ARCHITECTURAL FORUM THE MAGAZINE OF BUILDING NOV. 1963

FORUM

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You can eliminate the cluttered look on your doors. There's no need to install multiple products to obtain complete control. Norton Uni-Trol unitized door control offers complete door control in a single attractive installation. And Norton Uni-Trol is compatible with modern architectural design. Another Norton contribution to the aesthetic revolution in builders hardware.

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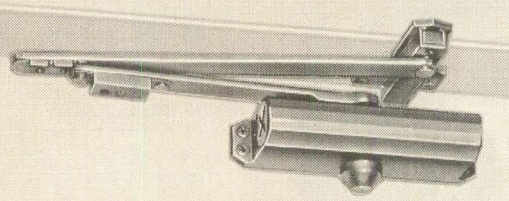

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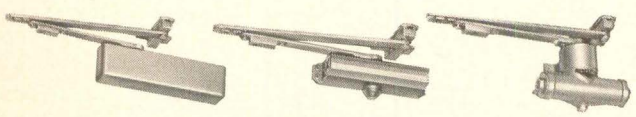

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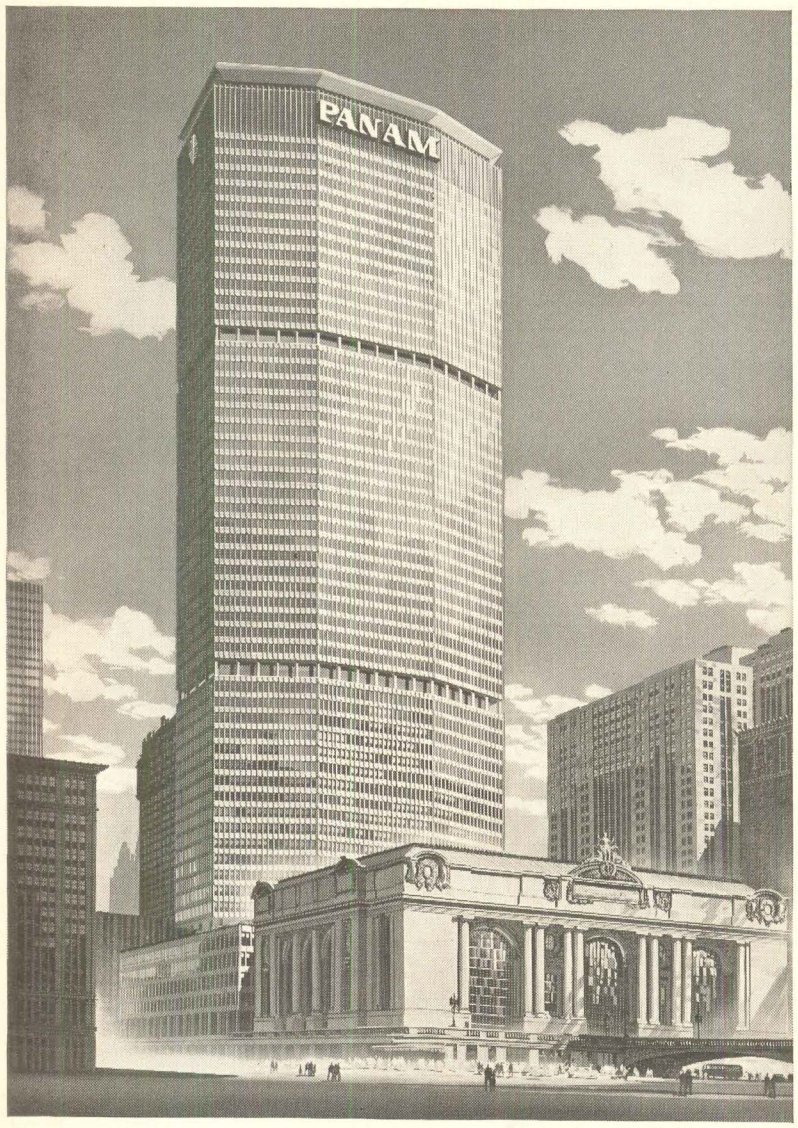

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Built at a cost of one hundred million dollars, the Pan Am Building serves a working population of 17,000 people, plus a daily influx of a quarter million more. Its facilities include 65 elevators, some of the world's fastest, and 18 escalators, to speed tenants to 2,400,000 square feet of rentable space; the world's largest air conditioning system; the world's first in-building central telephone communication center and 1758 of the world's finest Flush Valves.

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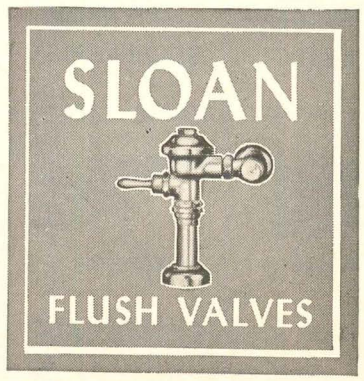

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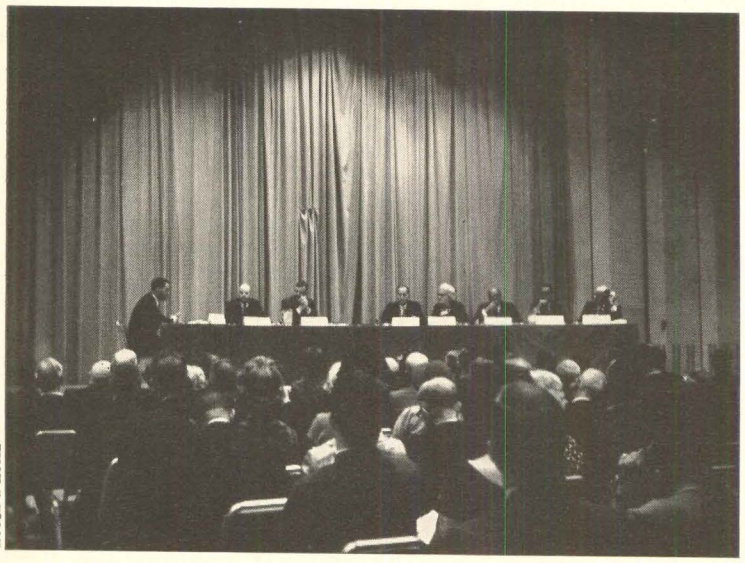

HOUSE & HOME

EXPERTS PONDER BUILDINGS AND CITIES

Over the past few weeks, segments of the building industry met for their annual conferences in cities scattered across the nation. It was worrying time: in Denver, the National Association of Housing and Redevelopment Officials was especially concerned with growing public antagonism toward urban renewal. In Washington, D.C., the Producers' Council mulled the position of the manufacturer in the total building process. In San Francisco, a large group of experts talked about the future of ceaselessly expanding cities, while engineers pondered the uses of prestressed concrete. And, in Havana, architects were faced with the problem of politics in design.

NAHRO wonders about citizen participation in renewal

At its 29th conference, held last month in Denver, the National Association of Housing & Redevelopment Officials (photo) heard about various "approaches" to urban problems. They were told of the attitude of Congress ("parsimonious," said Senator Harrison A. Williams' chief assistant, ArDee Ames), of the Administration and its housing agencies, of municipal officials, and even of the Ford Foundation.

These discussions were overshadowed, however, by a much thornier problem: the reaction of local citizens to these approaches, and the controversy surrounding all urban programs, particularly urban renewal.

Ames, reading Senator Williams' speech, pointed out that Congress has generally treated cities badly (e.g., more is spent for research on sugar beets and "avian leukosis"—a blood disorder afflicting chickens—than for all research into housing and urban problems). He wondered why it is that city dwellers are not up in arms, "demanding proper attention to the problem of concern to them . . ." If this caused some restless stir among the several thousand conferees, it is understandable. For by now, with urban renewal nearly a decade and a half old, practically every city has some part of its citizenry "up in arms" about renewal.

This reaction, which has been most violent in cities with large clearance programs, has already caused considerable changes in the direction of renewal. It has meant less residential clearance, more rehabilitation of existing dwellings. It has also generated a growing sensitivity toward "social" problems, leading to a downgrading of the role of the architect and physical planner, and a rise of the social scientist.

The increasing role of "social planning" was underscored by Ford Foundation Executive Paul N. Ylvisaker, who told a capacity audience about the Foundation's program of substantial grants to large cities (e.g., $2.5 million to New Haven—see pages 96-99) primarily to shore up urban education programs and enlarge job opportunities in the "gray areas."

Out of the discussions emerged a growing realization that 1) the involvement of citizens by renewal officials must be more than a public relations program—it must be directed at achieving the goals agreed upon by the community itself; 2) "figurehead" participation (e.g., a panel with a Negro, a labor leader, an archbishop, and a rabbi) is futile and often damaging. Many NAHRO members obviously felt that the federal government's workable program requirements too often result in such "figurehead" committees, and should be revised.

NAHRO's policy resolutions further emphasized the need to re-examine renewal, to assess its achievements to date, and to explore techniques which might gear it to broader patterns of regional development. Public housing, meanwhile, took a back seat: with authorizations almost exhausted, and relocation needs being handled increasingly by other programs (such as FHA's fast-growing 221d3), public housing might soon be called public housekeeping (FORUM, July '63).

Listing subs. Without question, the most significant speech at the Producers' Council's 42nd annual meeting in Washington, D.C. was that given by General Services Administration Head Bernard L. Boutin. His subject: GSA's new plan to require the names of all subcontractors to be listed in future bids for GSA construction contracts. Without such a restriction, the general contractor, after getting the contract, often shops around for cheaper subcontracting work. This leads to overly expensive, sometimes shoddy, work.

The speech gave first notification that GSA will go ahead with the scheme, already tried twice on an experimental basis—both times to the consternation of the Associated General Contractors.

GSA hopes to have 20 more projects in the experiment processed by the middle of next January, and indicates that bid-listing could become a general requirement for all prime contracts let by the agency as early as next spring. Commented the National Association of Plumbing-Heating-Cooling Contractors: "This news is especially welcome to our more than 9,000 members."

Architect Francis D. Lethbridge, another speaker at the Council meeting, dealt with the graceless forms of Washington buildings, many of which evince "a grossness that goes hand in hand with monotony." Part of the problem, he said, lies in misuse of materials by architects. "But part lies with the products," said Lethbridge bravely. "These

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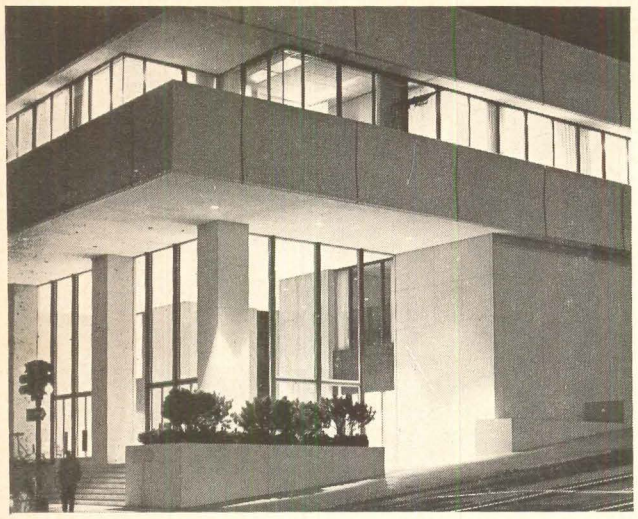
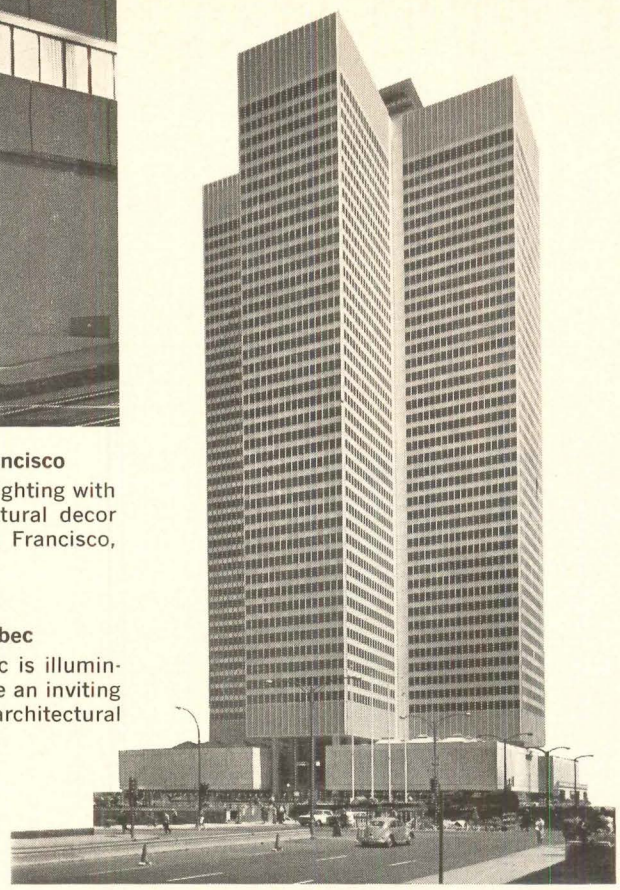


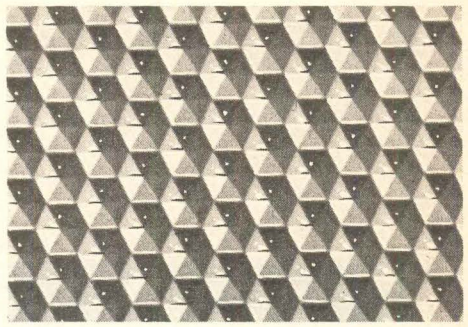
INTERNATIONAL BUILDING, San Francisco

Comfortable, appropriately designed lighting with K-LITE panels enhances the architectural decor of the International building in San Francisco, California.



PLACE VILLE MARIE, Montreal, Quebec

Place Ville Marie in Montreal, Quebec is illuminated with K-LITE panels which provide an inviting atmosphere compatible with the architectural design and interiors of this building.



K-5 The finest for prismatic light control. Recessed hexagonal prismatic pattern with sparkling surface attractiveness in clear polystyrene or acrylic plastic. Overall pattern particularly appealing in large area luminaries which complement today's modern interiors. Also available in white opal.

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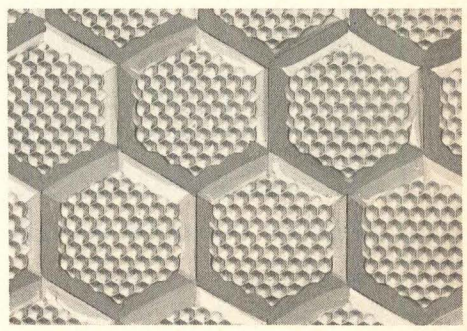
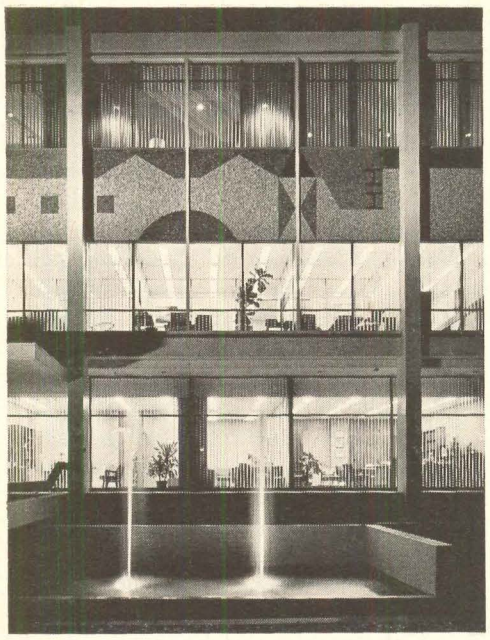
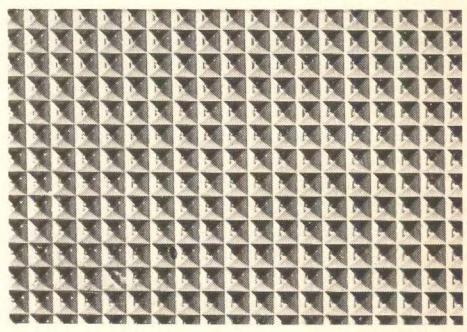


K-8 Geometric contemporary design. Minute cones within bold hexagonal pattern provide unique decorative design with light control properties. Panels furnished in clear polystyrene.



WELTON BECKET BUILDING, Los Angeles

K-LITE panels are functional and blend well with interior and exterior beauty of the Welton-Becket building in Los Angeles, California.



K-4 Distinctive grid pattern of 1/8" pyramids furnished in clear polystyrene or acrylic plastic. Unobtrusive, non-directional overall pattern.

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Listed in the Yellow Pages under Plastic Products Manufacturers.
In addition to the above, detailed information on K-LITE panels may be obtained through any major lighting fixture manufacturer.

continued from page 5

components should be designed by architects to be used by architects, in the design of buildings and cities that are better functioning, better looking, and better places in which to work and live."

California cities. At the University of California's Berkeley campus, the sixth conference of seven on the "challenge of growth" convened to discuss the future of cities. Its chairman and chief organizer, Catherine Bauer Wurster, had assembled some 300 of the world's most knowledgeable scholars, architects, planners, and city experts.

If any one person stole the show, however, it was that consummate politician, Governor Edmund G. Brown. In no uncertain terms, Brown told his audience (including citizens tuned into the conference on TV Channel 9) what he and his legislature were doing now for California's future. Among recent steps: establishment of five-man county agencies to limit unplanned growth; creation of long-range regional plans and a state coordinating council on urban policy to study growth. Funds for such urban improvements as more park benches, and help to transportation facilities have been obtained by increasing the gas tax, and floating $150 million in bonds.

From London, local government expert Sir Edwin Herbert described his city's metropolitan government. English Planner Peter Self put forth another possible solution to city growth — new towns — which Danish Architect Steen Eiler Rasmussen later on dismissed as "an escapism into an obsolete form."

Philadelphia Planner Edmund Bacon had a novel proposal for "the skillful interweaving of *maximum* and minimum lot-size areas" in regional planning.

Concrete statements. At the Prestressed Concrete Institute's conference in San Francisco, Chicago Architect Harry Weese declared that the great significance of prestressed concrete lay in its ability to free the architect from predetermined standardization of forms. But, observed New York Architect Max Abramovitz, prestressing has not yet made any essentially new contribution to the vocabulary of the architect, and will remain merely an economic refinement unless designers learn to use its unique character.

Engineer Myron Goldsmith, of the Chicago office of Skidmore, Owings & Merrill, gave a more factual presentation. He cited a new report by the Illinois Institue of Technology which analyzed the costs of 150 concrete structures and 100 steel structures. Using a series of graphs and charts which illustrated the relationship between cost per square foot and span and structure, Goldsmith, with IIT figures, was able to make comparisons between concrete and steel domes, vaults, folded plate structures, etc.

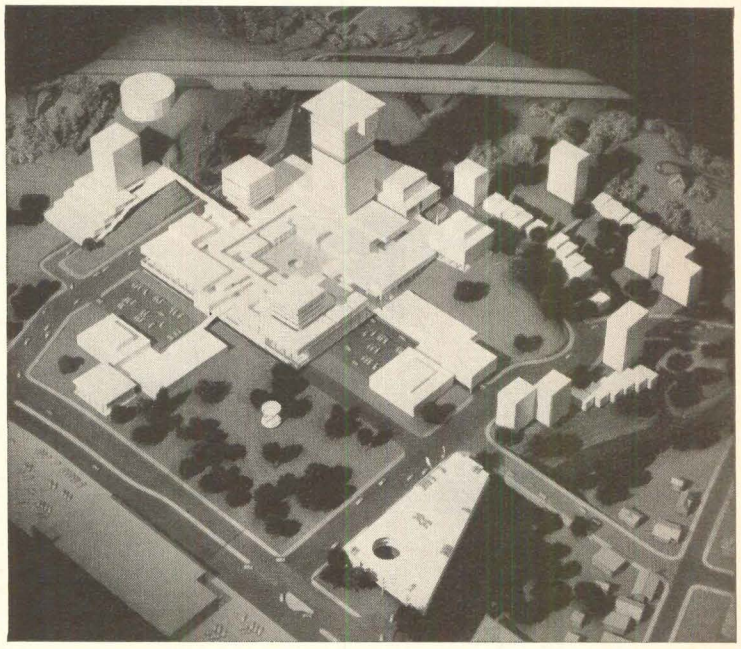
Interestingly enough, in terms of intermediate- and long-span construction, practically all of the structural systems coincided in their cost curves at about 110 feet. Meaning: at this span, beams, slabs, vaults, domes, short barrels, intersecting barrels, and folded plates will all have approximately the same cost regardless of structural material.

Politics, anyone? In Havana, Cuba, a controversial setting for any international congress, some 700 members of the International Union of Architects met for the first half of their biennial conference. Though convened purely for the exchange of architectural ideas, the conference quickly took on a new theme: what type of political system can encourage the best architecture for a developing nation.

IUA President Sir Robert Matthew pleaded against any political discussion in his opening speech. The organization, he said, is nonpolitical: "This is the rock upon which the IUA is founded. We shall be very foolish to destroy it." But the opposite view, first propounded by Cuba's President of the Republic, Dr. Osvaldo Dorticós Torrado, and thereafter embraced by member architects from the Communist countries, held sway.

There were four working groups devoted to housing, regional planning, building techniques, and neighborhood units, respectively. Their resolutions, as might have been expected, were radical, and included: 1) that the well-being of the population depends not only upon the provision of housing and services, but upon coordination of these necessities with the entire economy; 2) that the developing countries should have the right to determine the type of aid they need, and the manner of its application; 3) that aid should be oriented toward strengthening the economy of the developing country, and toward the elimination of economic systems based on single products; and 4) that the IUA should establish a closer working relationship with the UN.

After the Havana meeting, the IUA moved to Mexico City to finish its conference (details of that session next month).



NEW CIVIC CENTER IN HAYWARD, CALIF. DESIGNED FOR FUTURE

Like most other California cities, Hayward, the emerging subcapital of the southeast Bay Area, has been growing fast: its population quintupled to 70,000 between 1950 and 1960, is now near 84,000. Unlike many other cities, however, Hayward is planning for its future —as shown by this proposed $65 million Civic Center (above), which will concentrate key activities in the city's compact downtown area.

Designed by the Berkeley architectural firm of Van Bourg/Nakamura & Associates, the landscaped complex includes a hollow-square "core building" for shops, offices, banks, etc., an entertainment center, and a 20-story city hall tower. The Civic Center has already gained the backing of the city and the local Chamber of Commerce.

HOUSE TAKES A DIM VIEW OF NEW BUDGETS

Some three months after the new fiscal year started, the House Appropriations Committee got around to Independent Offices Appropriations. In considering the 26 executive agencies' and offices' budget requests last month, the Committee reduced the over-all amount by a whopping 10.6 per cent to $13.1 billion, and demanded that each agency be careful in its future expenditures.

The pattern in handling the administrative and field office budgets of each housing agency was similar: cut both these budgets well below the requested amounts. At a time when HHFA and its subagencies are laboring under a heavy work load, the number of new jobs authorized was held to a minimum. For example, PHA's request for 321 new positions was cut to 50;

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Office furniture that interprets the thinking of some of America's most respected architects

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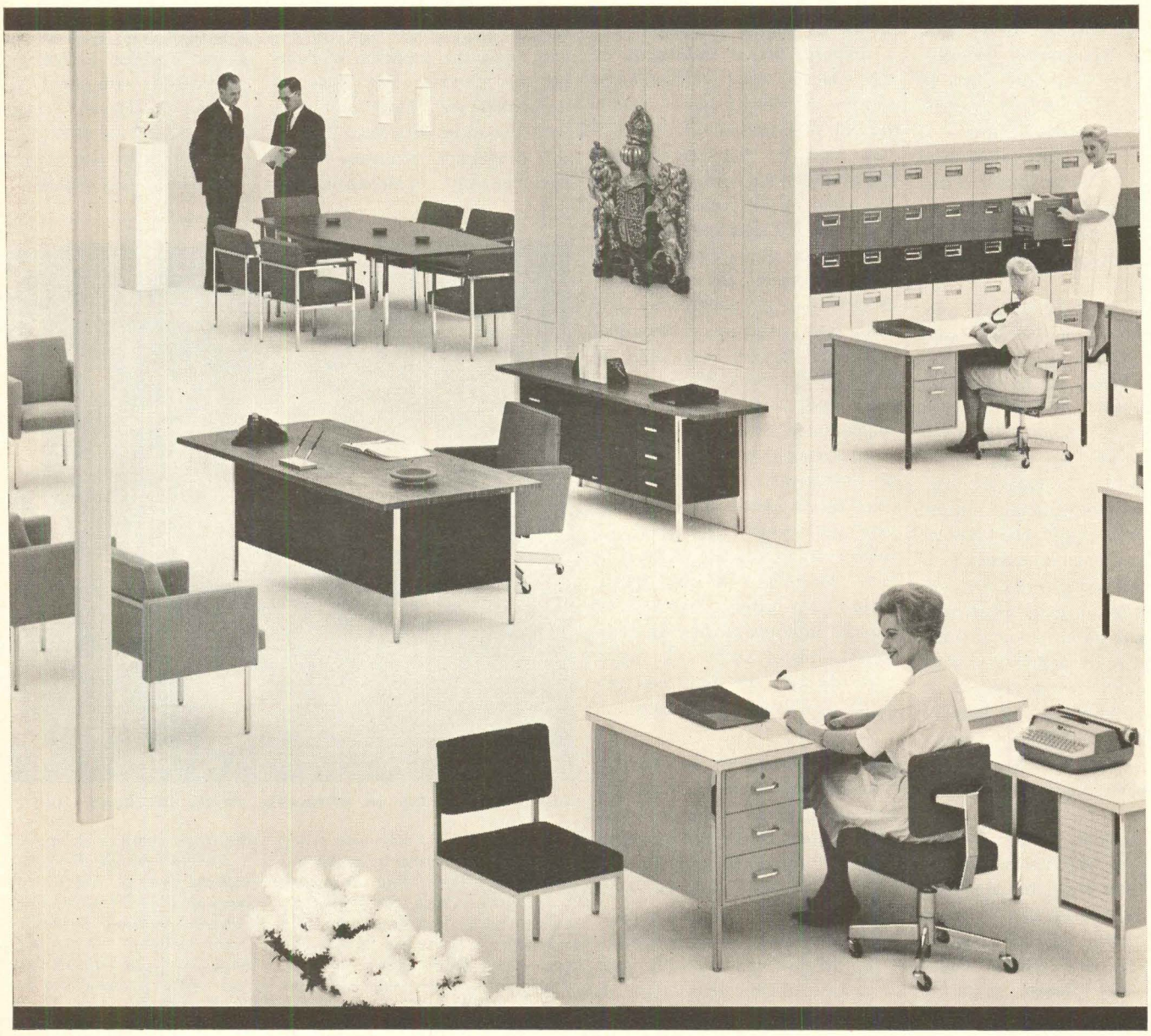

You'll find it in every line and every proportion of every Steelcase unit. Here is furniture specifically designed with architectural requirements in mind. In fact, many designs have grown from direct collaboration between leading architects and Steelcase designers. SCO (Steelcase Coordinated Offices) is the natural outgrowth of such collaboration. It provides you with a broad selection of office furniture coordinated in design, color and function. Give your client the satisfaction of custom appearance in all his furnishings at Steelcase's production prices. Let us show you how Steelcase will fit into your next project. Write Dept. A, Steelcase Inc., Grand Rapids, Mich.; Canadian Steelcase Co., Ltd., Don Mills, Ont.

STEELCASE INC

continued from page 7

HHFA asked for 157 new employees, but will get none.

Other funds, in reduced amounts, were appropriated for such programs as HHFA's urban studies and research, which received only $300,000 of the $2.4 million asked for, and the low-cost housing grants, which obtained $3.9 instead of $5.1 million.

These surprising actions could be construed as an attempt to hold down government spending, or deliberately to vitiate the White House's persistent concern for urban affairs. Some observers, however, feel that the House Committee, which regards itself as sole custodian of federal purse strings, might be spurred by another motive: it dislikes such long-term authorizations as those covering the urban renewal and public housing programs, simply because they take some control out of the Committee's hands. To regain a measure of control, the Committee admonished the agencies to do more checking on their big programs, but did not allow them to hire the new employees needed to do such checking.

When the Committee turned its attention to public buildings construction funds, it took a stand that might delight C. Northcote Parkinson: "As space in newly constructed, government-owned buildings becomes available, the amount of leased space should decline rather than increase."

Regardless of what should happen, the Committee and the General Services Administration know that the amount of leased space has been increasing. (This explains, among other things, the extraordinary longevity of the "tempos" in Washington, D.C., where most of the leasing takes place.) And the real reason behind the mounting costs of governmental space can be explained quite simply: though no one likes to say so, government is growing at a rate faster than the public buildings program can accommodate.

The Committee appropriated $175 million for new public buildings (including the $36 million Federal Office Building No. 5 in the Southwest Redevelopment area in Washington, D.C.). It also expressly told GSA Administrator Bernard L. Boutin that it would expect him "to restrict the tendency of agencies to expand to larger, more expensive quarters."

IGOR BAKHT

BUILDINGS OK'D FOR N.Y. STATE UNIVERSITY

The handsome building shown above (a new wing for the College of Home Economics at Cornell University, Ithaca, N.Y., by Architect Ulrich Franzen) was only one of 20 designs approved last month in a special meeting of the trustees of New York State University. Others include projects by Ballard, Todd & Associates, Skidmore, Owings & Merrill, Edward Barnes, I. M. Pei, and Fordyce & Hamby.

The trustees also took these other steps toward implementing State University's ambitious $1 billion expansion program (*News*, Sept. '63): 1) approved the in-depth studies followed by the Construction Fund and 22 architectural firms picked to design University facilities across the State (e.g., the procedure includes a study of the academic program and character of the individual school); 2) expressed confidence that the architects would meet the objectives set out in the 1970 Master Plan; and 3) looked at a dozen campus plans along with some ten models of proposed individual buildings. A spokesman for the group summed up the meeting: "Everything we reviewed," he said happily, "meets the needs of its campus." Next step: designs must be approved by the faculties of the campuses for which they are intended.

The designs and the procedures employed here reflect Governor Rockefeller's intention to get good public architecture in this field for New York State. At his request, private architectural firms were selected for their ability, and are being used in place of the office of the State Architect. This program is in sharp contrast to the Governor's efforts in the area of stock school plans (see *Editorial*, page 75).

BOSTON PUBLIC LIBRARY NAMES JOHNSON TO DESIGN NEW WING

After several months of deliberation, the Trustees of the Boston Public Library's main branch on Copley Square (below) have picked the architect to design a much-needed new wing. Their choice: Philip C. Johnson Associates.

The original library was designed by McKim, Mead & White in 1887, and it is considered an architectural landmark of national importance. To do it justice, the Trustees set up a blue-ribbon advisory panel to suggest names, winnowed out five architects for further interviews before finally picking Johnson. The total cost of the addition may run as high as $10 million. The new wing is scheduled for completion sometime in 1968.

BREWSTER SAYS YALE IS STILL A CLIENT

"I have no grand design," said former Yale Provost Kingman Brewster Jr. last month after his election as University President, "except the grand inheritance as Whitney Griswold left it." Thus, he began to answer one of the important questions which arose following Griswold's death last April: what would happen to Yale's imaginative—and successful—building program (FORUM, June '63). Elaborating, Brewster indicated that he endorsed what has been done under Griswold, and would continue the program, trying to use present buildings as a guide, while giving new buildings his own interpretation. (For the University's most recent additions, see the three new structures shown on pages 30-31).

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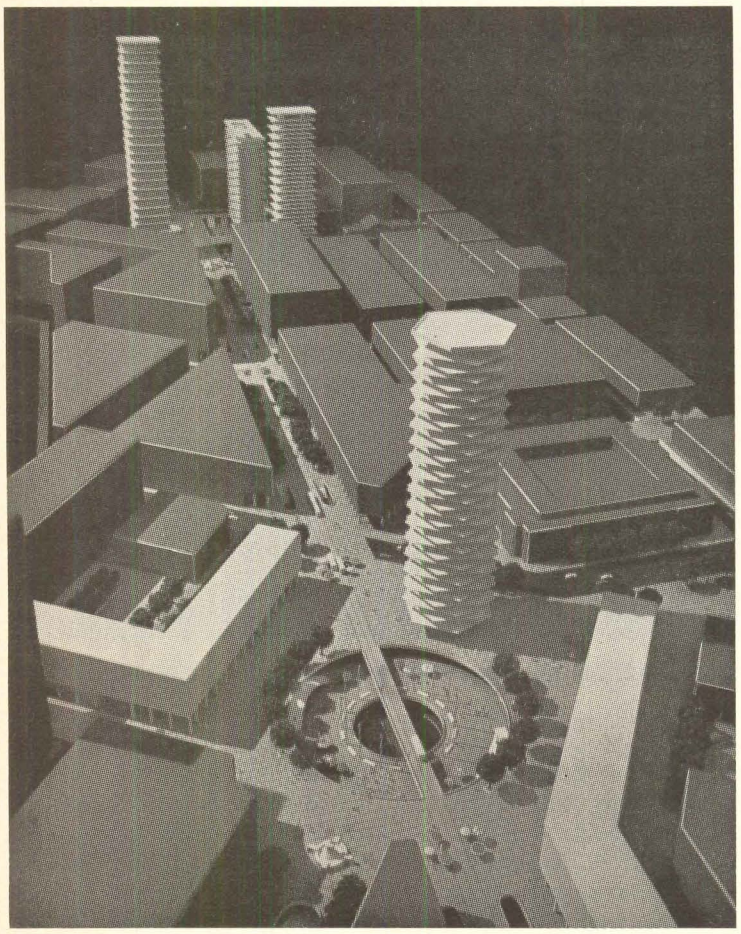


S.F. UNVEILS A BOLD NEW DOWNTOWN PLAN

That most self-conscious of American cities, San Francisco, recently took another look at its decaying downtown. Its newest plan, which hopefully sets official guide lines for future action, not only sharpens the area's established districts, but also breaks with tradition by turning over several major downtown streets to pedestrians—including Market Street.

Authors of this unconventional plan are the Downtown Committee of the City Planning Commission and Architectural Consultant Mario J. Ciampi. They put their problem this way: "The key to the future of San Francisco lies in providing and increasing convenience . . . of arrangements within the area and . . . convenience of access from without."

Not surprisingly, emphasis falls most heavily on the projected Bay Area rapid transit system to bring people downtown without their cars. Also stressed: the expansion of local rail and bus lines, the extension and modification of freeways, and changes in downtown street patterns. Given convenience of access and movement, the planners feel that people will want to come downtown to shop, to work, or simply to walk about.

Such existing downtown components as the financial, civic center, retail, and entertainment districts, the authors say, should be made more compact and active. Among the recommendations to accomplish these goals are the creation of new zoning regulations, of four new redevelopment areas, of two conservation areas, and, perhaps most importantly, of an imaginative architectural redefinition of the districts.

Architect Ciampi was much concerned with restoring a human scale to downtown San Francisco, drew up a series of designs intended only, he says, "to influence the decisions of future developers in key areas" (see example of Fulton Circle area, above). Well documented with facts and statistics, the over-all plan is based on studies of the downtown economy. Nonetheless, it only suggests future changes, saying that if the plan "provokes thought and stimulates action at all levels of public and private responsibility, it will serve its major purpose."

An indication of one sort of possible action came last month when San Francisco's Streets Committee squared off against its old antagonist, the State Division of Highways. The Committee announced it would hold hearings on the planners' "pretty good idea" to extend the Central Freeway by tunnel to O'Farrell and Ellis Streets. But the Highways Division was not enthusiastic: "We aren't interested in piecemeal construction," a spokesman said. "We need a freeway network." Comment on the plan from redevelopment and citizens' groups has also been guarded.

N.Y. FAIR DIRECTORS HEAR OF ROSY FUTURE

Against a background of feverish construction activity in Flushing Meadows Park, the camera focuses on TV Commentator Lowell Thomas and New York World's Fair President Robert Moses. "In what way," asks Thomas earnestly, "does this Fair differ from previous expositions?" Moses does not hesitate: "This one will be bigger."

From the two men, the camera shifts to the sky, then pans the scene below with empyrean perspective. Yes, the Fair is big—all 646 acres of it.

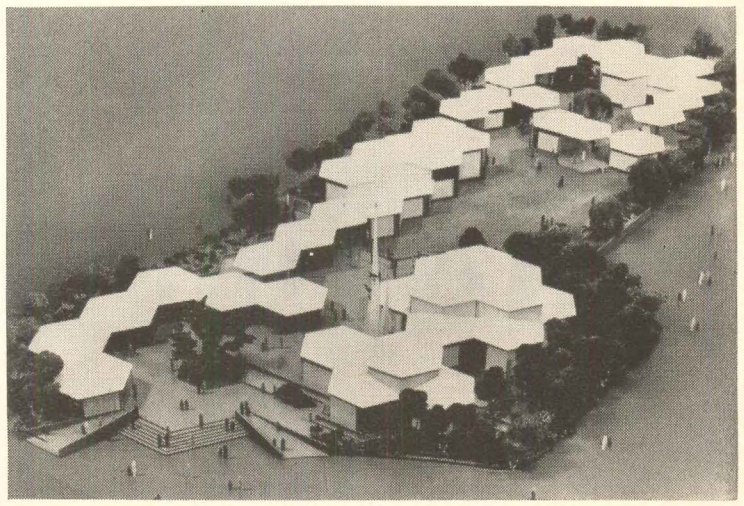
The film was one of the feature presentations of a recent World's Fair Corp. board of directors' meeting. Some factual matters, too, intermittently enlivened the proceedings. Among them:

▶ Fair finances are in good shape. At least 1 million advance tickets have been sold, and concessionaires and licensees have brought in much more money than predicted. Result: the Fair does not have to sell any more of its bonds (some $30 million of the $35 million now authorized have been spoken for).

▶ Rentals of space have been formally closed to insure that all pavilions will be completed by opening date. Both the Transportation and the Lakefront–Amusement areas are completely sold out—as is exhibition space in New York City's barely started Hall of Science. The Industrial section, where the greatest rental hopes were placed, will boast some 35 pavilions—along with more pleasant landscaping than was originally contemplated. Twenty-five of the 50 states (including a new entity called Hollywood–California) join the federal government and New York City in the States area. Among the recent arrivals: a joint pavilion of the six New England States (see model photo below).

▶ In the International area, a total of 50 foreign nations (or their commercial proxies) finally

N. England pavilion by Campbell & Aldrich, Exhibition Services Int'l.

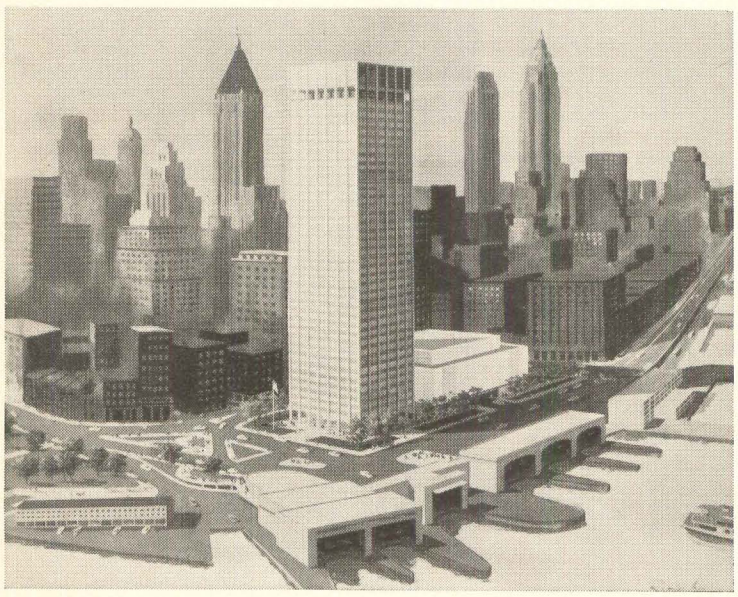


have decided to join the Fair, including such new exhibitors as West Berlin. Among those missing for good are Great Britain, Italy, the British Commonwealth countries, the Communist bloc.

▶ Construction of most buildings stays close to schedule. The arterial program is reported 85 per cent complete (though some befuddled, rerouted motorists might not agree). Shiny new blue subway cars have already been added to bring visitors to the Fair.

Some observers, however, noted that everything was not as euphoric as it might appear. Overall construction costs at the Fair, the U.S. Department of Commerce recently pointed out, "are rising rapidly . . . fast approaching $40 per square foot." This might account for the fact that the Federal Pavilion, for one, has already exceeded its original $6.1 million construction budget, and is using funds earmarked for exhibits inside. Laconically, Commerce also reported that by 1964 World's Fair construction put in place would amount to $700 million, "more than the $625 million spent in 1962 for educational buildings in the United States." And Critic Martin Mayer in *Esquire* asked why such a sum (almost $1 billion, counting new roads and operating expenses) has been poured into a Fair with little more significance than a big commercial show.

Fair Boss Moses, however, neatly squelched all such thoughts as he capped the director's meeting with this curt speech: "We are not jittery. There is no time for merely captious criticism. The critics build nothing. We shall open on April 22." The audience of city officials, dignitaries, public-relations men, and their guests enthusiastically applauded in agreement.



STOCK EXCHANGE SPARKS RENEWAL DISPUTE

One of New York City's hottest controversies these days concerns where to put the new Stock Exchange. Last month, at a special meeting of the City Planning Commission, considerable opposition arose to placing it near Battery Park on the 240,000-square-foot tract favored by some city agencies and by the New York Stock Exchange itself.

The opposition came principally from a representative of Developer Sol G. Atlas, who owns almost half of the land slated for the new building, and from Realtor John A. Ward, who protested against the size and scale of the structure proposed for the site and designed by Architects O'Connor & Kilham.

Lawyer John P. McGrath stated the case for Developer Atlas: The site was going to be no bargain, said he. Reason: Atlas, and Investors Funding Corp. hold most of the land. Since the "Stock Exchange is a private business activity and not a public purpose justifying condemnation," obtaining the land will be costly, difficult, and may involve lengthy litigation. Court decisions have so far upheld the city's rights of condemnation, since the area has been earmarked for urban renewal.

McGrath suggested three alternate plans to save trouble and expense: 1) the city, the Exchange, and the developers might join as co-sponsors of the renewal area; 2) the project might be carried out not through urban-renewal procedures, but privately (with the city co-operating); 3) the Sol Atlas site might be excluded from the renewal tract. All three proposals postulated the construction of an Emery Roth & Sons–designed 40-story office tower which McGrath described as a "Gibraltar-like monument . . . symbolizing the leading financial center of the nation" (rendering, left). Its owner, of course, would be Sol G. Atlas.

After the hearing, Housing and Redevelopment Board Chairman Milton Mollen had this to say about McGrath's (and another land owner's) proposals: they are, he snapped, "really only part of an attempt to put a group of opportunistic speculators in a position to twist the arms of the prospective developer and the city."

If the proposed Stock Exchange building is constructed, however, it will be an architectural disservice to New York, according to Realtor Ward. Acting in his self-styled role as "a friend of the city," Ward characterized the building as "a short, squat affair forming a roof over Broad Street for a distance of almost two blocks [which would] lacerate and mutilate one of the city's most highly prized thoroughfares."

Besides, Ward argued that the indicated purchase price of $12 million, or about $50 per square foot, was too low. A more realistic price would be around $70 or $80 per square foot, he reckoned, and the air rights could be leased to the Exchange for no less than $350,000 a year.

QUOTE . . . UNQUOTE

"Detroit . . . knew that to sell great numbers of automobiles they'd have to be built in the American idiom, with room for six passengers. . . . In spite of the carpings of a minority . . . the great majority of Americans likes the wide-wide, long-long look, the soft ride."—*Automobile expert Ralph Stein.*

"By bringing man and motorcar into conflict we have dissatisfied both, for we have broken up the scale of life together with the scale of architecture."—*Greek City Planner Constantinos A. Doxiadis.*

"When someone asks why our country is ugly, the only response is not an answer but startled awareness, 'It *is* ugly, isn't it?' "—*Archtitect Richard W. Snibbe.*

"A new product serves no useful economic purpose—in fact, I think it betrays the free enterprise system—unless it fills some consumer need."—*H. J. Heinz Co. Vice President L. A. Collier.*

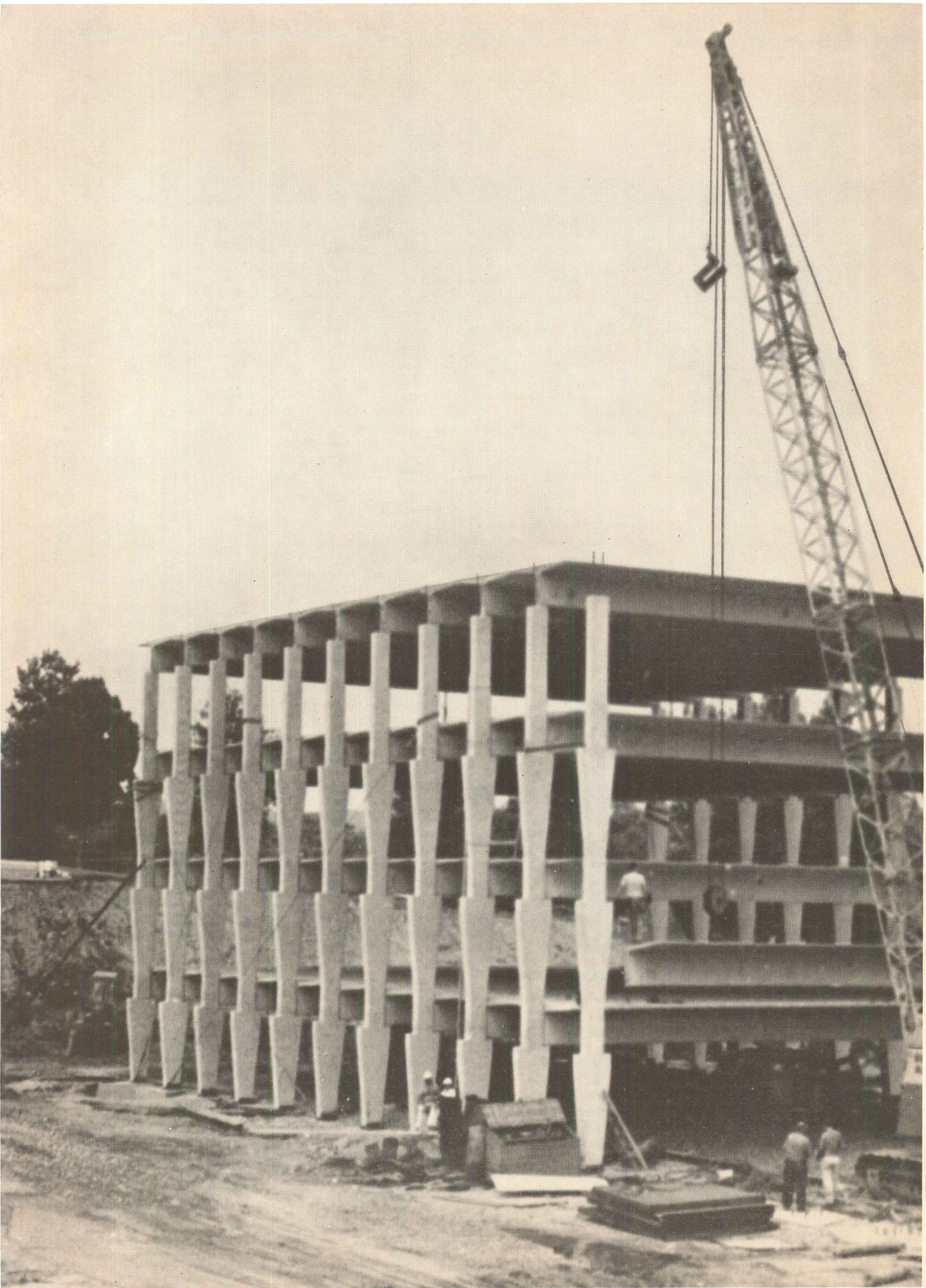
"This is the century of technology; the artist is only a luxury member of society. . . . Which so-called civilized nation today honestly promotes creative art as a basic requirement of life?"—*Architect Walter Gropius.*

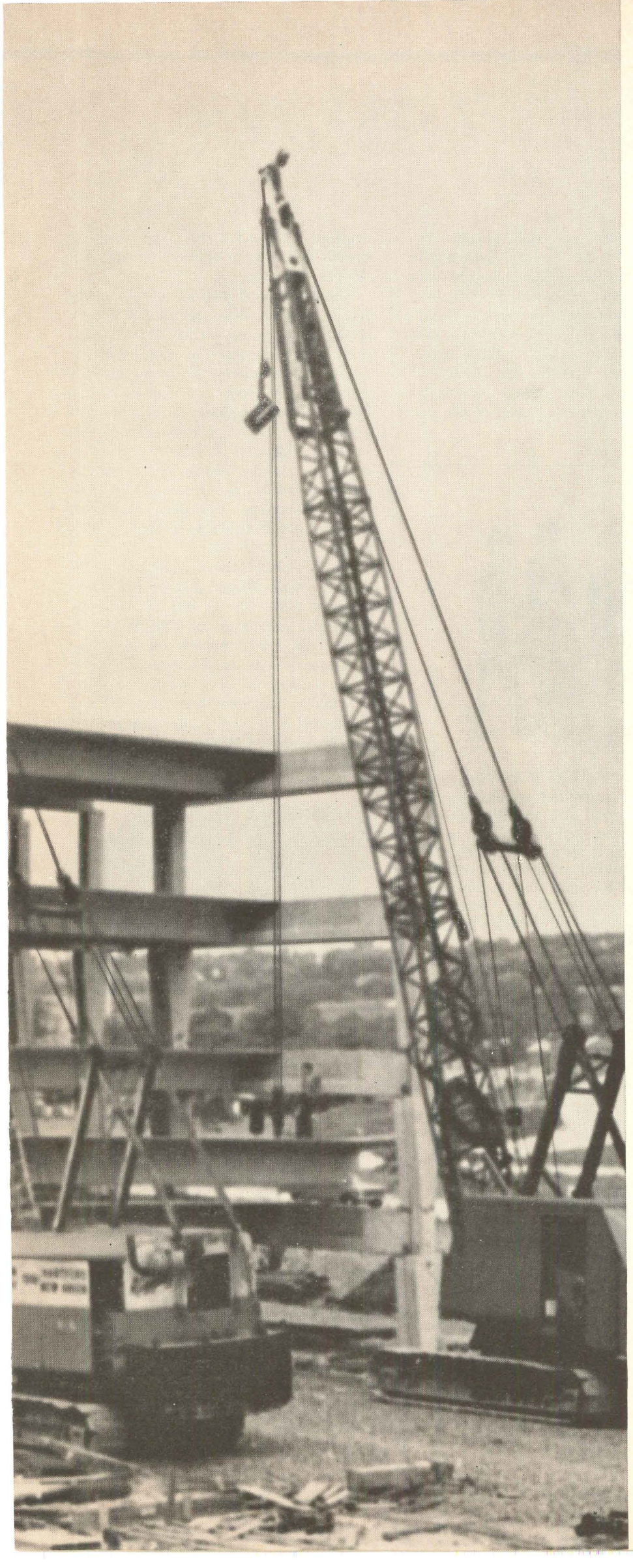
"There is nothing so cheap as good taste; and when architects discover that good effects may be produced by a good style, without costly ornament, the taste for them will spread."—*The London Times, September 16, 1863.*

"Colleges and universities have become one of the nation's major growth industries."—*URA Commissioner William L. Slayton.*

"Mediocrity is always the outcome of any kind of human enterprise, whether in psychiatry, in painting, or architecture. . . . I think we are born to be mediocre. Mediocrity is an aspect of the nature of man and so is . . . his fortunate ability to not see ugliness when he does not care to."—*Psychiatrist Dr. Rudolph Kieve.*

continued on page 14





The country's largest clear-span prestressed single-tee parking garage . . . 2,200-car capacity. Column-free, prestressed garages aren't outdated by automobile size changes—merely repaint the lines.

Owner: B. Altman & Co., White Plains, New York. General contractor: Turner Construction Company, New York City. Prestressed members fabricated by Blakeslee Prestress, a Division of C. W. Blakeslee & Sons, Inc., New Haven, Conn.

Parking garage capacity 20% greater with prestressed concrete slabs

The pretensioned single-tee slabs in the new B. Altman & Co. parking garage eliminated interior columns, except those required to support the ramp, and provided a clear span of 62′ for more usable floor space. As a result, 20% more cars can be parked in the same area.

Here's how it worked. The single-tee slabs, each 9′0″ wide and 36″ deep, were fabricated at the Blakeslee Prestress plant at New Haven, Conn., and trucked to the job site. Erection by two cranes was at the rate of 5,000 sq. ft. per day. This speed of erection is of great financial importance to owners. The contract was signed on July 1 and the first two bays were ready to produce income by October 11.

Prestressed Concrete Advantages—Longer clear spans are obtained through efficient use of concrete and high-tensile wire. The resultant structure is fireproof and maintenance costs are low. Erection and occupancy are completed in less time. Low dead weight, obtained by prestressing, is another great advantage of this type of concrete construction.

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People in the News

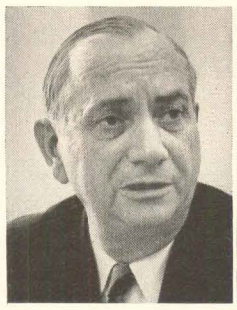
LAST STRAW FOR WILLIS—OR IS IT?

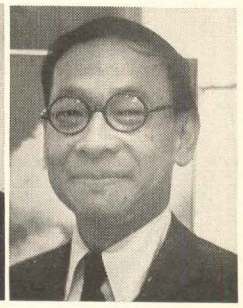
After ten years as Chicago's Superintendent of Schools, BENJAMIN C. WILLIS last month submitted his resignation to the Board of Education—which promptly refused to accept it. The Board, like nearly every parent in Chicago, recognized that if any one man could take the credit for the city's great progress in meeting its school problems, it would be the forceful, touchy Willis.

For example, faced with chronic overcrowding in 1953 (even with students coming in two shifts), Willis embarked on a highly successful expansion program, substituting private architects for the Board's own staff (and getting some excellent schools at low cost in the process). While enrollment increased over the last decade by 170,000, Chicago built 162 new school buildings, 100 additions to existing schools, and acquired 216 school sites. This year, the double shift was abandoned for the first time in 100 years.

Also this year, Willis ran into some outspoken criticism. Many people felt that he should not have accepted a $32,000 part-time job to direct a survey of Massachusetts schools; others believed that he was abetting segregation of Negroes by upholding the long-established tradition of neighborhood schools. The last straw came when Willis refused to allow top students to transfer to five of the 14 city schools that the Board had recommended as more suitable for advanced instruction. And when the Board reinstated two of these schools, Willis did not accept them on his list.

Parents took the case to court, and a subsequent ruling ordered him to allow the transfers. Willis felt the order violated his "principles and sense of professional integrity" (i.e., his accustomed autonomy was threatened)—and resigned. Soon after, the Board reversed its stand and fell into line with Willis, but even this action did not convince him to come back to his $48,500 post. Meanwhile, Chicago was left wondering whether he would reconsider, and, if not, who could replace him.





THE BRADENTON HERALD

Willis *Pei*

SARASOTA'S NEW COLLEGE PICKS PEI

Led by energetic PHILIP H. HISS—who headed the vastly successful, design-oriented Sarasota School Board (FORUM, Feb. '59)—officials of the New College in Sarasota, Fla. searched for a year to find the proper architect to design their $15 million campus. A long list of distinguished names was narrowed down to nine. A few weeks ago, the selection committee announced its choice: IEOH MING PEI.

Pei will start immediately on the design of the 115-acre campus adjoining the Ringling Museum. One possibility presented by the site is an artful use of the Sarasota Bay waterfront. But, says Pei, his first problem will be to "create an environment for learning"—an aspect of New College which its officers emphasize.

Meanwhile, the New York Chapter of the AIA also had its eye on Pei. Later this month, he will be presented with the Chap-

ter's highest award, the Medal of Honor. Said Chapter President GEOFFRY N. LAWFORD: "Pei's work is distinguished by an ordered simplicity, imaginative but unmannered; by a mastery of site planning, and by a deep interest and great accomplishment in the field of housing." Pei follows EERO SAARINEN (1962) and GORDON BUNSHAFT (1961) in receiving the medal.

INDUSTRY AWARD FOR P. I. PRENTICE

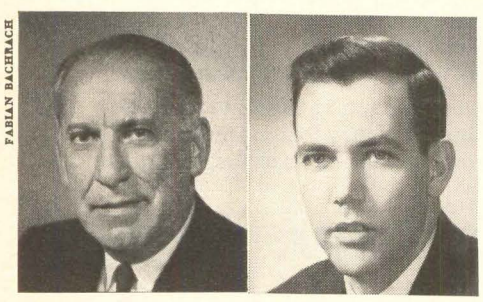
The Fourth Annual F. Stuart Fitzpatrick Memorial Award, given for "outstanding individual achievement in the unification of the building industry," goes this year to Time Inc. Vice President PERRY I. PRENTICE. An industry-wide honor, it is sponsored by the AIA, Producers' Council, Building Research Institute, Associated General Contractors, and National Association of Home Builders. Prentice was cited for his efforts in bringing together the industry's diversified segments at numerous round-table discussions designed to thrash out the differences.

TWO NEW PRESIDENTS

A veteran housing expert, IRA S. ROBBINS, was elected President of the National Association of Housing and Redevelopment Officials at the NAHRO meeting last month (see page 5). To this post, Robbins brings experience as former Chairman of the National Housing Conference, service on a plethora of New York State housing committees, and as Executive Director of the Citizen's Housing and Planning Council.

At the annual meeting of the Mortgage Bankers Association of America in Chicago, also last month, CAREY WINSTON of Washington, D.C. was elected president. A figure long familiar to the building industry, Winston has served in many related organizations, including the National Institute of Real Estate Management (as president) and the National Association of Real Estate Boards (as vice president).

FABIAN BACHRACH



Robbins *Roach*

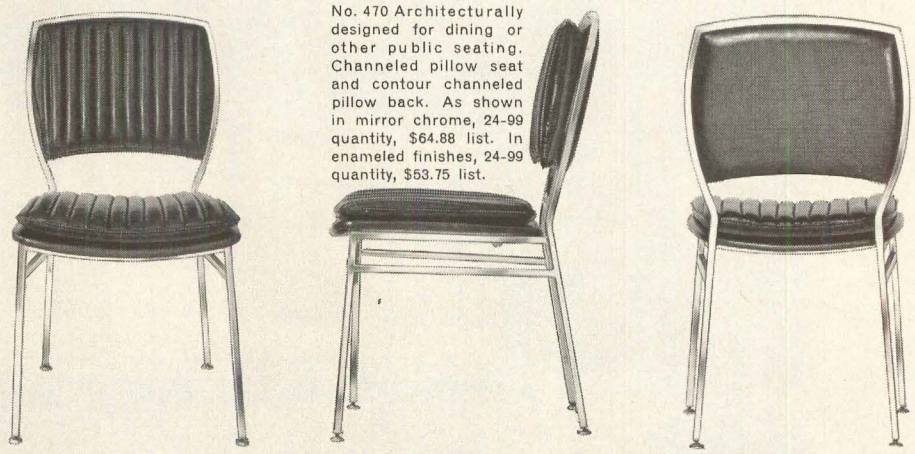
N.J. PLANNER ATTACKS HIGHWAY ACT

A seemingly innocuous provision in the Highway Act of 1956 deeply disturbs Somerset County, N.J. Planning Director WILLIAM E. ROACH. The law prohibits any food or gasoline facilities on Interstate Highways.

From a design point of view, this might be a blessing. But, says Roach, it also brings up a lot of problems. To obtain food and gas the motorist will have to leave the interstate highway. This will not only inconvenience him and augment the traffic volume on already overburdened state, county, and local roads; it will also create pressure on communities to zone interchange areas for service facilities. And this last, in turn, will not benefit such communities as Somerset as much as, say, zoning for light industry.

To date, Roach and others have had little success in convincing Congress to change the law. While Congress watches and waits, gas companies build stations off the highways, thus assuring stiff industry opposition to a later amendment in the law, and creating unnecessary zoning problems for local communities.

continued on page 30



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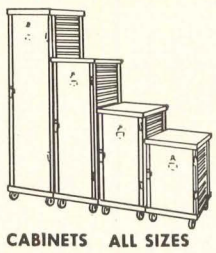
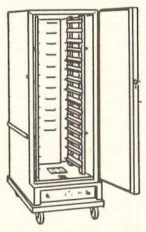
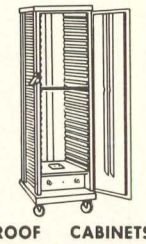


CABINETS ALL SIZES

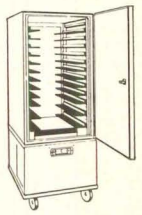


CABINETS HOT-COLD

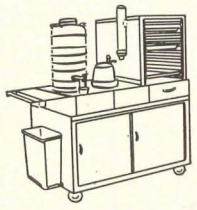
RACKS ALL SIZES



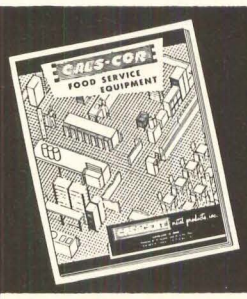
PROOF CABINETS



MOBILE REFRIGERATORS



FOOD CONVEYORS



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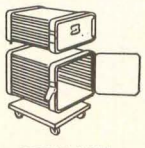
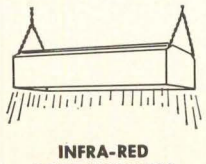


HAND LIFT CABINETS AND DOLLY



INFRA-RED FOOD WARMERS

PROPANE HEATED CABINETS

STEAM TABLE PAN CARRIERS

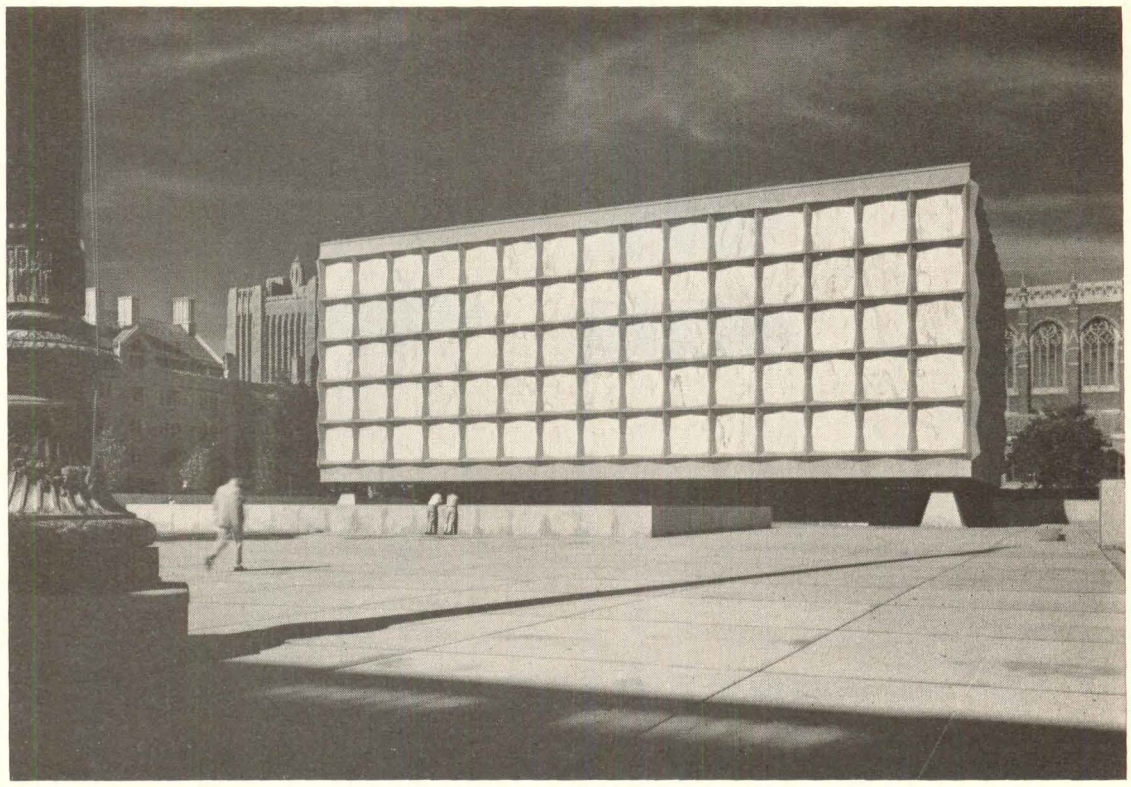
SOM, RUDOLPH, AND JOHNSON AT YALE

The phenomenally productive era of Yale's late president, A. Whitney Griswold, whose 13 year term brought 26 new buildings to the campus, has come to a close this fall with the dedication of the three notable structures shown here, the last buildings to be commissioned during his administration. Characteristically of the Griswold years, all three were designed by world-famous architects and at least two of them seem bound to generate controversy.

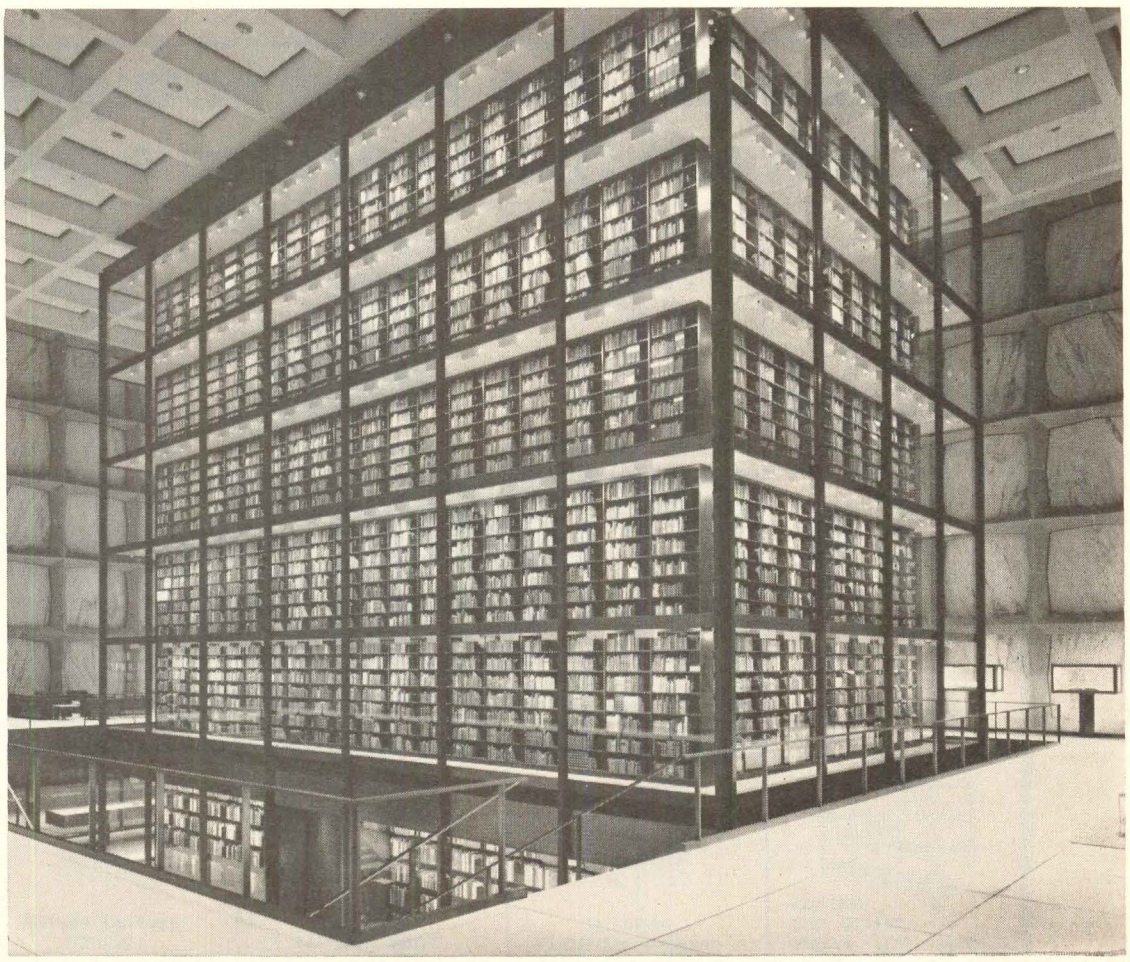
The Beinecke Rare Book and Manuscript Library (right), designed by Skidmore, Owings & Merrill, is a white, grid-patterned box raised off the ground by tapered piers at the four corners. Each of the walls is one enormous truss composed of welded steel crosses covered with Granite outside and infilled with panels of white marble. Most of the box is empty (see photograph at lower right), providing a monumental interior space through which rise six stories of freestanding stacks, glassed in and atmospherically controlled to preserve some 250,000 volumes (an additional 550,000 volumes can be stored underground). Reading rooms and other research facilities are located in the basement, and look out on a sunken sculpture court designed by Isamu Noguchi.

In sharp contrast to SOM's library is Paul Rudolph's ruggedly restless Art and Architecture Building (opposite page, left), located right across the street from Louis I. Kahn's Yale University Art Gallery. Made out of reinforced concrete, the building has some 36 different levels and was put together with all the interlocking complexity of a Chinese puzzle. Walls, inside and out, were cast in specially ribbed forms and then hand bush-hammered to bring out the texture.

The massive, fortress-like Kline Geology Laboratory (opposite page, right) was designed by Philip Johnson as the first of four buildings which will form the University's new Kline Science Center (others will house chemistry, biological sciences, and an auditorium for the sciences; estimated total cost: $13 million. The structure is of reinforced concrete with exteriors of plum-colored glazed brick and sandstone.

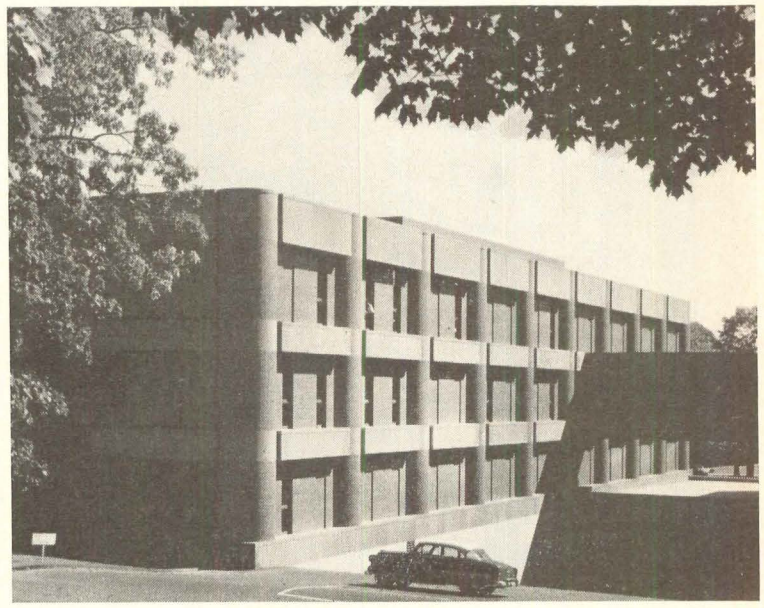


Beinecke Rare Book and Manuscript Library
Architects: Skidmore, Owings & Merrill (Gordon Bunshaft, partner in charge of design)
Engineers: Paul Weidlinger (structural), Jaros, Baum & Bolles (mechanical)
General contractor: George A. Fuller Co.
Cost: $6 million (estimated)



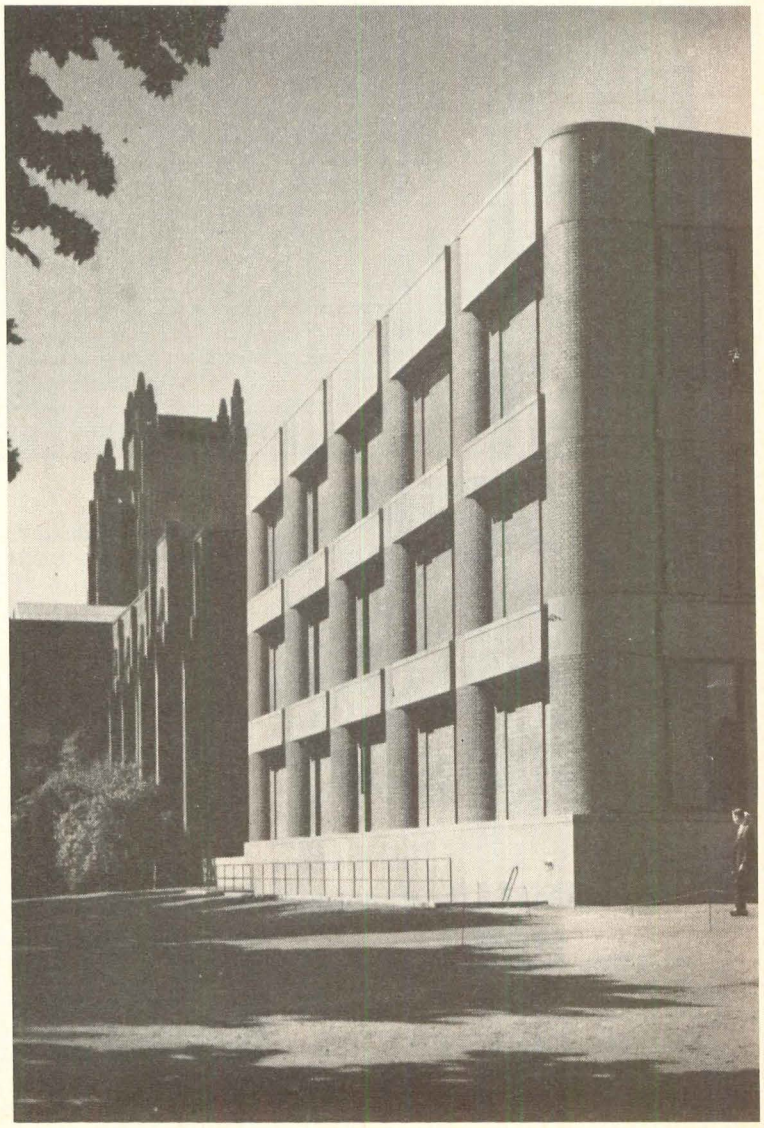
PHOTOS: © EZRA STOLLER ASSOCS.

Art and Architecture Building. Architect: Paul Rudolph
Engineers: Henry A. Pfisterer (structural)
van Zelm, Heywood & Shadford (mechanical)
General contractor: George B. H. Macomber Co.
Cost: $4 million



Kline Geology Laboratory. Architect: Philip Johnson
Engineers: Lev Zetlin (structural)
Jaros, Baum & Bolles (mechanical)
General contractor: The E & F Co.
Cost: $3.5 million

CUNNINGHAM-WERDNIGG



TRANSPORTATION AND THE CITY

Forum: I have just read with surprise and delight the marvelous presentation in the October FORUM of the potentials for highways as key elements in the design of American cities. At a time when the freeway is much maligned, and at a time when the mistakes of the past are all too evident, FORUM's bringing together such a rich and stimulating package of ideas adds to its stature as a positive influence in America's growth.

The essential message which comes through so clearly in "Transportation and the City" is that the highway and all of its contributing features can, in the sensitive hands of creative men, become a guiding instrument rather than a blighting influence leading, as some are all too prone to claim, to the destruction of cities.

I salute FORUM for what I believe will go down in the records as one of the most stimulating articles in the history of architectural journalism. Our continuing effort in Detroit to make the highway a positive and exciting feature of the city will be much strengthened by the many suggestions provided.

CHARLES A. BLESSING
Detroit *Director of City Planning*

Forum: A very well presented and thought-provoking treatment. The questions raised inject a welcome note of skepticism about the current "transportation boom."

Deliberately, perhaps, the question of planning to minimize need for elaborate local transportation movements was avoided rather than overlooked. Yet it is a critical question, in the face of sharply increasing urban populations, whether present trends in circulation patterns can be long sustained —and whether an effort to sustain them should be made.

Most significant is the recognition that "transportation is a tool, not an end in itself," as so many of us involved in transportation are apt to forget in our zeal to accomplish something.

It is essential that we heed the concisely stated parameters at the end of your timely presentation.

Washington, D.C. JOHN C. KOHL
Ass't. Administrator, Transportation Housing and Home Finance Agency

Forum: A very comprehensive report on a complex subject. We were especially pleased with the description of rail rapid transit projects for Atlanta and San Francisco. However, we are considerably embarrassed because of the failure to mention that the Bechtel Corp. and Tudor Engineering Co. have formed a joint venture with us as general engineering consultants to the San Francisco Bay Area Rapid Transit District, to design and supervise construction of the

75-mile transit system.

We also do not know the source of the following sentence: "The comparisons are revealing: a freeway system with the same peak-load capacity as transit would cost more than five times as much to build ($5.5 billion), eat up four times more land (1,360 acres vs. 325 for transit) and have double the annual operating and maintenance costs of the transit system."

In the District's report, it was stated merely that if rapid transit for the region was not developed, an additional 40 lanes of freeway—beyond those already planned—would be required to handle the expected volume of peak hour traffic by 1975.

New York City WALTER S. DOUGLAS
Parsons, Brinckerhoff, Quade & Douglas

■ FORUM *regrets omitting the names of the Bechtel and Tudor firms. Figures quoted were from* Railway Age, *which in turn was using figures released by the Transit District*—ED.

Forum: Congratulations on your wonderfully "biased" feature "Transportation and the City." It is without question the most comprehensive and objective treatment of this subject I have seen in a long time.

Those of us who are deeply involved with the technological aspects of transportation often lose sight of the extremely important planning function. Planners have the same problem. You bring out clearly the need for close coordination between all interested individuals, groups, and agencies.

Through our Mass Transit Center, we have attempted to bring these varied, interested groups together for better understanding of each others problems and progress. Your editors have certainly given us a big assist.

GENE R. SCHAEFER, *Director*
WABCO Mass Transit Center
Pittsburgh *Westinghouse Air Brake Co.*

ARCHITECT AND CLIENT

Forum: "What It Takes To Be A Client" (Sept. '63) is pithy, informative and objective. FORUM could perform a valuable service to its architect readers if it would reprint the article for enclosure with the contract forms to the uninitiated client with a sense of humor. (The last is essential.)

There are a few items which might be clarified and revised. The gross cost of consultants' fees is not added to the salaries of the architect's own technical personnel and multiplied by the factor of 2.5. The consultants' total fees are normally reimbursed with a smaller multiplier (usually 1.25) to compensate the architect for his coordinating efforts and over-all responsibility.

Surveys, borings and tests are the owner's primary responsibility. The architect is not being paid for them; he is being *reimbursed* for ordering them for the owner and paying for them directly. It is better practice to have the bills for borings, etc., made out to

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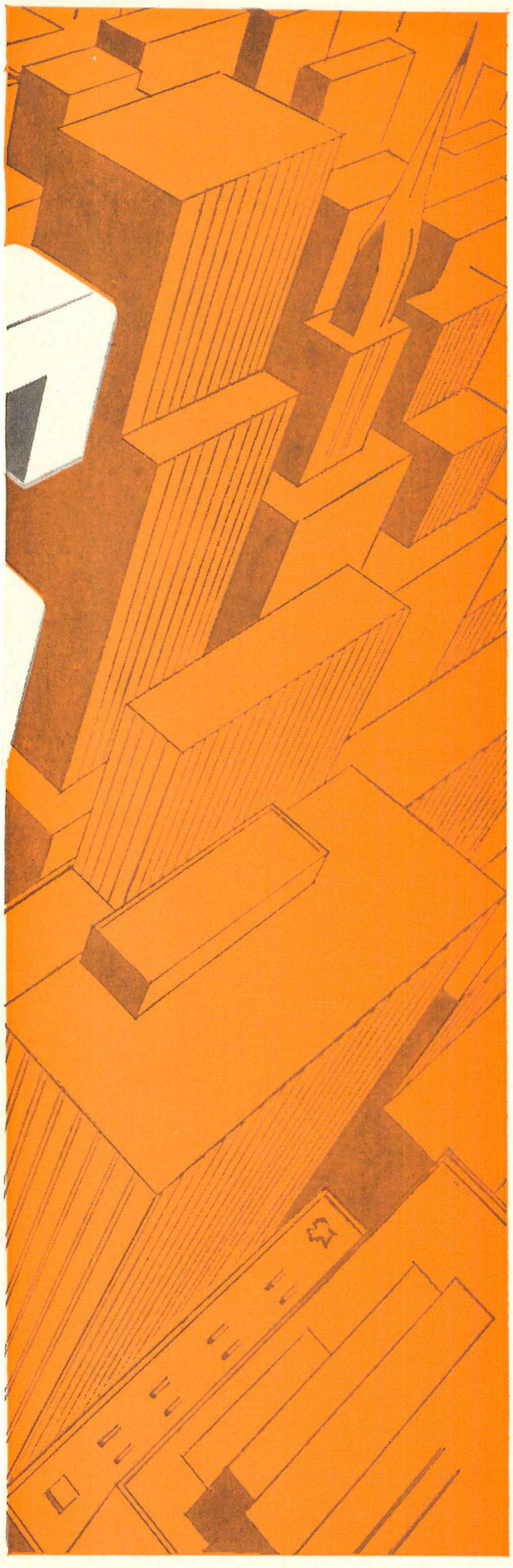
JOINS



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the owner and sent to the architect for his authorization of payment to be made directly by the owner.

It is true that "delay in the progress of the architect's work" is not covered. This is a recognition of the fact that creative time is difficult to control. It is certainly feasible to establish a reasonable time limit for the completion of contract documents starting from the date of the *owner's approval* of design development drawings and the preliminary statement of probable costs.

DANIEL SCHWARTZMAN
New York City — *Architect*

ARCHITECTS AND CRITICS

Forum: Mr. Vincent Scully reveals to us in your July issue ("The Athens Hilton—A Study in Vandalism") that "everywhere" architectural results have gone awry. Therefore, your magazine must have overlooked some very significant structures "somewhere" by Mr. Scully. From these we will be able to learn the way, as his writings would then be given substance by his examples.

ARTHUR K. OLSEN
Salt Lake City, Utah — *Architect*

■ *Though Mr. Scully did build something in his day* (FORUM, *June '51), this is hardly the point; there is no more reason for an architectural critic to practice architecture than there is for a birdwatcher to lay eggs*
—ED.

CHARLES CENTER

Forum: Congratulations on the Mies article (Sept. '63), and on expressing in a very few words and photographs the special character of the One Charles Center building: the marriage of quality and practical economy.

We do, however, take exception to your passing remark that Charles Center's second building, which bridges Fayette Street and joins the Mies plaza, is of "unfortunate design." Come back in the Spring, when this small building and the street below it have been completed. I am certain you will be satisfied with the validity of the strict architectural review process we are employing.

MARTIN MILLSPAUGH
Baltimore — *Charles Center Project*

Forum: An excellent article on Mies van der Rohe, and particularly One Charles Center. This 24-story skyscraper, on which I worked, has certainly spearheaded the drive for an architecturally beautiful downtown Baltimore.

RICHARD P. MANEKIN
Geneva, N.Y. — *Hobart College*

RESEARCH FOR BUILDING

Forum: Bernard Spring's article on "Research for building" is a most creditable piece of accurate reporting. I might have wished his references to the AIA's position could have been more than parenthetical;

we did and still do support the program on the basis of the four points on page 123.

I can't quite agree with the conclusion that somehow or other "more fundamental research is going to be done soon", unless some unexpected development should produce funds for it.

It would be interesting to dig deeper into the research picture. You might find some interesting reasons why there is opposition in some parts of the industry to ideas like those expressed in the BRAB report and by Dr. Holloman, or to any other research efforts which might actually change the course of building technology.

WILLIAM H. SCHEICK
Washington, D.C. *Executive Director*
American Institute of Architects

Forum: In "Research for Building: The Big Battle Rages in Washington" (Sept. '63), you have fairly presented the facts and chronology of events—certainly the best coverage I have yet seen.

Centralizing efforts in an industry of this size, however, is neither practical nor desirable. We need sources of funding for fundamental work, not a place to do it all, or even to coordinate it all, except perhaps in a loose sense. Any group having funds should spend at least 60 to 75 per cent externally. Thus both industry and government groups might have a role, each spending a portion externally and a portion internally.

We have a tremendous shortage of people in this field trained for research and investigation. A centralized function would simply pull the few that exist out of schools and industry. A grant and contact program, however, could materially assist in developing such people.

Washington, D.C. ROBERT M. DILLON
Building Research Advisory Board

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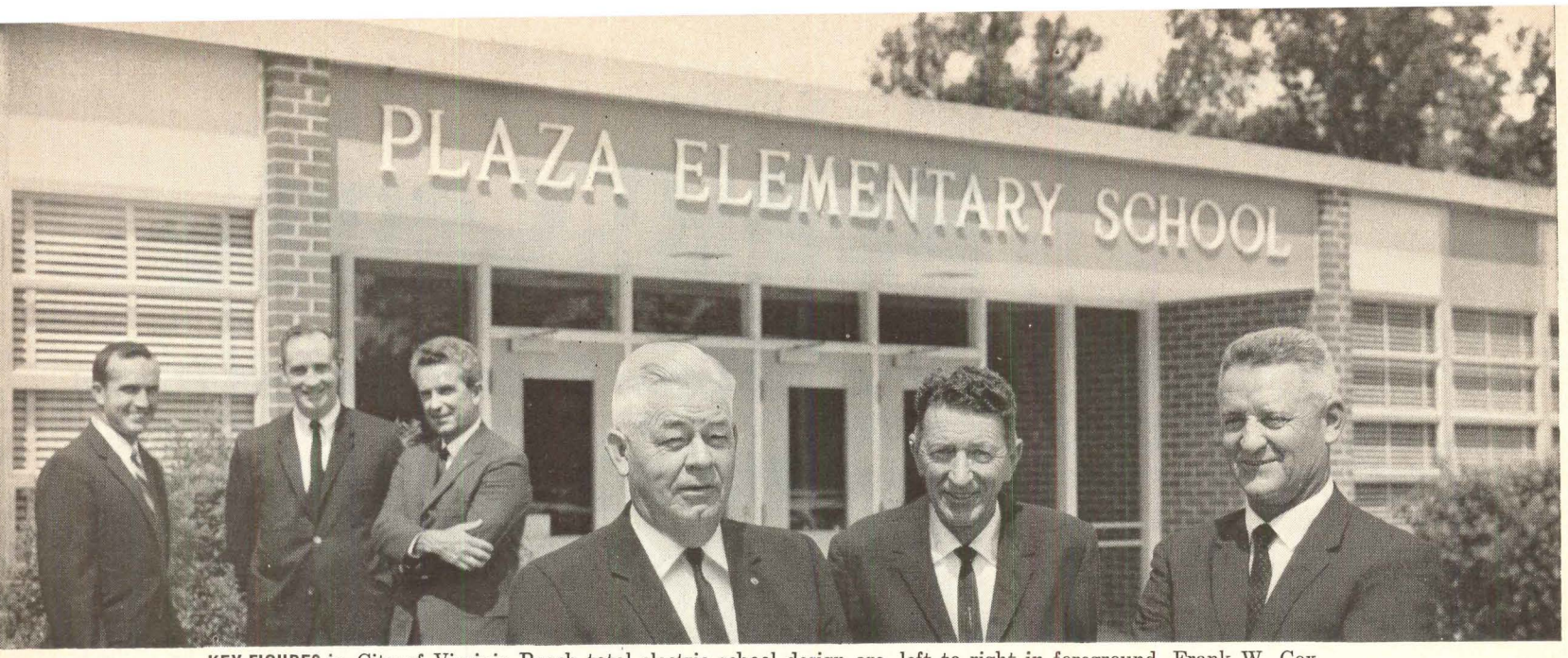
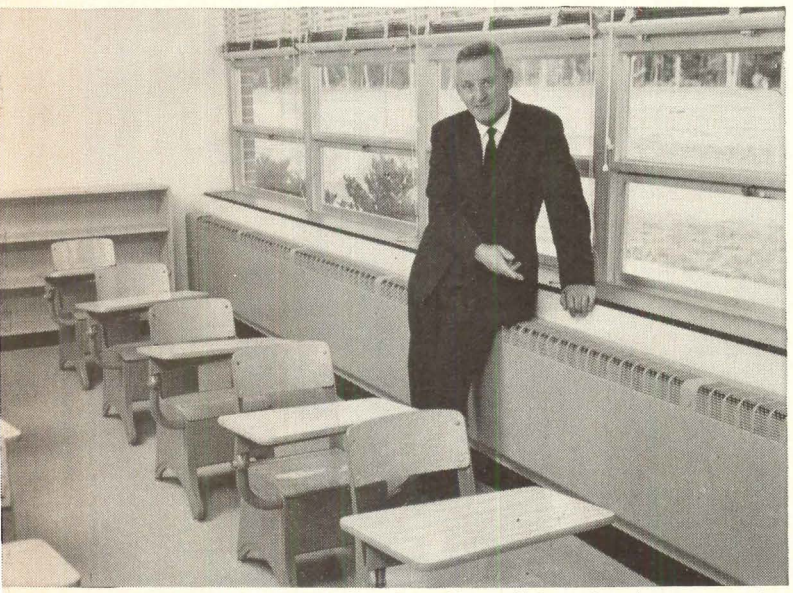
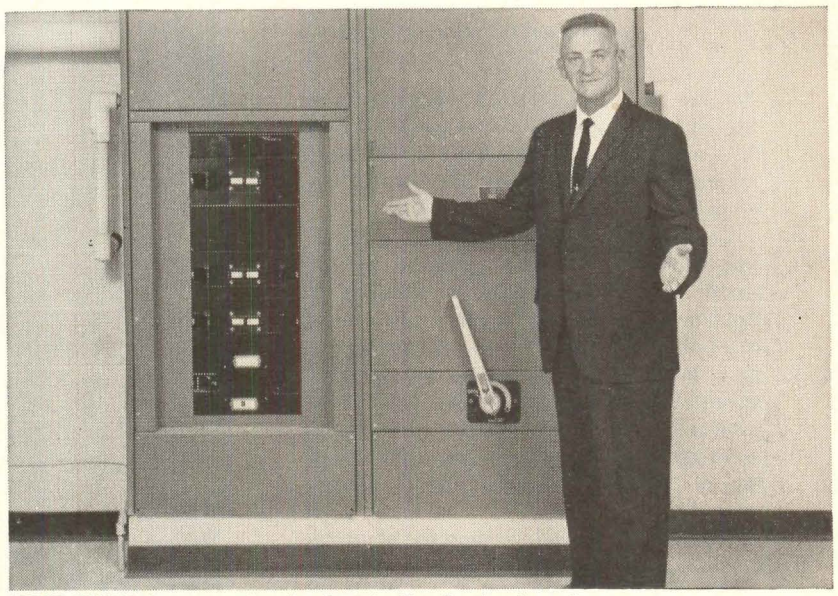


KEY FIGURES in City of Virginia Beach total electric school design are, left to right in foreground, Frank W. Cox, Superintendent of Schools; J. C. Lindsey, Superintendent of Maintenance; Ernest F. Stone, Superintendent of Construction. Trio left to right in background includes B. S. Martin, Virginia Electric & Power Company representative; John S. Waller of Waller & Britt, Architects; Denard L. Gusler, P.E., of Vansant & Gusler, Consulting Engineers.



CLEAN, UNOBTRUSIVE electric radiant sill heat for classrooms wins Supt. Stone's approval both for efficiency and appearance. Simplicity of installation and operation help keep overall costs down.



SPACE-SAVING features of main electric distribution board are emphasized by Supt. Stone. All controls for entire school's total electric design are contained in this single unit.

TOTAL ELECTRIC DESIGN SIMPLIFIES VIRGINIA SCHOOL CONSTRUCTION AND KEEPS COSTS DOWN

Architect and engineer join City of Virginia Beach officials in praising the flexibility and space-saving features of total electric design for schools

According to Frank W. Cox, dynamic City of Virginia Beach Superintendent of Schools, total electric design is saving his community close to $100,000 per high school in initial construction and equipment costs, with proportionate savings on smaller elementary schools.

But the decision to go with total electric design in the City of Virginia Beach school system was not just snap judgment based on economy alone.

After considerable study of comparison figures, Ernest F. Stone, Superintendent of Construction, and J. C. Lindsey, Superintendent of Maintenance, recommended total electric design: electric heat, total electric kitchen operation, electric water heating, and lighting levels designed for specific task performance.

With the assistance of architects Waller & Britt, consulting engineers Vansant & Gusler, other architects and engineers, and Virginia Electric & Power Company, eleven total electric schools have been built in the City of Virginia Beach in the past four years, or are now under construction.

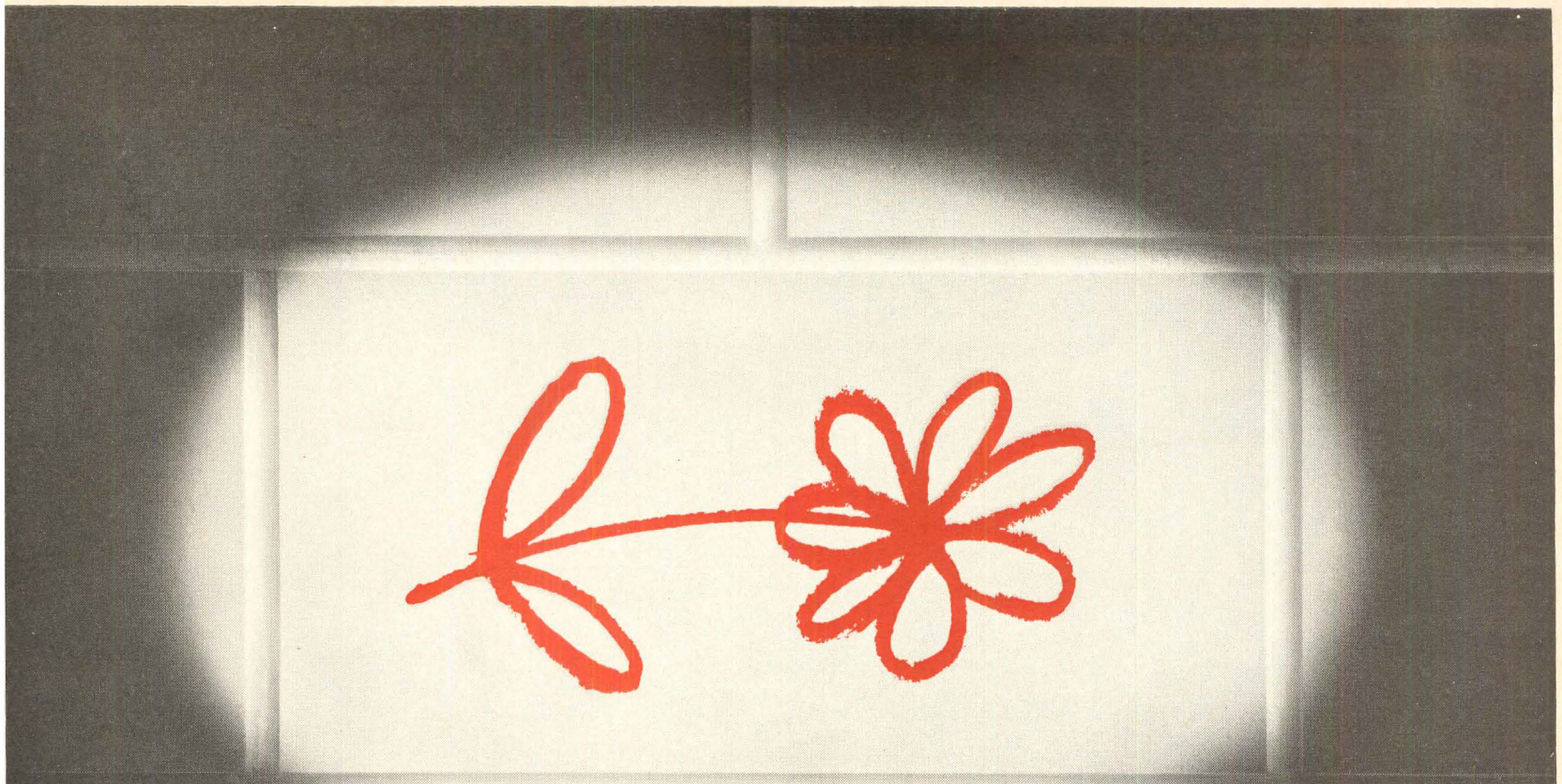
The results have been nothing short of spectacular. In addition to the original $100,000 saving on construction and equipment, maintenance costs have dropped 88% and custodial attention has been reduced to a routine minimum. Thus, the City of Virginia Beach is using total electric design to build better schools for less money.

Facts like these may be meaningful to you, too.

For architects and consulting engineers, total electric design offers the modern method of combining heating, cooling, water heating, and lighting into one efficient operation using a single source of energy. If you are interested in how it can help you with commercial and industrial buildings, contact your local electric utility company. They will welcome the opportunity to work with you.

BUILD BETTER ELECTRICALLY

Edison Electric Institute, 750 Third Avenue, New York 17



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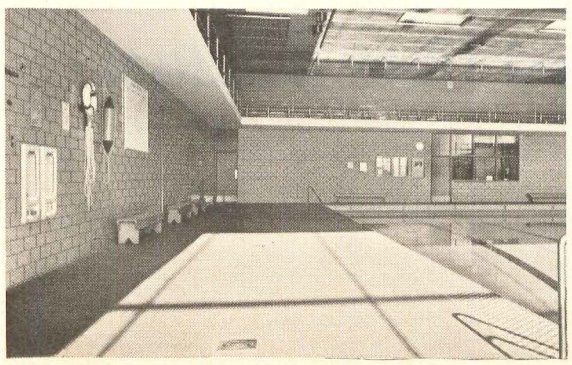
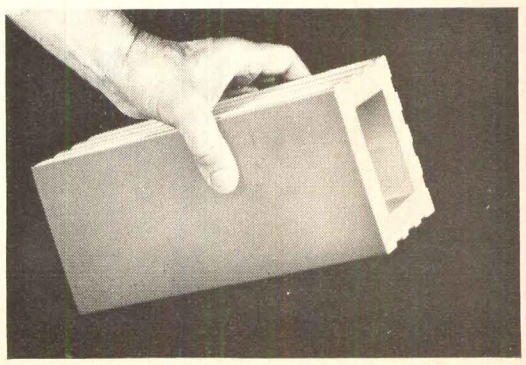
Vitritile was used extensively throughout the modern Abington High School in Philadelphia, Pa. The photos below show the indoor swimming pool (left), and the combination cafeteria-auditorium (right).



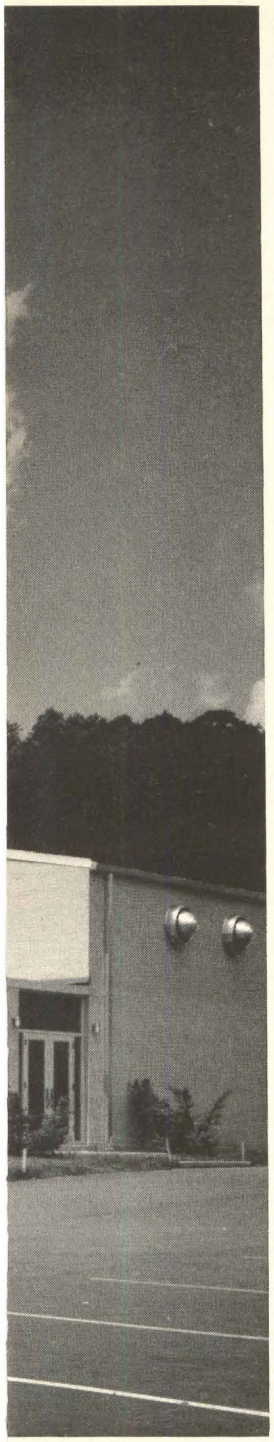
Vitritile comes in three nominal face sizes: 8″ x 16″, 5⅓″ x 12″ and 5⅓″ x 8″, in 2″, 4″, 6″ and 8″ thicknesses.

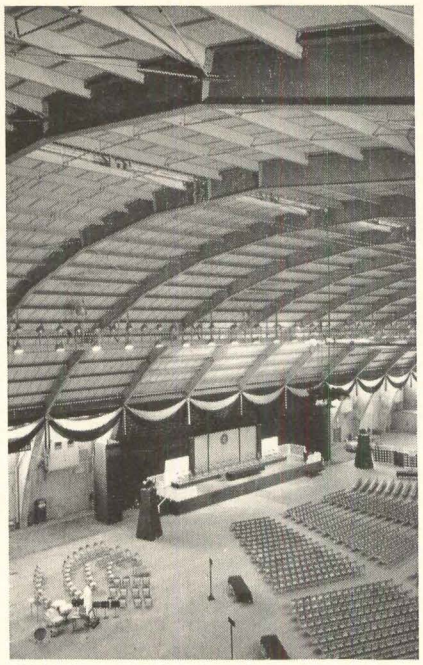


ELEMENTARY SCHOOL, Taftville, Conn. The Tectum method puts more of the school investment in materials – less in labor. Tectum eliminates three steps, replaces three materials, reduces three costs.

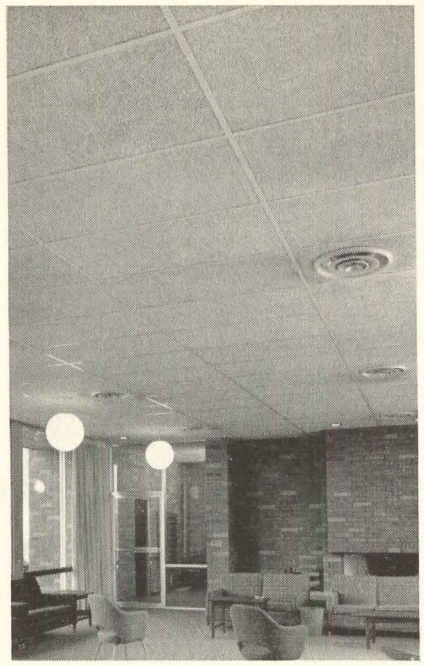
The Gold Bond difference is Tectum

used more ways in more schools than any other structural wood fiber product

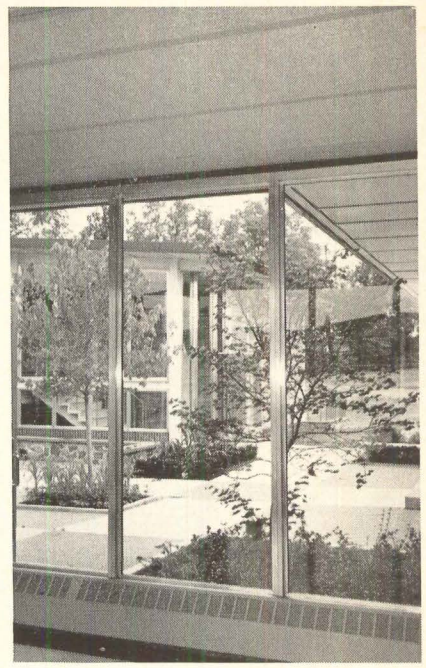




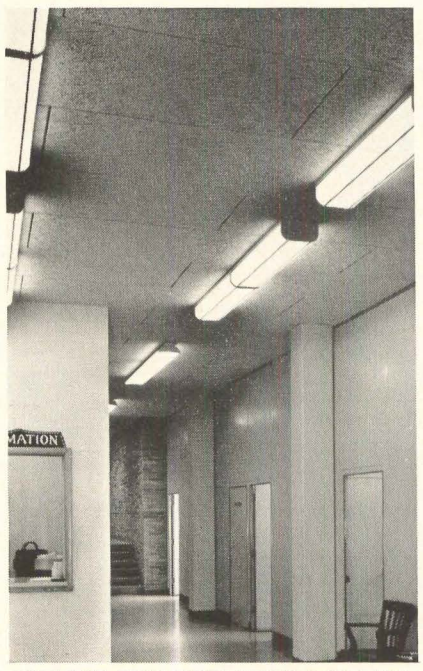
ACADEMY FIELD HOUSE, Annapolis, Md. A lightweight Tectum roof deck is the ideal material for wide span construction. Tectum absorbs sound, insulates, does not require painting.



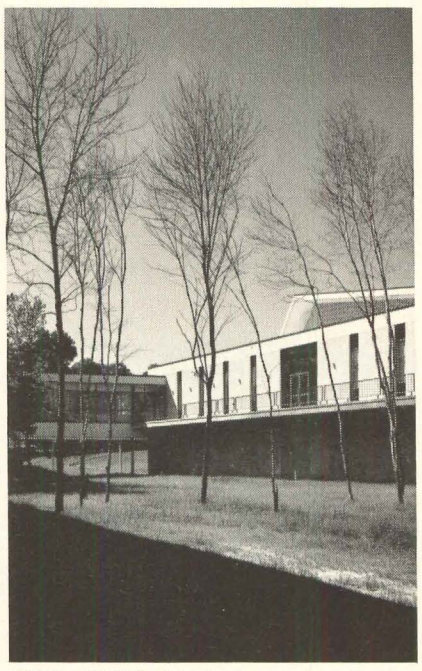
MEN'S DORMITORY, Eugene, Oregon. Tectum acoustical ceilings met rigid tests in an initial installation on this campus. It is now used in all men's dormitories because of its durable qualities.



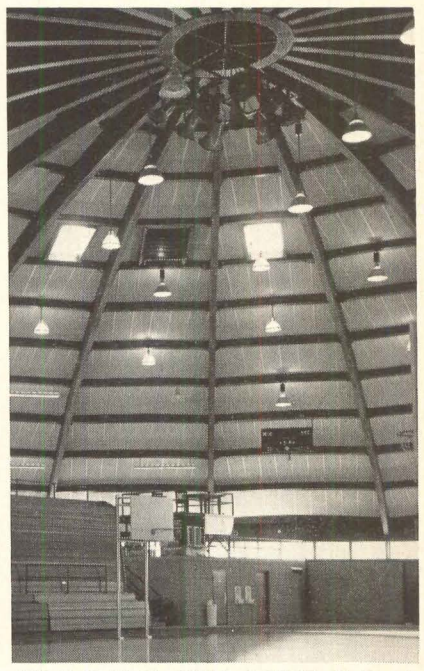
CAMPUS STYLE HIGH SCHOOL, Newark, Ohio. Textured Tectum contributes both functional and esthetic values for contemporary schools. Tectum cuts classroom and corridor noise.



COLLEGE ADMINISTRATION BUILDING, Steubenville, Ohio. School authorities credit Tectum form plank as "best construction on campus". New dormitories and chapel also incorporate Tectum.



HIGH SCHOOL, Chichester County, Pa. An excellent school facility in a delightful rural setting. Tectum contributed to speedy and economical erection with a lightweight roof deck system.



HIGH SCHOOL FIELD HOUSE, Holland, Michigan. Tectum meets requirements of "service and suitability" for this dome topped field house. Acoustics are excellent for any kind of school function.

Gold Bond Tectum is a versatile building product. Because it is structural with better than average resistance to scuffing or damage, it wears well in schools. Tectum absorbs sound, quiets classrooms, reduces the noise and confusion in corridors and gymnasiums. Use it as an exposed roof deck, 2″, 2½″ or 3″ thick; or as an acoustical ceiling, 1″ thick, suspended in conventional systems. Or use it as a form plank for concrete slab, multi-level construction. Tectum is economical, insulating and fire safe. It withstands normal abuse without painting but can be painted to match any decor.

More than 500,000,000 board feet of Tectum have been used to date and nearly half of this for elementary, high school, university, dormitory and other school construction. Tectum helps build quality school buildings within alloted funds by saving on material and labor costs. Ask your Tectum representative for complete information or write The National Gypsum Company, Buffalo 25, New York, Dept. AF1163.

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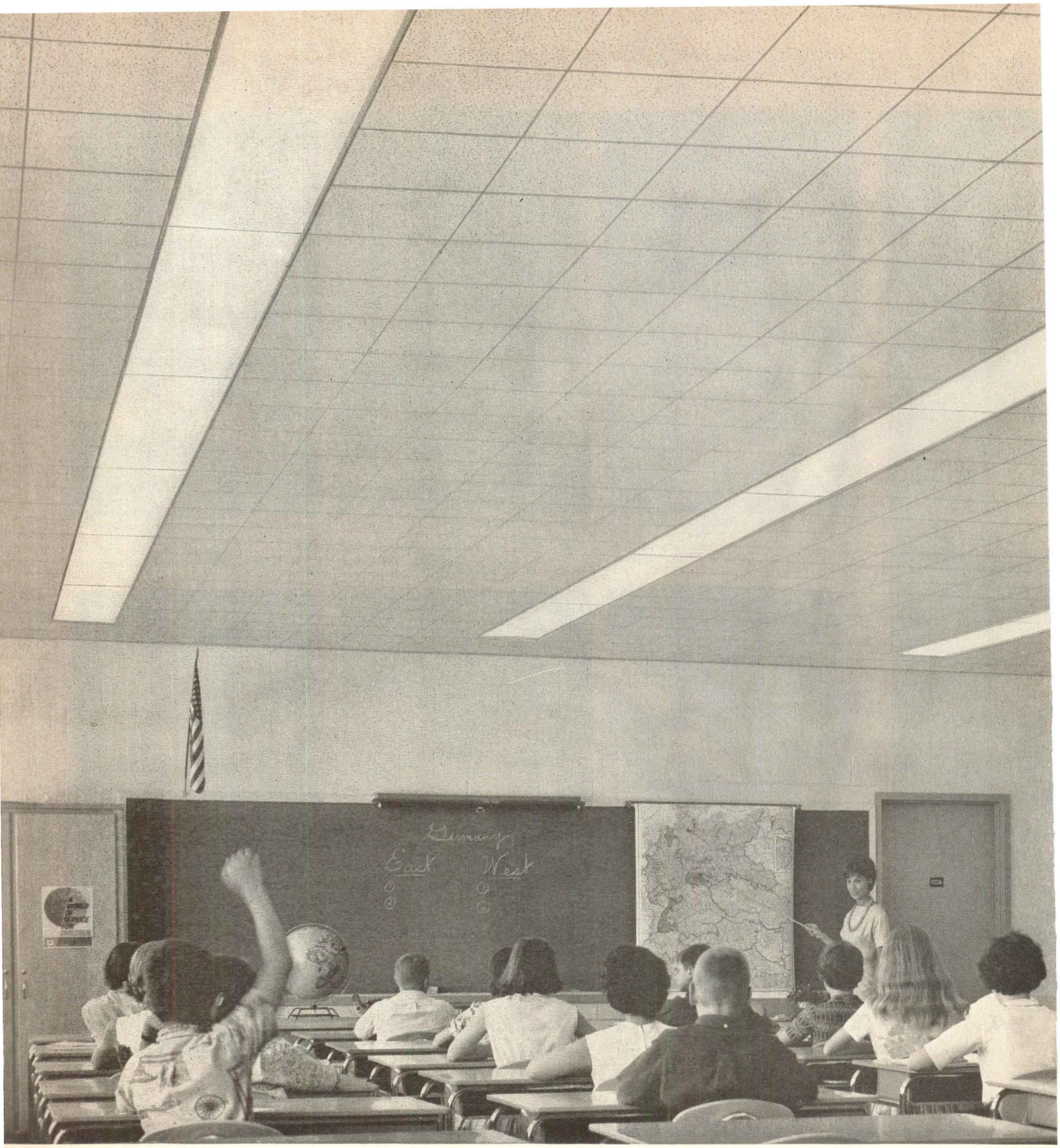

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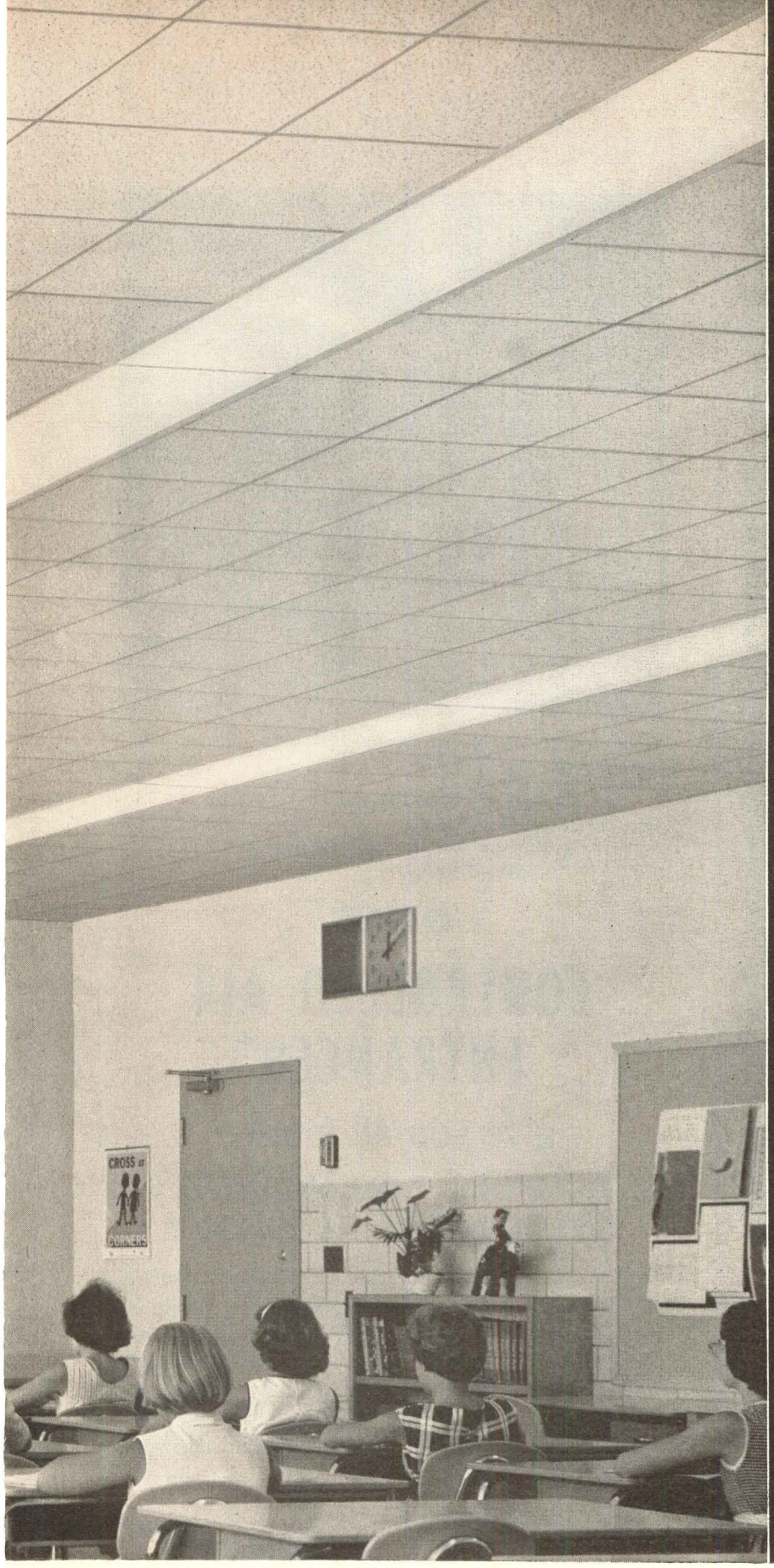
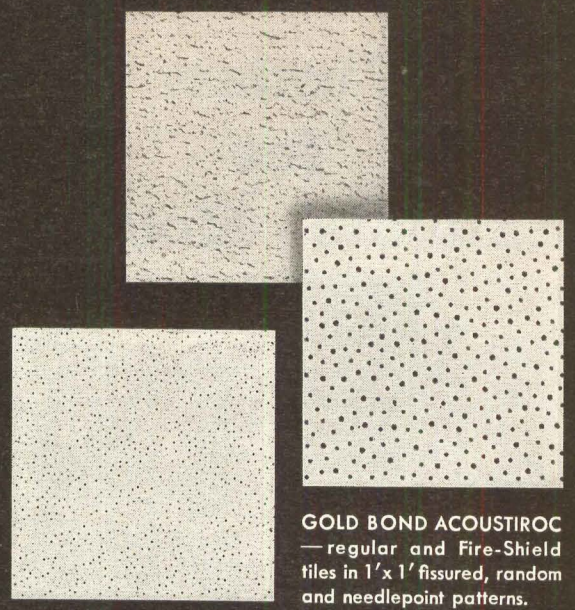
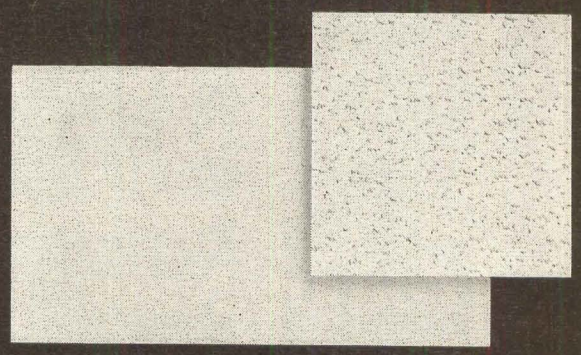
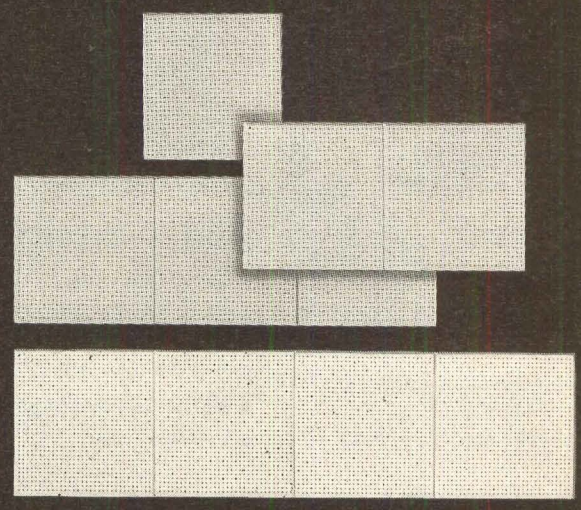




GOLD BOND ACOUSTIROC —regular and Fire-Shield tiles in 1′x 1′ fissured, random and needlepoint patterns.



GOLD BOND SOLITUDE—regular and Fire-Shield panels in 2′x 2′ and 2′x 4′ sizes. In fissured and needlepoint patterns.



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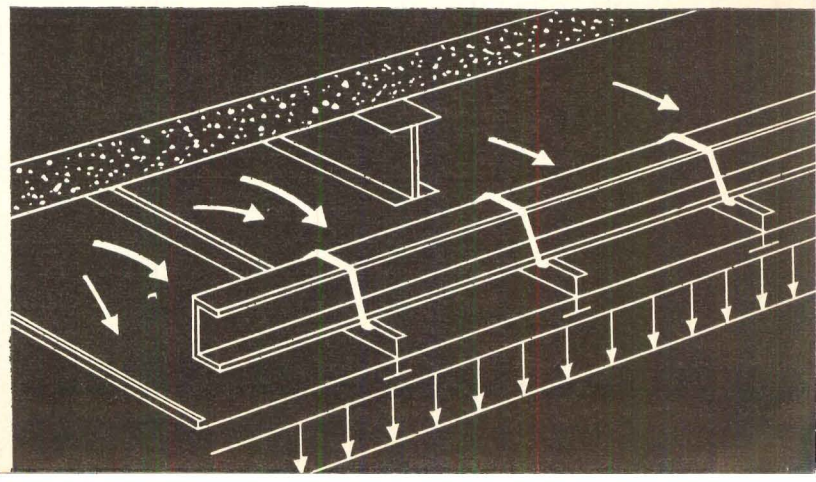
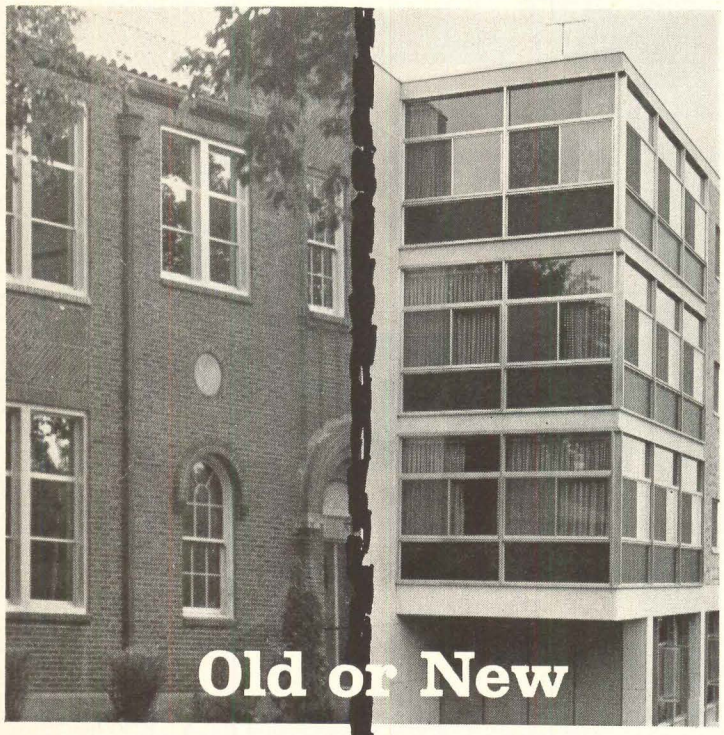
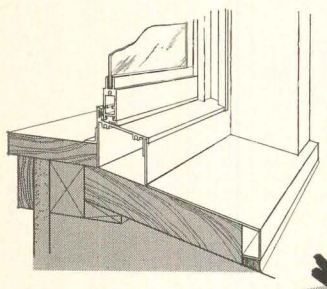
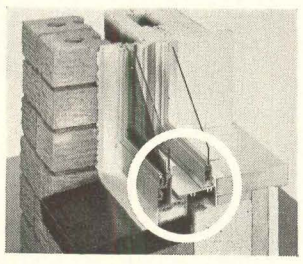


New Window Ideas for Schools • Hospitals







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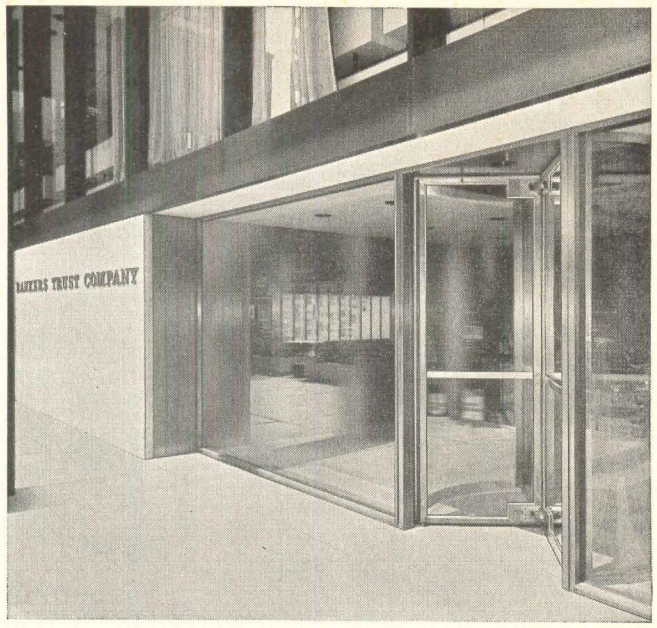

Bankers Trust Co., 280 Park Avenue, New York, N.Y.
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Architects: Emery Roth & Sons
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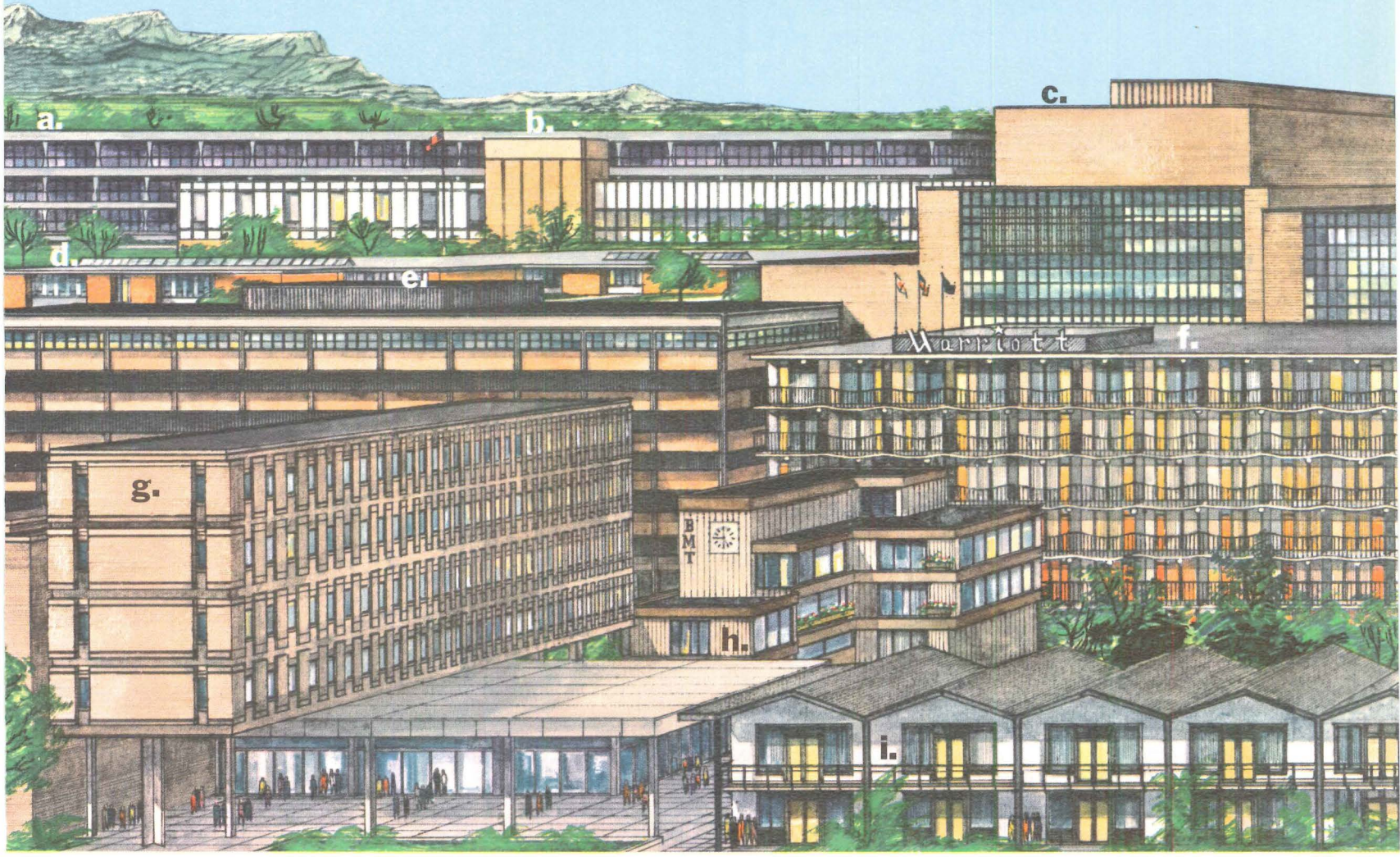

SHORT STORY

From East Hartford, Connecticut to El Segundo, California; from Stratford, Canada to Orlando, Florida, architects and engineers are specifying lighting by Lightolier.

The buildings illustrated above are some recent examples of the long and short of it. For the tall story, we suggest you turn the page . . .

TALL STORY

You've never seen this skyline before.

The buildings on these pages are real, but we've moved them together from all over the country to make our own city of light.

These office buildings, research laboratories, motels, banks, hospitals, schools are illuminated with Lightolier equipment. They also illustrate the wide range of lighting problems Lightolier is uniquely equipped to help solve.

For the Chase Manhattan Bank Building, Lightolier developed and supplied 40,000 troffers, each with a new type of low-brightness injection molded lens. Each designed to integrate with the air-conditioning and public address equipment so that not a nut, bolt or screwhead is visible to mar the smooth sweep of ceiling.

The special lighting that turns the Seagram Building into a tower of light after the working lights are switched off was developed by close teamwork between architects Mies van der Rohe, Philip Johnson and Kahn & Jacobs with Lightolier.

a. Chase Manhattan Bank Building, New York, New York. Skidmore, Owings & Merrill, Architects & Engineers. Meyer, Strong & Jones, Electrical Engineers. **b.** Seagram Building, New York, New York. Mies van der Rohe, Philip Johnson, Architects; Kahn and Jacobs, Associate Architects. Jaros, Baum & Bolles, Electrical Engineers. **c.** Water Tower Inn, Chicago, Illinois. Hausner & Macsai, Architects, Inc. William Goodman, Electrical Engineer. **d.** First City National Bank, Houston, Texas. Skidmore, Owings & Merrill, Architects & Engineers. Jaros, Baum & Bolles, Electrical Engineers. **e.** Wilshire Comstock Apartments, Los Angeles, California. Victor Gruen Associates, Architects. Ralph E. Phillips, Inc., Electrical Engineers. **f.** St. John's Hospital, St. Louis, Missouri. Bernard McMahon, Architect. Van & Vierse Consulting Electrical Engineers. **g.** Apollo Savings Bldg., Chicago, Illinois. Fred H. Prather, A. I. A. **h.** Sproul Residence Hall, UCLA, Los Angeles, California. Welton Becket & Assoc., Architects & Electrical Engineers.

Lightolier provided elegant crystal chandeliers and magnificent modern decorative fixtures and lamps for hotels, motels and restaurants.

For schools and offices, economical, efficient, comfortable lighting.

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For the inside story of six specific examples, see next page.

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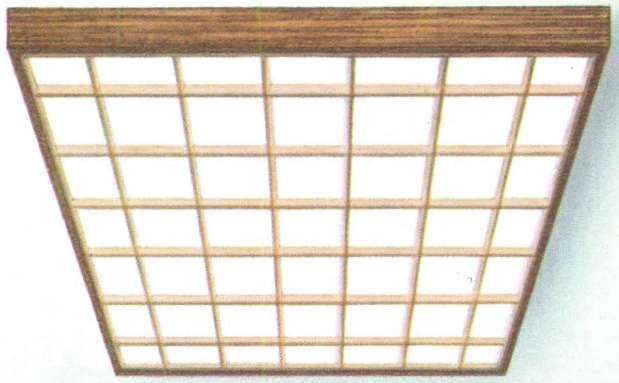
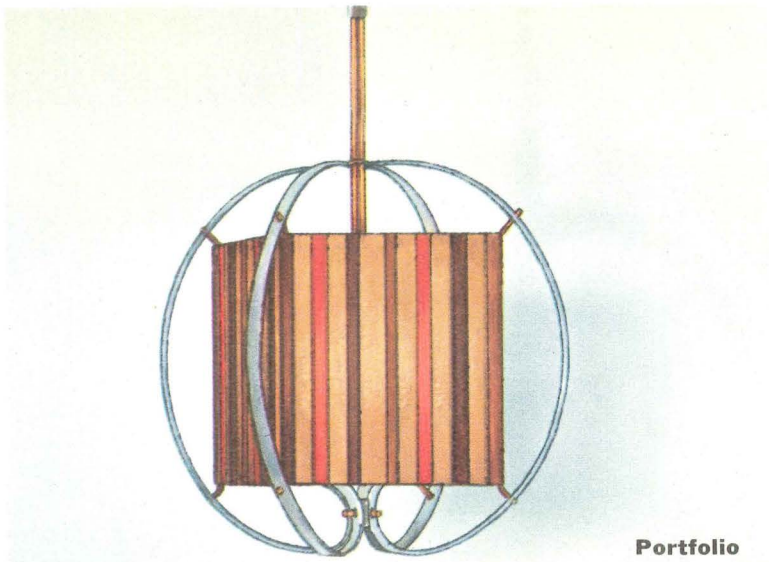
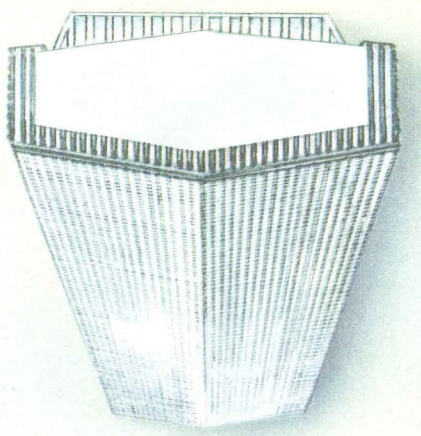


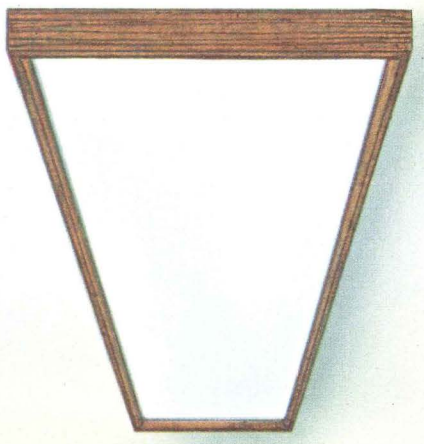
Corona



Portfolio

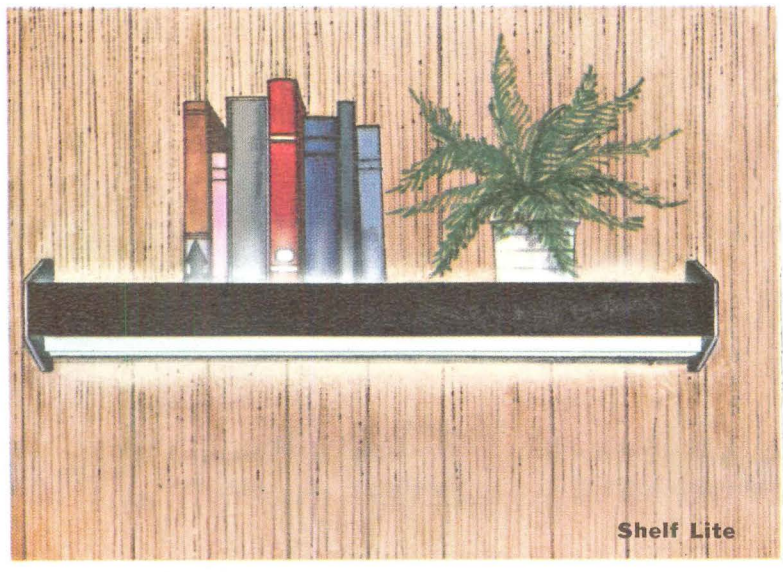


Opticon



Troffer

Calculite



Shelf Lite

INSIDE STORY

Inside each building and sometimes within each room, lighting problems are different. Shown above are six Lightoliers which have successfully solved many of them:

Corona®. Corona puts fluorescents in a new light. Its warm wood trim makes it a decorative asset in important locations.

Opticon®. Each Opticon lens—sides, ends and face—is a one-piece crystal-clear injection molded unit. Now in 1, 2, 3 or 4-light widths, 4- and 8-foot lengths.

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Troffer. No exposed hardware, no gaps, no "frame-within-a-frame." All you see is a clean, precise rectangle of light.

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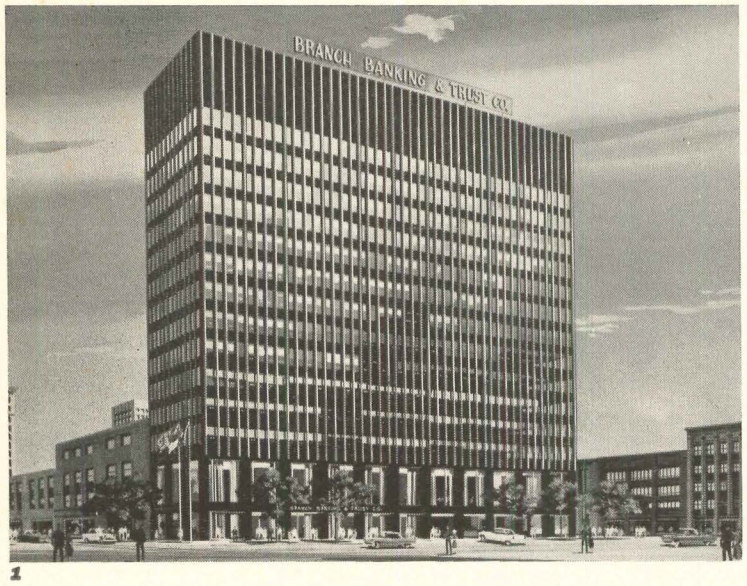
A new blend for Maxwell House (below)
Museums expand in time for '64 Fair (page 60)



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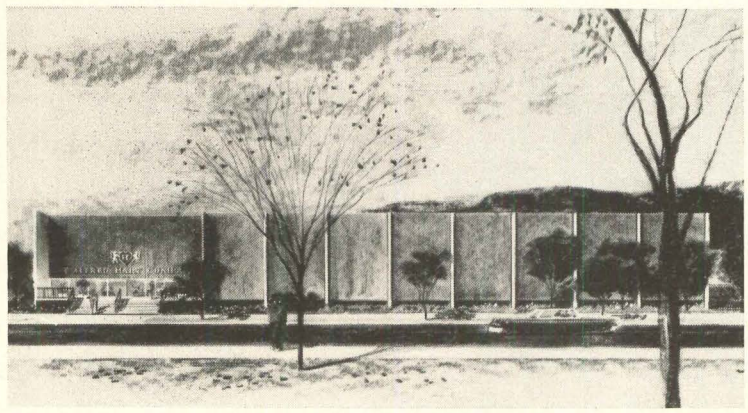

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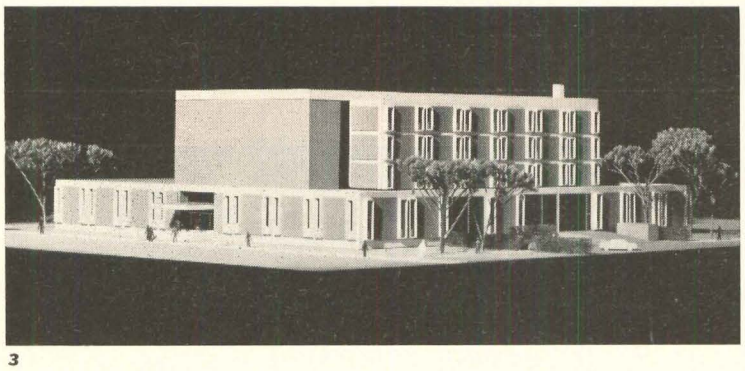

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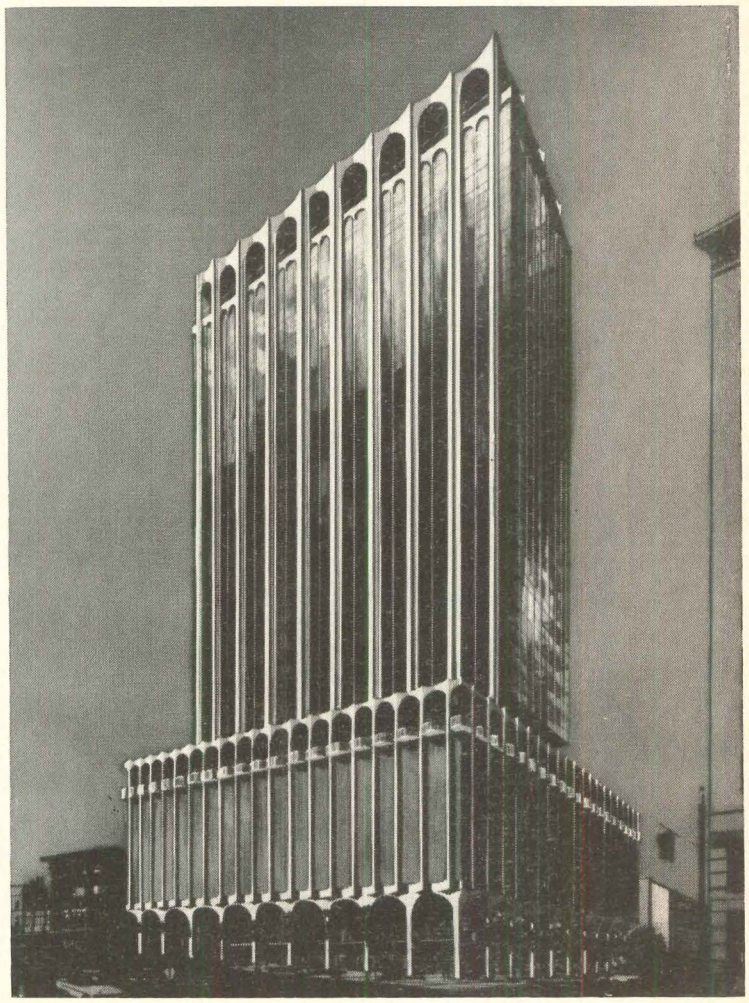

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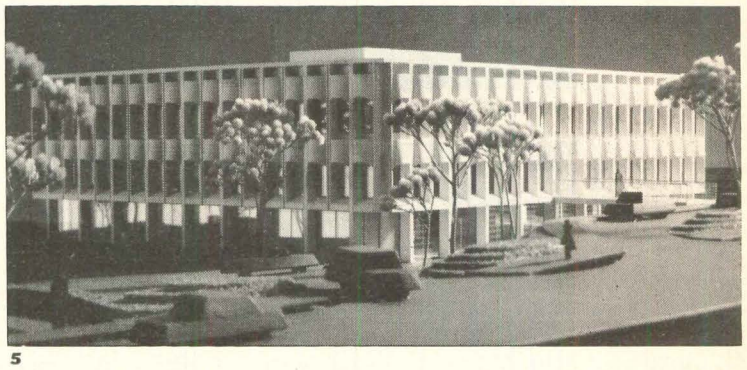

5

1. RALEIGH BANK. Saving Confederate money is passé in booming North Carolina. A new glass-enclosed Branch Banking & Trust Co. building in Raleigh, designed by the New York firm of Emery Roth & Sons (in association with local Architects Holloway & Reeves) will feature automated drive-in facilities. Pneumatic tubes will carry deposits to tellers on the second floor. Raleigh's tallest office building, the 14-story structure will house banking offices on the first three levels with tenants on all others.

2. VODKA WAREHOUSE. The San Fernando Valley will be served with vodka, wine, and other spirits from an Alfred Hart Co. warehouse-office at Sepulveda, Calif. The clean-cut façade, designed by Palmer & Krisel, will enclose 31,000 square feet in a structure of reinforced concrete. Estimated cost: $300,000.

3. COLLEGE LABS. A $4.2 million Civil Engineering Building for the University of Illinois campus at Urbana is planned as the first unit in a big new civil engineering complex. Laboratories for research and teaching will occupy most of the four-story building. Central feature will be a three-story lab for structural research with a specially reinforced floor. Architects: A. Epstein & Sons; Richardson, Severns, Scheeler & Assoc.

4. SOUTHERN SKYSCRAPER. Nashville's famous Maxwell House, the antebellum hotel which became known across the country for hospitality and coffee, was gutted by fire two years ago. Proposed for the old site: a new $10 million Maxwell House, a 32-story multipurpose building combining commercial, garage, hotel, and office space and designed by Perkins & Will-Swensson & Kott.

5. IBM IN PORTLAND. One of the best corporate building programs in the U.S. will provide IBM with another distinctive office in Oregon (under a long-term lease from developer Amco Portland, Inc.). For the exterior bearing walls, Kirk, Wallace, McKinley & Associates have designed precast concrete "trees" three stories high which, fitted together, give a deep, uniform pattern.

continued on page 60

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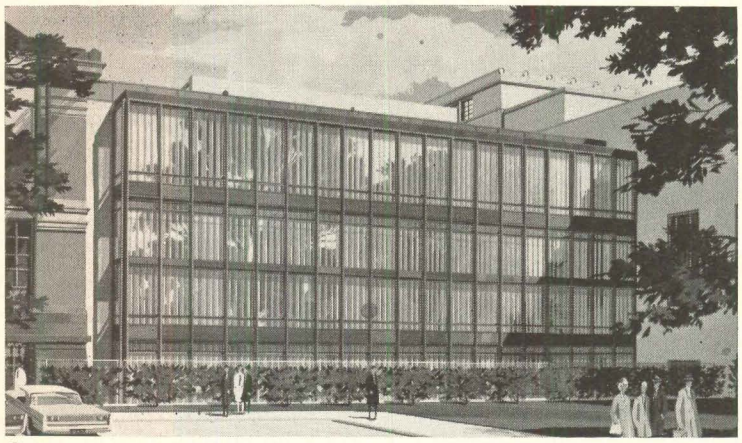

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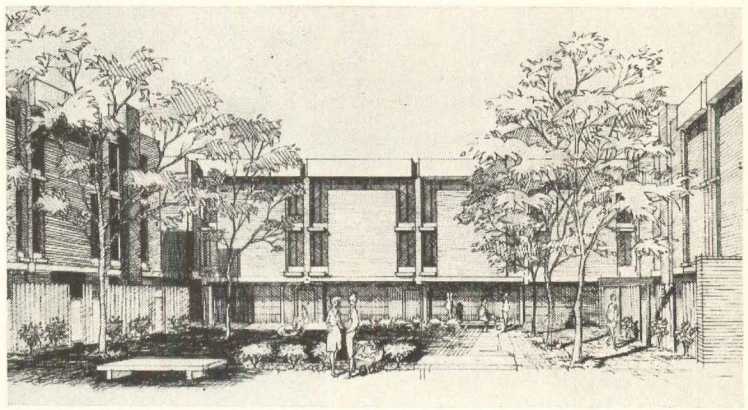

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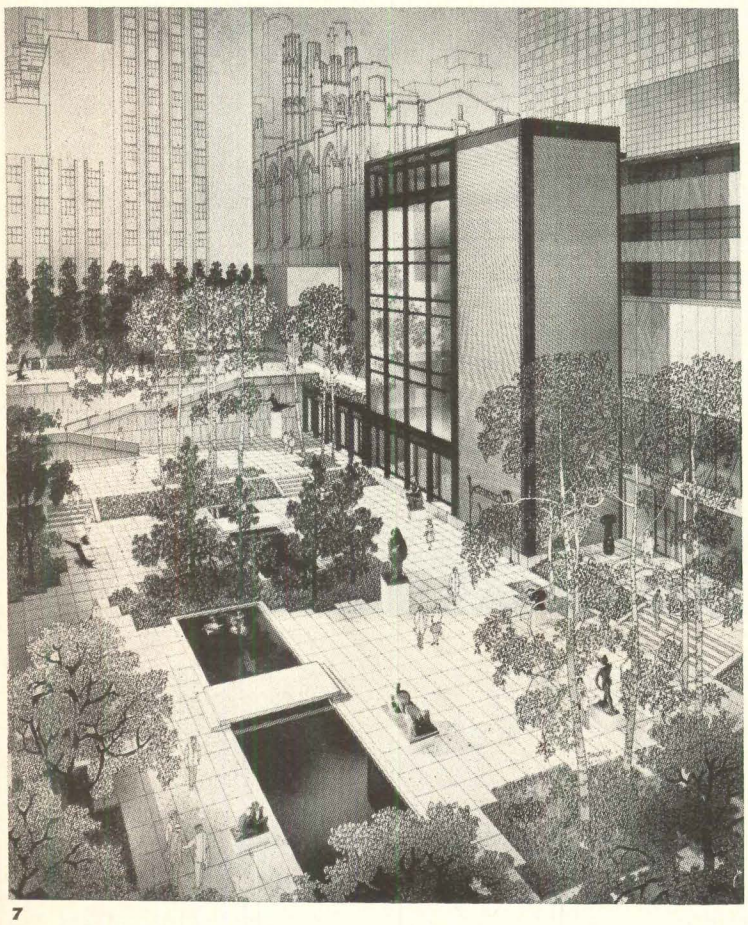

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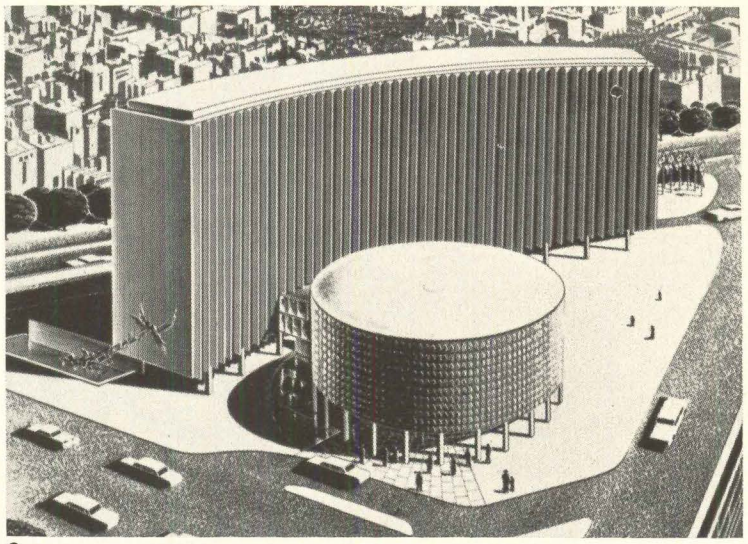

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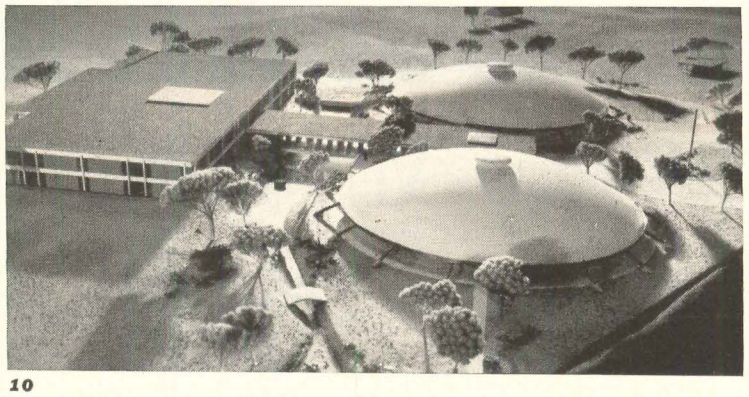

10

6. ART LIBRARY. The revamping of New York's staid Metropolitan Museum, in time for the 1964 World's Fair, will include a new Thomas J. Watson Library wing, housing the world's largest art reference library (more than 300,000 volumes), prints and drawings, study rooms, storage, and offices. Architects Brown, Lawford & Forbes will sheath the exterior with glass and dark, anodized aluminum.

7. ART GALLERIES. Also in time for the World's Fair, Manhattan's Museum of Modern Art will enlarge its sculpture garden (background) and remodel the present museum to double exhibit space. The new wing (center) will have three gallery floors in a glass-sheathed wing; a large exhibition hall will be concealed under a roof terrace at the garden's end. Architects: Philip Johnson Assocs.

8. PHILADELPHIA MEWS. Unlike traditional English mews townhouses, which usually face an open pedestrian court, University Mews in West Philadelphia will front peripheral streets. Each of the 46 homes will be set back from the street and screened by a private walled garden. A brick-paved inside court (sketch) has been designed by Architect Ronald C. Turner to serve both pedestrian and vehicular traffic.

9. HEALTH CENTER. In 1965 the Pan American Health Organization will move into a permanent $4.5 million Washington headquarters designed by Uraguayan Architect Roman Fresnedo Siri. His prize-winning entry in a Western Hemisphere competition: a circular council chamber seating 400 delegates linked to a crescent-shaped secretariat 11 stories high, all on a triangular site.

10. IOWA SCHOOL. Noisy and quiet areas will be strongly differentiated in Cedar Rapids' Warren G. Harding Junior High School. Architects Kohlmann, Eckman & Hukill have placed all study and classroom space in one rectangular block of reinforced concrete and masonry. A slim wing of student lockers will form the connecting link to two "noisy" structures with laminated wood domes housing dining facilities and gymnasium.

continued on page 63

Kent-Lincolnia Apartments, Alexandria, Va.
Builder: Builders and Developers of Md., Inc., Owner: Kent-Washington, Inc.

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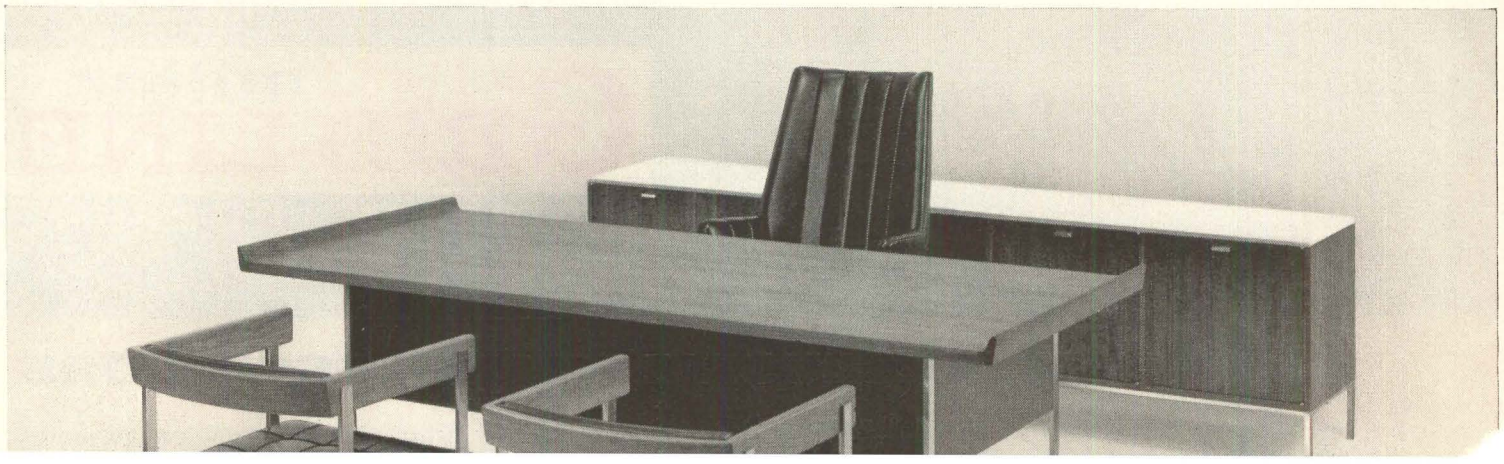

Structural Steel Tubing speeds service plaza construction

In a major oil company's multimillion dollar expansion program, Republic ELECTRUNITE® Structural Steel Tubing is cutting the cost of building new service stations.

Square and rectangular steel tubing was picked for columns, beams, and spandrels due to its high strength to weight ratios, low cost, ease of erection, and outstanding design efficiency. The flat sides of this tubing facilitate the fitting of glass, masonry, and curtain wall sections. And the tubing requires no finish treatment other than paint.

To minimize construction costs, all tube cutting and fabrication is done before delivery of the tubing to the job site. Spandrel sections of 3″ x 3″ square tubing, for example, are completely preassembled. Columns are fitted with base plates.

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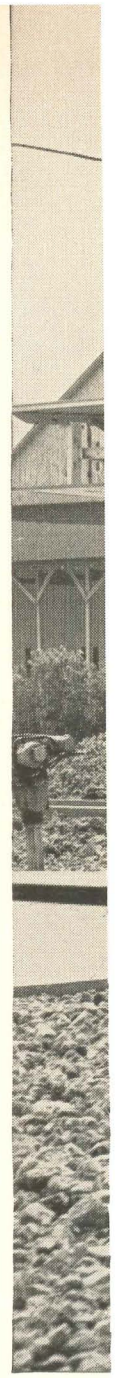
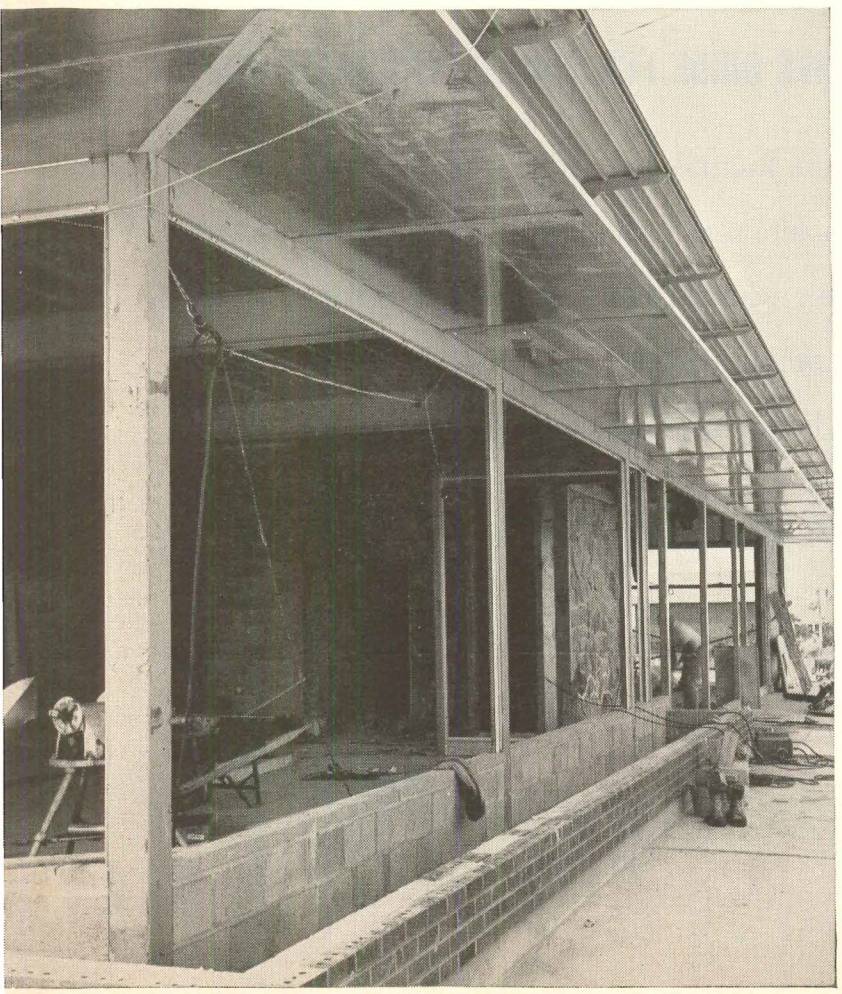
Detailed in the chart at right and in Republic's new ST-101 Specification, the higher strength can bring about substantial savings in overall costs. You *spend less money* to get needed bearing strength in columns, posts, lintels, spandrels, and other structurals.

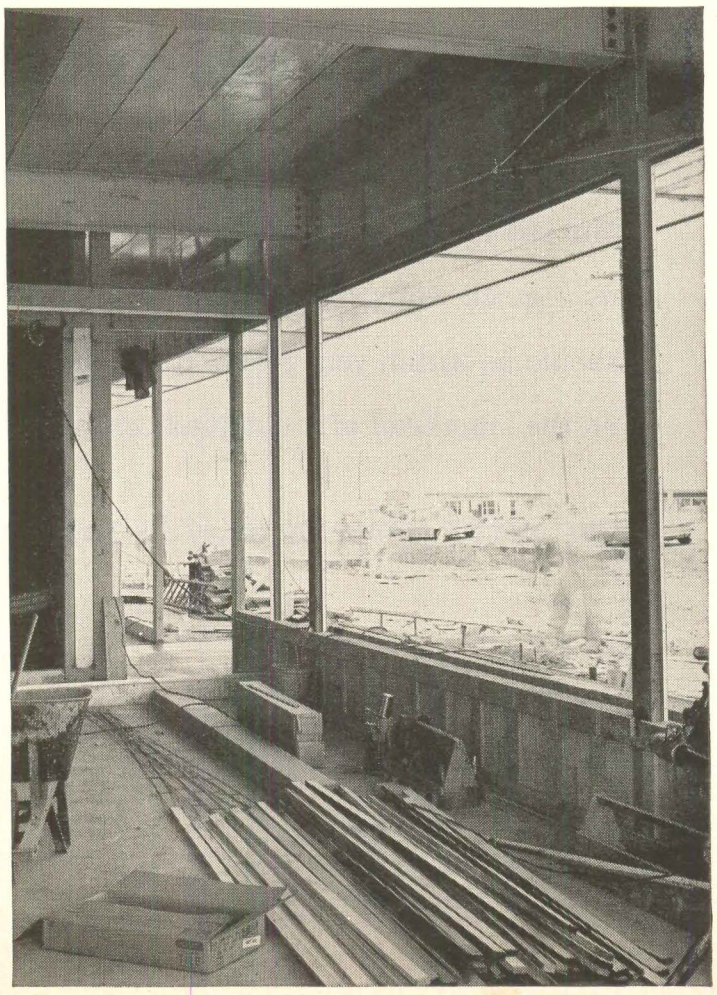
FOR A COPY of Republic's informative, 52-page booklet—"ELECTRUNITE Steel Tubing for Structural Use"—send the coupon. ELECTRUNITE Structural Steel Tubing is available in rounds to six inches O.D., squares and rectangles in peripheries to 20 inches and wall thicknesses up to .250-inch.



Turning corners is simple when square tubing is used for corner columns. No additional framing is required to attach glass or walls.



Lightweight tubular shapes are easily joined by welding and attached to conventional structural steel shapes.



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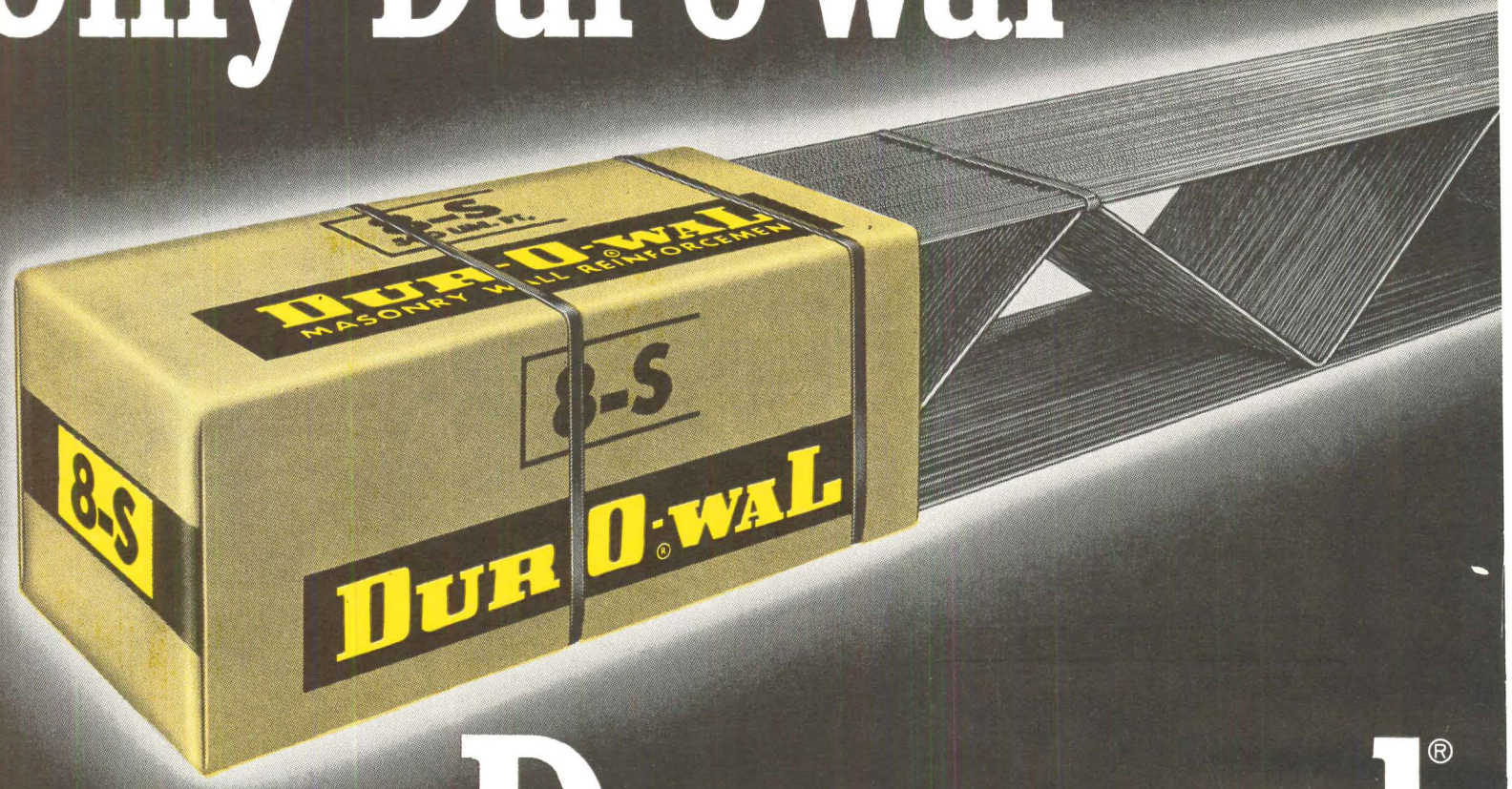

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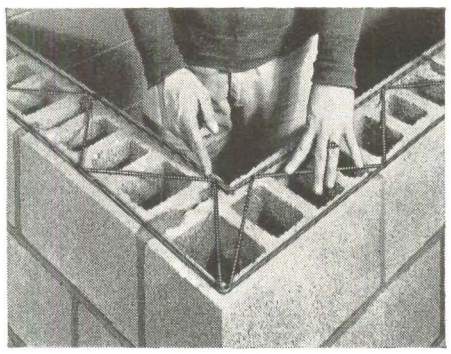

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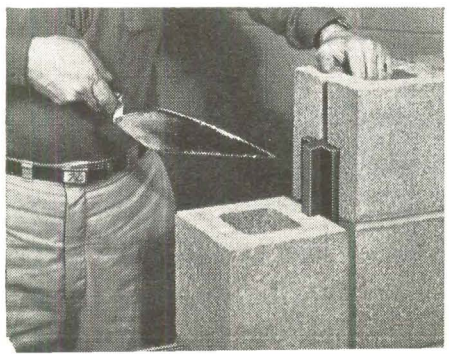

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Rocky beats a dead horse . . . Three years ago, Governor Nelson Rockefeller pushed his million-dollar scheme for stock school plans through the New York State legislature. Ever since, those concerned with the quality of school design—FORUM included—have looked forward with dread to the day the Governor would unveil his stock plans. That day came last month, and sure enough, the schools are just about as dreary and constricted as expected (see overleaf). What was *not* expected, however, was the blatant flim-flammery of the Governor's sales pitch to New York school districts.

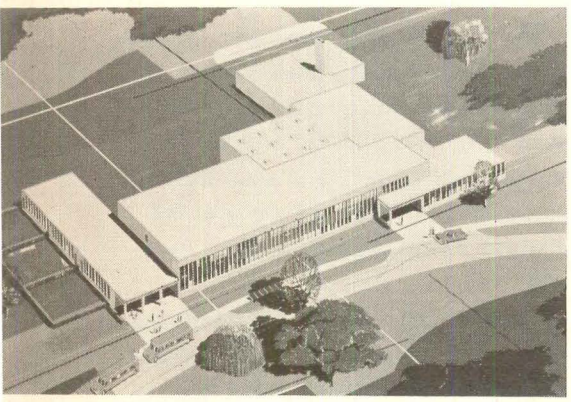
Every district in the state received a three-color, 24-page brochure containing renderings and sketch plans of the nine schools, and a foreword by the Governor himself. "We believe and hope," he said with what the accompanying photograph showed to be a perfectly straight face, "that their use will in most cases mean lower building costs and at the same time encourage beauty of architectural design." Stock plans do no such thing, of course: all of the evidence shows that they are (1) completely ineffective in cutting building time and costs, and (2) chillingly effective in blocking progress in both school design and education.

But the biggest surprise came in a press release announcing the plans' availability, which, among other things, explained exactly what the governor meant by "lower building costs." The key passage went like this:

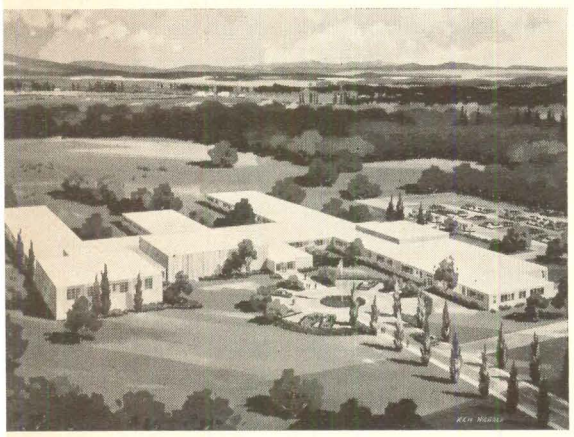
"In releasing the report, attention was called to the favorable cost comparisons for the nine standard plans and current average school construction costs in New York State as reported in the 1963 edition of *School Management Annual.* For elementary schools in New York State, the *Annual* reported the current average cost per pupil as $1,957 as contrasted with an average of $1,391 per pupil for the three elementary schools among the standard plans. *On the basis of these data school districts would save approximately 29 per cent by using the standard plans* [italics ours]. Comparable savings are provided for the secondary schools where the current costs throughout the state average $2,638 per pupil, according to the *Annual,* compared with the standard plan costs of $1,895 per pupil or 28 per cent less."

With these remarkable statements, the Rockefeller administration has set an all-time record for the artful manipulation of school cost figures. Earlier advocates of stock plans have claimed that they saved time, saved fees, and perhaps saved building money if used often enough for contractors to get used to their detailing —a big if, as we shall see. While New York's plans were being drawn, a state official estimated that they would save about 4 per cent, mostly in fees. But no one has ever before been audacious enough to claim that stock plans could cut nearly a third from school construction costs.

The claim is wide open to attack from any number of directions. The brochure itself underlines the fallibility of early costs estimates, pointing out that actual costs "can be determined only through public bidding procedures." The per-pupil system used in the press release is probably the most unreliable comparative measure of school costs that is available, even when dealing with realities instead of enrollment projections. The plans and outline specifications for the nine schools show them to be low-budget buildings, but they contain no startling innovations to account for savings of such magnitude. For these and a good many other reasons, the claimed savings are patently ridiculous. Anyone who has ever built

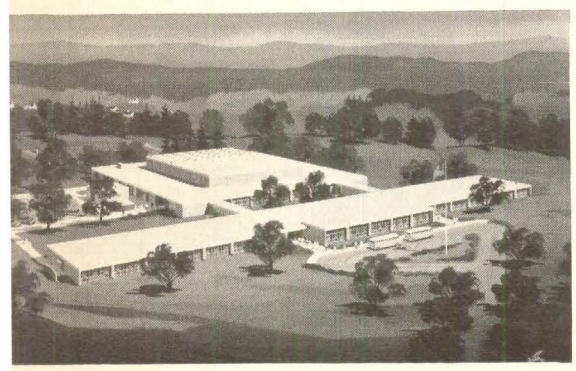


Elementary school of 21 to 28 classrooms: Foit & Baschnagel



Junior high, 800 to 1,000 students: Duane Lyman & Associates

Senior high, 1,000 to 1,200 students: Frederic P. Wiedersum



Junior-senior high, 1,000 to 1,200 students: Perkins & Will

a school will know that they are. The Governor, the State Architect, the State Department of Education, and, above all, the nine architectural firms that worked on the plans should know it too.

It is doubtful whether these nine firms—King & King, August Lux & Associates, Foit & Baschnagel, Duane Lyman & Associates, Chapman, Evans & Delehanty, Frederic P. Wiedersum Associates, Reginald E. Marsh & Associates, Urbahn & Brayton, and Perkins & Will—had anything to do with the press release crediting them with a miracle in building economics. Nevertheless, their position is an interesting one. Among the best arguments against stock plans is that they would halt the steady improvement that has distinguished postwar school design in America; they eliminate entirely the kind of joint educational-architectural analysis of individual school building problems which has brought about so many advances. It is difficult to understand how the nine firms could feel they were serving the interests of either the public or their profession.

It is likewise difficult to understand the Governor's persistence. He is, after all, a former president of the Museum of Modern Art, and his administration has just launched a college building program of unusual promise (see *News*). Yet in his stock school program, he is vigorously beating one of the deadest horses in American education.

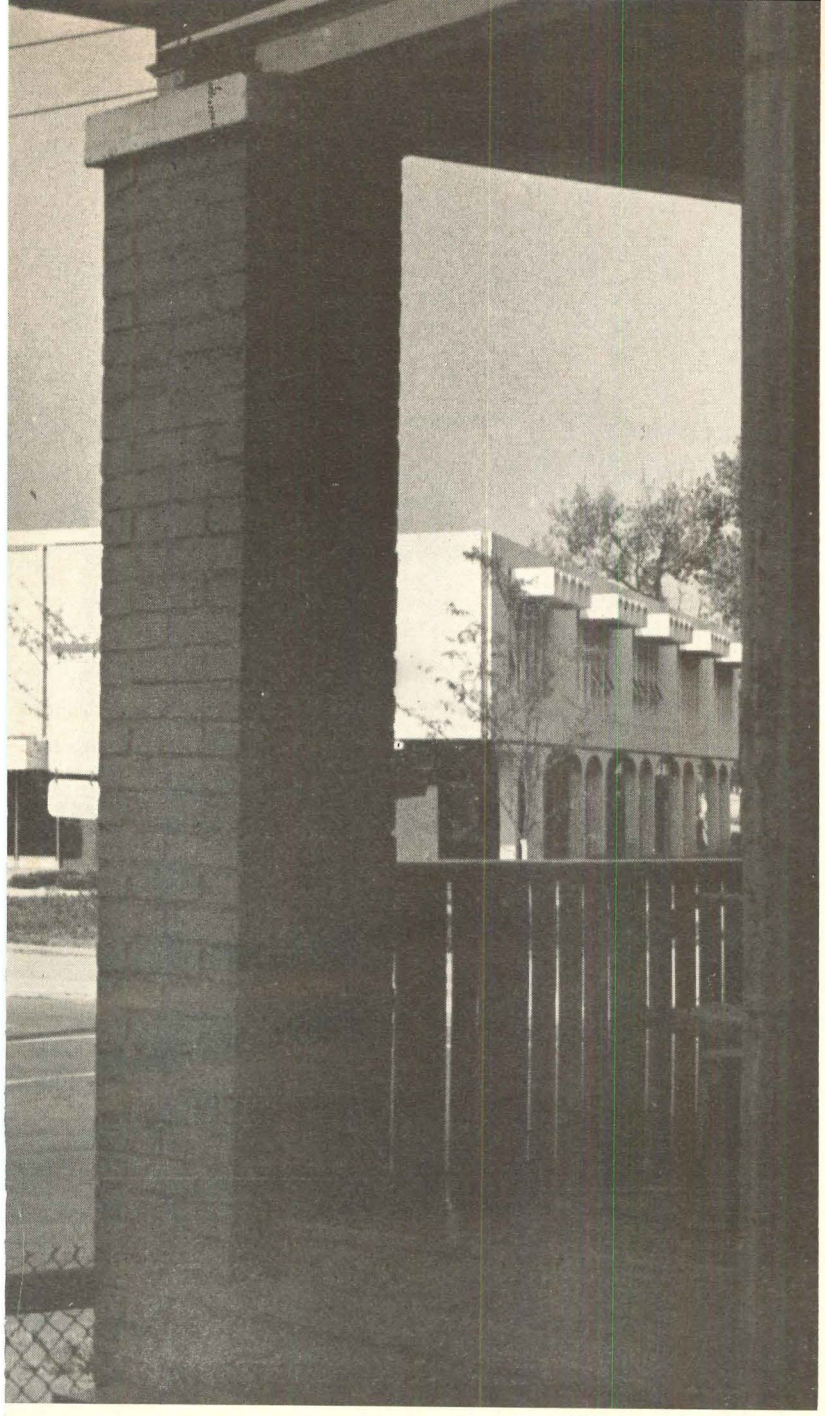
The case against the stock plan idea is well established, but it is worth restating each time another attempt is made to get the poor beast back on its feet. Charles D. Gibson, chief of the California State Bureau of School Planning, put it this way at a 1960 FORUM round table: "We have over 150 school districts in our system that have used stock plans. We could have told you in a hurry what happened to them . . . We sum it up by saying: 'Stock plans represent the lazy, inefficient, and expensive way to provide school housing.' The facts are as plain as the nose on my face. It never has worked in the fashion in which we have tried to make it work. It is not less expensive. Nobody has ever recovered his original investment in the preparation of these things—*nobody.*"

Other states have had the same experience. At least a dozen have tried and abandoned stock plans, and those few who still offer them report that they mostly sit and gather dust on the shelf. Despite the Rockefeller administration's salesmanship, then, the danger is not that the nine schools will pop up all over New York. The danger is that they will become what the state likes to call them—"standard schools." Already opponents of a bond issue for a fine new high school in one New York community are pointing to the state's plans and the state's figures, and charging that the school board is wasting money.

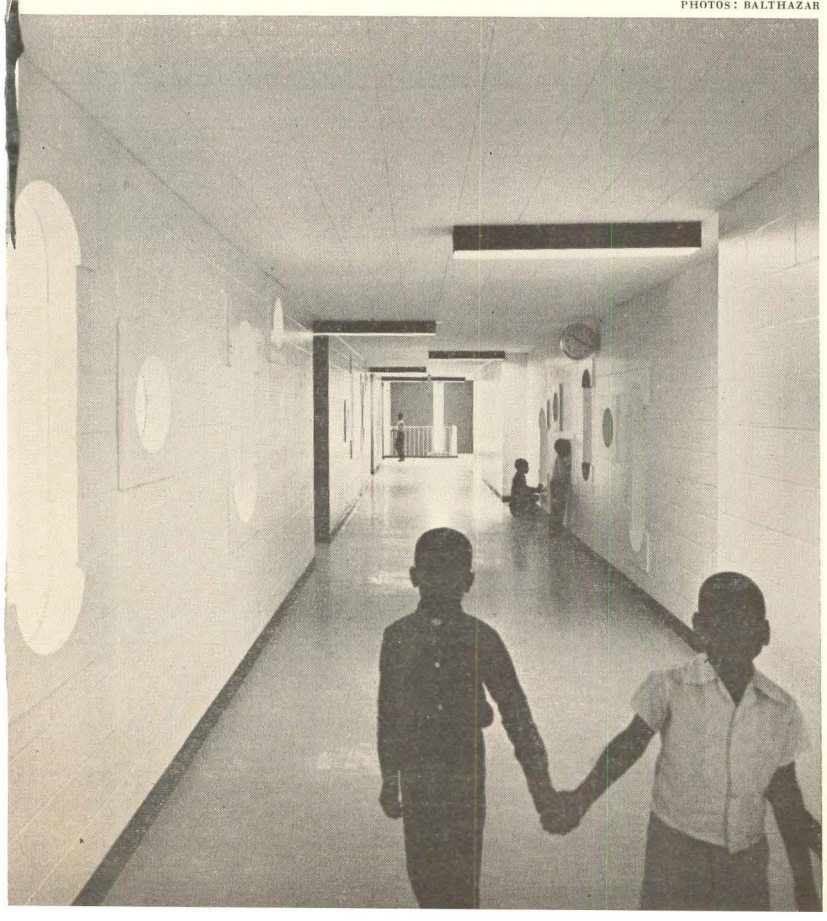
These are not "standard schools," they are minimum schools. They were designed on a minimum budget to an amorphous physical and educational program that had to represent the lowest common denominator among the aspirations of the state's school districts.

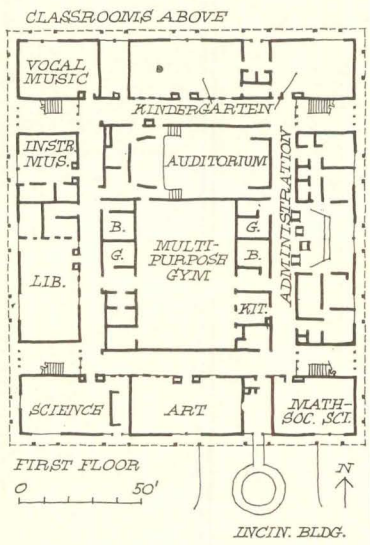
"Lessons should be learned from the planning and construction of each new school building," Wilfred E. Clapp, assistant superintendent of Michigan's Department of Public Instruction, said once. "Each building should be an improvement over the one built before. The use of stock plans tends to mechanize education, freeze the school program, and stop progress."

Is that what you want to happen in New York, Governor?



PHOTOS: BALTHAZAR





CHEERFUL NOTE IN THE SLUMS

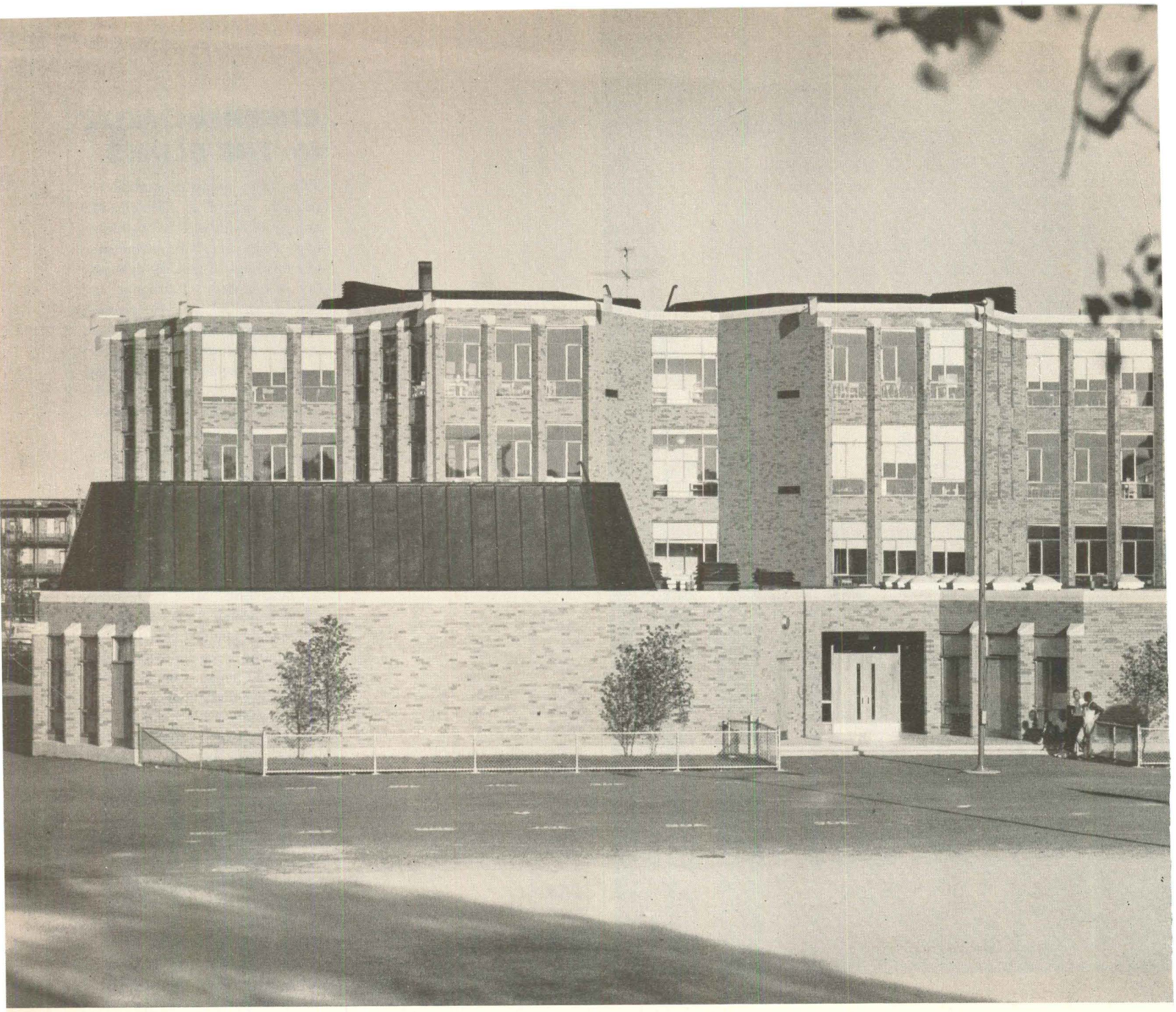
This new slum-surrounded elementary school in Detroit does not quite wall out its surroundings; there are large embrasure-like openings to pull daylight into the second-floor classrooms; and downstairs, in the laboratories, library, and kindergarten spaces, the heavy exterior walls are occasionally opened floor-to-ceiling. But there is no doubt the architects were out to create a better, and a more guarded world than the packed, run-down homes from which most of the pupils come to school.

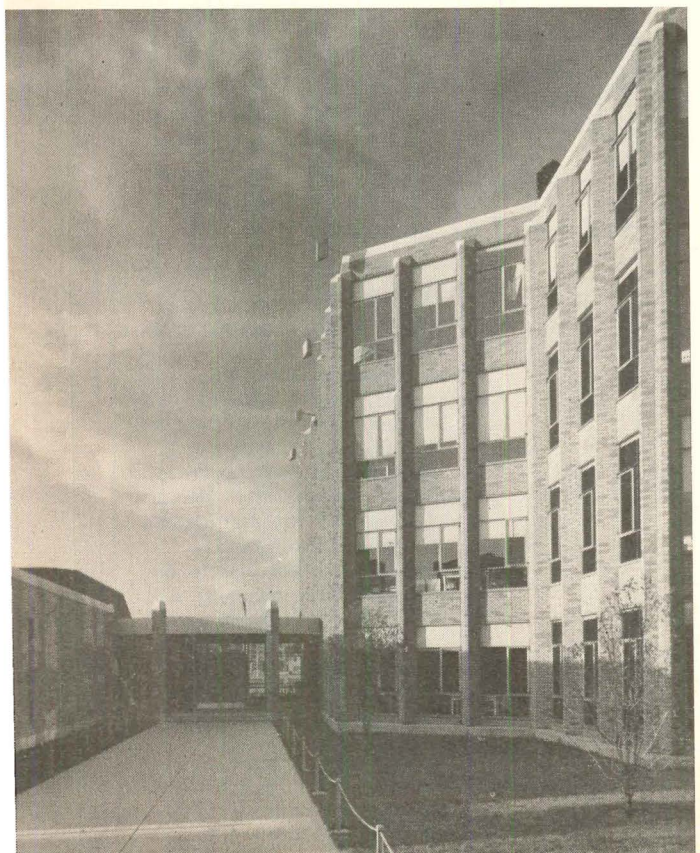
Much of the character of the school was contrived through the way it was constructed. The elevated peripheral wall with the long slots in it is a bearing wall which rests on precast concrete T-columns, matched by an interior core bearing wall around the large, central multi-purpose room. Economy was another motive; construction cost was kept under $700,000 for 864 students. Just the site, however, (slightly over three acres) cost the Detroit Board of Education $400,000, pointing up the fearsome financial difficulties of getting schools built downtown.

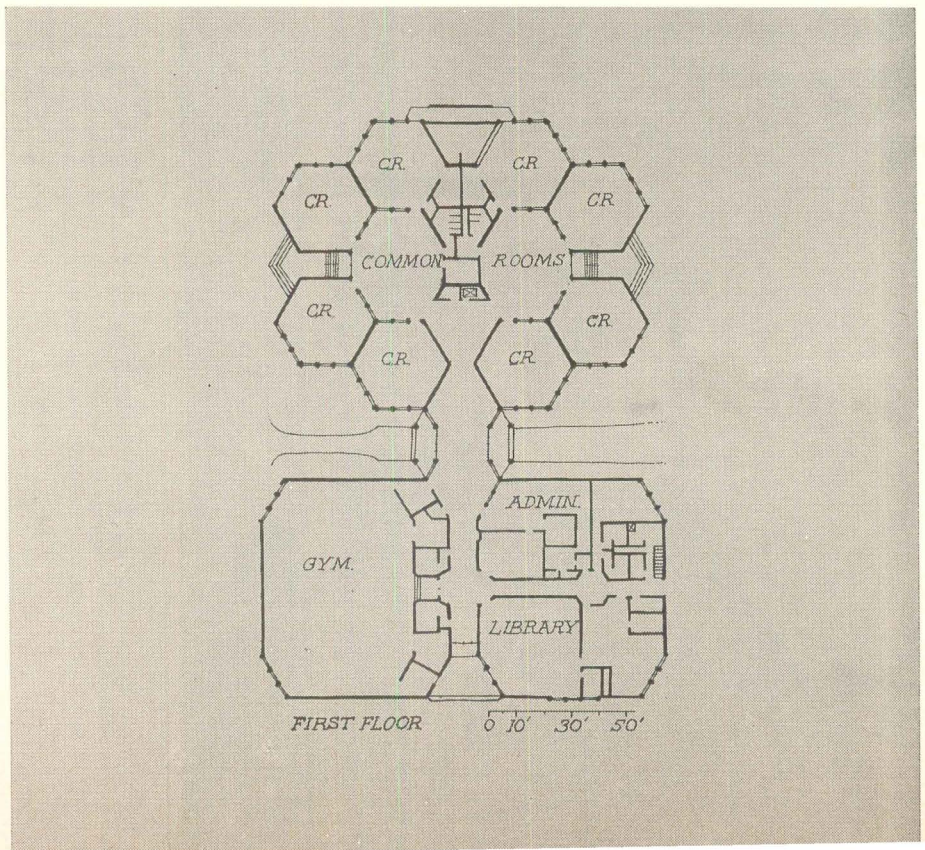
Encouraged by a special low rate offered by the local utility, the Board decided to heat the school electrically (with a heat pump for cooling the large control rooms). They report, however, that this part of the economy attempt cannot yet be compared meaningfully with fuels used in their other schools; this school has not been in use long enough. Another economy: play space was saved on the site by the presence of a municipal parking garage nearby, which was used to banish the usual tribe of teachers' automobiles.

FACTS AND FIGURES

Woodward Elementary School, Detroit, Mich.
Owner: Detroit Board of Education.
Architects: Meathe, Kessler and Assoc. Engineers: R. H. McClurg Assoc. (structural), Hyde and Bobbio (mechanical and electrical). Landscape architects: Johnson, Johnson and Roy. General contractor: F. W. Markward Co.
Building area: 47,806 square feet. Cost: $687,977 (construction), $12,660 (site work), $34,762 (equipment). Cost per square foot: approximately $14.35.
Structure: concrete, partly precast columns, partly bearing walls.






C.R.
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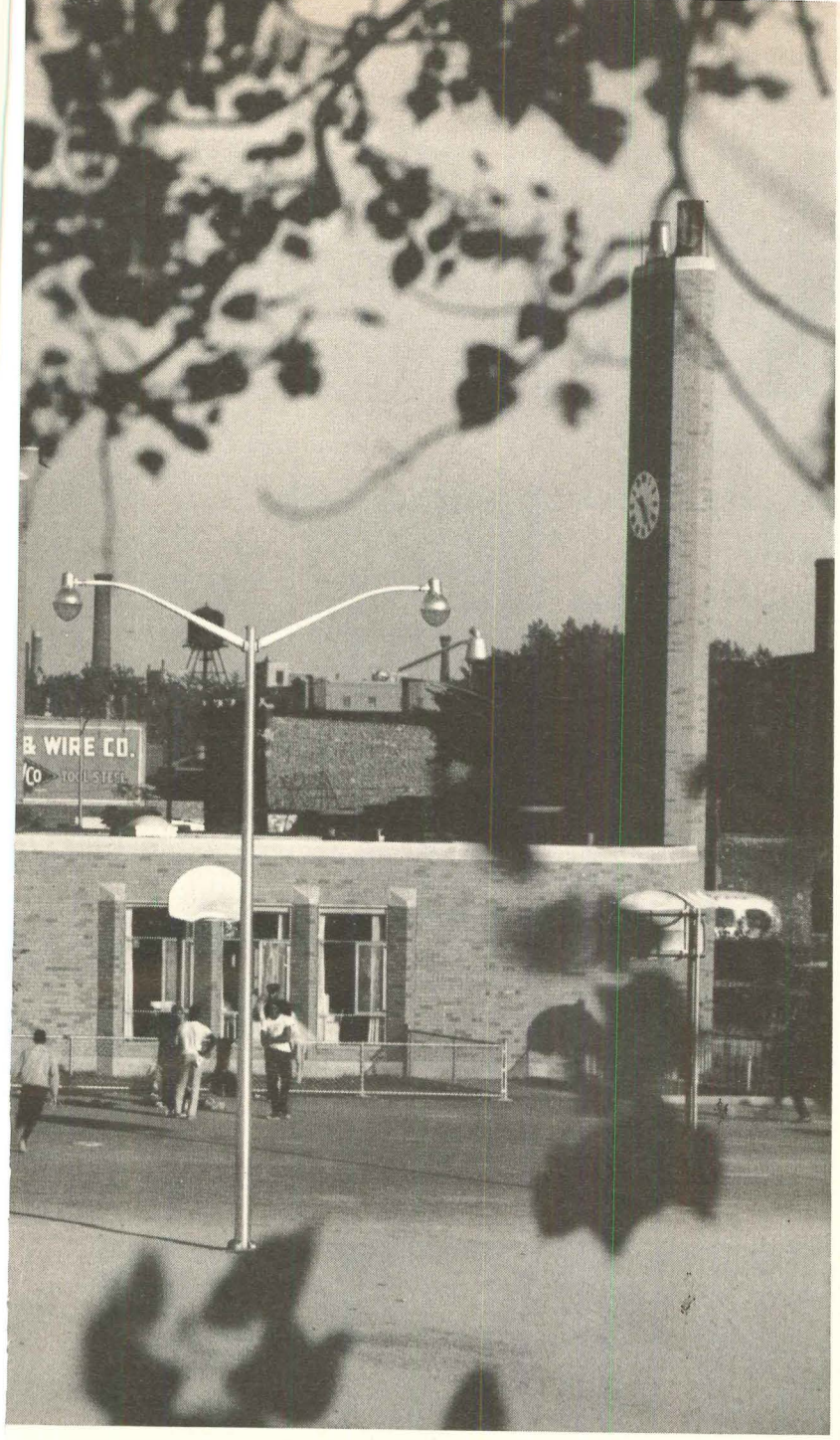
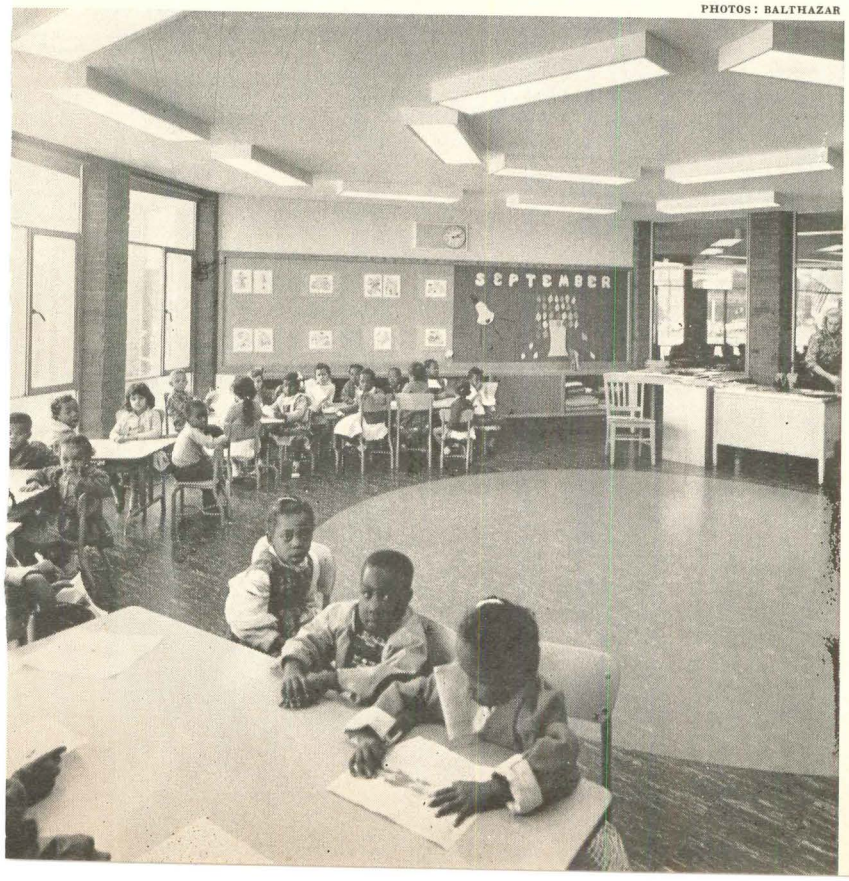




PHOTOS: BALTHAZAR

A HIGH NEST OF HEXAGONS

This new elementary school in Chicago has a strong identity both indoors and out, growing from the plan of its classrooms, which are a combination of stacks of hexagons. Alongside the tall, many-edged shape lies a low contrasting wing-of-all-purpose space—library–lunchroom, gymnasium, administrative offices, etc.

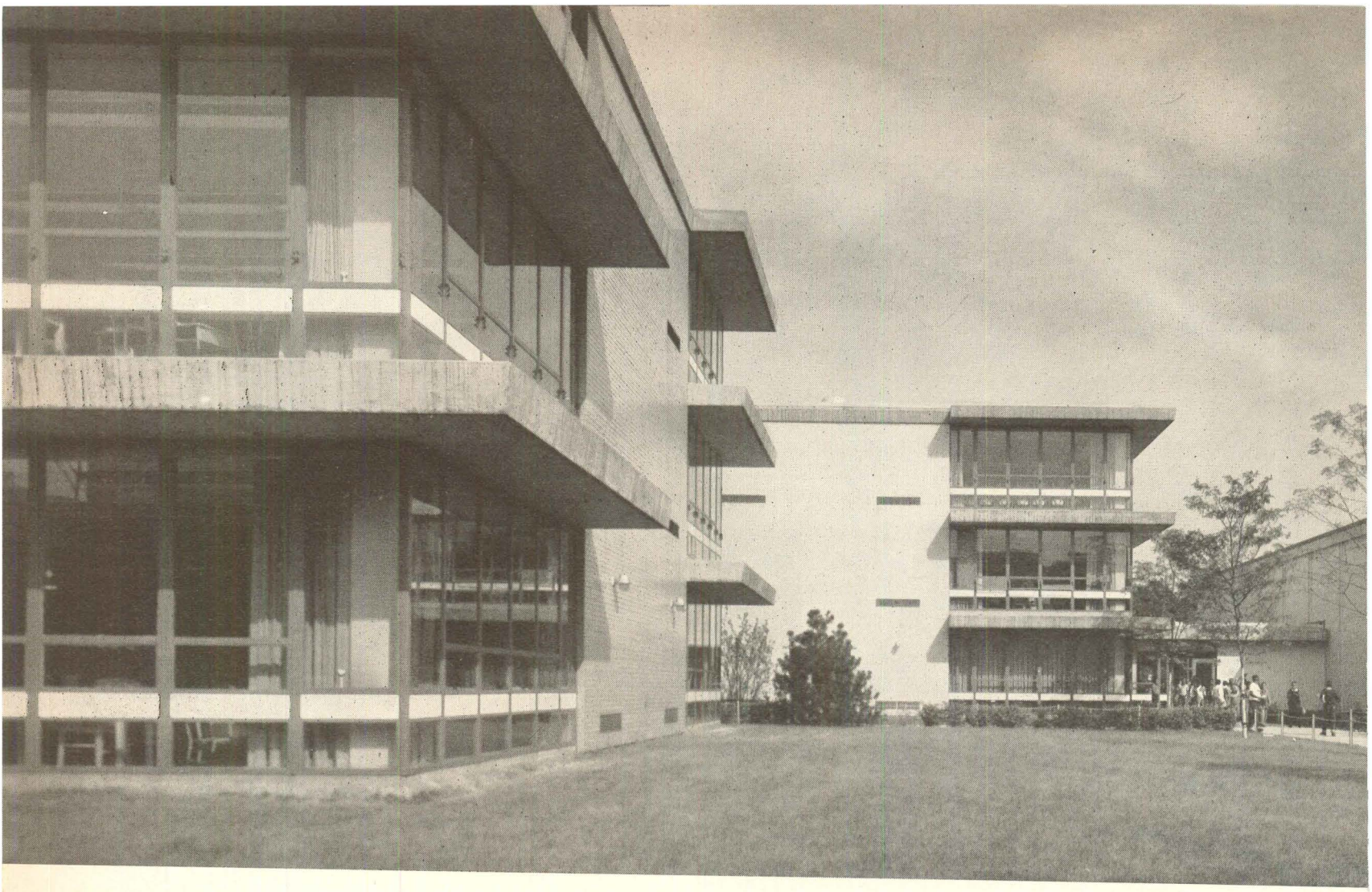
What the special classroom shape stemmed from—besides the fact that a hexagon is basically a good elementary classroom shape because of its ample "undirected" space enclosure—was the decision to break up the big school (1120 pupils) into distinct smaller schools of about four classrooms each, for intimacy.

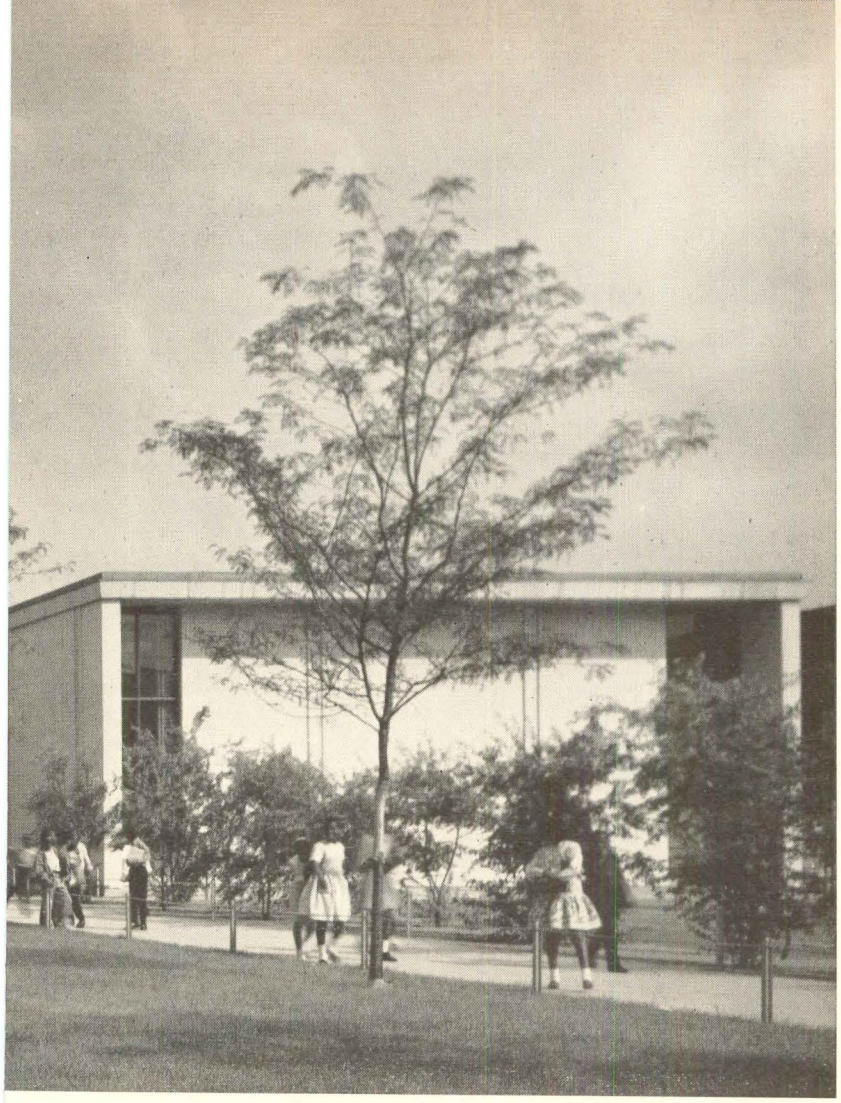
The hexagons stack very well, and they saved a good deal of corridor space over the usual classroom arrangement — space which was spent wisely in a central common room for each group of four classrooms. Each of the classrooms has two exposures of window wall; the interior common room also shares in the daylight because the partitions between it and the classrooms are glazed. The other walls bounding this central room wear the brown, rough-textured face brick of the building's exterior. The school's public spaces have the same sturdy walling.

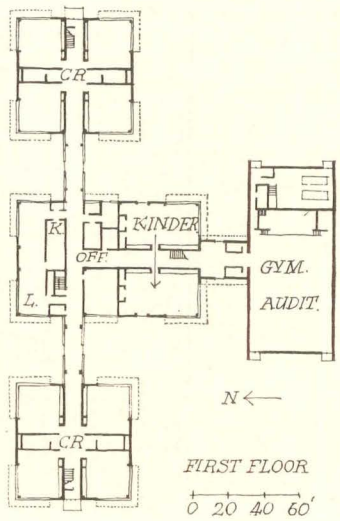
Jens Jensen School stands up vigorously in its downtrodden neighborhood. It is not far from where one of those bloodless arteries of the metropolis, a new expressway, swings through, and not far from another sociological monument, a public housing development.

FACTS AND FIGURES

Jens Jensen Elementary School, Chicago, Ill.
Architect: Harry Weese & Assoc.
Engineers: Engineers Collaborative (structural), Samuel R. Lewis & Assoc. (mechanical and electrical).
Landscape architect: Ned Samuels.
General contractor: Mercury Builders.
Building Area: 57,435 square feet.
Construction cost: $974,649 (approximately $17 per square foot.
Structure: masonry bearing walls and piers supporting steel joists with concrete floor slabs. Classroom heating: unit ventilators supplemented by convectors beneath windows. Administrative wing is heated and filtered by air from a unit located above the gymnasium storage room. Boilers are oil fired.







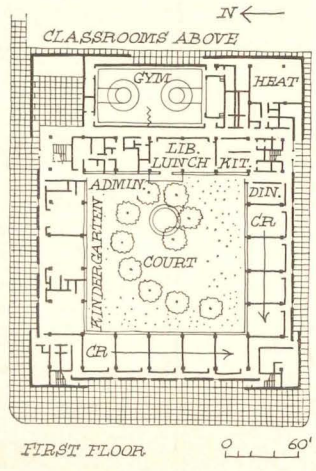
A SCHOOL THAT SEES THE CITY

This is the latest in the Perkins & Will multistory pattern for Chicago. Architect Larry Perkins describes the schools as "Crow Island brought to the city and stacked . . ." Where most city schools (see below) arrange themselves inwardly around a court, this type looks outward. "In some cases there is not a pretty view, perhaps," says Perkins philosophically, "but it is a live one, changing with the clouds, the mist, the sunshine, and the dusk. It is theirs and it is real. Theirs to like, hate, and perhaps help change."

FACTS AND FIGURES

Anthony Overton Elementary School, Chicago, Ill.
Architects: Perkins & Will (Lawrence B. Perkins, partner-in-charge; F. Philip Brotherton, project-architect; Howard E. Schersten, job captain). General Contractors: William E. Burger Co.
Construction: reinforced concrete with standard glass walls and brick panels. Cost: $1.1 million for 64,700 square feet (approximately $17.50 per square foot).

PHOTOS: HEDRICK-BLESSING



A SCHOOL WITH AN INSIDE VIEW

Unlike the Chicago school shown above, the Doolittle school is an introvert. It also looks just a little like a recording studio of the 1940s, turned inside out. Large plaques of brick suggest the movable acoustical vanes of the studio; its character is that of a plain, orderly, controlled building. The reasons for this design originated in the school's location in a Chicago redevelopment area; what the school board asked for was calm, quiet and order, and pleasantness—on a limited site. When the landscaping comes in, the interior court (not used for a playground) will surely provide.

FACTS AND FIGURES

James R. Doolittle Jr. Elementary School, Chicago, Ill.
Architects & Engineers: Skidmore, Owings & Merrill of Chicago. General contractor: Oman & Giden Inc. Gross floor area: 70,600 square feet. Cost: $1.14 million (or approximately $16.25 per square foot). Structure: concrete waffle slabs on concrete columns.

STILL BETTER SCHOOLS AHEAD

As encouraging as the preceding urban schools are, it is possible that they are but a prelude. The five schools shown on these next pages are yet still unfinished; but it is clear their designers were convinced that a city school—far from being another gray smudge in a gray cityscape—should be a positive event, a place to generate communal pride. And, even more important, perhaps, the client has made that decision too—four of these five schools were commissioned by that super-harried group, the New York City Board of Education.

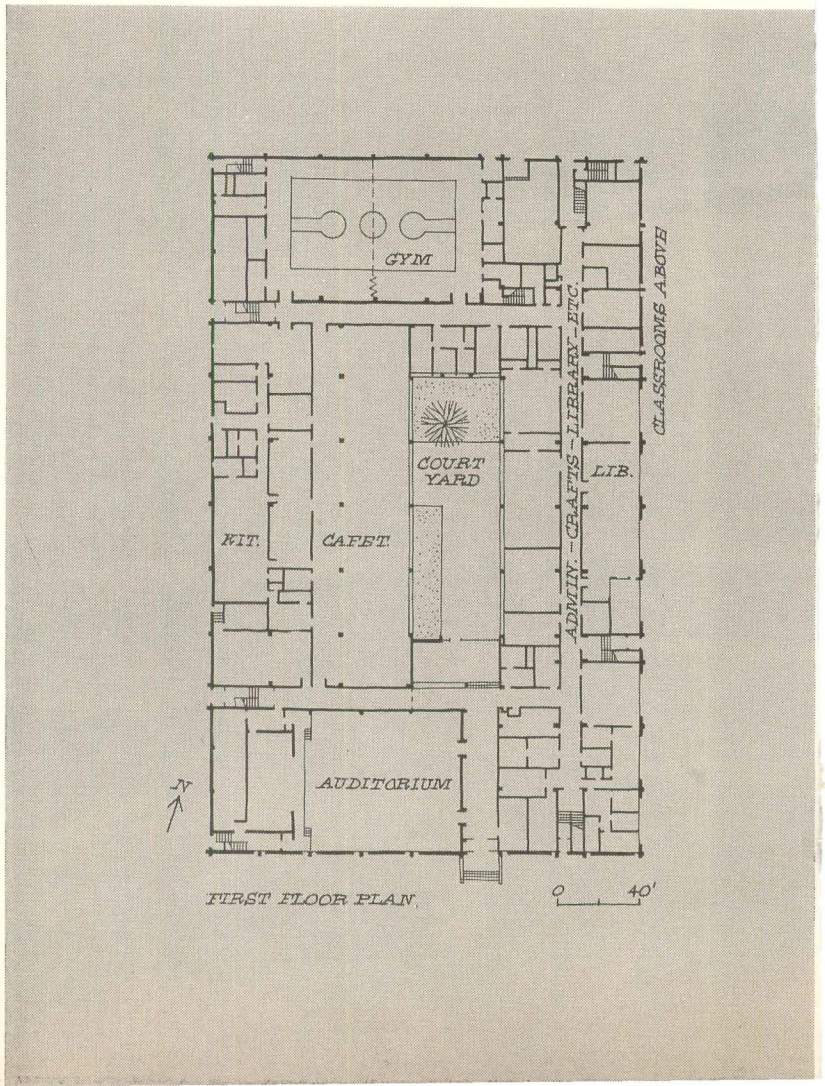
A STRONG BEAT IN CONCRETE

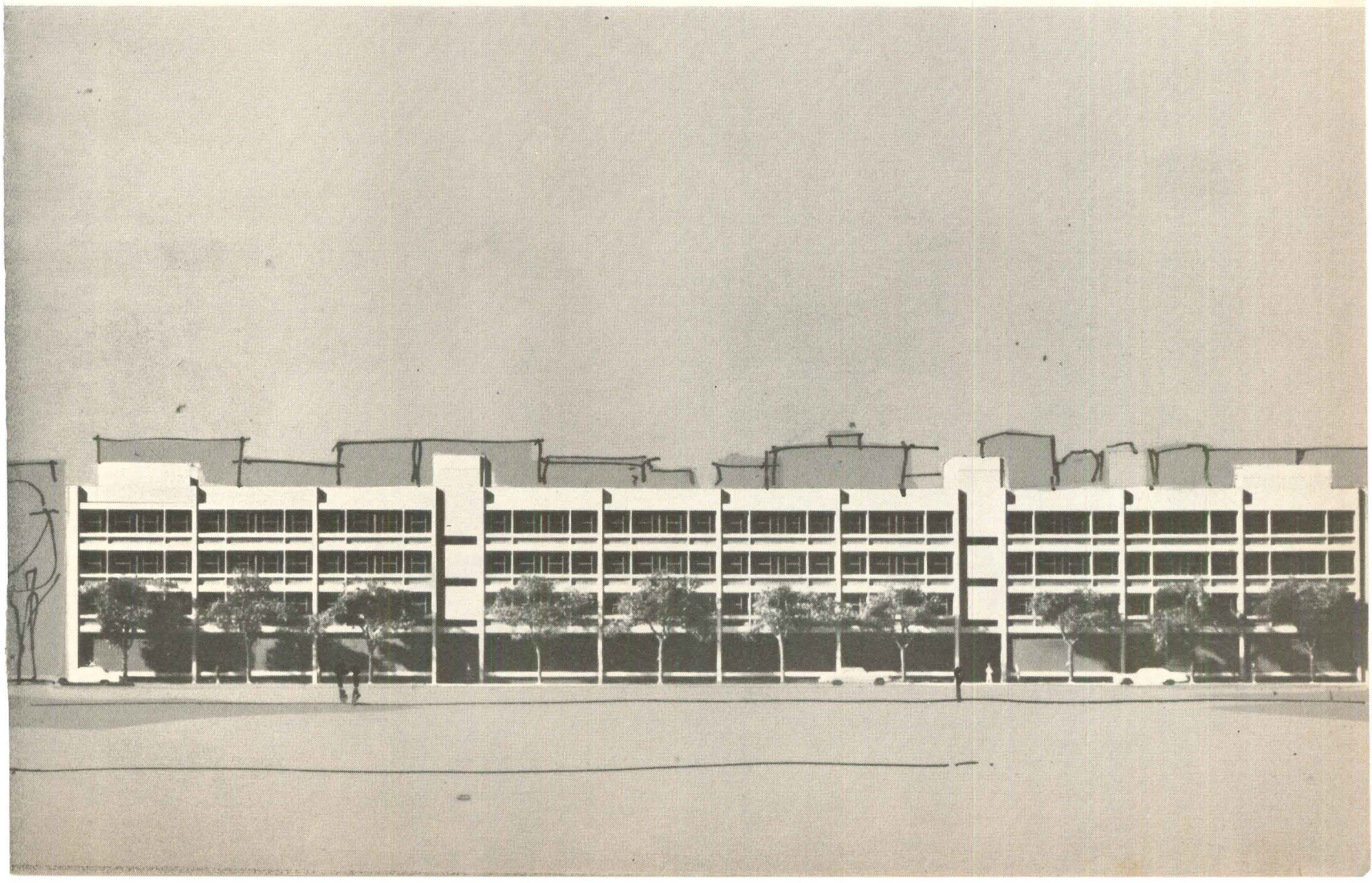
There will be nothing small about this junior high school in Brooklyn. It will accept 2,178 students. But its character is not small either; instead, the school deliberately sets out to be a brawny, stylish building, another rebuttal of the slick, impersonal panel wall in favor of boldly modeled planes of precast concrete and brick.

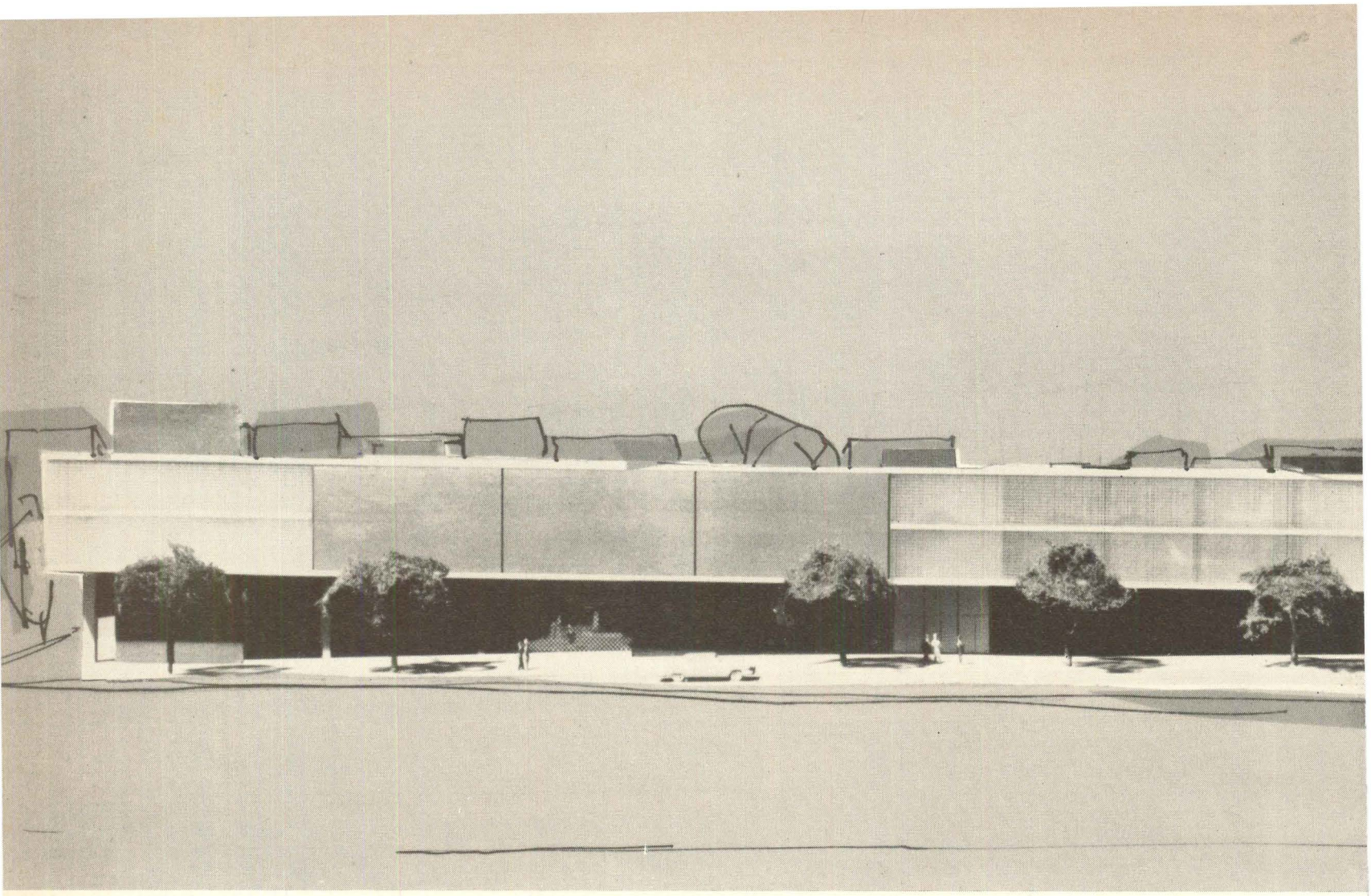
The neighborhood into which this school will be set is the typically endless growth of mixed commercial, industrial, housing which makes Brooklyn such a monotonous place visually. The only real landmark in the vicinity is an elevated super highway sweeping past a block or so away, an enormous concrete symbol of escape. But soon there will be another symbol—this school.

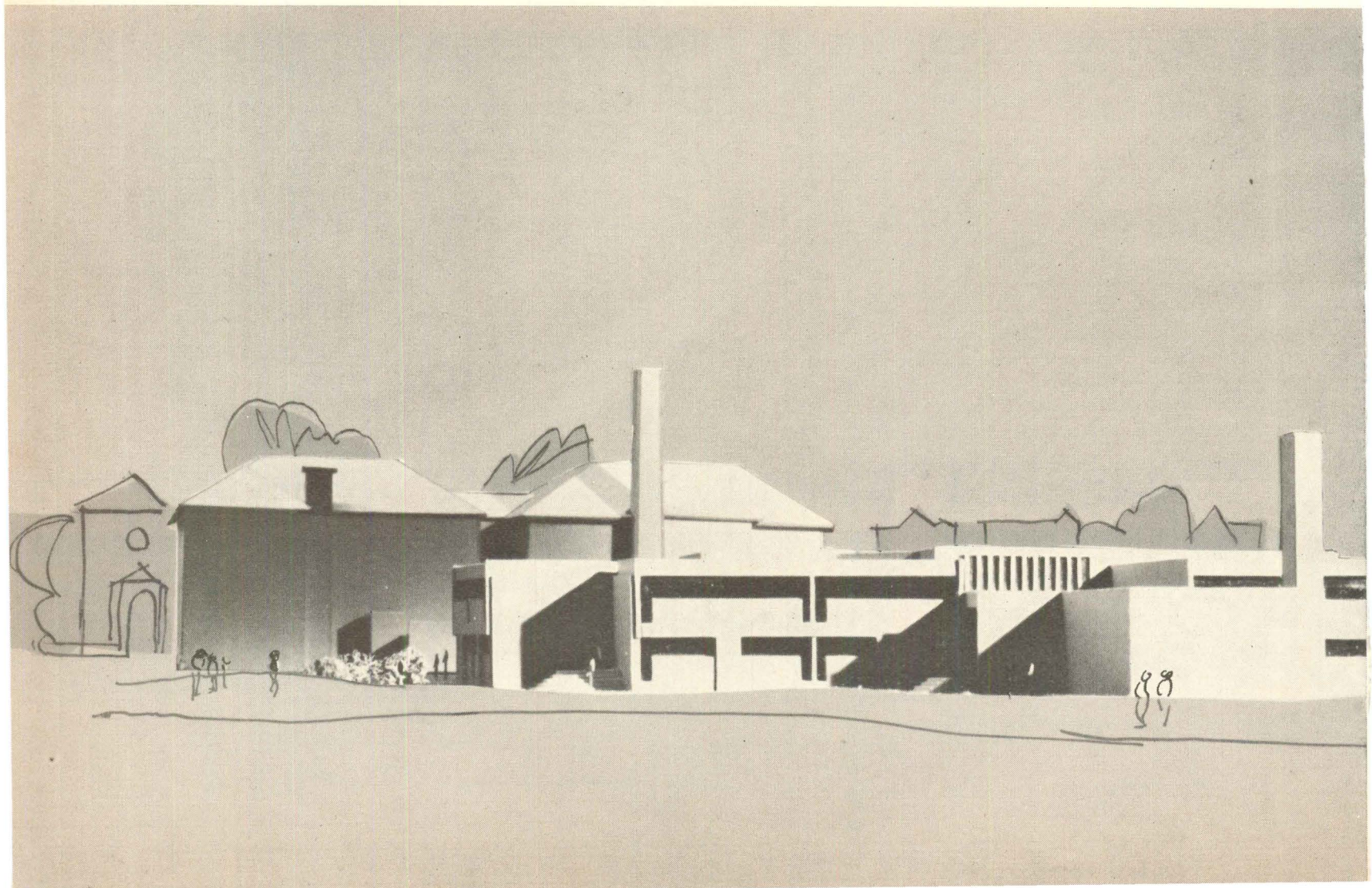
Architects: William F. Pedersen, Bradford S. Tilney; Julian Neski (associate). Engineers: Aaron Garfinkel (structural), Joseph R. Loring & Assoc. (mechanical). General contractor: Planet Construction Co.

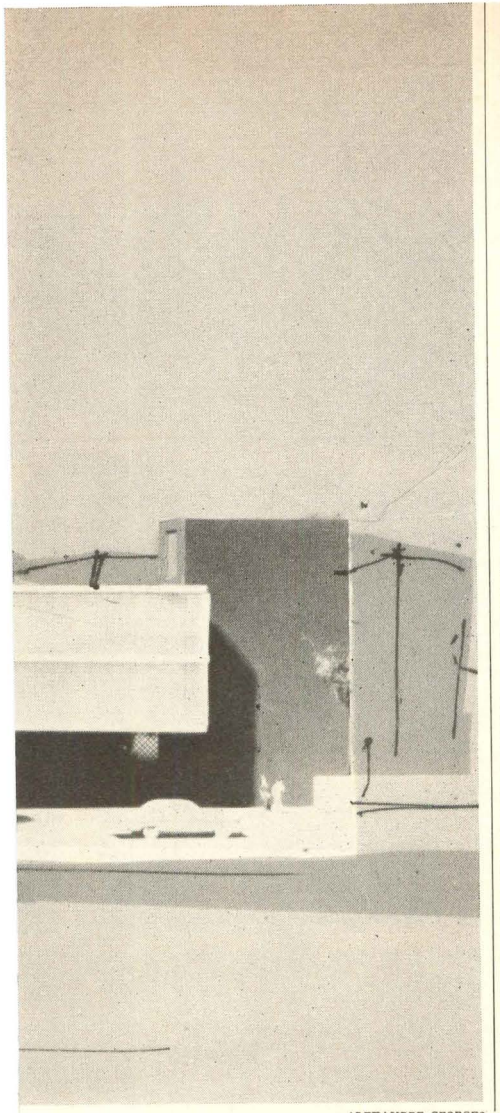
PHOTOS: LOUIS CHECKMAN



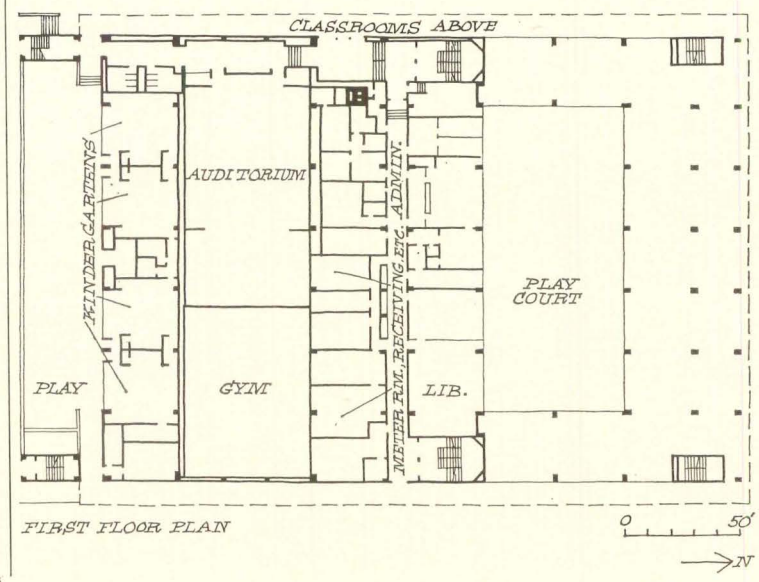








ALEXANDRE GEORGES



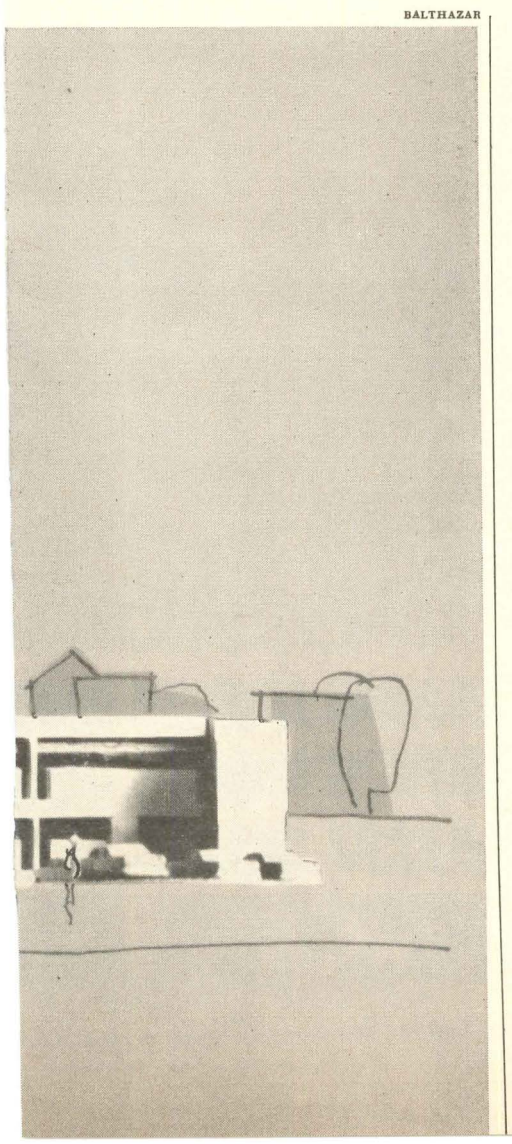
A LOFT CUT BY COURTYARDS

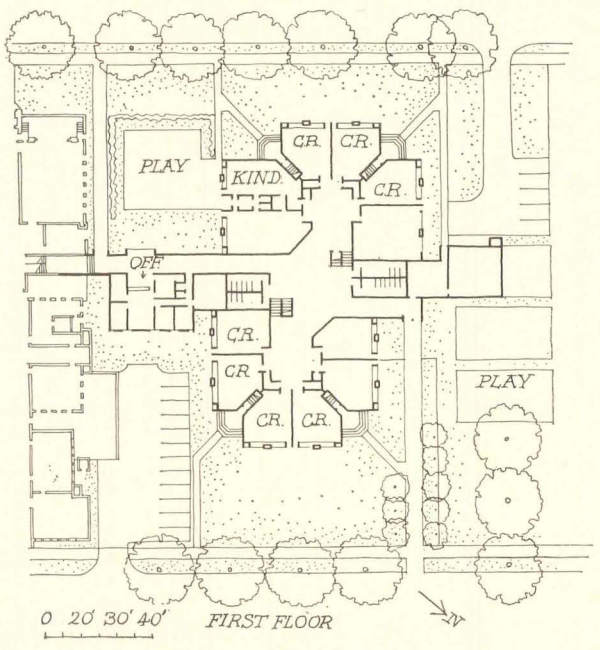
The father of this big elementary school to be built in the Bushwick section of Brooklyn is from the suburbs—his name is the campus plan. And its mother is a city girl, the kind of multistory housing which uses open galleries to connect apartments. This marriage of two ideas is a sophisticated one, less rigorous structually than some of the other new urban schools shown on these pages, but very deft.

The school is inner-directed: all windows face on two large courtyards; main corridors are on the periphery. The two major classroom floors float over a ground-floor courtyard. The second courtyard is up a level higher, riding the roof of the gymnasium and auditorium, with classrooms opening directly onto it.

Architects: Morris Ketchum Jr. and Assoc. Engineers: Ames and Selnick (structural), Slocum and Fuller (mechanical). Landscape architects: Zion and Breen. Auditorium consultant: Ben Schlanger.

BALTHAZAR



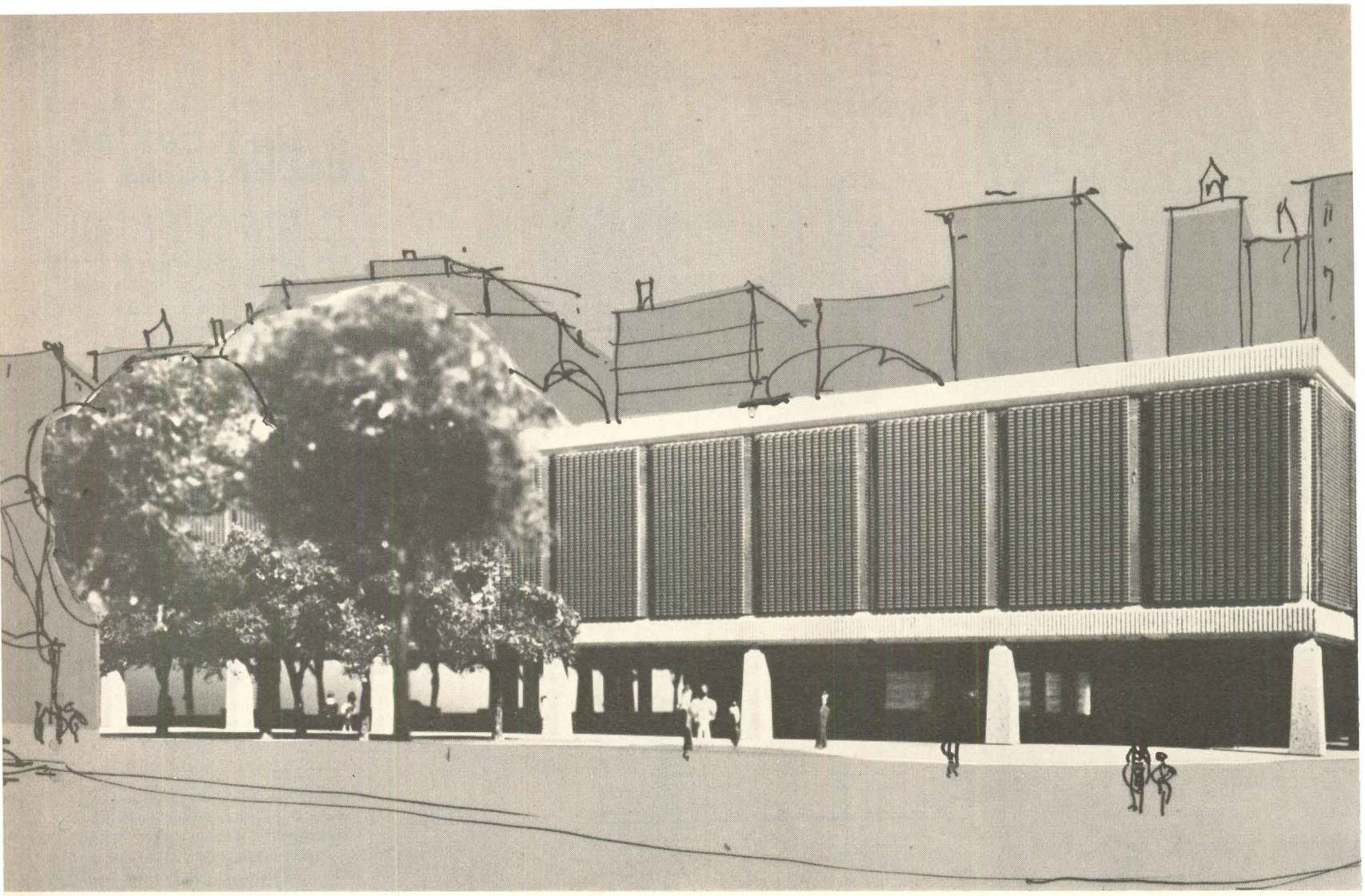


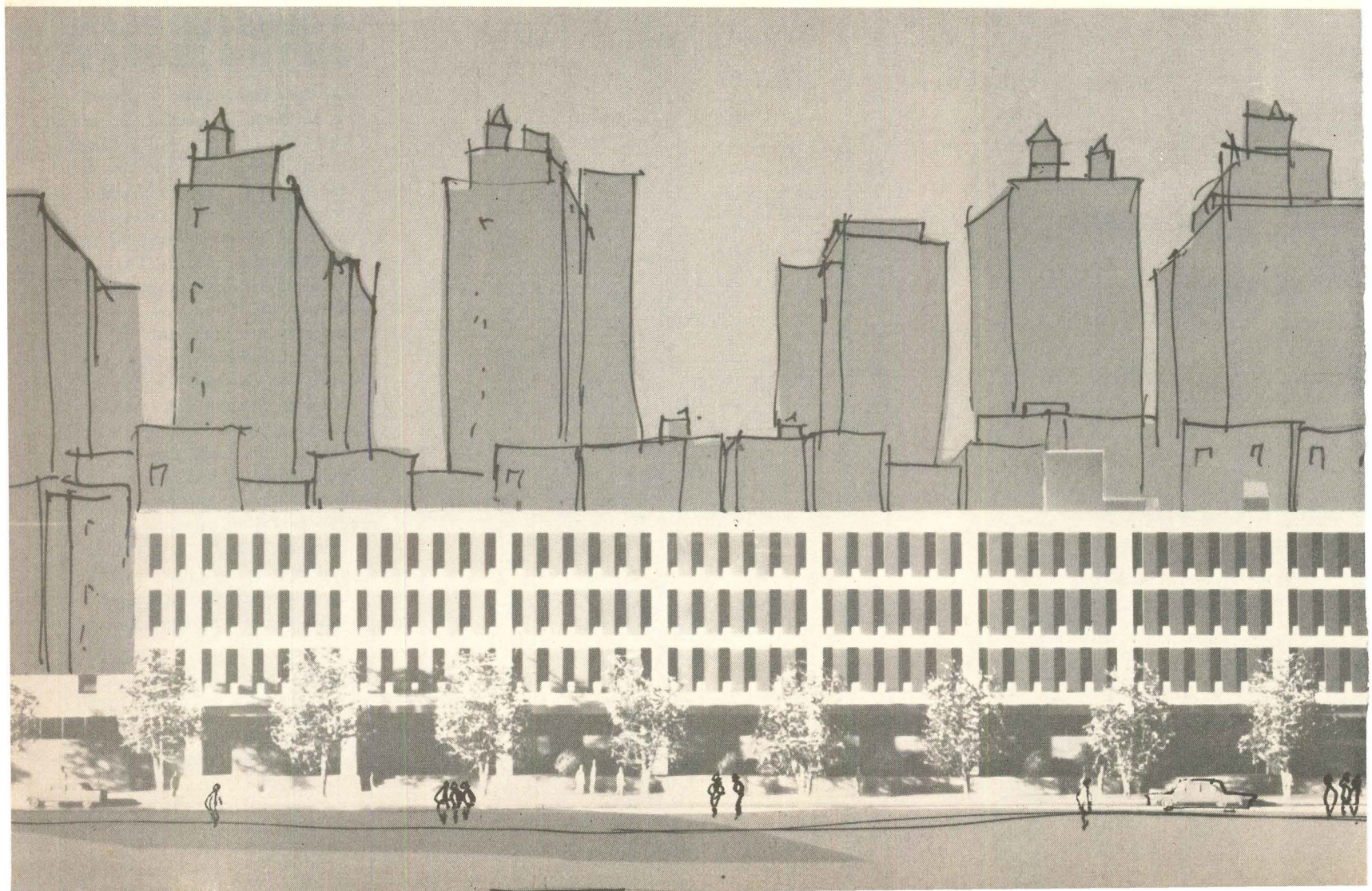
A CLUSTER PLAN ON TWO FLOORS

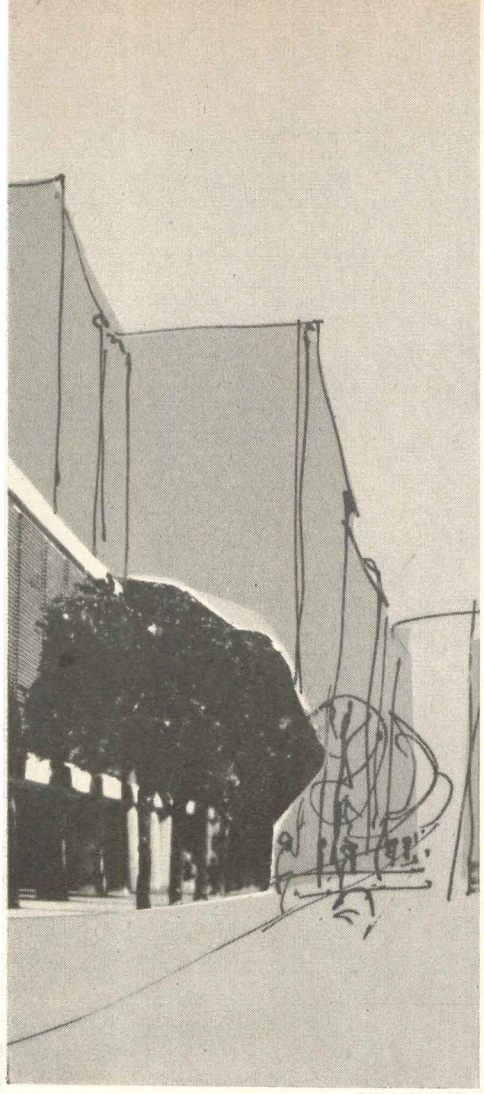
This is a huge addition which will jut out from an existing Detroit school. Its first stage will include almost 1,500 pupils—and this although it is an elementary school, bridging the years when most educators are most covetous of intimacy for their charges. Thus the spatial efforts made by Architects Birkerts and Straub to cut the school down to child size.

What they have come up with is a two-story system of classrooms clustered around lofty central spaces which also contain the stairways, so both levels can be daylighted from clerestories up top. Without wasting interior space, or adding excessively to exterior wall areas, this plan, with its scoop-shaped classrooms, also breaks the large school down into a number of simple, smaller-seeming shapes.

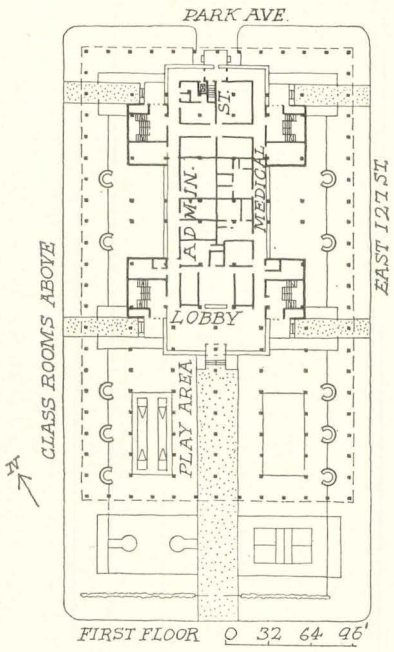
Architects: Birkerts and Straub. Engineers: E. G. Siegel Assoc. (mechanical), Clifford Holforty Assoc. (structural). General contractor: Bundy Construction Co..







LOUIS CHECKMAN

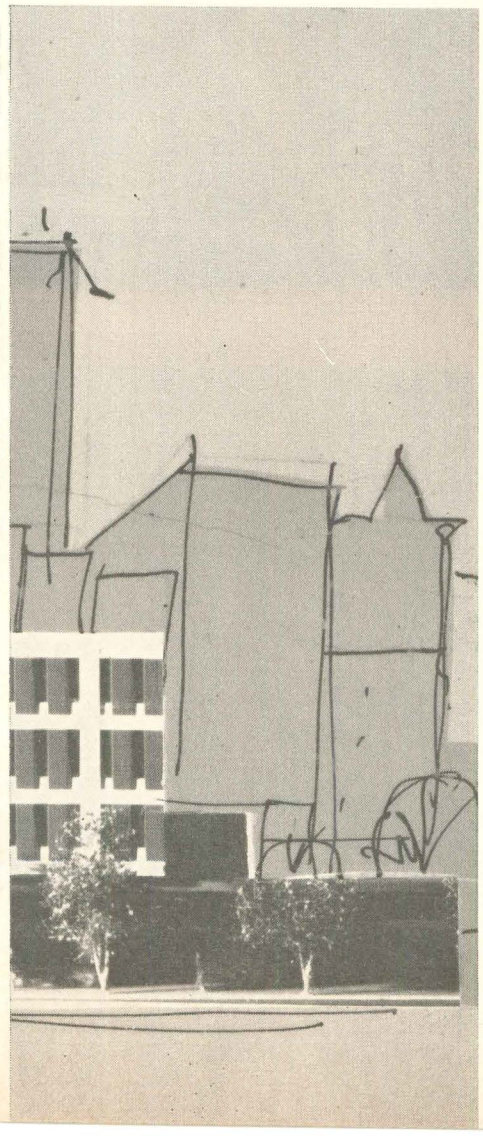


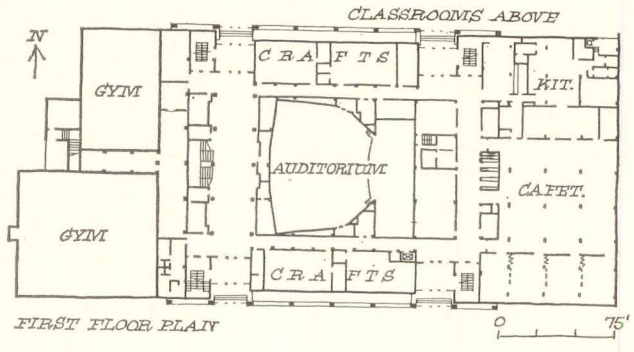
A COOL DESIGN IN HOT HARLEM

This new Manhattan junior school will be built high on Park Avenue, too high, where the island of greenery down the center of the street has been replaced by a noisy railroad viaduct. The neighborhood is not good; the plot is constricted; but the architects rose to the challenge.

For one thing, the new school building will be determinedly handsome, on strong concrete legs, wearing a good-looking brick screen (perforated and glazed at corridor endings). For another, it will unite the neighborhood by providing an arcade under the elevated classrooms. But perhaps most significant of all, this school, in one of New York's most savagely sick neighborhoods (Spanish Harlem), will be one of the first air-conditioned schools in the city.

Architects: Curtis & Davis. Engineers: Brown and Pomerantz (mechanical), Ames and Selnick (structural). Acoustical consultant: John A. Donahue. Cost estimates: Stephen H. Falks and Assoc.

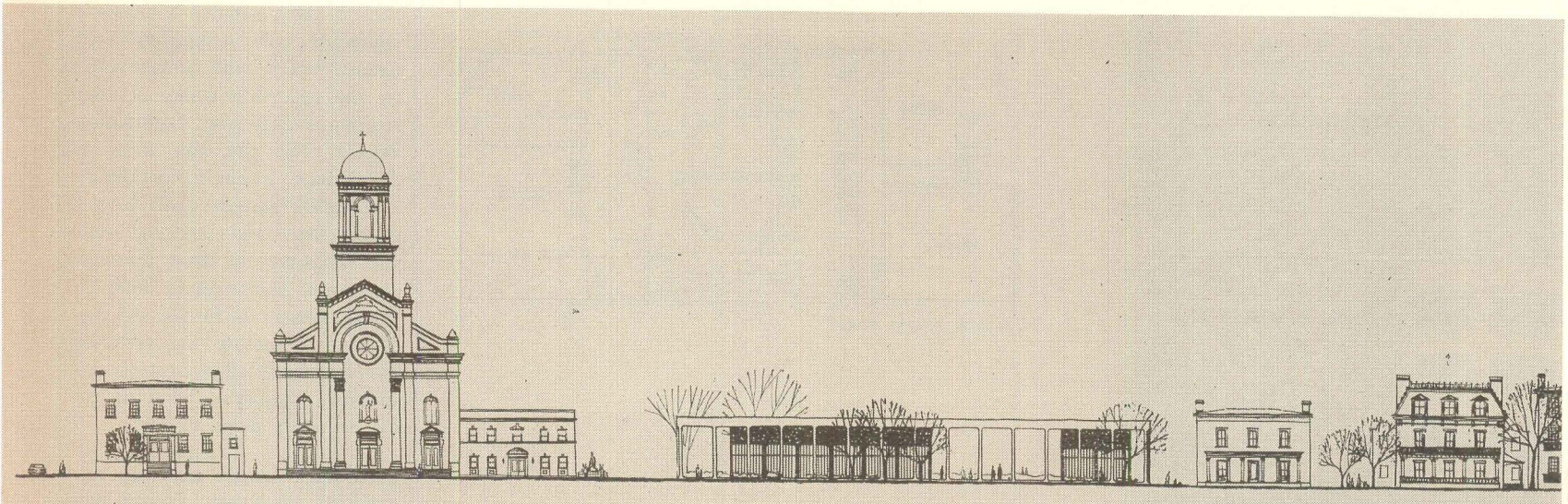




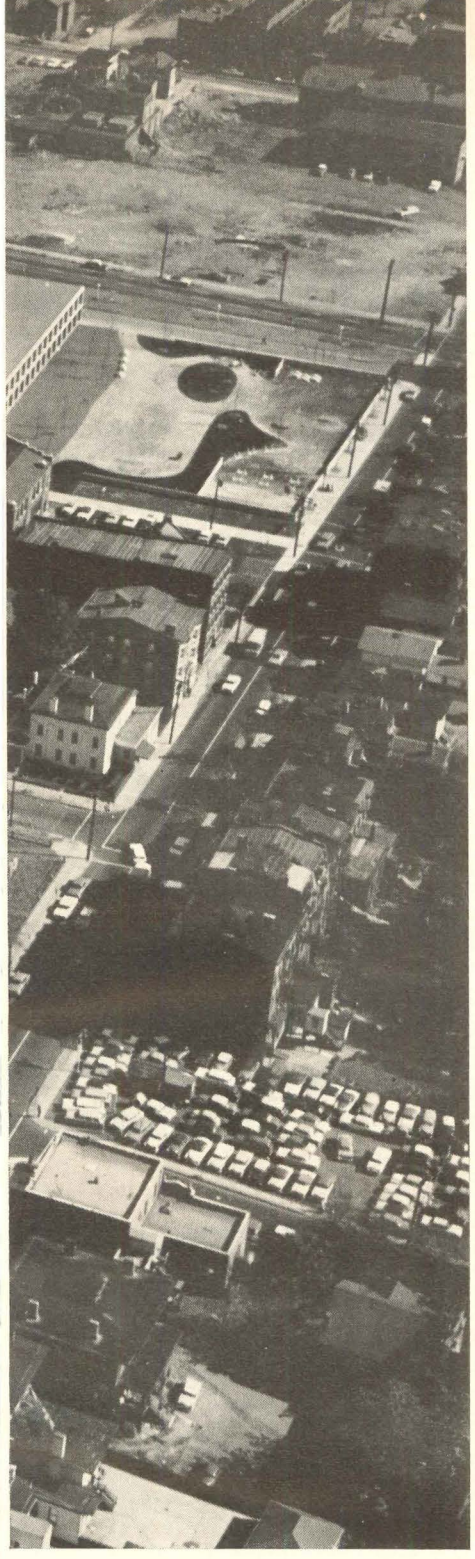
A CHESS GAME UP IN THE AIR

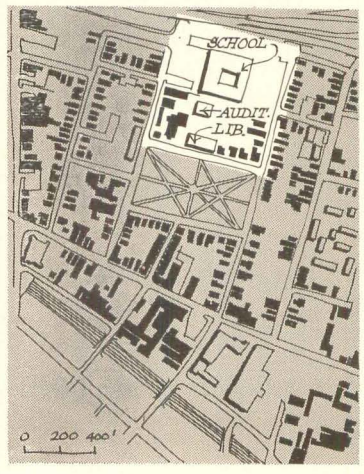
To free the simple shape of this large new school on the west side of Manhattan, Architects Charles Luckman Associates half buried the bulky spaces of a pair of gymnasiums and a 900-seat auditorium. Then they raised the classrooms on legs (and on top the auditorium roof) and arranged them around a pleasant courtyard (the auditorium roof again) which will feature some of the agreeable works of that sculptural sandman, Constantino Nivola. The site, like most in Manhattan, is small, considering that 2,500 students will attend classes here, and this fact lead the designers to their three-dimensional chess game. The rational element is further emphasized by exposing the concrete frame of the lifted classrooms, and insetting plaques of brick to get the windows down to size.

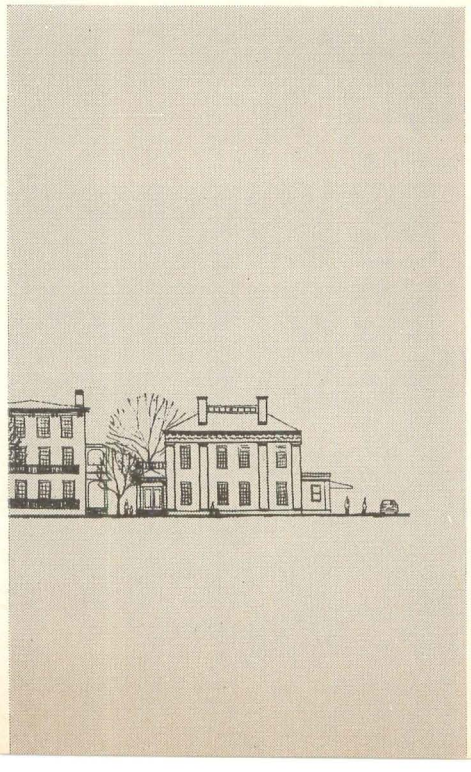
Architects: Charles Luckman Associates. Engineers: Farkas and Barron (structural), Wald and Zigas (mechanical and electrical).



ELEVATION FACING WOOSTER SQUARE







A CITY SCHOOL GIVES A LIFT TO CITY RENEWAL

New Haven's Conte School and Community Center may be the best example in the nation of how a city school can become the key element in the renewal of a neighborhood.

The Wooster Square area, where the school opened last fall, was like many another urban neighborhood: century-old frame houses, obsolescing fast under the pressures of encroaching industrial plants. Once the outstanding Italian area in all New Haven, Wooster Square, at the time the urban renewal legislation of 1954 was passed, was fast becoming a slum.

A year later, a group of property owners in the area approached Mayor Richard C. Lee about starting a renewal program for Wooster Square. The city, then in the midst of massive clearance projects several blocks away in downtown, chose something other than massive clearance for Wooster Square. It chose to initiate a program of residential rehabilitation, and even bought 14 houses itself, refurbished them, and later sold them to private owners (FORUM, Aug. '62).

New schools for new families

Rehabilitation does not aim for the complete turnover of an area's population, but the city realized that the community would be strengthened by some influx of middle-income families. It also realized that this probably would not happen at all unless school facilities were drastically improved.

With the city committed to helping owners rehabilitate their homes in Wooster Square, the impetus for a new kind of school–community center further to revitalize the neighborhood came from two sources: (1) from a special report on the city's schools by consultant Cyril G. Sargent outlining needs, and recommending a program of community schools for all its older, core neighborhoods; and (2) from Mayor Lee himself.

On the strength of Sargent's recommendations, Lee made an ambitious school building effort an integral part of the city's renewal program: 15 new schools are being built at a cost of over $13 million. Lee also approved of Sargent's community school proposal, which was aimed at strengthening those neighborhoods that needed it most, and he started by programming 10 such schools, of which Conte is the first new one. (Five existing schools have already been converted to community schools.)

The community school is designed to perform four major functions, according to New Haven's Board of Education: (1) provide the finest education for both children and adults; (2) serve as a neighborhood recreation center; (3) focus all neighborhood social services, including health clinics, family counseling, legal and job help; and (4) become the center for all community life, a sort of common ground for all neighbors not only for recreation, but to consider mutual problems. To perform these varied functions, the architects produced a 3-part plan: the school itself (a square doughnut shape); the auditorium; and a public library–community house. All three buildings are connected by paved walks.

The Board of Education's notion of how a school can perform broad-gauge community functions was dovetailed into the renewal program, to the considerable advantage not only of the neighborhood, but also of the school building program itself. For one thing, the city, through the urban renewal process, was able to clear away nonconforming industrial uses at the school site, and thereby supply to the Board of Education a larger and cheaper site than it would otherwise have had. The difference in land price is, in fact, staggering: the city sold the land to the Board of Education for about $60,000 (for the 6.2 acre site), whereas it would have cost the Board $1,440,000 if acquired in the usual way. The federal government in turn pays the city three-quarters of the $1,440,000 under renewal.

But that is not all: the federal government also allows the city a credit of $3.5 million—the cost of the Conte school and community center—toward the city's one-quarter share of renewal costs, and this substantial amount can be charged as the city's costs over the total program, not just in Wooster Square.

Less tangible, but nonetheless important benefits accrue to the city: for example, little of the new housing now being built in Wooster Square would have gone ahead had it not been for the

presence of a distinguished school. New Haven's Development Administrator, L. Thomas Appleby, says that "this is the sort of school we must provide in an area where we want to bring some new families back."

Better design as policy

If the school has a certain suburban flavor, then that fact may be understandable in this context. More important, however, is the fact that this is, above all, a distinguished school, and for this the credit must go to Mayor Lee as much as to Architects Skidmore, Owings & Merrill.

It was Lee who first contacted SOM about four years ago. An architect was needed for the city's first new community school. At the same time, Lee was somewhat disappointed with the look of the city's earlier redevelopment efforts. Impressed by SOM's Connecticut General Headquarters (FORUM, Sept. '57), Lee convinced them to take the job.

The Mayor's interest in architecture has continued—in addition to SOM, architects such as Eero Saarinen Associates, Eliot Noyes, and John McL. Johansen have been brought in to do new schools, and Paul Rudolph has given the city a striking new landmark with his Temple Street parking garage (FORUM, Feb. '63). Lee was also instrumental in assuring that the school and community center did not fall prey to a minority of excessively cost-conscious members of the Board of Education. SOM's David Hughes says: "Lee realized that the school had to attract people, and it couldn't be built just to save dollars." When the architects decided to place the school's glass walls behind and inside its concrete structure "to give it a stronger-looking exterior," Lee defended the extra cost of such a move, and the building was finally done his way. If the school is not cheap, this is so partly because the city wanted something especially attractive, and partly because it was a new sort of facility, an integration of functions which had not been attempted before.

Since Conte was started, the Ford Foundation has given the city a $2.5 million grant to bolster its total arsenal of social services, and about half this money is being used in the community school program. At the same time, a federal grant of $800,000 for youth job training is being utilized through the facilities of Conte and other schools.

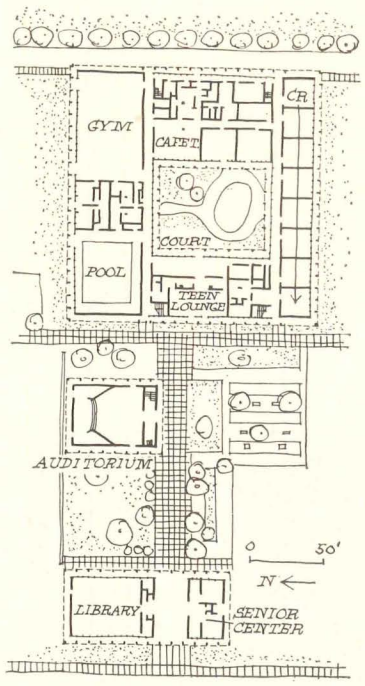
At 100,000 square feet, the two-story school is the largest of the three new structures at Wooster Square. It contains a gym, pool, cafeterias, kindergarten, classrooms and administrative offices at first floor level; and additional classrooms and workshops on the second floor. The central court gives natural light on two sides to classrooms facing inward, and to short runs of single-loaded corridors on the other two sides. Next to the school building (but separated from it) is the 350-seat auditorium. It is connected to the school by a short, underground tunnel, for use on rainy days. The third building is a combination public library and community facility for "senior citizens." The two functions are separated, framing an impressive, two-story high entrance portico to the whole center between them.

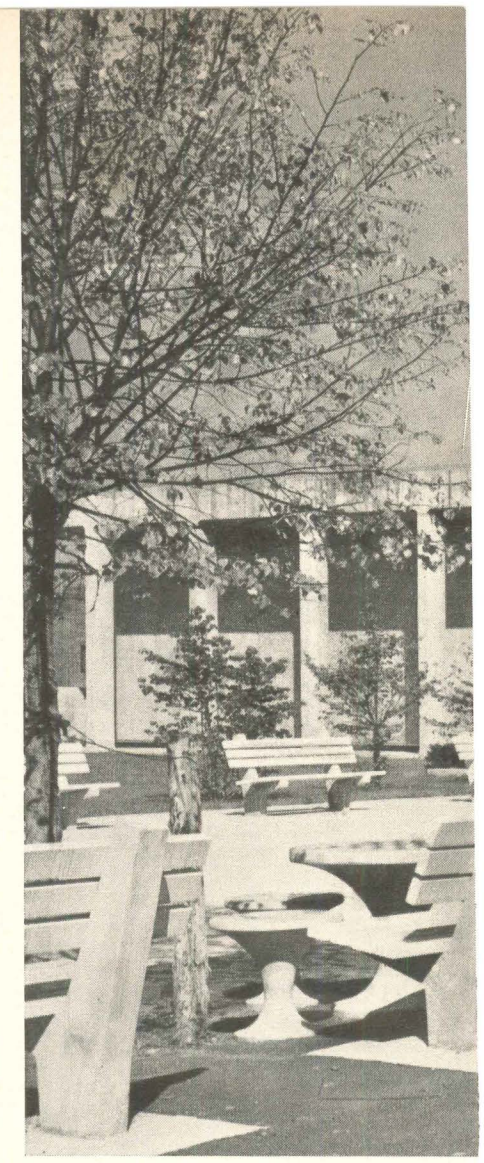
This summer, its first in operation, Conte demonstrated its range of functions. While children from all over the city used its big (50 by 60 ft.) swimming pool and gym, neighborhood adults enjoyed the library, auditorium, held meetings in the center's meeting rooms, played bocce and even had cookouts in the community yard.

With 720 pupils (the school is a K-8), about half of them Negro, the school today is full but not crowded. And school population is expected to remain about constant, as neighborhood boundaries are now firmly fixed. The new housing being built (for rents of about $118 for two bedrooms) is expected to be occupied quickly, for Wooster Square is again considered a premier neighborhood—with a premier school at its heart.

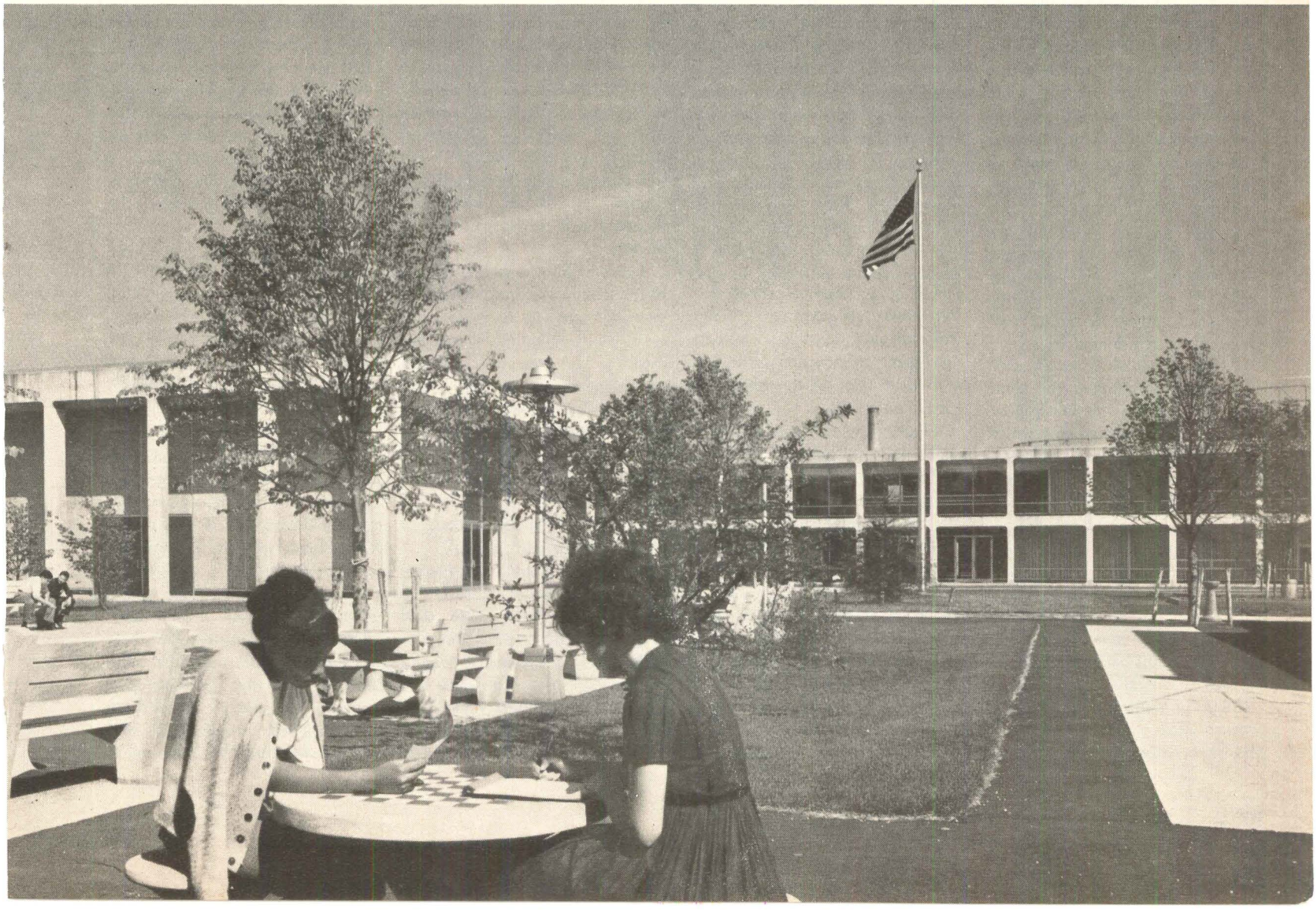
FACTS AND FIGURES

Harry A. Conte Community School, Wooster Square, New Haven, Conn. Architects: Skidmore, Owings & Merrill (partner in charge: David H. Hughes). Associate architect: Schilling & Goldbecker. Engineers: Paul Weidlinger (structural), Fred S. Dubin (mechanical & electrical). Landscape architects: Skidmore, Owings & Merrill. Contractor: W. J. Megin, Inc.
Building area: 165,125 square feet. Construction cost: $3.5 million—about $21 per square foot. Breakdown: landscaping and site work, $290,000; construction, $2,840,000; furnishings & equipment, $180,000; fees, $190,000.





PHOTOS: CUNNINGHAM-WERDNIGG



1964 FORECAST: $28.6 BILLION FOR NEW BUILDINGS

BY MILES L. COLEAN

This year's building boom will continue into 1964, when an all-time record $28.6 billion worth of new buildings will be put in place. Expected increases in house construction and heavy building will raise the over-all total to over $65 billion.

Continuing the recovery from the 1960 "sinking spell" (the only postwar year of decline in building), these dollar gains translate into a 4.2 per cent increase in building construction, and a 2.6 per cent rise in total construction. Actually, these gains will be modest, relative to last year's splurge (a 13 per cent rise in new buildings) and probably will reach no higher than this year's levels. Moreover, perhaps half of the dollar rise in the volume of new construction will result from rising costs. By and large, however, building costs in 1964 will be stable—that is, they will only rise slightly, with hikes in labor costs and some materials being partially offset by slight declines in the prices of other materials and some gains in productivity.

Evidence points to a growing slackening of demand for some types of building, notably offices, hotels and even apartments, which have provided the major impetus for the boom of the past three years. To date, demand for these building types has been strong, not only because of basic market factors, but because of the generally favorable building climate: the federal tax structure has favored building investment, and mortgage credit has been relatively easy to obtain.

Some of these incentives could weaken next year, however, and the effect might be seen during next year or deferred until 1965. It now seems obvious, at any rate, that a readjustment in construction will take place before another full-fledged boom gets underway.

Some of the uncertainties of the situation arise from the possible effects on mortgage money of difficulties in the international balance of payments. If steps are taken to tighten money for reasons of international finance, the repercussions would be felt in the price and availability of mortgage funds. Also, the drive for racial integration may be unsettling to residential building, although the signs so far are hard to read. It is possible that some of the drop in FHA-insured housing starts has been attributable to governmental measures to insure freedom of purchase to all comers. Last month, the FHA decreed that apartment builders operating under its programs would have to assure nondiscrimination in employment not only for themselves but their sub-contractors, and this may slow down FHA-insured apartment construction (which is a small portion of the total), at least temporarily.

Whatever effect such measures might have, however, will undoubtedly be dissipated by a strong housing market—it should not take builders long to see that a free market means more profits. A tax cut would help offset possible lower activity due to tighter money or racial difficulties, and such a tax cut is expected to go into effect next year. A prospective cut in corporate rates would stimulate new industrial and commercial construction.

Despite these uncertainties, there should be continued strength next year in these areas:

Apartments will again be the major factor in the continuing vigor of building construction. Apartment construction this year is expected to total over 500,000 units or one-third of all new housing, and will increase by 10 per cent in 1964 in terms of units started. This indicates the most units, and the highest dollar volume ($6.5 billion) ever, and the highest share of all housing since the late 1920s. The expected slowdown in New York apartment building this year has been more than balanced by rising activity in other cities. Though the broadening apartment market may feel temporary dislocations through next year, the major factors underpinning its strength will continue to be in effect, even though future expansion may be modest.

These include a favorable mix of family composition, including a growing number of older and very young couples, and rising incomes, as well as favorable conditions in the mortgage money market. The current low number of public housing units per year will probably continue into 1964—around 25,000 units are estimated for each year—but this will not be significant enough to change the over-all picture.

While apartment construction has boomed, house construction has also been doing better than expected. The proportions of FHA- and VA-financed homes has declined this year, and this drop might continue into 1964. Still, there should be over 1 million houses built next year, unless mortgage credit conditions change so drastically that homebuilding over-all is cut back.

Office building will also bolster next year's market, as it has this year's, although it has lost its robust character. In 1964, an estimated $2.8 billion of new office space will be erected, about 3.7 per cent more than this year's record. This is a slim gain by previous years' standards. Perhaps most important, activity is no longer so concentrated as it once was—while the great Manhattan boom shows some signs of slowing down, other cities, which have had no new building since the 1920s, are now beginning to build new space. Construction of government office buildings will rise nearly 7 per cent next year, as the accelerated public works program continues to provide a big shot in the arm.

Industrial construction is just hitting its stride, after a period of decline. This year's level of $3.3 billion will be 3 per cent higher than 1962, and next year should see the rate of gain double, to a yearly high of $3.5 billion.

Hotels and motels will decline and offset some of the continued strength in apartments and factory construction. If a time of adjustment is present for any type of construction, it is at hand for hotels and motels. This year's volume will strike a new high of $1.6 billion, but next year there will probably be a decline of at least 3 per cent, or about $50 million. The amount of work to be completed through next year is still substantial, but the amount

of new hotel construction being contracted for will undoubtedly be reduced in the months to come.

Religious buildings are another category not showing much vigor. This year, religious building of all types will decline moderately from 1962, and next year the total will be no better than this year. A setback in general business activity, or even a leveling off, such as occurred in late 1961, generally foretells a decline in religious building. As the economy continues its recent upward climb, such construction should grow stronger, however.

Stores, garages and restaurants represent another pallid sector for construction next year. These structures will experience only a 2.4 per cent rise over 1963 levels. The chief reason: a decline in shopping center construction.

School construction, on the other hand, should rise in 1964, with total volume for both public and private schools rising to about $3.8 billion. If federal aid measures to college building become effective, the school construction could advance even further in 1964.

Whereas public building accounts for the lion's share of new school construction, private building accounts for over 60 per cent of all new hospitals.

Hospital construction should continue to boom in 1964, rising a healthy 14 per cent over the $1.5 billion total expected this year. From 1961 through next year, hospital construction will have risen over 40 per cent, and the fast-growing needs for nursing homes and special facilities for the aged assures the demand will continue for some time.

Social and recreational construction will continue to rise steadily in 1964, although the "mix" within this category will shift somewhat. For one thing, the building of bowling alleys, which boomed for several years, has quieted down, but there has been a coincident increase in building of country clubs, community buildings and cultural centers. END

CONSTRUCTION REVIEW AND FORECAST (expenditures in millions)

Type of construction	1963 estimate			1964 forecast			INCREASE
	Private	Government	Total	Private	Government	Total	1963-64
BUILDING CONSTRUCTION	$20,400	$ 7,015	$27,415	$21,350	$ 7,205	**$28,555**	4.2%
Apartments[1]	5,700	330	6,030	6,150	300	**6,450**	7.0
Hotels, motels, dormitories	1,300	330	1,630	1,250	330	**1,580**	–3.1
Offices and warehouses	2,700	....	2,700	2,800	....	**2,800**	3.7
Public administrative and service[2]	....	725	725	....	775	**775**	6.9
Stores, restaurants, garages	2,100	....	2,100	2,150	....	**2,150**	2.4
Religious	950	....	950	950	....	**950**	0
Educational	650	3,000	3,650	700	3,100	**3,800**	4.1
Hospital and institutional	1,000	450	1,450	1,150	500	**1,650**	13.8
Industrial	2,900	400	3,300	3,100	400	**3,500**	6.1
Social and recreational	800	195	995	800	200	**1,000**	0.5
All other buildings[3]	2,300	1,585	3,885	2,300	1,600	**3,900**	0.4
ONE- AND TWO-FAMILY HOUSES[4]	19,400	165	19,565	19,650	145	**19,795**	1.2
ALL OTHER CONSTRUCTION[5]	5,500	11,120	16,620	5,700	11,200	**16,900**	1.7
TOTAL CONSTRUCTION	$45,300	$18,300	$63,600	$46,700	$18,550	**$65,250**	2.6%

[1] *Buildings containing three or more dwelling units, both public and private.*

[2] *Public office buildings, includes post offices, courthouses, prisons, etc.*

[3] *Fire stations, zoos, veterinary hospitals, animal havens, boathouses, green houses, transportation terminals, crematoriums, heating plants, grain elevators, etc., as well as* FORUM'S *estimate of the amount of building construction (such as power plants, terminals, barracks, maintenance shops, farm dwellings and outbuildings, pumping stations, etc.) included in the Census Bureau's predominantly nonbuilding categories—see footnote 5.*

[4] *One- and two-family nonfarm dwellings.*

[5] *Nonbuilding construction on farms and in the categories of public utilities, military facilities, highways, sewer and water systems, public service enterprises, conservation and development projects.*

Note: data for all categories include major additions and alterations.

Source: Estimates by Miles L. Colean based on data from the Bureau of the Census.

TICKET OFFICES IN NEW YORK

Like many of the ticket offices on New York's Fifth Avenue, the new Italian Line office is a narrow showcase wedged between two other store fronts. The simple, clean interior is seen through a carefully arranged "frame" which consists of an unusually generous forecourt, 10 feet deep. The walls of the court, a deep blue glass mosaic, and the boldly scaled sign, a "stenciled" steel beam painted black, contrast darkly and dramatically with the light interior. The white ceramic tile floor of the court, however, carries on inside, past the front of plate glass set in heavy, bronze-colored aluminum frames.

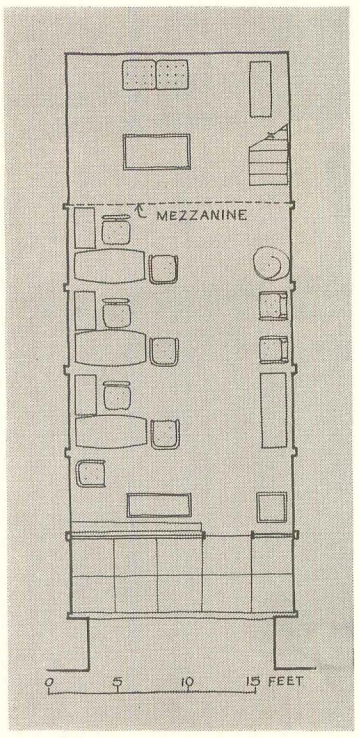
The interior is only 17 feet wide and 40 feet deep. Three boat-shaped teak desks for agents, specially designed by the architect, are set against one of the long side walls with a small waiting area lined up along the other. The manager's office is located on an existing mezzanine at the rear which has a carpeted exhibit area beneath it.

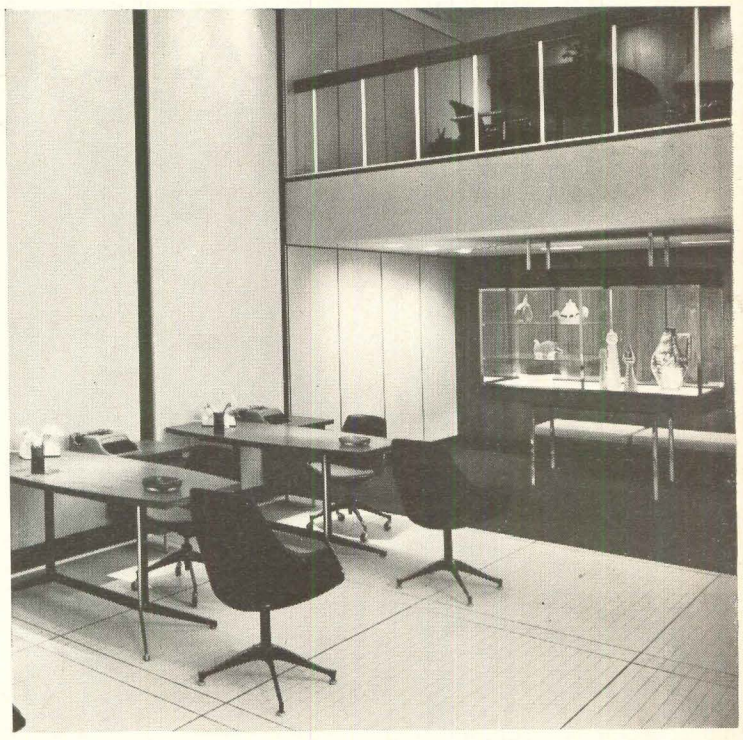
Side walls consist of raised panels of sand plaster held in steel frames painted black; the back wall is of teak. A dropped luminous ceiling with aluminum baffles in the main space has perimeter wall-washers to light the side walls (the ceiling over the mezzanine is exposed, with downlights hung from it).

Splashes of vivid color brighten the otherwise stark interior: the mezzanine fascia is a lively yellow, the carpet is a deep blue, and the stairs are olive green.

Architect: Keith R. Kunhardt Associates. Contractor: Herschenfeld & Sons Construction Co. Floor area: 1,200 square feet, including mezzanine. Remodeling cost: about $50,000 excluding fees, or something over $40 per square foot—a not unusual figure for space of this kind.

Generous forecort frames the simple interior. Mezzanine at rear serves as manager's office, open to the view





PHOTOS: BEN SCHNALL

TICKET OFFICES IN HOUSTON

Air France's new ticket office in Houston enjoys an unusual advantage in not being sandwiched between two existing and competing store fronts: it occupies half of a glassed-in, one-story pavilion which stands on a key corner site downtown.

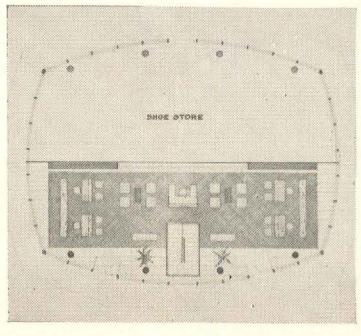
The designers squared up their half of the slightly rounded space with a long, rectangular carpet inset into the floor, on which ticketing facilities are placed symmetrically (plan, below). At either end of the 75-foot-long room are two specially designed sales desks accommodating two customers each, with a long supply cabinet behind the agent. A receptionist sits at the center of the room along the back wall, directing visitors to two seating groups for waiting, or down the centrally located stair to administrative offices in the basement.

Advertising is confined to a luminous exterior sign and route maps at either end of the long wall. The center section of this wall consists of T-shaped vertical wood struts with surfaces painted white or yellow, edged in polished aluminum, all reflected in a background mirror.

Designers: The Space Design Group, Inc. (Marvin B. Affrime, Director; Frank R. Failla, Associate designer; Carl E. Yoder, project coordinator). Contractor: W. S. Bellows Construction Corp. Cost: $30,000 above the normal building allowance for basic interior fixtures and finishes.

Overhanging roof shades glass walls from hot Texas sun, carries raised luminous letters on its copper fascia

PHOTOS: PAUL PETERS

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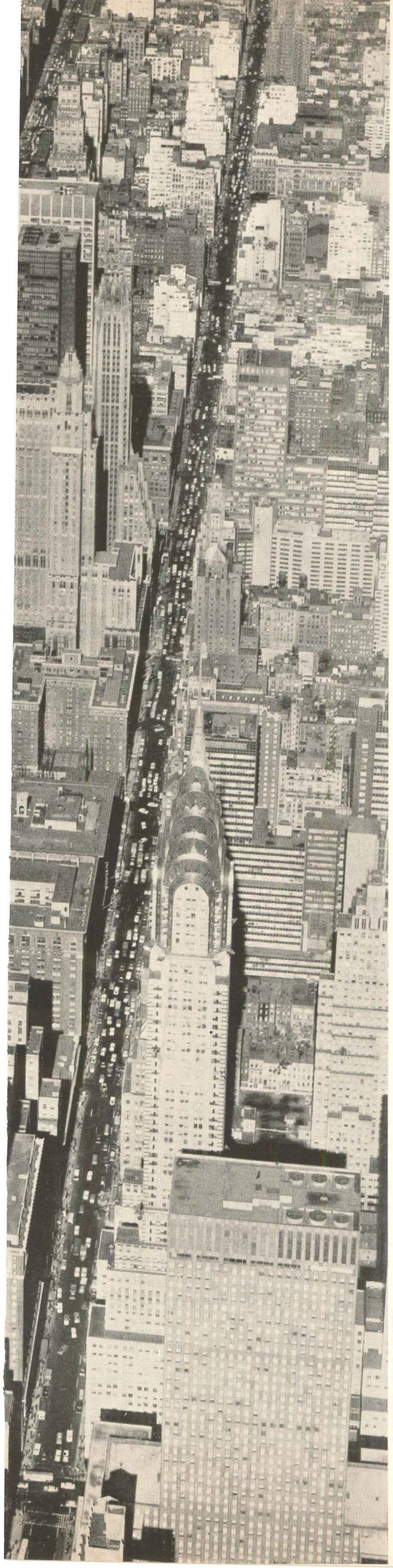


FAIRCHILD AERIAL SURVEYS

THE LOST NEW YORK

of the Pan American Airways Building

By DOUGLAS HASKELL

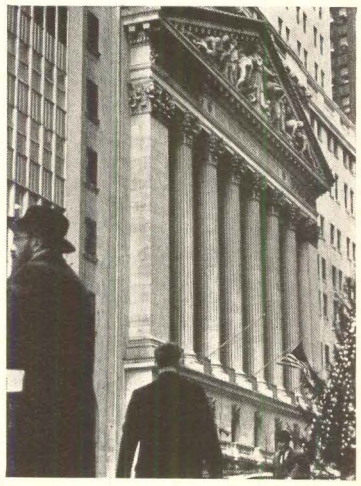
In every vigorous growing city there are buildings and building groups which although privately owned were developed as public institutions. The spot or the function demanded it. Outstanding in New York are four: the Stock Exchange (1), Rockefeller Center (2), and the two great railroad stations, the Pennsylvania Station and the Grand Central (3, 4).

Of these the most interesting by far is the Grand Central complex, for its construction not only contributed the most to New York's growth but gave the world the great prototype pattern of the Futurist City. This was 50 years ago, and what the Central got out of it was not only a magnificent terminal of which it was immensely proud but also a rich continuous realty holding in New York, which it still owns of itself or through subsidiaries, to its very large profit.

A good deal used to be heard about this "Grand Central City," which was and is comparable to Rockefeller Center, and later developments like Montreal's Place Ville Marie were directly modeled on it. And those who are not aware what this City once meant have no measure for the degradation of great ideas which is involved in the recent handling of the property, including the manner of developing, atop the station, the new 59-story Pan American Airways Building.

Moreover, the same degradation in different forms has hit the other groups that have been mentioned, for the wonderful Penn Station is being torn down to make way for fight promotion, and the Stock Exchange is being moved with no regard for its tradition, and Rockefeller Center as it spreads is being so unraveled as to destroy instead of build up the modern city fabric.

Thus the decline of New York has been set in motion, not by communists or enemies, but by the city's unastute business leaders —its latest expatriates.



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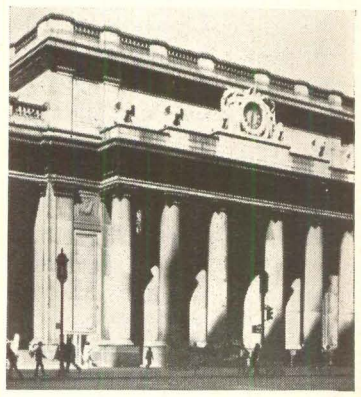

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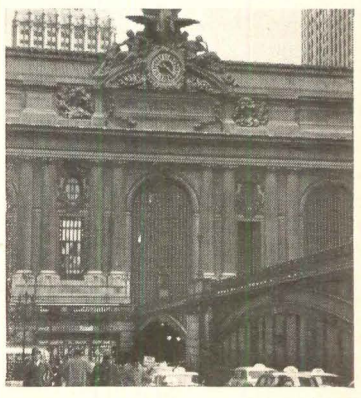


Now the wonder and glory of New York are not something negligible, and a situation like Grand Central's and Pan Am's is worth a careful examination.

Amateur criticism

Actually what is wrong with Pan Am is not that it is so very big or that it might produce such extreme congestion or that the forces which produced it are so very formidable. The trouble is, on the contrary, that its underlying ideas are so inadequately small, and are formed to the lowliest kind of business imagination. The program for the building renounced the central impulse by which New York lives and has to live; and this kind of renunciation is spreading.

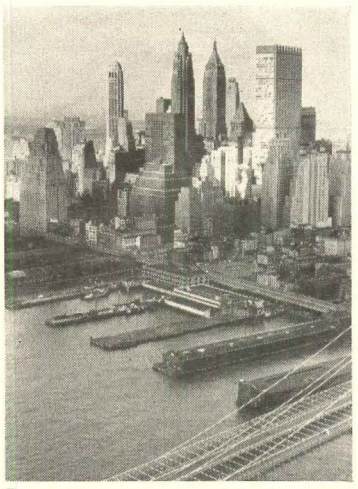
Accordingly we have to talk about what really makes New York great when it is great, and what is the organic connection between great architecture and great ambition.

Congestion with movement

The inquiry involves the city which once led America by virtue of the greater imagination, energy, comprehensiveness, and speed of its commercial *and* cultural leadership.

The classical contribution to citycraft on which New York waxed great has been not just congestion but *congestion with movement*. And it so happens that the very spot on which Pan Am now stands is where New York once contributed its most brilliant *congestion-with-movement* resolution. It was this achievement which was summed up at the time under title of "Grand Central City" even though the only part of it that found its way into the narrowly conceived architectural history books was the Grand Central Terminal.

Obviously a commercial capital on a congested site, such as New York found itself on, would have to be extraordinarily inventive with instruments of urban expedition. In the end that is what commerce mainly is: free swift movement. And New York did get her head start on all other Atlantic seaports by grasping, and avidly applying, that secret. Studies like *The Rise of New York Port* by Robert Greenhalgh Albion tell the story.



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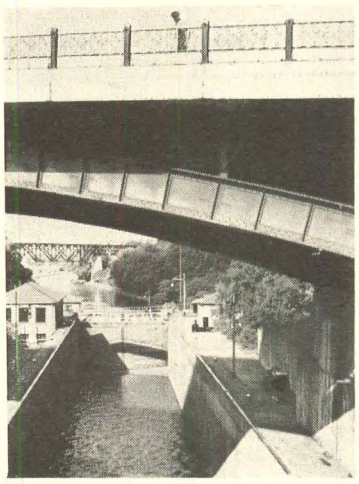

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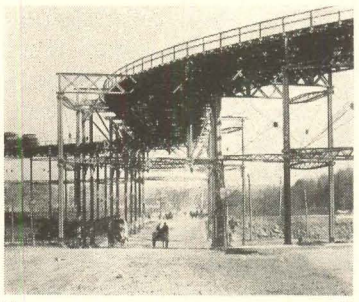

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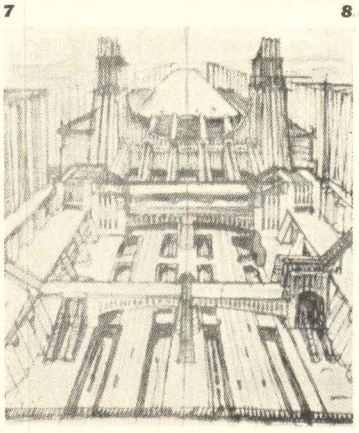

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Far from relying on having the finest natural port (5), New York beat Boston (which also had capacity in surplus) by inventing the ever moving, and dependably *scheduled,* packet line. "Time is the what with which some dolls are stuffed" including commerce. Far from "depending" on the Erie Canal (6)— as is so often declared—New York got the edge by building it fast while Boston and Philadelphia and Baltimore and Washington were still only debating *their* canals. Then she beat them all in railroads.

After the Civil War, New York proliferated inventions for internal city circulation—equally important. She was the first with spindly legged elevated lines, meandering out, among the cows, into distant Harlem (7)—this was achieved in the seventies. She built the first fast elevators and the first subways in the U. S., and commuter trains like London's. She brought the Pennsy over onto the island through tubes under the Hudson River, tubes later multiplied for truck and bus routes. She invented the parkway and through it the freeway. Three times within a period of one hundred years, New York was where the world's longest span for a suspension bridge was strung.

Anybody might brutally congest a city. What New York did in its creative days with congestion was to make an art of it. What made it an art was the imaginative and simultaneous development of adequate movement to go with it.

Grand Central "futurism"

The brilliant breakthrough of the Grand Central Terminal project came of the fact that there, during the first decade of our century, New York brought together her two major achievements—concentrated building and swift urban transportation—into a single, interrelated, planned operation. The event was majestically fantastic. It stood at a pinnacle of creative effort. Here was compounded the great movement of urban "futurism"—and all that Sant'Elia did in his famous futurist railroad station schemes for Milan a decade later was to draw up another Grand Central with the covers off (8).

The Central had started all this in 1902 when it began to redesign its right-of-way to run 600 trains a day over just four tracks into the city—and, moreover, the tracks were put underground south of Harlem. Further down they were splayed out, into more than 100 tracks (ultimately), divided between an upper and a lower level, both underground. That was not all. Atop the 50-foot-deep hole and above its two rail traffic levels, Park Avenue was carried on steel posts, reaching of course from the bottom up, and thus the Avenue became a miles-long bridge, while some nine cross streets, similarly bridged across the rail yard, created the first half mile of bridges crisscrossed. The right-of-way was similarly spanned by cross street bridges all the way up to 100th Street and the Harlem tunnel.

Too bad that New York's Beaux-Arts architects and the engineers of the time were squeamish about looking at this wonderful bone structure of the future city—which they covered over and buried out of sight. But nobody with eyes who ever saw that mighty crisscross while it was there will ever forget it (9).

Thomas Wolfe became the poet of its excitement, as Hart Crane became the Brooklyn Bridge poet. And what hypnotized Wolfe the most was not the bridge crisscross in itself, but the deep wells in the interstices, with the trains gliding along the bottom. And he saw

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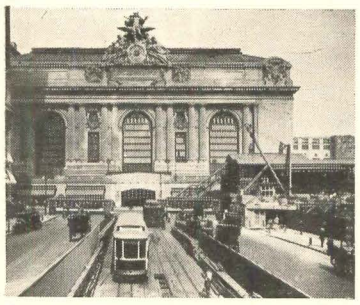

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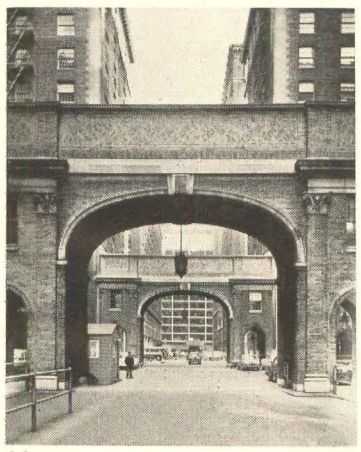

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something even more hypnotizing that was happening there: for some of those deep wells were spewing up big buildings. These were hotels, clubs, office buildings, apartment houses, an entire junior cityful of them. In hotels alone, those standing on that platform or close by are a roster of household names, for there stood (and still stand) the Commodore, Biltmore, Roosevelt, Park Lane, Barclay, Ambassador, Wal-dorf Astoria. Later there was to come a spate of office buildings including Union Carbide.

Thus the "yard" became one immense realty holding in single hands. Its boundaries have since been diminished but the yard itself extends all the way up to 58th Street and the total trade area embraces 48 acres. Already by 1925 the value was one-third of a billion, and this was before the old Grand Central Building, now called the New York General Building, was put at the head of the compound. Such was the first "Grand Central City."

In the matter of levels, something phenomenal was accomplished. The two levels of tracks topped by the street were not all. For Park Avenue was lifted higher yet where it went around the terminal as a split ramp; and Grand Central City was bound to the rest of New York by means not only of surface streets but of the old elevated lines, plus new subways whose construction was concurrent with the station's. Pedestrian passageways tunneled everywhere, linking the terminal with wide areas of midtown, and, concession-lined, set a big precedent for Rockefeller Center, which came later.

On top of all this the New York Central System could of course well afford to build, and to open in 1913, its monumental, sumptuous, costly, architecturally non-sparing $75 million station (10) —in today's money read $225 million. Moreover, the big push could well afford a noble architecture for its whole city-within-a-city (part ground-leased, part owned) and not only for its celebrated station. Whitney Warren as architect had final say on all façades and cornice lines. Such are the money-magnetizing characteristics of big ideas. Such is the way of creating a great metropolis, calculatedly urban.

Three points of urban theory

The theoretic gains were immense, for three breakthroughs were simultaneous and cumulative. *First:* a new transportation theory which says—as Richard Neutra was soon to express it in *Rush City*—that modern commerce has no "terminals" any longer: there are only *transfer* points between one transportation system and another until home is reached; in this case, transfer from railroad to city traffic. *Second:* in congested areas, the device by which different transportation media are freed from collision while kept smoothly linked, is to separate them by levels. *Third:* the smart way to make traffic create profitable congestion and for congestion to be made workable by traffic is to get both developed together. And, *fourth,* as a dividend: wonderful architecture can be both stimulated and paid for, in the pride and excitement of generating great exploratory urban ideas.

Death of ideas

Today, how different!

The fine new Grand Central Station had been in use only one year when the new Interstate Commerce Commission was created. This turned out to be but the first of a whole series of events which, over the subsequent decades, left the railroads weakened and debauched, and their morale shredded. Meanwhile the large cities went through a very similar and related ordeal and with an interesting side consequence, that the more antiquated their tax structure proved to be, the more pressing became their need, in avoiding catastrophe, to hang onto it. However, by putting the highest values where development was most dense, property taxes discouraged new comprehensive action in just those spots where comprehensive *past* action, in creating density, had proved that the spot was crucially important.

All this inhibited further progress and the very thought of further progress.

In 1945, when the end of World War II released building restrictions, it became manifest that New York would hang onto rent control also, and with drastic consequences for Grand Central City. Now the Central was compelled to tear down the entire residential element of its famous Park Avenue Gold Coast, this having become unprofitable, and to replace the commodious apartments (11) with profitable air-conditioned office buildings (12).

Under the older spirit of New York this would have been the signal for a grand new push, which would have used the newest techniques to create an unprecedented kind of new urban precinct, superior to the most modern urban shopping center. Conceivably the whole of Grand Central City could have been linked together, along Park Avenue, above street level, and with new elevated bridges across cross streets, so as to become in effect an eight- or ten-block skyscraper laid on its side, with the cross streets passing through it or rather under it, and with micro-transport available in a jiffy—like a sort of horizontal elevator system—to pull dozens of hotels, office buildings, clubs, theaters, and who knows what else into one swiftly, conveniently navigable micro-city—a grand-grand central. This could have been the first step beyond the Rockefeller Center concept, for here, in a crucially important area, was rare opportunity with

adequate land already assembled.

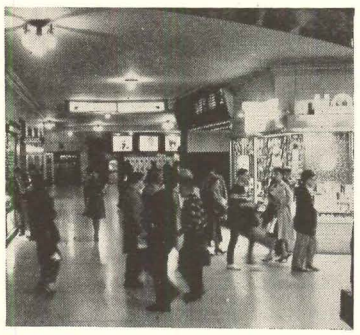
Moreover, so major a development could demand of government—city, state, or federal—a series of public improvements to go with it. Take the problem of a New Jersey occupant of the present Pan Am Building who complained that he had tried six ways, none good, for getting to New Jersey. Along with his new office he might have been given new transportation facilities that would have cured the scandal whereby it takes almost as long to get from one New York railroad terminal (Grand Central) to the other (Penn Station) as to go out 30 miles to Stamford. And then, Penn Station thus linked could conceivably have been rescued from the trash can to become the nucleus of another *precinct*.

None of these, nor any other, possibilities for solving New York's congestion and its transportation together in the old-fashioned way, were realized, however; and instead of that the Central hired a real estate butcher to cut up its magnificent Grand Central City like a carcass. Piece by piece, individual lots were leased or sold for individual office buildings, mostly cheap ones. In the end the choice piece of all, which should have given the correlated "New City" its urban style and its crown, was let out to Erwin S. Wolfson, to see what he could do with it as a speculative builder. And Wolfson built Pan Am.

Butchery's limitations

This was a sad procedure for the best spot in mid-New York. Wolfson, having obtained his land at an inflated rate and being unable to treat the empire as a whole and thus to average out his costs, proceeded to get a massive rental volume out of his one building by setting rental rates low enough to attract large numbers.

This meant putting a huge but low-cost building there instead of relying on the flexible, well-distributed, modestly high "horizontal skyscraper" that Grand Central City could have been, had its owners not leased out their ground piecemeal. So then Wolfson hired two well-known architects who were to give this procedure the best face and their names, and he even persuaded the fine elderly gentleman of the two that "megalopolitan reality" was what he was dealing in, while the other, the dean of a planning school, declared in favor of building first and letting somebody do the planning afterwards. The elder gentleman was touchingly proud that 600,000 square feet were cut from the permitted legal bulk "for the sake of a shape," but this was like claiming moral credit for not choking oneself to death with all the cream that the law allows.



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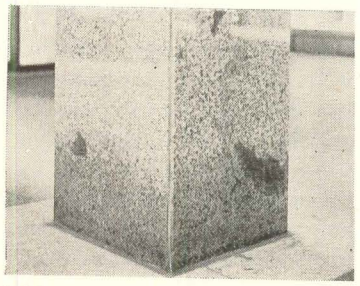

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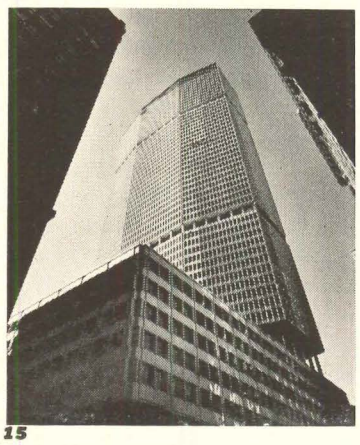

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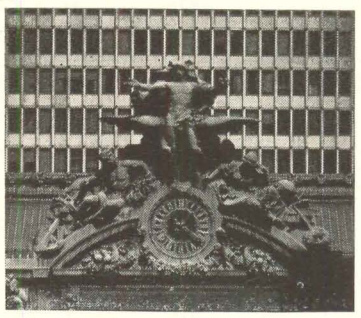

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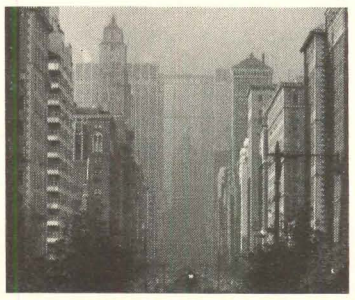


The consequence was the kind of building that Pan Am is. It was not quite the calamity that the hot critics predicted, for the "25,000 occupants" and "quarter-million daily visitors" that these critics swallowed were just the more than redoubling exaggerations of a publicity man's early-morning dream. But Pan Am, considered as a totally unbalanced city building procedure, on a spot precious to the city, was corrosive to the core.

The one incontestable little traffic advantage that Pan Am could promise to whoever really might be a commuter among its tenants was that he could step from train to office under roof. Had Grand Central *City* been rebuilt intact, he could have stepped under roof into a complete micro-city!

Not even this one happy little under-roof experience was going to be too inspiring. And as for noncommuters, thousands were going to arrive by way of one of the filthiest, ugliest subway stations in the world, and then they were going to come up through an area of honkytonk unabashed, in a once noble Grand Central concourse, whose magnificent interior space had been hacked up (by the same realty butcher) long since, into pitchmen's concessions (13). Then from these surroundings they would rise on escalators (nicely let into one side of the concourse) and up into an imposingly tall Pan Am lobby—but one which happens to house, in the form of encasement for its mighty piers, what is probably the world's champion collection of badly blemished, though dutifully polished, building granite (14).

So too the limited effort makes a fair try but no more than that with sculpture and murals, and with an outer all-stone wall facing to offset all the glass in the office buildings on all those close-by properties.

As to that stone, again the effort only half succeeds. The deeply textured wall pattern is solid and dramatic as seen from the corner of 45th Street (15) and is rather nice from the far distances, but not from middle distances and closer up. There its insistent parade of "little sticks" eats away and destroys, from behind, the silhouettes of nicer and friendlier sculptural building masses that stand in front of it north *and* south—older ones, above which Pan Am rises like an enormous backdrop. These are the older Grand Central Building to the north (now called the New York General Building) and the Mercury sculptural group, funny but engaging, above the 42nd Street entrance to the station itself (16).

But a more serious self-betrayal results from the shape and placement of Pan Am's many-faceted prismatic building block. This does have a vivid presence, being

Photo credits: (1) Ben Martin—Time (2) Thomas Airviews (3) Walker Evans—Life (4) Jim Burke—Life (5) T. Moore—Life (6) Wide World Photo (7, 10) Brown Brothers (8) from *Theory & Design in the First Machine Age* by Reyner Banham (9) Fairchild Aerial Surveys (11) Ben Schnall (12) Richard Dean (13, 14, 16, 18) Norman McGrath (15) Joseph W. Molitor. (17) Robert Doisneau—Rapho-Guillumette.

of a shape scarce in New York; but those who know their modern architecture are painfully aware that once again a speculative building job has been imitative rather than enterprising, for this creation on the best corner of New York is really a clumsy copy of a Le Corbusier building of 1931 (17), enlarged and wrapped in a bear rug.

Moreover, the architects managed to turn the building so as to stretch it across the Avenue in such a way that, being slightly wider than the Avenue, it shuts off all further views in either street direction. Thus the Pan Am gives two leading transportation companies a symbol consisting of a major roadblock. By means of their building, two major transportation companies are made to say, "Don't travel!" For, in cutting off all view of things further on, of continuations, distances, the horizon beyond and the air above, the promoters cut away what is travel's very root and base: the desire, almost the instinct, of exploration (18).

And the case is even worse yet: for, when the freedom-loving Greeks made it their rule that every great civic composition must leave at least one clear view into infinity, this sprang out of their sensuously based gift of curiosity and mental speculation, upon which was reared Western civilization itself.

Death of New York

It's a sad thing to see such things go, and go in New York, which made itself America's free-enterprise capital. It's pathetic to have things go thus with a realty empire in which, even before Pan Am was built, the railroad owners and their subsidiaries had an estimated half-billion dollar interest, and on which all buildings including those on land lease ran into the billions in value.

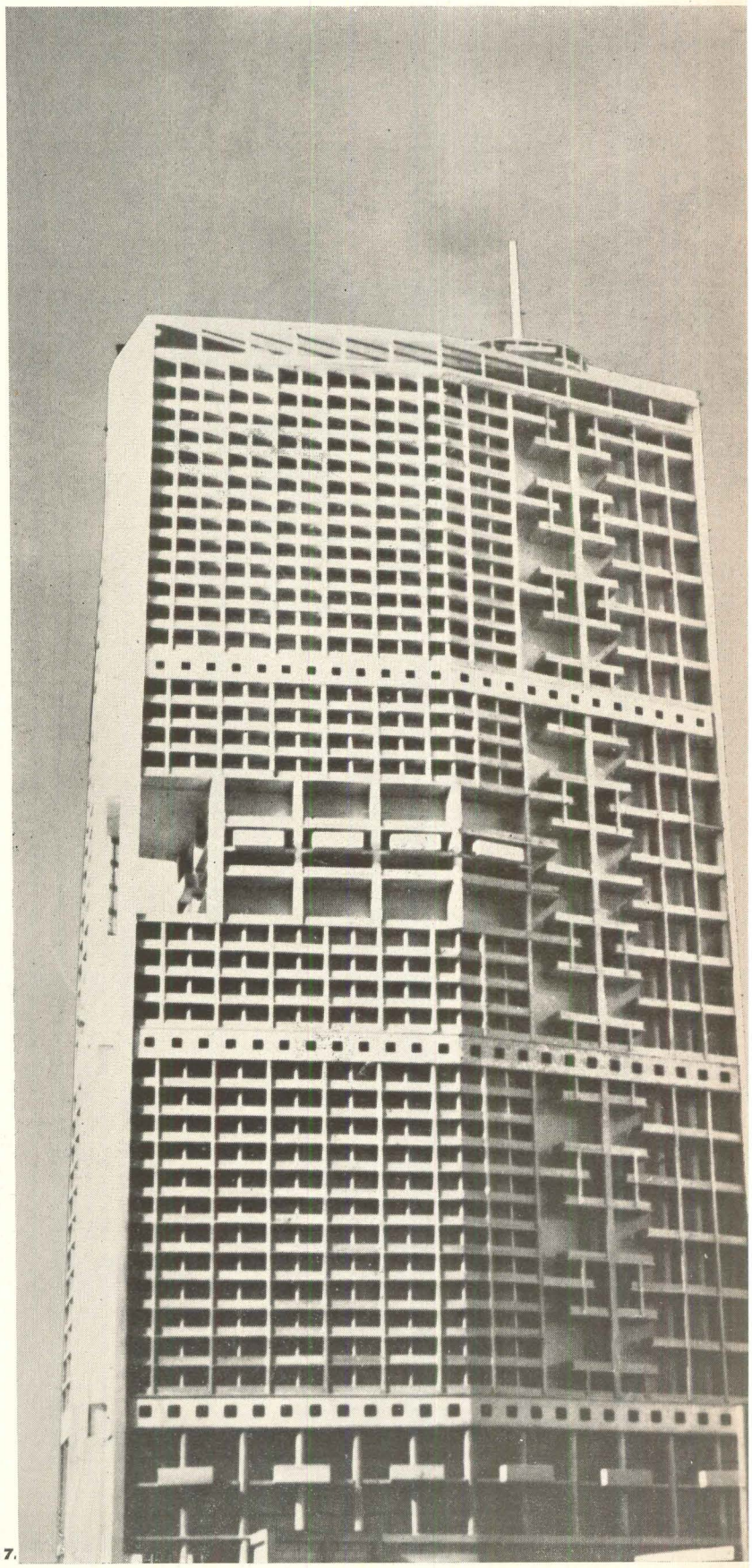
Grand Central City first, and Rockefeller Center after it, had demonstrated how New York as a metropolis depends upon being built at its core in the form of a series of large, tightly planned enclaves, let into the general fabric, and dependent on space and variety and free movement within them, as well as free movement in and out of them. Other cities had seen the point, and modeled themselves on Grand Central City —New York's Futurist breakthrough, New York's magnificent achievement of swift movement amid tall, tightly grouped, crowd-accommodating buildings.

Now this is lost in New York by all hands. The Rockefellers too have abandoned the great Rockefeller Center idea as if it had never existed, and have joined forces with cheap builders to produce a scattered and degenerative city tissue. Next we shall see the debilitating Los Angeles freeway disease thrash through New York, if things continue thus. Such an event can destroy the congestion half of the New York congestion-freedom combination, tearing wide apart the city's unique provisions for intimacy of human contact; and in impotence New York will be neither one thing nor another—she that was both, the wonderful Manhattan!

There are ways open, of course, always, toward recuperation, and, as a starter, serious support should be given to Governor Nelson Rockefeller's tri-state transportation study. It's full of ingenuity.

But that's governmental, whereas in the older days such ingenuity soaked through the business community. What with New York's present leadership so nearly lost, though leadership is so badly needed, the call is for a younger generation. If these cannot swing it, New York will have proved itself too big for anything but herd and headless actions. And then things will be really tough for architecture, the art whose essential message is that man was not born to be defeated.

Great architecture rides on great ideas. END 17.



NEW TOWER TO GRACE AIRPORTS

In the next five years, the handsome structure pictured in model form at left will become a familiar beacon at some 60 U.S. airports. Starting in early 1964, the Federal Aviation Agency will build one of 13 look-alike variations of this prototype tower, designed by Architects I.M. Pei & Associates, at each large airfield that qualifies for new air traffic control facilities. (A more conventional, steel-framed tower is being designed for use at smaller airports.)

The tower's simplicity of form belies the exacting research effort behind it. But perhaps the most encouraging aspect of Pei's prototype is that it marks a fresh approach by another major federal agency to good design for its building program.

Soon after he took office, FAA Administrator Najeeb Halaby appointed an unusual kind of blue-ribbon committee* to advise him on the design of new facilities. His long-standing interest in architecture convinced him that a well-designed environment would increase the efficiency of his staff. When Congress ruled in 1961 that all future airport towers should be built by FAA rather than local communities, committee members were called upon to help the agency select an architect and then guide him in the development of a design that would be appropriate at any airport in the country.

After interviews with leading firms, the committee recommended the Pei office for the job. The FAA engineers who came up from Washington to work with Pei in New York brought with them a hefty "blue book" of specifications. These had evolved over the years to cover every aspect of the intricate workings of air traffic control. But since the operational needs called for a free-standing tower (rather than the usual extension of the terminal building) there was also a fresh challenge to the designers. Could a complete re-evaluation of the tower's function raise operating efficiency while holding costs to a minimum? Pei's research team found that in many ways it could.

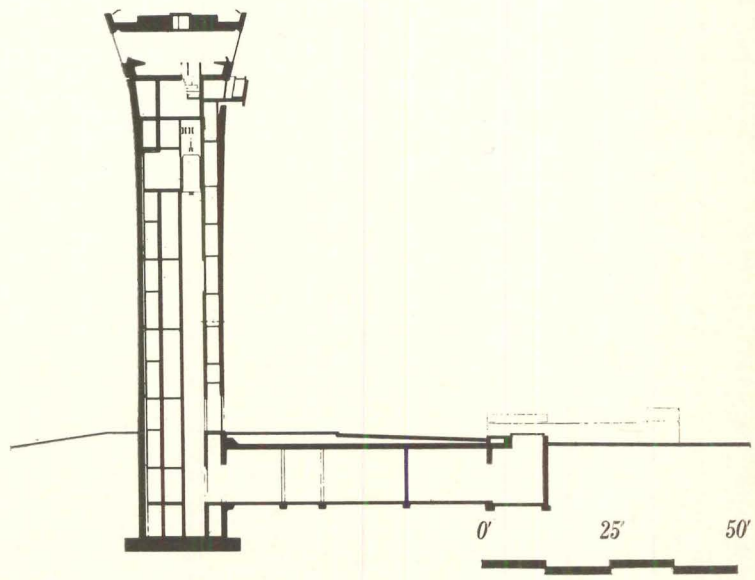
A key step in the redesign of the tower was the decision to take all supporting operations out of the cramped quarters they were usually allotted in the shaft. The banks of mechanical equipment and the "blacked-out" radar room were relegated to a building at the base, and their space requirements helped determine the arrow-head shape of this base for the smallest towers (plan, right; the three larger versions of the base are rectangular). The base building was submerged (see section) so that visually it became less a structure than an element of landscape (site plan). Thus by adapting the landscaping of the base to the widely varying site conditions, the tower complex can be made to fit comfortably into any situation.

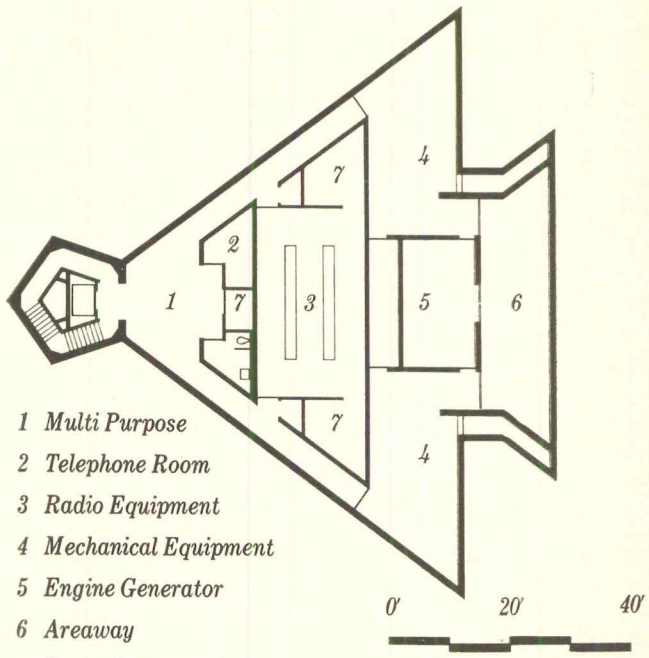
A NATURAL FLARE

The choice of the graceful, flaring shape for the shaft followed naturally once the bulky service functions were taken out. The top is enlarged to support the control cab and to provide space for mechanical connections, an elevator platform, and a small toilet. The bottom flares out to give greater lateral stability to the structure. The center of the tower tapers in to the minimum area required for the elevator, stair, and mechanical shaft.

With the basic shape determined, the designers faced the problem of finding exactly the right subtlety of curvature that would make all five heights required for the tower appear to be in the same proportion (elevations, overleaf).

To determine how best to form the concrete shaft, a survey was made of the relative cost and speed of cast-in-place, precast, and slip-form techniques. A special metal jig and swiveling form-





1 Multi Purpose
2 Telephone Room
3 Radio Equipment
4 Mechanical Equipment
5 Engine Generator
6 Areaway
7 Shops & Storage Areas

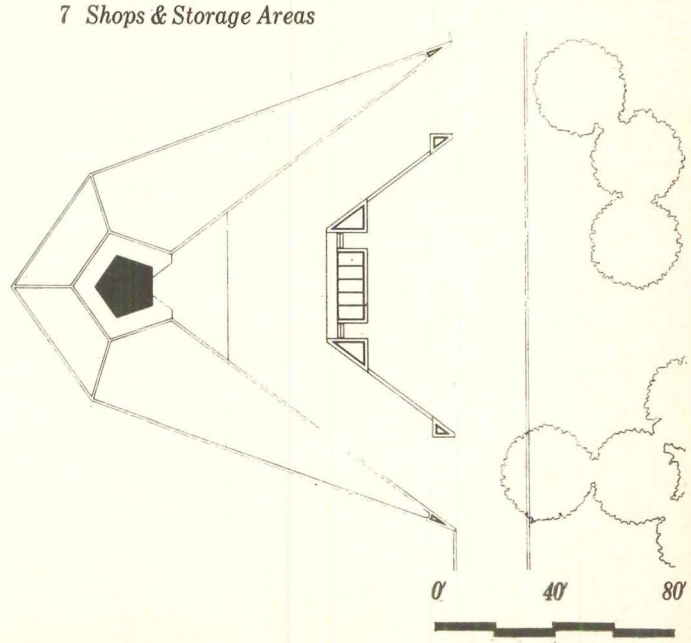


PHOTO OPP: GEORGE CSERNA

* Art Patroness Mrs. George Y. Wheeler (chairman), Critic Aline Saarinen, Landscape Architect Mrs. James H. Douglas, Industrial Designer Henry Dreyfuss, Artist William Walton, Merchant Stanley Marcus, and Architect Gordon Bunshaft.

work were devised to make slip-forming of the flared shape possible. (While slip-forming may eventually be the most economical, it was decided to build the first few towers with conventional cast-in-place methods so that contractors would have time to study the innovation.)

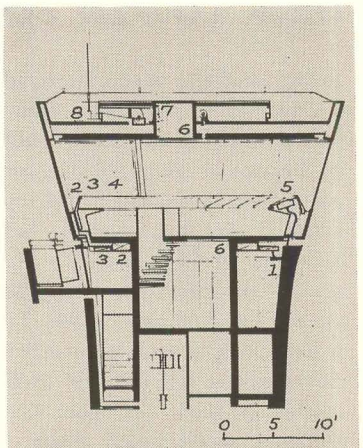
But it was the heart of the traffic control system, the cab that sits atop the shaft, that received the most intensive study. The pentagonal plan chosen (over the more usual square with splayed corners) assures that there will be less of the internal reflections that occur when windows are parallel. To give maximum visibility at the corners of the cab, single glazing was used. This prompted the construction of a laboratory mock-up of a new defrosting system that jets air across the glass, keeping it free of fog in the most adverse weather. To avoid the use of a window washing platform that would cut down the line of sight, a tiny, two-man bucket was devised to roll around the structure on a rail set in the articulated joint between cab and shaft.

To replace the usual racks of instruments of disparate sizes and shapes, Pei's office worked out a new, unified console with the optimum relation to the controllers' line of sight.

The two cab sizes required will be factory-built in quantity to cut costs and lifted to the top of their shafts by pairs of cranes. This procedure was tested with a full scale mock-up of the cab recently (photo above) and went without a hitch.

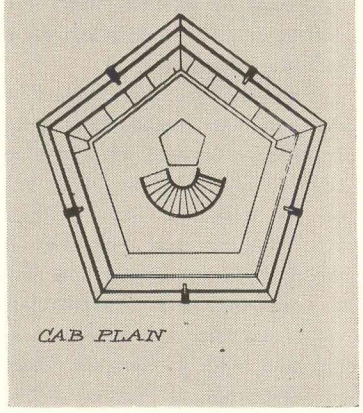
Preparation of working drawings for the unusually shaped structure turned out to be more akin to aircraft or ship building practice than land-bound construction. In fact, to produce offset dimensions for the structure's subtle curves, the designers had to enlist the aid of a shipyard (photo, right). For all its refinements, the new tower design is not expected to be more expensive than its predecessors. Costs will range from $275,000 up to $700,000 for the largest version.

JAMES NASH

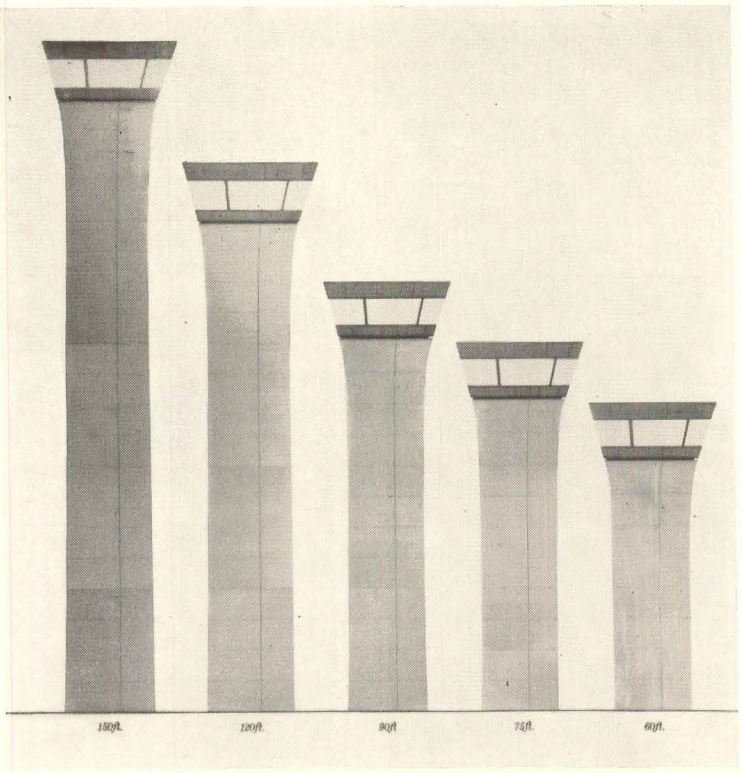


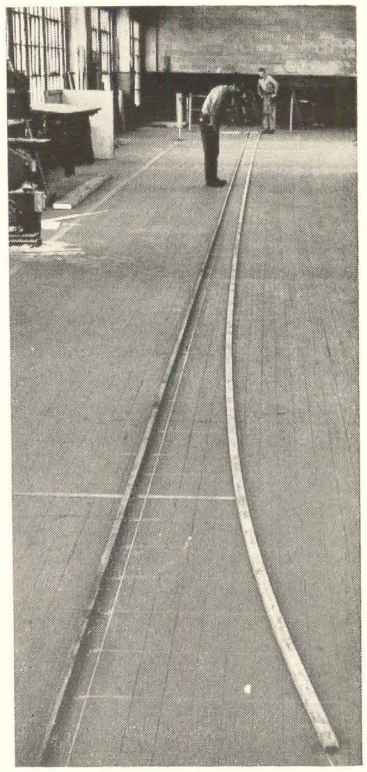
1. CABLE ACCESS
2. GLASS AIR SUPPLY
3. CAB AIR SUPPLY
4. CONSOLE DESK
5. CONSOLE TURRET
6. HATCH
7. LADDER & FAN HOUSING
8. ANTENNA

CONTROL CAB & JUNCTION ROOM SECTION



CAB PLAN





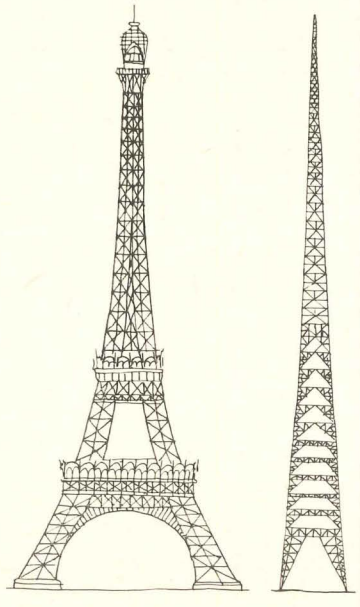
STEEL REVEALS NEW STRENGTH

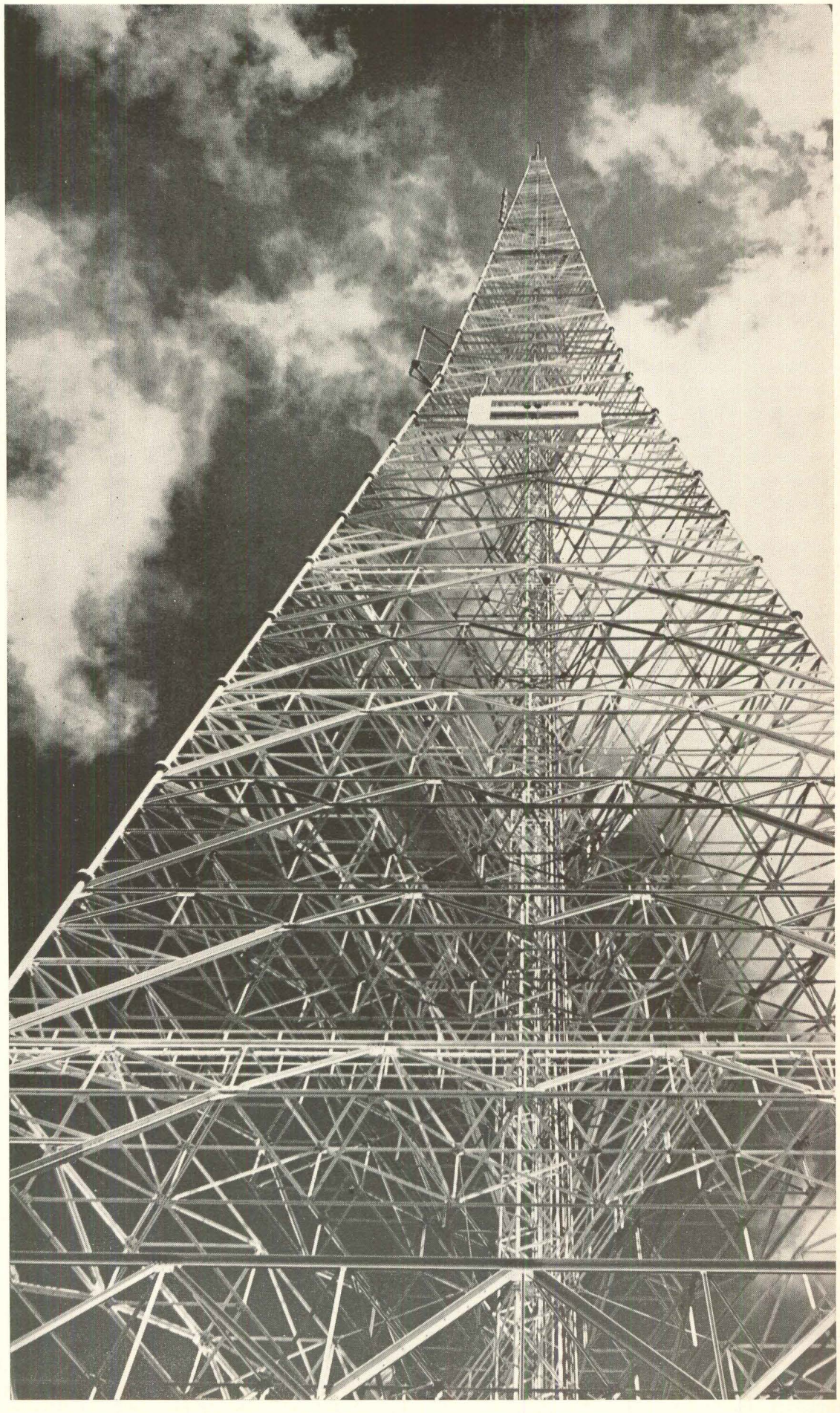
The technology of steel construction has come a long way in the past 75 years. But never have improvements in structural analysis, metallurgy, fabrication, and erection been so forcefully demonstrated as in the gossamer structure shown at right.

Except in Milwaukee, where it beams the signals of station WITI-TV, the completion of this structure, the tallest self-supporting tower in the U.S., was barely noticed — a far cry from the world-wide excitement generated by the Eiffel tower in 1889. Yet the two towers make a striking comparison: they are almost exactly the same height (WITI-TV's 988 feet tops the French structure by just 4 feet).

To do the job for which Gustave Eiffel had to use 8,075 tons of wrought iron, Dresser-Ideco Co. of Columbus, Ohio needed only 750 tons of modern steels. Eiffel's four main columns are 75 feet across at the base; the Milwaukee structure rests on three solid struts of 90,000 psi steel only 9 inches in diameter.

While the Eiffel tower set new standards in the design and erection of tall structures, Milwaukee's was a large yet workaday job. But all the excitement has not gone out of steel construction: for today's equivalent of the Eiffel experiment, turn the page.





GEORGE KUFRIN

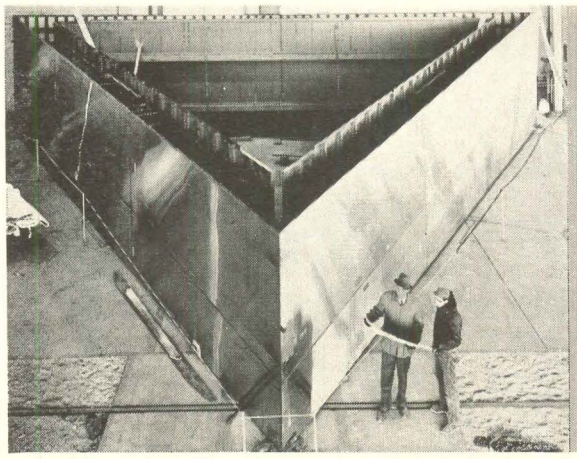
Architect Eero Saarinen's Gateway arch now rising in St. Louis (behind a scale model in the picture across page) sets a precedent for the use of new structural techniques as the Eiffel Tower did in its day. While its height (630 feet) shatters no records, this plus its enormous span (also 630 feet) and structural method makes the arch a most daring piece of construction.

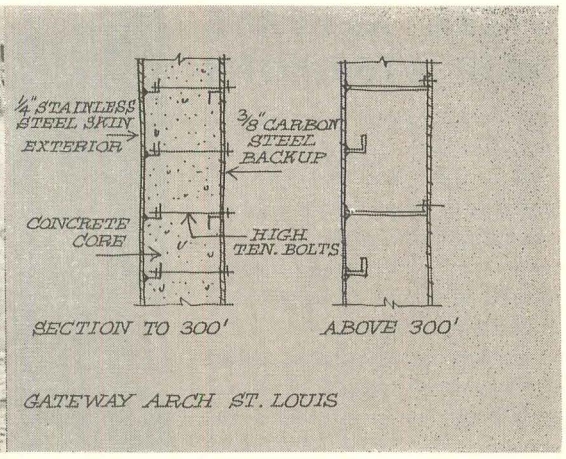
The engineering concept breaks sharply with established traditions of building tall structures. The ¼ inch stainless steel outer skin, together with a backup sheet of ⅜ inch carbon steel, beefed up at the corners of the triangular cross section to a thickness of 1¾ inches, acts as a load-carrying membrane (photo and sections, top right). This stressed-skin construction extracts the maximum efficiency from every pound of steel used.

If a steel structural skin works for the Gateway Arch, can it lead to a more effective design for tall buildings as well? One person who thinks so is Dr. Hannskarl Bandel, partner in charge of the arch design for Engineers Severud-Elstad-Krueger Associates. Some of his ideas are illustrated in the drawings at right.

A building of conventional form (center) might be held up entirely by an exterior wall of concrete-filled steel sheets and an elevator core of similar construction. Concrete floor slabs could be reinforced solely by bonding them to a steel sheet which would also act as formwork. (The fire-resistant properties of such composite constructions need further investigation.)

More radical shapes can take even greater advantage of the stressed-skin principle. They may be designed so that their steel sheets are almost entirely in shear and tension, thus eliminating stiffening ribs. Two somewhat startling structures that would accomplish this are a building with port-hole-lined side walls that carry floor loads in shear out to curved end walls (lower left) and a tower made up of cylindrical cones grouped around a central core (lower right). END





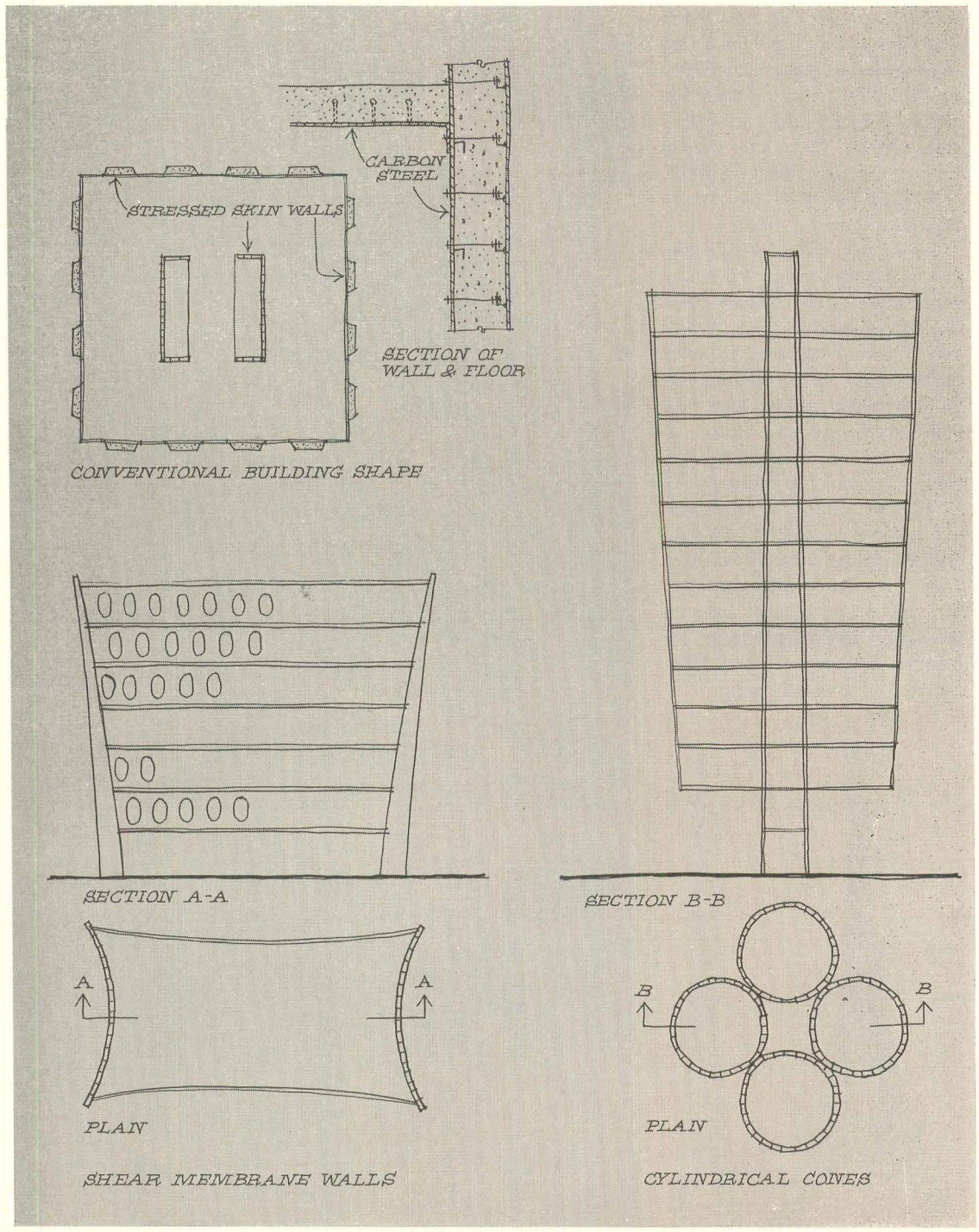
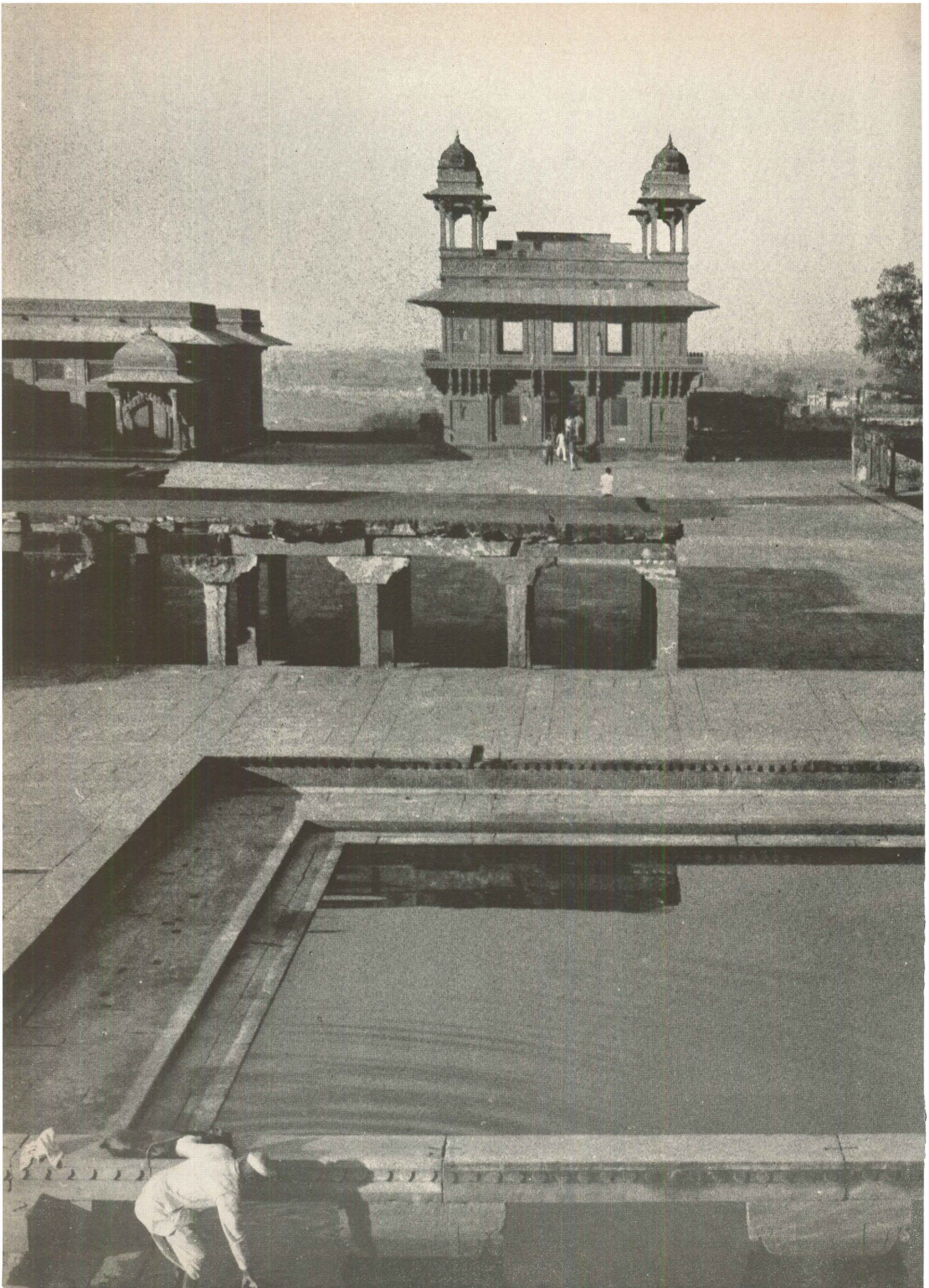
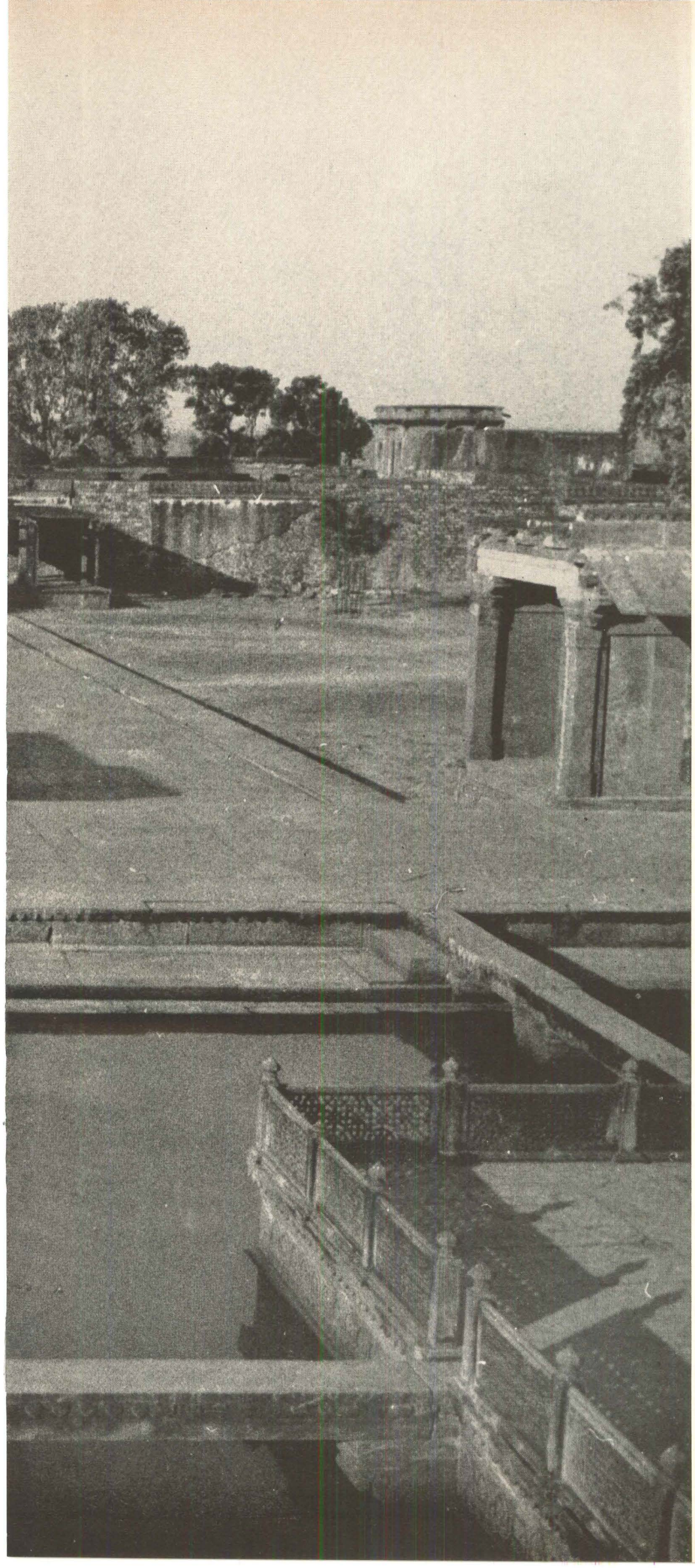


PHOTO OPP: A. SHAY-LIFE





PHOTOS: B. V. DOSHI

Fatehpur Sikri

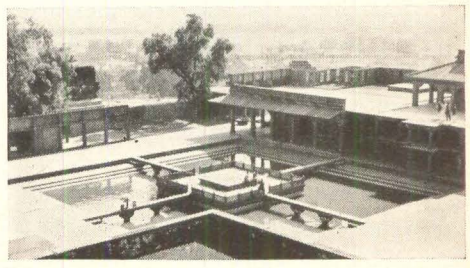
India's abandoned city, now 400 years old, is a mute reminder of an art we have lost

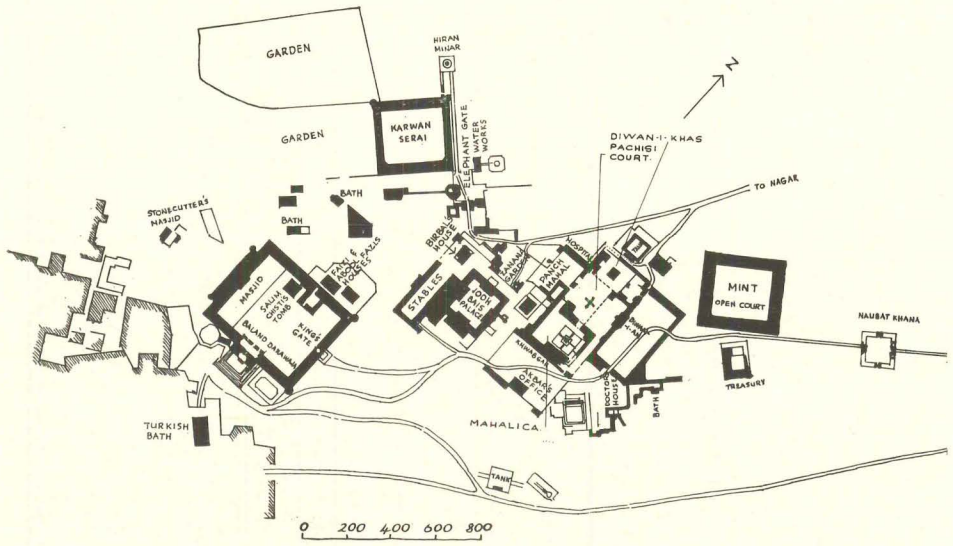
"Riding deserted and silent astride a red stone ridge near Agra," said the young Indian architect, C. M. Correa, recently, "is Fatehpur Sikri—the most elegant, magnificent complex of buildings in India today."

Fatehpur Sikri, some 100 miles south of Delhi, was started in 1559 by Akbar, the Great Mogul (whose grandson built the Taj Mahal), in a place theretofore inhabited only by a hermit who had prophesied the birth of Akbar's son. The city was completed 50 years later—a complex of ceremonial buildings for the Emperor's court (left), and a second complex of religious buildings (p. 122).

A generation after it was completed, Fatehpur Sikri had to be abandoned for lack of water. It has remained abandoned ever since—a serene monument to the forgotten art of building cities.

The ceremonial buildings were grouped around a series of courts, the finest and largest of which is the Mahal-i-Khas, shown at left. It is dominated by a turreted, two-story structure, the Diwan-i-Khas, reputed to have been designed by Akbar himself. This extraordinary pavilion contains a single, two-story-high room centered on a circular platform—Akbar's throne—raised up high on a single column. From this vantage point he could overlook the great quadrangle, with its square pool and four bridges leading to a square island: a stage for musicians (below).





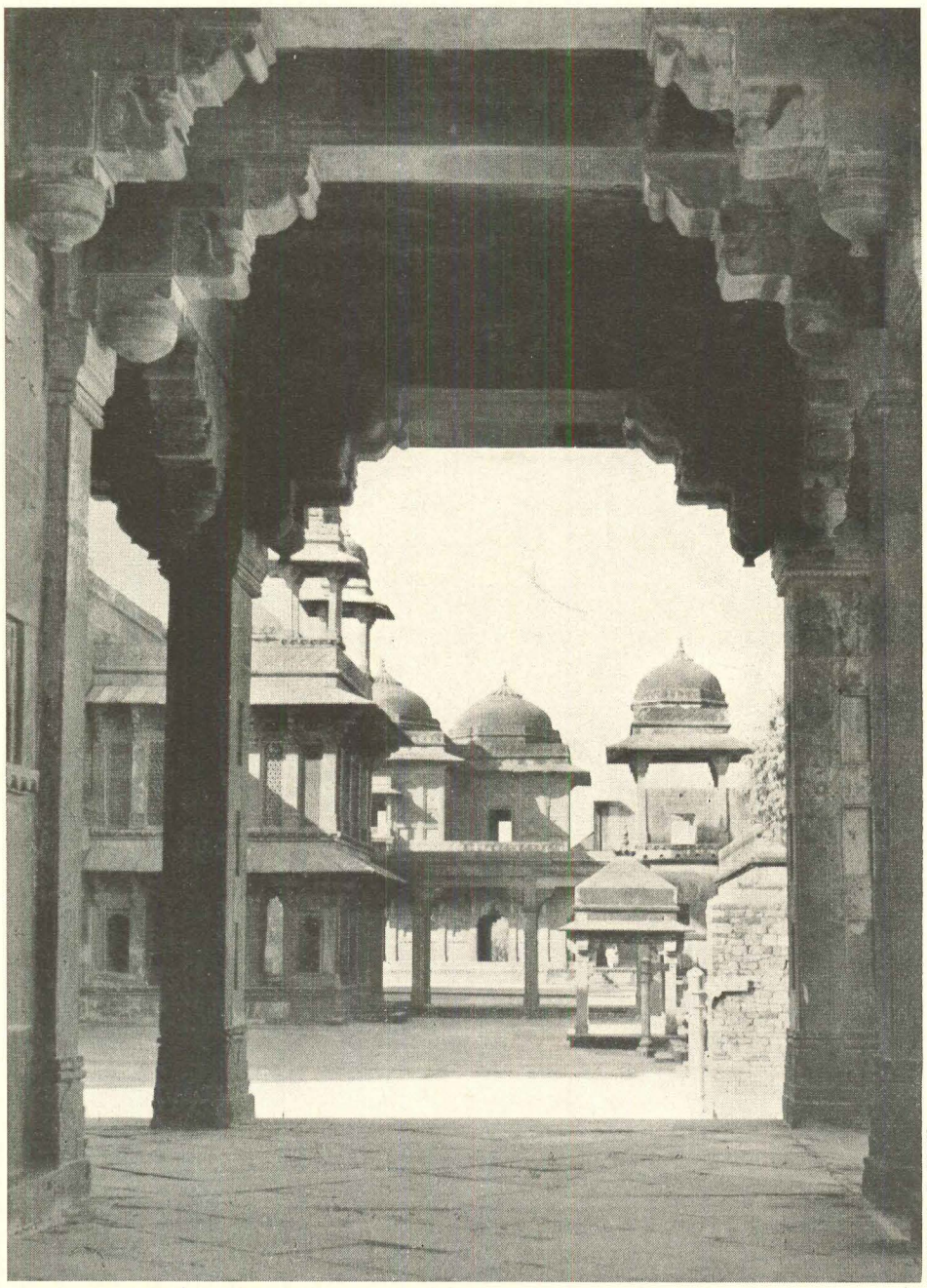
The Panch Mahal (its name means "five floors") is a kind of imperial grandstand designed purely for pleasure. The photograph at far right shows some of the details of this elaborate post-and-beam structure. The Panch Mahal has no walls, so that the views from each of its successively smaller floors are unobstructed. The carving of columns and beams is exquisite; and of the 56 columns on the first floor, no two are exactly alike.

The views that may be enjoyed from the five levels of the Panch Mahal include not only the distant landscape but also, immediately below the "grandstand," a remarkable array of paved and terraced courts. Among the special attractions of the various courts or quadrangles is a giant chessboard, laid out in red flagstone. The chessmen were live courtiers (or slave girls), who moved at the command of the Emperor.

Immediately to the south of the Panch Mahal is still another quadrangle; this one frames the Palace of Miriam, wife of Akbar. (The view at near right is from one of the arcades surrounding the Palace of Miriam, showing the domed Palace of Birbal in the distance.)

Despite the great variety of detail found at Fatehpur Sikri, the city has a remarkable sense of unity; for all the walls, floors and pavements are of red sandstone, much of it elaborately carved. Among the stunningly effective devices found throughout the city are grilles of delicate stone filigree wherever privacy was desired. The grilles, used in window openings, permit the breezes to sweep through palaces, pavilions and baths; and they produce a warm, reddish light throughout the interiors.

The ceremonial half of Fatehpur Sikri is, actually, quite small: all the quadrangles and terraces would barely fill a rectangle 800 feet wide and 1,200 feet long.



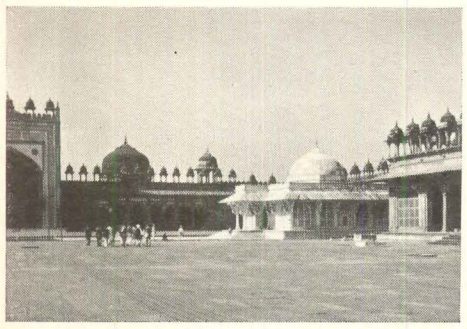
PHOTOS: B. V. DOSHI

"If it were not the most minute of palaces, it would be the most gigantic of jewel cases." That is how Victor Hugo once described the Palace of Birbal (right), a two-domed structure located in its own quadrangle. At one end of this quadrangle is a long courtyard lined with camel stables. (They frame this view of the Palace.)

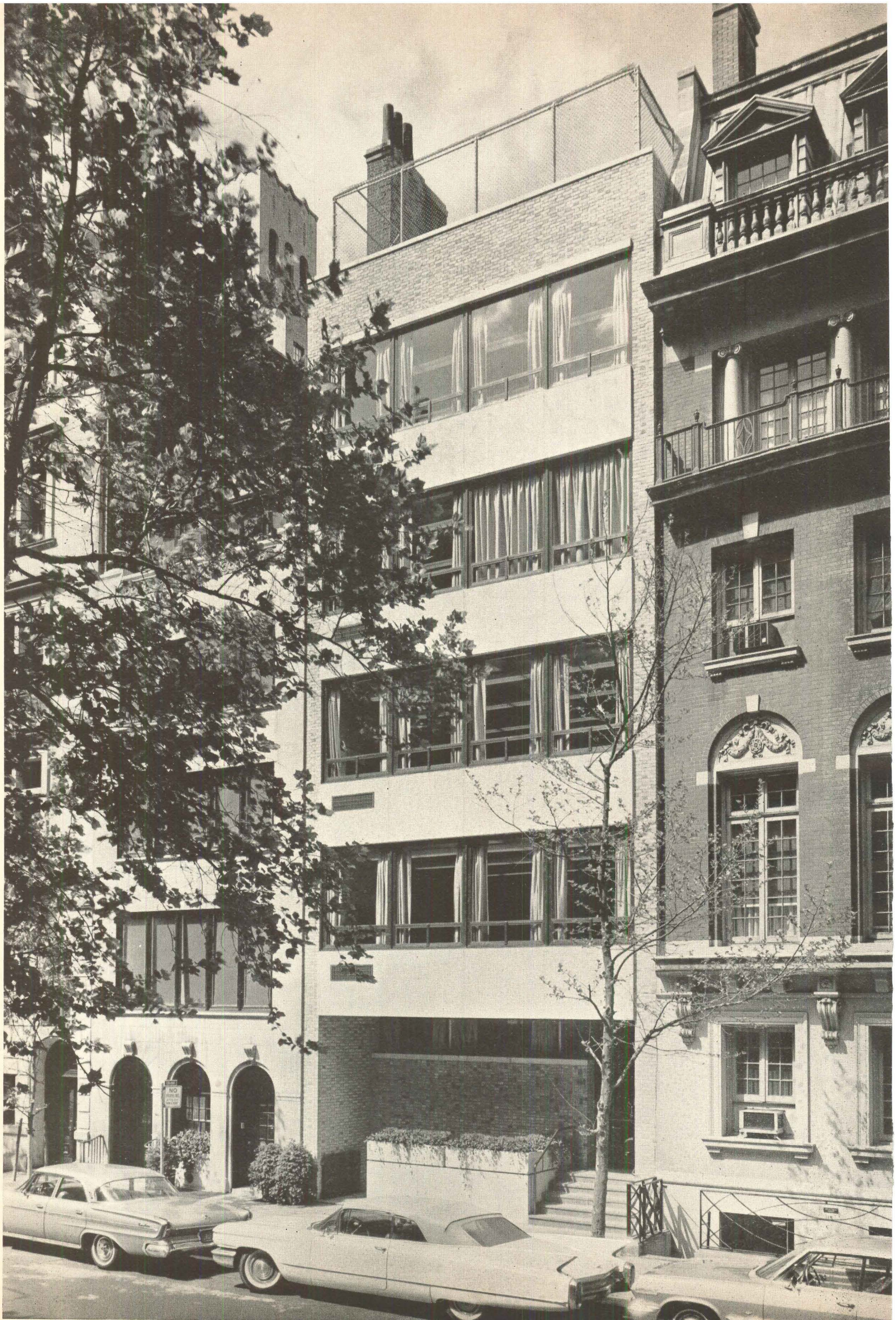
To the southwest of the Palace of Birbal is the second major portion of the city: the religious buildings grouped in and around the court of the Jami Masjid—a platform measuring 360 by 440 feet. The most important element in this courtyard is the tomb of the hermit Salim Chishti (below) for whose prophesy the city was built. The tomb is of white marble (to contrast with the red sandstone elsewhere), with some of the finest marble grilles found anywhere in India forming the perimeter walls between richly detailed columns. Each grille is different from its neighbors in motif and scale, so the views from inside vary from bay to bay.

"To the architect, Fatehpur Sikri is a unique experience," Correa has said. "The materials are true, the ideas intense, the understanding of visual things astounding." It is an understanding that appears to have been lost by many in our time.

FORUM *gratefully acknowledges Mr. Correa's help in the preparation of this article.*



PHOTOS: P. V. DOSHI



REMODELING OF A CITY SCHOOL

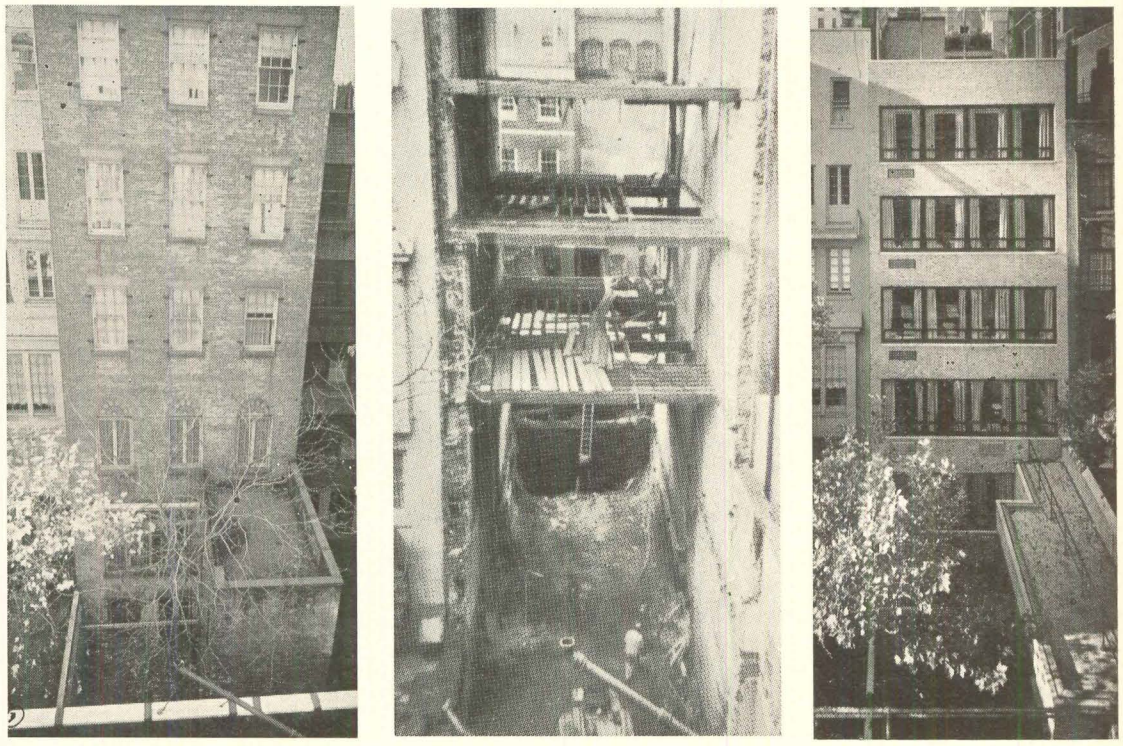
Like some of the new public schools shown on pages 78-89, this private boys school on Manhattan's upper East Side had its problems building on an extremely limited site—without the luxuries of cleared land or public funds. It is no small credit to Architects Brown, Lawford & Forbes that they were able to shoehorn in all the facilities that they did, and as handsomely as the pictures on these pages show.

Since 1917, The Buckley School had operated in an old six-story brick building on 74th Street between Park and Lexington Avenues designed to provide for some 175 boys. With the addition of a floor in 1935, and a strict eye to space and time schedules, the school managed to accommodate over 300 boys for 25 years. But though Buckley somehow maintained its high standards in the face of broadening educational demands, many a well-jostled alumni looks back and wonders how.

So, when the property directly behind the school came on the market late in 1959, the trustees moved quickly to acquire it. The Maynard mansion cost them some $200,000, not an unusual price for a fine old townhouse in this neighborhood, and a far better choice than trying to move to a less favorable location and start all over in the face of New York's stiff costs.

To meet equally stiff code requirements for a public building, however, the still-sound house had to be gutted and rebuilt to include fireproof steel floors and two sets of stairs (photos and drawings, right). Though the new façade on 73rd Street (left) may not precisely match the elegant window lines of its aristocratic neighbors, it is both true to its function and a quietly good-looking addition.

This new front now serves as the school's main public entrance; the door and a high-windowed office



Rear-yard view: the new building and its connecting stair link—seen before, during, and after reconstruction

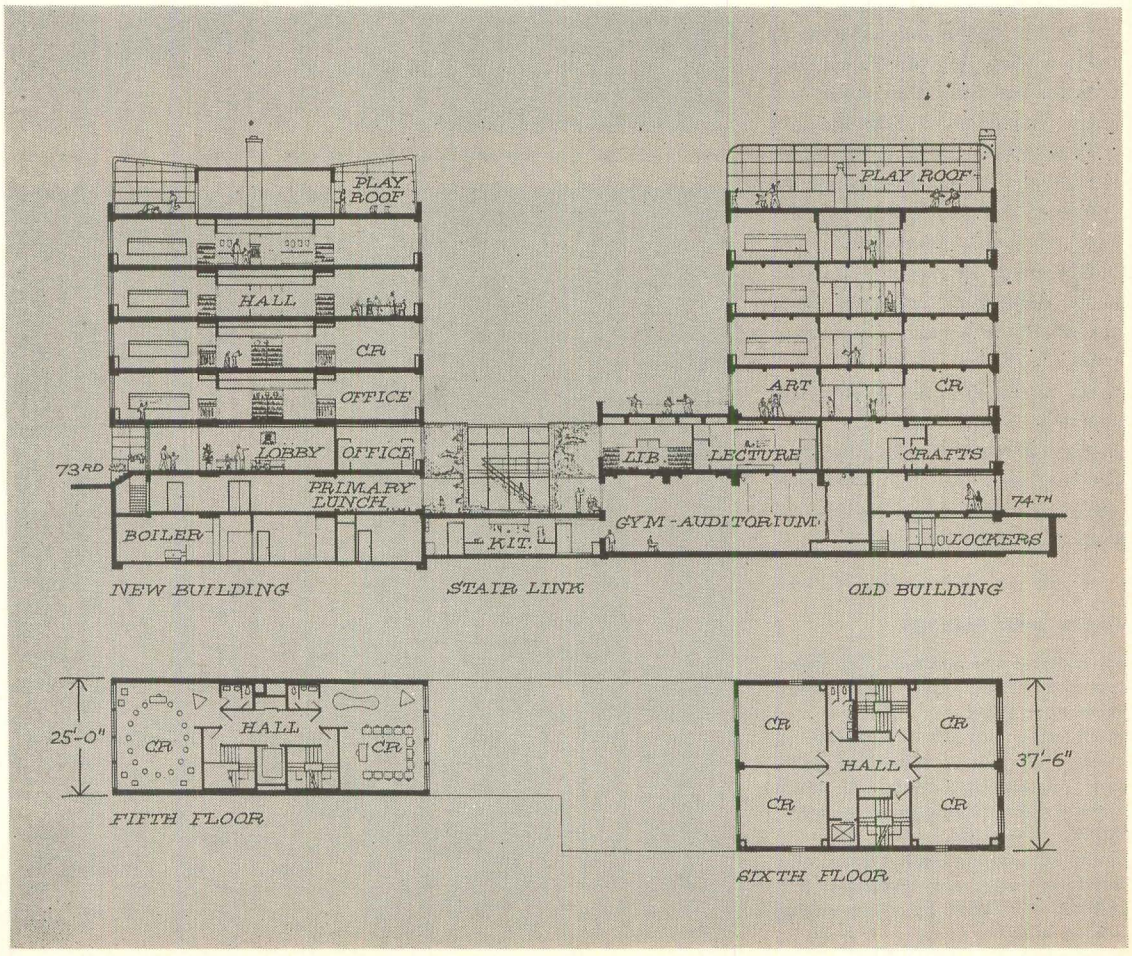


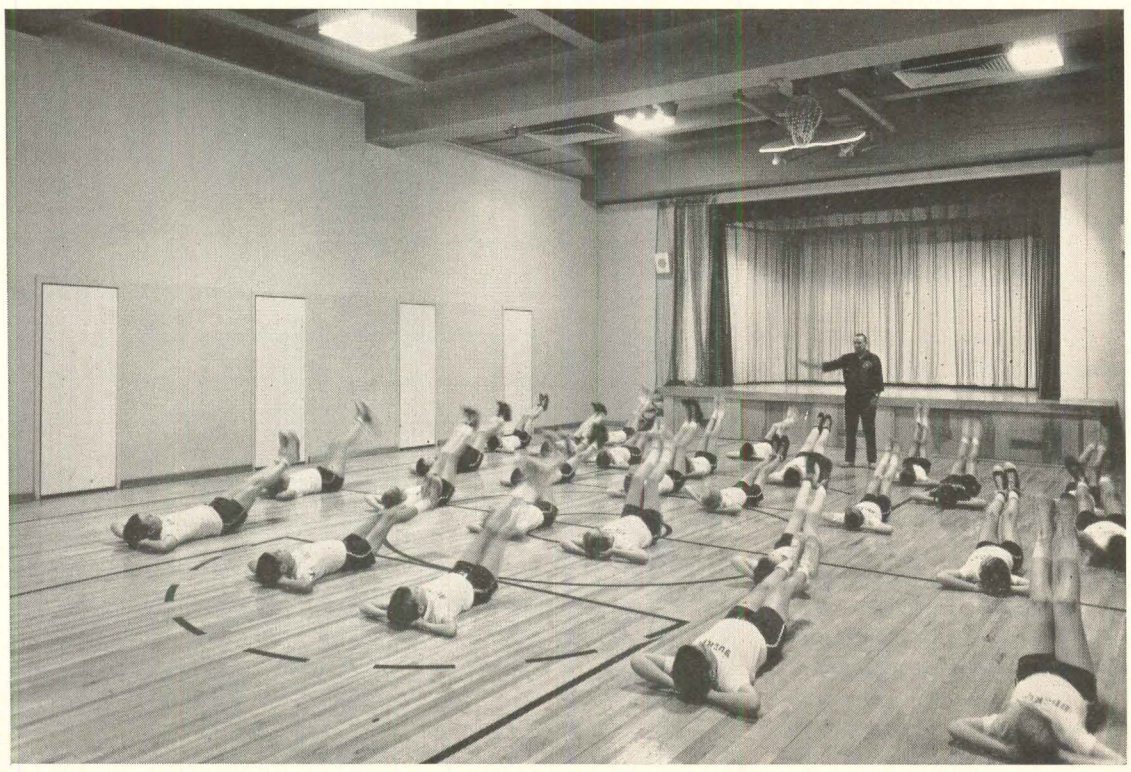
PHOTO OFF: GEORGE CSERNA; TOP RIGHT: LOUIS REENS

in front of the lobby are nicely recessed behind a planted wall concealing steps to basement receiving and storage space.

On walking through the lobby past Headmaster James Hubball's office, the visitor finds himself suddenly on the upper level of a glazed two-story stairwell, looking out and down on a pleasant patio between the old and new buildings of the school (photo right). Facing one end of this court is a small music and lunch room for the youngest children, who occupy the new building; at the other end are windows lighting the old building's auditorium-gym, which has been remodeled with a new built-in stage, and tables which fold down out of the walls for lunch (white rectangles in photo below).

The classrooms for the older grades have been remodeled extensively on either side of a new elevator, toilets, and halls; except for having old paned windows instead of the big bronze-colored sash of the new wing, they are scarcely distinguishable from the newer primary rooms (photo opposite).

In addition to neatly unified ventilation and storage units under the windows, the most interesting feature of these classrooms is the tackboard-closet combination seen at far right. When the tackboards are all the way down, as shown, even the littlest child can reach them easily, and the teacher has access to supplies above. At the beginning and the end of the day, the teacher slides the tackboards up, revealing a neat, low row of hooks for children's coats.



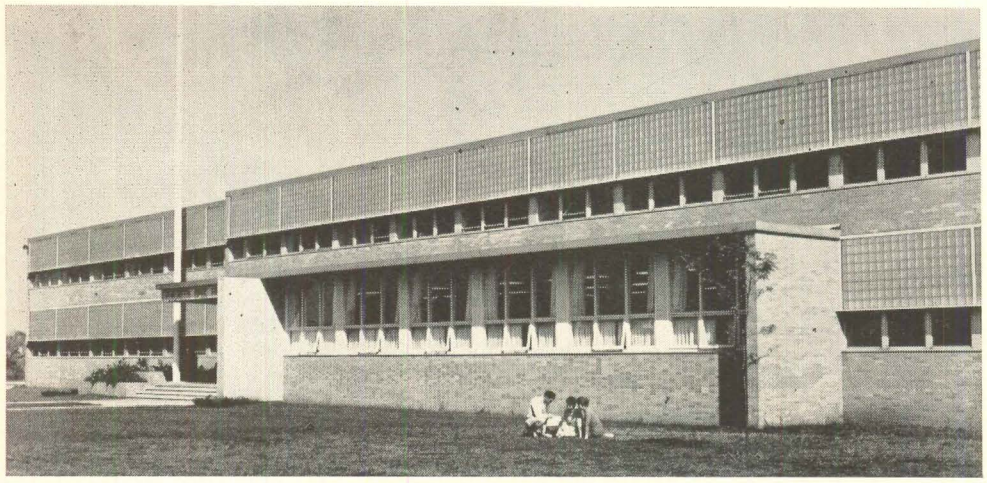
Above: a new glass stairwell-hall links the new building (left) with the old. Below: the remodeled gymnasium.

PHOTOS: LOUIS REENS; OPP: GEORGE CSERNA

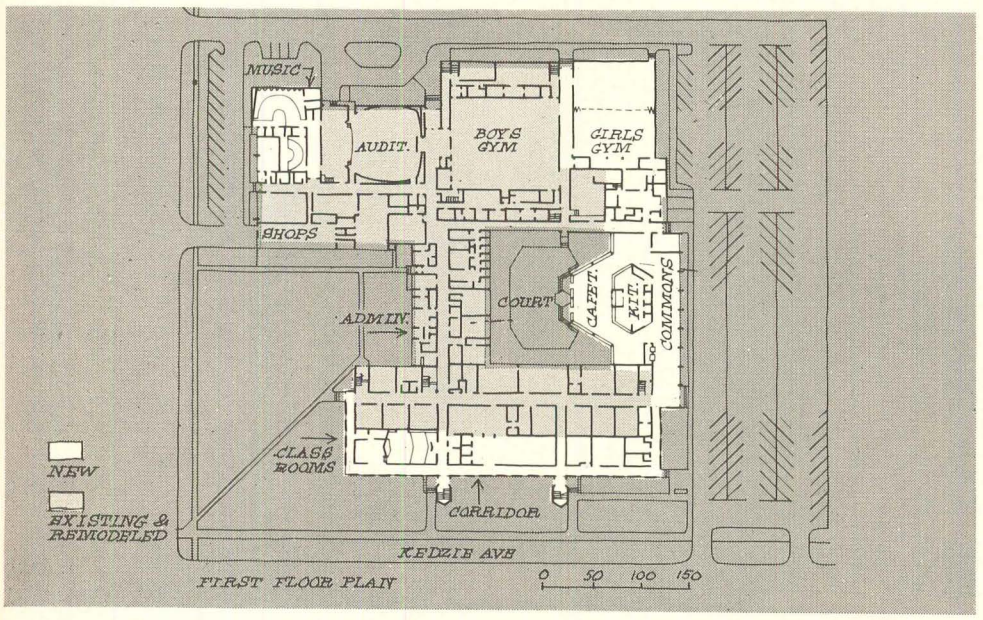
FACTS AND FIGURES

Remodeling and addition, The Buckley School, 113 East 73rd Street, New York City.
Architects: Brown, Lawford & Forbes. Engineers: Eipel Engineering (structural), Krey & Hunt (mechanical). General contractor: E. W. Howell Co.
Total remodeling and construction costs, old and new buildings: $1.1 million. Financed by fund-raising among alumni, parents, friends.


My Big Book
My Big Book
Butter



Old perimeter classrooms were exposed to western sun and distracting noise from a busy street



Open courtyard (below) was formed by the addition of a new hexagonal cafeteria and commons

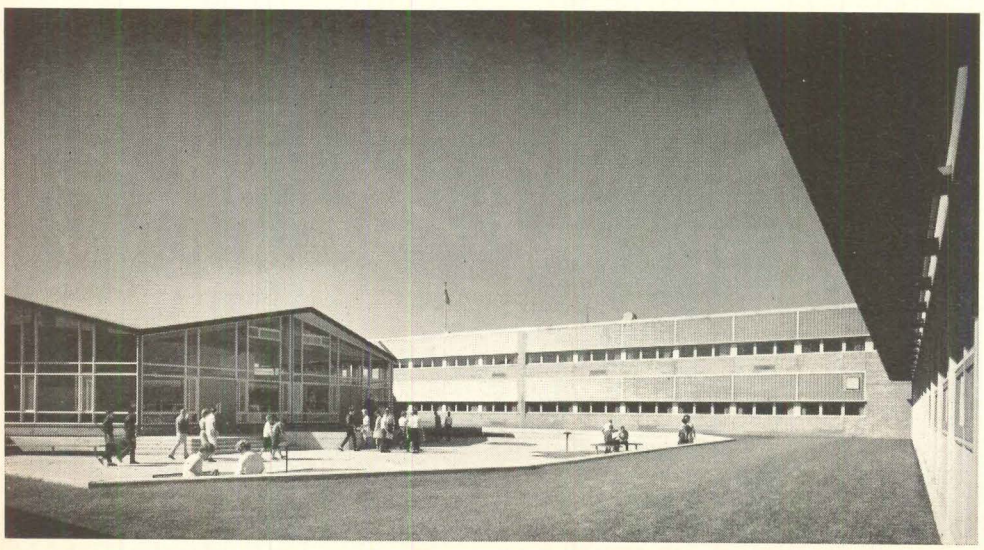


PHOTO LEFT & OPP: HEDRICH-BLESSING

A HIGH SCHOOL REHABILITATED

Though it was constructed a scant eight years ago, the Community High School in suburban Evergreen Park, Ill. (left), rapidly proved to be inadequate. Not only was the space too small to handle expanding enrollment but the school, which faced west to a busy avenue, was cursed by heavy traffic noise and baked uncomfortably by the sun.

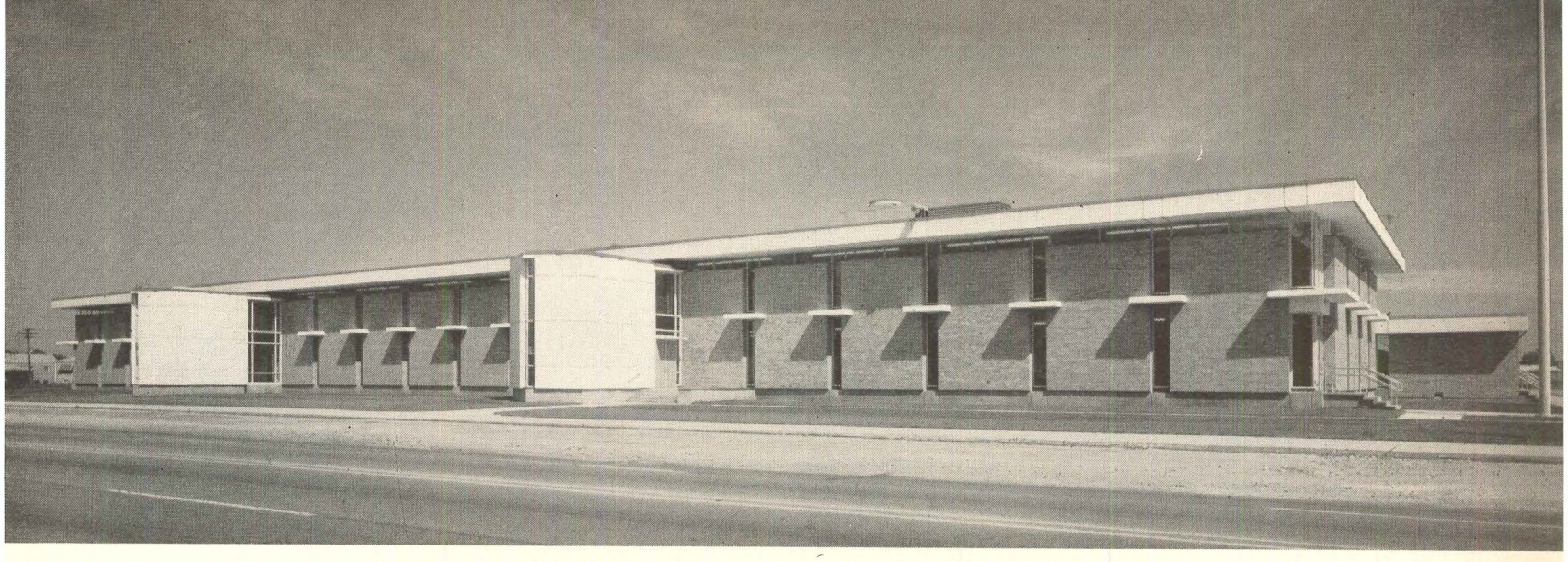
The newly completed remodeling and additions by Architects Perkins & Will (who were not involved in the original building) increased the size of the school some 60 per cent. They also ingeniously solved both the noise and sun problems while covering the old façade with a new crisp front (top photo, opposite).

The original building was set back 100 feet from the street, which left room for the addition of a new two-story row of classrooms along the front. Protecting these from both noise and sun is a perimeter corridor (plan left, photo opposite) walled in brick and glass and shielded by an overhanging roof and concrete "eyebrows." Two free-standing stair towers are faced with patterned, precast concrete panels.

Old classrooms were remodeled and, like the new ones, they are air conditioned. The existing cafeteria was turned into administrative offices across the court from a new, hexagonal cafeteria (left). Other new construction included music rooms and a girls' gym.

FACTS AND FIGURES

Remodeling and additions, Evergreen Park Community High School, Evergreen Park, Illinois.
Architects & Engineers: Perkins & Will. General contractor: M.A. Lombard & Son Co.
Total building area: 192,000 square feet (new construction: 72,000 square feet). Total construction cost: $1.48 million (new space, $16.80 per square foot; remodeled space, $8 per square foot).



New façade (above) has two freestanding stair towers. The corridor (below), a buffer against sun and noise, has lockers built into the outer wall

"PROFIT IN THE DIGGING"

Considering how much building construction today goes underground, and how much more will do so tomorrow, it is something of a surprise that mankind today takes his underground roots so much for granted. As urban people we all stem from such roots, for we pull our water, our electrical energy, our telephones, our heating gas, often our steam, sometimes our chilling brine, directly out of the ground just as, ultimately, we get all our food from there. In this, we are walking trees or bushes, which latch onto above-ground extensions of various widespread underground root systems as readily as baby mammals grab onto the teats of their mothers.

Nobody has yet complicated the life of the engineers who run the underground systems by suggesting that these ought to conform to some kind or another of architecture, but the connections are getting more and more intimate. Whenever new urban systems are required, which put transportation or parking underground, the first thing that has to be asked about is the underground service networks, with particular attention to drainage. This underground maze is also often the *last* thing to be inquired into, for if the cost is going to be prohibitive, that is what is most likely to make it so.

Obviously the handling of these underground matters is often far from perfect, as citizens are apt to notice when "Dig we must" signs put them to inconvenience. There still seems to be no detachability about a section of pavement apart from using a noisy air drill and finally the pavement seems to get poured back like thick soup that never quite settles level. The most appealing dream of the citizen in his role of imaginary subsurface engineer is to invent ways of getting at the water mains and sewers and other conduits under the streets without disturbing the pavement ever, or at any rate not for more than an hour or two. There was a story years ago about a young inventor of this sort, and it appeared in the "Get-Rich-Quick Wallingford" series in *Cosmopolitan Magazine*. This young fellow (in those early days) was going to package every kind of under-the-street tube or conduit in a single channel, directly under the surface and easy to open, and Wallingford manfully helped the idealist to get the idea across with the hard-boiled City Council. What was the young fellow's chagrin, the contract having been signed, when he saw work crews digging down under the street further and deeper than ever.

"I know, I know, my lad," was Wallingford's rejoinder. "Your fame is made as the world's greatest inventor. But don't forget, my son, *the profit is in the digging.*"

Of course one of the most famous cases of profit in the digging was the one of Aaron Burr's water company, which gave the city of New York—dependent until then on wells, sometimes gruesomely drilled down through graveyards, and on private malaria-spreading water wagons—its first public water supply through wooden pipes laid under the streets somewhat over a century ago. The ultimate outcome of a fascinating series of events was the Bank of the Manhattan Company, still a conveyor of liquid wealth very well worth knowing.

ART COMMISSIONS

Nobody is to be congratulated on being named to one. The most that can happen is that the city itself can be congratulated on those who are appointed to art commissions. Their job is thankless and in a sense always too late. Art commissions if good are composed of those who could have done better on most of what comes before them if they had designed it in the first place, but they have not much chance to initiate. All they have a chance to do, usually, is to review and suggest improvements, if not to disapprove altogether.

The chance offered itself the other day to take a quick peek, not a real look, at things before the National Commission of Fine Arts in Washington, and it showed that some people consider things to be art, and worth letting an Art Commission look at, which are unbelievable to others. Things like memorials crowned with stuffed turkey and cabbages, if you get the idea. Condolences to William Walton, chairman, and his Commission, and may their censoriousness come through with a fine flourish.

By the way, the new Commission is full now, with the appointment of Gordon Bunshaft, and last month came the retirement of the former long term chairman, the wiry, alert octogenerian, David Finley. In recent years he was usually an antagonist of things this magazine promoted, but he has been a man of consistent integrity and force and gentlemanly bearing, and blessed with infinite memory; and nobody ever accused him of wavering from a position taken. There is great value in *a* line being taken.

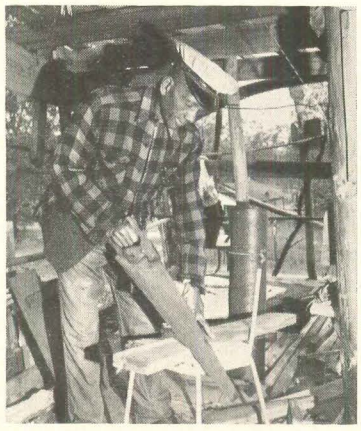
On the last day of Mr. Finley's service it was the lot of this editor to appear before the Commission in connection with a proposal which seemed in many ways to appeal to the retiring chairman. It was a pleasure.

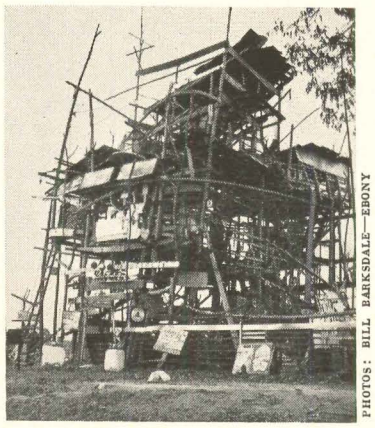
The idea does occur that an alert art commission might well propose quite a few city beautification ideas and thereby gain the right to nominate the architects to make more specific proposals. Thus a commission unable to initiate designs itself could get good directions initiated.

PERSISTENCE IN MEMORY

Can anybody remember seeing this skyscraper home in FORUM? Nobody on the magazine has yet demonstrated that it has appeared, and yet everybody "remembers seeing it." Quite a case of persistence in memory.

"In Curiosity" took Stephen Sykes, the 69-year-old bachelor owner, ten years to build, on U.S. Highway 45, north of Aberdeen, Miss., as reported in *Ebony*. Although its six staggered split-level floors inspire concern over its ability to survive the next gentle breeze if the structure is looked at from the ground, yet "once inside, the visitor finds his apprehensions dispelled by its sound





PHOTOS: BILL BARKSDALE—EBONY

construction," reports *Ebony*.

Designer Sykes seems to owe little or nothing to any other architect and to have proceeded very much under his own ideas. He declares he is no fresh-air fiend, but he does believe "it's helpful to sleep and live in fresh air. He hasn't had a cold since he began staying in this room the year-round." As to "this room"—is it the "reception parlor" reached after the first steep climb? Not at all—it's his bedroom, which has "air conditioning" by means of a one-time smoke stack on top that catches breezes and directs them downward thither. Other conveniences are a telephone (through rubber hose), a rain-water shower bath, a four-burner wood stove, a sink, and an ice-box refrigerator.

Sykes has established good relationships with sidewalk superintendents attracted from among passing motorists, and these have been sending him, from a distance, many parts incorporated in his effort at "building something great out of common materials available to everyone."

"It takes a lot of nerve and good thinking to keep a project like this going," he remarks, and already he is planning toward higher efforts. He is reported as viewing distant utility poles with a view to obtaining and incorporating something just like that in future structures climbing to altitudes of 100 to 125 feet.

Unlike many an artist-inventor, Mr. Sykes has excellent credit at the store, based on rent he receives from his 20-acre plot of land and his social security pension. At 69 he sees no reason to be retiring.

Douglas Haskell

Terrazzo is the ticket for Pan Am. The dramatic, rounded motif of the world's largest airline sales office is furthered by the circular, terrazzo-clad counters that grow out of the jointless terrazzo flooring. Millions of flights from now, the concrete-hard terrazzo will be just as beautiful as it is today...with never any need for waxing or buffing. When you plan long-time terrazzo floors, wainscots, stairs, specify a matrix of ATLAS WHITE portland cement. Its uniform whiteness brings out the true color tone of aggregates and pigments. Complies with ASTM and Federal Specifications. Ask your local terrazzo contractor about the many effects available. For background information and a terrazzo brochure with color plates, write to Universal Atlas, 100 Park Avenue, New York 17, N. Y.

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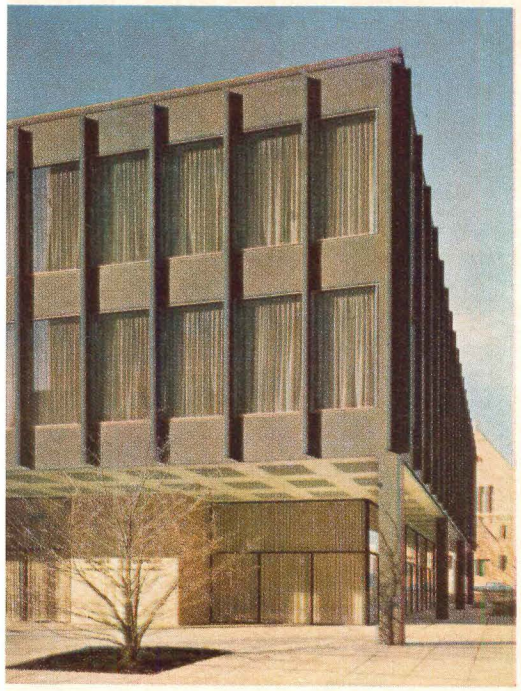
TRADEMARK



Signature in steel

The Home Federal Savings & Loan Association Building, Des Moines, Iowa, bears the unmistakable signature of Ludwig Mies van der Rohe. Bold, disciplined, meticulously detailed, it is as always, an articulate statement of structure—expressed in steel.

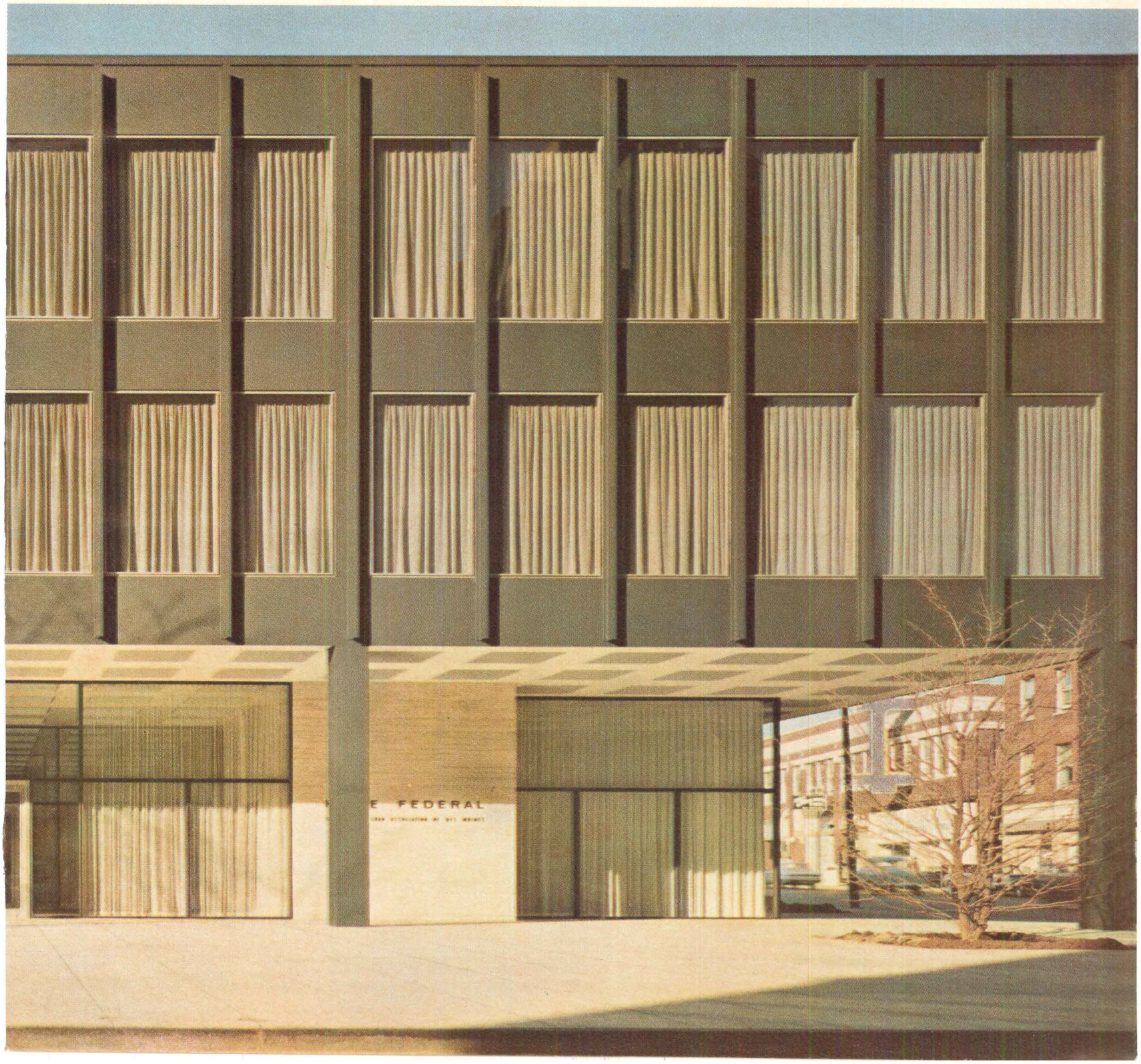
The building's exterior is an extension or expression of its steel frame. Columns and spandrel beams are sheathed in hot-rolled carbon steel plate, formed to pencil-line sharp arrises, and mullions are wide-flange sections. Exterior joints were field welded, and all exposed steel was sand blasted, prime coated, and painted.

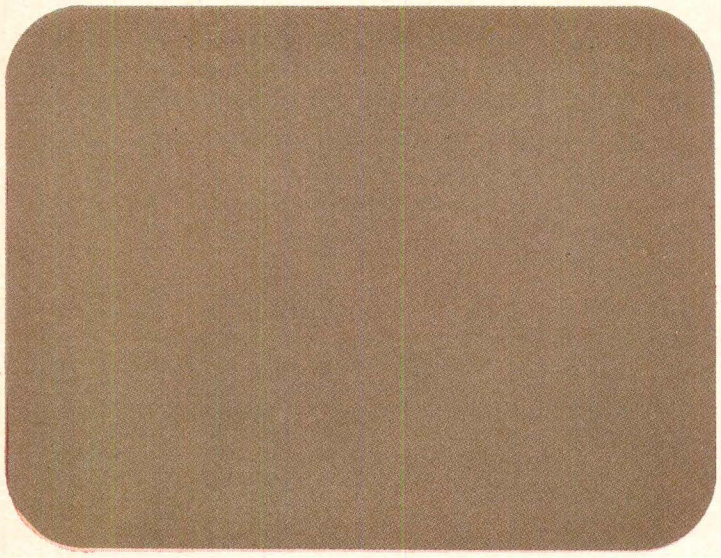
The total effect is one of eloquent simplicity and utile space. Forty-foot bays provide column-free interiors that afford maximum flexibility for interior arrangement. The webs of floor beams were pierced and reinforced to permit the passage of ductwork and conserve interior space.

Again, Mies has used steel to demonstrate that "less is more."

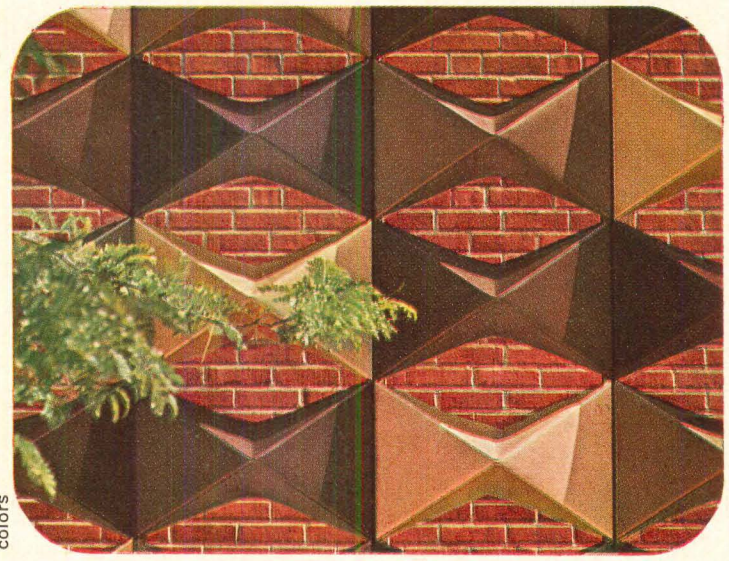
Architect: Mies van der Rohe, F.A.I.A., Chicago, Illinois • Associate Architects: Smith-Voorhees-Jensen, Architects Associated, Des Moines, Iowa • Structural Engineer: Nelson, Ostrom, Baskin, Berman and Assoc., Chicago, Illinois • Contractor: Ringland-Johnson, Inc., Des Moines, Iowa • Structural Fabricator: Des Moines Steel Company, Des Moines, Iowa • Structural Erector: Price Erecting Company, Milwaukee, Wisconsin

Steel . . . for architectural achievement

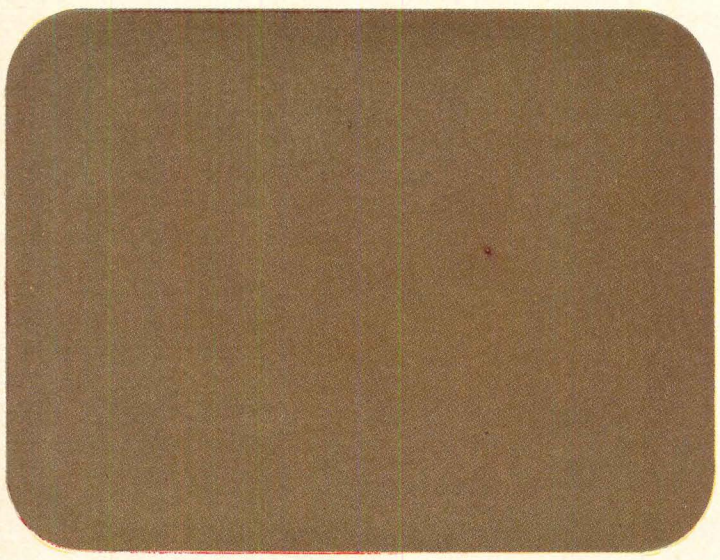




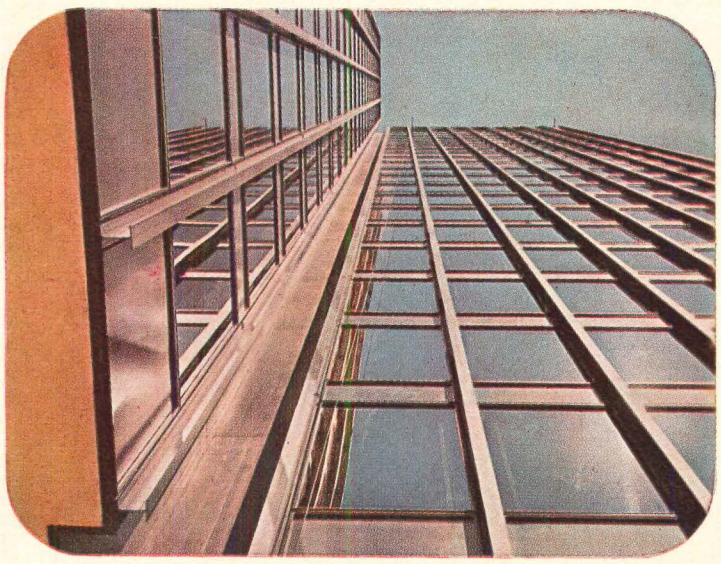
Duranodic 311S, Light Bronze
Alcoa Sol-Dec® II Screen in various Duranodic "300" colors



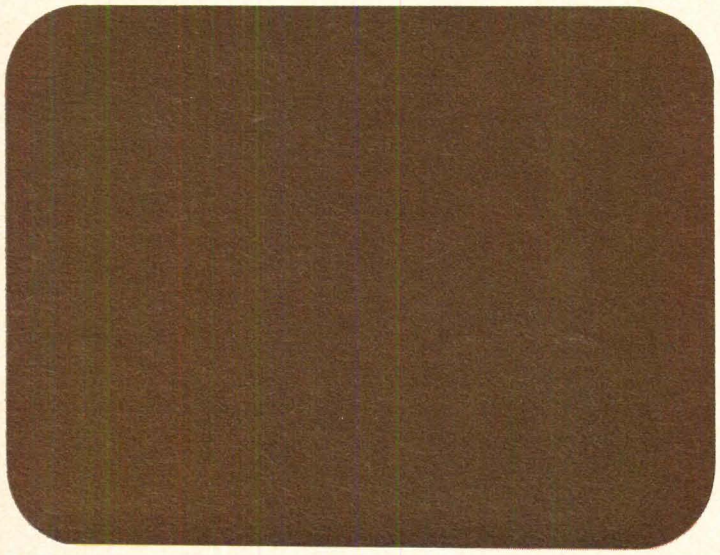
Here they are: the changeless colors of



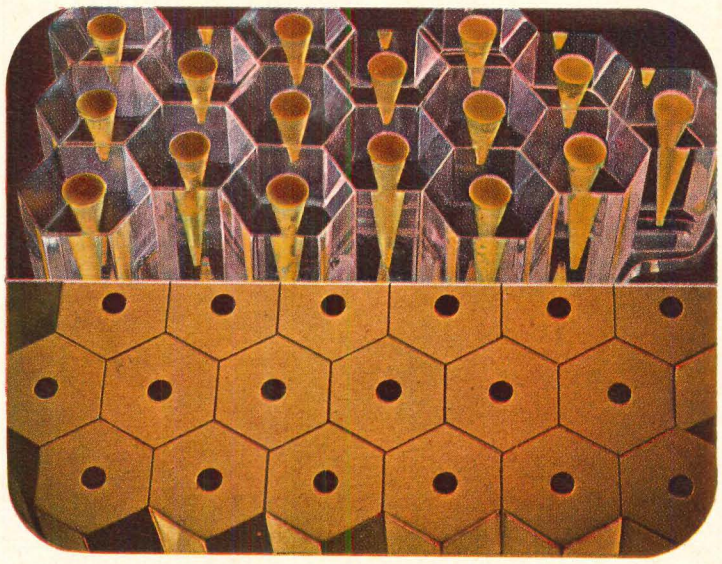
Duranodic 312S, Medium Bronze
Number One Charles Center, Baltimore, Md.



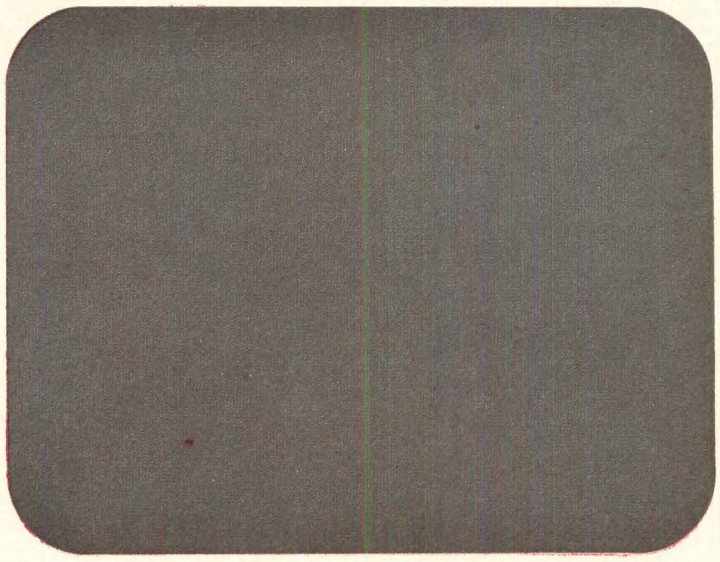
rich bronzes, onyx, gray. Specify colorfast



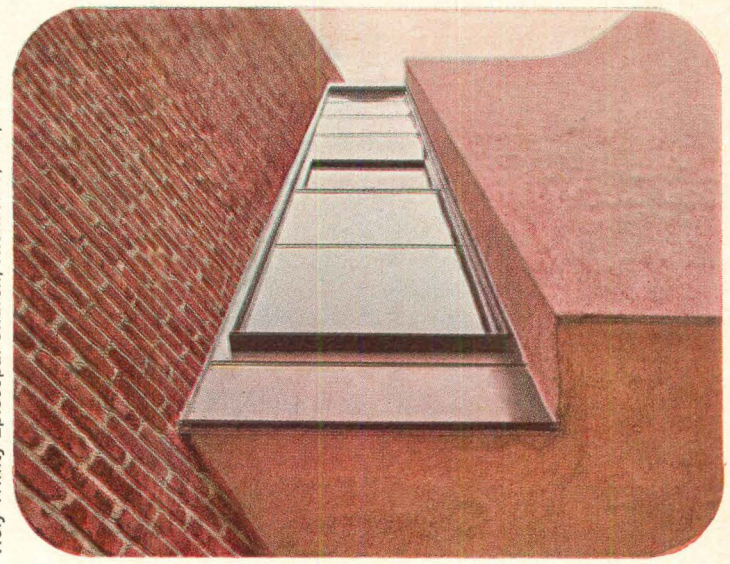
Duranodic 313S, Dark Bronze
Cell structure: anodic finish, Duranodic finish (see text)



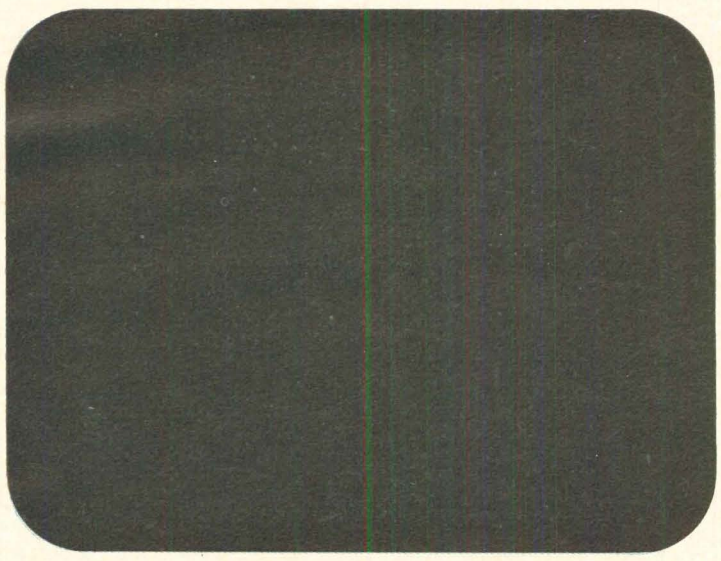
windows, solar screens, mullions, framing.



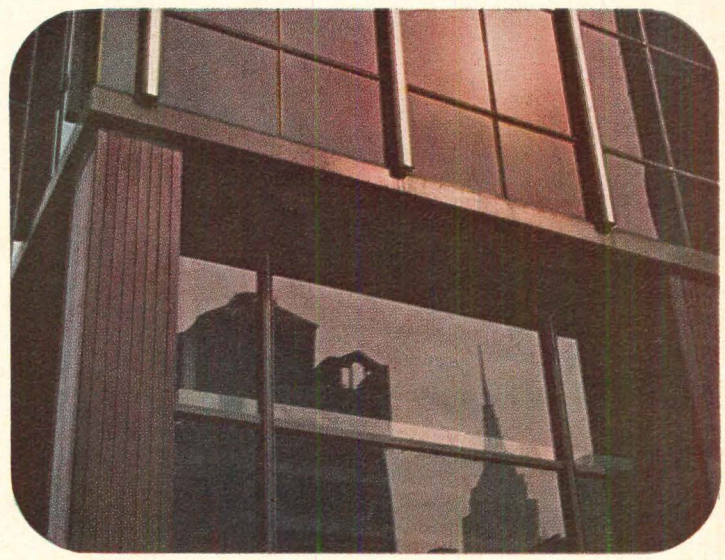
Duranodic 324S, Medium Gray
Holy Trinity Episcopal Church, Hicksville, L.I., N. Y.



Alcoa's new DURANODIC "300" finishes,



Duranodic 335S, Black
605 Third Avenue, New York, N. Y.



DURANODIC "300" finishes for panels, trim,

Salt air, hot sun, corrosive atmospheres—Alcoa® Aluminum with Duranodic* "300" finishes can take practically anything nature can dish out or man devise. And the color exhibits little or no change. Hard as sapphire, Duranodic "300" color finishes are inherent in the alloys and become integral with the metal during treatment. There are no dyes or pigments. Result: a color surface that's just about impervious to scuffing. See the enlarged model of an anodic cell structure to the left: The upper example has color added. Below it is the way cells in a Duranodic "300" finish look—color clear through! Call your nearest Alcoa Sales Office for complete information.

Credits—Holy Trinity Episcopal Church. Owner: Holy Trinity Episcopal Church, Hicksville, L. I., N. Y. Architect: Seth Hiller & Edward F. Knowles, N.Y.C. Duranodic Applicator: Electro-Color Corp. Fabricator: Samson Window Corp., 605 Third Avenue. Owner: Fisher Bros. Architect: Emery Roth & Sons, N.Y.C. Duranodic Applicator: Cupples Products Corp. Fabricator: Cupples Products Corp., One Charles Center Building, Baltimore, Md. Owner: Metropolitan Structures, Inc., Chicago, Ill. Architect: Mies Van der Rohe, Chicago, Ill. Duranodic Applicator: Cupples Products Corp. Fabricator: Cupples Products Corp. Erector: F. H. Sparks Co., Inc.

*Trade Name of Aluminum Company of America

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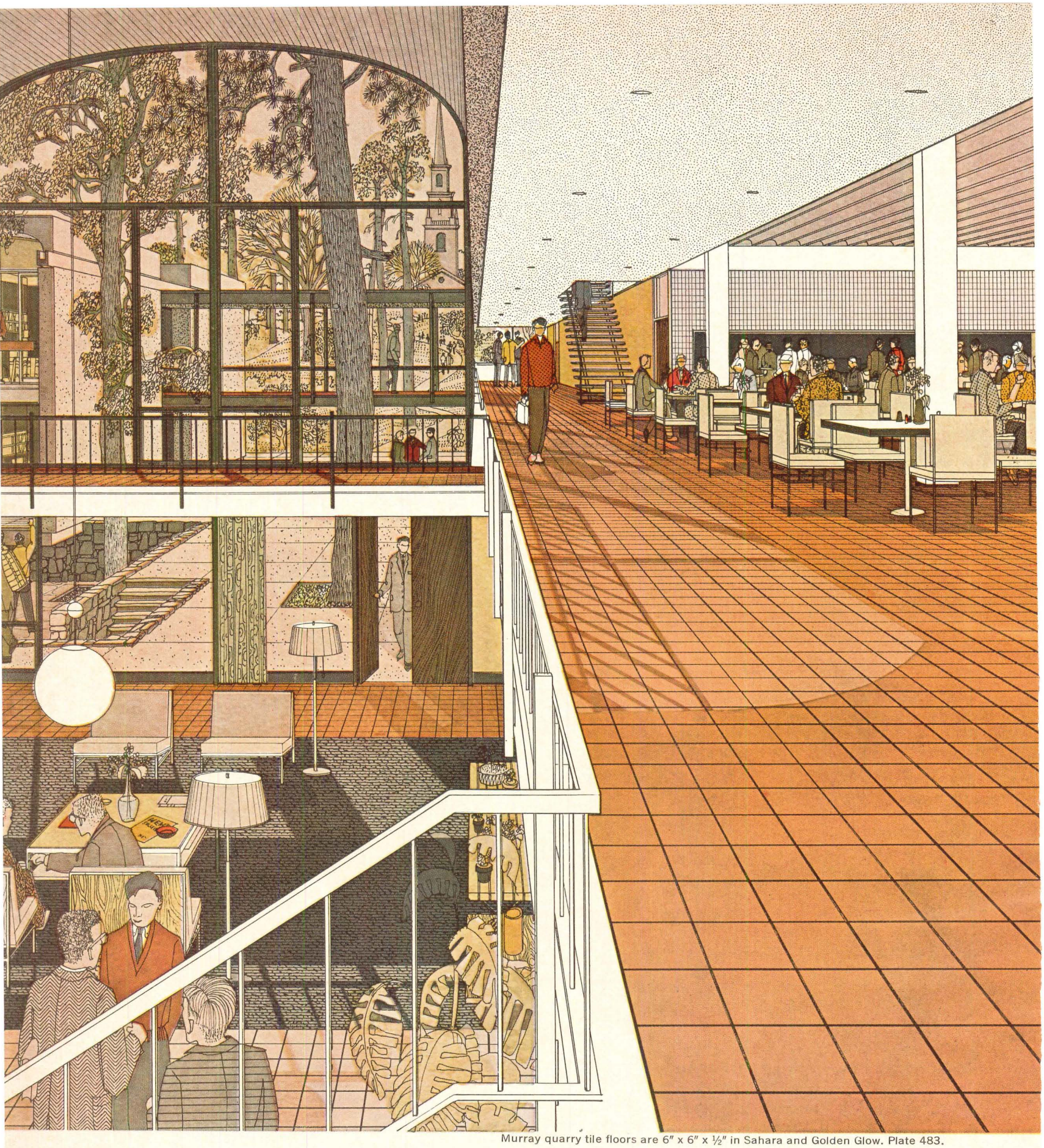

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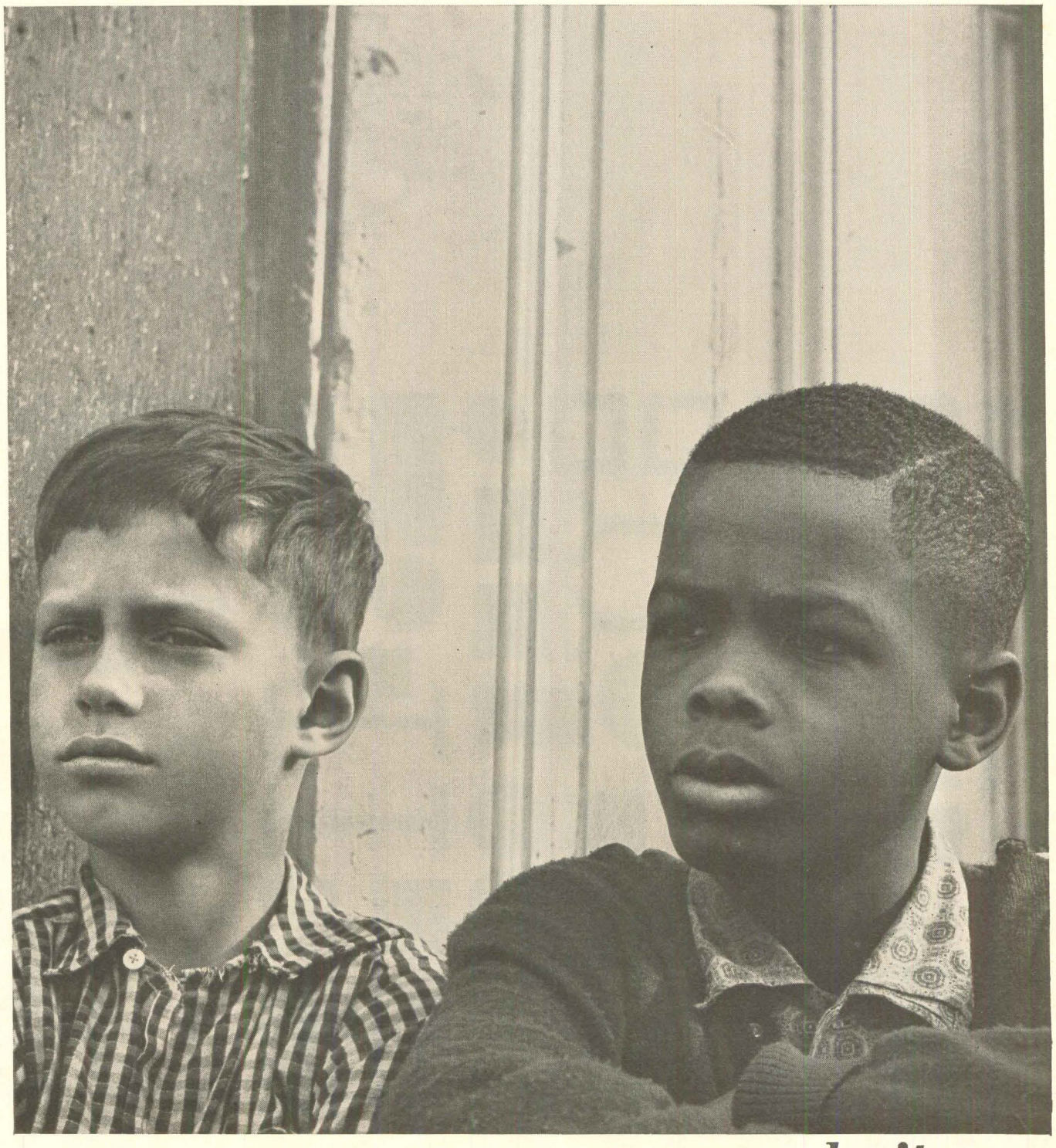

don't pass them by

Imagine how frightening it is to a child to see the world passing by and know that he or she is not really part of it. To be looking out from a sick bed, or a room in a home for the handicapped or the emotionally disturbed. And how hopeless it must feel to be a teen-ager struggling with a big problem and wondering where or to whom he might go for guidance, or a lonely old person searching for a face that's familiar. Please don't pass them by. Your United Fund or Community Chest is your chance to assist them all. **One gift works many wonders/GIVE THE UNITED WAY**

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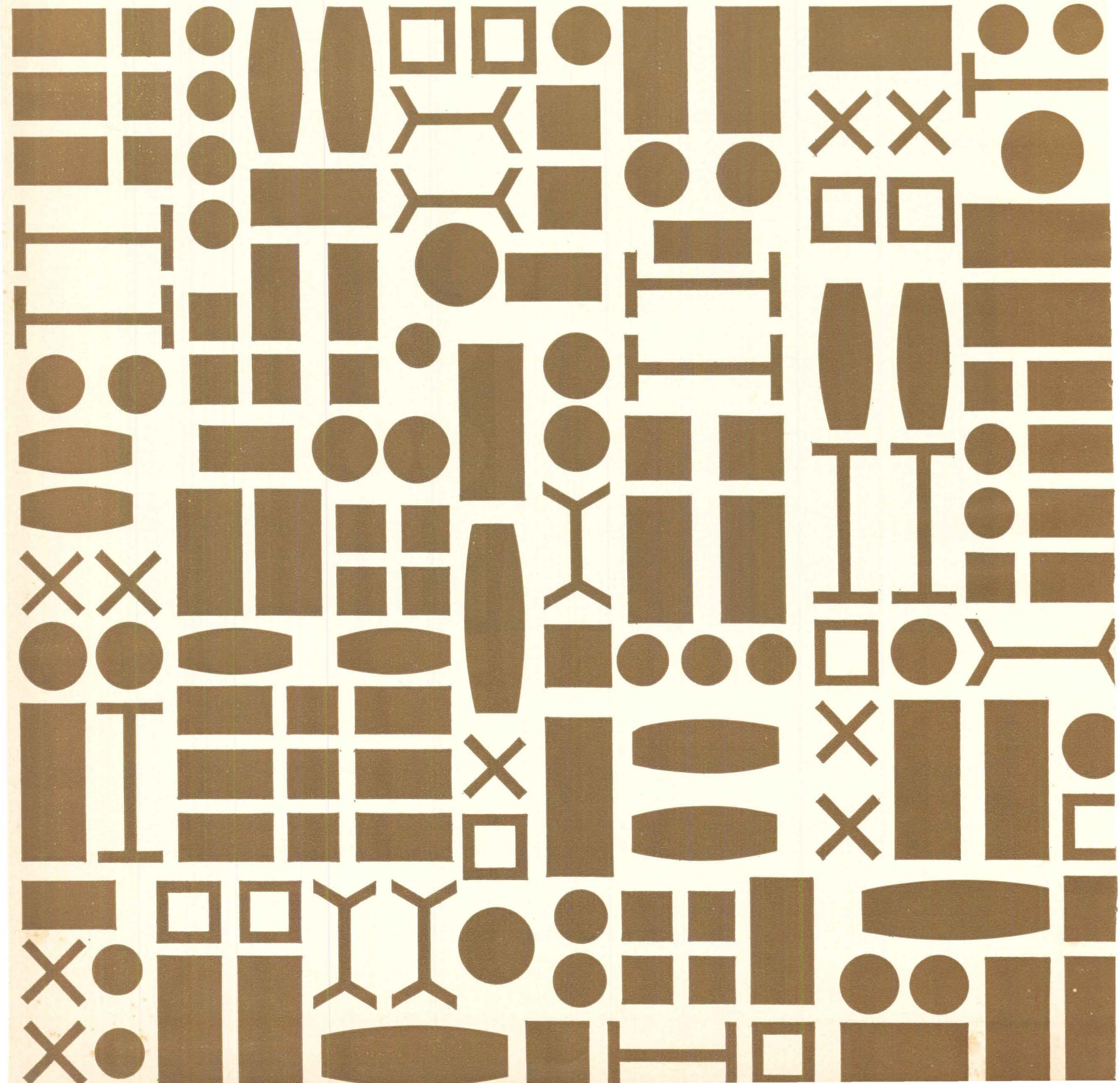

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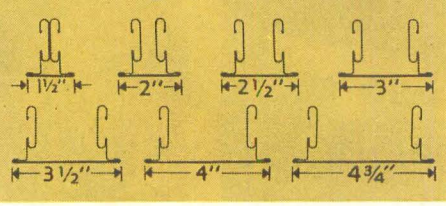
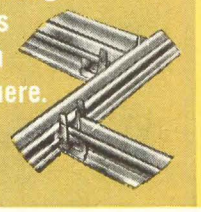


No pre-routing ...tees attach anywhere.



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Please send at once full data on your Modular Grid Suspension System.

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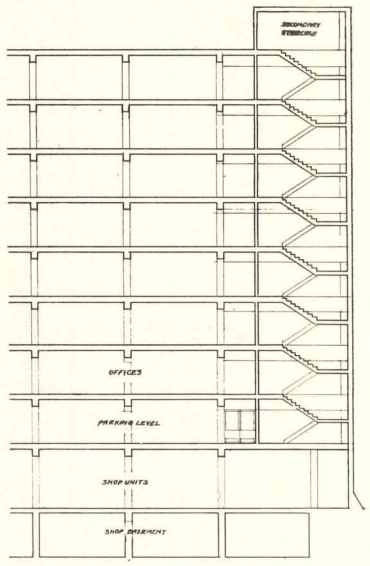
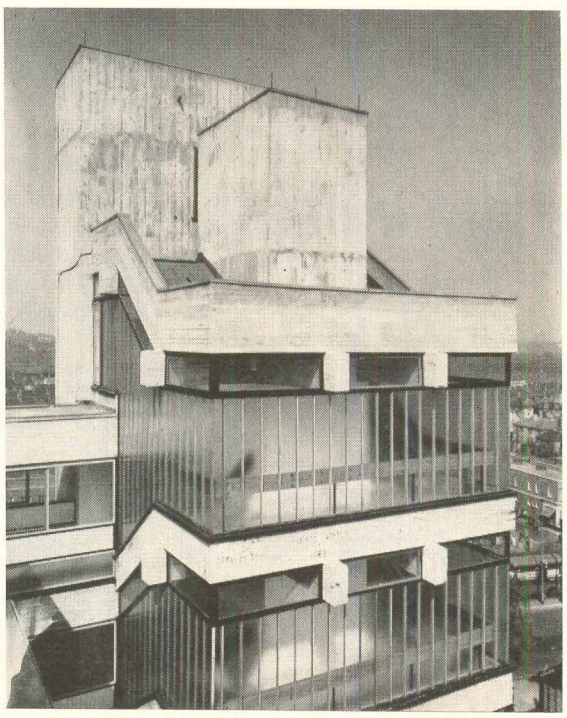
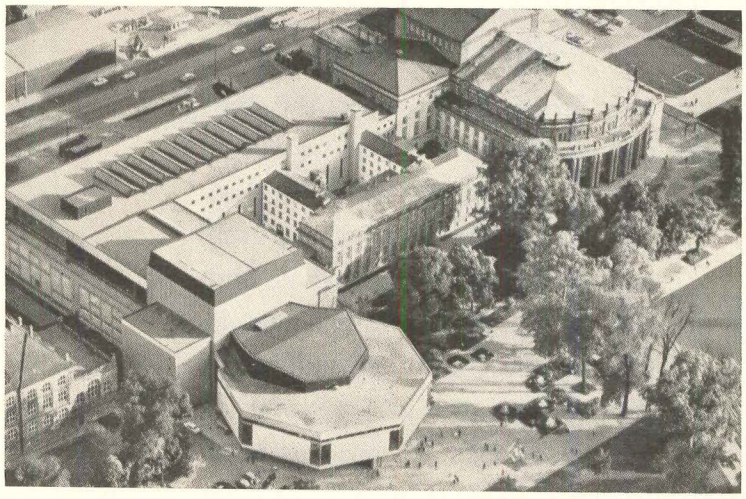
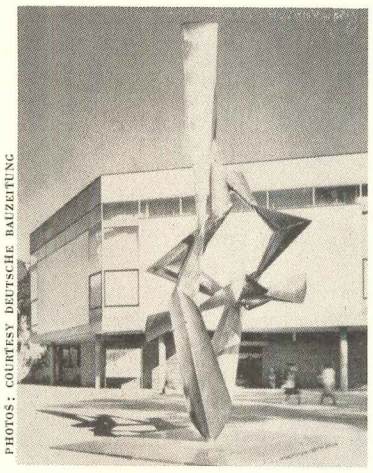
ENGLISH OFFICES. On the site of South London's old Eros Theater, Architects Owen Luder, Dennis Drawbridge, and Rodney Gordon have created a speculative office and commerical complex, nostalgically named Eros House. The central building of reinforced concrete and brick infill has a ground floor of shops topped by a second-level parking garage and seven office floors above. Offices are reached via an elevator-stair tower (below, center) which is left free-standing on the first floor (below, left) so that shoppers can walk through with free access to all stores. A short, spiral stair serves the garage level at the rear (below, right).





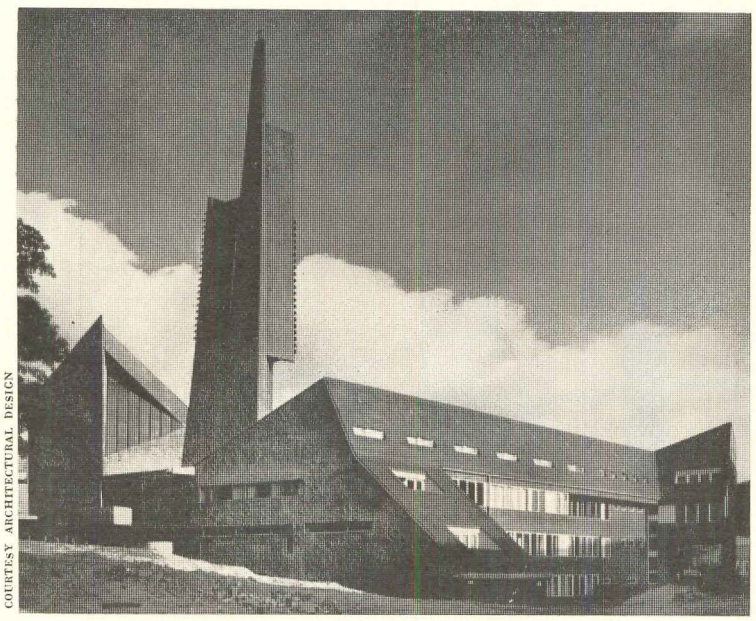
PHOTOS: SAM LAMBERT





PHOTOS: COURTESY DEUTSCHE BAUZEITUNG

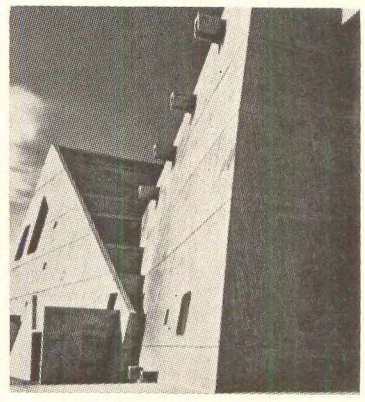
STUTTGART THEATER. It took five years and two competitions to decide on a replacement for Stuttgart's war-damaged "little theater." Hans Volkart, Kurt Pläcking, and Bert Perlia were the architectural team finally chosen. Their raised polygonal design, which holds 851 seats, faces a park and a sculpture by Wander Bertoni (left). It is connected to the city's undamaged large theater by a rebuilt actors' workshop with third-floor picture gallery. Like New York's Philharmonic Hall, the new theater's acoustics are being adjusted.

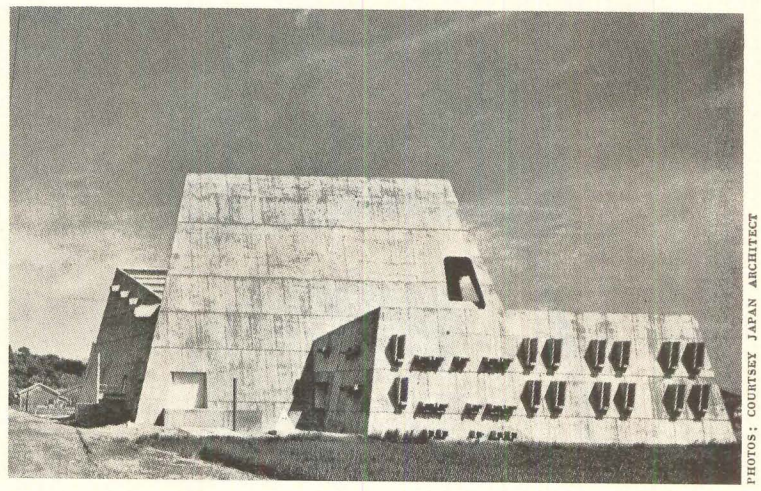


COURTESY ARCHITECTURAL DESIGN

GERMAN CHURCH. A geometric tour de force, the complex structure shown above was designed by Architects H. Fehling and D. Gogel as an addition to the existing Paul Gerhardt Church in Berlin. Its many-faceted exterior is of concrete, textured by roughly hewn wooden forms. Wooden grilles form horizontal accents across two sides of the eccentric belltower. Windows run the gamut of shapes and sizes, are placed along the walls in a constantly varying pattern. The angular sanctuary rises at the left.

JAPANESE CENTER. Since the Nichinan Coast is cold in winter and typhoon-plagued in summer, the forbidding aspect of Kenzo Tange's new cultural center at Nichinan City seems as appropriate as it is arresting. Pattern and shadow variations in windows and protruding drain pipes (right) provide visual relief for the fortress-like, unfinished concrete walls. An entrance courtyard leads through a foyer into a 900-seat hall used for various events.





PHOTOS: COURTSEY JAPAN ARCHITECT

ITALIAN APARTMENTS (below). All that is left of a turn-of-the-century, Renaissance-style villa in Rome are gateposts, a garden, a circular drive with a columned ramp, and a fountain. But a new apartment house of concrete and brick construction has been superimposed over the old to form a fanciful combination of eras. Cantilevered balconies, encrusted with spiky railings recalling the old ironwork, overlook the garden. The architects were Fabrizio Baliva, Allessandro de' Rossi, Ernesto Rampelli. END

COURTESY L'ARCHITETTURA

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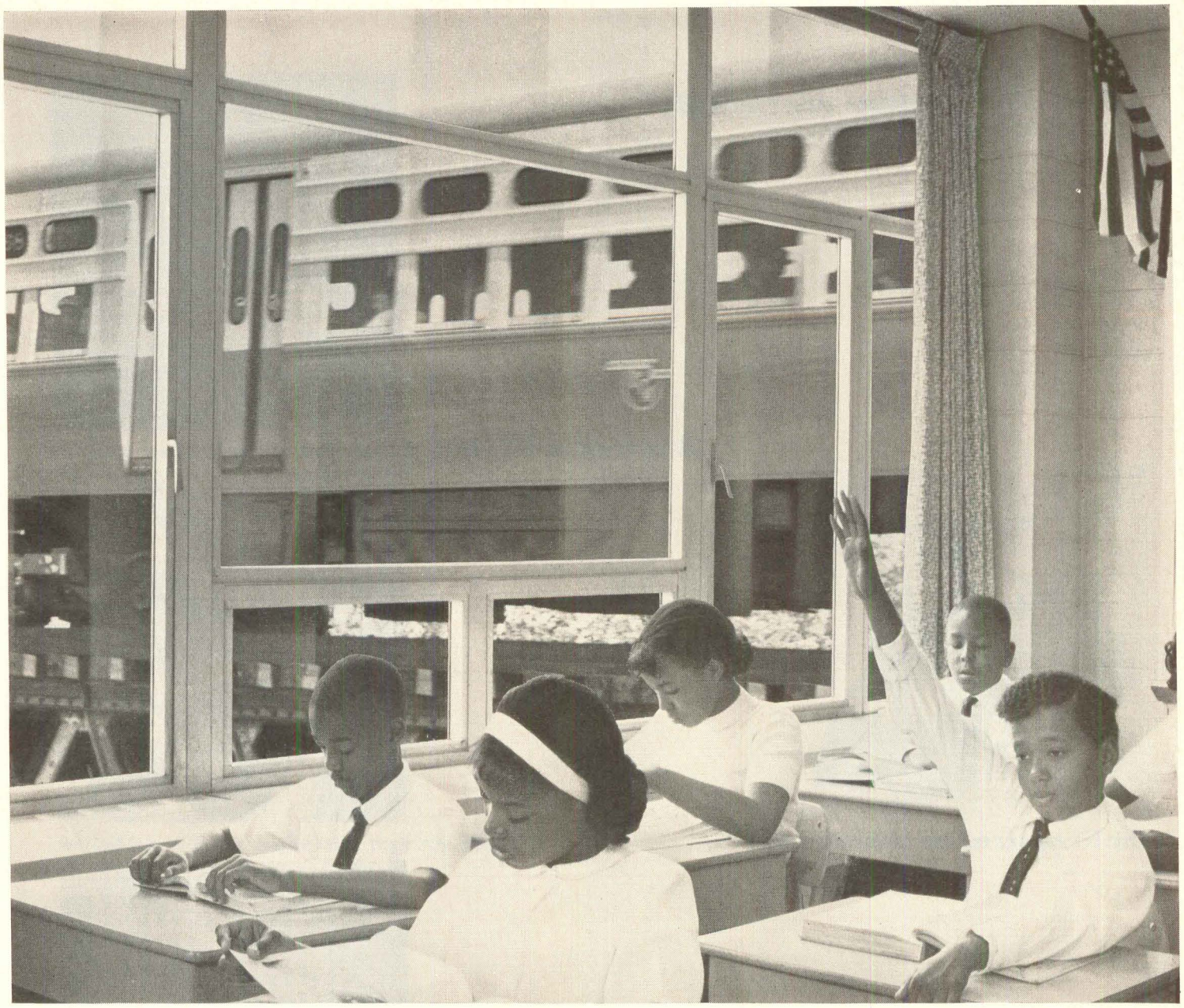

The quiet classrooms of the John Foster Dulles elementary school*

Quiet classrooms are not unusual . . . unless the new school is located on a particularly busy street with heavy bus, automobile, and elevated train traffic running directly alongside.

To overcome this unwanted noise, planners of the John Foster Dulles Elementary School in Chicago installed Acousta-Pane†. This unique, new, glass sound barrier was developed by Amerada Glass Corporation for use in place of ordinary window glass. Acousta-Pane effectively reduces the transmission of sound emanating outdoors. Acousta-Pane may also be used for interior partitions to obtain high sound isolation in those areas where visual observation of students may be required.

The classrooms of the Dulles School are quiet . . . as classrooms should be.

AMERADA GLASS CORPORATION, 3301 S. Prairie Avenue, Chicago 16, Illinois.

*John Foster Dulles Elementary School, 6311 South Calumet Ave., Chicago, Ill. Furst, Maher & McGrew, Architects
† Patent Pending

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Also available: "Principles of Architectural Sound Control," a free handy reference handbook prepared especially to assist architects in the solution of acoustical problems.

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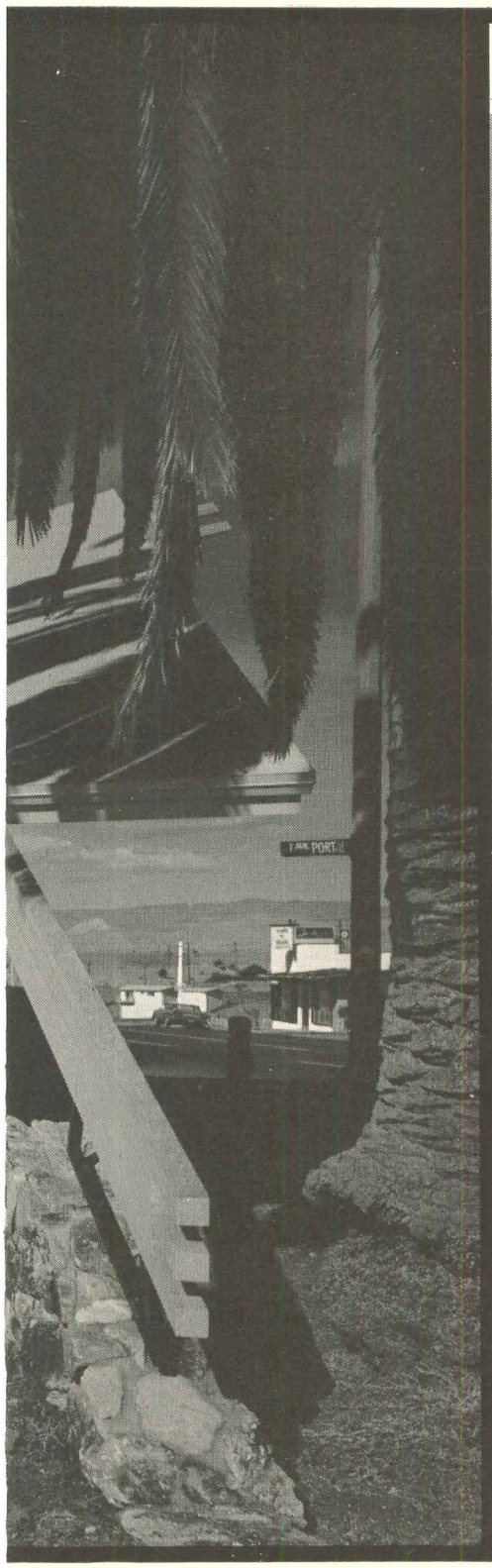
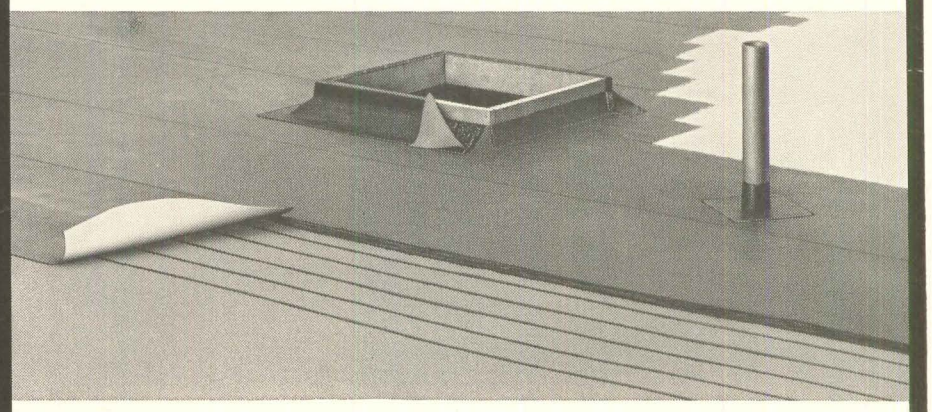
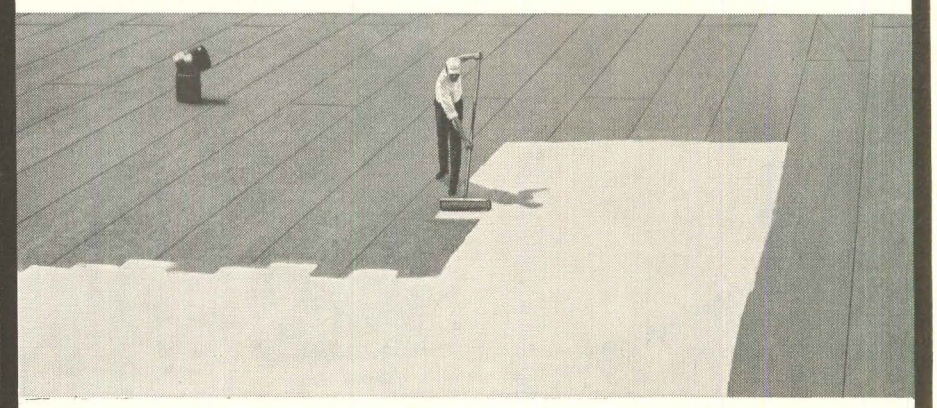
LAST-O-ROOF is light in weight,



SIMPLICITY IS THE PRINCIPAL FEATURE OF **LAST-O-ROOF**



Last-O-Bestos, the one-ply roofing membrane, is the main component of Last-O-Roof . . . consists of a weathering surface supported by an asbestos reinforcement. These are combined by a method that makes them inseparable so they form a true, one-ply membrane. Black in color, the weathering surface is a tough, durable polyisobutylene film. The light-colored supporting reinforcement is made of plastic-elastomer-bonded asbestos. Last-O-Bestos is applied in ribbons of **Last-O-Bestos Cement,** a pourable polyisobutylene adhesive that sets in a short time and gives a lasting bond. Side and end laps of Last-O-Bestos are sealed with **Last-O-Lap,** a brushable polyisobutylene adhesive reinforced with asbestos fibers for flow control . . . For use as through-wall flashing and at parapets, eaves or skylights, the one-ply membrane **Last-O-Flash** is provided. It has a weathering surface consisting of a heavy polyisobutylene film supported by a woven glass scrim and is adhered with **Last-O-Flash Cement,** an adhesive of heavy consistency . . . For roof projections such as vent pipes, **Last-O-Film** provides an elastic polyisobutylene film which is easily stretched and shaped to give a tight, weatherproof fit.



Last-O-Lume, the reflective surface finish, is an elastomer-based coating, formulated for compatibility with all Last-O-Roof membranes and adhesives. It's available in durable aluminum, white and metallic pastel colors to harmonize with any building design. The highly reflective surface will aid in lowering roof and interior temperatures.

Get the full details on this newest development in membrane roofing. Ask your J-M man about LAST-O-ROOF. Or call or write Johns-Manville, Dept. AF-11 Box 111, New York 16, N. Y. Cable: Johnmanvil.

actually *stretches* to accommodate normal stress and distortion. And, it's a roof that's reflective and colorful, too. LAST-O-ROOF is made up of compatible components based on the elastomer, polyisobutylene . . . and this roof is approved by Underwriters Laboratories, Inc., for Class A construction.

What's more, it's a roof that can be speedily applied to permit quick building closure. The result is a smooth, water-tight, completely homogeneous roof that will not crack, blister or shrink under extremes of heat and cold.

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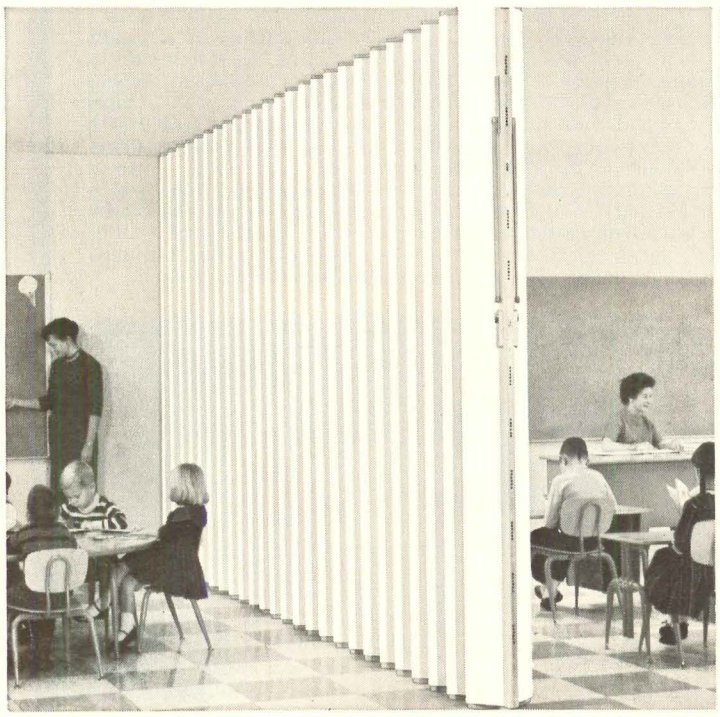

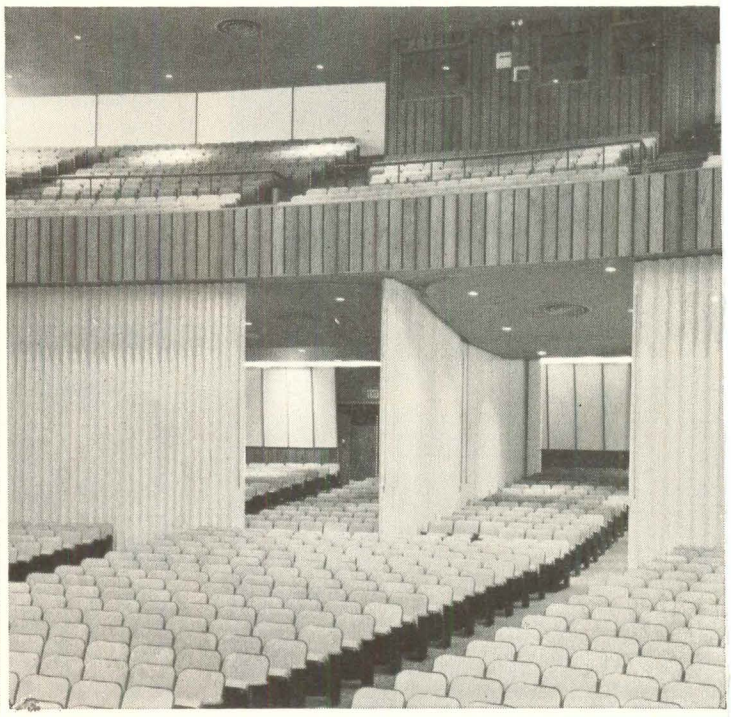

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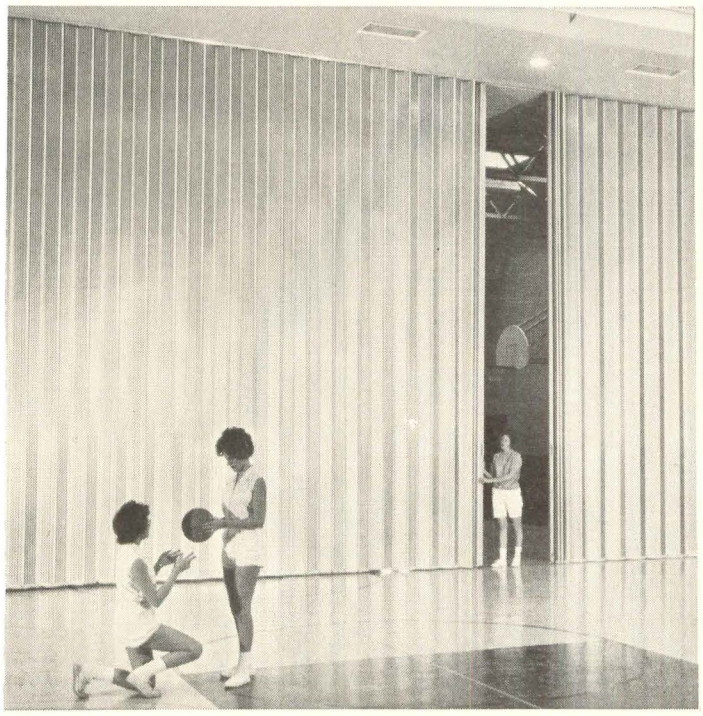

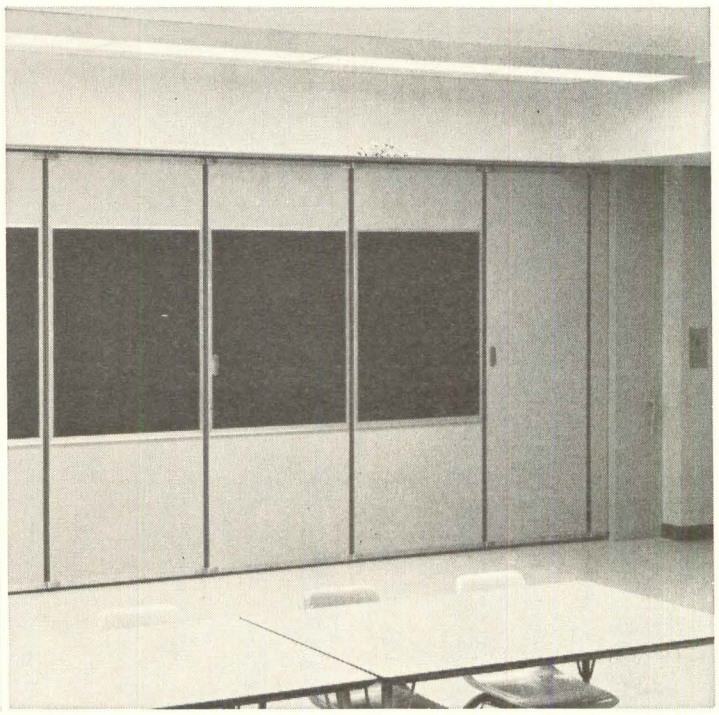

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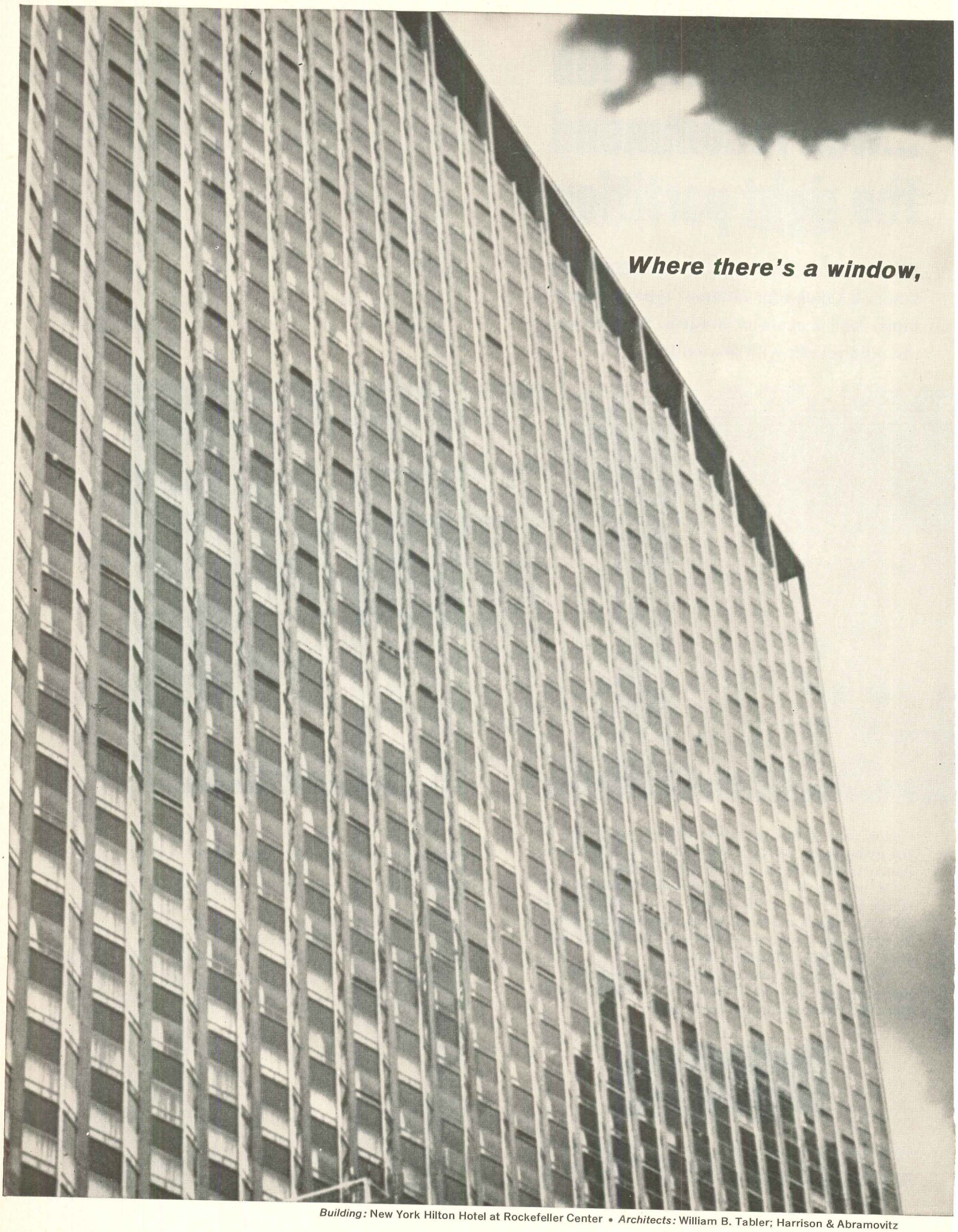

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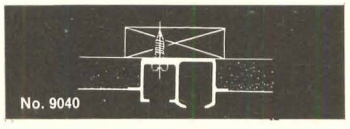

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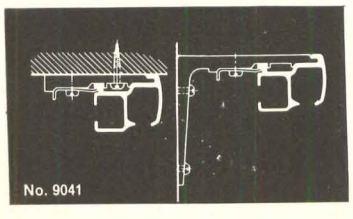
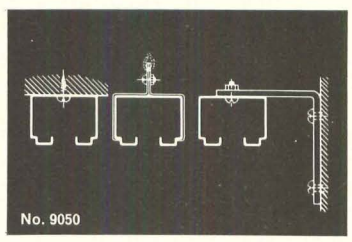


Ceiling or Wall Installation: No. 9041 Series—Designed to present a handsome face, No. 9041 Series Architrac doesn't need recessing. Track mounts directly to ceiling, wall or mullion, using our concealed brackets.



Ceiling, Overhead or Wall Installation: No. 9050 Series—For heavy draperies, tall or wide windows and medium-weight stage curtains, No. 9050 Series conceals all moving parts and cord inside track. It can be spliced to span 50-ft. openings; cord -or hand-drawn, even motorized.

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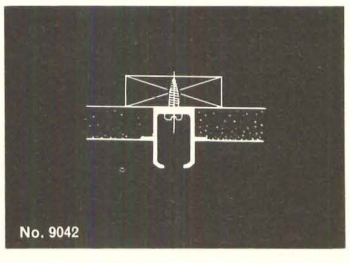
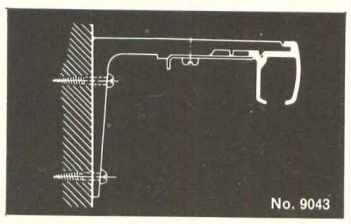
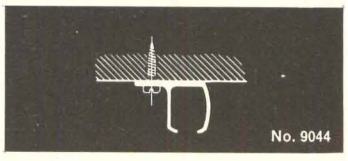


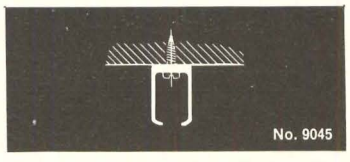
Recessed Plaster or Acoustical Tile Installation: No. 9042 Series—A recess track with its own plaster ground, No. 9042 needs no subchannel. Mounts directly through pre-drilled holes; can be curved.



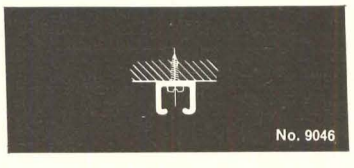
Wall or Casing Installation: No. 9043 Series—Used with our extruded aluminum brackets, No. 9043 Architrac mounts on wall or mullion. It presents a good-looking fascia unbroken by supports; can be curved.



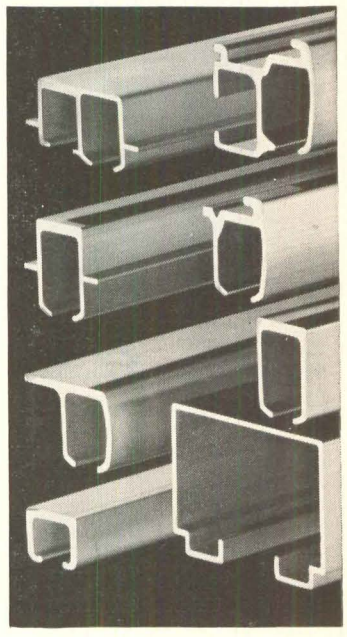
Ceiling Installation: No. 9044 Series—With its pre-drilled flange at back, No. 9044 track mounts to ceiling quickly, easily. It cannot be curved.



Ceiling or Doorway Installation: No. 9045 Series—Perforated 16″ O.C. for direct mounting; can be curved to a minimum radius of 12″.



Ceiling Installation: No. 9046 Series—Basically a hospital cubicle track, No. 9046 is pre-drilled for direct mounting, can be curved. This series is also used for window draperies in low budget institutional or commercial projects, with nylon slides instead of ball bearing carriers.



For details and specifications on all Architrac drapery hardware track and accessories, see Sweet's; or send for our free catalog. Ask, too, for price-estimation information and about our nationwide consultation service. Write: Kirsch Company, 322 Prospect Street, Sturgis, Michigan.

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IN SWEET'S ARCHITECTURAL FILE

THE PRODUCERS' COUNCIL

PROPRIETARY CHEMISTS SINCE 1907

LEFT CENTER

Riverside School,
Menomonee Falls, Wisconsin
Architect: Kloppenburg & Kloppenburg
Contractor: W. Schober & Son, Inc.

BOTTOM

Naugatuck High School
Location: Naugatuck, Conn.
Architect: Sherwood, Mills & Smith
Stamford, Conn.
General Contractor: Fusco-Amatruda Co.
New Haven, Conn.

TOP AND CENTER RIGHT

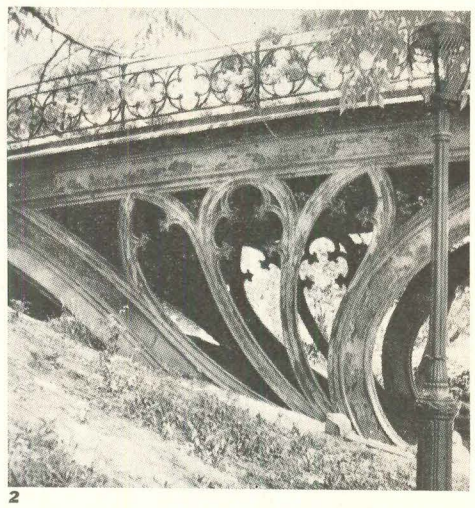
Drexel Hill Junior High School
Drexel Hill, Pa.
Architects & Engineers: The Ballinger Co.,of Phila.
General Contractor: Wark & Co., of Phila.
Masonry Contractor: John B. Kelly, Inc., Phila.

NEW YORK LANDMARKS. Edited by Alan Burnham. Introduction by Brendan Gill. Published by Wesleyan University Press, Middletown, Conn., under the auspices of the Municipal Art Society of New York. Illus. 8½" x 11". 432 pp. $12.50.

New York's Municipal Art Society, founded by Architect Richard Morris Hunt in 1892, looks backward with this handsome book to count some of the architectural riches of the past (pre-1930) which still exist in Manhattan, Brooklyn, and other environs of this expendable city. Most are in Manhattan, of course; examples of the nicely printed photographs (done with high craft by the Meriden Gravure Co.) include such familiars as the old U.S. Subtreasury building (1), the Stock Ex-

1

change, and one of the elderly iron bridges which seem all but growing in Central Park (2). Less familiar, even to New Yorkers, are such Brooklyn treasures as the colonnaded row



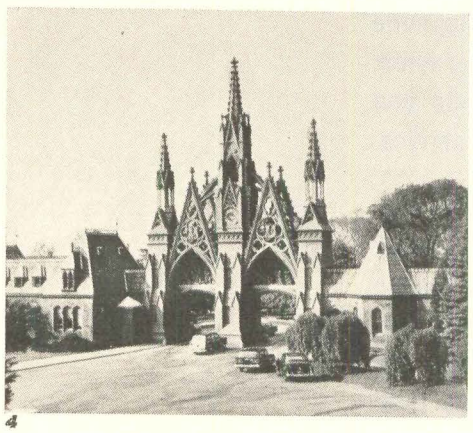
2

houses on Willow Place (3) and the flavorful Greenwood Cemetery Gates by Richard Upjohn—the younger, cooky-cutting Upjohn (4).

The book grew out of the list the Art Society has maintained in recent years of New York buildings worth fighting for. Together with his pictures, Editor Burnham's text makes it clear why. His is not the sentimental approach to saving old architecture. He even enjoys deflating some of the monuments a little. Yet few who examine this book could but cherish what Burnham cherishes; and some, per-

3

haps, will go out and join the preservation fights. For the Society's list is anything but sacred; several of the buildings shown here are already on their way out of existence.



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This is a perfect gift book — a description which has become a little sardonic in recent Christmas seasons because of the many empty publishing packages annually put forward in that category. This book is not empty; it is full of thought, skill, love.—WALTER MC QUADE.

THE URBAN CONDITION. Edited by Leonard J. Duhl, M.D. Published by Basic Books, 404 Park Avenue South, New York 16, N.Y. 410 pp. 9½" x 6½". $10.

This collection of 29 essays calls itself "a book about the mental health of our urban society," but it is much more than that. It is a provocative assemblage of facts, speculations, and opinions about the people of the city, and about their total environment. Written from several points of view, by architects, social scientists, psychiatrists, and planners, "The Urban Condition" is certainly one of the most significant books on urban problems ever published.

In his introduction, Dr. Duhl, who is a psychiatrist with the National Institute of Mental Health, points out that the book has two basic themes. One is that "the crisis of urbanization is the crisis of size, of complexity, and of the large and varied administrative structures that are around us." The other theme, which emerges as the dominant one in most of the essays, is that there must be "a reconciliation between 'social-irrational' man and his in-

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BELL TELEPHONE SYSTEM

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stincts, and 'economic' or 'rational' man, who uses the strength of his ego to control his environment."

In the view of several of the contributors, notably Landscape Architect Ian McHarg, "social-irrational" man has so far pretty badly botched things. McHarg points out that man's religious and philosophic attitudes have asserted "outrageously the separateness and dominance of man over nature. These attitudes . . . become of first importance when man holds the power to cause evolutionary regressions of unimaginable effect or even to destroy all life." Weighing man's inhumanity to nature, McHarg concludes sourly that man might actually be nothing more than "a dispersed disease in the world-life body," and that the city, man's principal haven today, "offers the least human physical environment known to history."

Can rational man make the city better? Perhaps, says Social Scientist Donald A. Cook, if he takes better advantage of the never-ending forces changing the city. Cook argues that "city life is a seething cauldron out of which new combinations are constantly arising" and that, although many of these are not stable—indeed, are downright dangerous—a relatively small percentage present an opportunity for "important cultural innovations." In taking more productive advantage of the "seething cauldron" of urban mutation, Cook further suggests that we discard some outmoded, and often destructive, notions. He argues, for instance, that the ordinary neighborhood—protective, ingrown, geared to Old World notions of the family—is actually destructive of urban values, and says that its loss "from the point of view of the more exciting prospects of city life may be a good thing."

Where the "neighborhood" has become a "self-frustrating defense against a sense of inferiority," then urban renewal can be a valuable engine of revision, according to Peter Marris, of London's Institute of Community Studies. In his report on renewal, Marris concludes that what is needed in America is a policy "more closely related to the needs of the slum dwellers themselves." This, of course, assumes that we agree on who these people are, and that they stay still long enough for us to do something about them. History indicates, though Marris seems unaware of it, that this is unlikely. After citing the socially damaging effects of dislocation because of renewal, Marris rather startlingly concludes that what is needed is a massive reconstruction of slum areas, to afford "slum dwellers" new housing at rents they can afford.

Other provocative ideas presented in this book include those of Herbert Gans, well-known for his researches into effects on families of physical changes in Boston's West End. Gans makes what is perhaps the book's single most startling statement: "Physical planners, especially those with architectural training, believe that the physical characteristics of the community have important influences on people's ways of living, and that changes in housing, and site design, density of structures, and amount of open space can change their behavior. The findings I have reported here, and other studies of the impact of physical features on behavior, suggest that this belief is open to serious question. . . . The major behavior patterns are determined, rather, by the period of the life-cycle, and the opportunities and aspirations associated with class position." Gans feels that suburbanites are by and large comfortable and contented, without much interest in the central city. What could change their minds about urban living, says Gans, is "the development of cosmopolite interests, and this requires—among other things—changes in the education offered in public high schools and most colleges."

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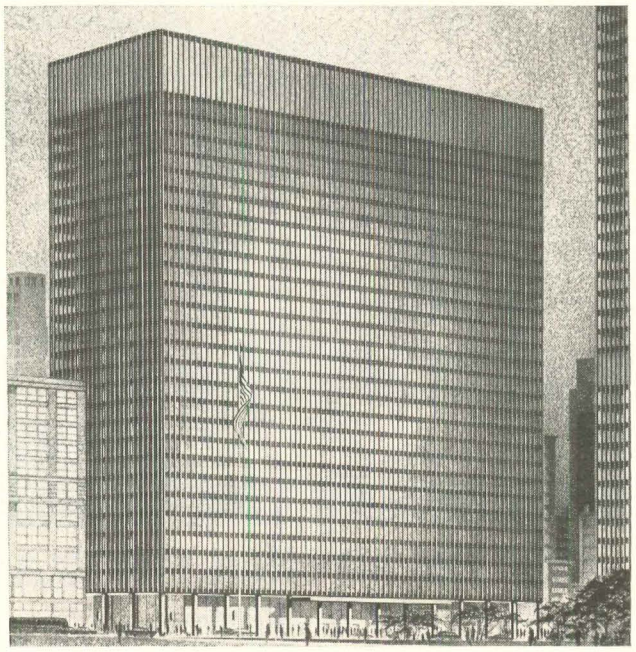
Another interesting building in this Washington, D.C. suburb is a ten-story "air rights" office building that is being built over a railroad right-of-way. Framing spanning the railroad is of composite design in V50 steel; columns are V60.



CHICAGO, ILLINOIS -- Continuing the city's tradition of elegant steel-framed skyscrapers, the 30-story Federal Courthouse and Office Building now a-building sets a new standard for government building design. Lower column sections are of A440 steel; exposed steel-plate spandrels and wide-flange mullions, painted a flat black, extend the full 382-ft height. Fifteen courtrooms on upper floors require 56-ft clear spans!

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(Names of the architectural and engineering firms responsible for the projects named above will gladly be furnished on request.)

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Social Scientist Harvey Perloff contends that while there is quite an array of welfare programs in most cities, there is almost no attention being paid to two basic factors underlying the welfare case load—persistent unemployment and inadequate incomes. Perloff maintains that what cities need first is widespread agreement on certain major objectives, and better data (he proposes an annual "state-of-the-region" report for each metropolis) upon which to base a coordinated program of social and physical planning. And Richard L. Meier, of the University of Michigan, suggests that the logical way to sift and weigh the thousands of variables that arise out of the "seething cauldron" of the city is the systems analysis approach now being used in defense and transportation planning and in the preparation of some community renewal programs. Two limiting factors in the search for proper techniques, however, are the relatively unsophisticated technology of computers themselves (Meier claims they are not large enough to simulate a city's total complexity) and the fact that "there is no body of unified theory available which tells us how the variables in the urban social system are to be fitted together."

If some foundation, interested in urban affairs, wanted to take a single step toward illuminating the problem, it could do much worse than simply send a volume of "The Urban Condition" to the mayor or manager of every American city, and to some of its key citizens as well. —DAVID B. CARLSON

INTERACTION OF COLOR. By Josef Albers. Published by Yale University Press, New Haven, Conn. 14½" x 11" x 5½" clothbound box with 80 pp. text volume and 80 color folders $200.

Josef Albers' monumental work in color, long in the planning stage, was recently published by the Yale Press in a limited edition of 2,000 copies. It is priced at $200 a copy with 50 numbered copies signed by Albers available at $250 each.

Albers enjoys an international reputation as an educator, a painter, and an authority on color. In this work we find a summation of his philosophy and approach. As Chairman of the School of Art at Yale, he developed a new way of teaching and studying his subject. "In order to use color effectively," says Albers, "it is necessary to recognize that color deceives continually. To this end, the beginning is not a study of color systems. Practical exercises demonstrate through color deception (illusions) the relativity and instability of color, and experience teaches that in visual perception there is a discrepancy between physical fact and psychic effect."

The book is made up of three sections: an explanatory text, a commentary on the color studies, and a unique collection of 80 large folders (10 by 13 inches) which superbly reproduce more than 200 color studies by silk screen and a photo-offset process. There is nothing fuzzy about the studies; the colors are precise and perform their phenomenon.

The treatment of the various sections is consistently enlightening. In the 27 chapters, Albers clearly illustrates such principles as additive and subtractive mixtures, color deception, optical mixtures, the Bezold effect, film and volume colors, and many other exciting revelations of color behavior. The chapter on color theories or systems is somewhat limited in scope and is relegated to the end.

"Interaction of Color" is the most comprehensive and intelligent, as well as the handsomest, book we yet have on this subject. It is an indispensable volume for the artist, architect, or teacher who finds a greater challenge in discovery than in a "safe" color system.

Special credit should be given to the designer, Norman Ives, and to the Yale Press for preparing such a distinguished book.

—MATTHEW WYSOCKI

Mr. Wysocki, a color expert himself, teaches design at New York's Cooper Union.

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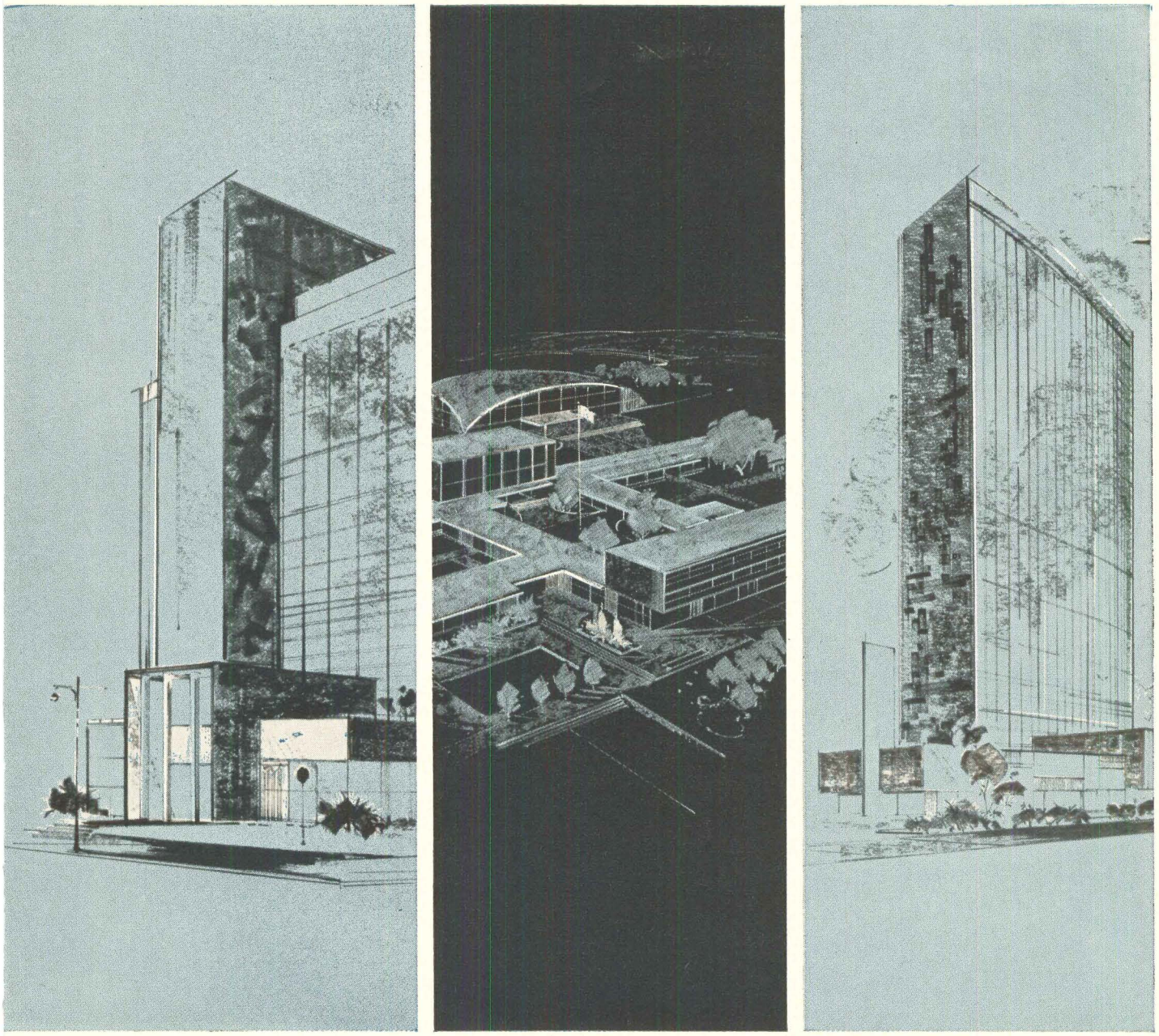

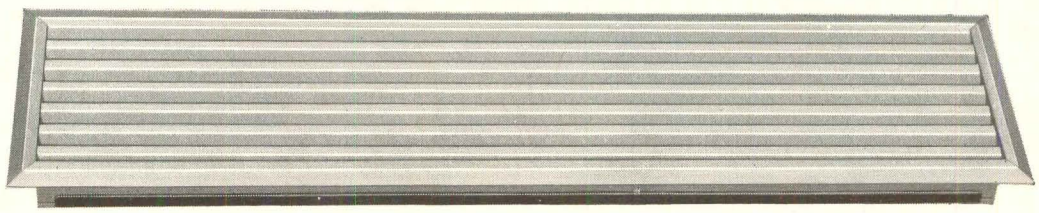

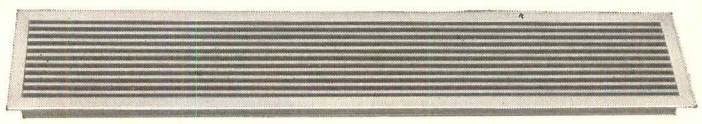

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THE DOMESTICATED AMERICANS. By Russell Lynes. Published by Harper & Row, Inc., 49 East 33rd Street, New York 16, N.Y. 295 pp. 9½" x 6½". Illus. $6.50.

Mr. Lynes, a personable writer, here turns his attention again to the stitching of America's social fabric — not necessarily the stitching which has held it together, but the embroidery of manners and fashions of living which has adorned it. His subject is the pillow on the parlor sofa, the parlor itself, and the rest of the American home; the book is a long essay, a companion for "The Tastemakers" which he published several years ago.

At times it has the same sparkle of information. For example, here you can learn who coined that great American religious term for housekeeping, "home economics." Then there is the story of J. P. Morgan's decision in 1882 to install electric lighting in his house at 37th Street and Madison Avenue in New York. (He put a steam generator in his stable on 36th Street, and had an engineer who came on duty daily at 3 p.m. and got up steam, but departed at 11 p.m. This abrupt setting of his artificial sunshine annoyed Morgan at times, and the vibration of his generator annoyed the neighbors; finally, tiring of these complications, he put up a half million dollars to help the Edison Company construct an uptown power station.)

The book has wit, too, as in Lynes' comment on modern childhood: "In some respects we have given Freud a long white beard and a red cap and made him into a Santa Claus. If we are good, he will bring us adjustment for Christmas." But somehow the book also is diffuse, not quite so incisive in its observations as Mr. Lynes has sometimes been. He writes on page 115: "Though there are still some women who practice the magic of cookery, the prebaked biscuit, the frozen filet, the 'mix,' the bottle dressing, the all but predigested dinner have turned the function of the stove into something like the function of the Bunsen burner, and the woman from an artist into a minor technician." And on page 285: "Cooking has regained its place as a creative function, an opportunity for self expression." He is not necessarily wrong either time, nor contradicting himself, but, one suspects, maybe he is just writing.—W. MC Q.

MAN AND NATURE IN AMERICA. By Arthur A. Ekirch, Jr. Published by the Columbia University Press, New York. 229 pp. 5½" x 8". $4.50.

Professor Ekirch is disturbed. Taking a wide view of the present imbalance between man and nature in America, he finds problems everywhere. Many are no less frightening for being familiar: the steady depletion of resources, the pressure of multiplying peoples on their surroundings, the methodical poisoning of the air, land, and water.

If there is an answer, says Ekirch, it is conservation. But, he intimates, something more than familiar conservation methods must be discovered to deal with such anti-natural phenomena as war, a consumer-oriented economy, and a technological-mechanistic bias. To deal with these problems, in fact, a whole new philosophy is needed.

Having built up a good case for what Conservationist Joseph Wood Krutch termed "man's ingenuity [in outrunning] his intelligence," Professor Ekirch looks back to find how it all came about. Emerson, Thoreau, George Perkins Marsh, and to a lesser extent, Jefferson and other early agrarian leaders are singled out as sane voices crying in the wilderness. Each urged man to live in harmony with nature, commanding nature (as Sir Francis Bacon proposed before them) "by obeying her." Although their ideas prompted much of the early conservation legislation in the U.S., their philosophy was largely disregarded because it contradicted their times—as, indeed, it does ours.

If the past models cannot promote new, more effective efforts to bring man and na-

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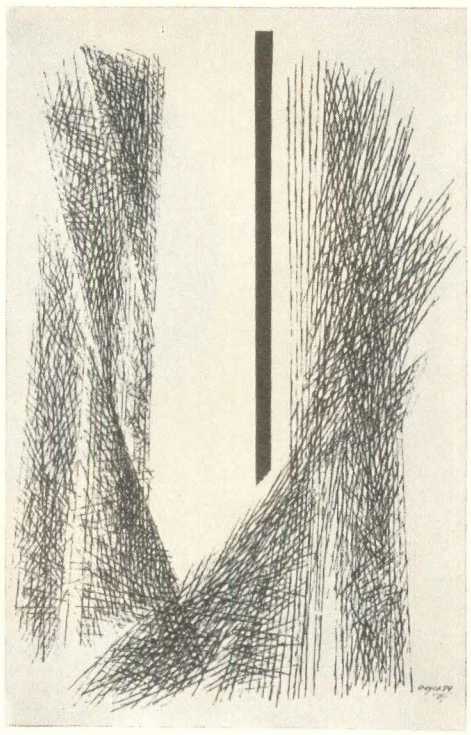
ture into some sort of harmony, what can? Professor Ekirch side-steps this question and concentrates on defining the modern problem. In doing so, he assembles a fascinating series of mainly jeremiadic opinions by leading philosophers, economists, demographers, and conservationists. One bulwark of modern thinkers is a belief that technology can enforce its own new kind of balance. But, Ekirch points out, this, too, depends on the ruthless exploitation of nature.

The net result of this book, then, is alarm. The author, after having carefully posed the problem, passes the buck rather helplessly back to his readers. Julian Huxley, for example, is quoted on one terrifying aspect of the population explosion: "In almost all of the industrially and socially advanced countries, the level of innate intelligence, and probably of other desirable genetic qualities, is decreasing generation by generation." What might be done about this is left moot. Thus, the reader of this forcefully-written and well-documented book is left with no clear-cut solution in sight, as worried as Professor Ekirch.—P.H.



BOOK OF DRAWINGS. By Herbert Bayer. Distributed by Paul Theobald & Co., 5 N. Wabash, Chicago 2, Ill. 42 drawings, 11" x 10½". $10.

"One Bauhaus approach to drawing began with sketches of a familiar object, and impressions of that object, and progressed through a series of conversions which transformed these sketches into designs of energy and tension," says Otto Karl Bach in his foreword to this boxed portfolio of 42 remarkable drawings. "This approach became an integral part of Herbert Bayer's artistic personality."

In these drawings can be found the frame-

continued on page 175

"My dad says now that
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FREEDOM STAINLESS STEEL WINDOWS,
he won't need these any more"

True, the house, or apartment, built with FREEDOM Stainless Steel Windows has no need of paint, putty, or any other weekend window-patching panacea.

And just think how gratifying *that* will be to the owners you're serving!

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In fact, they'll pay dividends in maintenance savings for years to come! Impervious to weather and time, FREEDOM Stainless Steel Windows will never "rack," warp, swell, shrink, or stick.

Literature and detailed specifications are available. Be sure to get all the facts on FREEDOM Stainless Steel Windows before you consider any other kind! Write—today!

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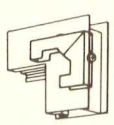
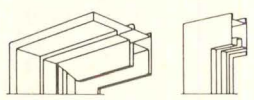
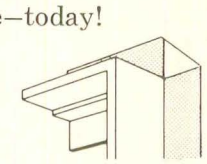


To make strong construction even stronger, FREEDOM Window corners are ruggedly reinforced with zinc block inserts, sealed with mastic, and assembled with offset screw fastenings for extreme rigidity.



Other FREEDOM Window features that buyers like—tubular "trapped air" frame construction plus optional double glazing, to eliminate heat-cold transmission problems and interior condensation.



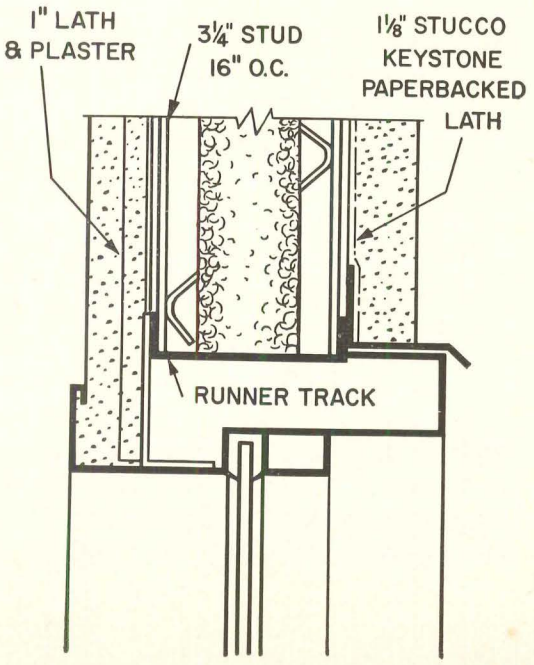
FREEDOM Windows are easy to install. Machine mitered corners assure a perfect square fit, and a unique, integral folding fin snaps in place for nailing—or can be removed for anchored or mullion installation.

Columbia Park State Home, The Dalles, Oregon ARCHITECTS: *Mockford & Rudd, Oregon City, Ore.*

$2.00

PER SQUARE FOOT

Cost of hospital wall system of new Keystone Spraywall



GENERAL CONTRACTOR: *Paul B. Emerick Co., Portland, Ore.* PLASTERING CONTRACTOR: *Ivan Sletta, Portland, Ore.*

This new construction method utilizes a simple system of metal studs, Keymesh® Paperbacked Lath and spray-on exterior wall.

It is the most meaningful breakthrough in curtain wall construction since glass and metal.

Keystone Spraywall is low cost, of course. (This hospital addition was done for $2.00 a square foot, from the plastering on the inside to the Botticini Marblecrete finish on the outside.)

Its hourly fire ratings are excellent. (The rating on this building is 2 hours.)

But more than that, Spraywall's design possibilities are endless, because of its plasticity. Using Keystone Spraywall, you can *sculpt* the walls; curve them, create hyperbolic paraboloids, shape them in any way you can imagine. Then finish them to meet your design requirement in any color, any texture, with or without embedding stones.

Keystone's new Keymesh Paperbacked Lath is the product that makes Spraywall possible.

For complete information about applying this simple system to your next job, call your Keystone Representative, or write us.

KEYSTONE STEEL & WIRE COMPANY, Peoria, Illinois

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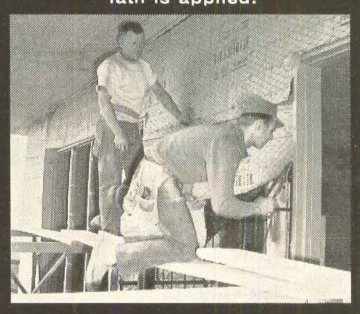
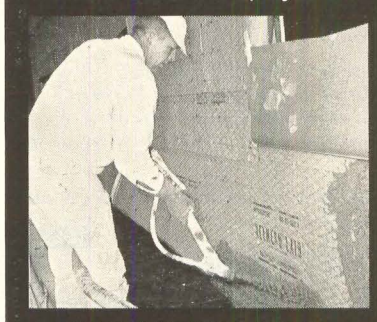
Steel studs go up first.

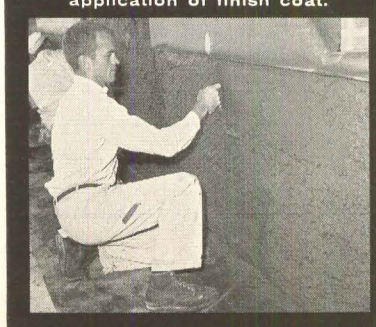
Then Keymesh Paperbacked lath is applied.



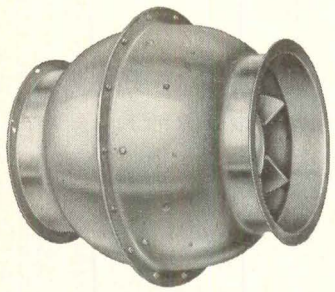
Portland Cement is sprayed on.



Cement trowelled prior to application of finish coat.



Straight-thru blower fits into duct system



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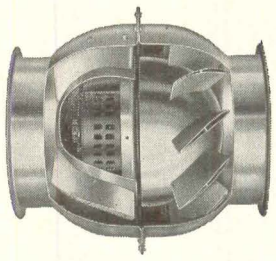

AD NO. CV

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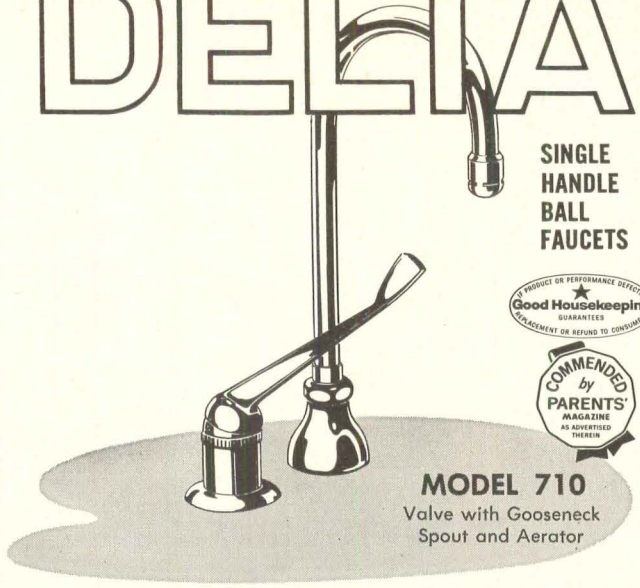

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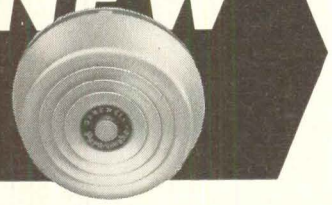

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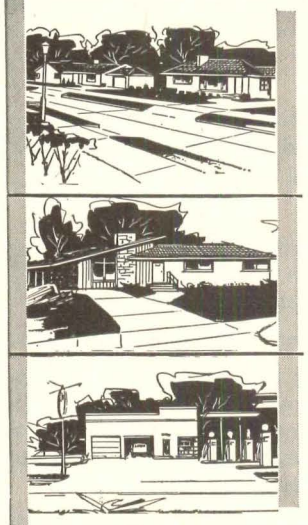
of expansion joint filler used on YOUR projects



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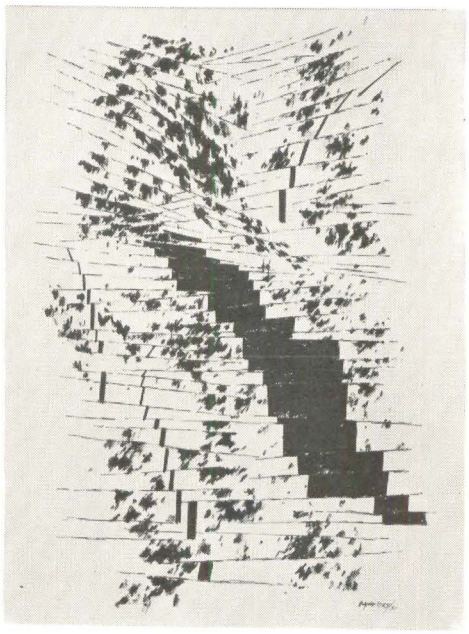
continued from page 170



work of Bayer's architecture, exhibition design, and graphics. In this way, they are like patterns traced by his mind and emotions in the early stages of the process of creation.

THE PROGRESSIVES AND THE SLUMS—Tenement House Reform in New York City 1890-1917. By Roy Lubove. Published by the University of Pittsburgh Press, Pittsburgh 13, Pa. 256 pp. 9½" x 6¼". $6.

While concentrating on the progressive era dated in the subtitle, this book extends back to 1830, when the question of tenement housing began to receive public notice. It also extends forward by implication to the present, when cities must live with problems created decades ago. Despite the efforts of such reformers as Jacob Riis and Lawrence Veiller in stressing building codes, city planning, and zoning, two problems were unsolved, in fact unrecognized, in 1917. One, that of housing low income groups, has been partially answered by the Public Housing Act of 1937. The other, determining the relationship between housing and social structure, is still with us today. Mr. Lubove's well-written and annotated historical study helps define this problem—P.H.

PRESERVING URBAN OPEN SPACE. By Mrs. Ann Louise Strong of the Urban Renewal Administration. Published by U.S. Government Printing Office, Washington 25, D.C. 36 pp. 6" by 9¼". Illus. 20¢.

Why should open space in and near cities be preserved? Because, if it is not, it stands a good chance of disappearing at a time when urban populations need it most.

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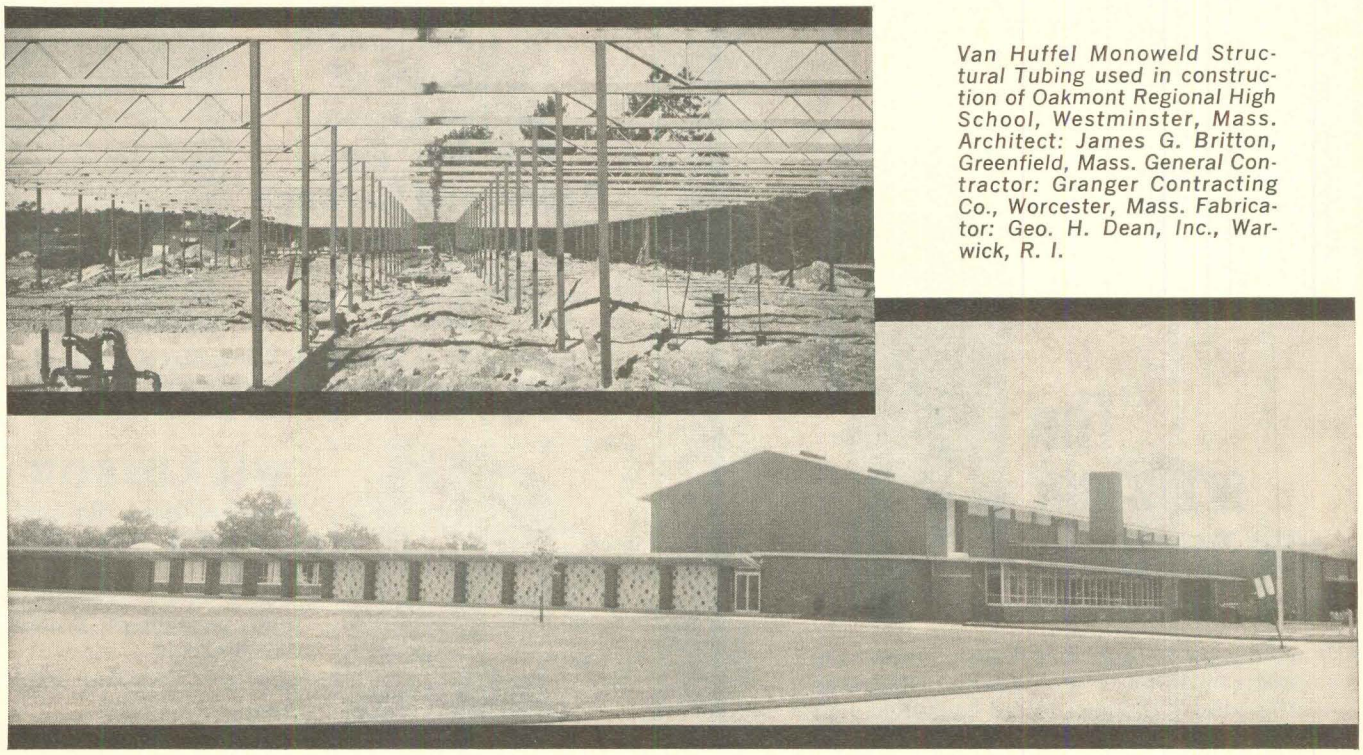
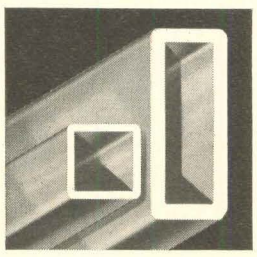


Van Huffel Monoweld Structural Tubing used in construction of Oakmont Regional High School, Westminster, Mass. Architect: James G. Britton, Greenfield, Mass. General Contractor: Granger Contracting Co., Worcester, Mass. Fabricator: Geo. H. Dean, Inc., Warwick, R. I.

Van Huffel Monoweld adds 3 new R's to school construction curriculum



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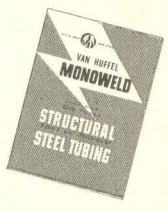

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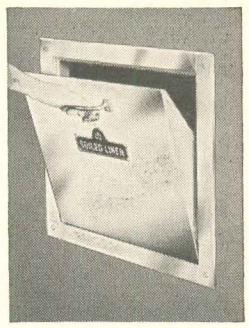

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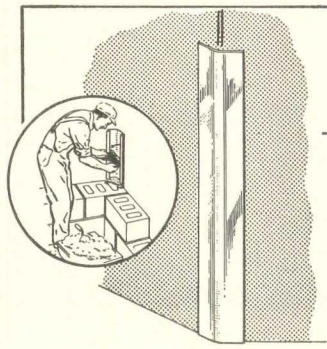

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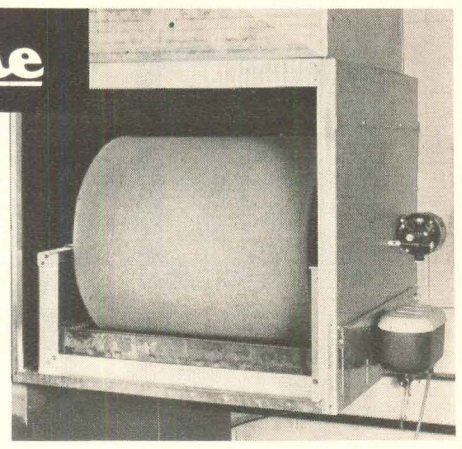

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The Model 160 has an output capacity of up to 7 gallons of water per hour*. *Maximum output requires a 100,000 BTU output furnace capable of 950 CFM @ .5 S. P.

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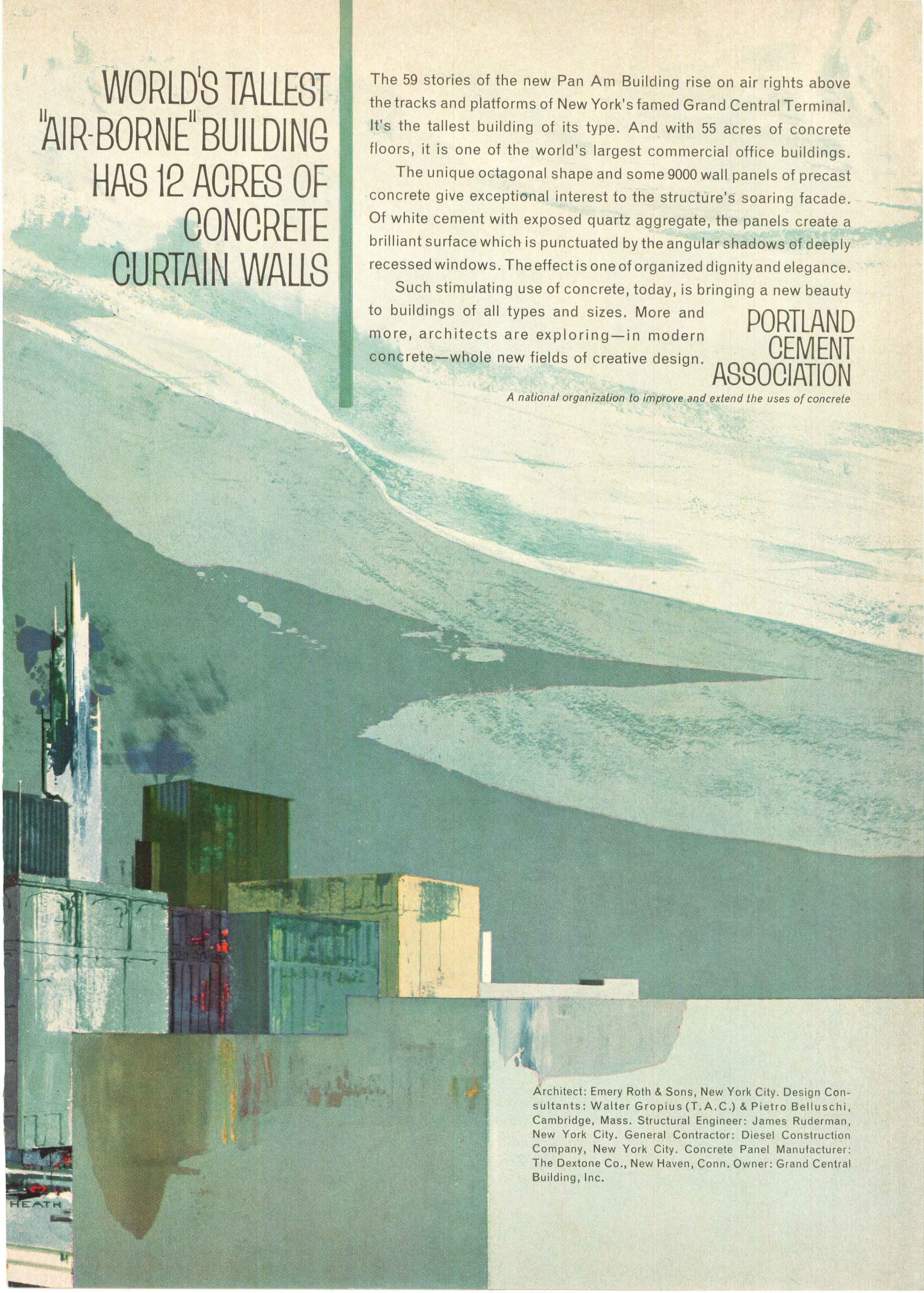
A national organization to improve and extend the uses of concrete



Architect: Emery Roth & Sons, New York City. Design Consultants: Walter Gropius (T.A.C.) & Pietro Belluschi, Cambridge, Mass. Structural Engineer: James Ruderman, New York City. General Contractor: Diesel Construction Company, New York City. Concrete Panel Manufacturer: The Dextone Co., New Haven, Conn. Owner: Grand Central Building, Inc.

For transparent domes . . . **Plexiglas**

Swimming pool enclosure of PLEXIGLAS® at International Inn, Washington, D.C. Architects: Morris Lapidus • Liebman & Associates, New York, N.Y.

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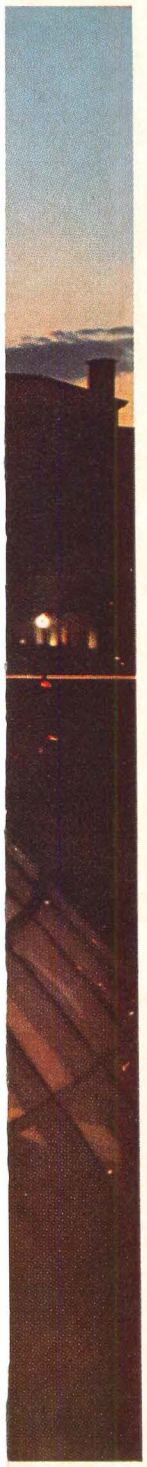

An outstanding feature of the new International Inn of Washington, D.C., is its enclosed outdoor swimming pool. The enclosure is a dome, 38 feet high and 102 feet in diameter. The dome's steel framework holds more than 300 pre-assembled light-transmitting units—double glazed in aluminum frames and mounted in structural gaskets. The glazing material is PLEXIGLAS acrylic plastic. Over 600 sheets of PLEXIGLAS were cut into more than 400 different trapezoidal shapes for the double glazed units. Why was PLEXIGLAS used? **Resistance to breakage. Ease of fabrication. Outstanding weather resistance. Light weight. Crystal clarity.** We will be pleased to provide you with design assistance on specific projects which involve the use of PLEXIGLAS for glazing dome structures.

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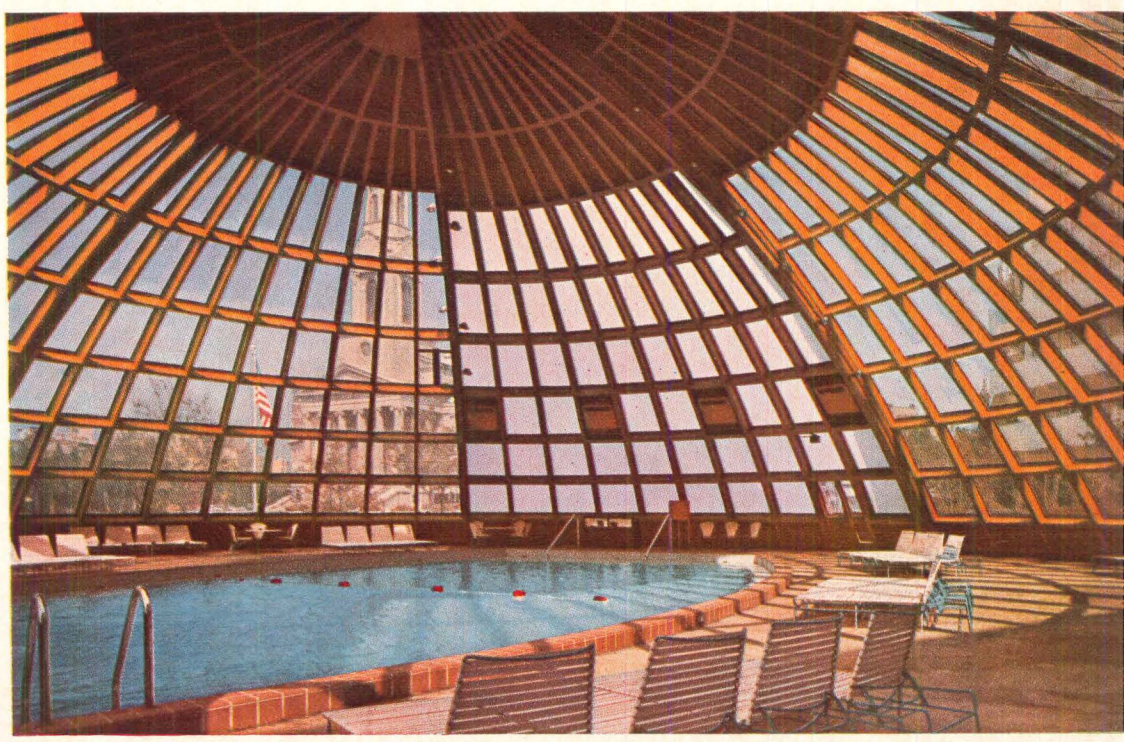

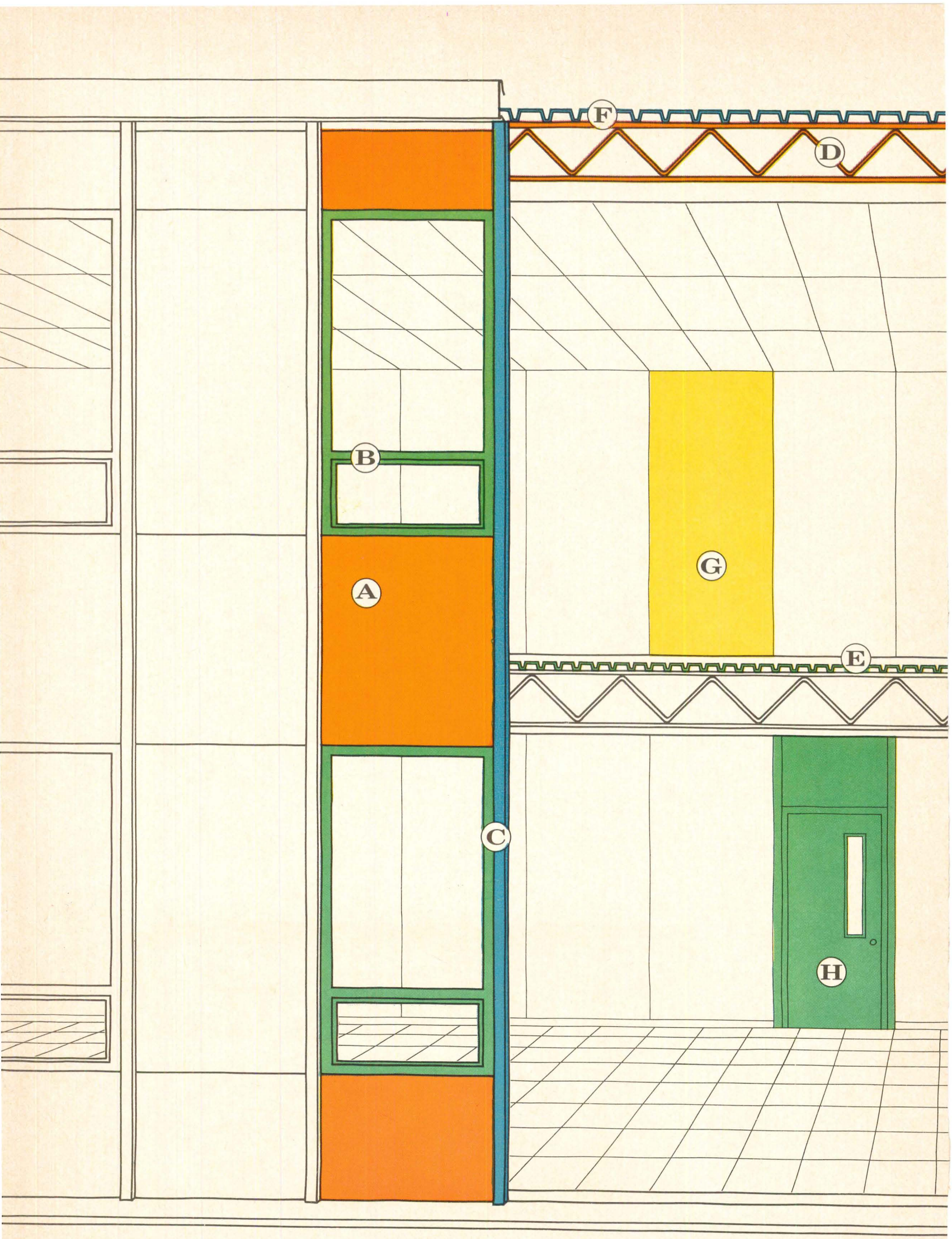
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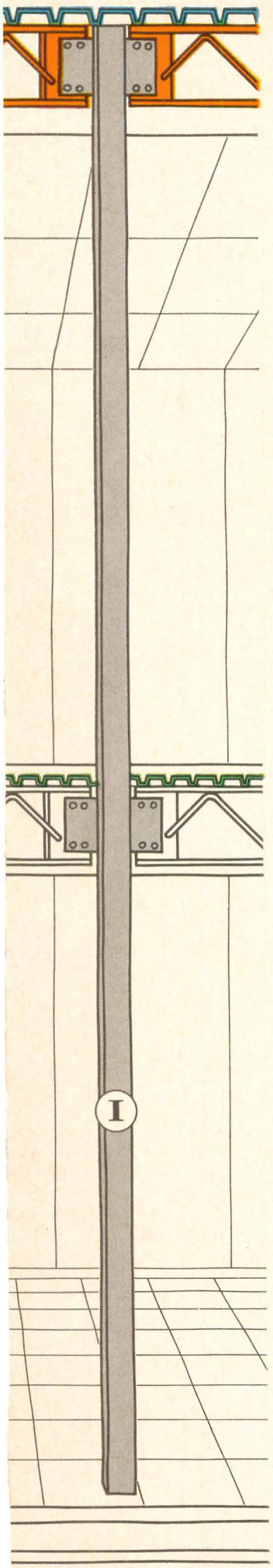


AmBridge Coordinated Building Components: beauty and the best

AmBridge Coordinated Building Components are precision-fabricated. The system is simple and fast to assemble—because every component fits perfectly. Biggest use so far for the AmBridge family of components is schools (where costs are often 13-18% less than average), but AmBridge Components have also been used successfully for power plant, bank, warehouse, laboratory, and office buildings. Architects find that AmBridge Components readily lend themselves to the most modern modular design practices.

USS AmBridge Curtainwall

(A) USS AmBridge Curtainwall systems are available with exterior faces in the 47 recommended PEI colors. Interior surfaces are fully finished with vinyl (at no extra cost to you) or baked enamel to match or harmonize with the partitions. The steel panels are normally designed to a 4-ft. module and run continuously outside the columns. Standard panels are available in 1-, 2-, and 3-story heights. Panel frame members are cold formed galvanized steel. Face sheets are mechanically attached to the structural frame. Heat transfer is controlled with thermal breaks which prevent a thru-metal condition. Because the glass fiber insulation is held away from the exterior face by stainless steel clips, the panel is free to breathe, thereby minimizing condensation. AmBridge walls are so thin compared to masonry construction that you gain about 5% usable floor space. Yet the walls provide a tested thermal "U" factor of .168 that assures comfortable temperatures at reasonable cost.

(B) Sash are high-quality 2" monumental projected or fixed-type, of stainless steel or aluminum. Vertical or horizontal sliding sash are optional.

(C) USS AmBridge Exterior Battens are extruded metal sections with provisions for mechanical attachment without drilling from interior. Battens are fitted with shop-applied neoprene gaskets that permit expansion or contraction while keeping joints weathertight. Custom-designed covers permit aesthetic variation in stainless steel, porcelain enamel finish, or special extruded shapes.

USS AmBridge Open Web Steel Joists

(D) USS AmBridge Open Web Steel Joists support floors and roof. Joist and framing details have been designed to adapt to any specific load requirements. Like all AmBridge Coordinated Structural Components, joists meet specifications of the SJI, AWS, AISC, and AISI latest adoptions.

(E) Leave-in-place light-gage steel floor forms provide support during cure for the poured concrete floor.

(F) Steel roof deck specifically engineered to the structural requirements permits all-weather installation, receives insulation for built-up roofing and supports roof loads.

USS AmBridge Partitions

(G) USS AmBridge Partitions, like our curtainwall interiors, are available in six pastel vinyl finishes that cost no more than our 28 baked enamel colors. Both finishes are applied under factory-controlled conditions. Mild detergents easily keep surfaces clean and new-looking. The panels incorporate a cold-rolled steel channel frame with face sheets attached to each side. Partitions are insulated with glass fiber, and although only 2¼" thick, they provide excellent acoustical values. Test results show an attenuation of 45 decibels or more from room to room. Partitions are easily movable (just unbolt) to permit alteration of room size with minimum disturbance and cost. Interior battens are flush with the partition and are removable for simplified wiring.

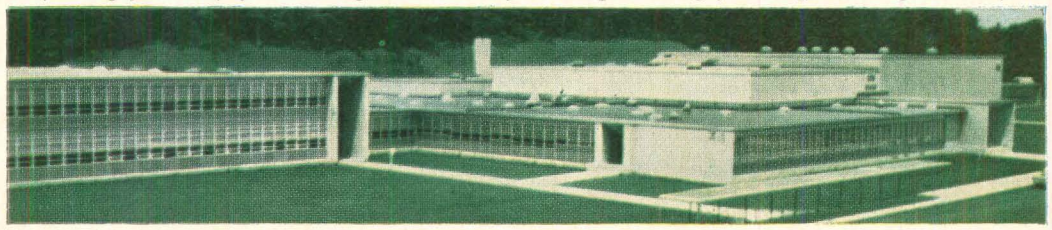
(H) USS AmBridge Steel doors with a corrosion-resistant polyurethane foam core are supplied as an integral part of exterior and interior panels. All doors are complete with pressed steel frames and hardware, baked enamel finish, and can be furnished with lights and/or louvers. Neoprene weatherstripping is furnished on all exterior doors to assure a storm-tight seal. Hardware of the finest quality approved by the architect—such as lock sets, closers, panic bars and kick plates in various finishes—can be installed under supervision of experienced AmBridge personnel.

(I) Square or rectangular tubular columns are offered for maximum economy of section.

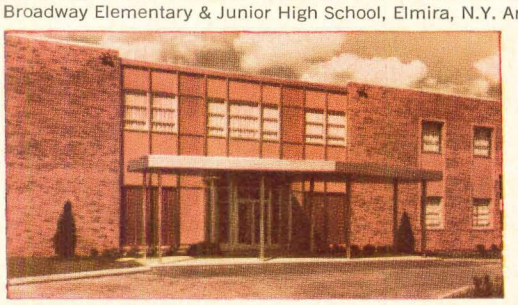
If you want, American Bridge will provide experienced erection crews. We'd like to give you more information. For our free full-color booklet, write to American Bridge Division, United States Steel, Room 1831F, 525 William Penn Place, Pittsburgh 30, Pa. USS and AmBridge are registered trademarks.

American Bridge Division of United States Steel

Beauty, too. Best of all, USS AmBridge Coordinated Building Components blend handsomely with traditional materials, letting you stamp your own signature on every AmBridge Building you design. Three good examples:



Broadway Elementary & Junior High School, Elmira, N.Y. Architect: Considine & Haskell, AIA, Elmira.



Mobay Chemical Company Office Building, Pittsburgh, Pa. Architect: J. Kenneth Myers, AIA, Pittsburgh.

Union Carbide Company Laboratory and Testing Building, Eastview, N.Y. Architect: Skidmore, Owings and Merrill, AIA, New York.

Weldwood Classic paneling features Weldwood's superb factory finish and is ready to install. It offers the formal look of regular planks, with all grooves spaced 8 inches apart.

Instant Prestige—these rare paneling classics are now ready in stock

For the first time you can obtain prized paneling of Brazilian rosewood, wormy chestnut, teak, and butternut from our regular prefinished stock.

We call this luxury line Weldwood® Classic paneling. Truly a masterpiece in rare wood, Classic paneling is now available for your inspection at any of our 157 showrooms. You will find it particularly valuable for those prestige installations, in offices as well as in homes and apartments, which cannot wait for custom-made architectural paneling.

Weldwood now offers you over 100 panelings for rooms of any mood . . . and for every budget. For further data, send in the coupon at the right.

A. BRAZILIAN ROSEWOOD—bold grain patterns in rich color, ranging from dark brown tinged with pink, to pale gold and violet. **B. WORMY CHESTNUT**—a tawny, lustrous wood, now becoming scarce because of the blight which caused its unique "distressed" character. **C. TEAK**—exotic symbol of prestige; ranging from golden tan to dark brown, and occasionally streaked with black. **D. BUTTERNUT**—an elegant, pale wood of buttery-beige with characteristics that prompt some people to call it "white walnut."

WELDWOOD®

PANELING

A product of United States Plywood

United States Plywood, Dept. AF 11-63
55 West 44th Street, New York 36, N. Y.

Please send me the following:

- ☐ Weldwood Architectural Paneling
- ☐ 36-page portfolio of Glasweld installation
- ☐ 8-page Glasweld data folder

Name.....

Firm.....

Address.....

City.....**Zone**.....**State**.....

The Silver Gull Club, Breezy Point, New York (above and bottom of page). Double-deck cabanas, cantilevered over the ocean, cover about 3 acres. Some 30,000 square feet of Glasweld were used on exterior walls. ***Architects:*** Tippets-Abbett-McCarthy-Stratton, New York, N. Y.

Glasweld colors stay bright even at the ocean's edge

Keeping three acres of oceanside cabanas bright and colorful would be quite a problem—without Glasweld®. Salt air and sun bleach; blowing sands and gale-driven sea spray are destructive forces for most building materials. These extreme conditions have little or no effect on Glasweld. Its nonfading all-mineral colors have extremely high resistance to abrasion. The panels remain dimensionally stable—not affected by moisture, or by changes in temperature and humidity. They remain optically flat in appearance. They will not rot or decay. And Glasweld is 100% incombustible (mounted on gypsum sheathing, as is this application, it provides walls with a 1-hour fire rating). The only maintenance needed is an occasional washing.

Glasweld is one of the most versatile and durable of quality building materials. Yet it is also economical. It is applied quickly and easily, using ordinary tools. The result is low installed cost. Whenever you want attractive, permanent color (28 stock colors are available) consider Glasweld.

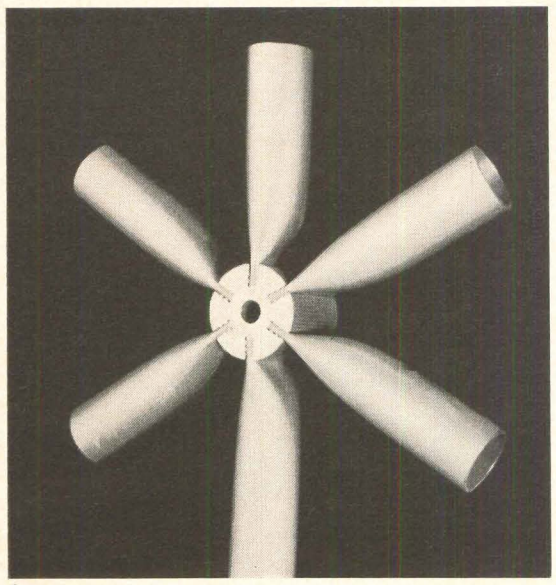
For detailed information on the use of Glasweld in all types of construction, send in the coupon on the back of this page.

WELDWOOD®

GLASWELD

A product of United States Plywood

"Triodetic" structures (below)
High-frequency lighting (page 198)



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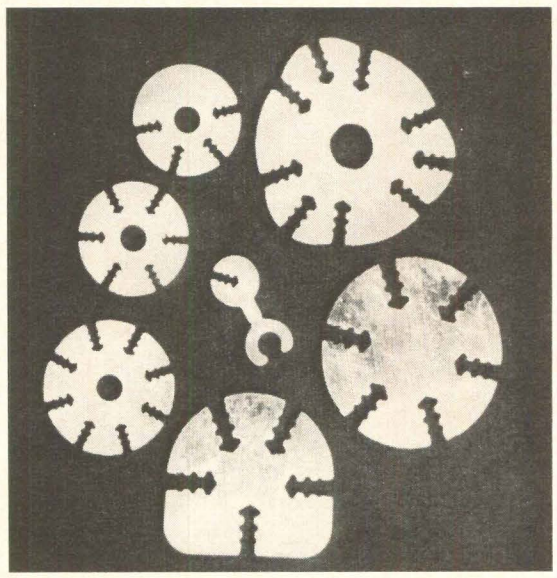

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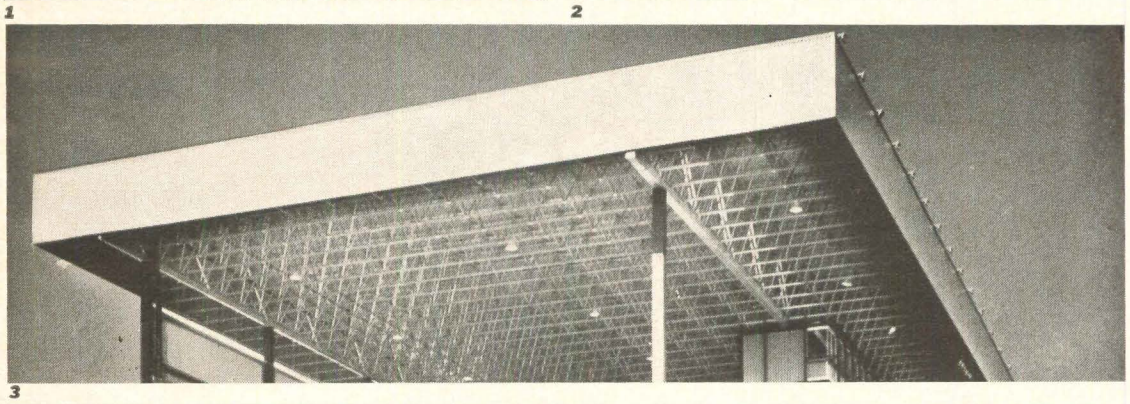

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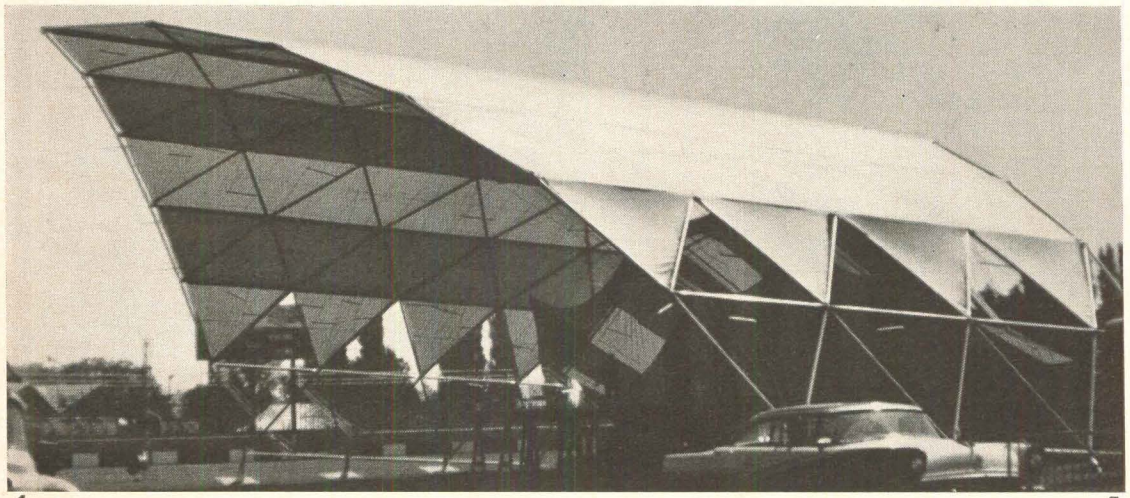

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VERSATILE SPACE FRAME

The space frame has long been recognized as an efficient and versatile construction concept, but its use has been limited by the problems of creating a joint that will handle members coming from many directions.

Now, F. Fentiman & Sons, Ltd. of Ottawa has patented a new space frame system based on an imaginative, simple, and highly effective joint. The system, called *Triodetic Structures,* is built around an aluminum hub with slots into which structural members are force-fitted (photos 1, 2). Members of almost any size, usually aluminum tubes, are simply pressed at the ends into the shape that fits into the slots of the hub. No welding, bolting or riveting is required.

In the Triodetic system, the joint is no longer the weak link. The fact that no bolt-holes are drilled in shaping the members helps strengthen the joint, and tests show that it usually has 90% of the tensile strength of the members joined.

The hubs, which are produced by extrusion, casting, or broaching, can be designed to hold struts at any angle. The system, therefore, lends itself to practically any structural form: trusses, domes, vaults, hyperbolic paraboloids.

Since space frames require little scaffolding, and the Triodetic hub-and-strut assembly is fast and easy, speed and facility of construction are exceptional. A Triodetic-domed house was erected in the Bahamas in 60 days with unskilled labor and no heavy equipment. The Rideau Carleton racetrack roof seen at left (3) was erected in 12 days; the Central Canada Exhibition demountable shell (4) can be set up in eight hours. The shell has a 100-foot span and a 30-foot rise, yet the shipping weight of its aluminum structure and canvas cover is only 3,500 lbs. At bottom (5) is a service station with a Triodetic dome.

The inventors will undertake to design as well as manufacture Triodetic structures, whose ease of construction, they claim, results in considerable savings over other space frame systems.

Manufacturer: F. Fentiman & Sons, Ltd., 335 Roosevelt Ave., Ottawa 3, Ontario.

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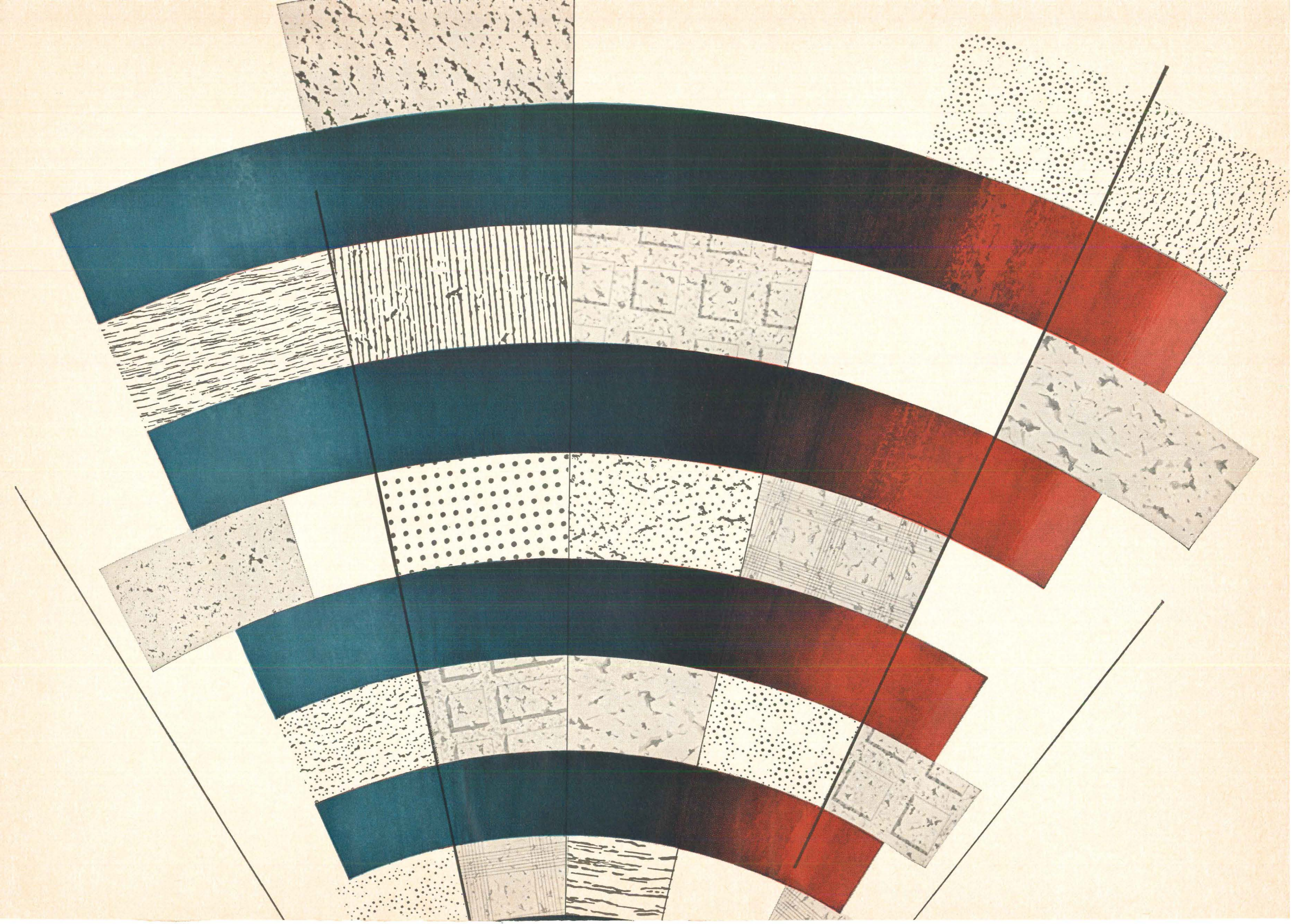
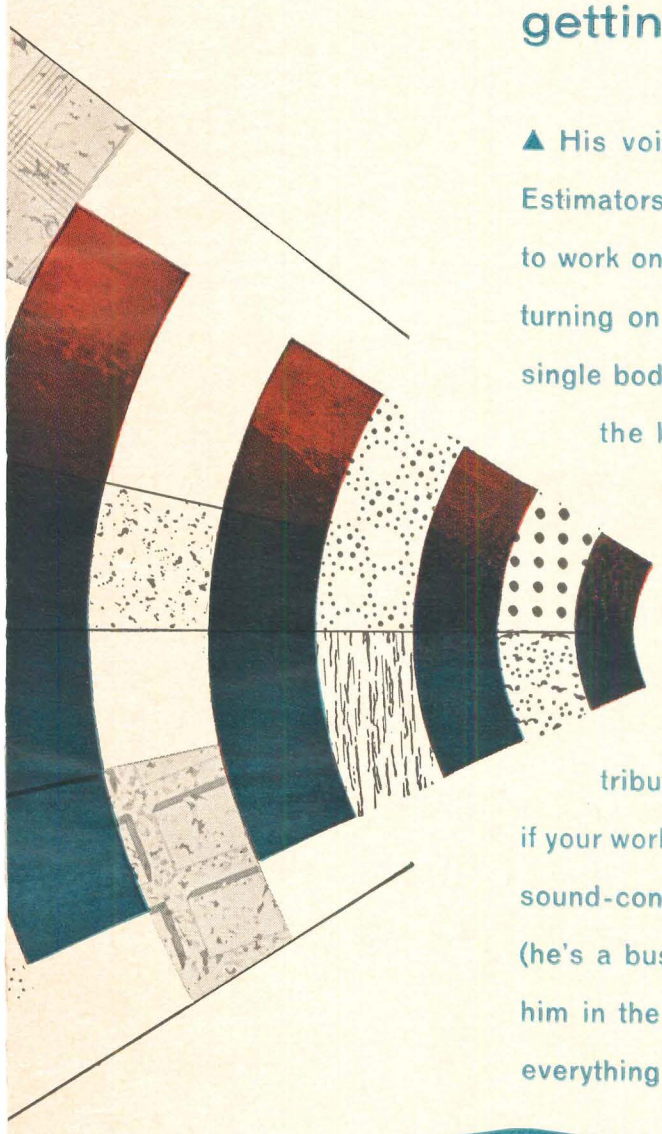




Is the man with the answers in esthetic sound-control getting through to you?

▲ His voice is respected because he commands an army. Estimators, designers, engineers, installers and inspectors go to work on your problem when he gives the word. As easily as turning on a faucet, he can put you in touch with the biggest single body of sound-control experience in the world. He offers the largest and most *varied* line of ceiling materials, acoustically *and* esthetically correct for today's demands, tested and proved in use. No one else can offer you even comparable variety and service. This man is at your beck and call. ▲ He's your local Acousti-Celotex distributor—a good man to know generally, and especially if your work leads you into the knotty-problem areas of esthetic sound-control. If he hasn't been getting through to you lately (he's a busy man) turn the tables and get through to *him.* Find him in the Yellow Pages and give him a phone call. You have everything to gain in dialing the man with the answers.

ACOUSTI-CELOTEX REG. U.S. PAT. OFF PRODUCTS

Problem-solver in esthetic sound-control

THE CELOTEX CORPORATION, 120 S. LA SALLE ST., CHICAGO 3, ILLINOIS
Canadian Distributor: DOMINION SOUND EQUIPMENTS, LIMITED, MONTREAL

ADVERTISING INDEX

Italic line indicates advertising agency

HAUGHTON ELEVONICS*

brings TOTAL ELEVATOR AUTOMATION to the new Western Federal Savings Building

The Rocky Mountains just a few miles away echo the dignity and permanence of the distinctive new Western Federal Savings Building, Denver, designed by Raymond Harry Ervin & Associates. Every component was selected to serve tenants and visitors with convenience and comfort. A case in point: totally-automated Haughton Elevators provide service that's incredibly fast, superbly smooth. Even during "rush" hours and coffee-break time, service matches traffic demands perfectly, thanks to new advancements created by Haughton Elevonics. Just one example is a new, automatic electronic computer that constantly analyzes data pertaining to traffic flow and controls car travel so that waiting time is seldom more than seconds. Include Haughton Elevators in your building or modernization plans. Ask your Haughton Sales Office for details (listed in the Yellow Pages) or write to us. Haughton Elevator Company, Division of Toledo Scale Corporation, Toledo 12, Ohio.

Four totally-automated Haughton Elevators serve the spacious, comfortable offices in the tower building that rises over the four floors occupied by Western Federal Savings.

One of the special Haughton totally-automated elevators which connects the four floors occupied by the home offices of Western Federal Savings.

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

continued from page 185

LIGHTS IN THE NEWS

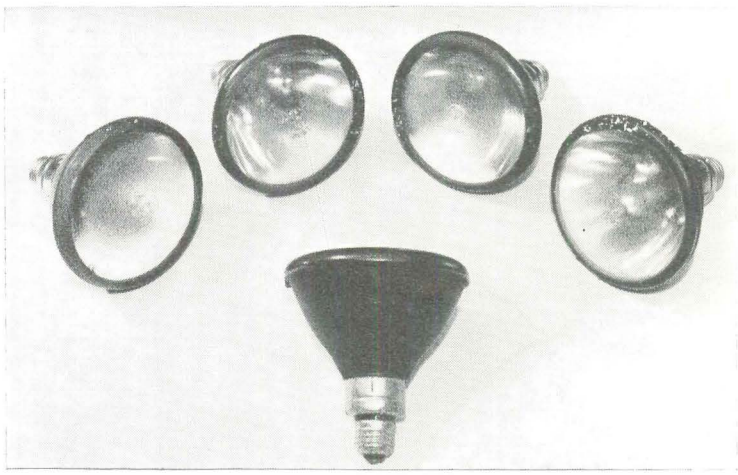
General Electric has introduced a new system of running fluorescent lighting on 3,000 cycles instead of 60; heart of the system is a new frequency converter using a silicon controlled rectifier. At 3,000 cycles, lamps produce more light and less heat; the ballast is 50 per cent smaller and 60 per cent lighter than for 60-cycle, resulting in greater efficiency and less heat loss into the room.

Although original cost is 10 to 15 per cent greater than conventional systems, operating costs, including air-conditioning savings, are about 10 per cent less.

Manufacturer: G.E. Low Voltage Switchgear Dept., Philadelphia.

Also from G.E. is a new line of sealed-beam spot lamps (photo) which produce color by dichroic interference films on the lens' inner surface. The dichroic filters do not trap heat in the lamp, so that these lamps can use higher wattage, and have peak beam candlepower 3 to 5 times that of conventional color lamps. List price: $4.95.

Manufacturer: G.E. Large Lamp Dept., Nela Park, Cleveland.



GLASS IN THE NEWS

Libbey-Owens-Ford has made a double-barreled move to stimulate the architectural use of heavy-duty plate glass. It announced a large price cut (about one-third) for plate thicker than ¼ inch (other firms have followed suit). L-O-F also increased the available sizes of plate thicker than ½ inch, up to a maximum of 25 feet in length. Finally, L-O-F has added ⅞ inch thick plate to its line.

Manufacturer: Libbey-Owens-Ford Glass Co., Toledo 2, Ohio.

REFLECTING GLASS

Pittsburgh Plate has announced a new light- and heat-reflecting coated glass called *LHR 140.* A metal-oxide coating that reflects 30 per cent of solar energy is applied on the outside (on the inner pane of Twindow). The combination of coating and tinting achieves extra savings in air-conditioning costs. LHR 140 is also available as clear plate if tinting is not desired. Price: about $3 per square foot, installed.

Manufacturer: Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

BAGASSE PANELBOARD

Goodyear has announced a new panelboard using Goodyear Videne polyester surfacing bonded to the Fibron board produced by National Bagasse Products Corp. Fibron is a blend of bagasse (sugar-cane fiber) and resins; compressed to higher density at the surface, it combines puncture resistance with light weight. The Videne, in wood and leather grains and Paul McCobb-designed patterns, adds excellent abrasion resistance. The board comes in thicknesses from ½ inch to 2¼ inches, and costs $.50 to $1.00 per square foot.

Manufacturer: Goodyear Tire & Rubber Co., Akron 16, Ohio.

continued on page 194

Design by Carson, Lundin & Shaw

New idea in ceramic tile: classroom-in-the-round

Unusual? In design, perhaps. In function, ease of maintenance and economy, very down to earth. In beauty, superb. School boards will readily appreciate the astute use of ceramic tile by Carson, Lundin & Shaw in this striking classroom-in-the-round for schools where traffic is heavy and little feet careless. For when today's children have grandchildren, the ceramic tile will be intact and sparkling in its original color—scratchproof, stainproof, fadeproof, and, of course, fireproof. It will never need waxing or polishing, will always be easy to clean. For beauty, durability, and long-range maintenance economy, specify ceramic tile.

■ TILE COUNCIL OF AMERICA, INC. ■
800 Second Avenue, New York 17, N.Y.

Participating members: American Olean Tile Co.; Atlantic Tile Manufacturing Co.; Cambridge Tile Manufacturing Co.; Carlyle Tile Co.; Continental Ceramic Corporation; General Tile Company; International Pipe and Ceramics Corporation; Jackson Tile Manufacturing Co.; Jordon Tile Manufacturing Co.; Lone Star Ceramics Co.; Ludowici-Celadon Co.; Monarch Tile Manufacturing, Inc.; Mosaic Tile Co.; Murray Tile Co., Inc.; National Tile & Manufacturing Co.; Oxford Tile Co.; Pomona Tile Mfg. Co.; Ridgeway Tile Co.; Summitville Tiles, Inc.; Texeramics, Inc.; Wenczel Tile Co.; Winburn Tile Mfg. Co.

Tile Council of America INC.

Front to back and in between, the color and design go through and through! Easy care, long wear, greaseproof . . . perfect for heavy traffic areas such as schools, supermarkets, other commercial installations. Specifications: 9″x9″ tiles in 3/32″ and 1/8″ thicknesses. 13 colors. See your Kentile® Representative.

KENTILE VINYL FLOORS