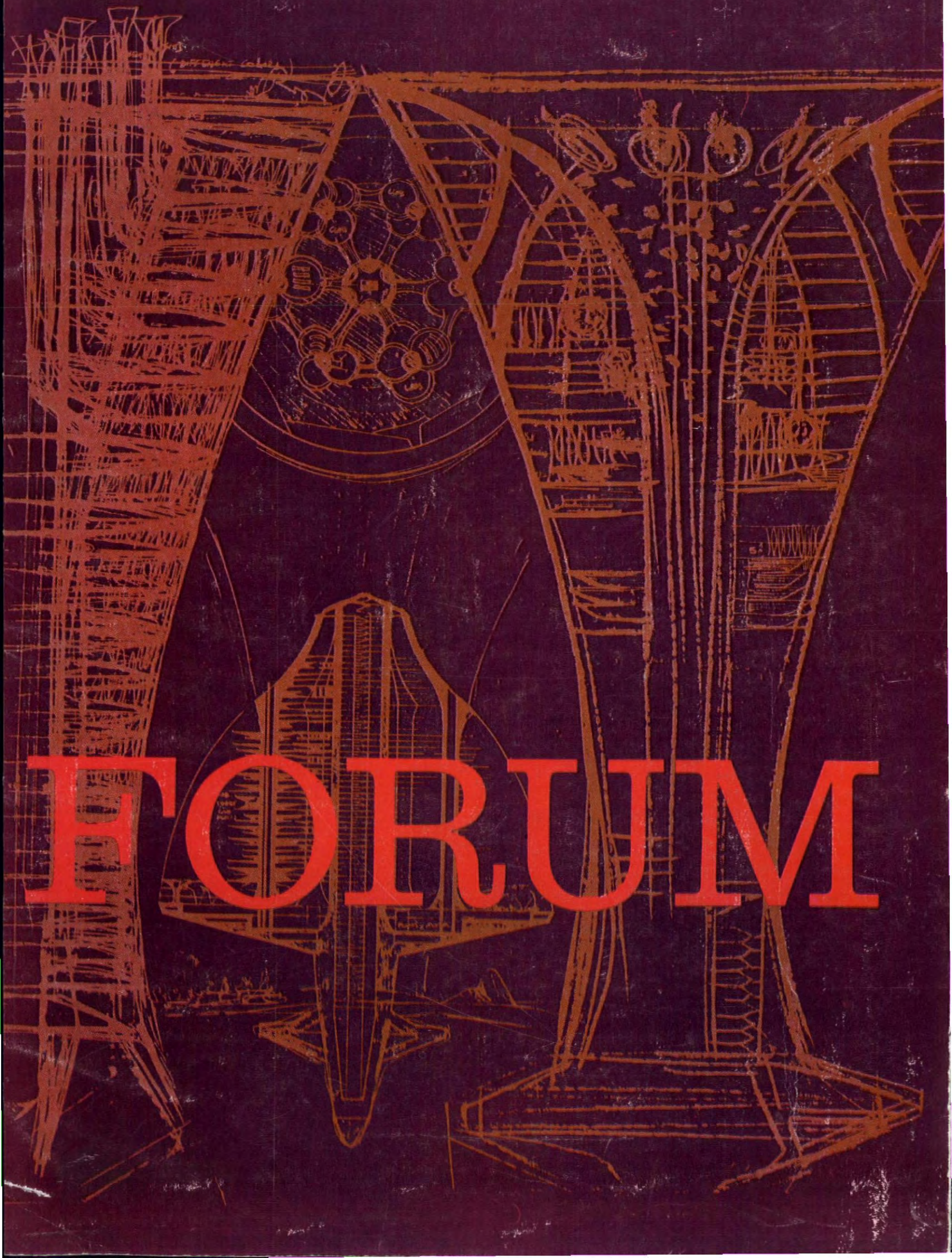
rchitectural Forum the magazine of building March 1961



FORUM

THE MISSION OF THE PROFESSION OF ARCHITECTURE

By Philip Will, Jr., F.A.I.A. President, The American Institute of Architects

I hold that the architectural profession should assume responsibility for nothing less than the nation's MAN-MADE ENVIRONMENT, including the use of land, water and air, AN ENVIRONMENT IN HARMONY WITH THE ASPIRATIONS OF MAN.

For what aspect of the nation's welfare should the architectural profession be responsible? For what are we (or should we be) educated and trained? For the design of buildings? For groups of buildings? For cosmetics applied to the work of engineers? Or is there a more comprehensive mission to which we may aspire? I hold that there is.

If land is debauched, or streams polluted, our air a nauseous mix of soot, fumes, and the lethal gas of industry; if our cities are exploited jungles of disorder and corrupting ugliness; and, if there is little safety and no amenity, to whom can the public look for help, for guidance, for vision? To the realtor? The developer? The politician?

The answer must be: the architect. In one form or another, the solutions to all of these problems lie in the province of design, which is the special province of the architect.

By common consent a free society looks to each profession to assume responsibility for that aspect of public welfare for which it is qualified by education and training. The successful discharge by a profession of its responsibilities, both individual and collective, brings great rewards in recognition of leadership, in gains both social and economic, and in freedom of action. All gain. The failure of a profession to discharge its responsibility is not long tolerated by a dissatisfied public — and a dissatisfied public appeals to government. Thus, for example, if the public feels its medical needs are not adequately met, the medical profession loses status, freedom, and independence. Doctors become employees of the State. Patients are assigned and the fees are fixed, with far-reaching consequences to this nation's fundamental philosophies. The point is self-evident that solutions must be found for voids in professional service.

So here is the demand, the challenge. Never before in history has America so needed the design professions. Never before has the opportunity for leadership by the architectural profession been so overwhelming and self-evident.

We are at a crossroads.

To say that the architectural profession is now totally prepared to meet the challenge would be self-deluding. Some individuals recognize the need; a small number are qualified to perform; an even lesser few are willing to act. In reacting to the magnitude of the task, we therefore have much to do and far to go. The longest journey, however, begins with a single step. That first step will have been taken if we can but agree on a definition of our professional mission. The services to be rendered, the skills, education and training required, the necessary organization and methods of practice all will follow as further steps on the way.

The challenge of society's need faces us now — today. The hands of the clock spin with alarming speed. Will we understand and act in time to save the nation from environmental debauchery? Such is unlikely without the vision and leadership of an aroused and dedicated profession of architecture.

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The creativity of the architectural profession presents a constant challenge to all of us in the building materials industry. Unless we help the architect to be increasingly creative — unless we give him the tools he needs to build a new America — we face obsolescence. To help meet this challenge, Inland engineers and designers have developed many new products in the past few years. Right now they are at work on still newer building systems for the future. As a company, we at Inland strive to keep ahead of the field in order to keep up with the architect. In recognition of this stimulating demand . . . and in appreciation for the magnificent cultural contribution made by the architectural profession throughout the years, we are proud to present the following perceptive statement, "The Mission of Architecture", by the official spokesman for the profession, Mr. Philip Will, Jr., President of the American Institute of Architects. We believe this message should be passed along to everyone connected with the designing and building processes. You are invited to send for reprints for individual or group distribution. Write Inland Steel Products Company, P. O. Box 393, Milwaukee 1, Wisconsin. INLAND

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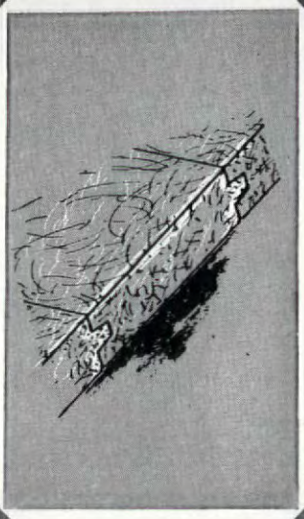
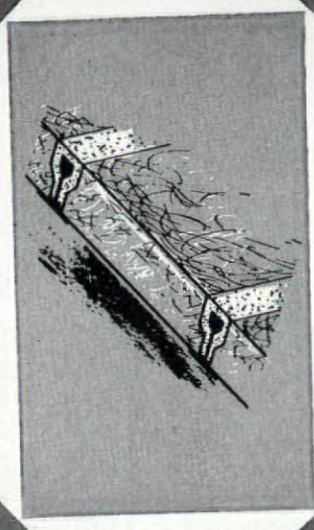
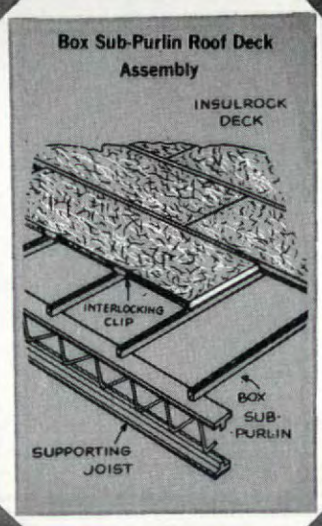


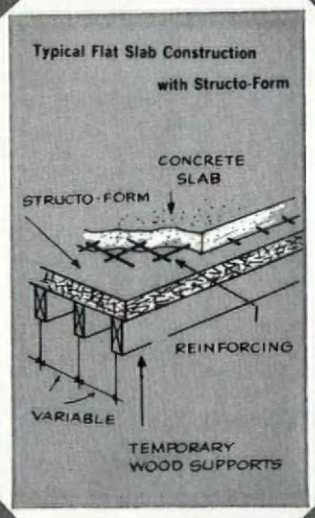
Interlocking Joint, including Painted Bevel, for joist and beam construction aligns roof deck better, installs easier, improves insulation, distributes loads better.



Chamfered Edges of improved Flo-Easy design for sub-purlin construction increase resistance to uplift, make for continuous stronger joints.



Box Sub-Purlin assembly gives new flexibility to open construction design, reduces costs.



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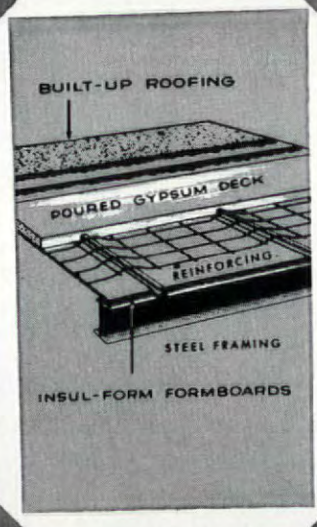

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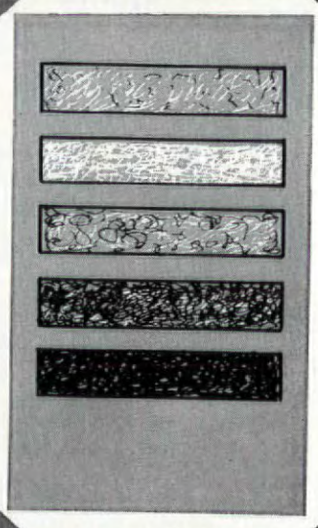

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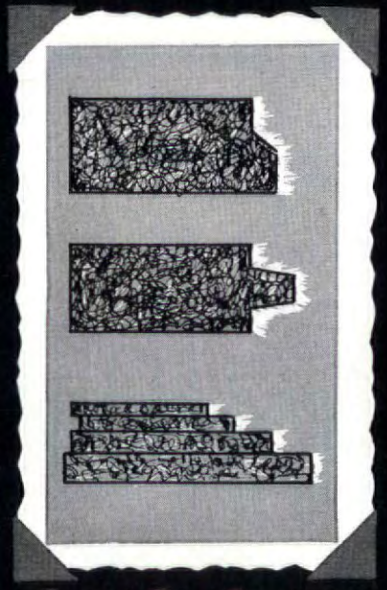

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President's antirecession program will depend heavily on construction to stimulate economy

In his antirecession program launched last month, President Kennedy issued a number of orders calculated to help revive the laggard economy by stimulating construction. In the main, their direct effects would be slow to materialize, however, because of the long "lead time" inherent in almost every type of building. Their greatest immediate significance was psychological—they indicated that the administration intended to take positive action to cure the present slump in the economy, and that it would rely on construction as one of its principal medicines.

Orders of the President that would eventually effect many types of construction in almost every area of the country included:

- Instructions to the federal Housing and Home Finance Agency to speed up its college housing loan program, using $100 million of lending authority that had previously been withheld.
- Telegrams to 297 mayors urging them to speed up their public housing and urban renewal programs. (New York's Mayor Wagner replied that a main cause of delay on some projects could be attributed to delays by the Federal Housing Administration in approving Section 220 mortgage loans.)
- A reduction in the interest rate on FHA-insured mortgages on one- to four-family buildings from 5¾ per cent to 5½ per cent. (No reduction was made, however, in the interest rates on FHA-insured mortgages for apartment construction.)
- An increase in prices the Federal National Mortgage Association (Fanny May) will pay for government-backed mortgages, partially complementing the lower interest rates ordered on FHA loans; also a reduction from 2 per cent to 1 per cent in the amount of Fanny May stock that must be purchased to complete a sale to this agency. All in all, industry observers anticipated only minor results from these two FHA and Fanny May orders until interest rates decline to a corresponding level of their own accord. On the other hand, conservatives were relieved by the absence of any flamboyant action to pump more credit into housing—such as a large allocation or appropriation of federal funds to Fanny May, which now must obtain all of its funds from the regular, private money market.
- Under the HHFA's public facility loan program: 1) a ¼ per cent reduction in interest rates—to 4⅛ per cent and 4⅜ per cent, respectively, on general obligation bonds and revenue bonds; 2) removal of the 10,000 population limit, opening the program to communities of any size, and 3) authorization of loans for any type of public works, instead of only for sewer and water systems and gas lines. This is intended to get cities to take planned public works projects off the shelf and place them into execution.
- A directive to the Public Housing Administration to expedite construction on some 60,000 public housing units for which sites are available, and to urge local housing authorities to speed up maintenance and rebuilding work.
- Another directive to all federal agencies and departments to expedite construction projects and to report all federal public works projects that could be speeded if necessary appropriations were forthcoming.
- Instructions to the Federal Highway Administrator to speed up construction outlays from the $724 million appropriation available for highway work during the fiscal year ending June 30.

One week after he had taken these steps to help "restore momentum" to the economy, President Kennedy sent a special message to Congress proposing an expanded health and hospital program that also would boost federal construction spending, if adopted. In this message he proposed a ten-year program of matching grants for the "construction, expansion, and restoration" (rebuilding) of medical and dental schools—up to $25 million the first year, and up to $75 million a year thereafter. He also recommended doubling the present $10 million a year appropriation for matching grants for the construction of nursing homes. To obtain "maximum economical use" from

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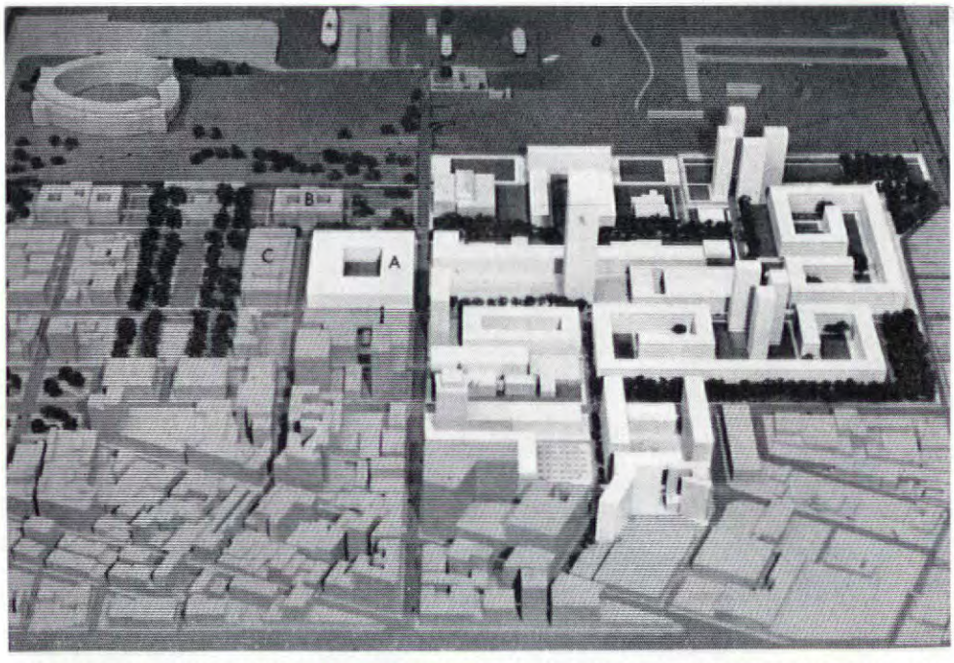
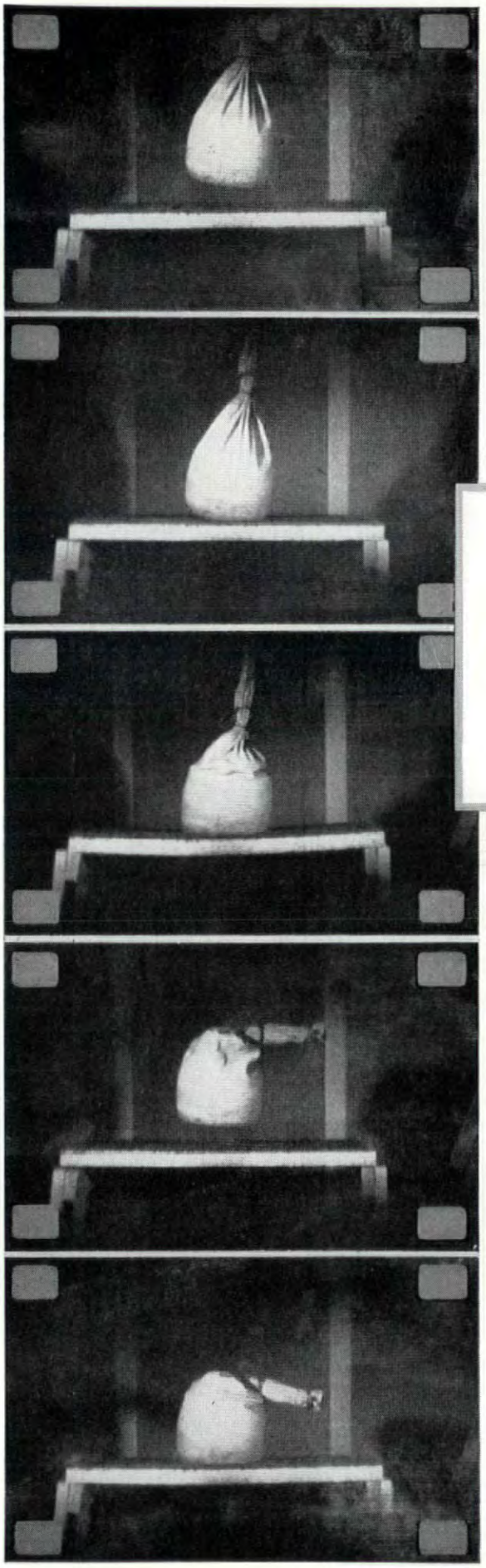


HUGE DOWNTOWN CLEVELAND REDEVELOPMENT PROJECT TO BE STARTED SOON

The immense Erieview project to revitalize 162 acres adjoining Cleveland's downtown core area has been gaining increasing momentum recently, and Mayor Celebrezze has set May 1 as a target date to start demolition in the main portion of the project (outlined in model photo). Following City Council approval for the redevelopment plan, the federal Housing and Home Finance Agency ratified it late in January, thus releasing federal aid funds that will consist of a $33.8 million loan and a $10.7 million grant. More than $400 million of new construction is anticipated in the Erieview project, including a $48 million federal building that will most likely be located on the consolidated blocks (A) adjacent to City Hall (B) and the Cleveland Auditorium (C). Three Cleveland architectural offices, Outcalt, Guenther & Van Buren; Schafer, Flynn & Williams; and Dalton, Dalton Associates have already been given the design commission for this structure. The Erieview redevelopment plan was prepared for the Cleveland Department of Urban Renewal and Housing by New York Architects I. M. Pei & Associates and William L. Slayton, urban renewal consultant.



Tectum's Live Fiber Strength is PLUS Factor for Safety

Five frames from a super slow-motion film illustrate the high degree of secondary strength provided by Tectum's long fibers. This impact test tells the story. A free-fall sand bag impact shows the resiliency of tough, structural Tectum roof deck plank. The bag actually bounces from the surface after impact.

1. 60# sand bag approaches test plank from 30″ height.
2. Bag hits unsupported center of 36″ span.
3. Tectum deflects slightly as bag's full impact is registered.
4. Bag bounces about 3″ above board. (Note how plank leaves supporting frame.)
5. Board deflects upon second impact. No cracks, breaks or fractures.

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costly hospital buildings, he recommended a program of grants for research and the construction of experimental or demonstration hospitals and other medical facilities. He said the appropriations for this program should be varied each year, depending on the recommendations of the Surgeon General on the scope of the program.

Senate confirms Weaver for HHFA post

In a significant White House ceremony in the presence of President Kennedy, Dr. Robert C. Weaver was sworn in last month as administrator of the federal Housing and Home Finance Agency. Using the occasion to make a pointed reiteration of his confidence in Weaver, and to administer a subtle rebuke to those who had tried to obstruct his appointment, the President said he was delighted to have Weaver at the White House for this ceremony, and emphasized that he had the highest confidence in his "ability, energy, and loyalty." Asserting that there are "over 25 million Americans living in substandard housing," the President added that "under Mr. Weaver's leadership it is our hope that housing for all Americans can be substantially improved."

No other appointee of the new President had encountered so much opposition to confirmation by the Senate—in this case, ironically, opposition mainly from a minority group of Senators of the President's own party. In the showdown, however, Weaver had won approval of the Senate Banking and Currency Committee by an 11-to-4 vote, and subsequently confirmation by the full Senate by an untallied voice vote. Voting against Weaver in committee were three Southern Democrats—Chairman A. Willis Robertson of Virginia; John J. Sparkman of Alabama, chairman of the housing subcommittee; and William A. Blakley of Texas—as well as Republican Wallace F. Bennett, of Utah.

In an unusual manifestation of his opposition, Senator Robertson held up the scheduled start of the committee's examination of Weaver until President Kennedy rushed to it by messenger a letter stating that he had fully reviewed and evaluated the report of the routine loyalty investigation of Weaver by the Federal Bureau of Investigation. Through most of the committee hearing the Southern Democrats cross-examined Weaver on his advocacy of integrated housing and whether he would use federal housing programs to advance this objective. Weaver's answer was that he would not be the creator, but merely the executor of whatever housing policies were established by Congress or by Executive Order of the President.

In his new position Weaver, chairman of the board of the National Association for the Advancement of Colored People, occupies the highest federal post ever held by a Negro. It also is possible that he may eventually become a member of the President's Cabinet, if President Kennedy's proposal for consolidating HHFA and other agencies into a full-fledged Department of Urban Affairs is not blocked in Congress by the same forces that fought Weaver.

Wagner-Rockefeller feud highlights N.Y. scandals

Hurt and irritated by New York state investigations of scandals in various New York City agencies, many of them touching the construction industry, Mayor Wagner last month was engaged in angry correspondence with Governor Rockefeller. Before casting so many stones at the city, said Wagner, the governor should first vouchsafe the virtue of various state agencies.

"Notorious" situations exist in four state agencies (the Department of Public Works, Rent Commission, Liquor

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BOB BAILEY

NEW SKYSCRAPER FOR FIRST CITY NATIONAL BANK DOMINATES HOUSTON SKY

The new 32-story, 410-foot-high First City National Bank Building in Houston, looking like a giant honeycomb, its windows recessed 5 feet inside its structural columns, was formally dedicated last month. In an adjoining wing, the bank's columnfree 120 by 162 foot banking room has a 32-foot ceiling composed of 912 separate gold-anodized lighting units that also conceal wiring and air-conditioning equipment. From a circular opening in the middle of the floor, escalators descend to the vault and safe deposit area. Exterior windows for the bank lobby are 35 feet high, the largest plate-glass panels ever manufactured in the U.S. Architects were Skidmore, Owings & Merrill, with Wilson, Morris, Crain & Anderson of Houston serving as consulting architects.

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2. Size of Basic Music Source — The basic music "library" shall consist of a sufficient number of specially recorded arrangements to permit a programming pattern which does not repeat any selection (except at the height of its popularity) in any eight-hour program sequence in an interval of less than nine days.

3. Augmenting Basic Music Source — The basic music source shall be continually augmented with specially recorded arrangements of the latest popular tunes as well as modern treatments of standard favorites. Care shall be taken to avoid playing obsolescent arrangements and titles.

4. Programming, General — Each musical selection shall be psychologically mood rated in direct relation to following and preceding tunes, taking into account such stimuli as tempo, rhythm, instrumentation, orchestra size, changing popularity of arrangements and titles.

5. Programming, Timing — The music shall be psychologically programmed by qualified work musicologists for every hour of every working day.

6. Programming, Integrity—The music programmer shall be protected from intrusion of individual preferences of music style, title and artist. Request programs shall be avoided to prevent distractions and time-outs from work duty.

7. Silent Periods — For optimum average worker efficiency the music shall be programmed in alternate quarter-hour periods of music and silence—each quarter-hour music group to contain a playing time not to exceed fourteen minutes.

8. Music Distribution — The sound system over which the music is reproduced shall be designed specifically for balanced work music distribution. Speakers, amplifiers and other components shall be capable of continuous faithful reproduction of from 40 to 10,000 c.p.s. and shall be so installed as to provide zone control of volume levels (particularly desirable where individual work sections have different ambient noise levels) and be so balanced as to avoid areas of loudness and softness. Where desired, provision shall be made for paging, or signalling, etc.

9. Equipment Maintenance — It shall be the responsibility of the music supplier to set standards for the maintenance of all equipment and periodic inspection and servicing thereof. The supplier shall be promptly notified of any malfunction. He shall also be notified of all contemplated movements of personnel or equipment which may require augmenting or altering the sound system.

10. Location of Music Source Equipment — The music source equipment (tape, record player, etc.) shall *not* be located on the subscriber's premises, nor shall he be responsible for maintenance, servicing or programming.

11. Express Warranties—The music supplier shall warrant that the service furnished be prepared, transmitted and faithfully reproduced under the conditions set forth above. He shall provide adequate proof that both the service and equipment he furnishes have been thoroughly job tested under conditions and situations similar to the application to which it is to be put.

12. Music Clearance — All music clearance shall be taken care of by the music supplier. There shall be no further performance or mechanical license obligations.

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Authority, and Department of Motor Vehicles), charged Wagner, while four others are "happy hunting grounds for the chisler" (the Public Service Commission, Lottery Commission, Workmen's Compensation Board, and Secretary of State's office). As recently as December, newspapers had front-paged reports about two rent-commission employees accused of accepting bribes. Result: one resignation, one suspension.

But while the state had a commission investigating city corruption, the city had no countercommission investigating state scandals, and thus the evidence consisted mainly of a dreary list of sordid situations in city agencies that fattened the newspapers day after day. Some examples:

▸ A January report by the State Commission of Investigation that alleged "wholesale and vicious corruption" in the city's Department of Buildings. Without publicly disclosing names, the state report said 14 out of 40 employees in the Manhattan plan examination division customarily require architects to "pay or else" to expedite any sort of business with the department. Conceding that all was not wholesome, Wagner first replied by saying his administration is "waging unceasing war on the age-old system of tips and gratuities in all phases of the department's operations." Two weeks later, however, as his resentment of the state probes waxed warmer, he assailed the state commission for being "politically motivated," and disclosed that all 14 building department employees censured by the state were still at work because "there's no evidence on which to hold them at this point."

▸ As the result of another state investigation, the city one month earlier suspended eight inspectors in its Department of Water Supply, Gas, and Electricity on allegations that they had accepted bribes from electrical contractors to approve hazardous and improper wiring jobs.

▸ In January two architects employed by the Board of Education were arrested on charges of having accepted over $3,000 of "free-loading" at a posh Florida resort hotel while they should have been inspecting a South Carolina plant of the company that allegedly footed the bill for their joy-riding. Four days later the Board of Education announced that it was inaugurating a new system of checking compliance of contracts for school maintenance and repairs and was reorganizing its 140-member force of inspectors to achieve "more objective" inspections, more competitive bidding for contract awards, and improved maintenance.

▸ In December four employees of the city's Real Estate Bureau were suspended on charges of accepting kickbacks from contractors. Last month two of them had been reinstated, after a key witness recanted earlier testimony that he had given them payoffs. One of the others had resigned after refusing to give financial information to the state commission, however, and simultaneously was "dismissed." The fourth was under indictment for perjury.

▸ Another scandal of recent vintage, although not figuring directly in the Wagner-Rockefeller fault-finding feud, was the conviction of Manhattan Borough President Hulan E. Jack for letting a prospective Title I developer pay about $4,000 for remodeling Jack's Harlem apartment. Jack received a suspended one-year prison sentence. Sidney Ungar, the would-be Title I sponsor, obtained immunity from prosecution through his testimony before the grand jury. But he was sentenced to jail for ten days and fined $250 for contempt of court as a hostile witness during Jack's trial.

▸ Not immune from evil was the City Housing Authority. In January, after a departmental trial, it dismissed a construction superintendent who had been suspended last August on charges of authorizing illegal payments and diversions of building materials for a total of almost $10,000. The Authority also suspended for two months without pay an acting general superintendent of construction for "misconduct and incompetency," and for maintaining over a long period "an improper gambling relationship with an employee of a contractor."

Lumber executive designs city of the future

Professional planners have no monopoly on preparing schemes for more efficient communities. Running them respectable competition is New York Lumber Tycoon Julius Stulman, 53, president of the Stulman-Emrick Co. and operator of the Lumber Exchange Terminal of New York, one of the nation's largest wholesale lumber and wood products organizations.

For diversion Stulman is the publisher of *Main Currents of Modern Thought*, and recently he wrote a thoughtful paper outlining his own ideas on *An Approach to the Problem of Urban Renewal*. It is urgent that the decline in the cultural, economic, and political vitality of cities be reversed, Stulman believes. "If we do not solve the problems of the city, how can we hope to solve the broader problems of mankind." But the architect and the city planner face a dilemma when buildings must be created as single structures and enterprises, instead of as integrated projects to serve the total purpose of the city, says Stulman. To remedy this, he proposes five special types of large integrated projects that would make for more orderly and more efficient cities in the future.

To illustrate his paper, Stulman had Albert Szabo, of Harvard's School of Architectural Sciences, and Harold Goyette, Harvard director of university planning, make five diagrammatic drawings of these special facilities. One of them (see photo) would be an "urban

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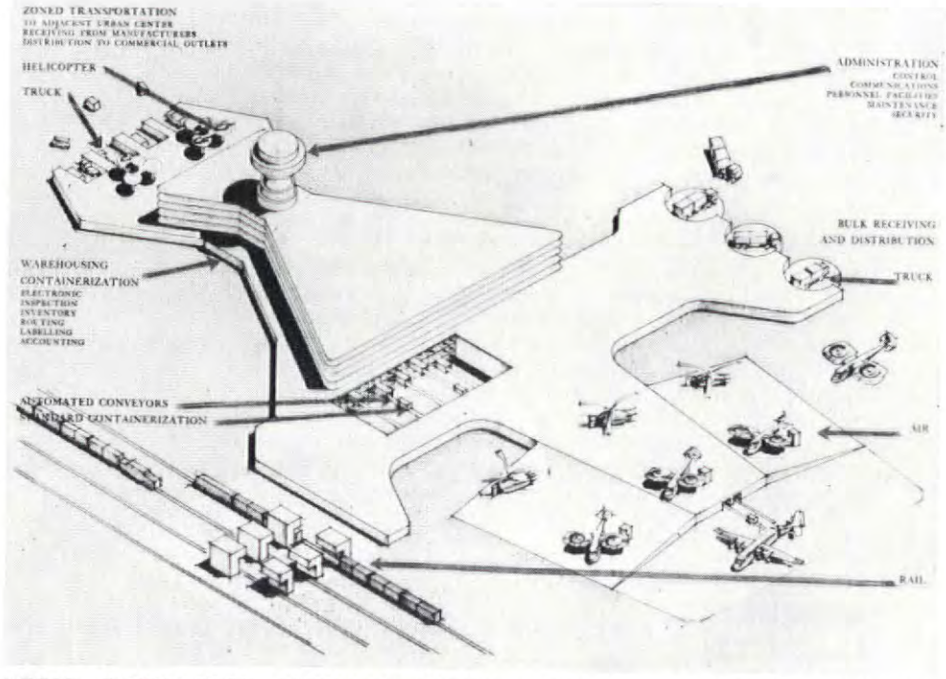

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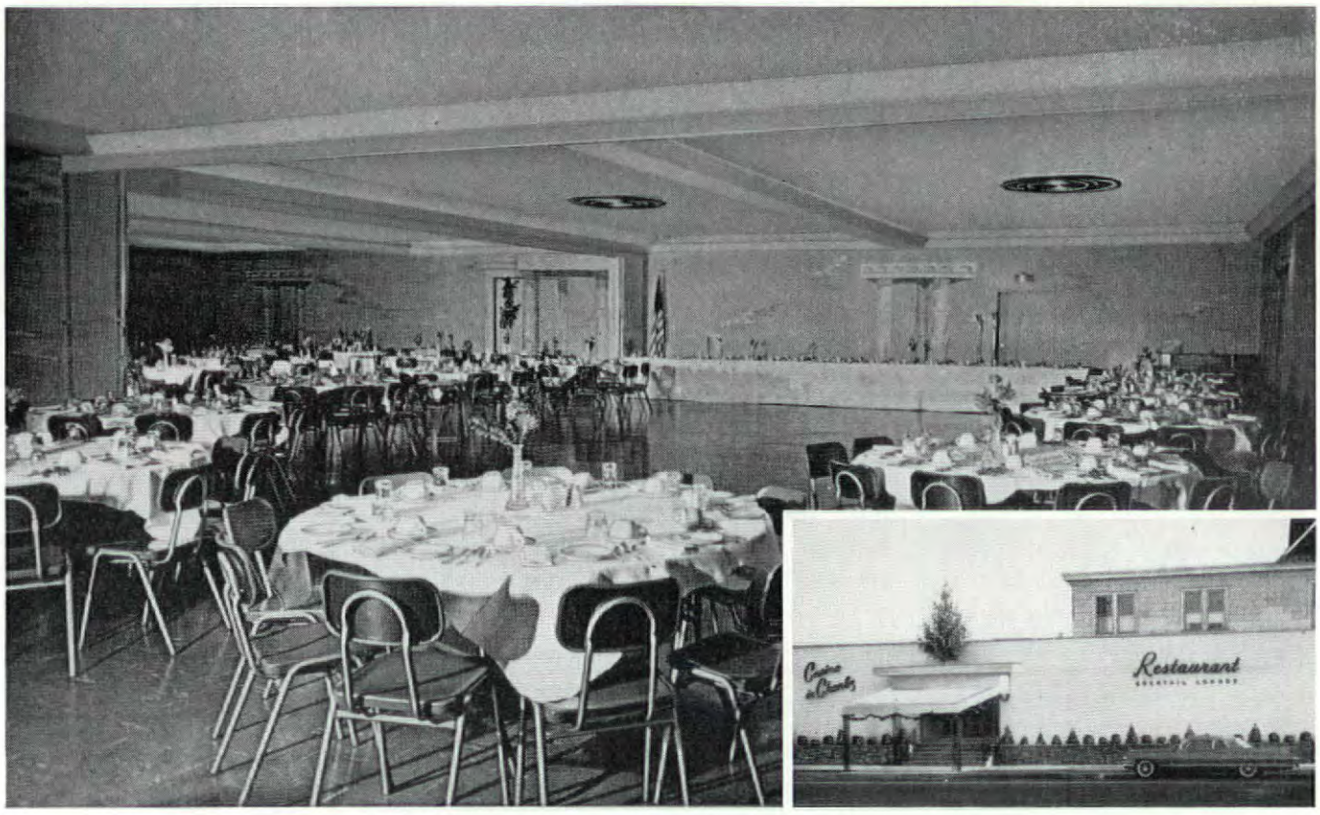

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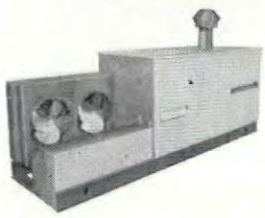
The advantages of a multiple unit air cooled system sitting on a roof and connected by two short pieces of duct to an air diffuser directly below are obvious. You add a heaping amount of extra floor space. You don't need those costly extra ingredients of horizontal ducts, boilers, water lines and water itself. You provide zone control. With a mere flip of a switch you can change from heating to cooling or from cooling to heating. And you save money on installation, operation, service and maintenance.

Here's food for thought! What makes Melco Roof-Top different from any other roof mounted air conditioning system? Simple, because like any good recipe it's the ingredients. Compare and you'll find that no other unit offers ALL of the advantages of Melco Roof-Top. Compare and you will find that Melco offers many exclusive cost-saving features. Take for example Melco's aluminum-clad, molded fiberglass inner and outer vertical ducts which means no field insulating—no field vapor sealing—and no condensation. Or take Melco's three-point suspension system of molded duct and preinsulated Anemostat complete with tie-rods, connectors, holes and flanges . . . all an integral part of the unit. Again cost-saving. Or take Melco's telescoping counter flashing assembly which, while providing the finest type of roof seal, eliminates the need of fabricating expensive on-the-job parts to connect unit and curbing. All of which again means speed and efficiency of installation—in other words ECONOMY.

But like any good recipe even air conditioning must be time proven. Since the first Melco Roof-Top was introduced more than 5 years ago, Melco has been tried, tested, proven, ordered and re-ordered by companies such as American Stores, First National Stores, Grand Union, Kroger Company, Loblaw, Safeway, F. W. Woolworth, etc. And Melco Roof-Tops are being used on almost every conceivable type of single story building—chain stores, shopping centers, bowling alleys, restaurants, industrial plants, banks and offices.



Melco Roof-Tops are available in a wide range of models and capacities—units for heating and cooling; for cooling only; for heating only; units for partitioned areas. A Melco Representative will be pleased to call on you at your request to show you how you can save money with Melco. Or write for complete booklet on Melco Roof-Tops. Write Dept. AF-1.

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distribution satellite," which would be a "mammoth receiving center of containerized goods transported by land, air, and water; and a shipping center from which goods moving to and from the city would be transported in accelerated, uninterrupted movement to terminal destinations." Each satellite would also have warehouse facilities, and special areas for breaking large incoming freight loads into smaller units for local or neighborhood redistribution.

In similar large facilities for other integrated activities, Stulman proposes "cargo cities" or superindustrial parks with consolidated manufacturing and shipping facilities; "executive centers," which would be giant "brain pool" office towers with electronic data centers, stenographic pools, and similar services on the lower floors that would be available to small-enterprise tenants as well as to giant corporations; "vertical dwelling clusters," consisting of large groupings of apartment towers in parklike settings, but with central utility services; and "world cultural centers," projects that would unite facilities for the arts, sports, and recreation in central locations.

Two architects quit posts over "conflict" rules

Twice in recent months city planning commissions in two major cities have had to sacrifice the services of architect members who resigned so there could be no possibility of becoming involved in conflict-of-interest situations.

In St. Louis Architect Arthur F. Schwarz, a member of the local planning commission for 11 years and its chairman for the last three, resigned because of the increasing number of projects being designed in his office that could involve matters that might have to come before the planning commission.

In Baltimore Architect Alexander S. Cochran resigned from the planning commission when the design contract for a $4 million city hospital expansion program was awarded to his firm, Cochran, Stephenson & Wing. Cochran said the city design contract posed a "frustrating dilemma" for him. "I want very much to serve the city in the field of planning . . . but I cannot render this service if it limits the practice of my profession and conflicts with commitments to my partners."

Vexed at the loss of Cochran's planning commission services, Mayor J. Harold Grady appointed a three-man committee, including a former president of the American Bar Assn., to study the feasibility of amending the state law that compelled Cochran to resign. Subject to proper safeguards against real conflict-of-interest situations, Mayor Grady hopes that the law may be changed so the city in the future will not find it so difficult "to avail itself of able leadership without requiring the sacrifice of legitimate interests by the individuals involved."

Chicago lake-front project will cost $185 million

A $150 million, 60-story office tower, hotel, and apartment development for the Chicago lake front on a six-block site adjoining the 41-story Prudential Insurance building is scheduled to be under construction within two years by a group of Texas and Chicago investors headed by Tom B. Boston, of Dallas. The building group has an option to buy the air rights over this site from the Illinois Central Railroad for about $35 million.

A preliminary artist's sketch released last month shows a central office tower flanked by two low commercial wings covering the entire six blocks. To the present, however, no architect has been named, pending the completion of basic development studies by Planners Nahrgang & Nahrgang of Fairhope and Mobile, Ala. It is not yet certain whether the official tower, of at least 2 million square feet floor area, and about one-third higher than any other in the city, will be erected on the first two blocks next to the Prudential building or on the next two (center) blocks closer to Lake Michigan.

July congress to study materials, techniques

The impact of new techniques and materials on architecture will be the theme for the sixth congress of the International Union of Architects in London from July 3 to 7.

The three main papers for the congress will be delivered by Professor Henry Russell Hitchcock, of the U. S., on architectural changes caused by the emergence of new techniques and materials; by Pier Luigi Nervi, of Italy, on the influence of reinforced concrete and technical and scientific progress on present and future architecture; and by Professor Jerzy Hryniewiecki, president of the Association of Polish Architects, on the impact of architecture on industrialized building methods.

People

As President Kennedy continued changing the guard in Washington last month, he appointed Chicago Community Builder **Philip M. Klutznick** as U.S. Delegate to the Social and Economic Council of the United Nations with the rank of minister. (To accept this post Klutznick resigned as general chairman of the United Jewish Appeal, which has just launched a $73 million fund-raising campaign, and was succeeded in that position by Baltimore Builder and Developer **Joseph Meyerhoff**, chairman of the Maryland State Planning Commission.)

In filling the two top Federal Housing Administration posts, President Kennedy appointed **Neal J. Hardy**, 46, director of the National Housing Center in Washington, as commissioner, and **James Barrett Cash Jr.**, 39, staff director of the housing subcommittee of the Senate Banking Committee as deputy commissioner. He also appointed as general counsel of the Housing and Home Finance Agency **Milton Philip Semer**, 41, counsel for the Senate Banking Committee and previously senior staff member of the Brookings Institution.

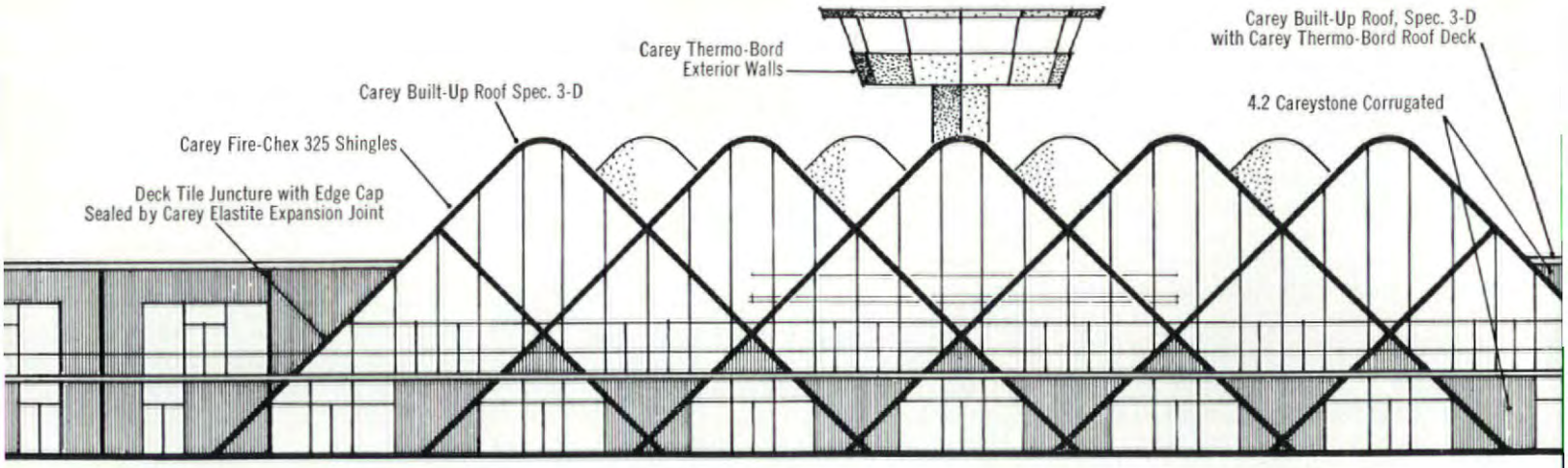
HONORS AND AWARDS

At a meeting last month of the Chicago chapter of the American Institute of Architects to celebrate his 75th birthday, **Ludwig Mies van der Rohe** was awarded the J. Lloyd Kimbrough Medal by the American Institute of Steel Construction for having "done more to further public awareness and appreciation of the esthetic possibilities of exposed structural steel than any other architect." The Kimbrough award, established in memory of the institute's first president, is granted for outstanding achievement in the design or construction of steel structures and has only been conferred three other times, in 1941, 1957, and 1959.

In Miami a month ago Architect **James E. Vensel**, 30, director of architecture and engineering for the Mackle Co. and General

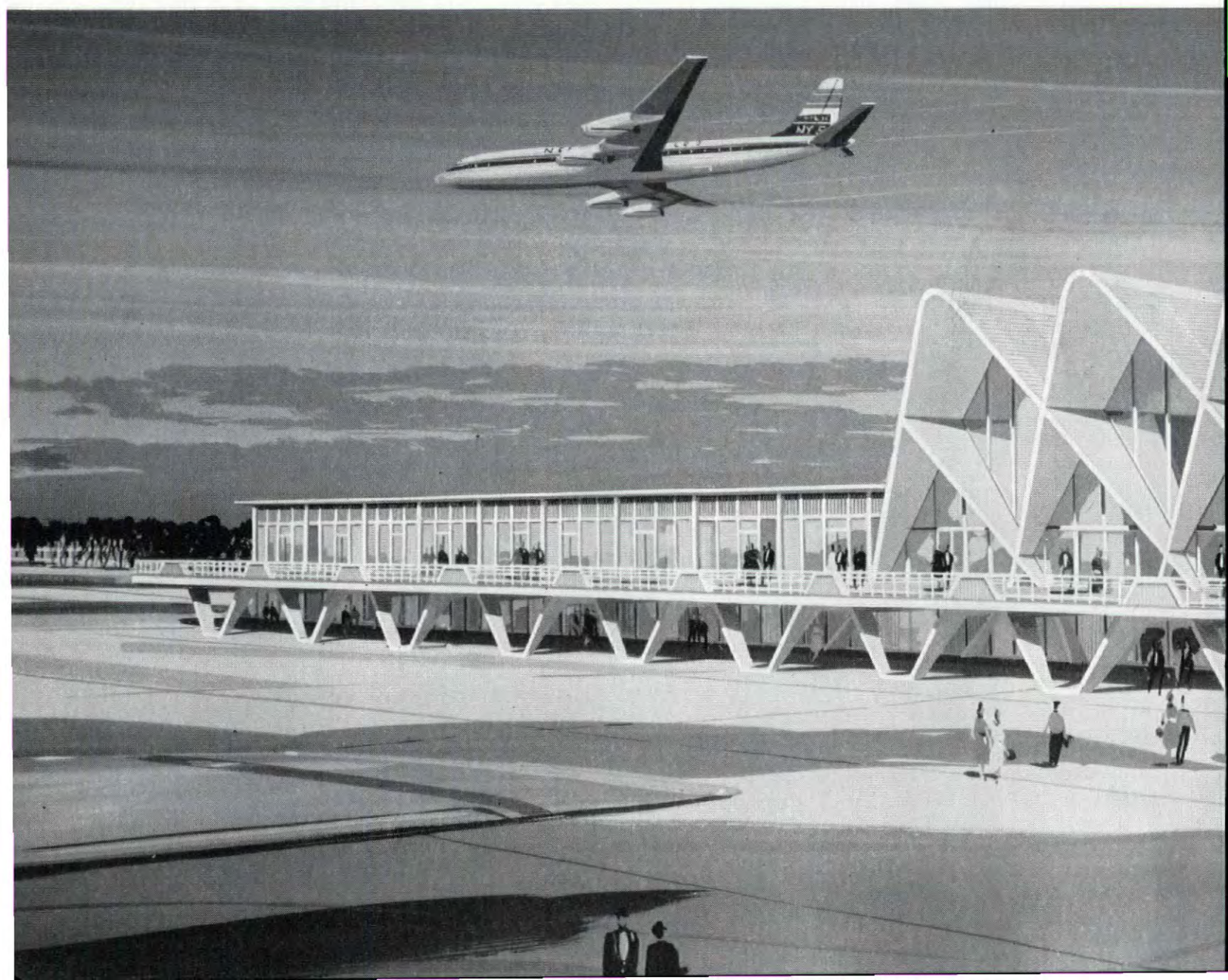
continued on page 16

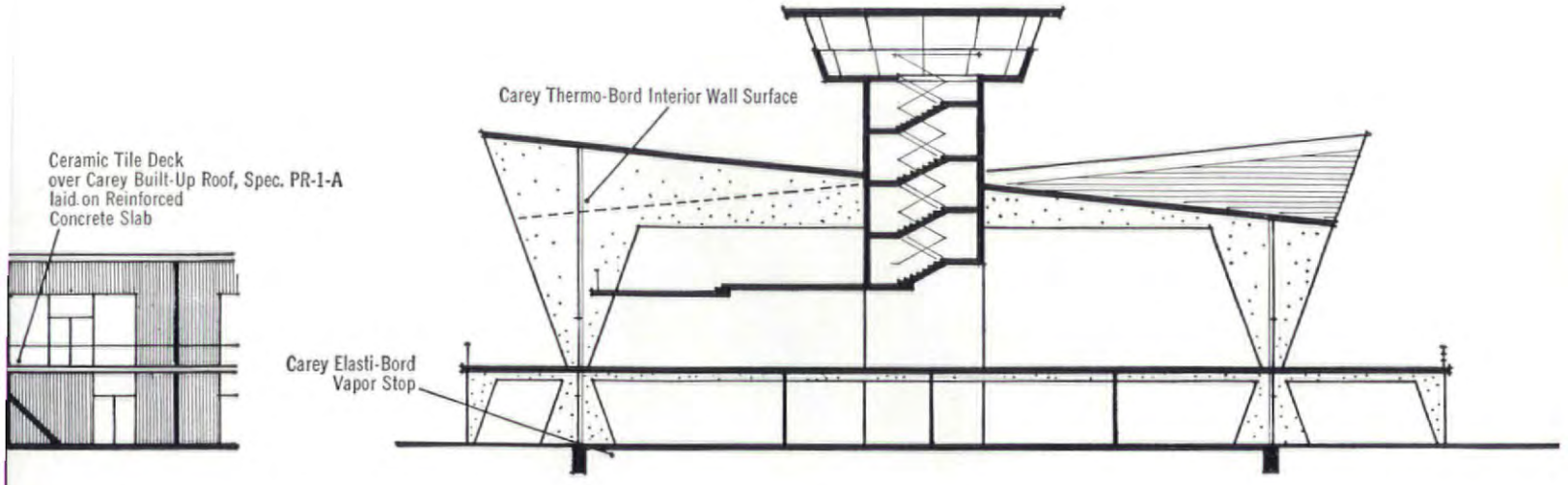
MEDAL of American Institute of Steel Construction being presented to Mies by Institute Director John C. Arntzen (1).



Kahn & Jacobs, a.i.a., design an air terminal

Observers familiar with air traffic expansion predict that more than 2000 jet transports, each carrying approximately 200 passengers, will fill the airways by the end of the decade of the sixties. To these transport flights must be added a growing number of private passenger planes which even today total more than 75,000. These figures do not take into account the non-jet flights which airlines are expanding to serve an increasing number of communities.





In view of this prospect of burgeoning passenger traffic, through airports which are barely adequate for present-day needs, the architectural firm Kahn & Jacobs, A.I.A., of New York City designed their prototype air terminal under a commission from Carey.

The details of this Kahn & Jacobs project suggest uses for a number of Carey building products. The purpose of the detail drawings is to propose solutions for similar problems which could show up on the boards in any office, anytime. Carey materials specifications as incorporated in the Kahn & Jacob details have been assembled in a convenient file folder for your personal use. May we send you a copy? Write Dept. AF-361, a postcard will do.

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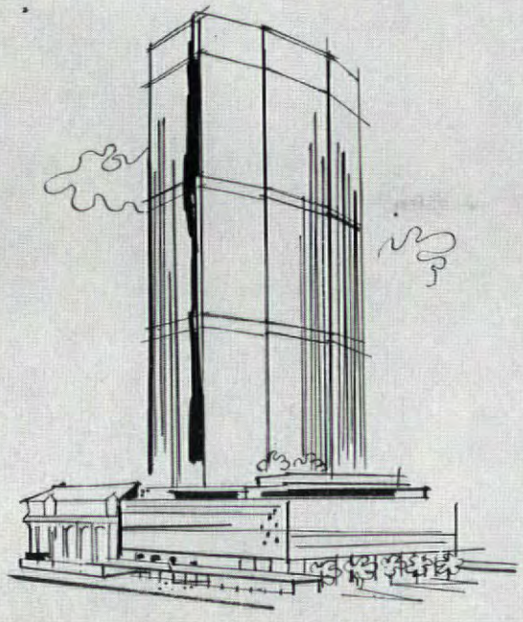
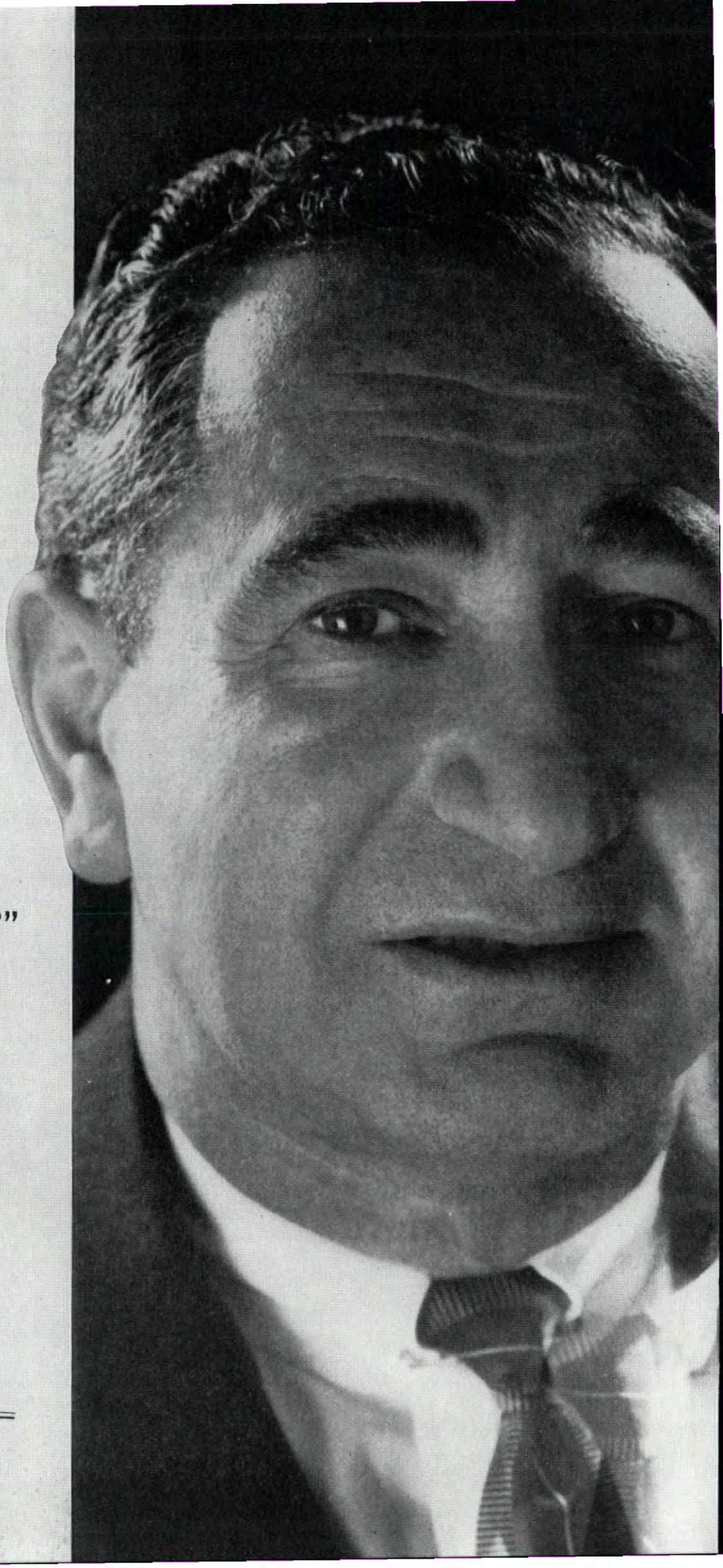
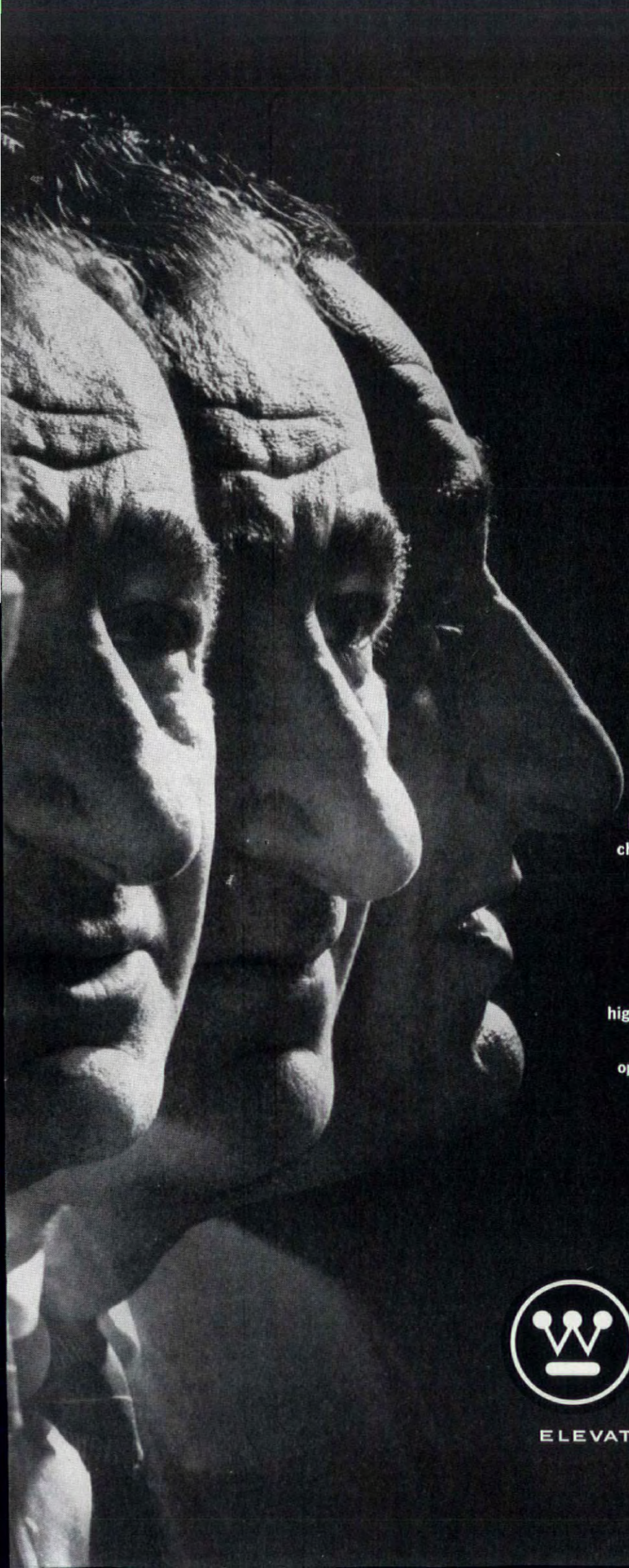
Westinghouse Elevators?"







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ELEVATORS AND ELECTRIC STAIRWAYS

Development Corp., received the HOUSE & HOME 1960 Award of Merit for Residential Design and Construction in recognition of his "outstanding contribution to quality housing." At the same time the South Florida Concrete and Products Assn. gave its Man of the Year awards for the best use of concrete to Miami Architect **Igor Polevitzky**, Fort Lauderdale General Contractor **Fred Collins**, and Home Builder **Gene Fisher.**

Philippine Architect **Leandro V. Locsin**, 32, was the recipient in January of the third annual Pan-Pacific Architectural Citation for "consistent excellence in design" given by the Hawaii chapter of the American Institute of Architects. Locsin is best known for his round chapel for the University of the Philippines built with a 3-inch concrete shell dome. Recent commissions won by his 14-man office include a building for the Philippine branch of the First National City Bank of New York.

Two Philadelphia architects, **Conrad Hawk** and **Otto E. Reichert-Facilides**, an associate of **Oskar Stonorov**, won honorable mention in a recent international competition conducted under the auspices of the Spanish government for the design of a coastal resort town in southern Spain. Out of 118 entries from 26 countries, theirs was the only one from the U.S. among the finalists.

PEOPLE IN BRIEF

Housing Economist **Louis Winnick**, former director of research for the New York Planning Commission, has resigned as executive director of the New York Temporary State Commission on Economic Expansion to head the new planning and program research division of the New York City Housing and Redevelopment Board. END

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Plate No. 4004

Going up fast...**RS ceramic tile curtain wall panels**

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Architects: **MAGNUSON & SUMNER,** Muskegon, Mich.
Associate Architects: **O. J. MUNSON ASSOCIATES,** Lansing, Mich.
Panels installed by: **KAWNEER CO.,** Niles, Mich.

Muskegon County's new Court House is faced with 13,500 sq. ft. of RS Panels in a custom pattern of glazed and unglazed Romany•Spartan ceramic mosaics.

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A floor of Armstrong Tessera Corlon on and under a staircase at American Society for Metals

The picture at left shows a stairway in the new American Society for Metals building at Metals Park, Ohio—architect John Terence Kelly, A.I.A. Armstrong Tessera Corlon (Style 86532) is wrapped completely around the stair treads and is installed on the tops and undersides of the landings. This installation, which is as practical as it is dramatic, takes unusual advantage of the exceptional good looks, toughness, and flexibility of Tessera Corlon. Tessera's interesting random-chip design and functional versatility made it the logical choice for offices, hallways, cafeteria, and other areas throughout the building.

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Linotile 1/8"
Custom Corlon (vinyl) Tile 3/32"

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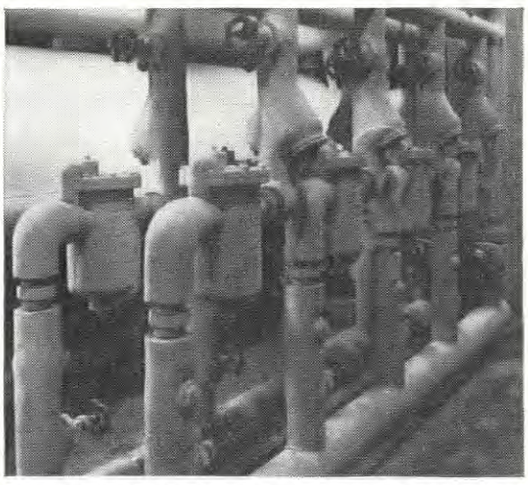

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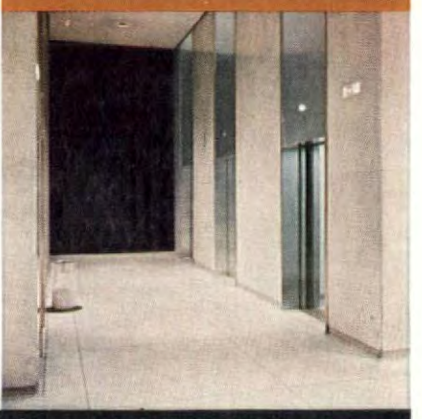

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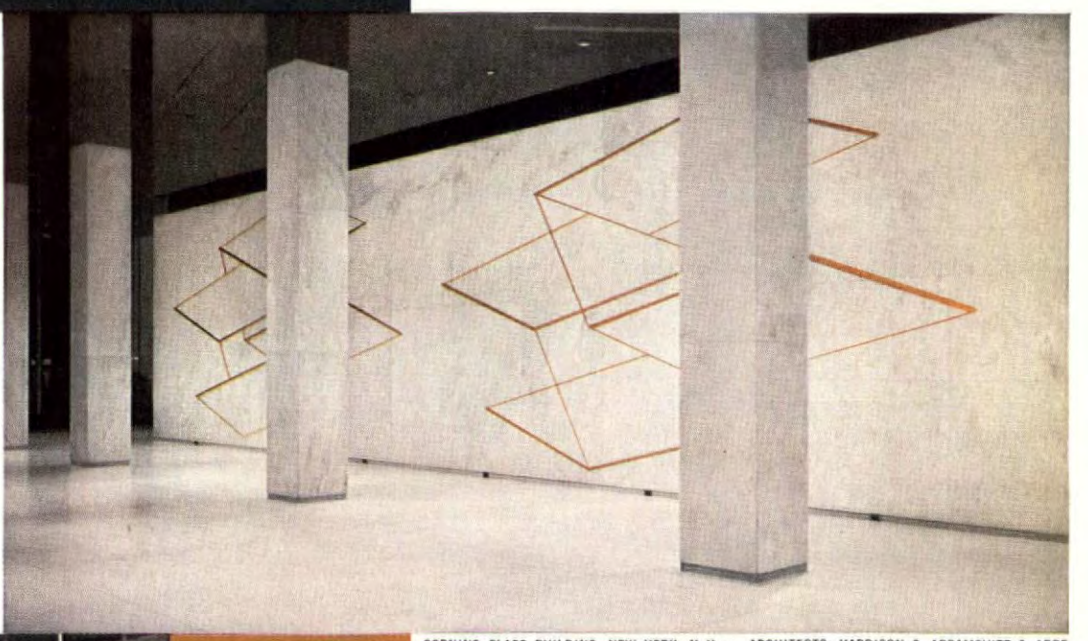

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First National Bank, Atlanta, Georgia. Architect: Francis P. Smith and Henry Howard Smith. Fixtures: Benjamin Division, Thomas Industries, Inc.

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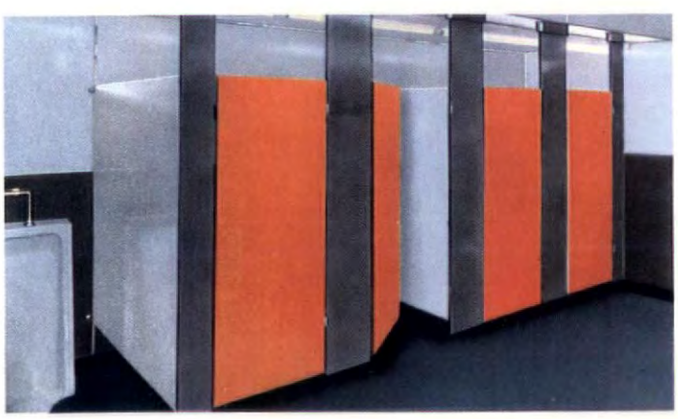

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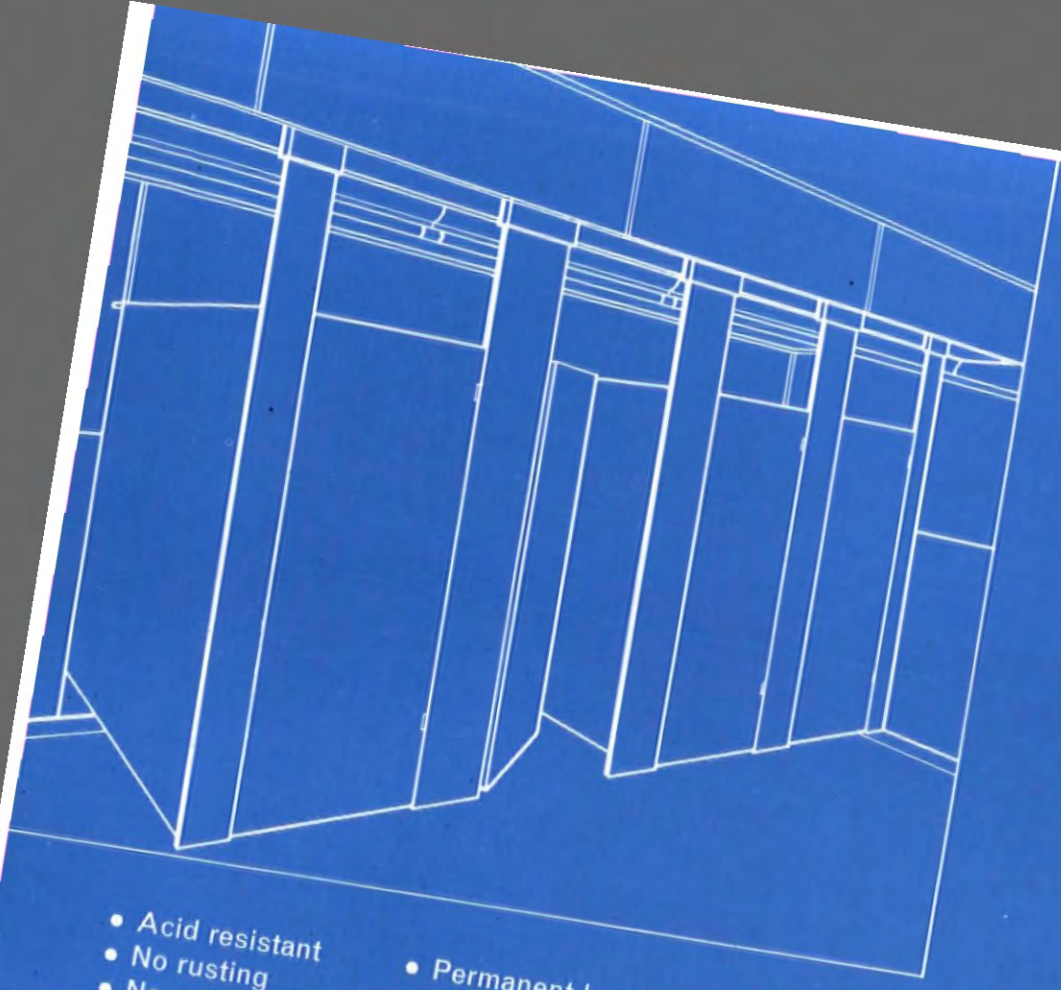


- Acid resistant
- No rusting
- No refinishing
- Permanent beauty
- Years of carefree maintenance
- Wipes clean with damp cloth

CONSOWELD FACED TOILET PARTITIONS

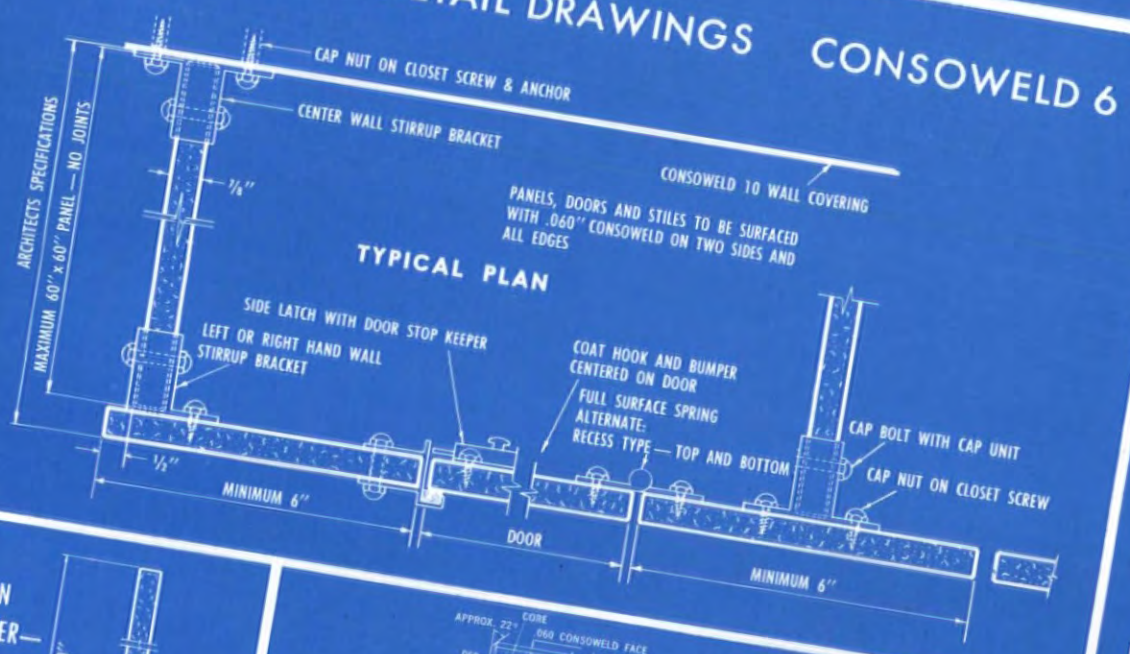
Toilet partitions surfaced with seamless 5-foot-square panels of Consoweld may be either floor or ceiling mounted. Consoweld's exclusive 60″ wide panels give added beauty at reduced cost because of the elimination of panel seams. The partition color and/or pattern may be matched or contrasted with the Consoweld wall or wainscoting. Toilet partitions surfaced with Consoweld offer many advantages.

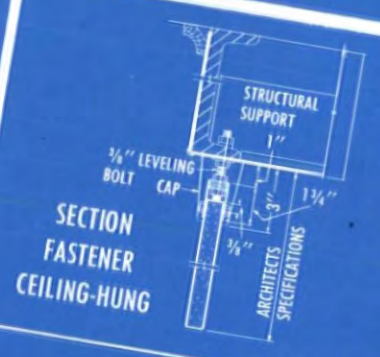
CONSOWELD
LAMINATED PLASTIC

94-A

Contact Consoweld Corporation, Wisconsin Rapids, Wisconsin for further details and supply or partitions.

INSTALLATION DETAIL DRAWINGS CONSOWELD 6



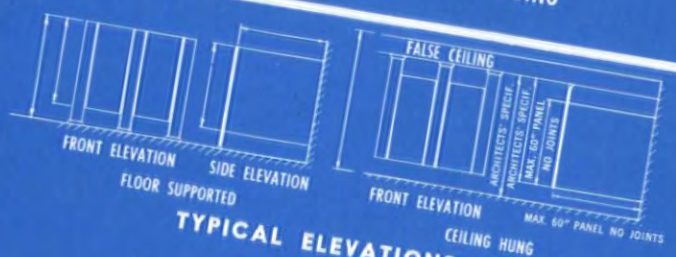


SECTION FASTENER CEILING-HUNG

ELEVATION FASTENER CEILING-HUNG

SECTION FASTENER— FLOOR SUPPORTED

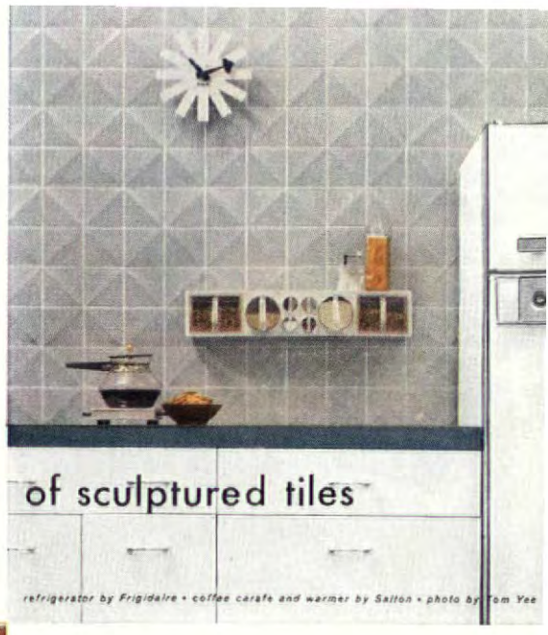
DETAIL SELF EDGING



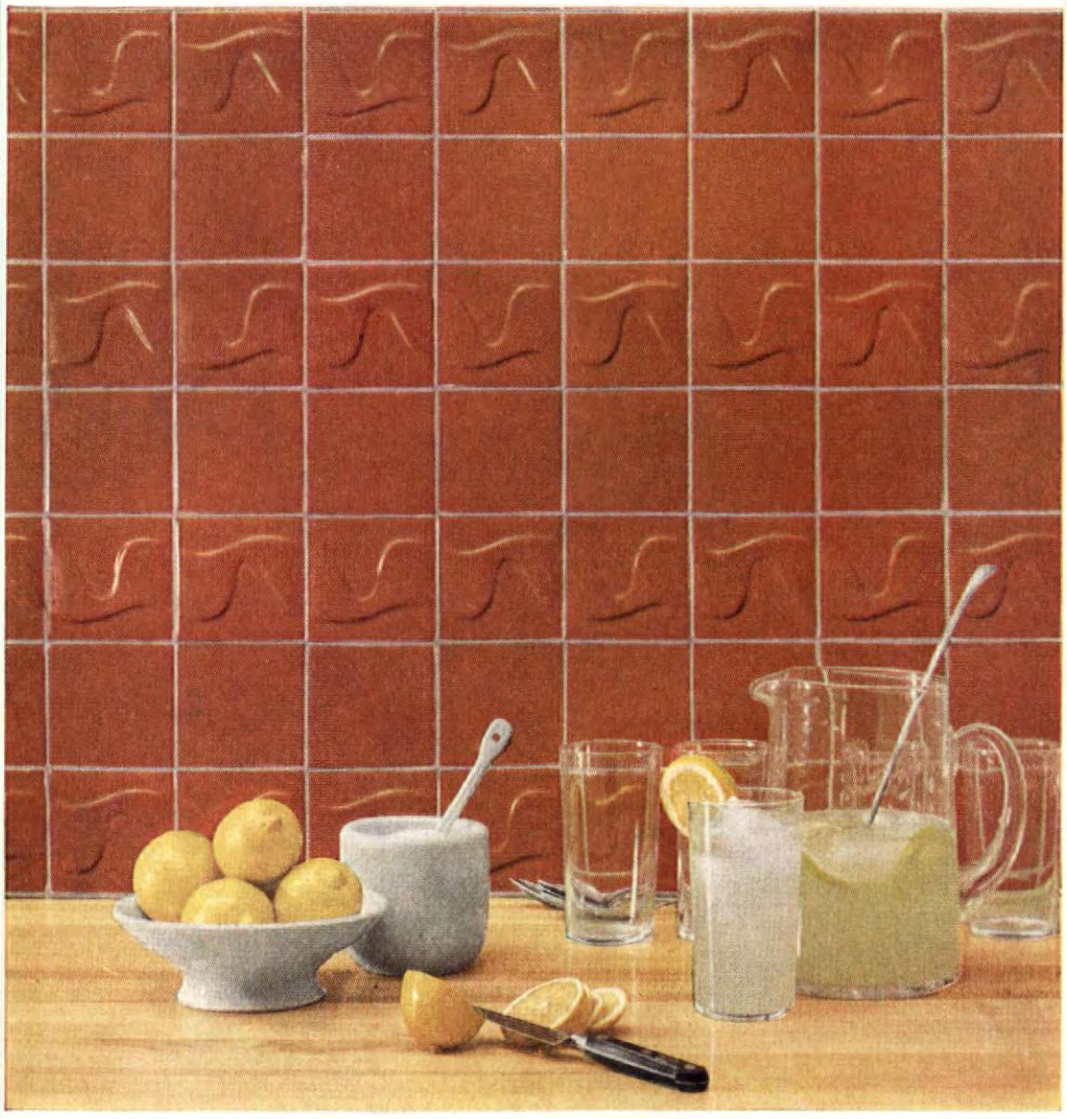
TYPICAL ELEVATIONS

ELEVATION FASTENER- FLOOR SUPPORTED

Tiles designed to allow architects and interior designers freedom in developing a wide variety of decorative themes through the use of light and shadow upon gracefully sculptured surfaces



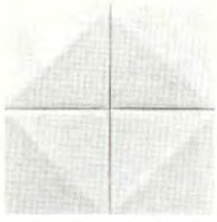
New and exciting designs in the *Caribbean Series* of sculptured tiles



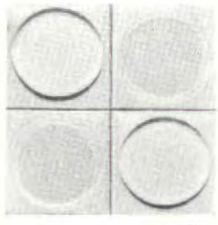
4¼" x 4¼" cushion-edge tile available in 46 colors, bright and semi-matte finish. Suitable for all commercial and residential interiors.

Designs specially created for Robertson by industrial designer Peter Quay Yang, A.S.I.D.

surf



limbo



half moon

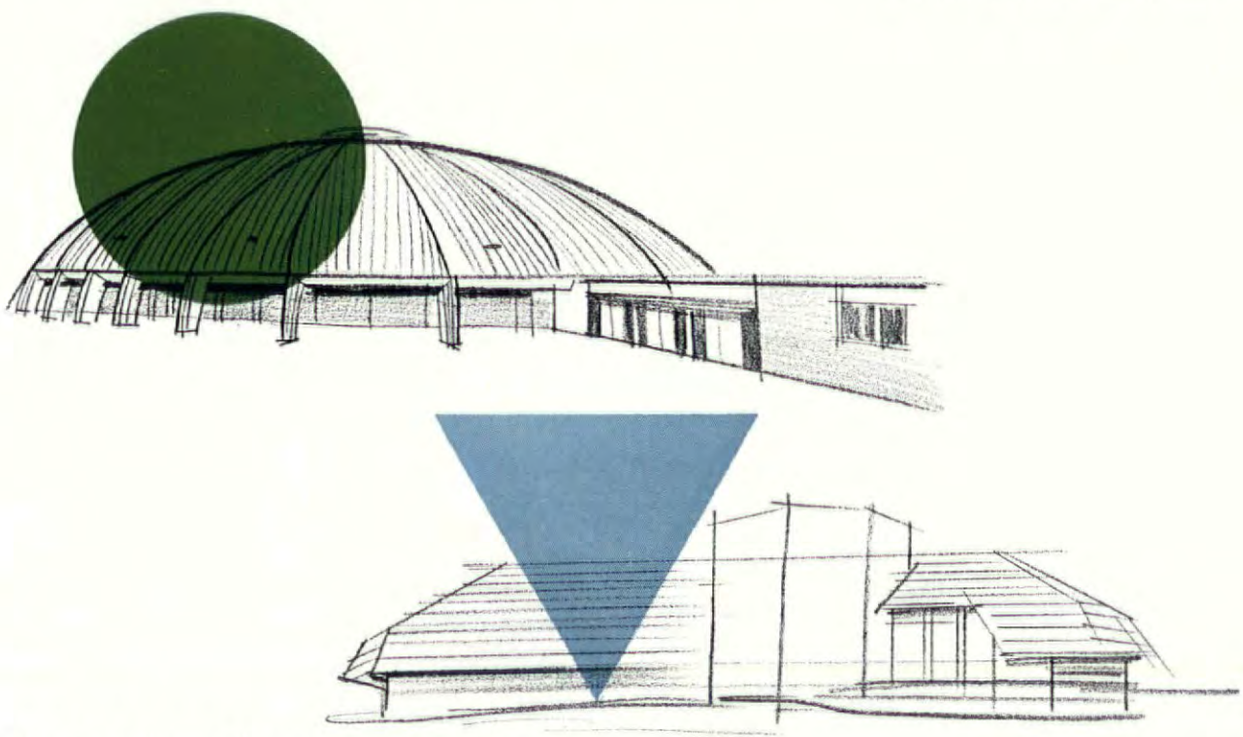
sand dune

ROBERTSON *Ceramic Tiles*

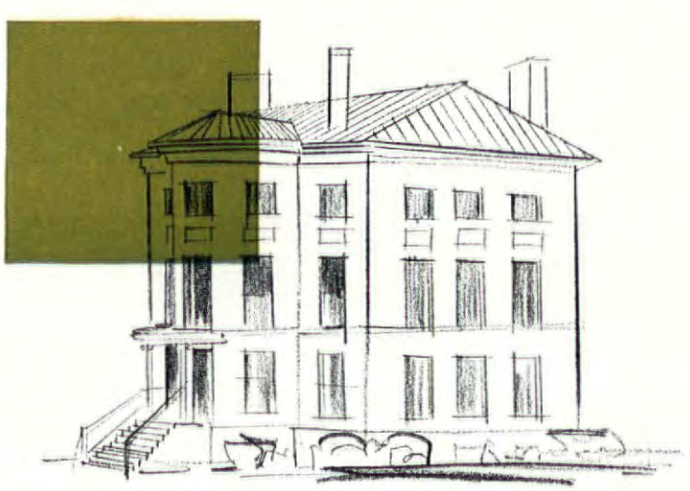
ROBERTSON MANUFACTURING COMPANY TILE DIVISION, TRENTON 5, NEW JERSEY

MEMBER OF THE TILE COUNCIL OF AMERICA

Consider roofing materials for a moment, along with the roof itself which is still the neglected step-child of contemporary architecture. There is a new concept here, and a material—terne metal—which permits this enormously important visual area to become an integral part of the total design concept. From the standpoint of FORM, terne makes available an almost unlimited range of linear effects, of subtle modulations in the interplay of light and shadow. From the standpoint of COLOR, it allows a freedom of expression as broad as the artist's palette. From the standpoint of FUNCTION, it is virtually unmatched among roofing materials, as many century-old installations dramatically attest. Your inquiry is solicited. **FOLLANSBEE STEEL CORPORATION**
Follansbee, West Virginia



Follansbee is the world's pioneer producer of seamless terne roofing



ALEXANDER MEMORIAL ARENA BUILDING, GEORGIA TECH
ARCHITECT: AECK ASSOCIATES, ATLANTA, GA.
ROOFING CONTRACTOR: R. F. KNOX COMPANY, INC.

DR. FASBENDER CLINIC, HASTINGS, MINN.
ARCHITECT: FRANK LLOYD WRIGHT
ROOFING CONTRACTOR: SWANSON ROOFING & SHEET METAL

HISTORIC "OCTAGON" HOUSE, WASH., D.C.
HEADQUARTERS A.I.A.

Men who know their hardware choose NORTON...

"because every Norton door closer installation is backed-up by personal service from Norton's representative"

says **LEO A. HEBERT, A.H.C.,** Jackson Hardware Supply Company

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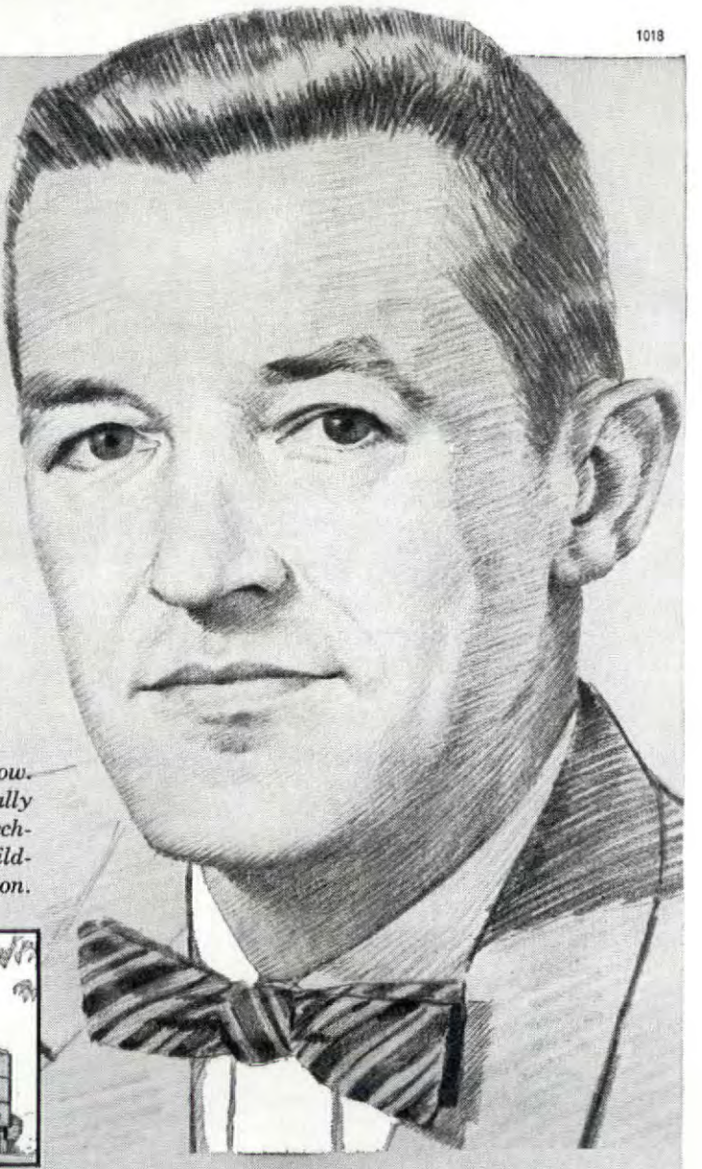
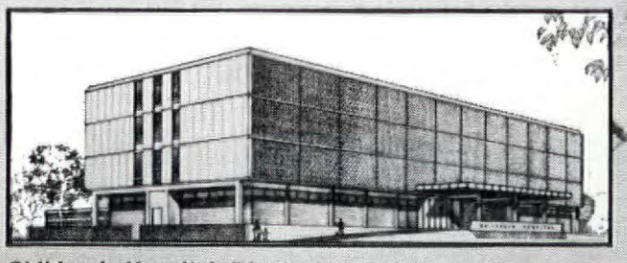


"When I'm consulted on the hardware for a project I'm always glad to recommend Norton closers. I know I can rely on Norton. In servicing our jobs the Norton representative stands behind me and my company with personal service. Nothing is more disappointing to the owner of a new building than to have door closers that aren't operating just right. Our Norton representative is always happy to assist us in seeing that each closer is adjusted before a building is turned over to the owner."

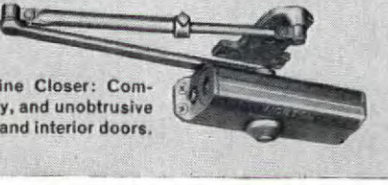
Mr. Hebert supplied Norton door closers throughout the new Children's Hospital in Birmingham, Alabama. His Norton representative helped him inspect and adjust the door closers before the hospital was put into operation. Just one of the many services that has given Norton an 80-year reputation for quality, service, and dependability.

Your hardware consultant is a good man to know. He's a specialist in the selection of architecturally compatible hardware. His esthetic tastes and technical skills assure you of hardware for your building that is compatible with design and function.



Children's Hospital, Birmingham, Alabama
Architect: Lawrence S. Whitten, Birmingham, Ala.
Contractor: Daniel Construction Co. of Ala., Birmingham, Ala
Distributor: Jackson Hardware Supply Co., Birmingham, Ala.

Series 750 Corner Closer: Narrow corner-mounted for exterior doors.



Series 1500 Trimline Closer: Compactness, versatility, and unobtrusive styling for exterior and interior doors.

NORTON® DOOR CLOSERS
372 Meyer Road, Bensenville, Illinois

"Our efficiency went up about 20%..."

SAYS TOLEDO ARCHITECT

Drafting room has floor-to-ceiling window walls of *Thermopane*® insulating glass with glare and heat reducing *Parallel-O-Grey*® in the outer pane.

For years the 70-employe engineering-architectural firm of Samborn, Steketee, Otis and Evans worked in an old-fashioned building. The firm was founded in 1948 in Toledo, Ohio. It offers complete engineering-architectural services for all types of building projects.

On July 1 of last year, the concern moved to the new Libbey·Owens·Ford Building, whose exterior walls are 90% glass.

"The change was startling," says E. J. Otis, Jr., Partner. "In less than a month we noticed a big improvement in the quality and quantity of work turned out, and a change for the better in employe and client relationships."

GREATER EFFICIENCY

John H. V. Evans, Partner, says efficiency rose about 20% the first month, and it has stayed at a high level. The firm is getting more results per dollar spent, despite the five times per sq. ft. increase in rental. This can be attributed to a better layout, better communications between employes, and a better work environment. Glass has contributed greatly in the latter two categories.

Job captain's office has L·O·F Plate Glass window through which visual communications with his workers can be maintained.

L·O·F *Parallel-O-Plate* side lights and door enhance the entrance of Samborn, Steketee, Otis and Evans.

The glass in these partitions is L·O·F Rough Plate. Decorative, it provides privacy and transmits light.

Through a series of inner offices with plate glass windows, work captains can visually communicate with their staffs. A beckon of a hand tells them when they're needed. And for consultations outside their office, there's a glass-topped "quiet" booth (see photo left above) where problems can be discussed without disturbing workers nearby.

More efficient use of floor space in drafting areas is possible because the floor-to-ceiling perimeter windows are *Thermopane*® insulating glass. Drafting boards can be shoved right up to the windows, yet draftsmen are comfortable. And since *Thermopane* muffles outside noise, there are fewer distractions.

WORKMANSHIP IMPROVED

The work quality has improved because the window walls and the luminous ceilings provide an abundance of light. The daylight is glare-conditioned. The outer panes of the *Thermopane* are L·O·F *Parallel-O-Grey*® Plate Glass which transmits approximately 45% of average daylight to reduce glare on the inside, and excludes approximately 40% of the solar energy for heat reduction. Although *Parallel-O-Grey* has a neutral grey tone, the colors of objects seen through it remain essentially unchanged. And since the windows are sealed, outside dirt cannot infiltrate to settle on drawings.

EMPLOYE RELATIONS IMPROVED

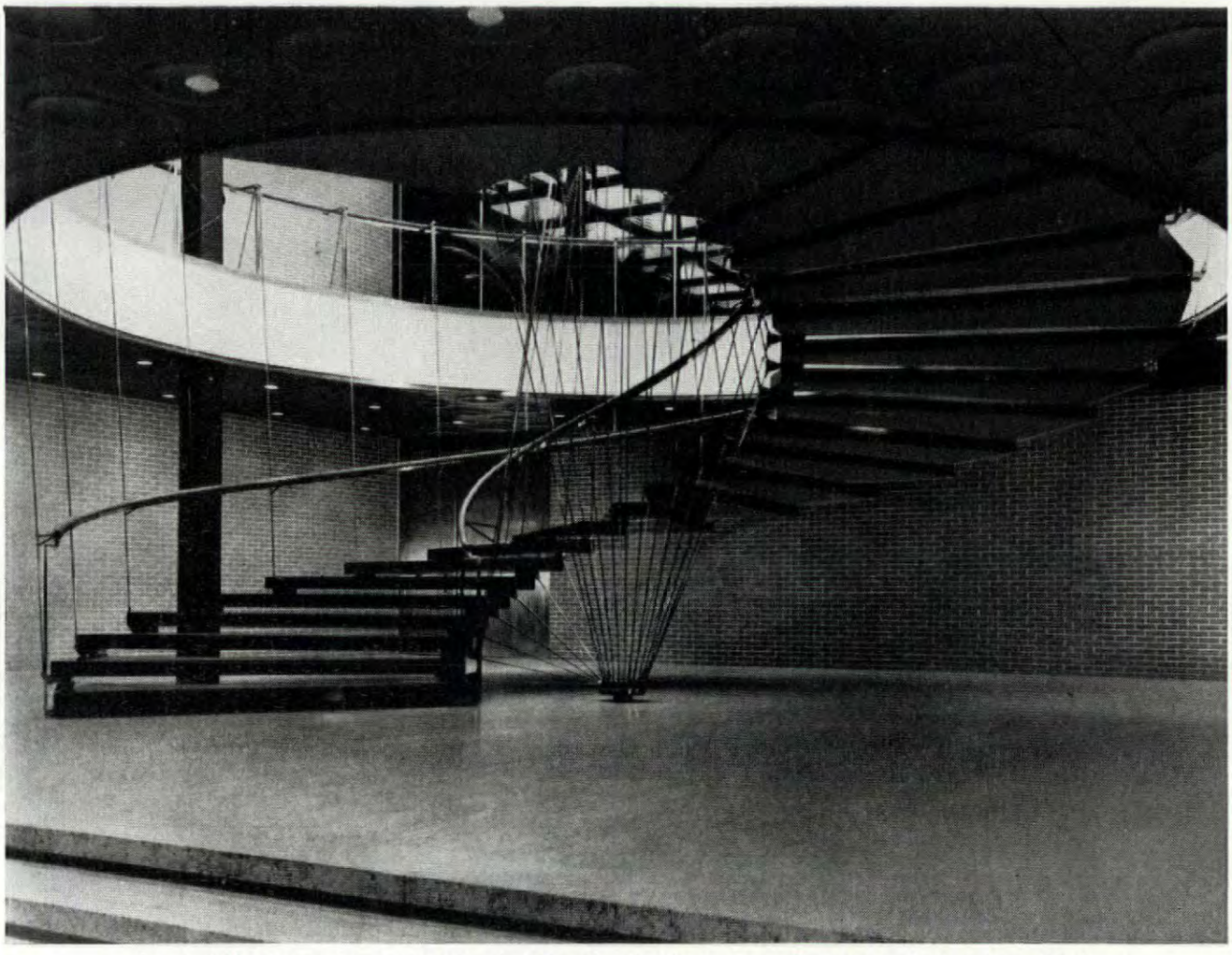
Employes are less restless . . . do less wandering around. They dress neater . . . take more pride in their work. Job applications have increased, and no one has left.

Clients are impressed with the professional atmosphere of Samborn, Steketee, Otis and Evans' new offices. The principals feel certain that their efficient, well-lighted new quarters have brought them business.

For information on L·O·F products, refer to Sweet's Architectural File 26-A, or call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to L·O·F, 4131 Libbey·Owens·Ford Building, Toledo 1, Ohio.

LOF GLASS
THE QUALITY MARK TO LOOK FOR

LIBBEY·OWENS·FORD



Suspended stairway in administration building of leading manufacturer relies on the supporting strength of Type 18-8 Nickel Stainless Steel rods. Architect: Eero Saarinen and Associates. Engineers: Smith, Hinchman & Grylls. Fabricator: Moynahan Bronze Company, Flatrock, Michigan.

How to create floor-to-floor beauty with Nickel Stainless Steel

When you enter the lobby of this building, your eye is captured by the graceful beauty of the suspended stairway.

This stairway utilizes the strength and natural beauty of Nickel Stainless Steel to achieve a design that is original and fresh. It's a functional design that blends together massive granite treads, wood handrails, and supporting Nickel Stainless rods and wire, *to produce floor-to-floor beauty.*

An important design note is Nickel Stainless Steel. Thanks to the high strength of this material, the architect was able to use graceful, decorative ⅜-inch Nickel Stainless rods to support the entire structure. The wood handrails, which seem to just flow up the stairway, are simply clamped onto these extra-strong Nickel Stainless rods.

This is certainly a beautiful example of what the high mechanical properties of Nickel Stainless Steel can mean to architects who strive for the modern in design. The high strength of this material—plus its high modulus of elasticity—mean that architects can use lighter sections and fewer pounds of Nickel Stainless to get the same strength they would with other, less durable metals.

The result is a graceful structure practically free of maintenance. That's because Nickel Stainless Steel never needs painting or transparent protective coating. No architectural metal is more widely used for resistance to corrosion and pitting.

What are the architectural forms of Nickel Stainless Steel? How can you make the most of them? Get the answers in the 32-page booklet, "Architectural Uses of the Stainless Steels."

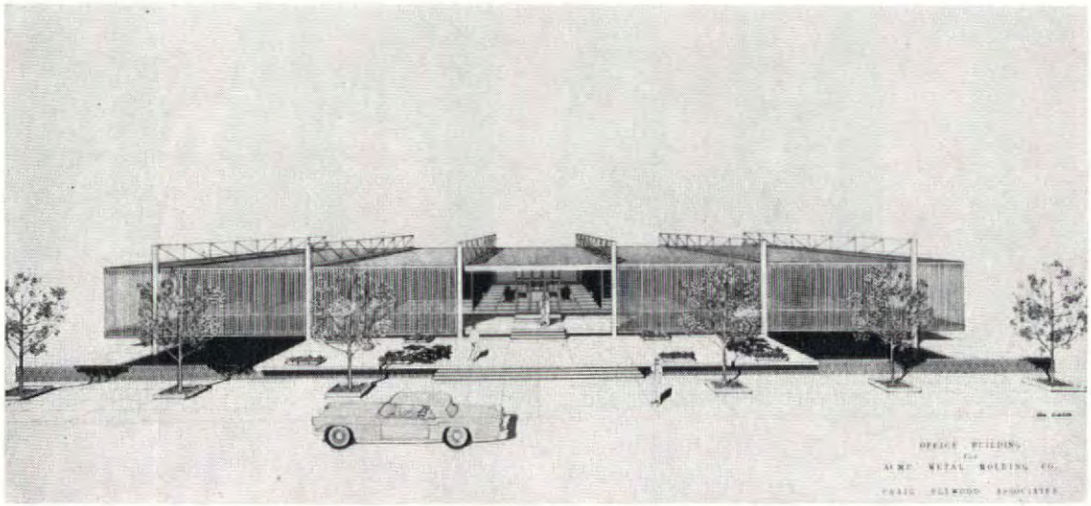
THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street INCO New York 5, N. Y.

INCO NICKEL

NICKEL MAKES STAINLESS STEEL PERFORM BETTER LONGER

A roundup of recent and significant proposals

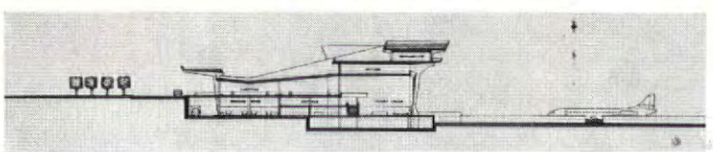


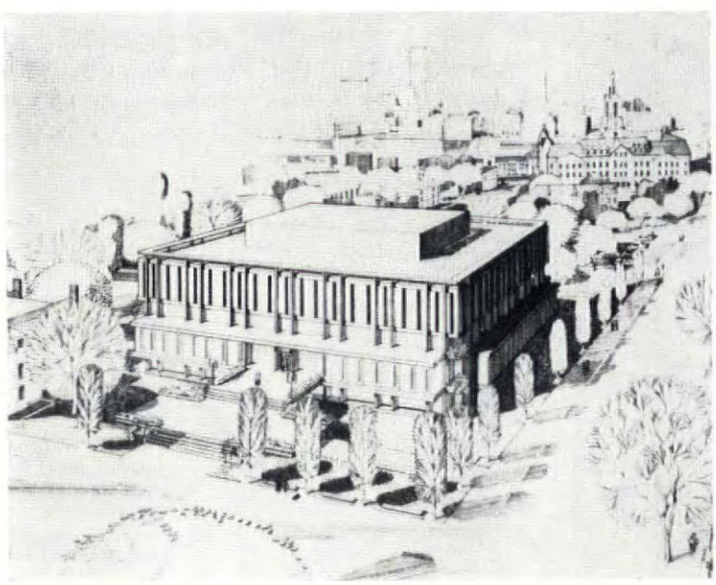
ALL-ALUMINUM OFFICES

This office building in Los Angeles for the Acme Metal Molding Co. is being specially designed to make maximum use of aluminum shapes and extrusions, and Harvey Aluminum Co. is working closely with the architects, Craig Ellwood Associates, on technical and engineering details. Aluminum will be used for its structure—columns, trusses, beams, and panels—and for an I-beam screen extending several feet from the building.

SAARINEN'S DESIGN FOR ATHENS AIRPORT

Gracefully acknowledging their debt to the ancient monasteries of Athos, Eero Saarinen & Associates and Ammann & Whitney unveiled their preliminary design for the Athens air terminal, a sweeping, deeply cantilevered structure reflecting both twentieth-century technology and Greek architectural tradition. The cantilevers of the main façade (right) are not only decorative and sculptural: they contain, as the section below shows, the restaurant and the observation deck, and their shadows help protect the windows of the wall beneath from the afternoon sun. The terminal's exterior walls will have a shimmering texture, all white, of concrete with Pantellic marble aggregate.





UNIVERSITY LIBRARY IN PROVIDENCE, R. I.

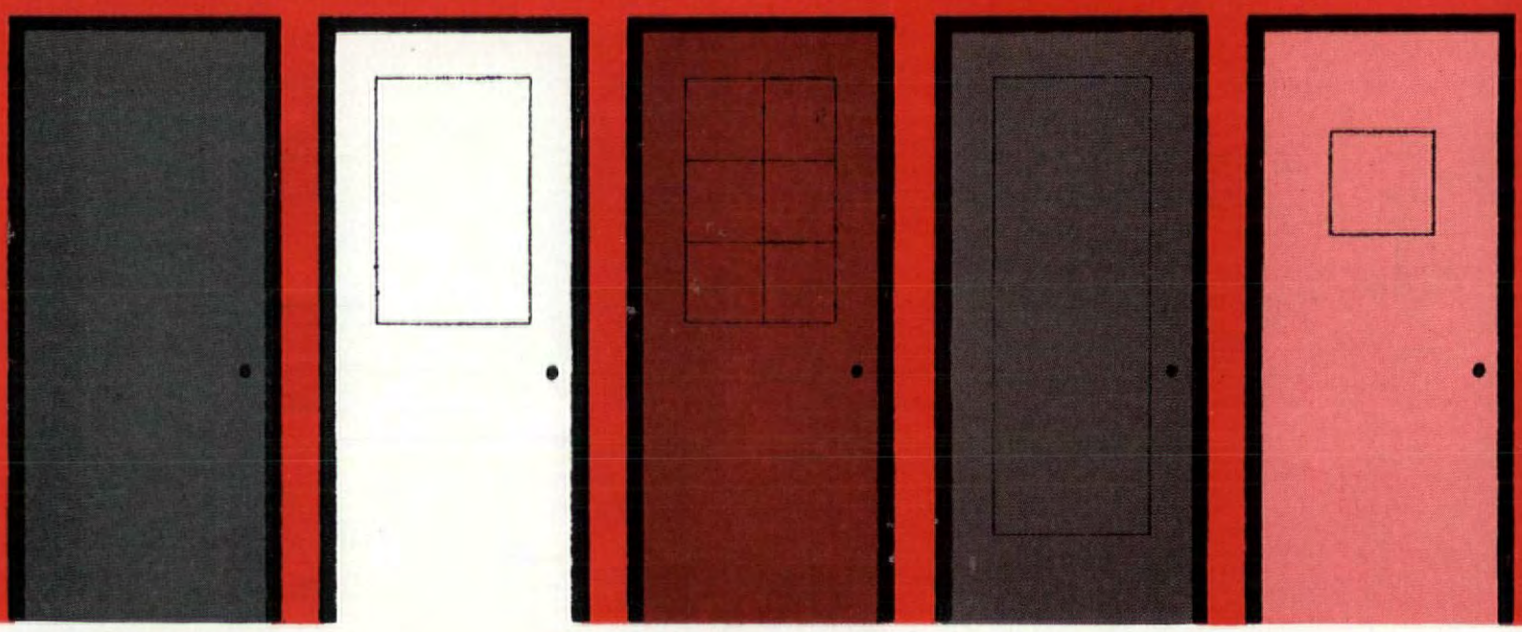
Brown University's new library will be linked physically to the old by a tunnel under the street separating it from the John Hay Library, built in 1910, and visually by the choice of exterior materials and scale. In design, the newcomer has to contend, too, with Brown's oldest buildings nearby, dating from 1770, and a gabled house cutting off one corner of the site. The architectural firm chosen to tackle this thorny design job—and provide space for something like a million books—was Warner, Burns, Toan & Lunde of New York. Probably the most intriguing feature of their design is the main floor, the middle level of the library, cantilevered for additional space. Since this is to be both the undergraduate and graduate research library, the main floor has the circulation desk, union catalogue, reference and periodical rooms for the stacks in the collections above and below it. The exterior, to blend with John Hay's marble façade, will be cast concrete or limestone.

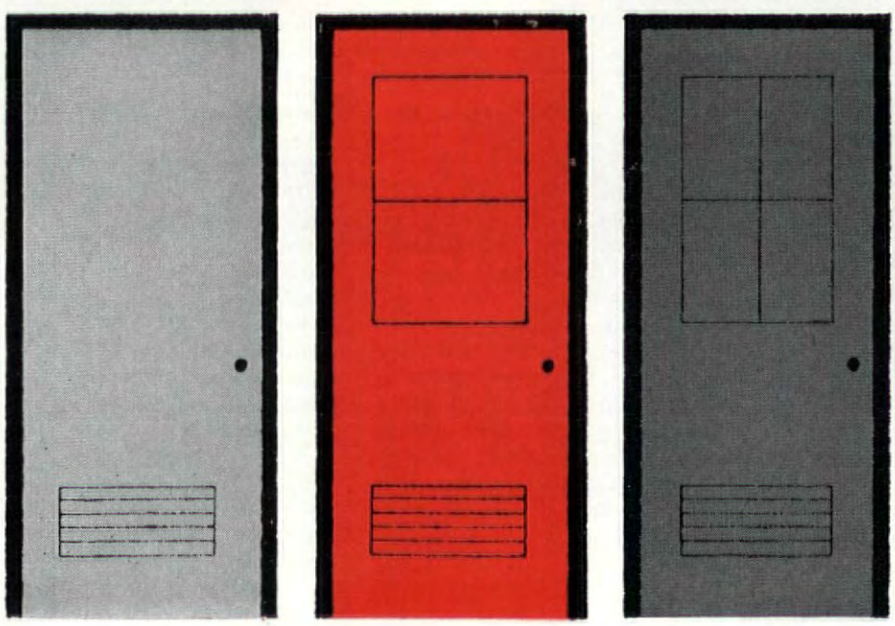
continued on page 49

We keep adding
to the

AETNAPAK®

hollow metal line
to spare you the delays and expense
of custom engineering





We don't say we can satisfy **all** your steel door and frame requirements without resorting to limited custom work, but it's our aim to get as close to this ideal as possible. Getting closer all the time, here are some of the latest additions to the Aetnapak* Line:

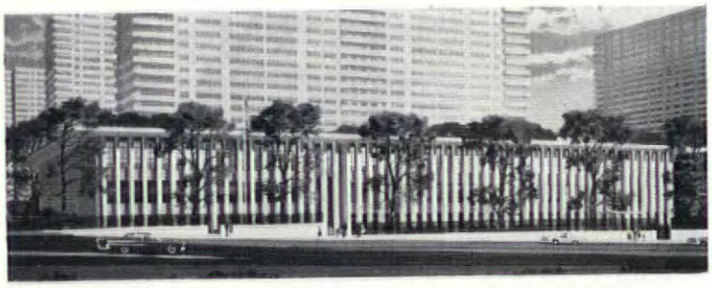
An Aetnapak sales representative in your area will help you plan your next hollow metal job so as to gain the maximum advantages from Aetnapak pre-engineering. Catalog on request. Write or telephone **AETNAPAK SALES, AETNA STEEL PRODUCTS CORPORATION, 730 FIFTH AVENUE, NEW YORK 19, N. Y. JUDSON 6-2525**

Other Aetna products: Aetnawall partitioning systems. *Order Aetnapak with or without hardware—doors and frames, doors separately, frames separately.

A few Aetnapak sales territories are still open to qualified representatives. Write Aetnapak Sales, Aetna Steel Products Corp., 730 Fifth Avenue, New York 19, New York.

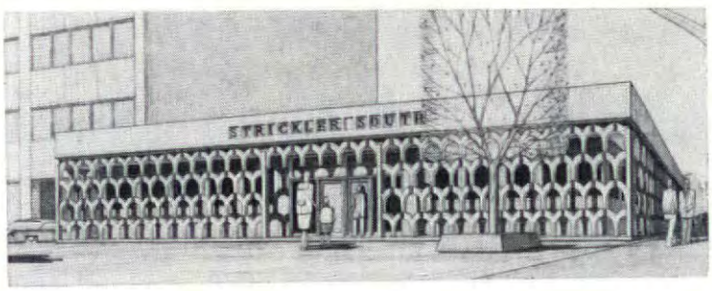
U.C.L.A. REHABILITATION CENTER

The advanced physical rehabilitation center above, for the University of California at Los Angeles' West Medical campus, will supplement the main medical center, handling 300 patients a day, including 55 inpatients. Planned, designed, and engineered by Welton Becket & Associates, its plan follows the same integration of teaching and treatment space as the main center does — classrooms are adjacent to the treatment rooms. In this building, of reinforced concrete construction, a three-story east-west tower crosses over a two-level north-south base. For sunshades, the top three levels will have precast concrete eyebrows, straight over the window and L-shaped part way down.



NEW YORK CITY ELEMENTARY SCHOOL BY STONE

New York City's Board of Education will soon have an elementary school designed by Edward Durell Stone. Stone's School, P.S. 199, is going up a few blocks from Lincoln Center, and it will accommodate 1,091 children from kindergarten to sixth grade. To be of reinforced concrete construction faced with glazed brick, the school will be three stories high, the façade a series of white brick piers set close together under an extended roof canopy. Between the piers and set back from them, there will be light and dark gray patterned brick spandrels. Estimated cost: $2.4 million for 38 classrooms, plus a gymnasium, a 400-seat auditorium, a kitchen, a lunchroom, and a library.

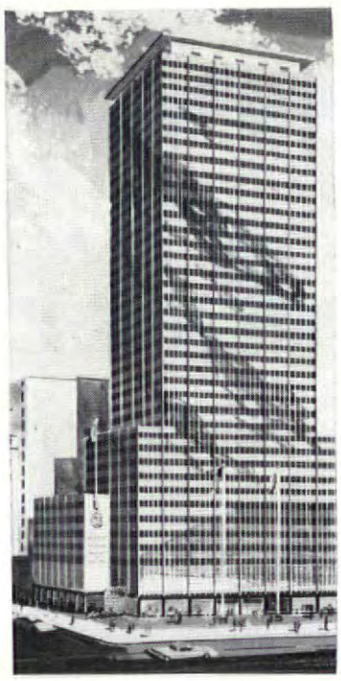


DOCTORS' BUILDING ADDITION IN ATLANTA

"Atlanta's prestige healing-arts address" is the advance billing for 1285 Peachtree St., a small one-story addition to be started this month next door to the Cyrus Strickler Doctors Building. Ensconced behind a big screen of precast concrete arches, a team of medical specialists will operate their businesses from ten suites, each with movable partitions and zoned air conditioning. Except for the screen, the exterior will be concrete cast in place. To take care of doctors and patients, Architects Toombs, Amisano & Wells have provided space for 160 cars in their design, some of them parked on the roof, the rest in the basement.

MANHATTAN TOWER

A secret location in midtown Manhattan is being considered for a 41-story tower (right) noteworthy less for its design than for its purpose. New York City's Board of Education is thinking of stacking 33 office stories over a public high school in the eight-story base, deriving enough income from the tenants on top to offset the school's cost. Separate entrances, the one for the school on a side street, would insure the distinction between the tower's two functions. This design is by Michael L. Radoslovich, director of architecture for the city's school system. Cost: $15 million.

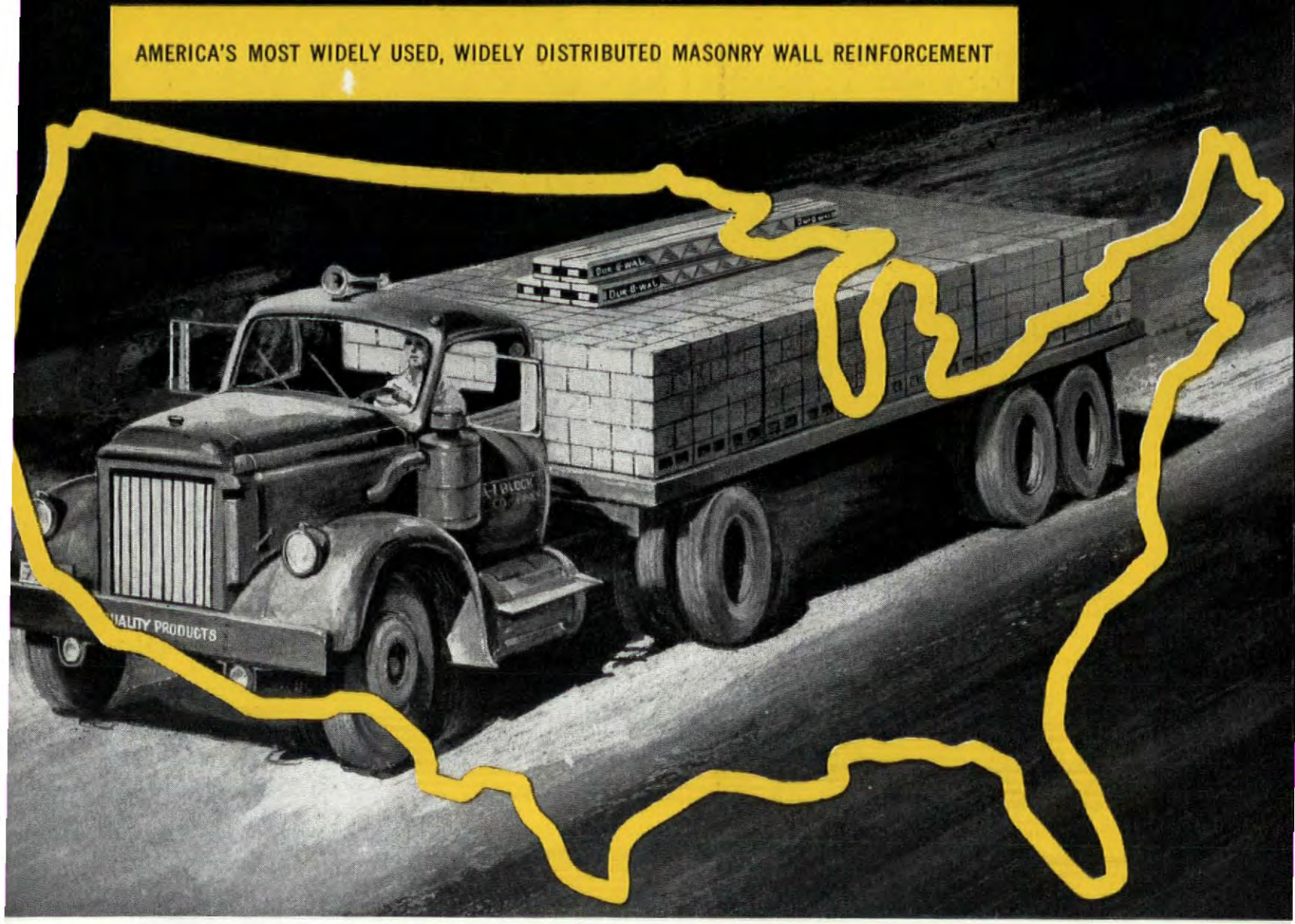


SUBURBAN PHILADELPHIA APARTMENTS

Identical towers in a slightly flattened Y shape are proposed for the Beaver College campus in Jenkintown, Pa. Together they would occupy less than 7 per cent of the site, leaving the rest for driveways, parking, and landscaped open space. Each tower, 21 stories high, will contain 300 apartments split between two-bedroom and one-bedroom or efficiency units. Construction will be of reinforced concrete with exposed aggregate panels as the exterior finish. Off-street parking, half of it underground, will accommodate 900 cars. The cost will be in the neighborhood of $10 million for both towers. Architects: The Ballinger Co.

continued on page 51

AMERICA'S MOST WIDELY USED, WIDELY DISTRIBUTED MASONRY WALL REINFORCEMENT

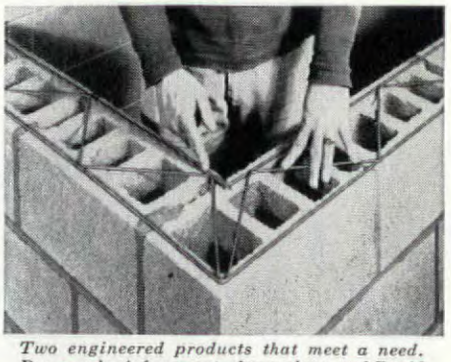


Wherever you build with block Dur-o-wal is available

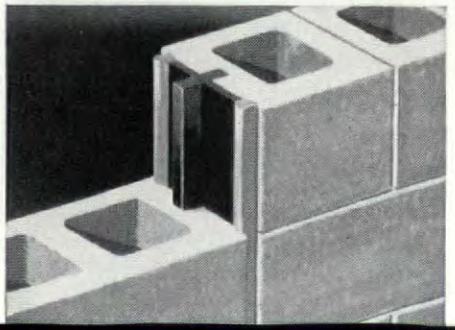
Fancy claims aside, this is the significant fact about Dur-o-wal: It is more widely wanted than any other type of masonry wall reinforcement.

Consequently, Dur-o-wal is more widely distributed—the *only* nationally distributed brand. Eight strategically located Dur-o-wal factories serve more than 8000 dealers who in turn serve every part of the United States. Wherever you build a masonry wall, you can get Dur-o-wal!

All this, of course, because Dur-o-wal—with its trussed design, butt-welded construction, scientifically deformed rods—obviously does the job. Standard Dur-o-wal used every second course adds 71 per cent flexural strength to a masonry wall. Get test facts from any of the Dur-o-wal locations below. See us in Sweet's Catalog.



Two engineered products that meet a need. Dur-o-wal reinforcement, shown above, and Rapid Control Joint, below. Weatherproof neoprene flanges on the latter flex with the joint, simplify the caulking problem.



DUR-O-WAL®

Masonry Wall Reinforcement and Rapid Control Joint

RIGID BACKBONE OF STEEL FOR EVERY MASONRY WALL

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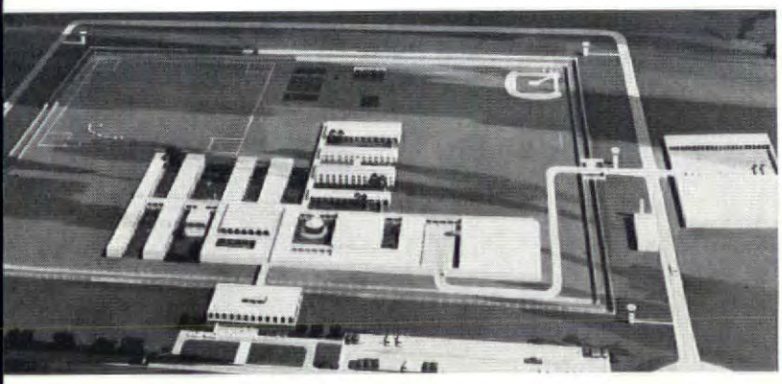
- Dur-O-wal of Ill., 260 S. Highland Ave., **AURORA, ILL.**
- Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.**
- Dur-O-wal of Colorado, 29th and Court St., **PUEBLO, COLO.**
- Dur-O-wal Inc., 1678 Norwood Ave., **TOLEDO, OHIO**
- Dur-O-wal Ltd., 352 Mac Nab St. North, Postal Station B, **HAMILTON, ONTARIO, CANADA**

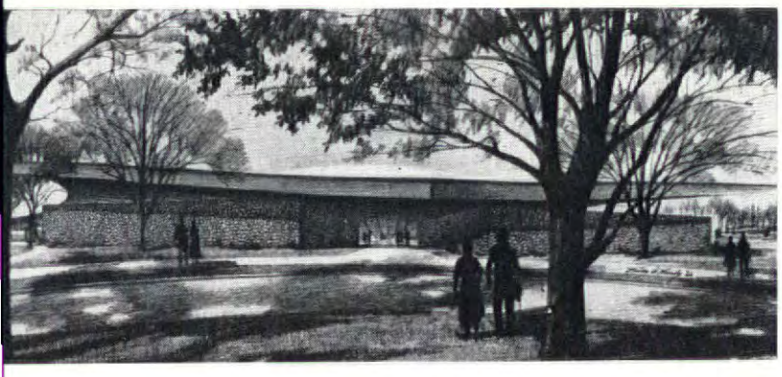


FEDERAL PRISON IN ILLINOIS

This plan for a federal maximum security prison near Marion, Ill. won praise from James V. Bennett, director of the Federal Bureau of Prisons, who termed it "so ingenious that it must be considered a new concept." Hellmuth, Obata & Kassabaum's circulation plan for the prison is based on a control point from which corridors radiate at right angles to each other without intersecting, a labyrinth which always returns to the control point. When completed in 1963, the new prison will house 600 but the number may be expanded later to 1,000. Cost $7.4 million.

CENTRAL BUILDING FOR PUERTO RICAN HOSPITAL

The focal point of Isadore and Zachary Rosenfield's plan for the Puerto Rico Medical Center, now in working drawings, is the Central Building (right), initially a three-story and basement structure which may be expanded by two more floors later. Wall panels and sun screens will be precast concrete, with the cast-in-place concrete structure exposed, stuccoed, and painted. Set back from the first two stories, the third floor will have a courtyard in the center. The estimated cost for this building alone is $5.9 million, which includes construction and fixed equipment.



TRIANGULAR SCHOOL IN CONNECTICUT

Westport, Conn. is going ahead with plans to build Victor Lundy's Hillspoint Elementary School (left), a curved triangle with 20 classrooms lining the perimeter and a gymnasium and cafeteria taking up much of the center. There are no real corridors anywhere, for all the classrooms open directly to outside play areas or to the center space. The curved walls will combine stone at the base and glass above, topped off by a sweeping laminated wood roof. This view is the entrance, at the point of one of the triangle's legs. On either side: offices and a teachers' dining room.

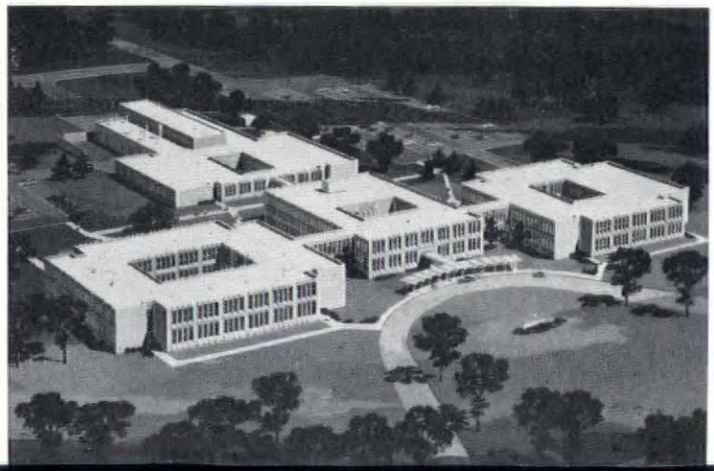
DIAMOND TOWER IN CALIFORNIA

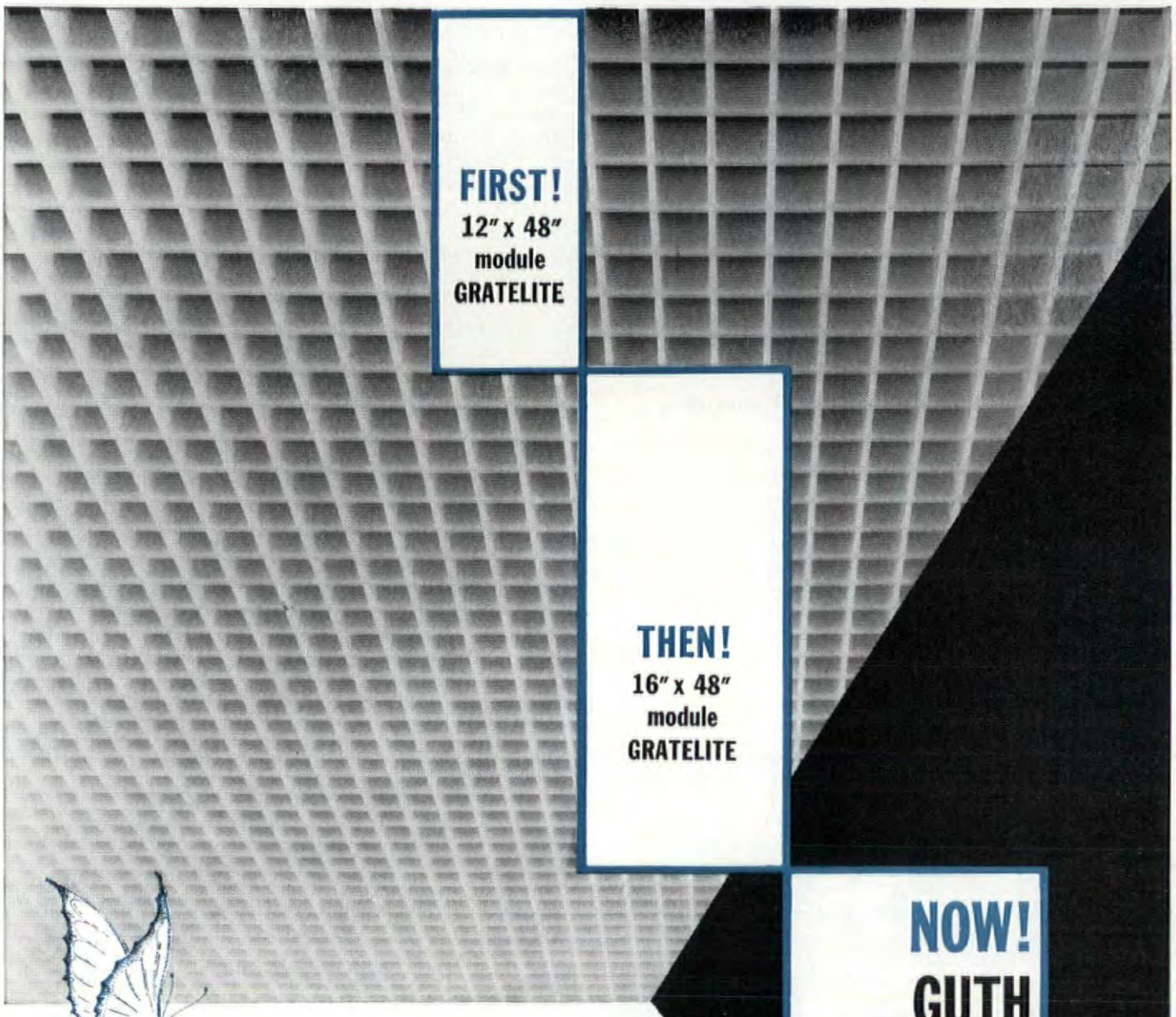
Destined for a large tract in southern Marin County, Calif., the 15-story diamond tower below will be the first of seven apartment buildings on the site, each standing atop a knoll. More diamond shapes, for lanais, cut the exterior walls into many facets. The tower's 300 apartments divide into 16 one-bedroom and four two-bedroom units to a floor, with space for 450 cars in the brown rock base beneath the building. Architects: Campbell & Wong of San Francisco.

COLLEGE OF ENGINEERS AT RUTGERS

Sometime this summer work will start on the new college of engineering at Rutgers (below), part of the new University Heights campus in Piscataway Township, N.J. There will be three buildings clustered around a fourth and connected to it by masonry and glass corridors. All four will have exteriors of sculptural precast concrete and brick panels. Frank Grad & Sons of Newark are the architects and engineers. Cost: $4.1 million, not including equipment.

END





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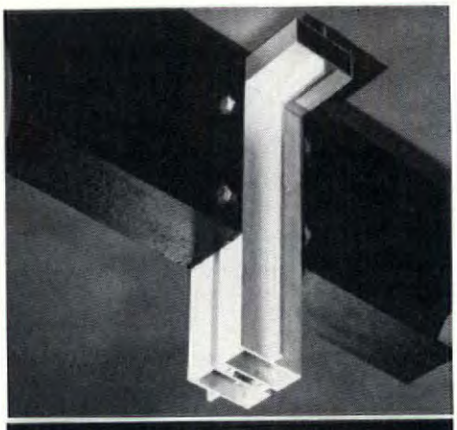
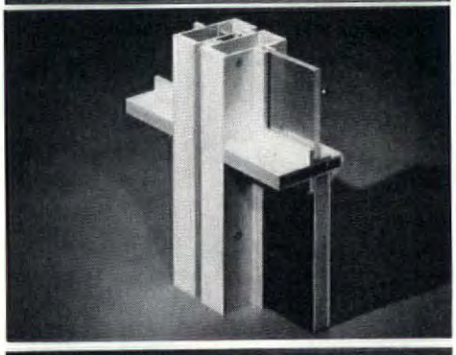
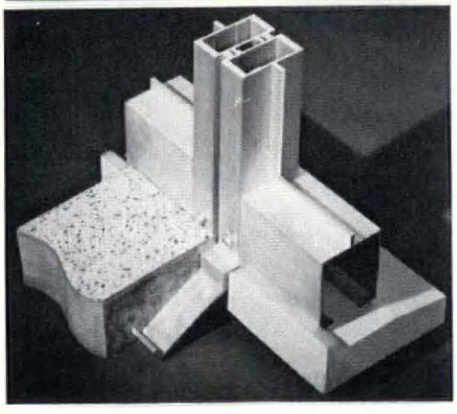






ALUMINUM AT WORK

A number of one-story buildings going up in the Midwest these days have an unusual characteristic in common: their frames are aluminum. One of the first uses of aluminum for primary structure, this development grew from the five-component steel framing system (FORUM, Nov. '59) which was the initial product of Functional Structures, Inc. Recently, this company has encountered growing interest in a simplified frame of extruded aluminum, largely because of its maintenancefree finish, and it is, therefore, concentrating on aluminum and abandoning steel frames altogether.

The *F/S Aluminum Structural-Closure System* is not a packaged building, but simply a frame. All other elements, such as roof beams, in-fill material, and vent sash (where required) are supplied by others. There are two possibilities open to the architect who uses this system: to make the frame carry all anticipated vertical and horizontal loads, or to divide them, assigning vertical loads to the frame and horizontal loads to other structural elements within the building—masonry walls and conventional steel structure, for example. Whereas the company's earlier steel frames were of standard sizes, those of aluminum are available in any width or height within the structural limits of the sections.

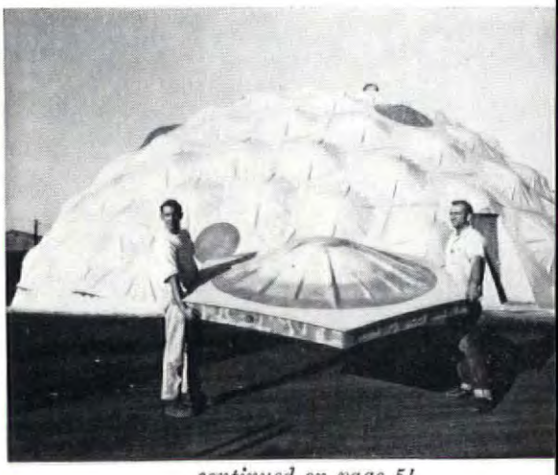
The photographs at left are segments of two frames at the beam connection, the intermediate mullion, and the base, showing the sill and bearing plate. A frame 8 feet wide and 11 feet high costs $2.20 per square foot.

Manufacturer: Functional Structures, Inc., 478 Northwest Highway, Des Plaines, Ill.

80-FOOT BUBBLE

The geodesic dome at right was assembled from glass-fiber reinforced plastic panels carrying their own foam insulation. A prototype for standard domes which are now in commercial production, it is an 80-foot dome, 28 feet high, which weighs 10,500 pounds, and costs $5 per square foot. The component panels are hexagons and pentagons, thickly insulated with polyurethane. Flanges along the edges interlock without special fastening, but for increased rigidity, they may be fastened together mechanically.

Manufacturer: Tool Research & Engineering Corp., Union Bank Building, Beverly Hills, Calif.



continued on page 54

FLOATING CONCRETE

Intended for both new construction and rebuilding, *Synthanite* concrete is floated in a thin layer over structural subfloors, old concrete, or wood floors. Instead of forming a bond with the underlying floor system, this concrete goes down over a membrane separator, such as impregnated building paper, felt, or polyethylene, and ½-inch expansion joints separate it from walls and columns. Most floor systems need only 1 to 1¼ inches of Synthanite as underlayment for tiles of all kinds, linoleum, terrazzo, and certain types of wood and epoxy floor coverings. Because it floats free of the floor beneath, the manufacturer says that it all but eliminates any damage to floor finish from movement of the subfloor, making a crack-resistant, noncurling topping.

Synthetic anhydrite cement is a processed by-product of the manufacture of hydrofluoric acid (manufactured by E. I. du Pont de Nemours & Co., Inc.) mixed with sand, gravel, and water. The mixture dries quickly (it must be protected from too-fast drying during the first 48 hours) and can usually bear construction traffic after three days. In six to ten days, Synthanite is ready for the final covering. Its compressive and flexural strength is great enough to make reinforcement unnecessary, and it is light in weight, about 12 pounds per square foot for a 1-inch thickness. In new construction, Synthanite's cost, competitive with ordinary concrete, generally turns out to be more economical, the manufacturer claims. In rebuilding, Synthanite costs still less because it eliminates preparation of the surface beneath, priming, or bonding.

Manufacturer: American Synthanite Corp., 60 E. 42 St., New York 17.

PREFAB BRICKWORK

A sophisticated version of the *SCR Building Panel* (FORUM, Dec. '57) has been used for the first time in a commercial structure. For a Chicago clothing store designed by Camburas and Theodore, these panels were preassembled into huge plate girders 4 feet wide and 19 feet high to form the store's folded-plate exterior walls. While the exact cost of this first installation has not been computed, the Structural Clay Products Re-

search Foundation reports that it was considerably cheaper than the masonry wall originally planned. That wall, of sawtooth brick facing, would have had to be at least 12 inches thick to carry the 19-foot height; and at the points of maximum projection it would have been over 16 inches wide. The plate girder, on the other hand, is a mere 2½ inches thick.

The SCR Building Panel is a prefabricated brick wall panel cast in a jig with quick-set grout and reinforced with deformed rods. To make the plate girder, 19 of these panels, each measuring 1 by 4 feet, were assembled in a steel frame, and their reinforcing rods welded to it. With additional mortar in the vertical joints, the complete girder was ready to go. On the site a hoist lifted the girders into place, and more mortar filled in the spaces between them. The individual panel units form a soldier course stack bond.

Metropolitan Brick, Inc. made the bricks and panels of aquamarine ceramic glazed structural clay. The mason contractor, who assembled the girders in his shop, was Fred Beyer. Later this year, other members of SCPI will be ready to market their prefabricated panels assembled in plate girders.

Information: Structural Clay Products Research Foundation, Geneva, Ill.

TOUGH TILE

Ruberoid's new floor tile competes with asphalt tile in price, but boasts better wearing ability. When compared with ordinary asphalt tile in durability tests, *New Concept* outlasted it two to one. A binder called Polymerite makes this tile resistant to grease, oil, and alkali and also makes possible the clear bright colors, 32 of them, in which the tile is sold.

New Concept tiles, 9 by 9 inches square, cost 15 cents per square foot or about 22 cents per square foot installed.

Manufacturer: Mastic Tile Div., Ruberoid Co., 500 Fifth Ave., New York 36.

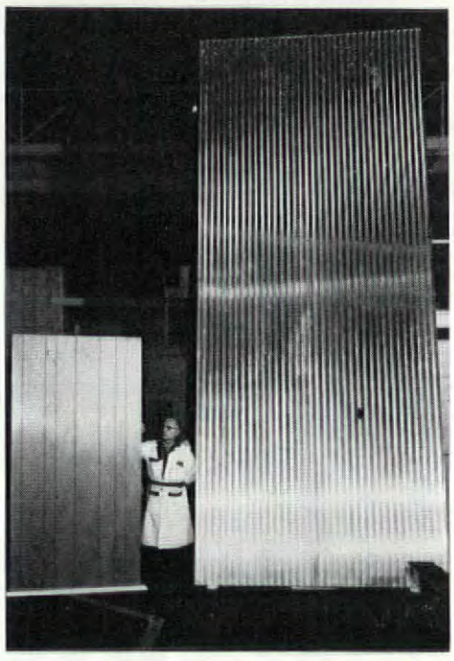
FOAMED PANELS

Foamed-in-place polystyrene forms the core of *Clarklite* stressed skin panels for curtain walls, partitions, and other kinds of panel construction where a lightweight,

continued on page 56

insulated panel is required. The largest press of its kind in the U.S. turns out panels of any size or thickness, to a maximum of 8 feet by 20 feet by 10 inches, compared with a 4 by 8 foot panel in the photograph below. Clarklite skins may be of almost any sheet material, such as plywood, gypsum board, masonite, aluminum, or steel, and rails may be inserted between these skins for additional strength in load-bearing panels. Clarklite's design is based on the engineering data and manufacturing techniques of Koppers Co., Inc., which makes the polystyrene core material, called Dylite.

Manufacturer: Clark Industries, 375 E. Fifth Ave., Columbus 1, Ohio.



THIN FOAM AND BLUE

Dow is marketing two new insulating foams, one a rigid urethane and the other a flame-retardant polystyrene.

The new urethane foam board, *Thurane*, has such low thermal conductivity that thinner sections of it are needed to provide the same thermal insulation as conventional insulation, thus saving space in refrigeration, piping, sandwich panels, and roof insulation. It has a permanent K factor of 0.16 to 0.17 at 70 degrees Fahrenheit. On an equivalent insulation basis, Thurane costs about 20 per cent more than Styrofoam and, for equal thicknesses, 90 per cent more.

The new polystyrene foam, which will replace the black foam now used in Scorbord (Dow's polystyrene insulation board), is a blue *Styrofoam*. It is flame-retardant and has better light stability and higher heat distortion than previous foams. The new material will be priced competitively, Dow says, and sold in boards 9 feet long, 16 inches wide, and 1- to 4-inch thicknesses.

Manufacturer: Dow Chemical Co., Midland, Mich.

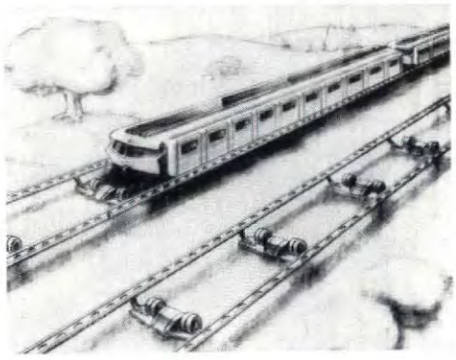
PREVIEWS

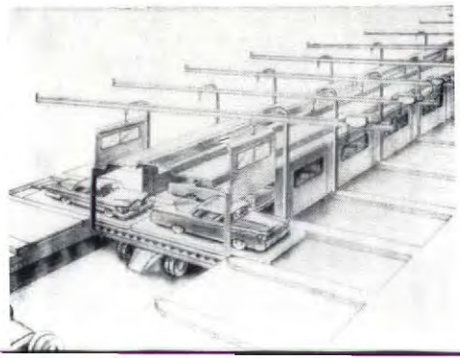
▸Duro-Test Corp. has obtained a patent on a new light bulb which utilizes the recombination of hydrogen atoms to "open a whole new frontier in the field of lighting." This light bulb converts hydrogen energy into light by exciting luminescence in other materials, such as phosphors. Molecules of hydrogen gas dissociate into atoms at the tungsten filament and recombine on the phosphor-coated bulb wall so that light comes from two sources, the filament and the hydrogen ions. Bulbs incorporating this principle have a potential efficiency of 60 to 70 lumens per watt.

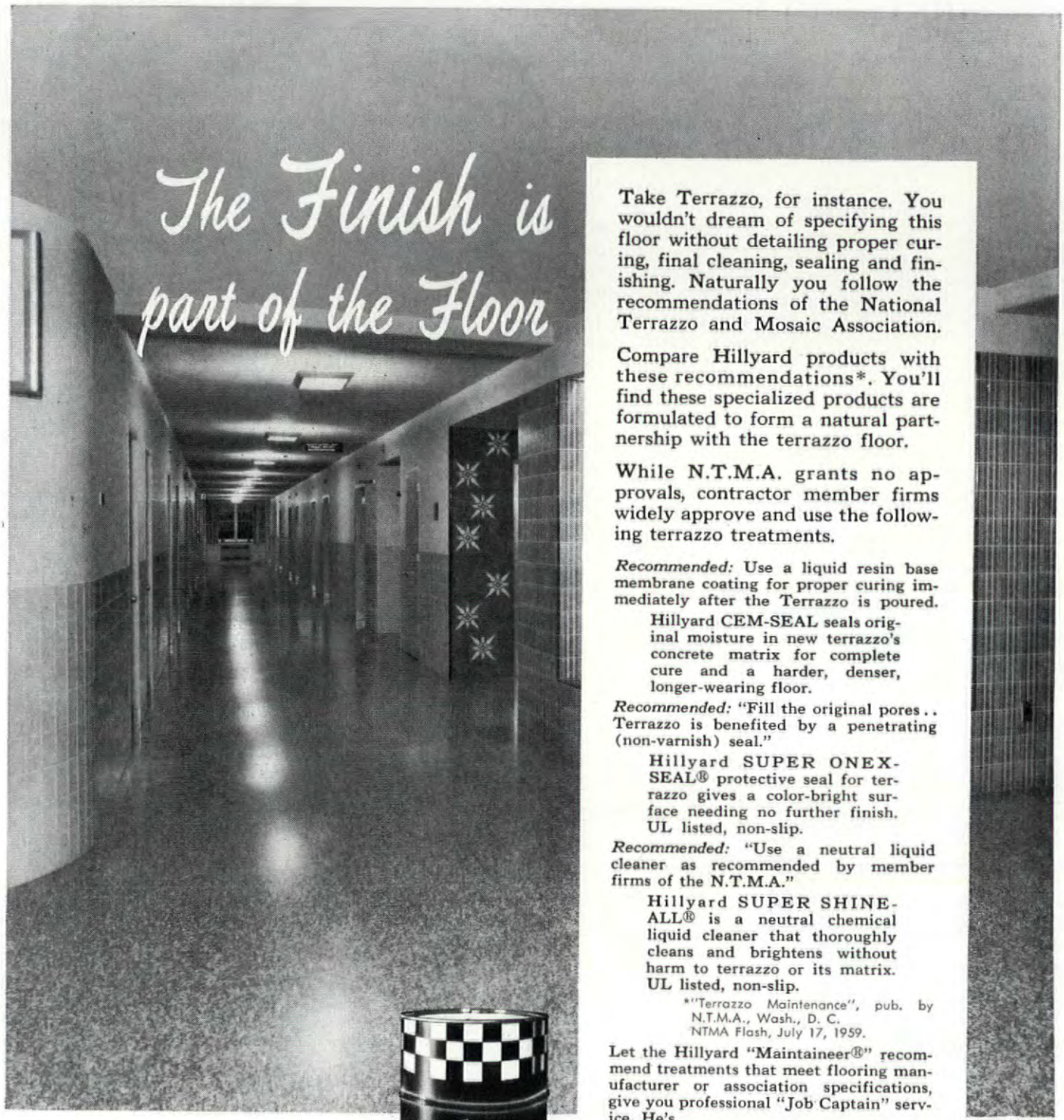
▸Although it is too expensive at present to be marketed as a wall-panel core, Trussgrid, a new aluminum honeycomb developed for aircraft wings, possesses unusual strength and dimensional stability and may find limited application in building construction. A product of General Grid Corp., the panel consists of Alcoa's corrugated aluminum foil, cross-laminated in such a way that the corrugated channels of each layer form 90-degree angles to the next.

▸Joint research by Quantam, Inc. and the Copper Products Development Assn. has produced a prototype preinsulated copper pipe. Foamed urethane ¼ inch thick, extruded around the pipe, has the same insulating value as 1 inch of cork. The insulated pipe may be handled in the same way as ordinary copper pipe, except that the plumber needs to cut and strip the insulation when he makes a joint.

▸To ease the commuters' daily trek, Westinghouse Electric Corp. is considering the development of a moving roadbed of electrically driven high-speed rubber rollers. These would support, propel, and brake flat-bottomed carriers loaded with automobiles or people, the carriers gliding over the rollers in flotillas of several units. Traveling at top speed, the automobile carriers might get up to 150 miles an hour and the commuter carriers up to 75. END







Take Terrazzo, for instance. You wouldn't dream of specifying this floor without detailing proper curing, final cleaning, sealing and finishing. Naturally you follow the recommendations of the National Terrazzo and Mosaic Association.

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*"Terrazzo Maintenance", pub. by N.T.M.A., Wash., D. C.
NTMA Flash, July 17, 1959.

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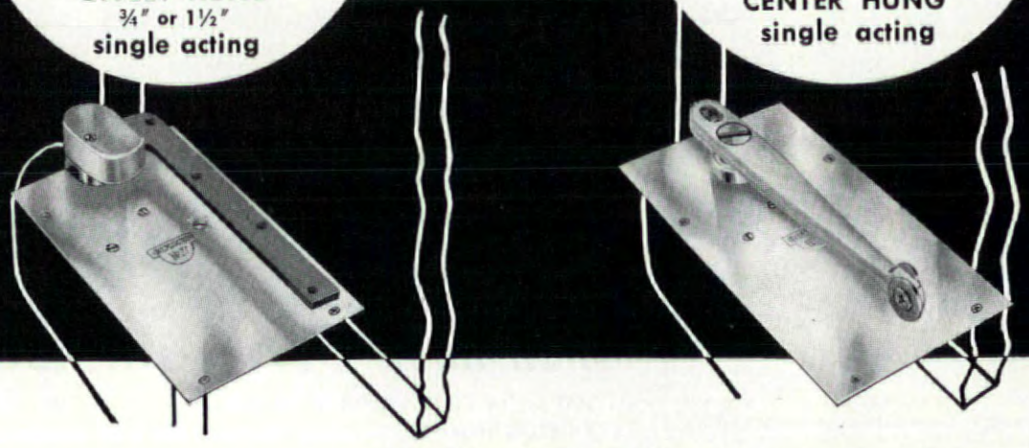

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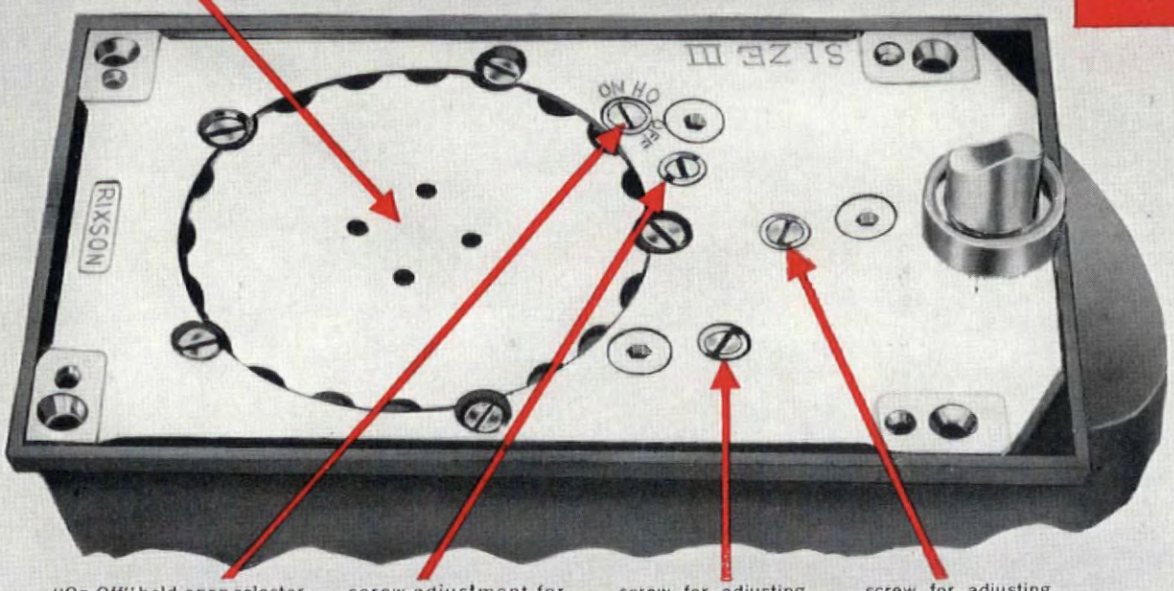

"On-Off" hold-open selector screw for setting at either automatic hold-open or non-hold-open.

screw adjustment for changing back-check pressure from very light to very firm.

screw for adjusting closing speed of door from open to 15°.

screw for adjusting latching speed of door from 15° to fully closed.

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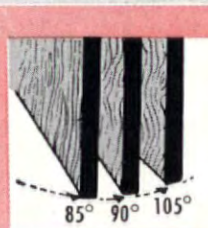
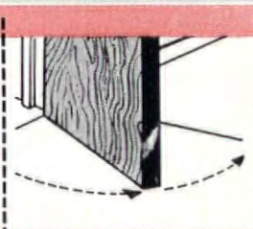


positive dead stop

A positive door stop is built in to stop the door at choice of any one of three factory-set positions—85°, 90° or 105°—specified when the closer is ordered.



hydraulic back-check

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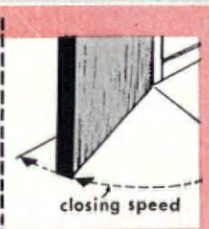

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The closing speed from open to approximately 15° can be varied by one adjustment and the latch speed from 15° to closed position by another.

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a. NON-HOLD-OPEN
When specified, furnished without hold-open. Door stops at choice of three factory-set positions: 85°, 90° or 105°.

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When specified, furnished with automatic hold-open. Door stops and holds automatically at choice of three factory-set positions: 85°, 90° or 105°.

c. SELECTOR (on-off) HOLD-OPEN
When specified, furnished with on-off selector screw. When the selector screw is turned to "ON", the door stops and holds automatically at choice of three factory-set positions: 85°, 90° or 105°. When the selector screw is turned "OFF", the door stops at the specified factory-set position and the hold-open does not function.

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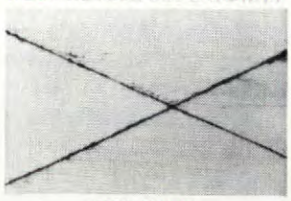
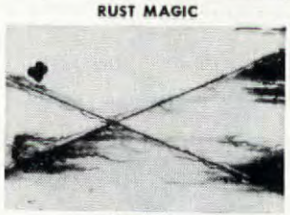


RUST MAGIC



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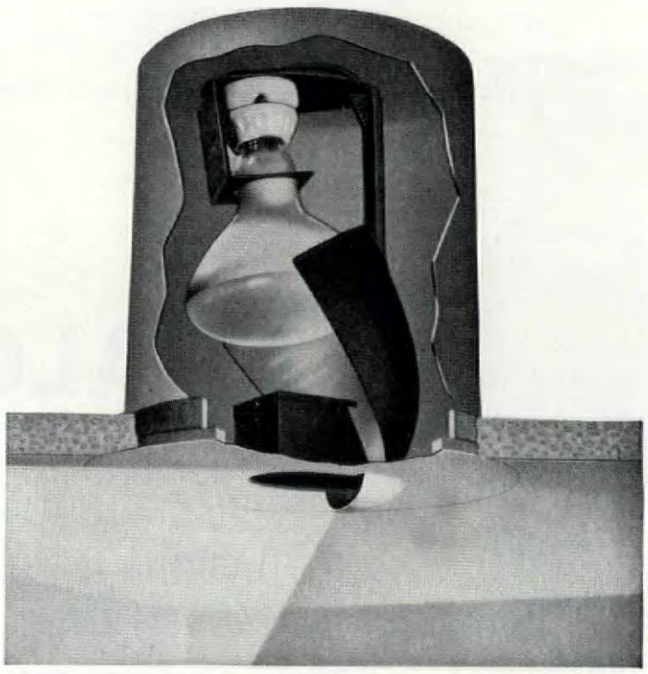

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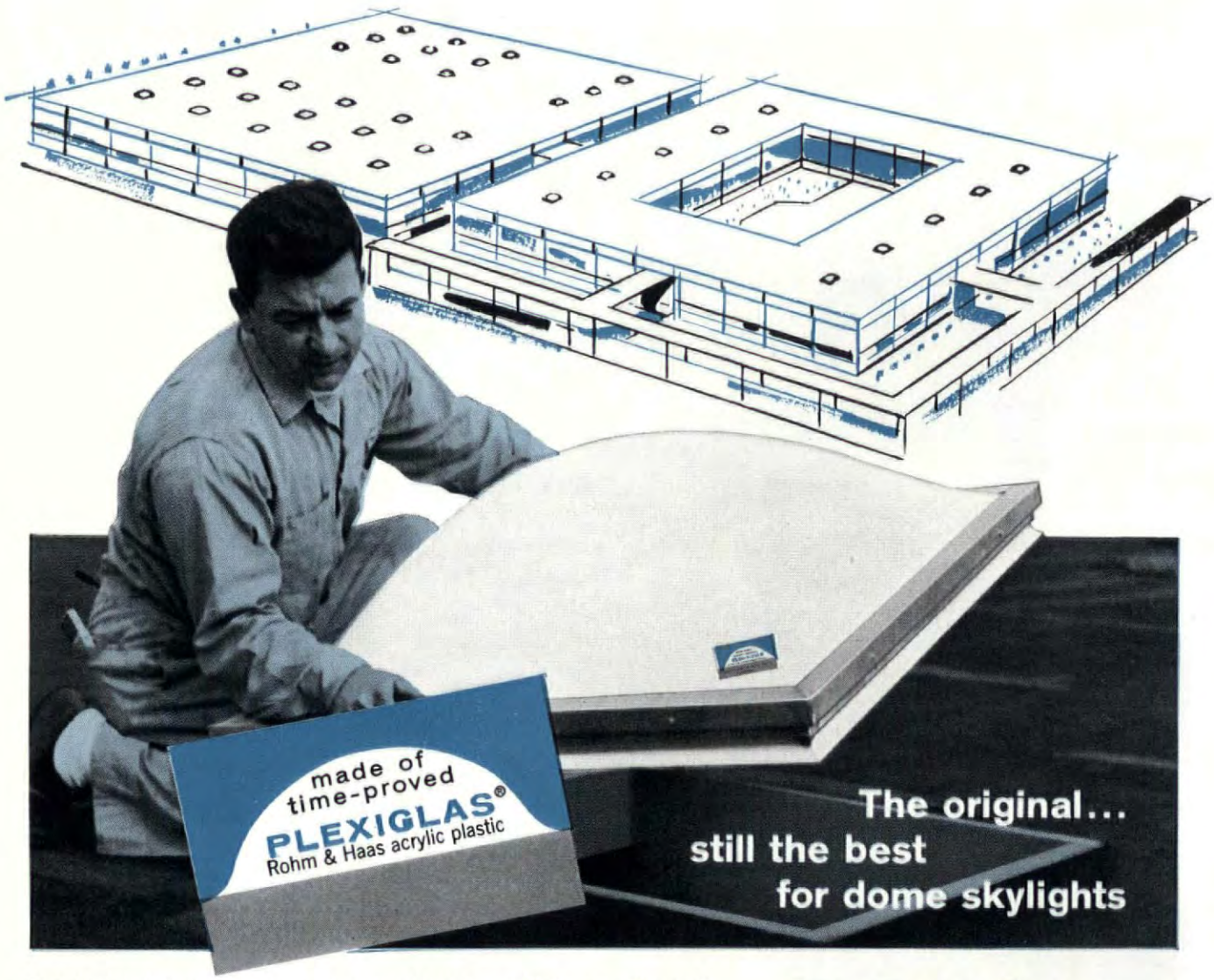

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One thing's sure: a building whose electrification system gets out of date will be no bargain to its owners. That's why Fenestra's electrifloor system uses large underfloor distribution cells up to 7½ inches deep . . . *many times larger than those of other systems.* They are the perfect companion for the new, larger electrical header ducts now available. Raceway cells of smaller size are proving inadequate even today.

Fenestra's electrifloor can accommodate any office equipment cables . . . and still leave room for more complex cables of the future. In addition, these large cells (up to 67.5 sq. in.) form ideal high volume air distribution ducts for low or high velocity systems.

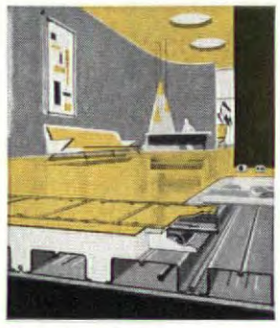
This electrifloor costs less to install, too.

Fenestra's larger cells give access to many more cables from a single electrical access unit . . . require only half as many units (at up to $20.00 each) without sacrificing utility or flexibility.

Reduces structural steel needed. Fenestra cellular box beam panels have a continuous flat bottom plate providing lateral resistance for seismic or wind bracing. The flat bottom plate also provides 50% savings over competitive systems in directly applied fireproofing costs.

Saves up to 25¢ per square yard in a simplified system of drop hangers for suspended ceilings.

For more information, call your local representative (he's listed in the Yellow Pages), see Sweet's File 2c/Fe; or write: *Fenestra Incorporated, Dept. AF-13, 2296 E. Grand Blvd., Detroit 11, Mich.*



Normal concrete fill forms a natural "T" beam. Result: a bonus factor of up to 8 times the design load . . . dampening out vibrations and requiring less structural steel.

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Striking effects achieved with

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PPG Glass in new Pittsburgh Hilton

Picture window in every room with PENNVERNON GRAYLITE to control sun's heat and glare.

The new Pittsburgh Hilton Hotel is one of the most outstanding buildings in Pittsburgh's Renaissance Program. Located at the point of the Golden Triangle, it is the first building that bursts into view when you enter the downtown area from the west.

The striking appearance was obtained by using glass from PPG. The window glass is PPG PENNVERNON® GRAYLITE™ 61, a glare-reducing heavy sheet glass that shuts out about 26% of the sun's heat. Because of the neutral gray tint the outdoor colors remain true. The opaque areas, which you only notice by looking closely, are Charcoal Gray SPANDRELITE®. This is a heat-strengthened glass with ceramic color fused on the back. The color lasts. SPANDRELITE comes in 18 colors or the custom color of your choice. Its shade doesn't vary from panel to panel and it can be matched years later.

In the main lobby, large panes of PPG SOLARGRAY® Polished Plate Glass give a wide-open view allowing plenty of light to come through. SOLARGRAY reduces the sun's glare. It absorbs about 50% of the sun's heat.

The main and private dining rooms are kept warmer in the winter and cooler in the summer by 1" SOLARGRAY TWINDOW®. These TWINDOW units are metal edged, with two panes of PPG Plate Glass enclosing a ½" sealed air space. Store front areas are glazed with Polished Plate Glass for clear, true vision, and HIGH-FIDELITY® Mirrors, made of twin-ground Pittsburgh Plate Glass, are used throughout the building.

Your Pittsburgh Plate Glass architectural representative will give you specific data on any of these products. Or check the Pittsburgh Glass Products Catalog in Sweet's.

Open view with year 'round comfort and freedom from glare is provided in the dining areas by PPG SOLARGRAY TWINDOW Insulating Glass.

Glamour in glass. Pittsburgh HIGH-FIDELITY® Mirrors add a touch of luxury throughout the hotel.

Pittsburgh Plate Glass Company

Paints • Glass • Chemicals • Fiber Glass

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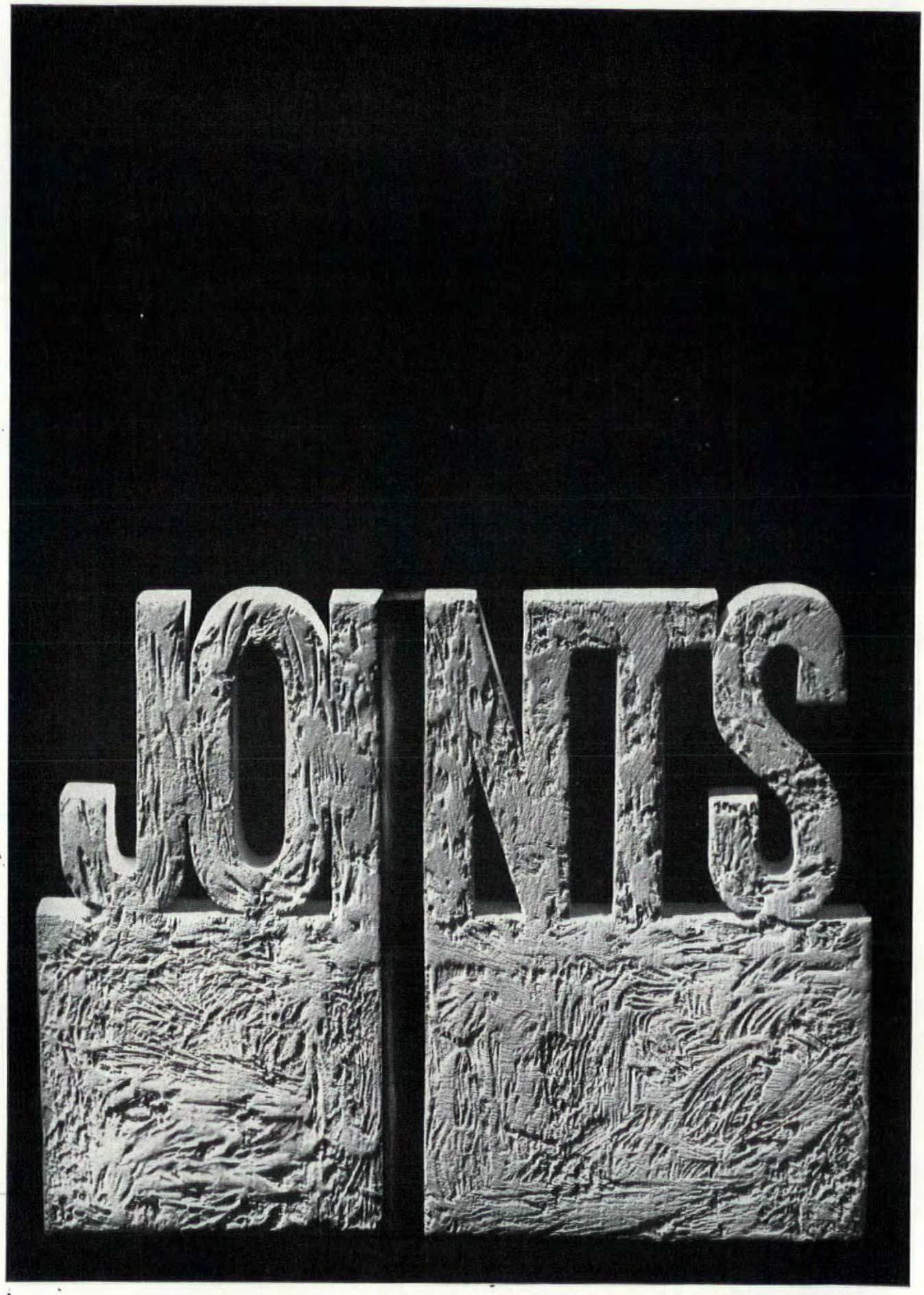
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No building is better than its weakest joint—or the material used to make it watertight ■ Sealant based on THIOKOL liquid polysulfide polymer does more than fill joints and shed water...it adds structural strength, unique among caulking compounds ■ Custom-applied to the job on the job, polysulfide-type sealant conforms automatically to all joints regardless of size or shape. No cutting, no splicing, no vulcanizing, no compression is ever required to produce and maintain a watertight seal. Worrisome departures from original joint design which inevitably occur between drafting board and construction site can be compensated for instantly ■ Sealant containing THIOKOL polysulfide polymer welds itself chemically to all building materials in any combination. Expansion up to 100% cannot break its steel-grip bond, while its outstanding resistance to sun, freezing, moisture, ozone, chemicals and aging assures trouble-free weatherproofing for extended periods of time ■ ASA Specification A 116.1 sets quality and performance standards for polysulfide-type sealant. Make it your guide on your next assignment. There is only one polysulfide polymer. And it's produced by Thiokol.

Thiokol manufactures raw material only. Names of processors of finished sealants will be provided on request.

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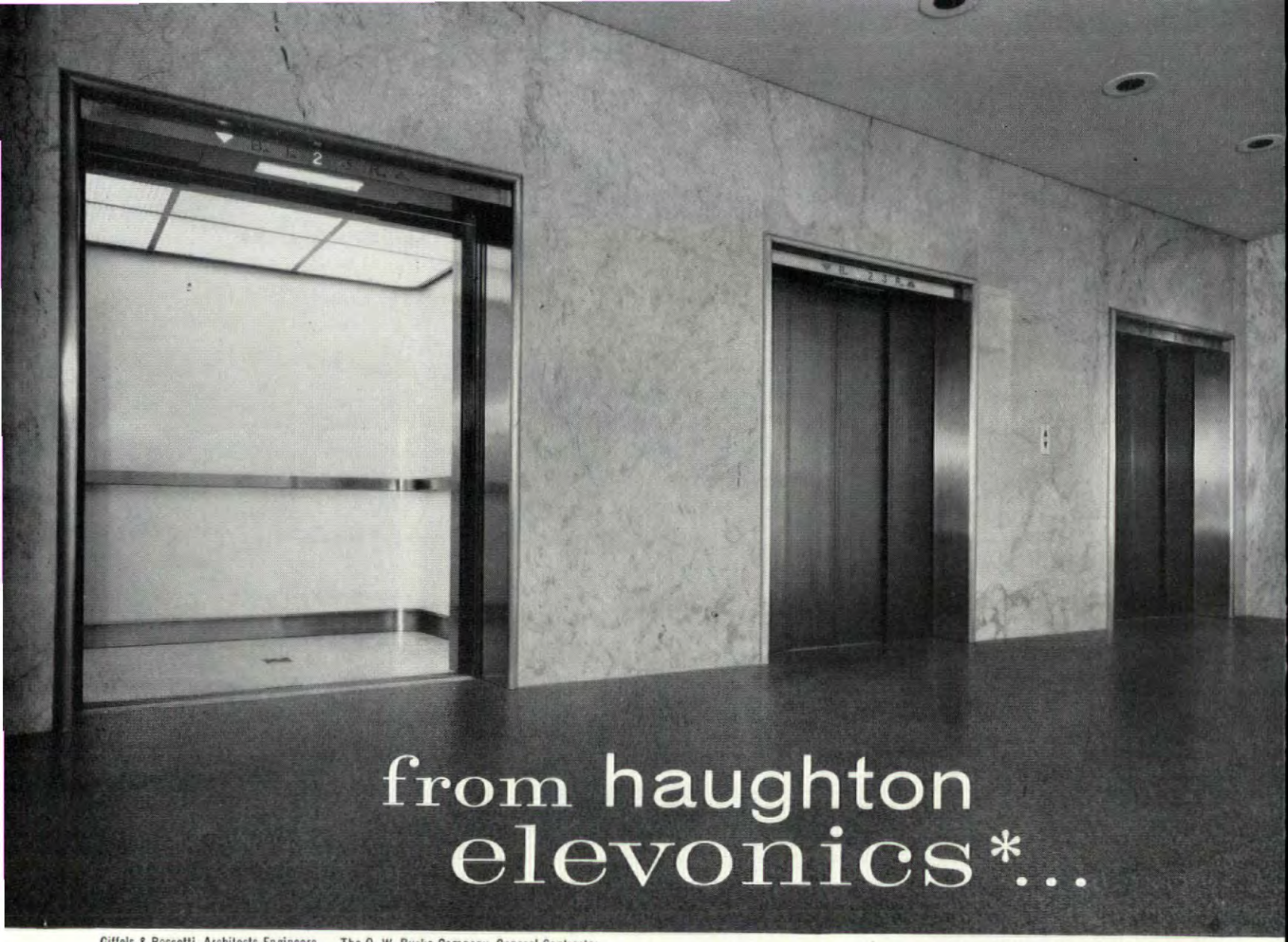

from haughton elevonics*...

Giffels & Rossetti, Architects-Engineers The O. W. Burke Company, General Contractor

a new concept of convention center elevatoring for magnificent COBO HALL

Convention hall elevatoring has its own special problems. And for Detroit's vast new Cobo Hall, where it is said no foreseen convention is too large to handle, there were some special *special* problems.

Here's how they were solved by a specialized system of Haughton electronically controlled elevators.

Designers knew that before and after scheduled events, building traffic would mean a heavy demand for elevator service between parking areas (basement, first and roof floors) and second floor. At other times, comparatively light traffic could be expected between all floors.

Five Haughton automatic units were installed. Cars are big—six feet deep and eight feet wide. A bank of three serves basement, first, second and roof levels. Two cars serve first, second and third floors for lesser traffic needs. All units are motivated by an amazing "electronic brain" that anticipates service needs and dispatches cars at proper time and in proper sequence.

The complete reliability of Haughton vertical transportation is thoroughly recognized by building professionals and owners. We will be glad to provide you with complete information on Haughton design, modernization and maintenance capabilities.

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

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from

haughton... *new concepts in vertical transportation for buildings of every type*

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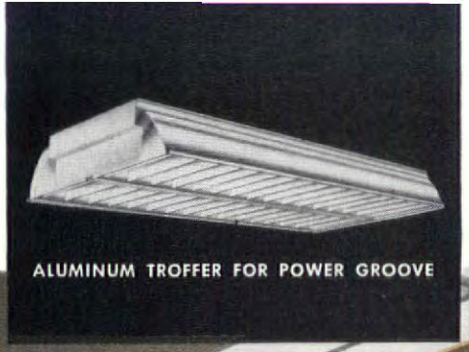


ALUMINUM TROFFER FOR POWER GROOVE

General Office Area, Public Service Company of Indiana, Connersville, lighted with Miller Aluminum troffers for Power Groove—125 footcandles maintained. Architect and General Contractor, Huber, Hunt and Nichols, Indianapolis.

LIGHTING BY miller SINCE 1844

Miller POWER GROOVE Lighting for Renovation and New Building Projects . . . this office is typical of many where Miller Aluminum troffers teamed with Power Groove Lamps are providing *comfortable*, high footcandle lighting at *lower cost* than ever before possible.

Designed especially for Power Groove, these Aluminum troffers are among a group of important fixtures recently introduced by Miller. Shown below are some other recent additions. For example, the Richmond for Power Groove . . . particularly suitable for lighting stores and public buildings.

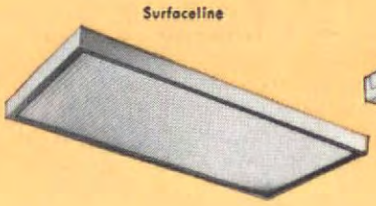
Whatever the interior—Office, Store, School, Factory or Public Building—there's a Miller fixture to meet your needs . . . for use with the fluorescent lamp type of your choice.

For further information on Miller Power Groove Lighting, or help with a specific lighting job or fixture write Dept. 261, or contact your Miller Representative.

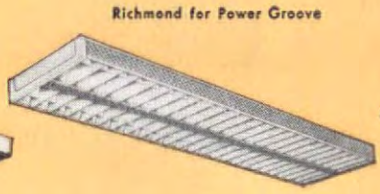
THE **miller** COMPANY, MERIDEN, CONN. • UTICA, OHIO

Versaline Troffet

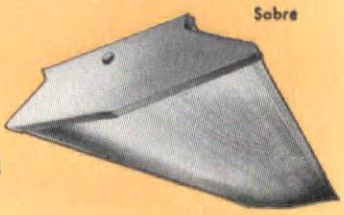
Surfaceline



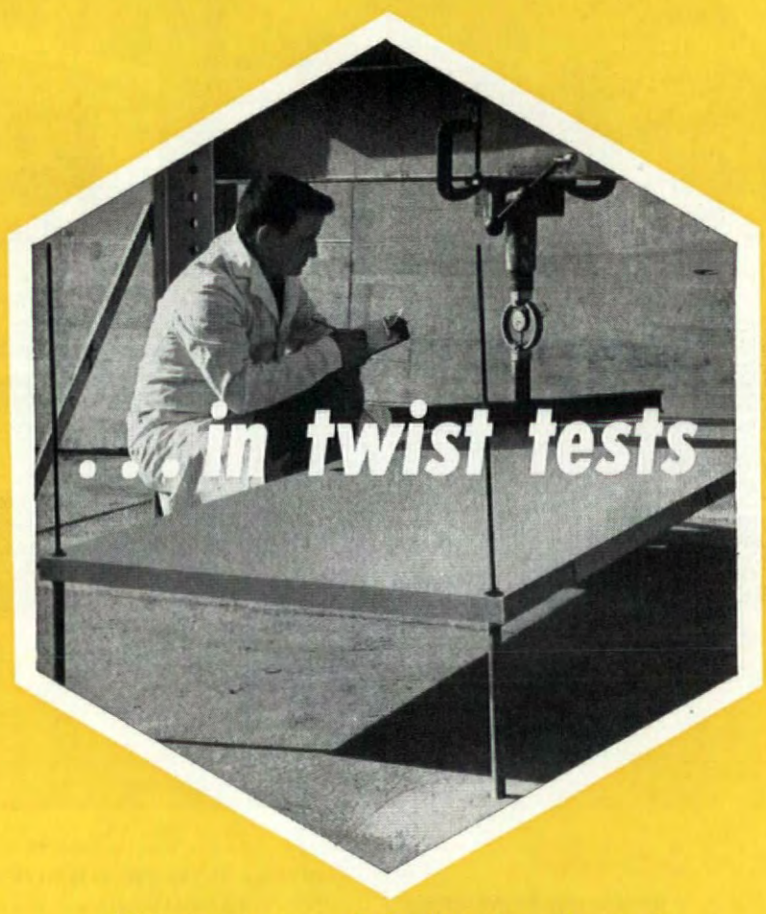
Richmond for Power Groove



Sabre



In test* after test, STEELCRAFT Full Flush Metal Doors with honeycomb core stand up amazingly



With three corners of the door clamped securely in place and 400 pounds (applied to the fourth corner)—the maximum deflection was less than ½". Remaining deflection was only 3/32 of an inch.

STEELCRAFT

The honeycomb core . . . by permanently bonding a honeycomb core of resin-impregnated kraft material to two layers of steel, Steelcraft has developed a "first" in the hollow metal door industry—a handsome, rugged door, exceptionally solid as well as sound deadened.

**Name and full test data of national testing laboratory on request.*

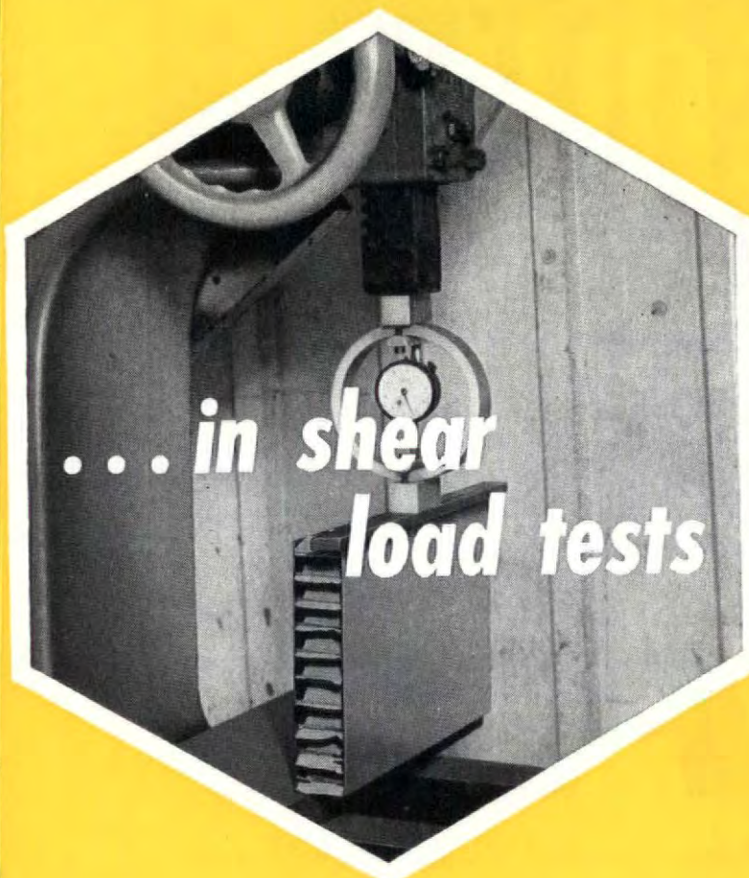
As rugged as they're handsome—quiet, too—that's what punishing tests proved about Steelcraft's new H-18 doors, designed for commercial and public buildings.

In building this door, the dimensional stability of steel and the versatile properties of a unique honeycomb core material were combined to form a seamless door *without objectionable surface imperfections such as weld marks and waves.*

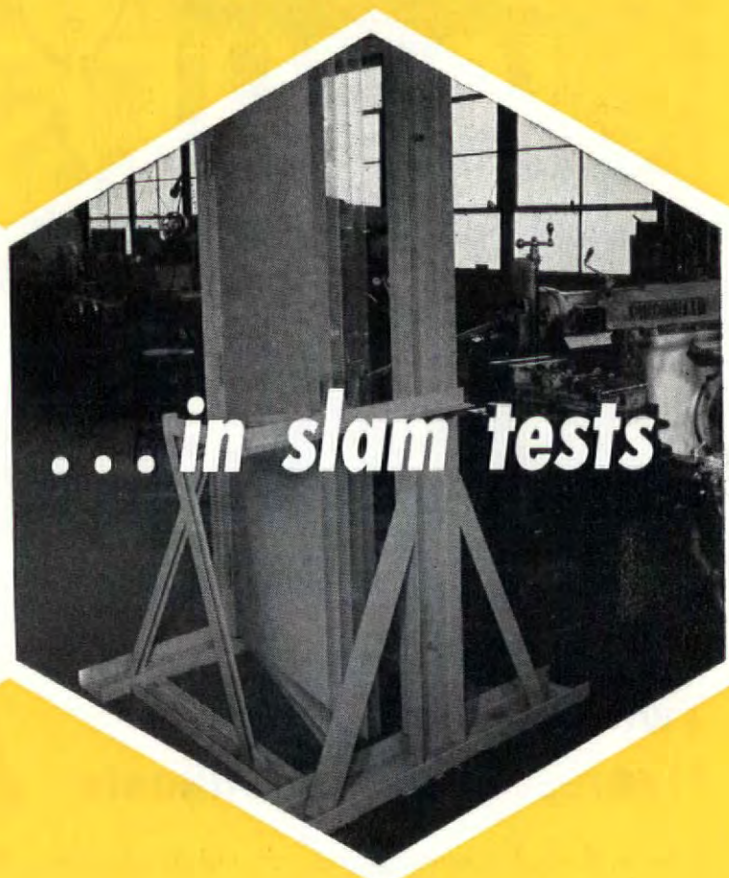
While the cellular material used in the Steelcraft H-18 door is relatively new to the construction industry, both military and civilian commercial products have long been using it successfully.

Steelcraft H-18 doors are prepared for a complete selection of hardware and a variety of Steelcraft door frames in accordance with architectural specifications.

Write today for complete information and the name of your Steelcraft distributor.



Test sections of both wet and dry honeycomb resisted shear tests up to 1,575 pounds before failure of lamination.



Doors were slammed 226,500 times with a 30 pound force. No exterior or interior damage resulted.

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over 4,000 door types, styles and sizes

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For silent lighting installations in schools, hospitals, libraries and other critical areas where absence of noise is the primary consideration, specify ADVANCE **"A"** QUIET-RATED fluorescent lamp ballasts. Catalog No. RQM-2S40 for 118 V. operation. Catalog No. VQM-2S40 for 277 V. operation.

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Published by TIME INC.

Shall civilization live?

The shocked paralysis with which many Americans turn away from thinking about their own survival against atomic war contrasts horribly with their intense application as they keep on pouring time, brains, and endless money into still further weapons. Never before was there such a complete imbalance between aggression and self-protection. If there already exists a "saturation of terror," then why further compound it? If not, then why concentrate only on getting the last man killed, even if he be "ours," and never on saving the last man if he be the last—and "ours"?

The shocked paralysis of the first atomic years has actually no longer any legitimate place or excuse 16 years later.

The message for today is: there is a chance to live through an attack, if plans are made for it. Even in the event of atomic war there is a good chance that a fair share of total population will survive the onslaught. This is, to be sure, not exactly a good bargain. It promises not much, for quite a while, for those who might find themselves left "living." Theirs would not be the life to which today's civilized people are accustomed. But what can still be said for it is that it would be life, life for the human race, with the chance left for the recovery of Nature and of civilization, and better than no life; better presumably than extinction.

Consequently the whole question of self-defense has to be rethought, though on a grimmer basis, and architects and engineers cannot escape responsibility. Last month, in its technical section, FORUM outlined what is considered today a shelter program that might mean "the difference between life and death for 60 million people." The underlying assumptions are these:

No matter how horrible the prospect of atomic war may be, there is no guarantee that this will deter all aggressors.

No matter how horrible the destruction may be, there is no certainty that destruction of the whole race would follow.

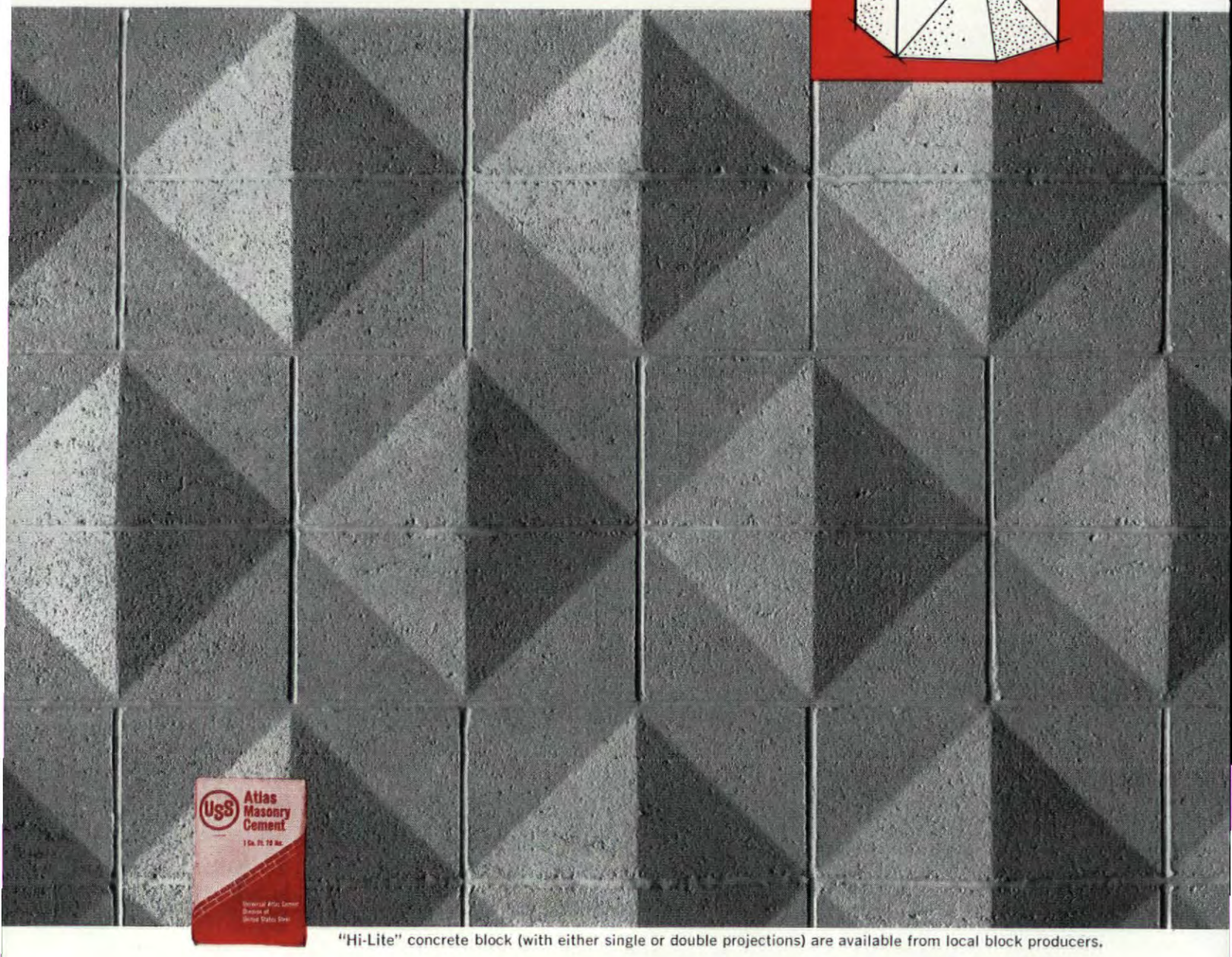
A shelter program, specifically a fallout shelter program, undertaken at any one time, may not be ideal and may become partly obsolete; but taking no action at all under the circumstances is to choose, in the event of attack, to make death for millions certain. Therefore, to put the case differently, Americans and their architects and engineers can afford to be wrong in doing *something* but cannot afford to be wrong in doing *nothing*.

There is a twofold further reason, very powerful, for acting. It is that the habit of inaction breeds impotence while it encourages in exactly proportionate degree the arrogant aggressiveness of a relentless foe, whereas the habit of action breeds healthy attitudes at home and of itself acts upon enemies as a deterrent. Then again, even if total attack would use other weapons besides atomic ones, weapons too manifold for atomic shelters to protect against, the habit of looking the rough tough world of today full in the face, once such a habit is acquired, means that the other problems —be they of germ, gas, of whatever—may be met, one by one, also.

In their own protection, Americans "have not yet begun to fight." The first step is to get instructions for large-scale fallout shelter planning and construction from the nearest Office of Civilian Defense Mobilization.

continued on page 79

Great new things are shaping up in concrete block



"Hi-Lite" concrete block (with either single or double projections) are available from local block producers.

Atlas Masonry Cement provides the right mortar

A sculptured stone look is produced with decorative "Hi-Lite" concrete block here in single half-pyramid design. In exposed masonry construction, the projected face of this unit creates unusual highlights and shadows, pyramids, prisms, diamonds, gables. □ For laying up "Hi-Lite" block, as with other masonry units, ATLAS MASONRY CEMENT continues to be the preferred cement for mortar. It produces a smooth, workable mix, provides a strong bond, gives weathertight joints that are uniform in color. And ATLAS MASONRY CEMENT complies fully with ASTM and Federal Specifications. For information on masonry cement write: Universal Atlas, Dept. M, 100 Park Avenue, New York 17, N. Y.

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Shyster industry?

A few weeks ago, Mayor Wagner of New York said that corruption in his city's Building Department was "historical." Indeed, he implied that corruption in the entire building industry was "historical," and that it was practically impossible to do anything effective about it.

Unhappily, Mr. Wagner seems to be right; more unhappily still, he seems to be right not only for New York, but also for most towns and cities in the U.S.; and most unhappily, those responsible for this state of affairs seem to be not a small band of racketeers, but a large group of respectable professionals and businessmen active in building.

Magazine editors, who are in constant touch with such professionals and businessmen, find it extremely difficult to obtain detailed facts that would stand up in a court of law. But the rumors are so specific, repetitive, and prevalent that a massive cleanup, along the lines of the Seabury Investigation of the thirties, seems in order in every state.

It is not a very entertaining prospect. But neither is it amusing to keep hearing rumors of architects slipping a "fin" to building inspectors to get faster approval of plans, or illegal approval of violations; or of other architects having to pay large, political contributions for the commission to design a public school or a hospital; or of investment builders buttering up public officials to be awarded urban renewal projects; or of contractors paying off traffic cops to be allowed to unload trucks on public thoroughfares and thus louse up the traffic; or of subcontractors, suppliers, shop stewards, and what have you engaging in an endless kickback game that helps increase building costs and diminish building efficiency.

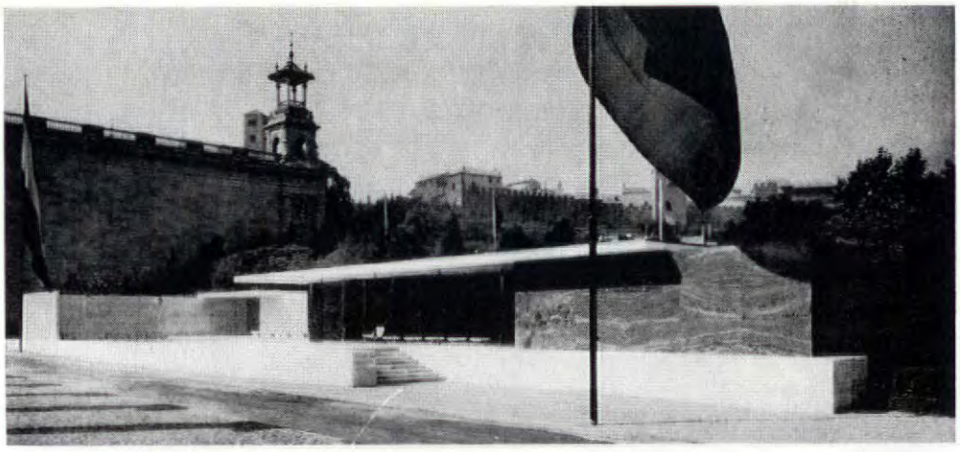
Nor is it amusing to know that this recital of corrupt practices—real or rumored—could be carried on *ad infinitum*.

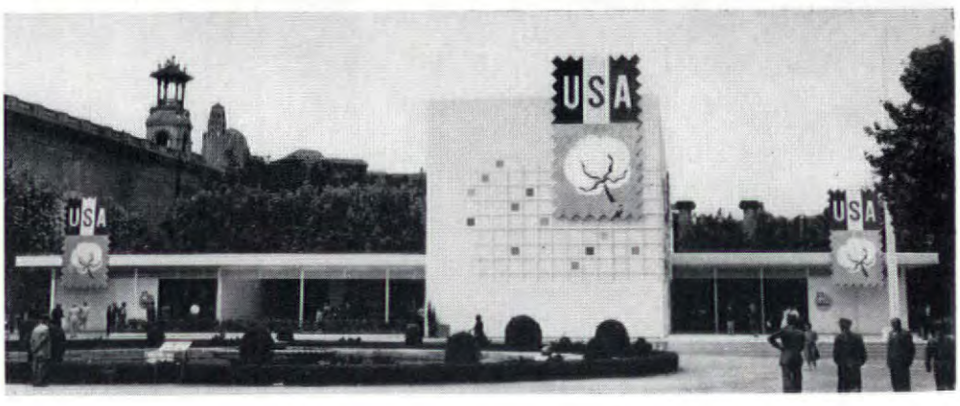
Obviously, such rumors do not enhance the reputation of the building industry. Just as obviously, that reputation would not be enhanced by Seabury-type investigations initiated outside the industry itself.

Clearly, the initiative should come from the professional, business, and union organizations within the building industry. It is perhaps asking too much of a lone, high-minded individual in a corrupt town to buck the trend singlehandedly; but it is not asking too much of organizations like the A.I.A., N.A.R.E.B., A.G.C., or the Building Trades Department of the A.F.L.-C.I.O. to start policing our industry and to start fighting for a cleaner reputation. For unless they do, the term "shyster" may soon cease to be reserved for corrupt lawyers.

More is less

These two buildings have this in common: both are exhibition pavilions, modern, and set on the same site near Barcelona, Spain. Here most similarity stops: one is Mies van der Rohe's famous German Pavilion for the 1929 fair, the other is the American Cotton Pavilion, designed for a 1960 fair by The Displayers Inc., a design firm stepping into architecture. The Cotton Pavilion is not too bad a pseudo-Miesian job in itself—the chief difference lies in what has been added to Mies after 31 years. This difference might be pondered by those who believe that the way to create national (or corporate) identity through architecture is to plaster signs (these look like textile samples) all over their building: for Mies's pavilion, unlabeled, will be long remembered, whereas the heavily billboarded Cotton Pavilion will be remembered hardly at all. *Sic transit gloria redundi.*

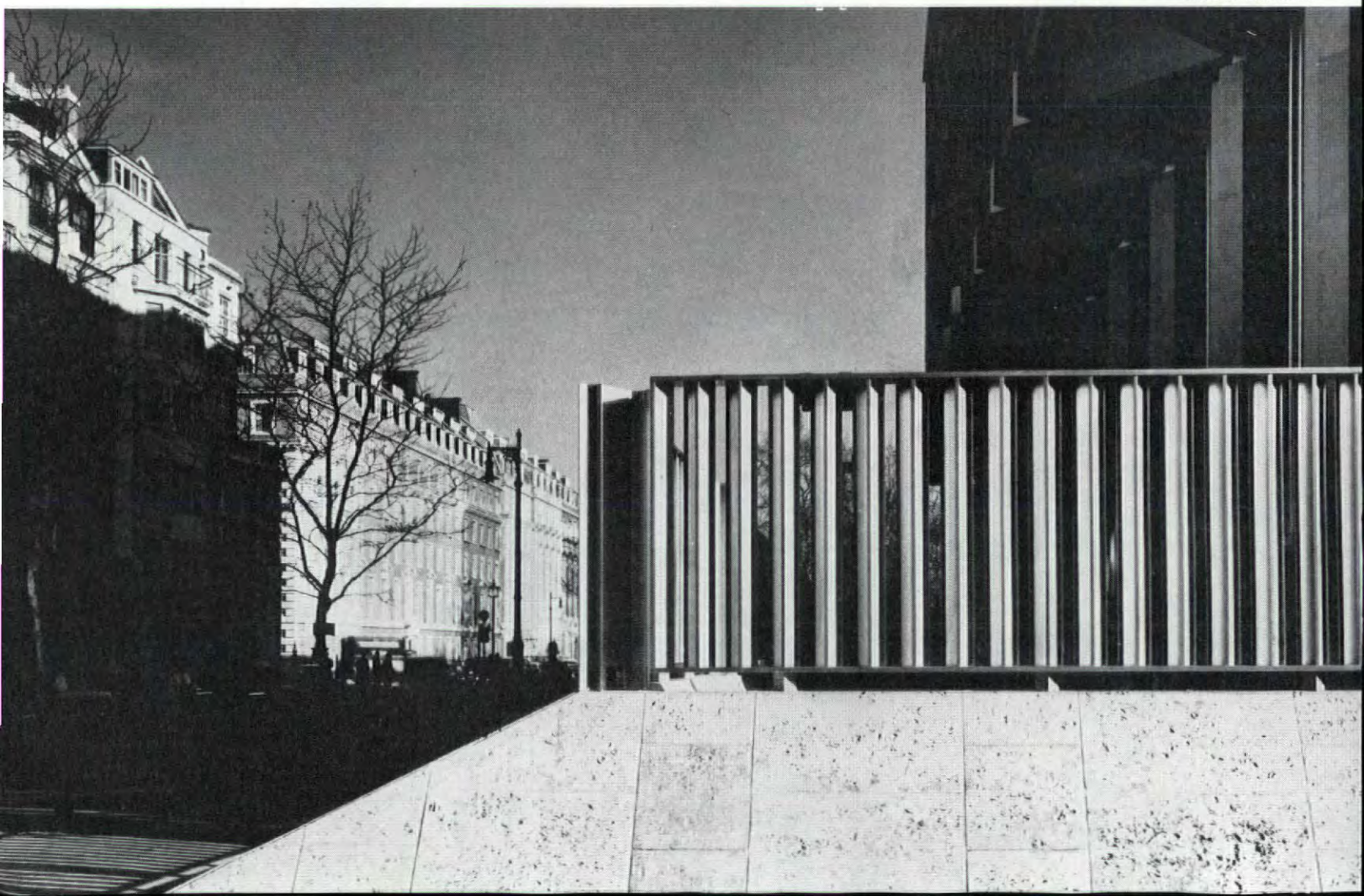




COURTESY MUSEUM OF MODERN ART, NEW YORK

U.S. Embassy stretches across the end of Grosvenor Square, and sits behind a low stone wall (below), its first floor elevated from street level.

PHOTOS: HENK SNOEK



Controversial building in London

English critics are not enthusiastic about Architect Saarinen's U.S. Embassy.

The program for the 1955 design competition for the London Embassy, the prize plum of the Foreign Buildings Operations program, included a keystone statement which applied to all the embassies and consulates being built for the U. S. State Department around the world: "The policy shall be to provide requisite and adequate facilities in an architectural style and form which will create good will by intelligent appreciation, recognition, and use of the architecture appropriate to the site . . . ."

The winner of the competition was Eero Saarinen & Associates, who also were designing the U. S. Embassy in Oslo—completed since, and widely admired. The site of Saarinen's London Embassy is Grosvenor Square, and the architect attempted faithfully to follow the "fitting-in" program both by maintaining a low roof line on the structure and by facing his design with Portland stone, a London material.

Objections to the completed building centered, in part, on the program itself. Most of the critics were generally disappointed not to get a more "American" building, and discounted the importance of fitting into their own meek-mock-Georgian surroundings. Those who did stand by the Georgian pointed out that it is "additive," and that a large, simple form such as the new embassy contradicts it; but when Architect Saarinen had investigated the owner's future plans for the rest of Grosvenor Square, he had found that the other sides also would soon be large forms, if large "Georgian" ones. What none of the critics liked was the jazz rhythms Saarinen added to the Georgian melody, the aluminum decoration, in a color he calls straw and they call gold. The eagle which perches innocently on the front façade was hardly a favorite detail, either, although J. M. Richards, editor of the *Architectural Review*, said in a BBC Broadcast that he thought its trouble was being too small, not too large.

To tell how the younger generation of English architects feels about the building, FORUM asked Architect Peter Smithson to write a brief criticism. Following his report are extracts from articles in three important British lay publications, plus comment on the building by its architect.

Peter Smithson

All the U.S. embassies in Europe I have seen—in Oslo, in the Hague, and in London—have been monuments. (As also are those in Athens and in New Delhi, seen in photographs).

Now monuments are out of favor in Europe, for obvious reasons, and there is some puzzlement why America—the idea of which we admire without reservation—should have produced these buildings.

We are also slightly fearful.

In the old days when embassies were American Colonial, it was difficult to be afraid—we could even be a bit patronizing, for to be Colonial, like being provincial, could be patronized as a quaint countrified version of the manner of those really in the know. We have now almost got used to the boot being on the other foot. It is we who are provincial. It is you who are in the know.

We feel a bit let down when the first *real* American building in our midst is built in such a nineteenth-century way. But, as we are used to nineteenth-century buildings, we have got used to it. It fits very well into (the mostly Edwardianized) Mayfair.

English architecture prior to the nineteenth century was additive. Often this meant literal addition of houses in the Bloomsbury and Mayfair Squares, or it meant compositional addition of pieces in such buildings as Somerset House or the National Gallery. The dense deep block, regularly modulated and six to seven stories high, came later with the commercial buildings and with the clubs (copies of Italian palazzos or in the Greek Neoclassical Mode) of the Victorian period. It is the mode of our most prosperous and most socially regressive period. It is a period we no longer wish to emulate.

And we are puzzled why you should want to emulate it, and should accept such frozen and pompous forms as the true expression of a generous egalitarian society.

Surely, the first question for an architect is, what is the nature of an embassy? Not what is the style of an embassy.

I think our main criticism is (and here I speak for the architects of my generation irrespective of nationality) that the program sought such easy assimilation, when we wanted it to be *revolutionary*. Revolutionary in a responsible way—which I suppose describes the role we would like to see America playing in order to fulfill its own dream. This would mean that the State Department would have to let some sort of speculation—as to the role of an embassy and the role of the building in the society it is placed in—be injected into the program writing. Speculation later than this is probably too late to be absolutely effective, but, in the hands of a committed architect, the spirit of the building would cry out and quench the spirit of the program.

Of the building in Grosvenor Square

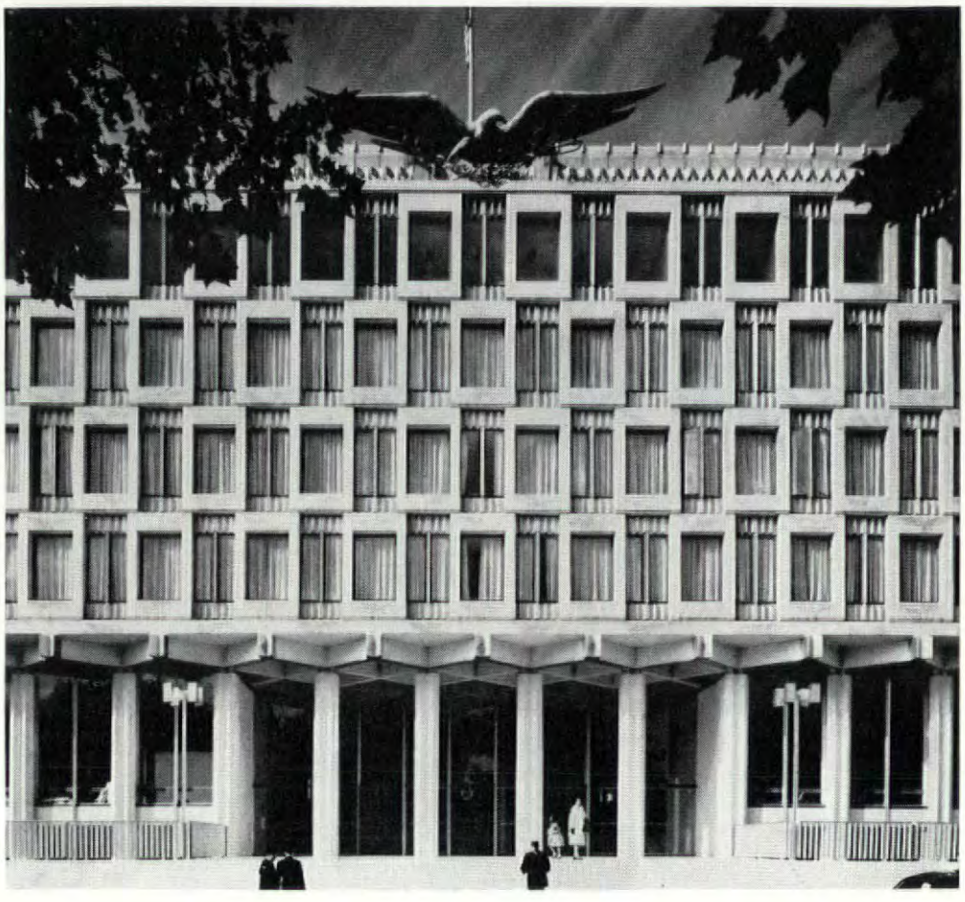
in use, I can only speak as a visitor. The way one enters—three doors, two locked, one with a notice saying "Use Center Door" (it is locked), is confusing. The pool in the inner foyer is charming and children love it. The side portion used by USIS works well for the small exhibitions they show there. I have enjoyed using the building, especially on the day 15 fire engines traveled up to a nonexistent fire, and I have walked through many times with architects—with Doshi, with Kahn, with Bakema, with Kikutaki—and my remarks probably reflect in some way their opinions, and our mutual reflections, as well as my own.

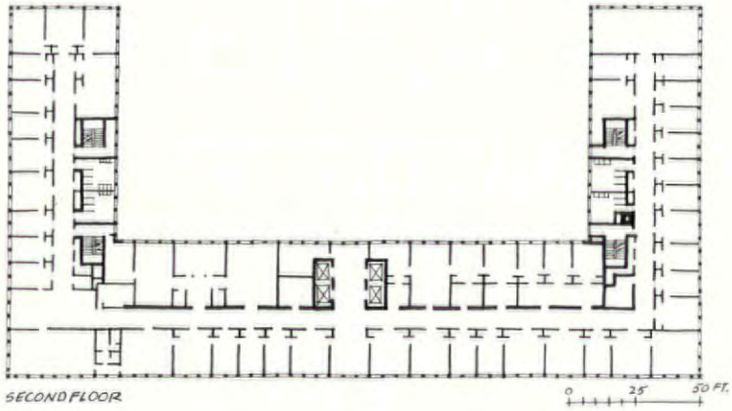
It is often said by European architects that all American architecture looks the same—that the difference between Stone and Yamasaki, Johnson and Rudolph is much less that what they have in common. Similarly to Americans', most English architecture looks the same. But there is a difference at a fundamental level between their two architectures which many of them fail to discern; and this is that in the U. S. the eclecticism proceeds from their pragmatic thought processes —it is not just a question of style preference, but a random mode of operation. Whereas in Europe there is an equally powerful compulsion to erect a theoretical base for action, prior to action.

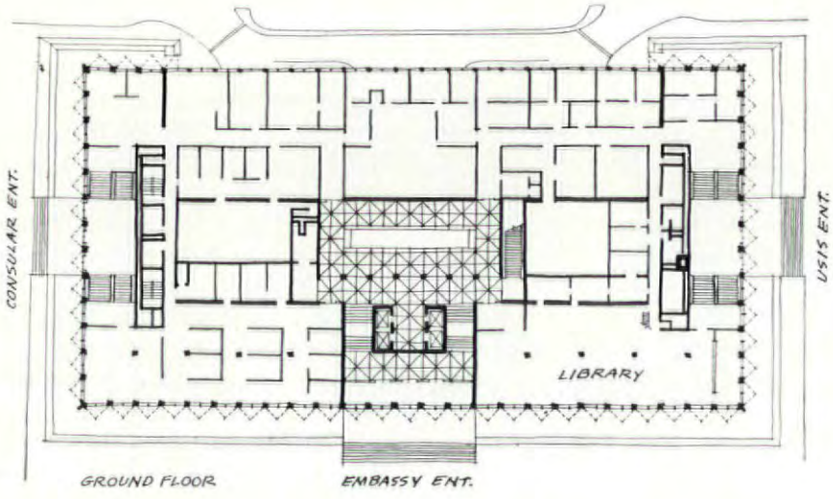
The theoretical base that is being elaborated in Europe at the present time is one which states that the individual "closed" building discipline is obsolete. And furthermore, that many building types, and the town patterns which they build up into, are inadequate. Not only because they don't work in the face of mechanization and motorization, but because they don't feel right. We are searching for new modes whose patterns have a greater capacity for absorbing change and a greater feeling for society as it now is. And it would seem to us that the disciplines and techniques evolved in previous periods are inadequate for our purposes.

This is why these embassy buildings are, as it were, interesting only in the negative; and by being the opposite of what we want, at a highly professional level, they postulate a challenge to which we must find a response.

continued on page 84







Main entrance doors face a metal partition bearing the U.S. seal. Further steps at each end lead up to the main lobby. Behind the screen wall are the two pairs of elevators (plan on facing page).

Large columns frame through the ground floor, up to a "diagrid" of concrete beams laid on the bias in plan. The window panels above serve as the vertical structure for the office floors.

Main lobby of the embassy contains a delicate spray fountain in a long pool. Ceiling beams are revealed throughout the main floor, a strong pattern, with lighting inserted into the spaces between them.

U.S. EMBASSY *in London.*
ARCHITECTS: *Eero Saarinen & Associates.*
ASSOCIATE ARCHITECTS: *Yorke, Rosenberg & Mardall.* STRUCTURAL ENGINEERS: *Felix Samuely & Partners.* MECHANICAL ENGINEERS: *A. F. Myers & Partners.*

Ground-floor consular office

Second-floor reception room

R. Furneaux Jordan in The Observer

. . . The U.S. . . . has allied jingoism with salesmanship, exporting prestige in the form of "glamour" . . .

First, however, on the credit side, let us be thankful that a conscious, positive, and unapologetic architectural statement has been made. Second, let us be thankful that the whole of one side of a big London Square has been rebuilt to a single design. That—except once or twice disastrously—has never happened before.

Third, the building has good scale. The tall ground floor, with its hint of magnificence behind, is a podium for the rest of the building. Its height is intensified by the small scale of the upper stories. The lower floor is a foil to the rest—that is good.

What then has gone wrong? The building fails between two stools—diplomatic delicacy and American status-seeking.

Diplomatic immunity from building and planning regulations left the State Department free to build a mile-high skyscraper if it wished. Therefore it became coy and polite; it fell over backward in telling its architect to remember the Georgian scale of Grosvenor Square. There is no Georgian architecture in Grosvenor Square. Hence the false humility—the Georgian proportions and height.

Then the other "stool"—the status line—came into action. For all its sham politeness this building had also to be American, new, crisp, and glamorous. Hence the rather aggressive, staccato modeling of the façade, the perpetual gilding, the costume jewelry that overbedecks it all. Every detail contradicts the original and overpolite intentions.

The rather childish controversy over the xenophobic nature of the 35-foot golden eagle . . . is false. The eagle is consistent with the architecture which in its turn is consistent with the tragedy of Americanism.

Reyner Banham in The New Statesman

. . . The site of the Chancery is the whole of the west side of the square, but it doesn't fill it. It fails to reach the corners by an equal amount at either end, so that one senses at first sight that this must be an isolated structure with a centralized façade, and in this single basic decision, the architect, Eero Saarinen, has destroyed what he was adjured to preserve. . . . Saarinen, by opening a sizable hole in each corner of the square, lets any sense of enclosure drain away like water through a breached dyke. . . .

Saarinen has produced a building that is modern when seen in raking views along the front, but contradicts itself when seen from further away. Leading opinion in the "Ballet School" of U.S. architecture, to which this building clearly belongs (even if Saarinen's other work doesn't), would probably assert that objections to this contradiction are irrelevant to the "art of architecture," but I would counterassert that it is at the level of art, rather than practical techniques, that the contradiction matters. . . . Under the double impact of acceptance and affluence, modern architecture (in the U.S.) . . . lost its dedicated muscularity and began to go Neo-Monumental in one direction, Ballet School in the other. Saarinen's Chancery does both: monumental in bulk, frilly in detail. Observe, apart from the classical symmetry, the gold-anodized aluminum fins on the ends of the diagrid beams, the equally gilt pie-frill round the cornice, the acres of marble so pure it looks like plastic, the ridiculous defensive "bund," topped by a gilded fence and backed by a ditch that is rumored to be scheduled for filling with poison ivy, that lies all round the ground floor—a nice compliment to an ally!

The trouble here appears to be that somewhere inside all this a good architect is fighting to get out. We *know* Saarinen is a good architect, and the building abounds in details whose consistency and logic bespeak a standard of professional competence that few buildings in Britain can rival. . . . Ultimately, I suspect, the architect deserves our sympathy. In an age when the authority of government depends on personalities, statistics, and communications, any attempt to build "representational" buildings for prestige will simply produce empty cenotaphs. Saarinen should have been commissioned to design a high-quality office block, and hang the brand image.

Architectural correspondent of The London Times*

. . . In fairness, it should be said that Mr. Saarinen's sense of what was right architecturally may have been confused in this instance by the emphasis placed, both in the State Department's brief and in the limited competition of which he was the winner, on the need for a building appropriate to London.

It is right, when a new building has to take its place in an established setting like one of the London squares, that its scale and bulk—and perhaps its coloring—should be related to what is there already. The height of Mr. Saarinen's building is right for Grosvenor Square, and the bold proportions of the ground floor, though a departure from the domestic scale the square once had, are justified visually as well as functionally.

Nevertheless he has been perverse enough to disrupt the unity of the square in several unnecessary ways: by not building to the full width of the site he has, in effect, widened the gaps in each corner where the two side streets leave the square, thereby throwing them out of balance with the other corners; and by giving the building its extraordinary sloping basement wall, he has introduced a disturbingly angular element. . . .

His embassy building is not pseudo-Georgian, but although it is bold and refreshing in several ways, it is still stylized in the sense of relying largely for its effect on the artifice with which its façades are organized. Each façade is skillfully designed to create an intricate pattern of Georgian-shaped windows; it is also most skillfully put together by an ingenious system of invisible masonry jointing. But this richly modeled effect has little to do with the underlying bones of the building.

Only at first-floor level are the bones allowed to reveal themselves. Here the ends of the diagonal grid of reinforced concrete beams, which constitute the first floor, are logically and effectively exposed. The underside of the grid, similarly exposed, gives character and consistency to the high ceilings of the ground-floor rooms.

If elsewhere the structure had been allowed to create its own medium of expression, the dignity and the monumental presence that has clearly been aimed at might have been achieved. The means chosen to give the building dignity are very different: chiefly a lavish display of gilding in the form of gilded aluminum sheathing to the tips of the exposed beams, the window reveals, and other features of the façades. The result is tawdry, and only emphasizes the more superficial qualities of the design. . . .

The architect's view:

Some months ago, just as the new embassy building was being completed, and before any of the articles quoted here were published, Eero Saarinen, in an interview, summed up some of his feelings about his firm's design. He said, in part:

I feel the London Embassy is a complete success in the Grosvenor Square setting.

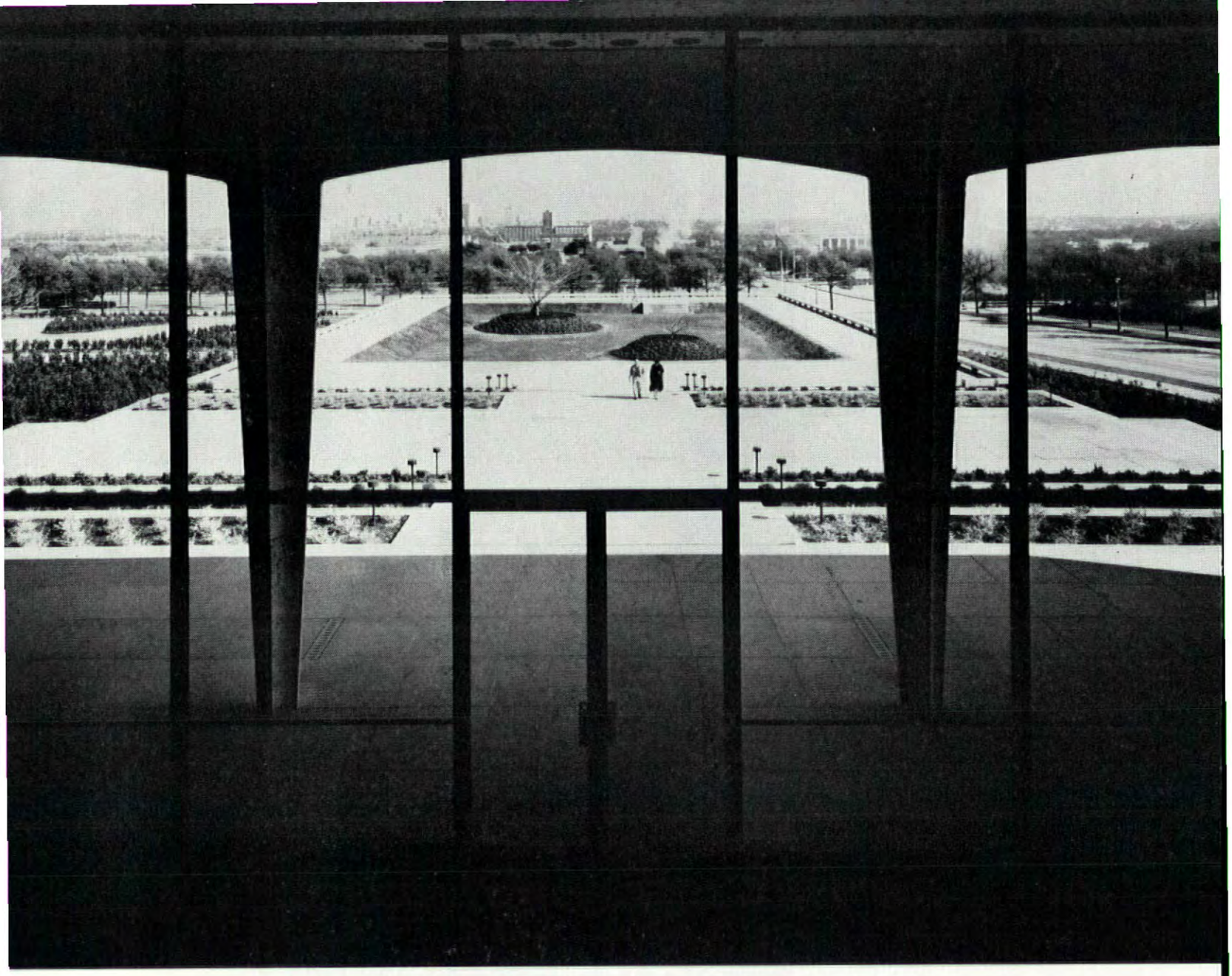
The building sits in the square very well. The entire area is controlled by the Grosvenor estate, which now has a master plan. Our building "anticipates" the changes which will occur there when three sides of the square will be in single nine-story pseudo-Georgian buildings. The square is in transition, and our building is built for the future. The mass and general cornice height, the silhouette, conform to those of future buildings.

We use the same Portland stone used in the surrounding buildings for total façade. Portland is London's material. Its aging qualities make it a beautiful material which turns white with water and black with soot. Right now, it is new and white and some people think it is ostentatious. This will change with time as do all London buildings. London is a black and white city and our embassy will be black and white; our façade has many indentations which give the building a dimension of depth and when it ages it will do so in an interesting way. The façade will not become ugly.

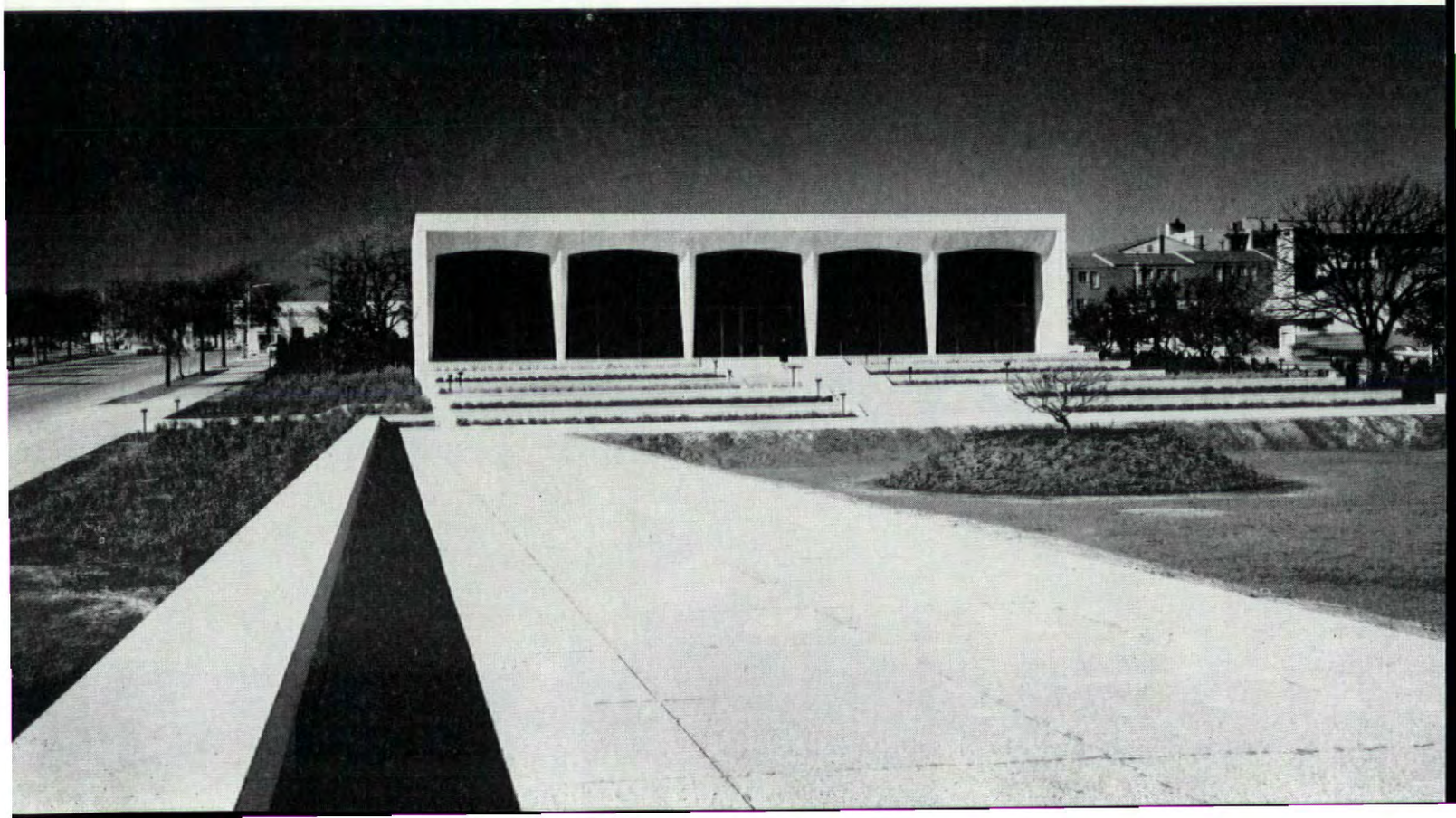
A certain amount of bright metal often looks nice on a building. Aluminum in its original color looks too cold with Portland stone. By anodizing it to a straw color, we trim up the building and give it an appropriate official look. Thus the building does create a focal point for the square; it is a symmetrical building and well-defined.

The straw-colored eagle and the main entrance accentuate the central axis of the building somewhat in the manner of a pediment. We used the eagle as a symbol and as another way to make this building look like an embassy and not just another building. An eagle seems appropriate architecturally and symbolically.

I believe we have done well in giving the building a complete relationship between the inside and outside: the spirit and detailing of the inside carries through the theme of the outside completely.



View through tinted glass wall (above) shows Fort Worth sky line to the east. Below: portico of museum as seen from the landscaped plaza.



Portico on a plaza

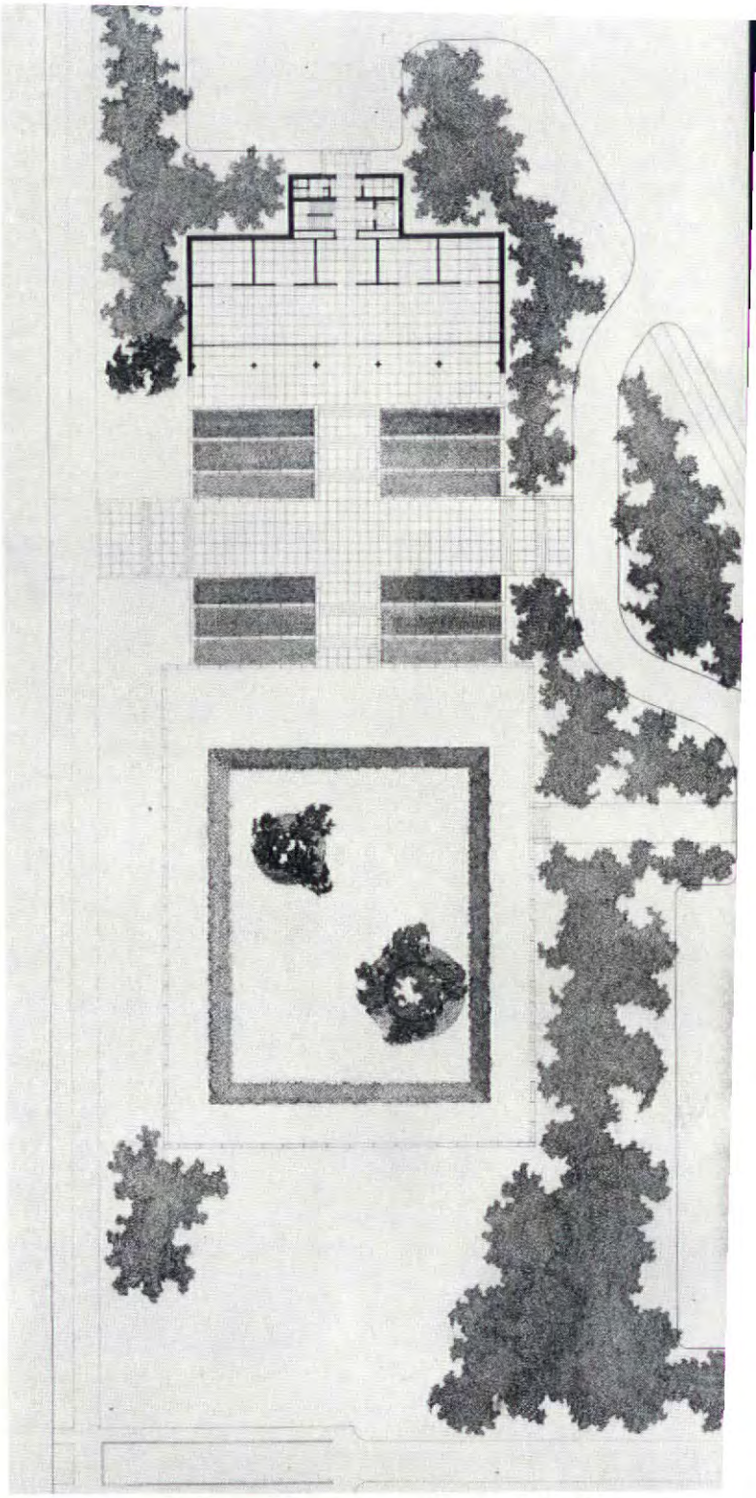
In this elegant, little museum, the West makes a new beginning.

The biggest picture in the Amon Carter Museum of Western Art is a 120-foot-long, 23-foot-high panorama of the City of Fort Worth (opposite). It is a fitting centerpiece, for Fort Worth is the late Amon G. Carter's monument; and Architect Philip Johnson, who designed this elegant frame around Amon Carter's city, was perhaps more thrilled by its sky line than by the cowboy art of Frederic Remington and Charles M. Russell displayed inside the $1.4 million building.

It is an exceedingly handsome building—beautifully detailed, beautifully sited (on one of the few hills in this flat land), and beautifully illuminated. And it is also a strangely incongruous building: although Johnson faced the structure with Texas shellstone, he has given this local material the polish of Italian travertine; although Fort Worth is "where the West begins," Johnson has taken the theme for his latest museum from the great nineteenth-century classicist, Karl Friedrich Schinkel, whose *Altes Museum* in Berlin is, in effect, a portico designed to decorate a public square—the "public square" in the Fort Worth case being a multilevel, Johnson-designed plaza measuring about 140 by 300 feet; and although the paintings and, especially, the sculptures for which this museum was designed are relatively small in scale, Johnson made most of his gallery space a single room, 24 feet high and wide, and 120 feet long.

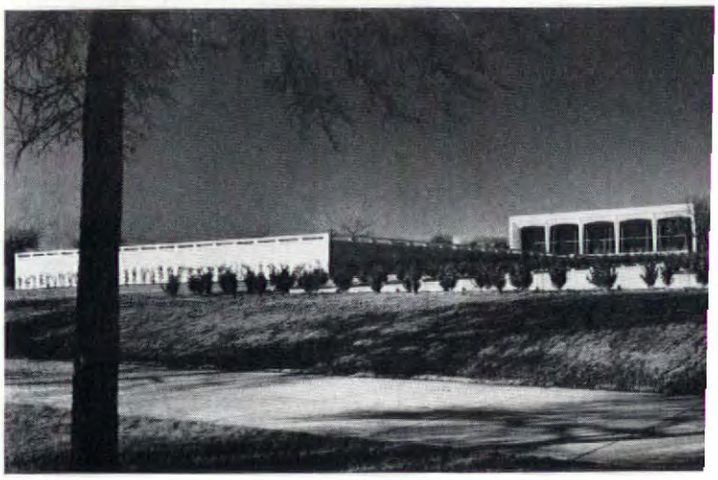
With all this apparent incongruity, the museum is a great success. The West is no longer quite as wild and woolly as some non-Texans believe, and a sophisticated, polished, vaguely "European" building looks no more out of place in Fort Worth than it might in Washington, D.C. —or, for that matter, in Dallas. And the scale of the main gallery, while slightly overwhelming to Frederic Remington's 12-inch-high bronze broncos, also tends to flatter them in an unexpected way. (For the paintings there are smaller galleries on two levels off the main exhibition space.)

In any event, no museum can be designed to hold only its donors' original collection; and judging by the growing enthusiasm for modern art throughout Texas, the Amon Carter Museum may contain some very different works a decade or two from now.

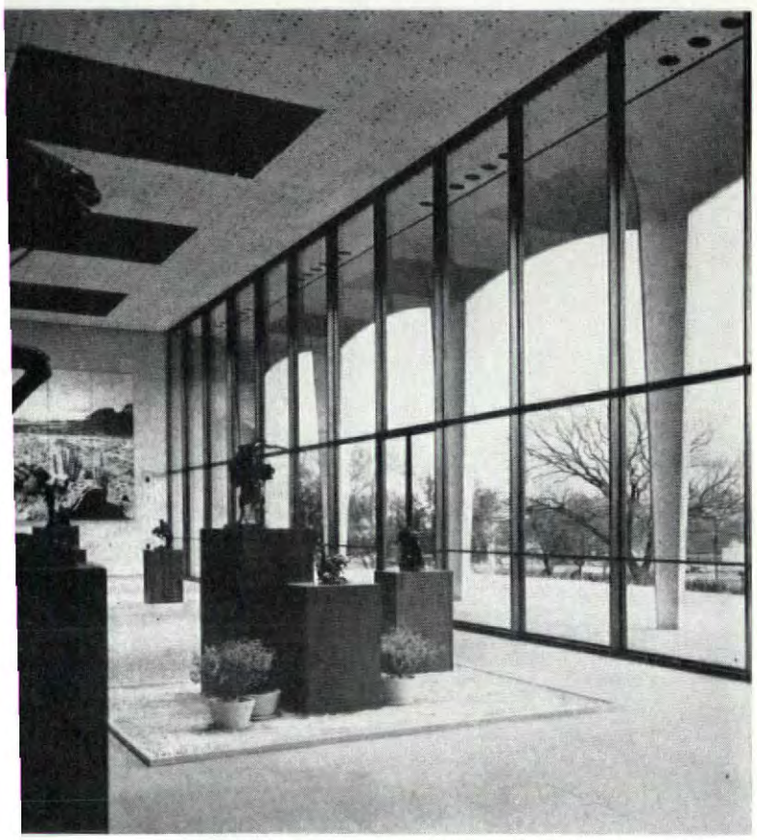


Plan of 4-acre site puts museum into a noble, classical setting.

Granite retaining walls of the plaza form pedestal for building.



PHOTOS: © EZRA STOLLER ASSOCIATES



Main gallery is 24 feet high. Museum is fully air conditioned.

Upstairs and downstairs rooms are galleries, offices, and library.

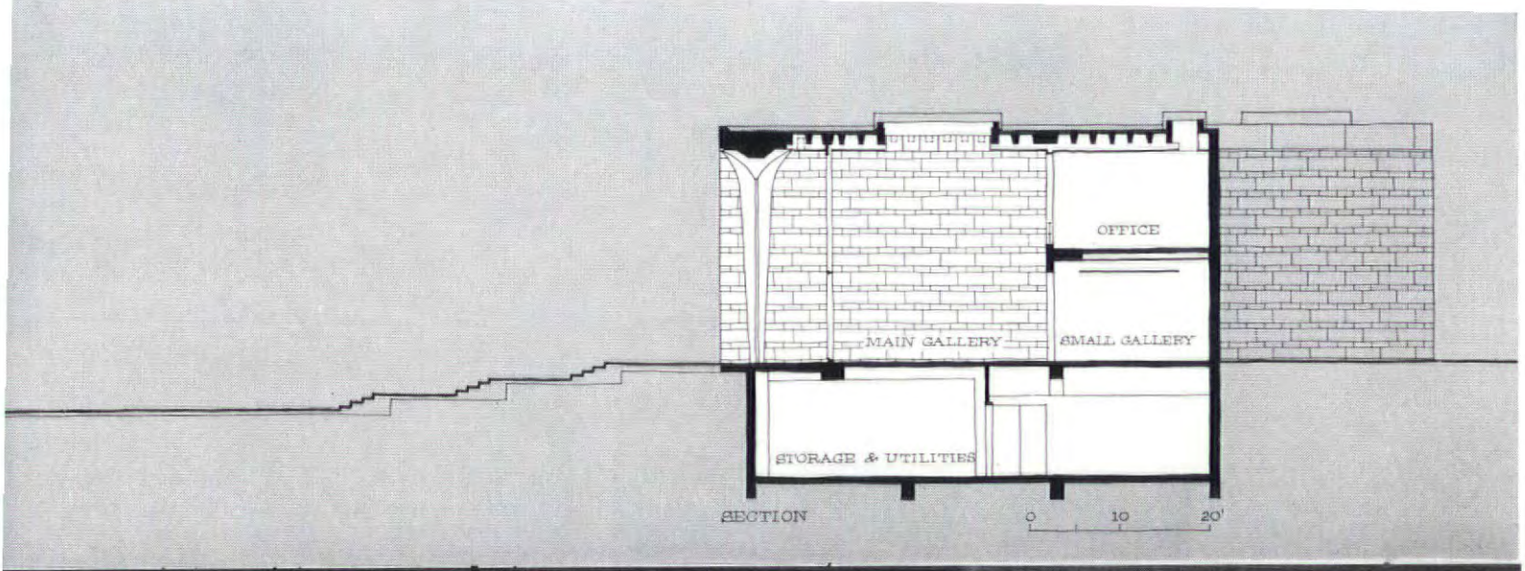
In all of its sophisticated details, the Amon Carter Museum shows restraint and good taste—qualities that have not always been associated with cattle and oil money. Yet this is no "pure" building in the conventional, modern sense: the forms of the portico, for example, are clearly taken from concrete technology; but, in reality, the tapered columns are made of carved sections of shellstone, fitted around a central pipe column. Johnson defends this handsome bit of fakery by pointing out that many details of Greek temple architecture were derived from wood construction—and left virtually unchanged when the temples were rendered in marble. The shellstone, incidentally, was carved by hand, and its concave forms make it look much more graceful than the more usual flat or convex stone facing.

Apart from the fine finishes inside and out—granite, shellstone, teak paneling, bronze—the single, most impressive achievement in this building is its illumination. Developed in collaboration with Richard Kelly, the lighting is justifiably intense above groups of sculpture; yet the sources of light are completely invisible unless one stands directly under one of the great ceiling egg-crates and looks straight up (see picture, opposite). The egg-crates (five in all over the main gallery) contain 36 high-intensity sealed beam fixtures set into shielded cones; these cones, in turn, are finished shiny black on the inside, and their carefully calculated form eliminates all reflections —so that the source of light is completely invisible at just about any angle.

Meanwhile the 2-foot-deep aluminum egg-crates serve chiefly to cut out sky glare, for above each battery of lights there is a skylight that helps illuminate the gallery by day. (The fins of the egg-crates are painted black.) Elsewhere in the museum, the lighting is equally spectacular: light sources are rarely in evidence, and everything is done to lend special importance to the art on display.

Yet there is no question that the principal work of art on display on this hill above Fort Worth is the museum itself. In adding this building to its collection, the heirs of Amon Carter showed a high degree of discrimination.

ARCHITECT: Philip Johnson. SUPERVISING ARCHITECT: Joseph R. Pelich. ENGINEERS: Lev Zetlin (structural); Jaros, Baum & Bolles (mechanical). LIGHTING CONSULTANT: Richard Kelly. EXHIBIT INSTALLATION: Dr. Jermayne MacAgy. INTERIORS AND LANDSCAPING: Philip Johnson. GENERAL CONTRACTOR: Thomas S. Byrne, Inc.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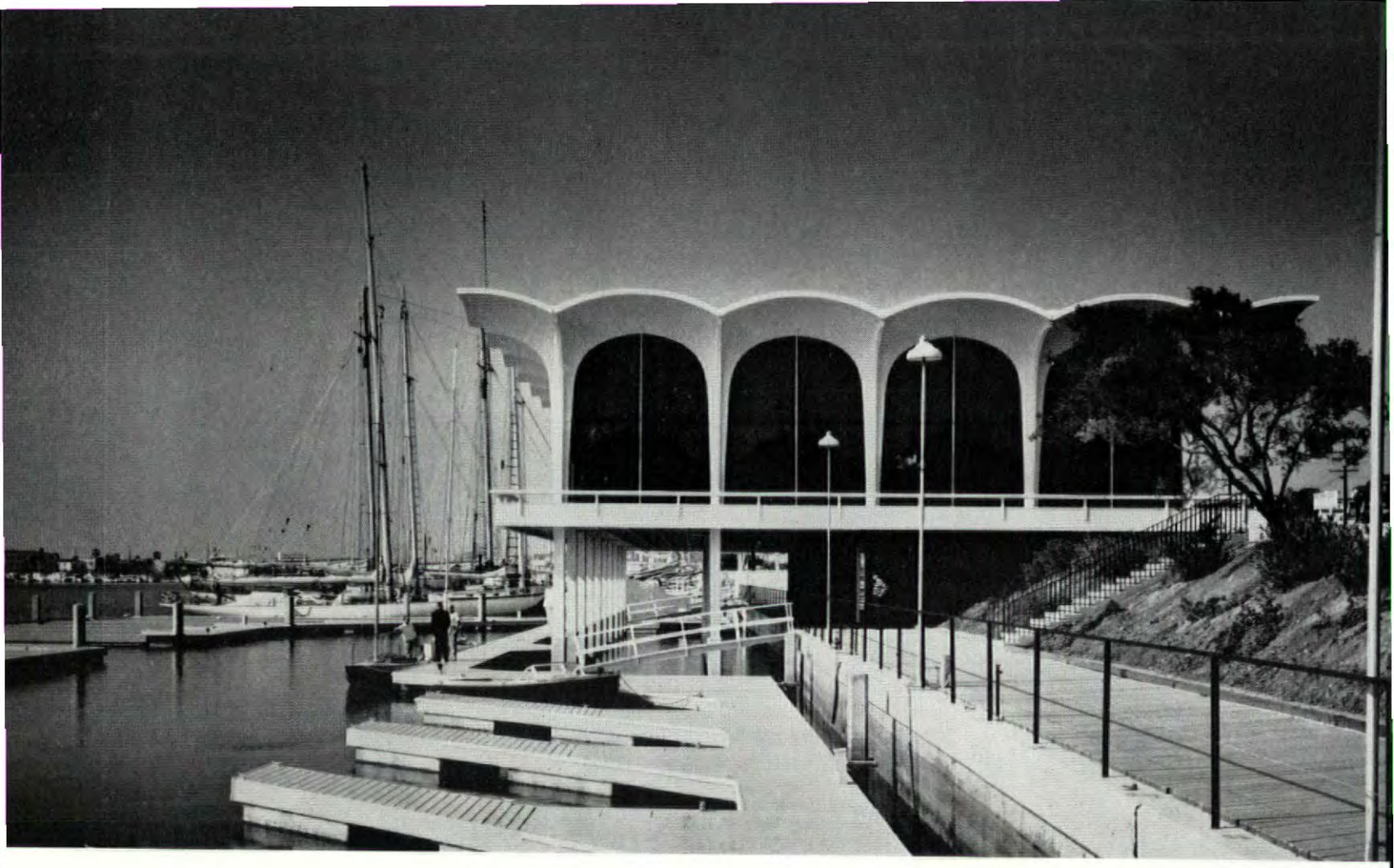


Portico on a bay

Unlike the Amon Carter Museum shown on the previous four pages, this delightfully arched restaurant not only looks like a concrete building—it actually is one. And unlike the museum, which has a big portico along one side to help decorate the plaza in front of it, this building is concrete through and through; what illusions it may create are all the result of mirror images on the waters of Newport Bay (see below), not of architectural sleights of hand.

Architects Thornton Ladd and John Kelsey were handed a fine site and made the most of it: by raising their building on stilts (which rest, in turn, on precast concrete piles), they were able to straddle an existing boardwalk, and give their dining room and bar an elevation that assured unobstructed views up and down the water front, and across a marina toward Newport Bay. There are 50 of these tapered, cross-shaped, concrete stilts, and they rise to the full height of the structure. Just before reaching the roof line, each column branches out into four concrete arches which support a series of 3-inch-thick concrete domes. To deaden the noise in the public areas, the architects hung a sprayed asbestos ceiling from each of the domes.

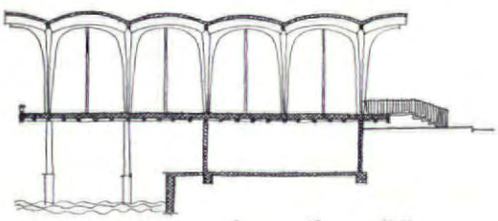
The appearance of this graceful pavilion on stilts is pleasantly and appropriately Venetian—an impression that is underlined by the playfulness of the interiors (whose rococo echoes some may challenge). On its main floor, the restaurant is surrounded by a 5-foot-wide concrete deck that simplifies window washing. (The gray-tinted glass set between concrete arches is fixed, and the building is fully air conditioned.) The space under the main floor level is not wasted: in addition to the existing boardwalk, there are 4,000 square feet of marina facilities and mechanical equipment contained in the lower level. Sand fill was pumped out of the bay to create a parking lot for 140 cars between the building and the highway behind it.

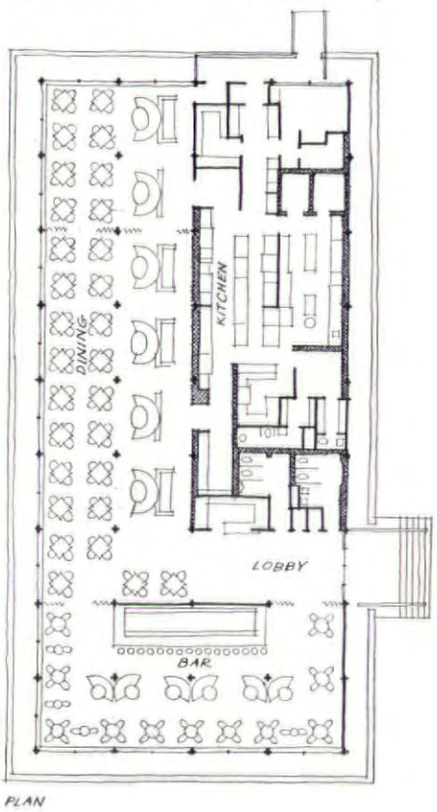
Newport Beach is the center of all water sports in southern California, and this restaurant (mysteriously named "The Stuft Shirt") has become one of the most successful commercial enterprises in the area: although the Newport season slows down during the winter months, "The Stuft Shirt" has been operating at capacity every night since it was opened last September. "The developer is naturally delighted," say the architects.

ARCHITECTS: *Ladd & Kelsey.* ENGINEERS: *Richard A. Bradshaw (structural), Levine & McCann (mechanical and electrical).* ACOUSTICAL CONSULTANT: *Paul Veneklasen.* INTERIOR CONSULTANT: *Marco Wolff Jr.* GENERAL CONTRACTOR: *Encino Construction, Inc.*

Domed and vaulted structure is supported on columns 15 feet on centers. Arch-shaped windows were draped with Austrian puff shades that can be raised and lowered (rather than drawn). The dining room (right) seats 160, and the bar accommodates another 100. The long and narrow shape of the restaurant puts all diners close to windows and views.

PHOTOS: © EZRA STOLLER ASSOCIATES





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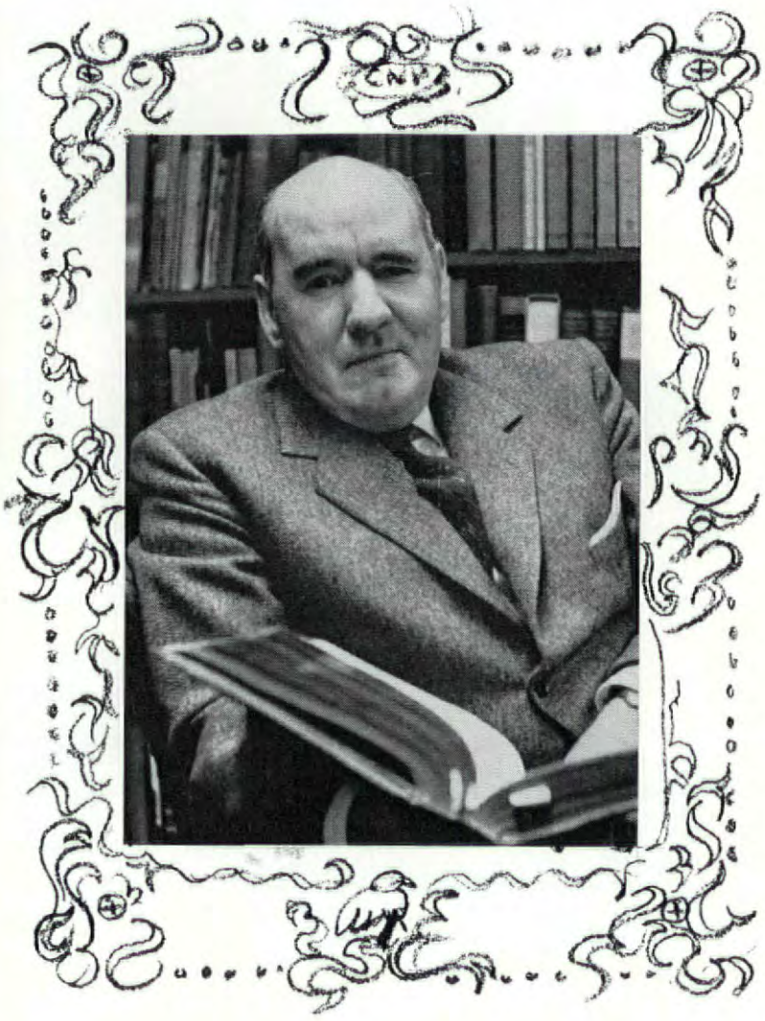
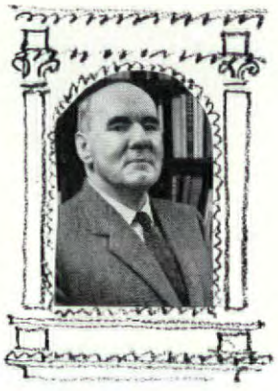
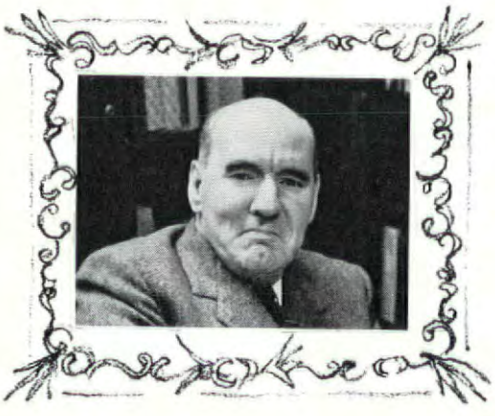




Parkinson's lore

A worldly professor examines the plight of the creative professions, and finds them wanting, needing, but not asking.

By C. NORTHCOTE PARKINSON



C. Northcote Parkinson's face is not his fortune, but it is a fortunate face. He beams a good deal.

This is lucky, chaps, because if he did not beam he might be a truly frightening figure, this former Raffles Professor at the University of Malaya. As it is, even with the shy smile, and the mild manner, the professor is more than sufficiently fearful to the institutions we love.

His first missle was his book Parkinson's Law. *He has launched other devastation in subsequent writings and books. He sat down at his typewriter and, still smiling, transcribed this set of opinions relevant to* FORUM *readers.*

What is the role of the architect and of designers in general in modern society? The architect's situation may be hard to resolve but it is relatively easy to analyze; and an analysis might point the way to future solutions. As recently as the sixteenth century, the artist, craftsman, sculptor, scientist, architect, and engineer were often merged in the one remarkable character, a Leonardo da Vinci, a Benvenuto Cellini, or a Michelangelo. Later specialization separated these different forms of ingenuity until six or more different vocations emerged, widely divergent in accomplishment, character, and aim. So things continued until the present century began. As it has progressed, we in the West have seen the virtual disappearance, in turn, of the craftsman, sculptor, and artist.

The architect is still with us, I should point out, and probably will stay . . . probably. Yet, all in all, perhaps it may pay him to bend an ear to other plights, for potentially they could be his, too.

Take the craftsman, first of all. Of his breed a few admittedly survive both in Europe and the U.S., but the genuine craftsman—the cabinetmaker, the woodcarver, the silversmith, and stonemason—is now a rarity. Even where not quite extinct, he has become

too expensive for us to employ. The results have been far-reaching. One result is modern architecture. We hear much talk about new materials, new methods, new opportunities, and new standards of excellence. But what is significantly new is not so much the presence of the new technique as the absence of the old craftsman. The bare fact is that the architect could scarcely produce a satisfactory building if he wanted to. He has no real craftsmen to work with. The result of his work is sometimes (though not always) a clever plan, together with a building in which the structural work is careless, the carpentry slapdash, the plumbing indifferent, and the decoration poor. The only man who is likely to do a good job is the engineer. If anything is likely to work it will be the elevator. So the history of contemporary architecture is the story of architects striving to design something in which no craftsmanship is needed. They come nearest to success when they come nearest to the machine, using only metal and glass. When they express scorn for the more traditional styles of architecture, when they express enthusiasm for all that is new and exciting, remember that they have no conceivable alternative. They are not choosing at all. We could not afford the traditional building even if there were any craftsmen left who could build it.

On the one side, then, the craftsman has gone, his place being taken by the engineer. What has happened, meanwhile, to the artist? Freed now from their former close partnership with the craftsman, the painter and sculptor are able to enjoy a new and exhilarating freedom—that of the unemployed. They find themselves in a world where their skill is unwanted. Thus the collapse of painting as an art is partly due to the rise of photography but more still to a lack of resistance in the medium. In making a statue of granite the sculptor has to strive with the nature of his material, the result being a reflection of that struggle and markedly different in style from a statue made of, say, butter. In painting a canvas, the resistance of the material derives mostly from the nature of the commission. In times past the oil color painting was made to the client's liking. It was usually a portrait and represented preliminary agreement. In yet earlier ages the picture was normally to go in a church, its subject being the Crucifixion or the Virgin with Child. But, whatever the precise subject, there were limits within which the artist had to keep. The portrait was to be a good and not unflattering likeness, the style was to suit in a given room, and there would be an elaborate frame, carved and gilded by someone else. In our day, no such limitations exist. Seldom, nowadays, is the artist commissioned to paint the likeness of anyone. There are few houses in which the portrait could be hung—and anyway the photographer can do what is wanted more cheaply. Still more is this true of the sculptor, for whose work the modern dwelling simply has no room. The result is that the painter and sculptor are free as never before. No one tells them what to depict, on what scale, or for what purpose. They wander off aimlessly and presently emerge from their studios with a lifelike representation of nothing. They can talk drivel, if they like, about the significance of the abstract, but nothing will alter the basic fact that they are out of business. No one wants them. They are left to give expression to their mood, which is, not unnaturally, one of despair.

Midway between the positions once occupied by the vanished craftsman and the now-hysterical artist stands the designer. He alone represents the visual esthetic as against the technical, and his position is one of peculiar weakness. He has no more than a fraction of the earlier artist's skill, and he is expected to bear a responsibility which used to be shared by several. It is far from clear in what his skill is supposed to consist. He can do little more than express a preference for this shape or that color, there being no obvious retort for him to use when told that someone else prefers a different shape and the opposite color. Placed in this unpromising situation, the designer's first instinct is to clutch at the straw of a university degree. So the American universities have set up departments

"The artist and painter can talk drivel, if they like, about the significance of the abstract, but nothing will alter the basic fact . . ."

in which people study everything from landscape architecture to art history, from color engineering to theatrical decor. With the degree, when secured, has come the urge to be regarded, first and foremost, as an executive. The beard, the beret, and the sandals have been discarded in favor of the gray flannel suit. The struggle has begun for the designer to establish himself in the world of the Organization Man. At their annual design conference last summer in Aspen, Col., the designers had mostly to admit their relative failure. They have penetrated the hierarchy of the Corporation but on too low a level to gain much influence. Their views carry little weight and current standards of design remain distressingly low.

The contemporary mess is not purely a matter of esthetics but is at least partly a matter of ordinary common sense. We are afflicted in the U.S. with unending bright ideas but too often in fields where no improvement is needed or where the value of the innovation is negated by the added complexity or confusion. Take as a simple instance the automobile door handle. As we struggle to emerge from a friend's car, he says: "You have to push *up* (or *down*)" or "You press that nob and then turn." To replace the hinged door by one that slid would be to remove an obvious danger, but to have variations in door handles is merely silly.

Then, there is the jungle of electric light fittings. A modern living room is afflicted with a rich variety of ceiling and wall fittings, standard lamps, table lamps, reading lamps, and bulbs so contrived as to illuminate the goldfish tank. But no two fittings are in the same place or work the same way. Plugs vary in shape and voltage, switches flick downward or sideways, push through or twist in either direction. There are rooms which, when entered, seem to have no switch at all, compelling the visitor to blunder about in the dark, overturning the flower vases, smashing the china,

"And what of the rebels?"

"Those who failed to conform to certain long-accepted standards had some reason perhaps to feel aggrieved. What they failed to realize was that the Royal Academy was serving them in two ways."

and finally switching on what proves to be the air conditioner or radio.

Added to the confusion of the lounge is the nonsense of the bathroom. By a world-wide and tacit agreement we have learned to assume that a screw goes in clockwise and is to be extracted in reverse, any variation of which practice would lead to civil commotion and justifiable homicide. It is also widely agreed that a bathroom or kitchen tap (being a type of screw) should work on the same principle. To the U.S. belongs the dubious distinction of reducing order to chaos. Taps will nowadays turn either way, not merely in the same home but over the same basin and against the same faked tiling. There may be, in slight compensation, a growing tendency to place the hot tap on the left, but what is this compared with the sacrifice of a principle basic to civilization?

If the bath and basin taps are stupidly contrived, what are we to say of the showers? Here the accepted technique is so to contrive matters that the user of the contraption can adjust the taps only while *in* the shower. As he fumbles to reconcile the hot and the cold and achieve an acceptable compromise—an adjustment made more difficult by his doubts as to which way the taps are supposed to turn—the bather must be the subject of his own experiments. Under alternate showers of boiling and icy water, he makes frantic efforts of adjustment, thinking the while how easy it would have been to place the taps outside the danger scene. In this, as in so many other fields, the spirit of private enterprise has gone far beyond the limits of the rational. The crying need is to standardize on the basis of common sense and ban all innovations which are merely for the sake of novelty. In matters as indifferent as taps, it is best to agree on a pattern and

stick to it. These clever ideas are a perennial inconvenience to everyone.

Things in common use—cities, streets, offices, stores, homes, gardens, tables, chairs, pots, pans, plates, glasses, knives and forks—all need redesigning so as to fit the world in which we live. Take cities for example. We realize that many European cities have achieved, by accident, a plan which, for motor traffic, is bad. We seldom remark that nearly all American cities have achieved, by design, a plan which is worse. Yet the fact is clear that rectangular planning is among the worst things possible for traffic, offering nothing but blind intersections and right-angled turns; and a sharp 90 degree turn is one thing the motor vehicle cannot normally do. Caught in the rectangular web of the Midwest countryside and city, we spend our lives traveling two sides of a rectangle instead of taking the diagonal.

What is needed, surely, is a broad agreement on essentials. Life is too short and genius too scarce. The ordinary designer, like the ordinary architect, is far happier when working within the framework of an accepted style. An architect has enough to do in applying a general tradition to a particular problem; we cannot expect him to evolve a different idiom for every structure he attempts to plan. Even within the strictest limits of eighteenth-century formalism, one design will still differ from another. When all houses were Georgian, when all gates were wrought iron, when all chairs were mahogany, there was no lack of distinction in the work that was produced.

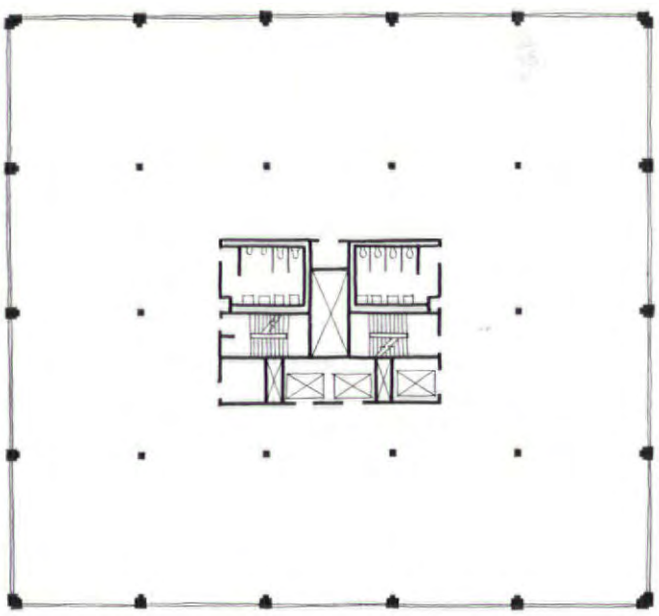
And what of the rebels? Heaven forbid that we should have a world so regulated that individuality is lost. There have been periods, it is true, when the arts have been overdisciplined. In Britain, for example, the establishment of the Royal Academy did much to strengthen the position of the artist in society—and yet did something, at a later period, to discourage originality among British painters. Those who failed to conform to certain long-accepted standards had some reason perhaps to feel aggrieved. What they failed to realize was that the Royal Academy was serving them in two ways. In the first place it had won for them their position in the national life. It excited no comment in nineteenth-century society if the President of the Royal Academy were seated at the same table as the Archbishop of Canterbury and the Lord Mayor of London. His position was as firmly established as theirs. Something of his dignity was transmitted to all artists. In the second place, the Royal Academy gave the eccentrics something against which to rebel. The pathos of the current Bohemian, the tragedy of the Beatnik, is that there exists no orthodoxy for him to condemn. He can do what he likes without shocking anybody because no one is even interested. It is impossible to stray from the path where there is no path.

PHOTOS BY LEE BALTERMAN; DRAWINGS BY WALTER McQUADE

Distinctive façade pattern and ground-floor displays give IBM a commanding corner in "uptown" Detroit.

IBM: an office at home

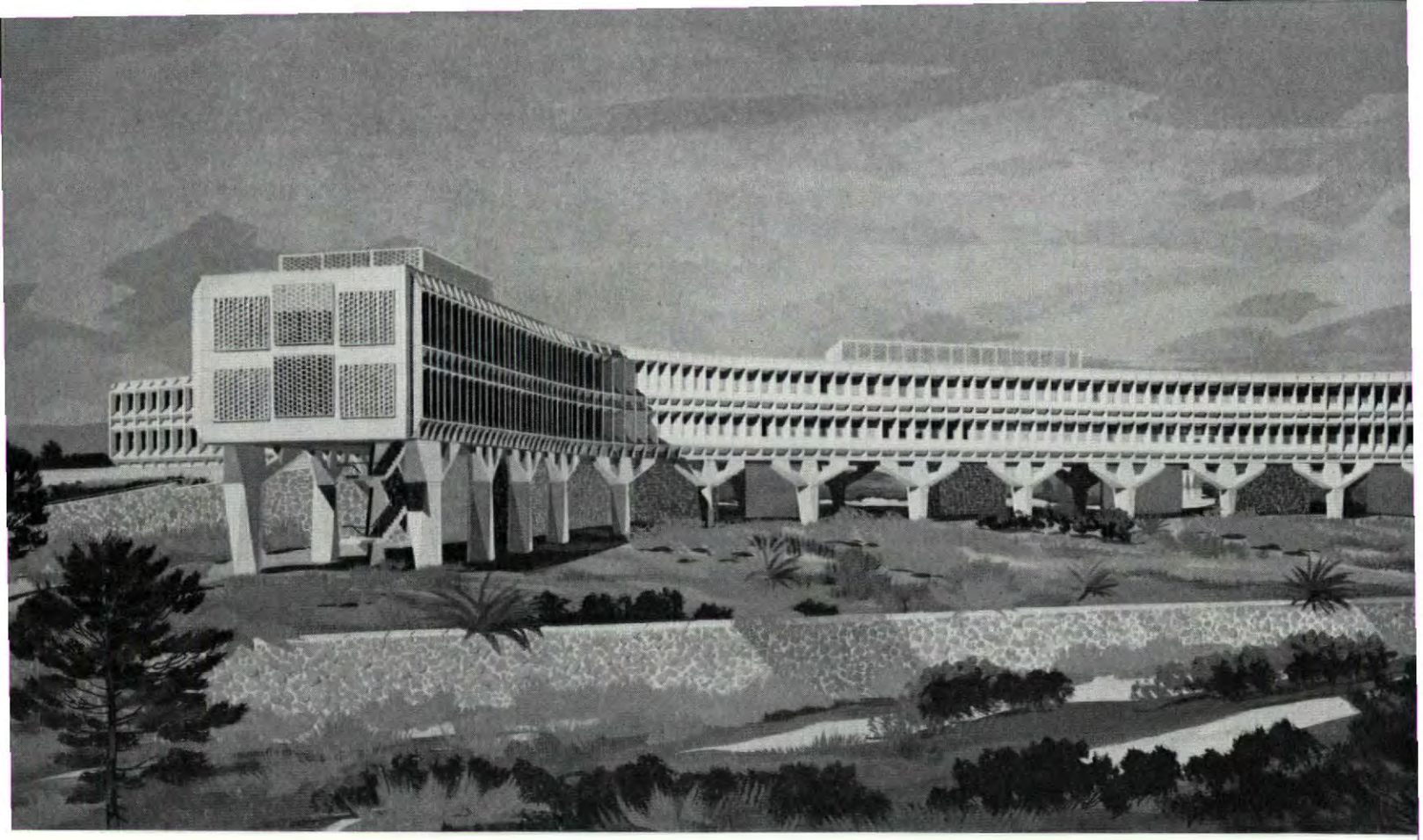
Well known for its attempts to balance a big building program with good design, International Business Machines continues its efforts with two new, and quite different, headquarters here and abroad. The new branch office in Detroit (this page) typifies IBM's search for quality—at a reasonable price. Like most of the company's new U.S. field offices, it was built by investors to IBM standards and leased under long-term contract. Working with New York Realtor-Investor Max Philippson and IBM's real estate department, Architects Pedersen & Tilney designed a trim building of six stories and basement (102,000 square feet) whose most striking feature is a slimly vertical curtain wall of porcelain enamel panels which Color Consultant Eszter Haraszty imaginatively graded from a dark blue at the bottom to a light sky hue at the top. Careful attention to details brought total construction costs down to $20 per square foot, compared to local averages of $25 to $30 for similar jobs. Economies include a squarish plan (116 by 124 feet) enclosing maximum space with minimum exterior wall; a compact service core occupying only 14 per cent of floor area; all glass fixed in place, more than balancing long-term costs of a mechanical rooftop washer; continuous, single-tube fluorescent troffers on the building's 4-foot module, which give unusually uniform light and support the acoustical tile ceiling. Associate architect: Robert F. Swanson Associates. Engineers: Edwards & Hjorth (structural); Jaros, Baum & Bolles (mechanical, electrical). Contractor: R. E. Dailey & Co.



Squarish plan and compact services economize on space.

A 24-foot setback yields an entrance garden and sitting area.

PHOTOS: © BALTAZAR KORAB

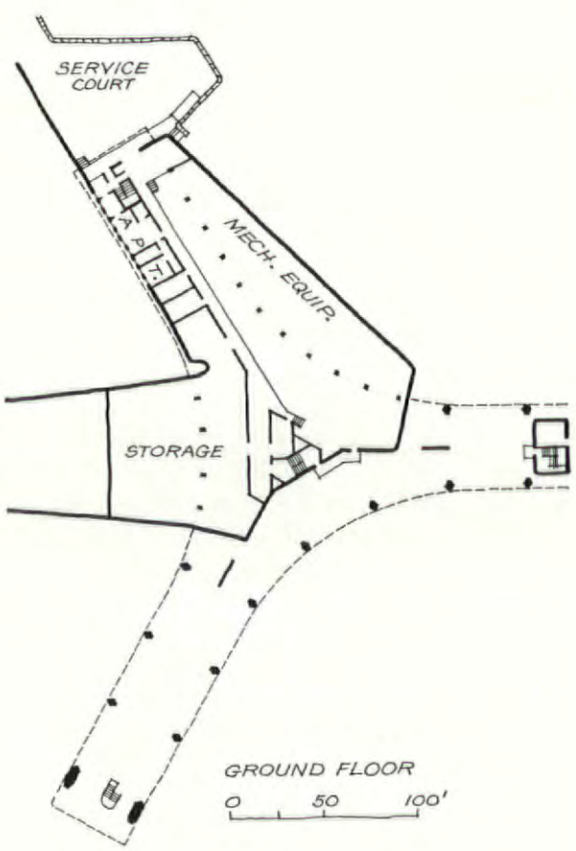


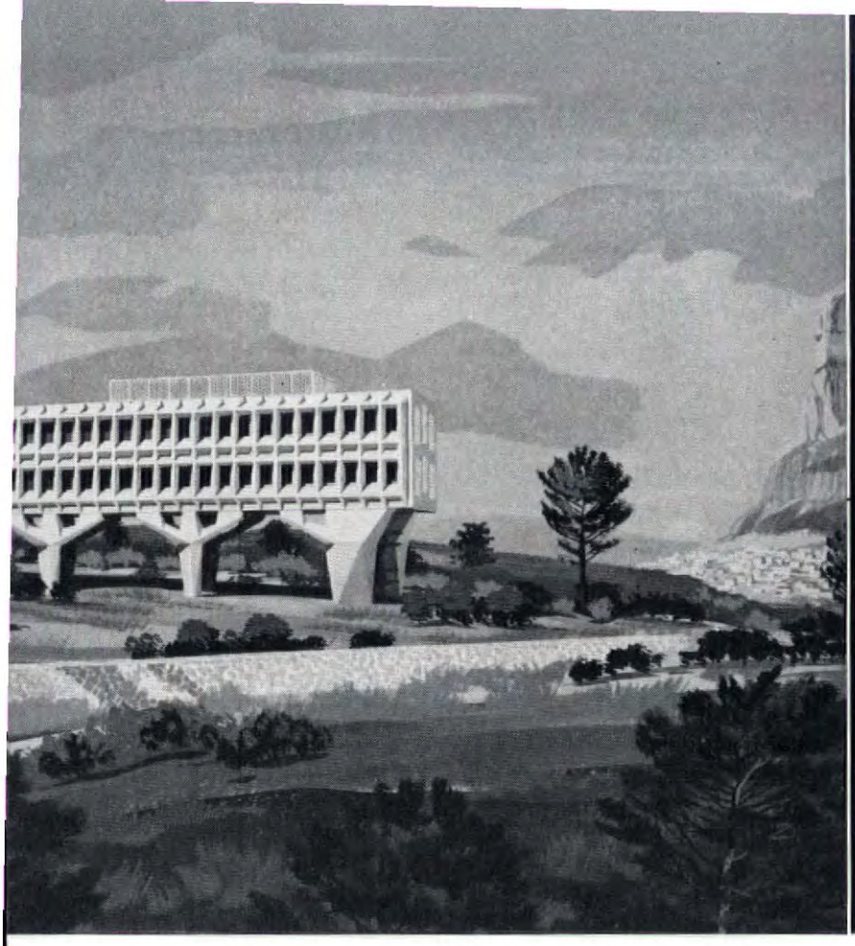
IBM: a laboratory abroad

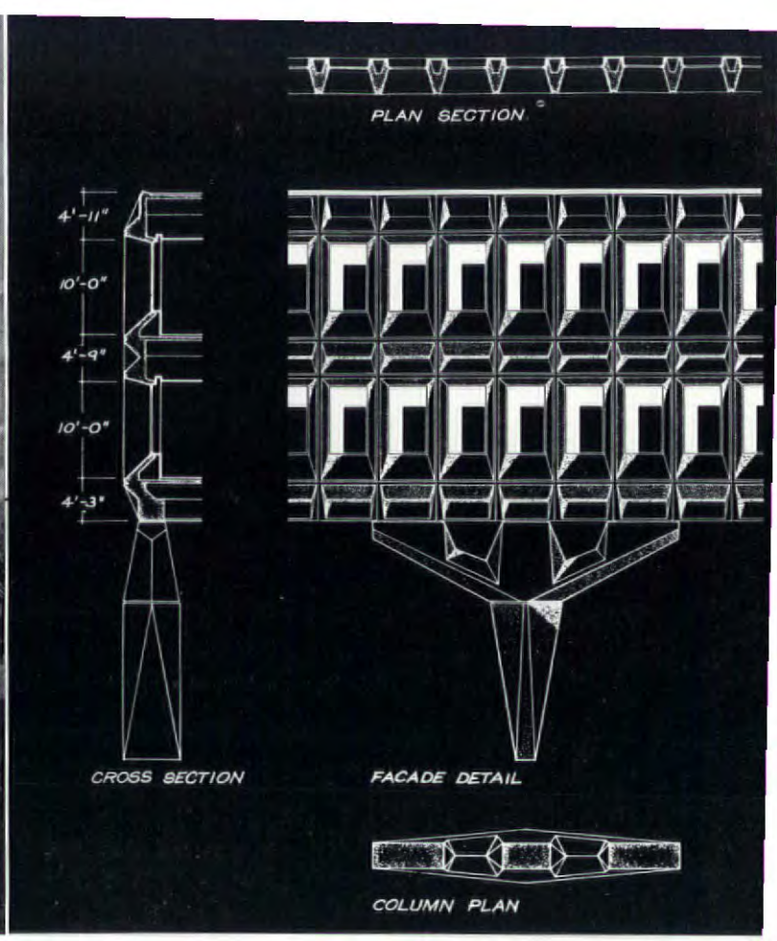
As different as the French Riviera from Lake Erie, IBM France's new research and development center under construction at La Gaude straddles a high and hilly site above Nice with muscular legs carrying a deep-shaded concrete façade. From a distance, the scheme is faintly reminiscent of ancient Roman aqueducts still standing in southern France, though the modeled, faceted concrete posts seem quite capable of carrying six or eight stories instead of two. Architect Marcel Breuer's double-Y plan, 550 feet long, provides all laboratories and offices with the exterior daylight dear to French scientists' hearts.

The bright Mediterranean sun is brought under control by the 3-foot depth of the precast façade, cutting down on solar heat load and air-conditioning costs.

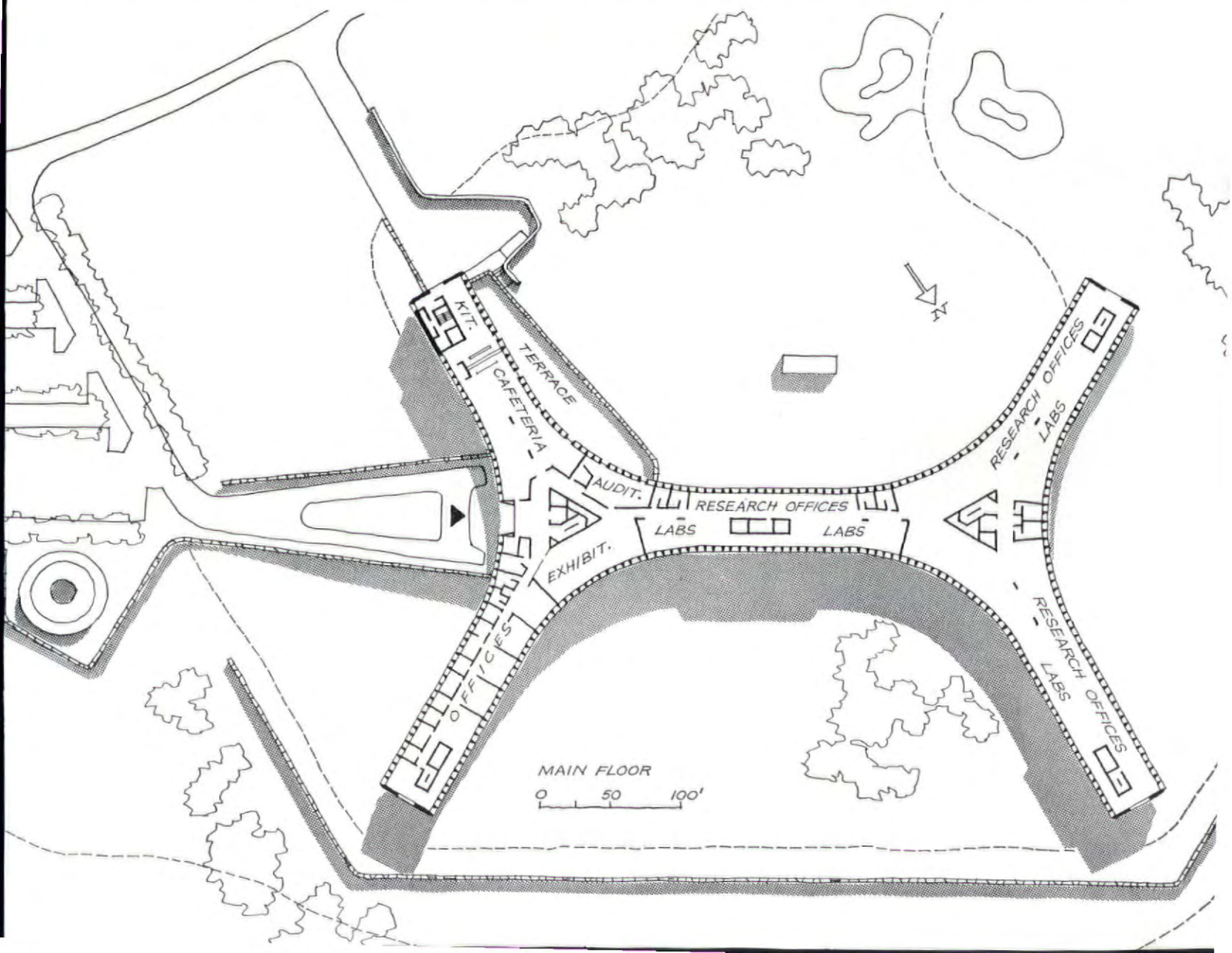
The façade is structural, and channels both horizontal and vertical runs for electric, gas, water, and other laboratory service lines, which are readily accessible through removable panels inside (section opposite). Regular mechanical systems less subject to change—duct-work, lighting, telephone and power lines—are kept separate in the usual spaces between finish ceiling and floor. Despite heavy live loads of 125 pounds per square foot, the 40-foot width of typical floors is clear-spanned, allowing partitions to be changed around at will. Local rubble stone ties the building to its site. It is used in terraced retaining walls and an auto-entrance ramp outside, in service cores and mechanical storage spaces beneath. Associate architects: Robert F. Gatje, New York, and Richard and Michel Laugier, Nice.



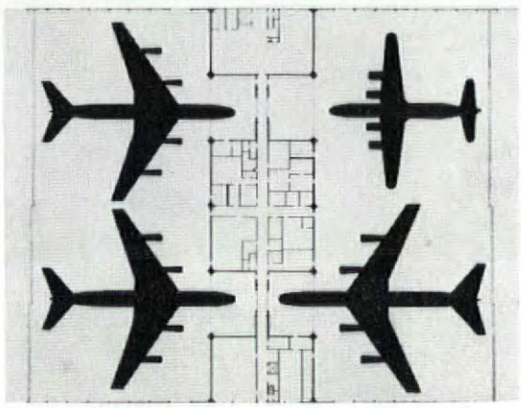




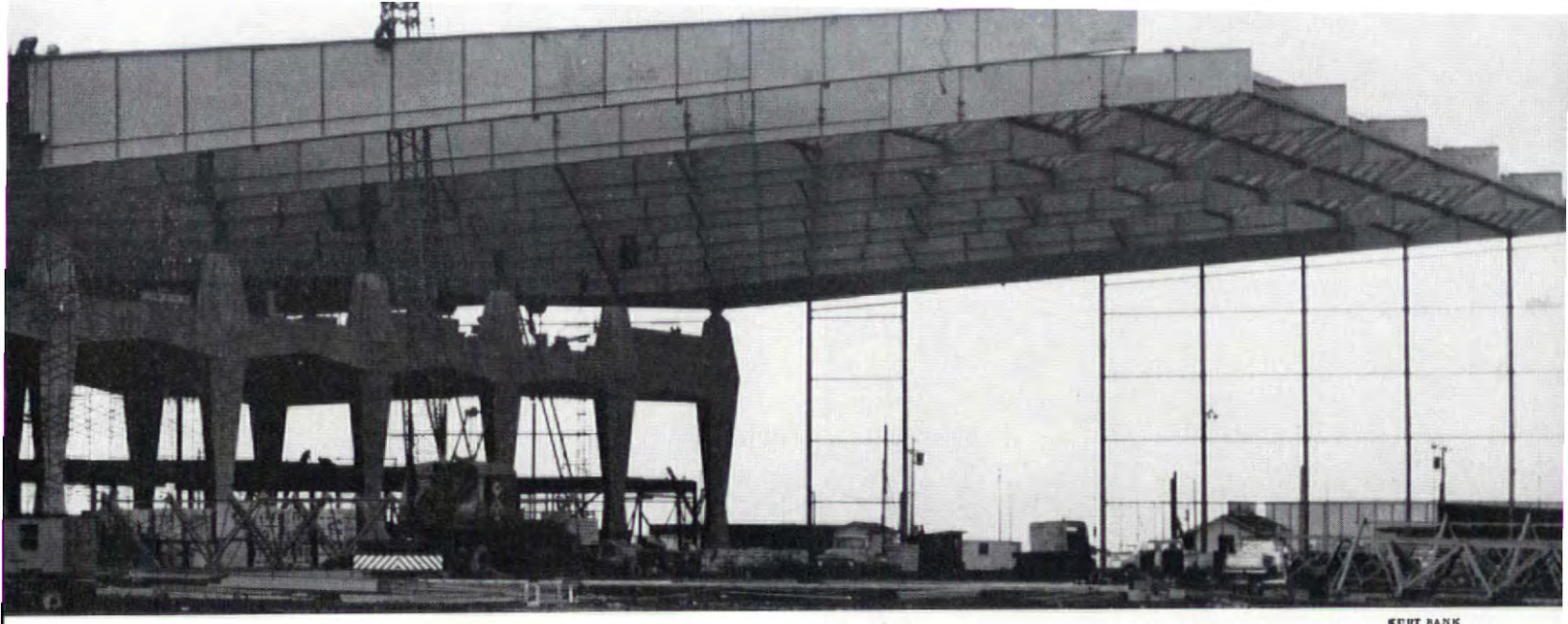
Deep precast façade for French IBM building provides structure, sun shading, pattern, and raceways for laboratory service lines (above).



Muscular concrete columns of the main hangar support sweeping steel cantilevers.

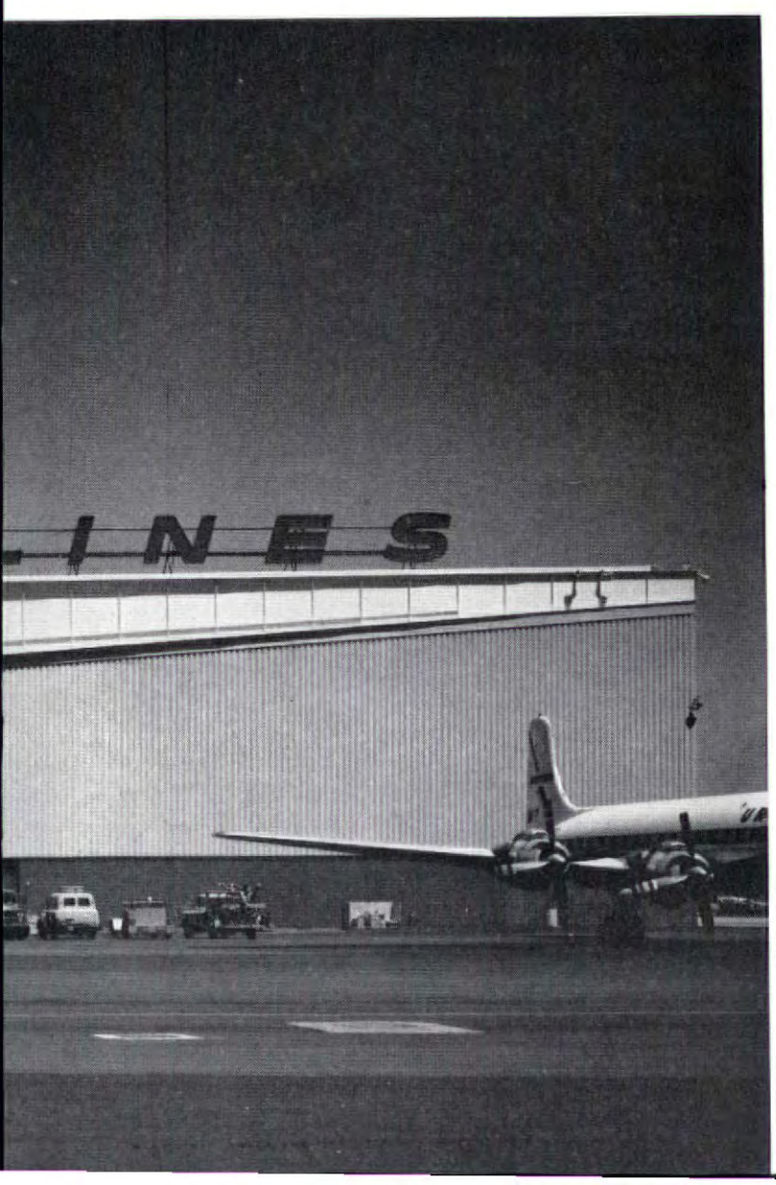


Sheathed in metal, the structure is expressed clearly on the façade.



KURT BANK

Jet-age hangars



MORLEY BAER

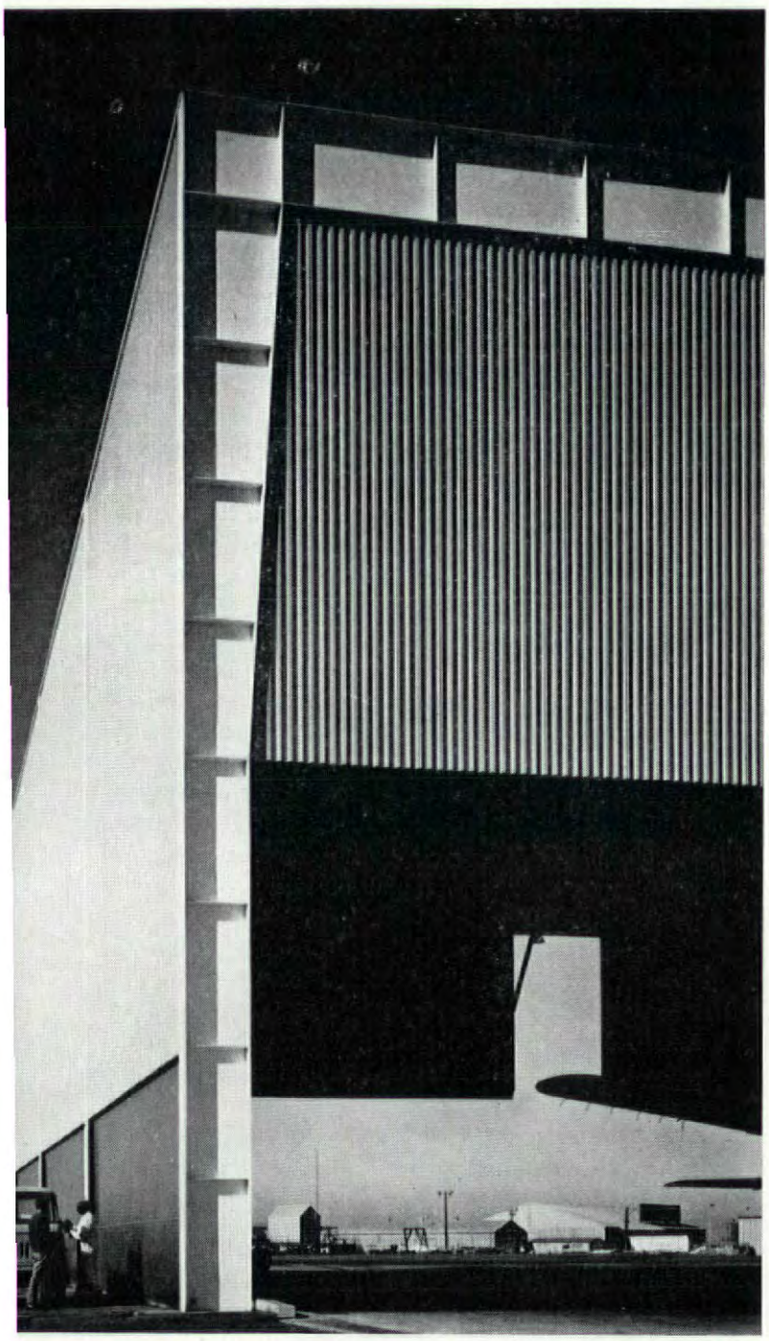
An outstanding exception to the generally low design level of large industrial buildings is the United Air Lines jet service center at San Francisco's International Airport, designed by Skidmore, Owings & Merrill. In addition to the two hangars which appear in these pages, two other principal buildings (a flight kitchen and boiler house) are spaced widely on the 40-acre site.

The main hangar, with berths for four giant DC-8 jets, clearly dominates the complex, both in its sweeping breadth and in the power of its design. Seven pairs of muscular, reinforced concrete columns, whose shape follows the theoretical curve of stresses, form the two-story central maintenance core and support the great cantilevered steel girders which taper from a depth of 14 feet at the columns to 5 feet at the tips. Between the girders, 5-foot-deep triangular space trusses carry the light-gage metal roof deck and stabilize the girders against vertical twisting.

By permitting the noses of the planes to penetrate the central core, the architects were able to reduce the necessary length of the cantilever; the DC-8 is 150 feet long, but the cantilevers span only 142 feet on each side of the 80-foot-wide core. The design is equally ingenious in the way it anticipates future expansion. The repetitive system of construction, with each column-girder unit independent of all others, lends itself easily to the indefinite addition of bays.

Both in structure and in plan, the design of this hangar is truly distinguished. And the spaces which it creates are magnificent in scale, grand in the tradition of Nervi's hangars at Orvieto. But, given an ingenious plan and an

Wash hangar, at left of the main hangar (above), is framed in a delicately detailed skeleton of welded steel.



eminently practical yet highly dramatic structural system with which to carry it out, the difficult question of how to enclose the great spaces without diminishing the impact of the structure remained.

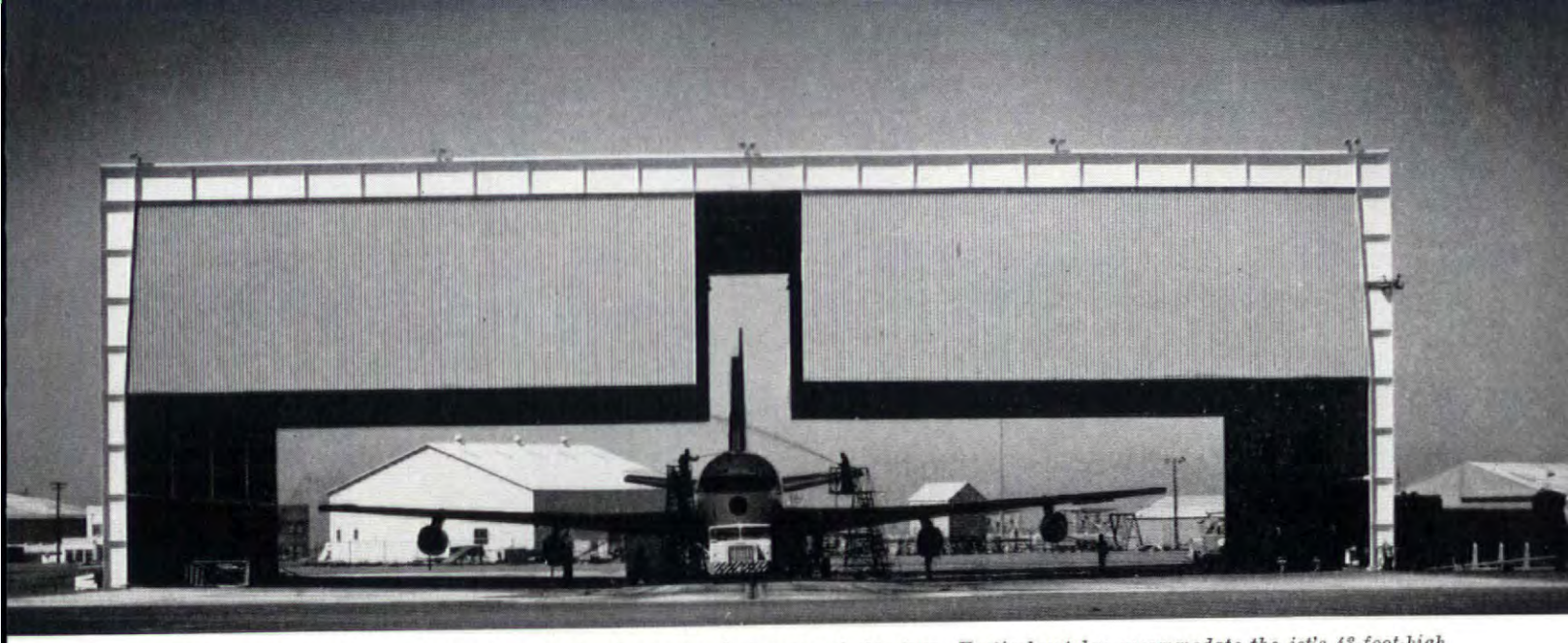
Sheathing such a virile structure successfully is always a problem. The architect's original proposal to glaze the roof and walls would have left the structural members in maximum definition and would have been a very effective corporate advertisement. Unhappily, United rejected this idea owing to its higher initial cost (an added expense which SOM estimated would amortize itself over a period of 17 years due to its lower cost of maintenance). It chose instead to sheath the building in metal, assuring that structural expression could occur only on the opaque façades, rather than through translucent ones.

The smaller wash hangar is designed to handle one jet at a time in a magnified version of the quickie car wash: the jet goes in one end dirty and comes out the other end clean. And whatever majesty the hangar lacks by comparison in size to the main one, it more than redeems in the refinement and economy of its feather-light structure. Five welded steel frames at 40-foot intervals create an almost square clear span about 160 feet wide, just big enough to hold one of the jets comfortably (the hangar is only 50 feet high but slotted façades permit the 43-foot-high tail section to pass through unobstructed). Intermediate trusses brace the frames laterally and support the 18-gage metal roof deck. Lightness and economy are the results: 160 tons of structural steel went into the 26,600-square-foot hangar at a cost of $370 per ton erected, or only $2.22 per square foot. But perhaps the best testimonial to the delicacy with which this structure has been engineered is to be found, not in figures, but in the impeccable clarity and finely etched lines of its façade—compelling proof that industrial structures, built for economy and utility, can also be handsome.

Total cost of the main hangar, for 155,360 square feet of space, was $3,078,448.

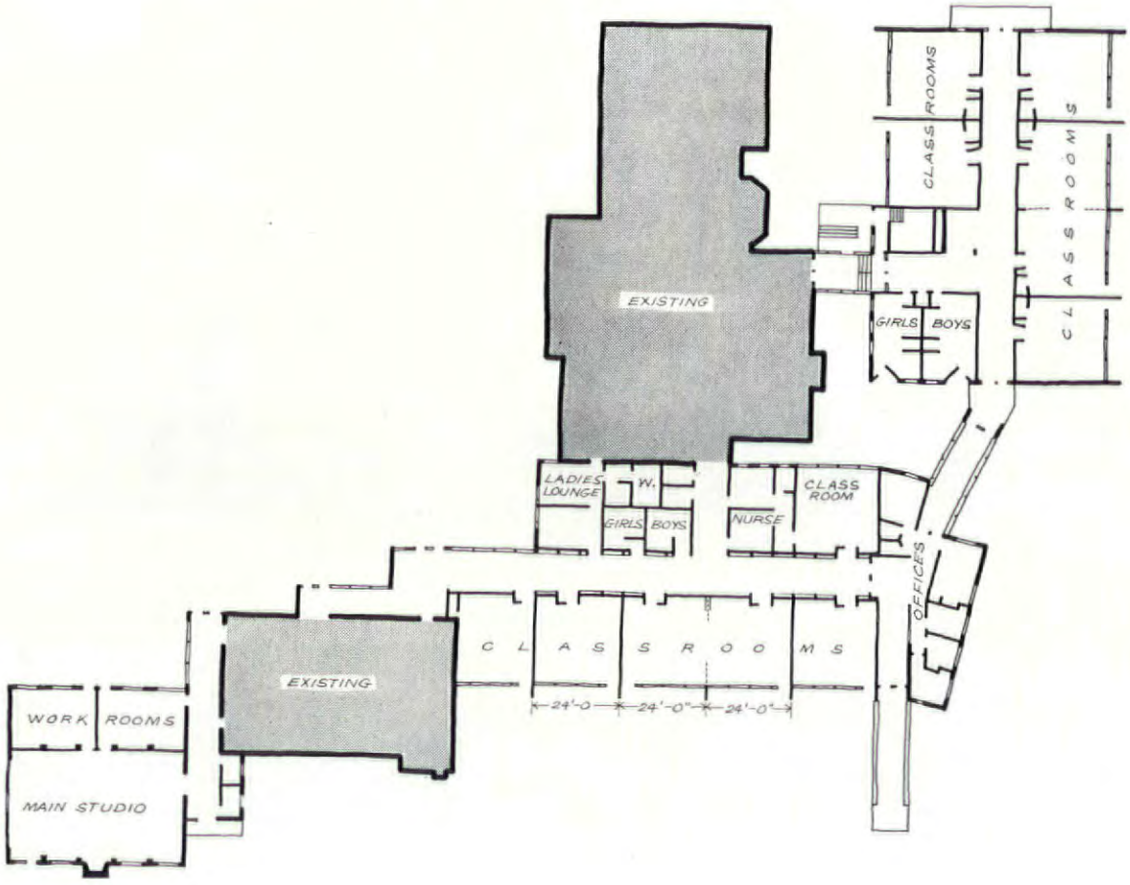
Total cost of the wash hangar, for 26,600 square feet of space, was $428,380.

Architects and engineers: Skidmore, Owings & Merrill (Myron Goldsmith, chief structural engineer). General contractor: Dinwiddie Construction Co.



Precise lines of the wash hangar's façade suggest refinement and economy of structure. Vertical notches accommodate the jet's 43-foot-high tail section. With a clear span of 160 feet, the hangar processes one jet at a time in a magnified version of the quickie car wash.

PHOTOS: MORLEY BAER



Friendly school

The Tatnall School, in Wilmington, Del., is an opportunistic agglomeration of buildings which stubbornly, and happily, refuses to conform to any rigid, preconceived modular plan. Constructed as additions to an old Victorian house, the school turns angles where needed, shifts overhangs as desired, and puts clerestories where they seem convenient. And it concentrates on just two things: providing the kind of child scale which is really welcoming and encouraging for children; and surrounding the children with textures, colors, exhibits, and other visual experiences to help them grow faster.

As the pictures show, there are sudden alcoves where a teacher can play an old piano and either sing or tell stories with it. The classrooms are small, usually for about 15 students, with windows looking out on a beautiful Delaware landscape; plastic clerestories glow brightly from the other side of the rooms. Outdoors, a snake wall between the cars and the classrooms stakes off little courts where groups can meet informally. Warm materials, particularly brick and natural woods, have been used both inside and out to provide cheerful surroundings of varied textures and colors. The only regret one might feel on visiting the school is that so few children get education in surroundings like these compared to the millions processed in unfriendly educational factories.

Architect: Victorine & Samuel Homsey. Structural engineer: Louis H. Doane. Mechanical and electrical engineer: Eggly-Furlow. General contractor: Rupert Construction Co. Cost figures not available.

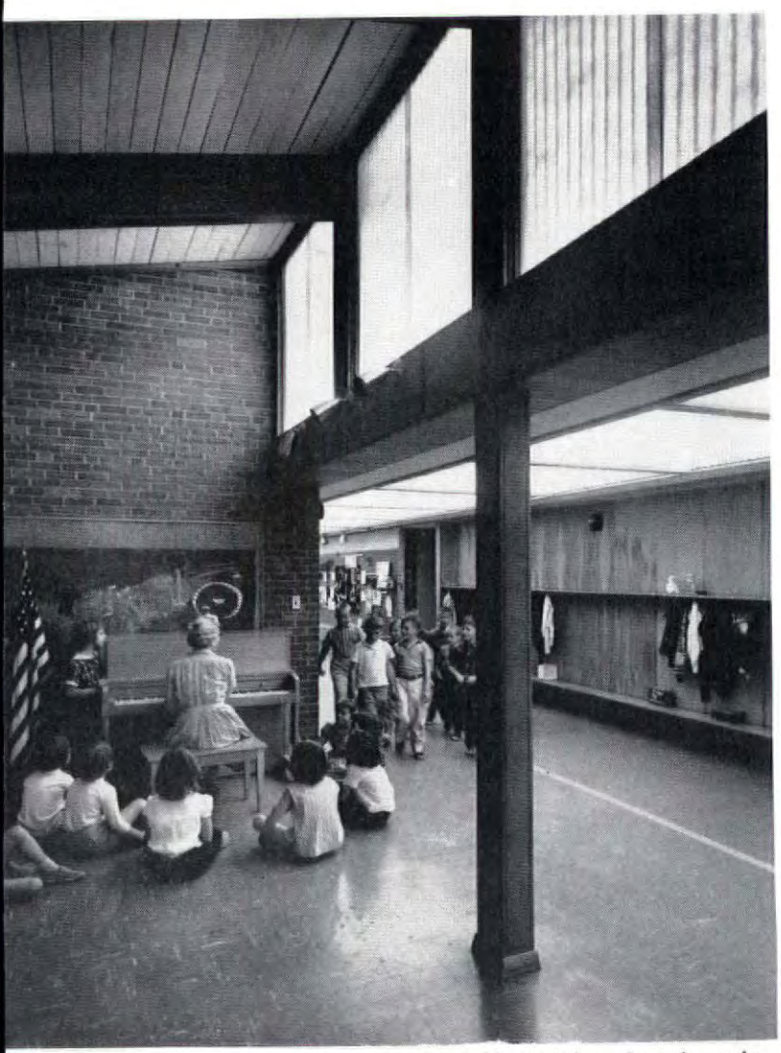
JOSEPH W. MOLITOR

Benches, scaled to children, line walkways outside classrooms.

WILLARD STEWART, INC.

Low masses in warmly textured brick welcome children.

Gently curving snake wall separates cars from classrooms and forms a little court where groups can meet informally.



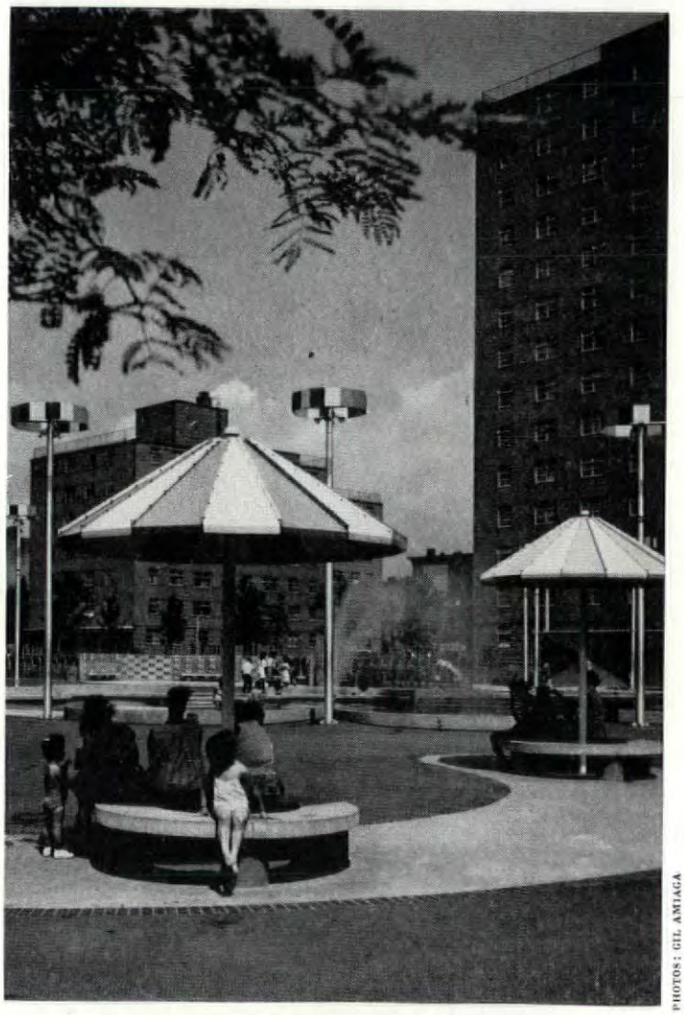
In a corridor-alcove, a teacher holds an informal music session.

PHOTOS: (RIGHT) JOSEPH W. MOLITOR; (OTHERS) WILLARD STEWART, INC.

Deep overhangs frame countryside view from classroom windows.

Plastic clerestories glow brightly from other side of classroom.

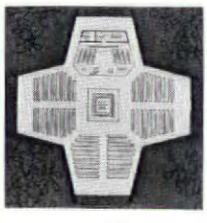
Harlem's playful playground



PHOTOS: GIL AMIAGA

The Gala East Harlem Plaza is Manhattan's first outdoor cultural and play center in a public-housing development, and it is a model of brightness for the nation to follow. Originally intended to be a typical asphalt lot enclosed by high wire fences, the area was saved by the collaborative efforts of the James Johnson Community Center and the architectural firm of Mayer, Whittlesey & Glass. Financed jointly by the New York City Housing Authority, the FHA, private foundations, and individuals, at a cost of $40,000, the plaza attracts both children and adults in large numbers from the racially mixed (Negro, Puerto Rican, Italian) neighborhood. Chief elements of the plaza are the sunken wading and spray pool with its scalloped seating shells, and the gently curved bandstand-stage which faces it. The circular pattern is repeated in the informal sitting and play areas which cluster fancifully around the central elements. Brightly painted metal umbrellas and light poles reinforce the fact that this plaza, unlike so many small city playgrounds, is indeed a place of gaiety. General contractor: Cody Contracting Co.

Chapel for boys' school

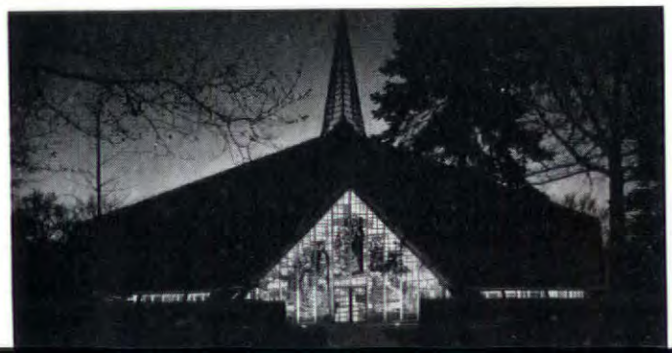


Right on Philadelphia's conservative Main Line, Episcopal Academy's new Christ Chapel is a simple but striking attempt to personalize religion by eliminating many of the time-hallowed barriers between minister and congregation. Following suggestions made by the boys themselves, Architect Vincent G. Kling chose the Greek Cross plan, placing the altar in the center of the church, surrounded on three sides by the congregation and, on the fourth, by the sacristy, choir, organ, and pulpit. Three portals provide easy access for the 600 daily worshippers.

Above the gabled roof, a flèche of bronze and glass bathes the altar in natural light by day, and glows from reflected interior light at night. Intimate scale, with simple materials handled carefully throughout, makes this chapel a warmly inviting place for worship.

Total cost, including furnishings, for 9,873 square feet of space was $392,496. Architect: Vincent G. Kling. Structural engineer: Keast & Hood. Mechanical and electrical engineer: A. Ernest D'Ambly. General contractor: John S. McQuade.

PHOTOS: LAWRENCE S. WILLIAMS



New life for city industries

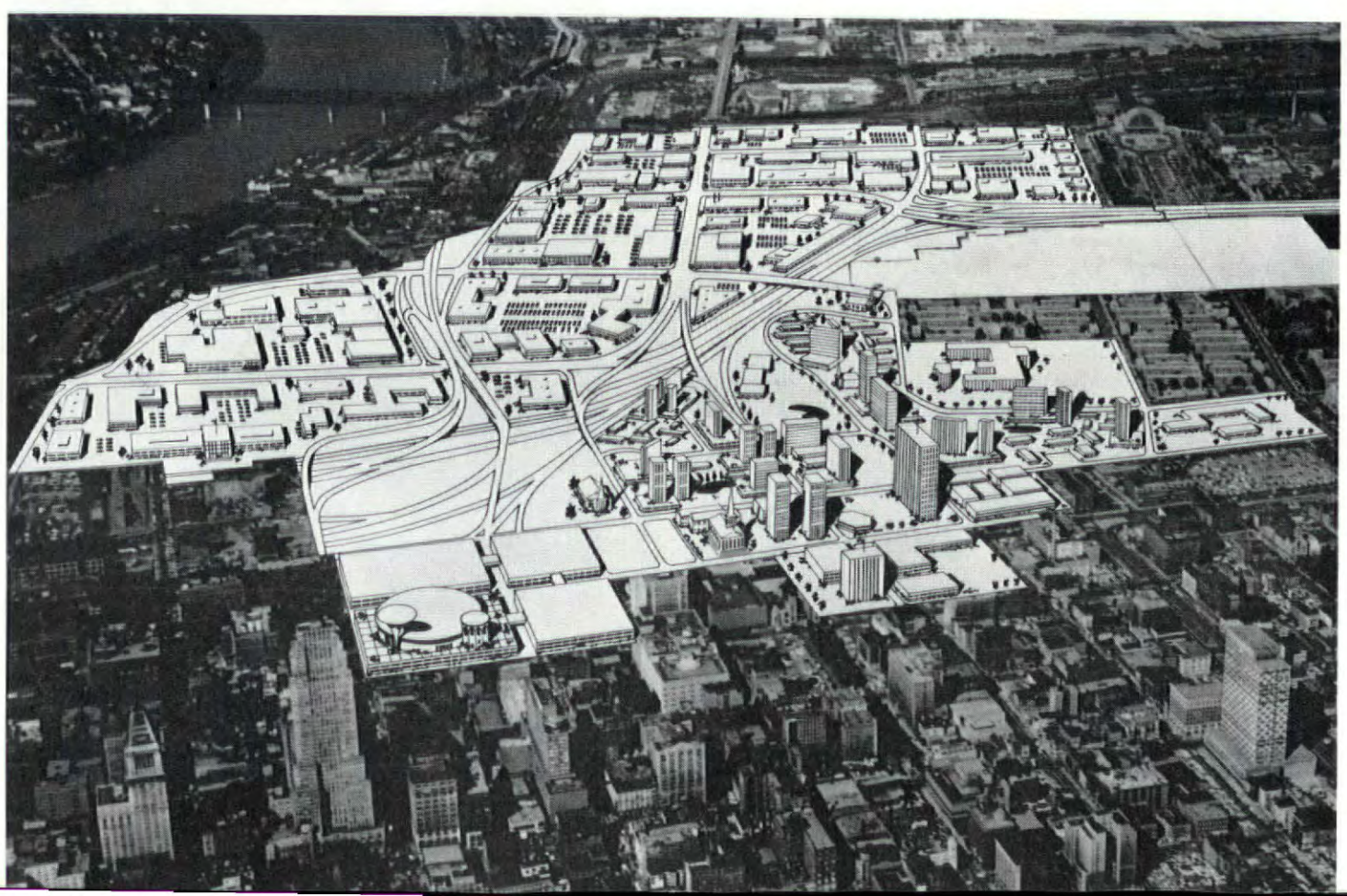
Cincinnati's Kenyon-Barr project shows how urban renewal gives industry a chance to stay downtown.

BY DAVID B. CARLSON

Of all the oft-cited reasons behind the postwar outflow of industry from central cities, probably none is more obvious than the need for space and amenity. Modern industry has broken its nineteenth-century mold, the grim, gray city grid with grimy buildings thrusting upward three and four stories from the edge of broken sidewalks, and fled to the suburbs where it erects shiny, metal-glass sheathed one-story plants sprawling midst the shrubbery. Cities, paralyzed by industrial as well as residential slums, have until recently appeared helpless to offer any alternative to outward-bound industry. But, just in the past few years, this has changed. Cities are now finding ways to provide needed space and amenity in pleasant urban surroundings, with the added plus of proximity to major business centers.

Perhaps the most striking example of how a city can reshape its industrial areas can be seen in Cincinnati, where quick-witted planners used one of the newer provisions of the urban renewal law to put together the big acreage of cleared land which is industry's first need within the city. Within the broad framework of the urban renewal program, they devised the pace-setting "Kenyon-Barr" scheme which will assemble 400 prime acres for industry and related housing, adjacent to the central business district, and at the same time will break through the chaotic pattern of jumbled street uses which had helped stifle urban industry into obsolescence.

Until recently, the urban renewal process had not been geared to meeting the needs of city-oriented industries. Kenyon-Barr would not have been possible under the original slum-clearance legislation passed in 1949, which strictly limited all types of nonresidential reuses, and did not permit clearance of areas that were not predominantly residential. In 1954 the law for the first time permitted 10 per cent of any single federal grant authorization to be applied to clearing nonresidential areas for industrial, commercial, or other nonresidential reuses. However, such reuse was permitted only if there was a sub-



Cincinnati's *Kenyon-Barr urban renewal plan will put 299 acres of new industry (low buildings above multiple freeway) close to downtown center (foreground). Also included will be more than 100 acres of housing and new government buildings (towers below multiple freeway).*

stantial amount of slum housing in the area which also had to be cleared. Finally, in 1959, the law was expanded further to allow federal aid for clearance of an area regardless of whether it contained any housing, but such non-residential reuses were limited to 20 per cent of total federal grant authorizations. It is also possible now to use conservation and rehabilitation techniques, without clearance, in such non-residential areas, although federal funds are limited again to 20 per cent of total capital grants.

There are now 24 "well-advanced" industrial urban renewal projects, out of a total of 437 projects of all types. And there are another 133 projects in which some part of the land will be available for industrial reuse. Numerically, it seems as if the program for industrial redevelopment were moving quite well, but in fact, it is so far extremely limited in scope. For instance, the average size of industrial urban renewal sites is only 26 acres per project, and the total acreage involved in all the two dozen projects exclusively for industrial urban renewal—472 acres—is barely the size of one large industrial park of the type that has been built in many suburbs. The most significant efforts, in terms of size and planning, made so far to use urban renewal as an instrument for revitalizing central city industrial areas, have been made in cities where such projects have been tied to new housing, such as St. Louis' Mill Creek Valley project (461 acres), Nashville's East Nashville project (437 acres), and Philadelphia's mammoth Eastwick (2,506 acres). The most carefully thought-out industrial renewal scheme, however, is Kenyon-Barr.

New life on the river

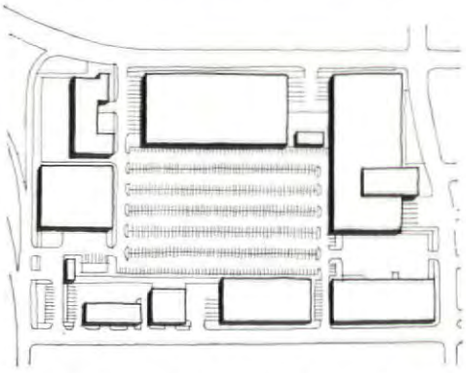
Before the railroads reshaped the city of Cincinnati, the area that is today included in the Kenyon-Barr urban renewal project was a fashionable residential section, with frame homes built on the hills that rolled gently back from the Ohio River. The railroads brought residential congestion in their wake and this was followed by a polyglot of commercial and industrial uses. Original tenants had by this time moved to the outlying hills, made more accessible by the advent of the electric trolley. Today, there are 10,295 dwelling units in 2,800 structures, and 98 per cent of the families in the area are non-white.

Cincinnati's planners, particularly since World War II, had been concerned about the shortage of suitable sites for light industry in the city. Partly because of topography and partly because of economics, industry was scattered throughout the city in an unstable manner. (A survey showed that 40 per cent of the city's light industries had been in their present location less than ten years, moving frequently to peripheral areas as demands for space and transportation facilities became intensified.) Recognizing the contribution such industry makes to any city's economic health, the planners determined to make land available in the Kenyon-Barr area, slum ridden but well situated for new industry. Part of the area was already slated for a new expressway, and the whole of it was within walking distance of the city's central business district. To aid in relocation and also to attract new families, 44 of the 400 acres in the total project were designed for housing accommodating a broad range of rentals. There would be some market for high rents in apartments very close to the central business district, and low-rent families would be housed nearer the industrial section itself or in new moderate and low-rent housing numbering nearly 3,000 units, in other nearby projects. The residential section will be separated from the industrial area by the six-lane Millcreek Expressway, which cuts diagonally across the whole project area and provides ready access to business areas to the northeast and to Kentucky, across the river to the south. Another 24 acres were set aside for a government center, with a new city hall, federal and state office buildings.

Given the proximity of the area to be cleared to the central business district and to transit, both motor and rail, it was obvious that the land would have to be used intensively to be economic. Costs of clearance (over $50 million) alone hinted at the seemingly staggering fiscal schedule. Net project costs for the whole area came to $25 million, of which the federal government is committed to pay $16 million. The dollar loss on property acquisitions and land sales came to $14 million, yet there was great economic justification, too. By 1971, when the cost of the project is expected to be fully amortized, property now valued at $14 million will be worth $60 million, the tax take from the area will have risen by four times what it is presently, and the city's investment will have been completely paid off.

Design turns tradition inside-out

One of the first jobs was to determine what should be the ideal limits of industrial land use in the area, allowing for street improvements, parking, and utilities. A special survey of industrial firms in the city showed that most would want to cover at least two-thirds of their individual sites with structures, leaving a third for parking, and loading or unloading, where that function was not performed inside a building. With this rough yardstick, it was determined that about 80 employees per acre could be accommodated in eight large superblocks without exceeding the one-third limit for parking and loading. An over-all optimum limit of 15,200 workers was then set for the area. However, this optimum figure assumes that no more than 50 per cent of all buildings will be multistory, since a majority of firms are expected to favor long, one-story buildings. But the basic land price of $2 per square foot (or $87,000 per acre) is so steep



that potential land buyers in Kenyon-Barr have indicated interest in more multistory buildings than were originally planned, and if such demand develops, the optimum densities could be vastly exceeded. This would mean replanning the parking and traffic densities, and the planning commission so far is not willing to exceed its predetermined densities for this reason. However, it is unwilling to speculate on this aspect of the plan until some land has actually been sold, and this will not be until 1962, based on the present clearance and resale schedule.

Assuming that the optimum density of 15,200 workers can be held, Kenyon-Barr could offer layout and convenience second to none. A highly developed highway network would relieve the parking and loading streets of through-traffic and would provide efficient motor-traffic patterns. (Only three of the eight superblocks can be served by rail under the present plan, since very few of the respondents in a survey of potential users indicated a need for rail spurs. These blocks would be reserved for warehousing.) Instead of the streets being used for through-traffic and off-street areas used for loading and unloading, the street would be used for local traffic only, and for loading and unloading directly from the street.

Actually most loading and unloading would be inside the buildings, and there would be some unique split-level patterns on sloping streets, with loading and unloading divided between upper and lower levels of what might look like a single-story building. Some loading operations would be at specially screened platforms. This plan would let the courtyards be screened from traffic movement by the buildings themselves, so that large parts of these courtyards could be used for pleasant employee recreation areas, service areas, and cafeterias—some of these serving several adjacent establishments.

Initial response to feelers for industrial tenants in Kenyon-Barr has been good—in fact, total demand for land would be 463 acres based on the initial survey, nearly twice the area available for industrial reuse. The survey indicated that most of the potential land-buyers would want to own their land, and that nearly three-quarters of them would need less than 2 acres. Typical of Cincinnati's small industry, the median net worth for all the responding industries was $75,000, and the median firm would have 42 employees.

Kenyon-Barr's most significant contribution to urban redevelopment does not lie entirely in its planning features, however. Equally important is the hardheaded realization by its creators that the city cannot compete for all industry on an even-up basis with outlying areas but rather that city-oriented industries must be helped to maximize the efficiency of their land. This is done not only through the establishment of high densities, but also through well-planned transportation systems, loading and parking schemes.

Needed changes for future growth

The start toward in-city industrial renewal is so far little more than a good start, despite the trail-blazing work in Kenyon-Barr and other locations. For one thing, the federal urban renewal law is still too restrictive to permit large-scale industrial renewal to be done in many cities. William R. Ewald Jr., assistant commissioner for Technical Standards of the Urban Renewal Administration, recently outlined some changes that are vitally needed to get knowledgeable industrial promoters and financiers interested in the program. Most important is to eliminate the stipulation subjecting redevelopment of cleared urban renewal land for industrial use to the same relatively short-time schedule that governs housing reuse. Ewald points out that "large scale modern manufacturing industrial districts with required utilities, rail and highway facilities, are not realistically scheduled for development in the short period typical of the industrial projects which urban renewal has provided to date." The problem is that the urban renewal law was written with an eye to preventing land speculation and assuring prompt redevelopment by the purchaser. Thus, it has operated to prohibit sale of cleared land to any person intending to resell to developers at a profit.

Under present law, it is not even certain that a nonprofit private corporation can hold such land while it is being promoted for resale. While some private industrial corporations have emerged to assist in-city industrial renewal (one of best-known is Philadelphia's Industrial Redevelopment Corporation, mentioned in FORUM, Feb. '61), the future of the industrial phase of the program cannot rely entirely on such corporations. What is needed is to redesign the program so that it will attract the industrial redevelopment corporations which can build new industrial facilities on a scale large enough so that a city will not have to worry about new industry being surrounded by blighted fringe areas.

Even the creation of vast industrial districts near central business districts cannot be expected to do the whole job, however. For one thing, it is too expensive, initially, for some cities to undertake it on the scale that would be necessary to be successful. And wholesale clearance of blighted industrial areas may even scare industry away. A report by Arthur D. Little, Inc., on Philadelphia's industrial plant, noted that "if the planning commission were to adopt the large-scale approach of wholesale clearance and new construction, some industries would have to seek space elsewhere or go out of business. It was felt that rents in such new structures would be too high." The report recommends spot clearance and rehabilitation for many areas, to keep them from deteriorating further, and also an emphasis upon facilitating the movement of goods, through street widening and off-street loading platforms.

Now that a start has been made, it is patently clear that urban renewal for industrial purposes is largely up to the cities and their industries themselves. As Ewald says: "Urban renewal to serve industrial development will be refined and improved and used only as the local development groups and industry choose to refine and improve and use it. Urban renewal has no force for industrial development of its own."

STUART WEINER

Paolo Soleri's visionary city

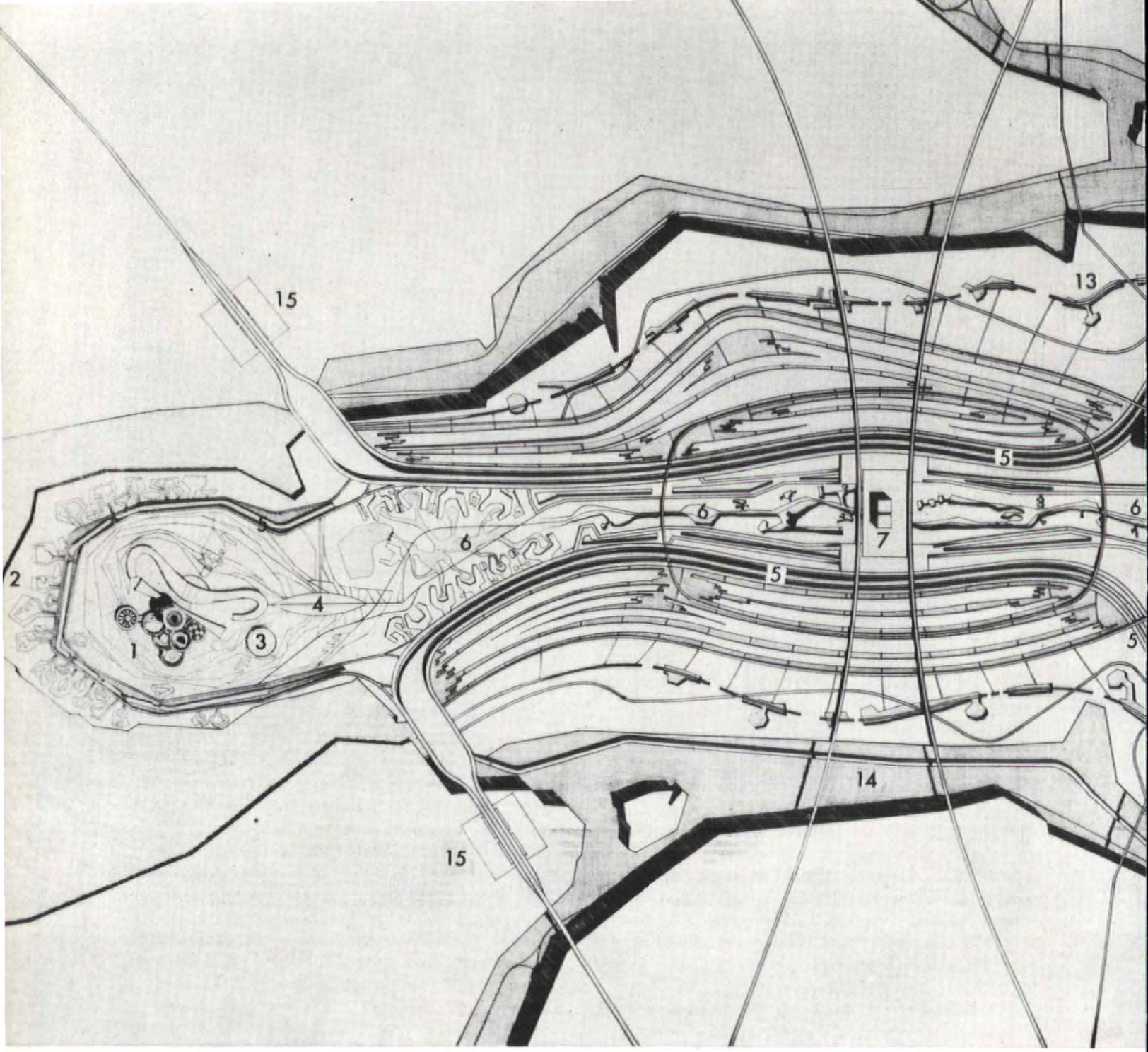
BY PETER BLAKE

The strangely convoluted drawing being completed above is part of the plan for an ideal "City on a Mesa." This city is not about to be built—indeed, nothing like it may ever see the light of day, although Paolo Soleri (FORUM, Feb. '61) hopes, some day, to realize his proposal. But, for the present, what Soleri is trying to compose in swirling lines drawn on hundreds of continuous feet of butcher paper is a poetic manifesto about the kind of world we might be living in—if only we decided to build in harmony with nature.

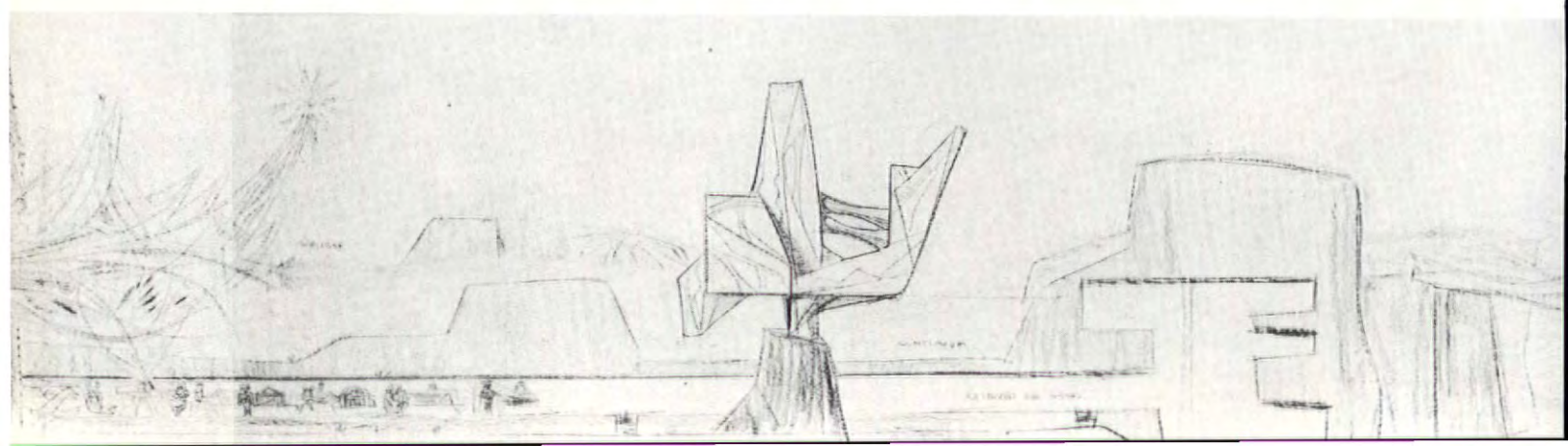
Soleri chose a mesa for his site because these large, elevated plateaus are part and parcel of the desert landscape in which he lives. A mesa has two chief characteristics: first, its life blood is water, and so Soleri proposed an elaborate system of dams, reservoirs, canals, and other waterways as the basic theme of his city plan; and, second, each mesa is an isolated plateau, almost perfectly suited to the kind of ideal, self-sufficient society that has always been the stuff of visionary dreams.

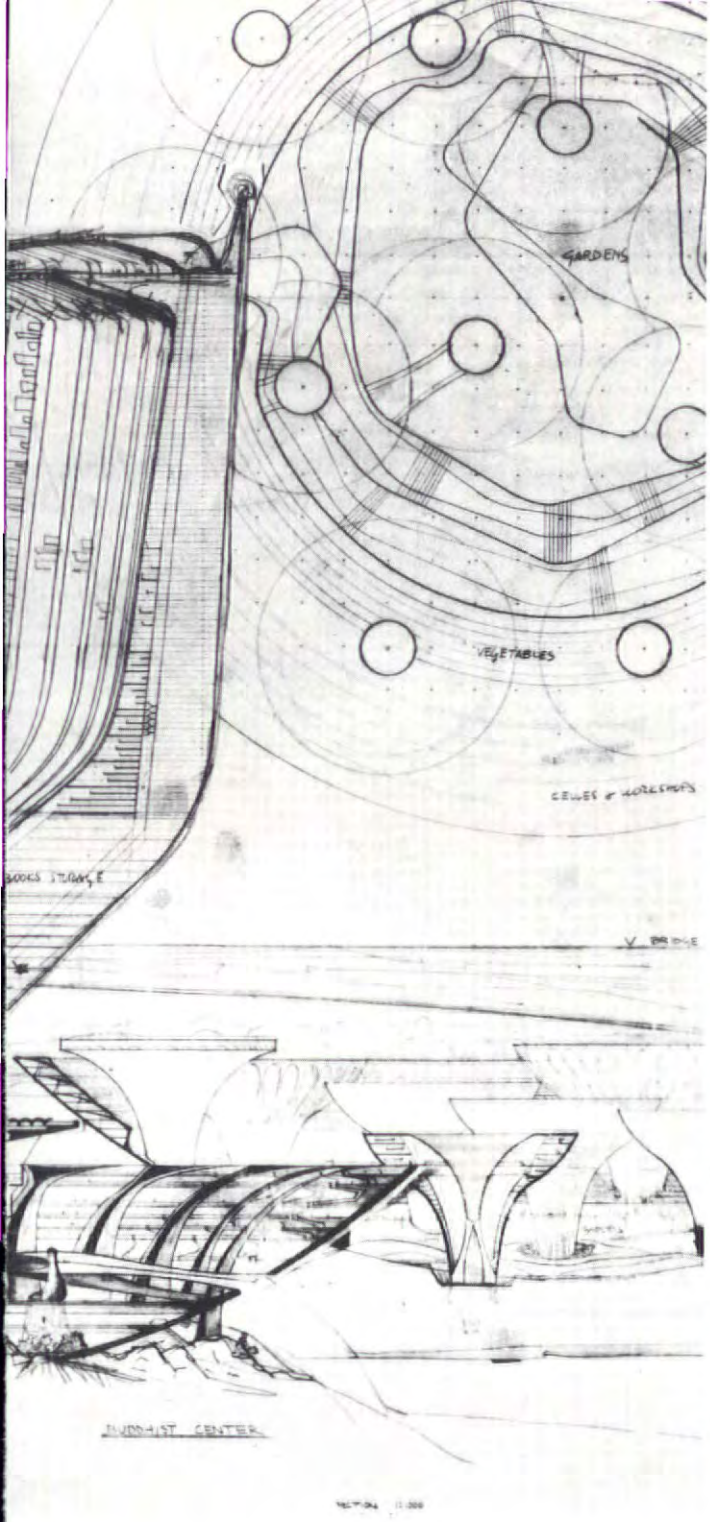
Mesa City was planned to house some 2 million people, on about 55,000 acres of land. The form of the prototype designed by Soleri (see next page) is, significantly, reminiscent of some organism in nature: an elongated shape, rather like a bone in plan, approximately 13½ miles long, and 6 miles wide at its widest point. The "marrow" of the "bone" is a 7-mile-long, man-made canyon and park (shown partially in the continuous drawing by Soleri reproduced at the bottom of these pages). The "muscles" surrounding the "bone" are multilevel bands of concrete and glass containing speedways, canals, markets, and light manufacturing facilities. These structures are shown in detail on the next seven pages.

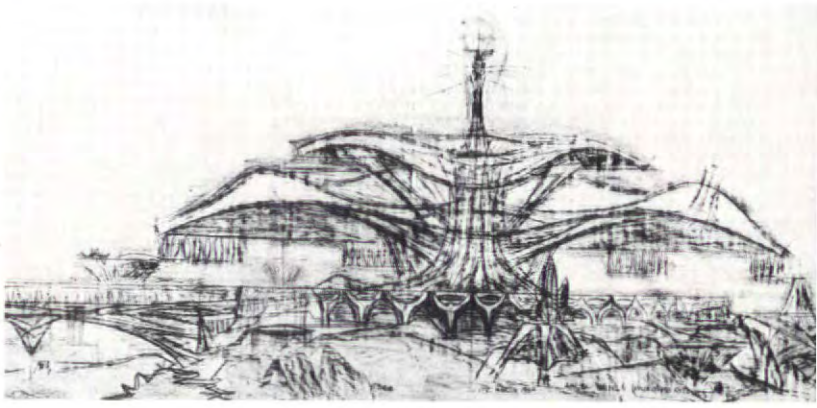
Practical planners may scoff at Soleri's vision; and the forms which he has given to his buildings are indeed fantastic. But his is a creative, rather than destructive, fantasy: for Soleri has tried to create a city that is not (like most cities) a place from which all inhabitants constantly dream to escape, but a proud symbol of man's highest cultural achievements. "Within the awesome setting of nature," Soleri says, "I seek a manly setting within which . . . we can sense the grace of being and becoming." Mesa City is such a setting.

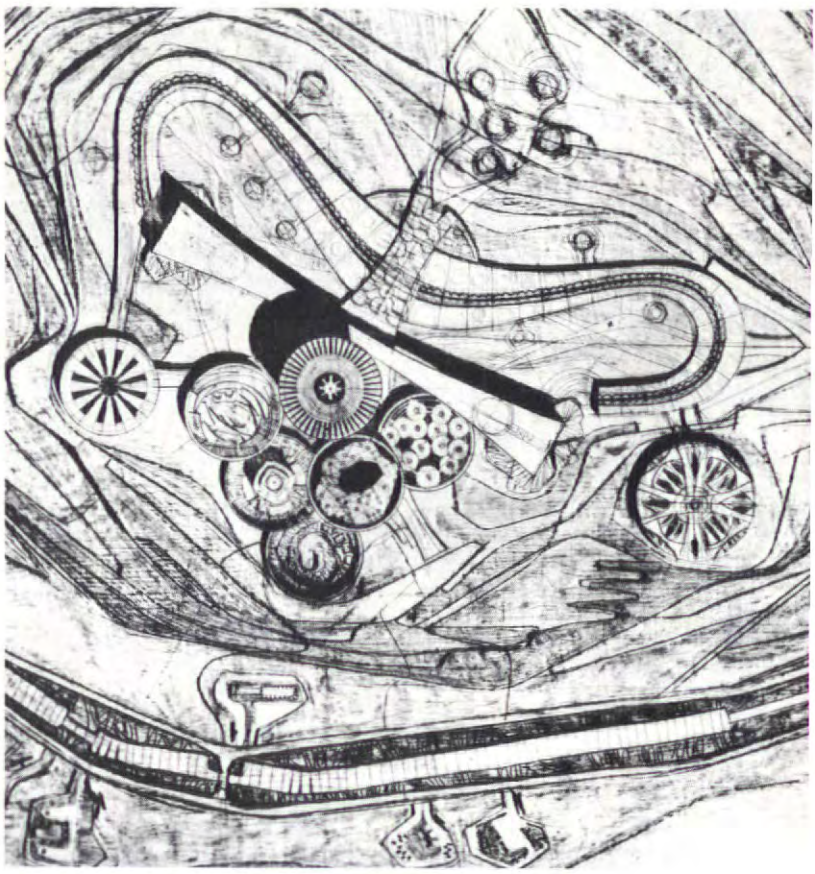


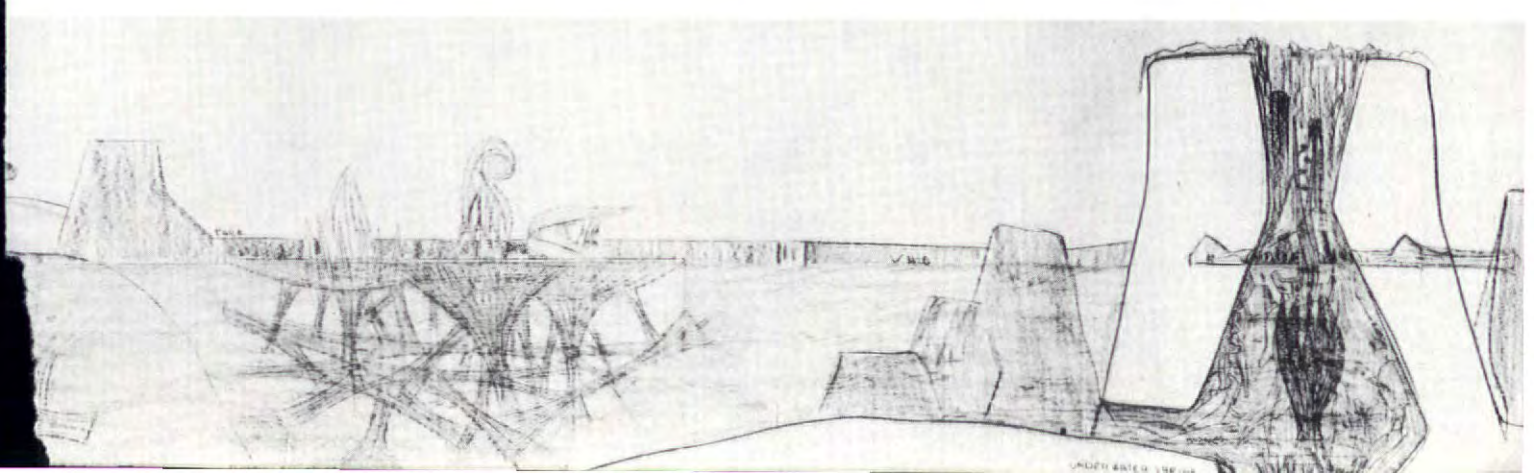
Plan of Mesa City has its main axis running 13½ miles north-south. The bold numbers identify the areas of the city: the Theological and Philosophical Center **(1)**, the housing for artists and craftsmen **(2)**, the umbrellalike structure for outdoor rituals **(3)**, the parking area **(4)** which ties into the great, peripheral speedway and canal system **(5)**, the 7-mile-long, man-made canyon and park which runs through the center of Mesa City (**6**—see also the continuous drawing below), the Administrative and Business Center **(7)**, the three tall structures **(8)** related in function to the Center of Higher Learning **(9)**. This Center is surrounded by ringlike "villages" **(10)**, each housing from 2,500 to 4,000 people in a single, doughnut-shaped structure. A series of bridges **(11)** radiate from the Center of Higher Learning toward the surrounding "villages"; these bridges serve pedestrians and cyclists, and their pylons contain student dormitories. At the foot of the bridges is a belt of home workshops **(12)**. Beyond the "villages" and the peripheral speedway system are sunken, out-of-sight areas for second-hand stores and used-car lots **(13)**. Finally, cut into the rim of the mesa are dwellings and workshops for art and craft guilds **(14)**. The two principal gateways **(15)** contain transportation, freight and transfer centers, as well as dams and reservoirs to control the flow of water through the city.

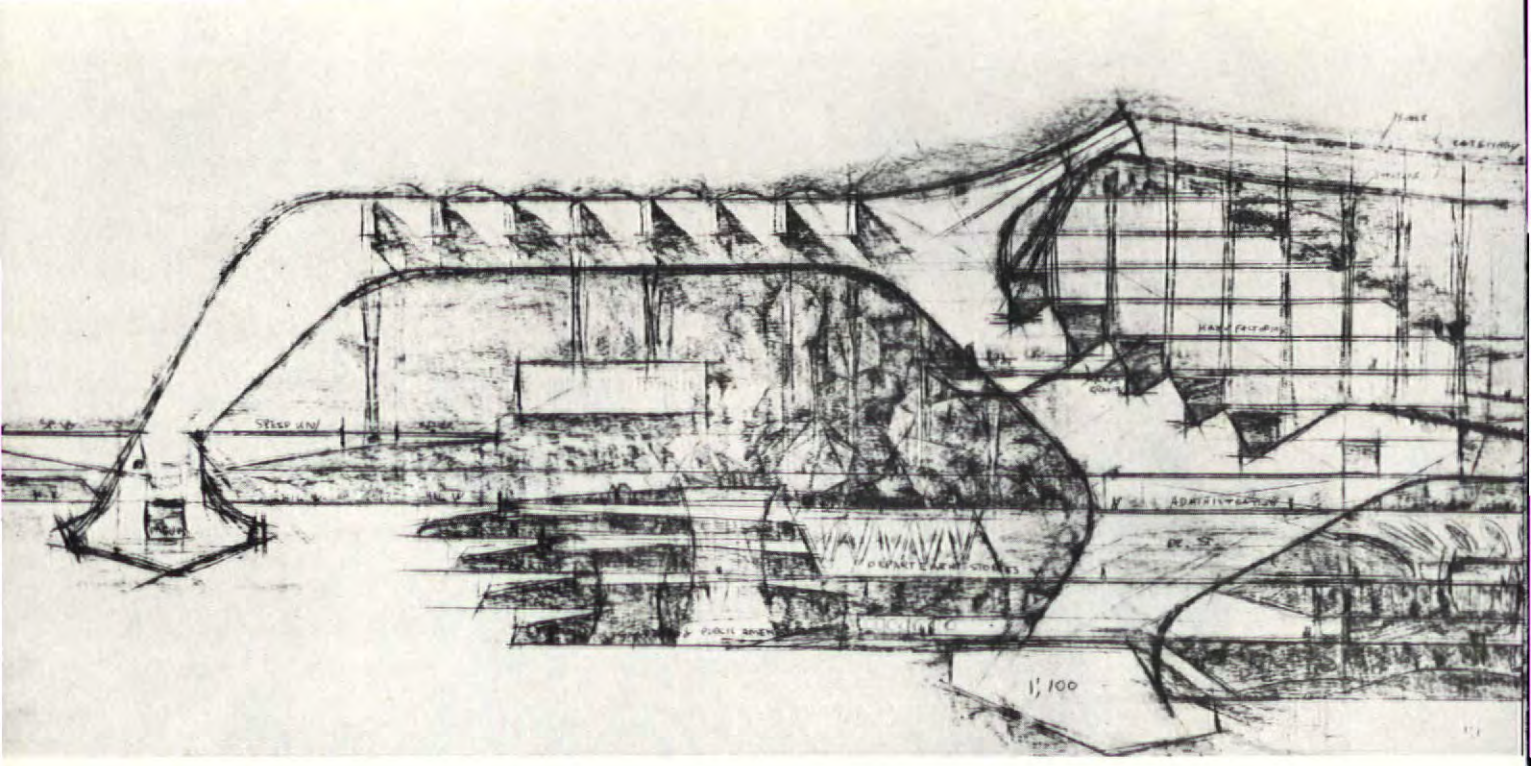



GARDENS
VEGETABLES
CELLS & DORMITORYS
BUDDHIST CENTER

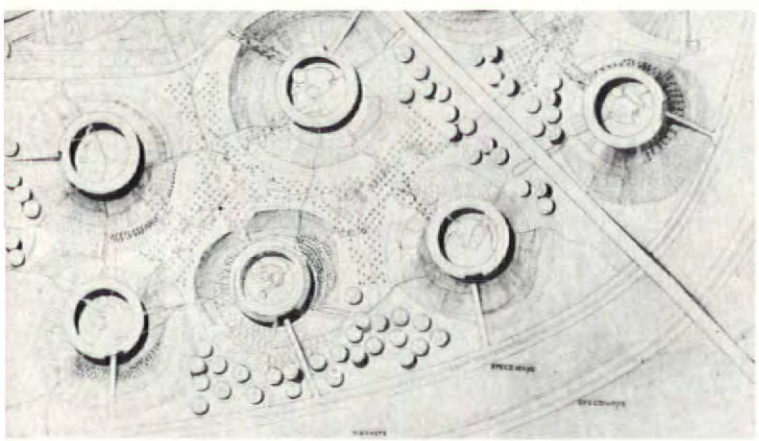






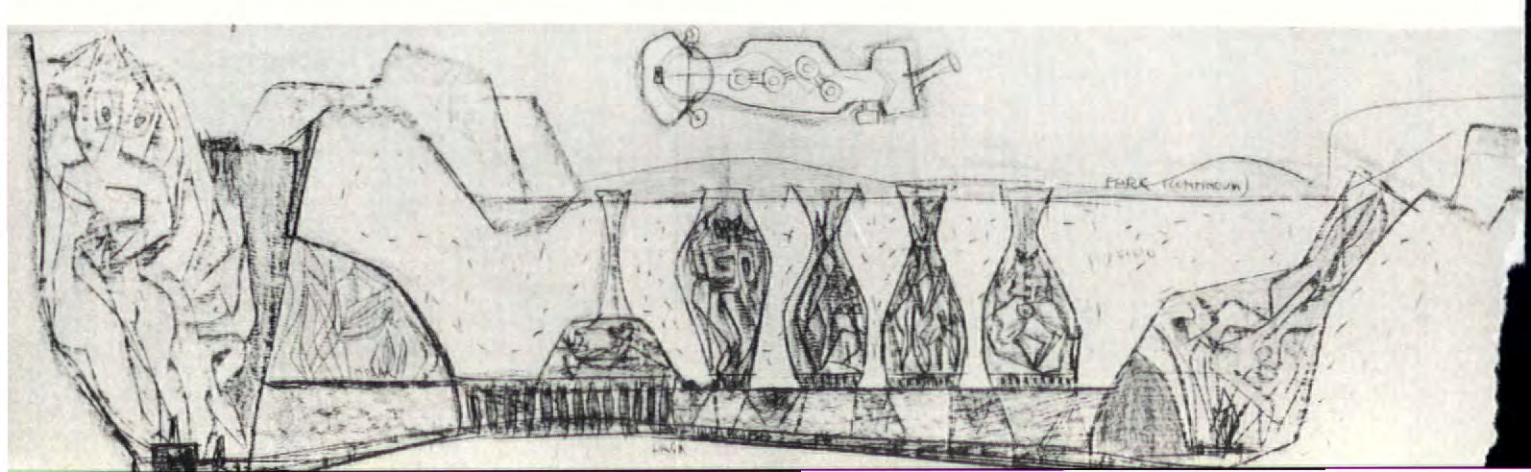


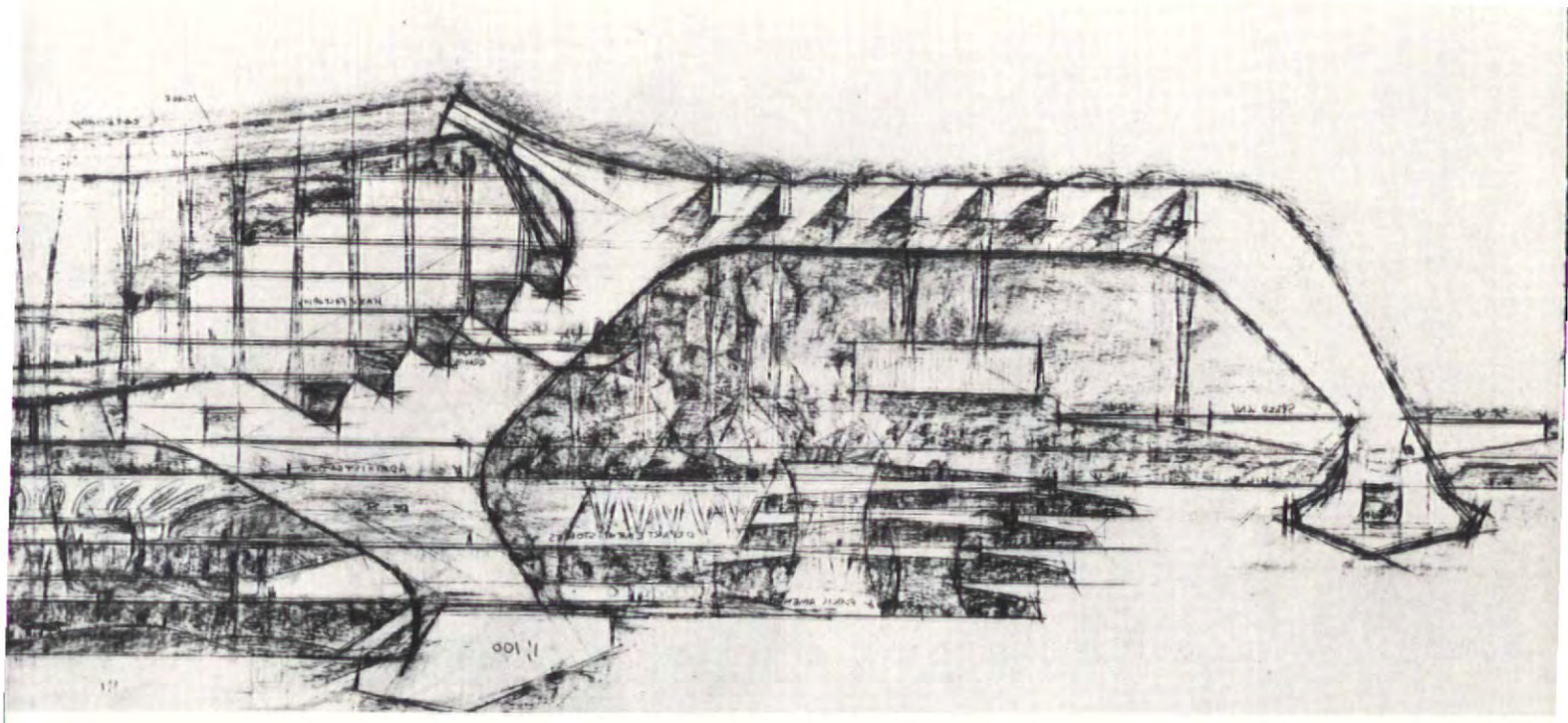
Main artery of the city, the massive structure shown in section above, is a huge peripheral band that surrounds the central areas. On each side this band contains a double-deck highway system (speedway above, local traffic below). Down its center runs a wide waterway which acts as a natural "conveyor belt" for the entire city. On both its banks are terraced manufacturing facilities and continuous public markets. Between these and the double-deck highways are parking levels, public gardens, and department stores. The girders that span this fantastic ribbon structure are hollowed out to form passageways for goods as well as people.

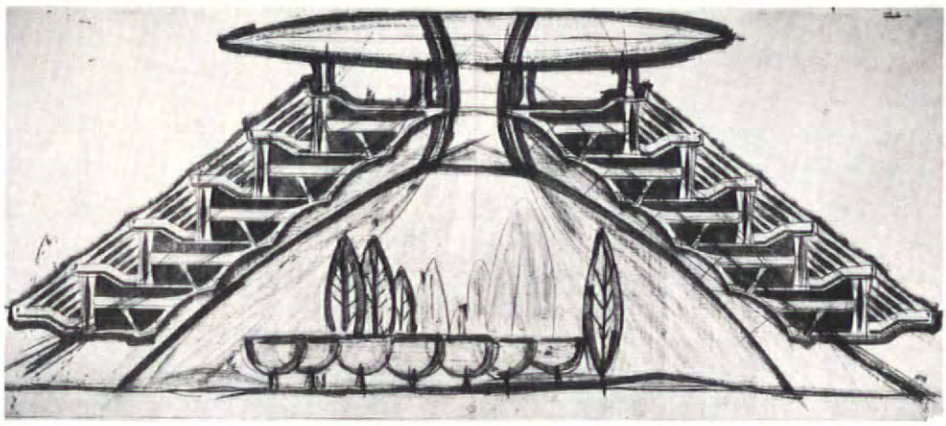


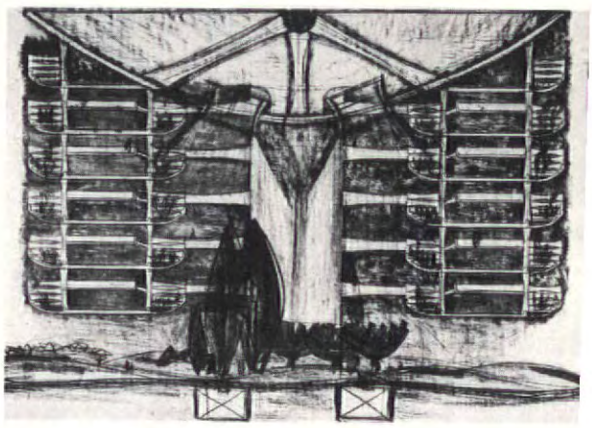
Doughnut-shaped "villages" surround the Center of Higher Learning. These villages are the principal residential areas of Mesa City, and each is a community of up to 4,000 inhabitants. (By comparison, Le Corbusier's structure at Marseilles houses 1,600.) In cross-section, the village structures somewhat resemble the Marseilles apartments in that each dwelling unit has two exposures (one outward, the other toward the central court), and in that each unit has a double-height living area, with single-height sleeping and service areas backing it up. But here all similarity stops, for the "villages"—being circular in plan — suggest a greater sense of small-scale community than do Le Corbusier's slabs.

Each central, village park contains communal facilities like schools, clinics, and local stores. The "villages" are raised above the ground to permit circulation at pedestrian level. Each "village" stands above an underground parking garage equipped with repair shops. Communal centers for several "villages" occur between ring structures.

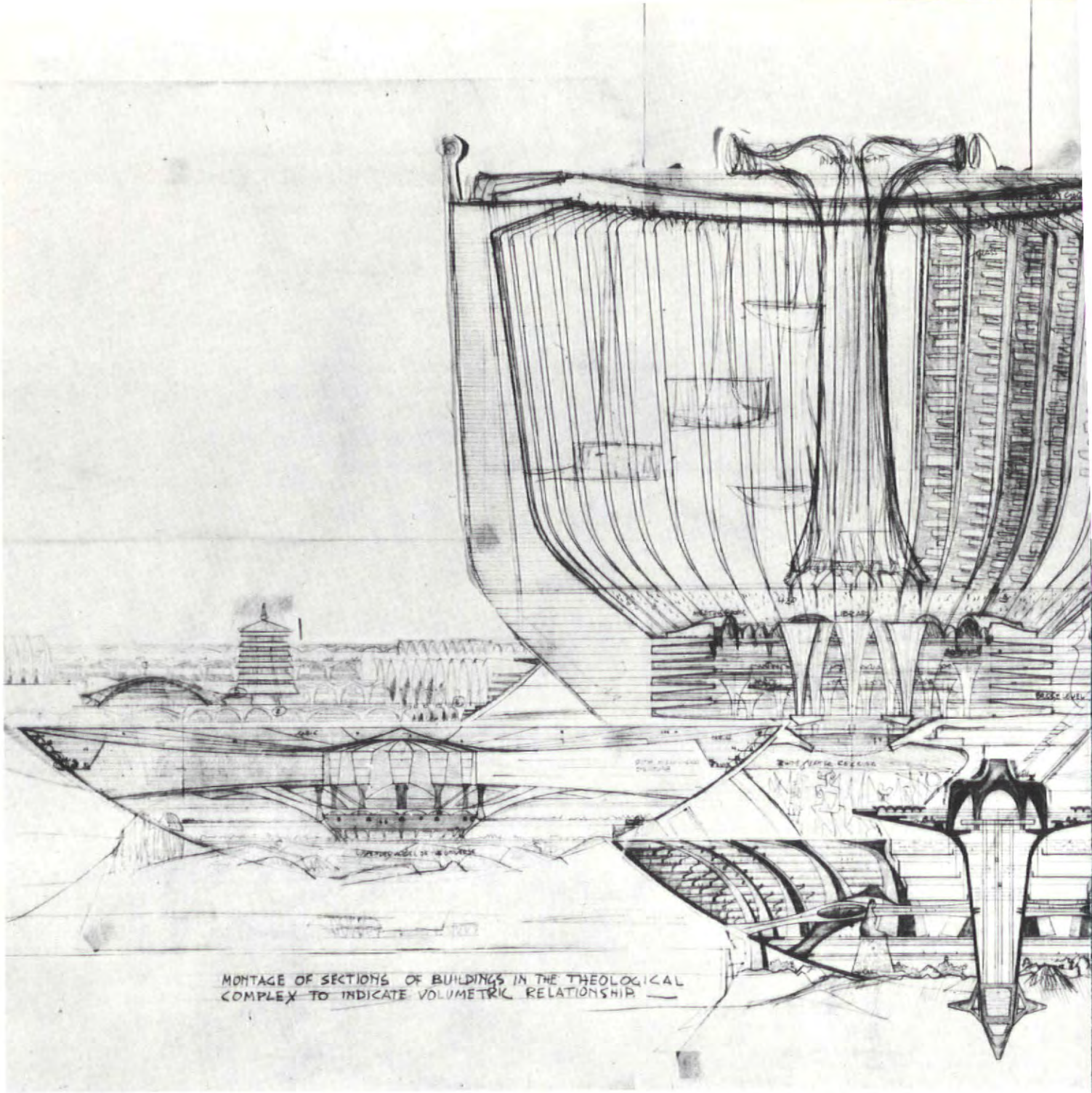








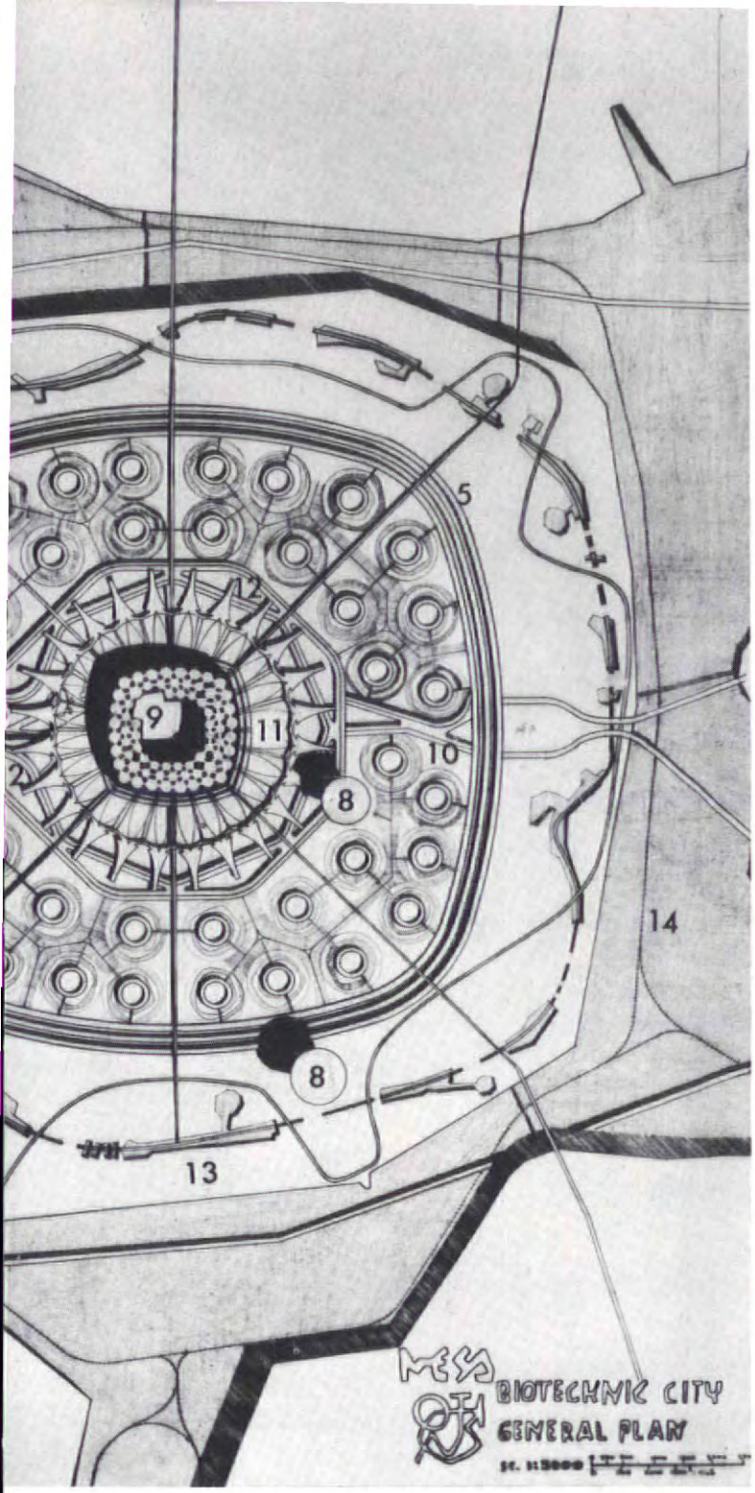

METAL
LIGHT WELL

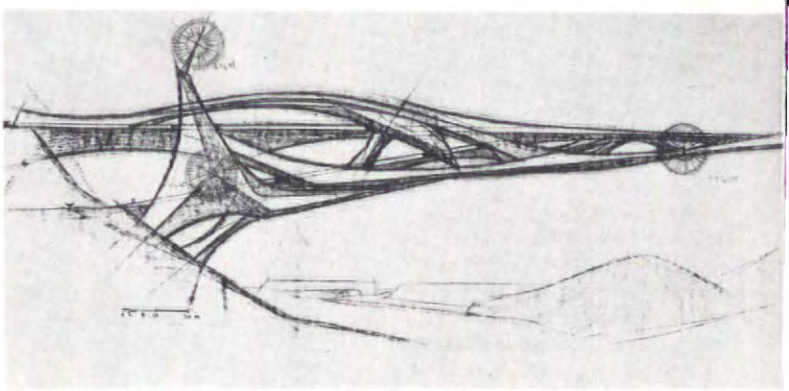


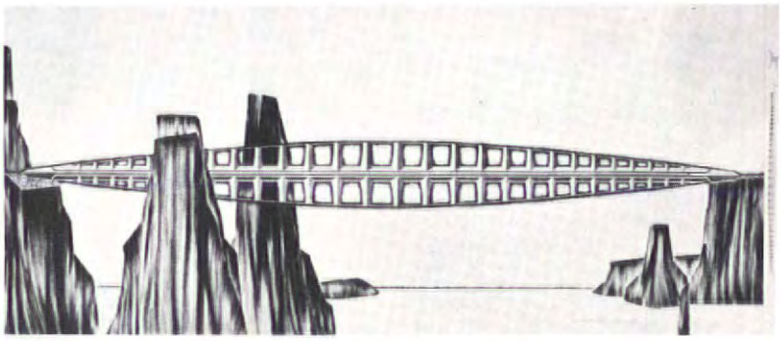
Theological and Philosophical Center is shown in the diagrammatic sections above, and in the detailed plan at right. The four low, bowl-shaped structures contain different monastic orders — Confucian-Taoist, Atheist-Agnostic, Hindu-Buddhist, and Zoroastrian. Two other, low structures not visible in the section serve Judeo-Christian and Moslem orders. Each of the bowls is an isolated, introverted entity, centered upon circular gardens that contain special shrines or chapels. The six bowls are, however, connected by passageways. The tall, central structure contains libraries, lecture areas, meeting and conference rooms, cells for visiting scholars, etc. Like most major structures in Mesa City, this one has a hollow center which is lit from above and contains suspended chapels and suspended gardens and a water reservoir with a submerged shrine. A huge "organ" hangs above this reservoir and extends upward through the full height of the court.

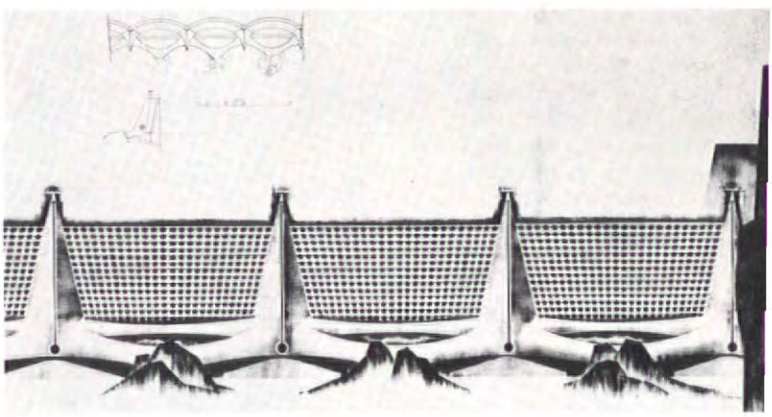
The starlike structure shown in plan off to one side of the main group of buildings is a place for outdoor worship, sheltered under a series of umbrellas or "angel wings," as Soleri calls them (top, right).

Beyond the main group, to the east of the Theological Center, is a long, low-slung structure, roughly shaped like a double S, which contains libraries and research facilities related to the principal ideas developed by man in the course of his

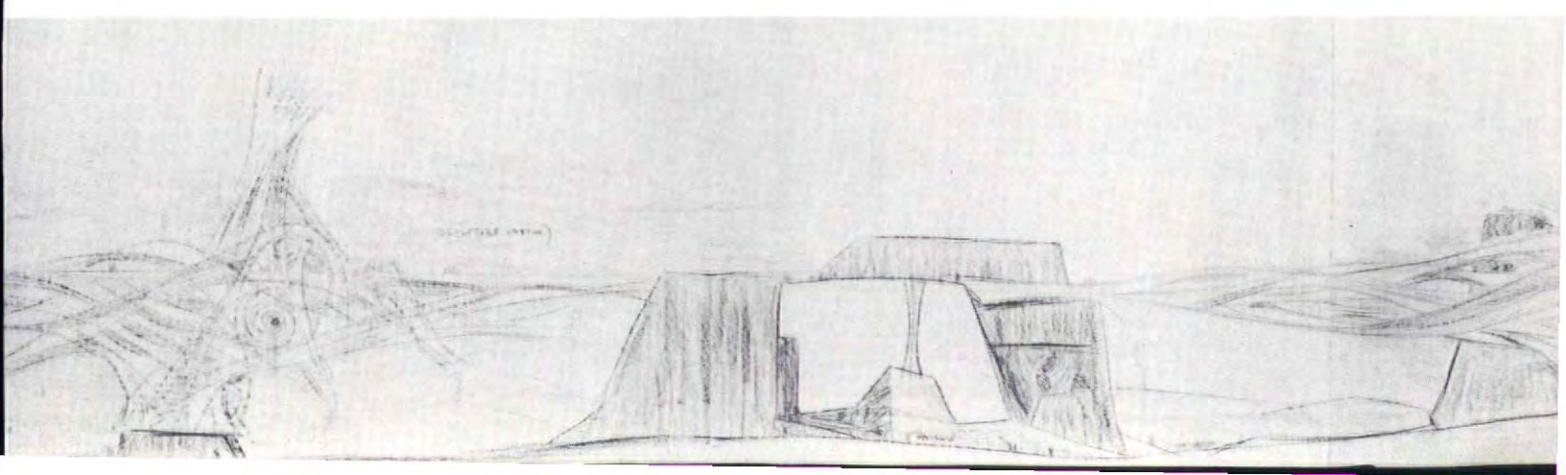








Bridges and dams regulate the traffic into Mesa City. Three of these structures are shown above. At the top is a cantilever bridge; next comes a bridge of light metal and plastic, with top and bottom chords consisting of taut cables. The great dam shown at bottom contains communal and residential facilities within its powerful, curved walls.



Center of Higher Learning proposed by Soleri is a conical structure. Although most of the Center would consist of a cluster building (see city plan), there would also be three towers, each about 60 stories tall, containing university departments.

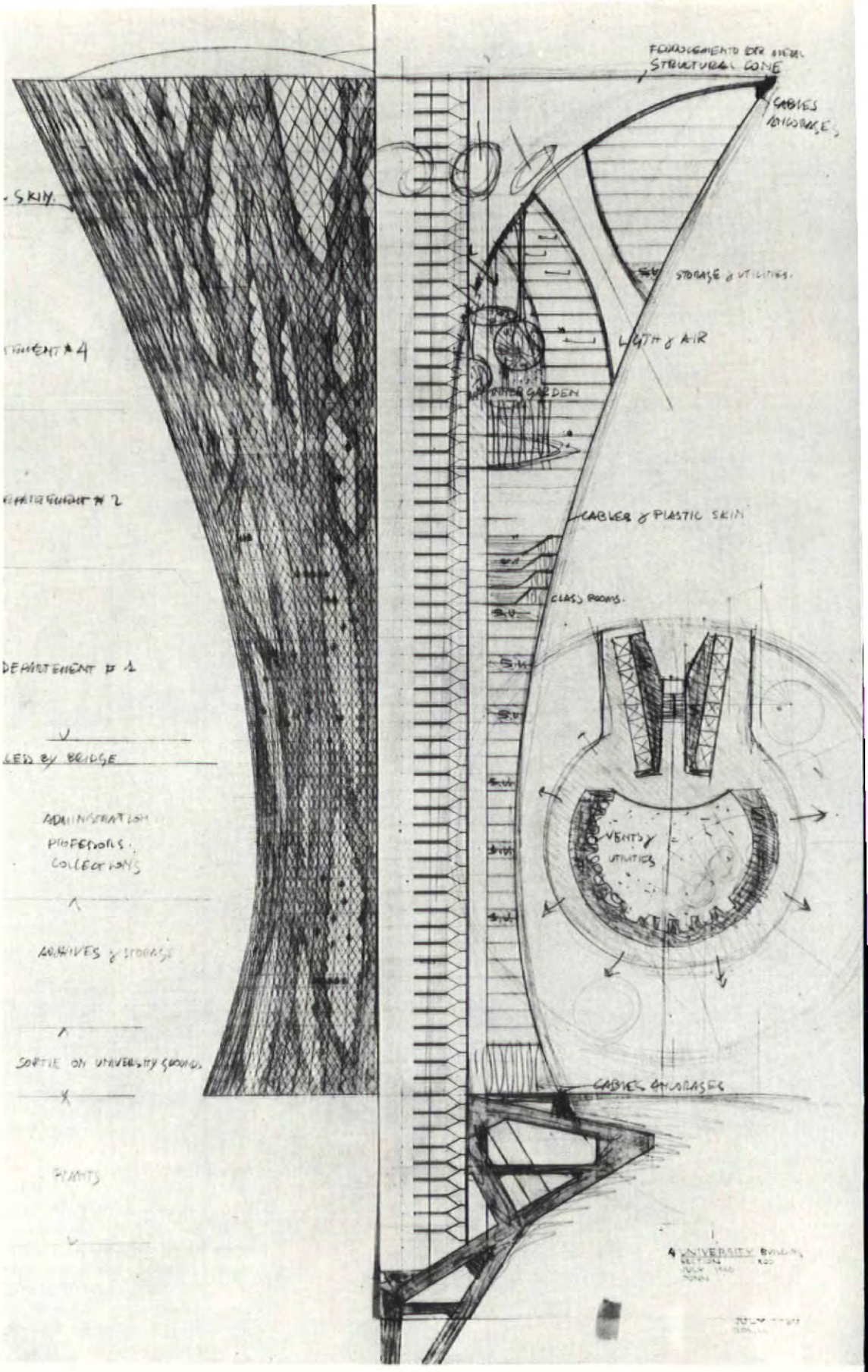
The core of these structures is of reinforced concrete and contains utilities and circulation; an outer ring is supported from this core at the roof level, and a network of cables is stretched between this top ring and the foundations to form a shape similar to that of a lobster trap. The skin of the building is transparent and translucent, in irregular patterns.

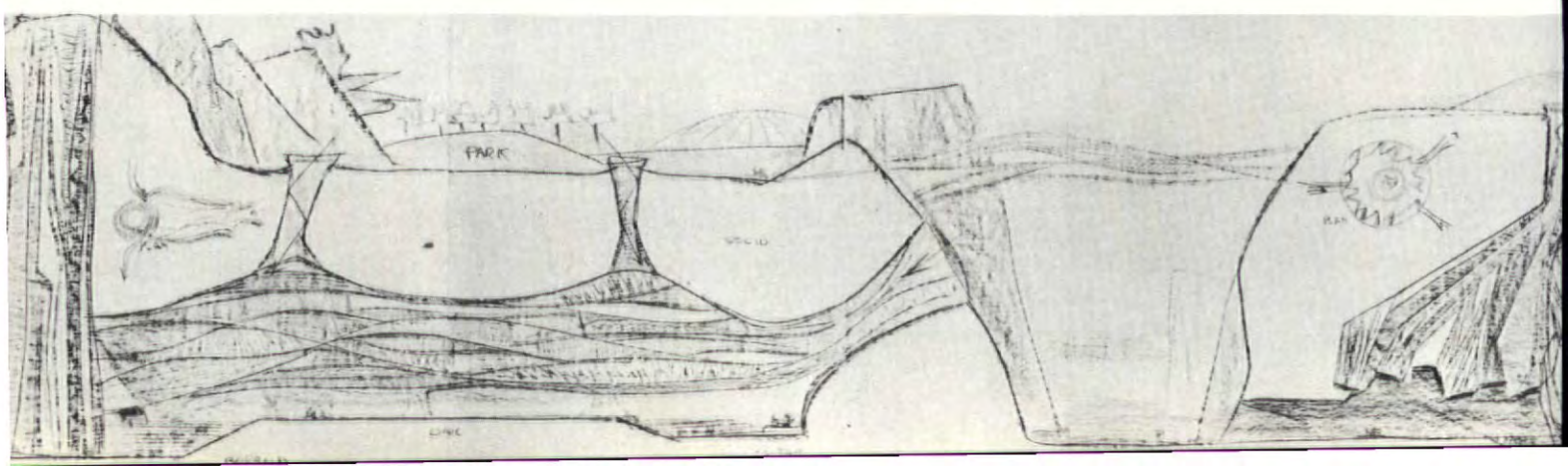
Not many planning officials in the U.S. are likely to find in Mesa City solutions applicable to their own, everyday problems; but like some earlier, visionary cities — e.g., the "Città Nuova" proposed by Soleri's fellow Italian, Sant'Elia, almost 50 years ago—Mesa City may profoundly influence city planners in years to come. In 1914, Sant'Elia said that "we...must find our inspiration in the new mechanical world." Well, the new mechanical world is with us, and others besides Paolo Soleri have found it less than inspiring. Mesa City is one answer to Sant'Elia.

Paolo Soleri lists these as his primary objectives:

- "To present a new conception of spaces—inner spaces and volumes;
- to develop a great number of environmental variations, many of these quite new in character;
- to show how concentration and high densities can be made to work for man, not against him;
- to indicate how the automobile problem (and its accompanying blight) can be faced and dealt with;
- to demonstrate all the drastic economies made possible by standardization, automation, directness, higher densities, multipurpose uses, curtailing of waste (of time and of energy);
- to explain how leisure might be converted into a useful contribution to the esthetic character of the city;
- to find a new role for the artist in all fields, particularly in those arts and crafts related to the tending of water and of plant life; and
- to make a clear statement about means and ends."

Soleri points out that his study of Mesa City is still in an early stage, and will be subject to many changes.





Design for a new housing market: the old

Meeting the special housing needs of the elderly involves a new approach to apartment design and site plan. Social research points the direction.

By WILLIAM C. LORING

In the first part of this article, published in the December issue, Sociologist Loring documented the nature and size of the new housing market for the rapidly growing older sector of the population. He reported that the number of people in the U.S. who are 65 and over stands at 16 million (it will approach 21 million by 1975) and that they now make the market decision for every sixth dwelling rented or purchased. He concluded that new housing skillfully designed and merchandised can be expected to compete with used housing for about one-third of the elderly market.

In this, the second and concluding part of the article, he calls on his experience and that of his fellow sociologists in suggesting basic design requirements for serving this expanding market.—ED.

Until recently the big housing market of the aged could not be tapped, for little was known about the kind of housing needed. Ordinary speculative housing for the mass market has not proved suitable, because its design is usually based on a mixture of the developer's ideas of economy and efficiency, the designer's own concepts of convenience, and FHA's finance-oriented standards. A different approach to housing is required for the aged, for they have special needs—particularly in relation to room arrangement and site planning.

The aged require a sensitive balance of privacy and sociability. While privacy has long been a goal in residential design, it is only recently that sociological research has revealed the need for encouraging sociability, through design.* Because for the single person any anxiety faced too long alone may be disintegrating, it is important that the probability of isolation be reduced by housing design which encourages sociability through ease of contact and activity with others. For the household of two or more persons the problem is quite opposite, but calls for a similar design solution. Irritation and even frustration grow out of the overcrowding of activities which can occur if household members must compete during their leisure hours for use of the limited living space within a dwelling unit. The likelihood of such role overdensity occurring can be reduced by designs which provide indoor and outdoor common areas that household members can easily alternate with their dwelling as nearby parts of the home environment. Because the physiological process of aging can increase the predisposition of a person to respond adversely to personal isolation and activity overdensity, the ease to access of common sociability areas becomes a design goal in housing for the aged, equalling the need for privacy. And it is in the best interest of management, as well as tenant, that this balance be achieved, for a pleased and healthy tenant is seldom a problem tenant.

Although they do not necessarily clash with long-standing goals of housing economy, the twin objectives of privacy and sociability do require a change in the definition of "housing efficiency" which promoters and investors usually put first when building for the mass market. Lower ratios of rentable to nonrentable space, more and wider corridors, and the provision of common rooms and outdoor social facilities (all anathema to the typical housing development), are essential elements of housing for the elderly. A different approach to site planning is also required. As will be seen, the location of buildings, the distance between them, and the arrangement of walkways to them and to outdoor living areas contribute importantly to the success of housing for older people—and of its management.

Regardless of the type of housing and its location, the desired privacy and sociability can be designed into it if the architect and promoter will heed what today's sociologists have to say about four basic areas of design: 1) the need for privacy within the compact house, 2) the special requirements of traffic circulation, 3) the provision of outdoor activity areas, and 4) the design and location of common rooms. The following discussion of these factors will be confined to proximate types of housing, although the problems and principles dealt with are also applicable to dispersed housing.

Privacy within

The desire for privacy encompasses two kinds of behavior: that demanding visual and perhaps audial privacy from others in the dwelling, and that demanding screening from the outside world. Both are confined to activities normally located within the dwelling unit. Social activities, on the other hand, usually occur outside of the dwelling, but some do take place inside. Thus, within the dwelling the designer is faced with a challenging problem of reconciling the needs for both privacy and sociability.

Research indicates that older residents will use their dwellings for receiving visitors only if there is in them some area which they can keep "pre-

*That a residential environment which enforces either isolation or role overdensity aggravates mental ill-health and family disorganization among residents predisposed thereto is indicated by researches of Sociologists Ernest Burgess, Stanley Schachter, and William C. Loring in the U.S., Hans Strotzka and Leopold Rosenmayr in Austria.—ED.

sentable." For some this desire to appear orderly in the eyes of outsiders requires a spare living room especially furnished. Others are less demanding: they simply want a dish-washing sink and stacking area that is not visible from the living part of the kitchen-living area.

Since retirement incomes are for the most part below the average, dwelling units must be small and compact, allowing only one main area in which these different activities will have to take place. Therefore, it is essential that fixed or movable screening separate the stove-sink, bed, bath, and storage areas from space designed for sitting and entertaining. This screening will permit the resident to make the main living area presentable without having to do a complete and, for an older person, strenuous housekeeping job throughout the entire unit.

Circulation for casual contact

Outside the dwelling unit the design goal shifts from an emphasis on privacy to an encouragement of sociability. This starts with the casual contacts made on the walks or on the grounds.

Reports on retirement villages and trailer parks in Florida and on public housing projects for the elderly in Massachusetts indicate that the occupants tend to spend most of their time on the site of their housing and in its immediate neighborhood. This appears to be a fact notwithstanding the differences in location of those developments relative to climate and to commercial and civic centers. Nor is this surprising when one recalls that the elderly have no routine activities such as jobs or school to take them away from home several hours each day. The amount of time spent on the site and in its immediate surroundings is for the aged quite like that characteristic of the housewife. But they have more time on their hands. The Florida studies showed them busily socializing the year around on outdoor common areas. The Massachusetts data follows a similar pattern, limited to six or eight months by the weather. Thus, some common activity areas are essential for any development catering to the elderly, no matter what its location. (Common indoor spaces are essential in any climate which does not permit year-around outdoor comfort.)

Sociological studies reveal that the arrangement of access walks has considerable bearing on the number and location of a person's closest friends. Apartments which empty out directly onto a public way, where people hurry by, are not conducive to casual contacts which can ripen into acquaintance. And even within an apartment site, those whose dwellings are at the dead end of an access walk will have fewer friends than those who are more centrally located. The likelihood of casual contacts will be increased if the front doors face a court in which all access walks run to a single main walk, wide enough for strolling and with no dead ends. When walks are laid out closely parallel to buildings in a court or mall, crosswalks should be provided at each end and at the middle, or the resulting green areas will tend to reduce the probability of neighboring.

Some gerontologists hold that for the elderly the main walks in a court should run close to the windows of the dwellings so that passers-by can be hailed by those who are shut in. But all tenants do not necessarily agree; they have been known to object to walks close under their windows for fear of invasion of privacy—even though such an arrangement may be necessary if roof overhangs are to shelter the walks.

Outdoor social areas

Sociability points outside the building add little or nothing to the cost of a development, but unless they are sited to encourage use, they are not worth considering. Grouped sitting areas sited so as to allow choice of sun or shade are popular. In terms of casual contacts the sitting area located just off the main walk within sight of the street entrance to the development can generate much use by residents, half of whom will be en route elsewhere. The problem of the dead-end location of dwelling units can be solved by the placement of such a sitting area or gathering spot at the dead end; it will give other residents a reason to walk up the court and past otherwise more isolated dwellings.

Often a remote corner of the site can be used for an outdoor retreat for rest and reflection, or perhaps for a quiet game of bridge. To be sure, it will be less frequented than a central area, but it will be for everyone from time to time the goal for a stroll when something different is wanted. This sense of variety, of going somewhere and doing something different, is important for those who spend most of their hours on the site. It can easily be served by the designer by locating the simple outdoor game and hobby areas so that each is in a different spot, attracting a varying group, and thus affording a chance for choice among sociable activities. All outdoor sociability points, like commercial sites catering to shoppers, must be easily visible from some section of the walk system if they are to attract use.

Indoor common rooms

There are two kinds of indoor sociability points, which differ both in use and in construction cost. The first consists of informal sitting rooms or alcoves, which function as common areas for every 8 to 12 adjacent dwelling units. They are usually located on heavily trafficked corridors, so that nearly everyone passes them as a matter of course. In apartments with interior halls these common spaces need

not be big and costly to build or maintain, if located on each floor near the stairs or elevators. In low-rise projects and especially in those of the cottage variety they offer more of a problem both in cost and in siting to assure real usefulness. From a sociological standpoint this type of common area is important when one- and two-person dwellings are compact, and particularly so on the upper floors of high-rise buildings where there is little opportunity for informal contacts with passers-by. These common areas make sociability possible after dark, and are particularly necesary in northern climates where the cold, stormy weather limits outdoor neighboring. While sometimes the sole function of a small close-by indoor area is sociability, it frequently is used by residents for cooperative activities, such as preparing and serving heartier meals than they might otherwise get for themselves alone.

The second type of indoor sociability area is intended for use by everyone in the development. Functionally it ranges from the self-service laundry to the multipurpose social hall which makes provision for reading, games, sewing, hobbywork, and just sitting. (A lobby per se is uninviting and little used.)

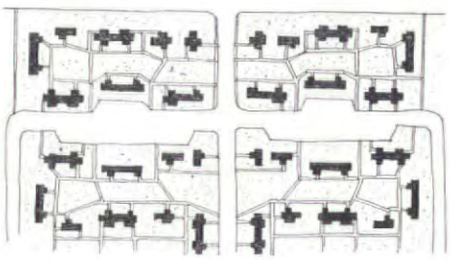
In view of the high cost of interior space built outside the foundations required to carry the dwelling units, the temptation in low-rise projects is to provide only one of the larger type of indoor common areas, and to neglect entirely the smaller. And, this room is often removed so far from the majority of the dwelling units as to require that a person dress to go out to it. This mistake causes a resident to feel that he is stepping out into a different social context from that of his home. Similarly, if the community room is too large, it forces residents to put it to more formal uses, or at least different social uses than are usually associated with the home. It is not a pleasant, easily accessible extension of a person's own living arrangement. He cannot go back and forth casually as between rooms in a large house. When there is only one common room in a development, the tenants' choice of association is limited, and entertaining or visiting there is more public than is fitting. Housing for the aged should avoid arrangements associated with institutional living and should stress elements which give a feeling of independence and choice. Therefore, the smaller indoor common areas are probably of more value in reducing the isolation problem than the large ones.

On the other hand, the larger multipurpose common halls and spaces for hobbies and other specialized leisure-time activities are helpful in reducing "activity overdensity" in the dwelling unit. They are particularly important in developments planned for a high proportion of households of two or more persons. Even in housing for single people, however, there are some who will not come out of the isolating privacy of their dwellings except to do something other than meet and chat with neighbors. For them, too, the large common areas with their organized activities and alcoves for laundry and other self-service work and for hobby, game, or reading pursuits become important generators of sociability.

Siting common rooms

There has been much study of the effect of the distance between dwelling units and common rooms on the use of these rooms. For example, Sociologist Leon Festinger and his associates have found that the number of friendships a person has decreases as distance along project circulation paths increases. In the single-story Westgate courts in Massachusetts, for example, the number of friendships established tended to fall off from several to none at all along one side of a court as distances between front doors increased up to 180 feet. Within the total project it was found that friendships were many within each court, that some extended to adjacent courts but that there were practically none extending between the two halves of the project. Thus, if smaller-size common areas are intended to serve as friendly meeting spots, they must be distributed in accordance with such research findings.

The proper location of larger common areas and areas for more specialized purposes is a bigger problem — more like that of locating a shopping center, and requires the tools of a professional planner. Consultants on the location of commercial facilities have employed for some years variations of



the population-distance formula which underlies the so-called Reilly law of retail gravitation. Similarly, sociologists have found that, despite diverse and complex motivation underlying the different activities, the power of a city to pull travelers to it from other communities varies directly with its population and inversely with the distance from a traveler's starting point. Distance can be stated in linear units or in terms of time or cost, without upsetting the validity of the formula. The late Samuel Stouffer, a sociologist, in 1940 proposed that where it is possible to define clearly the goals people seek in their travel, the formula can be improved and the sociological significance of it enhanced if it is stated in terms of opportunities. His theory of inter-

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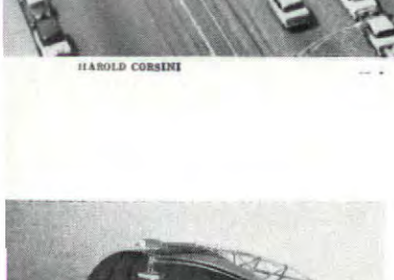
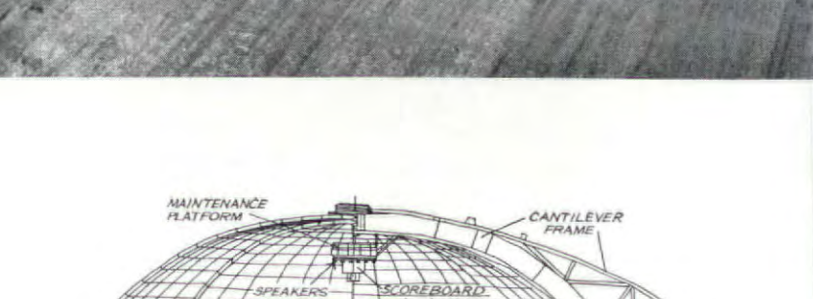


PLAN VIEW OF DOME



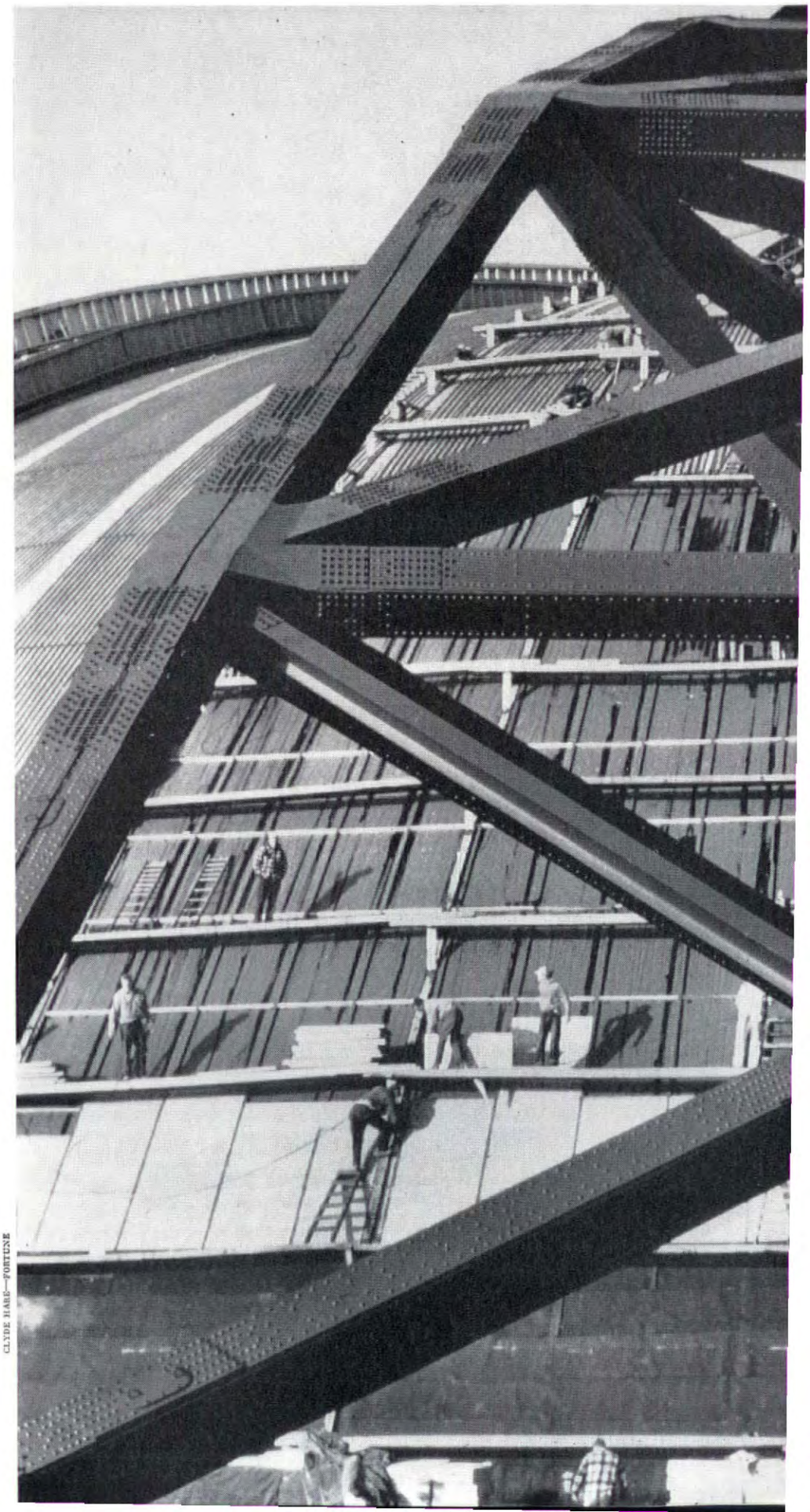
Pittsburgh's dome gets ready

Pittsburgh's exciting new Public Auditorium has many structural features which make it stand out as one of the noteworthy structures of the sixties: its retractable stainless-steel roof, which can be opened or closed in 2½ minutes; the cantilever space frame, projecting 205 feet over the auditorium and providing the main support for the retracted roof; the combination stage-and-seating section, which can be locked into its "up" position to form a completely equipped stage or lowered to provide an additional 2,200 seats. But perhaps the most significant fact regarding the building, and one which should be encouraging to anyone who laments the lagging state of building technology, comes from Structural Engineer Edward Cohen, of Ammann & Whitney, who says that it was unnecessary to evolve any new structural principles in the auditorium's design.

To be sure, it is not Engineer Cohen's contention that this was a routine structural problem—the dome, for example, is the first such roof ever built anywhere. His point is that recent advances in technology now make such fanciful structures technically feasible.

The dome, one of the largest clear-span roofs in the world, is a compound spheroid, nearly circular in plan; it is about 417 feet in diameter, with a 109-foot rise at its center. It is divided radially into eight, 45-degree segments, six movable and two stationary (see sketch, left, below).

The cantilever space frame (photo, right) is a triangular truss in both plan and cross-section. It will depress only



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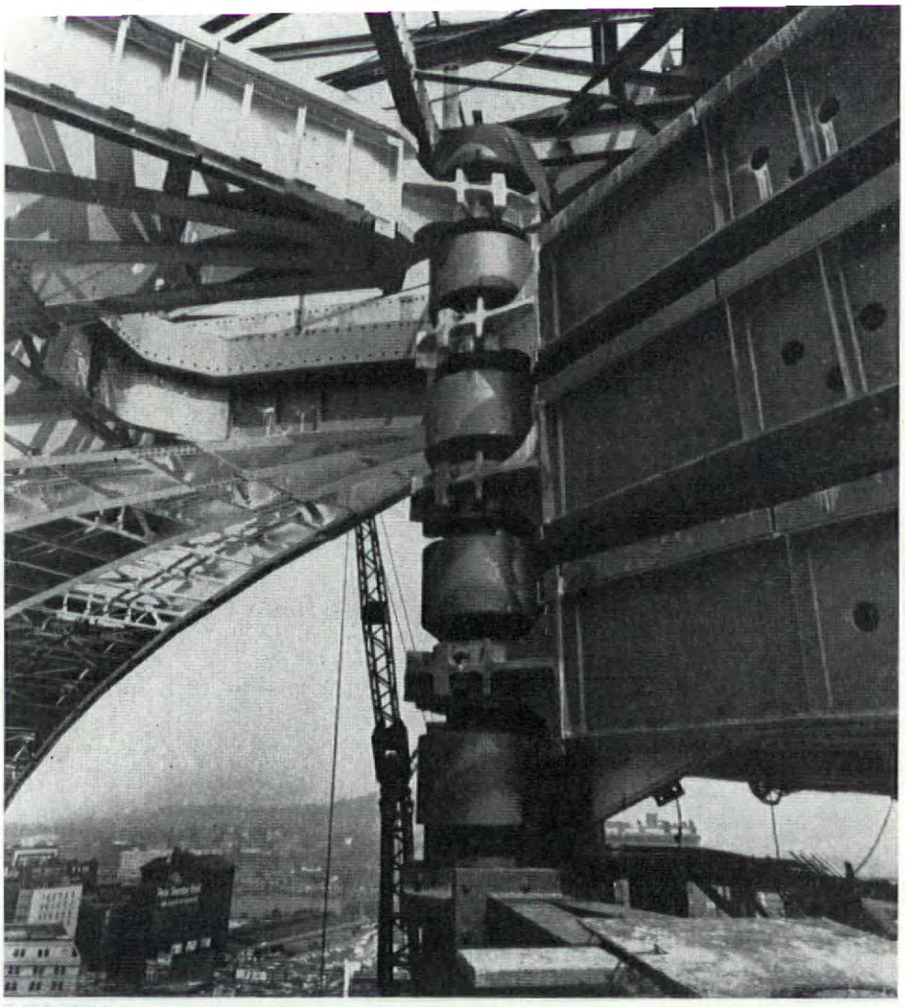
The cantilever frame, reminiscent of bridge design, is composed of tieback members which extend from the anchorage to the dome's peak, plus a curved box girder. Total weight: over 1,400 tons.

Open dome (in model at far right) is ready for light-opera performance, with stage set under the elevated seats in the foreground. The center sketch shows how the movable dome segments are rotated, nesting under the cantilever when the dome is open. The section shows some of the functional elements, including the hoistable seating section.



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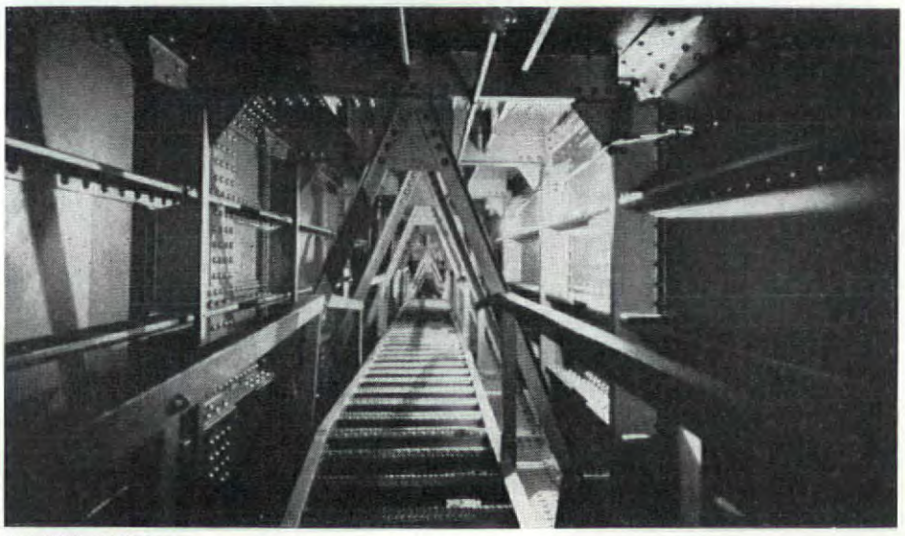

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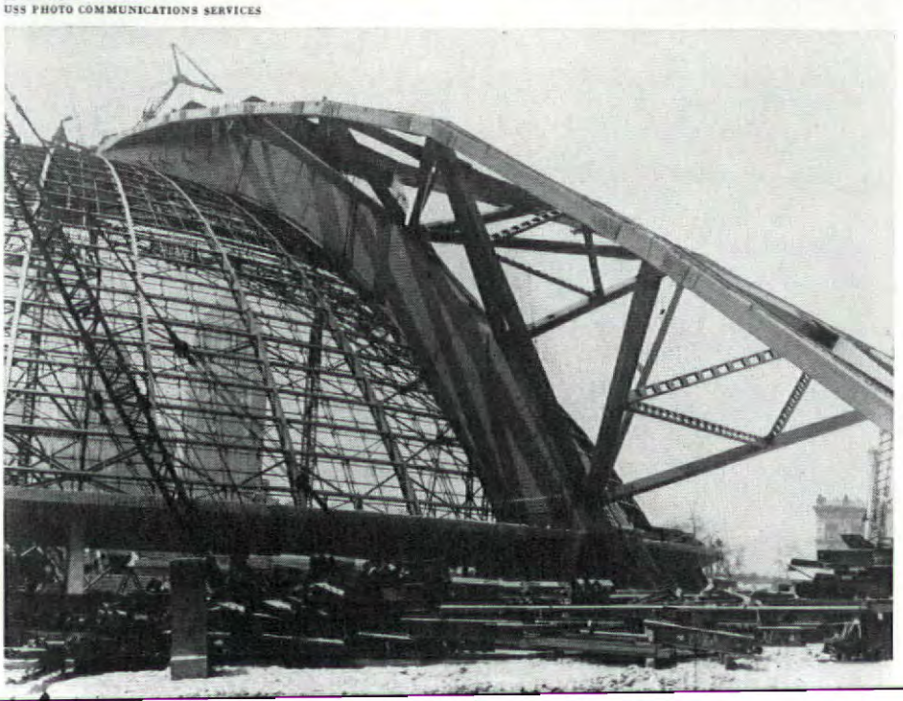

about 6 inches at the pivot (atop the roof) as the segments swing open and the thrust of the sections is applied.

The roof has no interior supports; the weight of the eight segments is supported at their base on a series of motorized carriages. Carriage wheels rest on 3,000 feet of steel rails (photo, far right) which are laid on a reinforced concrete ring girder, 34 feet above the arena floor. Each of the six movable segments is powered by drive motors and brakes mounted above the carriages. These segments vary slightly in size so they may be nested when the roof is open. When the roof is closed, an automatically operated neoprene sealing system provides complete weather-tightness (sketches, right) between the segments.

The auditorium will have 9,200 permanent seats, with an additional 4,400 available on the floor for special events: for hockey matches, seating will be expanded to 10,500, and for boxing matches, to 13,600. The cost of the auditorium will be about $20 million.

ARCHITECTS: Mitchell & Ritchey. ENGINEERS: Ammann & Whitney (roof and supporting structure); H. Rey Helvenston (resident engineer and superintendent of construction); R. A. Zern (interior structure).

Pivot at the peak of the dome (left, above) is a multiple clevis with vertical pins to which spherical bearings for four dome segments are connected. Center photo shows the stairway leading up through the box girder to the maintenance platform in the center of the auditorium. At left are shown the tieback members of the cantilever; these and the box girder are interconnected to form a triangular space frame, which is anchored to a large concrete pedestal, 34 feet high above the footing, and two concrete anchorages.

Temporary interior scaffolding enabled installation of mechanical and electrical equipment during construction. The final step in the finishing of the interior will be the installation of acoustical baffle and ceiling panels. The auditorium will be opened in August.

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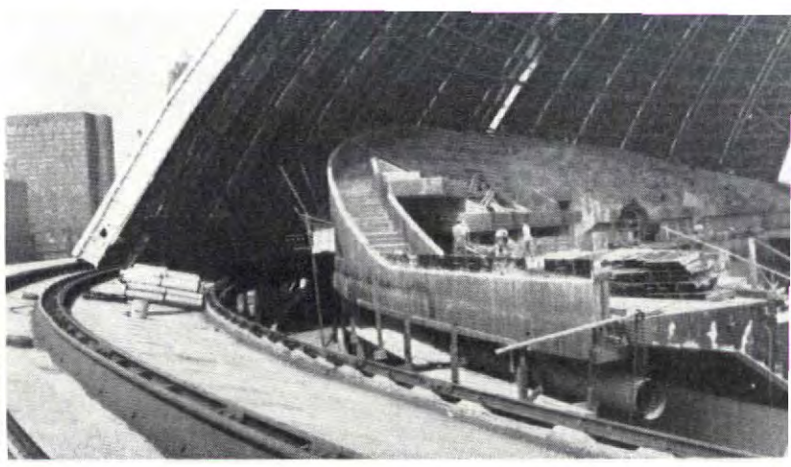

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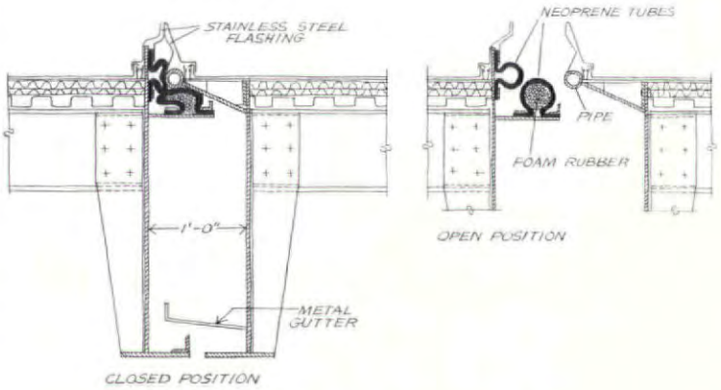
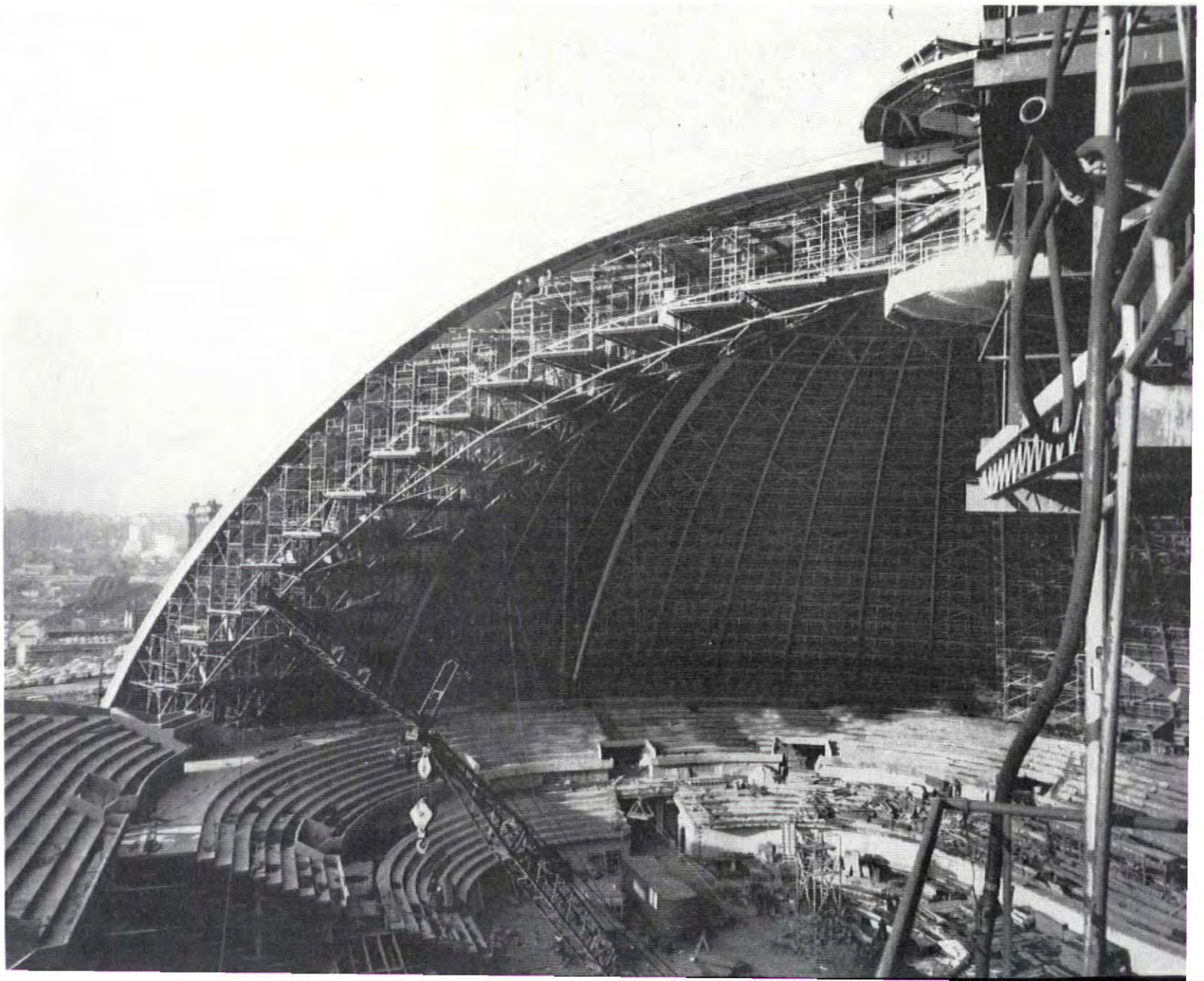


Ring girder (above, left) rests on 48 concrete A-frames and supports three sets of rails (above) on which will ride the six movable roof segments. During construction, a fourth rail was installed to carry temporary rolling scaffolds. The surface of the ring girder is banked about 13 degrees. The sketches (left) show method by which joining dome segments are made weather-tight: in the near sketch, joining sections are ready to come together; far sketch shows sections in closed position, with pipe squeezing against the circular strip of neoprene tubing.



Curtain walls put to test

The need today is for better standards of performance and testing.

The rapid growth of the metal curtain wall has far outrun technical information on its behavior. Thus, the design, manufacture, and erection of metal curtain walls to meet specific performance standards has been difficult. Currently, two organizations are working to improve this situation: the Metal Curtain Wall Division of the National Association of Architectural Metal Manufacturers and the American Society of Testing Materials.

The work of NAAMM is intended to establish testing and performance standards for various wall components. Through NAAMM, the architect can now receive reliable technical information on metal curtain-wall design and performance, and its Metal Curtain Wall Division has recently issued a tentative specification for static load testing. Supplementing this, ASTM is working on more comprehensive standards of testing and performance.

What should these standards be, and how can metal curtain-wall testing enjoy the status of authority associated with accepted testing procedures? In a report to ASTM, Architect Wayne Koppes, of Rensselaer Polytechnic Institute, makes these recommendations:

- If any tests are to be wholly valid, architects must know precisely to what loads and pressures walls are actually subjected under storm conditions.
- The significance of shape and gust factors currently in use should be verified: factual information should be obtained by instituting a comprehensive program of field measurements in selected representative buildings.
- The relative merits of the two existing testing procedures—static testing and dynamic testing—should be determined conclusively. Both techniques have a proper place in testing, but authoritative direction in the use of the methods is of major importance.
- The significance of temperature control in testing should be further analyzed because temperature differentials probably constitute the most critical exposure and impose perhaps the most severe stresses on the wall.
- Attention should be given to determining the proper procedure for measuring thermal transmission through large areas of composite wall assemblies.

The next essential, says Koppes, once the proper methods of testing are determined, is to define standard test procedures and methods of interpreting results: "When this is accomplished, it should no longer be necessary to ship large wall specimens thousands of miles, as is done now, in order to evaluate their performance impartially."

Some tests are exploratory only, such as those made by a manufacturer who wants to evaluate a design still under development. Other tests are for clarification: made either to verify conformity with specifications or to prove the acceptability of new designs to the architect. It is in certification testing that standards of procedure are now so essential.

Static versus dynamic

Before the advent of the curtain wall, testing of walls was a rare event. There are two reasons why the increase of wall testing parallels the growing use of metal in wall construction: First, the inception of this preassembled method of building made it possible to test large units in advance of actual construction. Second, the problems of sealing joints against water and air penetration are more severe in this type of construction. Although less water may actually enter a metal wall during a rainstorm—compared with a conventional masonry wall—the nonabsorptive nature of metal makes it necessary to drain any water that penetrates; otherwise, the water appears conspicuously on the interior as a leak.

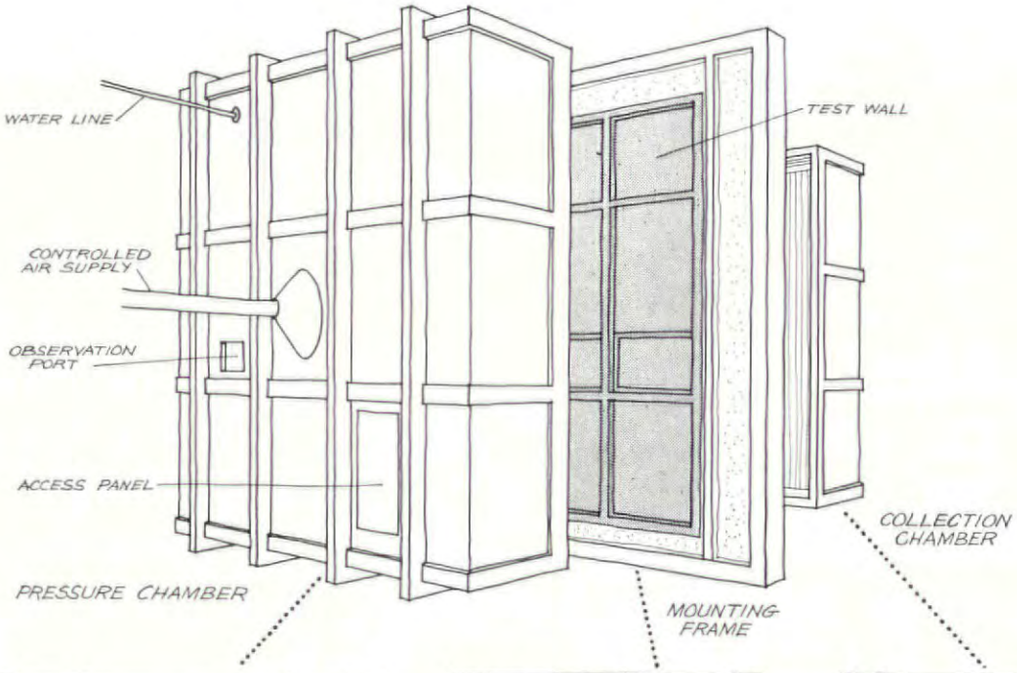
Both static and dynamic testing procedures—one or the other of which is currently used by most testing agencies—have distinct advantages over one another, and the two methods are about equally used. The question now is not so much which technique is better, but rather how to standardize the procedures of both so that the testing of all metal curtain walls will follow well-defined patterns which result in a common standard of evaluation.

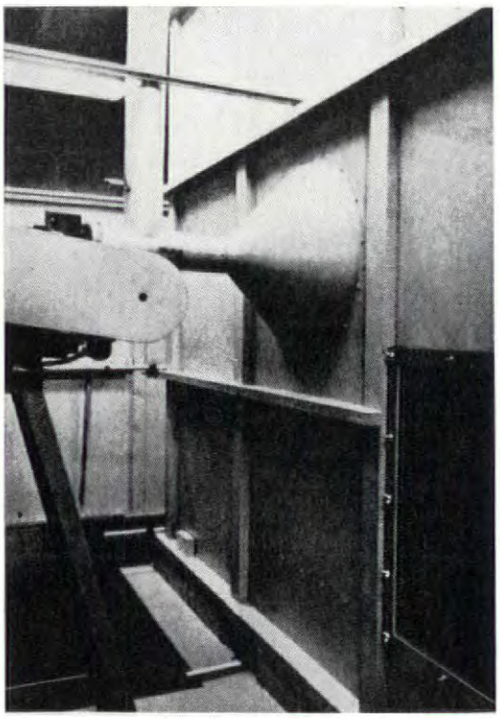
The static testing of walls is essentially the same as that which has long been used for testing windows. The equipment consists of two large, box-like chambers, each open on one side; the chambers are tightly clamped, with their open sides against a diaphragm which contains the test wall (photos right). Air is introduced into one of the chambers, thus subjecting the wall to pressure. Any leakage through to the other side flows through a measuring device which indicates the degree of leakage. Some testing engineers use the static method for water-leakage tests by introducing water over the wall section while the pressure is being applied.

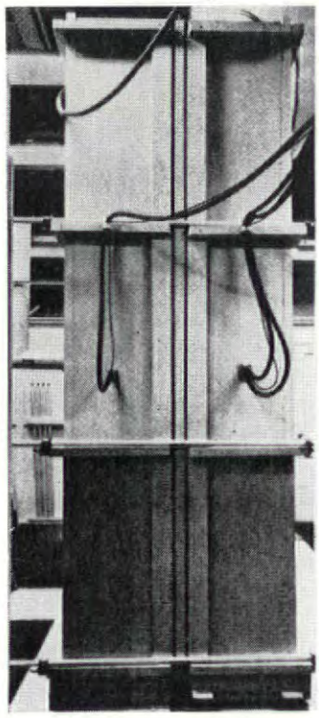
Dynamic testing, on the other hand, uses a wind generator and a water injection device to simulate a rainstorm (photo, right, below).

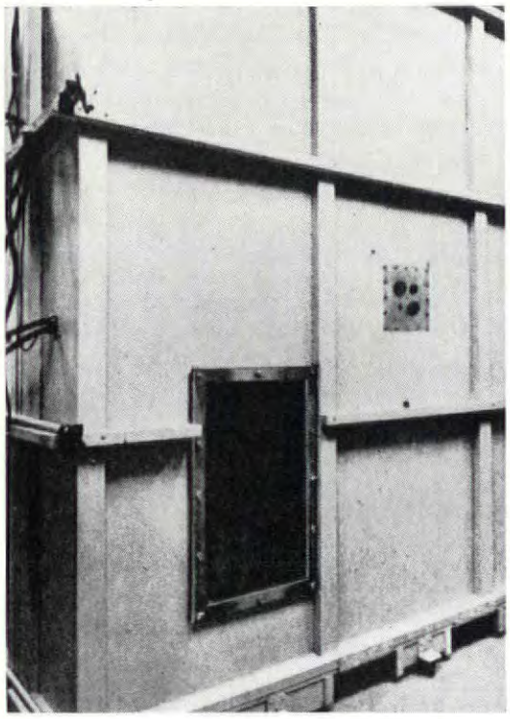
Proponents of static testing claim that it offers a more accurate control of test conditions. It is the only method, for example, which lends itself to the control of temperatures. At present, it has an advantage over dynamic testing because of the testing specification recently made available; but NAAMM expects soon to issue another specification for dynamic testing, recognizing that both methods are in wide use and demand specification standards.

The obvious advantage of the dynamic test is that it can produce the unpredictable and suddenly shifting wind gusts of a storm, thus exposing the wall to natural conditions of wind and rain. However, because no standard procedure has yet been established for dynamic testing, each of the agencies performing such tests follows its own specifications. Indeed, some architects have even established their own specifications for testing. During the next year or so, NAAMM and ASTM should provide the lacking uniformity, greatly advancing technology of curtain-wall construction.









Static test: *A curtain-wall section to be tested is set into chamber (sketch, above) which is made airtight. Air is introduced into one side of the chamber (above) and leakage through the wall is determined by accurate measuring devices. The second photo shows the test panel locked into place between sections of the chamber. Orifice in the chamber wall (above, right) enables the test engineers to observe the leakage through the wall when water is used in the static test.*

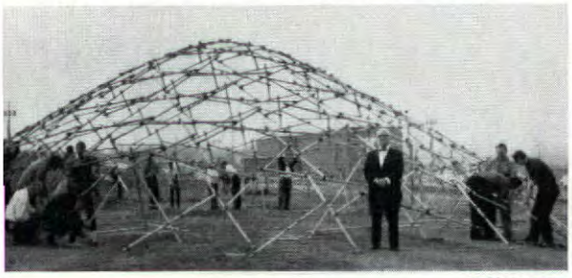
Dynamic test: *Water is lashed against a test wall by means of an airplane propeller, which produces an air flow of 50 to 150 miles per hour. Water is injected into the air flow at a controlled rate from circular sprays behind the engine. Proponents of dynamic testing say it is more natural than static techniques.*

Technical briefs

Bamboo geodesics

R. Buckminster Fuller, the man who introduced the geodesic dome to architecture, has seen his structures made of a variety of man-made materials—from cardboard to steel and aluminum, and even the most sophisticated plastics. His newest idea involves the construction of dome-shaped shelters made of bamboo and fishing twine.

Says Fuller: "This will provide more shelter to more people at less cost than any other structure possible." One such structure has been built (photo, below) by Fuller and architects, engineers, and students at Long Beach State College, in California. It is a 60-foot-diameter dome made entirely of 6-foot lengths of bamboo, lashed together with fishing twine. It encloses 2,800 square feet,



RICHARD GROSS

weighs only 600 pounds. The cost of the basic structure, using materials purchased at retail prices in California, was only 3½ cents per square foot.

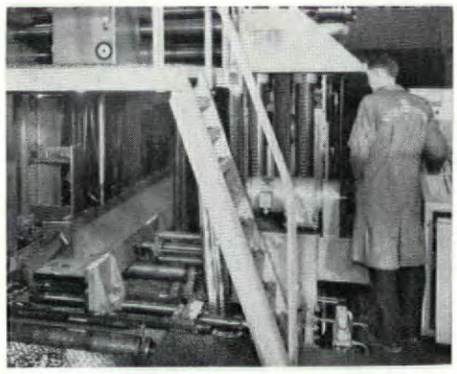
Fuller envisions a plastic film cover for such shelters in Asia; he predicts that plastic film of high quality will soon be manufactured in the Orient for world distribution.

With the basic design now established, such shelters will be relatively easy to build, guided by a color-coded picture pattern. Fuller plans to make his technical information available throughout the world, but particularly in densely populated regions of Burma, China, Japan, and India: "I am not interested in competition, only in what needs to be done that the other fellow is not doing."

Automatic drilling

Automation has made some inroads into structural steel fabrication. A recent example, and one which may have a marked effect throughout the building industry, is a new drilling machine now in operation at the R. C. Mahon plant, in Detroit. The tape-controlled machine, designed and built by Walter P. Hill, Inc., has cut the cost of producing holes in structural steel components by 85 per cent.

Traditional methods of producing the holes include radial drilling and various



methods of punching. But with automated equipment, these operations can be done faster, more accurately, and at significant reductions in cost. The savings produced by this new machine are attributed to the elimination of hole-pattern layout operations, the use of high-speed drilling, and the application of automatic conveyorized feeding of beam and column sections, which go into, through, and out of the tape-controlled machine. Moreover, numerical drilling enables hole patterns to be repeated within tolerances of ±0.005 inches; by comparison, structural-steel machining tolerances for multiple hole patterns may be up to ±⅛ inch. Such tolerances can result in costly reaming operations during the final assembly.

The first use of the new drilling machine was made in the fabrication of structural components for the New Albany bridge, now under construction over the Ohio River, between Kentucky and Indiana. This is the first bridge in the U.S. to use 100,000 psi-yield-strength steel: over one-third of the structure (by weight) is fabricated from high-strength, low-alloy, heat-treated steels T-1, and N-A-Xtra 100. According to Designers Hazelet & Erdal, the nature of the structure—a tied arch design—made the use of high-strength steel "very desirable, if not mandatory." Thus, these special steels were used for the tie as well as in arch trusses. Further, since all of the steels selected are weldable, economies were gained with welded fabrication for all major components: estimated savings through the use of several grades of steel and welded fabrication, as compared to methods and materials of a few years ago, exceed $750,000 in the major spans, or 5 per cent of the total cost, including approaches and interchanges. The superstructure will cost about $5.4 million.

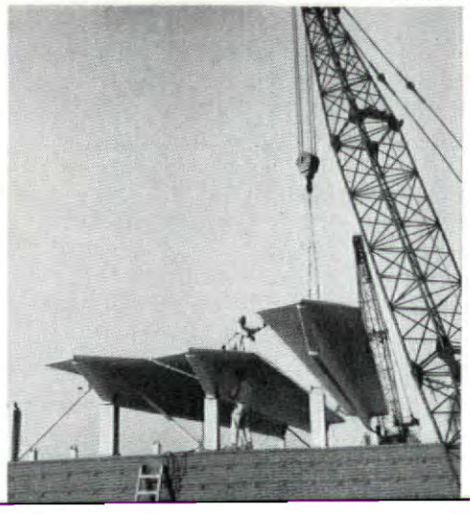
T-beam school

Twelve prestressed concrete T-beams form the roof of the gymnasium of the Christopher Columbus high school in Miami (photo, below). Architects Rader & Associates estimate that over-all savings resulting from the use of such beams totaled $30,000 over the cost of the conventional steel roof which had been planned for the building.

The fabricators of the beams believe they are the largest ever produced in the South: each is 111 feet, 8 inches long, weighs 59,000 pounds. Flanges of the beams are 8 feet across; they taper to a width of 1½ inches at the edges. Each beam is 3 feet deep, set 24 feet above the gymnasium floor. All 12 were erected in less than a day.

Says Earle M. Rader: "Certainly the clean lines of the concrete roof will be more pleasing to the eye, but that was not our major consideration. We found that the building could not be built within the budget using steel. One of our young engineers came up with the idea of substituting prestressed concrete and we met the budget."

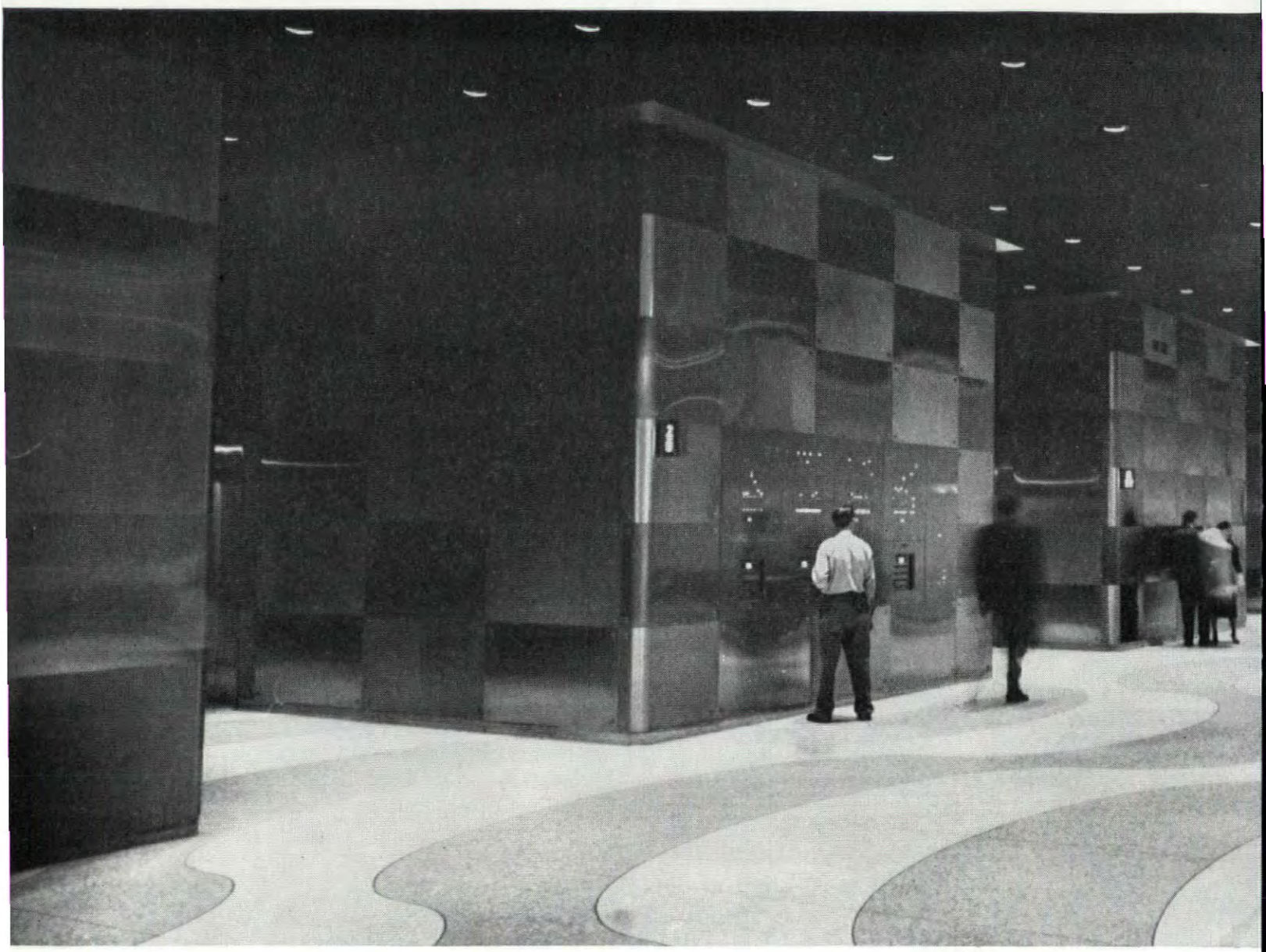
JOE MICON



Architect: Shepley Bulfinch Richardson & Abbott, Boston, Mass.

LEVERETT HOUSE LIBRARY, HARVARD UNIVERSITY. Each pillar-supported roof section is surrounded by ribbons of daylight — evenly diffused, glare-free. This achieves airy openness above, naturally illuminated privacy below. Execution of this concept was made possible with Wasco custom-designed continuous triangular Skydomes — molded of acrylic, the shatter-proof, weathering plastic. Wasco welcomes other opportunities to combine daylighting with advanced architectural ideas. Write Custom Engineering Department, Wasco Products, Inc., 5 Bay State Road, Cambridge 38, Mass.

WASCO SKYDOMES



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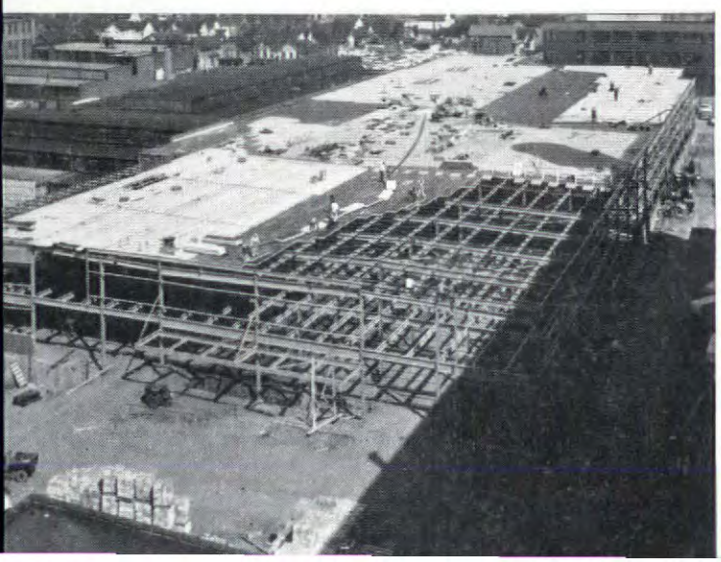
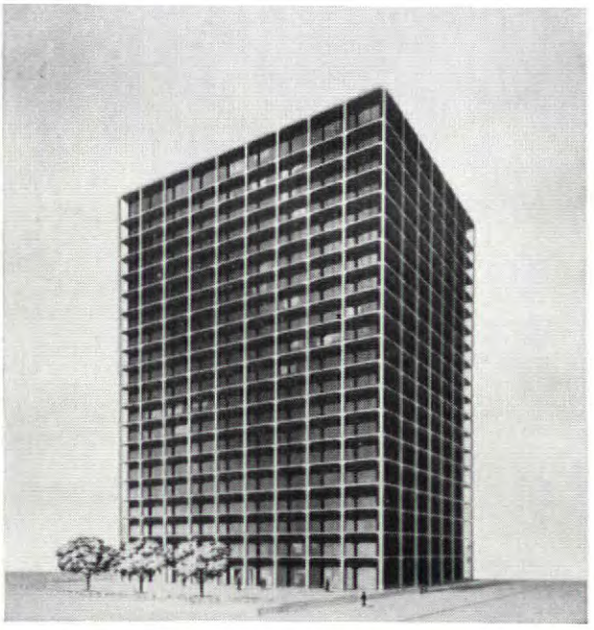
GENERAL BRONZE CORPORATION fabricated more than 20 tons of Republic Stainless Steel (Type 302 with a 2B finish) for wall- and column-panels, entrance ways, elevator doors, and other applications. Time & Life Building, Rockfeller Center, New York 20, New York.

CLEVELAND, OHIO: Republic High Strength Bolts were used to advantage in the construction of the new Bobbie Brooks, Inc., warehouse. Two-man crews installed the bolts quickly and easily on the 80-foot, double-pitched main trusses. Erection schedules are easily met or even shortened with Republic High Strength Bolts. Send for illustrated folder.





CHICAGO, ILLINOIS: Republic Steel Pipe was specified for complete domestic water, gas, and steam distribution systems in the new Hartford Building (to be occupied in part as Western Department Headquarters of Hartford Fire Insurance Company Group). Use of steel pipe—black and galvanized—saved thousands of dollars.

MONTERREY, MEXICO: architects utilized Republic's Truscon VISION-VENT® Window Wall System for the new "Edificio Banco Popular" (Popular Bank Building). Use of this advanced system netted the immediate economies of mass-production, fast erection, design flexibility, and 5% gain in usable floor space (made possible by insulated panels less than 1½″ thick).

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GEORGE CSERNA

Dynamics in the Center

The redesign of the old Time & Life building gives General Dynamics a new home and Rockefeller Center a chance to show its still-youthful promise.

When Rockefeller Center Building Number 5 was completed in 1937, it had almost as many enduring virtues as it had architects. The team of Reinhard & Hofmeister, Corbett & MacMurray, Wallace K. Harrison, and J. André Fouilhoux had seen to it that the building shared with the other original Center structures an integral relationship, and a style and a frame that would survive the years. But in the following two decades the interior of the building became quite old hat (see photos, right). Obsolescence was evident both in its mechanics and in its economics—Time Inc., the largest tenant, was paying rents based on depression calculations, averaging about $3 per square foot. Yet, as the building stands now, soon after the completion of a $6 million top-to-bottom renovation, it is the most modern building in the Center (except for the new Time & Life building) and is competing successfully with the most recent of Manhattan's lofty palaces.

The first step in the Center's redesign of the building was to find a major tenant to replace Time Inc. An ideal prospect was General Dynamics, a vigorous growth company (17th on FORTUNE's list of the 500 largest U.S. industries) with an interesting corporate peculiarity. Unlike most headquarters operations, General Dynamics does not have large departmental staffs requiring vast working floors; but has, by contrast, an inordinate number of high-ranking chiefs requiring nothing more than a many-windowed office and amenable space for one secretary. The building's relatively small office floors seemed no drawback, therefore, to General Dynamics. Negotiations with the Center commenced, and Architects Shreve, Lamb & Harmon Associates were able to propose a tailor-made job for their client's new offices (see photos overleaf).

The second step in the Center's redesign of the newly named General Dynamics building was to settle on an economic pattern. The structure had cost approximately $6 million to build in 1937. If another $6 million were spent on remodeling, the Center would have an almost-as-good-as-new building of 381,000 square feet for a cost of $31.50 per square foot—as compared with new building construction costs in Manhattan that run up to $60 per rentable square foot. The Center thus felt it could give fairly generous terms to General Dynamics. The 20-year lease on the company's six office floors (27-32) plus ground-floor reception room cost General Dynamics $500,000 a year, very little more than they paid previously in their too-small quarters on Park Avenue ($5 per square foot). Other major tenants in the building, such as Asiatic Petroleum, whose 120,000 square feet of space is mostly on the lower, broader

RICHARD H. ALTHOFF

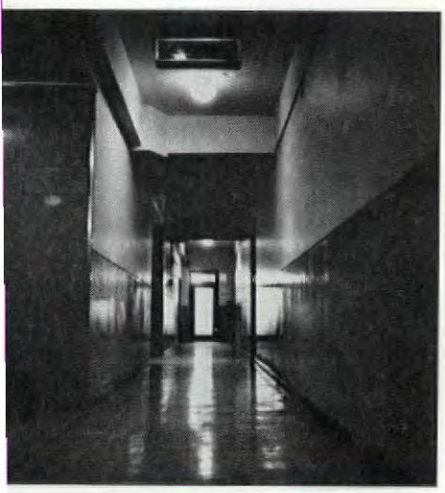
EDWARD RATCLIFFE

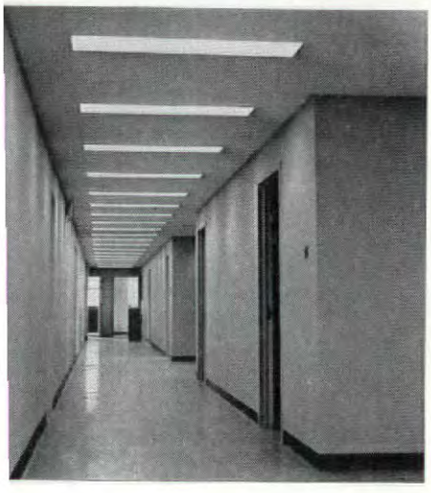
TONY LINCK

TONY LINCK

BERNARD HOFFMAN

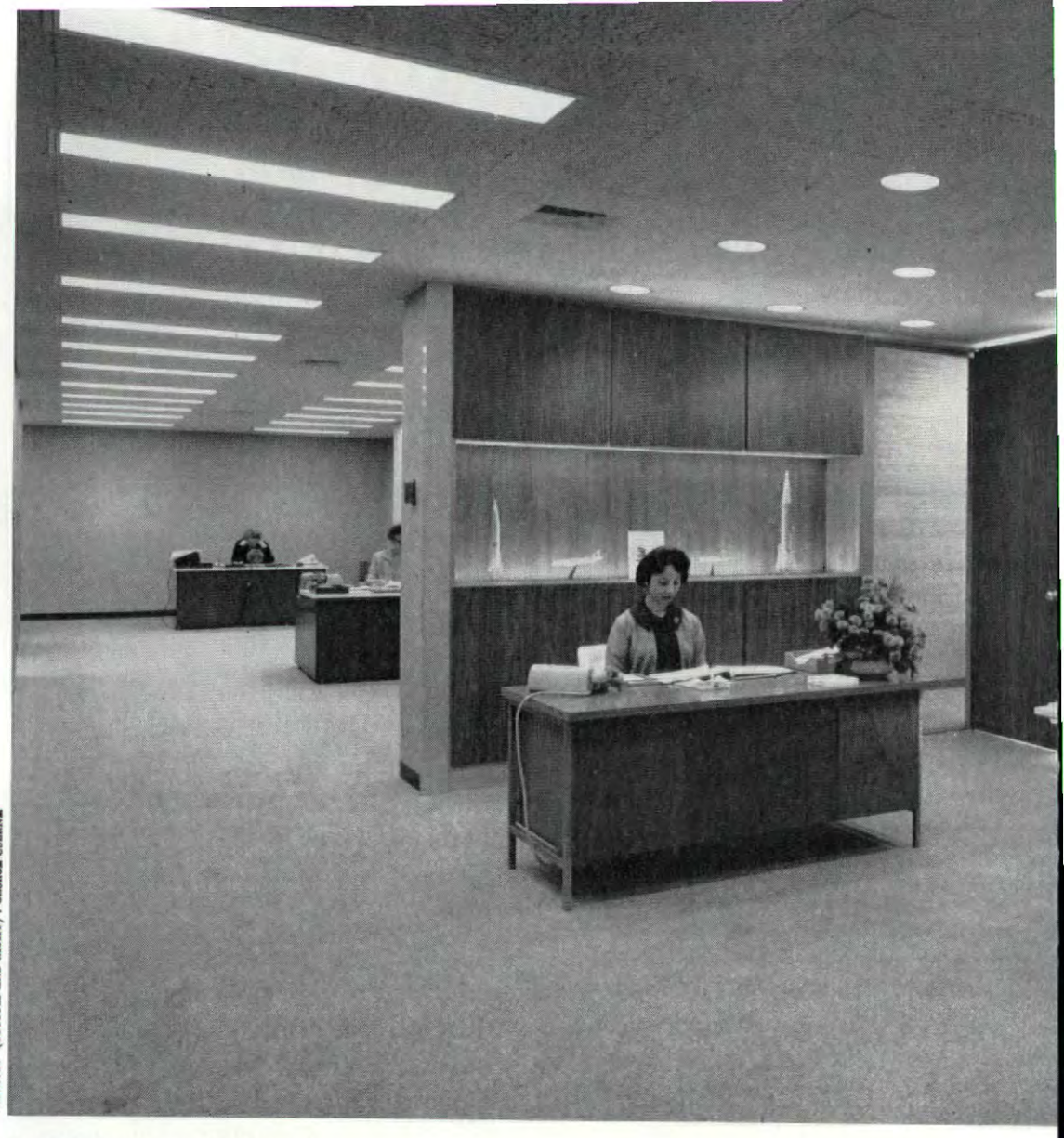
Rising above the skating rink *in Rockefeller Center, the General Dynamics building has a new look, which is most immediately evident in the refinished, relighted lobby (photo at far left). The interior photos at right (with the original lobby at top) were taken at various stages in the building's 25-year history and show the continuing need for updating that existed before last year.*





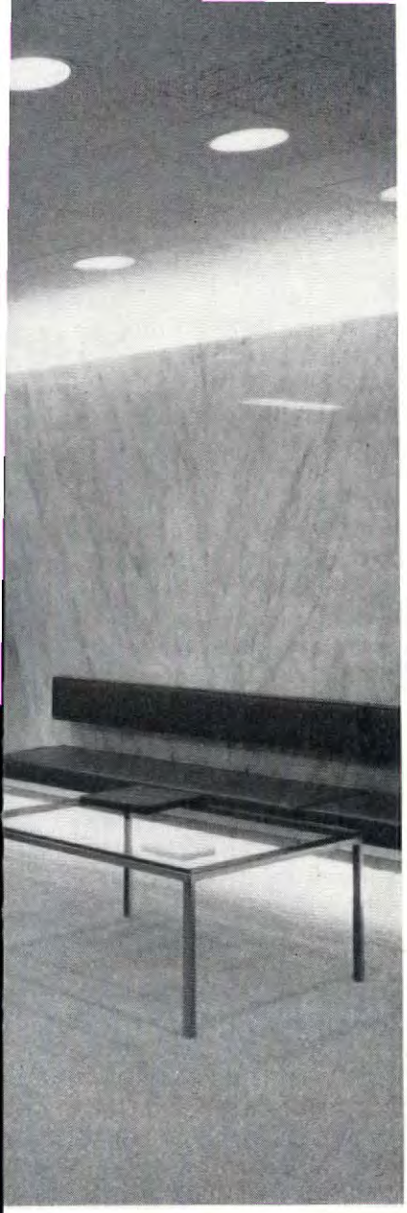
Corridors *seem brighter, broader than their 6-foot width after air conditioning and new lighting were installed in the ceilings, which were dropped from 8 feet, 6 inches to 7 feet, 10 inches.*

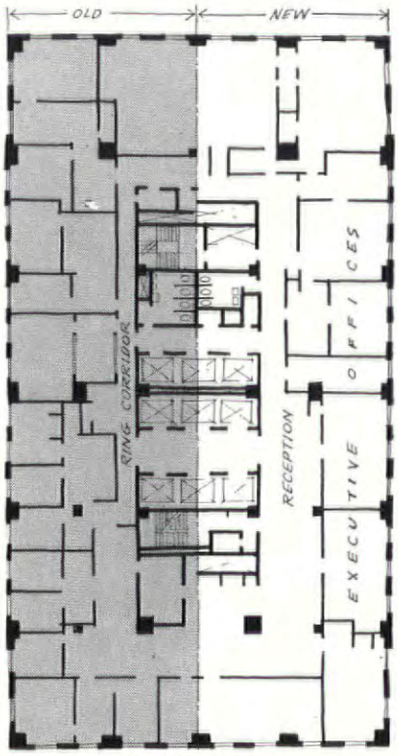
PHOTOS: (BOTTOM AND RIGHT): GEORGE CSERNA

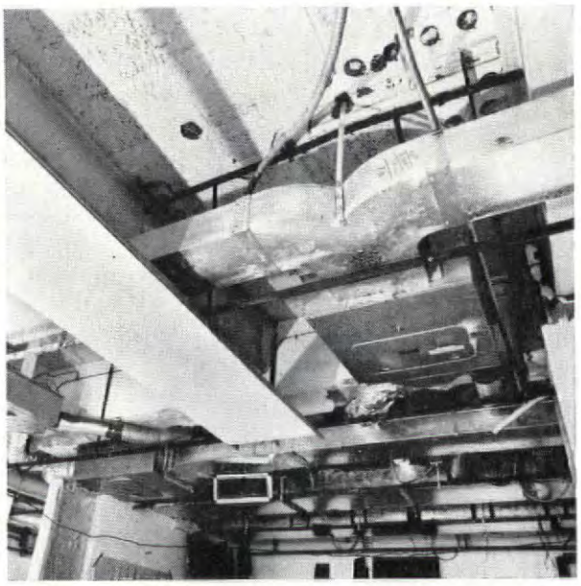


Executive areas *on the General Dynamics floors no longer have ring corridors (see plan of old and new 32nd floor, right). Interior space is used for reception areas and secretarial bays (above).*

Offices *in the redesigned building (right) use existing radiators to supplement the hot-and-cold-air system. Old lighting (above) has been replaced with flush fixtures yielding an illumination level of 45 and 50 foot-candles.*







Air-conditioning *ductwork and new ceiling carriers were hung from the existing slab in a service space about 3 feet deep. Ceilings in elevator lobbies were left as before (right).*

floors, also secured advantageous terms. For a half-floor the Center asked rents of $7.25 per square foot of gross space, higher by about $2.00 than before.

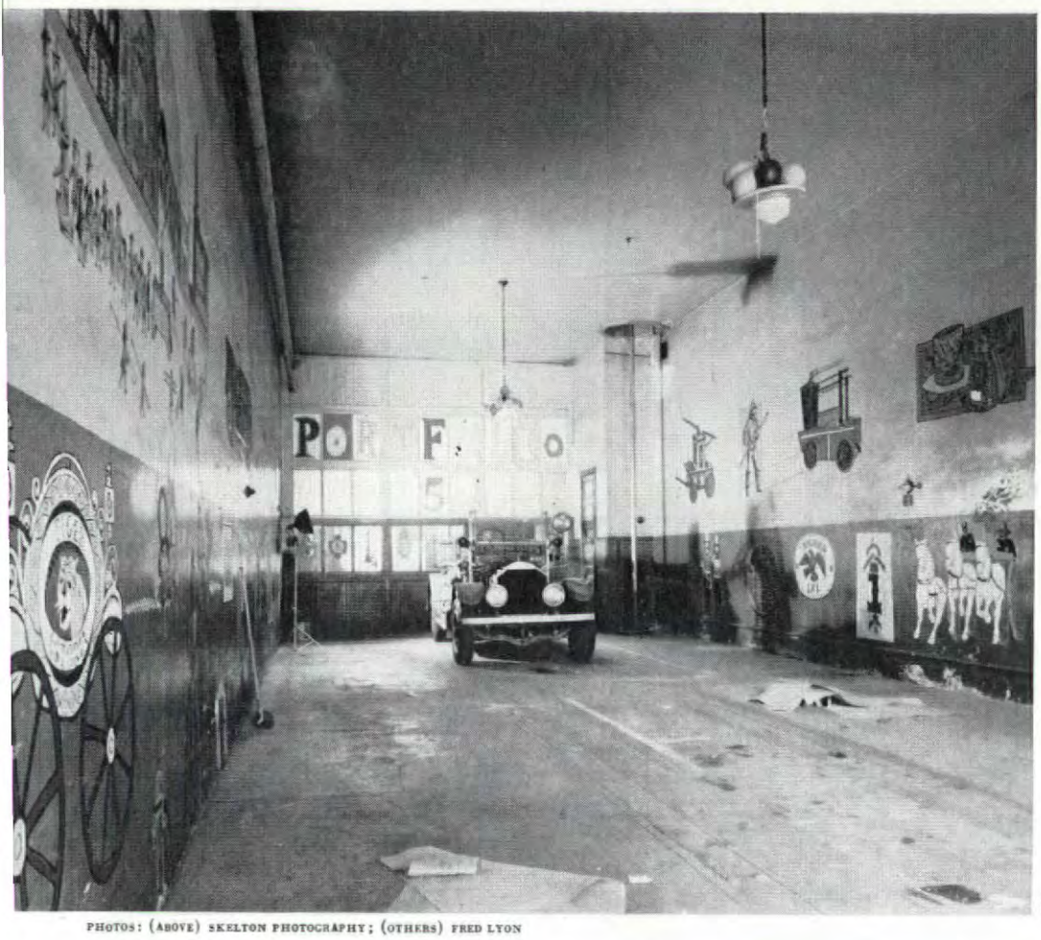
For this increase in rent, tenants in the General Dynamics building get many palpable improvements plus the continuing benefit of the Center's ongoing program of maintenance and modernization. Air conditioning has been the paramount item in this postwar program which will be fully completed, for all Center tenants who want it, by the end of 1961.

The anatomy of the Center's air-conditioning design is such that refrigeration units for most of the original buildings are located centrally in the subbasement of the RCA building. Chilled water is pumped underground to the various basements, thence up to fan rooms where it is used to cool the air that is pumped throughout the buildings' floors. A high-pressure, small-duct system, which could be neatly fitted into the tight spaces between old and new ceilings of the General Dynamics building (photo left, center), leads hot and cool air to thermostat-controlled mixing boxes in each room. This system allows every office in the General Dynamics building to be individually tempered.

Other parts of the building's mechanical redesign were its lighting and elevator systems. As the air conditioning was built into successive floors, the areas were rewired and new fluorescent light fixtures installed in the hung, acoustical ceilings. The 12 passenger elevators in the building were completely replaced with automated cars, at about $70,000 each. But because this represented no obvious improvement in service, rents could not be increased proportionately, and the cost had to be absorbed by management.

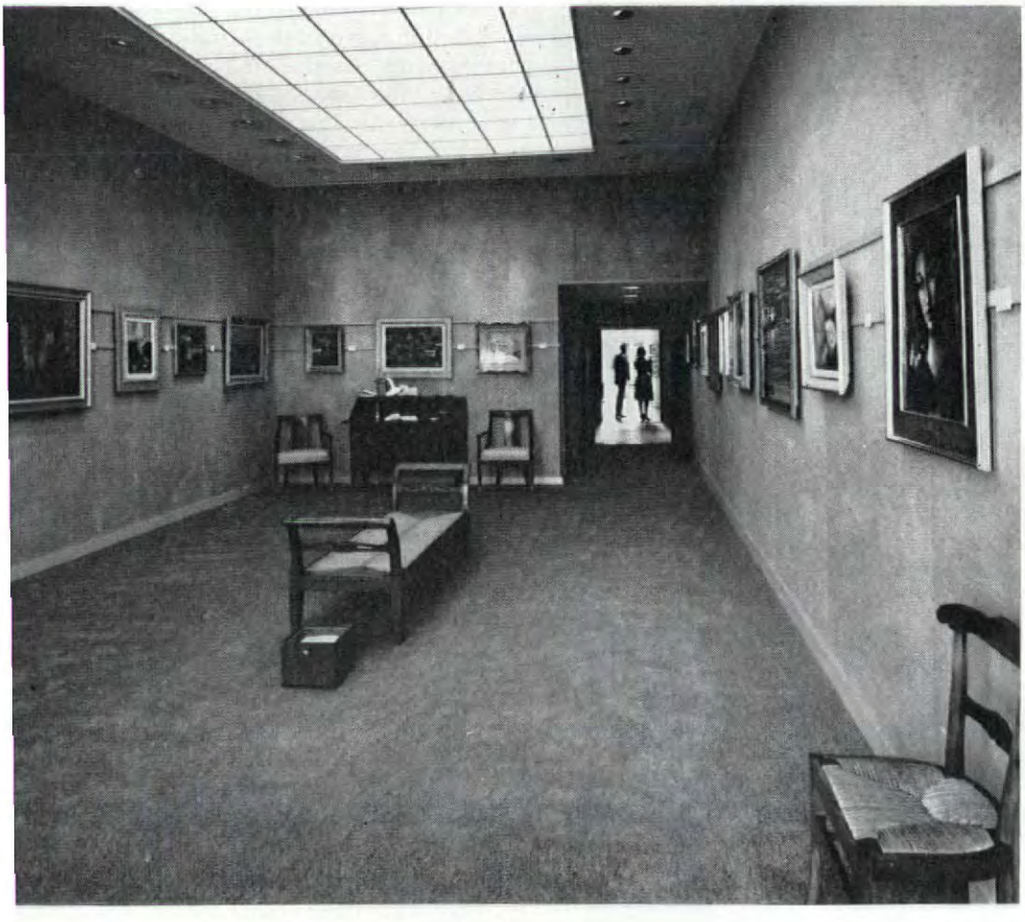
The total General Dynamics building is thus a complex of many specialized operations—architectural, economic, and technical—some of which bear little relationship to immediate financial return. But the point of the building's redesign was to demonstrate that by taking advantage of its enduring qualities and its dynamic position in the city, the next 20 years can be as rewarding as the last.

Net cost: $6 million ($15.76 per square foot of office area). Principal cost elements: air conditioning, $3,100,000 (about $6.75 per square foot for work in General Dynamics building, alone); elevators, $950,000; acoustical ceilings, $300,000; lobby, $300,000.



1

PHOTOS: (ABOVE) SKELTON PHOTOGRAPHY; (OTHERS) FRED LYON



2

An obsolete firehouse lives on for art

The Pomeroy Gallery in San Francisco is a building with a durable past. Built as a firehouse in 1866, it was destroyed by the great fire of 1906. After restoration in Italian Renaissance style, this sepulcher of Engine Number One finally proved incapable of handling new equipment and crews, although structurally it remained sound. Attracted by the uncommonly generous space of the old engine room (1), William Pomeroy purchased the building at auction and rebuilt it as an art gallery.

The resulting gallery, which opened to the public last November, is a tasteful blend of modern exhibition technique and nostalgia for a bygone era. The strong façade (3) remains virtually intact although the truck entrance was replaced by a floor-to-ceiling window, bringing natural light to the exhibition space (2) and allowing an unobstructed view from the street into the courtyard at the rear. On the inside, a burnished fire pole and a black, iron, spiral staircase (4) were preserved as charming relics of the last century (for more nostalgia which could not be preserved, see 1). At the rear is a stylized, neo-Renaissance courtyard (5, 6) terminating in a loggia supported by two Florentine caryatids.

Total cost (excluding site purchase) was $54,600. Breakdown: general, $5,330; mechanical, $3,600; electrical, $8,000; interiors, $21,270; court, $9,200; overhead and fees, $7,200.

Architect: Joe L. Stetman. Landscape architect: Thomas Church. Interior decorator: Sawyer & Knowles. General contractor: J. H. Pomeroy & Co., Inc.

3

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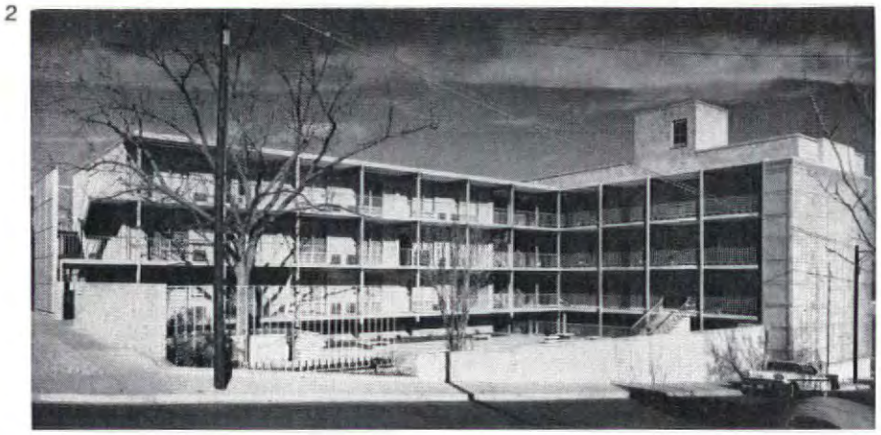

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PHOTOS: MEARS PHOTOGRAPHY

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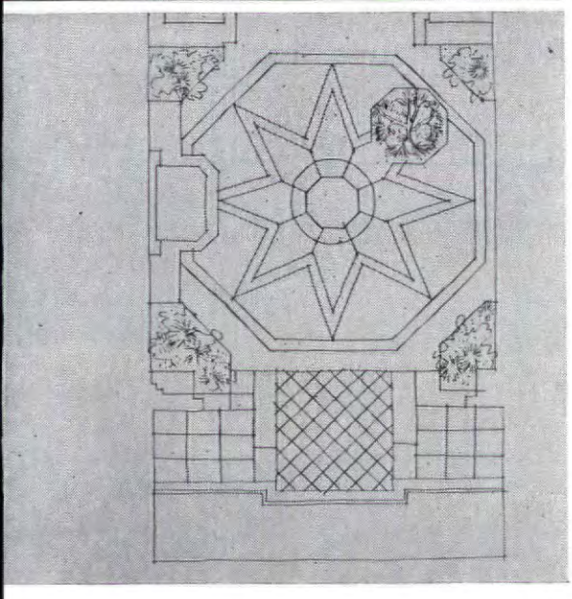

6

Balconies aid in hospital-to-apartment conversion

When St. David's Hospital in Austin, Tex. moved to new quarters several years ago, three architects purchased the property (1) as an investment to be developed into furnished apartments.

Two residence structures were demolished, the existing four-story concrete and steel-frame building was extensively remodeled, and a new wing was added to the west (2).

Like many hospitals, the old building was long, narrow, and split in half lengthwise by central corridors, dividing each floor into two rows of cells. Substituting balcony-type corridors on the west side of the building overlooking a pool and landscaped garden (3), the architects eliminated the space-consuming central corridors, converting their 6,800 square feet into net apartment area, and allowing each apartment to occupy the full width of the building (4).

Total cost was $552,636, or about $12,400 per apartment. Breakdown: original purchase, $75,000; structural, $278,600; mechanical, $67,000; electrical, $38,500; pool, $8,000; furnishings, $53,000; fees, $24,036. Monthly rents are $100 to $175.

Architects and engineers: Page, Southerland & Page. Landscape architect: Robert F. White & Associates. General contractor: John Broad & Co.

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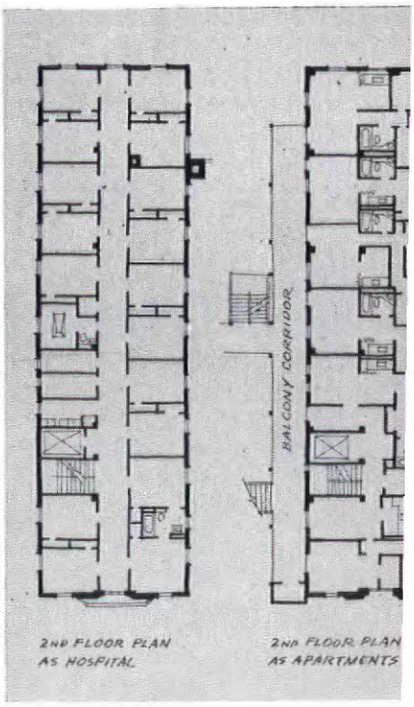

Fire-safety need stressed in school rebuilding

In school rebuilding the utmost care must be exercised to avoid any inadvertent creation of fire hazards. To spread this warning, the National Academy of Sciences–National Research Council last month issued *School Fires*, a nontechnical and occasionally scorching booklet prepared jointly by its Committee on Fire Research and the School Fire Safety Committee of its Building Research Advisory Board headed by Chicago Architect Norman J. Schlossman of the firm of Loebl, Schlossman & Bennett.

"Poor planning, faulty use, and improper maintenance" have been major factors contributing to school-fire deaths, according to this report. Sharply rapping makeshift safety devices frequently encountered in some school-rebuilding projects, it says: "A major shortcoming of fire escapes is that the opening which provides access to the fire escape is also exposed to smoke, gases, heat, and flame. They can be a psychological barrier. Slide escapes are unsatisfactory and hazardous. Exits through other rooms are ineffective. Ladders should never be considered adequate. Classroom windows are of no use when barred or screened."

Other fire-safety fallacies of which the report seeks to disabuse school rebuilders are that spaces abandoned by recent additions or alterations may be forgotten and that former exit routes may be considered adequate after rebuilding has occurred. On the first point, the report states: "It is not infrequent, especially in buildings more than 25 years old, that heating and ventilating systems will have been modified, sometimes completely changed. Exhaust ducts, plenums, and shafts may have been taken out of use without being removed. Unless totally blocked off between rooms and between floors, these can rapidly transmit smoke, gases, and even flame throughout the building." And on the latter point: "Where there have been structural additions or alterations, exitways require special attention. Former exits may have been locked or routes made longer; or a wing of fire-resistive construction may have been added while the old structure remains the sole means of egress."

The Educational Facilities Laboratories, Inc., established by the Ford Foundation, made a grant for the studies on which *School Fires* is based. Copies of the 60-page report, the bulk of it a discussion of fire safety designs and procedures, are available from the National Academy of Sciences–National Research Council, Washington 25, D.C., for $2.50 each.

Permits reflect stability of rebuilding last year

Permits for rebuilding last year in 13 major cities, exclusive of New York, registered a dollar volume increase of 1.9 per cent compared with a 12.4 per cent drop in volume for new construction permits. The increase for rebuilding also stood out in comparison with an over-all decrease of 9.6 per cent in permits for new construction and rebuilding permits combined.

In the recession-resistant rebuilding market, permits for residential rebuilding last year in these 13 cities showed almost no change (up 0.4 per cent) from the 1959 level, and tickets for nonresidential rebuilding showed a slight increase (up 2.4 per cent), totaling $255 million in 1960 compared with $249 million in 1959.

In New York City, accounting for about two-fifths of the total market, residential rebuilding permits increased 15.6 per cent, from $32 million in 1959 to $37 million in 1960, but nonresidential permits declined 28.8 per cent from $104 million to $84 million.

In five cities that classify building permit data by building types (Boston, Detroit, New York, St. Louis, and Cleveland) an analysis of the total dollar volume in different categories of rebuilding permits in 1959 and 1960 showed a marked increase for factories, stores, and recreational structures. The breakdown in thousands of dollars was:

	1959	*1960*	*Change*
Stores	$10,991	$13,283	+20.8%
Office buildings	33,770	29,425	—12.8
Factories	21,004	28,615	+36.2
Schools	25,134	28,831	+14.7
Hospitals	19,290	16,657	—13.6
Churches	6,939	7,449	+ 7.3
Recreation	1,162	1,410	+21.3
Miscellaneous	45,226	40,988	— 9.4
All residential			

REBUILDING PERMIT DATA

Additions and alterations, in thousands of dollars:

	Residential	*Nonresidential*	*Total*	*Change '59-'60*
ATLANTA	$ 4,205	$ 13,985	$ 18,190	—20.1%
BOSTON	3,421	19,902	23,323	+85.8
BUFFALO	1,805	5,360	7,166	N.A.*
CLEVELAND	5,364	22,790	28,154	+58.2
DENVER	3,563	12,356	15,919	— 5.4
DETROIT	4,710	30,778	35,488	+19.6
LOS ANGELES	31,713	65,384	97,097	— 9.7
MINNEAPOLIS	3,086	11,825	14,911	+54.1
NEW YORK	37,316	84,444	121,760	—11.7
PITTSBURGH	2,807	6,583	9,390	—31.8
PHILADELPHIA	3,451	13,261	16,711	—22.1
ST. LOUIS	2,164	8,632	10,796	—19.1
SAN FRANCISCO	11,988	19,770	31,758	+ 5.2
SEATTLE	4,982	21,772	26,752	— 2.9
WASHINGTON	3,554	8,294	11,848	+10.9
TOTAL	$122,324	$339,776	$462,100	— 1.8%

*Buffalo data for 1959 not compiled.

Briefs

The world's largest infants' and children's wear trade center with a total rentable area of 600,000 square feet will be created in New York by rebuilding three structures into one. Oestreicher Realty, investors and builders, erected the main 26-story building in 1927, purchased one adjacent 12-story property in 1940, and early this year acquired another adjoining 23-story building. Rebuilding plans by Architect John J. McNamara to permit operation as a single unit will give the complex a new common lobby, a new three-story façade for an entire block front, and interconnected floors where possible.

Rebuilding achievement was one of the major factors that won the first Ward Melville Gold Medal for Community Improvement for Philadelphia. The award jury, including James Grote Van Derpool, associate dean of Columbia University's School of Architecture, cited the city not only for extensive public and private construction in recent years, but also for its magnificent Independence Hall restoration project and the rebuilding of some 500 structures in its Society Hill–Washington Square urban renewal area.

Chilled water for air conditioning will be sold on a metered public utility basis by the Hartford (Conn.) Gas Co. after it completes a new cooling and heating plant to serve buildings in that city's new Constitution Plaza redevelopment project (FORUM, Dec. '60) and other existing downtown structures that want to include air conditioning in their rebuilding plans. Water lines 2 feet in diameter will extend some 3,600 feet from the plant. Carrier Air Conditioning Co. officials predict that this Hartford precedent in chilled-water service, which eliminates the need for air-conditioning refrigeration units in individual buildings, will soon be duplicated in every large city in the country.

END

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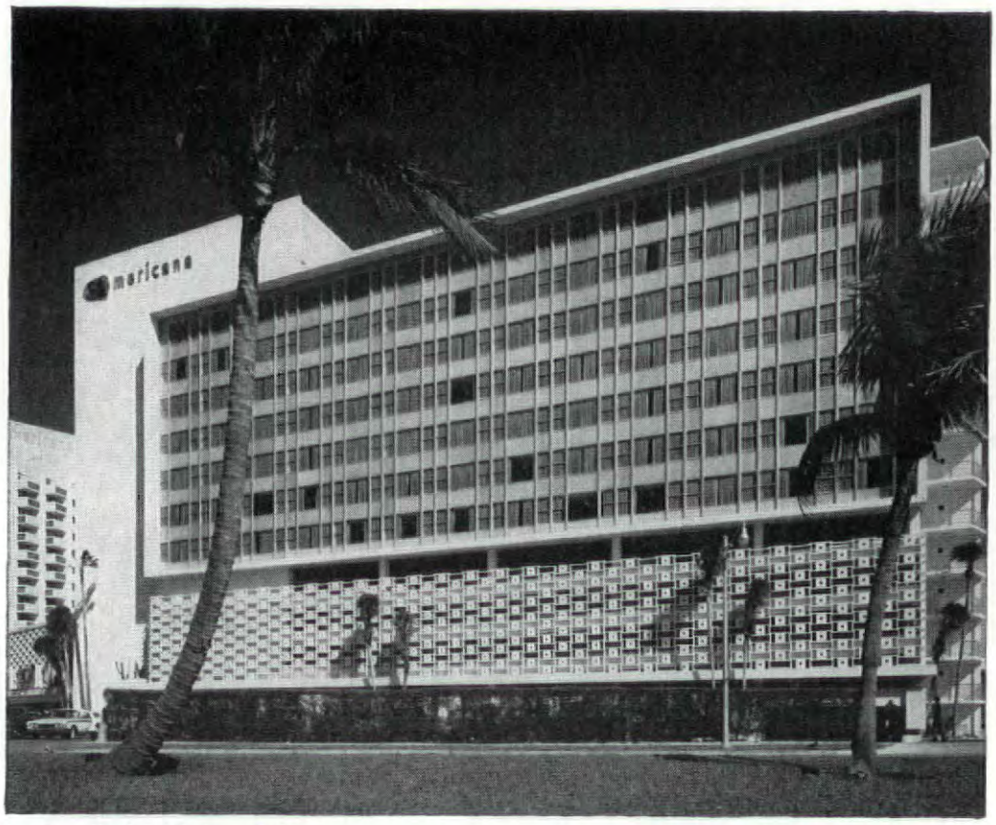

Americana Hotel, Bal Harbour, Florida
Architects: Morris Lapidus, Kornblath, Harle & Liebman

photo by Cortlandt V. D. Hubbard

Married Students Housing, Texas A&M College
College Station, Texas
Architect: Henry D. Mayfield

Perryville Junior H. S., Perryville, Mo.
Architect: Glen Drew

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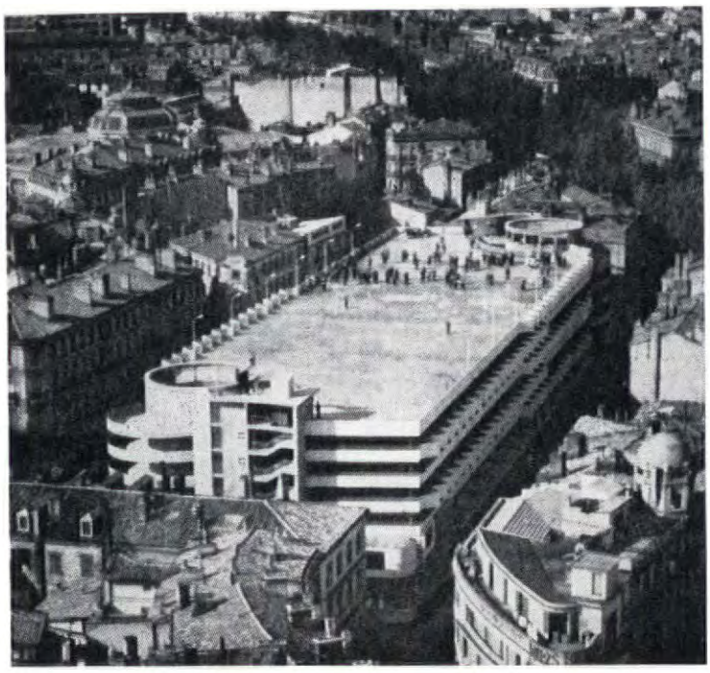
Why then, doesn't every aluminum window manufacturer carry the AWMA "Quality-Approved" seal on his windows?

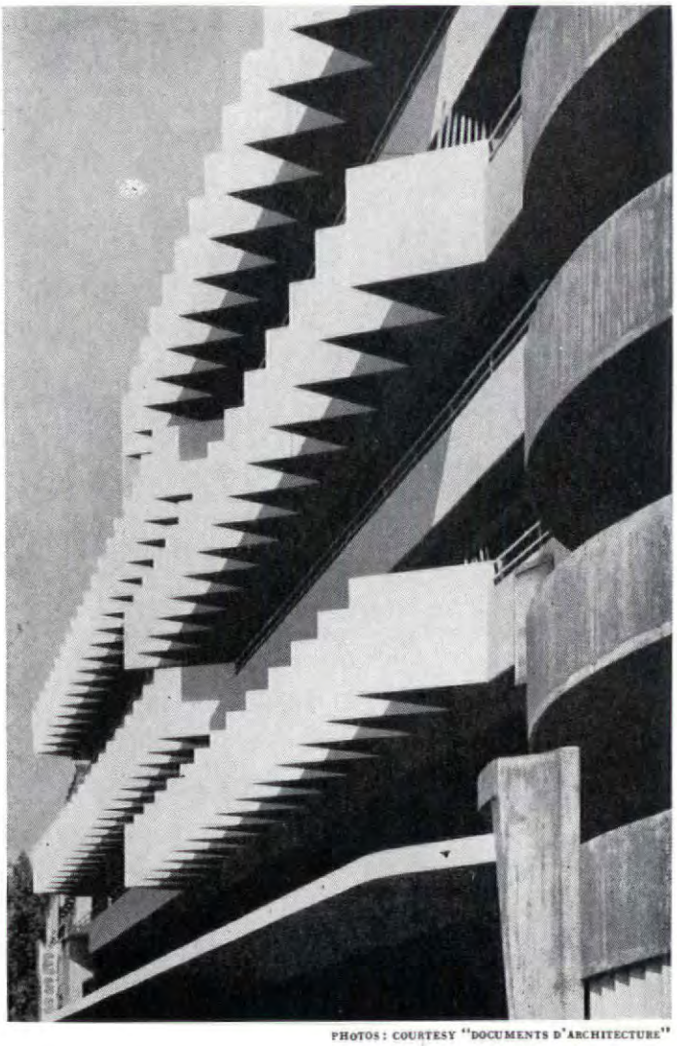
A good question . . . and the truth is, some manufacturers who glibly claim that their windows meet or even exceed the AWMA specifications actually couldn't pass *all* the tests when administered by an independent testing laboratory. You see, AWMA quality window specifications cover not just one but many factors including the metal alloy, wall thickness, strength of sections, size limitations, hardware, as well as performance tests for air infiltration, deflection and other physical load tests.

If you want your clients to enjoy all the benefits that good quality aluminum windows have to offer, be sure you specify windows that carry the AWMA "Quality-Approved" seal.

The AWMA quality standards for window manufacture and window performance reflect the thinking of thousands of architects and engineers as well as quality-concerned manufacturers. And the AWMA quality seal is your assurance of *full* compliance with these quality standards. For a copy of the latest AWMA window specifications and the names of AWMA manufacturers ready to serve you, write to Dept. F-3, Aluminum Window Manufacturers Association, 630 Third Avenue, New York 17, N. Y.

MEMBERS: Adams Engineering Co., Inc., Ojus, Fla.; Albritton Engineering Corp., Bryan, Texas; American Duralite Corp. Loudon, Tenn.; American Metal Window Co., Inc., Shreveport, La.; Amco Aluminum Corp., Philadelphia, Pa.; Arnold Altex Aluminum Co., Miami, Fla.; The William Bayley Co., Springfield, Ohio; Capitol Products Corp., Mechanicsburg, Pa.; Ceco Steel Products Corp., Chicago, Ill.; Crossly Window Corp., Miami, Fla.; Dunaway Manufacturing Co., Longview, Texas; Fenestra Inc., Philadelphia, Pa.; Michael Flynn Mfg., Co., Philadelphia, Pa.; Kesko Products Co., Bristol, Ind.; Likit Windows, Inc., Hayward, Calif.; Mayfair Industries, Inc., Lafayette, La.; Miami Window Corp., Miami, Fla.; S. H. Pomeroy Co., Stamford, Conn.; Porterfield Industries, Inc., Miami, Fla.; Porter-Lite Products Corp., Houston, Texas; Reynolds Metals Co., Richmond, Va.; Rogers Industries, Inc., Detroit, Mich.; The F. C. Russell Co., Columbiana, Ohio; Southwest Aluminum Products, Inc., Dallas, Texas; Stanley Building Specialties, North Miami, Fla.; Truscon Division, Republic Steel Corp., Youngstown, Ohio; Valley Metal Products Co., Plainwell, Mich.; Weather-Tite Mfg. Corp., Baltimore, Md.; Windalume Corp., Kenvil, N. J.; Wisco Inc., Detroit, Mich.





PHOTOS: COURTESY "DOCUMENTS D'ARCHITECTURE"

ANGLED IN FRANCE

The city fathers of Toulouse had the problem of redeveloping a disreputable downtown market place while also trying to do something about the parking problem. They accepted the advice of Architects J. and P. Genard that a combined parking garage and shopping center be built. Their reinforced concrete structure has five floors of parking (the uppermost doubles as a heliport), two access towers at opposite corners, and a ground-floor shopping area of 250 stalls. The 650 cars which can get into the garage are instructed to park at a definite angle, and that angle is reflected in the zigzag pattern of the parking floors (right).

NONSTRUCTURE IN VENICE

Defying the strong and recent trend in modern Italian architecture toward "structural" buildings, Ciuseppe Samonà, architect of the new state health office in Venice, has underplayed his building's vertical, reinforced concrete frame and accented its relationship to a group of salty, heterogeneous neighbors. The design of the building is based on advanced technological and planning concepts (the Venetian tides are baffled in carefully designed chambers; the staff departments are arranged as scientifically as in a hospital). But what strikes the eye is a casual Venetian pattern of shadowed balconies, glazed staircases, and stuccoed strips.

PHOTOS: COURTESY "CASABELLA"

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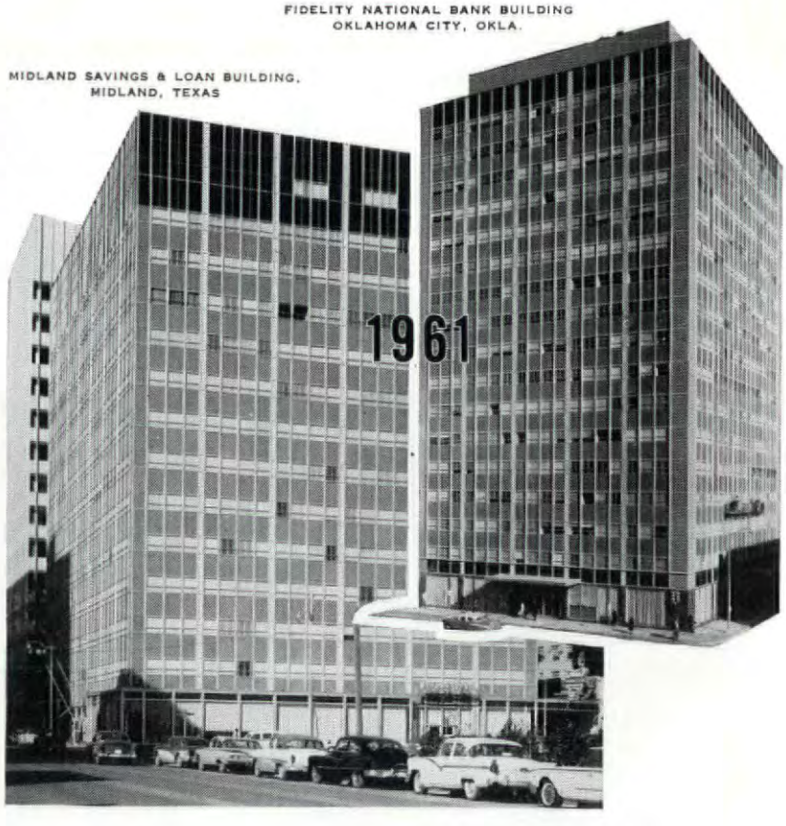

* Fidelity National Bank Bldg., Oklahoma City, Okla.; Commerce Bldg., Portland, Ore.; Thruway Plaza, Buffalo, N. Y.; Commercial Travelers Insurance Bldg., Salt Lake City, Utah; Alaska Trade Bldg., Seattle, Wash.; KARD-TV Bldg., Wichita, Kansas.

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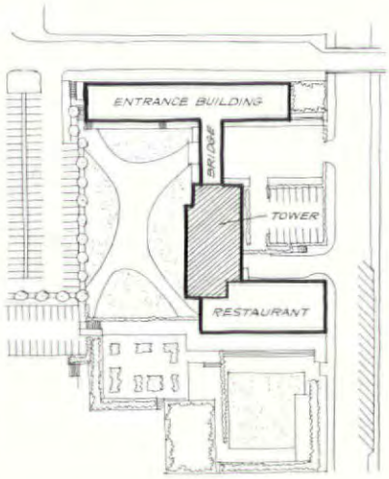
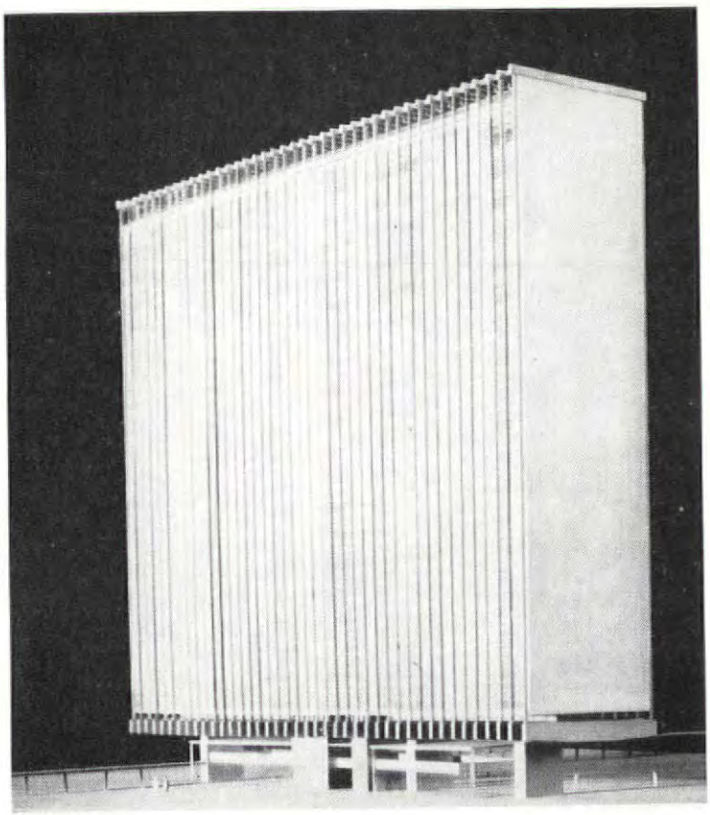
BRIGHT IN SWEDEN

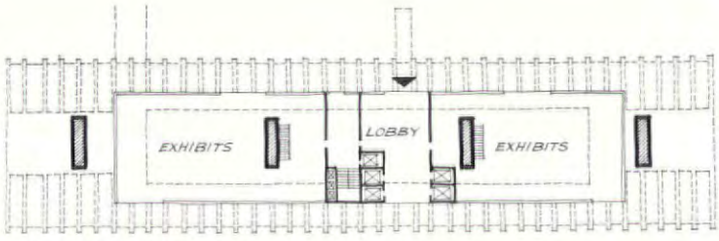
On the Stockholm water front a gleaming, 28-story skyscraper has been built as the home office of the Folksam insurance company. Designed by Architect Nils Einar Erikson, the building's distinctive appearance results from unusual detailing and thoughtful massing. The tower wall is composed of bright blue, enameled steel panels and aluminum-framed windows set between wide marble-cladded columns. The tower stands in back of and above the entrance building (see plan) which contains a sauna as well as the standard reception areas.



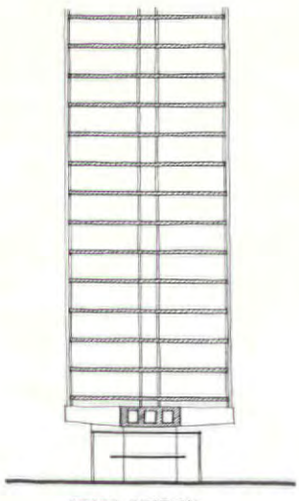
COURTESY "ARKITEKTUR"



COURTESY "MODULO"



GROUND FLOOR PLAN



CROSS SECTION

BALANCED IN BRAZIL

One of the largest office buildings planned for Brasília is Oscar Niemeyer's Palace of Development. Its 20 upper stories will balance on just four squat columns. Two major lateral beams will span these ground-floor columns; from them a network of lesser, transversal beams will branch off (see plan, above). The building's metal and glass main façades will each be vertically marked by 40 exterior columns resting on the tips of the transverse beams. The office floors, each almost as uncluttered as the ground floor, will be divided by a corridor between interior columns.

COURTESY "THE ARCHITECTURAL REVIEW"

FOCUSED IN LONDON

For a focal point in a redevelopment section of London's East End, Architect Robert Maguire designed a church whose mass is sufficiently imposing to compete with the high-rise apartment blocks that will tower around it. The central area of the church, which is organized so that the congregation may sit on three sides of the altar, rises to a height of two storys and is topped by a diamond-paned lantern. When the congregation is small, as it tends to be on an average Sunday, seating is restricted to this light-filled, central area. On festive occasions the congregation can expand out into the surrounding, one-story aisles, which are recognizable on the outside by the folded concrete plate roof.

END


Jacoby

From Armstrong: a giant step in fire-retardant ceilings

Now, for libraries: two types of Acoustical Fire Guard—12″ x 12″ tiles and new lay-in units

The main ceiling of the library on the left has the new Acoustical Fire Guard *lay-in* ceiling. The first floor ceiling, which you see just below the mezzanine, is of Acoustical Fire Guard *tile*.

This was the first time-design-rated acoustical tile. Since it was first introduced by Armstrong two years ago, millions of feet have been installed.

The new lay-in system is another great advance in fire-retardant ceilings. Here's why.

Unique New Suspension System

Because of a new type of suspension system, the Armstrong Acoustical Fire Guard lay-in ceiling combines the advantages of an exposed grid system—economy and fast installation—with those of a time-design-rated acoustical ceiling. Here's how the lay-in units work with the specially designed Fire Guard Grid Suspension System* to protect the structural components of a building.

Ceiling Withstands 2000 Degrees

The lay-in unit – because of its composition – can withstand exposure to flames and 2,000-degree heat. The new grid system, designed exclusively to support these units, will resist this same intense heat by allowing its members to expand, thus holding the lay-in units firmly in place. This suspension system is the first to be combined with a lay-in ceiling unit to offer rated fire protection. Both the lay-in unit and the grid system carry the U.L. label.

Underwriters' Laboratories, Inc., has given the Fire Guard lay-in ceiling system a beam protection rating of three hours. Floor-ceiling assemblies combining it with bar joist and slab, as well as with beam and steel floor construction, earned two-hour ratings. In areas which require more protection, Acoustical Fire Guard *tile* can be used. It has U.L. ratings of up to *four* hours.

Cost Low, Savings High

In most cases, the new lay-in ceiling will cost even less than ordinary plaster ceilings on metal lath. And like tile, the new ceiling can save builders up to *two months*' construction time. This means that a building like this library may open two months earlier.

A Choice of Design

The Acoustical Fire Guard lay-in ceiling is now available in both the Classic and Fissured designs. There are two nominal sizes: 24″ x 24″ x 5/8″ and 24″ x 48″ x 5/8″.

For more information about either Acoustical Fire Guard tile or lay-in units, call your Armstrong Acoustical Contractor (he's in the Yellow Pages under "Acoustical Ceilings") or your nearest Armstrong District Office. Or write to Armstrong Cork Company, 4203 Rooney Street, Lancaster, Pennsylvania.

* Patent pending

Armstrong ACOUSTICAL CEILINGS

First in fire-retardant acoustical ceilings

Architectural design and rendering by Helmut Jacoby

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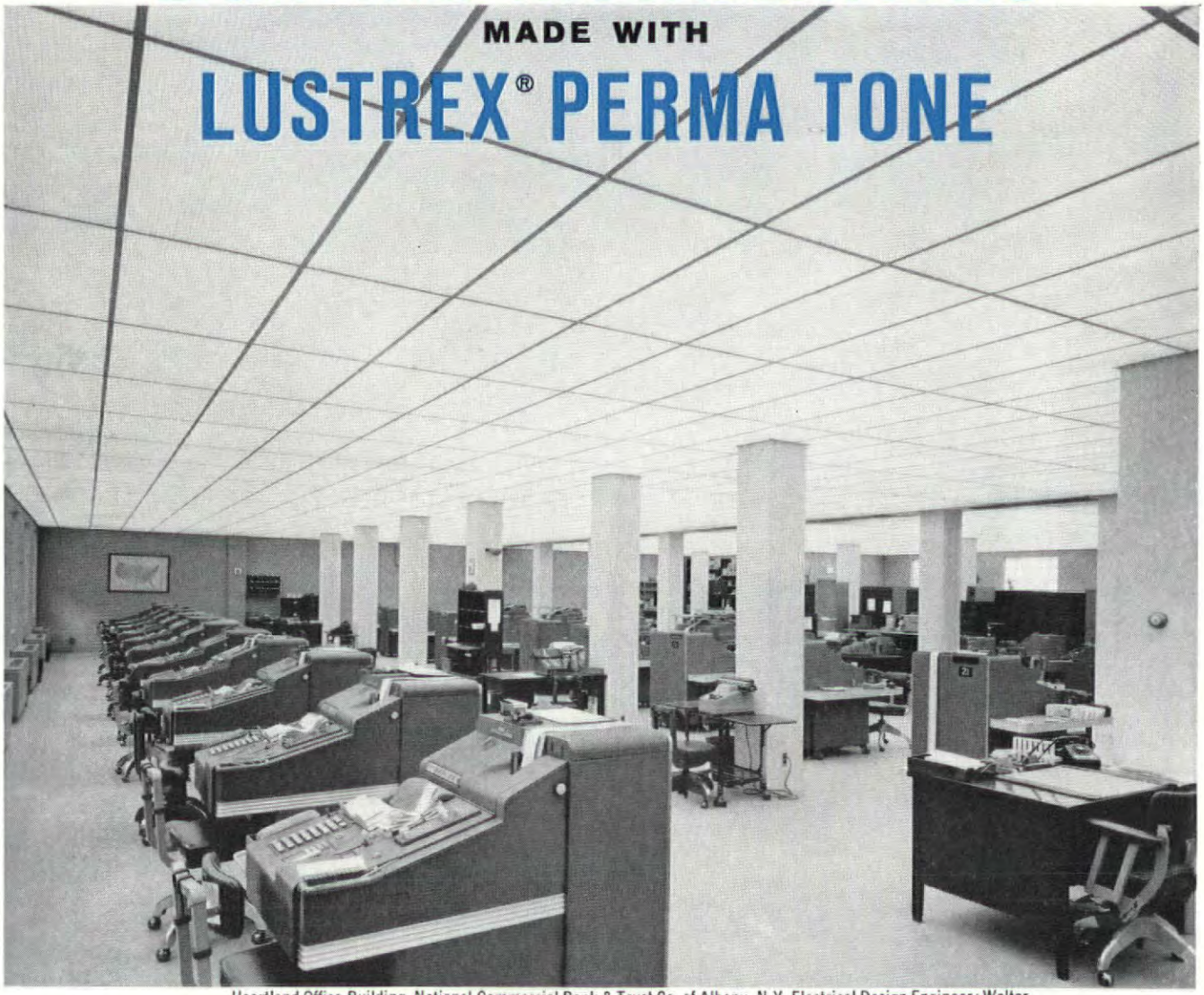

Heartland Office Building, National Commercial Bank & Trust Co. of Albany, N.Y. Electrical Design Engineer: Walter S. Stewman, Albany, N.Y. General Contractor: Rosch Bros. Electrical Contractor: H. A. Collman Electrical Co., Inc.

Luminous ceilings, luminaires, louvers, refractors, diffusers and modules made with Monsanto Lustrex Perma Tone Styrene have given years of service as a dramatic and effective source of light in hundreds of buildings of all types—both new and old.

In major renovation projects, these lighting installations are an economical and easy way to brighten up dark corners with strong, yet softly diffused illumination. Over-high ceilings can be brought down and unsightly beams and pipes can be masked behind a ceiling of bright new beauty. In new construction, lighting installations made with Lustrex Perma Tone give you a highly flexible means of creating unique decorative effects and accounts.

Fixtures made of Lustrex Perma Tone deliver uniform surface brightness and excellent color stability. Exceeding IES-NEMA joint specifications for ultraviolet light stabilized styrene, Perma Tone assures the whitest of whites or a wide range of molded-in clear, permanent colors. Dimensionally stable, they are also light in weight for easy handling, installation and maintenance. To make sure you get this combination of performance at an economical cost, specify installations made with Monsanto Lustrex Perma Tone.

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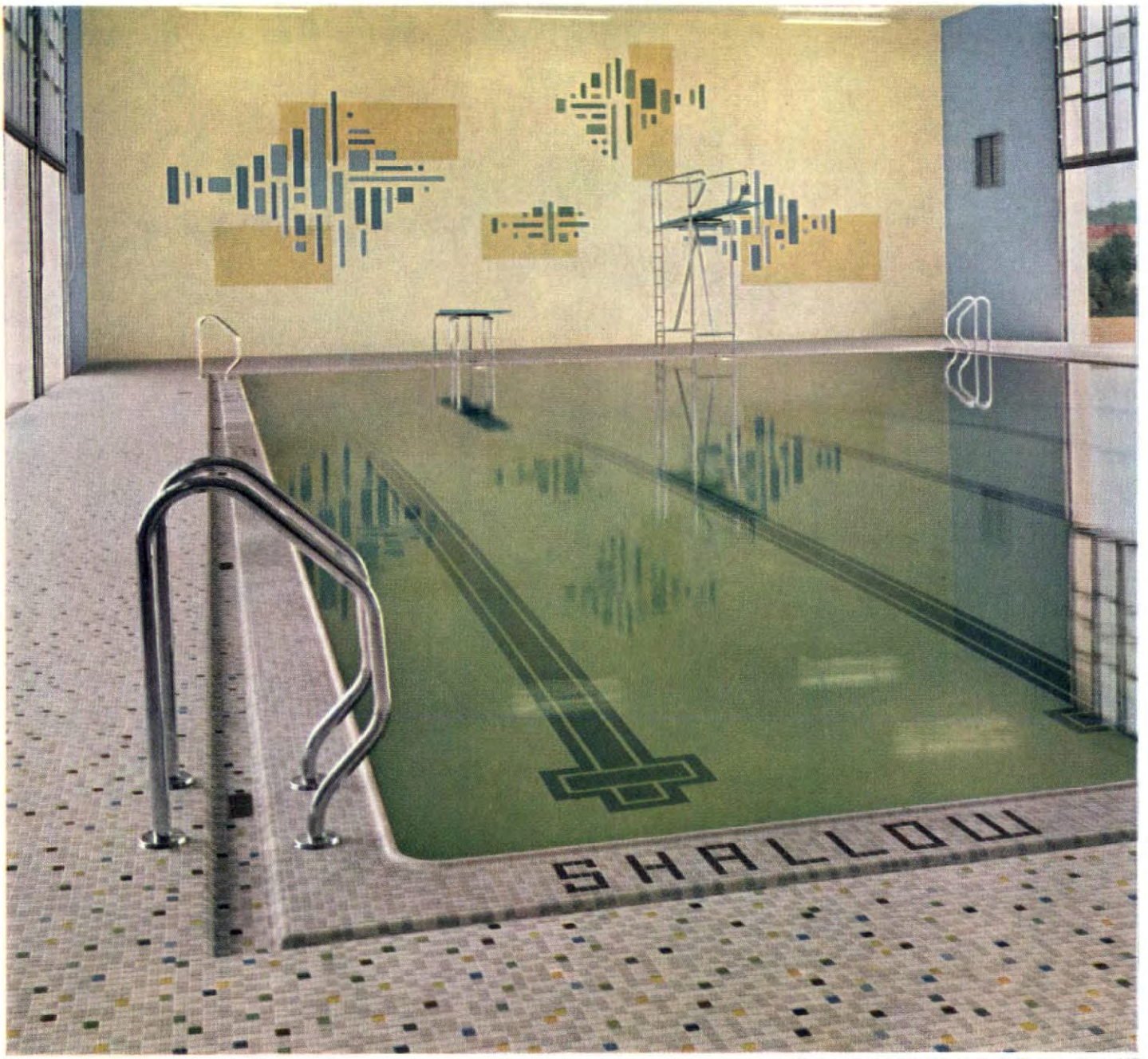

Back wall mural design by K. E. Froberg. Plate 447

More color, more character—with tile. Of special interest in this new Y. M. C. A. natatorium is the colorful tile mural on the back wall, done in large size glazed tile units. Such decorative treatments add warmth and individuality to pool installations. And by extending the use of tile to walls and other surrounding areas you can reduce maintenance costs through the years. Architect-Engineer: J. E. Sirrine. Write for "Swimming Pool Booklet," No. 801.

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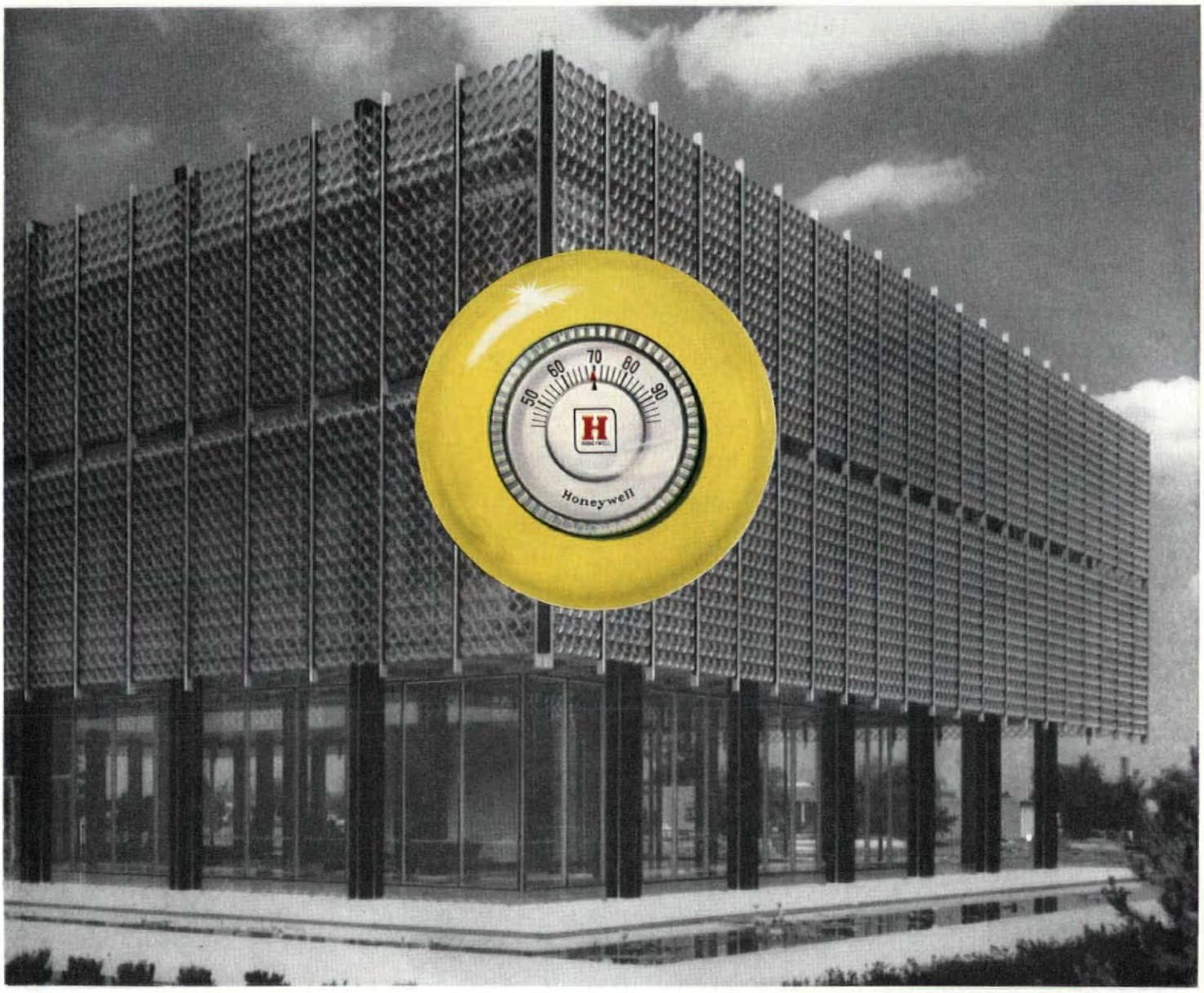
Only the thermostat on the wall senses temperature the way people do



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Architect-Engineer: Minoru Yamasaki & Associates, Birmingham, Michigan

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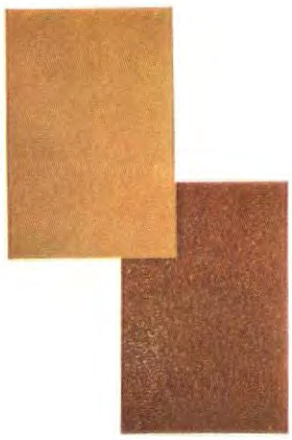

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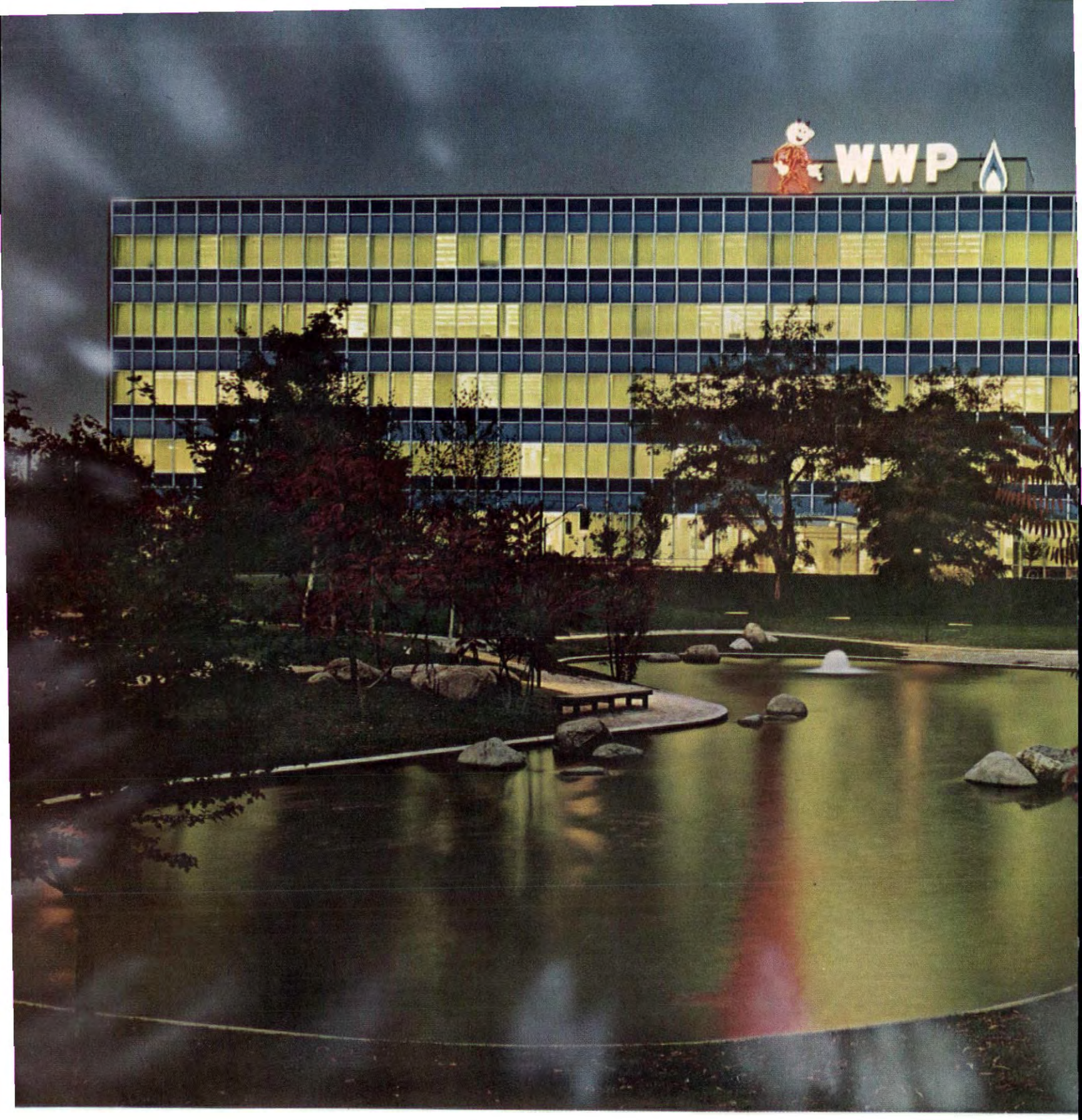
In many of today's most distinguished commercial buildings, glass by A-SG is serving to unite function with aesthetics. No other material meets such a variety of practical objectives, yet allows the architect equal freedom of visual expression. On this and the following pages, you will find a sampling of applications — from exterior facings to interior partitions — which suggest the design potentials in glass by

AMERICAN-SAINT GOBAIN



FUNCTIONAL COLOR
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THE AWARD-WINNING
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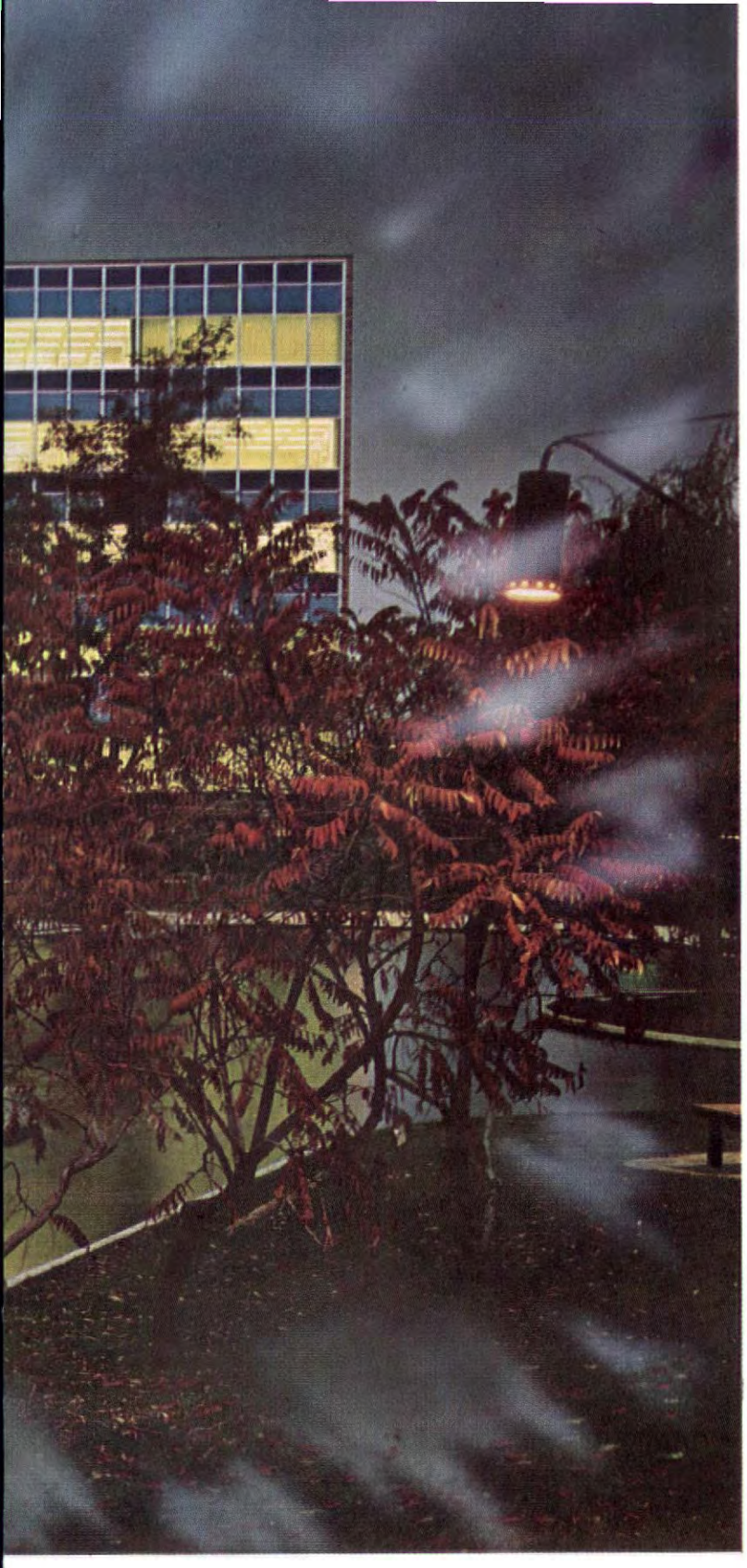


The Pacific Northwest's leading private electric utility has shown a rare blend of business sense and civic virtue in the design of its new headquarters. WWP's 28-acre Spokane project is a striking example of riverfront renewal, a highly functional and amenable building complex, and, already, a proven source of community goodwill.
The dominant structure, a 5-story office building, turns an inviting facade downriver to central Spokane.
Architects Kenneth Brooks and Bruce Walker—with a fine sense for detail—specified A-SG Huetex® insulating glass facing for the spandrels which give this building its distinctive character.
Huetex is a highly practical vehicle for durable architectural color. It consists of 3/8" glass, textured on the weathering side, and with permanently bonded layers of ceramic enamel and aluminum on the reverse. Colors may be matched to the architect's sample.

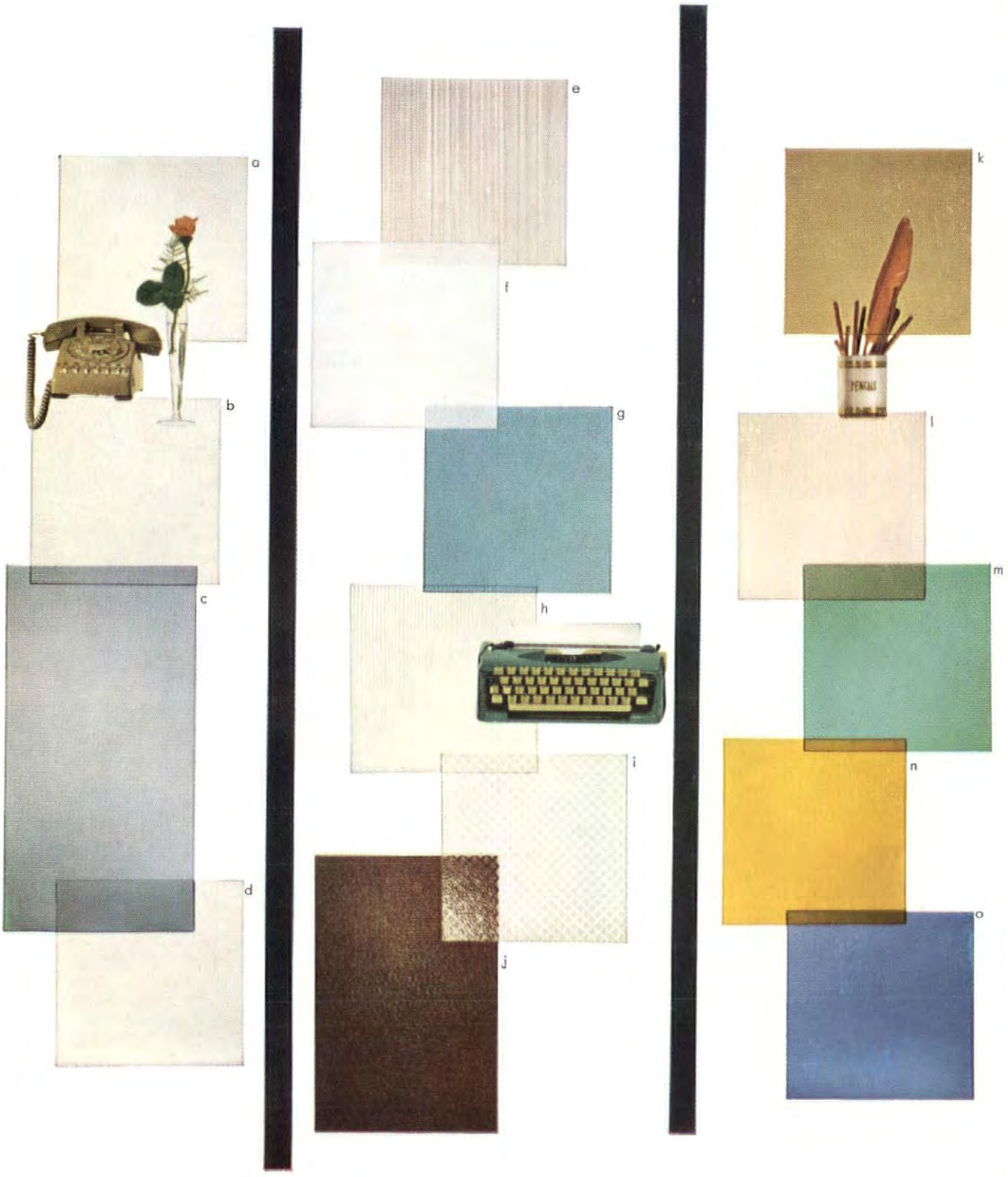
THREE NOTABLE BUILDINGS . . . THREE CREATIVE SOLUTIONS TO PROBLEMS OF VISION CONTROL . . . THREE FUNCTIONAL GLASSES BY A-SG

NUWELD® MESH polished, wired glass by A-SG puts a sleek facade on Gilroy's Men's Shop in Seattle's new LOGAN BUILDING. Nuweld Mesh was specified for its fine optical quality, fire retarding properties, and the clean, modern lines of its wired pattern. Architects: Bittman & Sanders.

HUEWHITE® by A-SG is used extensively for partitions in New York's CORNING GLASS BUILDING. This translucent white glass transmits softly diffused light in true color, and insures privacy. The finely engraved, non-directional pattern makes an elegant, distinctive surface, yet is easy to clean. Architects: Harrison & Abramovitz & Abbe.
Interior Designers: Designs for Business, Inc.

STEEL GRAY PLATE GLASS by A-SG provides glare-free daylighting in the new BOEING SCIENTIFIC RESEARCH LABORATORIES on Washington's Duwamish River. Its greater opacity from outside contributes to the homogeneous detailing of the exterior. Building Design Collaborators: Austin Associates; Walter Dorwin Teague Associates.

AMERICAN-SAINT GOBAIN



THE BROAD, FUNCTIONAL SPECTRUM OF GLASS BY AMERICAN-SAINT GOBAIN

SHEET GLASS for all basic glazing requirements. Fire-polished surfaces afford the best optical quality available outside of polished plate. Clear glass in a wide range of thicknesses. A graduated series of gray-tinted glasses for glare control. Laminated sheet for high safety requirements. Shown above: a) LUSTRAGLASS® b) LUSTRACRYSTAL® c) LUSTRAGRAY d) SUPRATEST®.

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PLATE GLASS of exceptional parallelism, flatness and high polish. Colored plate is available in k) smoked topaz, l) steel gray, m) heat-absorbing, n) amber, o) sapphire blue, as well as water-white, light gray and pink. Also available: heavy plate in standard 5/16", 7/16", 1/2", 3/4" and 1" thicknesses.

For detailed information, see the following Sweet's files: *Architectural:* 7a/Am ... 16d/Am ... 3e/Ame. *Industrial Construction:* 6a/Am ... 3b/Ame. *Light Construction:* 2d/Am. *Plant Engineering:* 10a/Am.

For other information, call the American-Saint Gobain district office nearest you ... or write: Dept. AF-11, 625 Madison Ave., New York 22, N.Y.

*Reg. T.M.—Lic. by Corning Glass Works

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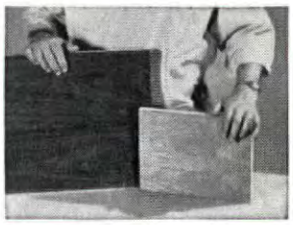
Best of all, Roddis Tigaclad Doors cost *less* than high pressure laminated doors! And you get genuine wood veneers, not wood grain prints.

Tigaclad Paneling! You can specify beautiful Roddis genuine wood panelings Tigaclad protected, too—in all the most popular woods. Send coupon for details on Roddis Tigaclad products.

What a dramatic difference! Note the richness and beauty of Tigaclad wood sample on left compared to ordinary wood of identical cut and species.



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Ponti thoughts . . . metro ills . . . Japanese questions

IN PRAISE OF ARCHITECTURE. By Gio Ponti. Published by F. W. Dodge Corp., 119 W. 40 St., New York 18, N.Y. 288 pp. 5⅜" x 7½". Illus. $6.95.

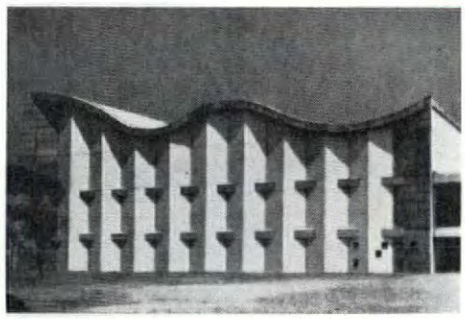
Gio Ponti is the caliph of design in Italy's most important manufacturing city, Milan. He and his staff not only shape objects—everything from buildings and flatware to plumbing fixtures and floor tile—but he also oversees the publication of the handsome magazine *Domus*, and puts out a yearly volume about visual happenings in Milan that is a work of love. Ponti is an eloquent, persuasive man, a famous conversationalist, as well. His new book, translated from the Italian by Giuseppina and Mario Salvadori, is really less a book than a record of some of the better and more introspective paragraphs of the conversation of this charming dynamo. They glitter aphoristically, these thoughts, and help to explain the personable strain of design he has fathered in Italy—one which is eyed mistrustfully by most other moderns around the world because it seems to be based simply on charm and because it frequently shrugs off the limitations of functionalism (see rough plan for the Villa Arreaza at the Caracas Country Club, above). Sometimes the results are rich and pleasant; sometimes they are thin and ghastly; but Ponti, in his presentation of the mind behind the method, is always fluent and engaging.

METROPOLITAN AREA PROBLEMS. Edited by Stanley Scott. Published by the University of California, Berkeley, Calif. 249 pp. 6" x 9¼". $2.50.

Last summer some 250 West Coast planners, teachers, and officials put their heads together in a "Pacific Coast Conference on Metropolitan Problems" at Berkeley's Claremont Hotel. Out of their speeches and workshops, reprinted in this report, emerged no new panaceas for the city's complex ills.

Much discussion centered on single-purpose authorities vs. broad metropolitan reorganization. Metropolitan government, some said, was inevitable, but was having rough sledding even where programs had been carefully prepared. The much easier special authority or district, of which a rash have appeared in the U.S., was almost universally condemned. As guest speaker Luther Gulick of New York put it, an authority knows what it is supposed to do, and nothing can stop it even if it bankrupts the town. Further, said the Ford Foundation's Paul Ylvisaker, authorities doggedly refuse to "evolve" into any needed broader role. There was dispute on the structure and powers of new levels of metro government, but agreement that states can help out by creating departments of urban affairs (oddly, there was little discussion of a similar federal role).

There is ample meat here, some of it a little heavy chewing, for the student of metropolitan affairs.



NEW JAPANESE ARCHITECTURE. By Udo Kultermann. Published by Frederick A. Praeger, Inc., 64 University Place, New York 3, N.Y. 11" x 9¾". 180 pp. Illus. $13.75.

The most important question about Japanese architecture today is: Has it succeeded in its goal of creating new forms and structures that are right for that unique culture? This question lies, unfortunately, beyond the bounds of Author Kultermann's handsome book. His introductory essay merely devotes itself to the historical development of architecture in Japan, to a review of some of the problems of building in Japan, and to a run-down of the leading architectural personalities. Then follows a 180-page pictorial review of postwar architectural land masks in Japan (like Architect Kunio Mayekawa's Fukushima Educational Center, above) which, however well done, give no answers to the overriding qualitative question. There is strength, there is excitement, there is control of form and materials—but do these elements work together? One can hope that a knowledgeable critic will tackle the question soon.

END

provide opportunity for experiment in materials, structures, and forms, as would ordinarily not be available. In the recent World Agriculture Fair at New Delhi the opportunity was not even noticed, leave alone exploited. It communicates convincingly, this fair, the utter lack of understanding among the majority of the designers who worked on it, of the meaning of form and function, of relating the purpose of a structure with its materials of construction. The impression is one of chaos: created by designers violating architectural and planning principles.

The president and members of the federation must set a theme for the fair's designers: esthetics through economy. Need for economy in materials and means must be forcefully conveyed to the designers, and awards for best designed pavilions should be strictly on the basis of their adherence to this principle.

RENEWAL RULES

A set of three principles and five ground rules for urban-renewal administrators who would give a more human quality to their projects is suggested by Elizabeth Wood, former director of the Chicago Housing Authority, in a booklet called "The Balanced Neighborhood," published by the Citizens Housing & Planning Council of New York.

The principles:

1. All middle-status families (including those with children) and low-income families shall have a genuine option between a good life in the city and a good life in the suburbs; a genuine option between in-lying and out-lying areas.

2. The peculiar values of urban life (as distinguished from suburban life) are to be found in the quality, richness, and variety of community facilities: public and private, commercial, educational, religious, cultural—not in back-yard barbeques. Urban planning that fails to recognize the necessity for providing the structure for these peculiarly urban values will not succeed.

3. Community facilities must be so designed within the neighborhood that they can be shared by unlike and like persons. Only if this is done will the city have the benefit of the quality of local leadership that comes most frequently from the middle-status families.

The ground rules:

1. Every renewal enterprise in which there is governmental intervention through the use of eminent domain, tax abatement, mortgage insurance or subsidy, should provide for heterogeneity of residential facilities and population, in proportions appropriate to the area. This means, in effect, that instead of large-scale, one-class projects standing as planned islands, urban renewal would develop large-scale neighborhood plans which include a combination of housing types, either new, or combinations of new and old.

2. There should be increasing emphasis on renewal and conservation programs calling for partial clearance and scattered new buildings as programs that more naturally and easily achieve the goal of the balanced neighborhood.

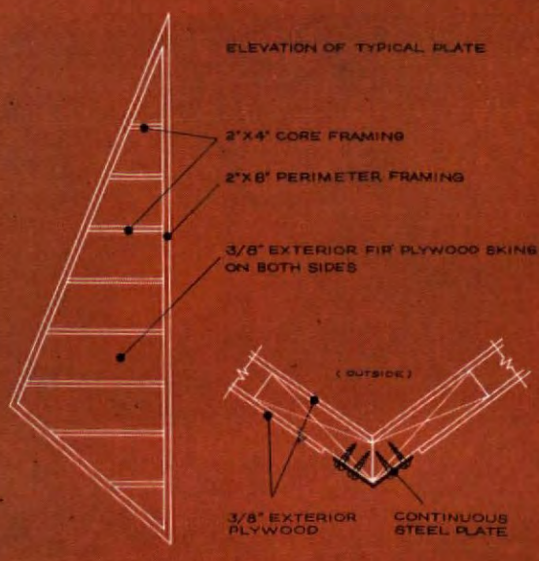
3. No residential plan should be developed without comprehensive provisions for community facilities, whether by direct public action or by private developers. If no private developers are available at the time of initial development, that land should be set aside for their future development.

4. Intensive efforts should be made to augment the city-wide programs that most directly affect the achievement and maintenance of balance in the neighborhood. Those programs are: an increase in the total housing supply, the enforcement of nondiscrimination laws, and an intensification of education programs in the understanding of these laws.

5. Systematic programs of social work and education should be developed for persons affected by urban renewal. This means, primarily at the point of relocation, through the planned use of public housing inventory and in conservation programs.

END

SECTION VIEW OF TYPICAL BAY
(8 BAYS 13'-4" O.C.)



INDEPENDENT CONGREGATIONAL CHURCH

LOCATION:	St. Louis
ARCHITECTS:	Maneke & Dieckmann, St. Louis
COMPONENTS:	Roof Structures, Inc., Webster Groves, Mo.
BUILDER:	A. H. Haeseler, St. Louis

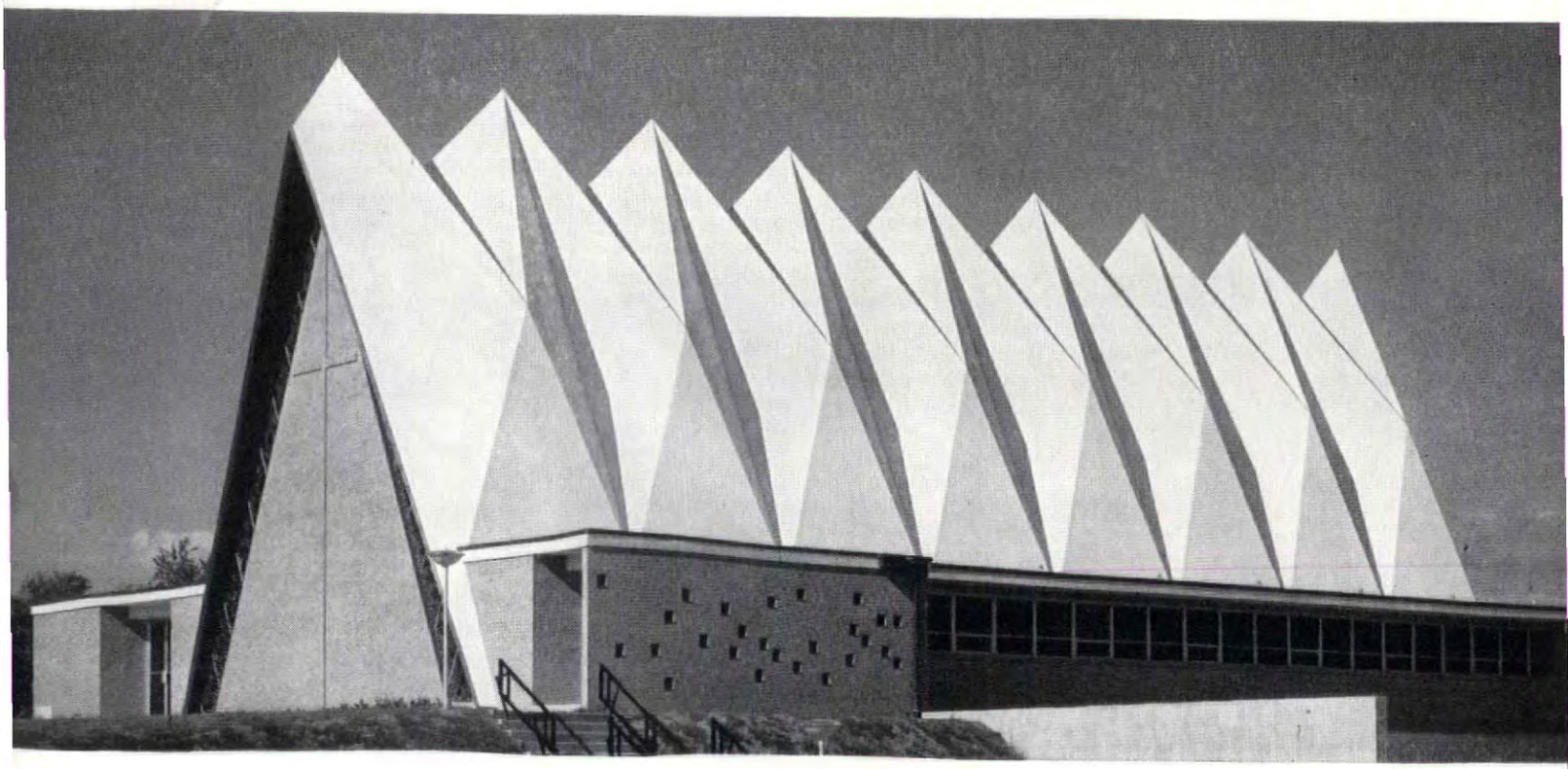
THE NINE SOARING PINNACLES of this church, recalling the boldness of Gothic arches, are a vigorous expression of advancing plywood technology. The roof is a space plane, a step beyond the folded plate with more versatility than any other clear-span technique using wood.

Like all folded plates, the space plane acquires strength and rigidity from interaction of inclined plywood diaphragms. But its components may take shapes other than rectangular, to create more complex designs. Here they are triangular stressed skin panels. Forces are transferred from one to another, and the entire multi-faceted roof becomes a lid-like shell, supported only at edges. Steel buttresses anchored to foundations absorb lateral thrusts. Clear-span area is 32′ x 110′.

The absence of framework or posts is only one of several advantages this roof shares with space planes in general. It went up fast (15 days); huge plywood components were precisely fabricated to insure exact fit. Prefabrication also guaranteed close cost control and quality of workmanship and materials. In-place cost compared well with other means of obtaining a similar span.

For basic fir plywood design data, write (USA only) Douglas Fir Plywood Assn., Tacoma 2, Wash.

the most exciting ideas take shape in fir plywood



Legal beauty . . . free education . . . balanced cities

BEAUTY AND THE LAW

St. Louis has progressed further than most other cities in stimulating public awareness of its esthetic needs. A recent editorial in the "Post-Dispatch" discussed how to accomplish those needs by public law.

Perhaps there can be no Baron Haussmann in St. Louis to reshape it as he brought into being the new Paris with its boulevards and vistas of harmonious façades. Yet the scope of the art commission and of the plan commission, too, can be realistically enlarged. To cite only one possibility, the art commission ought to have as much to say about what is done inside a public building as it has about the exterior.

Esthetic considerations should carry as much legal weight as mere expediency.

Public authority should be exercised as far as possible on behalf of a handsome city. Beyond that there should be the desire for beauty as well as utility. Law cannot create beauty. At most, it may be able to prevent the opposite. Essential to harmony—which at its best becomes grandeur—is an appreciation and a desire for impressive surroundings. So the agencies concerned should be vested not only with authority, but also with a prestige equal to their importance in the building of the new St. Louis.

JERICHO U.

The walls separating art and architectural education must come down, Architect Robert Alexander believes, if the job of building a beautiful America is to be done. His blast was given in a speech at the Rhode Island School of Design.

Are our colleges of today Colleges of Jericho? Have you painters and sculptors been talking with the architects, and more important still, will you communicate after graduation? Are you graphic designers and ceramists familiar with the role you can play in working together with the industrial designers? If not, I have a blast on the trumpet for you. The walls of the College of Jericho must come tumbling down! In the world of your future we cannot afford isolationist art. With all our technological competence, we still carry on the practices of Frontier America. Two hundred years ago we could foul our nests and move on to virgin lands. In 40 years, when we still have only one sunset, will we be trying to see it through a forest of ten times as many power poles as we have today?

As do-it-yourself curtain walls and mechano-set architecture appear to take over, we will need the art of the sculptor and the ceramicist in building design as never before. For every can of concrete worms dumped on our cities by the highway engineer, we will need a forest of landscape architecture brought right into our midst. As the chaos of uncontrolled advertising spreads across the land from Times Square, the graphic designers and illustrators must join hands with the architects in creating a scene of pure order and beauty. As 100 million new boxes are built to house the activities of 180 million additional Americans, will the textile designers and the interior designers give us the warmth and the richness of surroundings to which we are entitled? Will the painter remain in his garret during all this excitement?

Let the trumpets blow! Let the walls come tumbling down from the College of Jericho!

IT'S FAIR TIME

Rumors of an international fair in Delhi next year prompted "Design," an Indian architectural magazine, to express both vague hopes (much like those heard in New York a year ago) and a good specific idea.

As fairs of one kind or the other are now an accepted fact of life, their physical designing needs to keep pace with the enthusiasm of sponsors vying with each other to get another one under way. These fairs take the cake every time in presenting hair-raising, spine-chilling examples of pavilion design. What do the organizers of this one have in mind? It is time it was realized by sponsors of such fairs that they are guilty of betrayal of many values through ignorance of the real implications of each such undertaking. While no doubt these fairs do good in their own particular field, they cause damage to the country through: using up scarce materials like steel, cement, etc., squandering large amounts on ostentatious and garish structures, and encouraging and even flattering designers totally devoid of qualification to design exhibition pavilions.

The story of modern architecture can in a sense be written in terms of great exhibition structures: Paxton's Crystal Palace in Hyde Park in 1851, Sullivan's Transportation building at Chicago in 1893, Gropius' Werkbund Exhibition Hall of 1914, Mies Van der Rohe's Barcelona Pavilion in 1929, Aalto's Finnish Pavilion at Paris in 1937, and Markelius' Swedish Pavilion in New York in 1939. A world fair's happiest function—from the point of view of design and esthetics—is to

continued on page 172

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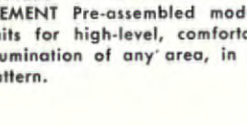

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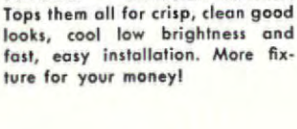
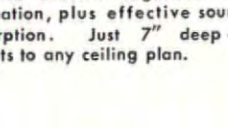
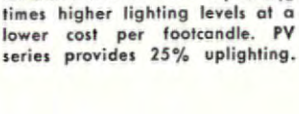


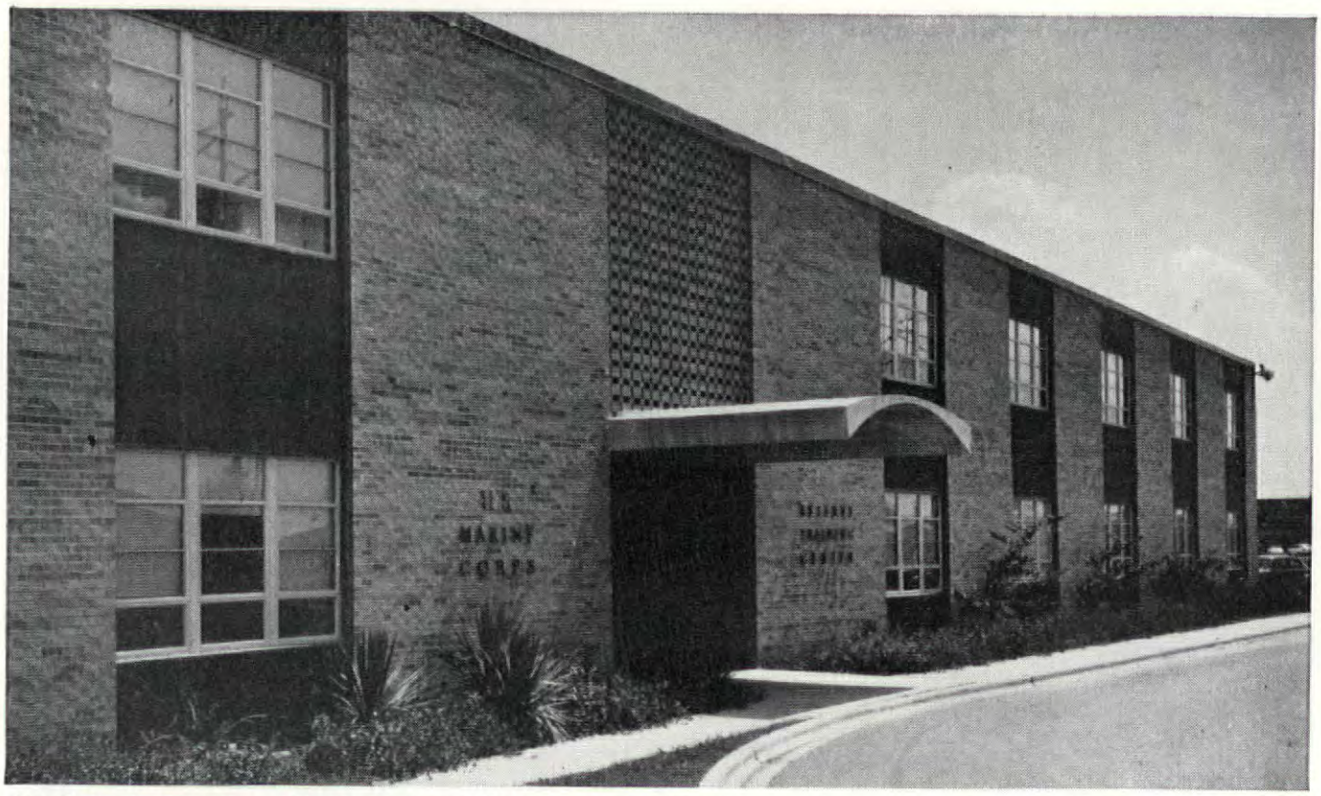
SCHOOLS — Smithcraft CHELSEA Tops them all for crisp, clean good looks, cool low brightness and fast, easy installation. More fixture for your money!



STORES — Smithcraft SONOLUME CEILING SYSTEM High-level illumination, plus effective sound absorption. Just 7" deep — adapts to any ceiling plan.

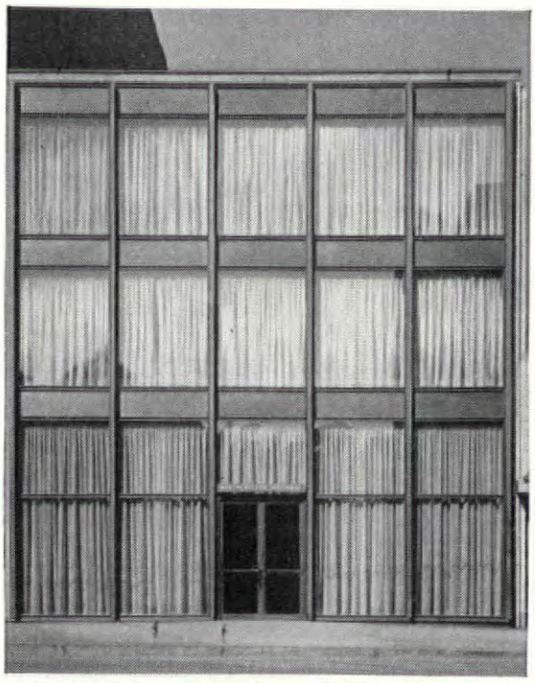


INDUSTRY — Smithcraft POWER-GROOVE INDUSTRIAL Up to 2½ times higher lighting levels at a lower cost per footcandle. PV series provides 25% uplighting.



U. S. Marine Corps Reserve Training Center, Houston, Texas. This building has window heads, spandrels and aprons of finely corrugated 24-ounce copper, and copings of plain copper. The copper will be naturally weathered to its pastel blue-green patina. *Architect:* Wilson, Morris, Crain & Anderson, Houston. *General Contractor:* Baxter Construction Company, Inc., Houston. *Sheet Metal Contractor:* A. M. Bowles Company, Houston.

ANACONDA METALS FOR CURTAIN-WALL CONSTRUCTION



Northeastern Pennsylvania National Bank and Trust Co., Scranton, Pennsylvania. The bronze front of this building characterizes modern design employing extruded shapes of Architectural Bronze and sheets of heavy-gage Muntz Metal. The two materials are combined with glass to provide the enduring beauty and feeling of stability so important in banking institutions. All of the bronze was treated to produce a statuary bronze finish. *Architect:* George M. D. Lewis, Scranton. *Fabricator.* Standard Iron Works, Scranton.

No other architectural metals possess the versatility and enduring beauty of copper and its alloys—or lend themselves so readily to forming, fabricating and variable finishing to portray concepts of architectural design. Metals readily adaptable to curtain-wall construction include Copper, Red Brass, Architectural Bronze, Muntz Metal, Nickel Silver and Everdur® (copper-silicon alloy).

One of the great virtues of copper and its family of alloys is that they will weather naturally to a beautiful patina. Or chemical treatment will produce a color effect which rivals the beauty of weathered copper or bronze.

Illustrated here are two examples of curtain-wall design employing different materials and forms. Details of these and other curtain-wall designs are given in our new publication, "Architectural Metals by Anaconda." Its 64 pages also give practical and detailed information on the metals, their compositions, colors, forms, physical properties, architectural applications, instructions for obtaining various finishes, detailed specifications and many pages of fabricators' shop drawings. For *your* copy, address: Anaconda American Brass Co., Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

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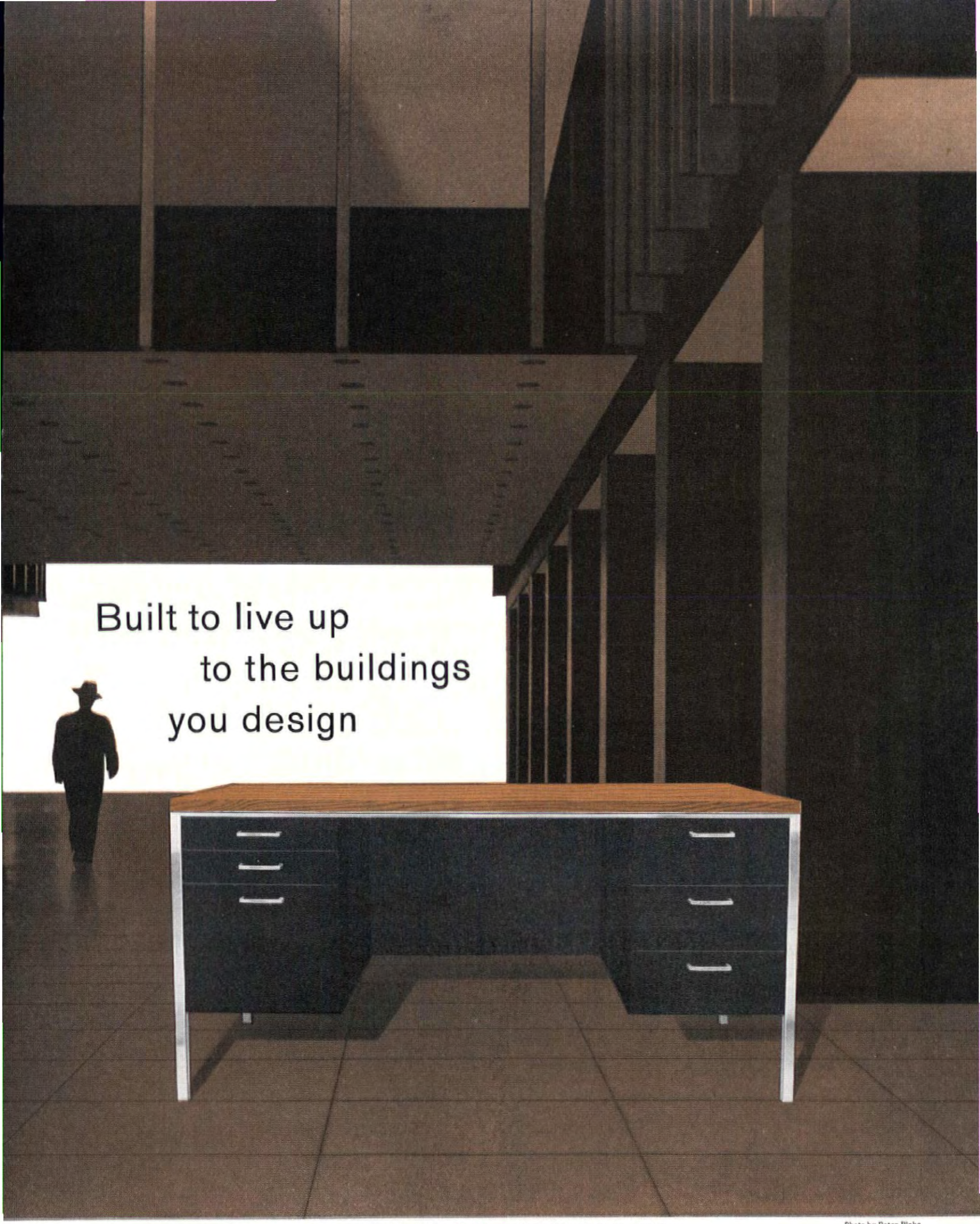

1060F, one of many 1000 SERIES models selected by Union Carbide for their New York headquarters

Photo by Peter Blake

IT'S 1000 SERIES BY GF... the desk styled specifically to complement today's smart business interiors. Its all-flush surfaces and clean, uncluttered lines are the result of close collaboration between one of America's leading architectural firms and GF's own designers. And, of course, it's built to GF's exacting quality standards. Before you select any desk, see 1000 SERIES at your nearby GF branch or dealer. Or write Dept. AF-12 for our new color brochure. The General Fireproofing Co., Youngstown 1, Ohio.

GF
BUSINESS FURNITURE

continued from page 121

vening opportunities is particularly well-adapted to the designer's problem of siting community facilities in the smaller confines of a housing development or neighborhood.

Stouffer's theory holds that the number of persons going a given distance in search of sociable activity, whether within a housing site, within its neighborhood, or across a city, is directly proportional to the number of known or rumored opportunities at a destination and inversely proportional to the number of intervening opportunities between that point and persons' starting points. This same theory has been found valid even for the small distances involved inside a housing development. In the Westgate studies, for example, it was found that distances as short as 20 to 30 feet made significant differences, not only in a person's choice of friends, but also in his participation with them in group activities. The greater the distance from elderly residents' dwelling units to a central community facility, the less likely they are to use it, and the more likely they are to experience the deterioration that goes with a feeling of isolation.

Stouffer's formula indicates that an aged person in search of spare-time activity outside his dwelling unit will search no farther than the area of his information about opportunities for hobbies, recreation, cultural pursuits, or relaxation; and that he will pass by, on his way toward some selected goal, only a certain number of intervening opportunities for alternative activity before being distracted and going no farther. Apparently the motivation to accept alternatives increases with the number of obstacles between the starting point (the dwelling) and any specific common facility sought. Such obstacles include long distances to be walked, busy streets to be crossed, and business areas with jostling pedestrian traffic bent on other objectives. The elderly will also add to the list of obstacles such items as hills, icy sidewalks, cold winds, and weather requiring rubbers or overcoat. It may also be assumed, though this has not yet been researched, that for the elderly any other leisure-minded person met at a comfortable resting point becomes an intervening opportunity, an acceptable alternative to other spare-time activities.

An adaptation of Stouffer's formula can help planners put social facilities where they will do the most good—even though use of the formula is a little complicated. The junction of a main walk and an access or feeder walk serving a dwelling-unit cluster is considered a collection point. The potential number (P) of people using one particular collecting point who will be attracted to one particular social area (indoors or out) may be gauged by solving equation: $P = (A \times B)/(X \times Y \times Z)$, where A is the number of people living immediately adjacent to the social area, B is the number of opportunities in the area (its capacity for participation in social activities), X is the number of people served by collecting points on route, Y is the number of opportunities at intervening social areas, and Z is the distance between the collection point and the social area.

A collection point will have a different potential with respect to each social area. The sum of these potentials compared with the sum for each of the other collection points will indicate how well each will be served by the proposed social facilities. A wide disparity between scores will suggest relocation of one or more social areas to obtain a more uniform distribution of scores.

The relative use of a project's various social areas may be estimated by comparing their use-indices. The index for each area is the sum of the products obtained by multiplying the potential of each contributing collection point by the number of people using the collecting point. The higher the score the better.

Any such mathematical analysis must, of course, be tempered with reason. For example, relative low-score areas may safely be used for such self-generating social activities as outdoor games or indoor hobbies; areas provided for them will prove attractive even though located off the beaten path. Similarly, although a perimeter point at the exit from the development toward the nearest community center may be the most heavily trafficked, it

continued on page 184

101 Buildings Studied

Hope-Witheron Building, San Diego
Towne House, Harrisburg, Pa.
Thomas Jefferson Bldg., St. Louis
Plaza Apartment Bldg. No. 10, St. Louis
Plaza Apartment Bldg. No. 20, St. Louis
Plaza Apartment Bldg. No. 30, St. Louis
Plaza Apartment Bldg. No. 40, St. Louis
Plaza Apartment Bldg. No. 50, St. Louis
Plaza Apartment Bldg. No. 60, St. Louis
1221 Minor Building, Seattle
Manhattan Bldg., Seattle
Logan Bldg., Seattle
Mark 51 Bldg., Seattle
Carlton House, Shaker Heights, Ohio
Broadway & Austin Bldg., San Antonio
215 N. Flores Bldg., San Antonio
Bayview Office Bldg. Addn., Ft. Lauderdale
Versailles Apartments, Ft. Lauderdale, Fla.
Birch Towers, Ft. Lauderdale
Breakwater Towers, Ft. Lauderdale
Massachusetts Blue Cross, Boston
Crimson Associates Bldg., Cambridge, Mass
Babson Bldg., Boston
University Towers, New Haven
Woodland Medical Center, Hartford, Conn.
Strawberry Hill Terrace, Stamford, Conn.
1720 West End Bldg., Nashville
Park Towers, Baltimore
Hood-Hall Bldg., Dallas
Continental Apartments, Dallas
Empire Bldg., Salt Lake City
Dunleith Manor, Kansas City, Mo.
Quality Hill Towers Bldg., 910 Kansas City, M
Old Security Life Ins. Bldg., Kansas City, Mo.
Fidelity Bldg., Indianapolis
Grain Dealers Mutual Ins. Co., Indianapolis
St. Paul Fire & Marine Insurance Co., St. Paul
Cheeseman Towers Apartments, Denver
777 Grant Bldg., Denver
Bankers Union Life Bldg., Denver
1710 "H" Street, Washington
1901 Pennsylvania Ave., Washington
Mercury Bldg., Washington
Premier Bldg., Washington
R. C. A. Bldg., Washington
Bender Bldg., Washington
Potomac Towers, Arlington, Va.
3900 Watson Place, Bldg. A., Washington
3900 Watson Place, Bldg. B., Washington
Railway Labor Building, Washington
City Bldg., Washington
Whispering Waters, St. Petersburg, Fla.
Union Bank Bldg., Beverly Hills, Calif.
Independence Life Insurance Bldg., Pasadena
Cornelius Plaza, Portland, Ore.
Park Vista, Portland, Ore.
Bernard Horn Bldg., Cincinnati
2300 Luray Bldg., Cincinnati
Liberty Mutual Ins. Bldg., Boston
Cornet Bldg., Clayton, Mo.
Maylee Bldg., Cleveland Heights
National Cash Register Bldg., Cleveland
The Diplomat, Shaker Heights, Ohio
1674 Meridian Bldg., Miami Beach
1919 Bay Drive Bldg., Miami Beach
Southgate Towers, Miami Beach
Hartford Federal Savings & Loan, Hartford, Conn.
Gateway Center No. 4, Pittsburgh
Medical Center Office Bldg., Pittsburgh
Blue Cross Bldg., Dallas
Vaughn Bldg., Dallas
Presidential Apartments, Chicago
Calhoun Terrace Apartments, Minneapolis
Imperial Apartment Hotel, Denver
Park Adams, North Arlington, Va.
First Federal Savings & Loan, St. Petersburg
Western Geophysical Bldg., Los Angeles
Signal Oil Bldg., Los Angeles
California Bank Bldg., Los Angeles
Pacific Fidelity Life Insurance, Los Angeles
Ohio River Vista Apartments, Cincinnati
411 Oak Bldg., Cincinnati
Winebrenner Haven, Findlay, Ohio
College Terrace, Brooklyn
45 E. 72nd St., New York
Bankers Trust Bldg., New York City
201 E. 15th St., New York City
The Park East, New York City
IBM Bldg., Detroit
1st Ave. & 56th St., New York City
1733-49 E. 12th St., Brooklyn
Ocean Towers, Brooklyn
Ocean Terrace, Brooklyn
345 Webster Ave., Brooklyn
American Field Service Bldg., New York City
140 E. 44th St., New York City
165 E. 72nd St., New York City
Fieldstone Dale, New York City
Bolton Manor, New York City
300 E. 51st St., New York City
30 West Broadway, New York City

National Study of 101 new Buildings reveals definite superiority of Structural Steel

Impartially selected, 43 of the studied buildings are framed in structural steel, 58 are reinforced with steel

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Speed— Buildings framed in structural steel went up 45% faster. From ground breaking to occupancy, buildings framed in structural steel progressed at the rate of 123,241* cu. ft. per month, compared with 85,240* cu. ft. per month for structures reinforced with steel. (Structural steel's greater speed was substantial regardless of project size.)

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Conclusions? Draw your own.

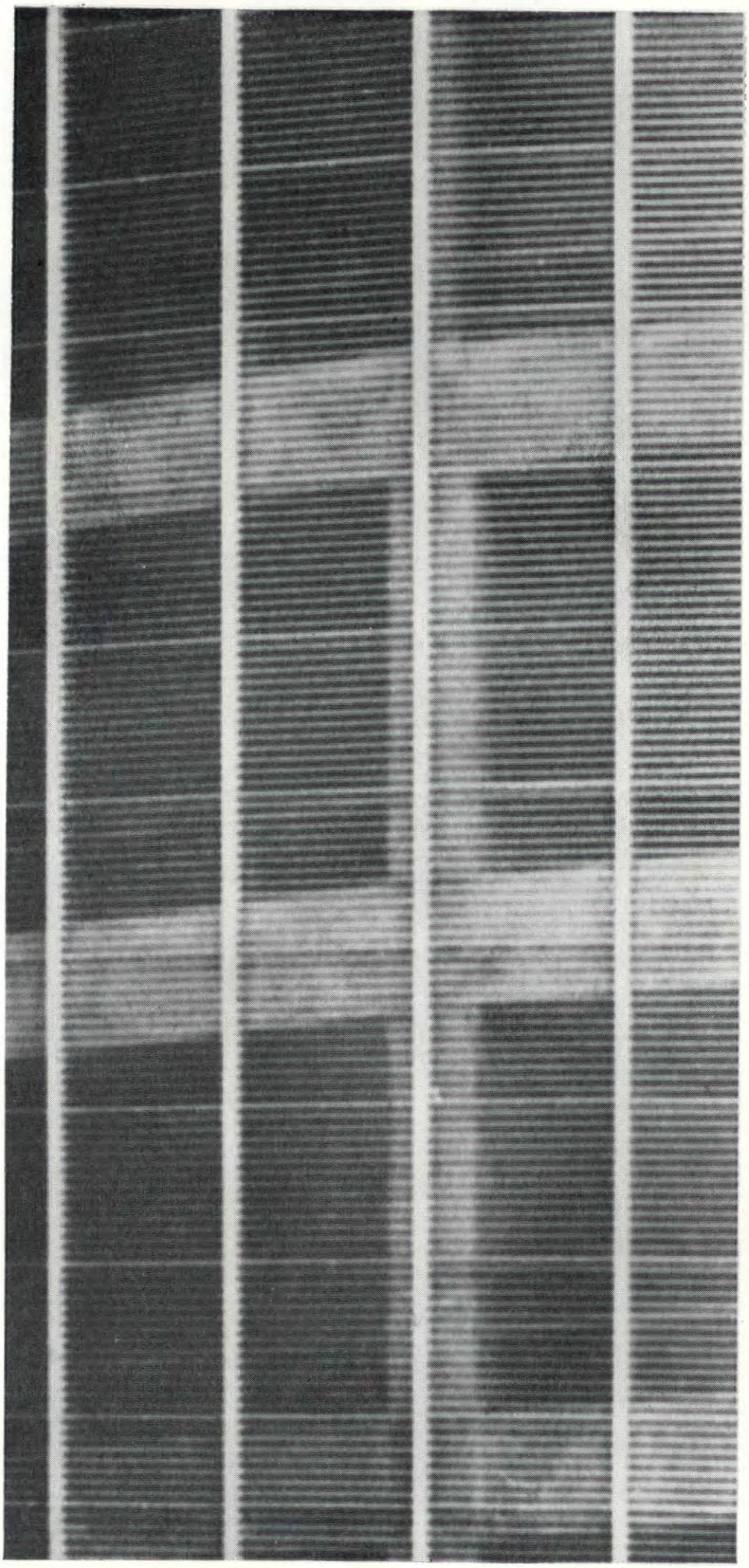
Study Specifications:

All building foundations were begun after Jan. 1, 1958. All buildings were occupied before Nov. 30, 1960. Buildings ranged in height from 4 to 21 stories. (59 from 4 to 9 stories, 29 from 10 to 15 stories and 13 from 16 to 21 stories.) Office and apartment buildings, selected at random and located in all parts of the country, were studied by impartial construction survey specialists. None of the projects involved abnormal delays beyond the control of the contractor.

For more details on this study, write to American Bridge Division, U. S. Steel, Room 1801L, 525 William Penn Place, Pittsburgh 30, Pa.

*Applies to total construction time, not simply frame.

American Bridge Division of United States Steel



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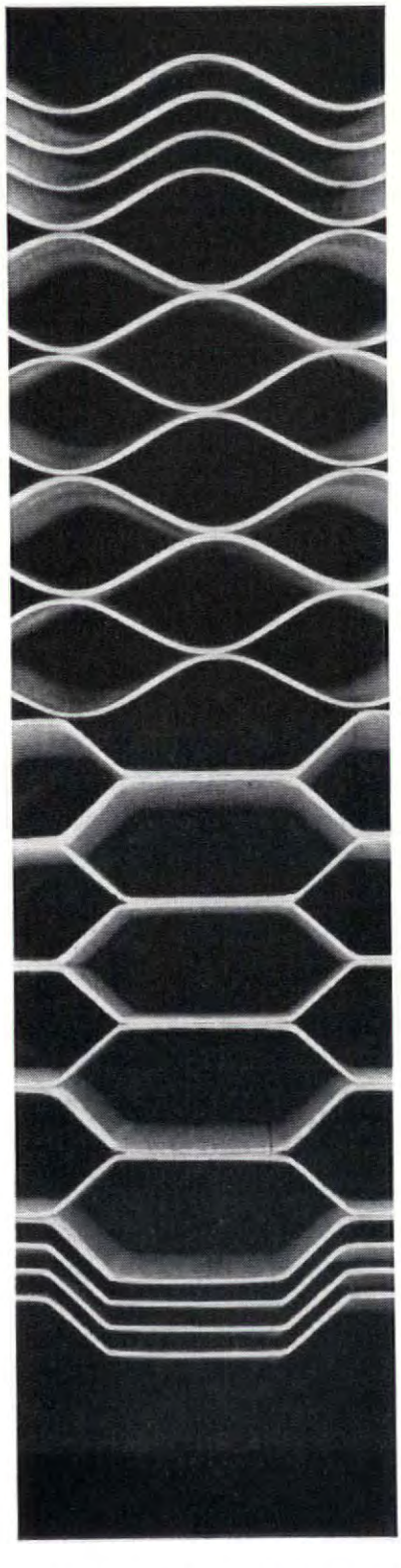
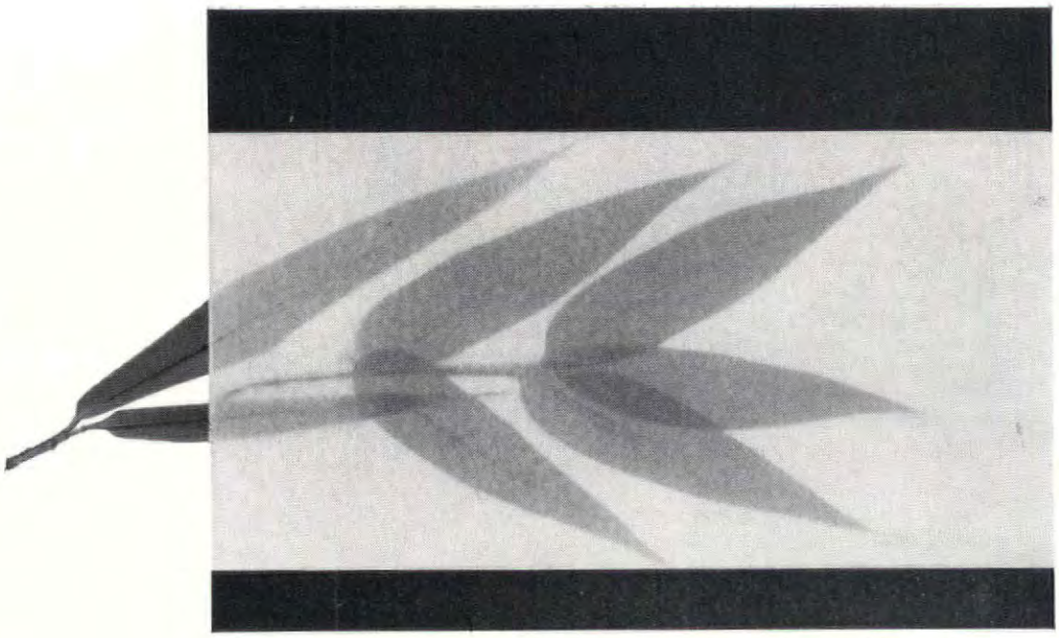
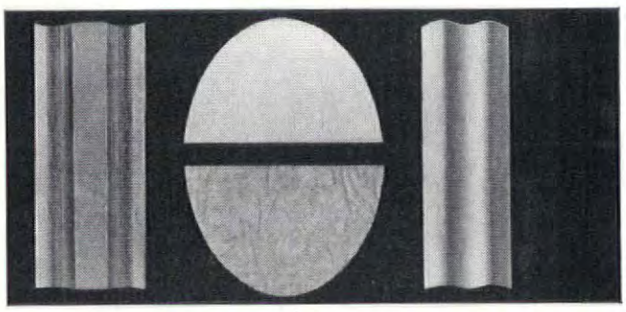




ILLUMINATION without glare. Translucent Alsynite diffuses and softens light, yet provides privacy. An economical choice for daylighting, Alsynite can be unusually dramatic when used in muted colors.

TEXTURE that contributes to the over-all character of the finished structure. Alsynite offers impressive variety in one easy-to-handle material. Various configurations and flat panes in textured or smooth surfaces – even panels with decorative shoji-style embedments.



STRUCTURAL characteristics leading architects rely on. Used in light-diffusing roof of the U.S. Pavilion, Brussels World's Fair, Alsynite offers the user guaranteed quality.

Alsynite's own guarantee is backed by the resources of RCI, a great name in chemicals. For details, consult Sweet's Catalog Index No. 10a/A1 or see your dealer, listed in the Yellow Pages under plastic products. Or for free literature, write Alsynite, San Diego 9, Calif., Dept. AF-361.

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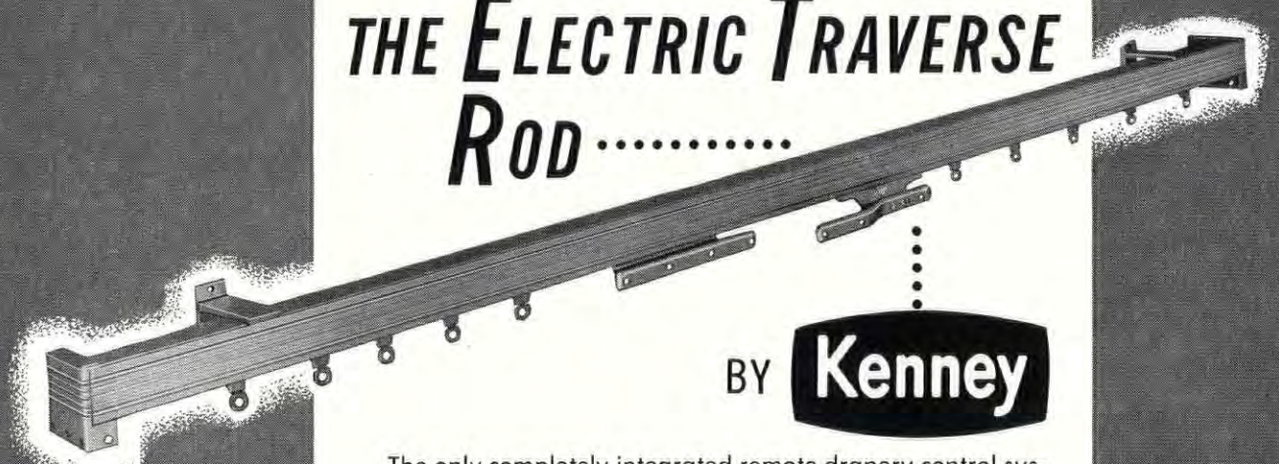
A DIVISION OF REICHHOLD CHEMICALS, INC.

Drapery Control at the TOUCH of a BUTTON

THE ELECTRIC TRAVERSE ROD.....



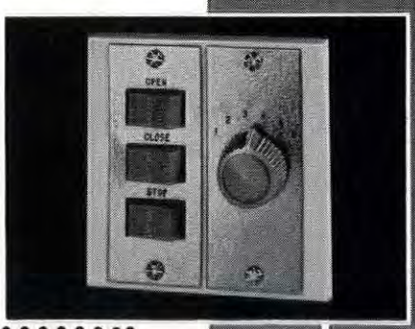
BY **Kenney**

The only completely integrated remote drapery control system, The Electric Traverse Rod affords effortless, completely electric remote control drapery positioning.

It will individually or collectively control the movement of any number of draperies from distances up to 250 feet.

Offering untold design possibilities, The Electric Traverse Rod stimulates the imagination wherever and whenever conventional traverse rods have been used — at glass areas, as room dividers, for light and heat control, at permanent projection screens. Here in one neat compact package is the long-sought answer to automatic drapery control. Attractive (polished anodized extruded aluminum in gold or platinum or white baked enamel) and so functional, The Electric Traverse Rod combines strength, durability and convenience for the first time.

Consider The Electric Traverse Rod in your future plans. It will attest to your good taste.



See Us In Sweet's

You'll find descriptive material including suggested specifications on The Electric Traverse Rod in the 1961 Sweet's Architectural File — section 19f Ke . . .

Kenney MANUFACTURING COMPANY
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Please send me the items checked below:

- Electric Traverse Rod 16 page Catalog ☐
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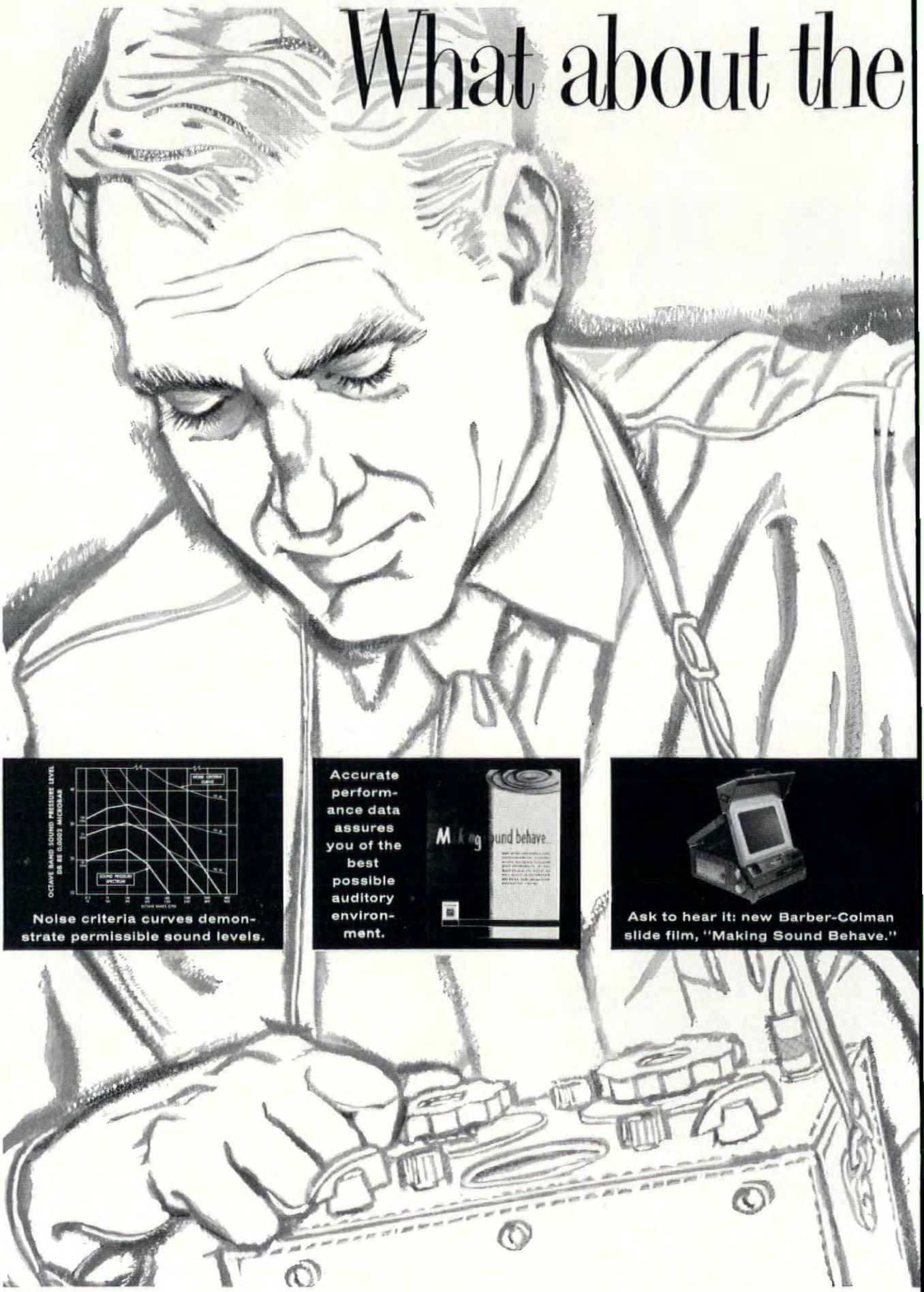


Noise criteria curves demonstrate permissible sound levels.

Accurate performance data assures you of the best possible auditory environment.

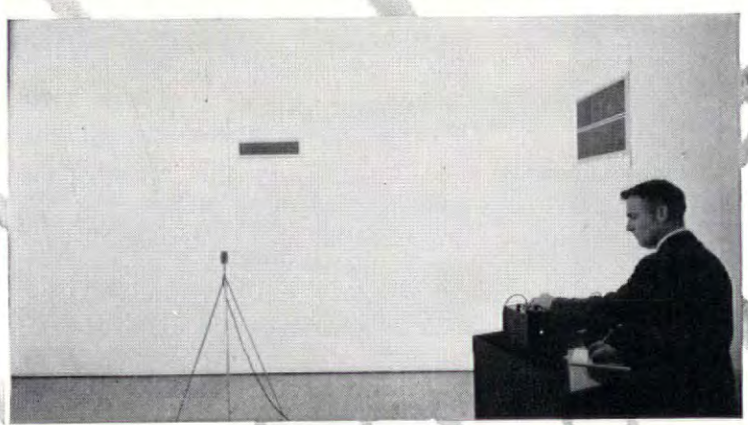
Ask to hear it: new Barber-Colman slide film, "Making Sound Behave."

auditory environment?

Facts about air distribution sound levels of importance to engineers and architects

An architect skillfully uses both color and light to create the proper environment. A good analogy exists between an architect working with frequencies of light (color) and an engineer creating ideal air distribution specifications with sound.

Until recently engineers used only the decibel level in selecting air distribution equipment. Today this is not



enough to assure comfortable environment, for sound must be measured and specified not only in terms of over-all magnitude, but also in magnitude at different frequency levels.

To help you create the proper auditory environment, Barber-Colman has built modern sound laboratories where engineers break down into eight octave bands the sound of air passing through Uni-Flo diffusers. The decibel value of each band then is charted for a complete range of capacities.

The results are twofold: data is available for comparison with noise criteria curves which are used for specifying permissible sound levels in different frequency bands; scientifically proved performance data is provided for correct selection of air distribution equipment.

Ask for literature and be sure to see — and hear — Barber-Colman's new slide film, "Making Sound Behave."

BARBER-COLMAN COMPANY
Dept. O, 1135 Rock Street, Rockford, Illinois

BARBER COLMAN

HOUSING FOR THE AGED

continued from page 176

may not always be a sound location for investment in indoor sociability facilities. The outward pulling power of opportunities in the larger neighborhood or city center is likely to be sufficient to overcome the inconvenience of distance, time, or cost involved in reaching them. Thus, instead of being a desired destination the common area sited on the well-traveled edge of a development may be no more than an intervening alternate opportunity confronting city-bound residents.

These sociological guide lines should help the building industry get started in the right direction toward satisfactory housing of the aged. But they are obviously insufficient. If design is to do its part in producing sound physical environment for the sixth of the nation's households which are headed by people over 65, if it is to reduce the aged's sense of isolation and avoid the effects of activity overdensity, then still more sociological research is needed to guide architects, planners, and developers. For example a series of comparative studies in both dispersed and proximate housing could yield useful knowledge about the effect of these two kinds of housing upon their occupants. The Ford Foundation has made several grants for sociological research of this kind, the largest to Cornell University's Housing Research Center. But much more is needed, a fact underscored by this recommendation from the January White House Conference on Aging: "A keystone of the long-range approach to the problem of housing the aged is the need for continued study, planning, and statistical data—studies in depth in urban and rural communities."

There is a vast difference between creating a shelter from the winds and designing a residence suited to the special needs and activities of the aged. When these requirements are further defined, the industry can be expected to devote more of its attention to the problems of merchandising housing successfully to this large but hesitant new market. More importantly, the resulting environment can make the prolonging of life a worth-while adventure, far more meaningful than a waiting out of the wind. END

CEILINGS UNLIMITED...with Bestwall Lite Acoustic Plaster. Any ceiling shape, of intricate contours or free-flowing lines, can be machine sprayed to create beautiful and decorative effects. The bedroom ceiling in the beautiful home of Carl J. Kahlmeyer, of Kahlmeyer Brothers, St. Louis, illustrates well the striking effect Bestwall Lite Acoustic can achieve. This high quality and fire resistant plaster can be applied quickly and easily to any clean, firm surface. It has a noise reduction coefficient of .55-.60 and provides light reflection up to 74% without glare. A variety of textures and a range of fire ratings may be obtained. Bestwall Gypsum Co., Ardmore / Pa.

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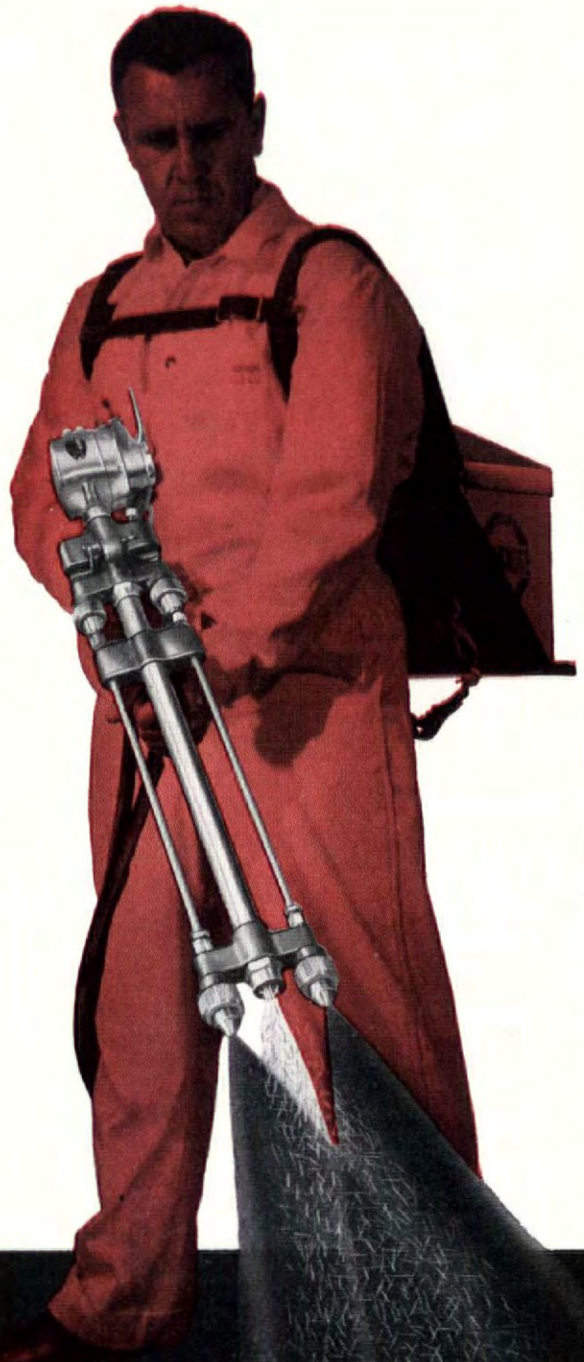

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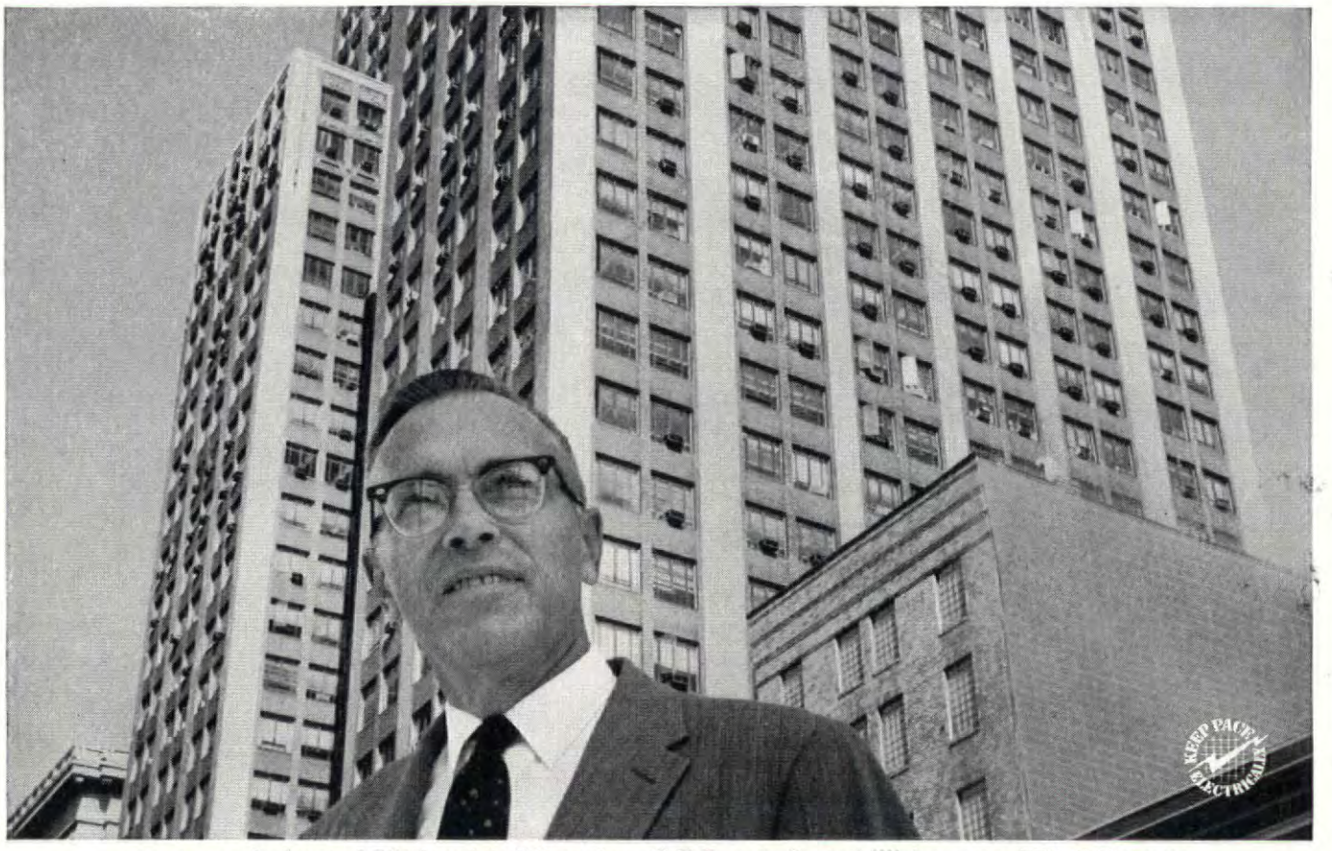


Mr. Simpson in front of Pittsburgh building where G-E Remote-Control Wiring saves $700-$800 a year.

"G-E Remote Control Switching solved a 33-story problem for us!"

. . . Mr. T. J. Simpson, Assistant Superintendent Grant Building, Pittsburgh, Pa.

"Control of corridor lighting used to cost us too much money," says Mr. Simpson "because of a floor-by-floor manual switching system.

"A man had to make as many as four 33-floor trips a day to turn lights ON and OFF. Even at that, lights were ON overtime.

"Then we discovered G-E Remote-Control switching. You can say it solved a 33-story problem for us!

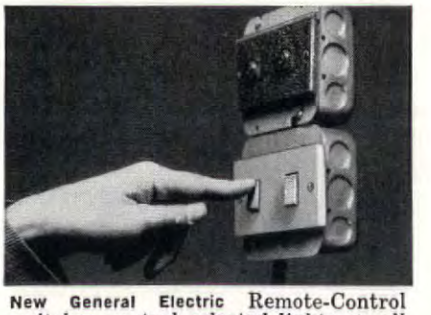
"We installed two 24-volt switches on the first floor to control G-E relays, bridged across corridor light switches, on thirty-three floors. Pressing one or both of these General Electric switches instantly turns lights ON or OFF on every floor.

"The 24-volt control circuit runs in an old conduit; we didn't have to tear up the place. It was the only practical way to do this job. Easy and inexpensive!"

General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

Each corridor has two sets of controlled lights — one ON every day — one near windows, ON when its dark outside.

Old system controlling corridor lights required manual operation of panel switches on 33 floors. A half-hour job!



New General Electric Remote-Control switches control selected lights on all 33 floors at once, from one spot.

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200th Birthday

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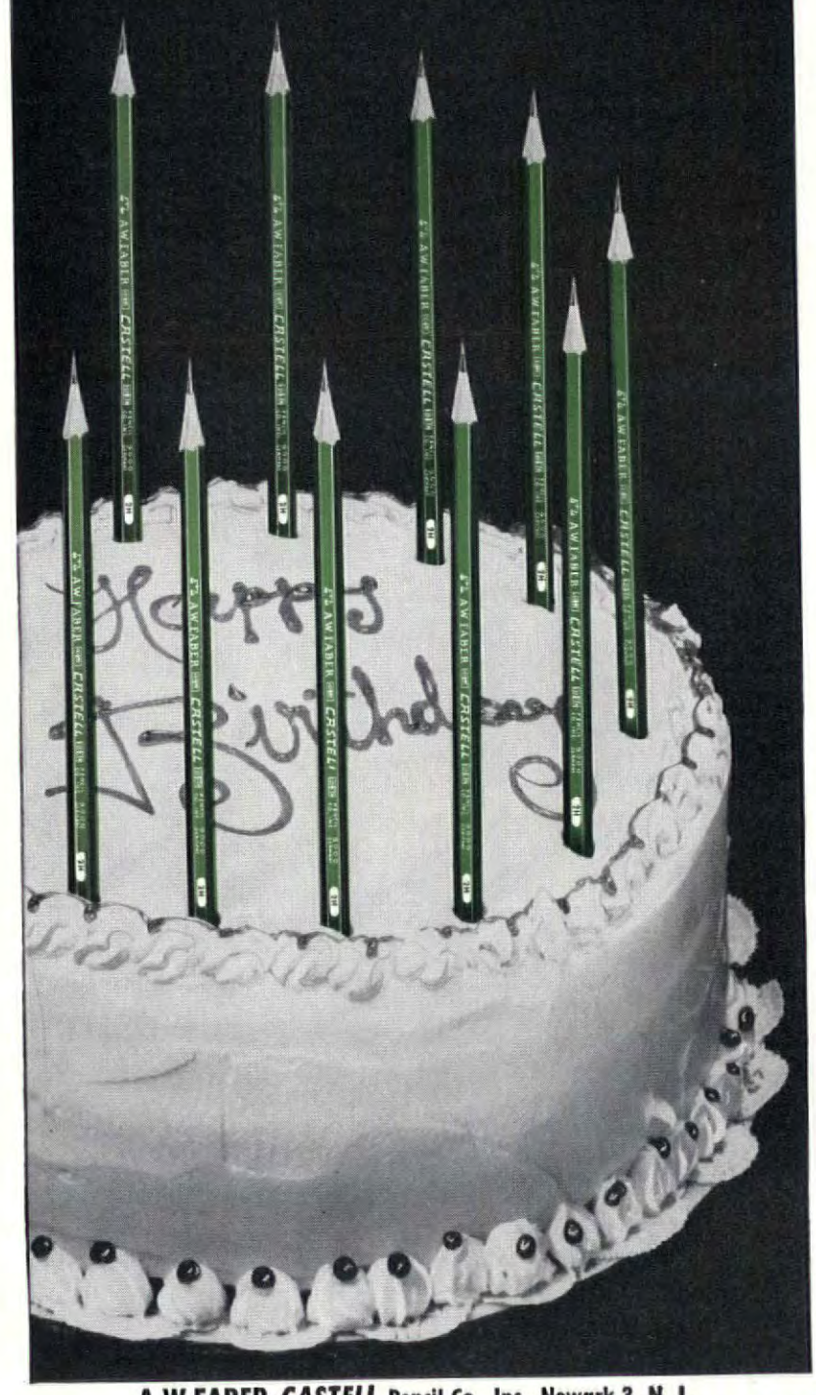
Producers of the nearest thing to perfection in a drawing pencil



It is customary, on the occasion of a company's bicentennial, to talk about the traditions that made it great.

Nothing would make us happier than to talk about A.W.FABER-CASTELL's distinguished history. But it may be more important if we pointed out how CASTELL drawing pencils can further your career.

CASTELL's Black Gold graphite allows a creative man to express his profoundest ideas. It gives such a bold, black image, such density saturation, that sharp, crisp drawings are assured. Its light-proof adhesion produces the highest number of sharp prints per drawing — without loss of detail even after hundreds of reproductions.

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For those who prefer a lead holder, **#9800 SG Locktite Tel-A-Grade,** *with no-slip, functional grip gives you smooth traction and blessed comfort to your tired fingers* ■ **Castell Drawing Leads #9030,** *of identical quality and grading as Castell drawing pencils* ■ *Usable in all standard holders, but a perfect mate for Locktite* ■ *Available in a full range, from 7B to 10H, and a kaleidoscope of colors* ■ *Draws perfectly on all surfaces, including Cronar and Mylar base films* ■

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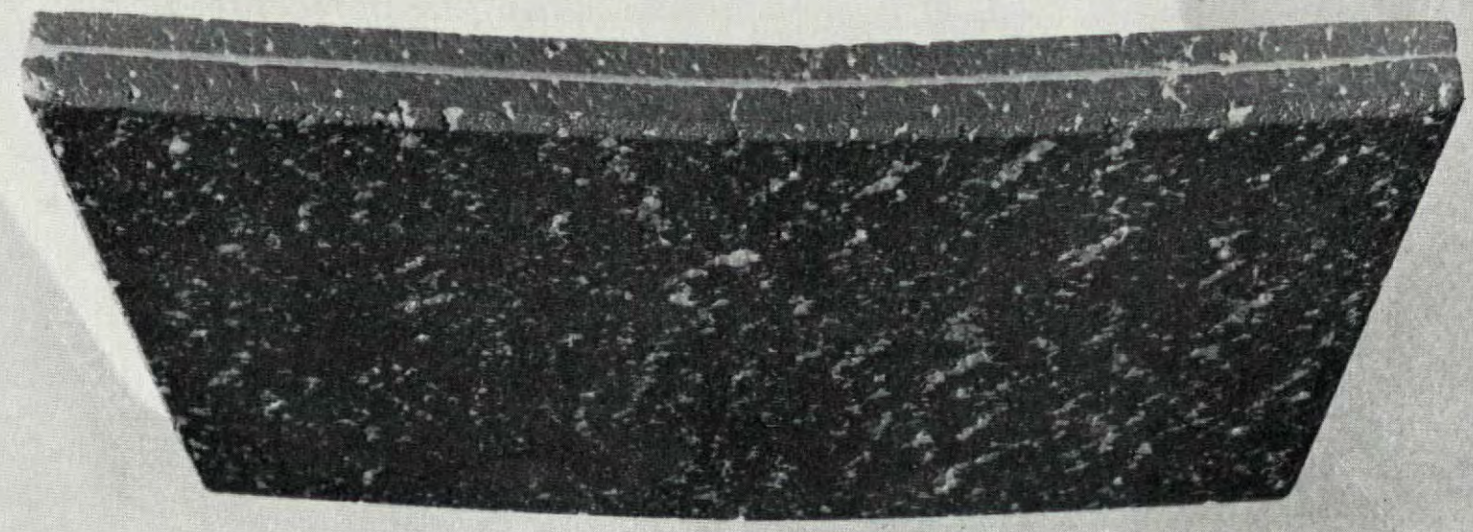

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To prove the value of our felting process, we put two pieces of 12" x 12" fissured mineral wool tile, one felted Acoustiroc and one non-felted, into a humidity room at 90°F. temperature, 90% R.H. After 72 hours the non-felted material had sagged, while new Gold Bond® Acoustiroc showed no appreciable distortion. Its felted structure, of long mineral wool

ANOTHER GOLD BOND FIRST

fibres uniformly interlocked, gives Acoustiroc tile up to 500% greater sag resistance. This humidity resistance lets you schedule Acoustiroc installations long before plaster and terrazzo are completely dry, saving a week or more toward building completion. National Gypsum Company, Buffalo 13, N.Y.

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Compact modern design means lower shipping costs, lower installation costs, less required equipment area, more rigid assembly. Thirteen case sizes are available . . . in either floor or ceiling mounted units, with an over-lapping range of air deliveries.

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As Anacreon said to Ictinus, "Sure, your type of construction may last two or three thousand years, but if you want to build a *permanent* structure you should use Stainless Steel."

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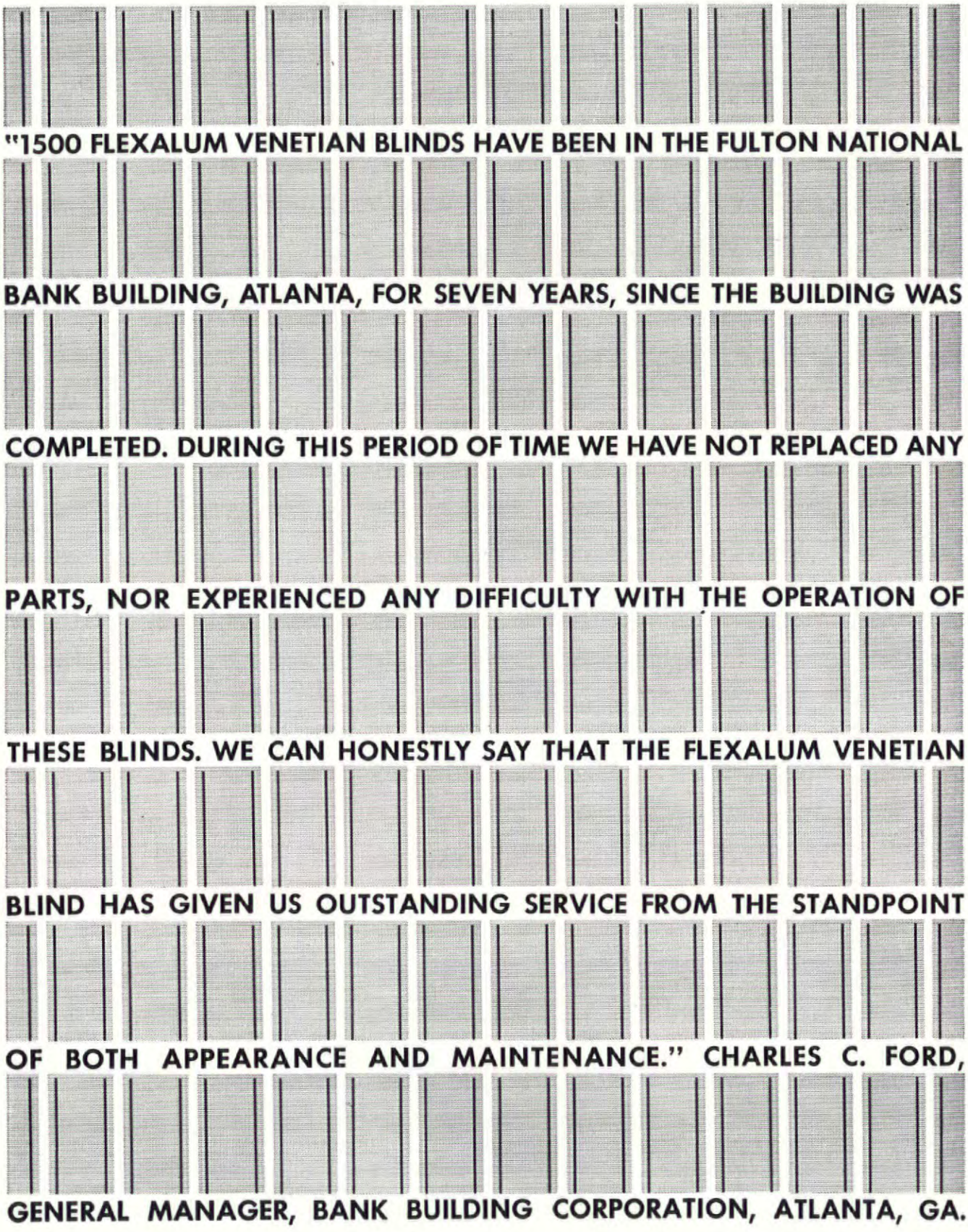

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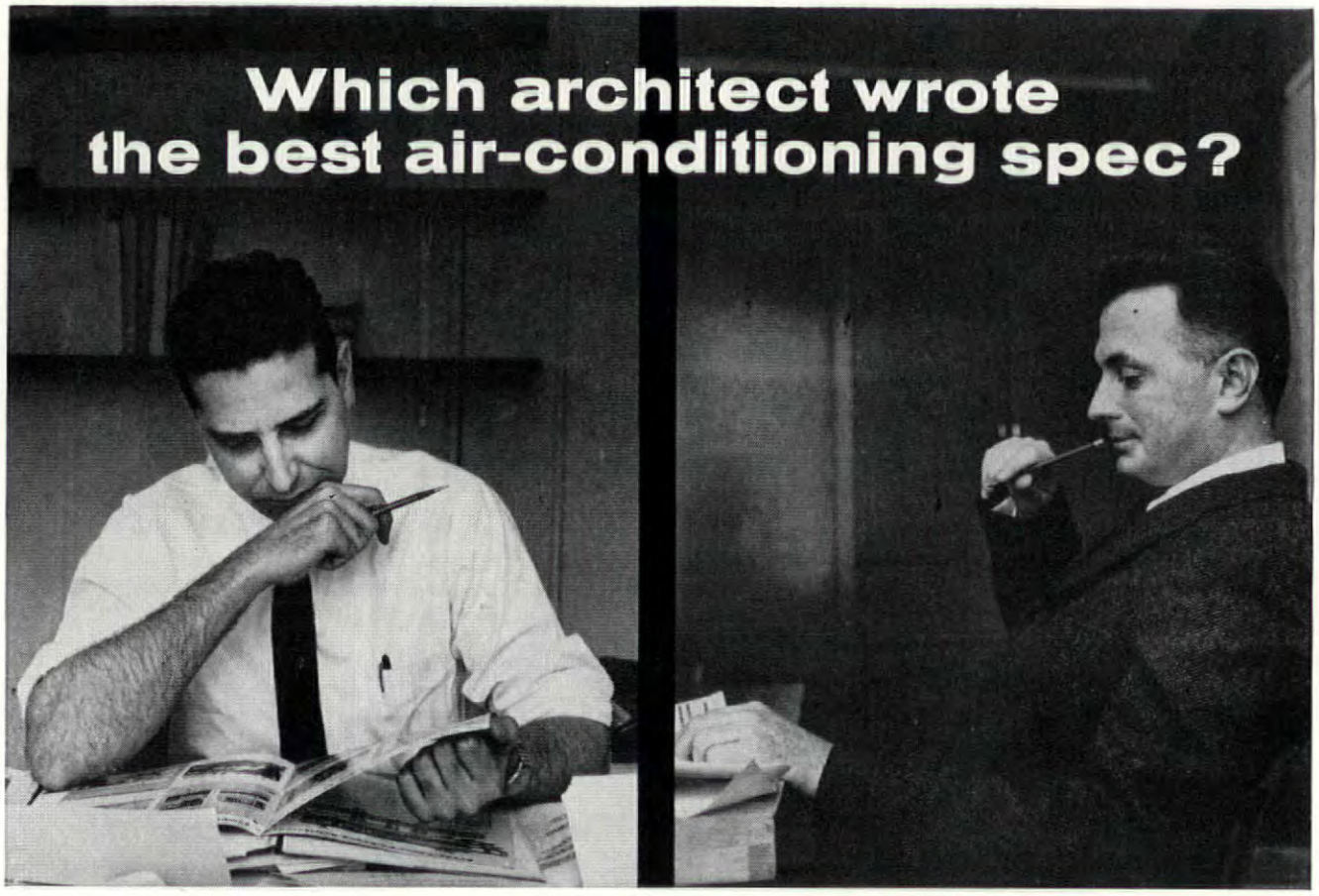
Which architect wrote the best air-conditioning spec?



The one who wrote: *". . . air-conditioning equipment to be supplied and installed under these specifications shall be certified under the Air-Conditioning & Refrigeration Institute Certification Program, as complying in all requirements with ARI Standard 210-58, or ARI Standard 250-58."*

Here's why: Any equipment* bearing the ARI Seal of Certification assures the architect that the equipment will produce the cooling capacity claimed. To be granted the Seal, a manufacturer must rate his equipment in standard Btu per hour instead of the confusing and less accurate "horsepower." Qualified equipment is subject to random selection from stock for intensive checking and verification in an independent testing laboratory under adverse conditions, with emphasis on wilting heat and high humidity.

Specify *ARI-Certified* for complete assurance that the unitary equipment you require will deliver its full rated cooling capacity, and continue to deliver ample capacity under adverse conditions.

Participating manufacturers covered by the Certification program, and their unit lines, are named in a directory which is available upon request without charge from Department N-411.

*"Unitary" air conditioners included in this program: all packaged air conditioners, whether single units or two-piece units (called "split" systems), up to 135,000 Btuh in capacity, but not including room air conditioners. ARI Standard 210-58 for electrically-driven equipment; ARI Standard 250-58 for heat-operated equipment.

AIR-CONDITIONING AND REFRIGERATION INSTITUTE
1346 Connecticut Avenue, N.W.
Washington, D. C.

Manufacturers participating in this program as of January 1, 1961: • Airtemp Division, Chrysler Corporation • Albion Division, McGraw-Edison Company • Amana Refrigeration, Inc. • American Furnace Company • American-Standard Industrial Division, American Radiator and Standard Sanitary Corporation • Arkla Air Conditioning Corporation • Armstrong Furnace Company, Division of National Union Electric Corporation • Bryant Manufacturing Company • Carrier Air Conditioning Company • Cleveland Steel Products Corporation, Toridheet Division • Cobell Industries Incorporated • The Coleman Company, Inc. • Crane Co., Air Conditioning & Refrigeration Division • Curtis Manufacturing Company • Day & Night Manufacturing Company • Fraser & Johnston Company • Friedrich Refrigerators, Incorporated • Gaffers & Sattler, Division of Utility Appliance Corp. • General Electric Company • Goettl Bros. Metal Products Inc. • Holly-General Company, Division of the Siegler Corporation • International Metal Products Division, McGraw-Edison Company • Janitrol Heating and Air Conditioning, A Division of Midland Ross Corporation • Lennox Industries Incorporated • Lincoln Air Control Products, Inc. • The Mathes Company, Division of Glen Alden Corporation • Mission Appliance Corporation • Montgomery Ward • Mueller Climatrol, Division of Worthington Corporation • National Thermatic Corporation • The Payne Company • Peerless Corporation • Perfection Division, Hupp Corporation • Pioneer Industries, Division of Almar York Co., Inc. • Rheem Manufacturing Company • Round Oak Division of Peerless Corporation • Southwest Manufacturing Company • Stewart-Warner Corporation • Therm-Air Manufacturing Company • The Trane Company • Typhoon Air Conditioning Division, Hupp Corporation • United States Air Conditioning Corporation • Welbilt Air Conditioning and Heating Corp., Subsidiary of Welbilt Company • Westinghouse Electric Corporation • Williams Oil-O-Matic Heating Company, Division of National Union Electric Corporation Worthington Corporation • Wright-Temp Manufacturing Company, Division of Wright Manufacturing Company • York Corporation, Subsidiary of Borg-Warner Corporation • Zink, John, Company

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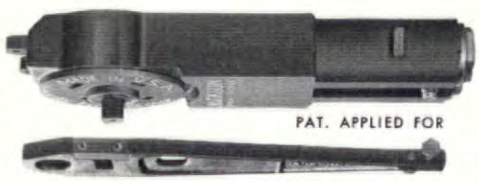
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All working parts are of heat treated chrome molly steel, springs of chrome vanadium steel; the utmost quality in every aspect of the mechanism gives assurance of long and trouble-free service.

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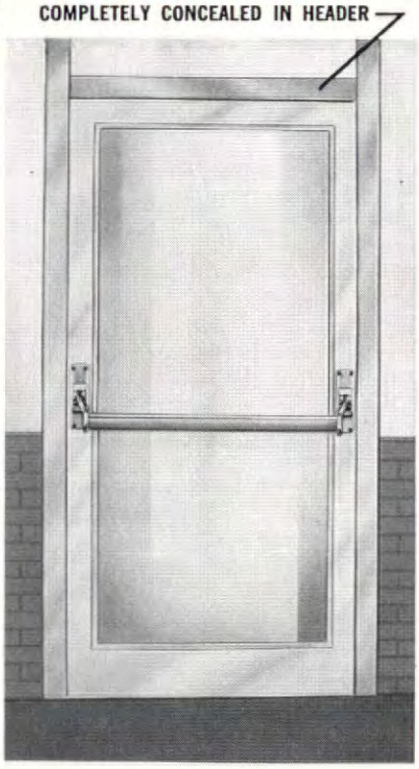

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Letters

THE VOCAL SUBURBS

Forum:

In your January issue, "The changing suburbs" is superb.

It vividly shows most of the problems of this community—7 miles from Northland Shopping Center, 15 miles from downtown Detroit, and 1,000 miles from resolution.

Congratulations upon giving us another good "planning tool."

ELIOT ROBINSON
Chairman, City Planning Board
Birmingham, Mich.

Forum:

Thank you for your very perceptive and timely article in January ("Does industry pay its way?") concerned with industry's exodus to the suburbs and the potential tax benefits accruing to the communities involved.

At present I am serving as chairman of the Business Development Committee of the Board of Trustees of Briarcliff Manor, N.Y. The American Airline's proposed "Sabre" installation (electric reservation system) in Briarcliff Manor had met with opposition from a group of residents, who feared an additional drain on the tax dollar. But FORUM's revealing article provided information heretofore unavailable, and by quoting from it at a public hearing before the Village Planning Board, I was able to gain positive support for industry's acceptance and the ultimate approval of the Board.

EDMUND J. McRICKARD
Chairman
Business Development Committee
Briarcliff Manor, N.Y.

Forum:

Your "Changing suburbs" was excellent. We would like to see that some of our key community leaders have this issue. Please send me three extra copies.

DARREL S. RANK
Pennsylvania Economy League, Inc.
Reading, Pa.

■ *A very limited supply of tearsheets of the January issue is available.*—ED.

Forum:

The timely discussion of the relationship of industries to taxes in the suburbs was of particular interest because of our current research project of general property taxes being conducted by the Urban Land Institute. I am sure that we will continue to find much of value in the issue.

NEWTON C. FARR
Farr, Chinnock & Sampson
Realtors, Chicago

Forum:

Your January issue is the best ever, from the viewpoint of metropolitan planning. You are hitting some of the real nails on the head. May I suggest that your able researchers try a few more themes in due time:

A. Possibilities of a policy for subdividing and articulating an existing metropolis into "communities" of optimum size; redeveloping each with a cluster of central facilities both commercial and public; generating a vital local civic life; and a more efficient commercial, educational, and public services unit.

B. Possibilities of a policy for creating a network of satellite towns; subordinating the transit objective; elevating the residential-educational-civic and esthetic objectives; taking care of the majority of the population and the most sensitive needs.

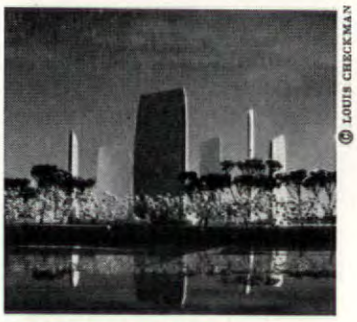
C. Possibilities of solving the old problem of "local tax self-sufficiency" in suburbs by going metro in taxation, for the most expensive services—this would free the metropolis of one of its worst planning obstacles.

D. A possible federal policy to encourage the local preparation of a "Basic Metropolitan Reference Plan" like a workable program, prerequisite to large federal urban projects and mandatory for recognition by all these federal construction agencies.

E. Possible federal loans or loan guarantees for essential public facilities to be built in advance and at outlying locations of planned new communities.

We sincerely hope that FORUM, with its great influence, will hasten the formation of positive metropolitan planning policies. This task is more than any metropolitan area itself can accomplish.

GEORGE NEZ
Director
Regional Planning Commission
Denver, Col.



© LOUIS CHECKMAN

GRAPHIC ROOSEVELT

Forum:

The February presentation of the Franklin Delano Roosevelt Memorial Competition was graphically very fine. We owe you a debt for your having presented in such a splendid way the drawings and photographs.

Whatever the final decision, I think the competition will serve to stimulate architectural thinking, but this can happen only if the designs are given widespread distribution.

EDMUND N. BACON
Professional advisor
FDR Memorial Commission
Philadelphia

ENLISTING ENGINEERS

Forum:

Your treatise *Building, U.S.A.* has just come to my attention. I am immediately struck by its tremendous potential as an aid to my efforts in enlisting engineering minds to the cause of architecture.

Building, U.S.A. is a lucid, objective, unprejudiced, and highly evocative summation of the ills that beset the profession. Most of its content is highly subjective to my own needs. I need about 12 copies. Please advise.

HAYES B. FLEMING
Chief architect
The Rust Engineering Co.
Birmingham, Ala.

■ Building, U.S.A., *by the editors of* FORUM, *was published by McGraw-Hill (330 W. 42nd St., N.Y., N.Y.) in 1957. A few copies are available at $3.95 per copy.*—ED.

TROGLODYTIC KAHN

Forum:

Your February article on fallout shelters refers to the new book by Herman Kahn, *On Thermonuclear War,* which has provoked a great deal of discussion and controversy. Unfortunately, the point of view expressed by Kahn has become identified with the official point of view of The Rand Corp.

Rand is a nonprofit research corporation with no official point of view.

A number of senior members of the Rand Corp. who have examined these questions over the last five or ten years do not share Kahn's views; and I myself do not have the troglodytic, apocalyptic visions of Kahn.

RICHARD BELLMAN
The Rand Corp.
Santa Monica, Calif.

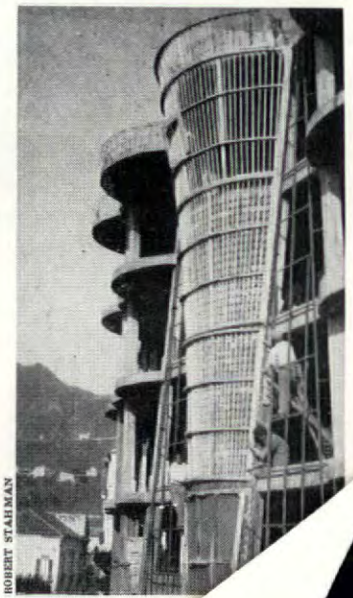
WALLS AJAR

Forum:

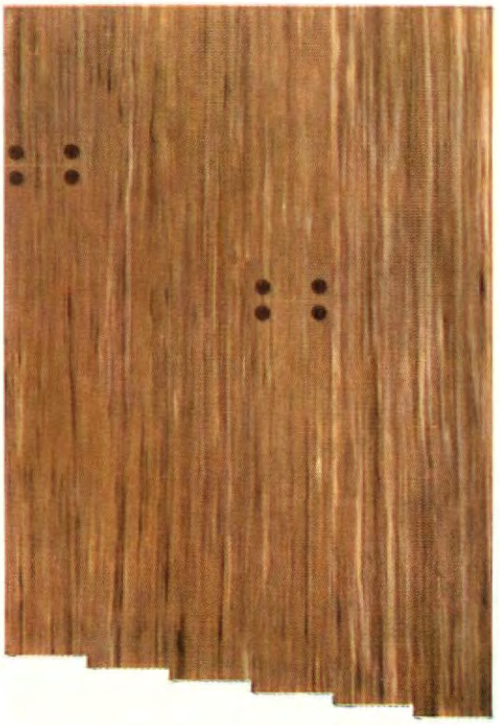
In describing my ceramics factory at Vietri sul Mare (FORUM, Feb. '61), you suggested that the exterior walls were *faced* with tile. Actually, the walls were made of glazed ceramic jars, laid up in regular courses. We then poured concrete around the jars to produce a kind of hollow tile wall, smooth on the inside, and patterned on the outside with the circular bottom ends of 30,000 jars in different colors. The photograph (below) shows the walls during construction, before concrete was poured between the jars.

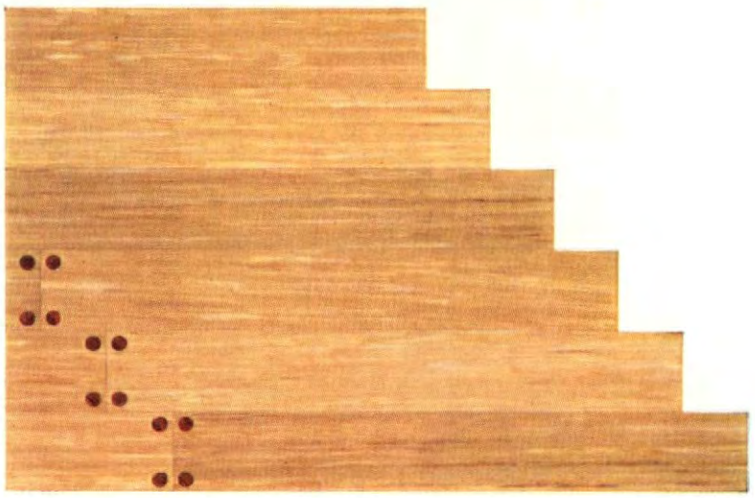
PAOLO SOLERI
Scottsdale, Ariz.

■ *For more of Soleri's unusual* ***buildings, see page 111.***—ED.



ROBERT STAHMAN





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