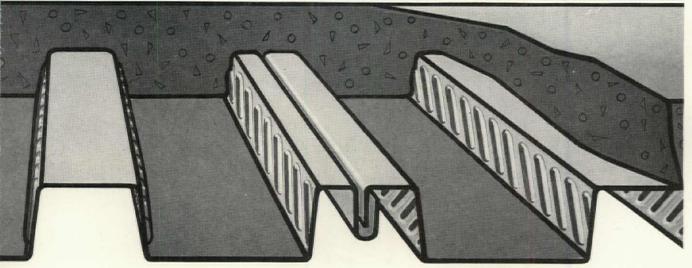


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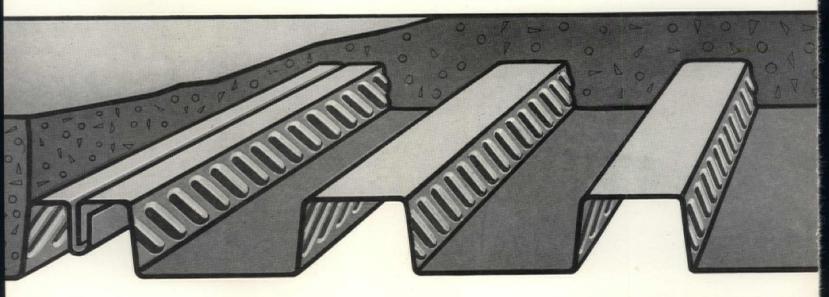
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HI-BOND FLOOR DECK



New Inland development

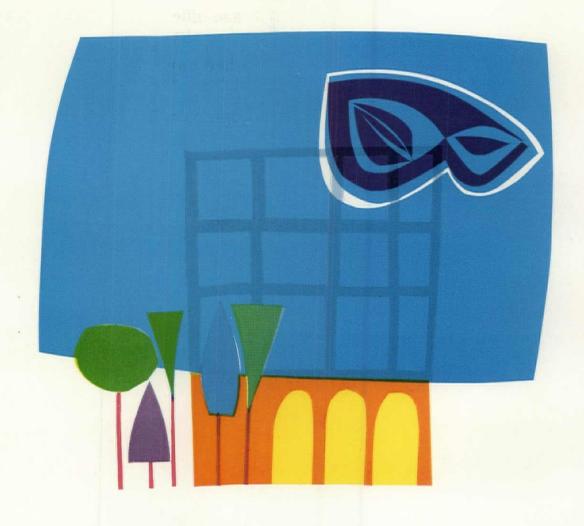
Inland Hi-Bond brings the high efficiency of steel deck to reinforced-concrete floor construction — at a cost comparable to ordinary systems. Its new design enables you to use more economical gauges for forming floor slabs.

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NEW STEEL FLOOR DECK DOES DOUBLE DUTY:

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VOLUME 115, NUMBER 1

ART OF ARCHITECTURE

The Chase—portrait of a giant 66

A comprehensive 30-page report on Skidmore, Owings & Merrill's Chase Manhattan Building, New York City's biggest office structure in 25 years—including its key role in downtown renewal; its pace-setting plaza and public spaces; its tower planning; its offices; its art and design details; its economics; its technology; and its significance on the American scene.

Miesian headquarters for Krupp 107 A preview of Ludwig Mies van der Rohe's first European building in 30 years.

Parklike living for college students 110 On a wooded hillside near San Francisco, cheery apartments for married students at the University of California by Clark & Beuttler and George T. Rockrise.

Showcase-office of an architect-client 112 The impressive new headquarters of Welton Becket & Associates in Los Angeles.

A polished bank 114 Sacramento's Bank of America in granite by Wurster, Bernardi & Emmons.

Steel-pipe pavilion 115 A graceful observation tower for Princeton tennis by Ballard, Todd & Snibbe.

GALLERY

Maybeck's mood 103

The Christian Scientist Church in Berkeley, Calif.—one of the most famous testimonials to the architectural wizardry of the late Architect Bernard Maybeck.

BUSINESS OF BUILDING

The threat to real estate investment 96

A discussion of the proposed changes in the federal tax law now under consideration and their impact on developers of apartment and commercial properties.

Hospitals in the round 98

An economic analysis of the trend to circular nursing floors—an advance or a fad?

REBUILDING

Will rebuilding save this landmark? 116 A proposal by Architect Joseph D. Murphy for preserving St. Louis' old post office.

Rebirth of a boom-town opera house 119 In Aspen, Col., a colorful theater restoration by Architect Herbert Bayer.

Schoolrooms from farm buildings 120

For the new girls' campus at Kent School in rural Connecticut, imaginative conversion of existing buildings by Architects Moore & Salsbury.

Roundup 121
U.S. Capitol costs . . . hotel elevator addition . . . industrial rebuilding trends.

News

43 Projects

49 Products

63 Editorials

163 Abroad

183 Excerpts

189 Books

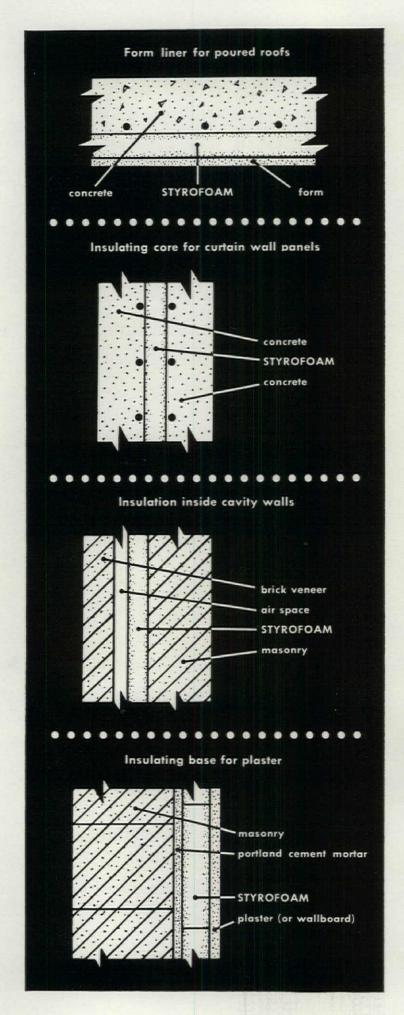
200 Letters

Cover: Quintuple exposure of Chase Manhattan tower; photo by Alexandre Georges.

16 Editorial, subscription, and advertising data.

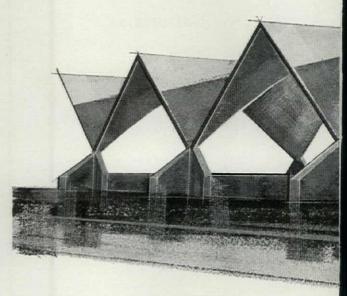
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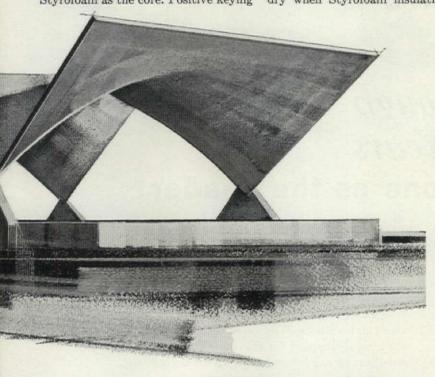
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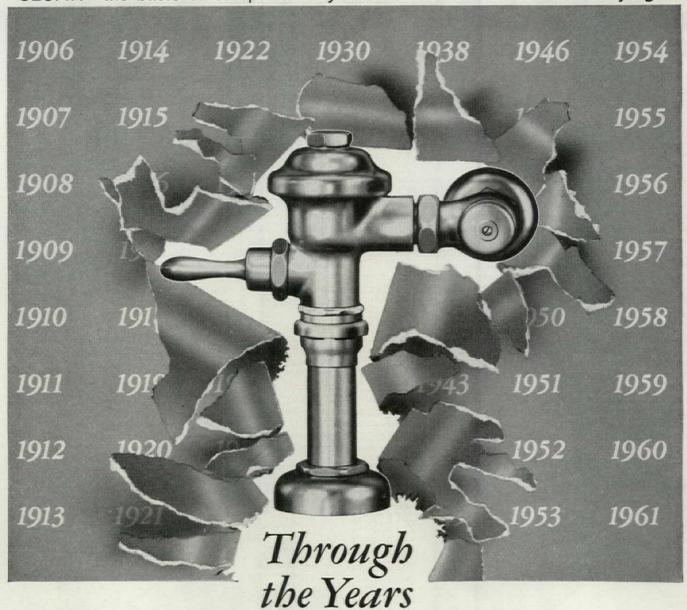
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Prospects for cities brighten as Congress pushes programs for renewal, public housing, and transit

As 350 mayors assembled in Washington, D.C. last month for the annual U.S. Conference of Mayors, they happily anticipated the palmiest prospects for federal aid to cities in the nation's history. And they were not to be disappointed. Even as they hashed over the whole range of urban problems, from renewal and transit to how to pay for any of them, another group of politicians decisively approved a better than \$6 billion program providing federal aid for housing and transit-most of it to be spent in cities. The Senate's action in ramming through the Administration's suggestions for housing and redevelopment seemed to many of the mayors to signal the end of the cities' role as stepchildren, and the beginning of an era of cooperation between federal and local government.

Housing and transit. The housing bill which passed the Senate last month was a far cry from any passed in the years when Republican and conservative Democratic Congressmen minimized all urban programs under the disinterested gaze of the Administration. Nowhere was the difference more notable than in the urban renewal provisions. Since urban renewal was initially enacted, funds have been provided on a yearly, hand-to-month basis which fostered a mad scramble among larger cities for federal funds, nullifying much of the care with which their own thinking on renewal might have been worked out. But the new bill provides \$2.5 billion in direct federal grants (still on a \$2-federal-for-\$1-local basis) and places no time limit on the total expenditure. (At current authorization rates, the money might last for four years.)

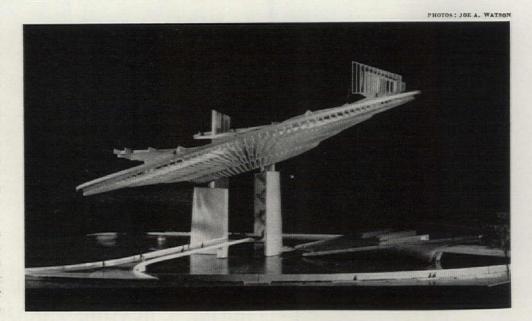
Equally important are the provisions for public housing and for a new, moderate rental housing plan to induce builders to erect housing for families with income too high to let them apply for public housing but not high enough to permit them to occupy private housing. The former program, which has suffered a broad variety of fiscal and administrative handicaps, was boosted by an authorization of 100,000 dwelling units. These are not actually additional units, however, for they represent the number approved in previous years but held in abeyance by Congress and the previous administration. Now, however, without the pressure to hew to limited yearly authorizations, the new Administration can unsnarl the program and work it.

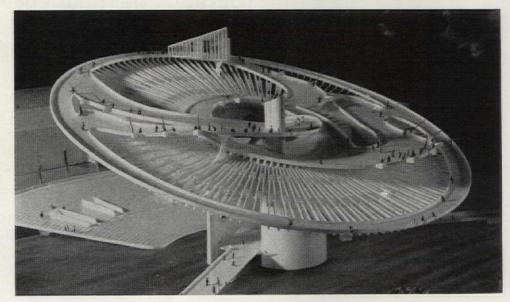
The new private rental housing plan will remain something of a question mark in the early going, for no one can be sure whether private mortgage sources will underwrite it or not, or whether builders will build under it even if the financing is available. The problem is that it provides FHA-guaranteed mortgage loans to nonprofit corporations, but at interest rates well below the going market (a minimum of 3½ per cent, whereas such a loan today would probably have to bear a rate of at least 5½ per cent to be attractive). In an effort to backstop the program through its first year, at least, the Senate authorized \$750

million in additional funds for the special assistance functions of the Federal National Mortgage Assn., which can buy the mortgages for the new rental program.

This new rental housing program was almost knocked out of the Senate bill at the last minute by a small group of liberal Democrats who were actually more concerned about a companion provision allowing 40-year, no-down-payment mortgage loans for houses up to \$15,000 in price.

continued on page 7





ARCHITECT PAUL RUDOLPH TWIRLS A REINFORCED CONCRETE DISK

The swirling form shown above is not an interior of some exotic sea shell, but rather a serious effort to have fun with concrete. Architect Paul Rudolph, under commission from the Portland Cement Assn., designed the so-called "Galaxon" as a possible structure for trade-fair use—for public star-gazing.

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Some Senators balked more at the nothing-down provision than the longer term (present terms for FHA-insured mortgages run up to 30 years) but a quick compromise was worked out which put the new 40-year mortgages under the same down-payment terms as prevail at present (3 per cent on the first \$13,500 of value, 10 per cent on the rest, which would permit a total down payment of \$555 on a \$15,000 house under the new proposal).

Urban transit. The housing bill became a vehicle for solutions to other urban problems, too. For instance, the administration tound that the Senate had tacked onto its housing bill Senator Harrison Williams' (D,N.J.) proposal for \$100 million in loans to cities to acquire or improve mass-transit facilities. This was an unwelcome rider, for President Kennedy had indicated his desire to study the problem before putting a new law on the books. The President had asked the Institute of Public Administration, a nonprofit research organization headed by Luther Gulick, to study a broad range of urban transportation problems and had provided \$98,000 from his own Emergency Fund to pay the costs.

Open space. Williams only batted .500, however, in his efforts to broaden this year's housing bill to encompass other elements of urban affairs. His plan for \$100 million of federal grant funds to aid cities in the acquisition of open space was knocked out of the Senate bill.

Depressed areas. While the mayors happily contemplated the new look in Congress' approach to urban problems, they were also prodded to spend the federal government's money at a quicker pace. Secretary of Commerce Luther Hodges propounded a rather amorphous program for stimulating local public and private construction projects, keyed largely to greater local leadership in getting new projects started and dormant ones revived. While the Secretary relied on moral suasion and on a lengthy list of publicity helps for the mayors' guidance in case they had overlooked any source of federal funds, he also beat the drums for the Administration's new depressed areas program. Already under way in the Commerce Department's bailiwick, it provides \$451 million in federal funds, chiefly to help commerce and industry in federally designated depressed areas to expand facilities or build anew to provide new jobs.

Schools. Secretary Hodges urged the mayors to spur new school construction, among other projects, but most of them remained understandably nonchalant about this subject as long as Congress continued to wrestle with the knotty school-construction aid bill. The Senate several weeks ago passed a school aid bill, but only after steering cautiously away from religious

and racial issues. The bill went further than the Administration had wanted, providing \$850 million annually in federal grants for three years. (President Kennedy had asked only \$666 million for fiscal 1962, already weighted by a total deficit of over \$3 billion.) The Senate also broadened the measure to make the federal funds applicable to almost any school purpose except retirement of previously incurred debt. This was partially in the hope of assuaging House critics who have voiced fears about federal control of local schools. At the end of last month, chances looked good that a school bill providing something around \$2.5 billion, including a substantial boost for school building, would emerge from Congress' final deliberations.

Public works. Some liberal Senators were determined last month to give the Administration a much bigger public works program than it really wants. The \$1 billion Clark bill providing federal grants for public works projects which could be started quickly is the chief case in point. The chances are slim that a bill as large as Clark's will pass both houses of Congress, particularly since the Administration is pulling against it.

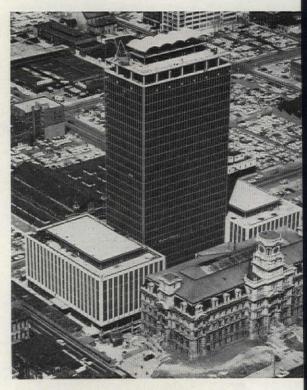
Highways and billboards. The Senate approved an \$11 billion highway financing plan designed to keep the building of the interstate system on a pay-as-you-go basis until 1972. Perhaps most important, the Senate vote extended for two more years the billboard control provision, despite vigorous opposition from pro-billboard interests. Under the billboard provision, states can get bonus payments of up to half of 1 per cent of federal payments toward building of interstate roads. So far, 13 states have passed enabling acts to take advantage of the billboard bonus, but only three have as yet been approved for bonuses by the Secretary of Commerce. Department of Urban Affairs. Despite the

long overdue attention being devoted to cities by the federal government, one administration proposal still hung fire and seemed slated to be postponed to next year, at least. This is the much discussed federal Department of Urban Affairs, which would encompass all federal programs impinging on urban development and would use the present Housing & Home Finance Agency as its nucleus. Despite HHFAdminis-Robert Weaver's characterization of his present agency as "a monstrosity" and his fervent plea for a broadened department within the cabinet, Congress seems unlikely to tackle a new controversy when it is already embroiled on so many, seemingly more immediate, fronts. All in all, it would appear that the U.S. city is still regarded as a growing boy who, although given more spending money, is not yet allowed to wear long

Fallout shelter programs crippled by Congress

Last month, the executive and legislative arms of the federal government pulled mightily in opposite directions over the critical subject of fallout shelters. President Kennedy recommended a \$9.5 million program for putting shelters in existing and new federal buildings, but the influential House Appropriations Committee coldly decreed that "funds are specifically disallowed for installing fallout shelters in each project." As a result, what the Administration regarded as a pilot project to develop shelters in large buildings was killed. Shelters were specifically knocked out of a huge new \$78 million federal center for New York City, which would have cost an additional \$1.7 million, and from the still-to-be-built White House annex, on Lafayette Square. There the Administration wanted an additional \$1.2 mil-

continued on page 8



INDIANAPOLIS' GLASS OFFICE BUILDING

Marion County Courthouse (foreground) in 1875 brought a brand of Victorian elegance to downtown Indianapolis. Now, completely overshadowed by Indiana's tallest and largest office building, the new City-County building, the old Courthouse is slated to be razed next winter. In its place will be three levels of underground parking topped by a landscaped plaza. The 373-foot tower has double-insulating glass walls hung on an aluminum grid while the two wings are constructed of glass, Indiana limestone, and granite. Scheduled for partial occupancy this fall, the \$24 million City-County building was designed by the Indianapolis firms of Lennox, Matthews, Simmons & Ford, Inc. and Wright & Porteous, Inc. Harley, Ellington, Cowia & Sterton, Inc. of Detroit were consulting architects.

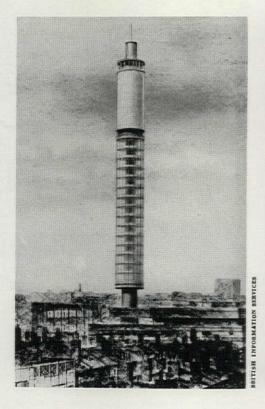
lion for a shelter in the \$23.7 million building, but Representative Albert Thomas (D, Tex.) said bluntly that the money would be "thrown away." In the severe chopping back of the Administration's shelter proposals for federal buildings, only three buildings seemed assured of shelters—the \$5.8 million new headquarters for the Federal Deposit Insurance Corp. in Washington, which will have a cut-rate (\$75,000) shelter in the basement, the so-called "little Pentagon" to be built in southwest Washington for the Defense Department, and, strangely enough, the new House Office Building, which will "shelter" the very men so determined to cut out shelters.

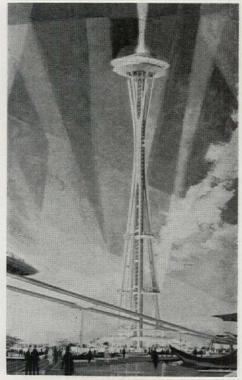
Home owners and builders also found themselves frustrated last month on the subject of shelters, as the Federal Housing Administration adamantly refused to permit the cost of home fallout shelters in allowable mortgage amounts for federal guarantee. FHA, with eerie reasoning, claims that as long as "the market" will not recognize the value of fallout shelters in new homes, it cannot permit their cost to be insured by the agency as a component of the home mortgage.

Even though fiscal considerations seemed

to override common sense in official Washington, limited progress was made recently in other areas of fallout shelter development. In Seattle, a unique shelter was built under a major highway, with accommodations for 200 persons. The cost of \$70,000 was borne by the Office of Civil and Defense Mobilization under a special program. OCDM also was continuing construction of a \$2.5 million prototype shelter near Denton, Tex. which could well serve as the model for OCDM shelters in seven other cities throughout the U.S. The structure, to house OCDM's own regional office, is of 16inch-thick concrete buried under 5 feet of earth. It would not only be able to protect 500 persons from fallout for 30 days, but should also protect against a hydrogen bomb blast as close as 3 miles.

While Congress hamstrung Administration efforts to get at least a token amount of fallout shelter development under way, it seemed to be ignoring some important statistics put before it by OCDM Director Frank B. Ellis. Citing a hitherto secret report, Ellis, while asking for the skimpy program of shelters in government structures, pointed out that the Soviet Union is believed to be spending as much as \$1.5 billion annually on shelters.

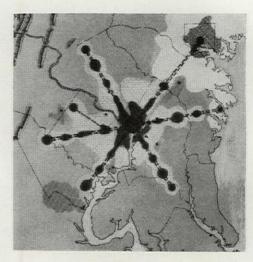




SLIM TOWERS PROPOSED FOR SEATTLE AND LONDON

Bound uncomfortably by gravity in an age of gravity defiance, architects on opposite sides of the globe are nevertheless poking skinny shafts skyward. In Seattle, a 600-foot tower of steel and glass, topped by a revolving restaurant, will be the symbol of the Century 21 Exposition (right). Called the Space Needle, the tower will have three elevators to take visitors upward between three giant steel

legs to the top observation deck and restaurant, which will revolve once every hour. The \$3.5 million tower was designed by John Graham & Co. of Seattle. In London (left), plans are under way to erect the city's tallest structure, a 500-foot microwave radio tower to be built by Britain's General Post Office to transmit radio and television signals across the Channel and to national receiving stations.



"Finger suburbs" planned for Washington, D.C.

The 2,300 square miles comprising the Washington, D.C. metropolitan area have, for several centuries, "just growed," unimpeded by much forethought. Today, the suburban areas surrounding Washington resemble physical anarchy, promulgated by a weird overlapping of town, city, county, and state jurisdictions, as well as the peculiar political devices Congress has established to govern the District itself. But last month, farsighted members of the National Capitol Planning Commission and the National Capitol Regional Planning Council announced the fruits of a year and a half's efforts to give some meaningful, efficient form at least to the region's future growth. The plan, called Washington 2000, enunciates "a series of long-range policies for regional development" based upon the assumption of a regional population of 5 million persons. Planners warn that unless such a program is adopted, over 1,700 square miles of land will be eaten up by urban sprawl by 2000, pushing the countryside 30 miles from the city.

The plan considers seven possible growth patterns for the next 40 years including, at worst, more and greater uncontrolled sprawl that would result from a continuation of present policies. After weighing relative merits of several varieties of "new town" concepts, the plan espouses one calling for development corridors, 20 to 30 miles long, 6 miles wide, forming fingers of suburban development around six spines of freeways and mass-transit lines (plan, above). This scheme was adjudged the most feasible of those considered for planned future growth of the area, partly because all but one of the key freeways in the plan have already been accepted as planned, and four of the six transit lines are included in the recommendations of the Mass Transit Survey made in 1959.

Besides laying out basic guide lines for future area growth, the new scheme makes some broad proposals for the development of the city itself. For one thing, it recommends that the quality of Washington's housing supply be greatly raised through conservation and renewal. It also recommends that the "basic monumental areas of the Mall and Capitol Hill be completed and enhanced," and that "future federal offices not be housed in monumental structures along the East Mall, but in contemporary buildings woven into the fabric of the central business district."

The key to the Washington 2000 plan is, more than any other single element, the transit system which is still being considered by various governmental bodies before an integrated mass-transit program for the whole area is evolved. The study proposed two years ago called for a \$250 million subway system crisscrossing the District, with coincident development of surface transit facilities.

Pittsburgh labor agreement aids housing

Work started last month on a Pittsburgh housing development under unique conditions of labor-management accord. In an effort to insure lowest possible labor costs and avoid costly labor tie-ups, ACTION-Housing, Inc., sponsors of the \$20 million, 1,400-unit East Hills low-cost housing development, have announced a pioneering effort in cooperation. Working with the Pittsburgh Building and Construction Trades Council and Roland S. Catarinella, builder of East Hills, ACTION-Housing evolved a labor agreement providing such points as the following:

- ▶ There will be no work stoppages because of jurisdictional disputes among member unions of the Council.
- The builder or his subcontractors can use any tools, machines, methods, or prefabricating techniques he desires, and either the builder or subs can hire nonunion labor if the unions are unable to supply sufficient man power themselves within 72 hours.
- ▶ Wage scales will be 10 per cent lower than the commercial scale, and there will be no extra pay for Saturdays worked when such work is to make up for work lost owing to bad weather.

Anthony J. Furlan, president of the labor council, claimed that the concessions made in the East Hills contract were "never before included in a labor-construction contract in this area, or anywhere else in the nation." He added: "The building trades are happy to make these concessions for East Hills as their contribution to ACTION-Housing's noteworthy objective of providing well-built and well-designed homes for families with moderate incomes of \$5,000 to \$8,000 a year." Homes in East Hills will sell for between \$11,000 and \$16,000, and average rentals for units will

range between \$75 and \$125. Builder Catarinella estimates that the labor agreement will make it possible to save as much as \$4,000 on what would ordinarily be an \$18,000 home.

Actually, Pittsburgh's unions stand to gain something from the East Hills agreement other than the prestige of establishing a notable precedent. Most single-family, or duplex, residential developments in the Pittsburgh area have been built with non-union labor, although most apartment projects have used union labor. Thus, the unions have also established for themselves a different sort of precedent in the residential building field in the area.

New building code sparks boom in St. Louis

St. Louis last month seemed pointed toward its first real postwar building boom, on the heels of the adoption of a performance type building code replacing its antiquated specification statute. Although a few pressure groups were attempting to force unhealthy amendments to the new code, Mayor Raymond Tucker and the Board of Aldermen seemed more inclined to follow the urgings of most professional building groups to leave the code alone.

The new ordinance allows fireproof panel-wall construction without needless masonry or concrete backup as required previously, copper drains instead of only cast iron, and flexible metal or non-metallic wiring conduits, instead of only rigid metal conduits. The new law is based mainly on the model code of the Building Officials Conference of America and the National Electrical Code of 1959.

Adoption of the new code did not come rapidly or easily. It was seven years ago, in 1954, that Mayor Tucker appointed a committee to draft a modern ordinance. He was moved to action then by a decision of the Brown Shoe Co. to erect a large new warehouse outside of St. Louis unless it could use economical panel-wall construction without unnecessary masonry backup. To keep the warehouse in the city the code was amended to sanction panel walls at that time-but only for buildings of 100,000 square feet or larger. After the committee that drafted the new code completed its work about two years ago, masonry, plumbing, and electrical unions objected to its provisions, and it remained locked up in the Board of Aldermen's public safety committee headed by Alderman Alfred I. Harris. Early in March, however, after a vigorous campaign by Civic Progress Inc., other citizen organizations and the city's two newspapers, the full Board of Aldermen voted to compel the committee to release the bill, and then

adopted it by a decisive 27 to 1 vote.

Within weeks builders announced that they would now make firm plans and award contracts as soon as possible for a \$2.5million, 12-story motor hotel that will be built to the more liberal provisions of the new code; also a new \$9-million, 20-story downtown office building, and two highrise apartments in the \$250-million Mill Creek Valley redevelopment project. O. O. McCracken, executive director of the Civic Center Redevelopment Corp., said the new code also would make it easier to obtain financing and less expensive to erect a huge eivic stadium now being planned in the downtown area near the Jefferson National Expansion Memorial Park and its soaring stainless-steel arch designed by Architect Eero Saarinen, on which construction is scheduled to start this year. And St. Louis businessmen are reportedly planning more than \$50 million in other new projects in the next 12 months.

Briefs

Washington's new House Office Building will be at least a year overdue because of bad weather, strikes, and "imprudent supervision," according to Capitol Architect J. George Stewart. The delays will add at least an extra \$4 million to the \$68-million structure, largest on Capitol Hill.

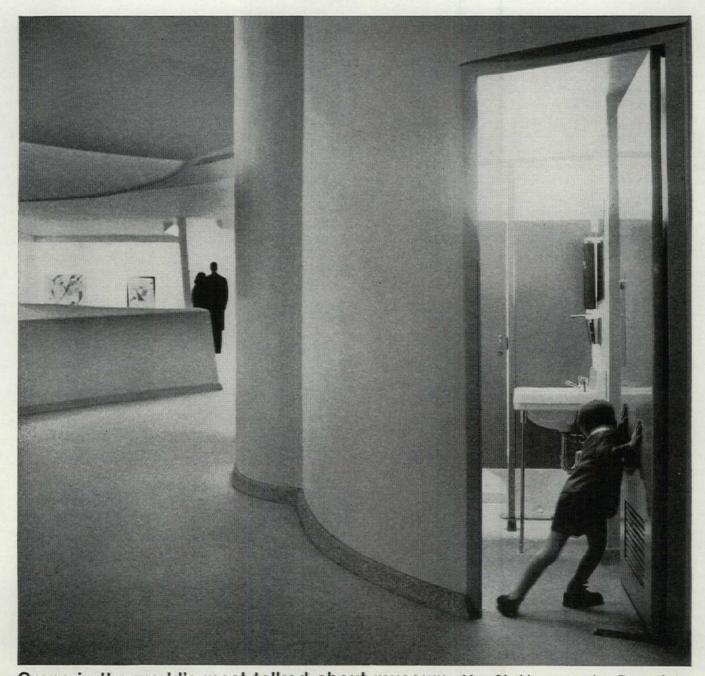
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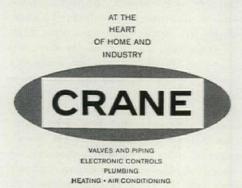


PHILHARMONIC NEARS COMPLETION

Philharmonic Hall became the first in the complex of buildings comprising Manhattan's Lincoln Center for the Performing Arts to become enclosed, as special ceremonies marked its topping out last month. At the same time, Architect Max Abramovitz revealed final plans for the hall's interior, with terracelike loges surrounding orchestra seats, and special "cloud panels" hanging from the ceiling to reinforce sound. The \$15.4 million hall will be finished in 1962.



Crane in the world's most talked-about museum. New York's spectacular Guggenheim Museum features a permanent collection of Crane fixtures. They are spotted strategically on six levels of the great ramp that spirals nearly a third of a mile around. In all the convenient washrooms gallery-goers, critics, artists and sight-seers find the familiar comfort of Crane. For beautifully styled plumbing fixtures and the finest brass fittings, Crane has been a five generation favorite. Undisputed quality, contemporary design and availability in a wide range of styles and colors make Crane the choice of architects and engineers. Builders and owners accept Crane quality with confidence. Crane Co., Plumbing-Heating-Air Conditioning Group, Box 780, Johnstown, Pennsylvania.

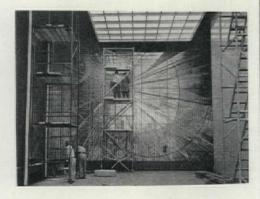


Meanwhile, Representative E. J. Derwinski (R, Ill.) asked that Congress be spared any "extreme criticism" such as was leveled at the new Senate Office Building (FORUM, Aug. '59).

The largest construction loan ever—\$65 million—was approved last month by a group of New York and British banks for Manhattan's \$100 million Pan Am Building, now under construction next to Grand Central Terminal. Five New York banks will lend \$45 million, while five British lenders will put up the rest. A permanent mortgage loan of \$66 million has been arranged via an undisclosed pension fund.

Tax relief for the self-employed, killed in the Senate in two previous sessions, passed the House last month. Taxes could be deferred on up to \$2,500 a year, if the money is placed into a special retirement fund by self-employed persons. The move would benefit an estimated 7 million persons, including many architects, but it is unlikely to get past the Senate.

Missile construction work stoppages, building's most shameful chapter in recent years, will hopefully end as a result of a no-strike, no-lockout pledge given the federal government by spokesmen for labor, the missile industry, and contractors. The government plans to set up an 11-man committee to oversee labor conditions and prevent stoppages at 19 missile bases and three test centers.



A MURAL WITH A 1,500-YEAR FUTURE

The 3,700 employees lodged in Manhattan's new Western Electric Building watched Sculptress Buell Mullen and her assistants put the finishing touches last month on a huge (25 feet high) stainless-steel mural representing "the sweep of communication across time and space." The mural stretches over two walls and is made of 20 huge stainless steel plates, ½ inch thick. Color was applied with epoxy resins and the design engraved in the steel with specially designed etching instruments. Posterity is guaranteed a look at the artist's chef-d'œuvre, for its life expectancy is at least 1,500 years.

People

RIDING THE YOUNG CITIES BOOM

Of all the success stories that have emerged from the fabulous building boom in the postwar U.S. none is so garish as that of the young cities-the one-time sleepy small crossroads that, almost overnight, become centers of commerce and finance. The Southwest has provided more than its share of examples of booming young cities, and none has boomed mightier, in terms of growth, than Phoenix, Ariz. A key factor in the growth of Phoenix, as in so many other young cities, is the emergence of young men who feed the boom, nurturing it and profiting by it simultaneously. Such a young man is David H. Murdock, a stocky, loud-talking, 38-year-old who, in the 14 years since 1947, has amassed properties in Phoenix worth more than \$26 million. Besides his Phoenix holdings, Murdock has better than \$10 million more in developments in nearby New Mexico and southern California.

Murdock came to Phoenix after the war, with little success in his background. Son of a traveling salesman, a high-school deserter in tenth grade, a gunnery sergeant in World War II, Murdock would have seemed like a million other vets just looking for something a little better than what they had known. His start in Phoenix was no more auspicious than his previous adventures: he went into partnership with a home builder, with the idea of taking advantage of the need for homes in the Phoenix area, and quickly found himself without a partner (who skipped town) and three homes unfinished. Murdock threw himself into the chores of finishing the houses himself, and so impressed Phoenix' Valley National Bank with his drive that they have grubstaked him ever since in his real estate developments. After he finally got out from under his obligations, Murdock went to building one-story, two-family houses and higher-priced homes, both of which proved successful. By 1952, he was eveing prospects for commercial building in the fast-growing northern fringes of Phoenix, and started modestly, building several small stores and a medical building. At this time, Murdock was his own construction superintendent, salesman, and leasing agent, but his tremendous ambition to make good would not let him slow down. In 1954, the tax law allowing rapid depreciation write-offs for real property became effective and Murdock, after consulting a tax expert, decided to turn it to good use. He would build office structures in fast-growing areas around the city, and then in turn use the income generated by fast tax write-offs as collateral for loans for still more commercial buildings.

In 1959, Murdock started his most ambitious venture, a \$6.5 million, 20-story

office building which would be Phoenix' tallest building. When he decided he wanted a bank in his new building, which was in the northern section of the city, he and some friends started one with an investment of \$960,000. (It now is capitalized at \$2.8 million.) Flushed with his success, Murdock at this time undertook to rebuild two structures and build two new buildings downtown, as well as a 500-car underground parking garage. Even booming Phoenix could not take the strain of new office space being built simultaneously



BOOMING BUILDER MURDOCK

downtown and uptown, and Murdock had to hustle furiously to get his space leased to meet his mortgage requirements. But with his usual drive, he sold enough new tenants on his big building to get it off to a nice start. He still believes his downtown ventures have tremendous potential for reviving interest in what had long been thought to be a stagnant core in a booming area.

Murdock's drive and salesmanship are pushing him closer to his own self-announced goal: \$100 million worth of properties within five years. He has already outgrown Phoenix and is extending his sights to nearby New Mexico and southern California. In Roswell, N.M., Murdock plans to build a \$3 million, ten-story office building, and he will put up a \$6 million, 12-story office building in Santa Ana, Calif. He is also negotiating for two high-rise office towers in two other southern California cities. Says Murdock: "I have already built most of the buildings in Phoenix since the war. Yet, as fast as Phoenix is growing, I can build office buildings faster than the town can absorb them."

Whether Murdock can build office buildings faster than the whole Southwest can absorb them remains to be seen. But his ambition drives him furiously even when he is supposedly resting. When his wife persuaded him to vacation in San Diego last summer, Murdock went and immediately immersed himself in the local real estate situation. Before his two weeks sabbatical was over, he was involved in a deal to build the \$6 million Santa Ana building and a project to build a \$500,000 beach apartment in San Diego for himself and some Phoenix friends.

continued on page 16

Crown Zellerbach's new building makes a striking addition

Exterior wall showing installation detail of PPG SOLEX and SPANDRELITE Glass.



clad in PPG GLASS to San Francisco's skyline



The Crown Zellerbach Building is one of the first major projects using an all-glass facing to be constructed in San Francisco. The building is 20 stories high and opens up a crowded area on Market Street.



PPG Rough Plate Glass partitions with a knurled finish provide light, airy privacy.

This light and airy building brings a new look to San Francisco's lower Market Street. The 20-story tower is sheathed completely in glass.

PPG Solex® heat-absorbing plate glass in the window areas allows plenty of light to get through but absorbs about 50% of direct solar radiation. The pleasing greenish tint is easy on the eyes. Glare is greatly reduced and air conditioning costs are lower because less solar heat enters the building.

In between the windows, PPG SPANDRELITE® Glass in soft color adds beauty to the exterior. This is a heat-strengthened glass, with ceramic color fused to the back. It is strong and durable...resists impact...its color lasts.

Entrances feature eight Herculite® doors with Pitt-Comatic® handle-operated door openers. The doors complete the open spacious feeling of the building. They are well-known for their sturdiness, strength and endurance. Your PPG architectural representative will give you specific data on any of these products. Or check the Pittsburgh Glass-Clad Curtain Wall Systems Catalog in Sweet's.

Pittsburgh Plate Glass Company



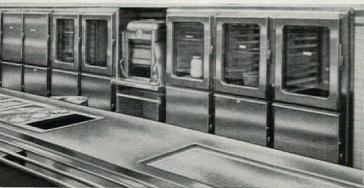
Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited



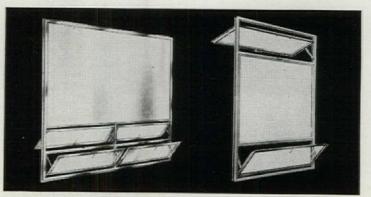
The board room is a bright and cheerful place to work because of the wide expanse of window area. SOLEX heat-absorbing glass used here absorbs about 50% of direct solar radiation and reduces glare.

Associated Architects: Hertzka & Knowles and Skidmore, Owings & Merrill, San Francisco, California Contractor: Haas & Haynie Corporation, San Francisco, California Glazed by: W. P. Fuller & Co., San Francisco, California





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AWARDS, APPOINTMENTS

Architect Gordon Bunshaft, partner in the firm of Skidmore, Owings & Merrill, was awarded the Medal of Honor by the New York Chapter of the American Institute of Architects last month. Bridge Engineer Othmar H. Ammann received the chapter's Award of Merit.

Andrew Heiskell, chairman of the board of TIME INC., was given the ACTION award for Civic Statesmanship for his efforts in behalf of better housing while Board Chairman (and now Chairman of the Executive Committee) of the American Council to Improve Our Neighborhoods.

Among those receiving honorary degrees from Yale University last month was

New Haven native and now Mayor Richard C. Lee, who was cited for lifting "New Haven from the midden of slums and stagnation and setting her on the high road to a bright and prosperous future." Also at Yale, Arthur Tracy Row Jr., formerly assistant director of the Philadelphia City Planning Commission, was named director of the university's Graduate Program in City Planning.

Charles Abrams, well-known expert and author on housing problems, last month was named to succeed Robert C. Weaver as president of the National Committee against Discrimination in Housing.

An award put to good use: With the aid of an Arnold W. Brunner Scholarship from the New York Chapter of the AIA, Architect George E. Kidder Smith has finished, just in time for European travelers, a handy, soft-cover, economical (\$1.95) guide to The New Architecture of Europe. Published by Meridian, the book provides a look at 200 of the most significant buildings erected in postwar Europe.

RUDOLF SCHWARZ DIES IN GERMANY

Rudolf Schwarz, one of the world's leading church architects and writers on church architecture, died recently of a heart attack in Cologne at the age of 63. Schwarz, onetime planning director of Cologne, designed some of Germany's greatest modern churches, including the awesomely beautiful St. Anna Church at Annaplatz, Düren, called by Architect George E. Kidder Smith (see above) "one of the most impressive in Europe today." His book, The Church Incarnate, has been highly influential.

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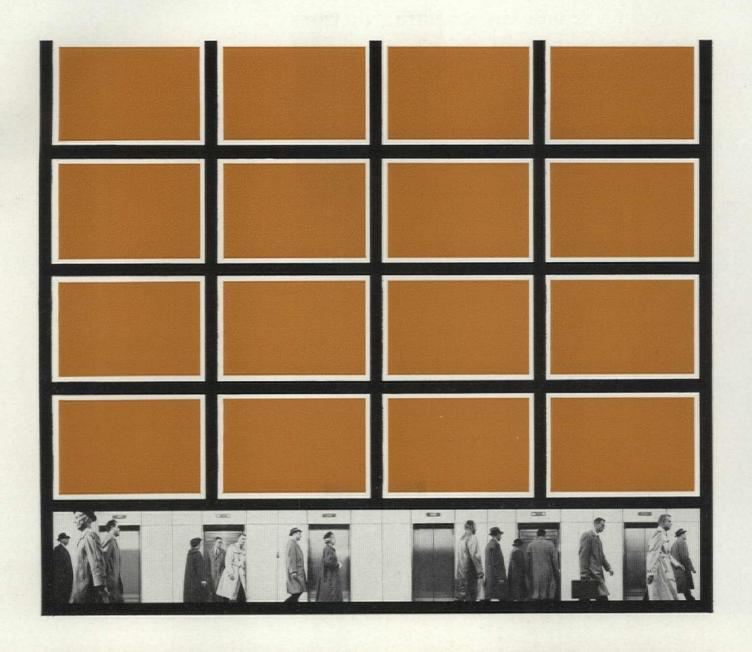
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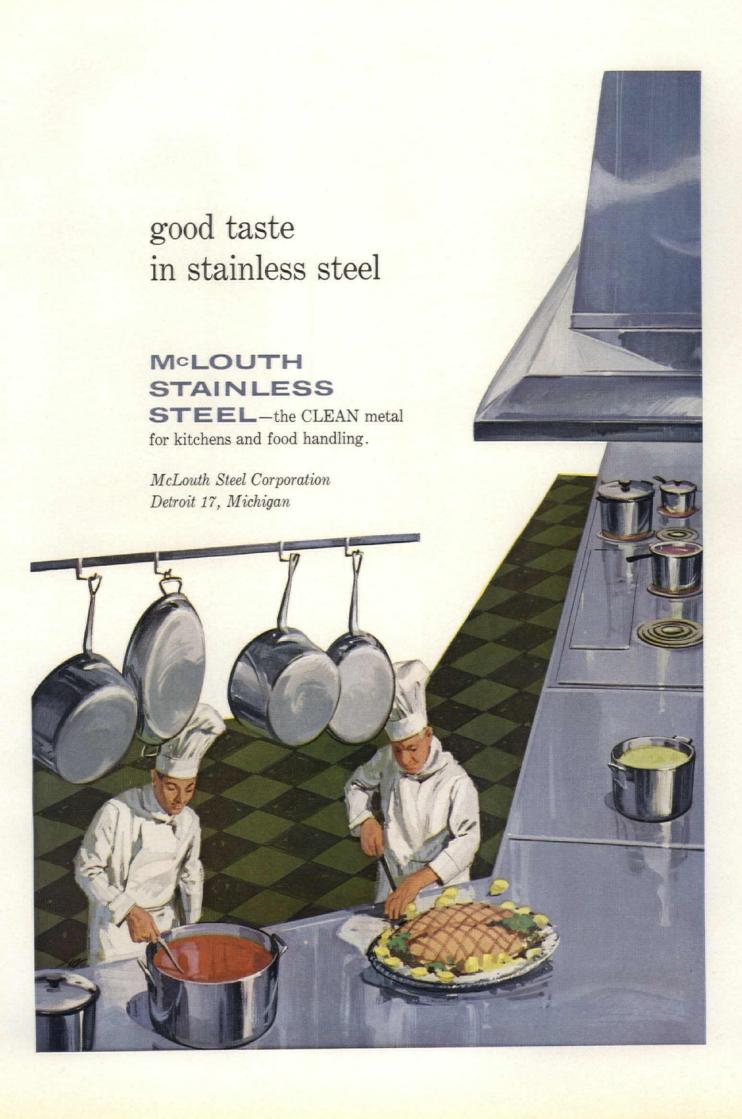
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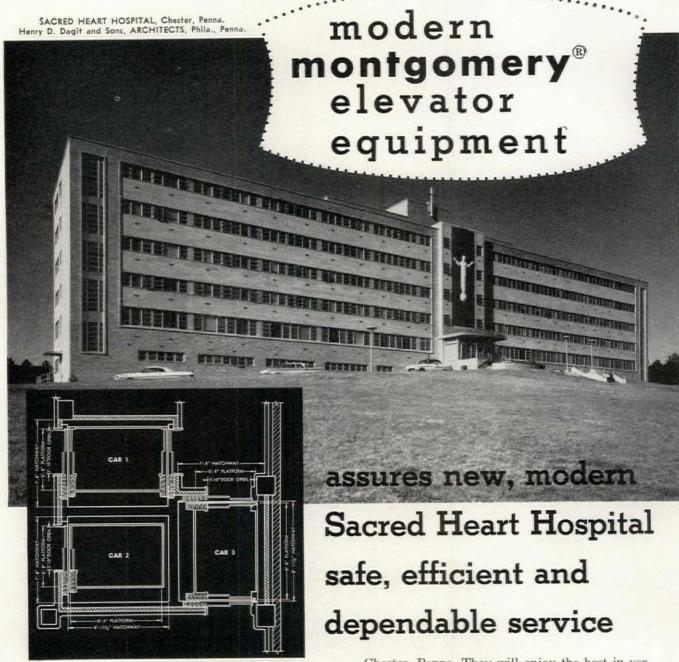
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Unlike any other elevator system ever designed, new Westinghouse Selectomatic Mark IV does not run on a timed dispatch cycle - but in direct response to traffic demand. Each car independently scans the entire building...watches calls and other cars... and decides in a fraction of a second where to go to give the fastest service ever achieved. These new cars, from any point in the building, can go up or down to answer calls, reversing direction when necessary. This principle of individual initiative applies for all traffic conditions. When the demand is heavy, cars mobilize themselves for heavy action. When demand is light, only those cars needed run. Cars make more efficient trips with fewer stops per trip. The result is faster service for all passengers.

- Eight thousand passengers a day proved Westinghouse Selectomatic Mark IV cuts average waiting time 30.6% ... makes more trips with fewer stops per trip than any other elevator system.
- The test was made on all the cars of the intermediate-rise bank of elevators at the Tishman Building, 666 Fifth Avenue, New York City. The new Selectomatic Mark IV control system was installed alongside the Selectomatic with Automatic Traffic Pattern, by far the most efficient elevator system in general use today. Cars operated on one system for a week, then on the other for a week, and so on for the test period.
- Measured were waiting time on corridor calls, number of stops made on each trip and the number of passengers entering and leaving the building—traffic information necessary for a statistically valid comparison of the two systems. To provide scientifically accurate data, recording meters were used and other instruments specifically designed for measurement of elevator traffic.
- The mountain of data now available on Selectomatic Mark IV, and the observations of the building management, prove that elevator service was never so good, anywhere.





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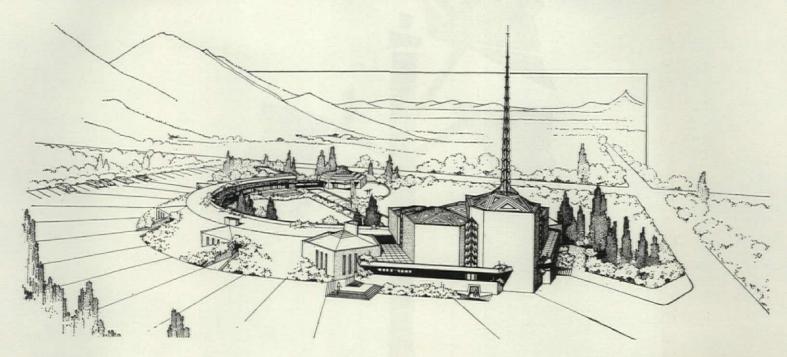


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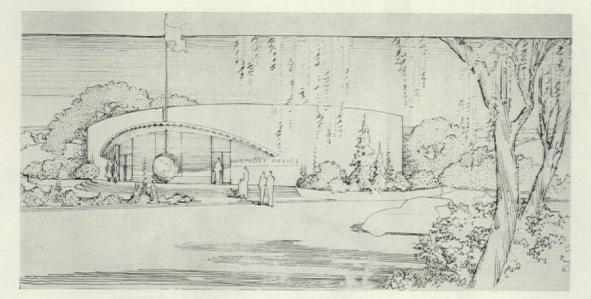
MONTGOMERY ESCALATORS - STEPHENS-ADAMSON "SPEEDWALKS" AND "SPEEDRAMPS"

A roundup of recent and significant proposals



TWO TALIESIN DESIGNS

Before the year is out, construction will begin on two new structures bearing the stamp of Frank Lloyd Wright: the one above an Evangelical Lutheran church in Scottsdale, Ariz., and that at left a U.S. Post Office in the Marin County (Calif.) Civic Center, both carried out by Taliesin Associated Architects, William Wesley Peters, chief architect. The church sanctuary will be roofed by a series of polygonal domes, the tallest topped by a thin golden spire and pierced to direct sunlight onto the altar. The post-office structure will be of concrete masonry and plywood box trusses.



PHILADELPHIA APARTMENTS

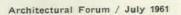
Marked by official ground-breaking in April, the rebirth of Philadelphia's historic Society Hill begins with this 33story apartment house and 18 town houses, all designed by Philadelphia Architects Stonorov & Haws. Red brick and white marble touches around the first floor will recall the original Georgian houses still standing in Society Hill, even though the rest of the exterior will be gray brick and glass. The structure will be of reinforced concrete, a lightweight concrete for the tower and a heavier one for the foundation.

LOS ANGELES APARTMENTS

In Los Angeles, the construction of high-rise apartments continues apace; the one at right, to cost \$7 million for 22 stories, will be called Lesser Towers for the owner and developer, Louis Lesser Enterprises. All 236 apartments, which range in size from efficiencies up to two-bedroomand-den units, will have balconies or terraces and underground garages. On top, there will be a communal swimming pool and landscaped terraces. Architects and engineers: Daniel, Mann, Johnson & Mendenhall of Los Angeles.



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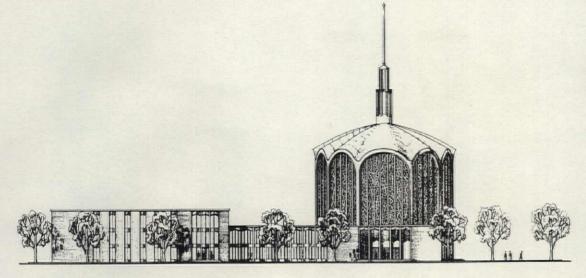


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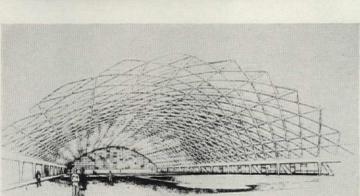
LeFebure is a subsidiary of Craig Systems, Incorporated



WASHINGTON CHAPEL

A fluted dome and spire will top the interdenominational chapel for George Washington University's religious center, to cover almost a block in Washington, D.C. Tall windows of contemporary mosaic glass will fill each of the 12 sides. Attached to the chapel will be administrative offices, choir rooms, and classrooms. Architects: Mills, Petticord & Mills of Washington.

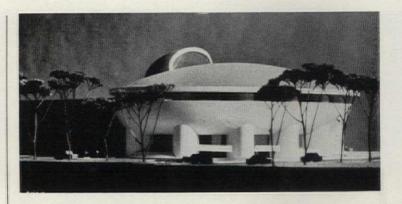


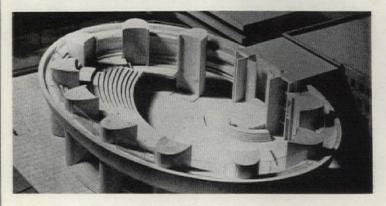


NERVI DESIGN FOR DARTMOUTH COLLEGE FIELD HOUSE

By 1962, Dartmouth trackmen, accustomed to jogging through the New Hampshire snow, will run inside this field house transplanted from Rome to Hanover. Pier Luigi Nervi's design for the Palazzetto dello

Sport, built for the 1960 Olympics, is being adapted to a rectangular shape, enclosing about 2 acres under a lamella network of reinforced concrete ribs. Associated with Nervi are Campbell & Aldrich.





SOUTHERN BAPTIST CHAPEL IN MISSOURI

The open-and-shut model above is that of the Tower Grove Baptist Church in St. Louis, which will consist of a reinforced concrete saucer, shallow dome, and half-shell skylight. Under the dome, as the lower

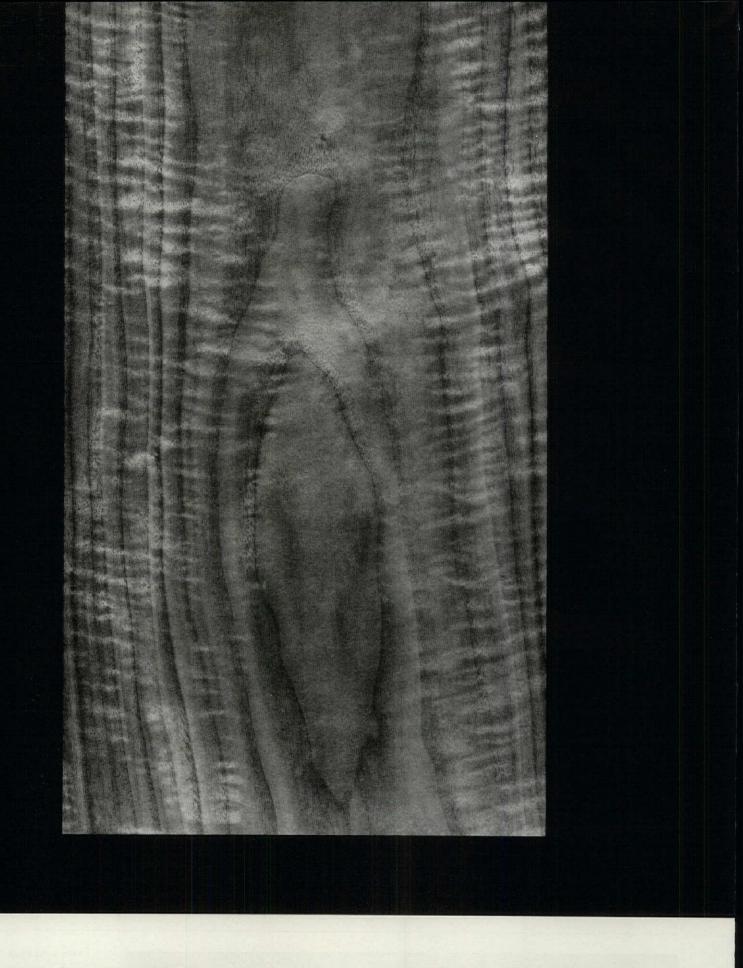
photo shows, a series of ramps will divide the column-free sanctuary into segments. A glazed buffer corridor will ring the perimeter, shutting out street noises. Architects: Hellmuth, Obata & Kassabaum.



PHILADELPHIA COLLEGE

Wrapped around two open courts, these buildings will serve 70 members of the Christian Brothers teaching order at La Salle College. Rows of cells will form one court's walls; the refectory, commons, and chapel are grouped around the other. Architects: Carroll, Grisdale & Van Alen.

continued on page 47



genuine WALNUT... THE ARISTOCRAT OF ARCHITECTURAL WOODS

Genuine Walnut—in plywood panels or in solids — in walls, floors, doors or millwork—offers an infinite range of grains and figures providing

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SOUTHERN CALIFORNIA WATER DISTRICT OFFICES

This design by William L. Pereira & Associates for the Metropolitan Water District of Southern California will crown a 7-acre site in Los Angeles. Three long three-story

buildings, built alike of cast stone screens, exposed outrigger columns, and glass, will be linked by glass pavilions, one of them a public entrance and display area. Cost: \$5 million.



UNDERGRADUATE LIBRARY AT PENN

Behind walls of red brick and gray glass, the new library at the University of Pennsylvania will provide the proper climate for rare books as well as the undergraduate collection, a capacity of 1½ million vol-

umes. Designed by Harbeson, Hough, Livingston & Larson of Philadelphia, the eight-story library is under construction, slated for completion early next year. Cost: \$5 million, \$4 million of it from the state.



\$50 MILLION PITTSBURGH REDEVELOPMENT

Across the Allegheny River from the Golden Triangle, Pittsburgh's Urban Redevelopment Authority plans to build Allegheny Center (top), a 78acre project. Central to the plan are the Buhl Planetarium and the Carnegie Library, to be surrounded on three sides by new apartments and town houses and on the fourth by a commercial plaza (above). Architects: Deeter & Ritchey; developer: Lewis E. Kitchen.

HIGH SCHOOL ADDITION IN ST. LOUIS

Under construction in St. Louis is this three-story addition to Christian Brothers College high school, for more classroom, laboratory, office, and cafeteria space. Exposed reinforced concrete waffle slabs span two primary beams running the building's length, and overhang windows set high in the brick walls. It will be connected to the gym. Architects: Drake-O'Meara Associates of St. Louis.



PRECAST APARTMENTS IN CANADA

Up in Manitoba, the Winnipeg architectural firm of Libling, Michener & Associates is watching progress on the small apartment building below, eight stories of precast concrete units being erected now

in Winnipeg. Inside, there will be 31 apartments, many of them with balconies. The total cost is expected to be in the neighborhood of \$550,000, excluding the cost of the land.





A ROOF IS A ROOF IS A ROOF...

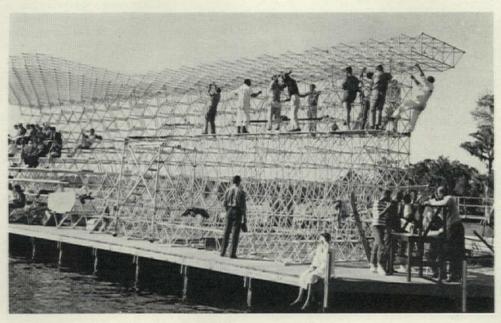
Webster's routine definition of this somewhat commonplace word. And for the great bulk of residential construction in recent years, roofs have been just that—reasonably protective, wholly commonplace. But architects are of course aware that they can be much more, as is notably the case when Follansbee Terne is specified. For this timetested metal permits the roof area itself to become a major design component, permits both form and color to unite with functional integrity in a lasting guarantee of client satisfaction. Whether architect or prospective builder, we should be very happy to send you detailed substantiation.



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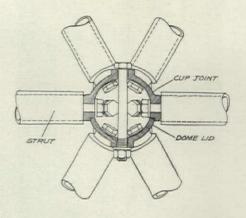


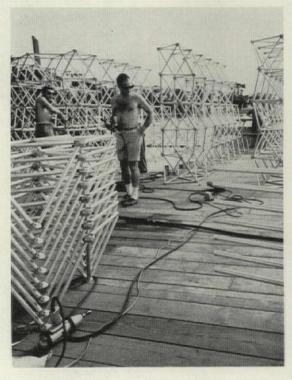
In this lacy grandstand structure in Florida's Cypress Gardens, tubular aluminum tetrahedrons and octahedrons frame the roof and seats. The frame, put together in sections, has for its back wall a series of octahedrons and for its canopy, a tetrahedron space frame, all struts and joints of identical size. Assembling the 13,000 struts and 3,000 joints which went into the frame took an inexperienced fiveman crew two weeks, using standard cap screws, power impact wrenches, and a few other simple tools. The finished structure is 80 feet long and 20 feet wide, weighs less than 10,000 pounds, and seats 300. This is one of the first structures completed by Up-Right, Inc., which has pat-

ented its octahedron-tetrahedron designs and is marketing them in steel or aluminum for a variety of uses, two current ones being portable octahedron towers and tetrahedron space frames, the latter for diaphragm or cantilever structures over clear-span buildings.

The basic parts, shown in detail at right, are the cup joint and dome lid, which combine into a ball joint, and the struts, which fasten inside the joints with cap screws. The tower or space-frame components are designed to meet the height and load capacity required for each job, so costs and design strengths vary widely.

Manufacturer: Up-Right, Inc., 1013 Pardee St., Berkeley 10, Calif.







PLYWOOD DELTA

Douglas Fir Plywood's versatile new structural component—the delta frame, virtually an A frame with wings—is intended for use wherever relatively inexpensive space is needed: in supermarkets, park shelters, shopping centers, light industrial plants, and restaurants. To develop the market for delta frames, which may be roofed either with stressed-skin panels or conventional roofing systems and enclosed by nonleadbearing walls, the Douglas Fir Plywood Assn. has engineered 608 variations, which Plywood Fabricator Service members are prepared to bid and deliver to any state except Hawaii.

The first delta frame structure up and continued on page 50







"Wall-Temp" enhances the beauty and efficiency of modern architecture. Compact, light weight, high capacity Temprite WT models fit snug to the wall and off the floor. 17" clearance provides ease of floor maintenance. Plumbing connections fully concealed. Mount at child's height if desired. Smoothly contoured, extra deep, antisplash, polished stainless steel basin.

EXPORT: Ad Aurtema, Inc., New York

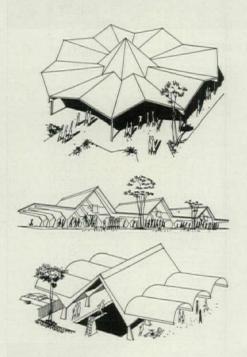
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in use is this playground shelter for an elementary school near Tacoma, designed by Architect Robert Bruce Waring. In it, four delta frames, 16 feet on center, were anchored to low concrete piers and roofed with prefinished plywood panels. The structure's A section spans 40 feet (standard for all delta frames) and the flat wings are cantilevered 20 feet on each side. It cost \$2.19 per square foot, excluding the roof. Delta frames are box beams overlaid with medium-density plywood, which are 6 inches wide, about 28 feet long, and tapered from 3 feet at the base to 1 foot at the peak. From the standard 40-foot A section, a wing beam normally cantilevers up to 28 feet, but when supported by a post, it may span up to 40 feet and extend an additional 6 feet beyond the post.

The prototype building is by no means the only possible shape. It could, for example, have been a much longer rectangle, or it could have been framed in the shape of a circle or a triangle. Vaults and folded plates are other roofing possibilities. Delta frame bents may be spaced on 12, 16, 20, or 24 foot centers, carrying live roof loads of 10, 20, 30, or 40 pounds per square foot.

Manufacturer: Plywood Fabricator Service, Inc., 3500 E. 118th St., Chicago 17.



INSTANT MORTAR

A dry mortar packaged in bags, Instant Crete is a homogeneous blend of cement, sand, lime, waterproofer, bonding chemicals, plasticity agents, and minute quantities of other ingredients. Premixing with a high-speed mixer called a "cyclo-blender" leaves nothing to be added at the site but water and, according to the manufacturer, makes the mortar easier to butter on and insures uniform quality. The standard mix for block or brick is offered in white, buff, red, black, or natural; other colors or mixes for special purposes may be blended to order. The least expensive color,

natural, in the brick-or-block mix, costs 68 cents for a 94-pound bag, f.o.b. the plant.

Manufacturer: Instant Crete Corp., 1130 E. St. Georges Ave., Linden, N. J.

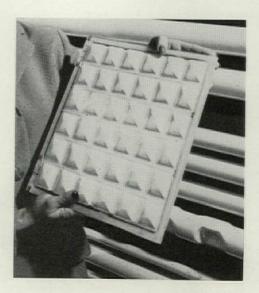
SQUARE FLUORESCENT

In General Electric's newest fluorescent lamp a 5-foot arc is compressed into a panel 1 foot square. This development adds yet another shape to the spots, lines, and circles of light with which designers have been working. The new lamp fits many modules, an important consideration in offices with flexible ceilings and movable partitions, combining, as it does, a modular size (115/8 inches square, 11/2 inches deep) with a high light output. GE's experience in glass technology-particularly its work on the Power Groove lamp, which compresses a 9-foot arc into an 8-foot tube -led to the manufacturing technique of sandwiching the light source between separately molded glass plates. In this lamp, the diffuser face plate, molded in a waffle pattern, conceals the path of the arc, while the back plate is a series of six loops. The molding technique for this glass envelope makes the lamp light in weight but strong. The first production model, shown here, produces the same amount of light from both face and back plates. In a second model, to be introduced later for use in suspended or recessed luminaires, 80 per cent of the light will be diffused through the face and the remainder reflected through a special back

Designed to operate at either 80 or 50 watts, the new lamp produces 4,800 or 2,900 lumens, respectively, an efficiency of 60 or 58 lumens per watt. At 80 watts it gives 10 per cent more light than four conventional 20-watt fluorescent lamps. Its rated life is 7,500 hours at both wattages. The first lamps will be cool white, the most popular white fluorescent; de luxe white and colors will come later. The list price is \$6.95.

Manufacturer: Large Lamp Dept., General Electric Co., Nela Park, Cleveland 12.

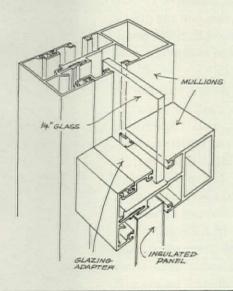
continued on page 51



ALUMINUM MASK

New faces for old is what Kawneer is promoting with its *Core system*, a panel-and-grid mask for old building façades, particularly store fronts. Core components are stock aluminum moldings extruded in four basic shapes, any two of which lock together (detail, below) to form 14 sash and mullion components, notched to receive glass and panels on two sides. Besides the Core components, which dovetail neatly, Kawneer sells adapters which fit them into other, non-Kawneer window and door frames. A Core facelift costs about \$100 less than conventional construction.

Manufacturer: Kawneer Co., 1105 Front St., Niles, Mich.



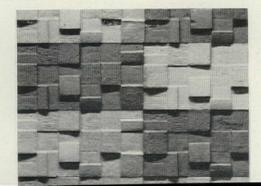
METALLIC GLASS

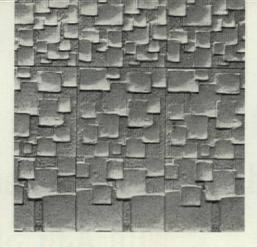
Adding insulation and a quality of depth to spandrel glass, American-Saint Gobain is now offering a new version of Huetex with a polished outside surface and a metallic inside surface to reflect heat. Ceramic enamel in any of 12 standard colors is fused to the inside surface of the tempered glass and protected by a thin aluminum coating. Several sizes of polished Huetex are available, up to 60 by 96 inches, but only one thickness, ¼ inch.

Manufacturer: American-Saint Gobain Corp., 625 Madison Ave., New York 22.

3-D TILES

By selecting related patterns and sizes from Design-Technics' collection of ceramic wall tiles, an architect may design a custom wall using material bought by the square foot. In addition to fairly bold patterns such as the two shown here,





there are complementary "background" tiles in more subdued textures. Any of them may be used on exterior or interior walls, either in natural clay or glazed finishes. Individual units come in several sizes, depending on the scale of the design, but they are generally based on a 6-inch module. Prices run from \$3.60 to \$7.50 per square foot.

Manufacturer: Design-Technics, 7 E. 53rd St., New York 19.

PREVIEWS

A flame-resistant foam developed to protect rocket mechanisms is being tested in prefabricated curtain walls and lightweight partitions. Called D-100, it is a two-part rigid polyurethane foam, part white, part black, which mixes to a frothy gray. Once set, the foam may be trimmed and shaped with a knife. Dyna-Therm Chemical Corp. is experimenting with a D-100 fire-stop core for walls which would have a two- or four-hour fire rating, good insulation and acoustical properties, and a long-wearing, weatherproof exterior. A free-flowing white powder, Du Pont's newly developed Baymal colloidal alumina, possesses an array of unusual properties, some of which suggest building industry uses. In one form Baymal is hard enough to machine steel or cut glass; in another it is an inorganic, high-temperature adhesive. Its thickening and suspending properties make sprayed or brushed coatings a commercial possibility, since Baymal's viscosity prevents drips and sags. As a binder for thin coatings on metals, ceramics, or glass fabrics, it improves thermal stability, upping a firebrick's heat resistance by something over 500 degrees, for example. Du Pont is producing develop-mental quantities of the powder at its Belle, W. Va. plant.

"Slippery rubber," an elastomeric material which is self-lubricating, may be molded or extruded into sliding weather stripping for windows, doors, and panels. Lubricating rubber without loss of elasticity is a chemical process which Quantam Inc., a Connecticut research laboratory, is developing for the U. S. Navy, primarily for dynamic seals on rotating shafts and other precision mechanisms that must operate for long periods of time without lubrication. After further development, Quantam expects slippery rubber to find its way into weather stripping, plumbing gaskets, and washers for civilian use. END

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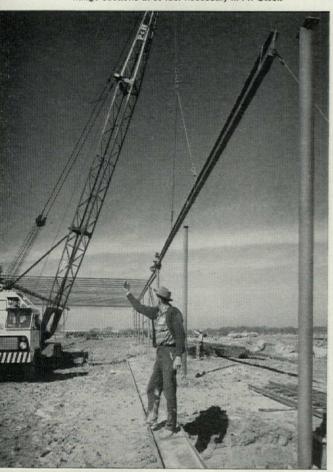
Steel fabricator helps customer reduce steel requirement 14% with A36 Structurals





Architect: Donald E. Stoll, A.I.A., (left) and Robert G. Graham, Jr., design engineer for McMurray Structural Steel Co., both of Nashville, Tenn.

These new 16-inch, wide-flange lightweight sections at 31 lbs. in A36 Steel were used in lieu of the 16-inch, wide-flange sections at 36 lbs. necessary in A7 Steel.



"Dominion Electric Corporation's new manufacturing plant in Gallatin, Tennessee represents the Southeast's first combination of the advantages of A36 steel, lightweight sectional structure, and the plastic method of design," says Mr. Donald E. Stoll, architect for the project. "Plastic design makes the total steel area one of working strength."

Mr. Robert G. Graham, Jr., design engineer at McMurray Structural Steel Company, Inc., fabricators of all the steel for the plant, said, "Specifying A36 Steel for our beams reduced our structural steel requirements by six tons and cut approximately \$1,500 from our costs. Structural steel in this project consists of 36 tons of beams and 10 tons of structural grade pipe, used as columns. In addition, there are 85 tons of bar joist purlins made of A7 Steel. These were not available in A36 at the time we started work, but if they had been, they would have saved us even more. We used 36 tons of A36 beams and we would have needed 42 tons of A7 for the job—a saving of 14% on the beams."

All the steel, including the new weight-saving structural shapes recently introduced, was supplied by the Tennessee Coal & Iron Division, United States Steel. A36 Steel with its higher yield point of 36,000 psi, costs very little more than A7 Steel.

The plastic concept of design, so important on this project, is based on the ultimate load capacity rather than on initial yielding. Mr. Stoll said, "It is being used extensively where sound, economical steel design is the objective." Mr. Graham also estimated that the plastic concept resulted in a 50% saving of design time on this project. For more information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pa. USS is a registered trademark.

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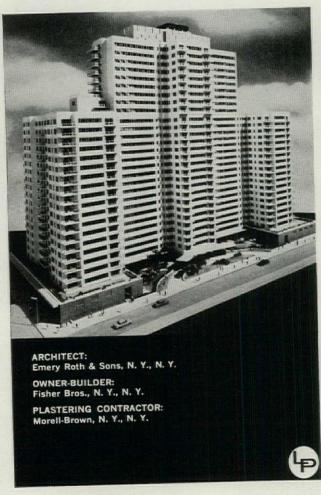






New plant of Dominion Electric Corporation, Gallatin, Tennessee, under construction by General Builders Corporation, Nashville, Tennessee. Higher strength USS A36 Steel Beams saved 6 tons of steel. Note simplicity of design.





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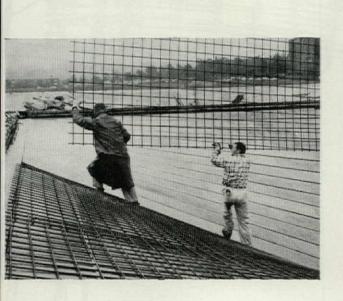
Now... extra-heavy 1/2" (USS) American for design versatility and lower

IN THIN-SHELL HYPERBOLIC PARABOLOID ROOF, SAVES 6 DAYS' CONSTRUCTION TIME.

The thin-shell roof of the new library at Hunter College consists of six 60-ft. square inverted concrete umbrellas. They are joined at the edges to form a roof 120 ft. wide by 180 ft. long. Each umbrella is divided into four hyperbolic-paraboloidal quadrants. Steel reinforcement for the "inside-out" umbrellas was provided by USS American Structural Welded Wire Fabric. Each umbrella used twelve 31' x 10½'

Installation was easily and speedily made by a small crew. When the concrete work was completed it was found that the use of pre-fabricated steel fabric had actually saved labor and material . . . and construction time had been cut by six days!

Welded Wire Fabric mats.





Structural Welded Wire Fabric cost concrete reinforcement

IN THIN FLAT-PLATE FLOOR SLABS, SAVES 15 WORKING DAYS

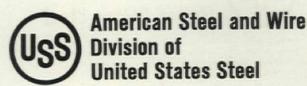
This handsome 12-story apartment building at 209-223 East 53rd Street in New York City was the first to be constructed with heavy welded wire fabric for reinforcement of thin flat-plate concrete floor slabs. Flat slab floor framing was selected because: (1) the thin (5½") flat-plate slab with its smooth surfaces unbroken by offsets for beams and girders, offers more ceiling height, and (2) it permits flexibility of partitioning and trims plastering and decorating costs.

Structural Welded Wire Fabric was selected to reinforce the slabs because the machine prefabrication of high yield strength steel wires offered: (1) Reduction in time and cost of handling 10' x 20' prefabricated wire fabric mats as opposed to placing and tying individual reinforcing members—a savings of 11/2 days to 2 days per 140' x 60' floors . . . and with fewer lathers. (2) Assurance that steel will be placed where required. (3) Positive mechanical anchorage in the concrete to assure crack control. USS American Structural Welded Wire Fabric is prefabricated with greater accuracy than can normally be relied upon in field work. This assures correct placement and distribution of the steel. The wires are drawn to the very close tolerance of plus or minus 0.003".

The new high tensile strength (75,000 psi minimum) and high yield strength (60,000 psi minimum) of USS American Structural Welded Wire Fabric permitted a higher working stress for fabric than would have been allowed by the building laws of the City of New York for hot-rolled bars.



See next page . . .





Here's why job-tailored (USS) American Structural Welded Wire Fabric is your best concrete reinforcement

You can now get USS American Structural Welded Wire Fabric with ½" diameter wires spaced as close as 2" on centers in both directions! These new areas of steel, plus the many time-tested advantages of Welded Wire Fabric, make it the best structural reinforcement for all types of construction.

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- 2. USS American Structural Welded Wire Fabric is completely machine prefabricated by electrically welding all intersections to conform to ASTM specifications. This high-strength connection assures positive mechanical anchorage in the concrete.
- 3. USS American Structural Welded Wire Fabric is prefabricated with greater accuracy than can normally be relied upon in field work. The wires may not vary more than ½" center-to-center than the specified spacings. This assures correct placement and distribution of the steel. Wires are drawn to the very close tolerance of plus or minus 0.003".
- **4.** USS American Structural Welded Wire Fabric requires very little on-the-job tying. Large prefabricated sheets are shipped to the job and placed as a unit. This eliminates thousands of ties and results in important savings.

For more information on the advantages and applications of American Structural Welded Wire Fabric, get in touch with our nearest Sales Office or contact American Steel and Wire, Dept. 1176, 614 Superior Avenue, N.W., Cleveland 13, Ohio.

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Editorial

Want to be Rockefeller?

It is always a shame when new ideas stop short of their promise, when a new beginning turns out to be the end. Rockefeller Center is a case in point. In the thirties when it was built it promised the beginning of a new urban world. But a quarter-century has passed and Rockefeller Center has never again been equaled, let alone surpassed.

Basically Rockefeller Center was and is an idea in the use of city land—the superblock. This lets the towers be pulled back, many of them, from the street line. It lets them go straight up, well separated, without excessive shading. It leaves pleasant open ground space, and terrace space, for people to enjoy. It lets vehicular traffic and pedestrian traffic be sorted out on different levels above or below ground. It has been sound economically all the way. All this is so well-known that repetition should be superfluous—as it is not.

For Rockefeller Center remains distressingly unique. A quarter-century later, not one of the vaunted new "urban renewal" projects, not even Philadelphia's Penn Center, holds a candle to Rockefeller Center, as urban architecture, as urban living, or as an urban place. And in New York even a fractional Rockefeller Center is a rare event. The new Chase Manhattan Bank Building, shown extensively in this issue of FORUM, is such an event, but then a Rockefeller—David—heads it. Other builders when asked why they produce nothing nearly so good reply that "they are not Rockefellers." That is correct: but why are they not? They would not have to start rich.

The production of a Rockefeller Center demands nothing unusual except two steps. One demand is the assembly, jointly with others if not individually, of a comprehensive plot of land; the other demand is a comprehensive plan. As things have turned out, large numbers of parcels used in our cities by speculative builders lie adjacent to one another anyhow, but have been used in the same stale old nineteenth-century way. If the builders had joined together and made up superblocks, they could have been Rockefellers. Besides becoming rich they could have done their cities a favor, and made names for themselves that people would like to remember.

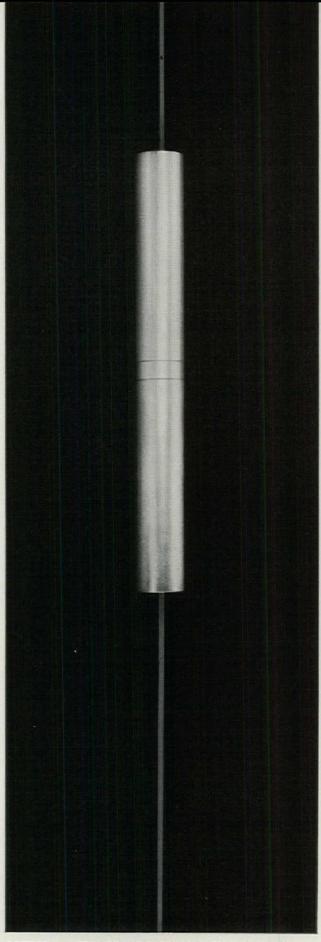
The tax on building

Although the present federal tax law with its favorable treatment of building depreciation does not encourage the construction of top-quality buildings like Chase Manhattan, it does stimulate building investment. For this reason alone the present law should stand, despite the current efforts of the administration to remove its depreciation provisions.

Admittedly, the present law has sired much of the cheap speculative office building which is choking Manhattan Island and some other downtown areas and it has accelerated the wheeling and dealing of developers who are getting rich quick on this kind of activity, but it has also sired throughout the country the construction of much badly needed medium-rent apartment construction which could not otherwise have been built. To reremove this stimulus, as the administration proposes, would be a mistake.

What the administration proposes is to replace the present 25 per cent (maximum) capital gain tax on the sale of depreciable real estate with the

continued on page 65



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Editorial continued

straight income tax, which runs as high as 52 per cent for corporations and 91 per cent for individuals. As Economist Miles Colean explains in detail elsewhere in this issue, this proposal would surely discourage investment in new construction and would adversely affect the quality and maintenance of much of that which is built. Moreover, it seems likely that income-tax revenue would be reduced rather than increased as a result of this proposal, for the suggested change in the tax law would discourage new construction sufficiently to offset and even exceed the \$200 million potential gain in revenue which the administration claims for its proposal.

It is true that another proposed change would mildly stimulate some modernization and expansion of private plants and equipment, by granting an investment tax incentive in the form of tax credit. However, this proposal is limited to nonresidential buildings; and, in addition, it is likely to affect the replacement of equipment more strongly than the replacement of buildings.

In short, the administration's tax proposals—in the balance—would do more harm to the building industry than good. And a great many groups affected by building activity would suffer, including towns and cities clamoring for renewal, as well as citizens looking for apartments to rent. The building industry is only just beginning to pull the economy out of a recession; at this time it needs help in its efforts, rather than hindrance. Despite their shortcomings, the present tax laws relative to building should stand.

In the Forum

Thirty pages in this issue (66 to 95) are devoted to the new Chase Manhattan Bank skyscraper in New York. The aim is a truly rounded story. Virtually every member of the editorial staff has been engaged on it during recent months, interviewing dozens of people from President Rockefeller down.

FORUM believes strongly in the rounded "case study" and has used it again and again—on the General Motors Technical Center, Seagram Building, Lever House, Alcoa Building, and Mile-High, to name a few. Thorough analysis of one architectural achievement can outweigh a dozen articles of opinion on trends in architecture.

Pages 86 to 87 have a special bearing—they deal with the investment reasoning behind Chase. Among magazines

that cover architecture FORUM stands alone in reporting the business thinking of the specific building client, all the way. All too often the title "economics" is conferred on discussions relating only to building costs. Important as these are, they form but one factor in the comprehensive problem of economic feasibility, manipulation, and profit. Those architects who fear that such economic knowledge might poison their art are free to skip it—there is plenty of design discussion for them in the story (pages 72 to 85). Yet they risk losing future jobs to such as Skidmore, Owings & Merrill, the architectengineers of Chase, who have learned that knowledge of investment essentials really opens big doors of architectural opportunity.

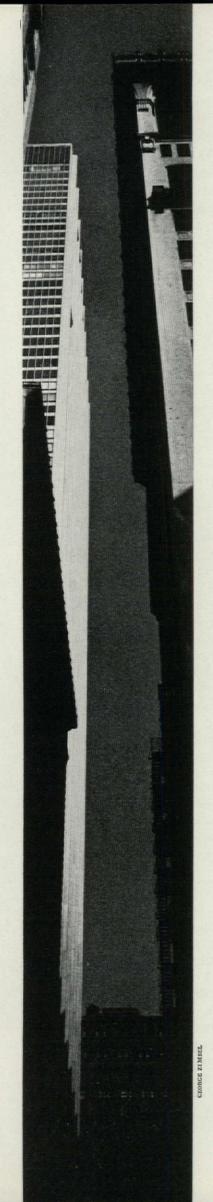
Coming in August

Today's well-known names in architecture: Wurster, Belluschi, Harrison, Bunshaft, Saarinen, Abramovitz, Gruen, Johnson, Harwell Harris, and dozens of others—to pick at random—were all unknown ambitious young men 20 years ago. They were starting a "modern movement" in architecture. FORUM's happy lot was to help all of them, and start most of them, toward recognition by showing their youthful works to a nonexpectant world. Within

the last decade FORUM has been issuing "young men's issues" every five years starting in 1951; out of these have come still newer names such as Warnecke, Franzen, Barnes, Weese, Rudolph, Lundy.

The August issue rings a change—as a "new talent" issue it presents *new* names young or not; moreover it tells about engineers and builders as well as architects. May the next 20 years prove them as good as the others!





THE CHASE portrait of a giant

A 30-page report on the biggest office building in Manhattan in 25 years:

The key role it plays in downtown renewal

Its pace-setting plaza and public spaces

PAGE 70

Planning of its big-columned tower

PAGE 74

Its offices, art, details, special areas

PAGE 76

The economics behind its design concept

PAGE 86

Technology: from footings to cooling tower

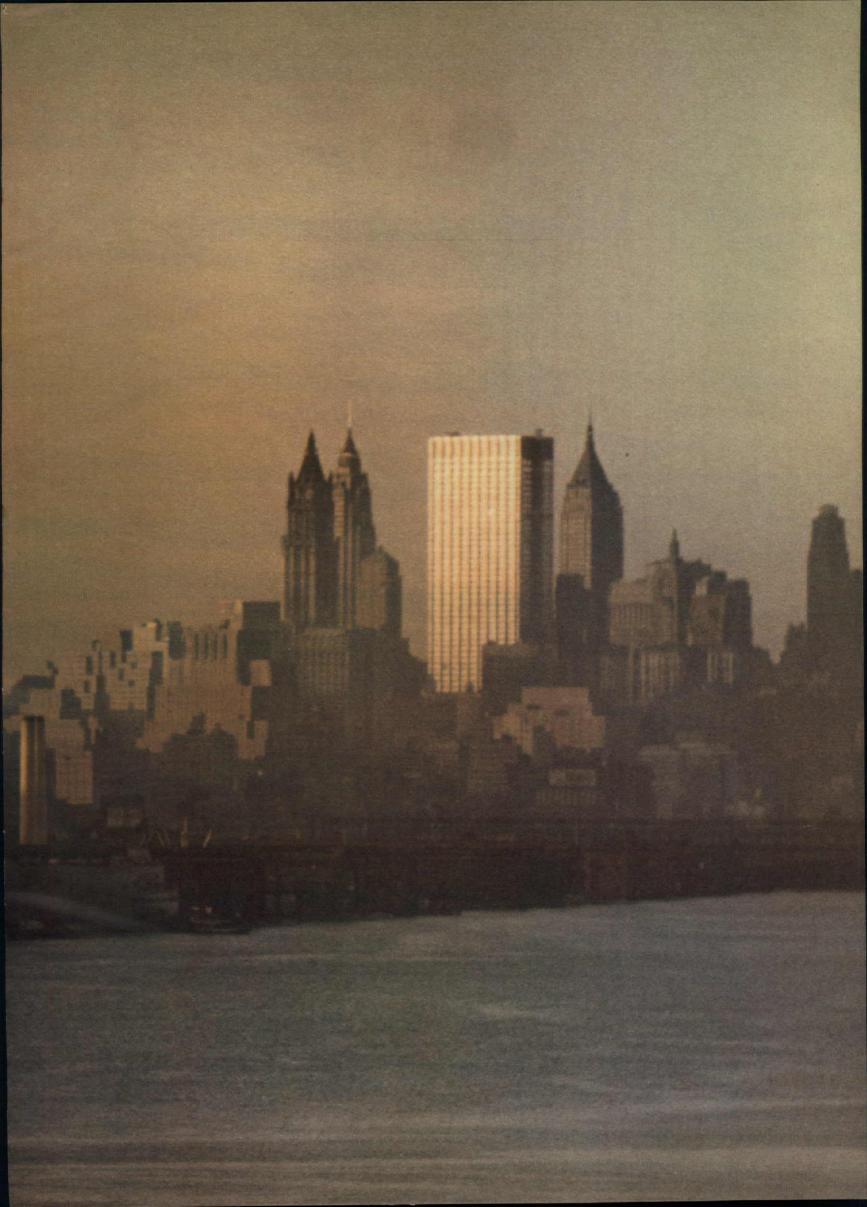
PAGE 88

Its significance on the American scene

PAGE 94

Rising 60 steel-ribbed stories out of the dark canyons of the financial district, the great glass and aluminum slab of the Chase Manhattan Bank stood uncannily singled out by the early morning sun last month against the fabled sky line of downtown New York. Just open for business, it was, at 813 feet, the sixth tallest building in the city (and the world); at 2,239,530 square feet of gross floor area, the biggest commercial structure completed in more than 25 years, and the largest banking operation ever assembled under one roof; at \$138 million, the largest total investment in a building of its type. It was also, detail for detail, in over-all quality as well as outright size, one of the most remarkable planning, architectural, and engineering accomplishments of recent years.

While its neighbors still outreached each other in earlier aspirations to the sky—the spire of 40 Wall Street to the south pointing 927 feet (right in photo), Cities Service soaring 950 feet (left), and the grand old Woolworth tower still holding its own to the north—the big, broadshouldered Chase stated crisply the mood and abilities of a newer age. It was not so much a cathedral of money as a powerful and superbly equipped machine for handling it. The tower was rooted down, as sym-





bolically solid as an earlier Wall Street had been shaky, through four huge working basements to a bank vault nearly the size of a football field, where sacks of cash were handled on power trucks and clerks clipped and sorted a sizable fraction of the nation's securities—some \$35 billion worth.

It was just above ground, however, that the new Chase building pointed most emphatically to new architectural thinking. At the geographical center of the world's most congested market place—where land was worth up to \$10 million an acre—it was opening up no less than 70 per cent of its $2\frac{1}{2}$ -acre site to a civic plaza where the subway crowd could look up to trees and sky. Even though Chase's old buildings would not be fully replaced by the plaza until 1963, the indicators of real estate already pointed toward it as a magnet at least equal to that of the shiny new tower itself. The center of the financial district was subtly shifting a few hundred yards from its historic location around No. 1 Wall Street and the New York Stock Exchange to a newly minted address: No. 1 Chase Manhattan Plaza.

Catalyst for downtown renewal

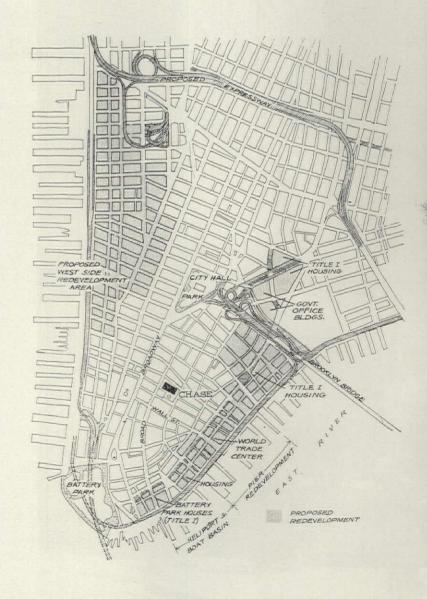
No less striking was the effect Chase and its leaders were exerting on downtown as a whole. Chase's decision to stay home, instead of joining the uptown Park Avenue parade, set off a chain of new buildings and remodelings, a game of musical chairs as fascinating to follow as it is helpful to the long-term strength of the financial community (see map, page 86). At the same time Chase has been doing much to insure its own investment. The decision to build was made in 1955. By early 1956 David Rockefeller, then executive vice president in charge of the project, took a second look at the fringe of run-down lofts, markets, and piers that surround Wall Street's towering core. Before long, the energetic youngest son of John D. Jr. rallied downtown business leaders together in a new Downtown-Lower Manhattan Assn. With David as its chairman, the group formed subcommittees, hired experts, issued reports, and actually began working in earnest with city agencies.

Today DLMA is busily promoting a program that includes (see map): extending zoning to the whole area to sort out conflicting uses; pushing the Lower Manhattan Expressway to link east- and west-side highways into an outer traffic loop; finishing the widening of Water Street and extending it to other streets to form an inner loop; redeveloping old areas for new Title I middle-income housing to give downtown some sort of balanced, round-the-clock population; studying the travel patterns of 400,000 downtown workers in hopes of staggering

Chase's big tower, seen from the northwest with Brooklyn in the background, is framed by the spires of Cities Service (left) and 40 Wall Street. Proposed redevelopment areas that Chase and its president have helped spark are shown in map (right).



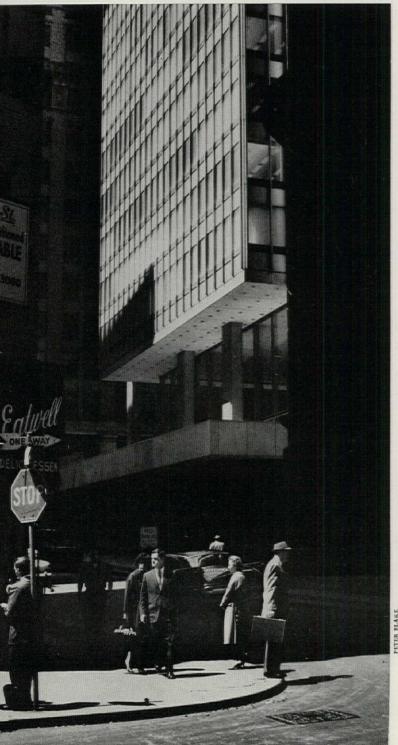
President Rockefeller (left) in Chairman Champion's office.





Hawthorn trees rising from the completed northwest plaza set off the precise geometry of the tower's glass and aluminum skin.

A glimpse of the tower's other end, down William Street.



working hours to relieve the transit crush; planning renewal of a 29-acre area on the West Side as a \$100 million office-industrial-market complex. The latest and most ambitious undertaking, with the Port of New York Authority, is a scheme for converting 13 acres on the East River into a huge World Trade Center combining new office and retail space, a new home for the New York Stock Exchange, and a 72-story trade mart topped by a 350-room hotel.

A plaza setting for a tower

If and as these projects take form, they will have before them at least one example of the scale that the new urban planning seems to demand: Chase Manhattan itself. The Chase is virtually the first commercial "superblock" in New York since John D. Jr. put together Rockefeller Center uptown in the early thirties. Though not so large in area, Chase goes its predecessor one better in linking two major buildings, the old and new Chase headquarters, across a sizable pedestrian space by actually closing off a city-owned street (Rockefeller Center kept the old streets and actually added one). To be sure, the two blocks thus combined were not large by New York standards, and the names of Rockefeller and Chase doubtless lent weight to Architects Skidmore, Owings & Merrill's proposal when it was presented for city approval. But the principle can, and probably will, be used again: in return for getting one block of the intervening Cedar Street to incorporate into its plan, Chase and SOM agreed to ease traffic flow around the superblock by ceding to the city a 15-foot strip on three sides (8 feet on the fourth, to eliminate a jog and line up with the Chase's old headquarters). Chase also agreed to reroute existing utilities at its own expense, and to pay the city \$100,000 to boot. Part of the bargain was that Chemical Bank New York Trust, which has bought the main old Chase building and is now remodeling it for its own new head offices, would arcade its entrance side along Pine Street

PETER BLAD

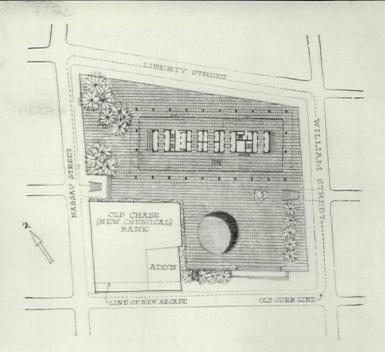


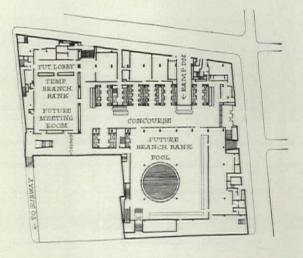
to allow the new setback sidewalk to continue through.

Unlike most older civic plazas, which flow directly off the street, Chase's is raised and parapeted; as the land slopes away to the northeast corner of the site, its height increases to 20 feet above sidewalk, allowing headroom for a direct pedestrian entrance to the bank's concourse level on the east, a truck entrance to a service basement on the north, and air intake and exhaust louvers for basement working areas around the black, polished-granite base. Some have criticized the plaza as a one-story "building" which does not fully open up the area to the man in the street. Others, however, are happy to wander underneath the newly planted hawthorn trees, slightly removed above the scramble in the canyonlike streets. At any rate, the main south plaza, which will see the sun when Chase's collection of old buildings comes down, is nearly at sidewalk level, its terrace broadly linked to the city by a shallow set of steps.

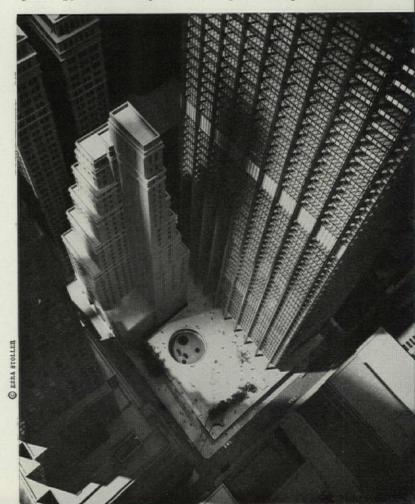
Others beside Chemical Bank are dressing up to welcome this new piece of open space downtown. Manufacturers Trust has already remodeled its headquarters (bottom left in photo, right), and in the lower floors of the 40 Wall Street tower next door, Hanover Bank is now face-lifting a new home across from the plaza.

HEAD OFFICE, CHASE MANHATTAN BANK. ARCHITECT-ENGINEER: Skidmore, Owings & Merrill; J. Walter Severinghaus (partner in charge), Gordon Bunshaft (partner in charge of design), Allan Labie (project manager), Jacques E. Guiton (project designer), Reinhard M. Bischoff (project supervisor). Consultants: Moran, Proctor, Mueser & Rutledge (foundations); Weiskopf & Pickworth (structural); Jaros, Baum & Bolles (mechanical and plumbing); Meyer, Strong & Jones (electrical and elevators); Howard L. Post (kitchen); Bolt, Beranek & Newman (acoustical). Interior design and furnishings: Skidmore, Owings & Merrill, Davis B. Allen (chief designer); Ward Bennett (consultant on furniture and furnishings); Chermayeff & Geismar Associates (consultants on graphics). General contractor: Turner Construction Co. Foundations contractor: The Foundation Co., George M. Brewster and Son, Inc. and Joseph Miele Construction Co. Inc. (joint venture).





Floor plans of the plaza (top) and concourse levels show the main public areas as they will be on completion. Dotted line indicates old curb line before Chase ceded traffic room around its superblock. Model photo (below) shows the final scheme, with the old building squared off, the new main plaza overlooking a circular pool.







Main lobby will face the main plaza through the glass wall at left. Moving stairs ascend to a cantilevered officers' mezzanine at rear.

Public spaces on three levels

Once inside the building, a visitor to the Chase is likely to find himself on one of two entrance floors: in the concourse (below) located under the plaza and entered directly from one of the three surrounding streets, or in the main lobby (above) which is at plaza level.

From these two floors it is possible to reach all the banking areas most frequently used by the public: from the concourse one enters the branch bank used for ordinary transactions. (At present, this branch bank is located in what eventually will be an 800-seat auditorium; when the plaza is completed, in 1963, the branch bank will be in its permanent quarters, just beyond the glass walls seen at left, below.) From the main lobby, one can reach the mezzanine (above) with its desks of loan officers for the New York–New England area.

While the concourse is the busiest and most useful

public area (because of its three street entrances and two entrances from subways), the 30-foot-tall main lobby at plaza level is the most impressive. Like all glass rooms, this one is visually bounded by surrounding structures and objects far beyond the line of the glass: to the north is the massive limestone and sandstone façade of the Federal Reserve Bank, built in 1924 by Architects York & Sawyer in the manner of the Palazzo Riccardi in Florence (opposite); to the east and west are less-distinguished, but equally solid masses of brick and stone; and to the south will be the larger part of the plaza itself, with its trees, benches, and a large sculpture not yet chosen. To Chase's lightheaded bankers, seemingly affoat in space on their cantilevered mezzanine, the stones of Florence (once or twice removed) should be a sobering reminder of the dignified traditions of their trade.

Concourse level, below the main lobby: the branch bank, now located in meeting room at far end, will be seen through the glass at left.



Tower for the future

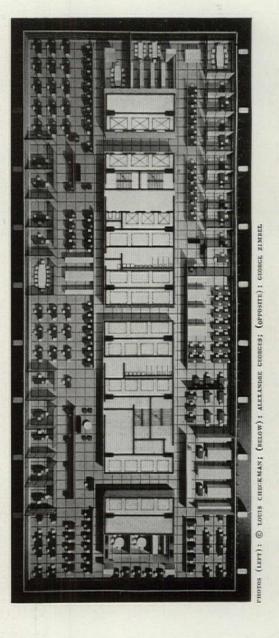
How Chase's office floors were planned—and why—may change a lot of conventional thinking.

The Chase tower differs from most others in three respects: first, it has no interior columns (except near the two ends of each floor); second, its 30,000-square-foot plan is not symmetrical about the core; and, finally, it was planned to serve future needs based, in large part, on guesswork. "We have no idea what kind of machines we will be using in ten years," said the bankers, and they really were trying to be helpful.

SOM believed that putting the 2-foot, 10-inch by 4-foot, 11-inch columns not inside the skin of the building, and burying the interior supports in the elevator and service core, would produce a much more flexible space, and add considerably to the usable floor area. To prove their point, the architects prepared a conventional floor plan with interior columns set in small, economical bays, then compared this with the outside-column plan. Conclusion: the conventional scheme had room for 6 per cent fewer desks—but its shorter spans cost 5 per cent less than the deep girders required by the long-span, outside-column scheme. Chase decided to buy the latter.

Making the spans unequal about the service and elevator core produced office-pool spaces 40 feet deep along the south side of the tower, shallower spaces 30 feet deep for small offices (or smaller pool areas) along the north—another gain in flexibility. The partition and window module is 4 feet, 10 inches.

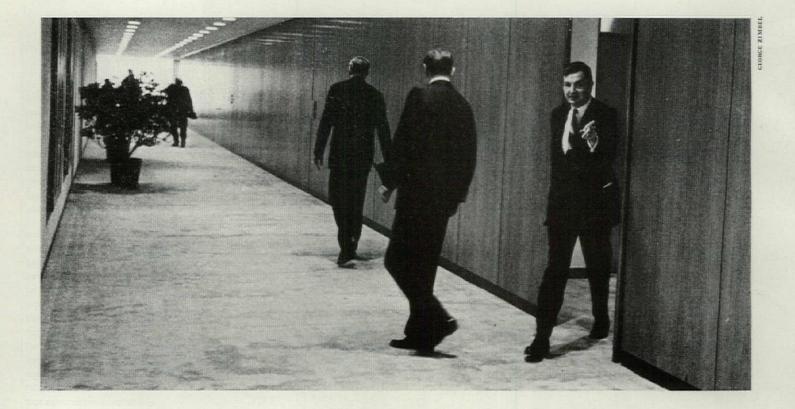
SOM used a detailed scale model to lay out every office floor (see right), consulted with Chase department heads on the placement of every interior partition, desk, file cabinet, business machine. Even so, the current use of some office areas is very different from that originally envisaged; total flexibility began to pay off even before the tower was up.



Typical pool space shows SOM-designed desks in modular (4-foot, 10-inch) widths. Partitions are translucent glass in aluminum.





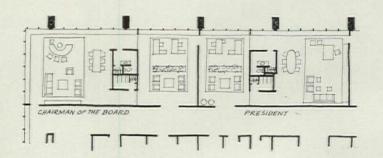


Artful offices for bankers

Here is one of the startling statistics in the Chase: with 7,500 employees in 1.2 million square feet of space, there are only 150 private offices. Some of these are very private indeed, as befits the heads of a gigantic banking corporation. The top—almost philosophical—peaks of influence are on the 17th floor. Here, among works of art worth a considerable fortune, sit the moguls, supplied with courtly guards, express elevators to the executive dining room and the street level, a private barbershop, and a board room with 60 chairs, a single, vast table, and one Soulage painting almost 5 feet square on the end wall.

There are bigger works of art on this floor, if not bigger tables. When David Rockefeller—sometimes called "Mr. David"—lunges out of the express-elevator landing (above), headed for his office (right, below) in a hurry to pick up notes for a board meeting at the other end of the corridor, he first passes a large primitive carved West African bird in the hall (right, above—wags among the high officers sometimes describe the bird as an old Chase director, preserved). Then, inside Rockefeller's office, there is the Okada canvas and other impressive works of art. Before Rockefeller reaches his desk he marches off the carpet onto an exquisite teak floor—the power and position of the three top men on the 17th floor is so apparent as not to require titles on doors or wall-to-wall carpeting on floors.

Rockefeller's office was furnished as an extension of his personality, the designers say. The paintings were



Office of the president, David Rockefeller, includes a spacious work and conference area (right), a private washroom (a Cézanne lithograph hangs on the washroom wall), and a private reception area (plan, above). It is more than matched by that of the chairman of the board, George Champion, who has more space and a corner of the building (Champion also has more traditional furniture). As artful as the offices is the executive corridor (above).









selected from his own collection. Offices of the 135 vice presidents, senior vice presidents, and executive vice presidents are also contrived to compliment the occupants' business specialities and hobbies within the general Chase taste. (How this intricate operation was performed is told on page 80.) Not all the furniture in the high executive areas is contemporary, although there are no ancient fireplaces, such as sometimes have been demanded in other air-conditioned modern eyries like Lever House and the UN Secretariat. In the office of Board Chairman George Champion, however, is a beautiful eighteenth-century Hunt table—his desk; and the chairs around his conference table are Queen Anne, in rosewood.

More typical offices, private or shared, on other floors of the bank are shown at left. Officers were allowed to pick from five different furniture arrangements for the private rooms, but the finishes in a range of 60 varieties considerably widened this choice. The senior vice president concerned with the bank's African affairs occupies an office (left, below) with an antique tribal weaving from West Africa on display. Also in this office is an old horn, not shown, made from an elephant's tusk.

Art is served at Chase in another way, exemplified by the board room (right). The palette in the Soulage on the end wall governed the subtle color scheme of both walls and furniture, inviting the artist's talent into the room. Compared with most modern office buildings of the first rank, Chase has colors more muted, more intricate, and, on the whole, warmer.

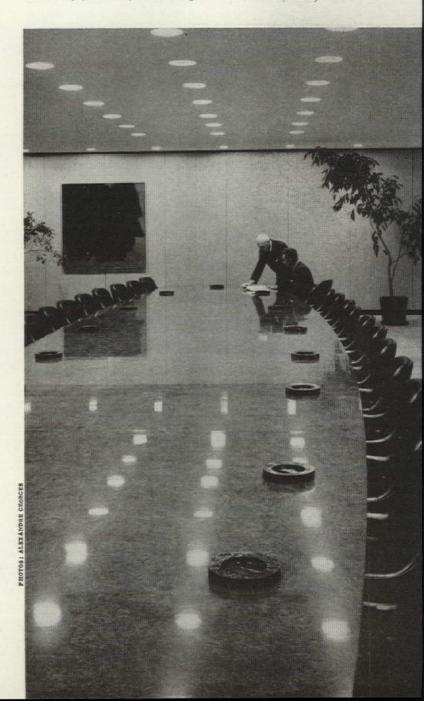
Typical of the scientific zeal with which the interiors are designed is the high level of electric lighting. All of the standard office space has 85 foot-candles at desk height. The ceiling fixtures are fluorescent, diffused through acrylic plastic lenses. This tremendous over-all light flux inside the building serves in another way as well. It cuts contrast between inside lighting and outside daylight at the big glass wall, so that apparent sky glare is not brutal. The other control on glare is vertical blinds installed in all windows.

Typical of the thoroughness with which the Chase Bank moved into the modern mood was its complete change-over in furniture. In a sweeping gesture the bank made a gift to 44 institutions of 100,000 pieces of furnishings from its old headquarters. Columbia University, which got the bulk, gratefully undertook the moving job, then had to construct a huge shed on its campus, 200 feet long and 26 feet wide, to shelter its bonanza (valued at \$407,000) until all the pieces could be sorted out and moved into place in their new academic role. Total cost of the new furniture in the new Chase headquarters is estimated at \$18 million plus, including banking equipment and interior finishing such as partitions, paintings, flooring, and carpeting.

Executive offices areas: left, above—a typical waiting room with shared office space in background. Left, below—the private office of a senior vice president concerned with the bank's African affairs; appropriately, an African weaving hangs behind his desk.



Old ship's figurehead welcomes directors to the 17th-floor lounge where they gather before entering the board room (below).





Bankers

Art



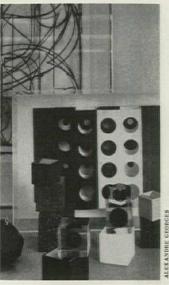
Desk furniture



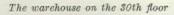
Paperweights



Primitive art



Advanced art





Programmed art . . .

The perfection of the interiors which Skidmore, Owings & Merrill put into office buildings is like a wire drawn finer and finer with each effort, each new building. In the pulling for perfection at Chase Manhattan, SOM's interior leader, Davis Allen, had the assistance of an outside interiors and furniture expert, Ward Bennett, a zestful designer who frequently disguises the zest with a very worried look. Or maybe it is just what he has been through lately.

Bennett began his task as a part-time consultant to SOM helping to fill in some of the perfect rectangles produced in the SOM drafting room, but he was soon drawn into the finishing as well as the furnishing of some of the interiors. And finally, it was he who was handed the task of providing art and artifacts for the 139 executive offices.

Early in the process of planning, Chase had set up an art-selection board, including such experts as Alfred Barr and James J. Sweeney; David Rockefeller (its chairman) gave it a \$500,000 budget. This group selected and commissioned works of museum caliber for the public spaces. But Rockefeller also wanted individual offices to hold the same intense, elevated taste, if in a more modest way—and to please and identify their occupants as well, helping to break down the institutional similarity of the surroundings.

Bennett (and his assistants) interviewed every executive, some several times, and then began accumulating art and things. Before long, the designer had ranged through Europe, and he and SOM had designed a very elegant set of desk accounterments to be made by such craftsmen as Gucci in Italy and Hermès in Paris. His tastes in art are anything but bigoted; on display are Audubon prints and Picasso sketches, modern sculpture and ancient locks. When an officer retires, his set of objects will be offered to a museum.

The job is not yet finished. In a large, carefully guarded space on the 30th floor of the building is a rich veld of art and objects through which Bennett, like a hunter on safari, is still guiding vice presidents. (The officers can choose, for example, from among 20 different ash trays, all designed by Bennett.) Evidence that the bank is highly satisfied with Bennett's abilities lies not only in the large quantity of Bennett-designed furniture on view, but in the fact that he has been given two branch-bank interiors to design, complete. An intimation of how this seemingly impossible job of pleasing a set of forceful executives could be accomplished at all came in a Newsweek report (disputed by the bank) of an interview with a bank official. What happens, the reporter asked, if one of the vice presidents wants elks' heads on his walls? "Nobody in the bank hunts," was the answer. What if a man paints, or if his wife paints? "Nobody in the bank does." What if a man's taste in art differs from Chase Manhattan's? "Well, a bad Maxfield Parrish chromo would be heavily discouraged on policy grounds."

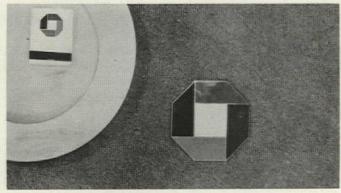
... and precise details

Chase is, among other things, a 2.3 million-square-foot laboratory for new building products—products that were specially designed for this building and may soon become stock items in many a manufacturer's catalogue.

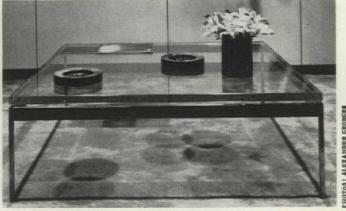
For the architects left no detail, no fixture, no push-button undesigned—however "unimportant." If there was no stock doorknob that would satisfy SOM's discriminating taste, SOM designed a doorknob that would; if there was no soft-drink dispenser, no directional sign, no mail slot, no file-drawer tab, no water faucet on the market to match the building's over-all elegance, SOM and their graphic and typographic consultants, Chermayeff and Geismar, filled the gap—either by adapting an existing unit, or by designing an entirely new one.

In this area of building products, more than in many other areas, Chase will have a potent influence on the quality of U.S. structures over the next few years: not many clients can afford to have "unimportant" items specially designed and made for them—and not many clients really care enough, in any case. Yet, the final quality of a building is often determined by these "unimportant" details—which means, generally, by what is available on the manufacturers' shelves.

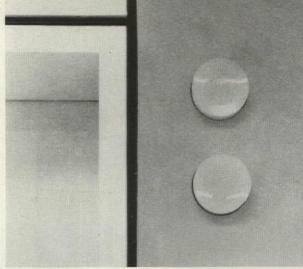
Because of buildings (and clients) like Chase, the quality of what will soon be available—and, thus, the quality of all U.S. architecture—is greatly improved.



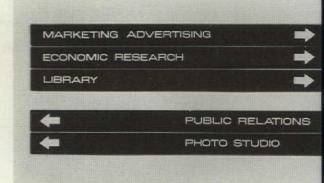
Ubiquitous Chase symbol (Chermayeff & Geismar, designers).



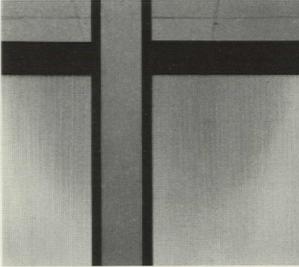
Coffee table in reception area.



Elevator up-and-down lights of plastic.

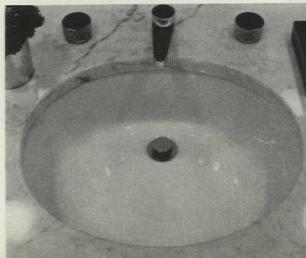


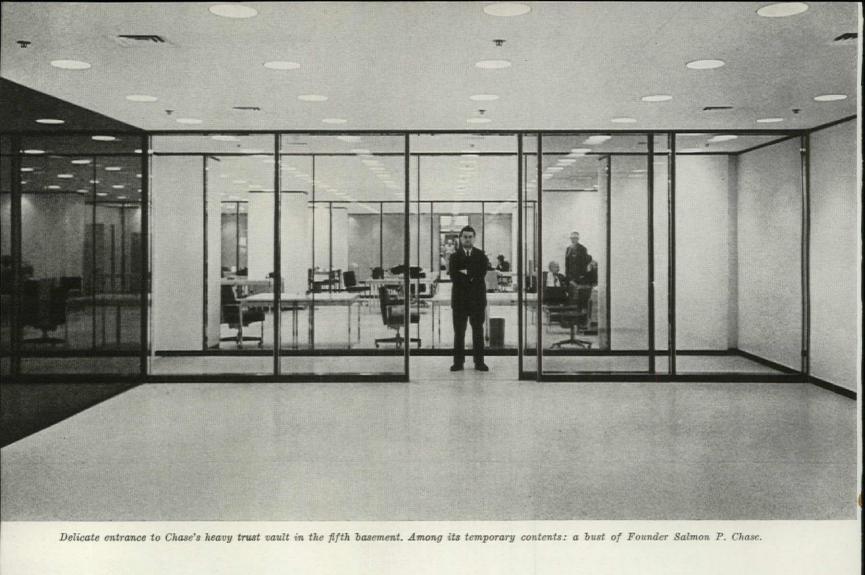
Directional signs on black aluminum.



Partition detail-aluminum and glass.

Marble lavatory with special faucet and taps.





Chase securities traders need only press a button to be in contact with any one of 120 outside brokers. Order book rides in conveyor slots.





Banking machines outbulk their operators (above and right).

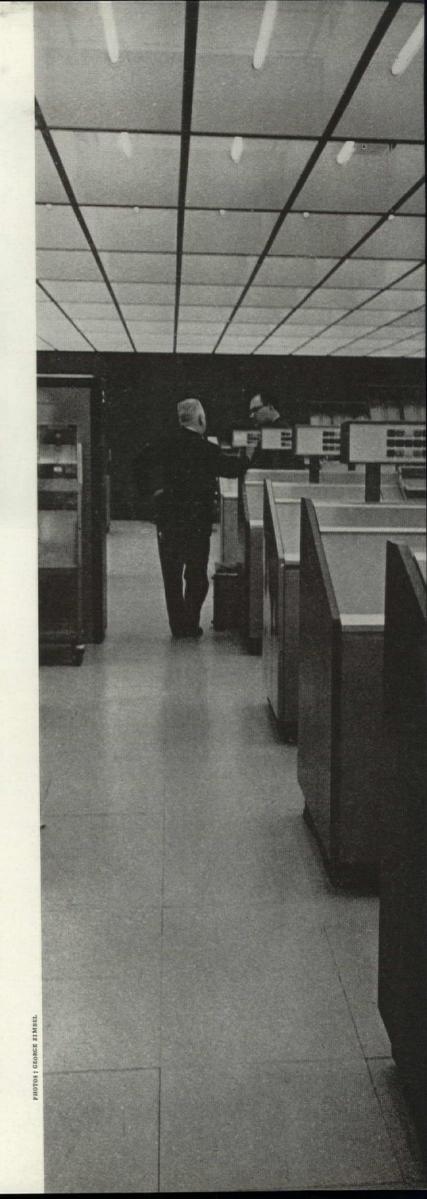
Environment for men and machines

The large operating environments of a modern banking colossus range from the controlled clamor of the bond trading table (left, below) to the endless calm of the underground vault entrance (left, above).

The securities trading table on the 26th floor is the buying-and-selling agent for the pool of securities handled for the bank and for outside accounts. (The pool of customer-owned securities is approximately \$32 billion deep currently.) A web of 120 direct telephone lines runs from each telephone on this table to brokerage houses, and a swift and intricate communications system runs to interior departments of the bank itself.

The Chase Manhattan's vault, beyond the delicately framed outer desk area, is the world's biggest and toughest bank keep. Its 35,000 square feet of watertight floor area are built into Manhattan's bedrock 90 feet below street level, and anchored there against tidal waves.

And then there are the operating machines. One of the most advanced electronic-data processing systems ever designed for a financial institution is in the basement level above the vault (right), and includes an automated check-processing system which eventually will process more than a million checks per day coming in from the 104 Chase Manhattan branches in New York City. When all machines have been installed, the yearly rentals paid by Chase will come to more than \$2 million.

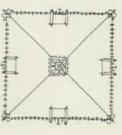




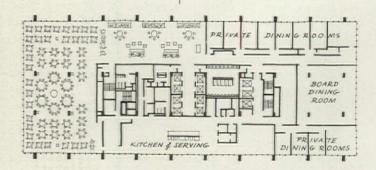
Lunch on the 60th floor

Gordon Bunshaft, of Skidmore, Owings & Merrill, tells of early plans to place a spectacular piece of sculpture just off the 60th-floor elevator landing where Chase Manhattan bank executives and their guests disembark before having lunch. It was to be a sequential experience. First the lunchers would focus on the sculpture, then they would become aware of the almost incredible view through the glass wall beyond, down on the southern tip of Manhattan Island, toward Brooklyn to the left, New Jersey to the right, the harbor and its islands ahead, the Statue of Liberty a minute figure waving up from the water.

But Bunshaft relates that when the 60th floor was framed in, the designers discovered that the necessary piece of sculpture had already been provided, in 1929, by Architect H. Craig Severance, when his office detailed the spire of 40 Wall Street (right), just south of Chase. Forty Wall is actually a little taller than Chase, 927 feet at the needlelike top. From floor 60 at Chase, its lavishly ornamented spire juts up like a Scandinavian church in the foreground, with the vast land and seascape beyond. Viewed from the street, the detailing of the top of this middle-aged tower becomes insignificant, but it can be said that the draftsmen in the Severance office, who spent many painstaking hours perfecting the ornamental peak more than three decades ago, have been justified at last.



View to 40 Wall Street.

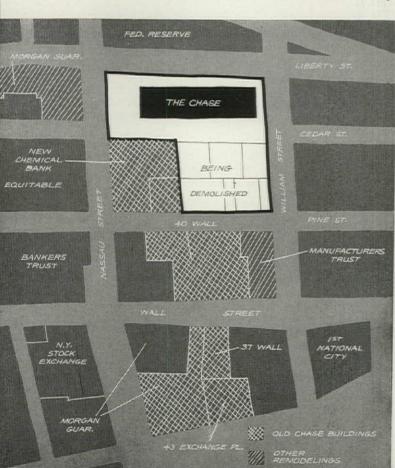


Dining capacity is 278 in the main room and 186 in private rooms.





Downtown anchor: the big Chase slab, seen here with its giant cooling towers and washing rig on the roof, has stimulated new confidence on all sides. Nearby remodelings are shown in map.



The Chase: economics of a big investment

The planning and construction of Chase's massive headquarters, not surprisingly, has taken the better part of a decade, and is not finished yet. The building, however, is already proving to be one of the boldest, and quite possibly one of the soundest, investments to be made on Wall Street in many years.

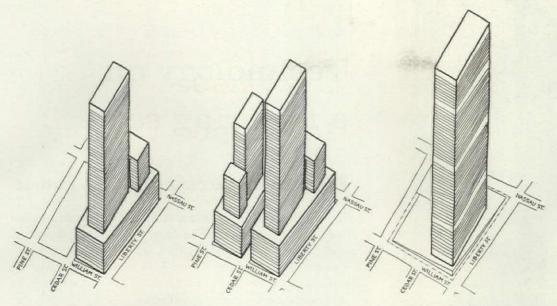
The idea of the project had its seeds back in the early fifties, when a growing Chase National Bank began to feel the pinch for space. The problem had developed into a genuine headache by 1955, when Chase merged with the Bank of the Manhattan Co. to become the city's biggest and the country's second biggest bank (104 New York City branches, \$9 billion assets, \$8 billion deposits last year, topped only by California's Bank of America). The headquarters staff alone numbered 8,700, jumbled into nine different buildings in the financial district. The time had come. But should Chase try to remodel, build afresh, or move uptown?

The choice was not easy. The tremendous corporate growth in midtown New York was attracting more and more Wall Street firms, including Chase's biggest competitors, to establish more and larger quarters there.

Chase's board decided to go along with the parade to the extent of its own small "showcase" branch at 410 Park Avenue. But it decided to make its major commitment downtown, where it could keep its vital linkages with all the other banks, brokerage houses, exchanges, and business firms which make Wall Street such a uniquely tight and interdependent little island.

The project actually began to take shape in June 1955, when Chase bought from the Guaranty Trust Co. a block on which both of their main headquarters buildings faced. Hearing rumors, SOM partners swung into action, called Senior Partner Nat Owings in from San Francisco to ask for a meeting through David Rockefeller.

Having presented its credentials and gotten a tentative go-ahead, SOM, led by Partner Walter Severinghaus, worked quickly to analyze the problem and make its proposal: since Chase now owned most of two adjacent blocks, would it consider, in addition to a separate building or buildings on each one, a single tower and plaza straddling both? By developing square footage and cost analyzes for three alternates (sketches opposite), SOM persuaded Chase of the merits of the latter scheme: more usable square feet of office space and greater op-



Alternatives shown Chase by SOM: maximum building possible on one block (1.2 million net square feet), on two separate blocks (1.8 million), and on two blocks combined (1.7 million). The latter yielded uniformly larger tower and basement floors, better light, air, internal communication, and a priceless plaza.

erational efficiency, plus better light and air, easier rentability, room for expansion, and important effects on employee and public relations, not to mention the long-term value of the property itself. Once the board had agreed, the deal was worked out with the city. Said David Rockefeller, who handled the project for Chase from that time on: "We had remarkably little trouble selling the idea."

As detailed plans were developed, the bank's real estate department, with Realtor William Zeckendorf as consultant, purchased small bits to round out the older Chase block, and arranged sales of its scattered holdings elsewhere for an aggregate of \$63.5 million. The ripples haven't died down yet. By the time Chase has fully opened its plaza (see map), it will be bounded by revitalized buildings on two sides and can claim to have stimulated new building confidence all over downtown.

Teachers and tenants

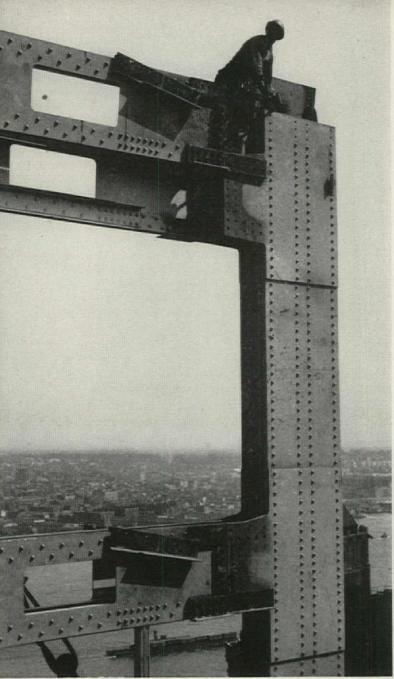
Four and a half years in actual construction to date, the Chase has not been a cheap project, though it has remained considerably more in line than some of the wilder rumors would suggest. Vice President for Real Estate Ray O'Keefe estimates that current construction costs are running 8.1 per cent over early estimates of \$91 million, and that \$100.5 million will have been spent on construction by 1963. This will represent some \$45 per square foot, in line with buildings of comparable quality such as Seagram's and Union Carbide (though well ahead of run-of-the-mill New York building's \$30 per square foot). An additional \$19 million will have been spent in land acquisition, demolition, and utility rerouting; close to another \$19 million spent in all-new furnishings, including the \$500,000 art program and considerable office machinery and special banking equipment (e.g., vault doors at \$50,000 apiece, and an electronic security system that would make Fort Knox blush).

To finance this \$137.5 million project, Chase has added to the \$63.5 million realized in property sales some \$14 million of its own funds, and a \$60 million, 30-year mortgage from the New York State Teachers Retirement System. For Chase the loan was a good find at 4 per cent and favorable prepayment rights, and it helps keep down the over-all percentage of the bank's portfolio

invested in the fixed assets of real estate. For the teachers, Chase was an equally good find: one huge, gold-plated investment with no servicing to worry about.

The bank, of course, will offset the costs of its new building with the rents from its tenants, who occupy 588,059 square feet, or about one third, of the building's 1,819,559 square feet of net rentable area. Annual rents run from \$200,000 to \$231,000 for full floors (26,850 to 28,600 net square feet), or the equivalent of \$7 to \$8.50 a foot, figured on the New York Real Estate Board formula, which includes all space inside outer walls except vertical shafts, plus an overburden of the floor's share of total mechanical areas. (With no interior columns, of course, Chase tenants can use all the space they are paying for and get the same degree of layout flexibility that Chase itself enjoys. One testimony to the quality of the space: tenant floors have been rented without any of the concessions below quoted rents common to New York real estate.)

Through its realty affiliate, Chase bills itself \$7.50 a square foot for space. But, like other owners of highquality buildings, Chase actually gets more for less (FORUM, June '61). Against an estimated \$7.4 million for yearly operating expenses and taxes, and \$2 million and \$1.2 million toward mortgage payments and average interest, Chase can apply \$4.6 million in tenant income, reducing the cost of its own space to something more like \$5.50 per square foot, about what it would pay for space in buildings of far lesser quality, prestige, and operating efficiency downtown. If straight-line depreciation is considered on \$101 million of construction, the cost goes down still further, to \$3.30 per square foot. The game, of course, can be carried almost as far as anyone cares to go: industrial efficiency experts, for example, have told Chase that consolidation in one smoothly functioning building could mean an increase in efficiency equivalent to \$2.50 per square foot per year. Chase officials, perhaps wisely, decline to attach dollar figures to most of these undeniable savings, or to such intangibles as advertising and good will. They do point, however, to the healthy new bustle of business visitors and sight-seers, who are guided about the building by a staff of 12 smartly dressed young ladies. And from the automated basements to the art-filled suites above, it is unquestionably an impressive show.



ROBERT M. MOTTAR



Technology on a towering scale

Frame: outside columns, deep girders

Beyond being the heaviest and tallest steel-frame building to go up in a quarter century, and probably the third biggest after New York City's RCA Building and the Empire State Building, the Chase carries a number of structural ideas within its 53,000-ton frame that mark it as a structure of major significance.

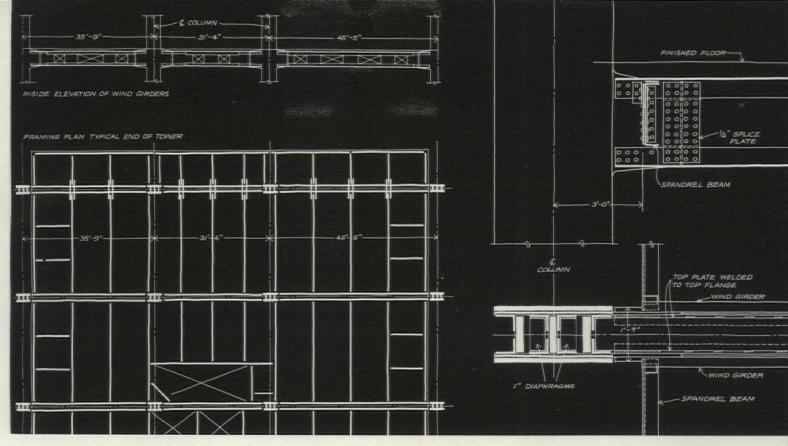
One of these is the big exterior column, which simplified the interior planning of the building by the architects, but created new problems for the structural engineers, Weiskopf & Pickworth. For example, outside temperature variations suddenly became an important influence on design. Change in outdoor temperatures could cause the exterior columns to expand and contract by several inches over the 60-story height, while the core columns would remain unchanged, thus inducing bending stresses in the columns and girders of the frame. To prevent this accordion effect of thermal expansion, the engineers conceived the idea of packing the columns of the upper 30 stories with rigid foam-glass insulation.

Attachment of girders to the exterior columns also presented a structural problem. With the columns set outside the frame's horizontal grid, it was possible to brace each column in only one direction: on its long axis (detail, right, above). The engineers compensated for the absence of a second beam (required by the building code) by using a pair of heavy girders joined with a plate 1 inch thick, welded to the top flanges. Interior columns are reinforced in the same way. As the drawing shows, each plate slides into the column and extends back along the double girder for about 10 feet until it reaches the cross-beam.

The girders themselves are significant structurally. They are unusually deep (3 feet) because the deeper a heavily loaded girder, the more economical is the over-all design. Each was fabricated with holes for ductwork and conduit (photos, left), and, despite the added reinforcement that was required for such a perforated design, the deep girders proved economical. The connecting beams are half the depth of the girders.

The basement floors were designed and framed in a way that eliminated the need for the usual temporary bracing of foundation walls. Because of the great depth of excavation (90 feet), the engineers found it more economical to use the permanent floor steel below grade as a horizontal bracing system. Thus, the basement floor

Beefed-up frame gave the Chase a bridgelike appearance during construction. Upper photo shows junction of huge exterior columns with double girders (see also details, opposite). Biggest perforation in girders for ductwork was 7 feet long, 2 feet deep.



Framing detail shows one-sided juncture of columns and girders.

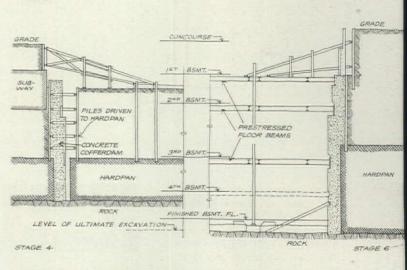
beams were designed to carry both permanent vertical floor load and horizontal earth pressure. This latter load would have shortened the beams by about an inch, a shrinkage that would have subjected the foundation walls to cracking. To overcome this problem, the beams were prestressed after erection by jacking against the walls (sketches, right) until the initial compression in the beams equaled the earth forces. As each basement floor level was reached in the digging, the beams were put in place and compressed. Wedges were then driven between the beams and the walls, and work proceeded to the next level below until all beams were in place. Then the permanent columns were threaded down through the beams and anchored to the base rock.

Foundation: stability with chemicals

Conventional foundation engineering would have called for construction of at least one of the building's perimeter basement walls by means of pneumatic caissons, concrete shafts excavated down to bedrock within closed working chambers, under compressed air.

Instead, to save time and money, engineers of Moran, Proctor, Mueser & Rutledge devised a system whereby the work could be done in the open. In part, this was made possible by the use of the floor steel as a horizontal strut system, a technique which was developed jointly by the foundation and structural engineers. However, chemical soil stabilizers were also used. By pumping sodium silicate and calcium chloride into the sandy, shifty soil that lay above bedrock it was possible to stabilize it so that excavation could proceed by normal methods.

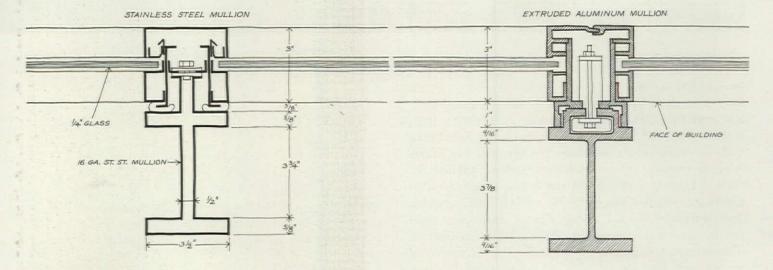
The foundation walls consist of reinforced concrete, constructed inside the watertight cofferdams and sealed into bedrock around the entire site perimeter to cut off surrounding ground water.



Foundation-work sequence: 1) excavation to 17 feet below grade; 2) chemical stabilization of soil; 3) driving of sheet-metal piles to hardpan around periphery; 4) peripheral excavation to full basement depth (90 feet) inside cofferdam—sketch, left above; 5) pouring of foundation walls; 6) progressive excavation and installation of prestressed floor beams—sketch, right, above; 7) installation of columns; 8) pouring of fifth basement (photo below).







Mockup (above), erected on unused space at Roosevelt Field, Long Island, demonstrates the similar appearance of aluminum (right half) and stainless steel. Aluminum won the decision. Having served its purpose, the mockup has been sold and is now used as a commercial building. Alternate mullions in extruded aluminum and 16-gauge rolled stainless steel are detailed above.

Curtain wall on the completed building (right) is a handsome combination of clear glass and matte-finished natural and black-anodized aluminum. Aluminum sheathing of columns and spandrels is ¼-inch thick. Note unequal widths of windows resulting from equal on-center spacing of vertical elements.



Skin: aluminum vs. stainless

The curtain-wall system for the Chase was well along in its evolutionary development in 1957 when the architects and owners had to fix on a skin material. At this stage the choice of materials had been narrowed to anodized aluminum and stainless steel. It was decided to install both in a mockup at Long Island's Roosevelt Field (photo, left) to determine which would best meet the requirements of maintenance, finish, and economy and at the same time come closest to achieving the character the architects wanted the building to have. According to the architects, both aluminum and stainless steel performed well in the mockup installation; either would have satisfied their requirements of appearance, cost, and utility. The final decision to use aluminum was made jointly by the architects and the client, based partly on their preference for the appearance of the aluminum finish, partly on comparative cost, and partly on the longer-than-usual guarantee which was offered by the aluminum producers.

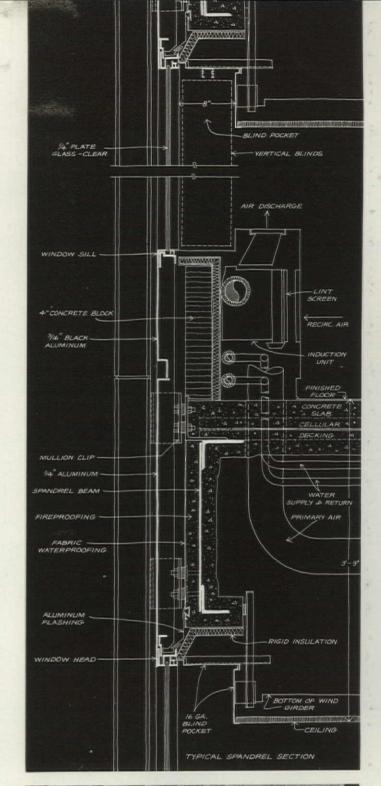
Recessed flush with the inside faces of the huge (2-foot, 10-inch by 4-foot, 11-inch) aluminum-sheathed columns, the curtain wall consists of a 4-foot, 7-inch-high, two-tone aluminum spandrel and sill panel and an 8-foot-high window of clear glass (photos, left). All of the natural-finished aluminum has a matte texture, as does the narrow black-anodized aluminum sill panel. Each bay is subdivided by five extruded aluminum mullions which are spaced 4 feet, 10 inches on center with reference to each other and to the structural columns.

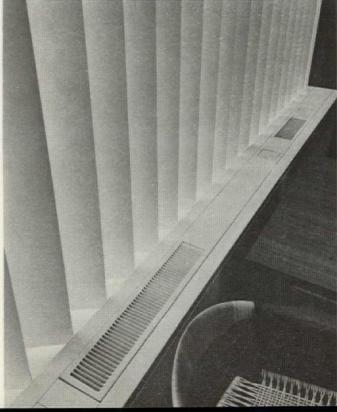
Air conditioning: systems in systems

There are 9,200 tons of air conditioning in the Chase, making it the largest fully air-conditioned building in New York. The complexity and size of the Chase system made it more convenient, if not necessary, to locate the mechanical equipment on four separate floors: the third subbasement, the 11th, 31st, and 51st. Each tower mechanical floor is actually two floors high, though this is not readily apparent on the façade. The height is disguised by regular window glass for light at the top of each double floor and louvers for air intake and exhaust at the bottom.

Two of the mechanical floors—the 11th and 31st—each house two steam turbine compressors of 3,500 tons and 1,100 tons. The refrigeration units on the 11th floor serve the five basements and all floors up to the 21st; the units on the 31st floor serve all floors from the 22nd to the roof. The 51st floor has no refrigeration equipment—

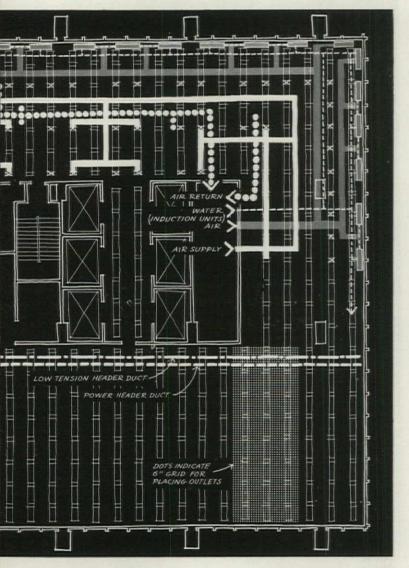
Vertical blinds are 7-inch-wide strips of glass-fiber fabric coated both sides with vinyl plastic. This material, 40 miles of which are used in the building, was selected for its resistance to tearing and breaking and its ease of maintenance. Note integration of blind with air-conditioning enclosure. Drawing above shows detailing of the curtain wall, vertical blind pockets, and induction units.

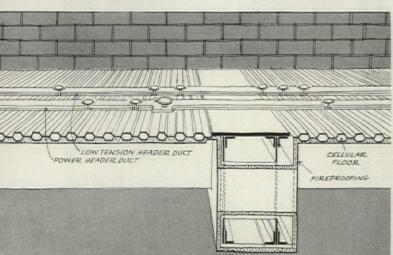






Air conditioning is delivered between aluminum lighting fixtures in the ceilings of inner office areas (above) and underwindow induction units along the outside walls (plan below). Ceiling diffusers are fed from the ceiling above; window units, from the floor below.





only supply and exhaust ducts plus miscellaneous fanroom and auxiliary electrical equipment.

Heating and cooling of the building's inner areas is provided by a medium-velocity system serving at least four zones on each floor. The conditioned air comes from the fan rooms through risers in the core utility shafts and is distributed through ceiling diffusers in "Christmas tree" fashion (plan, left). Return air is sucked into ceiling plates, as shown, and fed back to the utility shafts which themselves act as return air risers. When the return air gets back to the mechanical floors, 40 per cent is pushed through the louvers and out of the building, and 60 per cent is recirculated.

Conditioned air and water for the peripheral air-conditioning units also come out of the utility shafts. Because each façade is zoned according to its air-conditioning needs, the peripheral system makes use of four different mixes of air and water, depending upon the outside temperature and time of day. Further, each peripheral unit has an individual temperature control.

The entire system was engineered by Jaros, Baum & Bolles for maximum flexibility. The ceilings are equipped with flush lighting units, and between each pair it is possible to insert a new diffuser or return plate as needed.

Electrical: outlets everywhere

The remarkable feature of the wiring system in the Chase is its flexibility. Thanks to the use of cellular steel subflooring (plan, left) it is possible at any time to install outlets for small business-machine power or telephones at 1-foot intervals anywhere along the feeder ducts except where the girders cross. (The telephones are now set on 6-foot centers, the small business machine power as required.) This flexibility will enable Chase and its tenants to arrange desks and partitions according to need, rather than force them to conform to fixed outlet locations. It will cost only about \$17 to move an outlet.

Power enters the building at the second basement level through 13.8 kilovolt primary feeders which lead to two transformer vaults, one in the first basement and the other on the 51st floor. Power from the vaults is fed to the floors via the main utility shafts at either end of the central core. The bus ducts within each shaft are capable of handling the lighting and small power loads, but should the load on either bus duct become unduly heavy, it will be possible to shift a portion of the load from one riser to the other via conduits connecting the closets on each floor.

Once power is delivered to a floor, it is sent via cable and conduit to panel boards—six on each floor—and from these to the header ducts in the floor (plan, left). Each floor has four such header ducts: two on either side of the core, running parallel to the building's long axis, one

Cellular floor (left) permits the delivery of small business-machine power and telephone service to almost every square foot of floor space. Floor cells are 6 inches apart (two adjacent cells cannot be used, however, due to the size of the junction boxes).

pair for low-tension electric and telephone wires, the other pair for the ordinary 120-volt power wiring.

The telephone system, with eight cabinets per floor, has its main terminal in the first basement, the switchboard for the bank on the 33rd floor. Telephone closets on each floor feed wires to the header ducts and then out to the office areas at 6-foot intervals. The telephone system is of the automatic "direct inward dial" type.

The lighting for most floors consists of 265-volt fluorescent fixtures on a modular spacing to ease installation of partitions without disturbing the fixtures. Where incandescent lighting is installed, it operates at 120 volts.

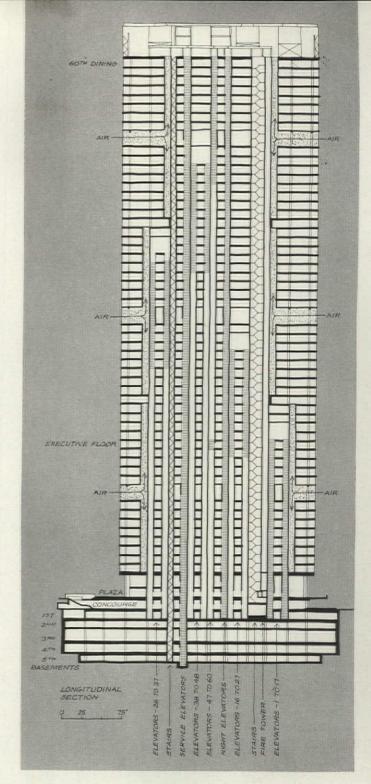
Emergency power is provided by a 480-volt generator atop the roof. This unit goes into operation only if the power failure reaches the 51st-floor transformer vault. (The regular power system is capable of switching all emergency power needs to the 51st-floor transformers should the basement equipment fail.) The unit provides emergency lighting, powers the three service elevators, and provides lighting and ventilation in the passenger elevators during a power failure.

Transportation: people and papers

The Chase has an extensive network of systems for moving people and materials from one place to another, including what are asserted to be the world's fastest elevators (1,600 feet per minute during long runs) and four interior distribution systems for securities and mail. The architects and the electrical engineers, Meyer, Strong & Jones, studied passenger traffic patterns, and a system which uses both escalators and elevators for peak-hour service was worked out. The subways discharge their passengers on the ground-floor level. During nonrush hours, employees and visitors who want to go up into the tower enter the elevators at the ground floor. During rush hours, however, the elevators do not serve the ground floor, and passengers must ride escalators up to the plaza level where the elevators are then based. The rising escalators discharge their passengers on the north side of the elevator banks, while people coming in from the plaza enter the south side of the elevator banks. In this way, lobby confusion will be minimized.

There are all together three groups of elevators: three service elevators running from the fifth basement to the roof, which can operate on emergency power if necessary; 34 passenger elevators running from ground level up; and six large, 40-passenger cabs from ground level down.

Two of the interior distribution systems use pneumatic tubes. One carries securities in a 4-inch by 7-inch carrier from one of the securities floors (27) to the trust vault, and it cannot be intercepted at any point along its route. The other is for high-speed mail deliveries throughout the building, and horizontally under the street to Chase-rented space in a building 1,000 feet away. In addition there are five dumb-waiters connecting various floors with the basements, and a vertical conveyor which uses a constantly moving chain and buckets for delivery of general interoffice and outside mail.



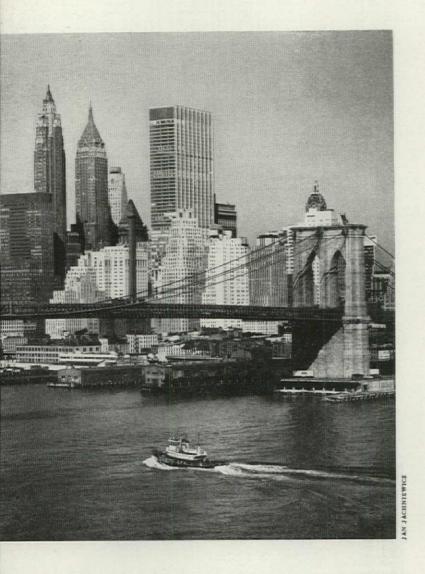
Elevator service is clustered in five banks: bank A serves floors 1-17; B, C, and D, floors 17-47 in ten-floor increments; E, 47-60; F, not shown, serves the five basements.

Security console, heart of the bank's protection system, is located in a bulletproof glass enclosure on the ground floor. It monitors the opening and closing of the vault doors, the camera surveillance of certain areas, and the electronic supervision of the building both for security and for malfunctions, flooding, and fire.



PHOTO (OPPOSITE) : GEORGE ZIMBEL

The Chase... an appraisal



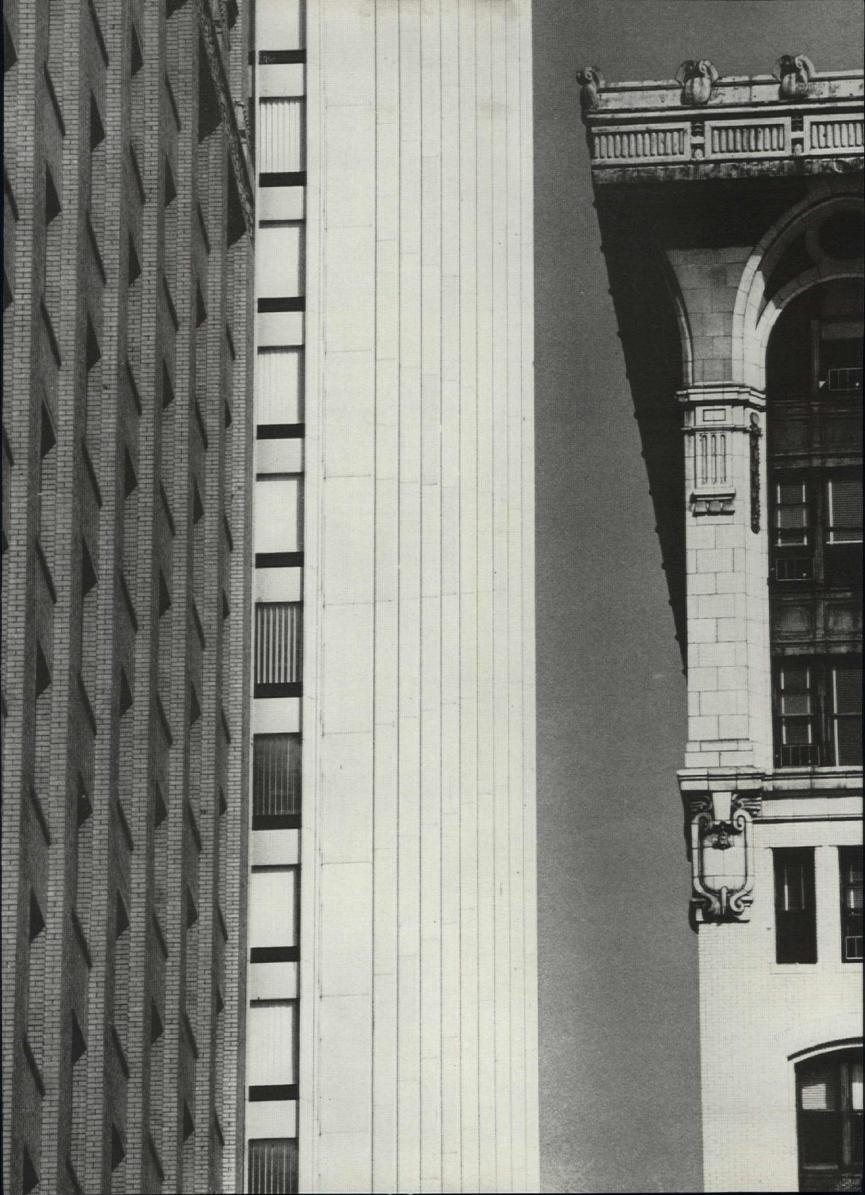
To build big and to build well at the same time is no mean task in any age. In today's context of complex technological choice, of fragmented specialties, and of committee decisions, it is indeed a notable event. The pieces of the Chase giant have finally been put together, by hundreds of designers and draftsmen and specification writers working in different drafting rooms; by scores of consultants and contractors, subconsultants, and subcontractors; by an enterprising client—and by a couple of thousand men in hard hats on the job. It is no surprise that, after six years of straining for perfection, of coordinating countless decisions, that some of Chase's builders wonder if it ever will be done.

How the result of their labors will fit into its setting and into history they leave to someone else. But some things are apparent. Chase's plaza is already Wall Street's park, a welcome breathing space in a labyrinth of busy and intimate, but often cheerless, streets. In the same way, Chase's tower is a brilliant and unexpected foil to the dark, rich stonework of its older neighbors, one bringing out by contrast the inherent qualities of the other. There have been questions, of course. What if Chase could have carried its bold move still further, and not sold but torn down its old home to make a full two-block setting for its new one? (Despite the open space, the over-all population density imposed by Chase remains pretty high.) Would the tower have been a still stronger statement if interior planning had made it logically possible to continue the big exterior columns around the end walls, which now look slightly bland? And is a lone, flat-topped slab of this size really a graceful and fitting addition to a romantically pinnacled sky line? (Undoubtedly other slabs will come.)

Beside the building's considerable accomplishments, however, such ponderables pale. Chase is a milestone, perhaps even an end point, in the best development of the American skyscraper, which for decades has been the summit meeting place of business, engineering, and art. In many big office buildings, the result speaks of a clear victory for one of these, or at best an uneasy truce. Chase reconciles and balances the three, and each in its most advanced form; it works, and looks, like a big, handsomely designed business machine. And like a business machine, its complex anatomy of systems multiplies the efforts of its users, carrying men and money quickly about; pumping power, light, air, information through the corporate body at a command. It is a machine, furthermore, designed for ready repair and modification; it does not have to be scrapped at the first sign of new ideas. Nor will its styling turn rancid in a year or two like some "industrial design"; art has not been spooned on for appearances, but carefully integrated into every detail down to the paperweights on the desks.

Architecture is already moving restlessly on, as architecture will. But it can look back on Chase as a remarkably complete statement of a set of long-held, long-developed ideas. It is not just a superbly efficient instrument for work, but a totally considered environment as well.

Chase report by ogden tanner, in collaboration with david allison, peter blake, and walter mcquade.



The threat to real estate investment

Changes in the federal tax law proposed by the Administration would penalize developers of apartment and commercial properties.

BY MILES L. COLEAN

Federal tax proposals now being considered by the Congress contain a provision that, if passed, would create severe tax penalties to present holders of commercial and apartment properties, impede the transfer of such properties, and present a strong deterrent to the development of new properties.

The recommendation, as stated in the President's tax message of April 20, is that "capital gains treatment be withdrawn from gains on the disposition of depreciable property, both personal and real property, to the extent that depreciation has been deducted for such property by the seller in previous years, permitting only the excess of the sales price over the original cost to be treated as a capital gain. The remainder should be treated as ordinary income. This reform should immediately become effective as to all sales taking place after the date of enactment."

A similar proposal was considered by the previous administration, but real property was excluded from its applicability. Now, real property becomes the primary target, as is made clear in the testimony of the Secretary of the Treasury that "the proposed withdrawal of capital gain treatment from gains on the disposition of depreciable property that reflect prior depreciation would eliminate much of the present tax advantage attaching to investment in so-called 'depreciation shelters,' which exist primarily in the real estate area."

"For example," Secretary Dillon says, "during the first few years after acquisition of a building by a real estate syndicate, the total of depreciation allowances and mortgage interest will often exceed the rental income, so that distributions of income during this period are tax exempt in the hands of the investor. When the distributions substantially cease to be tax exempt, the building is sold, a capital gains tax paid on the gain attributable to the depreciation allowances, and another building is acquired to provide another

depreciation shelter. Withdrawal of capital gain treatment from the gain on sale of the building, to the extent of prior depreciation allowances, will substantially eliminate this kind of tax trafficking."

The Secretary is quite clear as to his intentions, but his method is a good deal like killing the chickens in order to keep the weasel from the hen house. At the time of the enactment of the present depreciation provisions, the special hazards in real estate investment were pointed out, as was the importance of some form of escape from the extreme tax impact on this kind of investment (FORUM, Apr. '55: "Realities of today's real estate investment"). It was also predicted that the liberalized depreciation formulas of the Revenue Act of 1954 would stimulate activity and somewhat encourage equity investment.

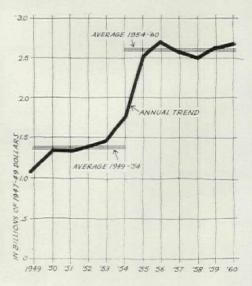
The evidence of a stimulating effect after 1954 on the building of all types of income-producing property is strong (see chart). It may be noted too that there has been an observable shift over this period from direct investment by insurance-company and labor-union funds (which have a built-in tax shelter) to true risk enterprise. This recent activity, in spite of whatever tax shelter it might temporarily have received from the depreciation arrangements, could not have added considerably to both local and federal revenue.

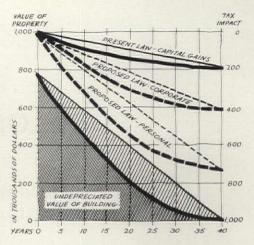
Moreover, the evidence of real investment motivation is certainly as great as that of Mr. Dillon's "tax trafficking." What he would do now would be not only to eliminate the benefit of the liberalized depreciation formulas but also to eliminate capital gain treatment even on the basis of the old straight-line depreciation formula, which was demonstrated to be inadequate as a spur to a broad interest in this form of activity.

In its focus on its own assumption of what is a typical and, in its view, a reprehensible situation, the Treasury's argument overlooks the difference in the characteristics of personal and real property and the peculiar nature of real estate as a commingling of depreciable and nondepreciable assets.

An income-producing property is, in the first place, not like a tool or a piece of machinery for which a salvage value is reasonably calculable. The economic life of a structure extends so far into the future and is subject to so many vicissitudes that an estimate of salvage value is purely an exercise in appraisal theory. The salvage value of a fully or even a partially depreciated structure may actually be a negative quantity because of the usual net cost of demolition. If the residual value of the land is taken to represent the ultimate salvage value of the property as a whole, the calculation is no easier. The value of a particular site may appreciate or depreciate over a period of time, de-

Commercial building, stimulated by enactment of the present tax law in 1954, has been running at an average annual expenditure rate of \$2.6 billion, compared with \$1.4 billion for the preceding six years. (Similarly, construction of multifamily housing has increased since 1954: the six-year average since then has been 149,000 units per year, compared with 113,000 units for the preceding six years.)





pending upon the future desirability of the site, the cost of clearance, the extent of inflation over a period of time, the impact of local taxation, and many other factors not ascertainable in advance and not applicable in anywhere near the same degree to other classes of property. The taxation of gains in real estate must take into account these important differences.

The most significant peculiarity of real estate is that the value of an income-producing property at any given time is made up of the following elements: 1) the suitability of the structure for its purpose; 2) the attractiveness of the site for both its present and alternative uses; and 3) the quality of the management of the property and the prestige that this may have created.

Changes in value over a period of time may be due to any one or a combination of these elements. From either a practical or a legal point of view, however, these elements are inseparable. It is possible for the value of the total property to increase while the structure was actually losing value because of obsolescence or deterioration, or for the value of the total to decrease in spite of the most careful management because of a shift in neighborhood preferences. The depreciation allowance on the structure is the only protection available against a wide range of unfortunate contingencies; and the denial of capital gains treatment to the depreciation deduction may in effect eliminate the benefit of a capital gain, or a hedge against capital loss, on the nondepreciable elements of property. This may be an unscientific way of accomplishing the purpose, but it is the only one available and has proved to be a satisfactory expedient.

Under the proposal to deny capital gains treatment to the amount taken in depreciation deductions, an accumulating penalty is created on the holding of income-producing property. As time passes, the penalty may in fact become so severe that the long-term investor may find himself either frozen into his investment or, in case of necessity to sell, faced with a harsh levy (see chart). In view of these prospects, an incentive will be created to unload the property at the earliest feasible date. Sound construction, careful maintenance, and long-term investment will alike be discouraged, since the advantage of building up value over a period of time will be largely lost.

The so-called "depreciation shelter" to which Secretary Dillon refers may as often as not be the only difference beween the survival or collapse of the enterprise. The first years of an incomeproducing property are normally the most risky period in its existence. These are the testing years for the practicality and acceptability of the whole concept in terms of the maximum income that may be developed. Any such property is certain to be more valuable after passing this test.

The present scope of capital gains treatment is a fair measure of the potential reward that is necessary to induce an investor to accept the risk involved. Without the possibility of such a reward, in this form or in some other form, the risk will be much less likely to be taken. The removal of this possibility would, by discouraging this hazardous type of enterprise, probably result in a loss of tax revenue rather than a gain as claimed. The implications of the proposed change are particularly serious for the expansion of investment in urban renewal areas, where the risks are especially great and where incentives have to be correspondingly evident.

The whole issue is not one of finespun logic but rather one of what is necessary to keep investment in this vital area at a high level. The present combination of providing liberal depreciation allowances and of permitting Impact of taxation on capital gains under the present and proposed systems is illustrated in this chart. It is based on a property having an original cost and final sales price of \$1 million, of which \$800,000 represents the depreciable structure. All gains, if any, in excess of the original cost will continue to be taxed at the 25 per cent capital gains rate. Gains represented by the amount of depreciation taken according to the straight-line method of depreciation and the sum-of-years' digits method (the latter allows the maximum deduction in the early years) are currently taxed at the capital gains rates shown by the uppermost straight and curved lines, respectively, for any given year of sale. Under the proposed plan, such gains would be taxed as income. The upper set of dotted lines indicates the amounts of tax for any year in which the sale was made if charged at the full 52 per cent corporate income tax rate. The lower set of dotted lines indicates the maximum 91 per cent tax that might have to be paid by an individual in the highest income bracket.

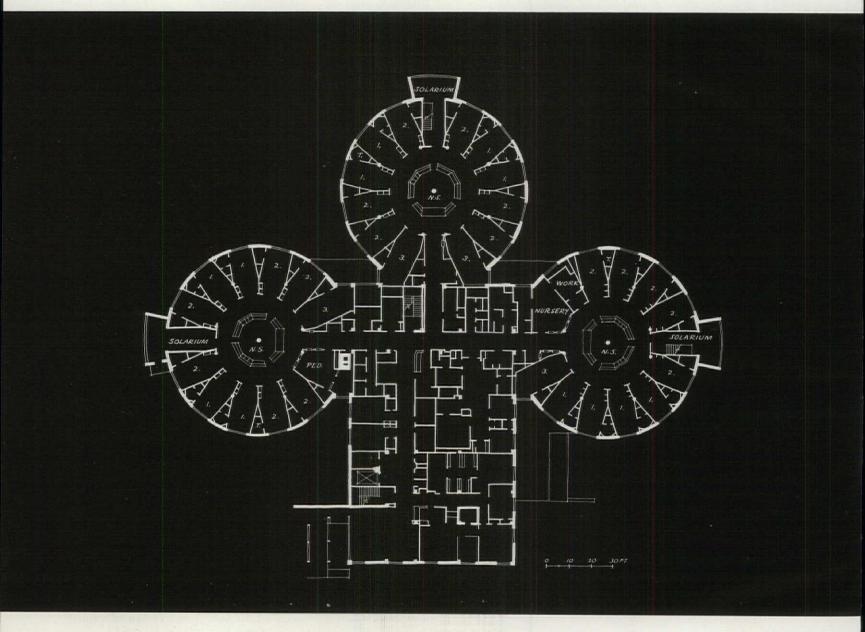
Under the new plan the tax would have to be paid in the year of sale on the basis of current income, if the owner is a corporation, and on the basis of income averaged over the year of sale and the two preceding years, if the owner is an individual. In the mildest situation, the tax impact under the new system is almost certain to be greater than under the old.

the undepreciated value to be the basis for capital gains tax treatment has been proved a useful instrument for this purpose. Its removal would create an imbalance between risk and potential reward, and thus discourage risk-taking. It would add to the illiquidity of realty investment and hence discourage the flow of equity funds into this area. It would remove an important stimulus to economic growth. It would make urban renewal under private auspices more precarious.

For the dubious potential gain of \$200 million in revenue, which is all that is claimed for the change, these seem like serious chances to take. Fortunately there is still time for second thoughts before Congress acts.

Hospitals in the round

Rapidly increasing in number, circular nursing floors raise the question: are they an important new advance, or just a fad?



Cloverleaf is formed by three circular nursing units at Lakeview Memorial Hospital, Stillwater, Minn. Ellerbe & Co., architects



Not many years ago a cloverleaf hospital plan such as that to the left would surely have borne some such wistful caption as "hospital of tomorrow." Today so many hospitals are going in circles that the architects of this cloverleaf example have 24 other clients who are adopting circular nursing units, either as schemes for new hospitals or as additions to old ones. And from southern California to Montreal, scattered hospitals by other architects have circular units in operation.

As usual, on the heels of ingenuity has come controversy. Circular nursing units have intense partisans and opponents, whose pronouncements make the uncommitted wonder whether circular units are, on the one hand, a momentous advance over familiar single-corridor, double-corridor, and square schemes (right), or whether they are an ill-advised fad. The truth is more interesting and lies somewhere between.

The theory behind circular nursing units is this: If nurses and their equipment can be stationed at a point absolutely central to the patients they serve, travel time and energy can be reduced to a minimum; and if the proportion of patients who can be seen from the station is increased, fewer trips are presumably necessary.

Proponents of circular units also point out that a circle is the most economical form for enclosing a given area. It saves on perimeter walls; but this is a relatively minor consideration (like the counterclaim that circular construction is apt to be more expensive than rectilinear in a world of rectangular windows and more awkward in a world of rectangular beds). Cost variations between round and rectangular nursing units are not significant enough to influence the major considerations regarding design for greatest efficiency of nursing-unit operation, and for most convenient disposition of auxiliary

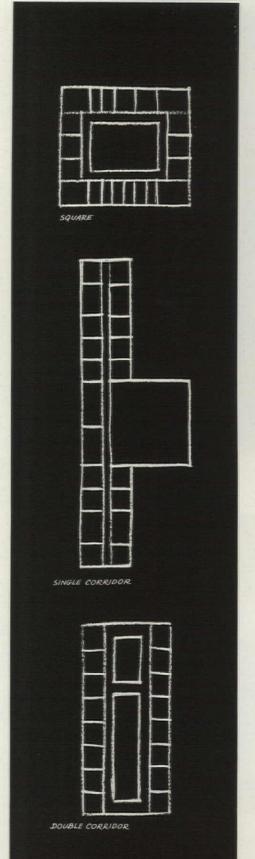
needs for high quality of patient care.

The application of the theory in almost pure form is demonstrated by the first example shown, the Lakeview Memorial Hospital at Stillwater, Minn., by Ellerbe & Co., architects (left). In each of these units, the nursing station is at the center, and the nurses do have short travel distances from the center to each bed, as well as high visibility of their domains.

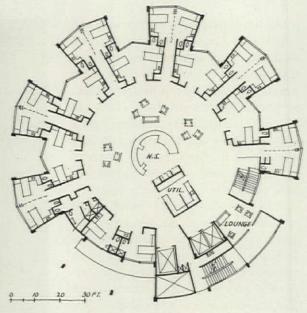
This purity of concept would not be extraordinary in small, intensive-care circles for 12 beds or thereabouts. Indeed, the units at Stillwater are a development modeled upon the same architects' successful experimental 12-bed intensive-care unit for the Mayo Clinic at Rochester, Minn. But it is considerably more remarkable for units averaging as many as 19 beds, as in the Stillwater cloverleaf, to carry out the theory with such clarity. To bring the bed count up so high in so pure an example of circular nursing required ingenuity with the toilets, small two-bed rooms, and a bit of overflowing from the circle into the rectangle.

Even so, nursing units with bed counts ranging from 17 to 22 are too small for most hospitals today. A supervising nurse nowadays is expected to be responsible for 40 to 50 beds; and, particularly at night, units much smaller become either a staffing extravagance or must be combined into pairs for night responsibility, an arrangement that is difficult, if not impossible, in the case of discrete circular units.

Size is precisely the difficulty into which circular nursing units run. A circle, unlike a rectangle, imposes a tyrannical relationship between perimeter and area. To get a large number of beds into a circular nursing unit means a large perimeter, and this automatically and inflexibly increases the amount of central area or core. Depending on



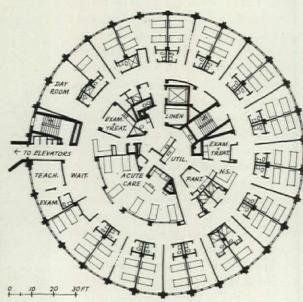




Circumference of circle is serrated to include more patients' rooms in this project for Cambridge, Mass. Markus & Nocka, architects; Thomas M. Payette, designer.

Large nursing unit of 52 beds is fitted into a circle with a complex core at St. Frances Xavier Cabrini Hospital in Montreal. De Sina & Pellegrino, architects.





a hospital's plan of staffing, nursingfloor treatment or training facilities, supply systems, amount of vertical travel among floors, and numerous other considerations, there are optimum relationships between core size and number of beds. These relationships have nothing to do with the arbitrary geometrical relationship between a circle's circumference and area.

The second example (top left), a project by Architects Markus & Nocka for a site in Cambridge, Mass., illustrates clearly the difficulties inherently imposed by the geometry of circles. Ingenuity of some elegance has brought the bed count in this example to 24. The core has been kept relatively small by serrating the perimeter. But radial subcorridors lengthen the trip to half the rooms; visibility is much interrupted. The enlarged core "corridor" is put to use quite legitimately - as a patient lounge. But note that the core has become large enough to need an additional use.

The third example (bottom left), St. Frances Xavier Cabrini Hospital in Montreal, by Architects De Sina & Pellegrino, represents a unit size customary in large hospitals, no matter what their shape. This unit gets 44 beds into its perimeter, exactly double the number of those in the unit with the largest bed count at Stillwater. The perimeter has increased only to 395 feet as compared with Stillwater's 265 feet, but the area has increased to 12,270 square feet compared with 5,595 square feet for Stillwater.

A 44-bed unit needs a larger floor area and a larger core than a 22-bed unit, but not that much larger. At St. Frances, an intensive care ward is placed within the central core itself, bringing the total bed count up to 50. This is a reasonable arrangement.

Nonetheless, something rather drastic has happened to the entire rationale with which the theory began. Visibility Radial nursing unit, formed of half an oval, is a striking feature of Hadassah Hebrew University Hospital outside Jerusalem in Israel. Joseph M. Neufeld, architect.

of nearly all rooms from a central point has completely disappeared. Indeed, the growth of the core has resulted in two nurses' stations at opposite sides of the core although they share one utility facility at the center. Because the core now contains so many facilities, horizontal circulation is no longer so much a radial enterprise as it is an innerperimeter enterprise.

Moreover, just as in most rectangular hospitals, the toilets are at the inside walls of rooms (unlike the Stillwater example), because the perimeter must be kept as short as possible in this case, and the large interior used. This, of course, adds a few more steps to each bed from the nursing centers. To be sure, distances and surveillance are still reasonable, but so are they in a welldesigned double-corridor hospital.

The circle segmented

It begins to look suspiciously as if the theory of circular care were valid only in its small, pure application, and as if enlarging the circle automatically canceled out its original, or supposed, reason for being. But perhaps the trouble arises from being too doctrinaire about the circle. If there is really a good principle here, maybe at least part of the inherent contradiction can be overcome.

Curiously enough, one of the first "circular" nursing units to be designed does suggest such an approach. For the Hadassah Hebrew University Medical Center in Israel, shown at right, Architect Joseph M. Neufeld designed a semicircular - or more accurately, a semioval - unit with 40 beds for intensive care. The center of the core, which is automatically quite large, of course, for a unit of this size, is used for air circulation; the treatment and nursing elements of the core form their own little semicircle around the air void. But the size of the core is as nothing to what it would be, had the floor's entire complement of beds been bent to a circle. Instead, wards for patients requiring an intermediate degree of care are disposed in a rectangular leg which shares the core's vertical circulation.

Defending circles, another hospital architect, E. Todd Wheeler, has commented: "I do not think there is any magic in the circular form, but I do believe it is a small step in the direction of using more organic forms, generally free forms if you will, toward which we seem to be moving, and quite properly, in our design of buildings."

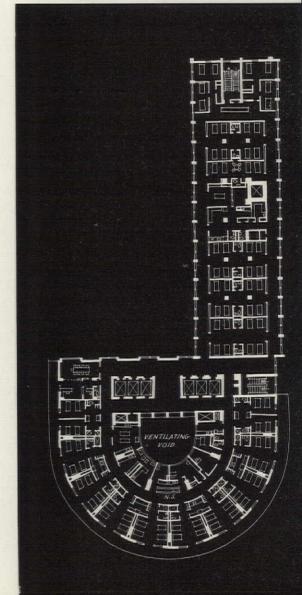
The trouble with this thought is that the circle, at least for hospitals, is not in the least a "free form"-not nearly so much so as the rectangle. Nevertheless, taking the idea in the Hadassah hospital as a point of departure, it is possible that segments of circles, used in integral combination with rectangles, might become liberating, rather than imprisoning, forms for nursing units.

Still another way exists of applying the circular principle without the circle, but before considering it, it is well to touch on the point of architectural appearance because appearance obviously has something to do with doctrinaire attachment to circles.

In plan, circular units almost always look attractive. Their completeness of form and diagrammatic simplicity are almost irresistible. But in elevation, the circles become cylinders and only arcs are visible from any one point. Except in bird's-eye views, hospitals with circular elements are almost always disappointing to see. A discouraging number actually look confused (because the cylinder combines, and perhaps intersects, with other elements that are rectangular). Aside from this, there is nothing especially elegant about a squat cylinder; round it may be, but that does not make it a tower. Perhaps the handsomest "round" hospital thus far is the Hadassah hospital with its semicircle.

For an entirely different approach toward capturing the advantages of cir-





cular care, consider a series of comparisons between round and rectangular schemes worked out by Herbert P. McLaughlin, a 1958 architectural graduate who is about to resume civilian life after service in the Army's Medical Construction Liaison office.

McLaughlin, understandably irritated over descriptions of circular units making such claims as "cuts nurses' travel by 37 per cent," or "reduces exterior wall by 32 per cent," asked himself, "37 per cent compared with what?"

To draw up a series of valid comparisons, three of which are shown at right, McLaughlin designed rectangular units with physical facilities approximately equal to those in the circular units he was testing for efficiency. The principal comparative figures are given below the plans for a 40-bed unit, a 24-bed unit, and a 12-bed intensive care unit. In all cases, for travel distance involving patient care directly, he used the head of the patients' beds as the point to be reached. And in all cases he designed variations of double-corridor squares.

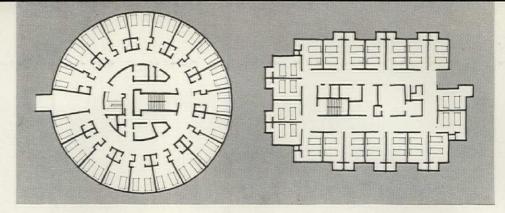
As can be seen from his comparison figures, McLaughlin's studies indicate that in many cases the efficiency differences are insignificant, and that insofar as differences do exist, the rectangles come out ahead more often than not—especially in area. This has, of course, produced considerable muttering among the partisans of circles.

Interestingly enough, McLaughlin and the circle proponents may be closer to one another than they think—for McLaughlin has been squaring the circle.

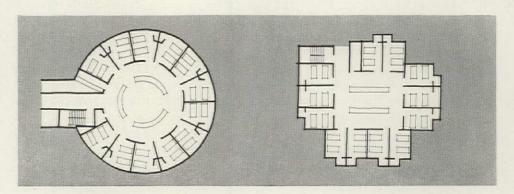
This is most noticeable in the 24-bed unit shown at center. If a line is drawn through the head of each of the outside beds, it makes a circular figure only slightly flattened at its four "sides." The 40-bed unit turns out to be a long oval when looked at in this way.

In short, these rectangular units avoid the tyranny (and inefficiency) of a core size automatically determined by a given perimeter length, but owing to ingenuities, such as cutting out the corners and putting toilets to the exterior, these rectangles embody the advantages of circular design.

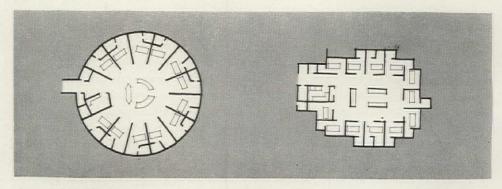
McLaughlin's efficient rectangles suggest the paradoxical possibility that it may be easier and, from a functional point of view, "purer," to achieve better circular nursing care inside rectangular forms than inside literal circles.



40-BED NURSING UNIT	round	rect.	
Average distance of nurses' station to patient's bed	53.8	46.5 ft.	
Average distance of nurses' station to patient's lavatory	45.8	48.5 ft.	
Distance of nurses' station to farthest bed	71.5	61.5 ft.	
Distance between farthest beds	112	116 ft.	
Distance to check all beds	140	154 ft.	
Total floor area	7379	6494 sq. ft.	
Floor area per bed	184.5	162.7 sq. ft.	
Perimeter of exterior wall	324	356.5 ft.	
Per cent of floor area given to circulation	20	23	



24-BED NURSING UNIT	round	rect.
Average distance of nurses' station to patient's bed	36.5	32.1 ft.
Average distance of nurses' station to patient's lavatory	34.8	35.1 ft.
Distance of nurses' station to farthest bed	46.5	38.5 ft.
Distance between farthest beds	76	67 ft.
Distance to check all beds	0	0
Total floor area	4866	3200 sq. ft.
Floor area per bed	202.7	133.3 sq. ft.
Perimeter of exterior wall	247.6	224.5 ft.
Per cent of floor area given to circulation	24	28.5



12-BED NURSING UNIT	round	rect.	
Average distance of nurses' station to patient's bed	23.7	23.9 ft.	
Average distance of nurses' station to patient's lavatory	36.8	36.8 27.9 ft.	
Distance of nurses' station to farthest bed	28.3	27.3 ft.	
Distance between farthest beds	50	54.6 ft.	
Distance to check all beds	0	0	
Total floor area	3635	2297 sq. ft.	
Floor area per bed	303	191.4 ft.	
Perimeter of exterior wall	235	195 ft.	
Per cent of floor area given to circulation	22	37	



Maybeck's mood

IN PHOTOGRAPHS BY ROY FLAMM

In a small way, site by site, a really accomplished architect changes the earth. Like a forester who plants a stretch of saplings which grows over the years to have its own overwhelming atmosphere, the gifted builder of buildings leaves behind him a reality which did not exist when he came along.

Bernard Maybeck (1862-1957) was one of America's best planters of architecture; this becomes clearer as each generation passes. He also was particularly akin to a forester in the effects he created, and the Christian Scientist Church he designed in Berkeley, Calif. in 1910 is one of the most famous testimonials to that. Although it includes industrial materials—concrete structure and steel factory sash—it speaks essentially the enduring virtue of timber. In its forms it evokes memories of Japanese architecture and of the Gothic; in total it is probably the most haunting piece of Maybeck's wizardry still existing, a place that lures men in and makes them participate.



Side window. The church is cruciform in plan.

Trellises are applied to the architecture everywhere to make it completely Maybeck's own.

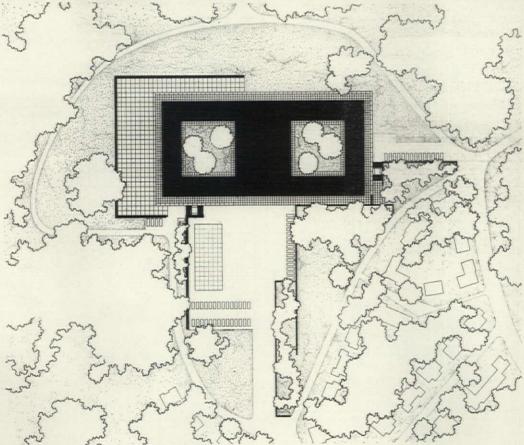
Hinged timber trusses standing on cast concrete columns span the interior, seen at right from the concrete readers' stands.





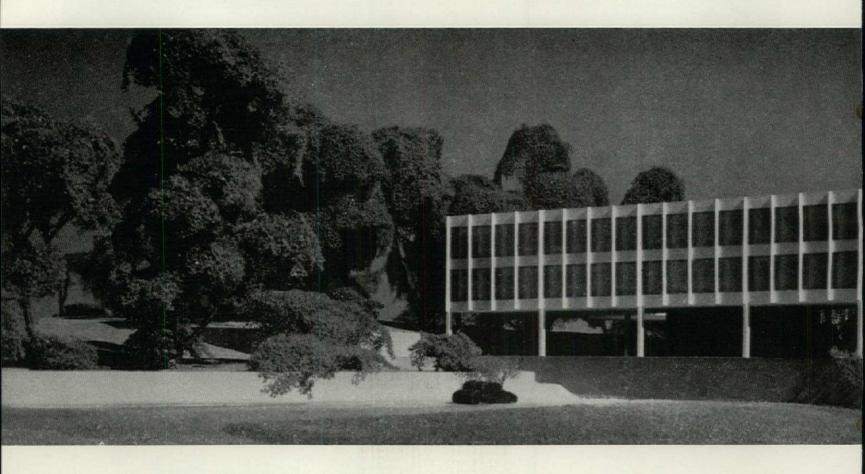
Decoration in gold, blue, red, and white enriches the structural members. The hanging light bowls are made of hammered steel.

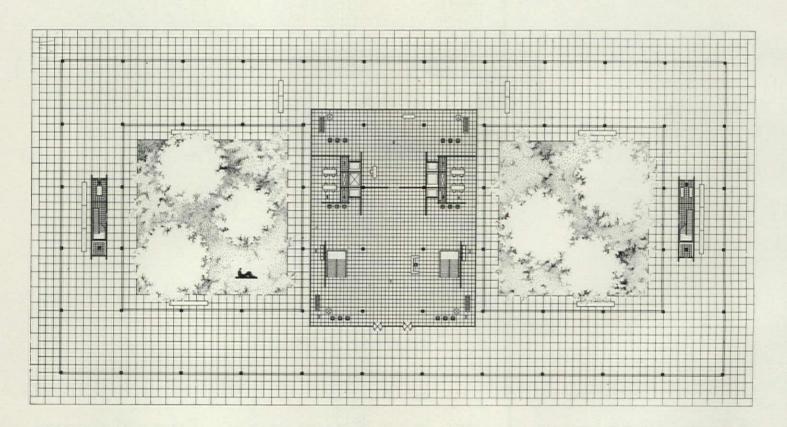




Mies designs new headquarters for Krupp

For the first time in almost 30 years, Chicago's Ludwig Mies van der Rohe has been commissioned to build in Europe. The new Headquarters Administration Building for Friedrich Krupp, near Essen, will be a 250,000-square-foot structure of white steel and gray glass, three stories high and placed upon a stone pedestal. Construction will start early in 1962.

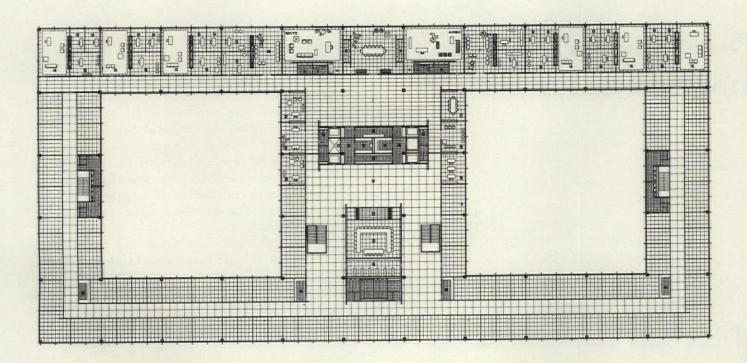




Main floor of Krupp Headquarters is a granite-paved plaza, 520 feet long and 260 feet deep, open to the sky through two square, interior courts that penetrate the upper floors. At plaza level, these courts become land-scaped sculpture gardens that flank the glass-enclosed

central lobby and are surrounded by 15-foot-high arcades formed by the columns that support the upper floors. The stone base under the plaza contains dining facilities (facing a lower-level terrace) and building services, including parking for 120 cars.



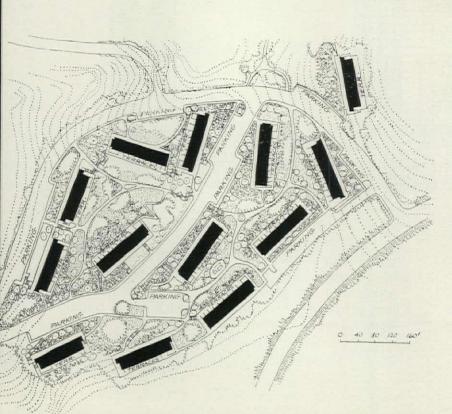


Typical upper floor plan demonstrates the flexibility of the modular arrangement: for deep, executive offices or conference rooms, single-loaded corridors are used, thus giving all important rooms the benefit of the fine view to the south; for lesser offices, a double-loaded corridor scheme works within the same building depth. Column bays measure about 40 feet square, and the planning module is 10 feet. Thus the important offices are 30 feet deep, and the lesser offices are $1\frac{1}{2}$ modules, or 15 feet in depth. All corridors are 10 feet wide.



Communal open areas, sheltered by trees which were carefully retained, provide safe, natural places for children to play.

Parklike living for married students

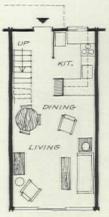


Married student housing in America has been traditionally dismal for many years, consisting, all too often, of shabby World War II Quonset huts. Students at the University of California's medical school are fortunate indeed to live in an uncommonly fine housing complex set on the steep, wooded slopes of San Francisco's Mt. Sutro. The 13 buildings which compose the community are ably handled in straightforward Bay Regional style. And the handling of the 25-acre site, the pleasant residential character in what could have been an institutionalized mess, and the cheery space of the apartments are all admirable.

Building placement was determined by topography and a simple, curving road pattern which still allowed sheltered communal open areas while preserving maximum privacy and views for each apartment (see site plan, left). The great number of trees which were preserved further attests to the care with which the buildings were located. The two-story units cost an average of \$12.62 per square foot and come in two basic plans, one-bedroom apartments interlocked and stacked for economy of plumbing, and two-bedroom duplexes.

Architects: Clark & Beuttler, George T. Rockrise, Architects Associated. Landscape architect: Lawrence Halprin. Structural engineer: Thomas F. Fitzgerald. Mechanical engineer: Buonaccorsi & Murray. General contractor: Williams & Burroughs.

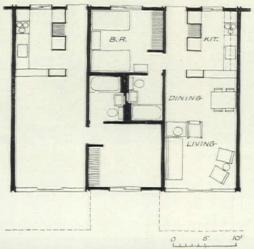




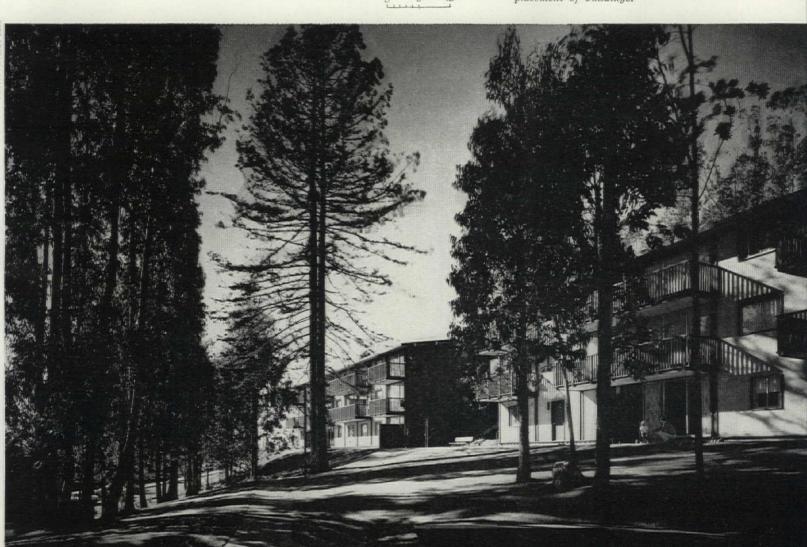


2ND FLOOR

Two-bedroom duplex apartments (plan, above; interior, above left) are well-furnished, spacious, and cheerful.

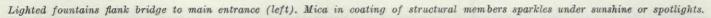


One-bedroom apartments (plan, left) are interlocked and stacked for economy of plumbing. Below, the wooded, sloping character of the site was preserved through sympathetic placement of buildings.

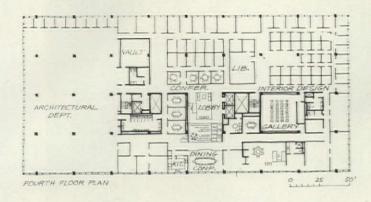




View over parking lot shows rear elevation, upper floors cantilevered 10 feet at ends. Penthouse, set back 20 feet, is unobtrusive.







Showcase-office of an architect-client

An architect is never likely to have another client as demanding as himself, for his own building inevitably becomes a showcase. Both as showcase and work space, the new headquarters of Welton Becket & Associates are calculated to impress prospective clients. The 381-man Los Angeles staff works in no-nonsense surroundings, but solid virtues of greatest interest to many clients are clearly evident. Flexibility is achieved by means of modular, movable partitions and fixtures. Careful organization reduces traffic and facilitates communications. (Becket estimates this will save \$200,000 a year; the firm was spread out over seven floors of two buildings.) The design objective, an environment "conducive to creative work," appears to have been attained.

Nonwork areas are impressive in the more usual sense. A visitor reaches the main entrance by a bridge across a fountain-fed reflecting pool. An elevator whisks him to the fourth-floor reception room, where tan leather chairs stand formally on a vibrant red carpet. On one side is a 9 by 30 foot sand-cast mural; on the other, plants and fountains punctuate a blue-tiled, skylighted pool. Stepping stones lead to executive offices and the largest of 16 conference rooms. Other public areas are also richly hued and textured, but the reception area is undoubtedly the showcase's prize exhibit.

The reinforced concrete structure has five levels, of which the first, partly below grade, is mainly used for parking (and future expansion). The next level is rented. Becket offices occupy two 117 by 250 foot floors, with a cafeteria, dining terrace, and courtyard above them. Cost for 130,000 square feet, exclusive of furnishings, was \$3.2 million, or \$24.61 per square foot. Architects and engineers: Welton Becket & Associates. Structural engineers: Stacy & Skinner. Landscape architect: Robert Herrick Carter. General contractor: C.L. Peck.



Design area is only partitioned waist high to promote exchange of ideas.



Main conference room beyond pool doubles as executive dining room.

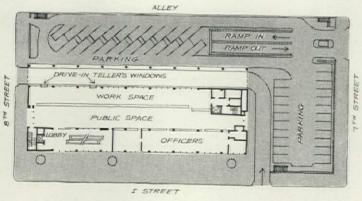


Gallery is used for exhibits, mock-ups, presentations to large groups.

Awning-shaded court with plants and pool adjoins penthouse cafeteria.







PHOTOS: PHIL FEIN & ASSOCIATES



Polished bank

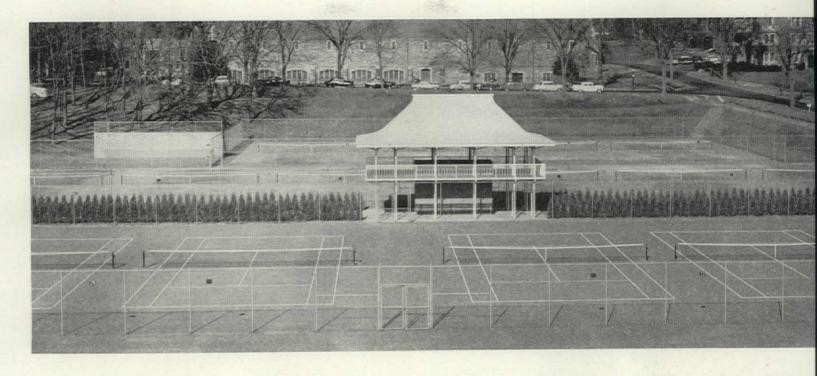
In downtown Sacramento, where decent modern buildings are a genuine rarity, Bank of America's handsomely polished new main office sets a high standard.

The three-story steel-frame structure, faced with glass, glistening black and gray granite panels, and glass mosaic spandrels, is designed to receive two additional floors when anticipated growth becomes necessary. Above the roof line of the building, all surfaces are treated with unglazed ceramic material to minimize the bulk of utility structures.

A basement, occupying the full building site, accommodates a truck dock for armored cars, cash and safe deposit vaults, and parking for 50 cars. At the ground level, parking facilities for 40 cars are screened from the street by a 4-foot-high wall of pierced, precast masonry. The building is set back 20 feet from the street, creating a small strip plaza which is graced with tulip trees and two fountains of cast stone and bronze.

Total construction cost of \$3.2 million (\$29.55 per square foot) and land cost of \$1.3 million were financed as part of the bank's planned capital expenditure program.

Architects: Wurster, Bernardi & Emmons. Structural engineers: L. H. and B. L. Nishkian. Mechanical and electrical engineers: Gayner Engineers. General contractor: Erickson-Campbell & Associates.



PHOTOS: GEORGE CSERNA

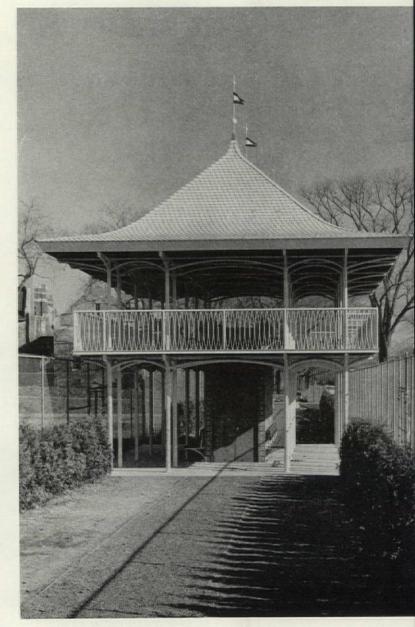
Steel-pipe pavilion

Princeton's whimsical new tennis pavilion, notable for its graceful lightness and mannered gothic delicacy, contrasts sharply with the predominantly heavy, Gothic character of the surrounding campus. Its structure is a simple, welded steel-pipe frame, with gently arching, decorative cross-members. Atop the white-painted structure, a pagodalike, hipped roof, with exposed wood rafters, cedar shingles, and two jaunty pennants, shades the main deck on the upper level. This deck is reached by stairs which rise through a central, brick core. A lacy, welded steel balustrade rims the deck, setting up a vigorous pattern in keeping with the structure's ebullient mood—a mood which is strongly reminiscent of nineteenth-century shore pavilions.

Designed for spectators, waiting players, and the tennis pro, the pavilion was donated by two alumni, Dean Mathey and Joseph L. Werner.

Cost of the steel-pipe frame erected was \$10,725. Architects: Ballard, Todd & Snibbe. Structural engineers: Peter Bruder Associates. General contractor: Matthews Construction Co.

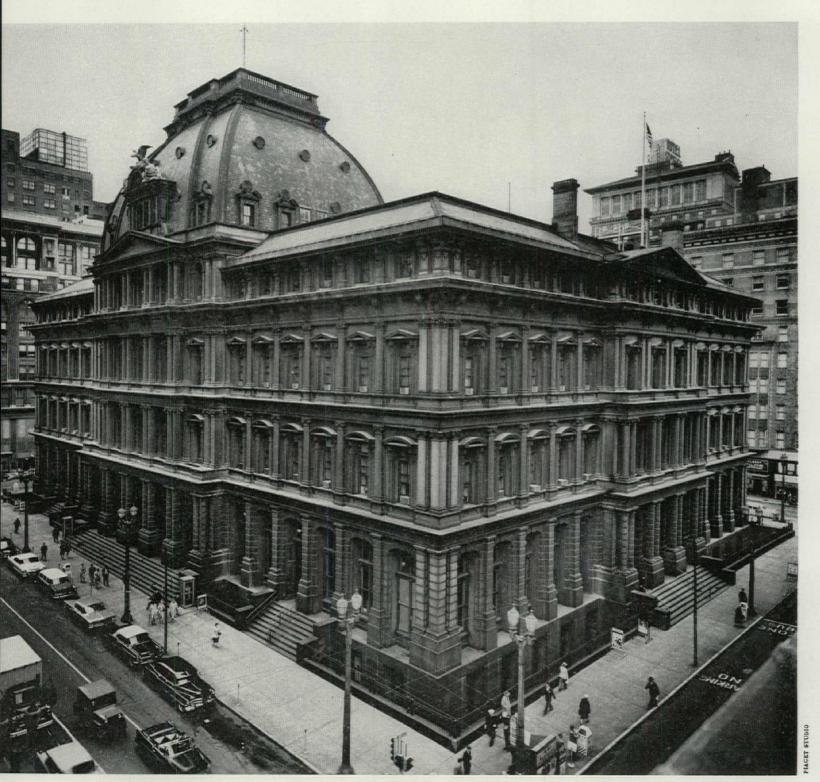




Will rebuilding save this landmark?

BY MARSHALL BURCHARD

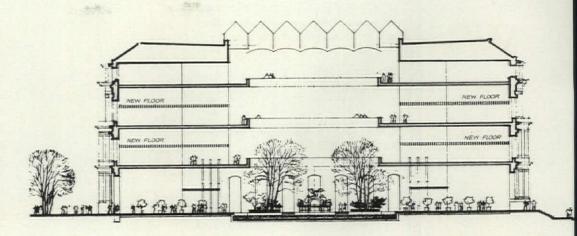
"When grandpa's face is dirty, you don't shoot him." Thus speaks Frank T. Hilliker, leader of a determined band now fighting for the life of the old post office in St. Louis (below, left). The building, designed by the noted government architect, A. B. Mullett, and erected in the tumultuous aftermath of the Civil War, is threatened by the imminent departure of its present tenants (assorted federal agencies) for space in a new federal office building

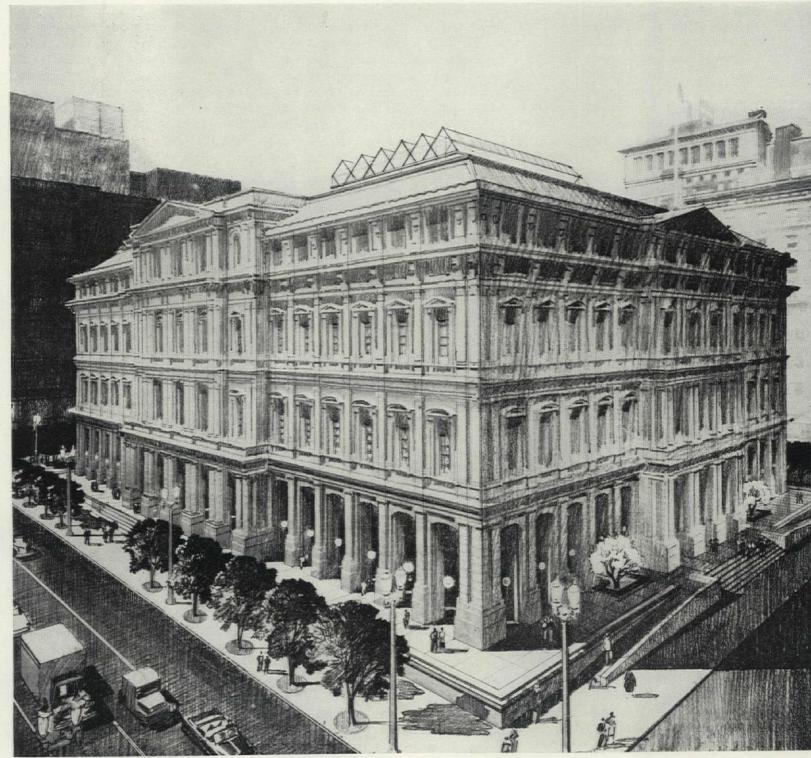


Today, the old post office in St. Louis is dark and grimy with deep moats repelling pedestrians.

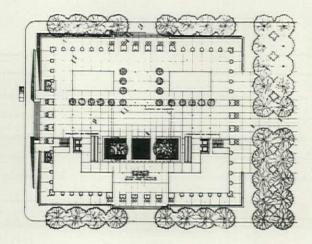
soon to open. What happens to the post office then is the big question which Hilliker and his group, Landmarks Association of St. Louis, are trying to answer through rebuilding for contemporary use.

Several possible fates await the building. It could, of course, be retained by the federal government, but right now this possibility seems unlikely. Although the post office is structurally solid (it was, in fact, designed to with-





Tomorrow, it could sparkle, with the moats filled in and with a magnificent skylighted indoor plaza.



stand the sieges which were a real threat to payroll storehouses during the turbulent Reconstruction Era), its mechanical systems need extensive work. The federal government's General Services Administration estimates that the cost of retaining the 138,000square-foot building for the next 20 years would run to over \$6 million, including \$2.5 million in modernization costs. In view of a reported bid of \$3.5 million for the property (some insiders feel this is a propaganda bid to beat down the price and that the property's real worth is between \$7 million and \$9 million), G.S.A. is inclined to dispose of the building. G.S.A. does, however, plan to review the over-all space situation in St. Louis once more before taking final action.

Another possibility is that the National Park Service, which has the case under consideration, will designate the post office a "monument," in which case St. Louis can acquire the building at no cost and improve it for civic use.

If neither of these possibilities transpire then the building will go on the block. A private purchaser might improve the building for economically sound use, or he might demolish it in favor of erecting a new structure.

Landmarkers are determined to save the old post office because of its intrinsic architectural merits of dignity, monumentality, and spaciousness (its ceiling heights, for example, are typically 22 feet and, in the two large courtrooms, 35 feet); because of its historical associations with post-Civil War St. Louis; and because of the important role it plays as a place-identifier in the over-all fabric of the city. The Landmarkers are also intrigued by the possibility of converting the building into a round-the-clock focus

for pedestrian life in the downtown area. And they are outraged at the thought that it may be demolished in favor of another indifferent office tower by real estate sharpers who regard the property as a potential windfall.

Rallying to the Landmarks cause, St. Louis Architect Joseph D. Murphy has drawn up a proposal-admittedly tentative and flexible-for rebuilding the post office while preserving the historic structure for any of the possible future uses. The most striking feature of his proposal is the conversion of an existing light court, presently covered over at the first-floor level, into a magnificent, indoor public plaza, rimmed with balconies beneath a new roof-level skylight, and containing a garden, pools, and the sculpture group by the distinguished American sculptor, Daniel Chester French, which now adorns the mansard dome (see section, page 117; plan, above). Murphy's plan capitalizes on the great ceiling heights, which permit installation of intermediate mezzanine floors (see section), increasing the net usable floor area by almost 60 per cent to 220,000 square feet. He also proposes extending the first floor out over the moat, providing a raised exterior walk; closing one of the bordering streets for an outdoor plaza; removing the heavy mansard dome; and thoroughly cleaning the building's grimy façades. According to Murphy, this would cost 30 per cent less than a new building of comparable size.

Murphy's proposal is attractive to contemplate, but he and allied Landmarkers face potent and well-organized opposition. Among the groups most vocal in attacking preservation of the old post office as economically unfeasible are the St. Louis Chamber of Commerce, Downtown in St. Louis Inc.,

local real estate managers, and the City Plan Commission. Their contention, in general terms, is that Landmarkers are "against progress" and that this building, even if improved and retained, would not be progress. Further, they argue that it would be cheaper to put up a new building.

William Harrison, chairman of the City Plan Commission, comments: "The building certainly is no ornament. Buildings wear out just like shoes and hats, and go out of style. The building doesn't serve any useful purpose and, even if improved, I don't see how it can be made to serve any useful purpose." His commission recommends that the post office give way to a new office building and park.

In the face of such powerful "progressive" opposition, Hilliker and his friends have had a hard time rallying strong outside support. The St. Louis chapter of the AIA, for example, is unable to endorse the effort because its membership is divided on the issue. The National Trust for Historic Preservation, however, which in 1960 gave an official opinion that the building has outstanding architectural significance, stands ready to help. Robert R. Garvey Jr., the Trust's executive director, now says: "We are prepared to again offer our support to the local group on any sound proposal to save and make useful this important building."

The day of decision is near. What happens to the old post office will finally depend to a large degree on how much value St. Louisans in general, rather than Landmarkers in particular, attach to their architectural heritage. If the old post office is rebuilt for economically sound, contemporary use, St. Louis will have faced up to a problem which other cities have so far largely avoided.



Rebirth of a boom-town opera house

Spawned during the great silver strikes of the 1880s, Aspen's Wheeler Opera House died, like the town itself, when the rich ore petered out. For years the building lay neglected, and when, in time, fire destroyed its interiors, not a finger was raised to restore it.

Aspen's remarkable renaissance, which dates from 1946, has finally overtaken the opera house. On a shoestring budget of \$40,000 it has been remodeled in a two-stage operation so that, today, it boasts a rich, Victorian elegance to rival anything the town knew in its palmiest mining days.

In 1950-51 the ceiling was installed, the interior was painted, two fire escapes were added, and a great deal of electrical work, including stage lighting and ceiling fixtures, was completed. The opera house thus became usable, though by no means grand (the hard wooden benches had a certain character but were scarcely comfortable). Then, in 1960, when further funds became available, the operation was completed. Rich, mulberry-red seating for 450 people was installed, a linoleum floor was laid, the interiors were repainted in a new modern color scheme (using stencils for the wall patterns to keep the budget low), and gold drapes were provided for the stage and windows.

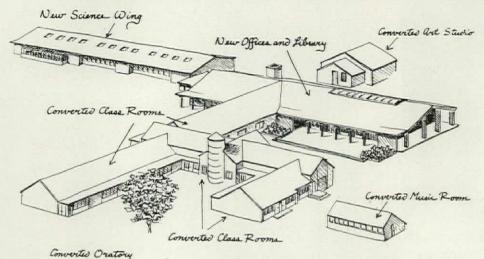
Color is what gives this opera house (used also for lectures, movies, and plays) its real style and elegance. The red walls and ceiling, which match the seats, the gold fleurs-de-lis, and the gold Corinthian capitals on black columns, recall in modern terms the glorious boomtown days of a bygone but not forgotten era.

Architect: Herbert Bayer. Acoustical consultants: Bolt, Beranek & Newman. General contractor: Horace Hendricks.

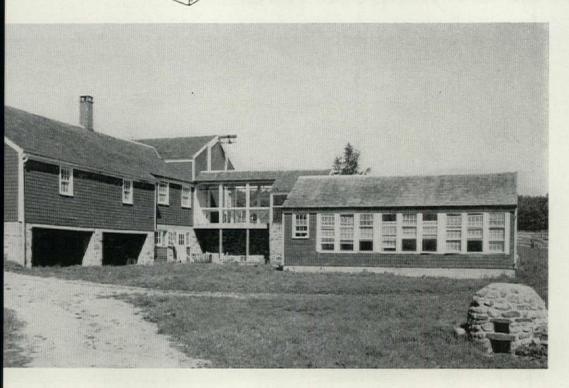


Long neglected, Aspen's newly remodeled opera house uses rich colors in a modern combination with traditional embellishments to produce an air of marked Victorian elegance.





Schoolrooms from farm buildings



Dairy barn and chicken house (above left and right) were converted into classrooms and music practice rooms (below). The exterior colors are barnlike: red and white.



Last September, girls, 100-strong, came to study at the previously all-male Kent School. A new campus, set on some of Connecticut's handsomest high ground, awaited them. Previously a farm and located 4½ miles from the boys' school, their campus consists largely of new buildings. But with rare insight, considerable imagination, and not a little whimsy, the architects rebuilt many of the existing farm buildings to form a substantial part of the classroom complex (see sketch).

Dairy barns were converted into 14 classrooms, a chicken house into six music practice rooms, a bull barn into an art studio, a silo into a cozy sitting alcove, and a children's playhouse into a small oratory where the girls can pray or just rest during the day. All this produced about 10,000 square feet of space at a cost of \$117,400.

The frame structures were stripped inside, partitions rearranged, and corridors added. Interiors were finished with natural plywood, painted plaster-board, and burlap-covered fiberboard; the ceilings, with acoustic tile; the floors, with asphalt tile. All converted space is sprinklered from main runs in the classroom complex (see sketch). asbestos siding and wood shingles.

The resulting space, low-ceilinged and rambling, has an intimate scale and spatial variety, creating a warm atmosphere for the 200 girls who will study there when the school reaches capacity two years hence. Classrooms, designed for 8 to 15 students, are bright, with sweeping views of the countryside.

Architects: Moore & Salsbury. Structural engineers: James S. Minges & Assoc. Mechanical and electrical engineers: Fred S. Dubin Assoc. General contractor: Hobbs-Crow Joint Venture.

Rebuilding roundup

U.S. Capitol rebuilding cost soars to \$24 million

When the refurbishing of the U.S. Capitol was under discussion three years ago, estimates of the total job. including repair work on the cast-iron dome, rewiring the building, and other repairs, ran to \$17 million. Last month, it became known that the total cost, including the controversial extension of the East Front, would be about \$24 million. And no one is really certain if this will be the ultimate cost of the project, which, more Topsylike even than most federal rebuilding efforts, has grown from a relatively minor repair job on the dome to a massive overhaul of the whole building. The original \$17 million figure, about \$10 million of which was to have been for moving the East Front 32.5 feet farther out and building a new front in marble to replace the crumbling limestone façade, ballooned to \$21 million when the subway terminal for the Senate wing was tacked on. But the additional \$3 million cost, over that amount, stems almost entirely from the East Front project itself, which now will cost over \$12 million. Architect of the Capitol J. George Stewart attributes part of the rise to higher (by an average of 17 per cent, he maintains) prices for building materials.

While Stewart attempts to get the additional moneys he needs to complete the Capitol rebuilding, Congressmen themselves are awaiting completion of the corridors that have long been a key element in the controversy over the project. Originally the plans called for corridors behind the new facade, so that Congressmen could traverse the distance from the House wing to the Senate wing without going through the frequently crowded ground floor of the rotunda. The corridors are still under construction, although the façade itself is almost finished. Each corridor is to be 240 feet long, about 8 feet wide, and will be for the use of Congressmen and their personnel. However, perhaps still smarting from the torrrent of criticism surrounding the "million-dollar corridors"-and indeed the whole project-a member of Stew-





Silo was transformed into a cheerful alcove (below right). Corridors (below, left) were added to the rebuilt farm buildings; glass above book bins adds daylight to classrooms.





art's staff was quick to point out that "members of the general public probably would not be thrown out if they should enter the unmarked bronze doors of the corridor entrances, but they won't be encouraged to enter."

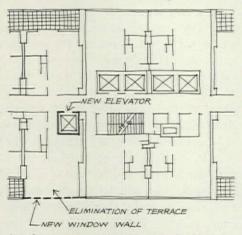


Admirers (including Speaker of the House Sam Rayburn, foreground) applaud the gleaming new East Front of the U.S. Capitol at its dedication prior to this year's inauguration. Interior work is still under way.

Elevator shaft cut into 40 floors in two days

In a rebuilding job that included the noisiest but also the fastest operation of its kind on record—taking only two days and less than 24 hours of working time—workmen feverishly cut a new elevator shaft through 40 floors of Executive House, Chicago's swank new apartment hotel (FORUM, Aug. '59). Five months and about \$300,000 later (after quietly remodeling 40 hotel rooms) the new elevator was put into service.

Original designs by Milton M. Schwartz & Associates, Inc. provided



for four automatic high-speed elevators that were expected to do the job of six ordinary cars. Though estimates of the hotel's business were revised upward while it was under construction, the owners and elevator company still calculated that four cars would be adequate. But the success of the new hotel was even greater than expected. Its four cars were so overtaxed that irritating delays developed, and the owners decided to add a fifth car, to be used exclusively for service purposes.

To avoid sacrificing any income-producing space in the hotel's guest rooms, Architect Edward Steinborn ran a 371foot shaft through a stack of rooms that have 8 by 20-foot balconies, and added the balcony space to the affected rooms. To cut down on the loss of guest-room income and the inconvenience of guests while this rebuilding was in process, Steinborn devised a crash schedule to break through all 40 10-inch-thick floors within two days. He rejected core-drilling as too slow, flamecutting as too hazardous. Instead he decided to use pneumatic hammersthe noisiest but fastest method. Working on as many as seven different floors simultaneously, this job was completed by busy hammer crews that worked from 9 A.M. to 9 P.M. on a single Saturday and until 6 P.M. the next day. (All prospective guests were warned in advance, but only a handful canceled their reservations.) Once the new shaftway had been punched through the tower, enclosing it and installing the new high-speed car-only 27 seconds from lobby to top floor-were relatively routine jobs.

Air commuters' terminal built inside hangar

Most U.S. air terminals are of such relatively recent vintage it hardly seems that much rebuilding could yet take place. But at one of the more venerable terminals, New York's LaGuardia Airport, Eastern Air Lines has achieved a unique rebuilding job inside one of its huge hangars, No. 8. The \$525,000 facility will serve as Eastern's "commuter" terminal for travelers to Washington or Boston, and will be fully equipped with snack bars, check-in counters, rest rooms, and other services calculated to make daily air travel more bearable. Passengers arriving by

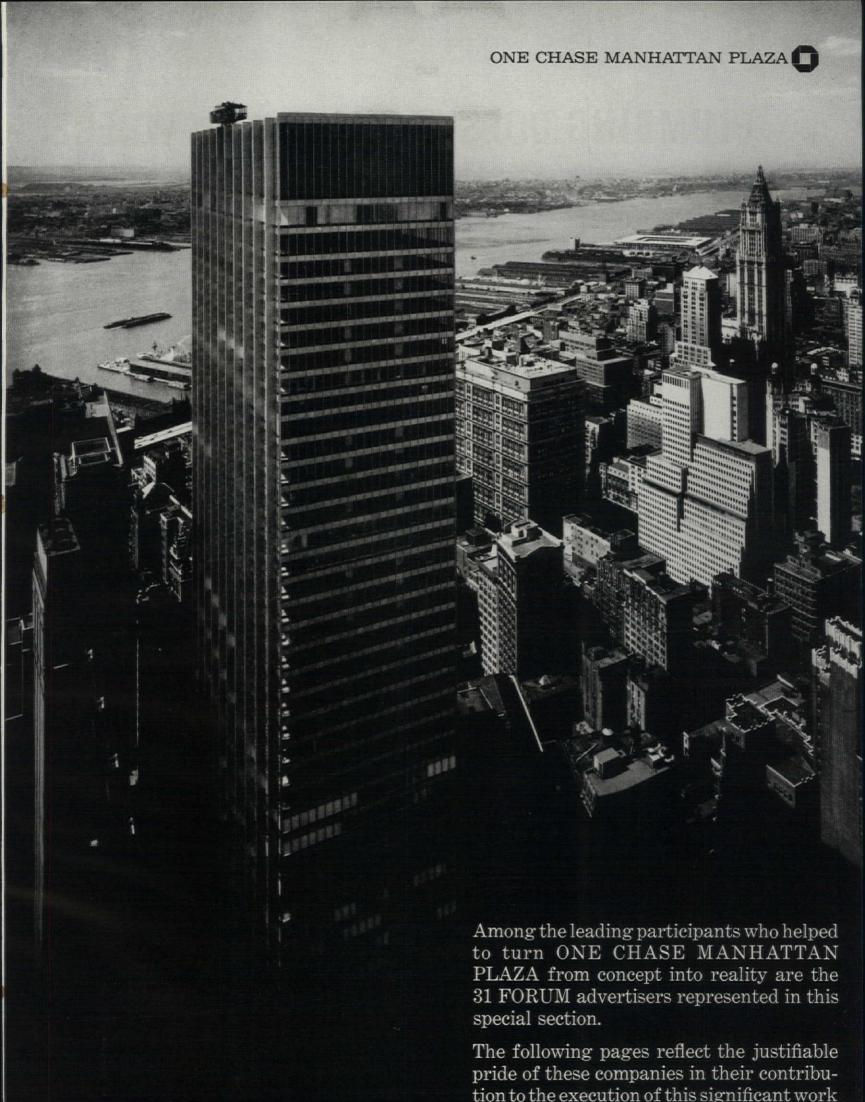
bus, taxi, or private car will be able to come directly to the terminal door, close to the gates to the planes themselves. Large no-time-limit parking areas have been provided immediately adjacent to the new terminal. Architects for the project are Robert C. Mock & Associates.

Briefs

Industrial rebuilding will be a bigger piece of a smaller pie in 1961, According to a recent McGraw-Hill capital spending survey, plant modernization will account for a record 70 per cent of all capital expenditures, but these in turn will be down about 1 per cent from last year's total of \$35.7 billion. However, the survey sees signs of a new capital spending boom, with resultant record proportions for rebuilding, if anticipated quarterly gains in spending continue into 1962. By the fourth quarter of this year, capital spending is expected to be at a rate of \$37.3 billion, just slightly below the record quarterly rate set in 1957.

Rebuilding in renewal will take on huge proportions in New York City if current plans for the rapidly growing neighborhood conservation program are approved by the Board of Estimate. Mayor Wagner has asked for an additional \$300,000 to double the present program (which now includes six conservation sites) to complement the city's over-all renewal program. Originally not much more than a reaction to former Slum Clearance Czar Robert Moses' unpopular bulldozer approach to renewal, the neighborhood conservation program has enjoyed unexpected success, and will soon encompass a dozen target areas in various parts of the city.

Rebuilding may save the venerable Old Howard Theater, until 1953 Boston's premier burlesque house, from the ravages of urban renewal. The 107-year-old building, originally built as a church, has the solid support of a group which wants to buy it from the city, refurbish it to its nineteenth-century grandeur and use it as a civic playhouse. So far, however, the Boston Redevelopment Authority seems bent on clearing the site for a new government center.



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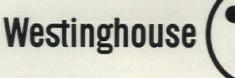
Contractors: Turner Construction Company

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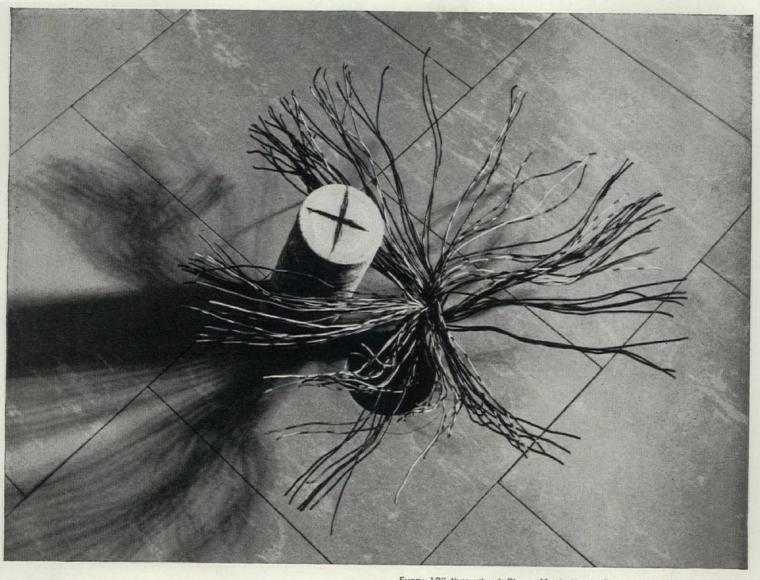
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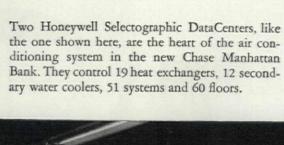
Newest and largest air conditioning system in an office building is Honeywell controlled

Lights that give off 17 million BTUs an hour. 800,000 square feet of windows. 25,000 employees and visitors daily. These are just a few of the problems considered in selecting a control system for the air conditioning of the new Chase Manhattan Bank building. To handle the heat load the building has 9100 tons of cooling capacity. And to control this enormous capacity they chose two Honeywell Selectographic DataCenters. By the simple touch of a button, one man at the DataCenter can: check temperatures at 400 locations; raise or lower temperatures at 200 areas; pinpoint the cause and location of any mechanical trouble; plus indicate and record other important information. To handle this job a conventional control panel would have to be 140 feet long. But, Honeywell engineers have devised a system of miniature schematic drawings on 35-mm. slides. Each DataCenter has 100

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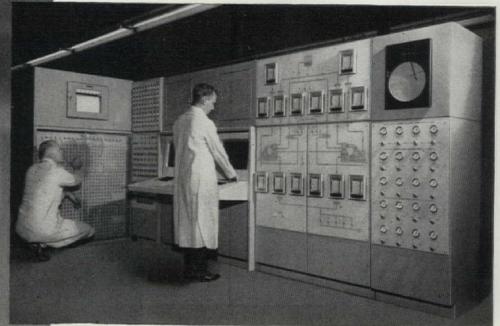
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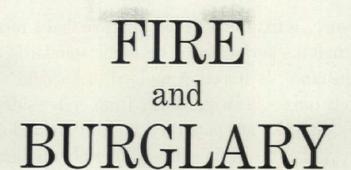




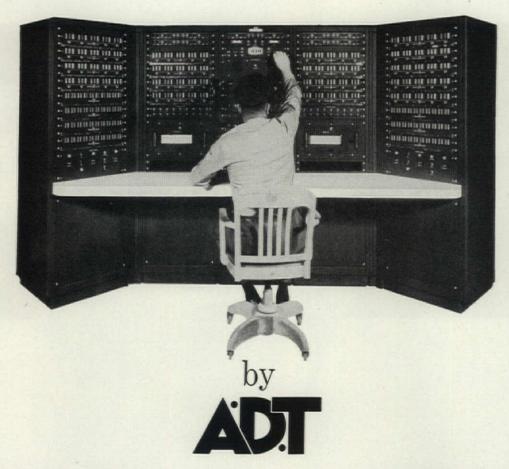
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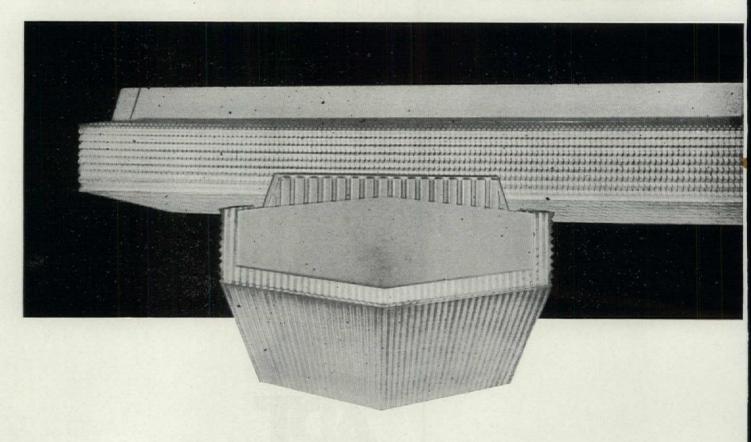
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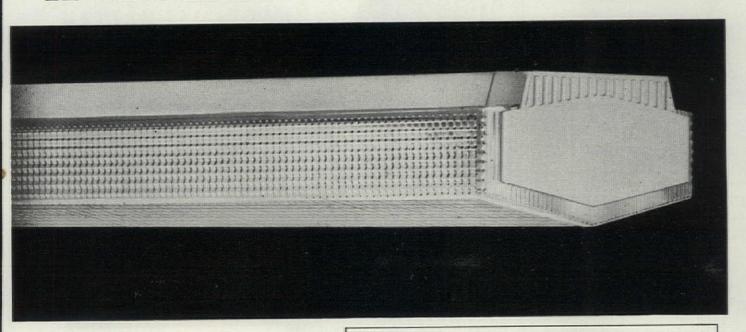
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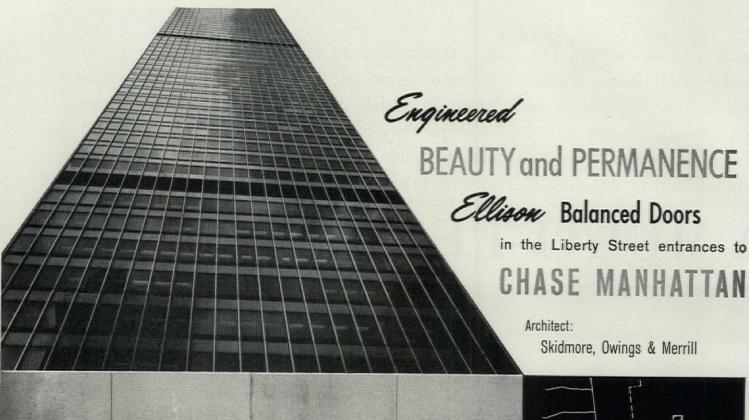
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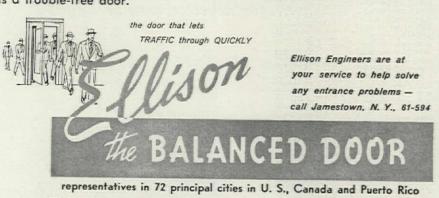




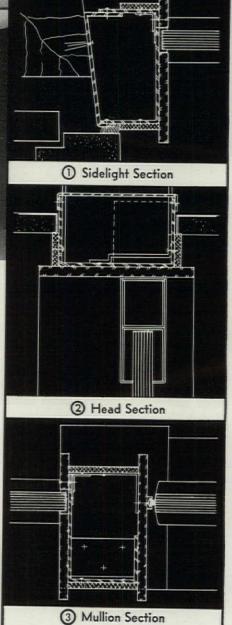
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Ellison engineers can make recommendations on structural support, traffic flow, wind and suction conditions that will be helpful in early planning-for either new or modernized buildings. Along with all these advantages - the customer gets a trouble-free door.



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Olin Aluminum"thinks"-that's why Lightolier thought of Olin first.

The 40,000 lighting fixtures (count 'em) that grace the new Chase Manhattan building in New York shed light on a lot of things. One is the fact that the manufacturer, Lightolier, called on Olin Aluminum's technical staff for assistance in creating a special lighting fixture. More and more designers and fabricators in aluminum are doing the same thing. As a major producer of aluminum, from its primary source, Olin Aluminum is staffed to help you create a specific aluminum product. Skilled specialists working with designers and fabricators can choose the exact alloy for perfect forming and finishing. They can, through their extensive knowledge of aluminum production problems advise on new applications, manufacturing and marketing techniques, costs — and more often than not contribute materially to design as well. Whistler once said he "mixed his colors for painting with brains." That's what Olin offers along with its vast aluminum resources: brains. Your local Olin Aluminum Sales Office or Distributor can bring this technical know-how to your problem. Quickly.



Two new air conditioning records were set at

1 Chase Manhattan Plaza

The largest centrifugal refrigerating machines ever built for comfort cooling supply chilled water to the largest number of room terminals ever installed in a single building.

The air conditioning system designed for the Chase Manhattan building by Jaros, Baum and Bolles is the largest ever installed in a new commercial building. The colossal job was handled jointly by Raisler Corporation and Kerby Saunders, Inc.

The four Carrier Centrifugal Refrigerating Machines that provide 9100 tons of cooling include two units of 3500 tons each—the biggest ever used for comfort cooling.

The 6475 Carrier Conduit Weathermaster* Units that rim the periphery of each floor are the largest number of high-pressure window units ever installed in one building.

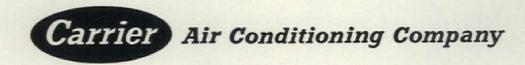
But perhaps the key fact about any air conditioning system is simply this. It helps

& Merrill design structures that combine exceptional utility with an outward expression that man calls art.

*Reg. U.S. Pat. Off.



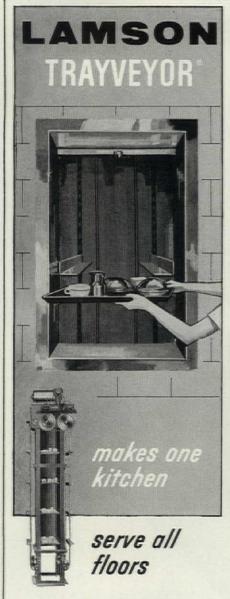
Photos by Alexandre Georges





SKIDMORE, DWINGS AND MERRILL FOR CHASE MANHATTAN.





Up this slim shaftway come 8 trayloads of piping hot food every minute. Down it, after mealtimes, go all soiled trays direct to the washing area.

Simple. Efficient. The LAMSON TRAYVEYOR cuts through high-cost duplications that traditionally mar institutional feeding.

Gone are the crowded elevators . . . the floor diet kitchens . . . the scattered, scurrying personnel and all the other by-products of decentralized confusion.

A LAMSON TRAYVEYOR gives you administrative and service control over all your feeding problems and costs. Consider one for your institution. Get the full story. Write today to 101 Lamson Street, Syracuse, New York.

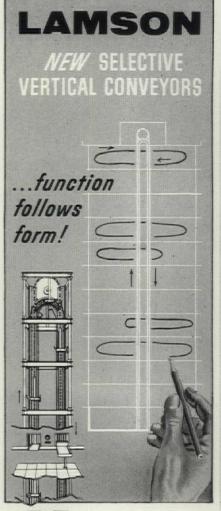


AUTOMATIC AIRTUBES are always at your service...day and night, week in and week out.

Operation is simple. Set the dials and dispatch the AUTOMATIC CARRIER. It flies through AIRTUBES to an AUTOMATIC MONITOR which redispatches the carrier to the ordered station.

These modern Lamson carriers are commodious . . . measure 14" long, $5^{5}\!/\!\!s$ " deep and $2^{7}\!/\!\!1_{6}$ wide—inside. Automatic systems are flexible . . . handling any number of stations with ease.

Central Station personnel are eliminated and each carrier's load is guaranteed secure. Be sure you're up-to-date on all modern LAMSON AIRTUBE SYSTEMS. Read the new AIRTUBE catalog. Write today to 101 Lamson Street, Syracuse, New York.





Paper handling has become an added building function that mod-

ern architects must consider in designing all new structures.

Many have found an ideal solution in the slender LAMSON SELECTIVE VERTICAL CONVEYOR with integrated horizontals where needed.

Enormous amounts of business paper and small packages can move up and down this slim, vertical lift . . . flowing automatically into and out from any number of floor locations.

Simple to operate and easy to maintain, this combination of LAMSON conveyors meets any distribution demand yet is flexible enough to fit any structure form.

Check LAMSON before specifying any other method. Write 112 Lamson Street, Syracuse, New York.

PIONEERS the Conquest OF INNER SPACE

LAMSON CORPORATION

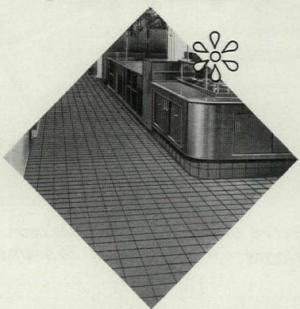
PLANTS IN SYRACUSE, SAN FRANCISCO AND TORONTO, CANADA . OFFICES IN ALL PRINCIPAL CITIES

Manufacturers of Airtube® (Pneumatic Tube Systems) • Integrated Conveying Systems • Pallet Loaders • Selective Vertical Conveyors • Bookveyors® Clinical • Trayveyors® • Food Service Systems • Blowers and Exhausters • Exidust® Central Vacuum Cleaning Systems • Dryset® Air Vacuum Systems





wherever there's . . .



men who know tile floors best, specify and install

JOINT FILLER

Wherever there's food handling, there's sure to be spilling, dripping and dropping. Ordinary grouts can't withstand the corrosive attack of food acids and alkalies. That's why Hydroment Joint Filler was specified for the quarry tile kitchens and cafeterias of No. 1 Chase Manhattan Plaza. It forms a permanently tight, dense, joint – non-toxic, odorless, highly resistant to wear and corrosion. It inhib-

its bacteria growth; very easily maintained. Widely used with brick or tile in breweries, bakeries, dairies, hospitals, etc. Seven colors, plus black and white.



Pioneers in Industrial Research Since 1881

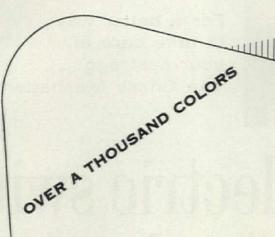
THE UPCO COMPANY

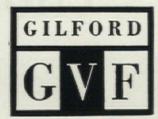
4805 Lexington Ave. . Cleveland 3, Ohio

In the West: HYDROMENT, INC., 829 No. Coffman Drive • Montebello, Calif.









OVER

65,000 sq. ft.

OF

GILFORD VINYL WALLCOVERING

installed at
1 CHASE MANHATTAN PLAZA

OVER

25,000,000 sq. ft.

installed in

OFFICES, BANKS, CLUBS,
INDUSTRIAL BUILDINGS,
SHOWROOMS, STORES,
RESTAURANTS, HOTELS,

MOTELS, AIR TERMINALS

MORE THAN SIXTY PATTERNS

GILFORD

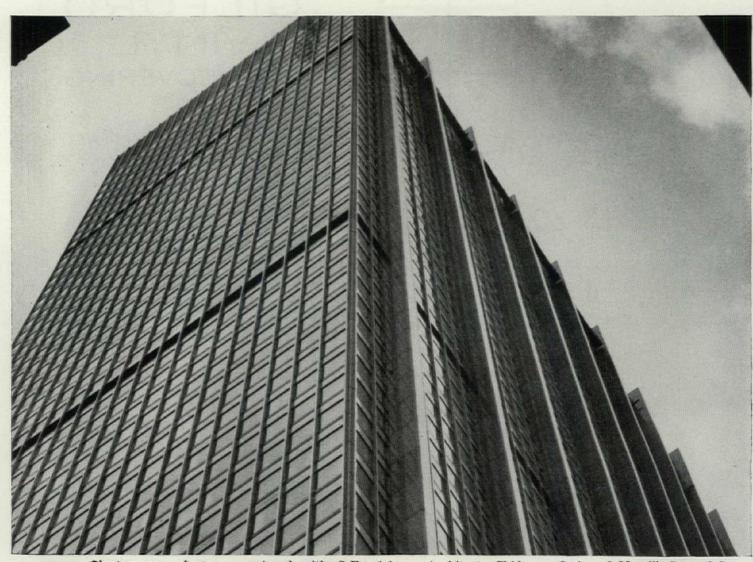
LEATHER COMPANY, INC. 515 MADISON AVENUE, NEW YORK 22, N. Y. PLAZA 3-3356 3-7128

sample books on request



For a better way to take care of your nest egg... The Chase Manhattan Bank

General Electric switches chosen for 1



Giant among giants — equipped with G-E wiring devices. 1 Chase Manhattan Plaza is new symbol of strength in New York's financial district. It towers 60 stories above ground, with six working levels underground — is city's sixth highest building.

Architects: Skidmore, Owings & Merrill. General Contractor: Turner Construction Company. Electrical Engineers: Meyer, Strong & Jones. Electrical Contractors: Fischbach & Moore, Inc. and L. K. Comstock & Company, Inc. (joint venture).



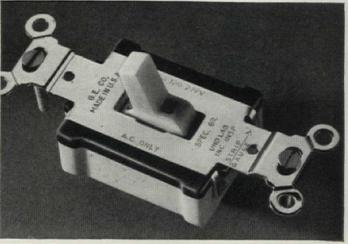


For a better way to take care of your electricity... G-E wiring devices

and outlets Chase Manhattan Plaza



G-E quiet-type switches, grounding outlets and interchangeable devices were selected to meet engineering specifications for building, by Fischbach & Moore, Inc. and L. K. Comstock & Company, Inc. Mr. Roy Cascio, Assistant Project Engineer, is shown here in the firms' field office on the 34th floor.



Popular GE5451 20A, 120/277V AC switch, one of devices used in new skyscraper, is famous for dependable, quiet action that stays quiet for life of the switch. It has no rubber "bumpers" to harden with age. Four other exclusive features make this a top-quality AC switch for commercial buildings.

Progress Is Our Most Important Product

GENERAL EB ELECTRIC



Planning a new building?

It will pay you to have details on the high quality General Electric line of Specification Grade wiring devices. Ask your secretary to...

Mail coupon, for new G-E wiring device literature, designed especially for architects and engineers.

Literature gives complete information on G-E outlets, caps, connectors — locking devices — switches & combination devices — low-voltage Remote-Control switching — wall plates — lampholders & starters — miscellaneous devices.

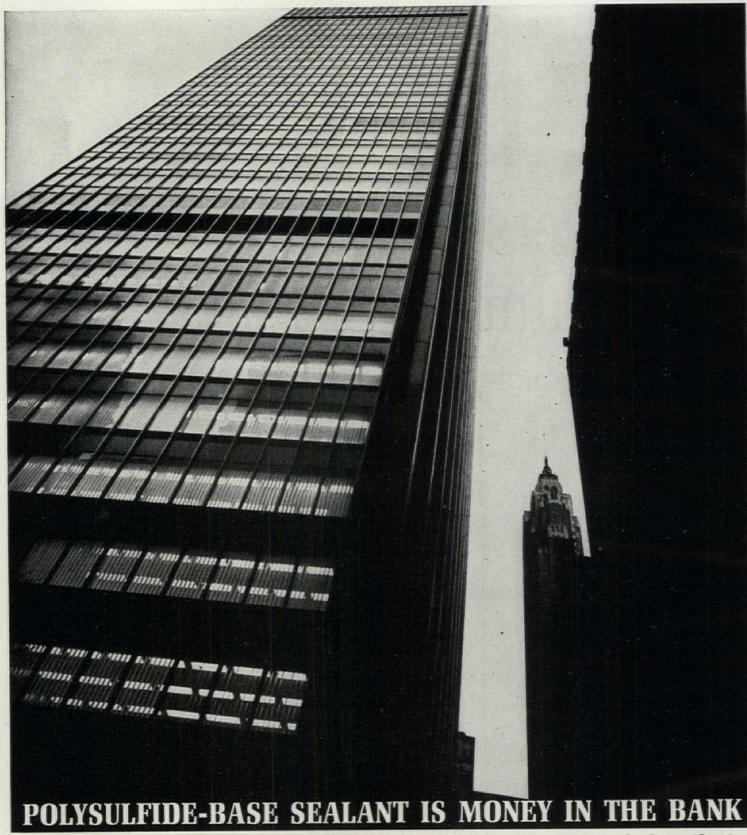


General Electric Company Wiring Device Department Providence 7, Rhode Island

Gentlemen: Please send us useful information on G-E Specification Grade Wiring Devices.

Name	Title
Company	***************************************
Address	
City	State





Every metal-to-metal and glassto-metal curtain wall joint in the new Chase Manhattan Bank building is weather-sealed with material based on тнюког liquid polysulfide polymer Because of the properties of THIOKOL polysulfide-base sealant, the outlook for lasting dividends is AA-A1 Properly formulated and applied, THIOKOL polysulfide-base sealant lasts for the life of the building ... saves expensive resealing ... prevents costly water damage ... reduces the overall budget for building maintenance Customapplied to the job on the job, sealant with тнюког polysulfide polymer conforms to all joints regardless of size, shape, or possible variation from original design. It resists air, chemicals, sunlight, water...and expansion up to 100% cannot break its steel-grip bond.

American Standard Specification A.116.1 sets standards for poly-sulfide-type sealant. Only Thiokol Chemical Corporation makes THIOKOL polysulfide polymers.

CHEMICAL CORPORATION 780 N. Clinton Ave., Trenton 7, N. I.

In Canada: Naugatuck Chemicals Division, Dominion Rubber Company, Elmira, Ontario

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miles of enclosure

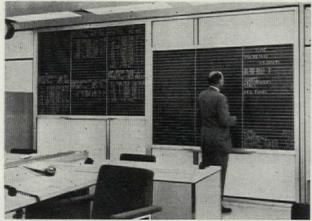
Pomeroy is proud of its contribution to One Chase Manhattan Plaza. Over 7½ miles each of custom-built enclosure and blind pockets are used on the perimeter walls. These, with the interior pier facings by Pomeroy, complete the interior surfaces at the curtain walls.

Close collaboration with the architects, during the early design stages and continuing through the mock-up stage, resulted in the required design and strength, and a timesaving installation.

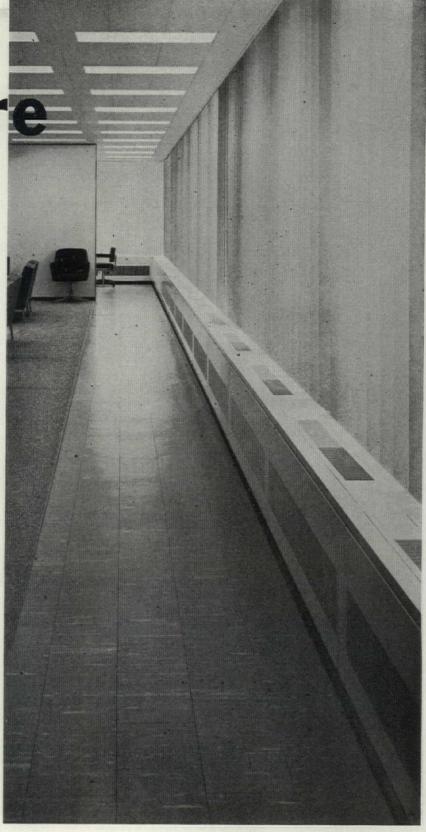
The enclosures house the perimeter air conditioning elements and provide space for the vertical blind tracks. Consistency on the production line provides constant appearance and dimension. All front panels are readily removable for access to the units.

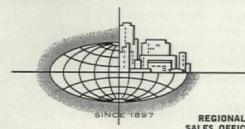
The blind pocket, located at the head of the curtain wall glass, houses the blind tracks, provides a straight edging for the ceiling tile, and incorporates perforations for returning air to the hung ceiling area.

The formed metal pier facings extend from the enclosures to the blind pockets and provide a finish consistent with these metal members. Many years of experience in such installations are at your disposal. Many similar prestige projects such as Time and Life, Seagram, Socony Mobil and the Pittsburgh Hilton, and hundreds of similar works including many small jobs have been successfully accomplished.



The above shows another product of a Pomeroy subsidiary, the Lite-Lift vertical sliding Chalkboard hardware as used in the Bond Department.





S. H. POMEROY COMPANY

National Headquarters: 41 Magee Ave., Stamford, Connecticut
New York: 800 East 141 St., New York, New York
Michigan, Ohio, Kentucky, Indiana: 3629 Manchester Blvd., Toledo 6, Ohio
Oklahoma, Texas: 1921 Van Buren Circle, Pasadena, Texas
Georgia, N. Carolina, S. Carolina: P. O. Box 202, Fletcher, N. C.
Arkansas, Missouri, Tennessee: 2216 S. Parkway East, Apt. 5, Memphis, Tenn.
Arizona, Calif., Nevada (So. Half): 186 N. Canon Dr., Beverly Hills, Calif.
Illinois, Iowa, Nebraska, Wisconsin: 217 S. Candota St., Mt. Prospect, Ill.
Alabama, Louisiana, Mississippi: P. O. Box 692, Crowley, Louisiana

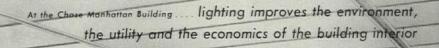
Engineers · (Fabricators · Exectors

Aluminum & Steel windows . Air Conditioning & Heating enclosures . Architectural curtain walls











Smithenaft
Integrated Lighting

1 Chase Manhattan Plaza,
New York City
Architects: Skidmore,
Owings & Merrill, N.Y.C.
Electrical Engineers:
Meyer, Strong &
Jones, N.Y.C.
General Contractor: Turner
Construction Co., N.Y.C.
Electrical Contractors:
Joint venture — Fischbach
and Moore, Inc.
and L. K. Comstock and
Company, Inc.

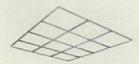
In the computer department of the new Chase Manhattan Building, 85,000 square feet of Smithcraft Integrated Lighting provides an average of 70 footcandles of comfortable, efficient illumination — plus effective noise reduction qualities — in an architecturally pleasing structural pattern.

SPECIFY SMITHCRAFT
ILLUMINATION SYSTEMS
FOR EVERY CEILING
APPLICATION

Many additional requirements determined the selection of Smithcraft Integrated Lighting: Simplification of sprinkler installation; incorporation of structural header systems to receive movable partitions; simplification of design and installation of air delivery system; incorporation of suspended acoustical baffles; and freedom of utility placement allowed by the ceiling system. Smithcraft Integrated Lighting supplied the answer to all these needs, with installation and maintenance economy.

Smithcraft ceiling systems can solve many ceiling problems. For information on the Smithcraft system that best fills your specific requirements, write to:

Smithcraft Lighting CHELSEA 50, MASSACHUSETTS



Smitheraft ILLUMINATION

Makes possible a wide selection of size, pattern, intensity, shielding and periphery. An important architectural and decorative asset.



Smitheraft ELEMENT

Pre-assembled modular units for high-level comfortable illumination of any area, in any pattern. Provides the utility and low cost of dropped ceiling construction.



Smitheraft OVERALL ILLUMINATION

Today's most advanced design in wall-to-wall lighting. Economical to install and maintain. Available with Contrex Soundsheet acoustical shielding.



Smitheraft CEILING SYSTEM

High-level illumination plus effective sound absorption. Just 7" deep — adapts to any ceiling plan. Incorporates Contrex Soundsheet acoustical shielding.

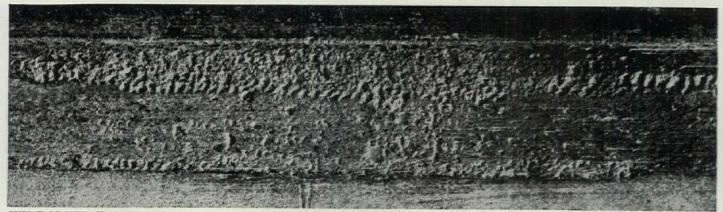
HERE IS THE APPARATUS used to make the torture scratch-hardness test in the research laboratories of Foster D. Snell, Inc. A steel bit with a half-inch chisel type edge was dragged back and forth repeatedly over the treated and untreated surfaces of the concrete specimens at an angle of 30° from the horizontal and under a load of 20 pounds. Machine was operated at 19 cycles per minute.

CAN YOUR FLOORS SURVIVE THIS TORTURE TEST?

LAPIDOLITH makes concrete floors highly resistant to the worst traffic conditions, as proven by the Torture Test conducted by the independent research organization of FOSTER D. SNELL, INC. The Foster D. Snell, Inc. torture test applied to untreated concrete resulted in severe damage to the floor.

These actual and unretouched photos of the torture test prove conclusively that LAPIDOLITH imparts a higher degree of scratch and abrasion resistance to concrete, actually changing the nature of the concrete. Typical concrete sealers with "alleged" hardening qualities offer scratch and abrasion resistance only as long as the surface film remains continuous and unbroken. Once this surface film is removed or broken, which occurs during normal traffic wear, the concrete "treated" is as vulnerable as untreated concrete.

The fact remains that there is no floor sealer that can possibly function as anything more than a sealing compound when applied to set and dry concrete. Floor sealers simply cannot chemically harden concrete. Sonneborn has an excellent and a complete line of floor sealers and curing compounds which Sonneborn recommends for specific purposes for which curing and sealing compounds are designed. Sonneborn does not, and will not recommend a curing and sealing compound as a concrete floor hardener. Sonneborn recommends LAPIDOLITH as the best treatment for hardening concrete floors.



HERE IS WHAT HAPPENS when concrete is not treated. After 500 strokes, the untreated concrete shows wear of 0.0035 inch; the equivalent of 3½ mils. The surface is broken and badly worn.



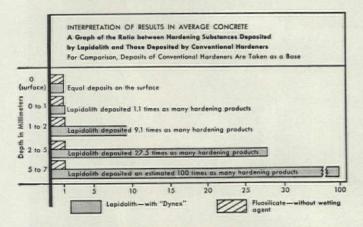
ANOTHER SPECIMEN OF THE SAME CONCRETE was treated with a coat of typical sealer. After 500 strokes, the surface showed wear of 0.0007 inch, the equivalent of 2/3 of 1 mil. The surface appeared unbroken. But, look what happened when the sealer was stripped away. Photo is of block abraded after stripping by paint and varnish remover. The concrete showed erosion to a depth of 0.0027 inch; or the equivalent of 2.7 mils. The surface was broken and badly worn away.

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LAPIDOLITH hardened concrete floors can take the grind of day in and day out traffic.

Here are some additional facts about LAPIDOLITH:

1. ONLY LAPIDOLITH CONTAINS DYNEX®. Because of Dynex, LAPIDOLITH not only chemically hardens the surface, but penetrates deeply into the sub-surface pores and capillaries giving greater HARDNESS IN DEPTH. Proof of hardening in greater depth is shown in chart below. These radioactive tracer tests, were conducted by FOSTER D. SNELL, INC.



- 2. RESISTS INSTANTANEOUS ACID ATTACK. LAPIDOLITH protection permits enough time to flush off acids before the concrete is harmed. (Proof of acid test available on request.)
- **3.** GUARANTEED. LAPIDOLIZED concrete floors are fully bonded and guaranteed for 5 years against concrete dusting as a result of abrasion and wear, when applied under contract by Sonneborn—America's foremost manufacturers of liquid chemical concrete floor hardeners.
- 4. PROVEN SUCCESS. LAPIDOLITH is the original chemical floor hardener and has been distinguished by having received the famous "Brand-Names-Award." Over

half a billion square feet of concrete floors have been successfully LAPIDOLIZED in the past 57 years.

5. EASY TO APPLY. LAPIDOLITH is a laboratory controlled, factory prepared, stabilized colorless solution and very simple to apply.

"CUSTOM DESIGNED" LAPIDOLITH CONCRETE FLOOR SYSTEM

There is no one product or system that can perform all the functions required for all concrete floors. Floors are individually designed for different purposes, and every one product or system may be either under-designed or over-designed for the specific requirement. Only Sonneborn offers you a "custom designed" LAPIDOLITH Concrete Floor System to help you with your specific floor problem. Sonneborn is the one company you can come to with all your concrete floor treatment requirements.

At no obligation to you, we will have one of our qualified floor specialists make an expert inspection and recommendation for you.

Replacing worn-out concrete floors will cost you many times more than a simple, low cost, application of LAPI-DOLITH. WRITE TODAY FOR FREE INSPECTION.

All photos are actual and unretouched and are of tests made by FOSTER D.SNELL, INC., with their facilities and under their supervision.



SONNEBORN CHEMICAL AND REFINING CORPORATION

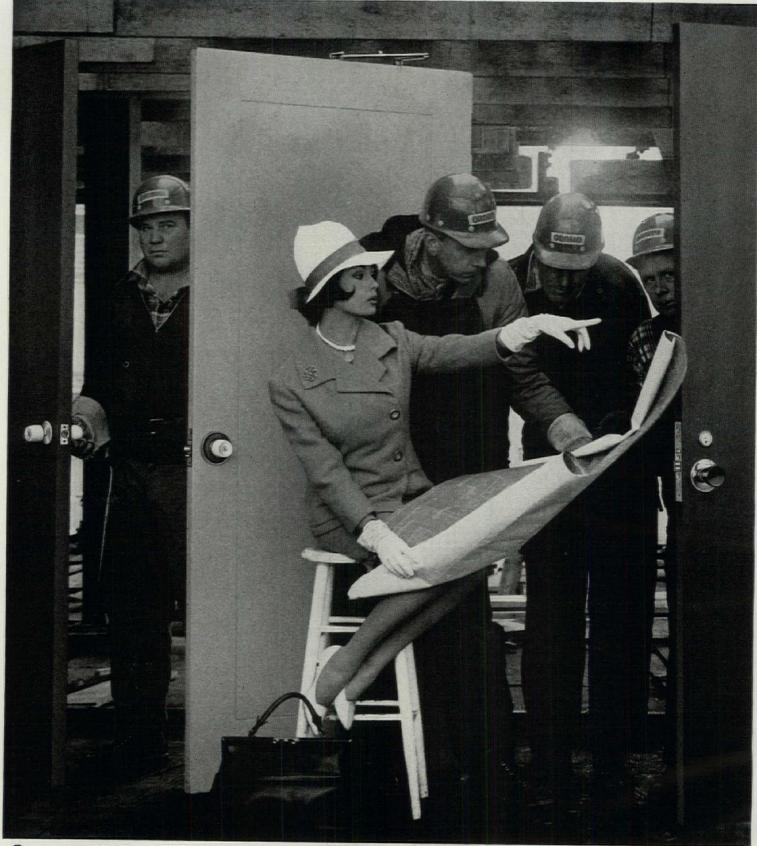
Building Products Division AF-71
404 Park Avenue South, New York 16, N. Y.
HOUSTON, CHICAGO, LOS ANGELES, TORONTO

Always Consult Your Architect or Engineer



HERE YOU SEE THE LAPIDOLITH treated concrete after 500 strokes. Note that even under six magnifications the surface appears unbroken, with total wear being measured at only 0.0003 inch! The equivalent of 1/3 of 1 mil! Particles of metal may be seen imbedded in surface of the concrete.

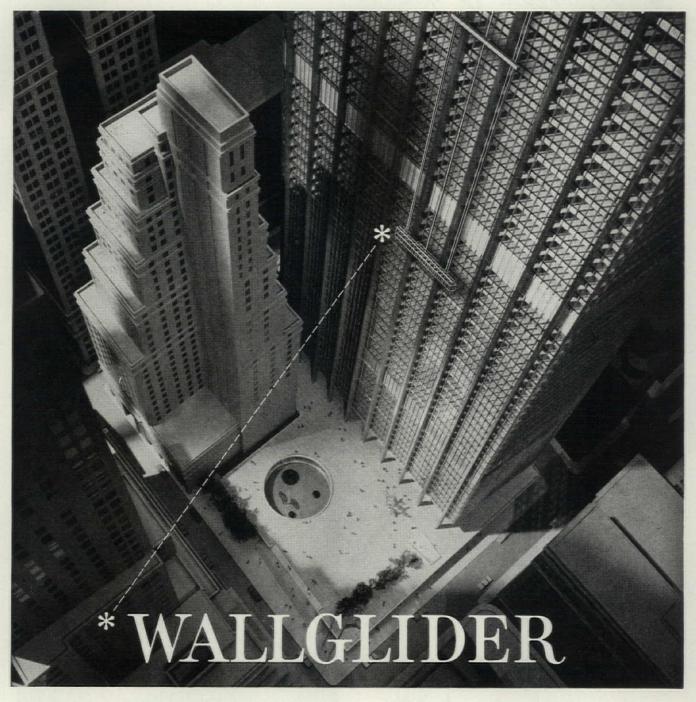




for 60 floors of fashionable doors: Sargent locksets and door closers were selected for New York's new financial center...The Chase Manhattan Bank.







Specified for the new Chase Manhattan Bank building for exterior maintenance

Sealed curtain wall construction has achieved acceptance for its economy of first cost, beauty and functional simplicity. Maintenance of these walls requires specialized equipment that has been integrated with the building's design and is soundly engineered to assure performance and safety.

Manning & Lewis are pioneers in the design and construction of rugged, efficient and economical power-operated maintenance machines. M&L has the imagination to solve the unusual and difficult problems, and above all, builds into its equipment the sound engineering "extras" that provide maximum safety.

As designers of many other major buildings have done, architects for the Chase Manhattan Bank building specified power-operated "Wallglider" by Manning & Lewis. Manning & Lewis engineers will be glad to consult with you on the application of the "Wallglider" to your particular building design.

General Contractor: Turner Construction Co. Architects: Skidmore, Owings & Merrill



MANNING & LEWIS Engineering Company
675 Rahway Avenue • Union, New Jersey

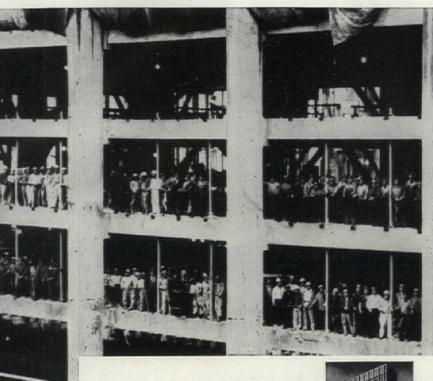


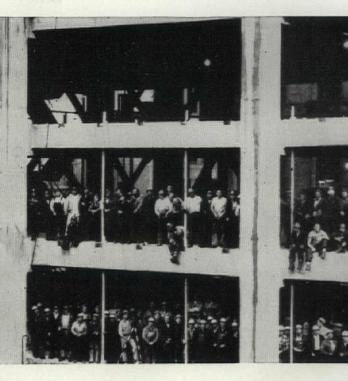
And in New York FUTURE OF FAULTLESS SERVICE



COYNE & DELANY CO. • 834 KENT AVE. • BROOKLYN, NEW YORK





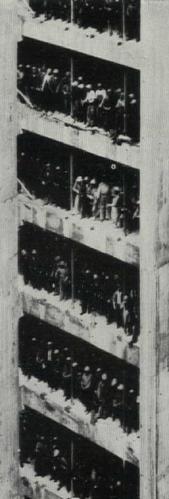


1,223 MEN WHO UNDERSTAND SOME OF THE BENEFITS OF ROBERTSON Q-FLOOR

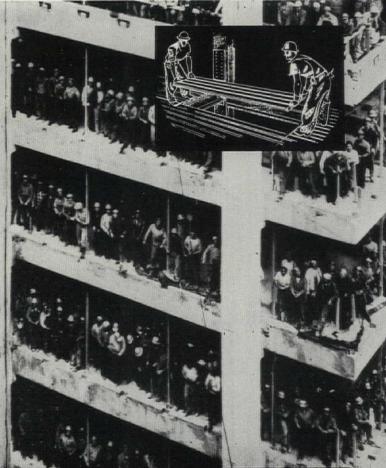


These men who built Chase Manhattan were in a position to appreciate certain things about Q-Floor. They had a safe, clean, dry, fireproof platform to work on with plenty of material and equipment storage space and no crowding or waiting.

In the years to come, thousands more, the owners and tenants, will enjoy the benefits of simple, quick, unlimited wiring changes which Q-Floor, the original cellular steel sub-floor system provides. Write for complete details on Q-Floor and Q-Air Floor to H. H. Robertson Company, 2403 Farmers Bank Building, Pittsburgh 22, Pa.



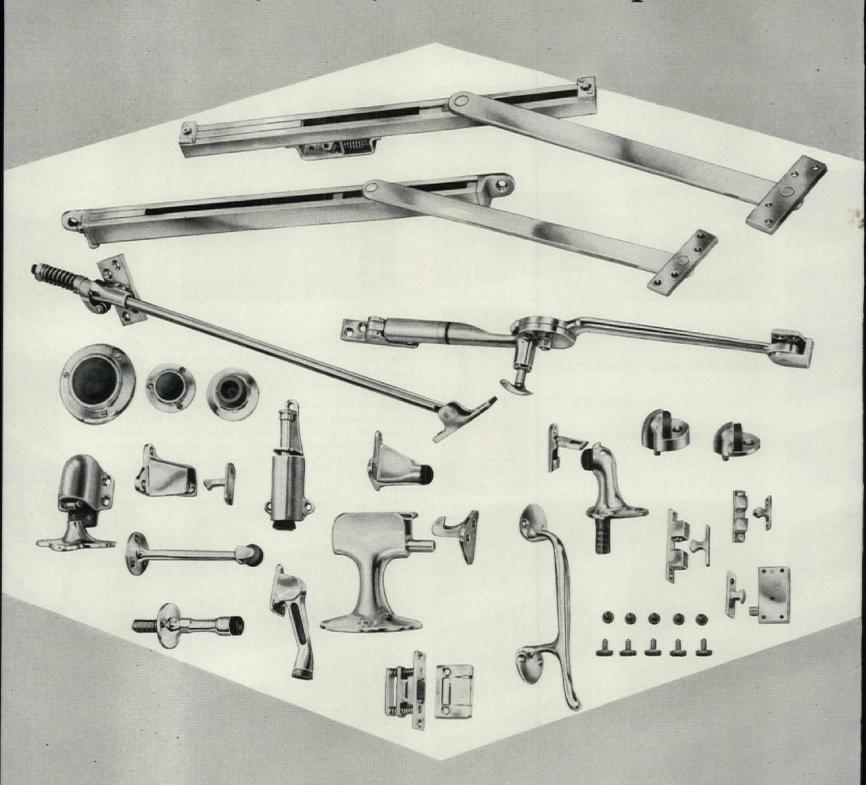




ers . Turner Construction Co., Builder



where only the finest is adequate...



GLYNN · JOHNSON door control hardware



ONE CHASE MANHATTAN PLAZA

Today's most distinguished skyscrapers are clad and detailed with architectural metals by

GENERAL BRONZE





FOR NO. 1 CHASE MANHATTAN PLAZA: General Bronze engineered, produced and erected the complete system of aluminum curtain walls (780,000 square feet) and fenestration. In addition, General Bronze supplied architectural metal work including stainless steel entrances, panelling, grilles, partitions . . . and other related items in stainless steel and aluminum. Architects: Skidmore, Owings & Merrill; Contractor: Turner Construction Co. • General Bronze Corporation, Garden City, N. Y. Sales Office: 100 Park Avenue, N. Y., N. Y.



8,800 views of the

Open World

Row upon row of huge windows open One Chase Manhattan Plaza to daylight and the open world for the enjoyment of 15,000 occupants and 10,000 customers and visitors who will come here daily. Since glass is such an important part of this distinguished building, L·O·F *Parallel-O-Plate**, 324,500 sq. ft. of it, was used for better looking, inside and outside.

Parallel-O-Plate is the finest plate glass made, twin ground to make its surface more parallel—thus minimizing waviness that could distort reflections on the glass.

If glass is a chief visual element in the design of *your* buildings, then the beauty of that glass should be a major concern. Specify the best. Specify L·O·F *Parallel-O-Plate*, or *Parallel-O-Grey** Plate Glass.

Parallel · O · Plate Glass

LIBBEY · OWENS · FORD



THE QUALITY MARK

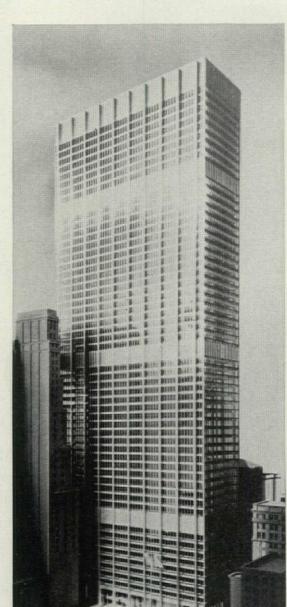
TO LOOK FOR

Exterior Glazing: L·O·F Parallel-O-Plate Glass. Partition Glazing: L·O·F Rough Plate Glass and Rough Grey Plate, exciting new translucent glass products that add texture and sheen to partitions, permit light to flow through, but provide privacy for occupants.

Architects: Skidwore Owings & Morrill

Architects: Skidmore, Owings & Merrill. General Contractor: Turner Construction Co.

©1961, L-O-F



Chase Manhattan Building, New York, N.Y. Architects: Skidmore, Owings & Merrill. General Contractors: Turner Construction Company. Structural Engineers: Weiskopf & Pickworth. Authorized K&M SPRAYED "LIMPET" ASBESTOS applicator: E.B. Carley & Co., Inc.

WHERE ONLY THE BEST IN FIREPROOFING IS GOOD ENOUGH...THE

CHOICE IS K&M SPRAYED "LIMPET" ASBESTOS

A one-half inch minimum coating of K&M SPRAYED "LIMPET" ASBESTOS® assures four hours of fire protection

by UL rating to the cellular steel floors of the Chase Manhattan Building.

This 100% asbestos material covers 1,500,000 sq. ft. of Robertson cellular steel flooring . . . the largest sprayed-fireproofing job in history. Much of the time during application, the rate of progress was two floors per week.

The selection of K&M SPRAYED "LIMPET" ASBESTOS came only after the builders of the

Applied in one operation. K&M SPRAYED "LIMPET" ASBESTOS combines in mid-air with water from special spray gun.

Chase Manhattan Building subjected numerous fireproofing materials to exhaustive studies and tests.

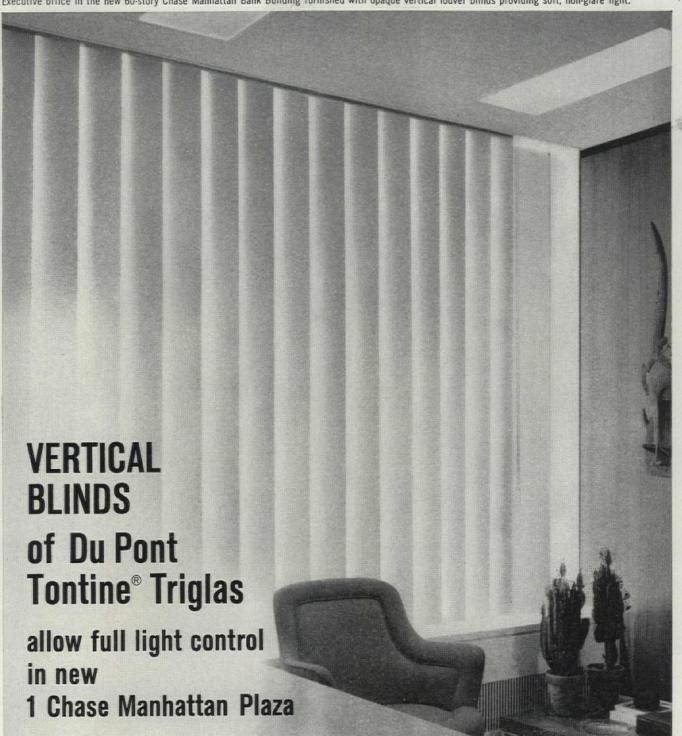
> This lightweight sprayed-on fireproofing reduces structural stress. Offers up to five hours' fire protection with various thicknesses according to UL tests. Follows the contours of any surface, without hiding decorative details. Won't burn, rot, or corrode. You can also use it for noise reduction, thermal insulation, or condensation control. For more information, write to Keasbey & Mattison Company, Ambler, Pa., Dept. B-5071.





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Executive office in the new 60-story Chase Manhattan Bank Building furnished with opaque vertical louver blinds providing soft, non-glare light.





Sun Vertikal Blind Co. of New York is the manufacturer of modern vertical-louvered blinds made with Du Pont "Tontine" Triglas* washable window shade cloth. They custom-designed, fabricated and installed their blinds in all 8,800 windows of the new building known as 1 Chase Manhattan Plaza. "Tontine" Triglas vinyl-coated woven glass fabric gives offices a smart new look. Blinds are neat . . . easy to clean . . . rotate to permit light desired and

slide like a drapery to either side of window on trouble-free, heavy-gauge mechanisms. Louvers are dimensionally stable...resist curling, twisting, bowing or distortion. Long-lasting matte white finish reflects solar heat...helps keep rooms cool. Blinds can be custom-designed to fit windows of any dimension. Louvers of various widths may be selected. Du Pont makes fabrics used...not the blinds. For sample swatches and further information, write:

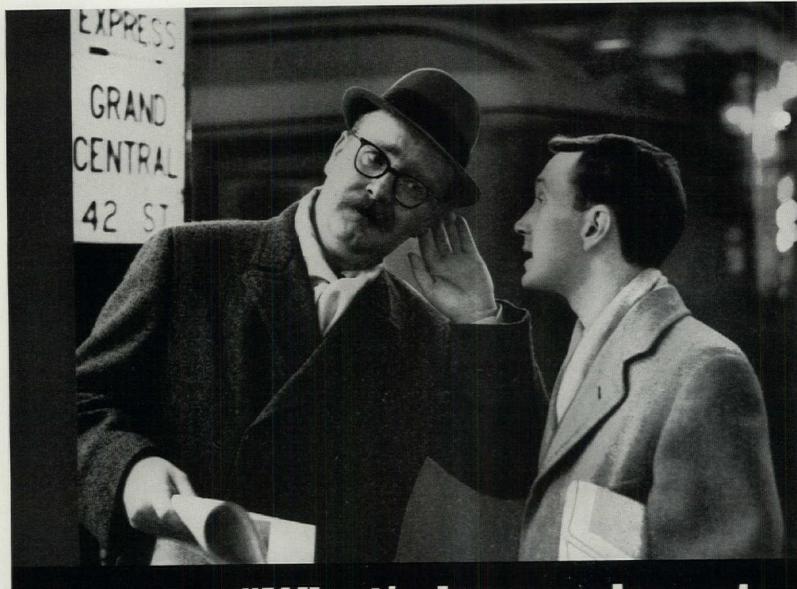
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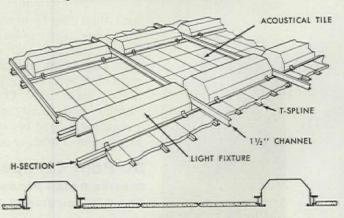
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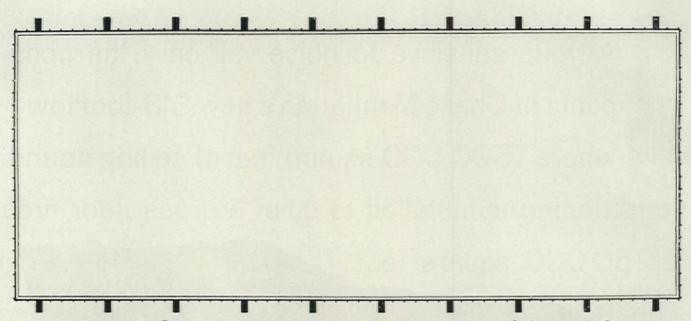
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FOAMGLAS® insulated exterior columns create uninterrupted interior space at The Chase Manhattan Building

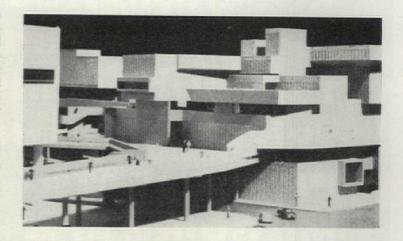


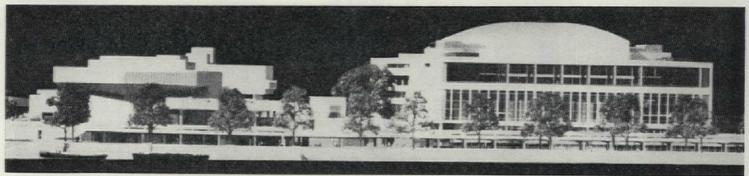
Strong, incombustible FOAMGLAS--the moisture-proof insulation--surrounds each exterior column in the upper 30 floors at Chase Manhattan. Because it is moisture-proof, FOAMGLAS maintains a constant Kfactor, thus minimizing expansion and contracting movement of the columns. And inorganic FOAMGLAS is incombustible, affording added fire protection to this portion of the structure. The constant insulating value of FOAMGLAS proved equally valuable on the building roof and beneath the plaza flooring. Our Building Insulation Catalog details how these important benefits can be applied to your designs. For a copy, write Pittsburgh Corning Corporation, Dept. E-71, One Gateway Center, Pittsburgh 22, Pa.

BRITISH FESTIVAL

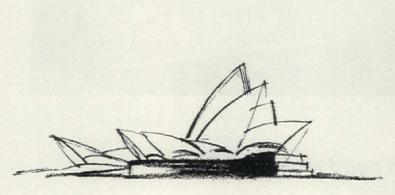
Along the south bank of the Thames, on a former riverside dump, the London County Council has launched a scheme which will turn the site of Britain's 1951 exposition into a permanent cultural complex of multilevel planning and boldly imaginative forms. The existing Royal Festival Hall (right in photo below) will be remodeled and expanded to include new restaurants, staff and artists' facilities, and a new entrance fronting a river

promenade. Just downstream a needed new concert hall seating 1,100 and a small recital room for 400 will be linked to it by pedestrian walks above new traffic loops. The elevated walks and plazas will continue back around a new art gallery housed in a multilevel landscape of granite-faced concrete, from which are cantilevered open-air sculpture courts (right). Architects are Engleback & Booth under Hubert Bennett, Council architect, and Deputy F. G. West.





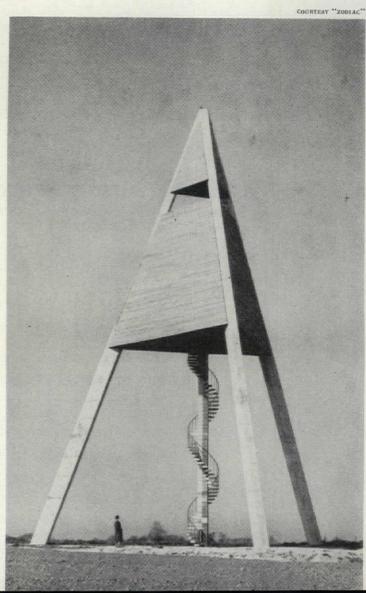
COURTESY "THE ARCHITECTS" JOURNAL

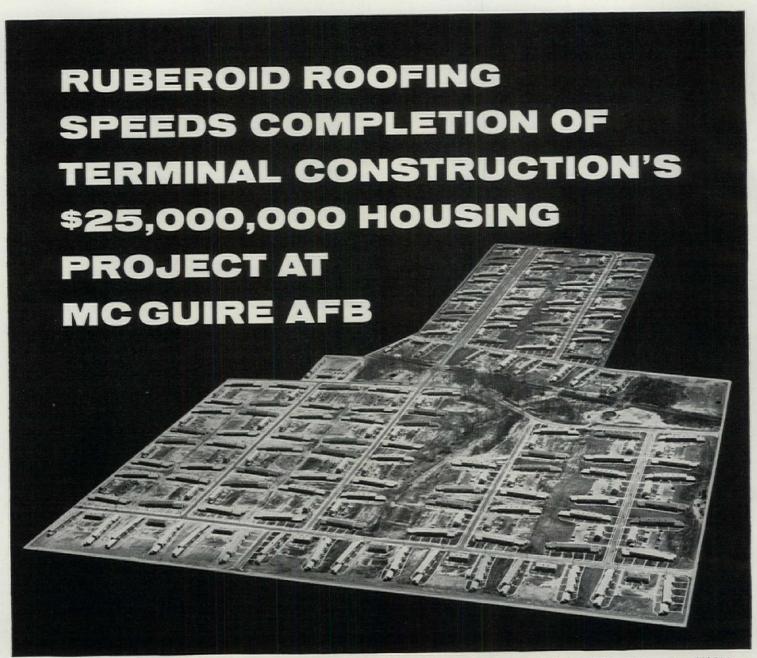


DANISH LANDMARK

Rising from a hilltop outside Svaneke on the Danish island of Bornholm, this unusual combination of a water tower and "sea mark" confirms Jörn Utzon as a minor as well as a major poet among the architects of his time. Like the flying white sail-shells covering his prize-winning Sydney Opera House-which will be a landmark on its own harbor (sketch, above)—the humbler tower goes beyond function to provide a welcome to sailors and a lookout for villagers who love the sea. It is an apt link, echoing both the

openwork bell buoys of the ocean and the freestanding bell towers of the finest Scandinavian churches ashore. As a water tower, like gas tanks and smokestacks usually treated with disdain, it also takes on poetic form: the stock cylindrical container has been changed to a pyramidal one sheathed in fine wood planking and raised strongly on concrete legs to the sky. Ascending into the tower, a fragile winding stair is a human cord joining it to earth, lifting visitors up to a covered crow's nest for the seaward view.





The 1450-unit Capehart Housing Project, at McGuire Air Force Base, Wrightstown, N. J., just completed by the Terminal Construction Corporation, Wood-Ridge, N. J.



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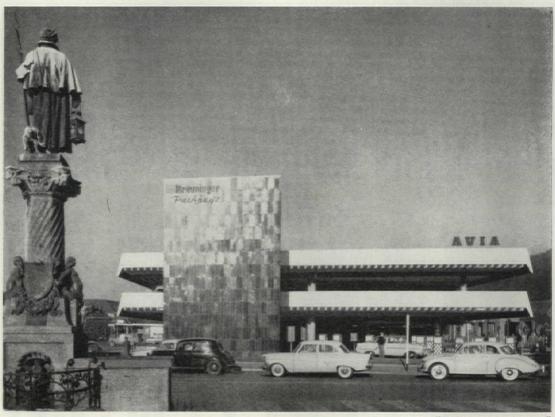
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GERMAN PARKING

In the old heart of Stuttgart, an area heavily rebuilt since the bombings of World War II, the owners of the big Breuninger department store have completed a sorely needed parking garage that is both a pleasure for motorists and an architectural credit to downtown. Cars ramp up at the back of the building to two reinforced concrete levels which seem to float in air, or down to two larger basements. After leaving their vehicles, shoppers enter the freestanding, slate-faced tower at the front, descending by elevators or stairs to an underground passage that leads beneath a heavily traveled street directly to the elevators of the store. The glass sides of the tower provide a little moving scenery on the way up and down. Architect-engineers: Gerd Wiegand and H. Hanusch.



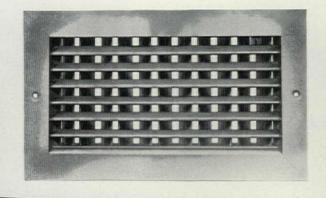
COURTESY "ARCHITEKTUR UND WOHNFORM"

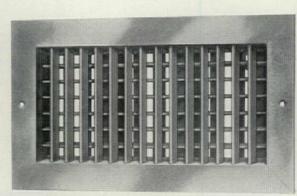
AFRICAN RHYTHMS

Among the least-known, most vigorous young men of modern architecture is Amancio Guedes, a 35-year-old former painter who was born in Lisbon and practices in Lourenco Marques, capital of the Portuguese East African territory of Mozambique. In his development of a highly personal style, Guedes combines the primitive extremes of his new home with sinuous and spiky recollections of Art Nouveau. One of his more rational works in his adopted city is the Prometheus apartment block, in which fingerlike forms in concrete cantilever out from a central core, which at the bottom seems almost precariously balanced on a narrow base. The open space created below is used for covered entrance and shaded parking. Above, the concrete beams extend to support balconies shielded by projections of the walls.











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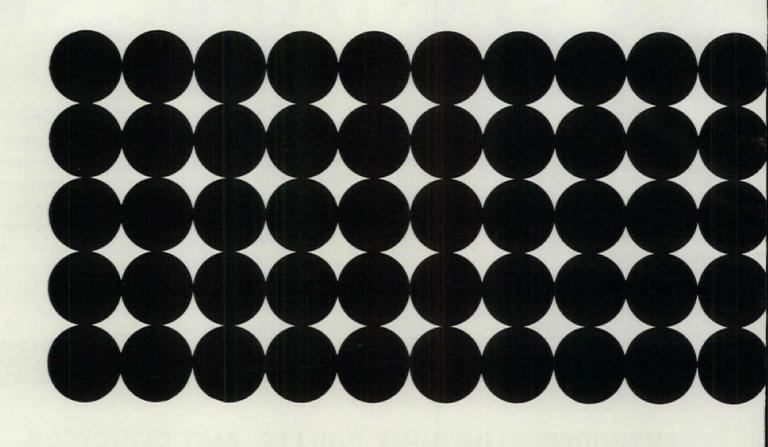
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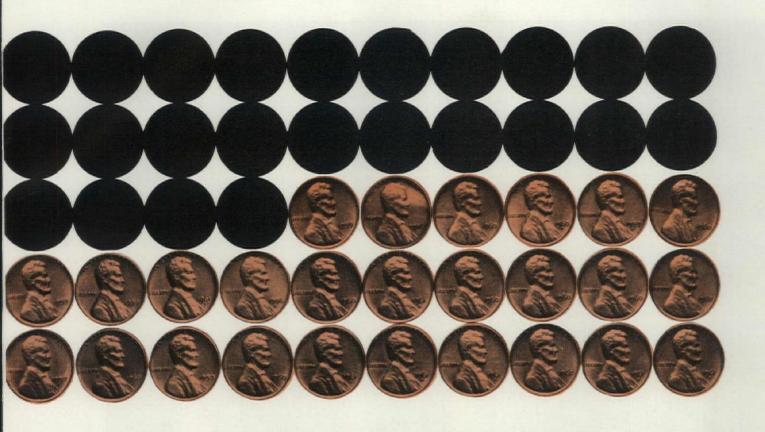
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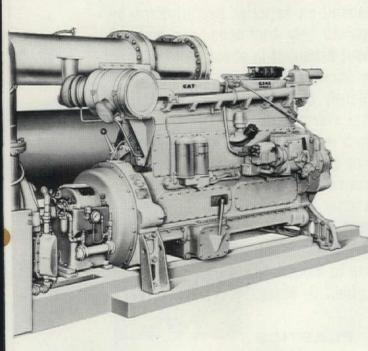
Division of Allied Thermal Corporation New Britain, Connecticut Tuttle & Bailey Pacific, Inc., City of Industry, Calif.



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Plate No. 2004



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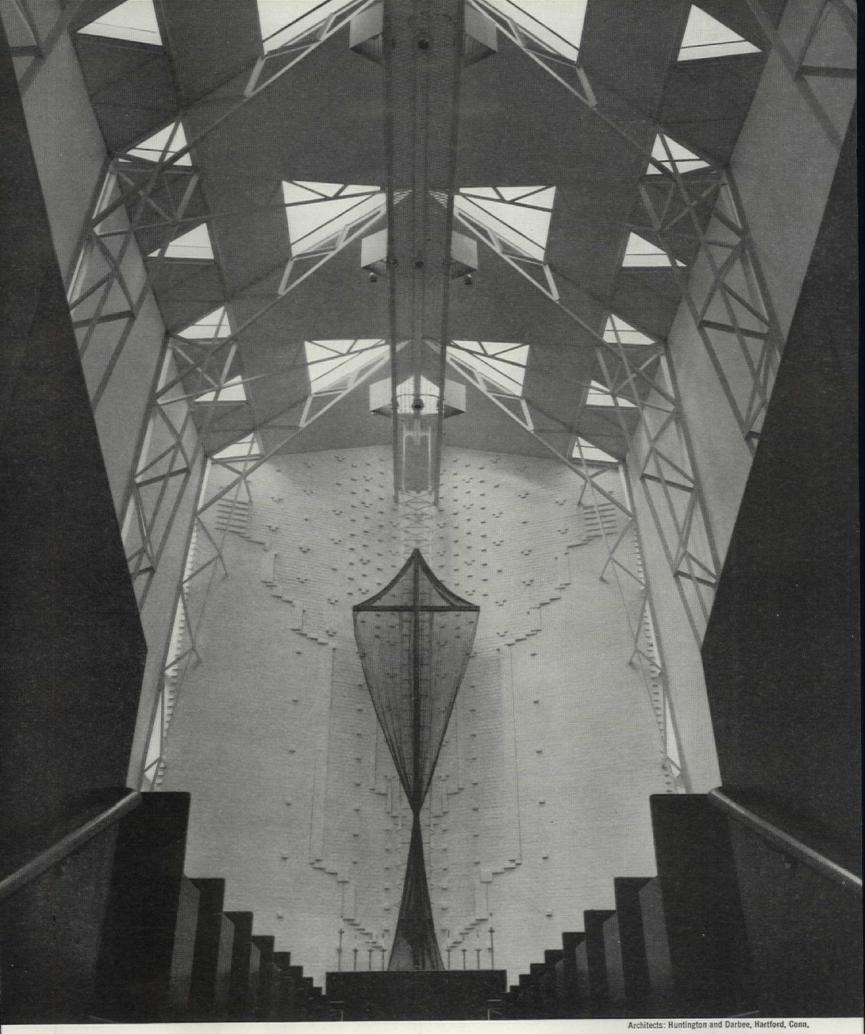
173



BUILDING: Sacramento Municipal Utility District Headquarters, Calif.
ARCHITECTS AND PLANNERS: Dreyfuss and Blackford, Sacramento, Calif.
CONTRACTORS: Continental Construction Co. and Lawrence Construction Co., Sacramento, Calif.
CURTAIN WALL FABRICATOR: Ador Corp., Fullerton, Calif.
SUN CONTROL FABRICATOR-ERECTOR: Brown Manufacturing Co., Oklahoma City, Okla.
PHOTOGRAPHER: Fred Lyon

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ST. MARK'S EPISCOPAL CHAPEL, UNIVERSITY OF CONNECTICUT (STORRS)

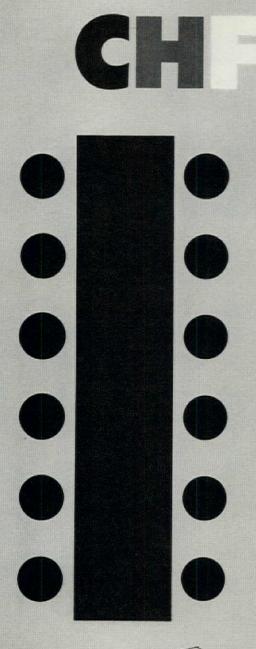
The architects conceived this award-winning chapel as a "crystal of light." Special pyramidal Wasco Skydomes were designed to convey a crystalline effect, and to complement the triangular roof trusses. The domes above the nave, molded of white translucent Acrylite®, provide evenly diffused, glare-free daylighting. Above the altar, glass prisms suspended in clear Wasco Skydomes produce changing patterns of rainbow colors upon the white brick wall. Wasco welcomes other opportunities to combine daylighting with advanced architectural ideas. Phone or write our Custom Engineering Department.

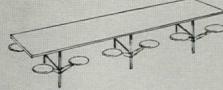


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5 AIA Journalism Awards

13 Industrial Marketing Awards

5 Jesse H. Neal Awards (ABP)

2 Howard Myers Awards (Architectural League of N. Y.)

If you would like to know more about these 34 awards, send for a copy of the Awards Booklet, Architectural FORUM, Room 1823, Time & Life Building, Rockefeller Center, New York 20.





Hattie Carnegie Fur Salon, New York City — Designer: Finn-Jenter

This is glass at work

Glass is much more than a design material in this room. Its function is to bring out the true beauty of fashionable furs. It takes glass to transmit true light, the kind of light that makes a fuchsia look like fuchsia, the kind of light in which you never mistake a Norwegian blue fox for a silver.

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The increased use of Ceramic Tile to create challenging designs is keynoted in

this pace-setting bath by noted architect Robert A. Little, of Little & Dalton &

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ARCHITECTS AND IDS

Before a joint meeting of AIA and the Producers Council in St. Louis, Architect Moreland Griffith Smith called on his fellows not to startle, but to serve.

Architecture today too often suffers from a basic apathy toward its real purpose and its true character of service. We architects have retreated from the challenges of the depth to the less demanding level of the wading pool. Our philosophy-if one could call it that-resembles the infantile exhibitionism on display there: "Watch me! See what I can do!" It is a pernicious withdrawal into a world dominated not by valid architectural considerations but by irresponsible egoistical whim.

I believe it can be defined briefly as a disregard of the relative importance of various elements. The result is a lack of what we call the "sense of fitness." It is a heedless forcing of devices, regardless of propriety or desirability. It is attributable, I am convinced, to an over-all loss of proper perspective and scale on our part. We are no longer putting the client, the community, or ourselves in the proper relationships. Correspondingly, we fail to recognize the relative importance of our major and minor design elements.

Let me emphasize that overcoming disorder does not entail uniformity. An understanding of valid relationships, the putting of first things first in all aspects of our work, will on the other hand afford greater freedom, for what we produce will be fundamentally true, and only in truth is freedom complete.

Many of us blame on the one hand the restraints of legislation and political boundaries and on the other hand the overwhelming liberties provided by rapid technical developments. Neither of these is anything but a red herring. If we have been legislated into a corner, it is because as architects we have failed to cope with a situation which has brought this about. The fact that we are faced with some of our municipal problems, for instance, is clear evidence of the apathy which has ignored social and community challenges.

The flood of new ideas, new technology, and the practically unlimited possibilities of present-day materials constitute a new freedom. Freedom carries with it always a corresponding weight of responsibility.

We architects must once again care about what our work is worth, not to us but to the client and the community. We should care not whether it is better than some other job, nor if we can trim it up

enough to deceive the layman into thinking it is a brilliant piece of work. Our care must be for what it is really worth and not for what it appears to be worth. Let us desire not to startle, but to serve.

THE STAR OF MOTORIUS

As a prelude to what architects should be concerning themselves with, Architect-Planner Victor Gruen recently told a parable to students at Harvard and M.I.T.

I have reliable information, through a friend of mine who is a space salesman, that an expedition of American astronauts has already been on a faraway planet and has successfully returned to earth. The reason why this historic event has not become public knowledge is that the information brought back by our astronauts is threatening our national security and therefore must remain top secret.

This is what our astronauts found: there is in existence another planet with a civilization similar to ours but further advanced. Unfortunately, by the time our astronauts reached the place they found that all life was extinct. From records which they found, it appears that the planet is called "The Star of Motorius." Outer-space beings living on it referred to themselves as "Motorists."

The planet Motorius is crisscrossed by ingeniously engineered 86-lane expressways which intersect over cloverleaves 18 stories high. This expressway network covers 92 per cent of the planet. The slivers of land remaining between the expressways are utilized for service stations which dispense gasoline and a fuel for the upkeep of the inhabitants, called "Motrocal."

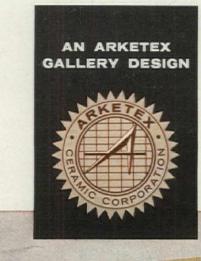
Before the final catastrophe occurred, all the expressways were filled with mechanical vehicles moving slowly from one service station to the other, where each of the vehicles stopped for a short time and where the Motorists gave a short order in their native language which sounded something like "Fill 'er up." This applied not only to the machine but also to the occupants inside. The inhabitants of the star Motorius lived, worked, slept, and procreated in their machines. This wonderful civilization was destroyed, as a diary which the astronauts found revealed, when a blowout in one tire of one automobile occurred. The tire change was rather inefficiently handled and thus, within one hour, all traffic on the entire planet stopped. Death by starvation of the entire Motoristic race was the sad continued on page 185

THE MODERN STYLE IS ..

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SCHOOL WALLS:

where beauty alone is not enough





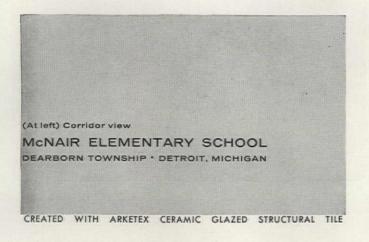
MASON CONTRACTOR: MAC FARLANE CONSTRUCTION COMPANY

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From the new McNair Elementary School near Detroit — this Arketex Gallery Design was chosen for the expression it achieves within the disciplines of cost-saving Straight-Line Design. Note the enriching and economical use of lighter materials above the door lintels — the nature-rich tile tones from the Arketex selection of 36 contemporary Direction Colors. There's an extra measure of fire safety here, too. An Arketex wall will withstand fires that would quickly ignite most applied wall surfaces.

"ELEMENTARY SCHOOL PUPILS PUT WALLS THROUGH A SEVERE TEST."

Read what Architect R. S. Rokicki says on the next page.







ARCHITECTS: R. S. Rokicki B. H. Rollason Dolgner, Rollason & Rokicki Oak Park, Michigan

"The youngsters delight in rubbing against corridor walls and drawing on them with crayons and pencils. The resulting marks are easily removed from ceramic glazed tile; and the smooth surface will not harm the children's clothing. The economy of maintaining this type of wall pays for itself in a few years. Through careful planning, we have also been able to make significant savings in initial costs, using Arketex Structural Facing Tile. We made the first use, for example, of the new Arketex Shadowall 5%" base tile. It enables us to meet the height of standard metal door frames without expensive cutting of the base course."

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SOARING REAL ESTATE

C. G. Haynsworth, vice president of the New York City's Greenwich Savings Bank, recently told a conference of local real estate appraisers that the boom in public ownership of real estate carries with it both opportunities and obligations.

Real estate, which is currently enjoying—or suffering—one of its peaks of popularity, is regarded as one of the best investments for yield, tax shelter, and hedge against inflation. Yet over the years it has probably lost money for a larger percentage of its investors than any other single form of financial adventuring. For relatively few it has built great fortunes. The trouble with real estate investment is its seeming simplicity; it tends to inspire overconfidence. Now for the first time a national market in real estate equity ownership is developing for this unique local product.

This type of investment has captured the imagination of the investing public and more equity money has kept pouring into the syndicators' coffers, putting continuous pressure on the operators to invest the funds. These factors have forced many of the syndicates to go public and further increase their capital and spread the risk. The syndicate managers both public and private have had to enlarge their field of operation, combing the country for bargains.

It is estimated that more than 85 companies offered nearly \$400 million of securities to the public in 1960 and \$3 billion was invested in real estate syndicates by over 110,000 individuals. This amount of investment in equities could control over \$10 billion of properties.

The ten real estate companies listed on the big board paid cash dividends totaling \$24.9 million during 1960, an increase of 22.1 per cent over comparable 1959 dividends. Last year's distributed dividends on the listed real estate securities was just under 4.2 per cent.

Plenty of investors, large and small, are still willing to bet that values have not yet reached their peak, as evidenced by the sellout of practically every syndicate offering and the bidding up of the real estate stocks.

In attempting to justify the high prices at which many properties have been selling, the price is ascribed to hope for appreciation and as a hedge against inflation. Actually this constitutes considerable rationalization. The term "appreciation" is overexploited and may be classified with hind-sight. In paying a sizable premium for equities as a hedge against inflation, the investor overlooks the two-way course of the market.

Whatever the cause, income is being increased in the speculators' mind's eye by hoped-for appreciation and is being capitalized into value as if it were an annuity. This trend toward treating anticipated market profits of a capital asset should not be premised on the expectation of an endless chain of increases year after year.

The syndicator can "force" a higher return by various

The syndicator can "force" a higher return by various means, but it makes for a very speculative, dangerous situation. The means are large secondary financing, sale-leaseback to individuals at inflated rentals, no provisions for loss or vacancies or reserve for replacements, unrealistic understated operating figures, optimistic projections, none of which are not readily discernible to the untrained eye.

Now looming on the horizon is the real estate investment trust—which should operate similarly to stock mutual funds. Is this the final link to a general broad nation-wide real estate market? Or will it fizzle out because of the restrictions surrounding it? I think not. With their usual ingenuity the operators will find a way to make it work. And, if the demand for properties mounts as indicated, it will force prices even higher and yields down further.

Properly regulated public syndicates, corporations, and real estate investment trusts are and will be, in my opinion, wonderful vehicles for attracting funds into real property, assuming proper safeguards are provided and practiced. It is going to take the highest type of ethics. A few greedy individuals can give the entire profession a bad name. END





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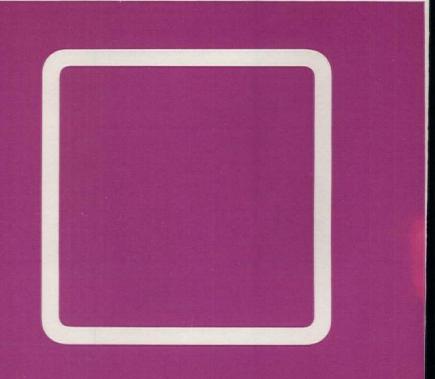
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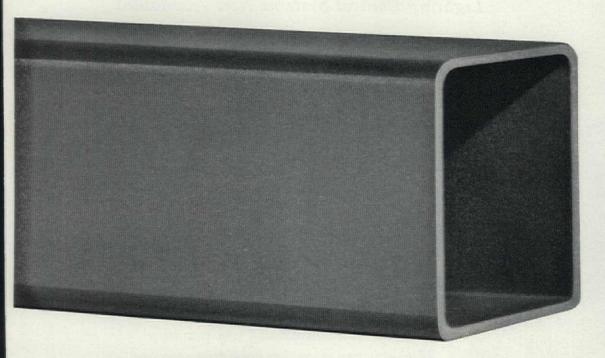
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THE WORLD OF GREAT ARCHITECTURE. By R. Furneaux Jordan. Notes by Bodo Cichy. Published by The Viking Press, Inc., 625 Madison Ave., New York 22, N.Y. 460 pp. 9" x 111/2". Illus. \$22.50.

This is a stunning book whose great contribution is color: 112 superb, full-page, full-color plates presenting most of the familiar and some of the less familiar landmarks of European architecture. Accompanying the photography is a clear, basic text tracing the development of European architecture from its Greek and Roman origins straight through to the stylistic revivals of the nineteenth century (the twentieth century is omitted). The major works of each period are seen in their social and cultural context, emphasizing continuity between periods as well as illuminating differences.

THE FEDERAL GOVERNMENT AND METRO-POLITAN AREAS. By Robert H. Connery and Richard H. Leach. Published by the Harvard University Press, Cambridge 38, Mass. 275 pp. 51/2" x 81/2". \$4.75.

Federal programs, say the authors of this sharp analysis (both are experienced political scientists currently teaching at Duke), are piling up faster than America's cities can digest them, and no one really knows whether their total impact will turn out to be good or bad. The billions being spent on housing and highways, for example, are freezing community patterns for generations to come. But are these the right patterns?

Washington's projects-without-plans approach is the result of a complex structure built up over the years. Of all the departments, committees, commissions, and municipal lobbies hard at work on immediate goals, none actually represents the growing metropolises of the nation as a whole. Congress, shockingly dominated by rural interests, has become accustomed to resolving urgent urban issues reluctantly and in short-range thrusts. At present urban programs are divided among 18 separate standing committees and further subdivided among 25 subcommittees, each jealous of its own jurisdiction. Among them they have created a jungle of disconnected projects strewn among a variety of administrative agencies. One glaring result: the highway program, emphasizing only one aspect of the whole metropolitan transportation problem and completely unrelated to urban renewal. Furthermore, no recent president has shown any great understanding of the growing metropolitan crisis; Eisenhower, in fact, was in his two terms more concerned to reduce the federal role and hand the problem to the states.

The answer, say the authors, is not the 50-year-old idea of a Department of "Ur-

biculture" or "Urban Affairs," which is still politically unlikely and could compound more administrative problems than it solves, but a new staff agency to the President, not unlike the Council of Economic Advisers. This "Council on Metropolitan Areas" would consist of three or five full-time members with the power to collect research, ask questions, and make recommendations to the chief executive. The President in turn would be required to submit an annual report to Congress (as he does on the economic state of the nation); the report would be referred to a new Congressional Committee on Metropolitan Problems for study and action. The authors further make 34 specific recommendations for future guidance.

CALIFORNIA'S ARCHITECTURAL FRONTIER. By Harold Kirker. Published by The Huntington Library, San Marino, Calif. 224 pp. 61/4" × 91/4". Illus. \$7.50.

For sheer exuberance of architectural styles, nineteenth-century California takes a back seat to no place on earth. In this monograph by a fifth-generation Californian and assistant professor of history at M.I.T., the reader gets a quick course in all of them, from the adobes of the early Spaniards and the frame houses of Yankee immigrants, through the tumble of Greek, Empire, and Queen Anne Revivals, to the "Champagne Days" of Victorian San Francisco immortalized in Nob Hill palaces and the Palace Hotel. In addition to 64 photographs and drawings are bibliographies and biographical notes.

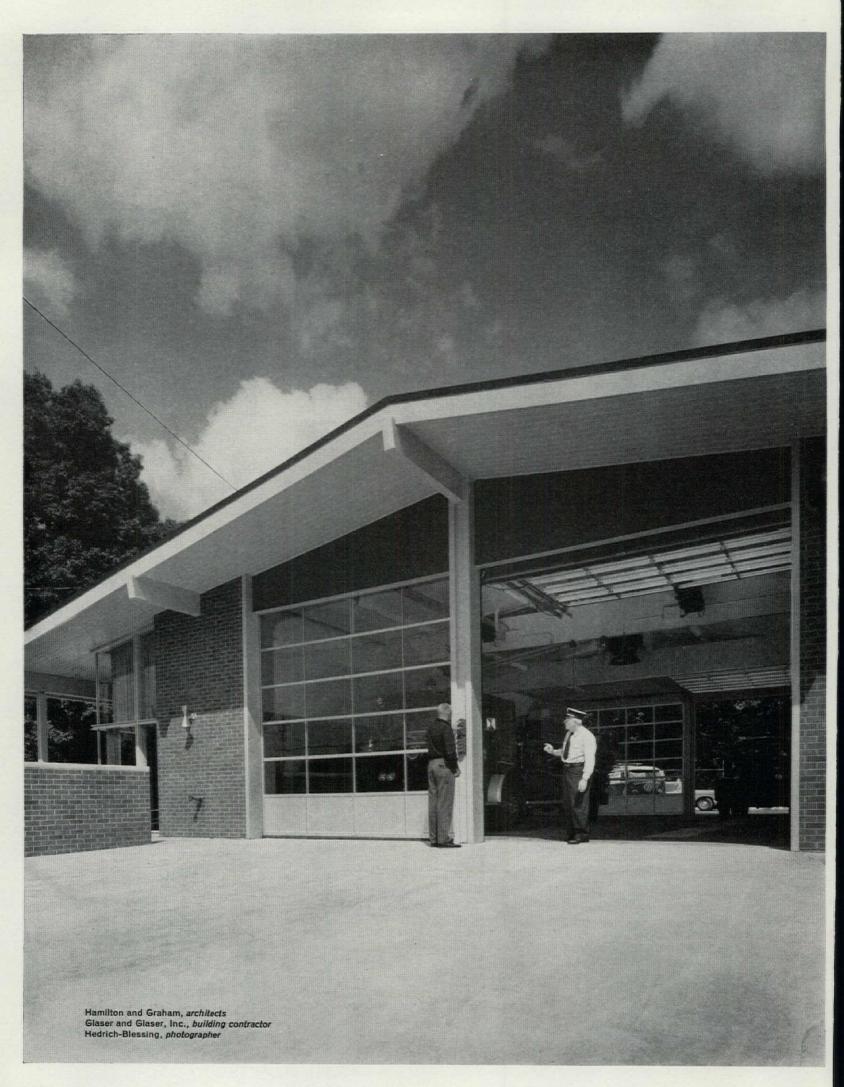
miracle in the evening. An autobiography by Norman Bel Geddes, edited by William Kelley. Published by Doubleday & Co., 575 Madison Ave., New York 22, N.Y. 352 pp. 61/2" x 91/2". \$4.95.

This is a set of recollections, evidently the result of a long, loving, late-in-life talk to a tape recorder by the author—a very good stage designer and a less good industrial designer. The book drops a staggering number of 1920-ish names, and quotes too many theatrical reviews of Geddes sets. It is not all entirely plausible—but neither was Geddes. What it has to say about set design and theater design, however, is not yet out-of-date—indeed, some is not yet in date.

TOWARDS A HABITABLE WORLD. By J. van Ettinger. Published by D. Van Nostrand Co., Inc., Princeton, N.J. 318 pp. 61/2" x 10". Illus.

The author, director of the Bouwcentrum, Dutch institute for building and continued on page 194





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"Overhead Doors" make the most of space by making it accessible. They are virtually movable walls that can open the front, back, and sides of a structure—multiply the use of both the building and the land around it.

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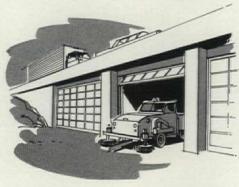
A typical space control application is in the Muncie, Indiana, fire station shown at left. "OVERHEAD DOORS"

in the front and back of the building provide access to a paved area in the rear, which is used to turn, park, and service the fire engines and other vehicles. In other buildings, this ready access, plus the admission of light and air, can give space valuable extra usability.

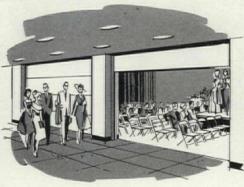
Many other new ideas in space control have been developed and tested by Overhead Door Corporation engineers—ideas that result from this company's 40 years of experience in the garage door field.

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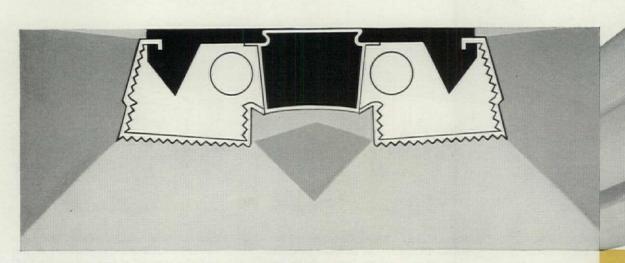
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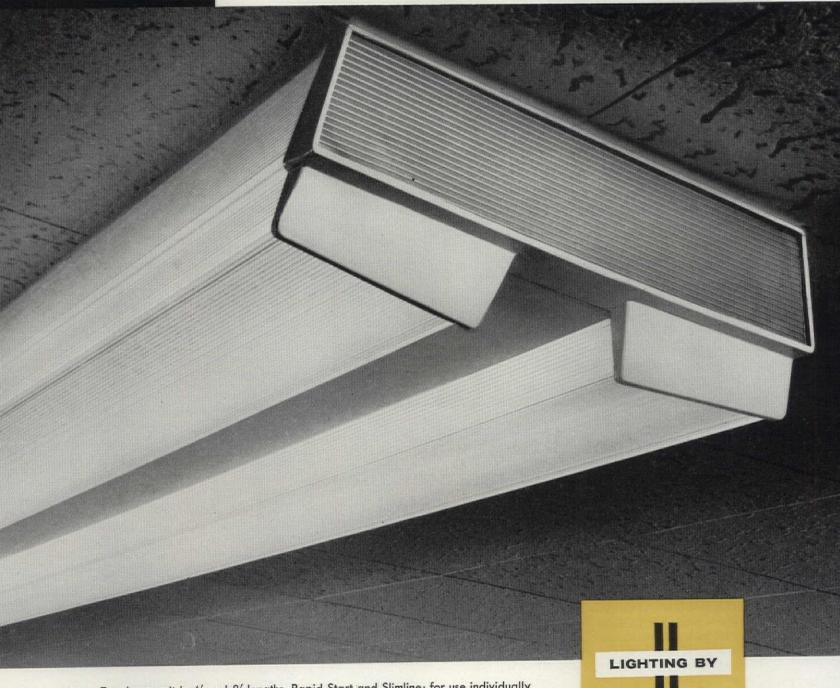
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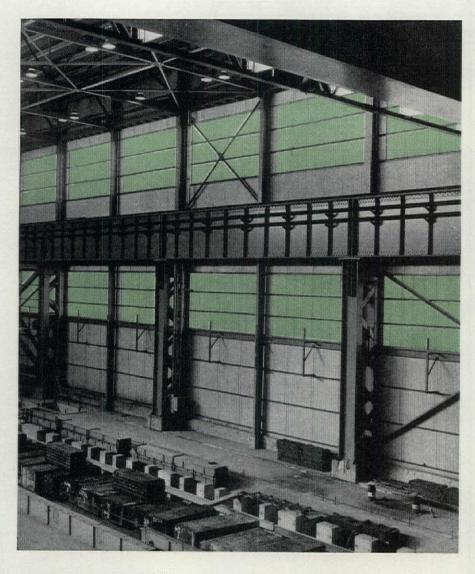


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housing, and former president of the International Council for Building Research, Studies and Documentation, surveys the problems of a rapidly growing world population and enters a plea for better housing, in larger quantities, created with more efficiency and speed than at present. Although the book attempts, in part through its illustrations, to carry a sense of immediacy, the effect is generalized and abstract, probably because too many topics are touched upon too cursorily.

YOUR FUTURE IN ARCHITECTURE. By Richard Roth. Published by Richards Rosen Press, 13 E. 22nd St., New York 10, N.Y. 159 pp. 5" x 71/2". \$2.95.

One of the most practical proprietors of architectural offices among the 2,000 or so in or near Manhattan, Richard Roth here undertakes to provide a manual for young people interested in entering the field. His book is simply written, serious, and as sound as would be expected, although the word "dreams" does crop up with surprising frequency, sometimes a little wist-

AND ON THE EIGHTH DAY. By Richard Hedman and Fred Bair Jr. Published "over the objections of" the Falcon Press, Philadelphia, Pa. About 64 pp. 133/4" x 103/4". Illus. Available at \$3 through Fred Bair Jr., Box 818, Auburndale, Fla.

The complete book of wildly satirical cartoons about planners and planning on which Forum's gallery (May '61) was based.

DRAWING WITH PEN AND INK. By Arthur L. Guptill. Published by Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. 159 pp. 81/4" x 101/4". Illus. \$8.50.

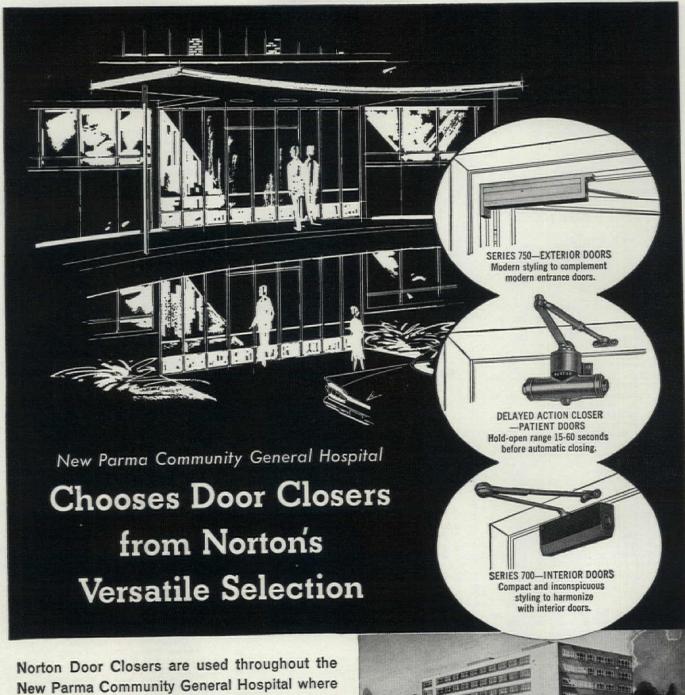
This book, out of print since Mr. Guptill's death five years ago, has been revised and edited by Henry Pitz, a longtime friend of the well-known master.

THE CATHEDRALS OF ENGLAND. By Harry Batsford and Charles Fry. Published by B. T. Batsford Ltd., London, England. 224 pp. 51/2" x 8". Illus. \$2.50.

The tenth edition (first published in 1934) of an authoritative text, revised and rewritten by Bryan Little, with greater attention paid to Renaissance fittings and to the post-Reformation monuments which are such important features of English cathedrals.

DECORATIVE CAST IRONWORK IN GREAT BRITAIN. By Raymond Lister. Published by G. Bell and Sons, Ltd., York House, Portugal St., London, W.C. 2, England. 258 pp. 83/4" x 6". Illus. 35s. net.

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Aluminum Company of America 174 Fuller & Smith & Ross, Inc.
American District Telegraph Co 131 Richard La Fond Advertising
American Gas Association168, 169; 198, 199
American Gas Association168, 169; 198, 199 Ketchum, MacLeod & Grove, Inc. American Steel & Wire Division
(United States Steel Corp.)56, 57, 58 Batten, Barton, Durstine & Osborn, Inc.
American Telephone & Telegraph Co 127 N. W. Ayer & Son, Inc.
American Walnut Mfrs. Assn 46
ISKET & Addition, Inc.
Anaconda American Brass Co
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Merchandising, Incorporated 51
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Chicago Hardware Foundry Co
Hoffman Vork Paylson & Cerlach Inc.
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Fuller & Company, W. P. Western Edition W-4, 5 Fletcher Richards, Calkins & Holden, Inc.
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Gillord Leather Company, Inc. 747
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Direct Western Edition W-2
Guth Company, The Edwin F
20000, 1760.
Transac de
Hanley Co., Inc. 24 The Albert P. Hill Co., Inc. 24

Haws Drinking Paucet Co	16
Pacific Advertising Staff	
Hillyard Chemical Company Fardon Advertising, Inc.	173
Hope's Windows, Inc.	25
The Moss-Chase Company	
Inland Steel Products Co. Come	
Inland Steel Products CoCove. Hoffman, York, Paulson & Gerlach, In	C.
Tankson Posts Donies Com	
Jackson Exit Device Corp	23
Johnson Service Co	IV
Hoffman, York, Paulson & Gerlach, Inc.	
Keasbey & Mattison Company	158
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Renney Manufacturing Co Potter, Hazlehurst, Inc.	60
Kentile, Inc.	III
Kentile, Inc	
Richard La Fond Advertising, Inc.	188
Konners Company Inc	
(Plastics Div.) Batten, Barton, Durstine & Osborn, Inc.	32
Batten, Barton, Durstine & Osborn, Inc	2.
Koppers Company, Inc. (Tar Products Div.)Western Edition V Marsteller, Rickard, Gebhardt & Reed, 1	V-3
Marsteller, Rickard, Gebhardt & Reed, 1	nc.
Lamson Corporation Chapman-Nowak & Associates, Inc.	139
Larsen Products Corneration	54
William A. Hatch, Inc.	
W. D. Lyon Company	44
Lehigh Furniture Co. Harold M. Mitchell, Inc.	138
Harold M. Mitchell, Inc.	
Libbey-Owens-Ford Glass Co 156, Fuller & Smith & Ross, Inc.	157
Lightolier, Inc	122
Lightolier, Inc	
Manning & Lewis Engineering Co	67
Carpenter-Proctor, Inc.	
The Wayler Co	46
Vulentine-radiora inc	
McKinney Mfg. Co. Ketchum, MacLeod & Grove, Inc. McLeonth Steel Company to the	64
Died Gorporation	29
Dennan & Baker, Inc.	
The Miller Company	00
Minneapolis-Honeywell Regulator Co128, 1 Foote, Cone & Belding	.29
Monsanto Chemical Co	70
Neednam, Louis & Brothy Too	
Montgomery Elevator Co	30
2. W. Lamsey Advertising Agency	
National Tube Division	87
Batten, Barton, Durstine & Osborn, Inc.	
New Castle Products Co.	25
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Norton Door Closer Co	
Liver wasey, Kuthrauff & Ryan, Inc.	
Olin Mathieson Chemical Corp 1	35
Overhand Dane Bernbach, Inc.	
Doyle Dane Bernbach, Inc. Overhead Door Corporation	91
Owens-Corning Fiberglas Corp. McCann-Erickson, U.S. 4	
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Rohm & Haas Co. 22 Arndt, Preston, Chapin, Lamb & Keen, Inc. Roto-Swing Door Company 62 Lowe Runkle Company Advertising Ruberoid Company, The 164 Kastor, Hilton, Chesley, Clifford & Ather-
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Lowe Runkle Company Advertising
Kastor, Hilton, Chesley, Clifford & Ather-
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Structoglas, Inc. 194 Howard Swink Advertising Agency, Inc.
Temprite Products Corp 50 Watkins-Rogers, Inc.
Thiokol Chemical Corp. 144 Hicks & Greist, Incorporated Tile Council of America 182, 183 Fuller & Smith & Ross, Inc.
Tile Council of America
Fuller & Smith & Ross, Inc.
The Travelers Insurance Companies 130 Young & Rubicam, Inc.
Div. of Allied Thermal Corp166, 167
Tuttle & Bailey Div. of Allied Thermal Corp166, 167 Wilson, Haight & Welch, Inc.
Union Bag-Camp Paper Corp 189
Smith, Hagel & Knudsen, Inc. United States Ceramic Tile Co
The Griswold-Eshleman Co.
United States Plywood Corp
United States Steel Corp. (American Steel & Wire Division)55, 56, 57 Batten, Barton, Durstine, & Osborn, Inc.
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United States Steel Corp. (National Tube Division)
United States Steel Corp52,53
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Universal Atlas Cement Co. (United States Steel Corp.)
opco Company
Gerst, Sylvester & Walsh, Inc.
Vogel-Peterson Co 32
Ross Llewellyn, Inc. Tonnegut Hardware Co
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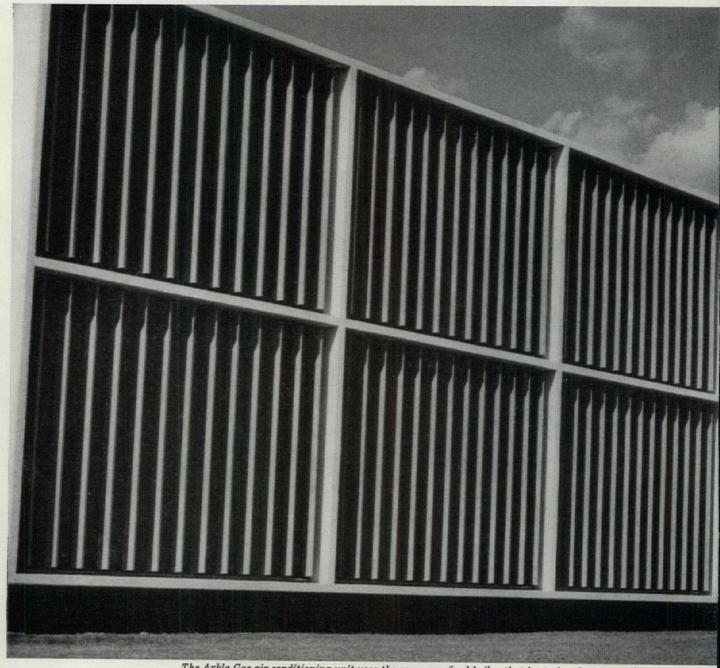
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As the Building grows, the ARKLA

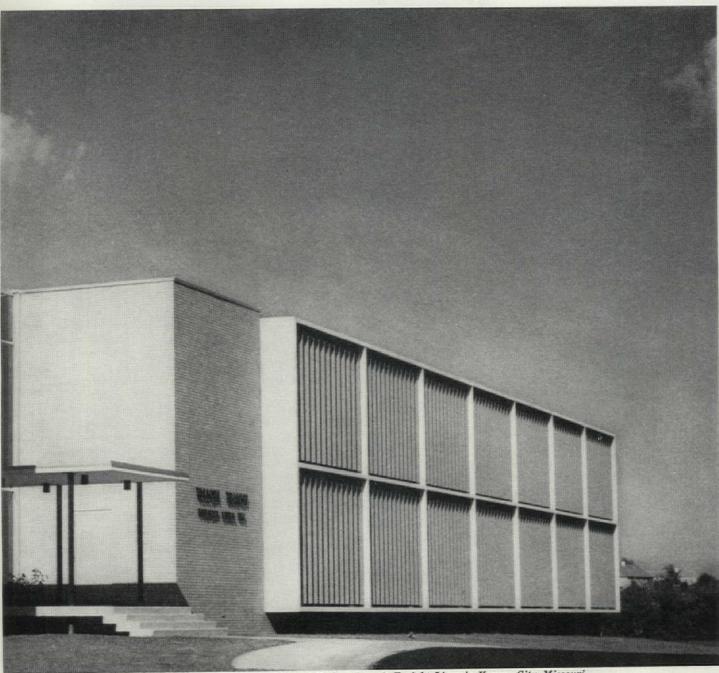
The headquarters building of Yellow Transit Freight Lines, Kansas City, Missouri, was designed to take a third story without major alterations. That's why they chose Arkla gas cooling units...a system that can "grow" quickly and at low cost.

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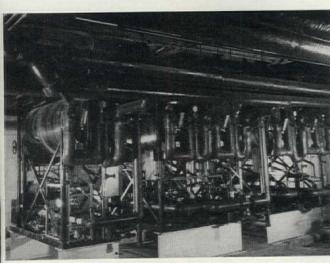


Architect: Folger & Pearson; Mechanical Contractors: Troug & Nichols.



Modern gas cools and heats this headquarters building of Yellow Transit Freight Lines in Kansas City, Missouri.

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CROWDED ISLAND

Forum:

Seventy thousand persons on Welfare Island? What an awful idea! Shame on Messrs. Gruen, Rosenman, et al. for such a concept (FORUM, June '61).

What New York needs are more ways of seeing and enjoying its harbor front, not more humanity crowded on less and less space.

Make Welfare Island an open space of the quality of Central Park but never another, though smaller, city!

JOSEPH R. TAMSKY West Hartford, Conn.

HOSPITAL REBUILDING

Forum:

I was much pleased by your recent articles featuring rebuilding. This is a subject of much present interest and, I believe, much more future interest in the hospital field.

BRYAN LOVELACE JR. American Hospital Assn. Chicago, Ill.

BUILDING CORRUPTION

Your outstanding editorial on corruption in the building industry (FORUM, Mar. '61) applies here in Summit County. The chief culprits are to be found in important public offices.

Our two-year-old County Building Inspection Bureau (greatly needed) is so badly operated and eroded due to "conflicts of interest" that it is nearly worthless to the public.

Our County Health Dept. has in the last four years accepted the resignations of three health commissioners, and recently four more field inspectors, whose apathy and favoritism have filled most of our county ditches with sewage.

God bless you for your brave article. You are really doing something for our country.

ALBERT H. WIRZ Builder Akron, Ohio

THREE LITTLE WORDS

Forum:

With regard to the review of the Vitruvius paperback in the May '61 FORUM, it is true that Vitruvius did not say "Wellbuilding hath three conditions: Commodity, Firmness, and Delight," but, if your reviewer had read only one more paragraph he would have found that, according to this translation of Vitruvius, he did say "All these must be built with due reference to durability, convenience, and beauty.

Perhaps Sir Henry Wotton, not having had the benefit of the Morgan translation, chose different words to express the same

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FIRE AND CONCRETE

We have noted in Mr. T. Y. Lin's articles on prestressed concrete (FORUM, May and June '61) the lack of any mention of the fire-resistant qualities of prestressed concrete.

An extensive fire-testing program is now under way at the Portland Cement Assn. lab in Skokie, Ill., part of which is in conjunction with the Underwriters' lab of Chicago. Two recent fire tests of single T prestressed beams in the series of tests point out the poor fire characteristics of this type of construction. These tests showed, on a 40-foot span, deflections as high as 5 inches in 30 minutes, 7 inches in 40 minutes, 10 inches in 48 minutes, 15 inches in 55 minutes, 23 inches in 60 minutes, and 34 inches, the deflection limit of the furnace, in 66 minutes.

This single tee beam test is a typical example of the premature acceptance of the supposed fire resistance of prestressed concrete. The beam design provided 2 inches of concrete cover to protect the strands from heat, but in spite of this the beam collapsed in a little over one hour. Two inches of concrete cover is far in excess of Underwriters' requirement for a two-hour rating, not alone a one-hour rating. Two inches of cover is also in excess of the A.C.I. recommendations recently advocated. The A.S.C.E. have recommendations that do not agree with the two organizations just mentioned.

The deflection time curve of this single tee beam showed large deflections relatively early in the test and of such magnitude that the bearing points in an actual installation undoubtedly would have been seriously affected, very possibly to an extent which would have produced a collapse of the supports before the beam itself failed. The effects of these large deflections on the supported load in an actual installation is one more item that should also be considered.

A recent report from the February A.C.I. meeting in St. Louis also points out the susceptibility of prestressed concrete to relatively mild fires. They note that loss of prestress begins at a strand temperature of approximately 300 degrees Fahrenheit, and is completely lost at a strand temperature of approximately 800 degrees Fahrenheit. In addition to this, there is a permanent loss of steel tensile strength after a temperature of 600 degrees Fahrenheit is reached. Conventional reinforcement does not permanently lose its strength unless heated above 1200 degrees Fahrenheit.

GEORGE L. RAMSEY Commissioner of Buildings City of Chicago

Mr. Ramsey's letter [see excerpts above-ED.] contains distorted facts and half-truths.

Prestressed concrete definitely possesses excellent fire-resistant qualities. Recommendations by the American Society of Civil Engineers, the American Concrete Institute, the British Standards Assn., and tests at the Underwriters' Laboratories and the Portland Cement Assn. all bear out this fact. It is true that the high-tensile steel for prestressing is more sensitive to heat than ordinary steel, but it is equally well known that a thicker protection of concrete cover is required and provided, so as to give it at least equal performance.

Mr. Ramsey's concern about excessive bending in prestressed beams is unfounded. Standard fire testing requires intensive heat and high temperatures which would produce excessive bending whether the beam is of prestressed concrete, reinforced concrete, or steel.

Mr. Ramsey's attitude has already aroused the attention of the Illinois Section of ASCE, which has appointed a committee on "Evaluation of Prestressed Concrete in Relation to Chicago Building Code Provisions." The report of this committee states, in part:

"The temporary restrictions on prestressed concrete by the Building Dept. are, in the opinion of the committee: 1) directed at one material without relation to the performance requirements for other materials, 2) inconsistent with the Code for new materials.

"After a review of significant data, this committee is of the opinion that pretensioned, prestressed concrete structures can be designed to resist fires for up to four hours in accordance with present fire-testing procedures.

"It has been determined that the principal factor affecting resistance to fire is the amount of concrete cover protecting the steel strands or tendons employed as reinforcement. It has also been determined that another important factor is the cross-sectional area of the member; the larger the area the greater its capacity for heat absorption and its fire resistance.

"To meet heat-transmission requirements it is recommended that the same total slab and topping thickness be used as for normal reinforced concrete."

T. Y. LIN Professor of Civil Engineering University of California

ERRATA

FORUM's progress report on the Lincoln Center (June '61, "Projects") erroneously credited the design of the Repertory Theater, Library, and Museum Building. This building is being designed by Eero Saarinen & Associates and Skidmore, Owings & Merrill, associated architects, and Jo Mielziner, collaborating designer for the Repertory Theter. Eero Saarinen & Associates are responsible for carrying out the interiors of the theater; SOM, the library and museum.

Credit for the design of the Pacific Telephone Northwest rebuilding (FORUM, May '61) should have been to Walker, Mc-Gough & Trogdon, architects, rather than to Walker & Mc-Gough.-ED.