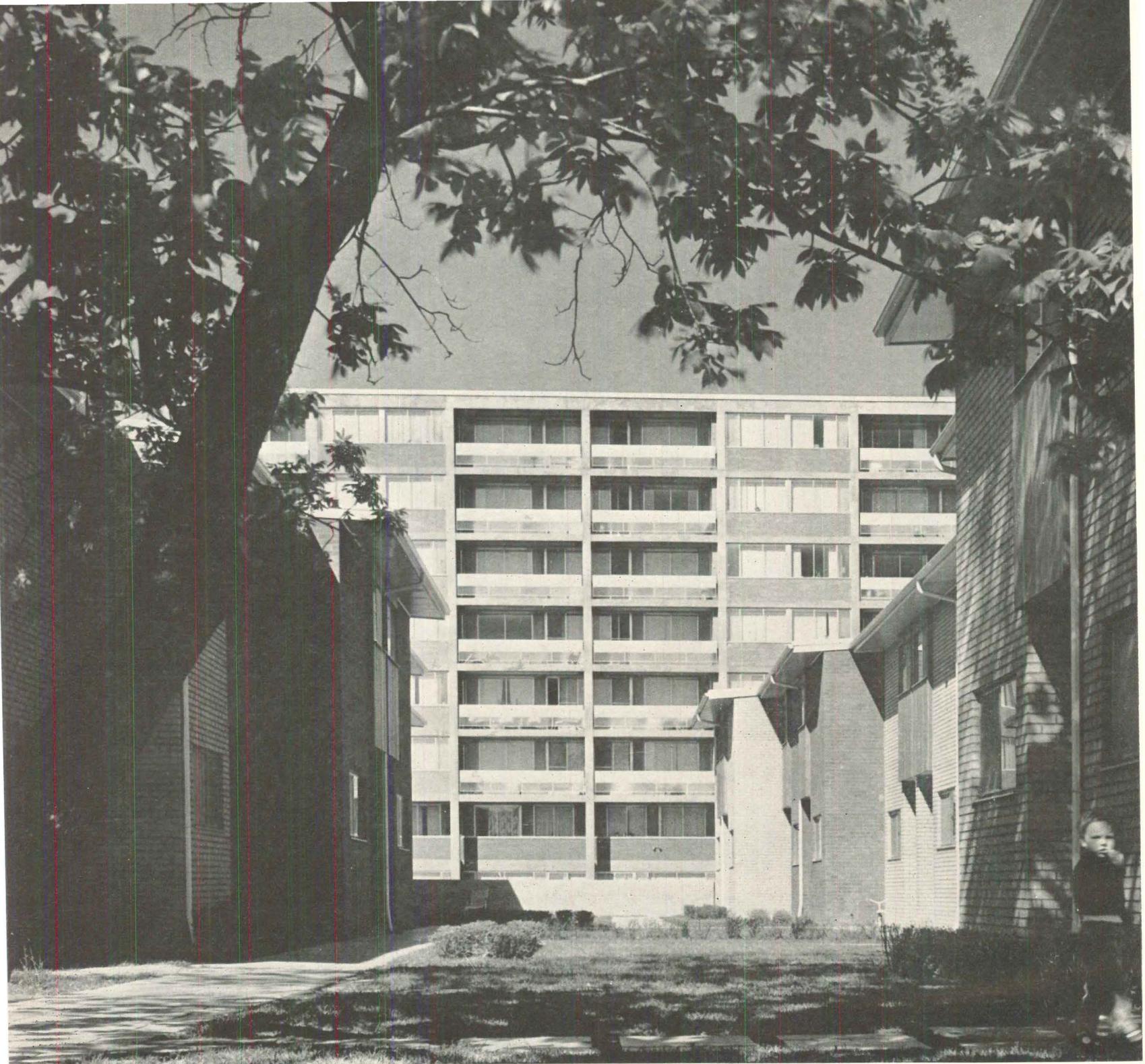


PHOTOS: SELWYN FULLON

INSURANCE IN VANCOUVER

Canadian architects, like their U.S. counterparts, are currently fascinated by concrete. Yet another building displaying this interest is the new Crown Life Insurance headquarters in Vancouver, by Thompson, Berwick & Pratt. Its concrete structure is cantilevered from ten cross-shaped interior columns, the upper floor shading windows below and forming a deep, sheltered entrance at the street corner (see plan). Pre-cast mullions and spandrels hammered to a rough texture are hung on the main office mass; heavier, channel-shaped mullions and glass strips gird the separate stair-well block.





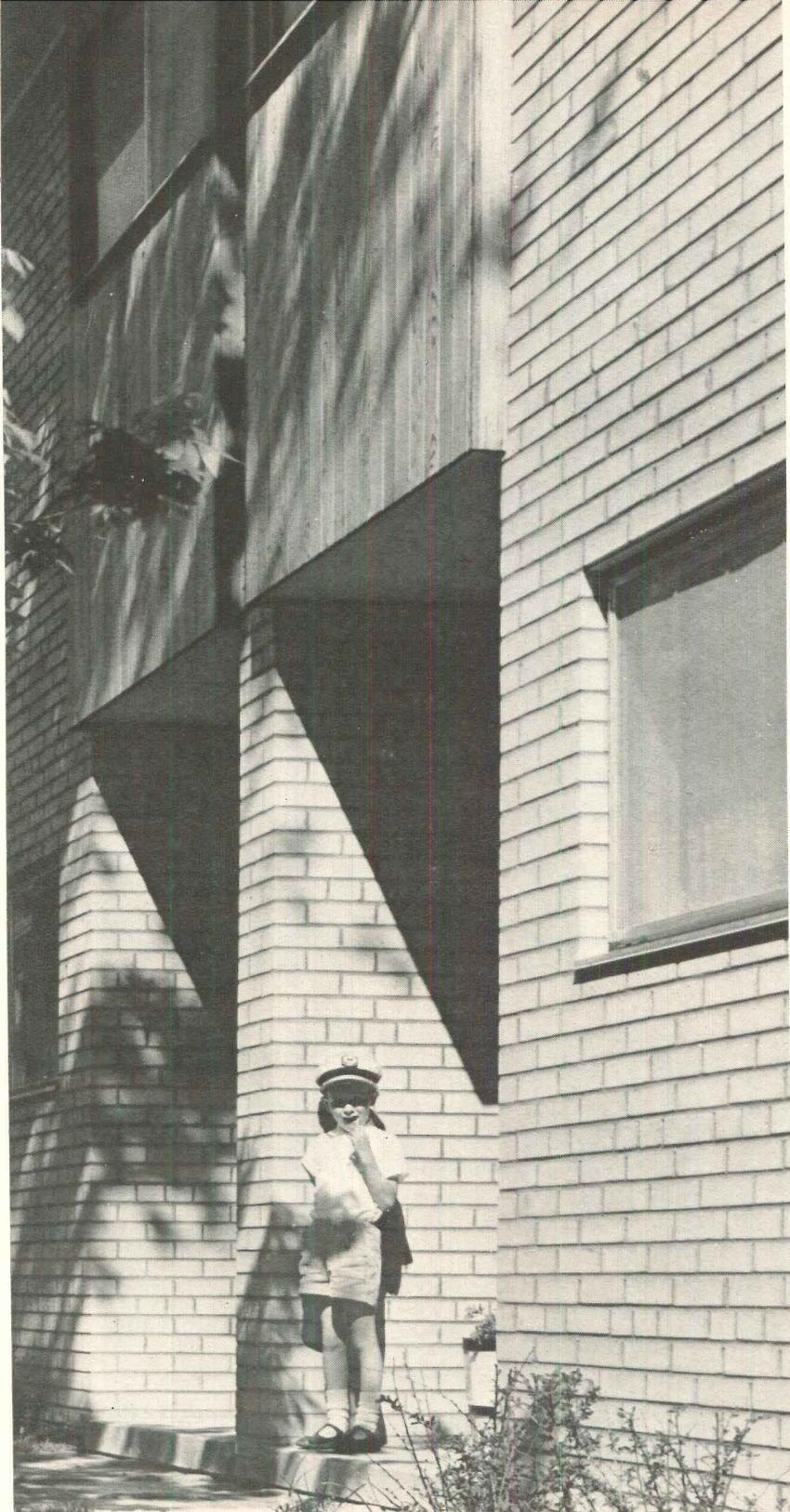
APARTMENTS IN TORONTO

The apartment housing shown here, the work of a gifted young Canadian architect, Irving Grossman, derives its success largely from the fact that the automobile is forced underground and out of sight as soon as it leaves the access roads (photo and section, top right). This means convenience for the resident, since he has sheltered parking right at his basement door and can pass directly into his unit through an air-lock vestibule which keeps out fumes. It also means a whole new environment of pedestrian "streets" is possible aboveground.

In developing these streets, Grossman has sought to recap-

ture "accidental richness" through maximum visual variety (he hates the grinding monotony of most "rational" twentieth-century housing schemes). Thus, his project displays unabashed variety in building shapes, colors, and heights; intimately scaled outdoor spaces which flow together unexpectedly; sudden vistas, changing levels, and earth forms molded playfully by bulldozers.

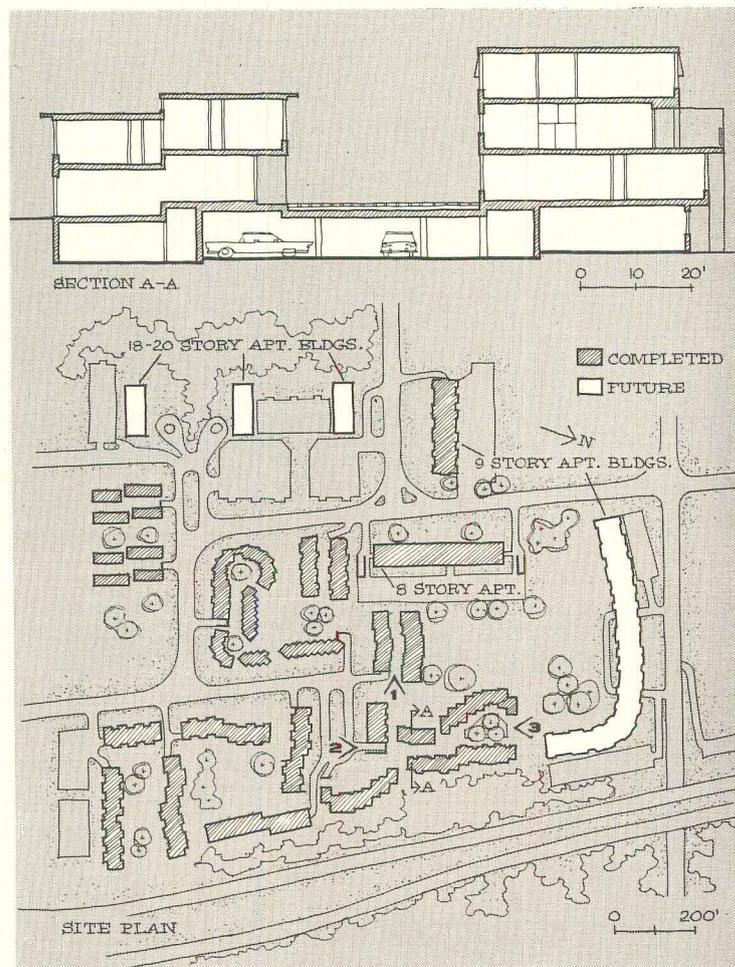
Putting the automobile underground cost more than conventional arrangements. But there are important benefits: the increased density offsets high land cost and lowers actual per-unit cost; and because the housing is such a desirable commodity, it gets a good mortgage, rents quickly, and, so



1 (Numbers refer to views in site plan, right)



2



3

PHOTOS: CLIVE H. CLARK

far at least, has a negligible vacancy rate. These are the hard business considerations. But the final justification is living: here is a life in which nature has been reintroduced into an urban environment of dense masses and complex spaces.

This housing is the newest section of Flemingdon Park, a planned community between Toronto and Don Mills (FORUM, Jan. '61). When completed it will include office and industrial facilities and a radio-television complex for the CBC as well. Engineers: M. S. Yolles & Associates (structural); Ellard-Willson & Associates, Ltd. (mechanical, electrical). Development and construction: Webin Communities. Owner: Webb & Knapp (Canada) Ltd.

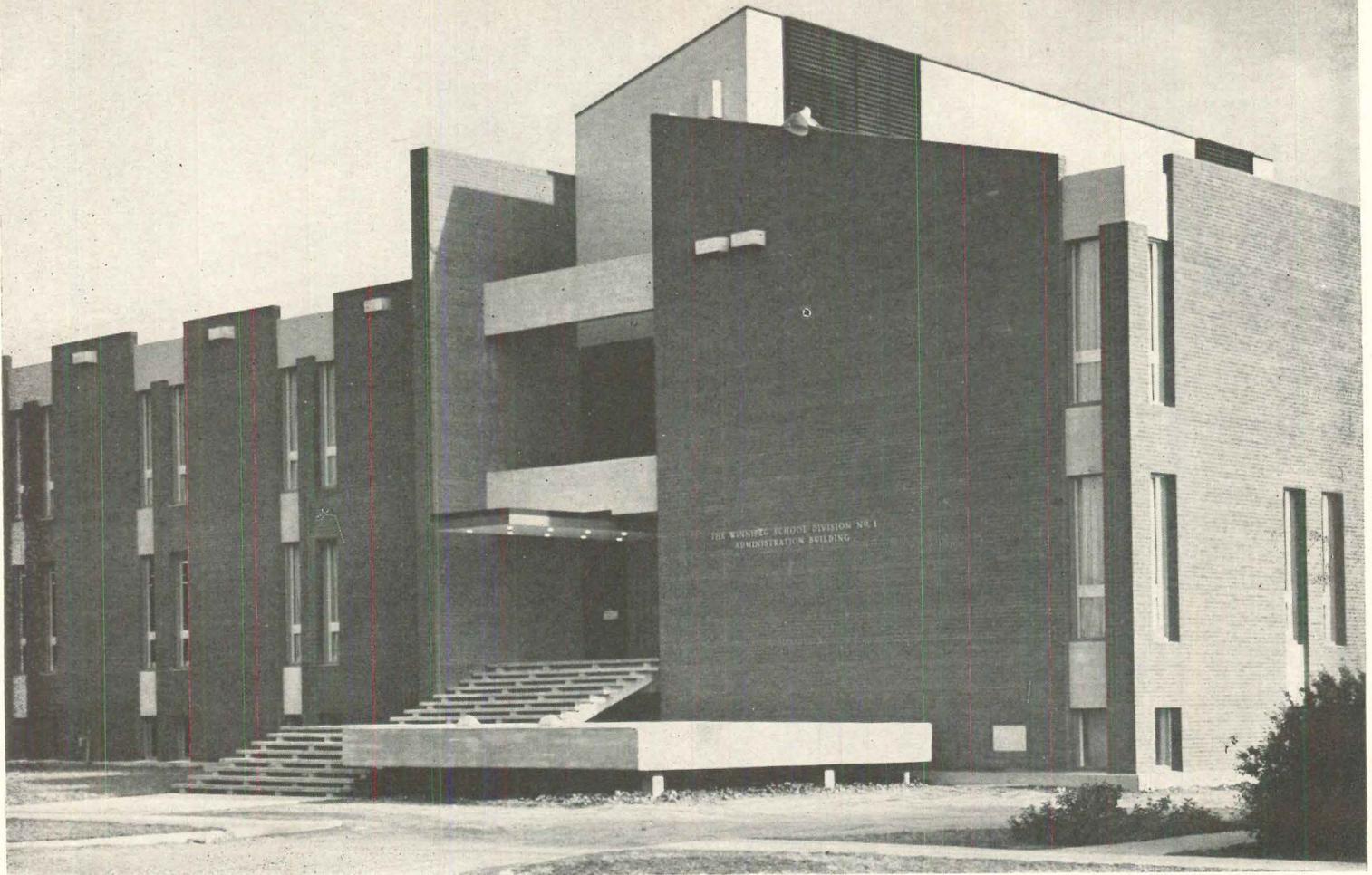
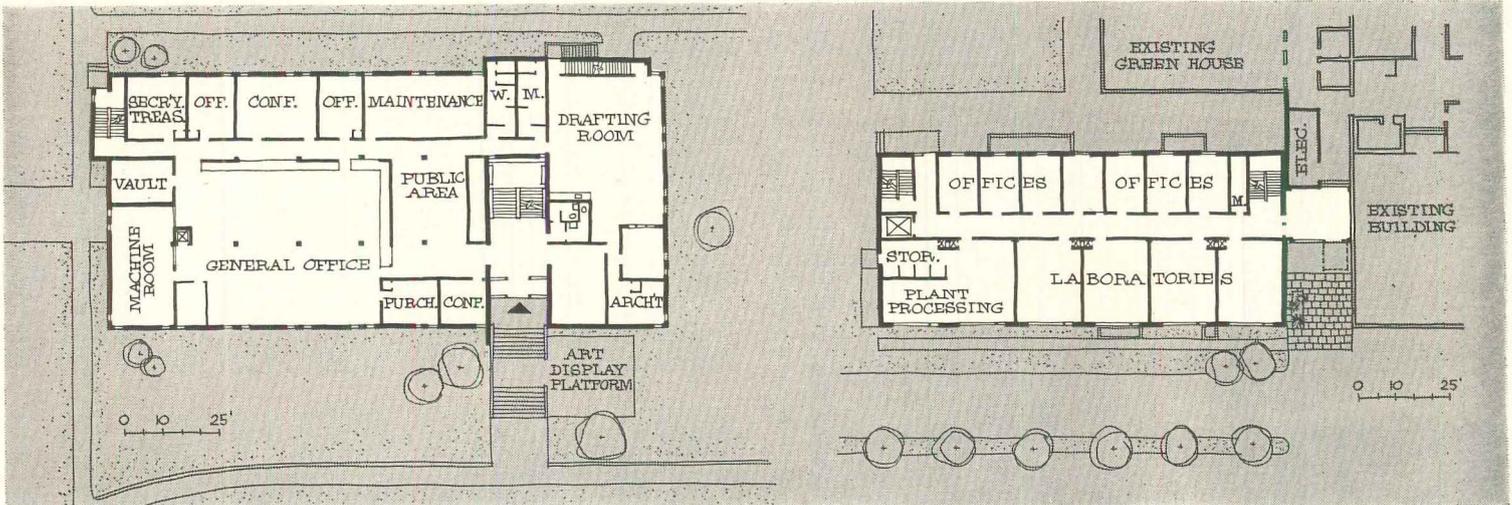


PHOTO OPP., CLIVE H. CLARK; PHOTO LEFT, HENRY KALEN



EDUCATION IN MANITOBA

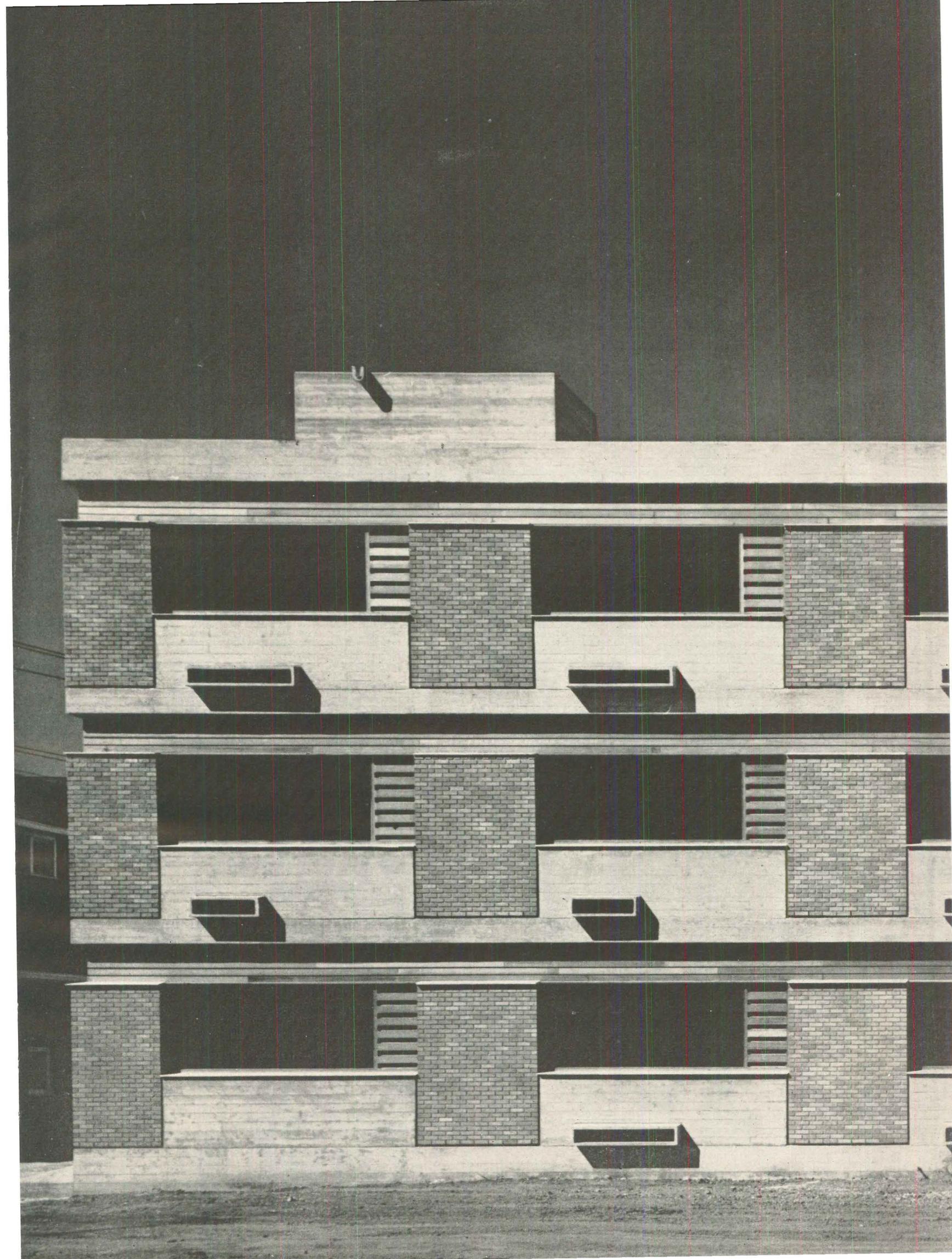
The school administration building (above) and the crop research center (right), both designed by Winnipeg Architects Waisman, Ross & Associates, reflect a trend to richer surfaces, stronger patterns, and bolder textures—a trend which Canada shares with the rest of the world.

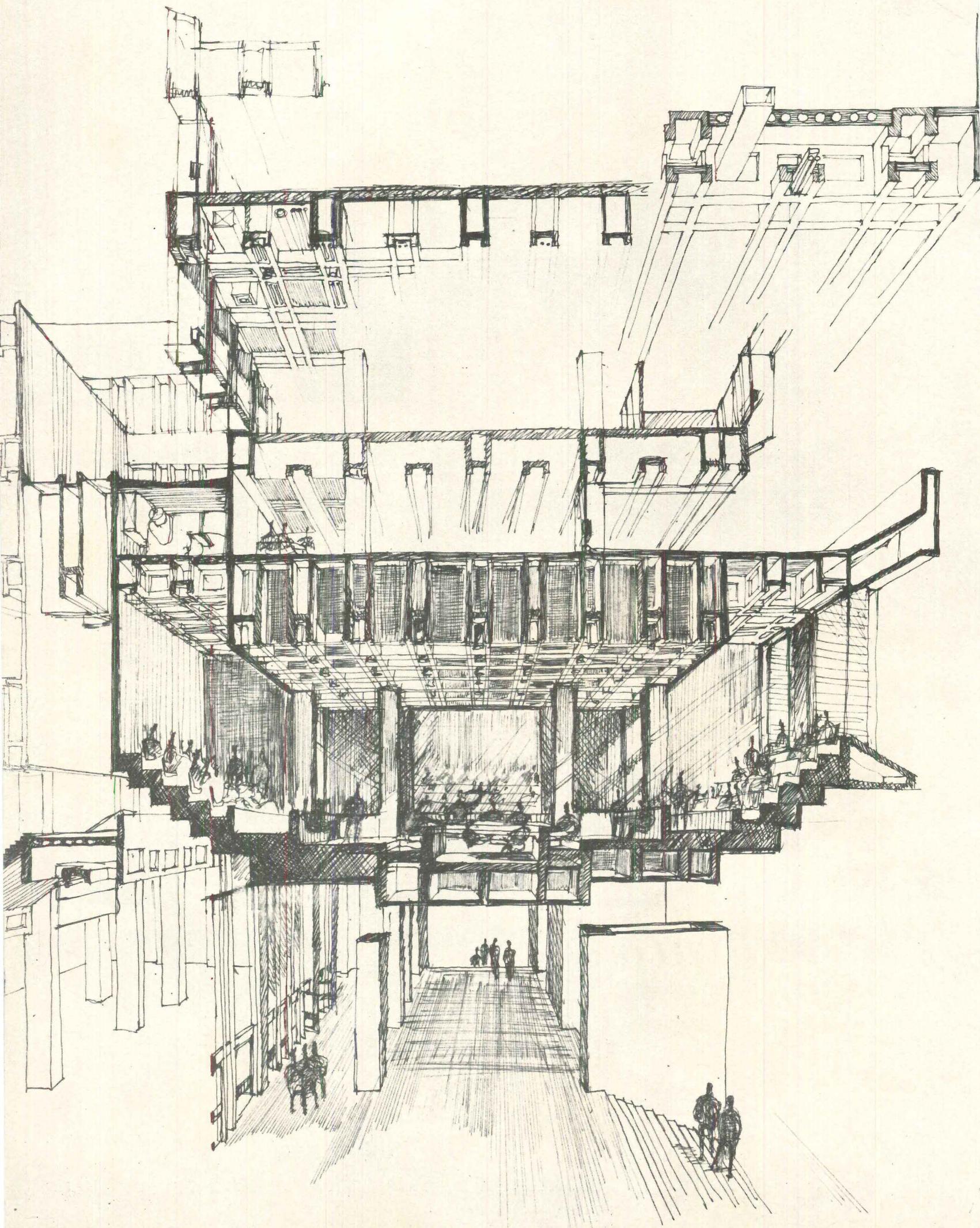
In the administration building for Winnipeg School Division No. 1, narrow strip windows are recessed deeply in masonry bearing walls faced with dark brick. The entrance is defined by powerful, jutting walls (the wall at right also expresses the sloping ceiling of the board room behind it).

Beside the graceful flight of steps, a floating concrete platform will be used for student art displays.

The University of Manitoba's Crop Research Center makes a vigorous composition out of exposed concrete, brick, and natural redwood. Concrete "shrouds," projecting boldly from the building face, cover individual air-conditioning intakes which vary in size to suit the needs of the different specialized labs within.

Engineers for the administration building: Krauss & Macdonald (structural); W. L. Wardrop & Assoc. (mechanical). General contractor: Arlington Builders. General contractor for research center: Winnipeg Construction.





The winning design for the proposed new Boston City Hall—a big, bold, burly structure—is not such a surprising visitor as the fictional view of the old city might suggest. BY WALTER MCOUADE

TOUGHNESS-BEFORE-GENTILITY WINS IN BOSTON

Boston is a city in Massachusetts, but it is also a legend in American gentility. There is Beacon Hill; there is classic colonial architecture, and the late George Apley.

But there also is Bunker Hill. There is, in architecture, some very robust Richardsonian and some anonymous, wildly strong commercial building; and there is the memory of "Honey Fitz" Fitzgerald. It was to this second, broader Boston rather than the misty, if more famous one, that a trio of young New York architects addressed themselves when their design won the recent open competition for a new city hall for the old town. Because of this, their building is emphatic, forceful, and also true to the architectural current now running almost the whole world around.

It is a brawny building whose upper part is to be made of coarse poured concrete and smooth precast concrete. This part contains offices and ceremonial spaces, and it stands on muscular legs over a massive brick-walled base of large public-use rooms. At the bottom of the walls of the closed-in base, the brick plane turns and continues out as a sloping plaza—hard and spacious—so that, in effect, the architecture includes several more acres than just the building. (This outdoor floor of brick will have further patterning in granite,

and will end to one side in an axis of pleached plane trees.)

In the language of architectural schools the building is a "Corbu," influenced more by one man, Le Corbusier of France, than by all the perfect industrialism that has ground so much of contemporary architecture into a highly polished machine art. But unlike many Corbu-type attempts, it is no cartoon. The true test comes not in the burly concept, but in the humanity and diversity of the succession of spaces housed inside, and in this the Boston building may be very impressive.

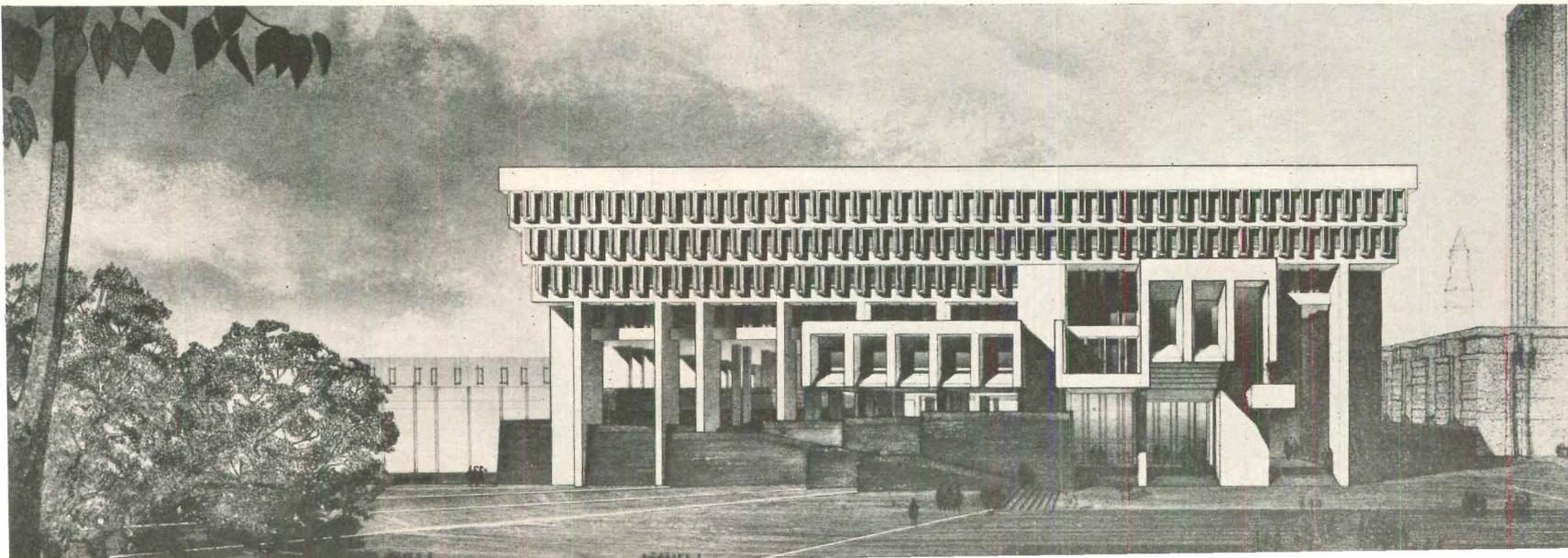
Stacking spaces to get character

Its three architects—Gerhard M. Kallman, 47, born in Germany, Noel M. McKinnell, 27, born in England, Edward F. Knowles, 32, born in New York—have piled interior spaces together in a way that, on paper at least, appears both practical and full of character. This is true not just in the case of the public rooms, but even in the usual welter of quarters for minor governmental functionaries. For these the architects shaped the various-size offices in different strata around an interior light well (section, overleaf) which is focused down on statuary on the open access level between the building's base and its superstructure. Largely absent are the usual office layouts: long halls of similar rooms running to the vanishing point of humanity, or simply desks dumped into loft space.

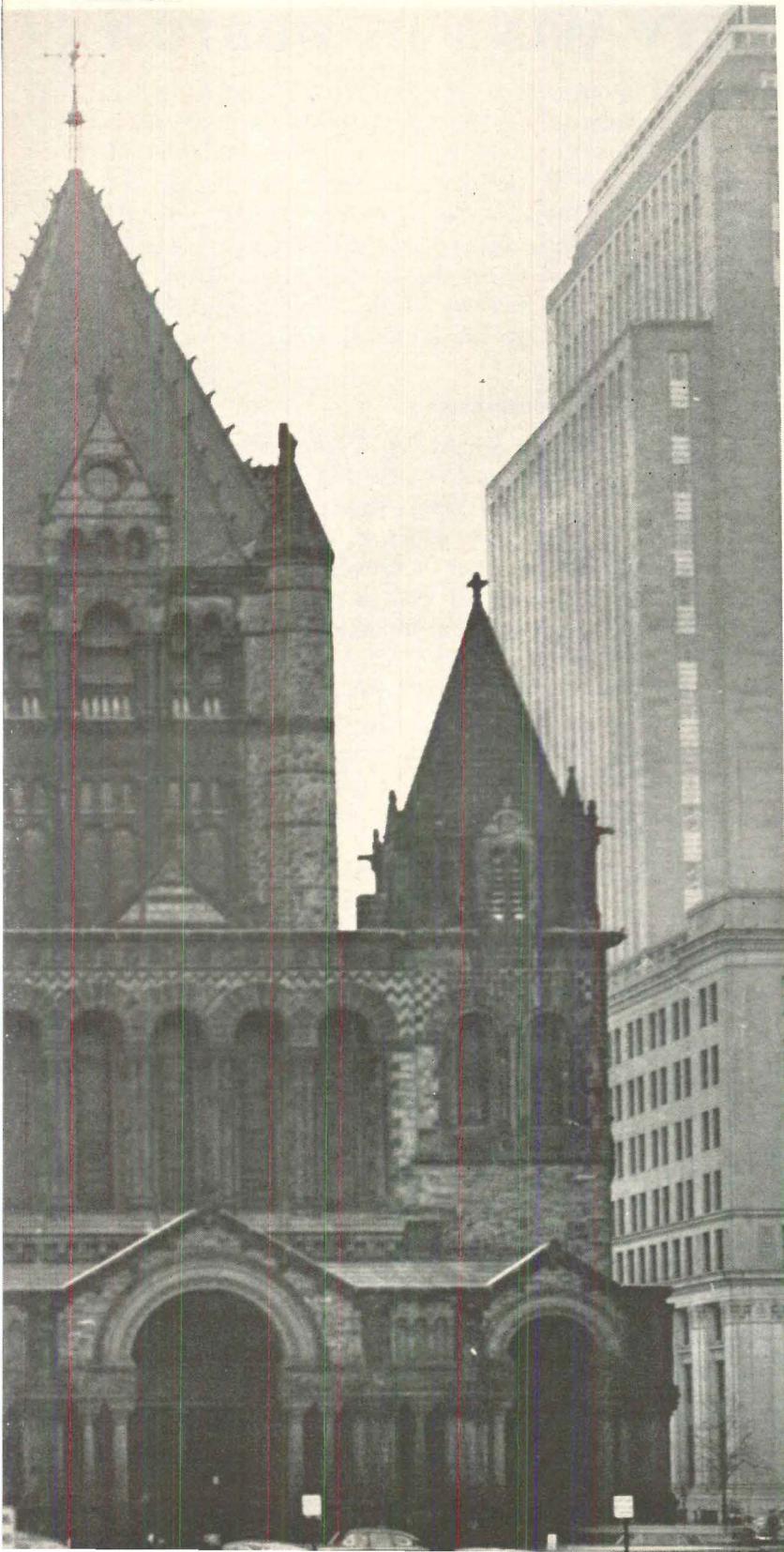
Sculptural is the evident and inevitable word for the entire design. The mayor's office goes around a corner and changes

Left, the City Council sits in tiered chambers hung above the open main floor. Ceilings show exposed grids of precast concrete members. Below, the oddly balanced strength

of the west façade looms over a sweeping, brick-paved plaza. Beneath the serrated walls of the offices, great hoods shield larger windows at the council's level.



JAMES COYNE



ceiling height. Enormous hoods of cast concrete lean out to shadow large glass areas. The big brick base is carved with stairways. Even the office walls of the upper building wear strong verticals—exterior feeders for the high-velocity air-conditioning system. There will be very few hung ceilings inside: instead, the precast concrete floor structure will be left exposed overhead, to read as coffering. Nor will there be any expensive veneers covering brick or concrete; the designers have a very practical justification for this in the \$32 per square foot cost estimate for the building, not high for an important civic edifice.

But is it really "Boston"?

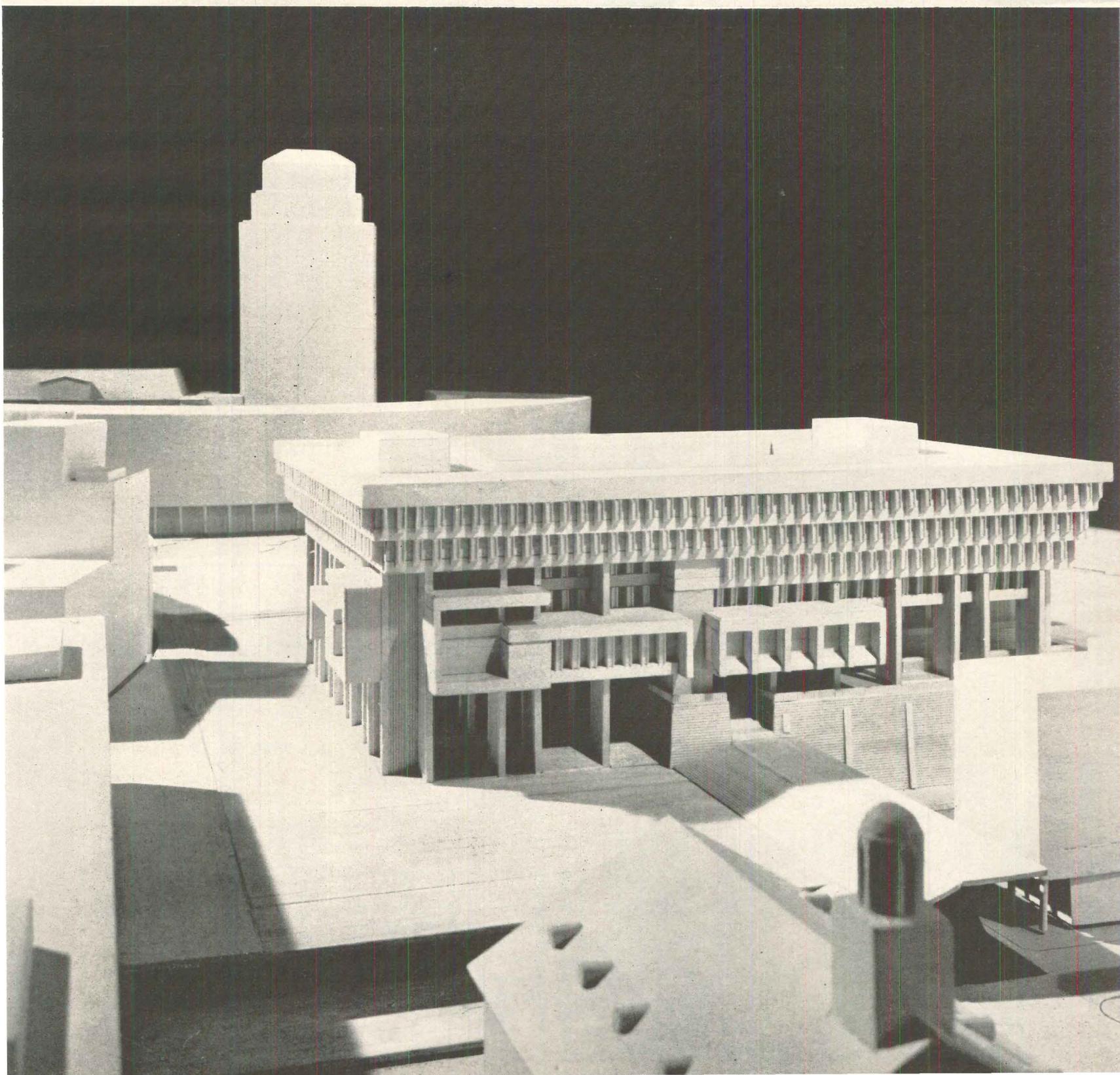
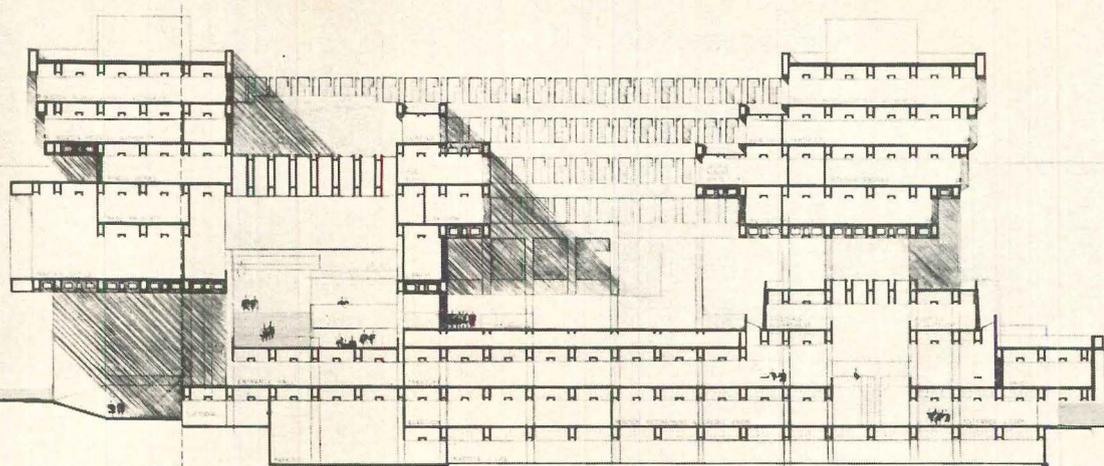
The question has inevitably arisen whether this design fits—in manner and in scale—into its city. It is easy to stand inside a window of refined old Faneuil Hall, only a few hundred feet from the site of the proposed City Hall, and wonder. It is equally easy to look from afar toward Boston and see only the cloud of legend, the glint of refinement that is the city's first fame.

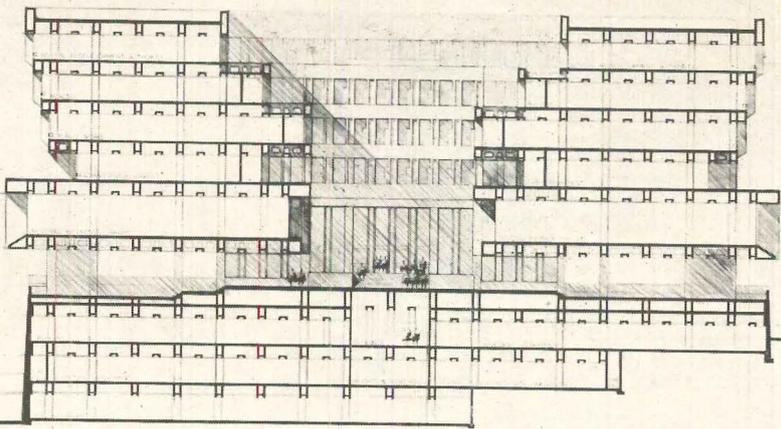
But this is the legend, not necessarily the reality. Boston, down on the ground, is a cobblestone city. One of the designers of this winning scheme (which, incidentally, won unanimously on the first ballot of a jury that included three laymen) said recently that he thought they took first place because their design was not "a sleek outsider," but because the people of this area were used, subconsciously, to strong buildings, and wanted another.

The chairman of the committee which ran the Boston competition—and is resolved to build the result—is Robert Morgan, president of the Boston Five-Cents Savings Bank. (Signing of the final design contract for the new City Hall was believed by Mr. Morgan to be near as this article went to press.) This bank's deposits are \$415 million, making Mr. Morgan a pretty good penetrator of paradox. He can see the real appropriateness of a Corbu in old Scollay Square. And the rugged old buildings there may recognize a new cousin.

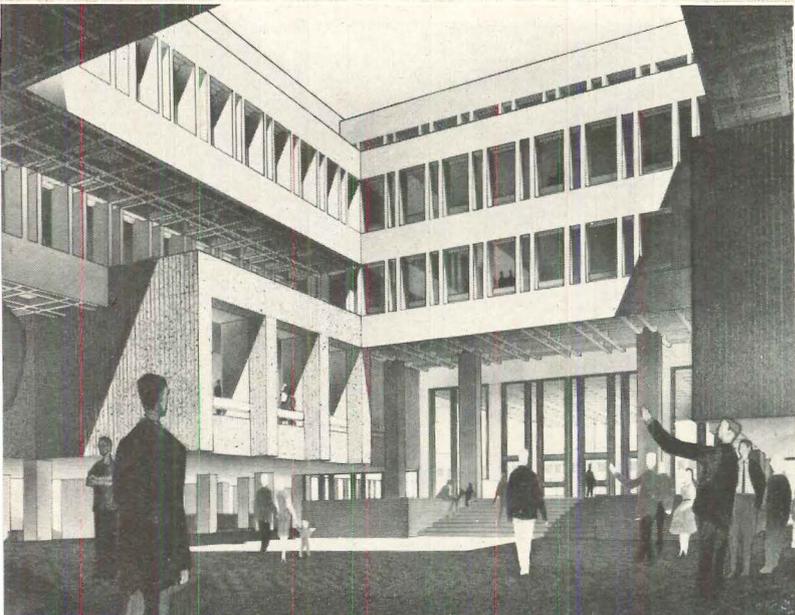
City hall takes its cue from the robustness of Richardson's Trinity Church (left) rather than the refinement of old Faneuil Hall (foreground of photo at lower right). But a spatial link to historic Boston is maintained by the secondary

Dock Square, behind Faneuil. Section (top right) shows city hall's three distinct parts: departments with heaviest public access in the brick-walled base, other city offices on the top floors with council chambers, mayor's office, and a library just below.

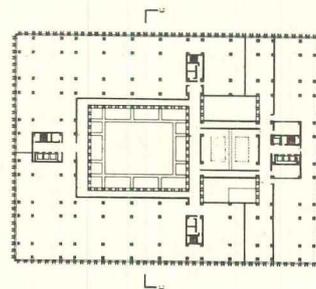
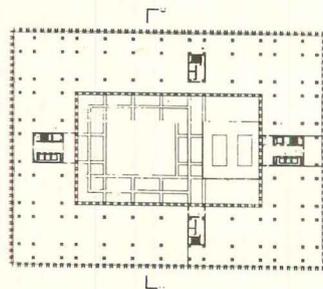




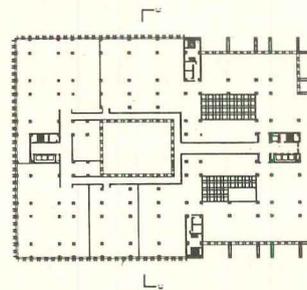
SECTION C C



Main pedestrian entrance is through huge columned voids in the south wall (top photo at right). Stairs lead to the sculpture-decked central court (left), from which all of the complex building's major elements are suddenly visible. The court is open to the outdoors on all sides.

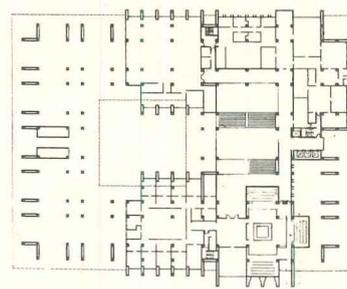


There are no typical floor plans until the top levels are reached (right). Blocks of enclosure are spotted in a seemingly random manner throughout the hollow volume above the base. The result promises to be an impressive variety in the interior spaces.



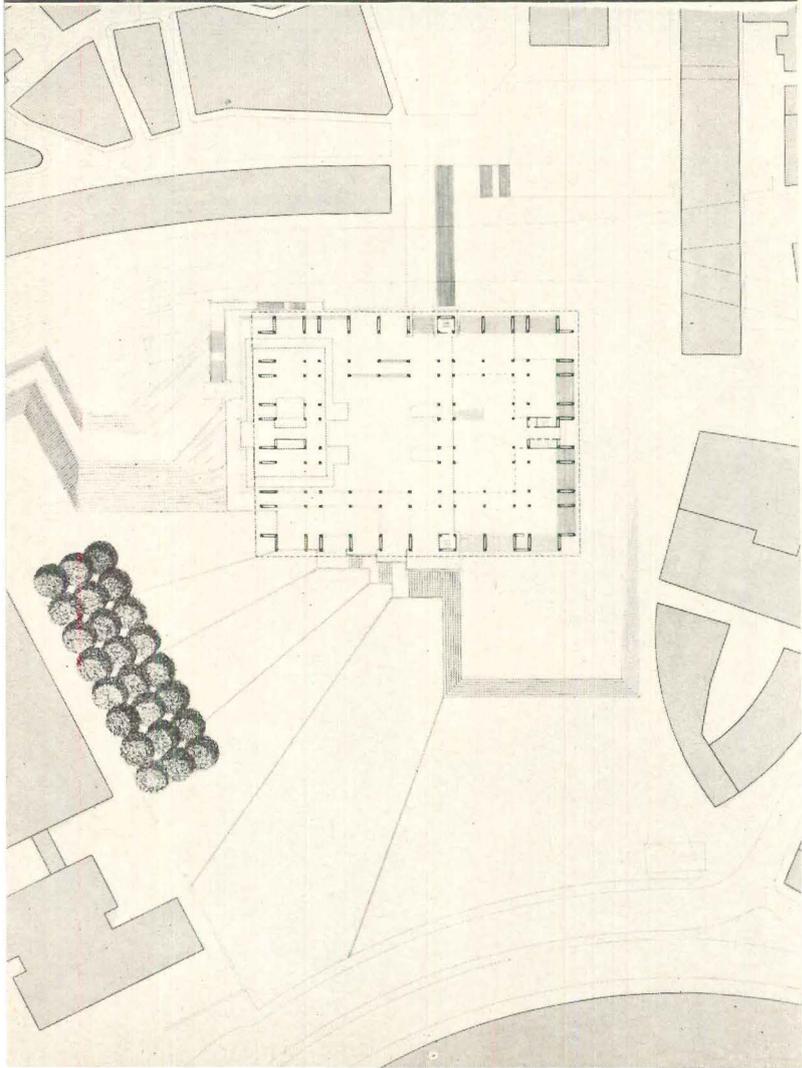
THREE TOP OFFICE LEVELS

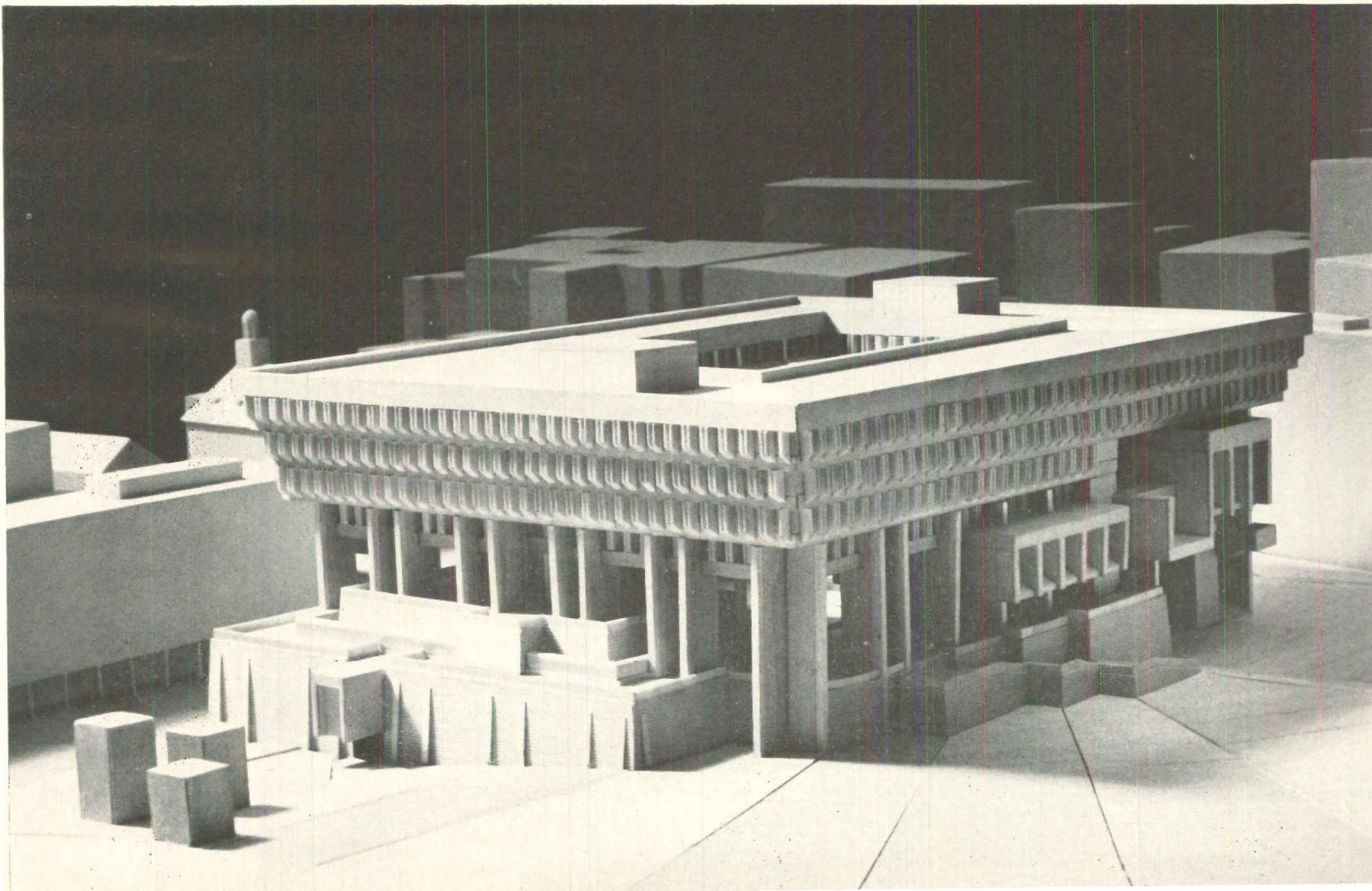
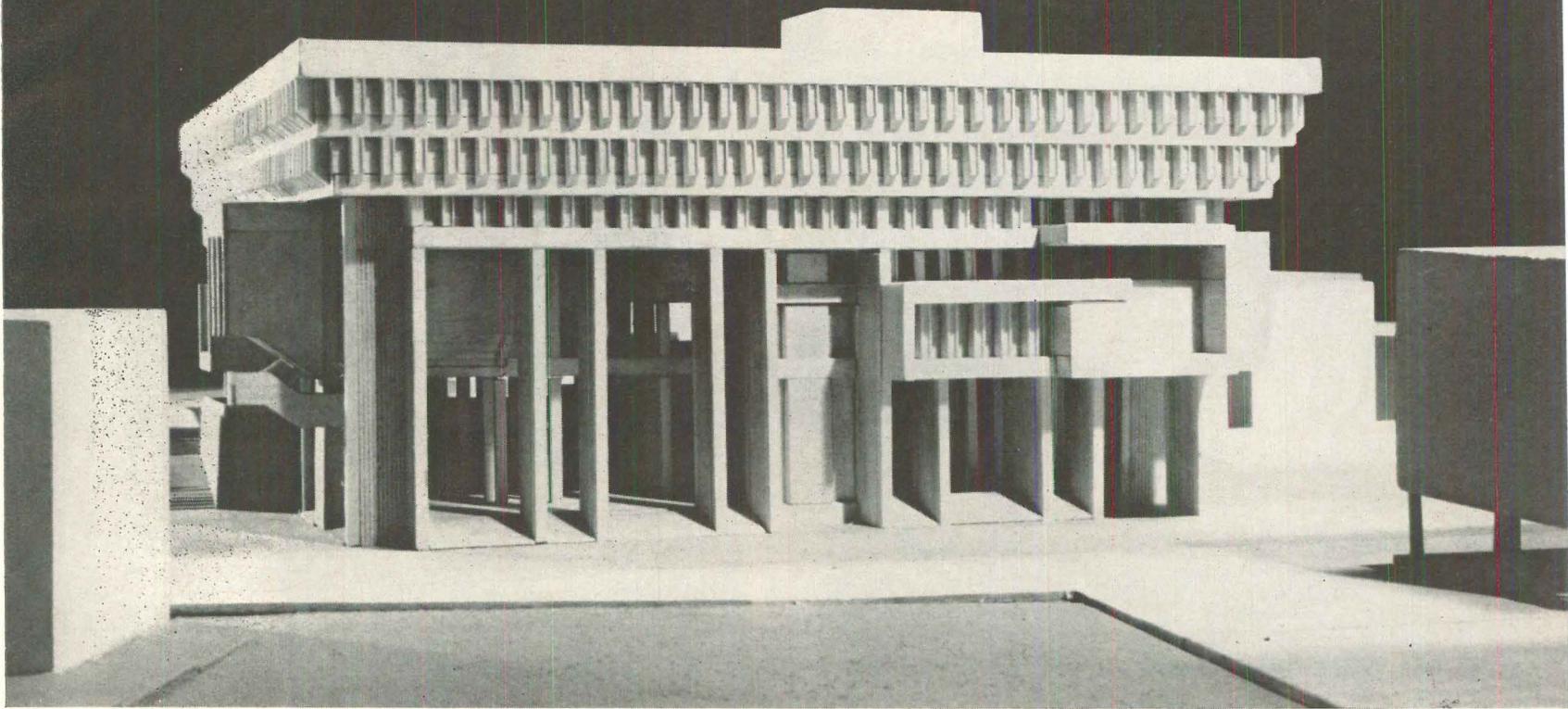
Granite strips, proceeding from the corners of the building and its monumental stairways, divide the brick floor of the formal plaza into radial planes (plan left). A prim stand of pleached plane trees in front of the federal building is almost the only landscaping. Other large buildings shown in the site plan are future additions to Government Center, of which city hall and its plaza form the core.

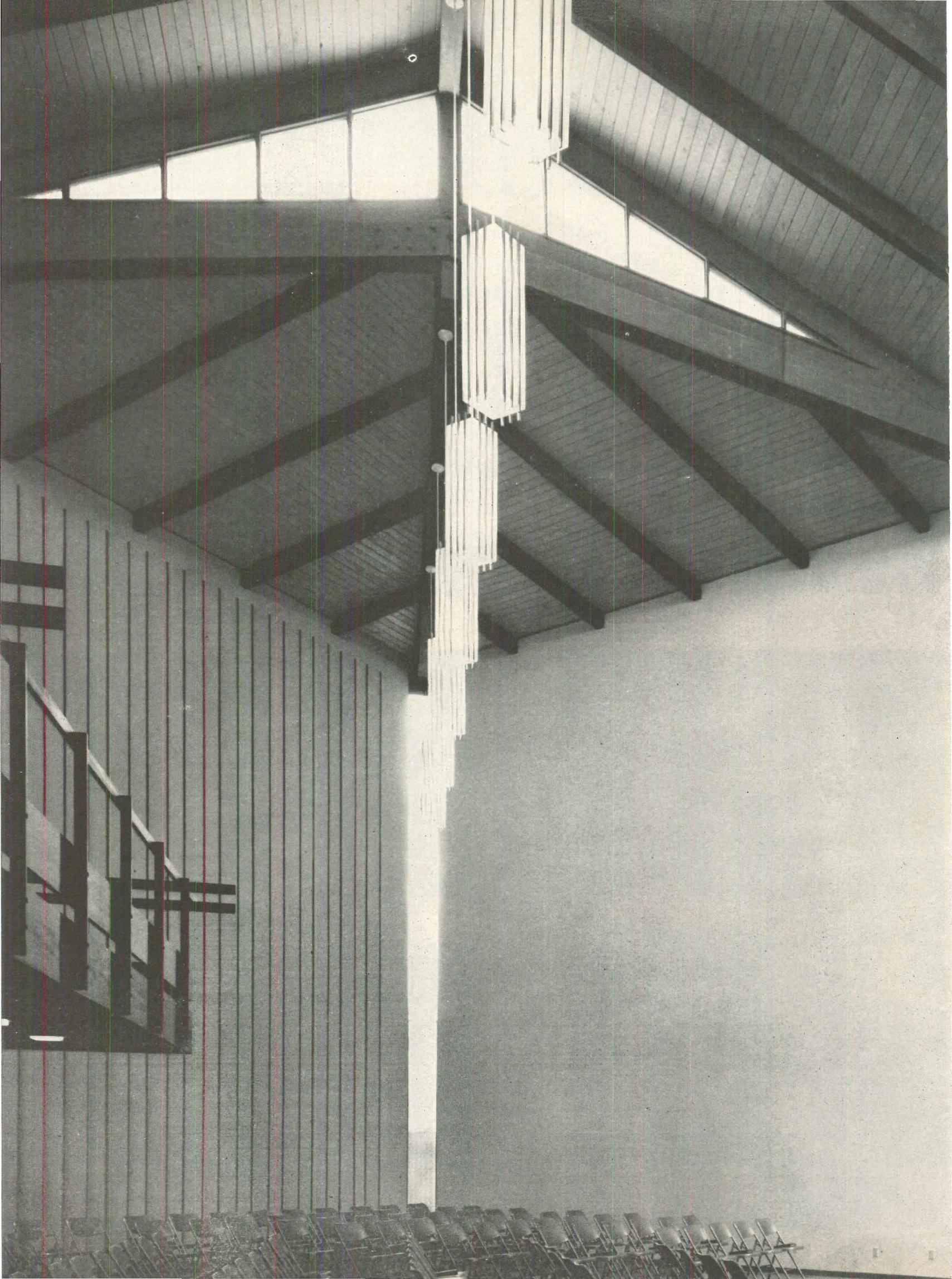


COUNCIL CHAMBER LEVEL

The massive brick mound from which city hall rises is given clearest expression in the north elevation (foreground of bottom photo at right). The three blocks which stand before it are cooling towers. The air-conditioning system also gave the upper floors their fins: they are expressions of the ducts.







PAUL KIRK OF SEATTLE

Some architects seek inspiration in history, some in the work of others, some in their own past buildings. Paul Hayden Kirk, however, comes closer to an oft-preached and seldom practiced ideal: he looks to the conditions surrounding each particular project, and from them draws an architecture that is at once consistent and original. The consistency is not in style, nor even in materials—the buildings on these eight pages could scarcely be more diverse. It lies, rather, in three strong and subtle threads which run through his work: clarity, suitability, and restraint.

In the mid-1950s, when Kirk first began winning awards for houses and medical clinics, one would have added simplicity to this list. Recently, however, his buildings have become more complex in form. It is a matter of development rather than basic change, a direct extension of his sensitive and searching approach to the problem at hand. He may create a dramatic space (as in the sanctuary of West Seattle Congregational Church, at left and on page 104)—but only because drama is called for. He may produce a highly playful form (as in the pavilion on page 106)—but only because the building will be put to festive use. He may design a sober and quiet structure (as in the Seattle Center Theater on page 107)—but only because dignity is inherent in the program. Whether sober, playful, or dramatic, Kirk's buildings almost always make good sense: somehow he seems to know precisely where to stop.

The list of projects in the 19-man office of Kirk, Wallace, McKinley & Associates is now pleasantly weighted by multi-million-dollar cost estimates. In number, however, half of the jobs underway still are houses. No architect ever gained great wealth through residential work, but Kirk firmly keeps his hand in it; a house, he feels, presents all of the root problems of architecture in their most compelling form. The office itself is organized along the lines of residential practice: Kirk, 48, (center in adjoining photo) handles most client relations; he and Partner David McKinley, Jr., 32, (right) share design; Partner Donald Wallace, 47, (left) is in charge of specifications, contracts, and supervision; and Associate Jerry Geyer, 35, oversees the drafting room. There are no job captains: Kirk believes that certain people do certain things best, and that everyone in the office should be in on almost every project. The system could be frustrating to a would-be designer, but here it seems to work. The Kirk staff is remarkably stable.

Paul Kirk is very much of Seattle. Forty years ago, when he arrived, it was a small city set in woods and water. He has watched it become a metropolis, and in the process his architecture, too, has grown beyond the limits of a rigid regional style. Happily, both are still growing.

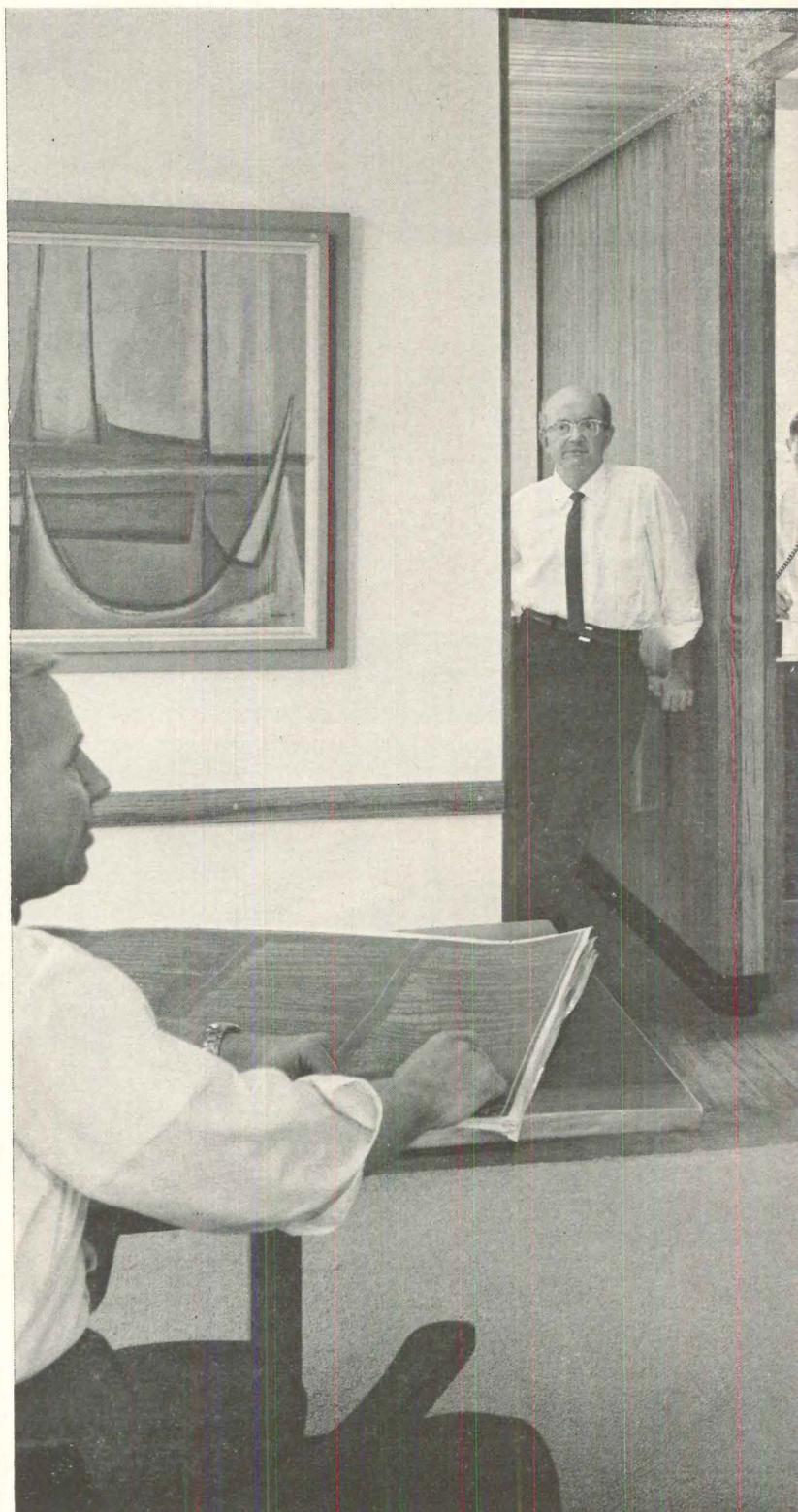
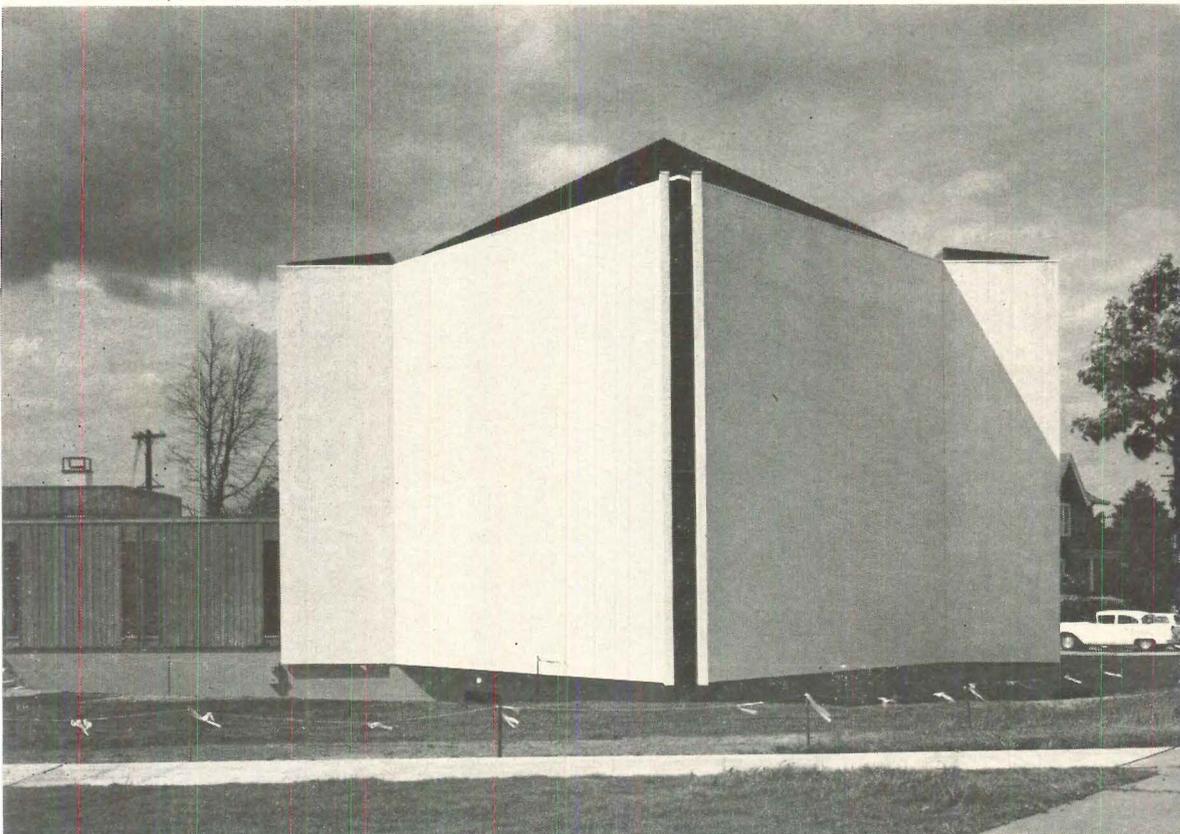


PHOTO OFF., HUGH N. STRATFORD

DEARBORN-MASSAR



PHOTOS BELOW, HUGH N. STRATFORD



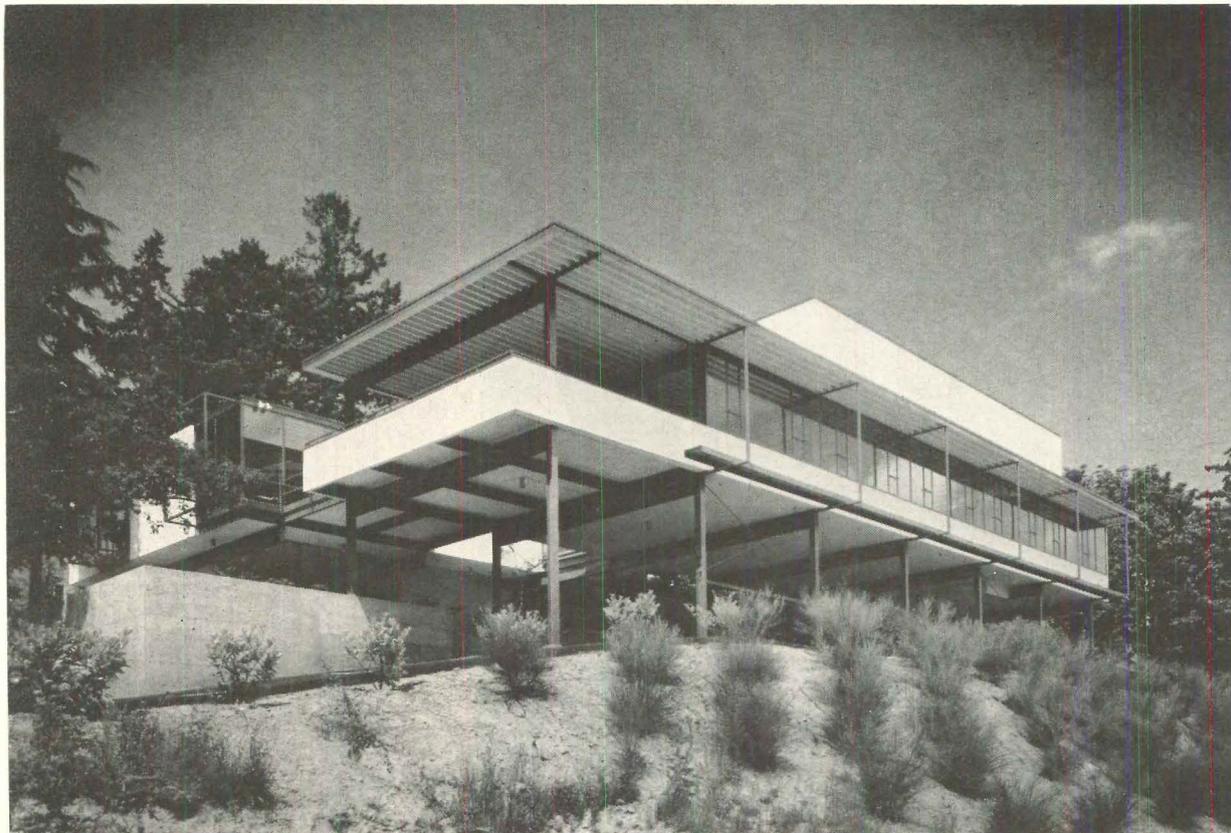
A FOREST of hyperbolic paraboloid shells on slender columns frames Kirk's design for the sprawling, \$2 million plant of United Control Corp. near Seattle (above). Three of the graceful umbrellas stand outside to form a sculptural canopy in the parking area; the rest are hidden behind factory walls of sandwich panels (composed of foam plastic between concrete layers and costing about 90 cents per square foot). The combination of shells and sandwiches satisfied the company's desire for low construction costs, extreme flexibility in use of space, and tight environmental control in working areas. Engineers: Worthington, Skilling, Helle & Jackson (structural), Stern & Towne (mechanical), Thomas E. Sparling & Associates (electrical). Landscape Architect: William Tufel. General contractor: Cawdrey & Vemo.



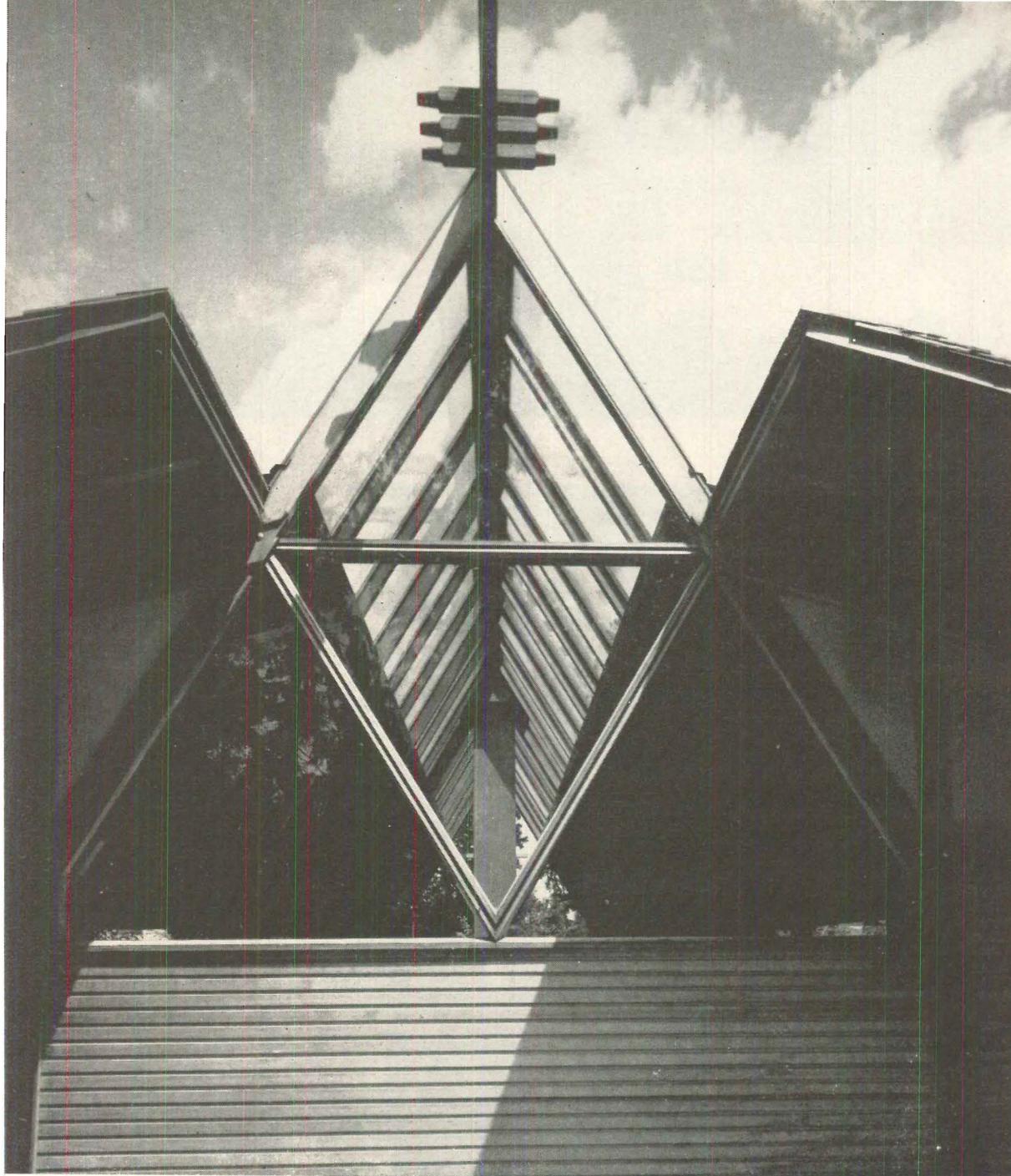
A DIAMOND turned decagon by the addition of twin projections, the sanctuary of West Seattle Congregational Church shows nearly blank stucco walls to busy streets on three sides of its constricted site. The projections house the altar and a 30-foot pipe organ (which first suggested the small building's substantial volume). The only sources of natural light are skylights over the altar and organ, central clerestories where the roof planes intersect, and narrow strips of colored glass running the full height of the sanctuary's splayed sides. Though from outside the blank shape tends to confuse the building's sense of scale, the lofty interior has great order and repose. Cost was \$300,000. Engineers: Worthington, Skilling, Helle & Jackson (structural), James B. Notkin & Associates (mechanical), Thomas E. Sparling & Associates (electrical). General contractor: Ray Solie Construction Co.



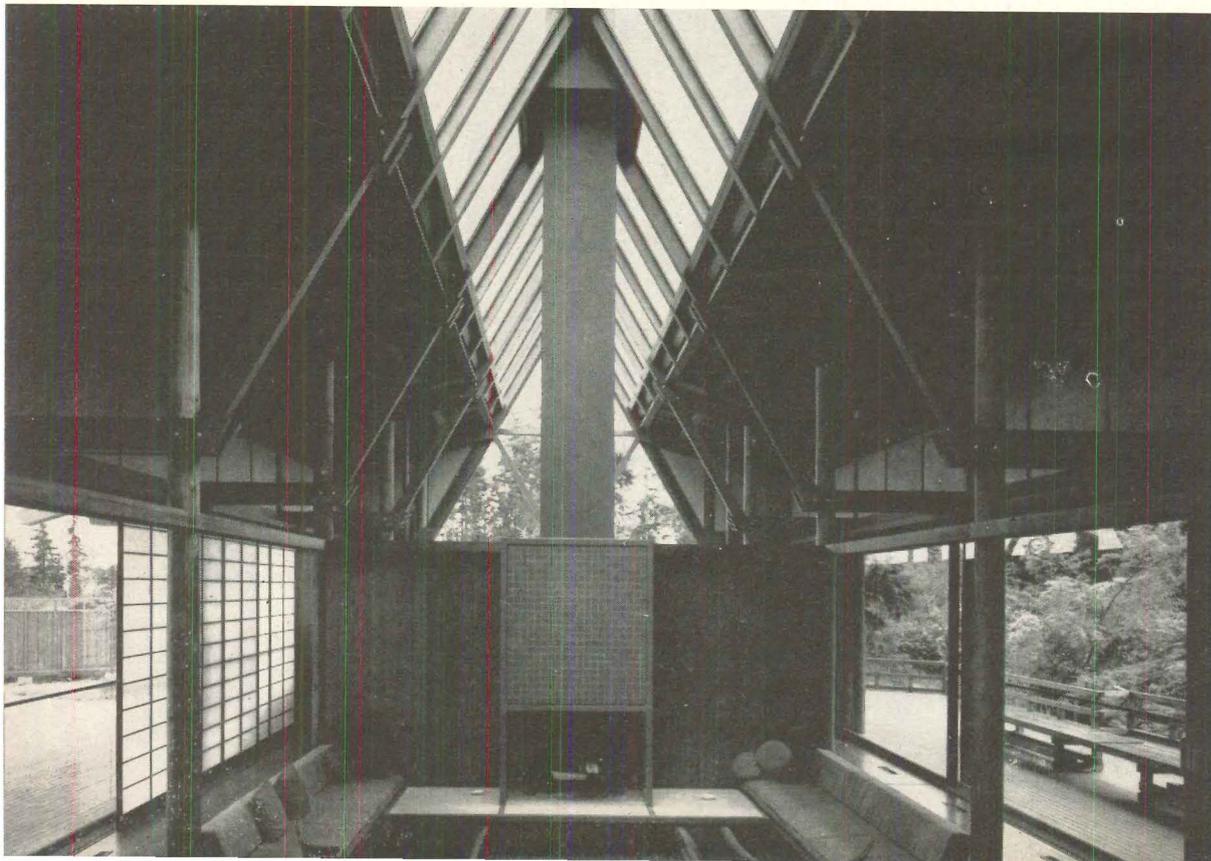
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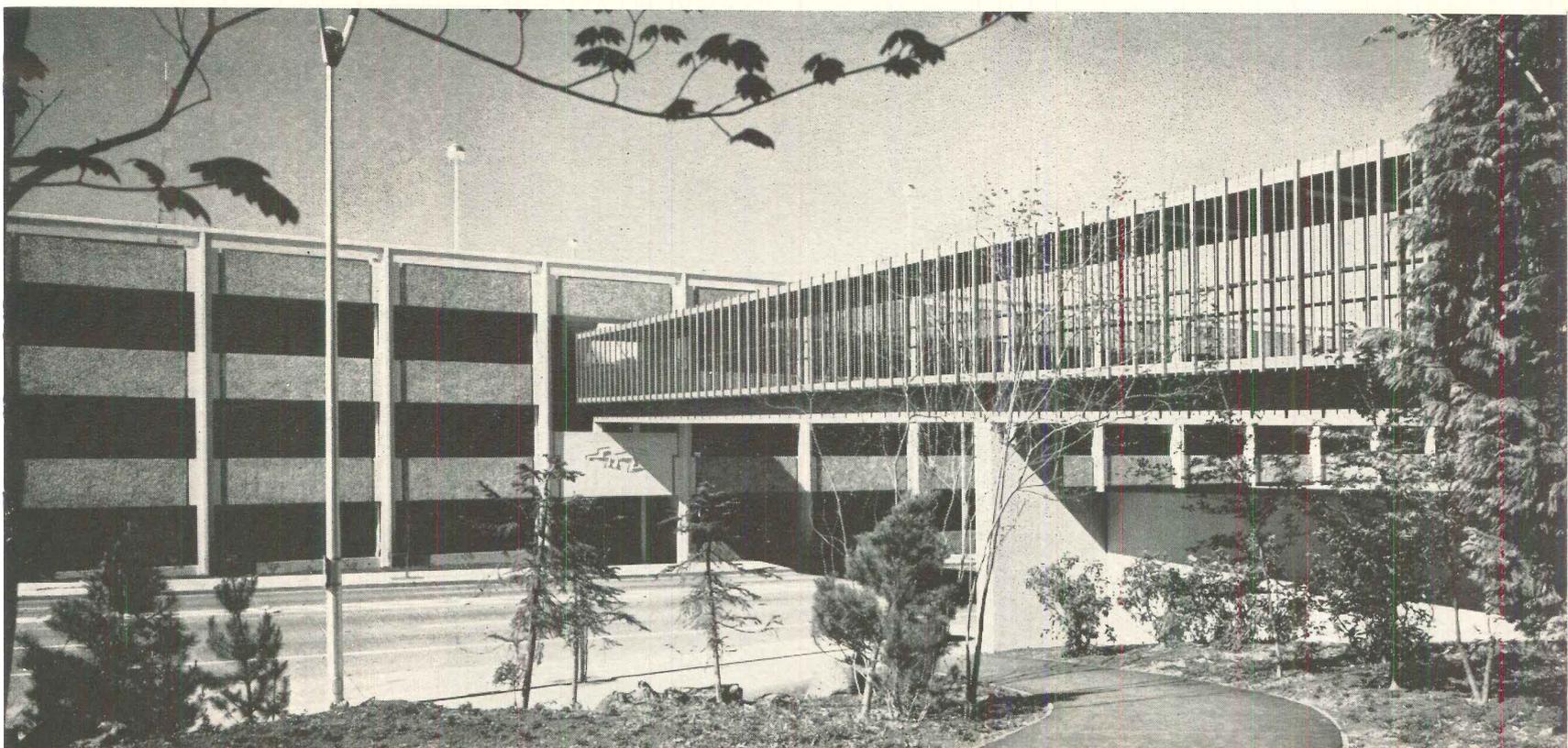
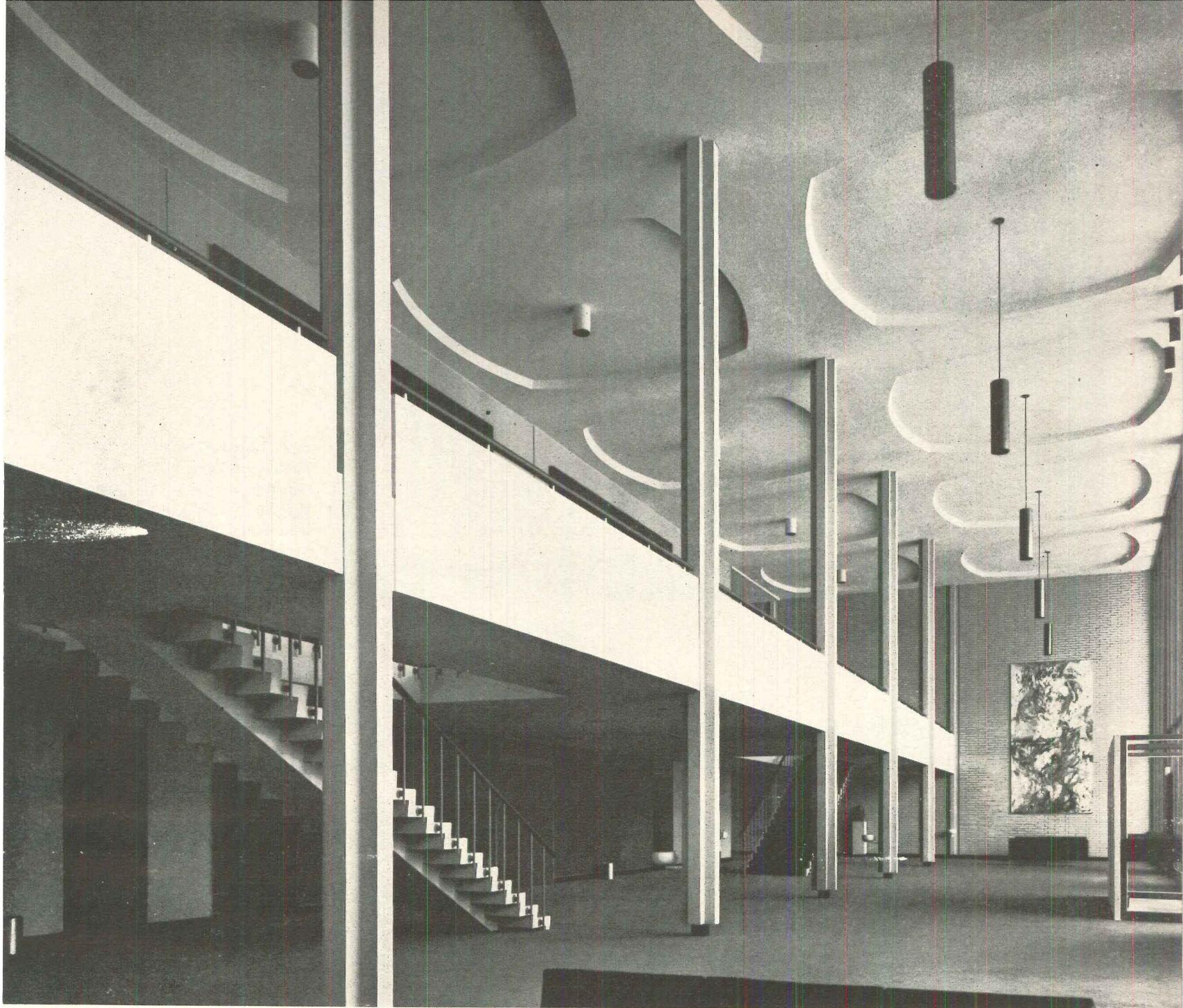
A SLAB sitting on slim steel posts is the essence of the University of Washington Faculty Club, designed with Victor Steinbrueck of Washington's architectural school. It has more in common with Kirk's past buildings than might appear at first glance. Though executed in plaster and steel, the crisp, straightforward form and the handling of spaces as volumes are reminiscent of Kirk's earlier work in wood. The plan is organized around a central court, with the large dining room across the downhill side to capitalize on the fine view of east Seattle and Lake Washington. Cost was \$285,000. Engineers: Sigmund Ivarsson (structural), James B. Notkin (mechanical), Thomas E. Sparling & Associates (electrical). Landscape Architects: Eckbo, Dean & Williams. Contractor: Wick Construction Co.

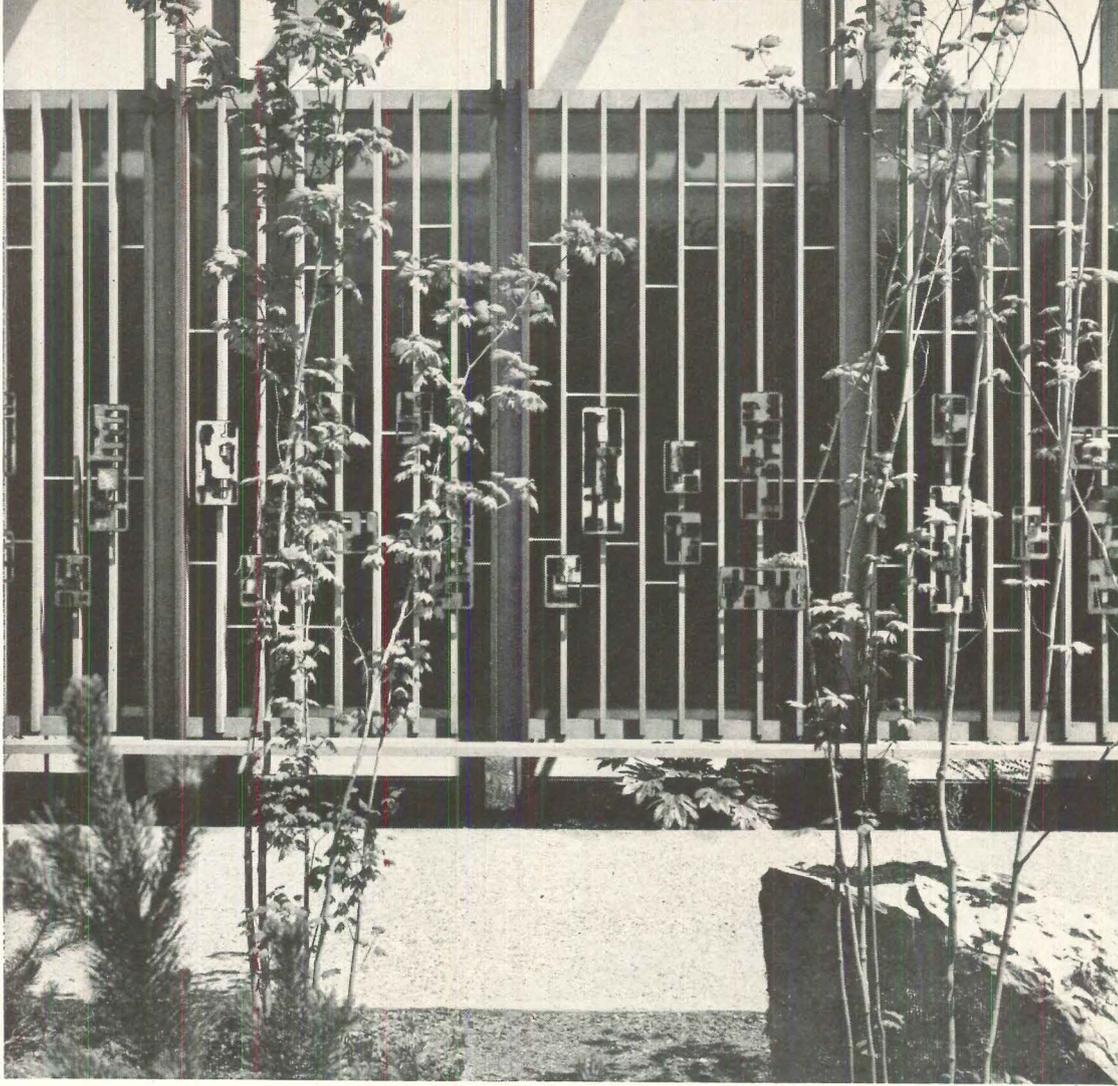


WHIMSY in the woods: At the crest of this little guest pavilion on Seattle's Bainbridge Island (left) is a full-length skylight, its ridge beam playfully recalling a Japanese ridgepole or perhaps a Viking prow. Below are shingled wings which drop off at a gentler pitch to complete the roof. Every bit of framework is exposed; it looks like fun, and easy to design and build—until one notices the precision with which each piece of wood meets the next. The interior is one tall, bright space. Large expanses of the side walls can be opened to surrounding decks or closed off with *shoji* screens. Finishes are smooth and sophisticated, in direct contrast to the studied haphazardness of the shell. Cost: \$100,000. General contractor: Charles Tuttle.

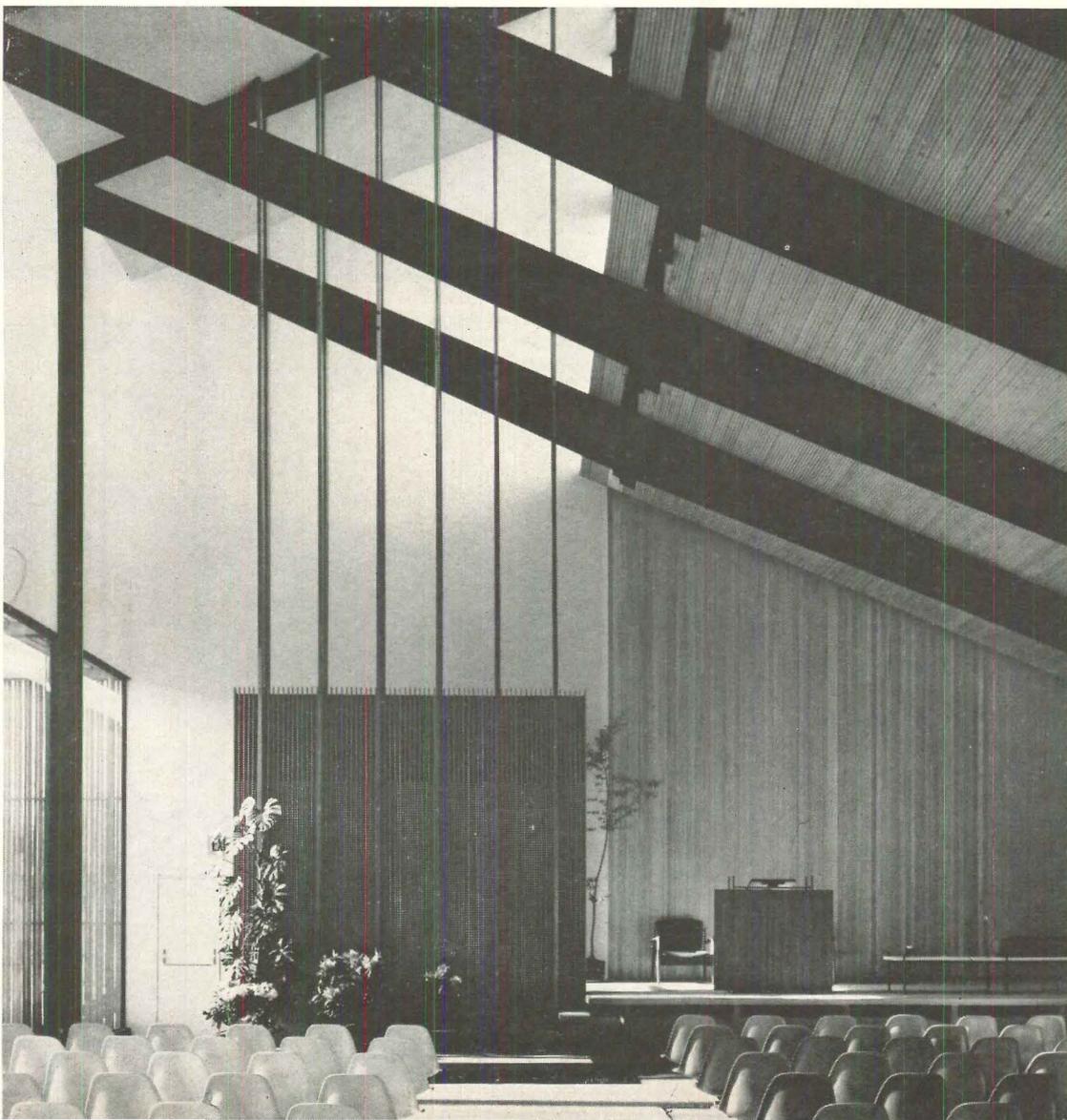


SERENITY at the fair: In an exhibition hall and 800-seat playhouse for Seattle's Civic Center-World's Fair, Kirk has deliberately placed culture in a quiet setting. The ceiling of the playhouse lobby (top right) shows the wide, shallow coffer pattern that unifies buildings and colonnades. Across the street, linked to the center by a finely detailed pedestrian bridge (lower photo), is a 1,500-car municipal garage, also designed by Kirk. The precast structure has concrete highway beams spanning 60 feet between posts, and spandrels with a handsome aggregate exposed. Occasional panels cast with decorative designs provide accents. Despite its look of quality, the garage cost only about \$2 per square foot, or \$1,100 per car. Structural engineers were Worthington, Skilling, Helle & Jackson (for the playhouse) and Norman G. Jacobson (for the garage). Contractor: General Construction Co.





THE SANCTUARY of University Unitarian Church (left) was designed to bring in as much natural light as possible for morning services; hence, a deep gap was left between converging roof planes so that an outside clerestory, facing east, could run the sanctuary's length (lower photo). The off-center clerestory fills the west side with light. The larger side of the sanctuary is darker and lower, and here, paradoxically, is where the altar is placed. Outside, the beams break through to support an amber glass screen, hung with metal plaques by sculptor Norman Warsinske, which shields the sanctuary from the view of passers-by (upper photo). Cost was \$200,000. Engineers: John H. Stevenson (structural), Stern & Towne (mechanical), Thomas E. Sparling (electrical). Landscape Architect: William Tufel. General contractor: A. W. Robertson.



THE CHAPEL of Kirk's latest church, Wayside Congregational (right), perches on posts at the center of a natural, keyhole-shaped depression in its site. A small hexagonal building, it sends two arms sweeping gracefully upward to hold a cross. A bridge joins the chapel to a single-story classroom building which eventually will ring the keyhole's round end. The materials are familiar to Kirk: wood for both structure and finish, shingles for the roof. But the form is this building's alone. Cost was \$100,000. Engineering was by the Worthington, Notkin, and Sparling firms. Contractor: Calhoun Constr. Co.



ERNEST KUMP'S ENVIRONMENTAL CONTROL GRID

What happens when an architect develops a new and better way to put buildings together? A genuine innovation is often beyond the capabilities of the building industry. Seldom can a client be found who is willing to pay the costs of research and development. All too often the result is frustration and stagnation.

Not so with San Francisco Architect Ernest Kump, a man with a long record of successful innovation. For the last decade, Kump has been continually refining his pet design concept: a three-dimensional, self-contained space module. Ideally, Kump's module provides a large, flexible space, structure, and environmental controls all in one. Interim versions have been successfully applied in actual school buildings (for one of the largest and most recent, see Foothill Junior College, FORUM, Feb. '62). But Kump feels it will take some major developments in the building industry before he can achieve his ideal: a completely self-contained, self-energized unit that can be used to build up the total organism of a building in the same way nature uses cells to structure living things.

Two solid consequences of this seemingly far-out thinking have been a practical product design for an integrated ceiling system (patents have been applied for), and a stimulating goal for his staff: a proposal for a radically streamlined method of working out designs and producing drawings for the space module with the help of a computer (still in early stages).

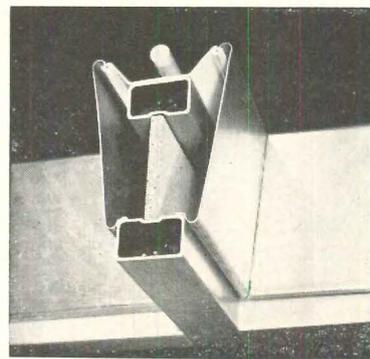
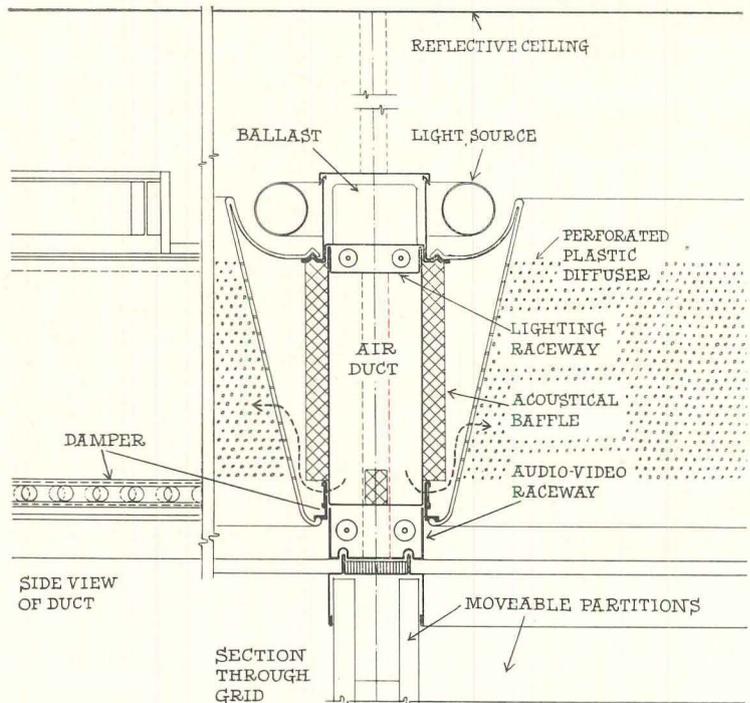
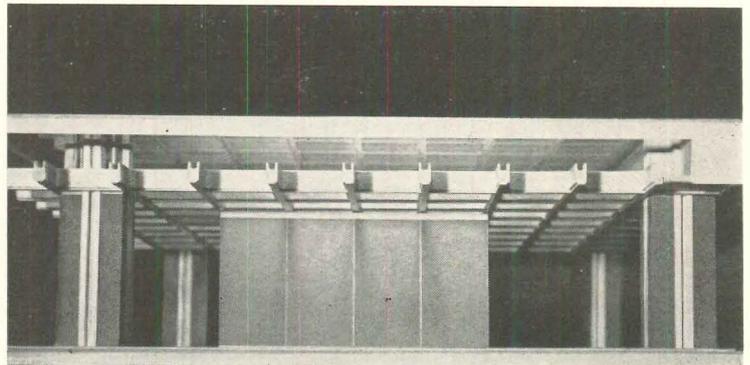
Kump's ceiling system (which he calls the "Environmental Control Grid") is a product not limited to use in schools. It can fit into any building type; it can also serve as a simple way of bringing older buildings up to date.

The grid members have been ingeniously detailed to deliver light and conditioned air, to absorb sound, and to carry wiring systems in a single unit. For the past few years a number of designers have been working with the idea of integrating several of the services that usually clutter ceilings. But Kump's scheme goes one step further and incorporates them all.

Anticipating the jurisdictional disputes that often arise among the building trades faced with such integrated designs, Kump has carefully shaped his product so that each trade may do its work separately if need be.

A most urgent objective now is to get this idea off the drawing boards and into production. Here the old and nagging question arises: who will pay for the research and development work that must come between the concept and a readily available product?

In the case of the Environmental Control Grid, a remarkable amount of progress has been made. Because he feels it



Modular grid pattern over entire ceiling area produced by Kump's environmental control system is shown in photograph of scale model (top). The section through one of the grid members in the drawing above indicates how the complete array of building services is integrated in a unit only 11 inches deep, 8 inches across at widest point. Full-scale model of earlier version of design, left, was used in research work by office.

will benefit many future jobs, Kump is carrying out the basic research in his own office. One manufacturer on the West Coast has shown enough interest to develop full-scale working mock-ups of the system even though no agreement has been reached on the fabrication of the perfected design.

Perhaps most important of all, the Educational Facilities Laboratory of the Ford Foundation has agreed to underwrite the portion of the cost of the first two installations that might be above the cost of a conventional design.

Next steps: college mock-up, school installation

As soon as the final engineering adjustments are made on the mock-up, the grid will be tried in a 30 by 60-foot room at Stanford University. It is expected that any remaining bugs in the system will be ironed out here.

When this is done the new system will be ready for its first major installation at the vast East Side Union High School for San Jose, Calif., now in the preliminary design stage in Kump's office.

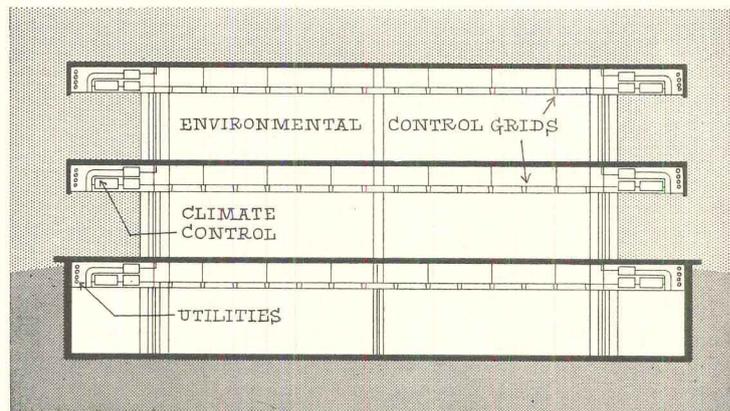
The drawings and model photos on these pages show how the Environmental Control Grid is expected to fit within the space and structural module of the San Jose school. The proposed structure is a concrete lift-slab system with 28-foot-square bays. Here, the grid members are to be suspended 24 inches below the white painted concrete slab ceiling so that the lighting may be a combination of direct and indirect.

In the tests that were run on the development model of the grid, the intensity of light at the working surface was found to be 75 foot-candles. This meets the recommendations of the Illuminating Engineering Society for most school activities. Where even higher levels of illumination are required a third lamp may be added on top of the grid and the lamp wattage may be increased.

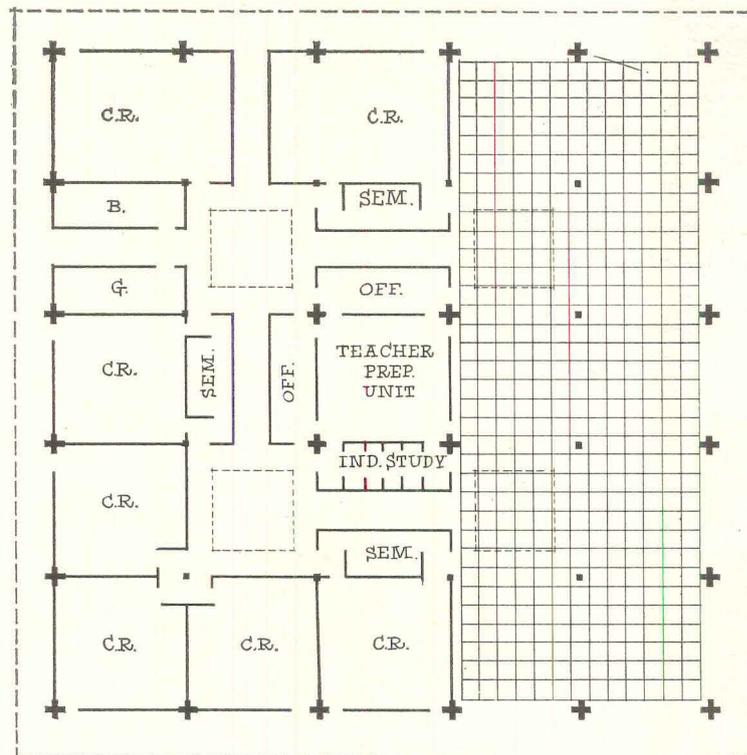
Each member of the grid also contains a section of air distribution duct. At this stage of development, it measures only 2¾ by 6½ inches. When hooked up, the entire grid acts as a plenum which diffuses air at low velocities through the perforated plastic cover, which also serves as a light diffuser.

To balance the system to the loads and also to modify the air distribution pattern when partitions are moved, a continuous adjustable damper is provided along the sides of the duct.

The batts of acoustically absorbent material set behind the plastic shield are expected to be more effective than the same amount of material used in the usual way as a surface finish, since the air space acts as a resonator. The acoustical properties can be varied over a wide range without changing the appearance of the system by adjusting the thickness of the absorbent materials inside the grid.



Three-foot-deep ceiling space in wide overhangs is used for mechanical equipment which services the Environmental Control Grid in the preliminary design for the East Side Union High School District of San Jose, Calif., being developed by the Kump office. With this scheme, most of the basement space is available for teaching.



Deep, square plan of the San Jose school allows wide flexibility in room arrangements, is economical to build and to air condition. Typical classroom arrangement shown here is planned on a 4-foot module so that all partitions fit to underside of grid members. Before partitions go up, grid members are delivered to site in 4-foot sections and assembled on the floor. The complete grid is then jacked up to its final position by means of rods attached to the concrete lift-slab ceiling.

CASE STUDY SHOWS HOW TO CHOOSE GLASS TYPE

If you hear any sweeping generalizations about the economics of double glazing, you would do well to ignore them.

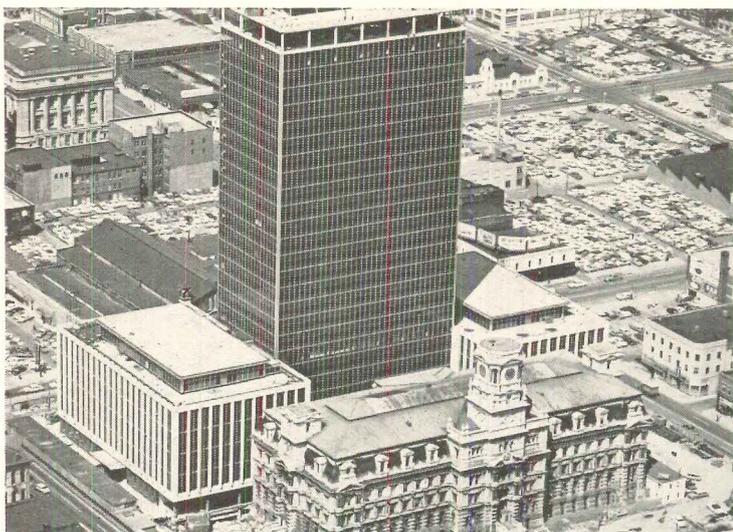
At the Building Research Institute meeting in Washington, D.C., last spring, a debate on the merits of single glazing vs. double and heat-resistant glass vs. clear wore on for several hours. Toward the end, an irate member of the audience rose up and demanded that some general conclusion be drawn. But the only solid fact he could take home with him from this gathering of top-flight engineers was that each building job has to be analyzed separately.

At this moment, the choice of the right type of glass is most often found to be delicately balanced atop a whole set of economic factors. Given a point in time and a specific location and design, a simple analysis can tell you what type of glass to use. Change any one of the ingredients and an entirely different type of glass may turn up as first choice.

A case in point is the City-County building in Indianapolis, now nearing completion. When the designers of the building, The Allied Architects and Engineers of Indianapolis, were doing preliminary designs in December, 1957, an analysis was made which favored the use of single 1/4-inch, gray, heat-absorbing plate glass.

As the job moved into the final stages, a number of economic factors changed. The most important of these changes was an 80 per cent boost in the rate at which steam had to be purchased from the Indianapolis Power and Light Company.

DOUBLE GLAZING with outer layer of heat-resistant glass is used in the City-County building, Indianapolis. In foreground, undergoing demolition, is the 86-year-old Marion County Courthouse.



But district steam at the new rate of \$1.50 per thousand pounds was still less expensive than steam generation in an internal boiler plant. The final analysis revealed that the higher price for steam made double glazing, with its added insulating value, the proper choice.

The analysis that was made for the Indianapolis City-County building is presented below in its entirety. You can use the procedure shown here, substituting the conditions surrounding your own particular building problem, and find out for yourself which type of glass it pays to use.

1. BASIC DESIGN ASSUMPTIONS

- Orientation: facades are oriented to the cardinal points of the compass (due north, east, south, and west).
- Peak cooling load time: September 23, 2 p.m.
- Design temperatures: outdoor, 95 degrees F.; indoor, 77 F.
- Glass types investigated:

TYPE OF GLASS	COST IN PLACE	SUMMER U VALUE	WINTER U VALUE
A. 3/16" Clear Sheet	\$1.53	1.06	1.15
B. Gray Plate	\$2.28	1.06	1.15
C. Double Plate (outer layer gray)	\$4.31	0.56	0.56

- Shading: light-colored venetian blinds, fully drawn at the design time. Shading coefficients from the Guide of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE):

TYPE OF GLASS	GLASS IN SUN	GLASS IN SHADE
A. 3/16" Clear Sheet	.55	.60
B. Gray Plate	.53	.52
C. Double Plate (outer layer gray)	.36	.36

- Solar heat gain factors per square foot of glass (from the ASHRAE Guide):

FACADE ORIENTATION	BTU GAIN per SQ. FT. per HR.
North	17
East	17
South	144
West	128

- Glass areas in the building analyzed:

FACADE ORIENTATION	SQUARE FEET OF GLASS
North	20,050
East	16,610
South	21,540
West	16,130
TOTAL	74,330

- Utility costs: electric, \$0.015 per KWH; steam, \$1.50 per thousand pounds.
- Operation of air-conditioning system: 2,000 hours per year.
- Financial factors: useful life of building, 40 years; interest rate, 6 per cent; tax rate, 2.2 per cent of actual building value; insurance, 3 per cent of building value.
- Cost of air conditioning: \$600 per ton added to take care of load entering through glass (about one-half of the cost per ton for the basic plant); operating cost at 1.55 KWH per ton, \$0.02325 per ton.

2. CALCULATION OF HEAT GAIN THROUGH GLASS AREAS

General formula: glass area × solar heat gain factor × shading coefficient = heat gain through glass in BTU per hour.

HEAT GAIN (Btu per hr.)	CLEAR SHEET	GRAY PLATE	DOUBLE PLATE
North facade	204,510	177,240	122,710
East facade	169,420	146,830	101,650
South facade	1,698,840	1,637,060	1,111,970
West facade	1,135,550	1,094,260	743,270
Air to air	1,418,220	1,418,220	749,250
TOTAL HEAT GAIN	4,626,540	4,473,610	2,828,850
TONS	386	373	236

3. CALCULATION OF AIR-CONDITIONING OPERATING COSTS

General formula: air-conditioning load (tons) × operating time (hours) × power cost (dollars per KWH) × power required per ton of air conditioning (KWH per ton) = power cost per year.

	CLEAR SHEET	GRAY PLATE	DOUBLE PLATE
ANNUAL OPERATING COST (due to glass only)	\$17,950	\$17,340	\$10,970

4. CALCULATION OF HEATING OPERATING COSTS

General formula: glass area × U factor × degree days × 24 (hours daily operation) × cost per unit of fuel (in dollars), all divided by heating value per unit of fuel (BTU) × efficiency of fuel utilization = annual heating cost.

	CLEAR SHEET	GRAY PLATE	DOUBLE PLATE
ANNUAL OPERATING COST (due to glass only)	\$15,800	\$15,800	\$7,970

5. COMPARISON OF TOTAL INITIAL COSTS

INITIAL COST ITEM	CLEAR SHEET	GRAY PLATE	DOUBLE PLATE
Air-conditioning capacity	\$231,600	\$223,800	\$141,600
Glass	\$113,720	\$169,470	\$320,360
Total	\$345,320	\$393,270	\$461,960
Additional initial cost	.....	\$47,950	\$116,340

6. COMPARISON OF UNIFORM ANNUAL COSTS

ANNUAL COST ITEM	CLEAR SHEET	GRAY PLATE	DOUBLE PLATE
Uniform annual cost of the initial investment:			
a. Air conditioning	\$20,190	\$19,510	\$12,350
b. Glass	\$7,430	\$11,260	\$21,290
Operating costs:			
a. Air conditioning	\$17,950	\$17,340	\$10,970
b. Heating	\$15,800	\$15,800	\$7,970
Taxes	\$7,600	\$8,650	\$10,160
Insurance	\$10,360	\$11,800	\$13,860
TOTAL	\$79,330	\$84,360	\$76,600

How the designers and owners made their final choice

As might be expected, the use of double glazing adds a good bit to the initial cost of the building. In the case of the Indianapolis building it will cost \$116,340 more to have double glazing instead of a single layer of clear 3/16-inch sheet glass installed. However, the important figure to examine is the total uniform annual cost. This represents the amount

that the owner must pay each year for the glass and the related heating and cooling design over the assumed useful life of the building. On this basis, double glazing turns out to be the most economical solution for the building analyzed.

Over the 40-year life assumed for this building, the owners, in this case the people represented by the local government agencies which will occupy the building, will save \$109,200 by using double glazing instead of 3/16-inch clear sheet glass. The analysis shows just where this saving is made. The lower operating cost for the heating and air-conditioning system coupled with the lower investment in the air-conditioning plant outweigh the increased initial cost of the glass.

COMING: A NEW AID FOR HEAT FLOW ANALYSIS

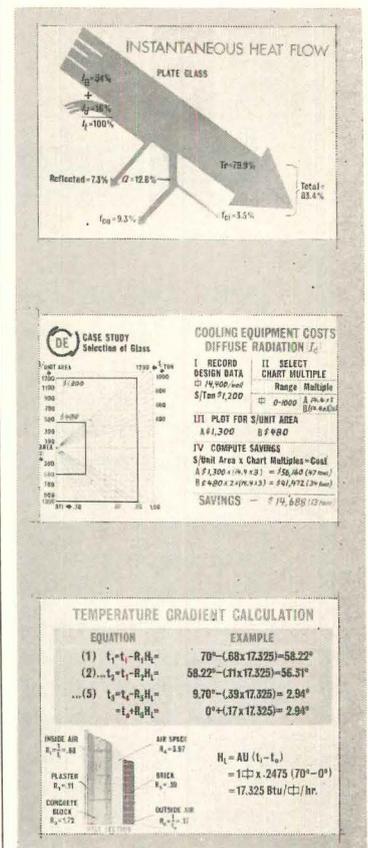
This fall, architects and students of architecture will be given a new tool to help them analyze the economics of heating and cooling during the early stages of a building design. A text called "The Economics of Sensible Heat Control" and an accompanying set of 60 color slides (see samples, right) will be offered without charge to schools of architecture and local chapters of the AIA.

The method set forth in this novel presentation will simplify the early analysis of building proportions, percentage of glass vs. solid wall, and the insulation of the building envelope. The material was prepared by the Owens-Corning Fiberglas Corp. as a service to the profession and will carry no advertising. Distribution will be through the Association of the Collegiate Schools of Architecture and the Producers Council.

The information is organized in two parts. The first is a review of theory. It contains standards for summer and winter comfort conditions in buildings, and a discussion of the fundamentals of heat flow through building materials as well as the technique of calculating heating and cooling loads.

The second part introduces a uniform method of analyzing the

economic effect of the thermal performance of the building shell. To speed up calculations, ten charts were specially prepared for the text by Samuel R. Lewis and Associates of Chicago, consulting engineers for the project.





Apartment of a Beaux-Arts Gentleman

Julian Clarence Levi spent seven years at the École des Beaux-Arts in Paris, then, in 1904, came back as a graduate to New York to begin a long architectural practice. But he has returned frequently to France, and his Manhattan home in the spacious old Osborne Apartment building on Seventh Avenue opposite Carnegie Hall has acquired over the years a fine Empire patina. Rare Gobelin tapestries mute the walls; antique rugs soften the floors. There are shapely wooden chairs, leanly upholstered, but also a sumptuous ottoman mounded with pillows. The ceilings in the old building are high, which is fortunate, because Levi has so many paintings he suspends some over the window heads. There are potted plants everywhere and in the drawing room a vitrine filled with small porcelain figurines. There are glittering chandeliers and bookcases loaded with old architectural books, some of them several feet tall. Because of the multitude of valuable objects, particularly the tapestries, invitations to levees at the Levis have always borne a polite request: no smoking. Mrs. Levi, a famous beauty, died last year, after these photographs were made. Mr. Levi goes on graciously, wittily in his fascinating apartment—or in France—appreciating a lifetime of fine things around him.

PHOTOGRAPHS BY GEORGE CSERNA







COVENTRY CATHEDRAL — STRICTLY "TRAD, DAD"

There can be little doubt that Coventry Cathedral is the worst setback to English church architecture for a very long time. Its influence, unless sternly resisted, can only be confusing and diversionary. This is not a snap judgment: I have known the cathedral since it was a concrete foundation slab, and followed all Sir Basil Spence's long series of modifications and revisions since the competition results were first published, and my conviction that something was fundamentally wrong with the whole operation has grown in parallel with my increasing admiration for the skill and astuteness with which Sir Basil has done what he set out to do.

In other words, it is the basic proposition that is adrift, not the architectural execution—there is only one fundamental point on which the architect is to be blamed, which is that (like every other architect in Britain fit enough, at the time, to lift a pencil) he accepted the competition conditions. It is important, among all the rock-n-roll-crucifixion jazz currently being trumpeted up

about 'a modern cathedral for a modern age,' to remember that Coventry's original intention after the war was not to have a modern cathedral at all, but a Gothic-revival one, and that when this was abandoned after public outcry (largely from the architectural profession), the assessors chosen to judge the competition were about as square as could be found without going grave robbing. The cards were effectively stacked to make a modern cathedral impossible: what was wanted, and what was got, was a traditional cathedral restyled. Not modern, because no radical reassessment of cathedral functions was undertaken before the conditions were issued.

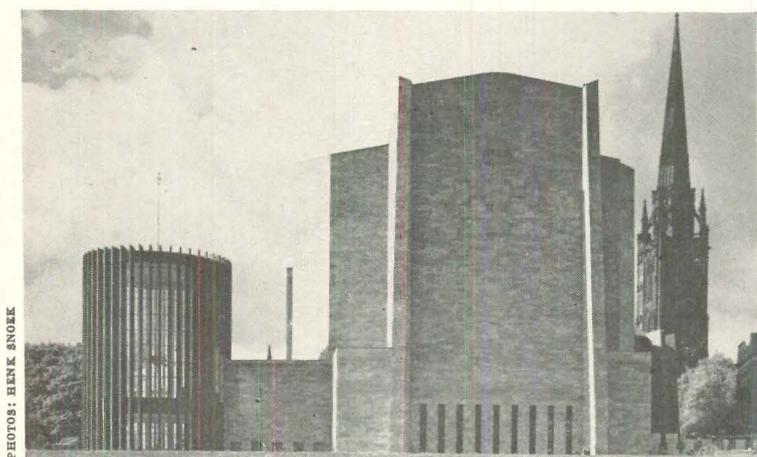
Stories go round of heavy celebration in the diocese during the preliminary stages of drawing up the conditions, but that must have been like the 'thinking' which goes on in the Conservative Central Office—mountains are in travail, and bring forth the status quo. Like the Tories, Coventry is trad, Dad, but has tried to give itself a new image—a medieval long plan with aisles and off-lying polygonal

or circular chapels, but executed in non-medieval materials (in part) and adorned with devotional art work in various non-medieval styles. A true modernist, a radical functionalist, would have rejected this basic proposition, seeing his obligation as Richard Llewelyn Davies sees it: 'To read carefully the client's statement of his needs, and to understand it fully—and then tear it up and find out what he really wants!' To accept the conditions of a competition is to by-pass this obligation, and, in spite of the very drastic modifications to some parts of the fabric, Sir Basil has still built something very close to his original sketch plan.

This is not to object to that sketch because it does not exhibit the kind of centralized plan that has become fashionable, despite Peter Hammond's better intentions, since he published *Liturgy and Architecture*. To impose such a plan, as Archbishop (The Cruel See) Heenan did in the competition for Liverpool RC cathedral—again without radical analysis of cathedral functions—is worse, because merely fashionable. What was needed in both cases, and given in neither, was a fundamental and imaginative enquiry into those functions engendered by the rites and responsibilities of episcopacy that distinguish cathedrals from other churches. At Coventry, the emergence of certain genuinely new and progressive relationships between cathedral and town, cathedral and overseas Christendom, has resulted in no radical innovations, merely two clip-on chapels, one rejected by the guilds for whom it was intended (1), the other—the

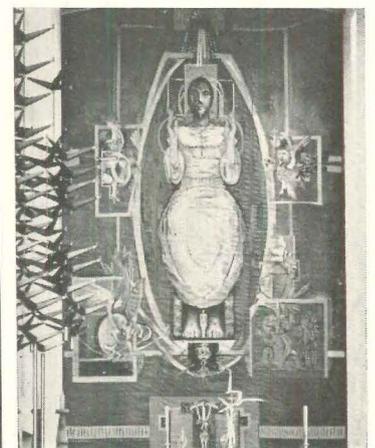
Chapel of Unity—a dramatic polygonal volume for which no one has yet devised a ritual function, other than lectures and readings for which its plan form is unsuited.

Given, then, that Sir Basil may be blamed for not embarrassing the diocese into genuine thought by shock tactics after he had won the competition (such things have been done), what sort of job has he made of executing this brief that he ought not to have accepted? A real whizz! A ring-ading God-box that will go over big with the flat-bottomed latitudinarians who can't stand the quiet austerities of St. Paul's, Bow Common (which remains the *pons asinorum* of genuinely modern church architecture in England). The sheer quality, and quantity, of detailing at Coventry, the mastery of dramatic effects, the richness of the art work, the resplendent sonority with which the note of absolutely conventional piety has been struck, all combine in an image that will have to be fought to the death by everyone who believes, like Peter Hammond (and myself), that church



PHOTOS: BENK ENOKE

1

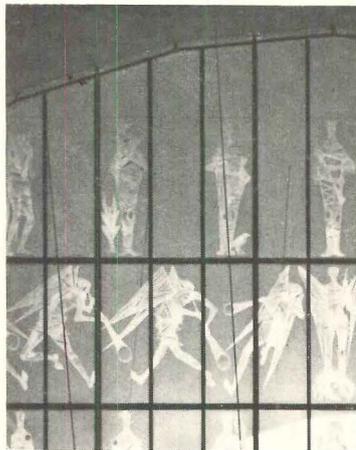


2

architecture is part of the mainstream of the Modern Movement, not a picturesque backwater.

Only two things have gone wrong with Spence's scheme. The Sutherland tapestry (2) is wrong in colour and in the scale of its elements—it dominates the east end, but chiefly because it is the east end; it fails to achieve the commanding presence of a Byzantine Pantocrator, which is the nearest term of comparison. Clearly, in attempting this unprecedented scale in tapestry, architect and artist were biting off more than the artist could chew, and while failure was doubtless foreseen by professional told-yousos, the detailed grounds of failure could not have been. But it is difficult to understand why the detailed grounds for the failure of the west window were not foreseen. Strictly, it is a screen of clear glass occupying the entire liturgical west wall of the cathedral, some of the panes engraved by John Hutton with life-sized figures of saints and angels in a forced and arty style that one associates automatically with the Royal College of Art (3). However, the style of the applied art matters less than the amount of light that enters through it.

It was intended that the crowning moment of the entire design should be that when the communicant rises from the altar rail and turns to go back to his place, he sees, for the first time, the glowing ranks of stained-glass windows down either side of the nave. As it is, he is simply half-blinded by the glare of hard white light from the west. There are three reasons for this: liturgical west is, in fact, south, so that the window receives all day a level of illumination that a genuine west window does not begin to receive



3



4

until evensong; the glass is clear, not stained, and therefore transmits vastly more light than, say, the west window at Norwich; and the successive raisings of the roof of the porch in search of a more monumental entrance since the first version of the design have lifted it to the point where it does not shade the window at all.

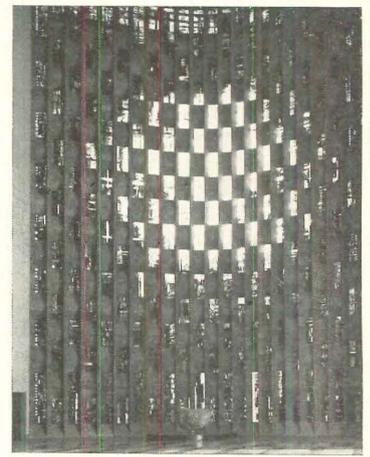
So, after the first blast of light, and the first disappointment with the tapestry, one avoids looking at either. The rest exhibits a level of sheer professionalism in the creation of visual effects and the manipulation of spaces that is rare in Britain (because the opportunities are rare, perhaps). The porch (4) in particular, avowedly modeled on the exposed aisles of the unfinished nave at Siena, is masterly, creating with great economy of means the sense of soaring monumentality that has eluded both Scott at Liverpool and Maufe at Guildford. The general grouping of the exterior, with the two off-lying chapels seen against the long flank of the main building, is one of the few designs which preserves anything worth having of the South Bank aesthetics of 1951, but Spence has mated it with a manner of handling details that looks very like the smart modern churches of Western Germany—which seems fair enough: what's good for Mercedesdorf should be good for Jaguarsville also.

The main ranks of stained-glass windows are so much at home with the whole conception that one is surprised to remember that they are not by Spence himself, but by Keith New and Geoffrey Clarke and Lawrence Lee. Similarly, Stephen Sykes's mosaic relief in the Gethsemane chapel, irrespective of its merits in its own right, is the perfect work of devo-

tional art to catch and draw the eye at the end of the south aisle. This exact conjunction of architectural and artistic intentions becomes most obvious, but also most resoundingly successful, in John Piper's glass for the tall, curved wall of the baptistery on the liturgical south side (5). The area covered is large, and largely, darkly glowing, but centrally placed and high up is a huge circular patch in much lighter golden colour. Seen, unexpectedly, on emerging from the Chapel of Unity opposite, it startlingly creates the impression of the Holy Ghost descending on the font in a ball of atomic fire.

Time after time, Sir Basil gives us, in this sense, masterstrokes of architectural religious drama. The pity is that the play itself should be by Eliot at his most Establishment, not Osborne at his most probing. END

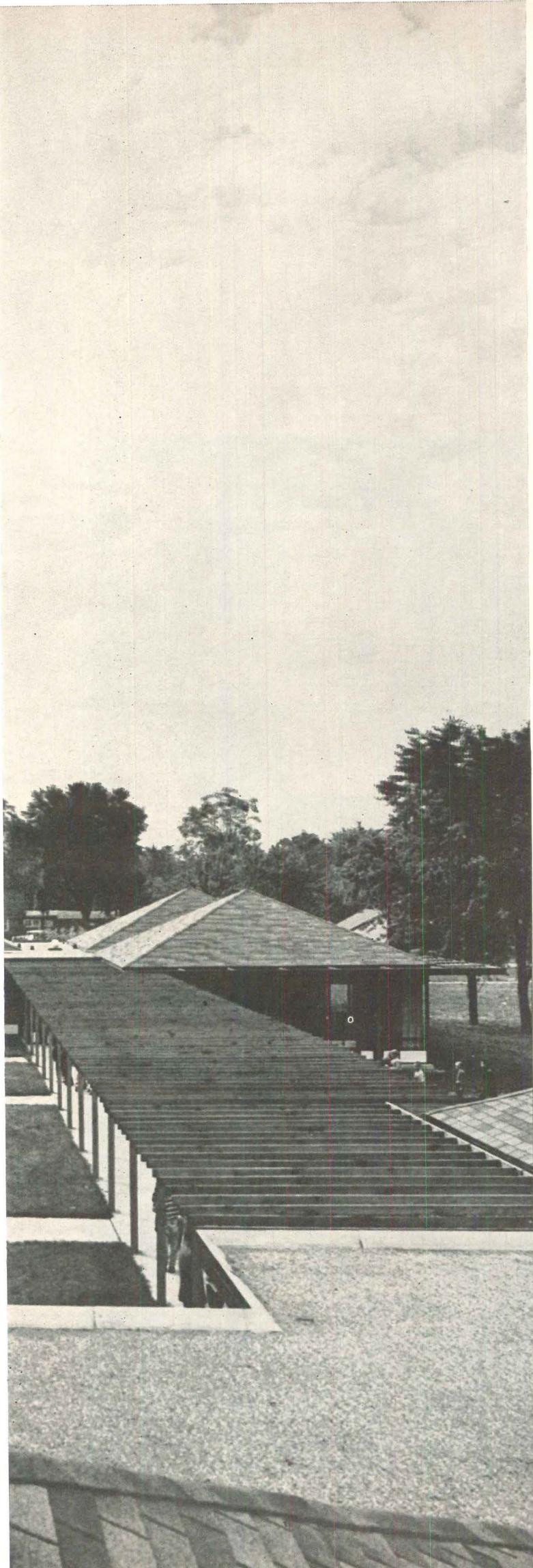
A frequent visitor to the U.S., Dr. Banham is an editor of the *Architectural Review*, a frequent lecturer, a prolific author (e.g. his recent book *Theory and Design in the First Machine Age*), a fairly angry, middle-aged man, and a sworn foe of "The Establishment" in his native land. This article is reprinted from the *New Statesman*.



PHOTOS: HENK SINGEK

5





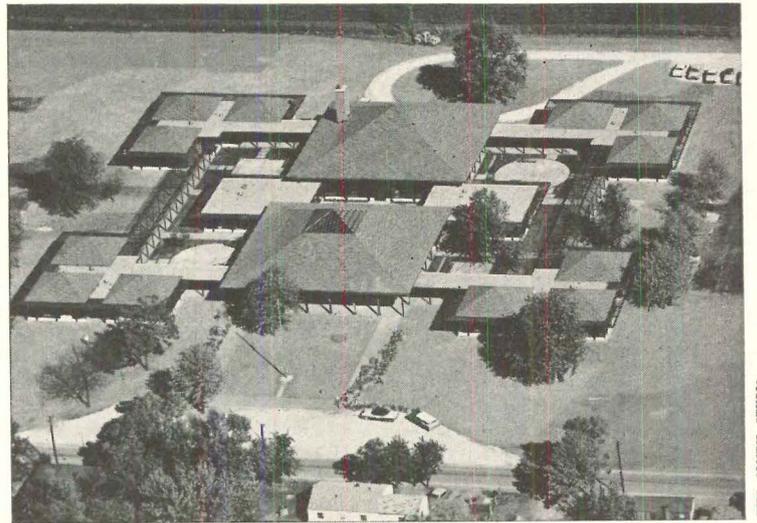
BALTHAZAR KORAB

EXCELLENCE IN INDIANA

It is now six years since the small city of Columbus, Indiana, (population, 21,000) first began to learn that it could demand the best architectural services in the country for its school system. This elementary school by John Warnecke & Associates of San Francisco is the latest result: the fourth school completed in Columbus in that period by outstanding firms from cities across the U.S.

Columbus's teacher, of course, has been the remarkable J. Irwin Miller, who locally is board chairman of Cummins Engine Co., Inc. and of the Irwin Union Bank and Trust Co. (and, on the wider national scene, president of the National Council of Churches). Miller also is a man who keeps a violin handy, which he likes to play, and plays well—and a list of good architects, which he plays equally well. In 1956, the Cummins Engine Foundation offered to pay the architectural fees for any new Columbus school whose designer was chosen not from Miller's own list but from eight to ten firms nominated by Pietro Belluschi and the late Eero Saarinen. This new school is the second completed under that unique arrangement (the first was by Harry Weese of Chicago; more recent ones are by Weese and by The Architects Collaborative of Cambridge, Mass.).

For the newest school, Mabel McDowell Elementary, Architect Warnecke has arranged a cluster plan with four families of three classrooms around a taller group of common-use rooms (plan overleaf). All of the units are defined by peaked roofs finished with shingles. The frames of the buildings are steel, the walls are brick and glass, shaded by overhangs.



THE SMITH STUDIO

Air view shows "families" of classrooms clustered around main buildings

Architects have often complained that the most difficult thing to get out of school boards is the character of architecture the board wants. The program of this board, however, is an extraordinarily calm, assured document from which to draw a design: "the elementary school has a unique service to perform. . . . It is the child's first contact, outside the home, with the people and institutions with which he must learn to live. The building, therefore, must express the character and philosophy of the community that the child will enter. Furthermore, the atmosphere must be warm and friendly, the scale should be small and intimate, and the child must be able to develop a feeling of his identity and importance. The school must be a stimulating place, where teaching and learning could be a pleasure."

To find this flavor locally Warnecke looked around the nearby landscape. "A dominant characteristic of southern Indiana is the flat terrain," he points out, "a horizontal theme accentuated by tall Victorian houses, barns, and silos, with picturesque groves of trees. The school design is based on the creation of a similar grouping of masses and spaces into a scheme which focuses the school group into its own controlled environment, yet extends it outward to the community."

The extravagant amount of thought given to the design was not matched by the budget; this school is not expensive. It was figured at \$925 per pupil, and totals \$580,000. Interior finishes are very unpretentious: concrete-block walls with asphalt-tile floors and an exposed roof-plank ceiling. Warnecke also points out that the provision of a small storeroom for each classroom resulted in a major economy by virtually eliminating the usual expensive storage cabinets.

Virtually everyone in Columbus is pleased with this latest in a series of distinguished local schools. Even the fire chief is proud of it: the Indiana fire marshal commended it for swift access to outdoors.

FACTS AND FIGURES

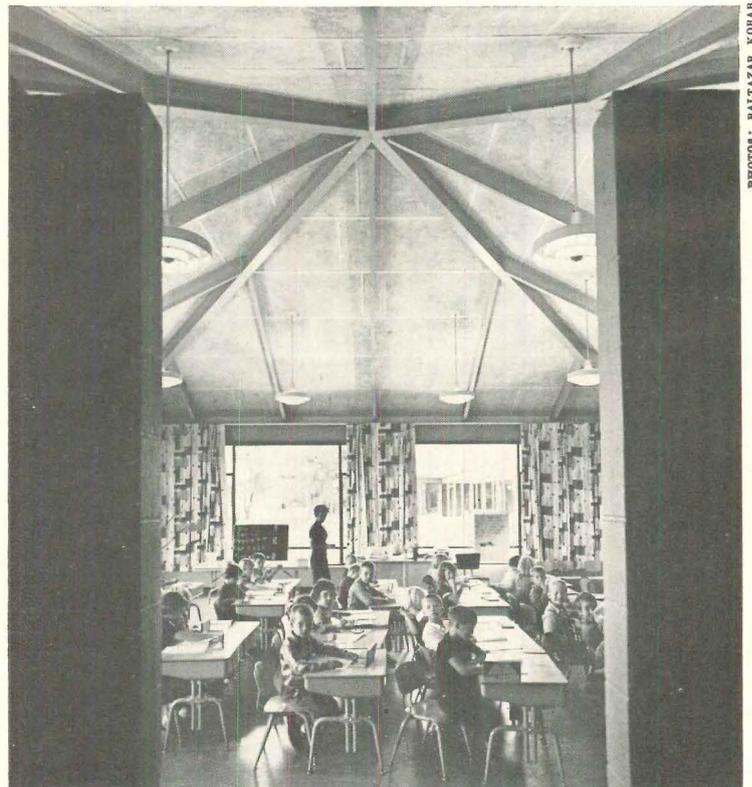
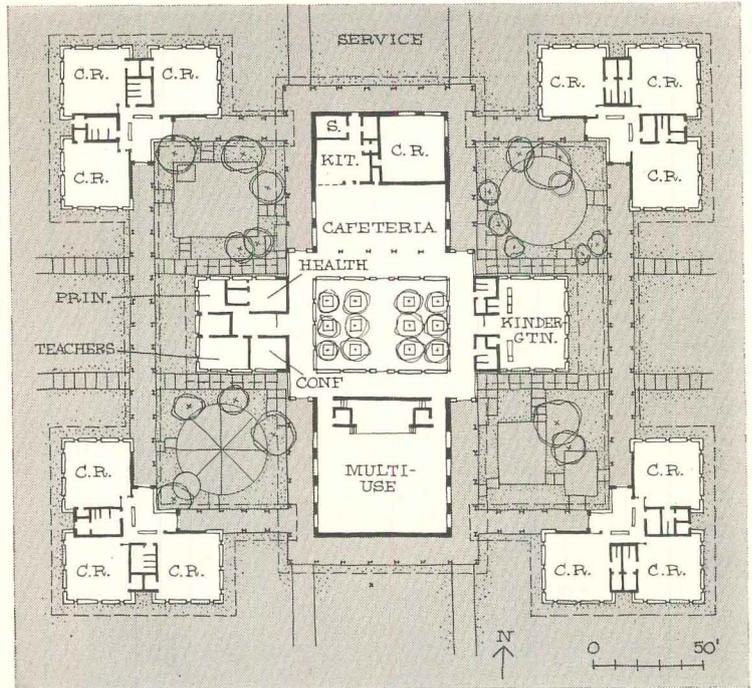
Mabel McDowell Elementary School, Columbus, Ind.

Architects: John Carl Warnecke & Assoc. Engineers: William B. Gilbert & Assoc. (structural); Kasin, Guttman & Malayan (mechanical, electrical). Landscape architect and interior designer: John Carl Warnecke. General contractors: Repp & Mundt.

Total construction cost: \$581,819; cost per square foot: \$17.35. Break-down: general construction, \$406,

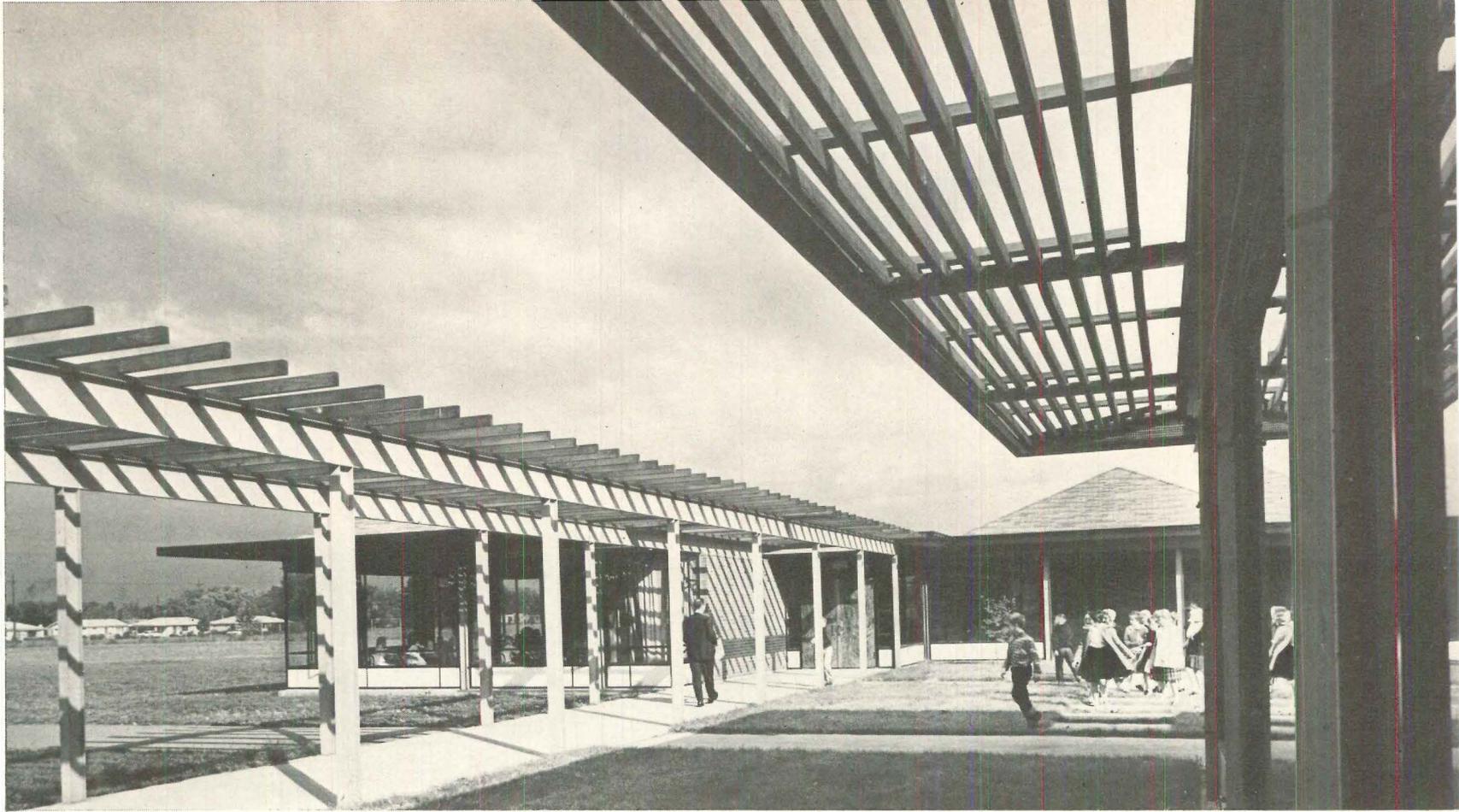
167; electrical work, \$42,449; heating, plumbing, and ventilating, \$105,482; furniture and equipment, \$36,849; landscaping, court, and site development, \$18,732; walks, driveway, and play areas, \$13,282; cafeteria equipment, \$12,727.

Financed from cumulative building fund. (Indiana State law permits buildup of funds; local building fund tax rate is \$1 per \$100 of assessed valuation, producing approximately \$650,000 per year.)



PHOTOS: BALTAZAR KONAB

Structural method and simple finishes are both apparent in classrooms

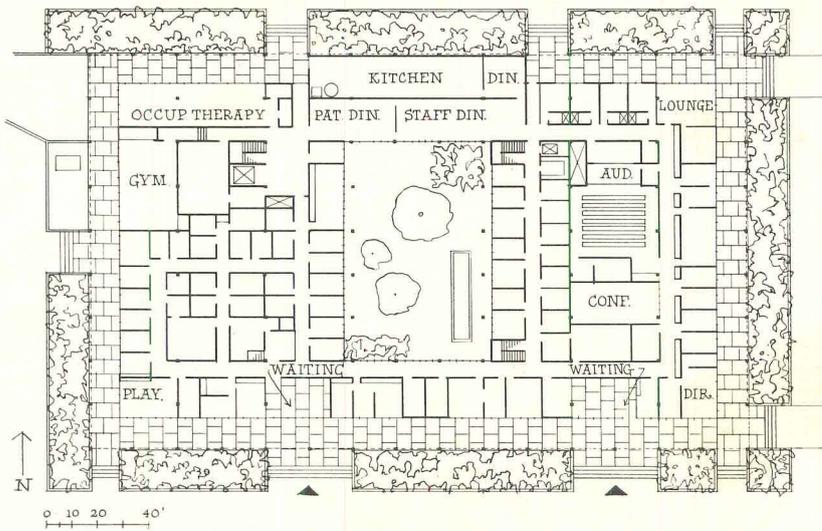


Play yards begin inside the enclave defined by the peaked roofs and covered walkways of the school, but there is also ample play space beyond.





F. WILBUR SEIDERS



Rx FOR A MENTAL CLINIC

Beneath a rhythmically barrel-vaulted roof and behind handsome masonry screens, Texas' new State Psychiatric Institute outside Houston accommodates a unique range of facilities for the study and treatment of mental ill. The uniqueness and complexity of its functions, in fact, was the major problem facing Architects George and Abel Pierce, who spent long hours with the Institute's staff working out an uncharted maze of space requirements and relationships before they could think of details of design.

The well-ordered building that resulted, appropriately enough, looks both inward and outward: inward to the landscaped serenity of a generous central court (photo left); outward over parking areas nicely broken by trees (photo right) to the growing campus of institutions that make up the \$100 million Texas Medical Center.

Three main features distinguish the Institute's exterior, and each performs more than one function. The repeated barrel vaults, of lightweight concrete 3 inches thick spanning 17 by 34-foot bays, not only give the building its primary identity, but also provide attic space for needed mechanical equipment. The grillework set between the bays at second-floor level shields interiors from direct sun and sky glare, and also hides many unattractive window and wall conditions caused by the irregularity of space requirements inside. The deep overhang of the upper level both shades the lower windows of glass and creates a pleasant sheltered colonnade around the perimeter.

Inside, the new clinic is divided into distinct areas by function. Above a partial basement for equipment, storage, and animals' quarters, the main floor groups staff and residence rooms around a 100-seat auditorium on one side of the central court, and an outpatient reception lobby, interview rooms, and therapy areas on the other (plan above). At the rear the two wings share a central kitchen and dining spaces for staff and patients. The second floor houses research laboratories and offices for bioelectronics, sociology, biochemistry, and neurophysiology in one section; across the way are rooms for 60 inpatients around their own amenities, which include everything from lounge and game rooms to a laundry and a beauty shop.

FACTS AND FIGURES

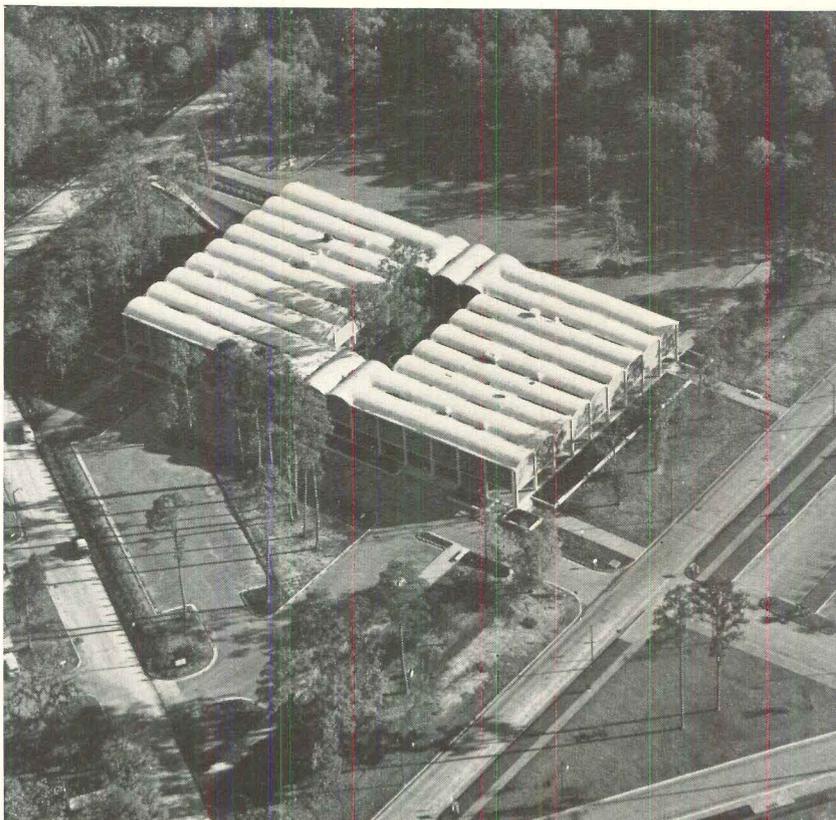
Houston State Psychiatric Institute for Research and Training, Houston, Texas.

Architects: George Pierce & Abel B. Pierce. Engineers: Bernard Johnson & Associates (mechanical), Walter P. Moore (structural). Land-

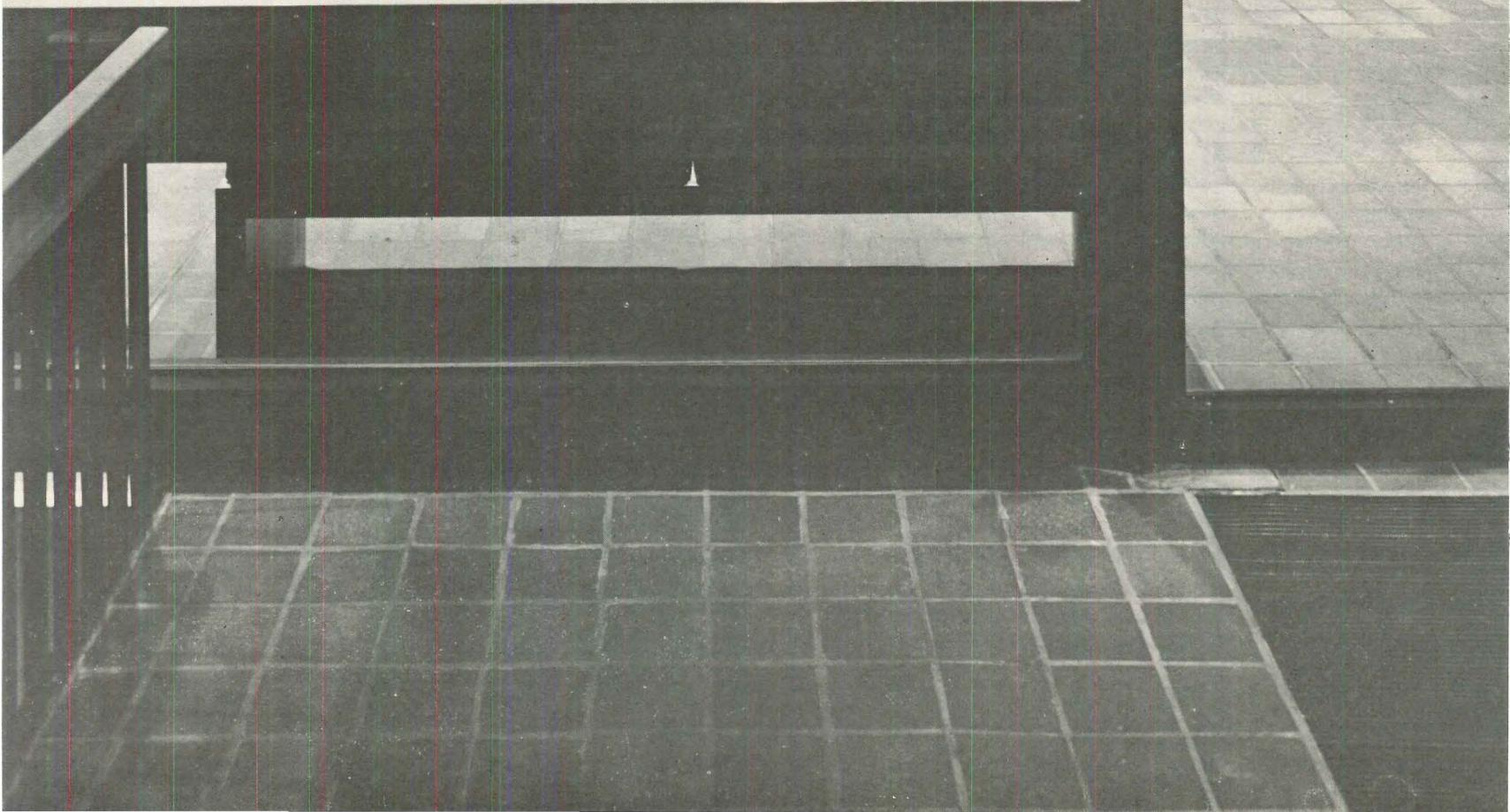
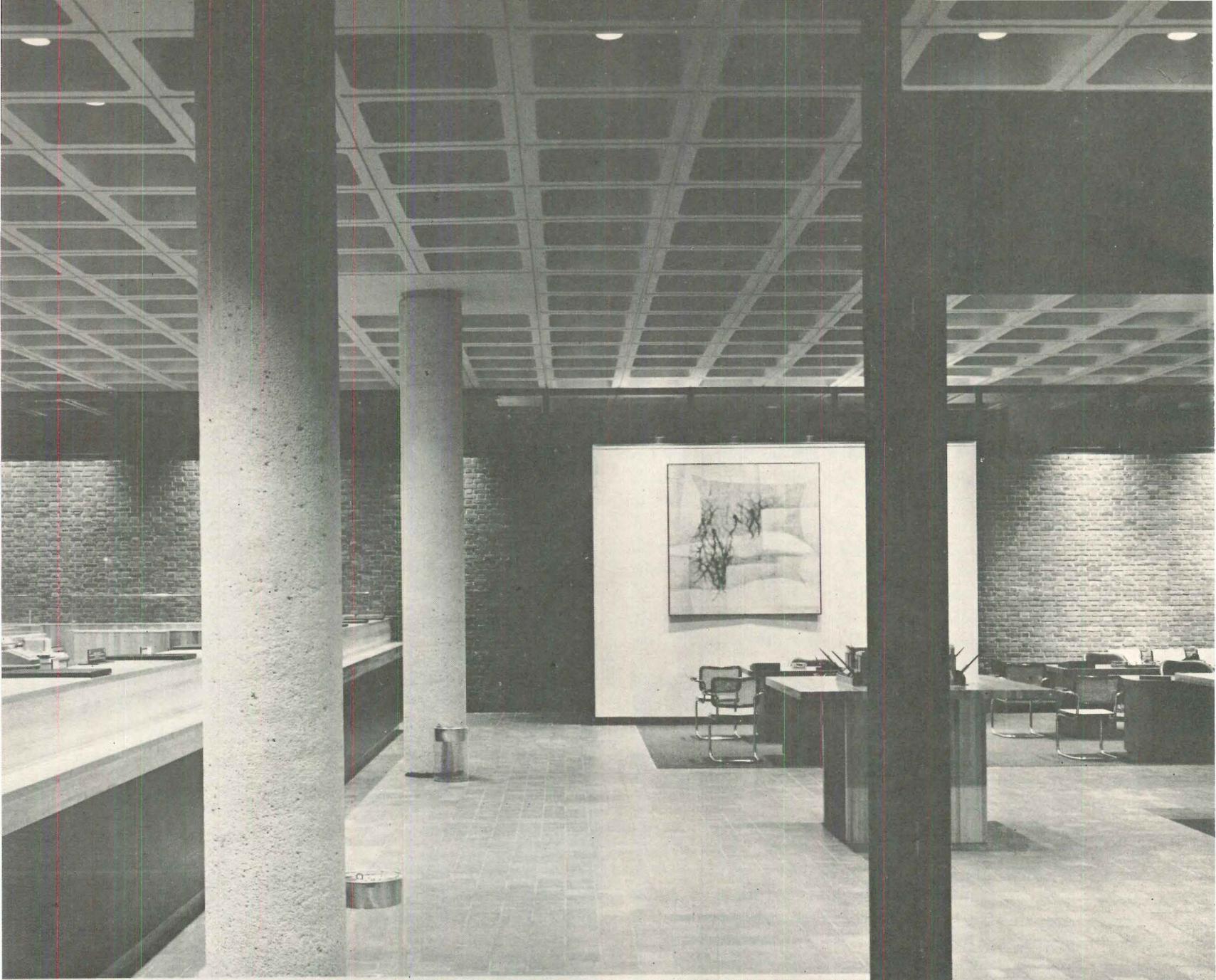
scape architects: Robert F. White & Associates. General contractor: P. G. Bell & Co.

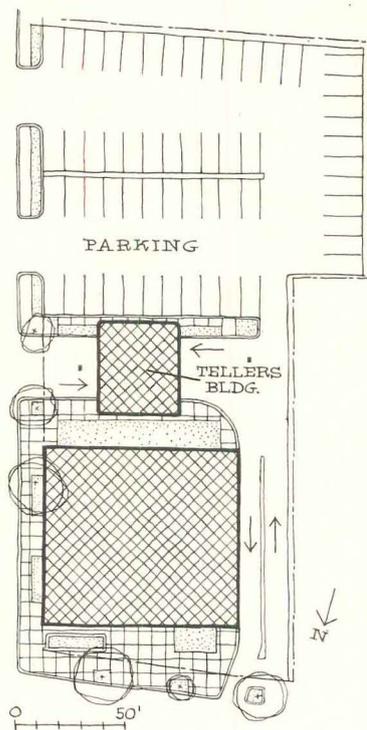
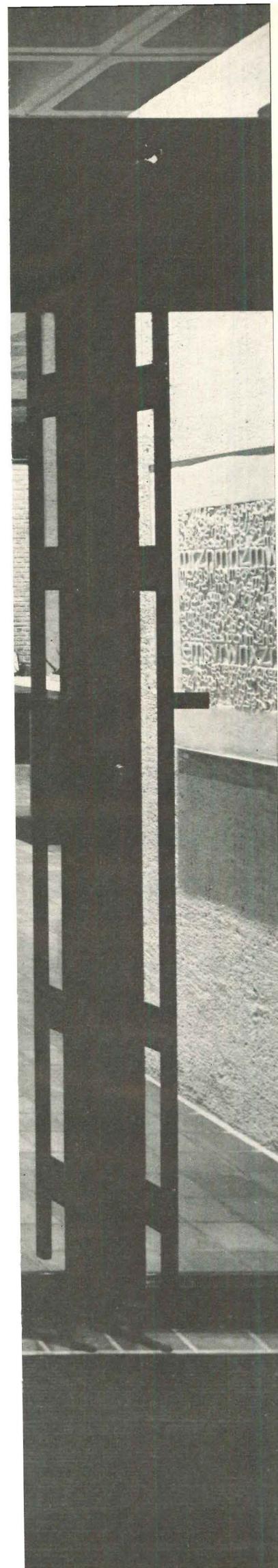
Building area: 70,000 square feet. Construction cost: \$1,468,000. Cost per square foot: \$20.97. Site area: 4 acres, with parking for 137 cars.

F. WILBUR SEIDERS



TEXAS AERO ENTERPRISES





Rich textures of the bank's interior (left) invite visitors to enter under a waffled "parasol" roof supported by 16 sturdy concrete columns. Gray glass framed in bronze is used in the clerestory windows that ring the main banking room, and in transparent walls that alternate with freestanding solid walls of water-struck brick (below).

BANK FOR THE SUBURBS

When the New York State legislature passed a new omnibus banking act last year, allowing New York City banks to open offices in nearby Nassau and Westchester counties, the Chase Manhattan Bank immediately began the search for a design for its first suburban branch in Great Neck, Nassau County. The bank wanted a prototype for future offices which would reflect the image of a modern institution with a growing reputation for sponsoring the best in modern architecture (see Chase's main headquarters building, *FORUM*, July '61).

After looking over schemes submitted by eight firms, Chase chose The Architects Collaborative of Cambridge, Mass., on the basis of their simple but forceful design. Especially appealing was TAC's concept that banks should "go back to looking and acting like banks" instead of supermarkets or shoe salons. "A new bank is a business opportunity presented to a community. It doesn't expect a night club," explains TAC Partner-in-Charge Benjamin Thompson.

The architects tried to express the function of a bank in the large and dignified interior space of the Great Neck branch. Through the solidity of the concrete structure they also attempted to convey banking's maxim that money is a serious business and that depositors' money is treated accordingly. But TAC also recognized that a bank is a gathering place, an exchange where interesting things go on, and sought to express this activity in a lively syncopation of pattern and texture.

The exposed white concrete was poured in place and bush-hammered, providing a rich texture which leads from the vault walls outside to the interior, with its substantial columns cast in tube forms. The waffle slab roof is turned up at the edges to add a feeling of weight, and to provide a solid back-



ground for Chase's sign. Rough-textured, water-struck brick was used on the freestanding walls to give a suburban, almost residential touch and to complement the color of the brown Welch quarry tile covering the floor. Tellers' counters are of laminated birch with black plastic fabric glued to the sides. All of the furniture was designed by TAC, including the bank officers' desks, which are made of walnut with movable butcher-board tops and interchangeable units of drawer and filing space below.

Some of this bank's features are frankly experimental and may be eliminated in future branches for the sake of simplicity and lower costs. The community room in the basement, for example, is a nice public gesture (it is available for meetings by local groups), but it is not a real necessity in many areas. (At Great Neck, it includes a kitchenette, projection equipment, and meeting or banquet space for 100 people.) Also, without changing the basic character of the prototype, the concrete could be precast rather than poured in place and a plain gray variety used instead of the costlier white. And the drive-in teller service, located on an island at the rear and separated from the customer parking area by planting, could be incorporated into the main bank in later versions for more flexible use of the teller's time.

FACTS AND FIGURES

Chase Manhattan Branch Bank, Great Neck, N.Y.

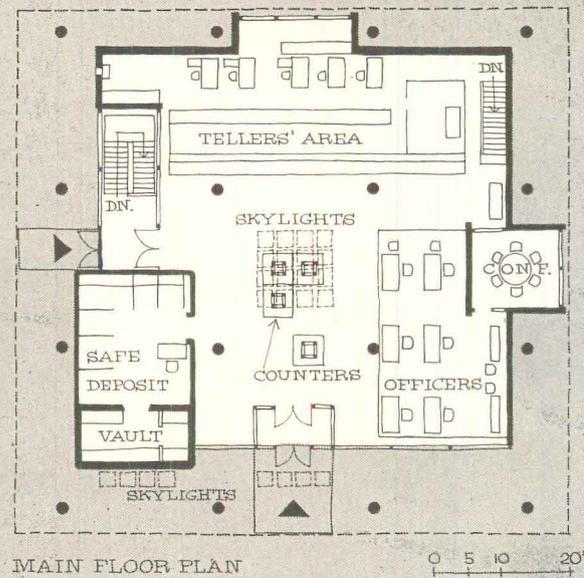
Architects: The Architects Collaborative (partner-in-charge: Benjamin Thompson; job captain: Paul Dietrich).

Engineers: Goldberg & Le Messurier (structural); Reardon & Turner

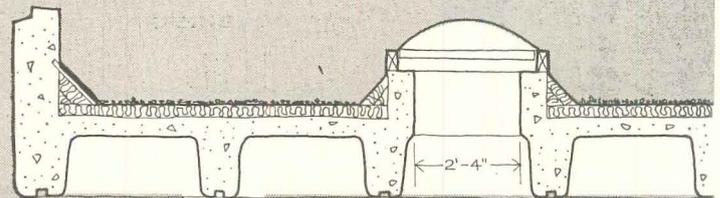
(mechanical and electrical). General contractor: Diesel Constr. Co. Building area: 11,760 square feet. Actual costs are not available because of the experimental nature of the project, but an estimate for this type of concrete structure is \$28 per square foot.



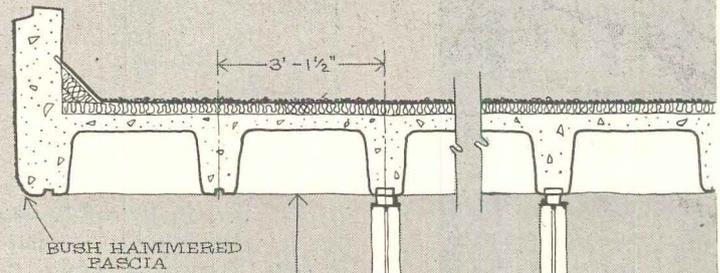
ALEXANDRE GEORGES



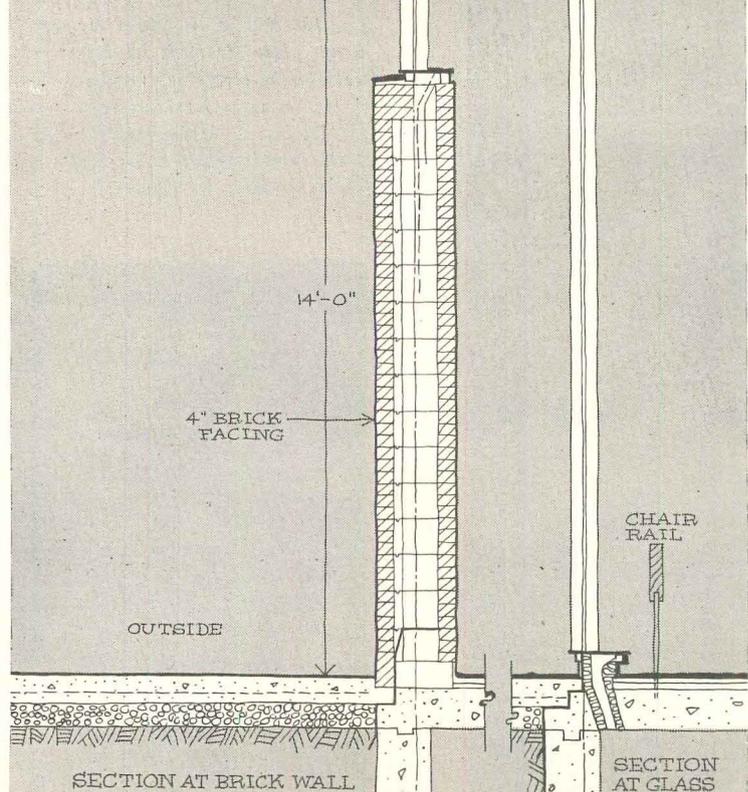
MAIN FLOOR PLAN



SECTION AT SKYLIGHT



BUSH HAMMERED FASCIA



SECTION AT BRICK WALL

SECTION AT GLASS





REHABILITATION: STEPCHILD OF URBAN RENEWAL

This fourth in a series of articles on urban renewal suggests that the much-discussed rehabilitation program has not worked, and will not work, until problems of mortgage financing and economic feasibility are unsnarled.

BY DAVID B. CARLSON

New York's brooding West Side tenements (opposite) pose one of the toughest questions in the business of keeping a giant city healthy: What to do about vast areas that are too good to destroy but won't be worth keeping unless something is done to them soon?

The answer can be summed up in one word—rehabilitation. HHFA Administrator Robert C. Weaver has firmly committed the federal government to a policy of conservation and rehabilitation, and has been working, through HHFA's constituent agencies, to put these policies into effect.

Cities have had basic tools for conserving and rehabilitating large deteriorated areas ever since 1954, but only a handful of them have so much as started in that direction. Several weeks ago, URA Commissioner William L. Slayton noted that "rehabilitation of existing housing and neighborhoods . . . is only barely beginning to achieve its promise. Only 14,000 dwelling units have been rehabilitated out of a total of 70,000 units scheduled for rehabilitation. . . ." And Slayton concluded that "the future of rehabilitation looks far more promising than its past."

This may only be true because past performance has been so poor that the future is bound to look bright by comparison. As yet there are only a few examples to date to make a strong case for rehabilitation as the way to get generally upgraded housing in urban areas where it is feasible.

Can rehabilitation be made attractive

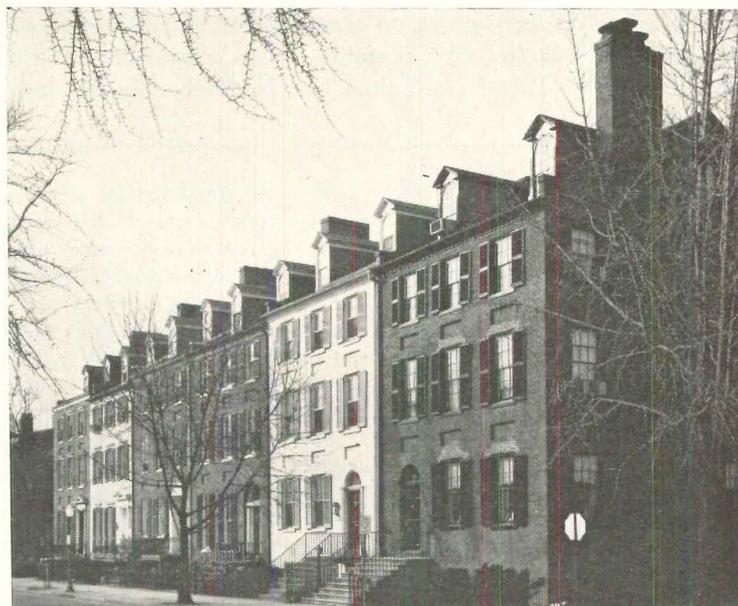
Every city has some sort of fix-up operation going on, usually in prestige areas and at luxury prices. Washington's Georgetown, New York's East Side, and Philadelphia's Rittenhouse Square are just a few examples. There are important economic—and architectural—lessons to be learned from much of this high-quality work, but it has long been obvious that the sprawling city areas most in need of salvation cannot be rehabilitated on the luxury scale.

So far, much of the effort to start rehabilitation rolling has been directed at getting owners of deteriorating properties to upgrade them. The Housing Act of 1956 offered financing incentives, and last year's housing legislation broadened these incentives. Work done so far in New Haven, Conn., Philadel-

phia, Jackson, Mich., and other cities indicates that owners can be pushed into rehabilitation through a combination of code enforcement threats and financial incentives in the form of refinancing which results in lower monthly payments for their housing (see page 181). But this sort of rehabilitation can take many years, even if most owners have the financial capability to do the job; and there is not yet any evidence that really sizable areas can be upgraded this way. Moreover, this technique will not work in the large areas with a low rate of owner occupancy.

How, then, can rehabilitation become a truly effective tool for raising housing standards on a large scale? Most experts now say that it cannot, unless rehabilitation under urban renewal can be made as attractive to investors as new apartment construction. Until the operative builder-investor can realize a satisfactory return (probably at least 15 per cent) from the rehabilitation of very large urban communities, rehabilitation will remain a limited fix-it-up-yourself program.

A pioneering study of New York's Morningside Heights area indicates the immense difficulty of harnessing private market forces to a program of large-scale rehabilitation. The study was designed to show whether it might be possible to restore



NORMAN MC CHATH

Washington's Georgetown area is perhaps the best known example of luxury rehabilitation. Recently, re-
building has spilled over into the adjacent Foggy Bottom area, where lower-cost housing is available.

a 35-block area in Manhattan's Upper West Side, around Columbia University. The area was characterized as being "of sluggish market prices and assessed values." Like other surveys of rehabilitation, the study called financing the key to the chances of improving the area's housing.

Although half of the property owners in the area also live there, the study said flatly that the low level of maintenance expenditures "indicates that hopes for the area's revival cannot depend solely on the initiative of individual owners." But, it added, "other factors show that a definitive program supplied to community leaders might be all that is needed to spark a concerted rehabilitation effort."

Such a definitive program must take into account three basic elements bearing on the feasibility of rehabilitation anywhere:

- ▶ Rents after rehabilitation must be adequate to assure the owner his usual return, or provide a potential buyer a return equal to that for other properties of the same risk and caliber.
- ▶ Equity requirements cannot exceed one-third of the total amount needed to buy and refurbish the property.
- ▶ Capitalized rentals cannot exceed those of comparable properties in the same area.

These requirements sound elementary, but without them rehabilitation cannot work, and, most particularly, builder-investors will not be attracted to the field.

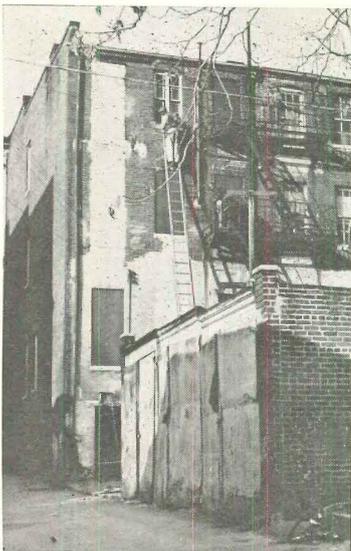
It is already apparent that even with these features, rehabilitation is hard to keep going on a large scale. Take the case of Builder Jack Havens, of Columbus, Ohio, chairman of the "Build America Better Committee" of NAREB. Havens had

remodeled some 400 units around Columbus, but now is devoting his talents to new construction, much of it in urban renewal areas in other cities, because, he says, "it is as easy to do 100 lots as to do 10 modernization jobs." Havens still does some rehabilitation, but now it amounts to only about 10 per cent of his total business instead of the former 80 per cent. He could get a 15 per cent return on rehabilitation jobs, but to show really handsome returns on his total investment, he had to turn his money over faster than he could in this work. For all his know-how and experience, Havens could handle, at the most, 150 units a year. The problem at the heart of large-scale rehabilitation is not the physical, but rather the financial side of the formula, and here most potential builders get stymied by large equity requirements, short terms, and high interest rates.

A program thwarted by its administrators

When federal officials realized that rehabilitation had to become a major weapon in the urban renewal arsenal, they offered financing incentives matching those for new construction: i.e., FHA would insure mortgage loans for 90 per cent of replacement value. But, as Slayton has implied, Section 220 never really worked for rehabilitation. The biggest reason, in the words of Julian Levi, executive director of the Southeast Chicago Commission and spearhead of the ambitious Hyde Park-Kenwood rehabilitation effort, is that "the program has been effectively thwarted by its administrators."

Section 220's administrators realized by last year that they



Baltimore's Harlem Park demonstration block features three row houses by the Reynolds Aluminum Service Corp. Reynolds paid \$15,000 for the three houses, put up more than \$60,000 to make them over into nine units, renting for \$23 to \$25 per week. The 12 per cent return Reynolds figures to get on its equity is probably somewhat lower than an ordinary speculative builder might get, but Reynolds also was interested in developing new uses of aluminum in the rehabilitation effort. Most important about the Reynolds project is that the company got the first FHA mortgage under the apartment rehabilitation provisions passed six years ago—after waiting two years to get its \$76,500 mortgage.



had to straighten out the program or rehabilitation would never get off the ground. Baltimore's Harlem Park project was picked as the target for an intensive effort at establishing standards for FHA mortgage insurance on rehabilitated properties. A special task force of FHA personnel was dispatched, and worked with the local agency for many weeks to help insure mortgages applied for by rehabilitators of houses in a special demonstration block.

One of the developers was Reynolds Aluminum Service Corp., headed by former HHFA Administrator Albert M. Cole. Reynolds had bought three 80-year-old row houses for \$15,000, and converted them into nine apartments (see pictures, page 132). The developer then applied for 220 mortgage insurance so that it could minimize its own cash requirements on the project, and so that rentals in the new units could be kept at \$23 and \$25 per week. When FHA finally issued its tentative commitment (a year after application), it represented the first such approval since the multifamily section was passed in 1956!

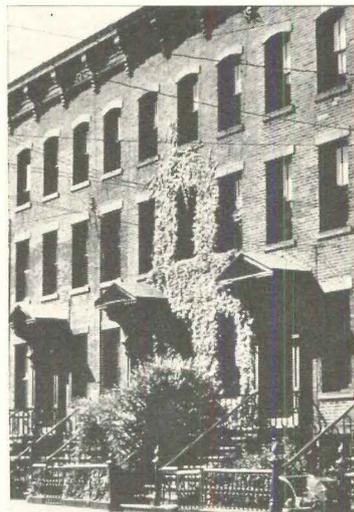
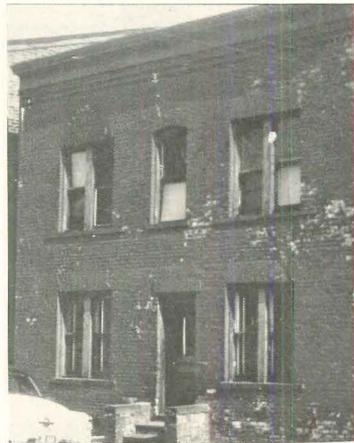
But FHA's work dragged along, and the firm commitment for the full amount of Reynolds' mortgage was not finally signed until last month. Reynolds had requested a supplemental \$11,400 loan to cover most of the cost of the rehabilitation. The added amount will raise rentals by about \$2 per room, and the total mortgage amount to \$76,500 for the three houses. Reynolds' return on its investment, if the supplemental amount is finally approved by FHA, will be about 12 per cent.

FHA's costly, time-consuming procedures

Unless FHA can work out mortgage insurance for rehabilitation under Section 220 with more ease than it has in Baltimore, rehabilitation will be limited to small-scale demonstrations such as those in New Haven and other cities. Cole had once considered getting into rehabilitation on about the same scale on which Reynolds is tackling new housing, but now he is skeptical. The Baltimore project cost Reynolds more than expected, and FHA's time-consuming procedures only inflated the cost further.

Cole believes that rehabilitation can only be successful if it is done on a large scale, and that residents cannot really rehabilitate a large area by themselves. On the other hand, unless FHA can make rehabilitation financing work at least as smoothly as other mortgage insurance, developers will not be interested. One way out, Cole suggests, is to make both the lenders and the FHA share some of the risk in rehabilitation, perhaps by having the lender himself insure the top 10 or 20 per cent of the mortgage amount. This would make it a real insurance program, Cole believes, and take some of the pressure off the FHA.

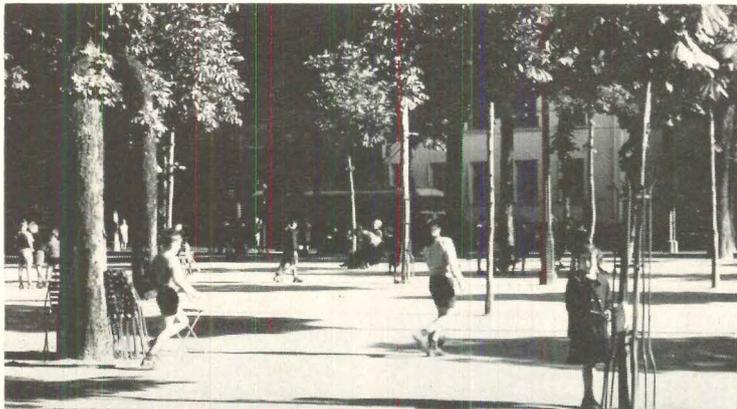
continued on page 181



New Haven's Wooster Square project has pioneered techniques for rehabilitation in deteriorating areas. The brick house (above) was completely refurbished for \$24,000 and apartment rentals raised from \$25 to \$75 and \$85 per month. Other pictures show block front on Court Street, in the Wooster Square area, where the city redevelopment agency bought 13 houses, rehabilitated them, and is reselling them to private owners. By enforcing building codes and helping establish community groups to aid in rehabilitation, New Haven has prosecuted a vigorous program which has already involved over 1,000 buildings including nearly 3,000 units of housing.



PHOTOS COURTESY NEW HAVEN REDEVELOPMENT AGENCY



PARKS WITHOUT GRASS

We had hardly expected to return from a vacation in France with our heads full of practical ideas, and those concerned with city parks and trees. It began with a quite desultory walk through a not especially remarkable park or square in Lyons, the Place Bonnecourt. This fair-sized "place," measuring perhaps 660 by 1,000 feet, and supplied with the customary statue, was not the sort to which the guide books give stars, but we noted at once how full it was of people young and old happily engaged in doing a variety of things, and we also noticed at once that the general design threw our previous ideas of French public gardening into a *bosque*. Sure, everything about the place was trimmed and pruned and arranged, but not at all in the manner of grand allées or geometric garden plots surrounded by geometric hedges and the cones and cubes of geometric trees (photo above).

Of some of the chief characteristics of that happy park my wife and I made immediate note.

Later, to our immense pleasure, we found the same characteristics recurring wherever we toured in southern France, and the clincher came in Paris. There we ran into Clarence Stein. That wonderful architect-planner promptly suggested a visit to fine Paris squares, and pointed out that the same ideas which we had noted in provincial Lyons were the distinguishing virtue of "places" like the Place des Vosges, or the Jardin du Palais Royale, or even the Jardins des Tuileries.

Here, then, for the benefit of other Americans planning a continental vacation, just a few preliminary notes to alert their eyes:

Note: French squares and small parks do almost entirely without grass. Except where there are flower plots (generally raised up to discourage trespass) the floor is a fine compact gravel. This means that small kids can ride their tricycles everywhere (or even donkey carts or donkeys or chains of toy cars rented from a man as at Lyons) without knocking through hedges, or spoiling grass. By the way, it is *not* asphalt.



PHOTOS: D. HASKELL

Note: On the gravel floor, bigger boys kick around soccer balls, in areas that other people leave to *them*; they do it without destruction, and unbothered by trees (photo). The trees give them shade. Under the same shade, the men come out evenings and play a bowling game like the Italian *boccie* that we see in New York. In the vast formal Jardin de la Fontaine at Nîmes by far the most active corner was theirs.

Note: The reason the trees work

from a skylight. In short, the city tree in France becomes a fine, living, building block of environmental architecture.

Then again there are many special effects, as in the Garden of the Archbishopric at Bourges where tight rows of trees are trimmed as if they were tall hedges on "pilotis" (below). They throw wide, compact bands of shade which travel with the angle of the sun so that people have their selection of benches with



so well in this delightful, functional way is geometry. Definitely this is not the geometry of those nasty Renaissance gardens of boxed yew and hedges on display at some of the châteaux. But the trees are planted "on module"—in a square pattern the way we plant corn, but of course much bigger. They are spaced widely enough apart to be a minimum obstacle but closely enough to create a complete "ceiling" of foliage.

The next reason is radical trimming, done for objectives that are as functional as they are formal. My wife was horrified at first by trees temporarily reduced to leafless poles, and she only recovered her composure as she found the wonderful mature effects. But this trimming achieves several results: first, the new crowns come in denser and give much better shade; next, these crowns establish a definite, continuous ceiling, so that looking through the Tuileries Gardens, for example, is like looking through a huge "loft" room extending vastly. It is punctuated here and there by pools of light where an opening has been left for some statue or fountain, and the sun shines in as

real shade—or with real sun.

Note: In the more quiet areas, e.g. the background area of the Place Bonnecourt (photo below left), pools and fountains add to the coolness and there the mothers or nursemaids can read or chat while keeping an eye on the children. Close by are kiosks selling everything from soft drinks to flowers, and there are well-tended rest rooms.

Note: Clarence Stein said: "Trees are just as green to look at from a window above a square as grass is, and they are easier to tend and less of a nuisance. We in the U.S. unthinkingly copy our big grass plots from England, forgetting that London, for example, with its endless mists and rains, grows grass tough enough to recover from all abuse." This climate is even more alien to us than it is to France.

Stein said more, about discouraging wheeled traffic in squares, and keeping scale. But enough for now: in city squares, let's agree, out with the grass, up with the architectural tree, in well-trimmed phalanxes.

Douglas Haskell

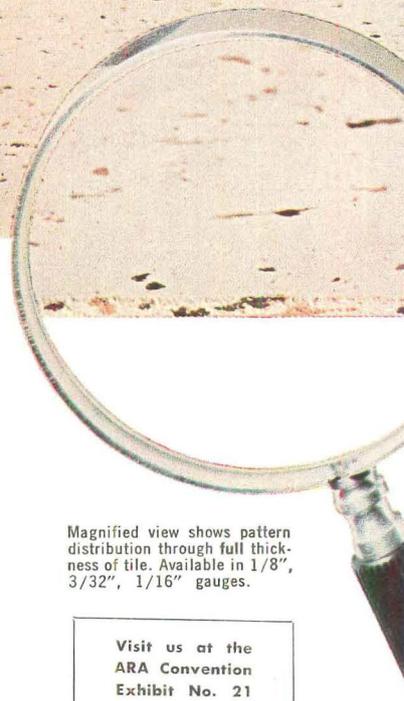


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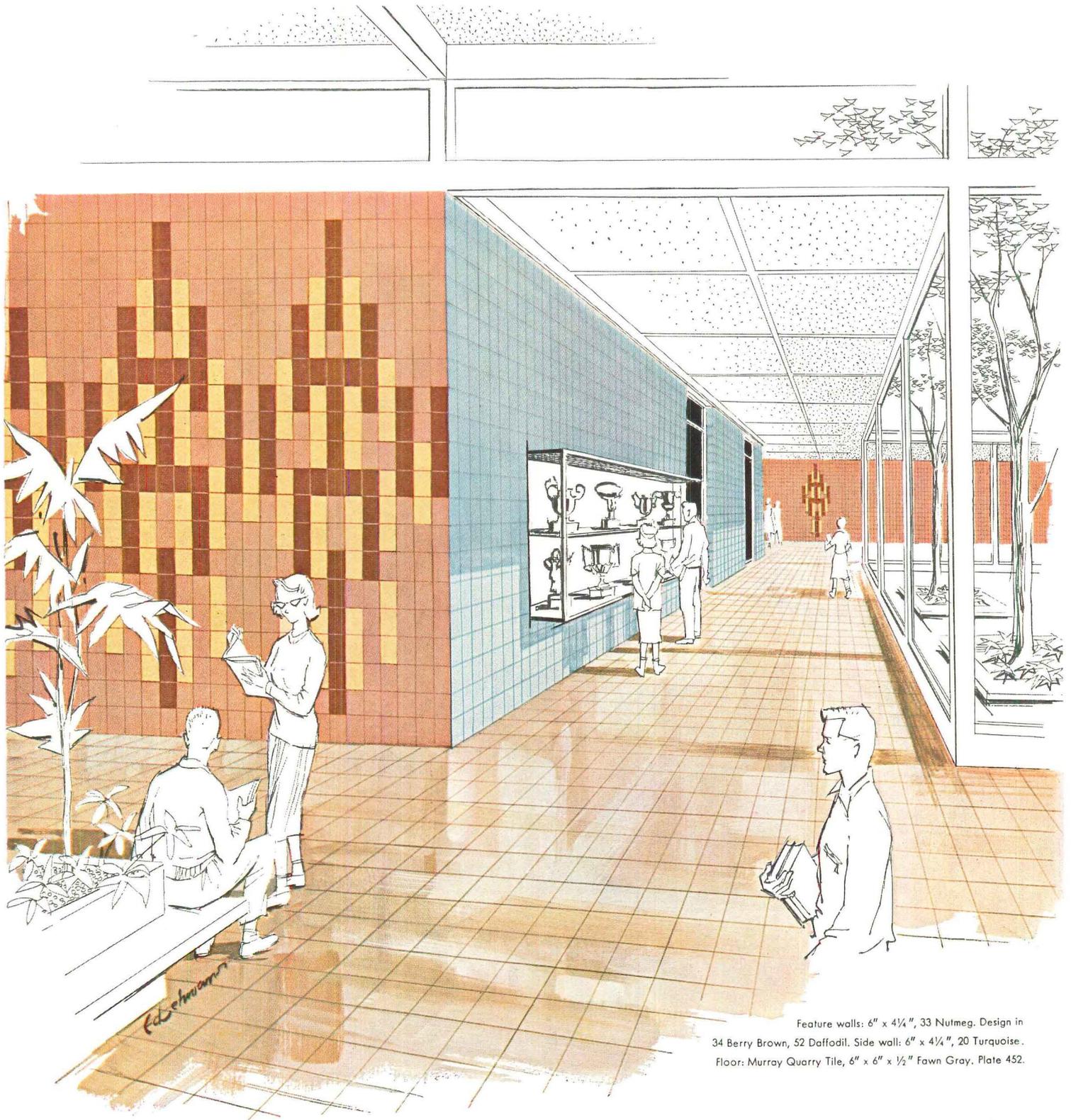
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Feature walls: 6" x 4 1/4", 33 Nutmeg. Design in 34 Berry Brown, 52 Daffodil. Side wall: 6" x 4 1/4", 20 Turquoise. Floor: Murray Quarry Tile, 6" x 6" x 1/2" Fawn Gray. Plate 452.

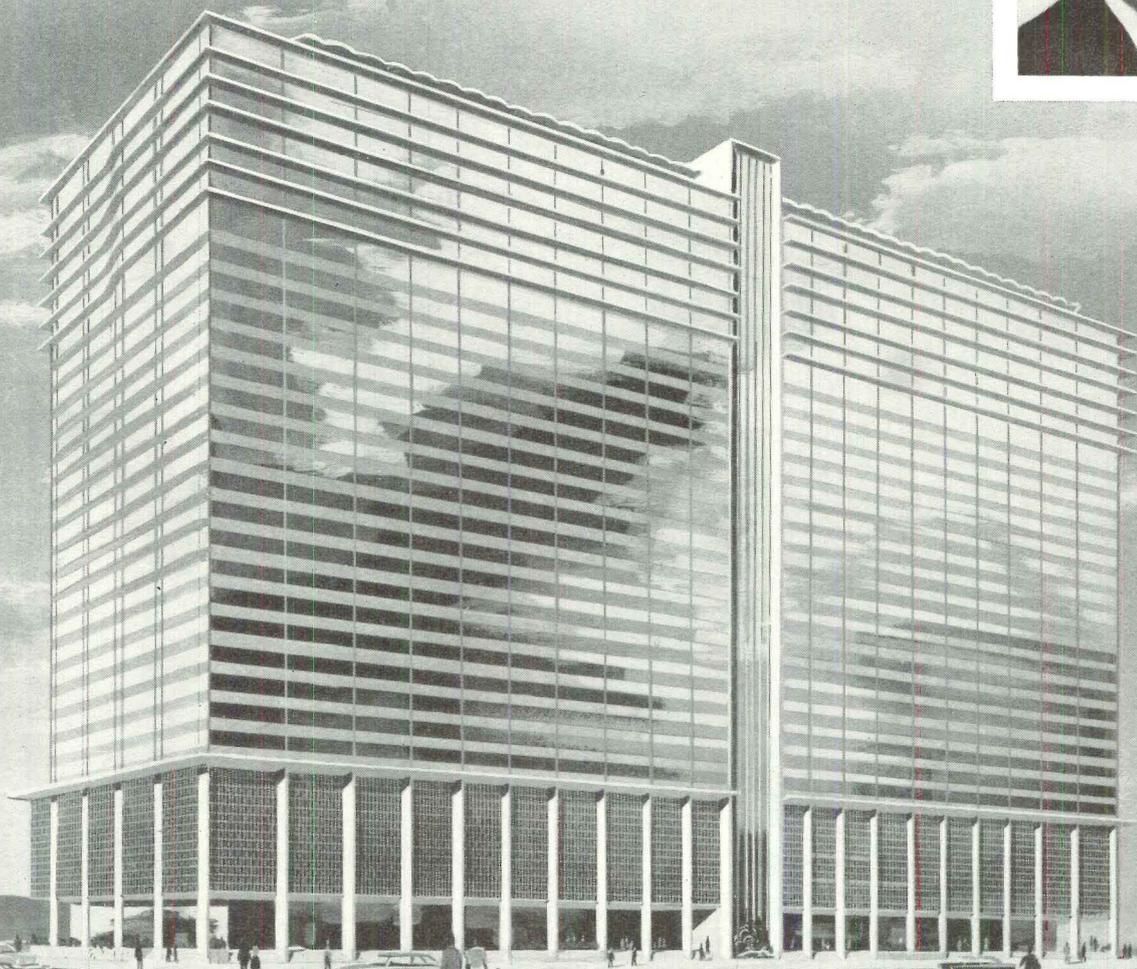
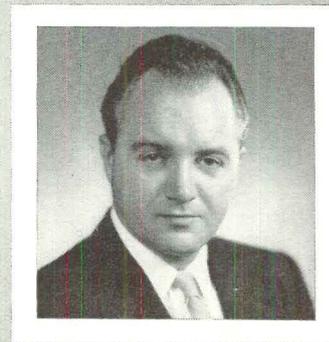
Large size tiles brighten interior design

This modern school corridor suggests how American Olean's larger size ceramic tiles can bring design interest to building interiors. These larger 8 1/2" x 4 1/4" and 6" x 4 1/4" wall tiles are ideal for adding bold touches of color and pattern. Set vertically or horizontally, they create a pleasing sense of scale in long corridors and other large areas. They are especially practical from a cost standpoint, too. When used with American Olean's Master-Set® sheet mounting, they can reduce initial installation costs by as much as 25%. Write for Booklet 911, "Design Ideas with Large Size Tile."

CERAMIC TILE
**American
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“We selected Haughton Elevators for the new Penn Towers . . . to provide speed with comfort”

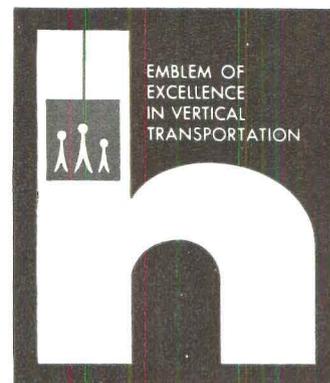
. . . says Mr. Sylvester J. Lowery, President, Penn Towers, Inc.



Penn Towers, Philadelphia, Pa., Samuel J. Oshiver Associates, Architects and Engineers, Gilbane Building Company, General Contractors

Combining the features of a luxurious apartment hotel and modern office building, the new Penn Towers in Philadelphia will have the most advanced system of electronically-controlled elevators, keyed to the age of automation. ■ Eight Haughton Operatorless Elevators will transport passengers with uncanny speed and comfort along the glass-enclosed vertical highways that bisect the front of this striking new building. ■ An automatic electronic computer will constantly receive and analyze data pertaining to amount and character of traffic, and make adjustments to match traffic needs exactly. ■ Such is the magic of Haughton Elevonics* . . . key to new standards in elevator performance. ■ Incorporate the advantages of Haughton Elevators in your plans. ■ Contact your Haughton sales office (listed in the yellow pages), see Sweet's File 24a/Ha, or write: Haughton Elevator Company, Div. of Toledo Scale Corporation, Toledo 9, Ohio. ■ Passenger and Freight Elevators, Escalators, Dumbwaiters.

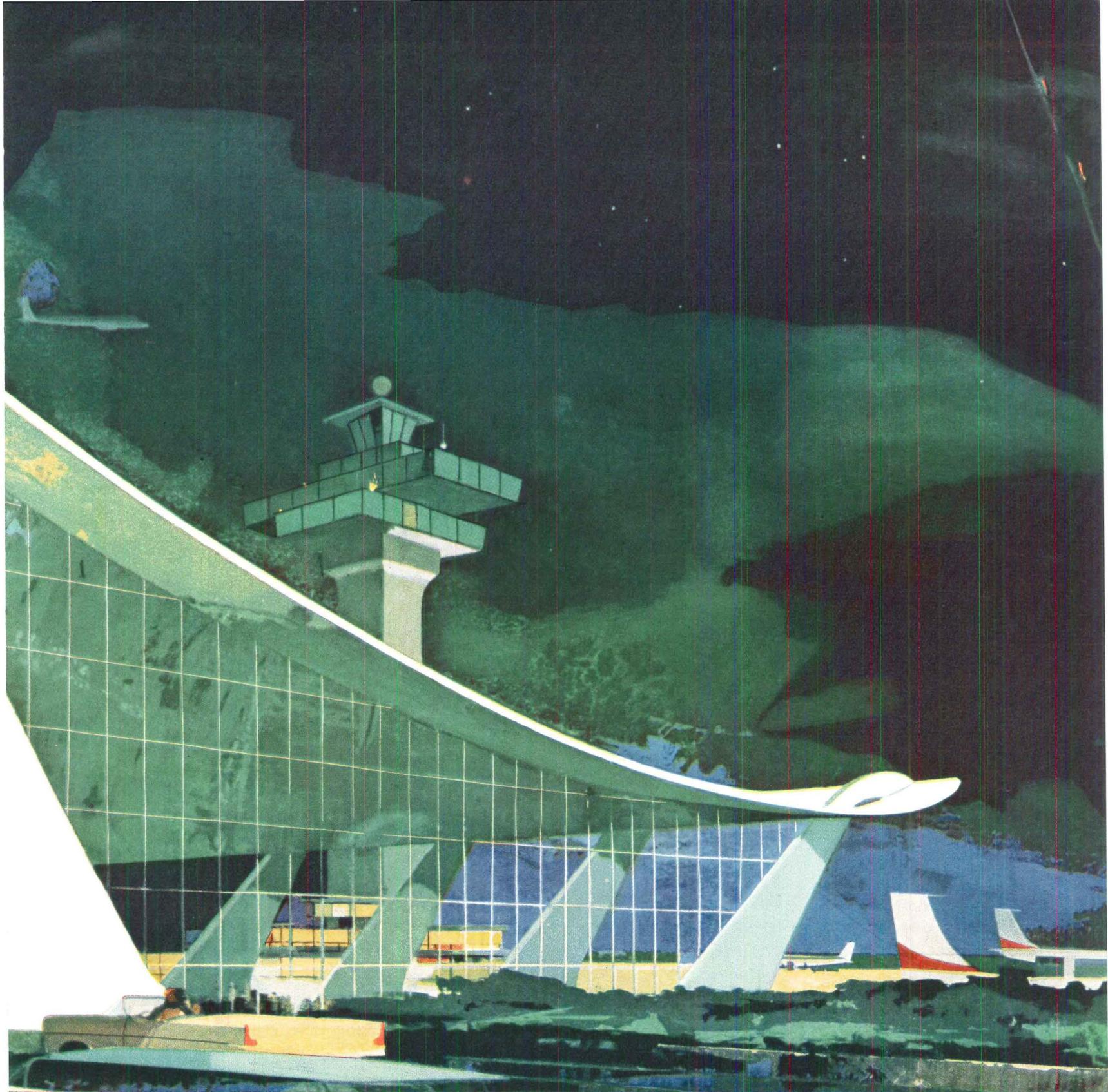
* Haughton's advanced program in systems research and engineering, with specific emphasis on the creative application of electronic devices and instrumentation for betterment of systems design and performance. Registered in U. S. Patent Office.



THE BEST IDEAS
ARE MORE EXCITING
IN CONCRETE



SOARING ROOF
AND PYLONS OF CONCRETE
EXPRESS THE SPIRIT OF
JET-AGE FLIGHT



Dulles International Airport Terminal. For the Federal Aviation Agency: N. E. Halaby, Administrator; G. W. Hobbs, Director of Bureau of National Capital Airports; R. F. Dale, Chief Engineer. Architects and Engineers: Ammann & Whitney, Eero Saarinen & Associates, Burns & McDonnell, and Ellery Husted. Architect for Terminal Building: Eero Saarinen & Associates.

Dulles International Airport, new port of entry to the nation's capital, is being built from the ground up for jets. From the 2-mile-long runways to the magnificent terminal building, concrete has been given a leading role.

The architect's bold concept for the terminal could only have been executed in concrete. No other material has the versatility to accommodate such striking departures from traditional design.

The concrete roof, slung from pylons with cables, makes the terminal a vast, single room, 150 feet wide by 600

feet long. The upswept design, that gives such drama to the exterior, provides improved acoustics for the interior. The elegance and classic simplicity of the towering pylon colonnades are accentuated by their textured surface that exposes the special

For freedom of expression in structures of all types, more and more architects are turning to modern concrete.

PORTLAND
CEMENT
ASSOCIATION

A national organization to improve and extend the uses of concrete

How to get on a

MERBURY-GO.
RORUNDO.

It is certainly possible to design an air conditioning system by specifying a variety of major components made by different manufacturers.

You may even save the owners a few dollars—with refrigeration equipment from one source, cooling and heating coils from another and fans from somewhere else.

But each added source of supply multiplies the owners' problems when they try to fix responsibility for performance. There they are—going round and round.

Whom will they call if mechanical

trouble develops? Which component needs attention? Where will they turn for service? The answers come easily when you specify equipment from one responsible supplier of major components—able to keep the equipment in first-class operating condition.

Although not the only air conditioning manufacturer offering a broad line of components, Carrier is best prepared to serve the owner should trouble come. For our company and our dealers maintain the largest and best-trained service organization in the business—over 11,000 men strong.

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Research and technical improvements have increased the yield and efficiency of McLouth's blast furnaces.

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In the last seven years McLouth's ingot capacity expanded 161%. Our progress has been built on pioneering new and better methods of steelmaking and maintaining rigid controls and the highest product quality. Located for fast service and delivery, McLouth is your dependable source for the finest carbon and stainless steels.



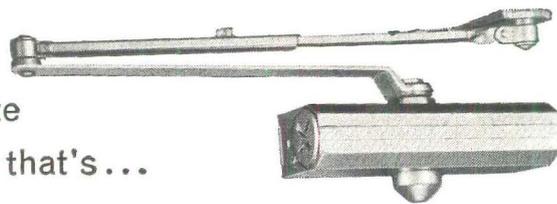
- Tapping molten iron from a blast furnace

McLOUTH STEEL

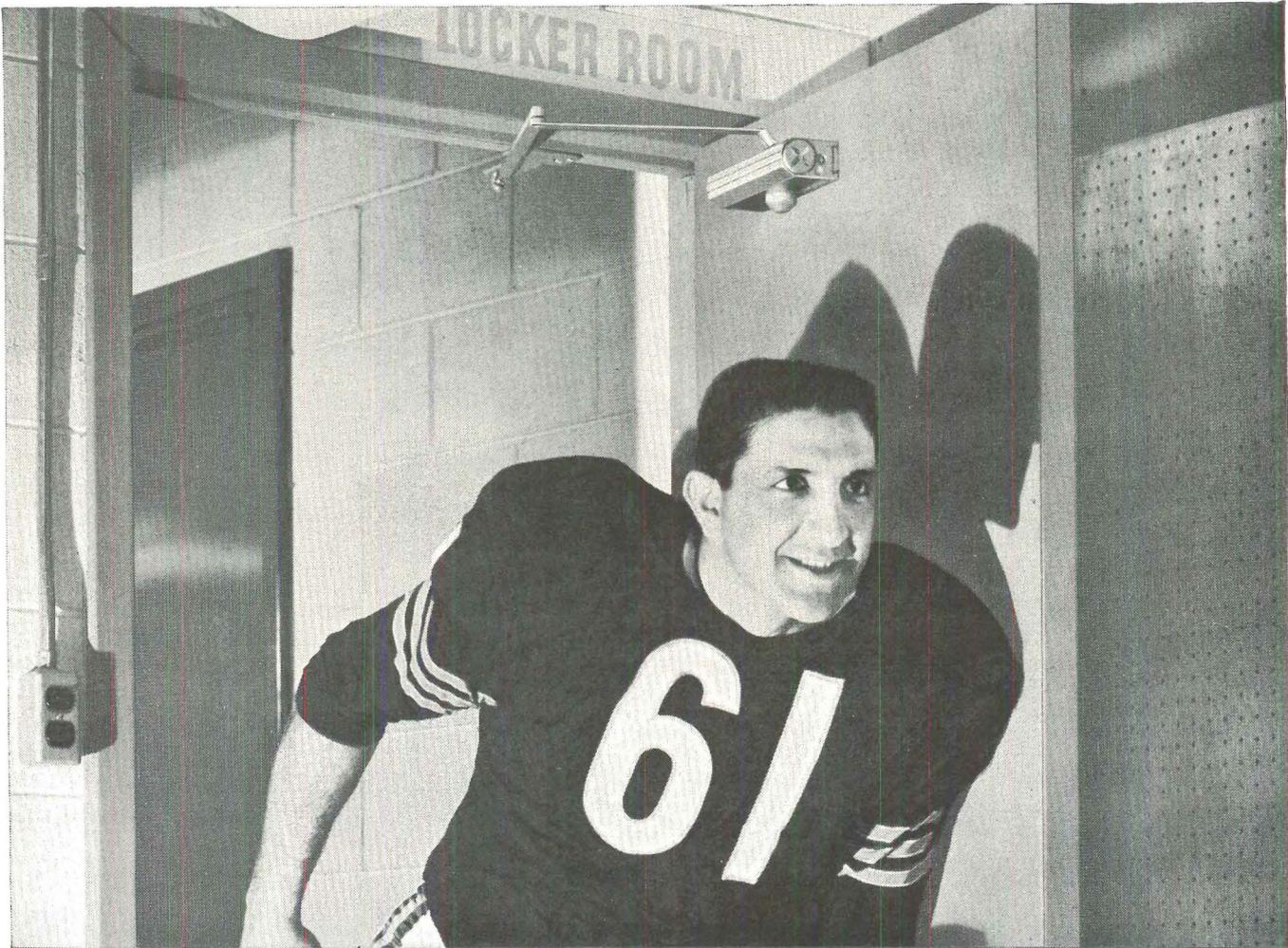
McLOUTH STEEL CORPORATION / DETROIT 17, MICHIGAN



Norton® Tri-Style Closers
 with exclusive Perma-Hold plate
 features invisible mounting that's...



RUGGED



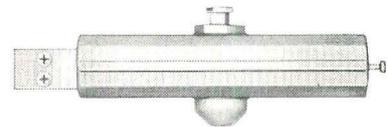
Bill George, All-pro line-backer and co-captain of the Chicago Bears, provides the impact to illustrate the holding ability of the Tri-Style Perma-Hold plate.

Tri-Style Closers with the Perma-Hold mounting plate are another result of Norton Door Closer development. The Perma-Hold plate is simple and fool-proof. The plate is mounted to the door or frame with flathead screws. The Tri-Style Closer is then secured to the plate by means of a tapering locking anvil.

Norton Tri-Style Closers with invisible mounting stay where you put them. The Perma-Hold plate and closer are locked together by the taper action between them, the strongest mechanical binding force. Both impact tests and continuous life tests have proven the holding ability of the Perma-Hold mounting plate.



Perma-Hold plate is mounted with four flathead screws.



Closer slips on Perma-Hold plate and locks into place.

1036

NORTON® DOOR CLOSERS
for Complete Architectural Compatibility 372 Meyer Road, Bensenville, Illinois



for a **LIFETIME** of beauty in
these **TIME-LIFE** building walls!

The walls of the lobby in the new Time & Life Building have been sentenced to a lifetime of beautiful service—without hard labor.

They're sheathed with Vermarco marble. Bright and beautiful today, they will remain so through the years, never fading nor losing their distinctive charm. Ten, twenty, even fifty years from now, they will still command admiration from all. And then as now, they will require little more than an occasional washing as they continue to provide substantial savings in

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Think what this can mean to you and to your clients . . . dramatic beauty with ease of maintenance resulting in long-term economy. All of these important benefits can be designed into your buildings when you specify any of the magnificent Vermarco marbles that are readily available to you through the Vermont Marble Company, the world's leading producer, fabricator and importer of foreign and domestic marble.



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stimulating a new approach to the demands of creativity



modular—customized to your individual specifications

The Daryl Monumental sliding glass door is the door for the most demanding institution, commercial building or the finest home. Thoroughly researched, engineered and designed to meet the demands of the architect, the Monumental has proven its capacity to withstand the severest wind loads and to prevent air and water infiltration to a degree that exceeds the most critical building code. Standard finish (204-R1): satin-etched anodized aluminum. Special finishes can be manufactured upon request.

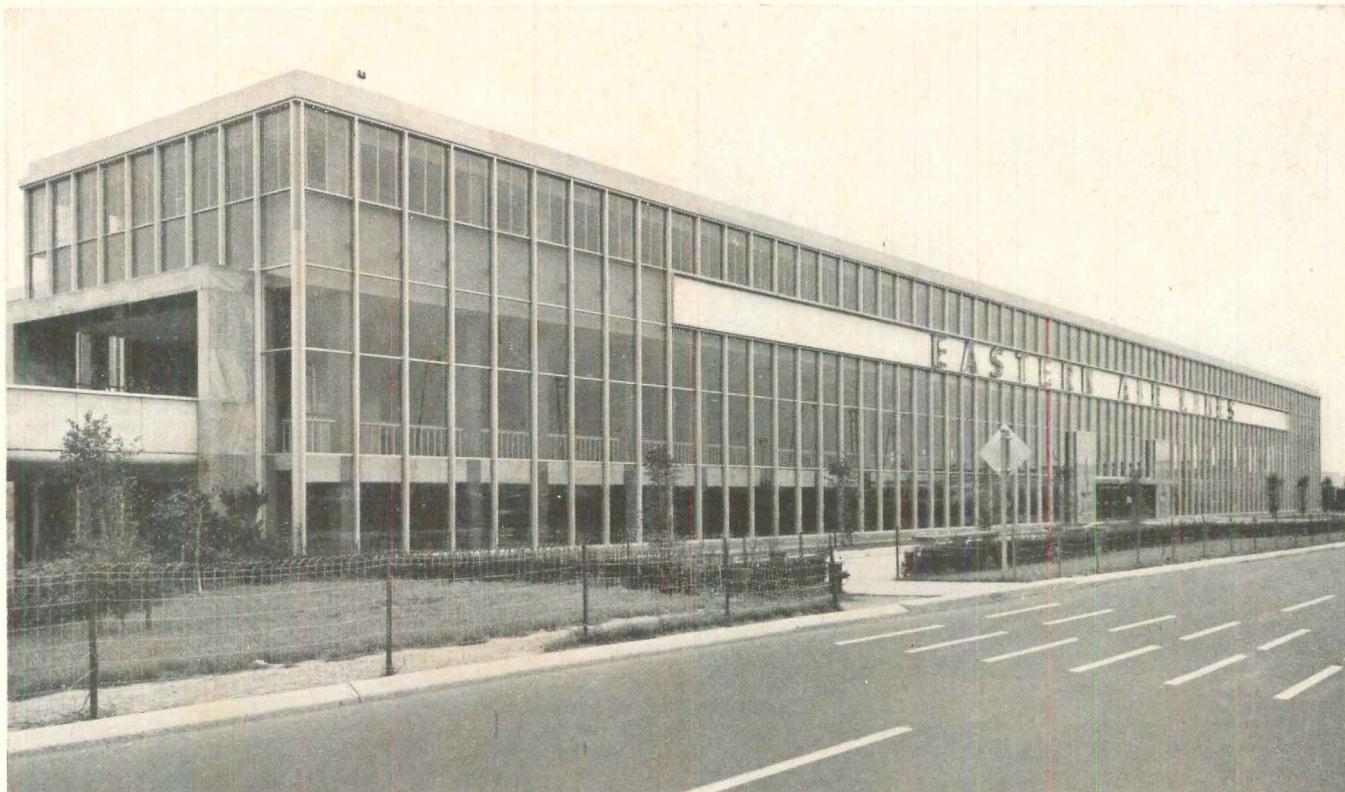
- Versatility obtained by use of 2, 3 or 4 track system; doors can be stacked or pocketed.
- Aluminum and vinyl channels permit a wide range of glazing materials from 7/32" up to 1".
- Compatible, non-corrosive materials used throughout, eliminating all maintenance.
- Hardware includes standard lock equipment, 5-pin tumbler cylinders; can be master keyed.



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Owner: Eastern Air Lines Mechanical Engineer: Seelye, Stevenson, Value and Knecht, New York City
 Architect: Chester L. Churchill, New York City Mechanical Contractor: Brandt Corporation, New York City



B&G BOOSTER PUMP

B&G UNIVERSAL PUMP

B & G® Pumps keep air line terminal clear of snow and ice

In the complex mechanical design of the Eastern Air Lines Terminal Building at New York International Airport, an important role is played by B&G Boosters, Universal and 1510 Pumps.

The eleven zone snow melting area covers approximately 50,000 sq. ft. and includes parking areas, vehicle ramps and passenger loading areas. Circulation of the heat transfer medium is effected by six B&G "C" type Universals and five Series 1510 centrifugal pumps.

Two bronze B&G Booster pumps are used to circulate the service water and ten standard Boosters to circulate the space heating system zones.

B&G heating system pumps earn a place in such outstanding installations because of a long record for dependable, maintenance-free performance. Where *quiet* operation is vital, the design and construction of B&G Booster and Universal Pumps have made them the preferred equipment for this service.



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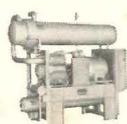
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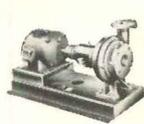
Booster Pumps



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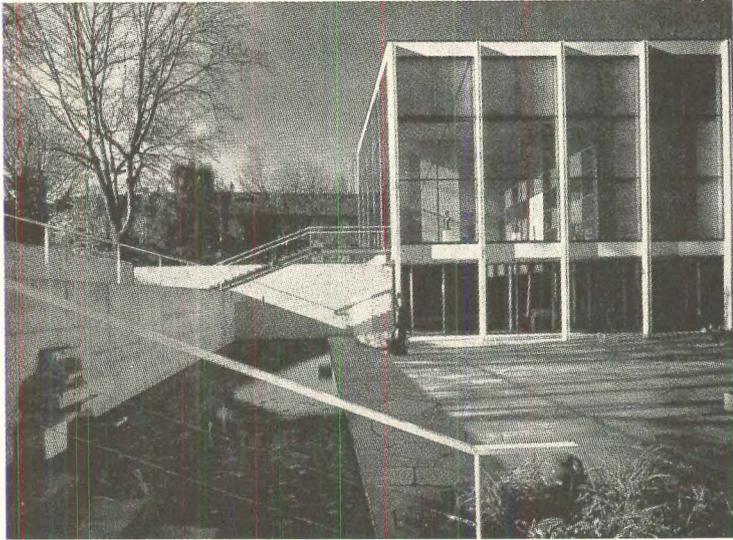
Centrifugal Pumps



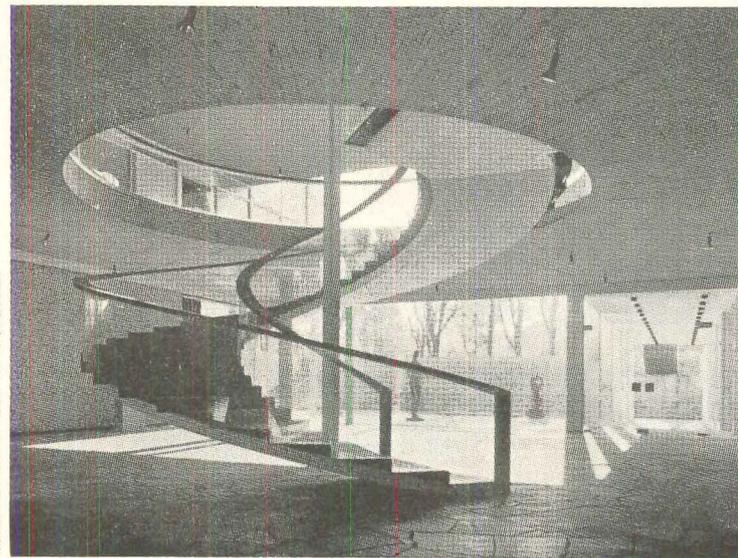
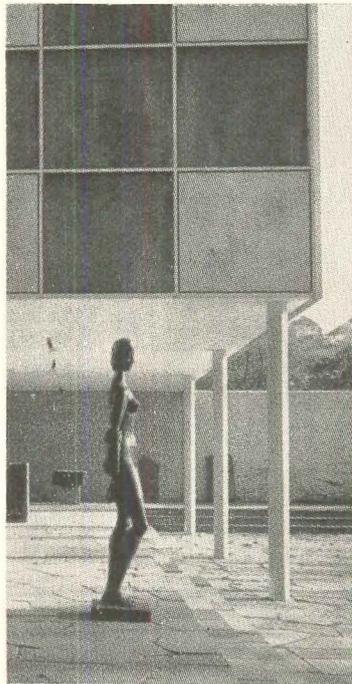
Heat Exchangers



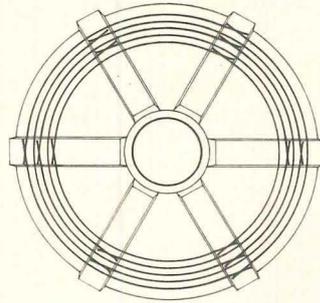
Oil-less
Air Compressors



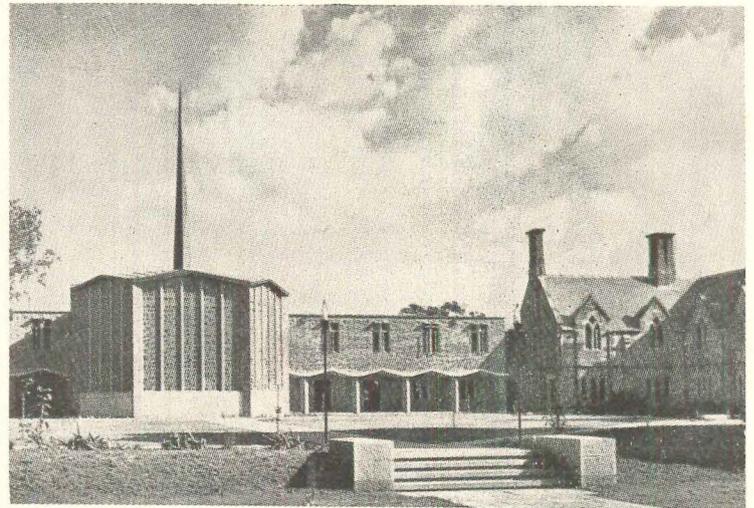
GERMAN CENTER. In rebuilding Pforzheim, West Germany, the city fathers decided to combine the arts in one cultural center located in the city's main park. Architect Manfred Lehbruck designed four buildings around a covered entrance court, terrace, and gardens. An auditorium and temporary exhibit hall are combined in a structure of glass and white-painted steel (above). A jewelry museum (Pforzheim is the industry's center) is faced with alternating panels of translucent green glass and cast aluminum (right). The figure shown is by the architect's father, Sculptor Wilhelm Lehbruck. A museum of local history in sandstone and a reinforced concrete library complete the group. A spiral staircase of folded sheet steel (below) connects the entrance court's two levels, each with access to all four buildings in the center.



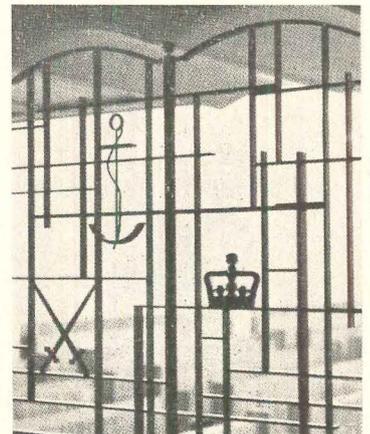
FINNISH TOWER. Architects Kaija and Heikki Siren designed this water tower for Loviisa, a small fishing port and seaside resort in southern Finland. They were concerned with shaping the concrete structure to complement an existing church tower and windmill which previously had dominated the skyline of the town. The lower part of the tank is prestressed and supported by vertical ribs (see diagram below showing supports and outline of steel reinforcing). The tank's interior is lined with 2-inch-thick sheets of insulation and waterproofed by glass fibers and plastic.



COURTESY ARK

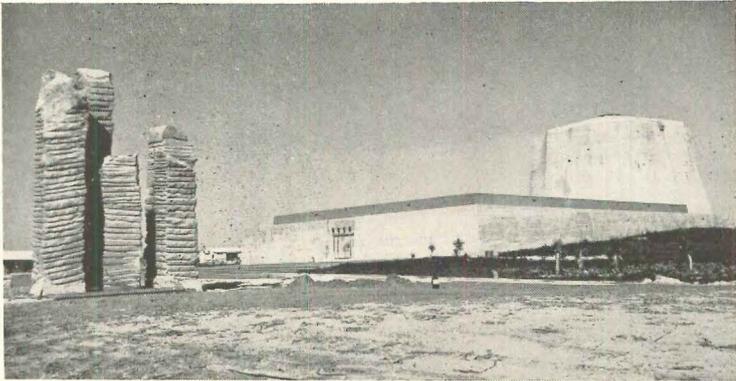


AUSTRALIAN CHAPEL. The Victorian Gothic buildings of St. Paul's College, University of Sydney, have been expanded with the addition of a memorial chapel and two students' wings by Architects Fowell, Mansfield & Maclurcan. The chapel's eastern façade (above) has three groups of five stained-glass windows each, designed in an abstract pattern by Eric Smith. At the opposite end of the chapel, which seats 242 students, is a wrought-iron screen covered with symbols of church and state (see detail, right).



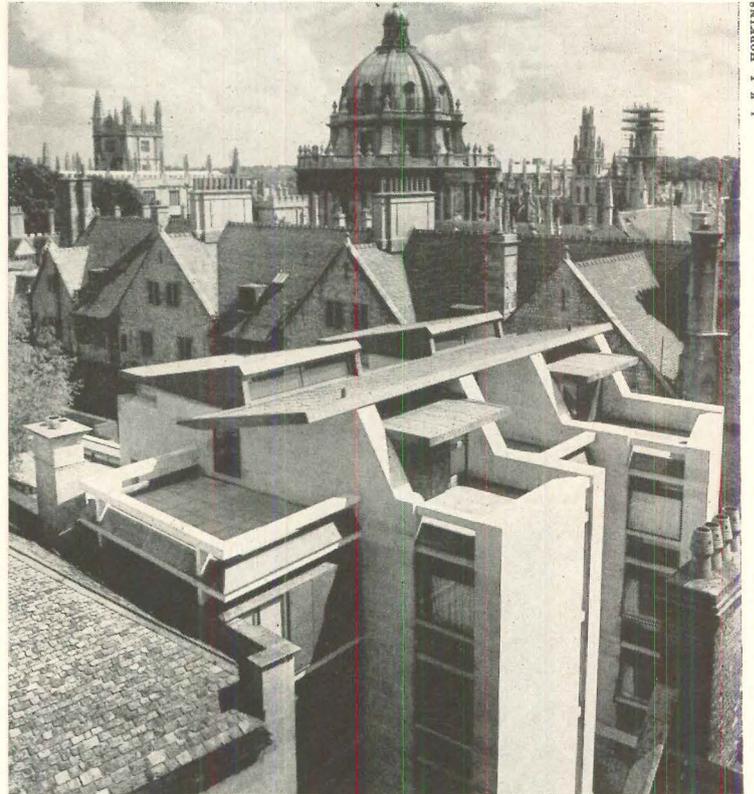
COURTESY ARCHITECTURE IN AUSTRALIA

COURTESY ARCHITECTUR UND WOHNFORM



ISRAELI SCULPTURE. As companion pieces for Philip Johnson's nuclear reactor center at Rehovot (FORUM, April '61), Israeli Sculptor Shamai Haber created these massive towers of red granite. Rising at the edge of a rectangular sunken pool (which will be completed this summer), the sculpture balances the concrete mass of the nuclear center and also pro-

vides a vertical accent for the rugged, treeless coast. Sculptor Haber spent two years blasting the great chunks of granite from a mountainside quarry, drilling them into block shapes without benefit of chisel, and setting them into place. The 100 tons of stone are shaped into five roughly squared-off columns ranging in height from ten to 20 feet.

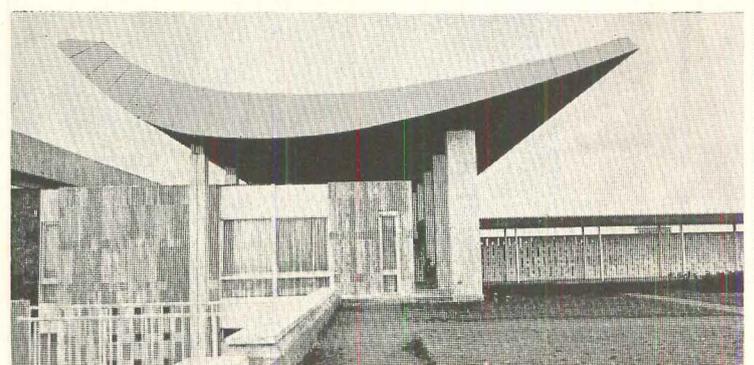
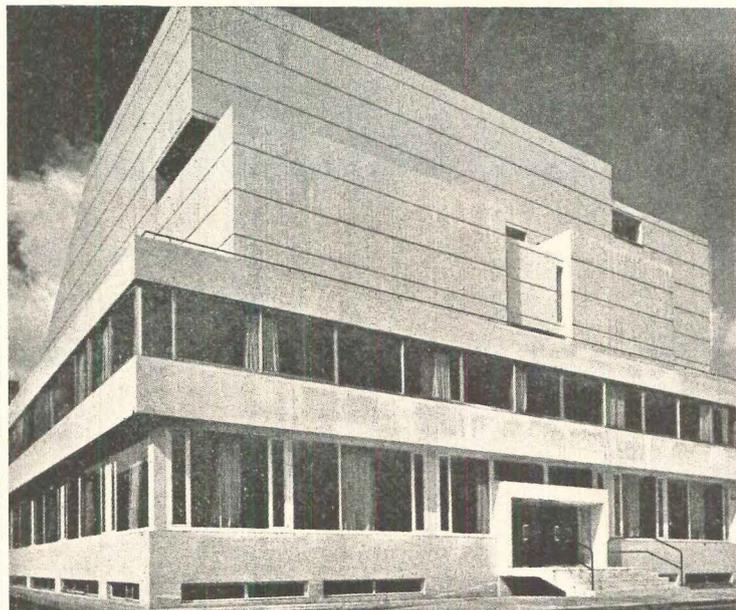


ENGLISH DORMITORIES. Oxford's lively play of Gothic and Georgian roof tops is echoed in these new undergraduate dormitories for Brasenose College. Architects Powell & Moya designed the four-story building, which is topped by

two penthouses; a string of seven one-story rooms built along a former alley completes the 32-room complex. Walls are brick faced with Portland stone. The penthouses have private terraces, clerestories, and lead-covered roofs.



LONDON MEDICAL SCHOOL. The Wolfson Institute by Architects Lyons, Israel & Ellis is the first phase in an expansion of London University's medical school. The boxlike structure is a direct expression of the three interior lecture theaters. Two small rooms (for 135 and 68 students) are tucked under a 471-seat auditorium and are reached by cantilevered stairs (see photo, left). The corridors and lounges wrapped around three sides of the building are sheathed in glass and smooth concrete. The concrete on upper stories retains the pattern left by wooden forms.



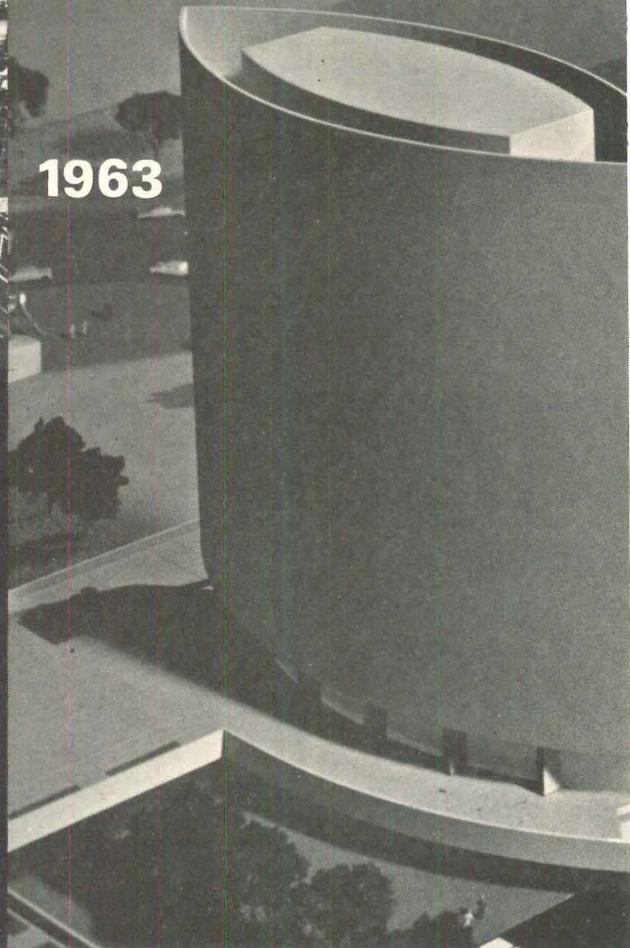
IVORY COAST CAPITAL. A new governmental complex for the Ivory Coast Republic has been completed by Architects P. Dufau and J. M. Lafon at the capital city of Abidjan. A residence for President Félix Houphouët-Boigny, legislative and administrative offices, and a reception hall (above) are included on the 19-acre site. Built of reinforced concrete sheathed in marble, the reception hall contains rooms for state functions under a curved, sun-shielding roof (photo right). END



1959



1963



Visit the spectacular Gas Pavilion at the Seattle World's Fair

***look what's
happening in
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Model of Constitution Plaza, Hartford, Conn. Hartford Gas Company Heating and Cooling Plant. Architect: Charles Dubose. Consulting Engineers: Seelye, Stevenson, Value & Knecht. Construction Engineers: F. H. McGraw Company.

America's first gas utility central cooling and heating plant — with Carrier gas air conditioning. For Hartford's new Constitution Plaza. This 12-acre complex includes three office buildings, a broadcast center, a retail shopping area, a 315-room hotel, an 1800-car underground garage. Chilled water for air conditioning will be supplied by steam-powered Carrier Refrigeration equipment with a cooling capacity of 6500 tons, with future expansion planned to meet growing needs of other downtown Hartford businesses. For more exciting new developments in gas cooling call your Gas Company. Or write Carrier Air Conditioning Company, Syracuse 1, New York. **For heating & cooling... Gas is good business**

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I'm in the roof deck business. We tell architects and contractors they don't need any reinforcement with our deck.



2.

"After all," we say, "Decks are only required to be designed for uniform static loads. Why worry about impact loads?"



5.

And when workmen dropped materials on the deck after the roofing material was on, well...nobody got wise that the material beneath was shattered. After all, the roofing material covered it up.



6.

But things got a little sticky when a building inspector jumped from a low parapet onto one of our unreinforced decks. His replacement was very unreasonable about okaying the deck.

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3.

"Besides," we say, "Our decks do have some impact resistance. If a 75 lb. man falls 6 inches onto our deck he won't bother it a bit. If he doesn't do it too often."



4.

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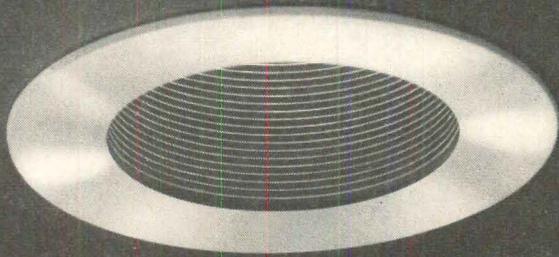


7.

If you're not interested in one of our unreinforced roof decks, I have a nice line of pencils and shoelaces.

This advertisement published by the makers of
KEYDECK
that remarkably good roof deck reinforcement

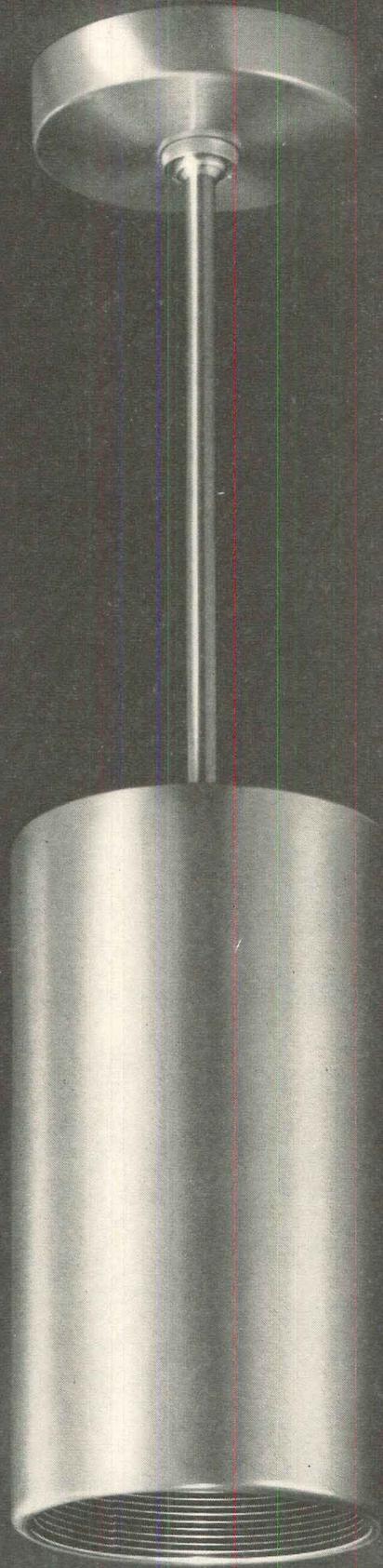




**We go to any
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From a completely recessed fixture all the way down to a stem-mounted one, Lightolier gives you the most efficient downlighting in these simple, handsome Calculite® designs.

Lightolier engineering has a solution to your number one problem in downlighting—surface brightness. In the type above, for example, Lightolier's answer is the exclusive Multi-Groove* downlight—42 ring baffles, arranged $\frac{1}{8}$ " apart, one above the other, so that each



baffle puts the vertical surface just below it in total shadow. It provides a finer texture than the coarse pattern of the conventional unit.

This Multi-Groove Baffle Calculite is just one of 16 types of precision downlighting instruments in a total of 96 sizes and styles. All these Calculites have unique mechanical, installation and design features. All provide the efficient lighting and clean, crisp design which have made Lightolier the preferred name in lighting. For

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ARKANSAS
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Bakersfield: San Joaquin Whlse. Elec. Co. Fresno: Electrical Suppliers, Inc. Los Angeles: Gough Industries, Inc. Palm Springs: Tri-County Elec. Whlsrs. Riverside: Tri-County Elec. Whlsrs. Sacramento: Capital Whlse. Elec. Co. San Bernardino: Tri-County Elec. Whlsrs. San Diego: Sunlight Elec. Sup. Co. San Francisco: California Elec. Sup. Co.

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TEXAS
Brownsville: Electric Fix. Sup. Co. Dallas: Rogers Elec. Sup. Co. Ft. Worth: Anderson Fixture Co., Cummins Supply Co., General Industrial Sup. Corp. Houston: Anderson Lighting Co., Gulf Coast Elec. Sup. Co., Inc., Marlin Associates, Worth Elec. Sup. Co. San Antonio: Electrical Distrib. Co., Southern Equip. Co., Straus-Frank Co., Worth Elec. Sup. Co. Waco: Dealers Elec. Sup. Co.

UTAH
Salt Lake City: Artistic Lighting

VIRGINIA
Arlington: Dominion Elec. Sup. Co. Inc., Noland Co. Lynchburg: Mid-State Elec. Sup. Co. Inc. Richmond: Atlantic Elec. Sup. Co. Roanoke: Noland Co.

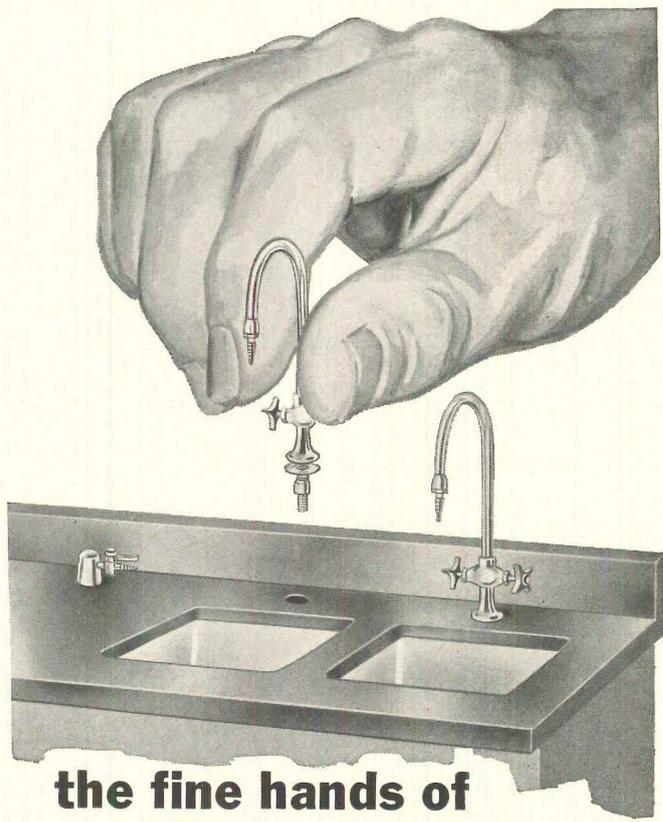
WASHINGTON
Seattle: Seattle Lighting Fix. Co.

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Bluefield: Bluefield Supply Co. Charleston: Capitol Light Co. Goldfarb Elec. Sup. Co. Wheeling: The Front Co.

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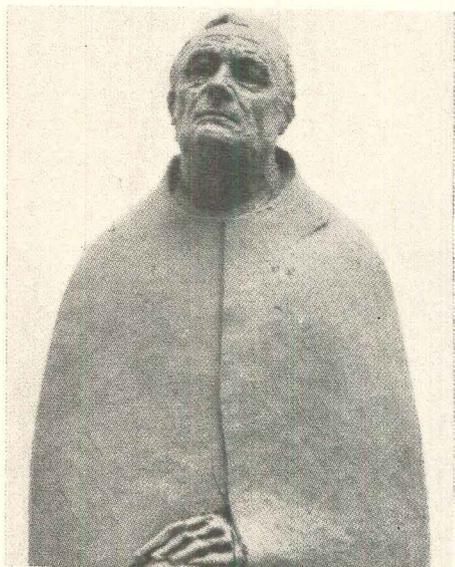
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THE ARCHITECTURE OF MONUMENTS: the Franklin Delano Roosevelt Memorial Competition. By Thomas H. Creighton. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22. 192 pp. 6¼" x 9¼". Illus. \$6.95.

Despite some confusion, this book has reference value. The main title, "The Architecture of Monuments," is justified only by a preliminary discussion, in architects' terms, of attitudes toward monumentalism and monuments since World War II. It will not be very clear or vital to the public. Then there are some comments out of the author's considerable experience with competitions and juries.

But it all focuses on the controversial FDR Memorial competition. And the effort to crowd into a small book a wide selection of illustrations of the competition submissions has left this material somewhat undernourished, it is to be feared. In the great majority of cases (other than the six finalists' designs) the public will be quite unable to guess from the scanty evidence what the contestants' purposes and programs were. At any rate there is care not to deviate from a judicial, documentary tone. The book is thoughtful in a professional way. Too bad that nobody yet has done the job of really explaining the fresh design approaches of this competition to the general public.—D.H.

ARQUITECTURA ESPANOLA CONTEMPORANEA. By Carlos Flores. Published by Aguilar. Distributed by Las Americas Publishing Co., 152 E. 23rd St., New York 10, N. Y. 624 pp. 10" x 12". Illus. \$22.70.

If nothing else, *Contemporary Spanish Architecture* should cast doubt on the myth that "modern" architecture cannot flower in a police state. It confirms the impression given by the Spanish Pavilion at the recent Brussels Fair that Spanish architecture has pro-

gressed considerably beyond the Escorial.

The buildings shown stand up well with those of the more "enlightened" countries. If we have been almost totally out of contact with Spanish architecture, it has hardly been out of contact with us. Spain, too, has organization men. Almost every architectural gambit of the recent past is well represented: Mies out of SOM, neo-Wright, peasant mannerism, and the New Brutalism, among others. But, what is shown usually rises above the particular stylistic predispositions and most of the buildings bear a rather un-Latin feeling of precision, sparseness, and clear form. Individuals do come through: Corrales and Molezun (the architects of the Spanish Pavilion), Bohigas and Martorell, Coderch and Valls.

Most of the buildings shown are very good. Poverty and what one imagines to be rather difficult working and building conditions are probably partially responsible, but one also wonders if the absence of a hungry popular architectural press does not help as well.

This keyhole to contemporary Spanish architecture is a beautiful picture book, having several hundred photographs, many of them full-page. Text is in Spanish. —w.c.

EXHIBITION TECHNIQUES. Traveling and Temporary. By James H. Carmel. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. 216 pp. 8½" x 11½". Illus. \$12.50.

This handsome book, lavishly illustrated, offers a mine of information about its subject. Under three main headings—Planning, Production, and Presentation—and a supplement devoted to types of framing systems that dismantle easily, Mr. Carmel delves into the problems common to all exhibits, whether intended for enjoyment or instruction, to advertise a product or a company, or as propaganda for a point of view. To illustrate his points, the author shows everything from collapsible, suitcase-size presentations to such behemoths as the Brussels World's Fair. Not only does he discuss display methods, lighting, and labeling, but he also initiates the neophyte into the mysteries of insurance, shipping, and contract signing.

EXHIBITION STANDS 2. By Robert Gutmann. Published by Verlagsanstalt Alexander Koch GmbH, Hauptstatter Strasse 87, Stuttgart, Germany. 272 pp. 8" x 11½". Illus. \$20.50.

The "art of persuasion" through exhibits is surveyed in this international collection of the latest work of some 70 designers, along with the current thinking of such leaders as George Nelson and Gio Ponti. The photographs, diagrams, and plans (close to 500 of them) corroborate British Designer Misha Black's belief that "an exhibition is, by its very nature, a display of national character."

How varied this character can be is shown in photographs from almost every country in the world, from modest traveling displays

to pavilions at international exhibitions. No matter what the size or scope, however, the designs seem to have one thing in common: an exuberance all their own. (Text and captions in both German and English.)

ANTE BELLUM HOUSES OF THE BLUEGRASS. By Clay Lancaster. Published by the University of Kentucky Press, Lexington, Ky. 186 pp. 8" x 11¼". Illus. \$12.50.

The author of this study of residential architecture in Fayette County, Kentucky, knows his subject well. He is a native of Lexington and his painstaking interest in the Bluegrass region makes the book good reading even for those not familiar with the area.

In a period of just over 80 years, Kentucky houses progressed from single-room log cabins to the spacious, columned villas of Federal Greek Revival, Gothic Revival, and Italianate styles. This rapid evolution came with the development of sawmills; native brick as a building material during the 1780s; steam-powered tools; and from outside Kentucky, the advent of builders' guides published in England and the eastern U.S. and of national architectural figures such as Thomas Jefferson and Benjamin Henry Latrobe. But perhaps most interesting is Mr. Lancaster's definition of the indigenous character of Fayette County building and the craftsmen, architects, and clients who created a distinguished and unique architecture.

Unfortunately, many of these houses have been destroyed or ruined by bad additions. As a guide for intelligent restoration of those remaining, the author has included 200 line drawings of original buildings based on old maps, drawings, research, and photographs. Some 30 of the latter are presented in an album at the end of the book.—A.P.

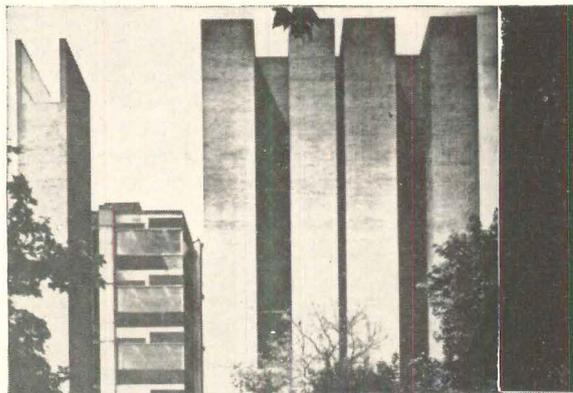
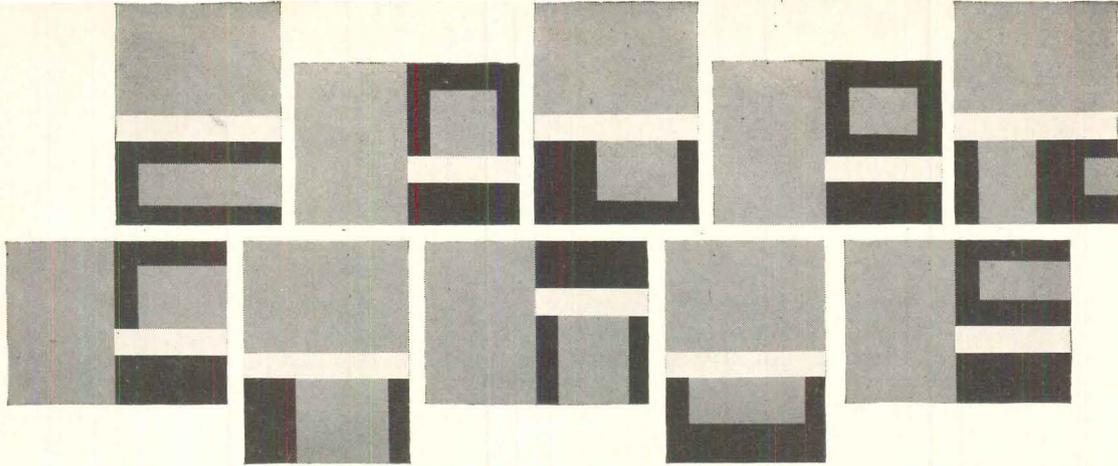
WHAT IS DESIGN? By Paul Jacques Grillo. Published by Paul Theobald and Co. 5 N. Wabash Ave., Chicago 2, Ill. 240 pp. 8½" x 11". Illus. \$14.75.

LEARNING TO LOOK. A Handbook for the Visual Arts. By Joshua C. Taylor. Published by The University of Chicago Press, Chicago, Ill. 152 pp. 5¾" x 9". Illus. Paperbound. \$1.95.

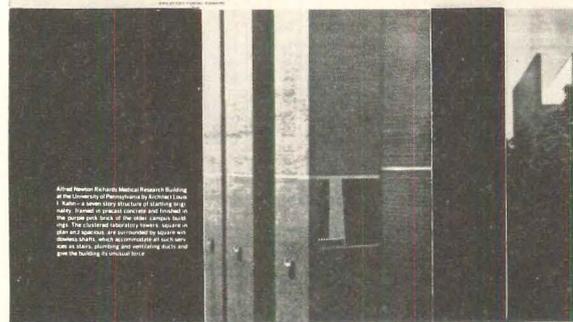
ART CAREER GUIDE. By Donald Holden. Published by Watson-Guptill Publications Inc., 24 W. 40th St., New York 18, N. Y. 275 pp. 6¼" x 9¼". \$5.75.

Everyone is a designer, says Author Grillo in *What is Design?* Design is not the product of an intelligentsia. Furthermore, modern society is dominated by a pathological syndrome composed of a fear complex and a security urge that can be overcome only by man's retrieving a harmony between himself and his environment. Mr. Grillo feels this harmony can best be achieved by re-establishing the Egyptian system of associated units built around the value of the golden mean, a job for which the intelligentsia

continued on page 172



GREAT ARCHITECTURE FOR THE SIXTIES



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The editors of Architectural FORUM recently selected ten new buildings* around the world which have contributed significantly to the developing art of architecture.

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Designed by Walter Allner, one of America's leading graphic artists, the ten posters are particularly suitable for display in schools, colleges, libraries, museums and other public areas such as convention halls, banks and department stores.

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Cost: \$5.00 per set post paid while the supply lasts. Address all inquiries to Architectural Forum, Room 1939, Time & Life Building, Rockefeller Center, New York 20, New York.

*ABBEY CHURCH OF ST. JOHN'S UNIVERSITY BY MARCEL BREUER / ART MUSEUM FOR MUNSON-WILLIAMS-PROCTOR INSTITUTE BY PHILIP JOHNSON ASSOCIATES, / BRASILIA SENATE AND ASSEMBLY BUILDINGS BY OSCAR NIEMEYER AND LUCIO COSTA / GREEK ORTHODOX CHURCH OF THE ANNUNCIATION BY FRANK LLOYD WRIGHT / INDUSTRIAL LABOR EXPOSITION HALL BY PIER LUIGI NERVI / PEPSI-COLA HEADQUARTERS BY SKIDMORE, OWINGS & MERRILL / RICHARDS MEDICAL BUILDING, UNIVERSITY OF PENNSYLVANIA BY LOUIS KAHN / SANTA MARIA DE LA TOURETTE MONASTERY BY LE CORBUSIER / TWA TERMINAL BUILDING BY EERO SAARINEN / UNITED AIR LINES HANGAR BY SKIDMORE, OWINGS & MERRILL

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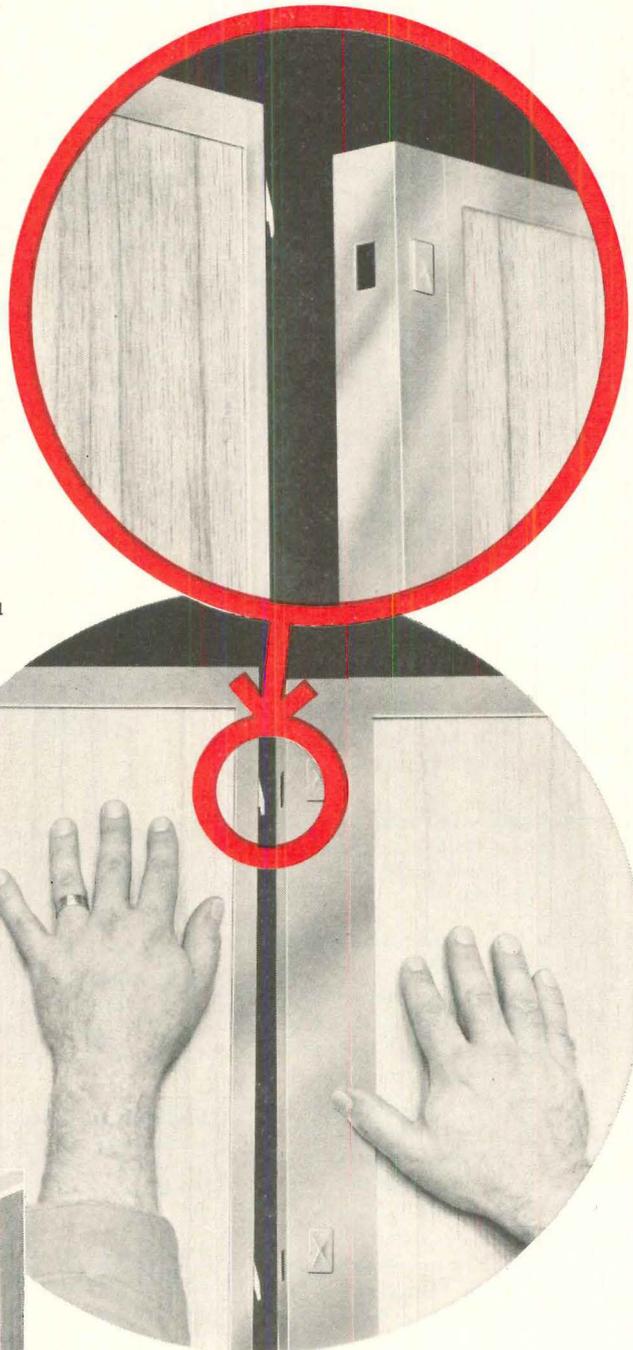
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would appear to be needed. These assumptions are supported by photographs, maps, sketches, and plans, many by the author himself, who has provided a provoking challenge both to professional designers and to the layman who consumes their often garish and meaningless products.

Learning to Look is a synthesis of lectures given at the University of Chicago on the visual arts. Besides advocating proportion between structure and environment, it demonstrates that the mediums of art—from tempera to welding beads—often determine the effect of the finished work. Concise and clear, this volume is an excellent review for the student who dozed off during a few art lectures.

For those who think they know what design is, or have learned how to look, *Art Career Guide* contains valuable information on the more practical aspect of employment, including lists of degree-granting schools and professional organizations, plus advice on planning a portfolio and interviews—C.B.

OPERATION SHOPPING CENTERS. By Donald L. Curtiss. Published by Urban Land Institute, 1200 18th St. N.W., Washington 6, D.C. 208 pp. 8½" x 11¼". Illus. \$25.

Everyone who has a car knows that shopping centers are booming in the U.S. A great deal has been written about how they are planned and developed. But what happens once they are built? How much do you pay a Santa Claus at Christmas time? Are disc-jockey kiosks a must? How much does it cost to plant 10,000 baby palm trees? These and hundreds of less frivolous questions are answered in this book by Shopping Center Consultant Donald L. Curtiss, who has compiled 100 illustrations from successful center operators and 2,000 interviews with shoppers throughout the U.S. and Canada.

The trend to nighttime shopping and the importance of effective merchants' associations are analyzed, as well as the question of community halls, nurseries, and cooking schools.

This "guidebook to effective management and promotion" is aimed at the smaller shopping strips as well as the regional centers. It will undoubtedly prove a manual for every manager who doesn't want to learn the hard way how to increase sales.—A.P.

GLASS IN ARCHITECTURE AND DECORATION. By R. McGrath. Published by The Architectural Press, 9-13 Queen Annes Gate, London, S.W. 1, England. 712 pp. 9½" x 12". Illus. 6 guineas (\$18).

This mammoth tome probably gathers more information on glass between two covers than any other book on the subject. Among countless glossy photographs of glassy buildings and glassy decorations, those of old galleries and arcades are particularly fine but there are few surprises. The various glassmaking processes and treatments are illustrated, and

there are typical details and technical diagrams.

The text, too, ranges from the esthetic and historical to the highly technical and practical (e.g., "The Ultraviolet Transmissivity of Glass"). There is, however, little information which cannot be garnered fairly easily elsewhere and although it touches on almost all aspects of architectural glass, it seldom holds on long enough to provide a really thorough or unique analysis.



SEATTLE CITYSCAPE. By Victor Steinbrueck. Published by University of Washington Press, Seattle, Wash. 192 pp. 7" x 8½". Illus. Paperbound, \$3.95; clothbound, \$4.75.

A city and its architecture, old and new, seen through the eyes of a native architect, in a scrapbook of delightful pen and ink sketches and caption commentary ranging from the historical to the highly critical.

ROCHESTER: AN EMERGING METROPOLIS 1925-1961. By Blake McKelvey. Published by Christopher Press, Inc., 35 Scio Street, Rochester 4, N. Y. 404 pp. 6¼" x 9¼". Illus. \$6.

The fourth volume in Dr. Blake McKelvey's history of Rochester, this book follows the city through the depression and the Second World War and the corresponding social and cultural changes and metropolitan growth. For those who have been following Rochester's dramatic downtown rejuvenation (FORUM, June '62), this comprehensive view of the city will give an insight into how it has all come about.

THEORY OF TRAFFIC FLOW. Edited by Robert Herman. Published by American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York 17, N. Y. 238 pp. 6¾" x 9¾". Illus. \$8.75.

Statistical information, theories, and proposed solutions to the problems of traffic flow developed at the third annual symposium sponsored by General Motors Research Laboratories.

ROBERT ADAM AND HIS CIRCLE IN EDINBURGH AND ROME. By John Fleming. Harvard University Press, Cambridge, Mass. 394 pp. 6" x 9". Illus. \$7.50.

For the first time an extended cache of correspondence has been found enabling

Author Fleming to fill in the picture of the rising Adam style with personal biography of the astounding brothers.

THE ENGLISH COUNTRY HOUSE. By Ralph Dutton. 200 pp. **PARISH CHURCHES.** By J. C. Cox and C. B. Ford. 187 pp. Both published by W. W. Norton & Co., Inc., 55 Fifth Ave., New York, N. Y. 4½" x 7". Illus. Paperbound. \$1.95 each.

Written in a lucid conversational style, and illustrated with photographs and plans of architecture constructed before Victoria's reign, both of these informative books place the reader in a position to view the mainstream of English culture and rural architecture.

ENGLISH CATHEDRALS. Photographed by Martin Hürlimann; text by Peter Meyer; introduction by Geoffrey Grigson. Published by The Viking Press, Inc., 625 Madison Ave., New York 22, N. Y. 8¾" x 12¼". Illus. \$12.

Although too bulky to be comfortably carried on a walking tour of England, this revision of a 1950 edition, with its excellent photography and informative text, enables the armchair traveler to visit most of England's magnificent cathedrals.

WALKER EVANS: AMERICAN PHOTOGRAPHS. Published by the Museum of Modern Art, 11 West 53rd St., New York 19, N. Y. Distributed nationally by Doubleday & Co., Inc., Garden City, N. Y. 87 plates; 196 pp. 7¾" x 9". \$7.50.

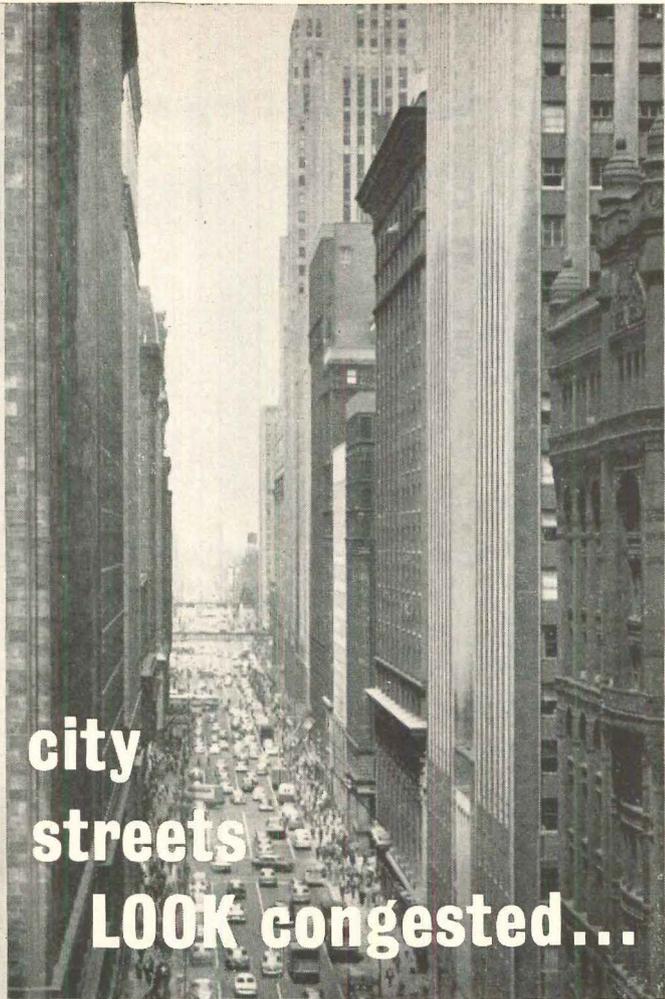
A reprint of the 1938 edition that popularly marked Evans as one of the masters of contemporary photography, this volume offers a rich selection of the bold style that captures the confusion, anger, humor, and ironic courage of the 1930s.

SOIL MECHANICS. By Alfreds R. Jumikis. Published by D. Van Nostrand Co., Inc., 120 Alexander St., Princeton, N. J. 791 pp. 6¼" x 9¼". Illus. \$12.

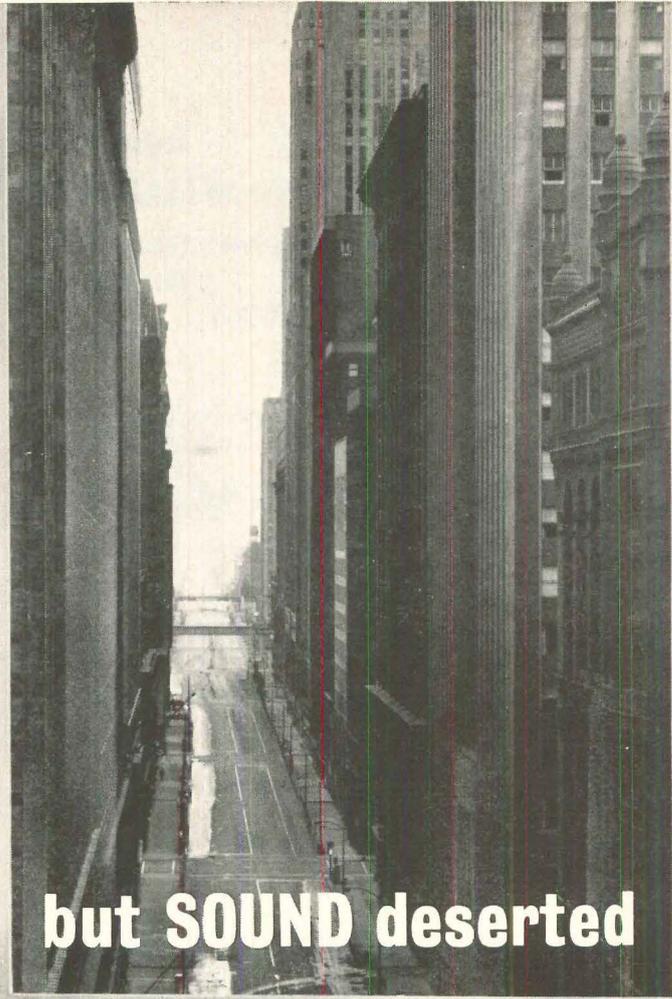
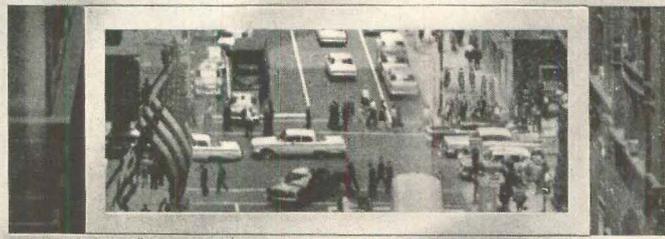
It would be wonderful if all textbooks on engineering specialties were like this one. Professor Jumikis's book is entirely lucid, even engaging, although it is in no sense a "popularization" of the subject. Along with the theoretical material, there are striking examples of the effect of soil conditions on actual structures from the leaning tower of Pisa to Mexico City's Torre Latino Americana. A historical review as well as discussion of some of the newest concepts in soil mechanics make the book a most comprehensive reference work.

SUCCESSFUL MANAGEMENT FOR CONTRACTORS. By Lawrence C. Miller. Published by McGraw-Hill Book Co., 330 West 42d St., New York 36, N. Y. 216 pp. 7½" x 10¼". \$8.75.

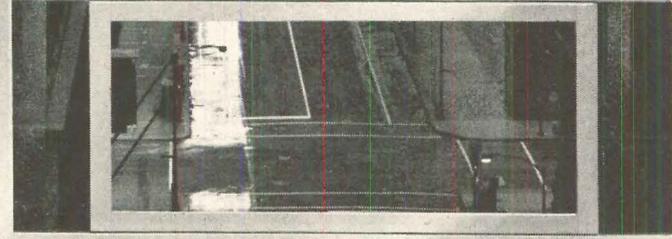
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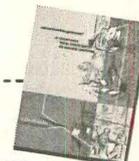


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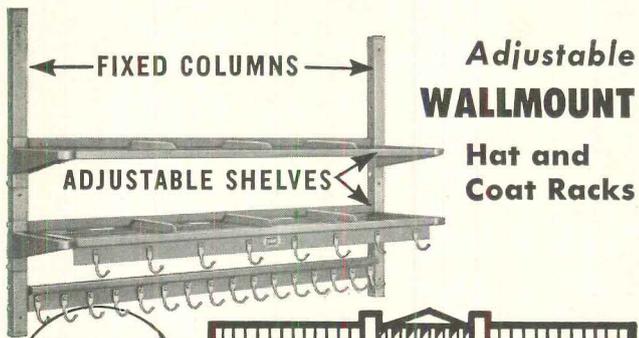
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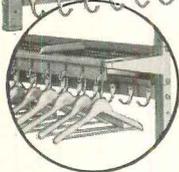
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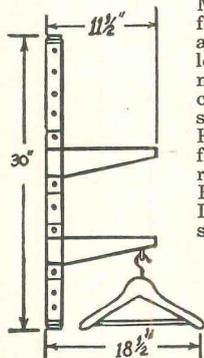


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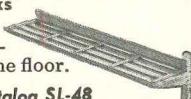


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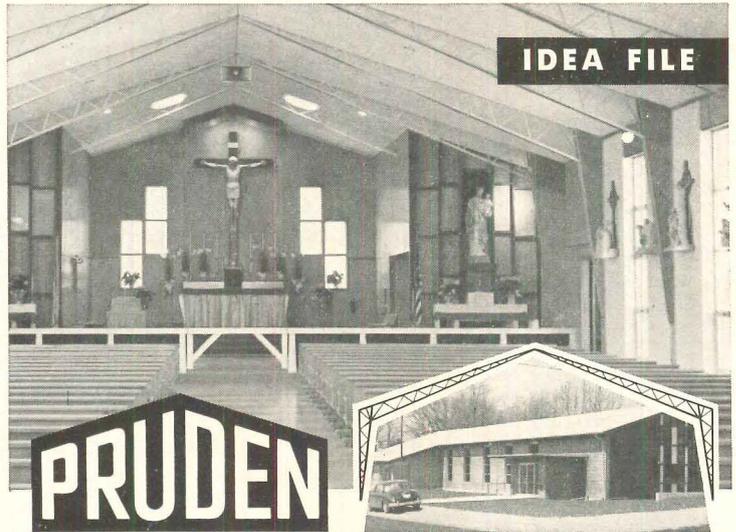


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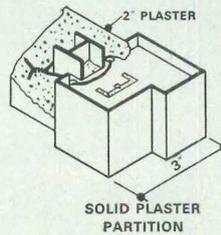
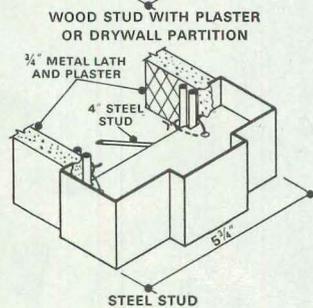
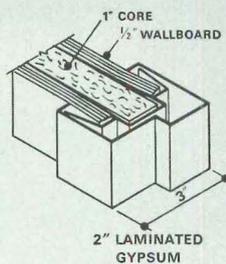
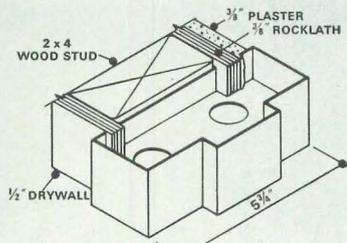
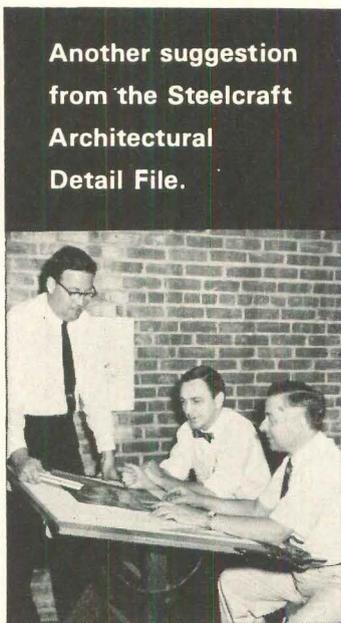
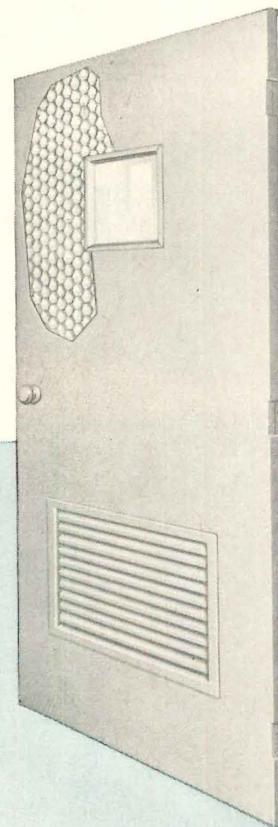
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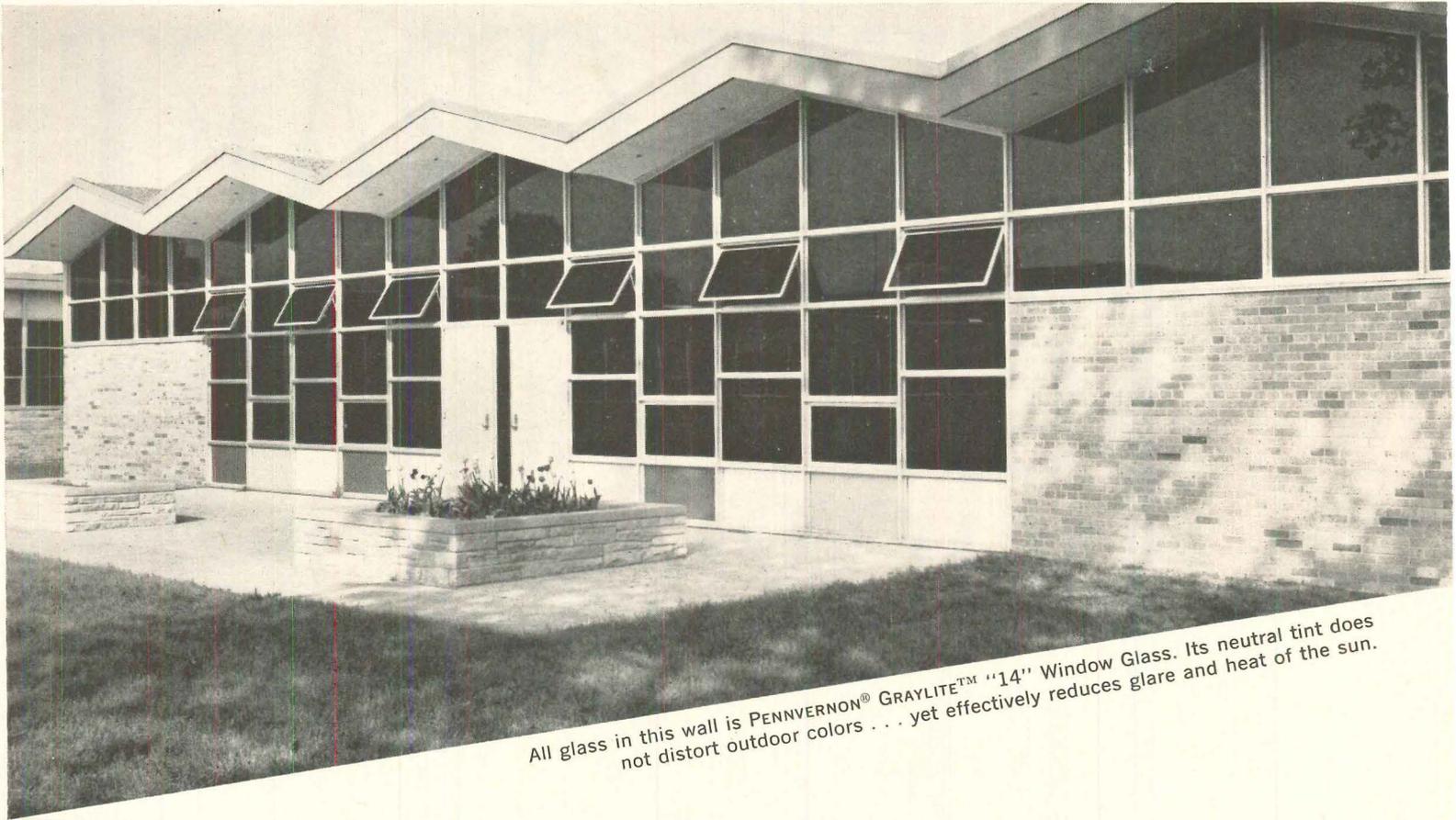
David Eskin, AHC, Steelcraft Boston Distributor, with Ralph Leblanc and Irving Salsberg, of the architectural firm of Salsberg & Leblanc, discussing details of the modern office building the firm designed for Wellesly, Mass. Steelcraft doors and frames throughout.

Steelcraft has developed frame sections for every type of partition, wood or steel stud construction, solid or drywall finish, as well as for solid plaster and laminated partitions. Steelcraft frames and doors are stocked in a large variety by local Steelcraft distributors. All Steelcraft doors can be used interchangeably on any Steelcraft frame. Call a Steelcraft distributor for professional assistance in coordinating hardware and approval drawings... save delivery time... cut construction costs.

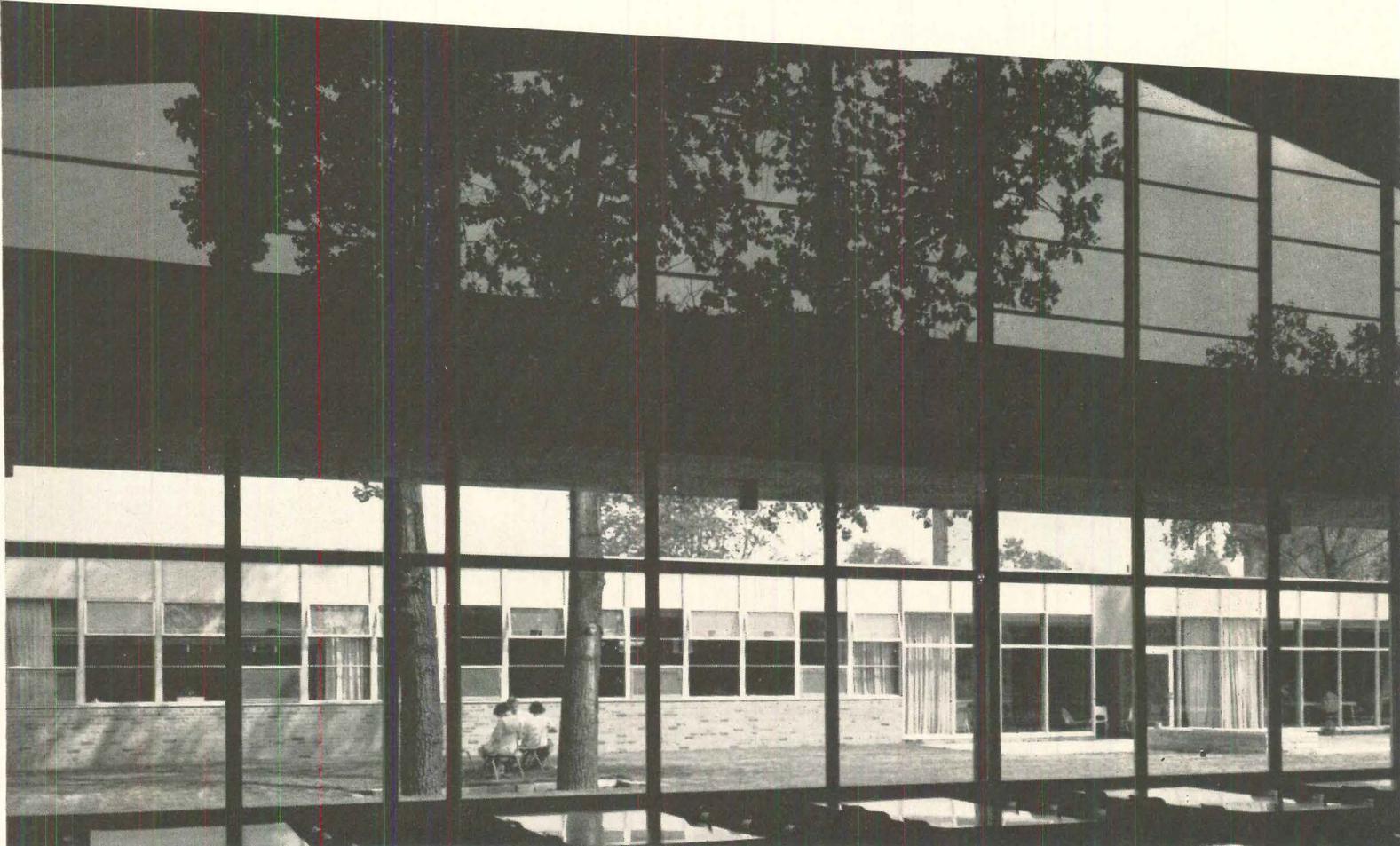
THE STEELCRAFT MANUFACTURING COMPANY

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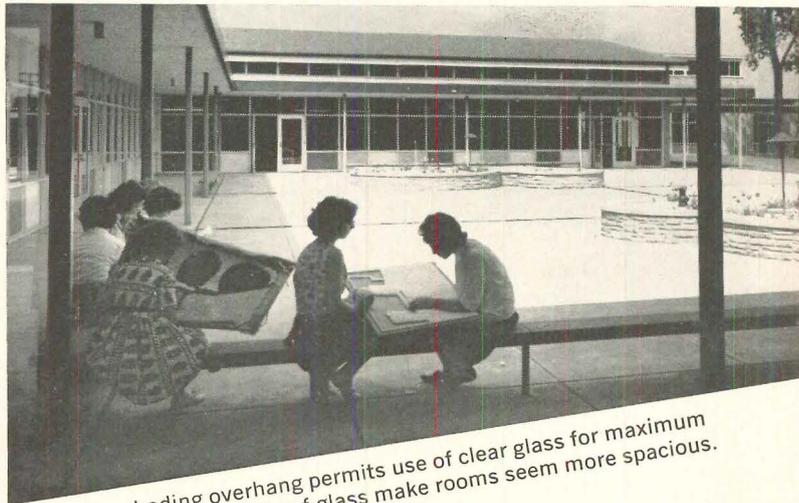
All glass in this wall is PENNVERNON® GRAYLITE™ "14" Window Glass. Its neutral tint does not distort outdoor colors . . . yet effectively reduces glare and heat of the sun.



Cafeteria has GRAYLITE above to cut glare . . . clear PPG Plate Glass below. Pictures were taken at William B. Stout Junior High School, Dearborn, Mich. Architects: Bennett & Straight, Inc., Dearborn, Mich. Contractor: F. W. Fordon Company, Detroit, Mich.



In arts and crafts room, GRAYLITE keeps out glare and heat. Floor-to-ceiling walls of PPG glass bring outdoors inside.



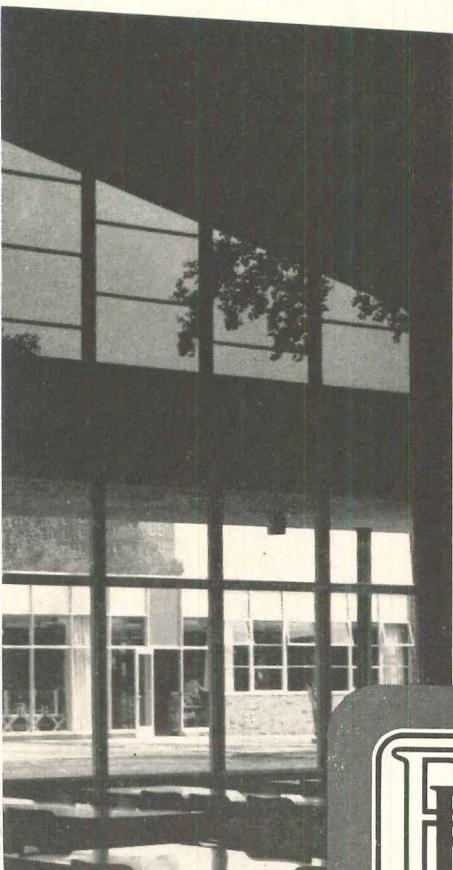
Here a shading overhang permits use of clear glass for maximum daylight. Outside walls of glass make rooms seem more spacious.

*For your new school, choose the efficient beauty of **GLASS***

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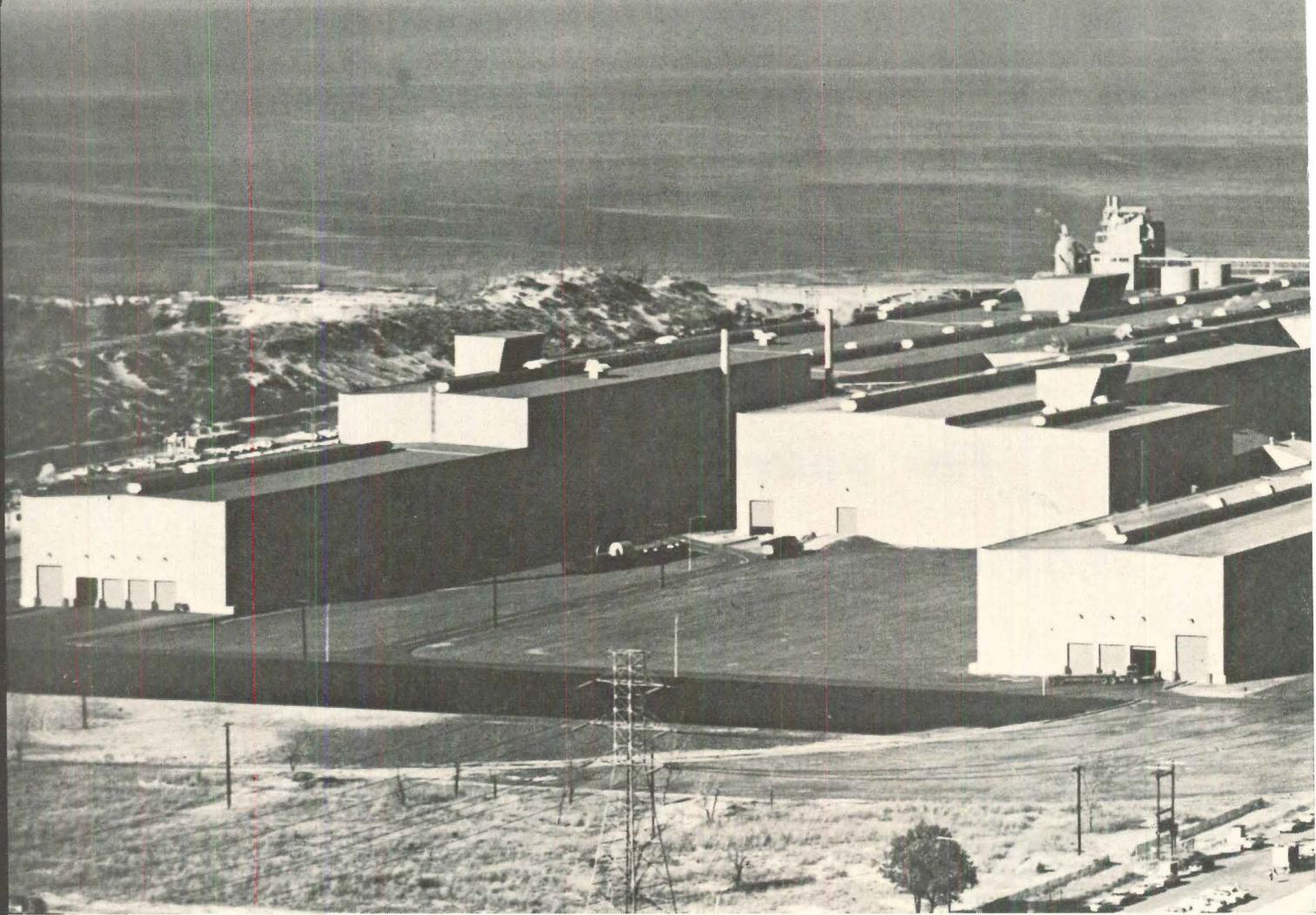
- It is the **lightest** of architectural materials, requiring proportionally less structural support.
- It is available in the **largest size** components of any comparable material.
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- Glass curtain walls are thinner, give more usable floor space.
- Glass **insulates**—PPG TWINDOW® Insulating glass, for example.
- Heat-absorbing glass **reduces air-conditioning costs** (PPG SOLEX®, SOLARGRAY® Plate Glass, GRAYLITE™ "14" Window Glass).
- Glass provides a rainbow of enduring **color** for your designs—PPG SPANDRELITE® glass with integrated color, for example.
- Glass **saves tax dollars**, requires minimal maintenance because it does not deteriorate with age.

In addition to glass, PPG can supply doors, door openers, and complete curtain wall systems. We will gladly accept full responsibility for the installation of our complete curtain wall system. Your PPG Architectural Representative will supply specific data. Or, check your PPG General Glass Catalog in Sweet's.

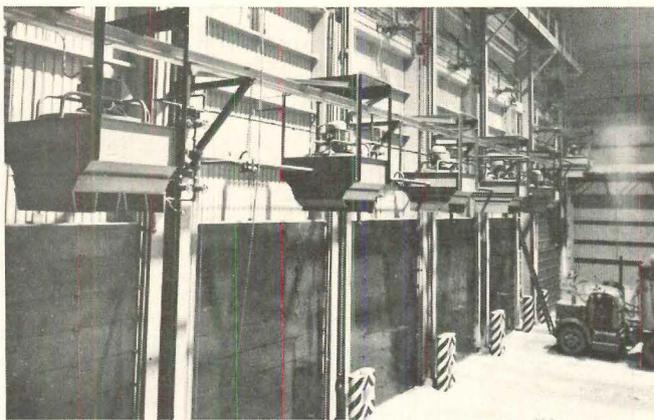


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How to save more man-hours with



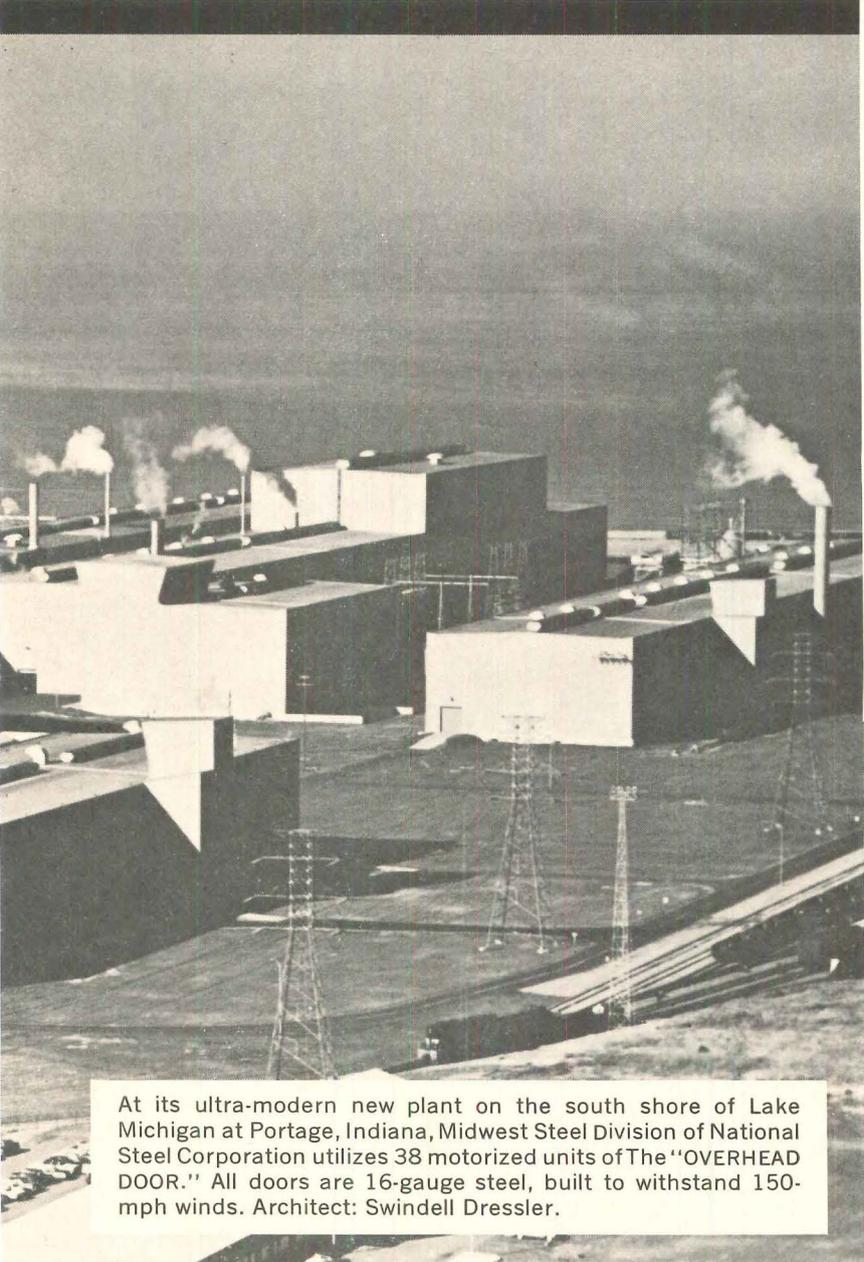
Bank of five steel "OVERHEAD DOOR" installations at Midwest Steel Division plant converts factory sidewall into a "movable wall," and provides control of traffic, time, space and climate.

The saving of man-hours can be a function of The "OVERHEAD DOOR," just as surely as it helps control traffic, space and climate through its "movable wall" function.

Motorized, push-button doors contribute importantly to this time-saving. And completely automated doors, operated electronically, can contribute even more. For example, a fork-lift driver may take 75 seconds to open and close an industrial door. At an average of one opening-and-closing per half-hour, 16 cycles per day per door, and a \$2.25 wage rate, driver downtime alone can cost industry \$183 per door per year!

When you multiply \$183 by many doors, you can see the yearly savings possible with the automated "OVERHEAD DOOR."

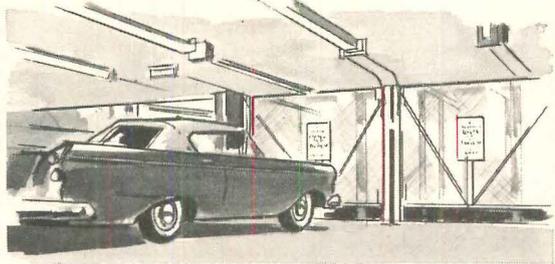
Besides man-hour savings and weather protection, both motorized and electronic "OVERHEAD DOOR" in-



At its ultra-modern new plant on the south shore of Lake Michigan at Portage, Indiana, Midwest Steel Division of National Steel Corporation utilizes 38 motorized units of The "OVERHEAD DOOR." All doors are 16-gauge steel, built to withstand 150-mph winds. Architect: Swindell Dressler.



Driver has pulled cord, and "OVERHEAD DOOR" is moving up in Air Express building at Atlanta's new airport. Immediate door operation permits tractors to pull package-laden carts into and out of building, quickly and efficiently, saving many man-hours.



Automatically-operated, upward-acting, expanded-metal gates by "OVERHEAD DOOR" are used in this pigeon-hole parking structure at Columbus, Ohio. Representing the newest in car-park automation, this driverless "file system" depends on The "OVERHEAD DOOR" for swift, automatic handling.



Industrial truck and fork-lift operators need never leave their vehicles as they approach an automated "OVERHEAD DOOR" installation. At the touch of a dash-mounted electronic button, powerful lift mechanism raises the door, or outer gate, speeds traffic flow, eliminates stop-and-go man-hours.

the motorized "OVERHEAD DOOR"

stallations can provide unlimited ingress and egress at traffic-flow arteries; control strategic expansion or confinement of given shop areas and functions; and safeguard the welfare of employees by closing to preserve warmth in winter, opening to provide full ventilation in summer.

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For detailed information, call your local distributor, listed in the white pages. Or write Overhead Door Corporation, the company that engineered and pioneered door automation—and originated upward-acting sectional doors for industry, commerce and residential building. *General Office and Manufacturing Division: Hartford City, Ind. Manufacturing Distributors: Dallas, Tex.; Portland, Ore.; Cortland, N.Y.; Hillside, N.J.; Lewistown, Pa.; Nashua, N.H. In Canada: Oakville, Ontario.*



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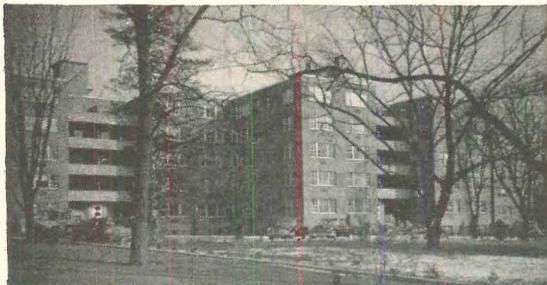
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Trouble-free Donley Incinerators were specified for this large residential development in Philadelphia.



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In the absence of workable incentives for the private market, local public agencies have so far had to bear the brunt of the rehabilitation effort in deteriorating areas. Most of the work has so far been in the nature of demonstration projects, calculated to show the private investor-developer that rehabilitation can be profitable and can be easily accomplished once systems are established for it.

No city has worked any harder, or had greater success, than New Haven, Conn., where the redevelopment agency has shepherded five rehabilitation projects along, even to the point of buying 13 houses itself, doing them over in a major fix-up effort, and then reselling them to private investors. This particular demonstration, called the Court Street project, involved spending \$146,800 to buy the 13 row houses, and another \$195,000 to put them into first-class shape. This is much more per unit than is being spent by owner-occupants in the surrounding Wooster Square area, where about \$3,500 per unit has so far been spent for rehabilitation. So far, houses have been sold in Court Street for \$21,400 apiece on the average, resulting in a "loss" (two-thirds of it paid by the federal government) of about \$125,000. This is far less than it would cost to get 13 new two-family duplexes built in that area of New Haven.

With the Court Street project as a pace setter, New Haven redevelopment officials are pushing rehabilitation of some 400 other buildings in the Wooster Square area, as well as homes in other areas. Like Baltimore, New Haven has been struggling with Section 220 financing, but has had a somewhat easier time, largely because the provisions of the city's housing code have been accepted by FHA as minimum standards, and because mortgage financing has not involved the multifamily provisions.

The importance of single-home 220 financing can be shown in mortgages insured in New Haven's Dixwell project, where on one house existing indebtedness of \$15,076 (represented in two mortgages) plus a rehabilitation

cost of \$2,485 were consolidated into a single \$17,200 FHA-insured mortgage. After rehabilitation, monthly carrying charges had been trimmed from \$225.25 to \$102.24, due to liberal FHA terms.

The biggest resource

Although rehabilitation under urban renewal has so far been skimpy in terms of total volume, there are promising signs that it can be useful not only in upgrading a large percentage of any city's housing—New Haven officials foresee two-thirds of the city's total housing supply being upgraded in the next five years—but in doing so without the traumatic breakup of neighborhoods that total clearance brings with it. Many neighborhoods simply cannot be rehabilitated, nor will rehabilitation necessarily eliminate all need for relocation. (The Morningside study showed that at least some 900 families would have to be relocated, just in breaking up single-room occupancies under the planned rehabilitation program.) But, as Commissioner Slayton says, "rehabilitation still offers us our biggest resource in providing standard housing for middle-income families."

If this resource is to be exploited to the fullest benefit of cities and their neighborhoods, more attention must be paid to a welter of factors, of which financing is only one. As Slayton himself realizes, "we need more knowledge of the kind of areas where rehabilitation will and will not work. We should know more about the conditions under which voluntary rehabilitation will flourish most readily, about conditions of neighborhood decay, incomes of owners and indebtedness."

Delays on the West Side

Most of all, more work must be done in the gray areas, which have no institutions (like Morningside's Columbia, or Hyde Park's Chicago University) nor any strong community organization and have a high percentage of absentee slum ownership.

Some cities are just beginning to explore the feasibility of rehabilitation in these areas. In New York, plans have been tentatively approved for the massive West Side Renewal Project, which

would combine rehabilitation with some new construction in a 20-block area of Manhattan which has long been subjected to the forces of decay. The plan, as prepared by Candeub & Fleissig and Brown & Guenther, is ambitious—some 3,100 units would be rehabilitated in brownstones, and another 3,600 units in apartment structures. Overcrowding would be eliminated through strict code enforcement, and this will mean relocating almost half the 11,300 families in the area. Local banks have already established a revolving fund of \$3 million for rehabilitation loans, but, as yet, only a small pilot block is being fixed up, although it has been four years since the project was approved for federal aid. Relocation, always a snarl in New York, has been one factor in the delay, as federal officials are insisting on strict standards, and changes in the plan have necessitated endless federal and city reviews.

As rehabilitation struggles fitfully along, it is obvious that fed-

eral, state, and local agencies need to devise better techniques for doing the job. Some cities, like New Haven, have achieved a great deal through strict code enforcement, promotion of generally better neighborhood standards with individual home owners, and by actually doing the work themselves where nobody else could be found to do it. Code enforcement alone can do much of the job, but there must also be recognition of esthetic standards and the importance of upgrading the level of public services and facilities in the rehabilitation area. And financing must be made attractive not only to individual home owners, but also to developers who are versed in the business. They would be happy to rehabilitate large areas with the aid of low-equity, high-replacement-value mortgages. Developers like Havens and others have shown that the job can be done, and communities like New Haven have shown that cities cannot afford to delay. END



Low-rent housing via rehabilitation is almost nonexistent, but these brownstones in New York's Upper

West Side represent the City Housing Authority's first attempt to rehabilitate for low-income tenants.

Lighting News ★ ★ ★ ★ ★
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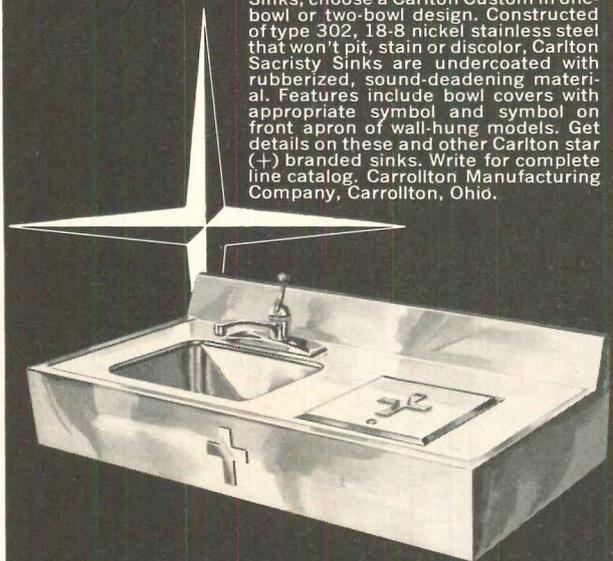
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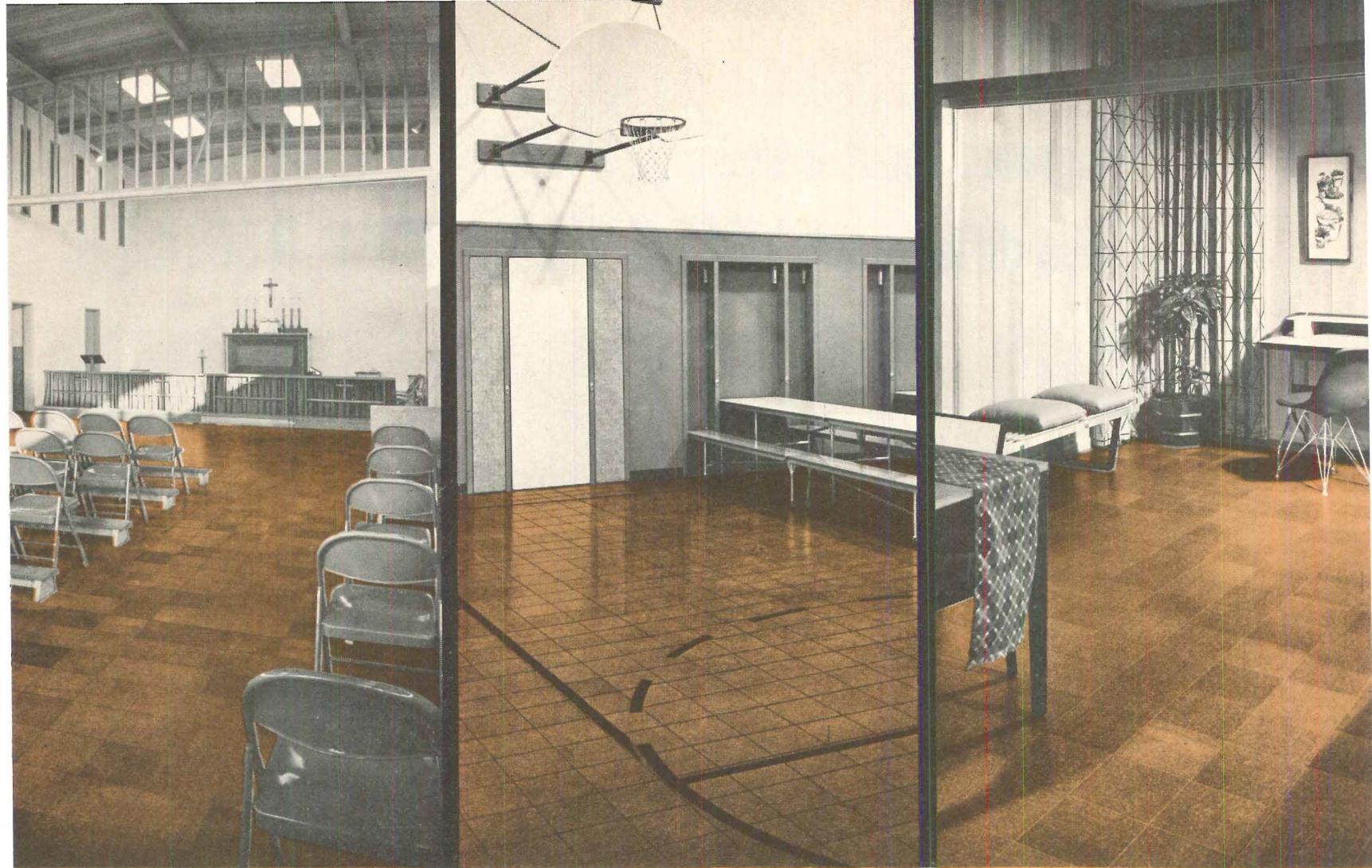
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The congregation of this church chose Par-Tile for its rich warmth of texture, low initial cost, and because it isn't damaged by women's spike heels. Par-Tile is guaranteed for 15 years.

Forrest Par-Tile was used to hold the line on building cost in this school multi-purpose room. Par-Tile is not damaged by women's spike heels, kids boots, roller skates, heavy furniture. Will not check or splinter.

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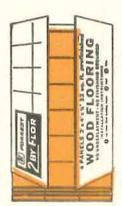
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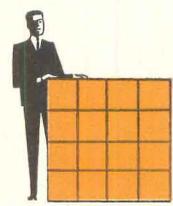
Par-Tile is proving successful in churches, schools, offices, bowling alleys, ballroom floors. In homes for family room, and party room, Par-Tile is perfect.

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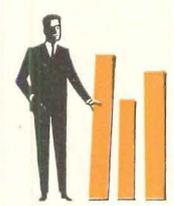
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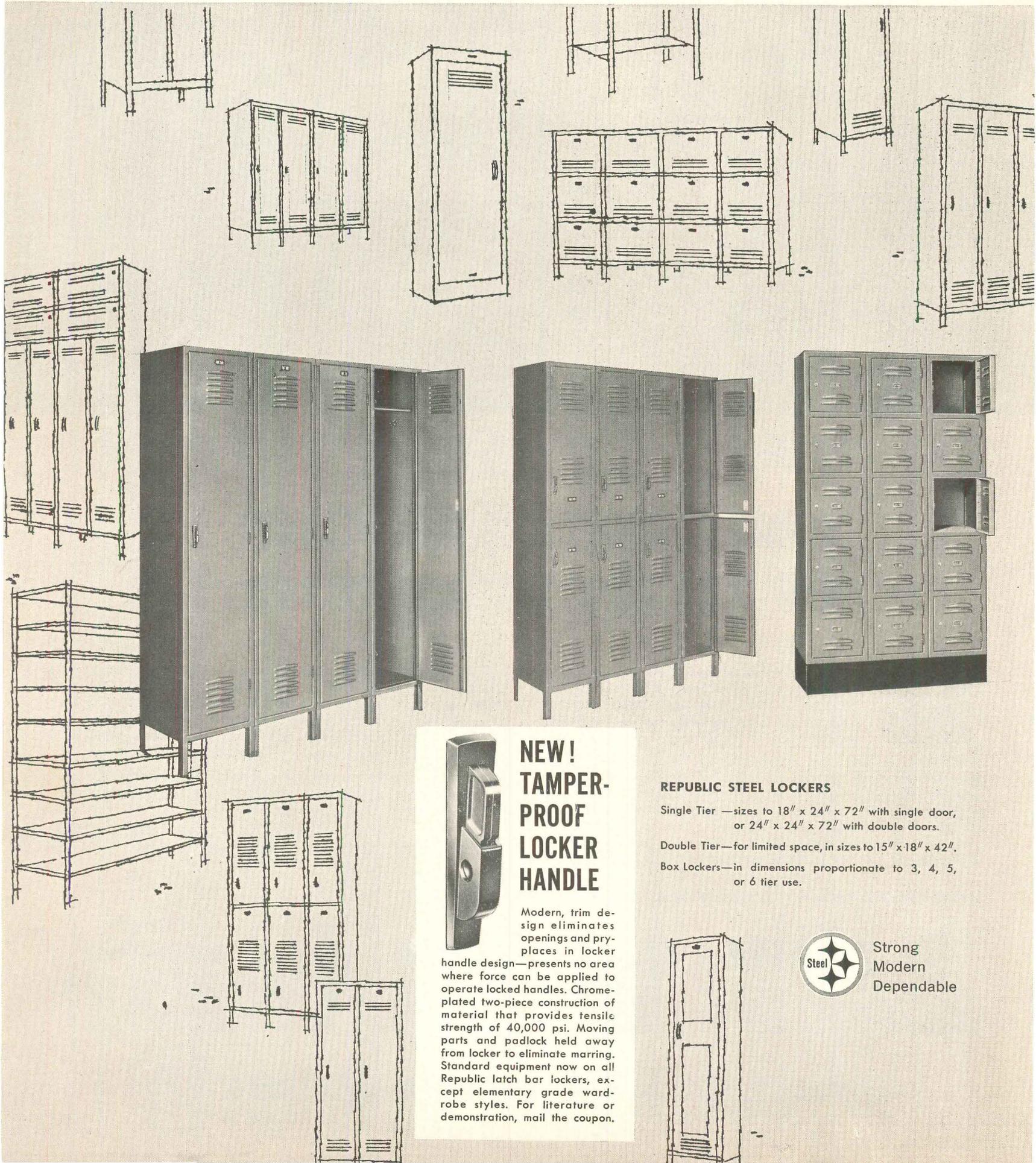
For complete information, ask your floor covering or building material dealer, refer to A.I.A. File No. 19-E-92, or write to Forrest Industries, Inc., P.O. Box 78, Dillard, Ore.

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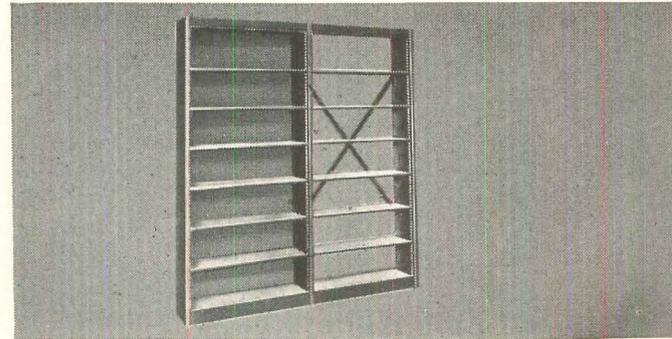
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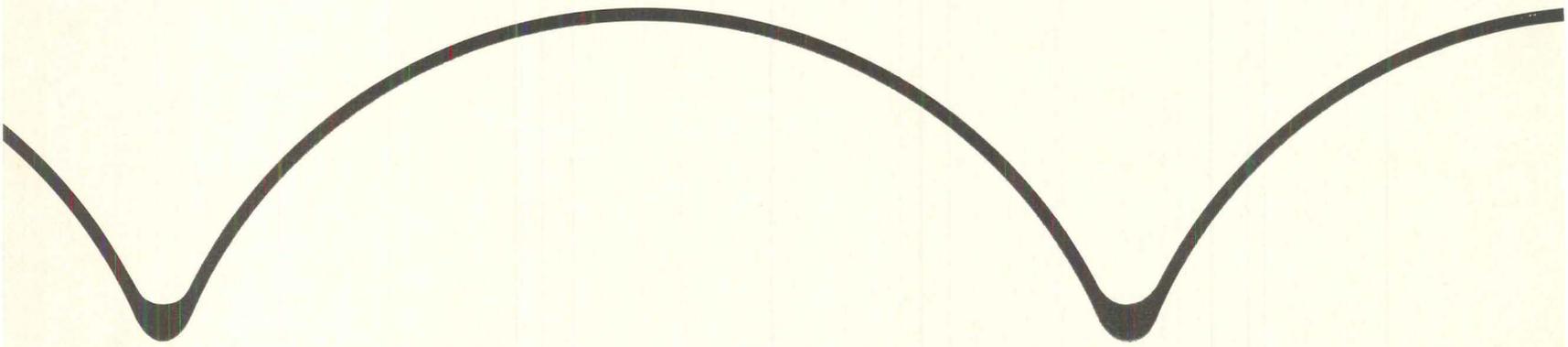
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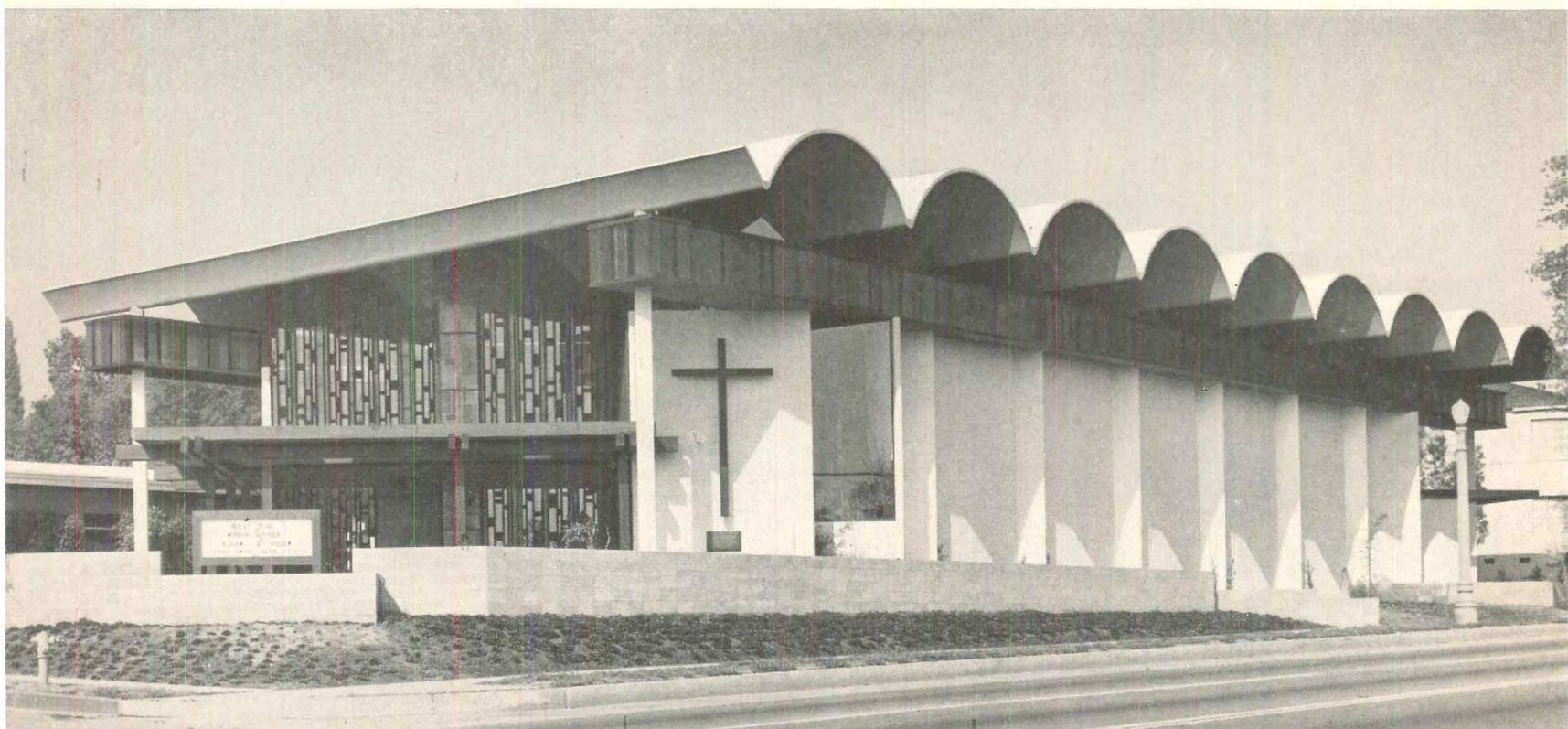
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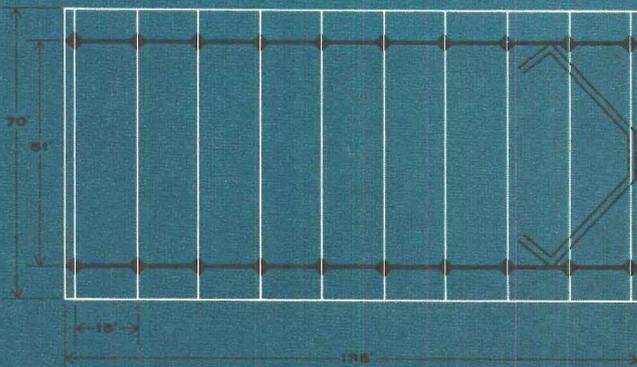


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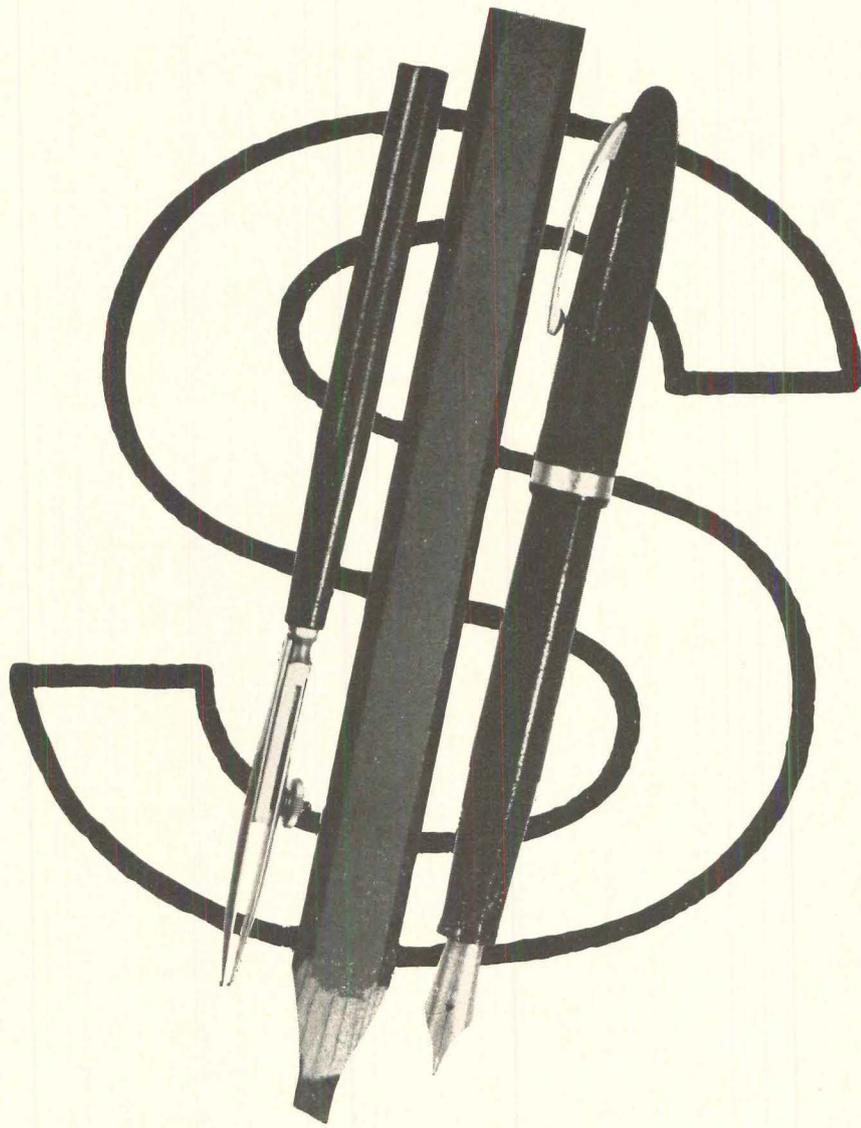
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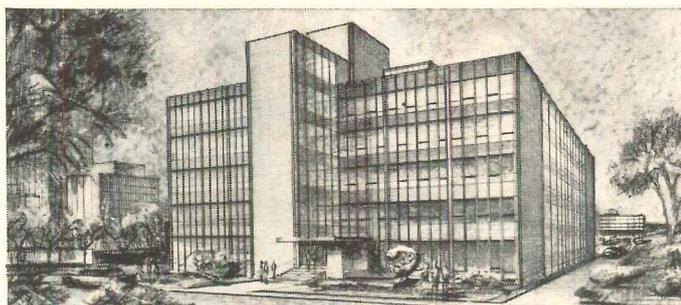
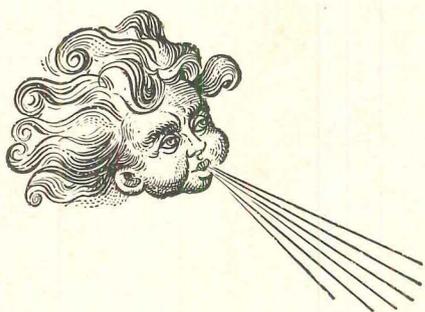
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