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Cover: Designed by Charlotte Winter
from a plan of a Greek labyrinth (p. 52).

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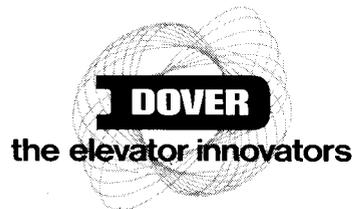


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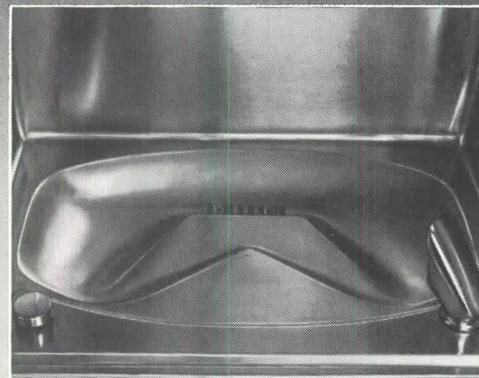
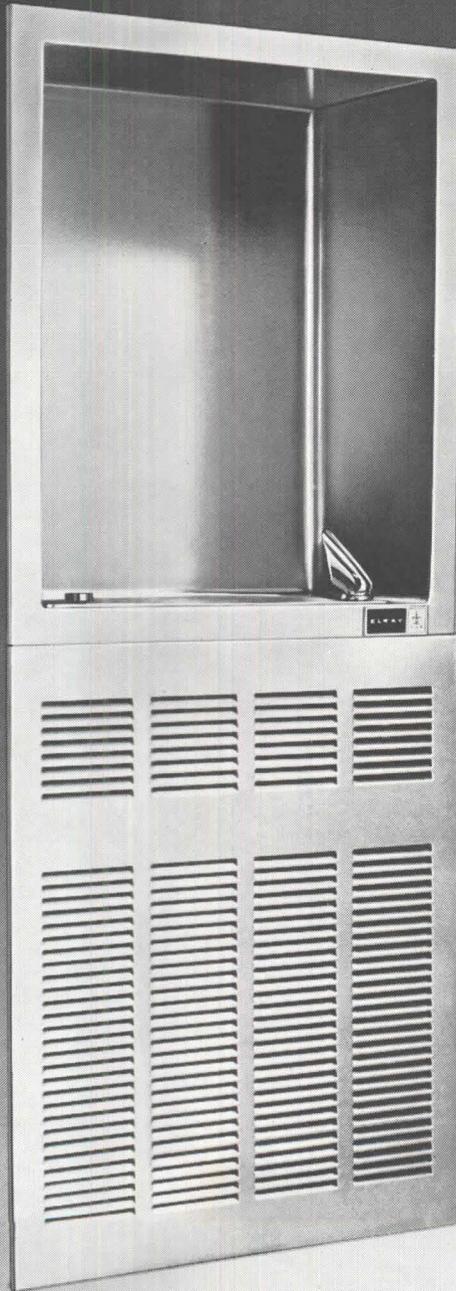
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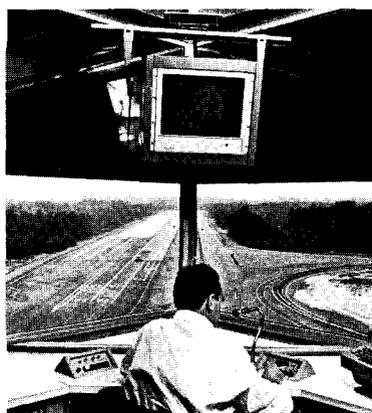
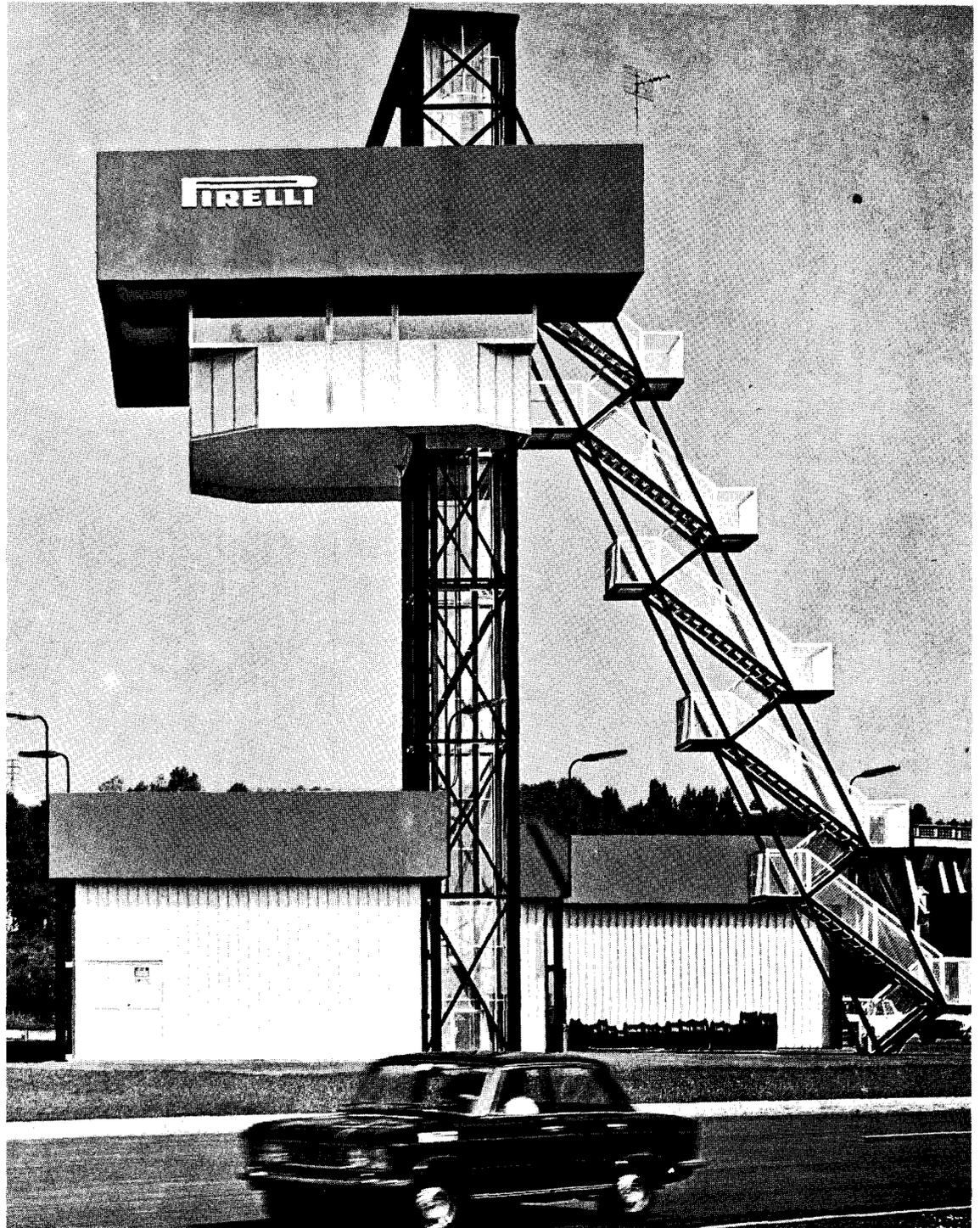


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TESTING TOWER FOR TIRES

Pirelli's new testing ground for the research and development of their world-famous automobile tires is located in Vizzola, Italy, about 30 miles northwest of the company's main headquarters in Milan.

The testing ground consists of three sets of straight and curved tracks for the various tire-testing experiments—for braking (on dry and wet and curved surfaces), for vibration (on brick, asphalt, concrete, etc.), and for stabilization and direction control.

These tracks surround an observation tower (above) where Pirelli experts monitor reactions transmitted electronically from the test cars, and whence they can send instructions to test drivers who try out various models of automobiles as well as different tires. There are two observation decks—one is enclosed and one is open. The wide railing of the open deck serves as a sun shield to the other. Both decks can be approached by an exposed glass-enclosed stair or by an elevator.

ANGLED FOR SCIENTISTS

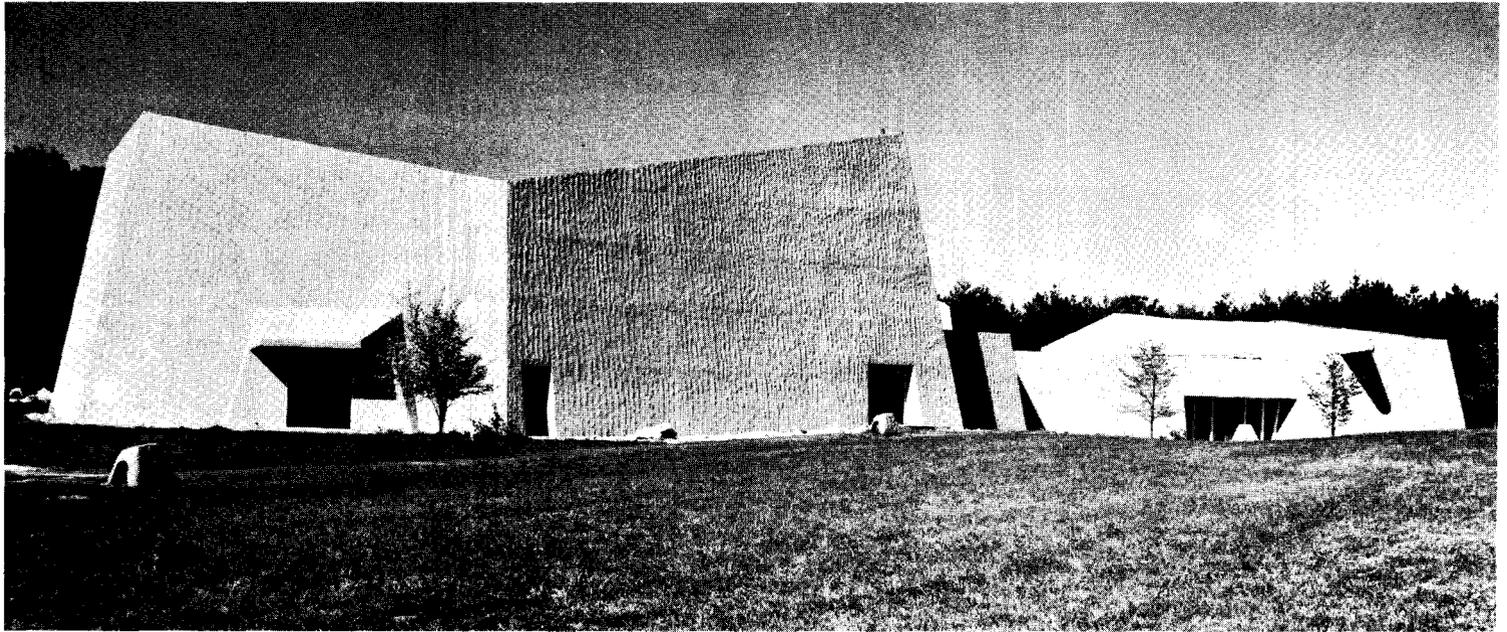
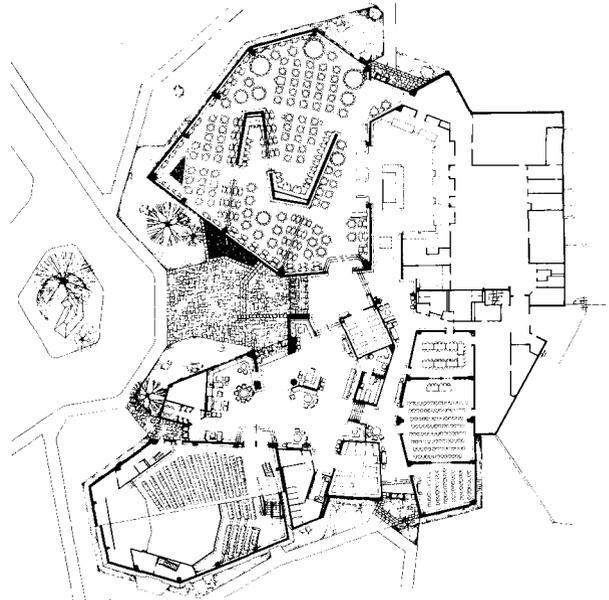
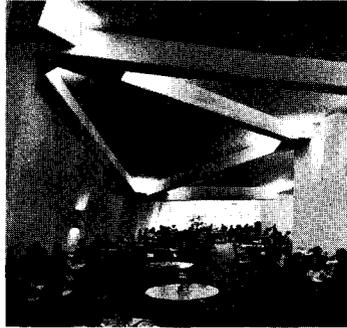
Believing that the scientist-specialists at the U.S. Atomic Energy Commission's Brookhaven National Laboratories (in Upton, Long Island, N.Y.) were leading intensely disciplined workaday lives, Architects Max O. Urbahn Associates Inc. decided to exploit the irrational and irregular in their new lecture hall and cafeteria building for the labs.

The plan of the structure (right), is in two uneven sections around an entrance court; not one of the walls is parallel to another. Sloping cast-in-place concrete columns support slanting roofs. The entire exterior is sheathed in blown-on textured concrete.

Each of the two wings has its own special function. The lec-

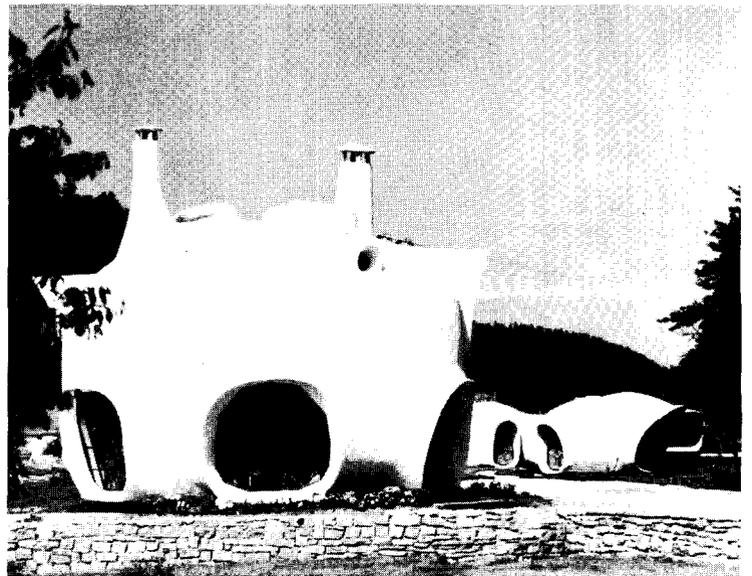
ture hall, with a mezzanine (and a projection room) seats about 500 people. It is connected to a lounge which leads from a large non-rectilinear lobby.

The other wing contains a 750-seat cafeteria (below), and kitchen. Three meeting rooms and storage space complete the interior. Cost: \$2.3 million.

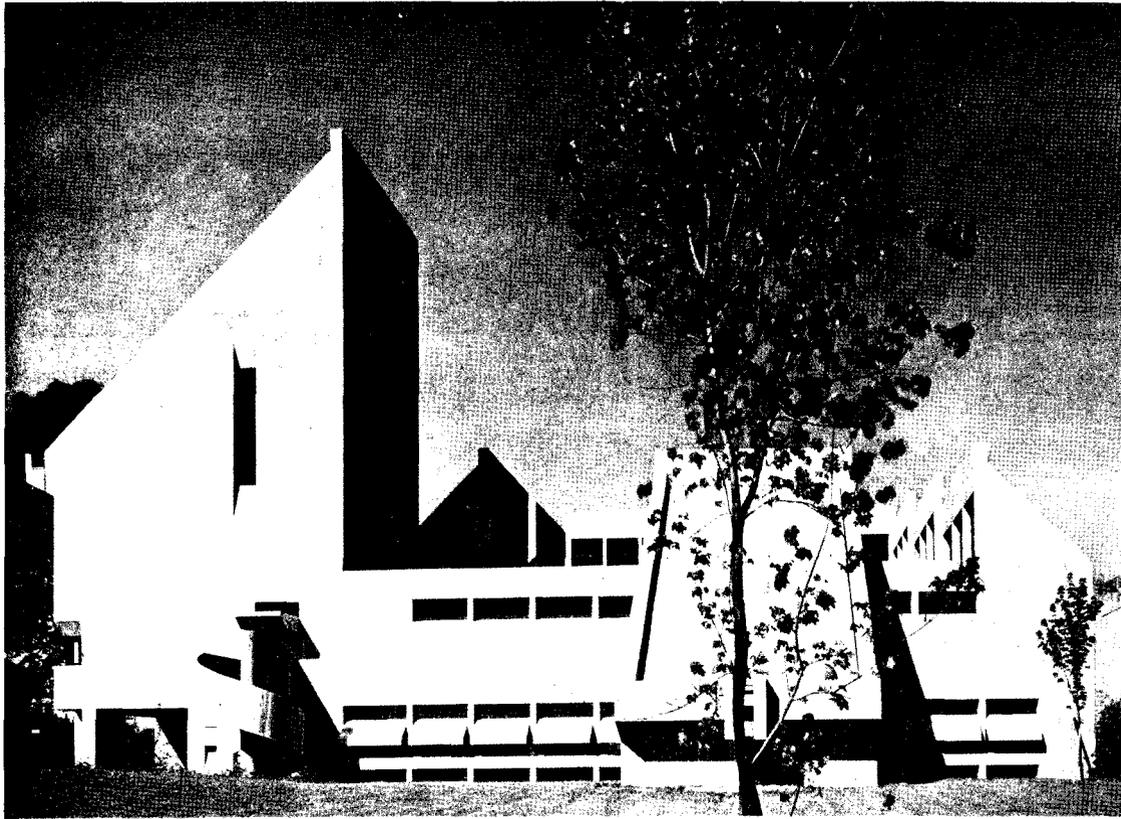


SNAILS FOR A SOU

The very latest in motels can be found near the Porte des Vosges in the village of Raon-L'Etape in France's Alsace-Lorraine. Each of the nine motel units called "Les Coquilles de L'Eau Vive" (Shells of Running Water) has, inside its crustacean concrete exterior, the finest of French *hostellerie*—besides running water. The guest can view TV in his room while partaking of French delicacies stocked in his own refrigerator, or he may sample the cooking of the manager, who is also a connoisseur of wines. Architectural refinements include wrought iron detailing outside; "polyester" wall coverings inside. Four stars at the very least.

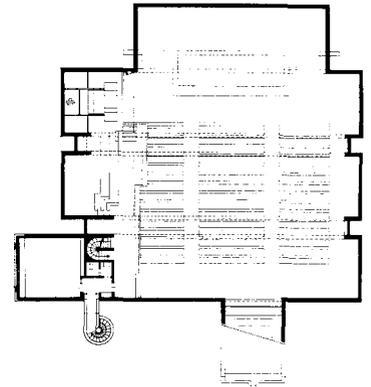
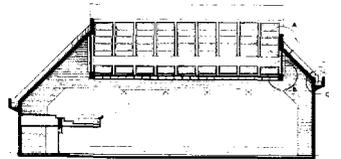


PHOTOGRAPHS: Page 5, courtesy of Pirelli; page 6 (top), George Cserna; (bottom), Photo Keystone; page 7 (top), courtesy Detail; (bottom), Wollin Studio; page 9, courtesy Baumeister.



CLUSTERED FOR COMMUNION

The Catholic church of St. Verena near Friedrichshafen in Germany replaces a Neo-Gothic church. Architects for the new building—Hans Kammerer, Walter Belz and Hans-Ulrich Schroeder—created a feeling of communion by grouping shed-roofed towers around a central congregational area. Skylights along the inner wall of these sheds allow light to wash their interior roofs and walls. Three trusses, at different levels, straddle the central core stepping up towards the altar alcove. The belltower (left in photo) is at the entrance to the church.



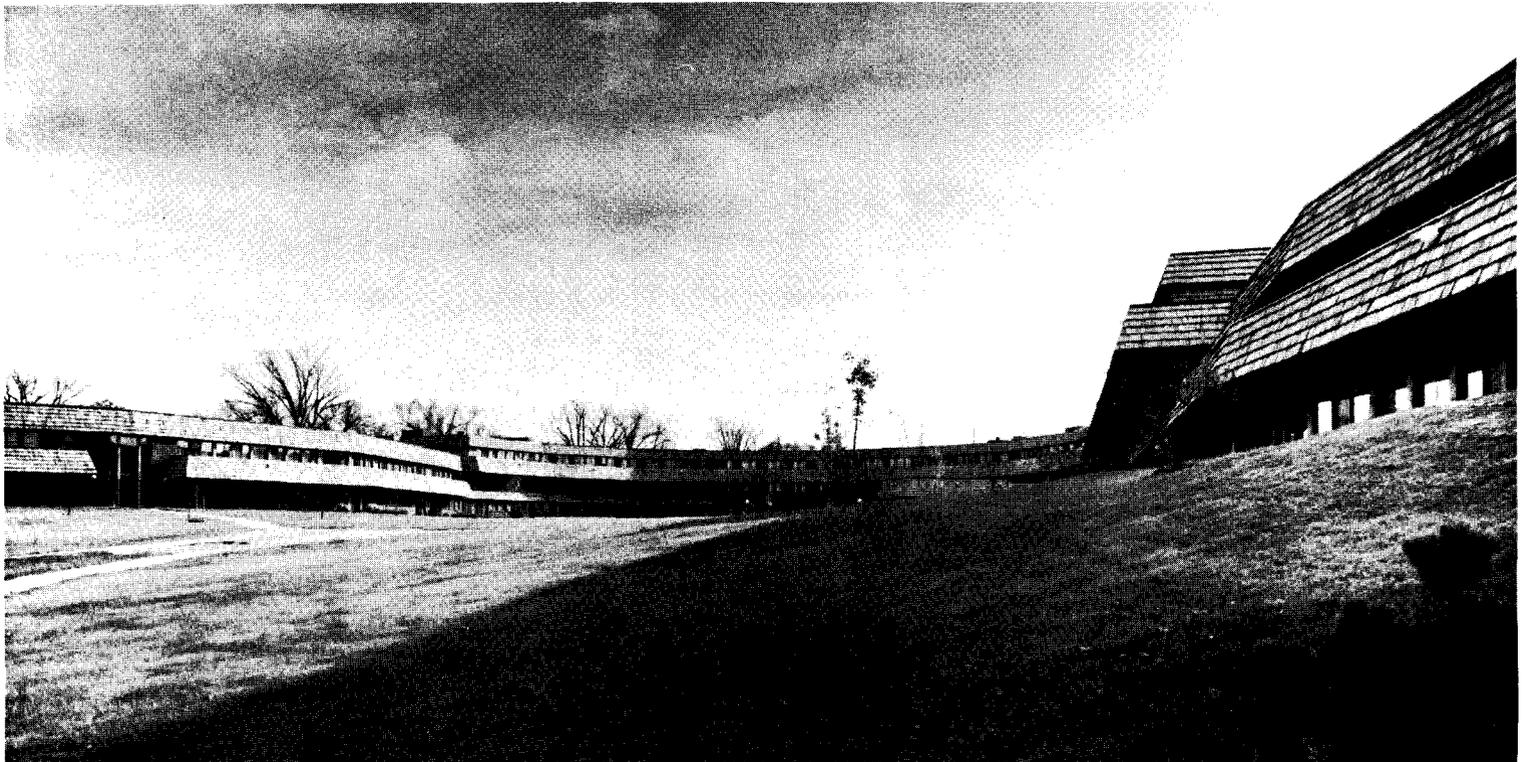
HORSESHOE FOR THE ELDERLY

The Bjarne Romnes Senior Citizens Housing Project in Madison, Wis., is a long, angular, ground-hugging horseshoe of 163 apartment units. The building sprawls over 7.5 acres; landscaping was done by Landscape Architect Bernard J. Niemann

Jr. The continuous, double-loaded corridor building by Architect Herbert Fritz divides its two types of apartments very conveniently: the single-occupancy efficiency units are on the inside of the brick-faced horseshoe; double-occupancy apartments are on the outside. Upper

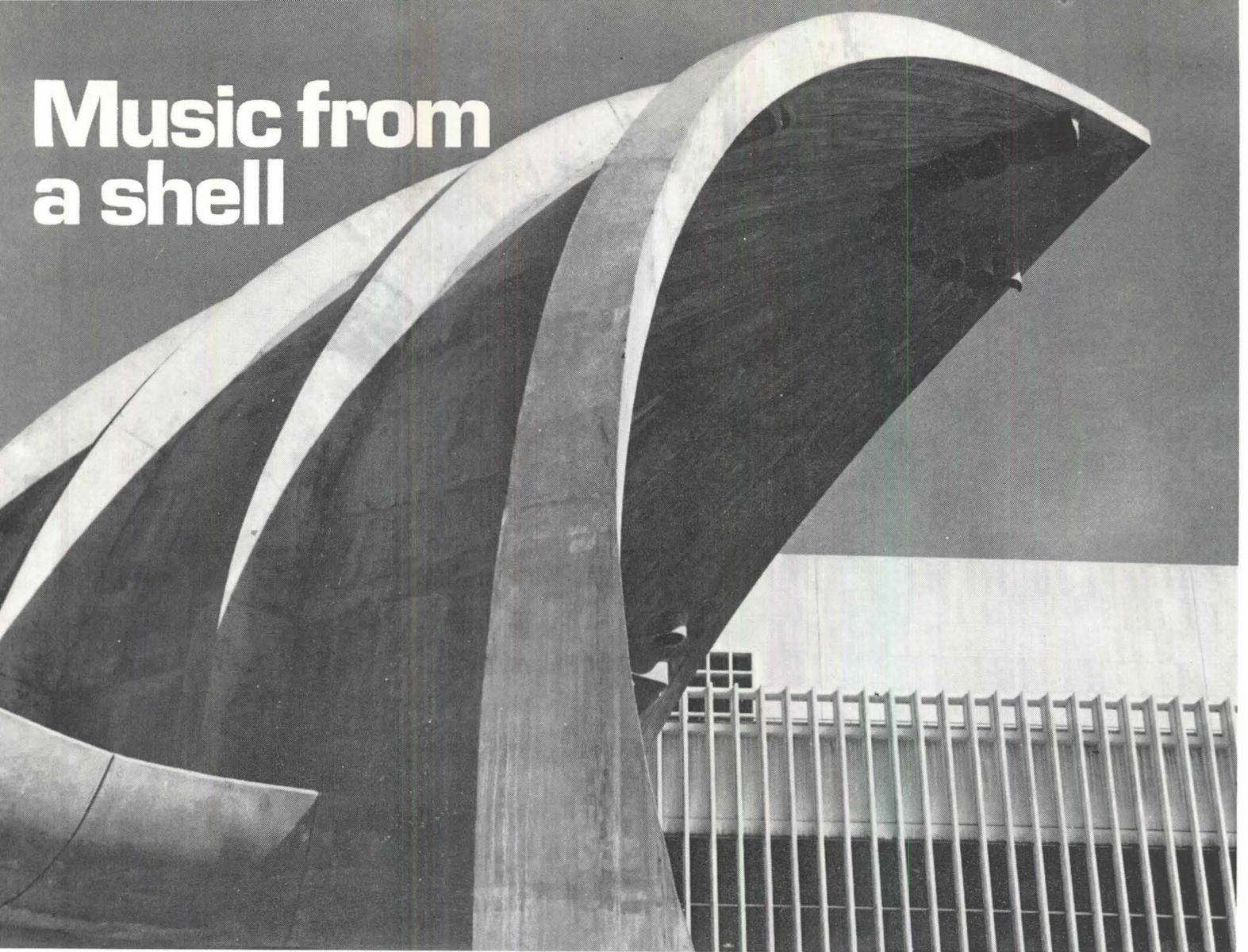
level units have their own terraces faced in cedar shakes; cedar shakes also cover the roof.

The housing project was built according to the "turnkey" process. Cost, including purchase of the land: \$1,981,151.94. Rents are scaled from \$35 to \$80 per month.



(continued on page 9)

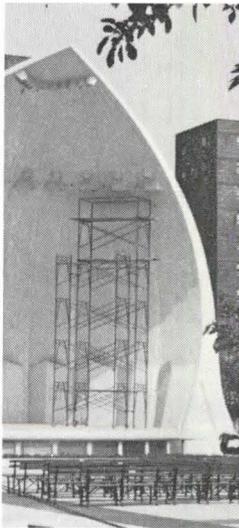
Music from a shell



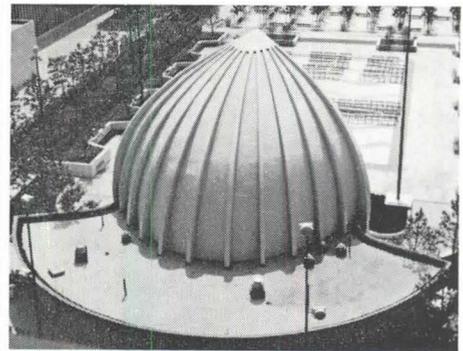
Graceful bandshell – artfully constructed with Incor[®] cement – adorns a park at New York's Lincoln Center

The stately rectangular structures of New York's Lincoln Center for the Performing Arts now have a gem-like contrasting neighbor – the \$500,000 Daniel and Florence Guggenheim Memorial Bandshell. □ A shell of tapering ribbed concrete, the new structure is serving as the setting for outdoor concerts and recitals—all open to the public. □ The shell is 50 feet wide, 50 feet deep and 59 feet high. Its 12 supporting ribs are 4 feet thick at the base and taper to only 9 inches. And its panels range from 6 inches to 3 inches thick. □ It is a privilege to be associated with quality construction that contributes to urban beauty and cultural opportunity. All of the concrete for this musical island in the city was made with Lone Star's high-performance "Incor" 24-hour cement. □ Lone Star Cement Corporation, One Greenwich Plaza, Greenwich, Conn. 06830

GUGGENHEIM BANDSHELL, Damrosch Park, Lincoln Center, New York; Architect: EGGERS & HIGGINS; General Contractor: EUCLID CONTRACTING CORPORATION; Ready-Mixed Concrete: TRANSIT-MIX CONCRETE CORPORATION (all of New York, N.Y.)



The bandshell's 2.34-acre park setting, south-east of Lincoln Center, provides a pleasing contrast to the crowded apartment houses nearby.



Behind the shell is a curving concrete backstage area that includes dressing rooms, a conductor's room and a performers' lounge.





FOCUS

Continued

DESERT PLANT FOR PRINTING

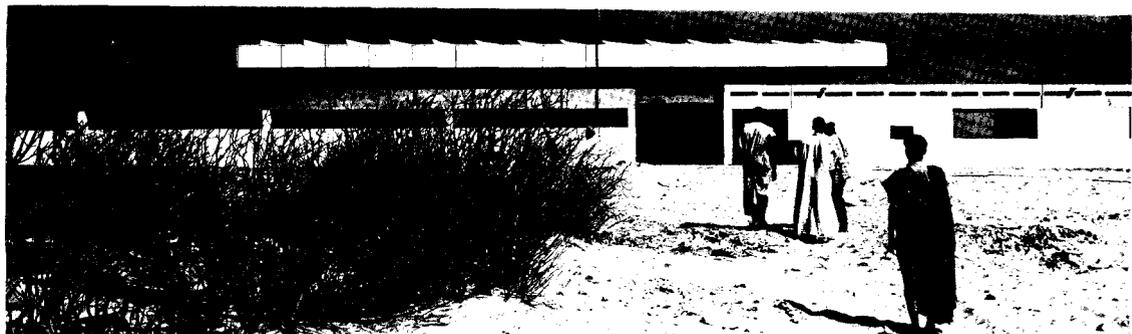
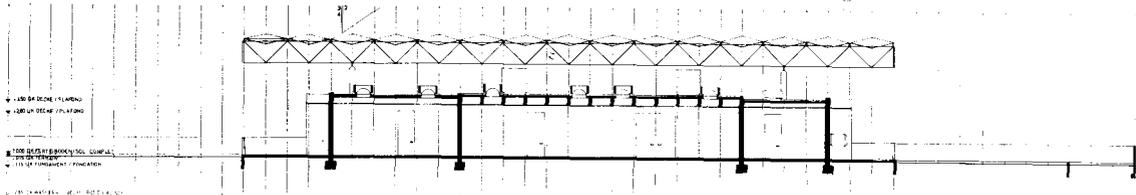
Right on the edge of the Sahara Desert and the Atlantic Ocean is Nouakchott, the capital city of Mauritania. Because of heat, German Architect Georg Lippsmeier designed a printing plant that is distinctly climate-conscious.

The plant, built for the Mau-

retanian government, is a low-slung, single-story structure which sits under a huge modular, steel-trussed "sun roof" standing independently on four steel columns. The faceted roof serves both as a sun shield and as a temperature control. The lower roof has plastic bubble skylights; light

filters through the sun roof and bubbles into the plant.

The interior is arranged so that auxiliary rooms surround the main printing shop and composing room. These two rooms have air conditioning; the others rely on natural ventilation through window slits.



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PREVIEW

CIVIC CENTER COMPETITION

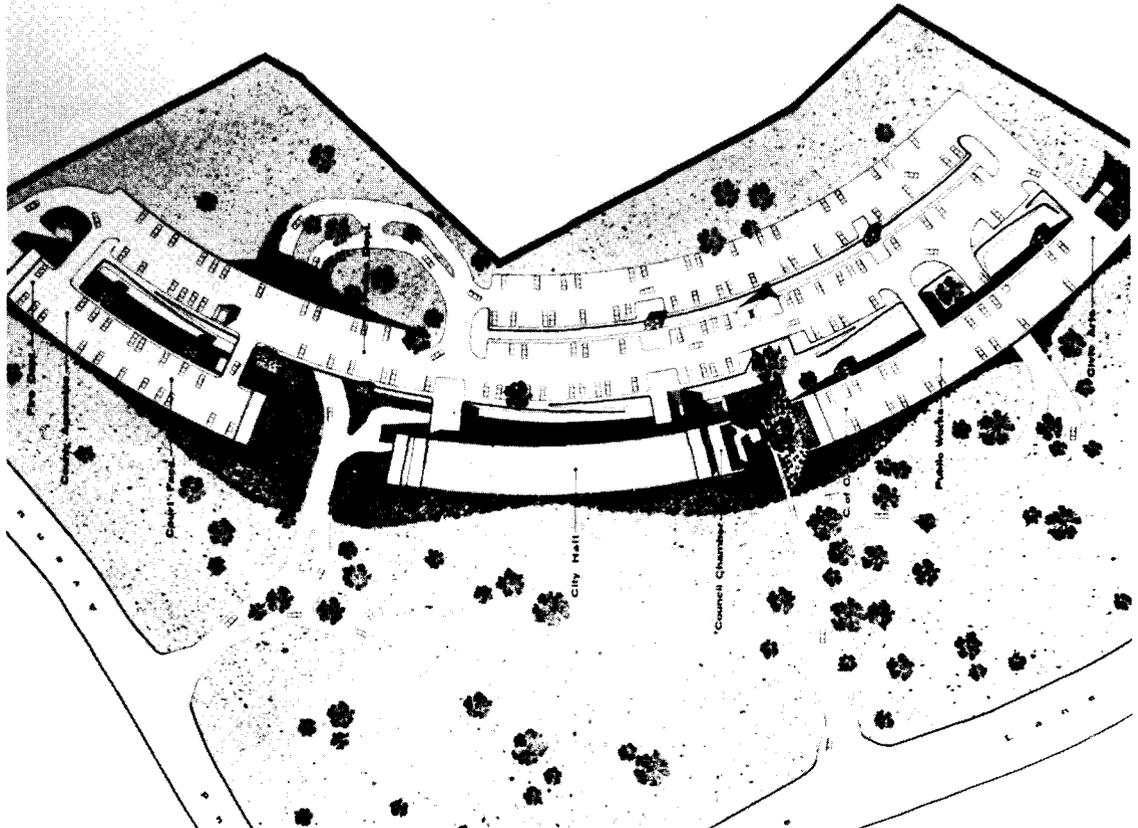
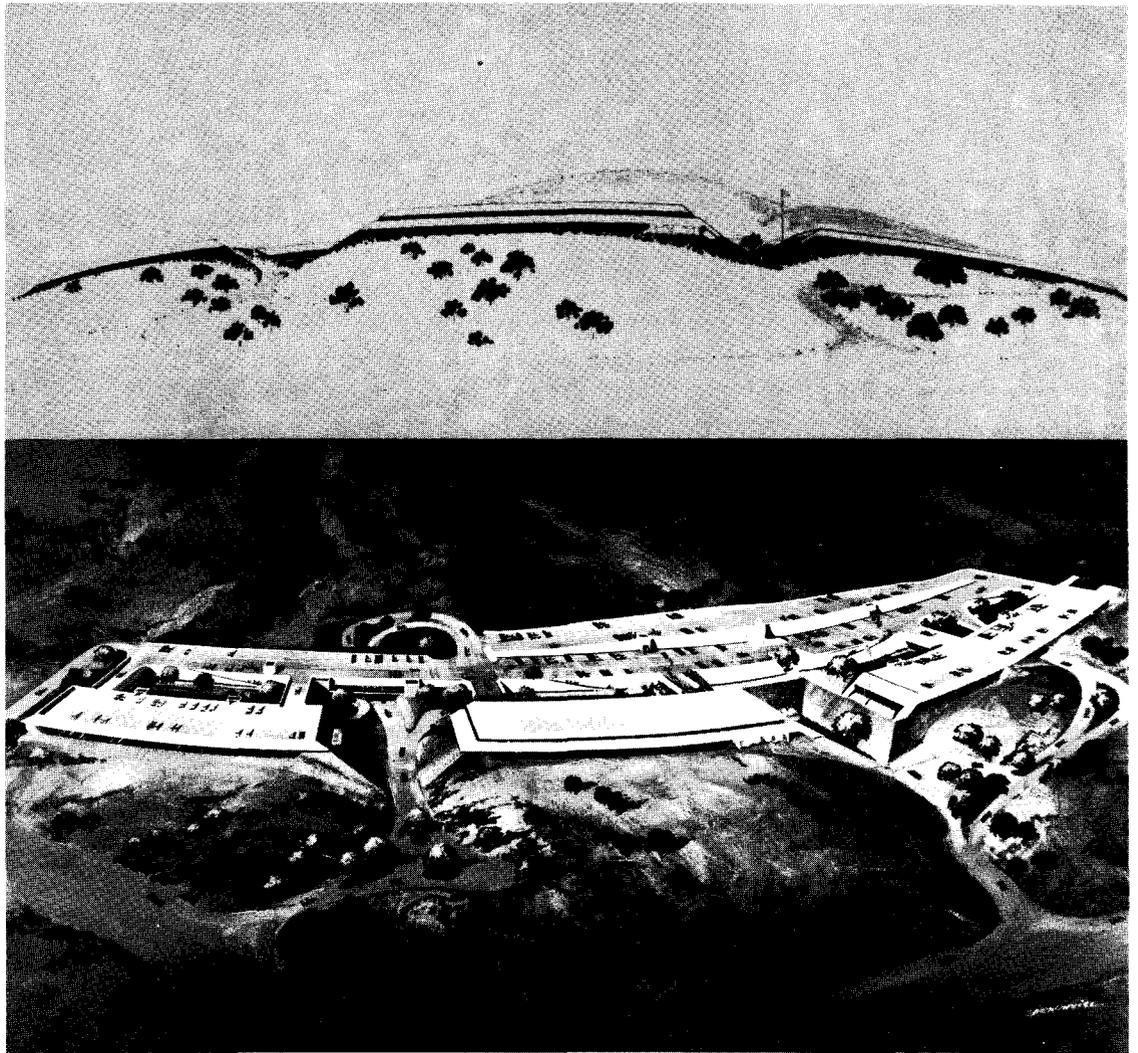
The city of Thousand Oaks, 42 miles west of Los Angeles, was incorporated only four years ago. A national competition for the Thousand Oaks Civic Center now puts the growing city firmly on the map.

The 30-acre site for the civic center is an oak-studded hillside overlooking the Ventura Freeway. The competition program called for a city hall and chamber of commerce for the first stage of construction (43,114 sq. ft. budgeted at \$1,078,000), and later expansion to include police and fire departments, law courts, county offices, and an arts complex. Entrants were to solve both the first stage and the ultimate situation. Guiding principles were to be maximum usefulness to the public, a conception of the diverse municipal functions as "a single operating system," and a need for civic pride. Height could not exceed 75 ft.

First prize among the 158 entries went to Robert Mason Houvener of San Diego. His intention (right) is to leave the land as he found it, using the ravines to gain access to the higher elevations, and letting the cars be absorbed, invisibly, on the roof. He crowns the crest of the hill with a simple one-story structure. "Spaces should not be so large or regimented," says Houvener, "as to overcome the visitor in his sudden confrontation with officialdom." A mall gives entry to the different departments; the municipal functions are in an ordered sequence, but "without visual identity as to which is which." Summing up, Houvener says: "Conduct of municipal business need not be stolid, overbearing, grim, secret or tedious."

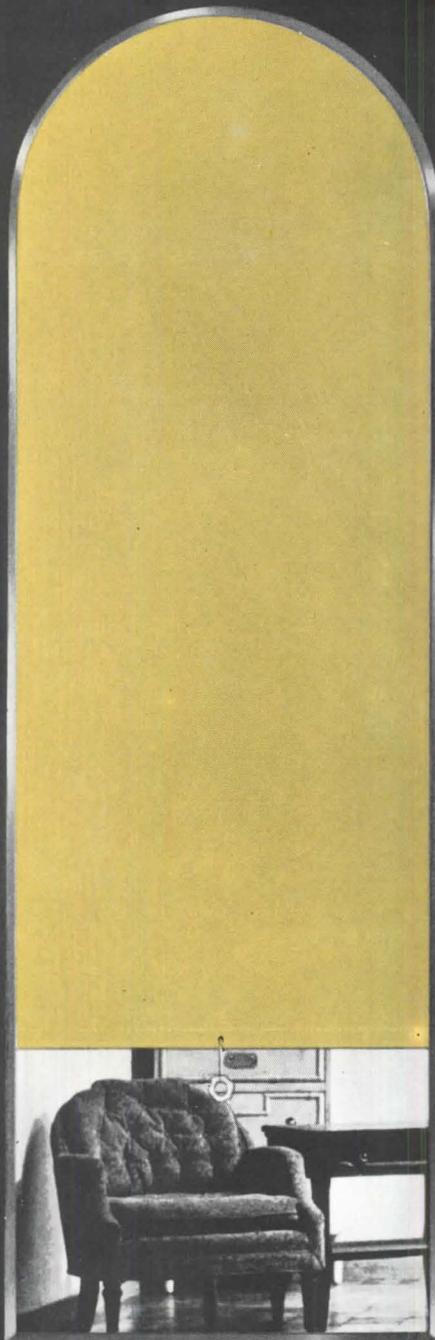
The jury found Houvener's scheme "powerful and memorable," and possible to achieve within the modest means available. They went on record with the comments that the plan works well, that access is direct and recognizable, and that ex-

(continued on page 13)



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than ¼" plate glass within this region.

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PREVIEW

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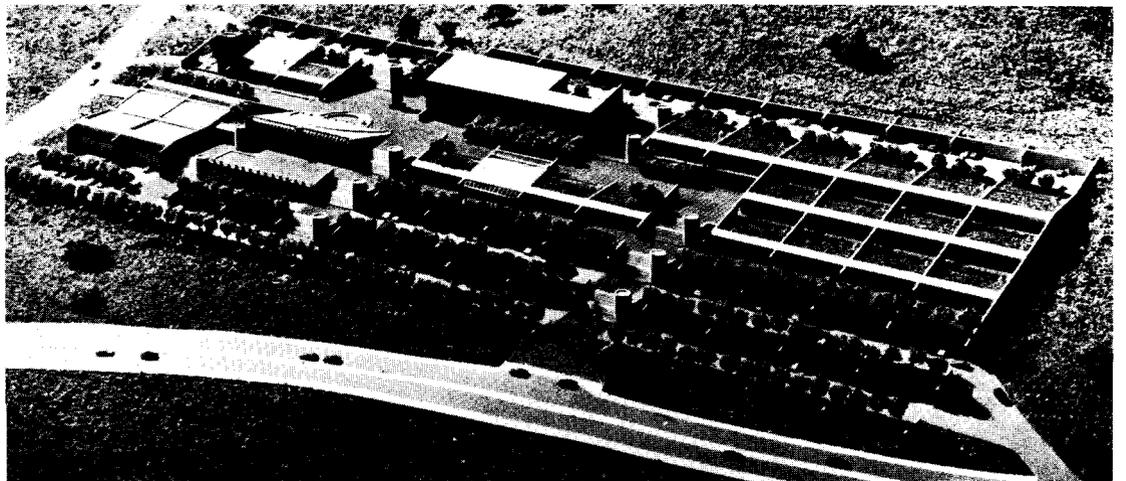
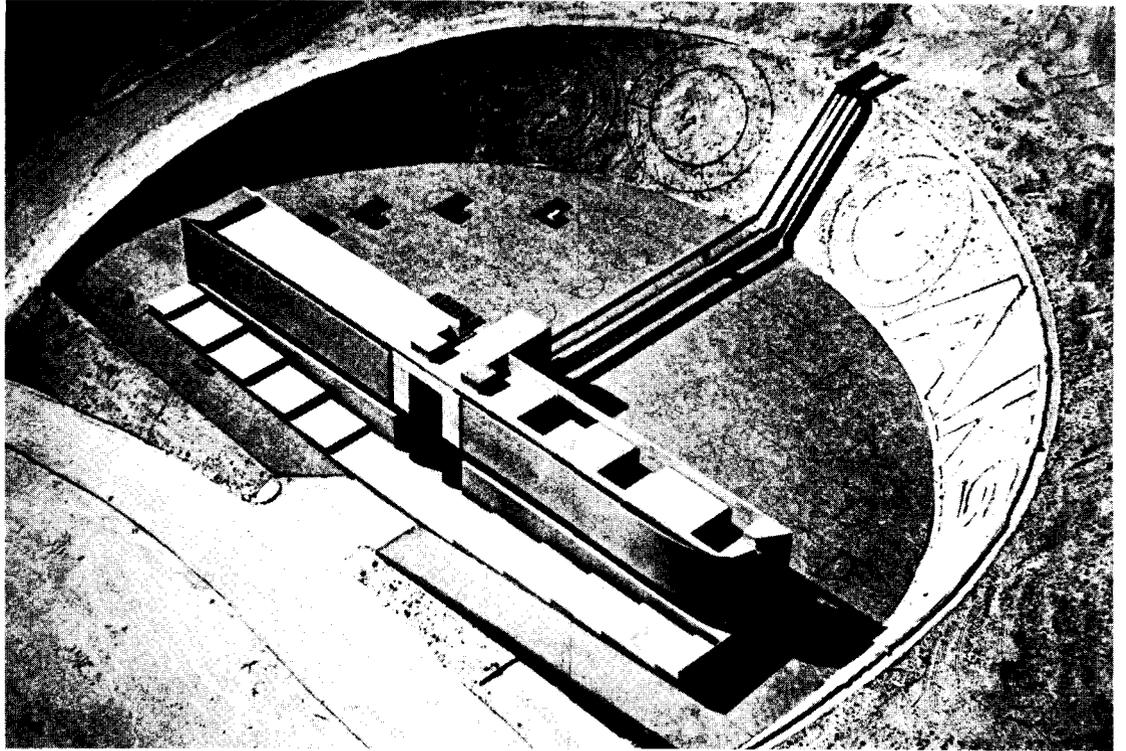
pansion is practical and economical. They recommended the hiring of "a first-rate ecologist" and a landscape architect to see that the hillside—the basis and the strength of the design—is preserved.

But the second prize came within a hair of winning (top). Designed by Vollmer, Knowles & Knowles, of Philadelphia, it proposes a deep-cut crescent "of yellow grass and sign flowers as a visual gesture to the freeway to make a statement of Place. It is a sign to the car and a marker to the community." The crown of the crescent is lighted by a beacon and is the source of water that feeds the embracing bank and flows down terraces to the street. The building plan is direct: a single-loaded corridor with views opening outward. Although the jury proclaimed this scheme "the strongest architectural statement," they questioned its economic feasibility (anticipating that one-quarter of the first-stage budget might be spent preparing the site). They also questioned its acceptance by the community, and at the local unveiling of the winners, their guess seemed to prove correct.

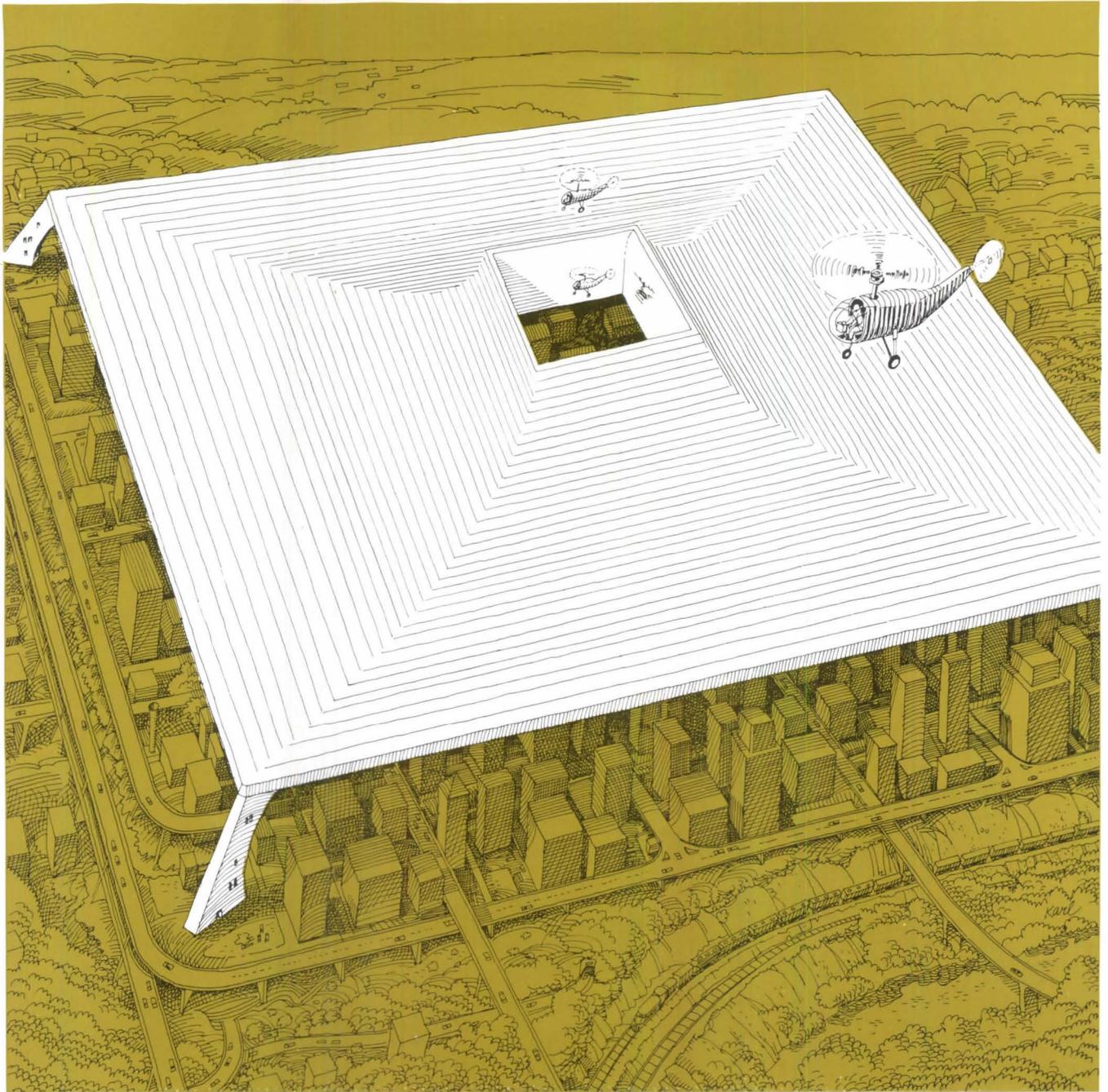
The third-prize winner (middle), by Arfaa-Matzkin Associates of Philadelphia, was judged "extraordinarily handsome," but was criticised for its access, its face to the community, and the extravagance of its parking.

The fourth-prize winner (bottom), by Carson, Lightfoot & Nichels in association with Honnold, Reibsam & Rex, was admired for the strength of its concept (a 70-ft. grid in which cars, pedestrians, spaces and buildings are intermingled). The scheme was criticised for the relationships between its elements and the awkwardness of its vertical circulation.

Jury members were George W. Davis, Charles W. Moore, Dr. Raymond Olson, Cesar Pelli, and Jan C. Rowan. Professional advisor was Jerzy L. Pujdak.



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LETTERS

LADIES TAKE NOTICE

Forum: *To my oppressed sisters at the drawing board* [Dec. '69 issue]: Count your blessings and your chromosomes! It's a congenital case of overcompensation. Two thousand years ago Cicero warned the first Feminists: "If we make them our equals, they will be our superiors."

New York SYBIL MOHOLY-NAGY

Forum: Many thanks for your article on discrimination against women in architecture. Why, however, did you eliminate the name of the lady-author from your contents page?

New York City C. MOORE JR.

Sorry, our lady proofreader got distracted.—ED.

DEALING WITH CHURCHES

Forum: I write to comment on the design of the two churches which were illustrated in your November 1969 issue—one by Dahinden for Mityana in Uganda, and one by Lundy for a university situation in Florida.

The quality of a church design depends, I should think, more upon how it deals with people than how it deals with materials, and I think neither of these is good in respect to the first.

It has puzzled me to observe the wide notice and apparent admiration given in the press to Dahinden's project in Uganda. The photographs remind me of a church that was built by Americans in Hong Kong a generation ago in which typical Chinese wood construction was reproduced in concrete and painted. Such sweet appreciation for native arts! And such phoniness. There is at least as much integrity in the stucco tepees that dispense hamburgers on our western plains, and a kind of naive charm which is missing at Mityana. If religion is serious it shouldn't have to deal in parody. And if we really respect people we don't mimic them.

There are things that can be said about the new visions and

hopes of worshipping communities, and especially communities of young people: they wish to be participants, not spectators; they wish to have freedom, not regimentation; and they wish to have the opportunity for continued change. Lundy's church doesn't destroy the old audience-performer syndrome; it substitutes the bull-ring or circus scheme for the theater scheme; but the sense of a group of spectators focusing on a performance remains. The fixed pews, the perfection of the geometry, the stepped seating will all contrive to work against freedom of expression and against change in the patterns of worship. In its attitude toward people the building is archaic although in less important qualities it is both new and beautiful.

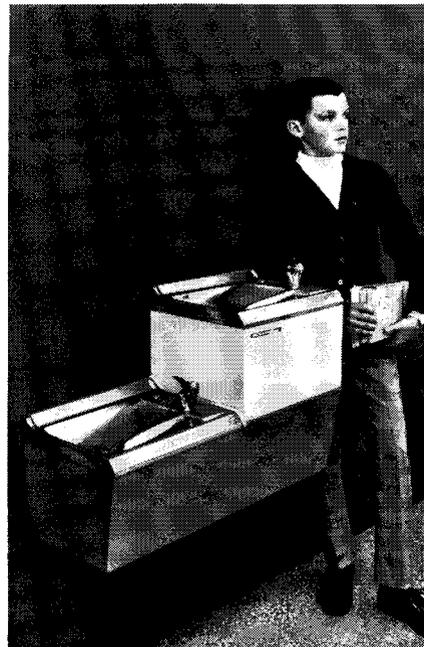
E. A. SÖVIK
Northfield, Minn. Architect

FROM RHETORIC TO REALITY

Forum: It was perplexing to read in the November *Architectural Forum* in the article "Bridging the Gap from Rhetoric to Reality," that the New York State Division of Housing & Community Renewal was considered "lethargic" and therefore unqualified to be assigned the new programs granted to the Urban Development Corporation.

The Division of Housing & Community Renewal has not been lethargic either in the creation of the Urban Development Corporation or in the administration and expansion of its own assigned programs. The Division was directly involved in the drafting of the legislation leading to the development of the Urban Development Corporation as early as 1966, and worked with Governor Rockefeller and his staff throughout the entire development of the concept and the preparation of the enabling legislation. In fact, as early as August 1967, in a proposal entitled "New York State Urban Development Corporation — A New Approach to Community Development" presented to Governor Rockefeller, the Division stated: "... we propose the creation of the New York State Urban Development Corporation, a public benefit corporation which will undertake to sponsor urban renewal programs

(continued on page 16)



(Left) Cordley Water Coolers fit into a school like an "all-A" student; smaller companion fountains serve the little fellows. (Right) Heavy-duty model serves hot and heavy industrial



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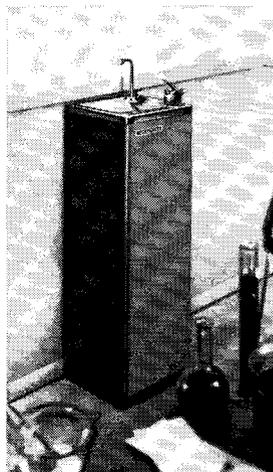
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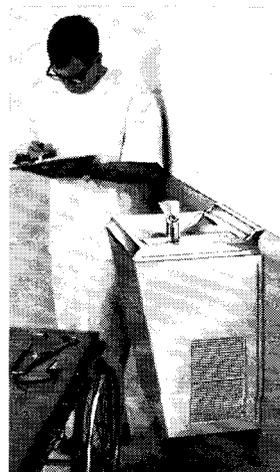
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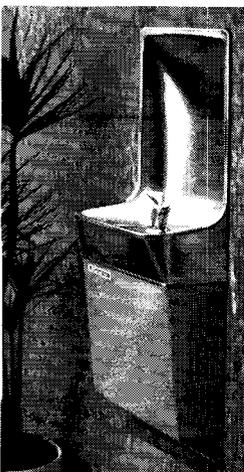
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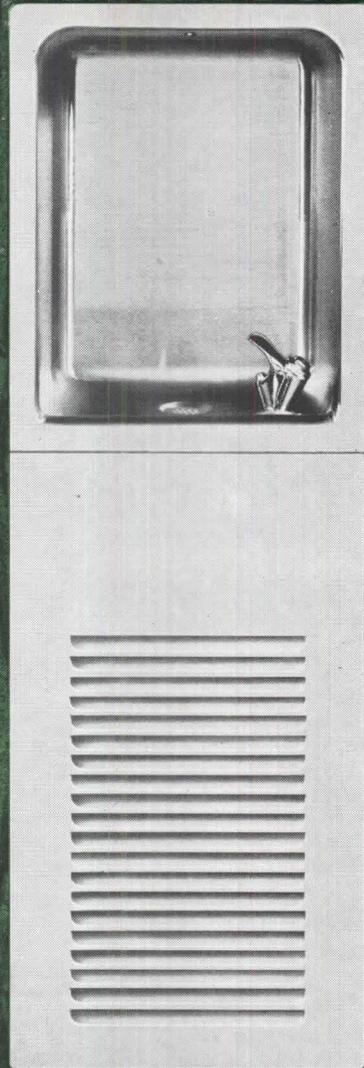
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LETTERS

(continued from page 15)

and build specific rental housing projects with compatible industrial and commercial facilities through the melding of state and private interests."

The Division recognized that in spite of the many assistance programs available through existing state agencies, neither government nor private industry alone could undertake the scope of programs needed, but that a new entity that could achieve an amalgamation of both sectors, and that could utilize existing facilities of both sectors, would be required. The role of the Division in achieving this amalgamation was recognized by the Governor. His press release of August 26, 1967, announcing his intention to propose the creation of the Urban Development Corporation to the Legislature stated: "At the suggestion of the Governor, members of Mr. Rockefeller's staff worked with representatives of the State Division of Housing and Community Renewal to develop a practical means for bringing such massive investment of private capital to the development and redevelopment of our urban areas."

The Division, on the other hand, is a formal agency of state government responsible for administration, supervision and assignment of public funds in the state's public housing, limited and nonprofit housing, urban renewal assistance, and neighborhood parks land acquisition programs. It is similarly responsible by law for the state's limited dividend housing program, the state's Building Construction Code, and the state rent control program.

Since January 1, 1959, the so-called "lethargic" Division has placed under construction 78 middle-income housing projects with more than 49,000 apartments under limited- and non-profit housing programs; and 33 low rent projects with more than 3,700 apartments under the state-aided public housing program. In addition, the Division initiated and administers the Capital Grant Low Rent Assistance Program, the nation's first rent assistance program, under which 1,350 low-income families

are receiving assistance, as well as the Home Owners Purchase Endorsement (HOPE) program. The Division also administers the Housing Development Fund, under which contracts have been signed to provide \$6.3 million in interest-free seed money loans to enable development to begin on 30 nonprofit projects.

Under the urban renewal financial assistance program supervised and administered by the Division, since 1959 contracts have been signed with 57 municipalities to provide more than \$94 million for 94 urban renewal projects, and under the Neighborhood Parks Program begun in 1963, \$1.2 million for 23 parks in 14 municipalities. Finally, it has played a key role in developing the plans and lease for Battery Park City, the \$1 billion water fill development that will be built in the Hudson River off lower Manhattan.

We submit that our record entitles us to the use of an adjective other than "lethargic" and that its use has deprecated our dedicated employees who have worked long and hard to actively provide improved housing and community areas for the residents of New York State.

CHARLES J. URSTADT
Commissioner
Housing and
Community Renewal

New York City

THE AUTHOR REPLIES:

The New York State Division of Housing and Community Renewal did, indeed, play a vital role in the creation of the New York State Urban Development Corporation, and the enacting legislation closely ties the UDC to the state agency, for better or worse. But before this relationship was worked out in the state chambers, according to my sources, consideration to beef up the State Division instead of creating a new entity was rejected because of top personnel problems and the inherent structure of a solidified agency.

I think the word "lethargic" is an appropriate phrase to describe the Division at that time. Others dealing with the agency at that time, indeed, have less kind words.

I do recognize that there have been personnel and structural changes in the Division since and the phrase "lethargic" may not now be appropriate, though time and housing starts will tell.

New York City

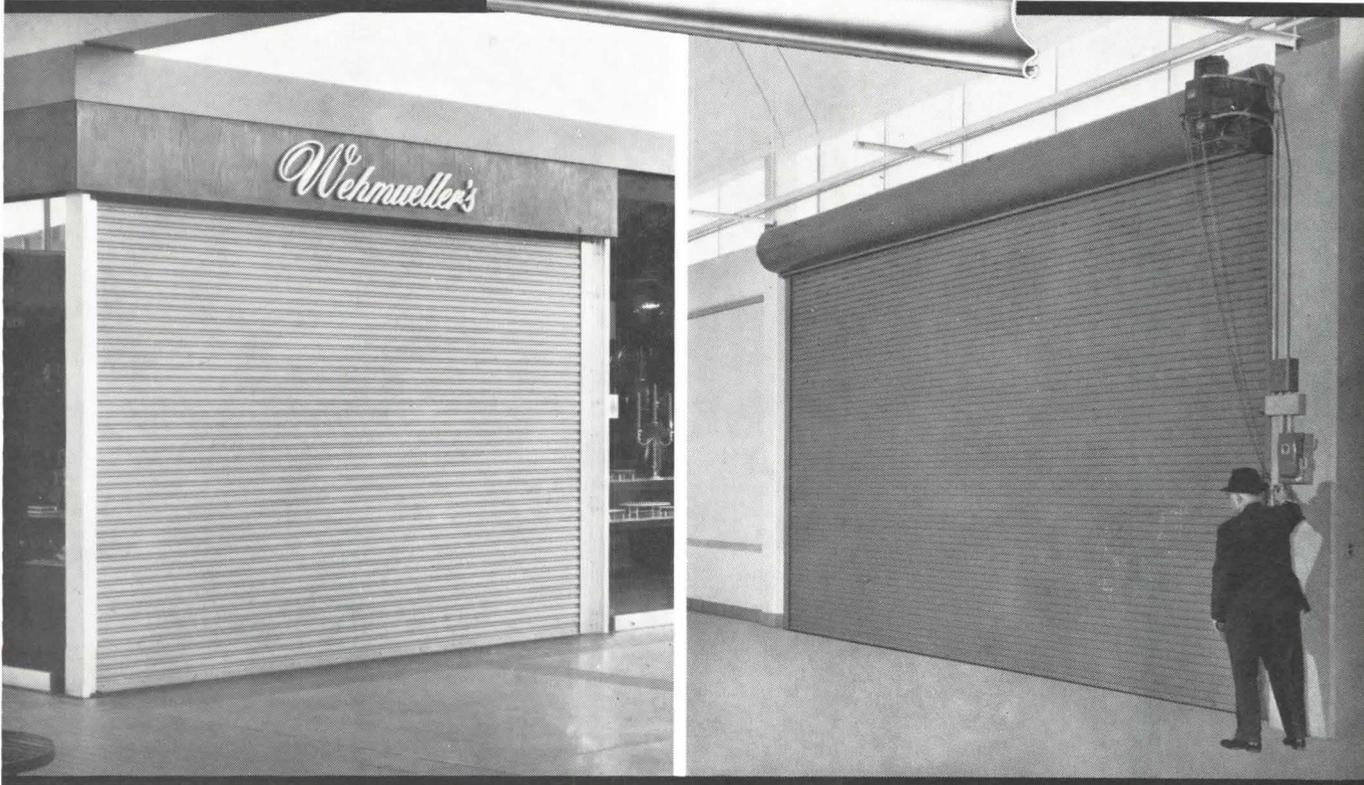
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THE BAUHAUS — WEIMAR DESSAU BERLIN CHICAGO by Hans M. Wingler. Published by the MIT Press, Cambridge, Mass. 648 pp. Illustrated. \$64.00.

REVIEWED BY SIBYL MOHOLY-NAGY

Before attempting to tackle this volume, the reader is advised to supply himself with a sturdy table lectern and the combined telephone books of Los Angeles (Anaheim optional) as seat cushions, or he will be unable to cope with 12 lbs. of book in folio format. The entire documentary history of the German Bauhaus is recorded in fine print on 13-in.-high columns without the visual relief of paragraph separations or chapter headings. The archaic layout is rather a parody on the typographical revolution initiated by Bauhaus teachers Moholy-Nagy and Herbert Bayer which established *the invisible and yet clearly perceivable tension-laden linear relationships that permit various possibilities of balance apart from symmetrical equilibrium.*

The visual fatigue, combined with extreme pretentiousness of format and price, is very unfortunate because the only justification for this pen-ultimate Bauhaus history lies in the publication of original source material. We Germans have a fail-proof way of turning history to dust. Our methodology imposes on every reader a *Gründlichkeit* that becomes ridiculous in its inability to distinguish relevance. It takes infinite good will to find a *modus vivendi* with this bibliographical white elephant and to appreciate the herculean labors of the archivist, Mr. Wingler, who has collected all the bureaucratic treasures of the Grand Ducal Archives, the Townarchives of Weimar and Dessau, the Bauhaus archive in Darmstadt, and uncourted personal documentary collections. But there are rewards that justify the effort, nuggets of characterization and historical nodes that total up in the end to a close-up of 20th-century culture that explains much of our own aspirations and failures.

The motto of the Bauhaus-book is by Mies van der Rohe:

The Bauhaus was not an institution with a clear program, it was

Mrs. Moholy-Nagy is visiting professor at Columbia University's School of Architecture and a frequent contributor to this magazine.

an idea and Gropius formulated that idea with great precision. . . . The fact that it was an idea, I think, is the cause of this enormous influence the Bauhaus had on every progressive school around the globe. You cannot do this with propaganda. Only an idea spreads so far.

The medium that spread the Bauhaus idea was outright *propaganda*, masterminded by Walter Gropius and carried by his personal charisma. No man ever got more mileage out of nine years of his life as he did out of his Bauhaus years between 1919 and 1928. It was the Bauhaus label, and hardly his architectural achievements, that provided the keynote for unending "highest award" ceremonies that honored the Bauhaus founder on every continent. Mies' assertion that "Gropius formulated this idea with great precision" might sound like irony in the light of Wingler's documentation, if irony were not so unattainable to the German character. The texts reveal a genesis of the Bauhausidea, marked by fascinating and mutually exclusive contradictions. The spokesman is Walter Gropius, leaving not a shred of doubt that it was he and no one else who was the Bauhaus incarnate.

1910: *Program for a General Housing Construction Company*, proposing industrialized housing production, modelled on English prototypes.

Conventional conformity, based on an urge to organize, with each house looking exactly like the next and spreading in unbroken rows through whole districts . . . The trend of our age to eliminate the craftsman promises far greater industrial rationalization.

1916: *Recommendations for the Founding of an Educational Institution as an artistic Counselling Service for Industry, Trades and Crafts.*

The manufacturer must see to it that he adds the noble qualities of handmade products to the advantages of mechanical production. Only then will the original idea of industry: a Substitute for handwork by mechanical means—find its complete realization.

1919: *Program of the Staatliche Bauhaus, Weimar*, a manifesto illustrated with a star-crowned cathedral by Feininger.

The ultimate aim of all visual arts is the complete building. . . . Architects, sculptors and painters, we must all return to the crafts. . . . Let us create a new guild of craftsmen. . . . Together let us desire, conceive and create the new structure of the future which will embrace architecture, sculpture and painting in one unity and which will one day rise toward heaven

from the hands of a million workers like the crystal symbol of a new faith.

1922: *Viability of the Bauhaus Idea*, circular to the Bauhaus masters.

The entire "architecture" and the "arts and crafts" of the last generation . . . is, with very few exceptions, a lie. . . . Today's architect has forfeited the right to exist. . . . The engineer, on the other hand, unhampered by esthetics and historical inhibitions, has arrived at clear and organic forms. He seems to be taking over the heritage of the architect who evolved from the crafts.

The ultimate formulation of a total reversal in Bauhaus ideology was by Oscar Schlemmer who wrote the *Manifesto for the First Bauhaus Exhibition, Weimar 1923.*

The concept of building will restore the unity that perished in debased academism and finicky handicraft. . . . Reason and Science, man's greatest powers, are the regents, and the engineer is the executor of unlimited possibilities. . . . Calculation seizes the transcendent world: art becomes a logarithm in the monument of the cube and the colored square. Religion is the precise process of thinking and God is dead!

A subsequent *Breviary for Bauhaus Members* by Gropius concluded:

Art and Technology—A New Unity! Technology does not need art, but art needs technology—example: architecture!

Itten, high priest of the emotional crafts cult had left the staff. His place had been taken by Moholy-Nagy, a 28-year-old fanatic in the cause of art as technology. In March 1925, Lionel Feininger, whose letters are by far the most valuable documents in this volume, wrote to his wife:

The (new) trend of the Bauhaus is stated more precisely . . . in an essay written by Moholy. . . . This essay makes me cringe! Nothing but optics, mechanics, projection and movement. . . . Is this the atmosphere in which painters like Klee and others among us can develop? . . . The question of Moholy and his influential opinions would never bother me were they not considered by Gropi to be the most important at the Bauhaus.

In a defensive statement, replying to a highly sarcastic article of the art critic Paul Westheim on *The Squaring of the Bauhaus*, Gropius tried to justify the change in direction:

The charge of a shift of emphasis from craftsmanship to Constructivism is false. In the Bauhaus, craft work was never considered as a kind of eccentricity but as a means to an end. It is only natural that such an experimental institution is especially sensitive to fluctuations in the development: of the

(continued on page 21)

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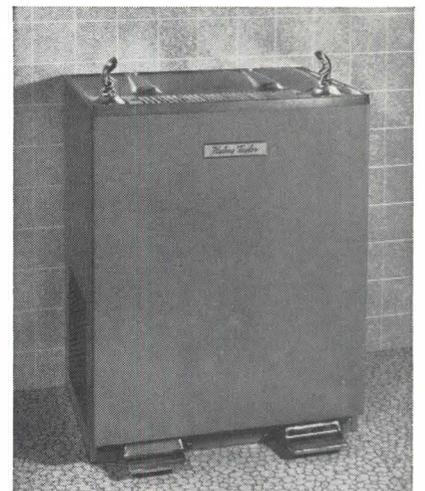
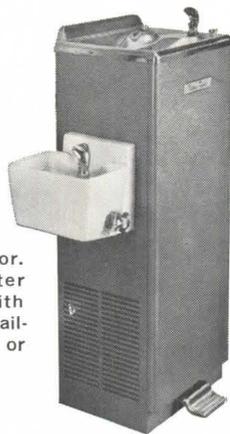


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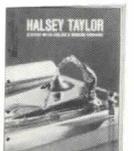


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(continued from page 19)

times, and that immature and only partly trained students who are searching in all directions should particularly reflect these pulsations.

But despite the rhetoric, a paralyzing consternation resulted in the liquidation of the Weimar Bauhaus. After a furious campaign in the Weimar parliament and deep dissensions among faculty and students, the Bauhaus moved to Dessau. Its Masters became professors, it acquired a FRIENDS OF THE BAUHAUS ASSOCIATION that included Albert Einstein, Behrens, Berlage and Strawinsky, and a curriculum of rigorous discipline.

A corporation for the marketing of the workshop products was set up and propaganda campaigns, from the exquisitely printed Bauhausbooks to the nationally appreciated Bauhaus Festivals, put Dessau on the map. The programmatic statements centered more than ever before, on architecture with a new slant that sounds like a motto for Urban America:

The Bauhaus wants to serve in the development of present day housing, from the simplest household appliance to the finished dwelling.

But there was no Department of Architecture, no engineering course, no structural experimentation lab at the Bauhaus.

Gropius was of the opinion that the time for the establishment of a regular department of architecture, which was to be so to speak the consummation of the work of the Bauhaus, had not yet arrived. But in the meantime the students pressed increasingly for the fulfillment of the program.

They had already set up their own extracurricular seminar in Weimar "to explore potential possibilities," and one of the masters, Georg Muche, a painter, had designed an Experimental House, a plain block structure with a medieval clerestory plan. Throughout the nine years of Gropius' Bauhaus leadership, there existed a total break between the architectural leitmotif, stated in every declaration, and the actual instruction. Gifted students were employed in the director's office who built a much published low-cost housing project, Dessau-Törten, and

other buildings in Dessau and Jena; but the Bauhaus program remained a truncated pyramid because Gropius adhered to an architectural mystique that would assure him of unchallengeable leadership. In 1919 he had written a manifesto of ANONYMOUS ARCHITECTS:

There are no architects today. We are all preparing the way for The One who some day will merit this name again. That name implies 'Master of the Arts', one who will make gardens out of deserts, and let miracles rise to the sky.

There can be little doubt that Gropius, undeterred by the evidence of the Pan Am Building and the Kennedy Government Center in Boston, always believed in his chosen destiny as Master of the Arts.

When Gropius resigned in 1928, Feininger, Klee and Kandinsky had already declared their open break with a program that demanded of artists to become an indispensable component in the total output of modern industry, to which the astute Feininger remarked, *the demand for linking us with technology is absurd from every point of view. . . . In the end it is only need that forces us to make sacrifices; everyone dreams of independent work.*

For two years, between 1928 and 1930, the Bauhaus was headed by Hannes Meyer, a fanatical Marxist and Technocrat, whose utter destruction of the Gropius program is thoroughly documented. When he was dismissed by the Mayor of Dessau, under whose jurisdiction the Bauhaus worked, he wrote a veritable ode of hatred; showing the rift between his sponsor Gropius and a political functionalism

Inbred theories closed every approach for right living; the cube was king. . . . One gave this Bauhaus cube to children to play with and to the Bauhaus snob for idle sport. . . . One sat and slept on colored geometry. . . . On the floors lay like carpets the psychological complexes of young girls. Art stifled life everywhere. . . . The Bauhaus camarilla rejoiced. The local Dessau press fell into a moral delirium. The Bauhaus vulture Gropius swooped down from the Eiffel Tower and pecked at my directorial corpse, while at the Adriatic V. Kandinsky stretched out in the sand with relief: it was all over!

Again the Bauhaus was dissolved, and again there was a resurrection.

In the last of the Four Ages of the Bauhaus, Mies van der Rohe became its director. The political climate in Germany had become polarized between

Social Democrats and Nazis, and Mies tried desperately to take his school out of the arena.

Let us accept as a fact the changed economic and social conditions. All these things take their preordained and value-blind course. . . . The new age is a fact; it exists entirely independent of whether we say yes or no to it. But it is neither better nor worse than any other age.

This aroused a protest proclamation among the students:

Only a self-centered person who has lost all contact with the rest of the world would be able to view the world in this way. . . . Every Bauhaus student knows enough not to believe in such metaphysical nonsense.

By 1933 Hitler was in power, the Bauhaus in Dessau had been closed, and the private Bauhaus Mies had founded in a Berlin suburb had been raided and closed by the Gestapo. Determined to save his school at all ideological cost, Mies negotiated a compromise with the new regime which would have permitted a reopening if students and faculty would not have rejected it.*

The founding of a New Bauhaus in Chicago by Moholy-Nagy in 1937 forms an appendix to Wingler's document, but it remains irrelevant because the epos of the original Bauhaus is a European and a specifically German story. It is unlikely that anyone but a historian or a desperate degree candidate will ever plow through its 217 gigantic pages. Instead, the remaining 400 pages of illustrations will become the ultimate testimony of the Bauhausidea. Despite their confusing arrangement according to chronological sequence rather than subject matter and teacher, these pictures of all conceivable Bauhaus products permit some terminal conclusions. The crass and ultimately fatal rift between tradition and revolution that characterizes the decade of the German Weimar Republic cuts across the entire Bauhaus existence.

Apart from the Dessau school buildings by Gropius and the brilliantly gifted, early deceased Adolf Meyer, there was no "Bauhaus style." And only a Gropius style, a last diminution of the reform movements from ARTS AND CRAFTS TO THE WERKBUND. Funny little prefab villas, ponderous clay models of public buildings, and the Levittown in-
*Mies' own recollection of these events—and the recollection of others—differed considerably from the above version.—ED.

timations of the Bauhaussiedlung Törten, are the end of a tradition, not a new beginning. They belong into the same category as the products of the crafts workshops—pottery, textiles, and the mechanized puppets of Schlemmers' Mechanical Ballets.

The Bauhausidea leaps from obsolescence into a timeless actuality only where individual creativeness surpasses the collective dogma. Despite a seeming incompatibility, the art of the Bauhaus painters and the industrial-graphic work of the Bauhaus designers share a common denominator which one might call organic integrity. The metal tube furniture of Marcel Breuer, Bayer's typographical compositions, the photography of Moholy-Nagy, and the lighting fixture of his workshop, have become as decisive for our environment as the paintings by Klee, Feininger and Kandinsky for the history of modern art. It will remain the great and lasting achievement of Walter Gropius that he made this symbiosis possible. It is only here, in the individual achievement of non-anonymous talents, that he fulfilled his intention to bring together a diversity of individuals who are willing to cooperate without relinquishing their identity.

The Bauhaus syndrome that made the enormous expenditure of the Bauhaus volume by Wingler possible, says in the last analysis more about the 1960s than about the 1920s. Our art and architecture schools are in such a state of leaderless confusion, that the last of the ascertainable "movements" is the most logical life saver to grasp. The almost hysterical adulation offered Gropius and Mies, and the uncritical application of the Bauhaus Foundation course, the last obsolete remnant of Itten and the expressionistic Bauhaus phase, from kindergarten to graduate school, are confessions of contemporary failure. The invaluable lesson to be learnt from Wingler's cyclopean effort is not how to imitate a bygone effort, but how to rely on a charismatic leader and an effective slogan to put over a new idea. While we are waiting for a Second Coming, what about a revolutionary pass-word that will unite our young formgivers in their search for the year 2000, something fresh and American, like Art and Technology—the new Unity!



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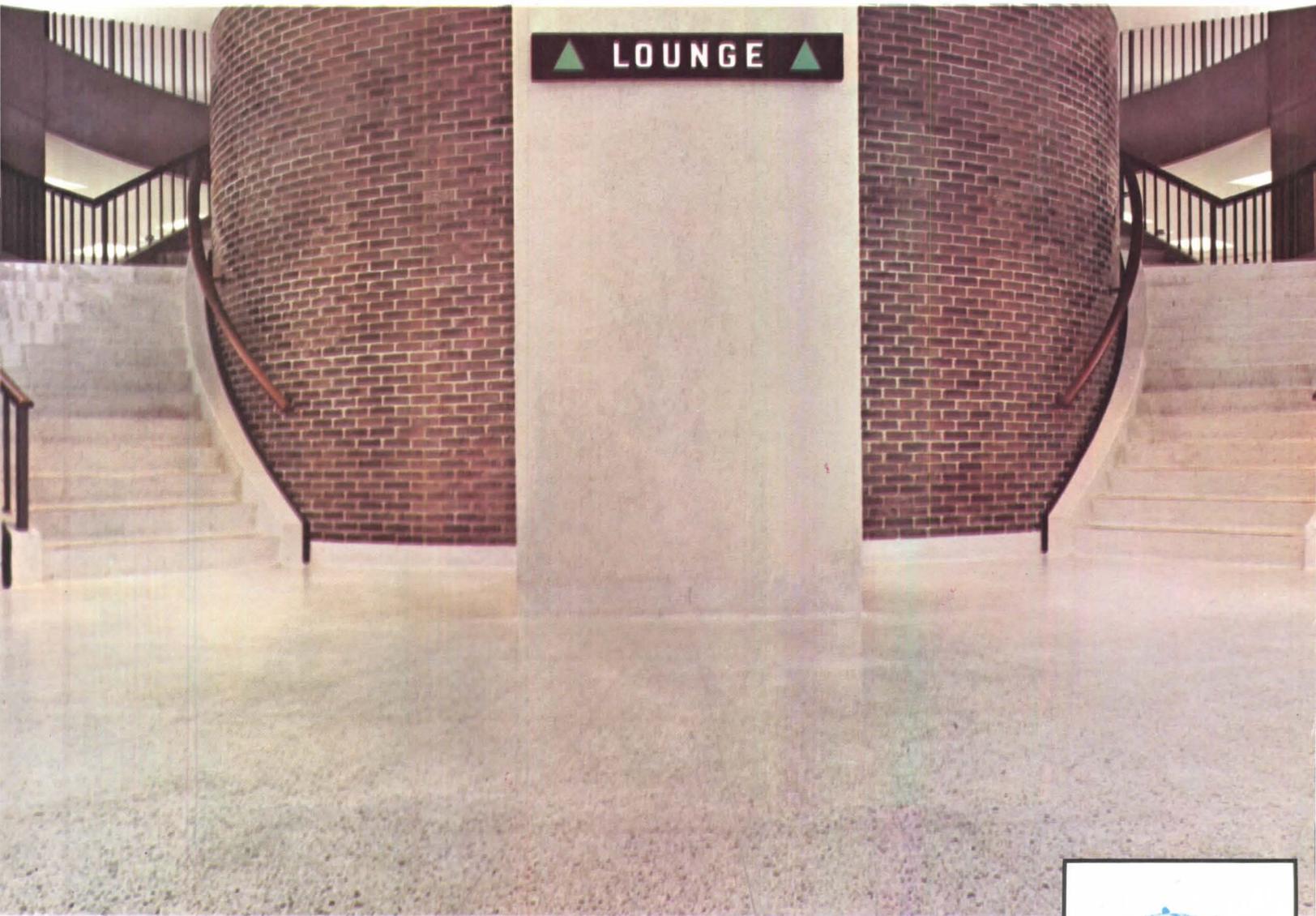
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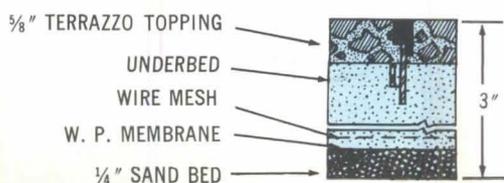
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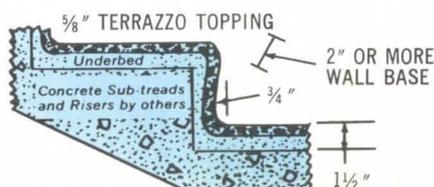
Fisheye view looking down terrazzo stairway.*



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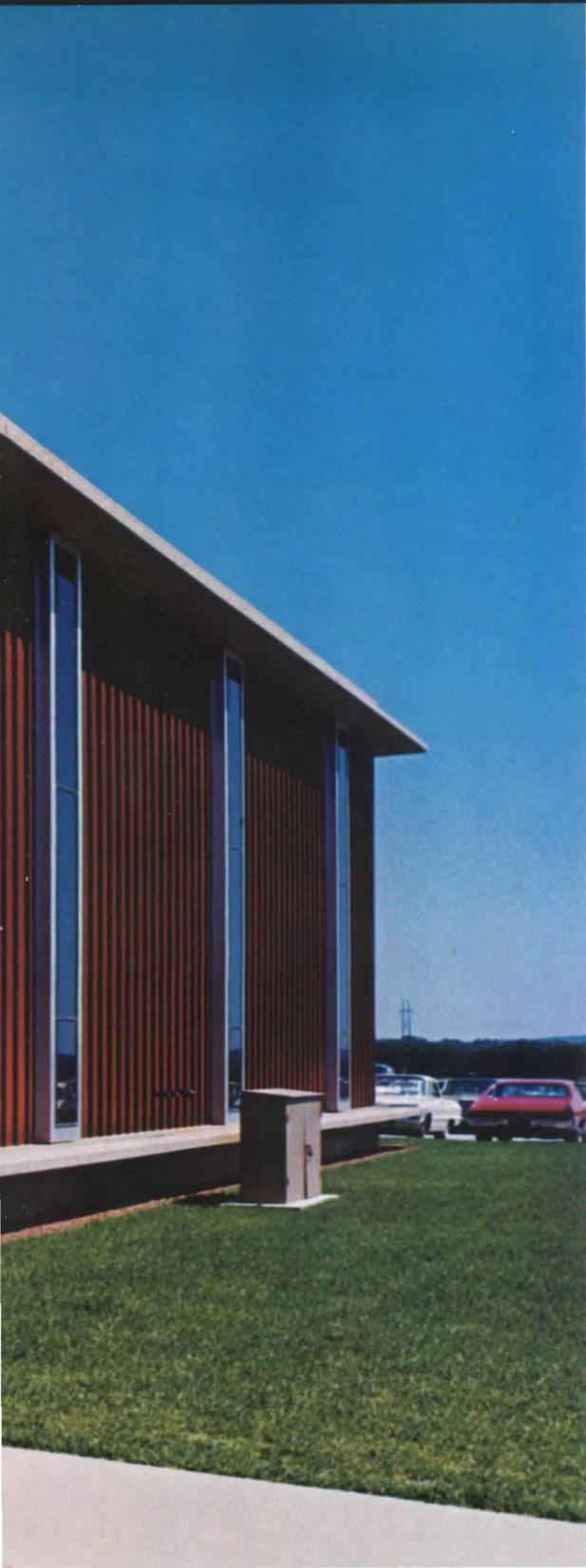


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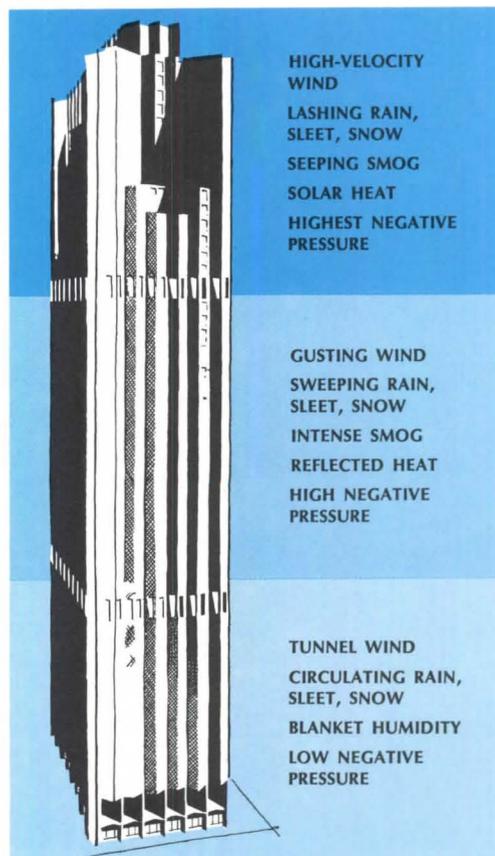
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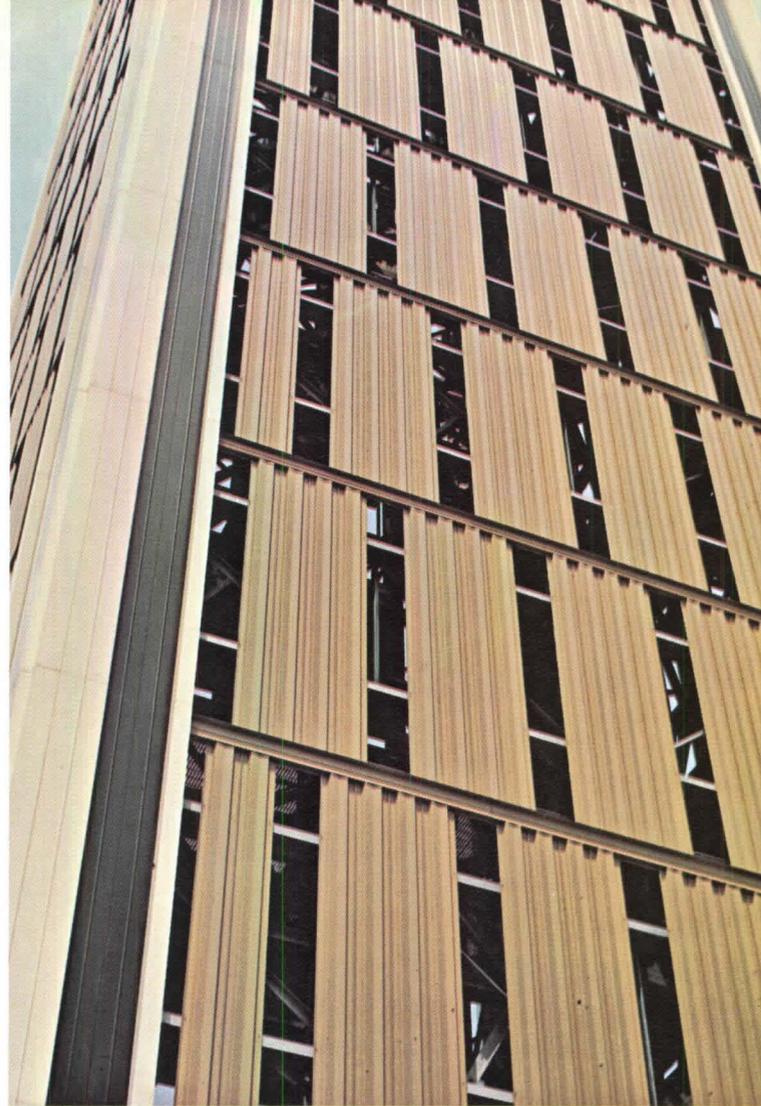
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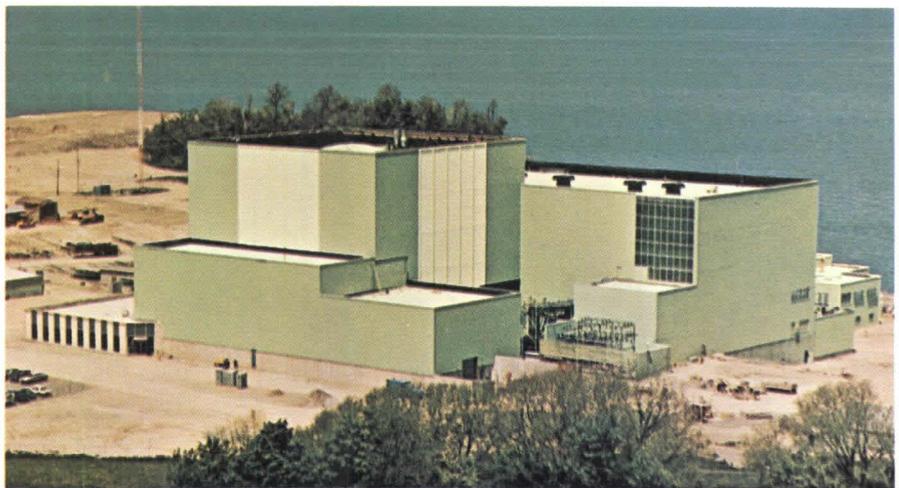
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Damon, Worley, Cady, Kirk & Associates, Cleveland, O.



Westinghouse Electric Corporation, Industrial Plastics
Division, Flexible Insulation Plant, Bedford, Pa. Archi-
tects: Ingham Kaffka Marcu, Pittsburgh, Pa.



Wincopin Office Building, Columbia, Maryland.
Architect: Harold Lionel Esten, Silver Spring, Maryland.



Ginna Station, Rochester Gas and Electric Corporation, Rochester, New York/Design Engineers: Gilbert Associates, Inc., Reading, Pa.



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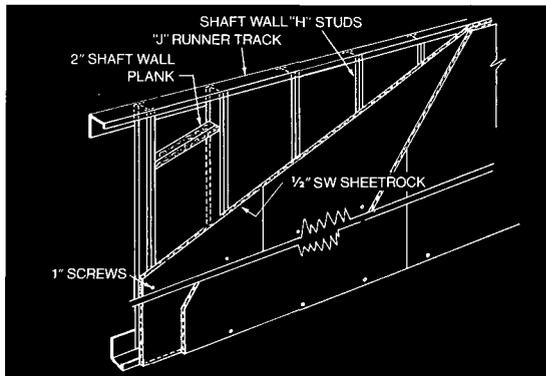
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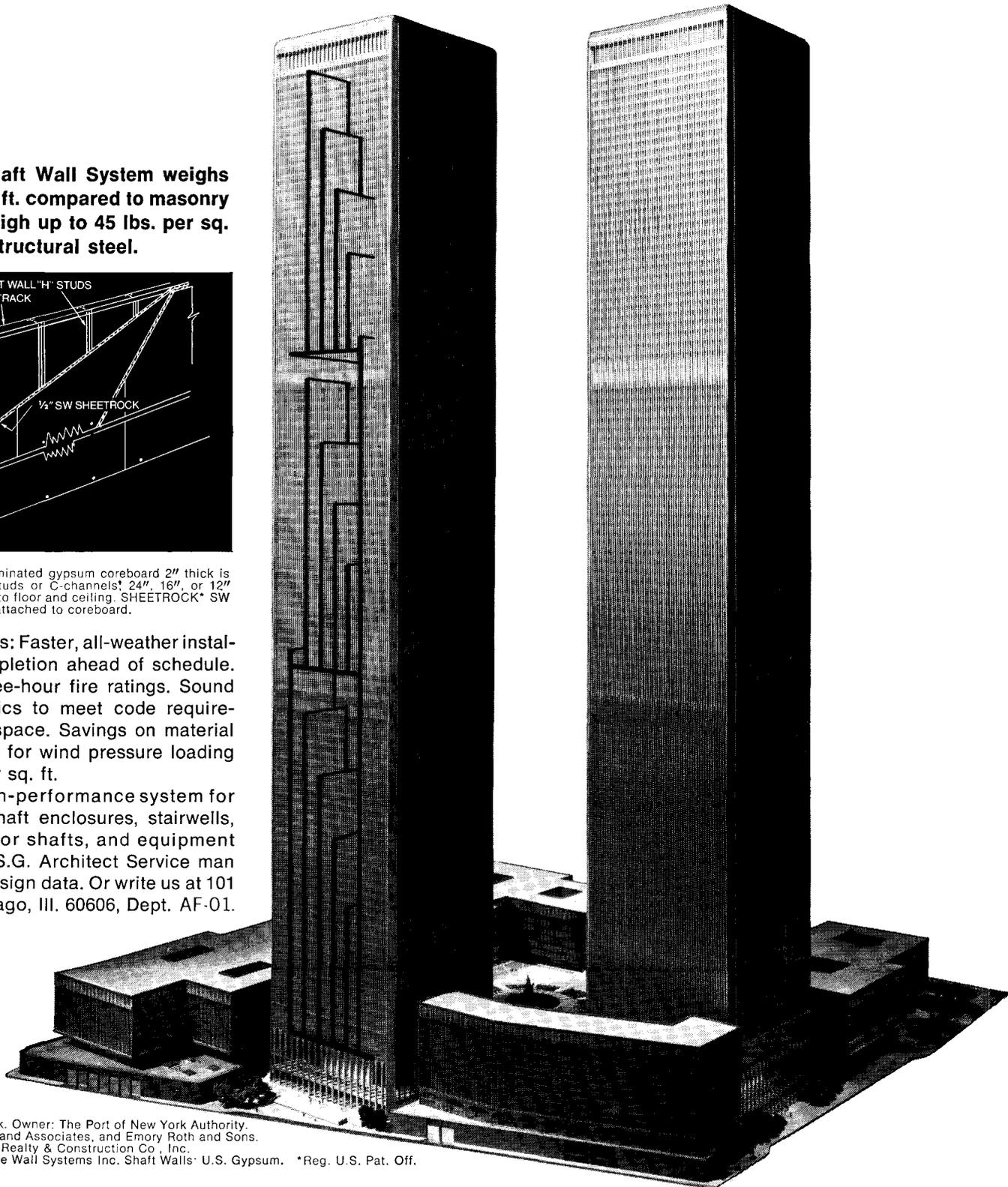
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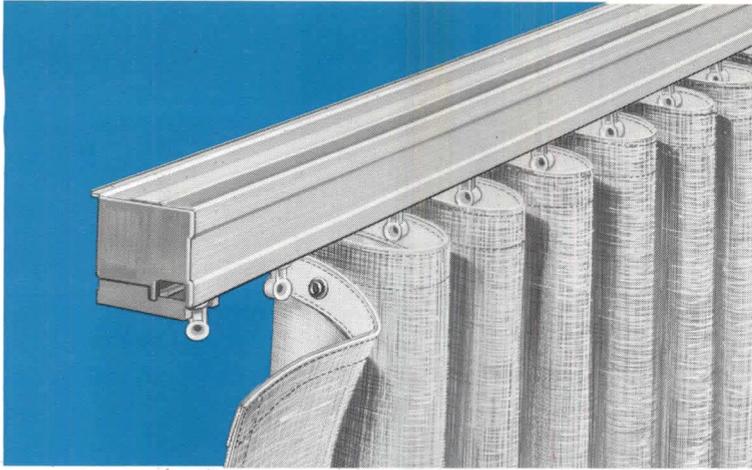
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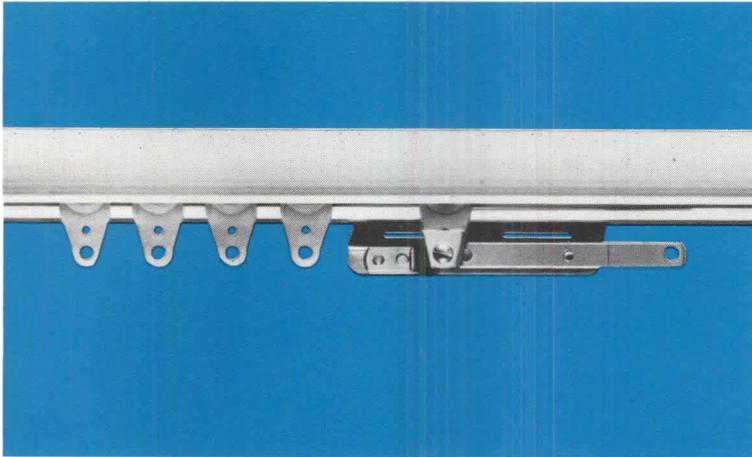
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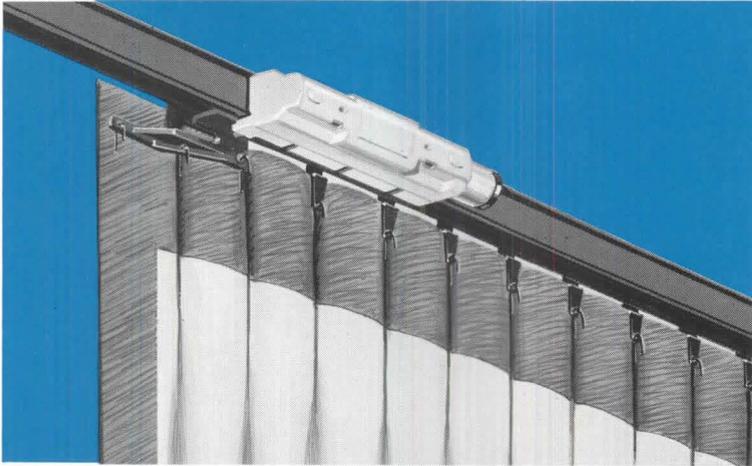
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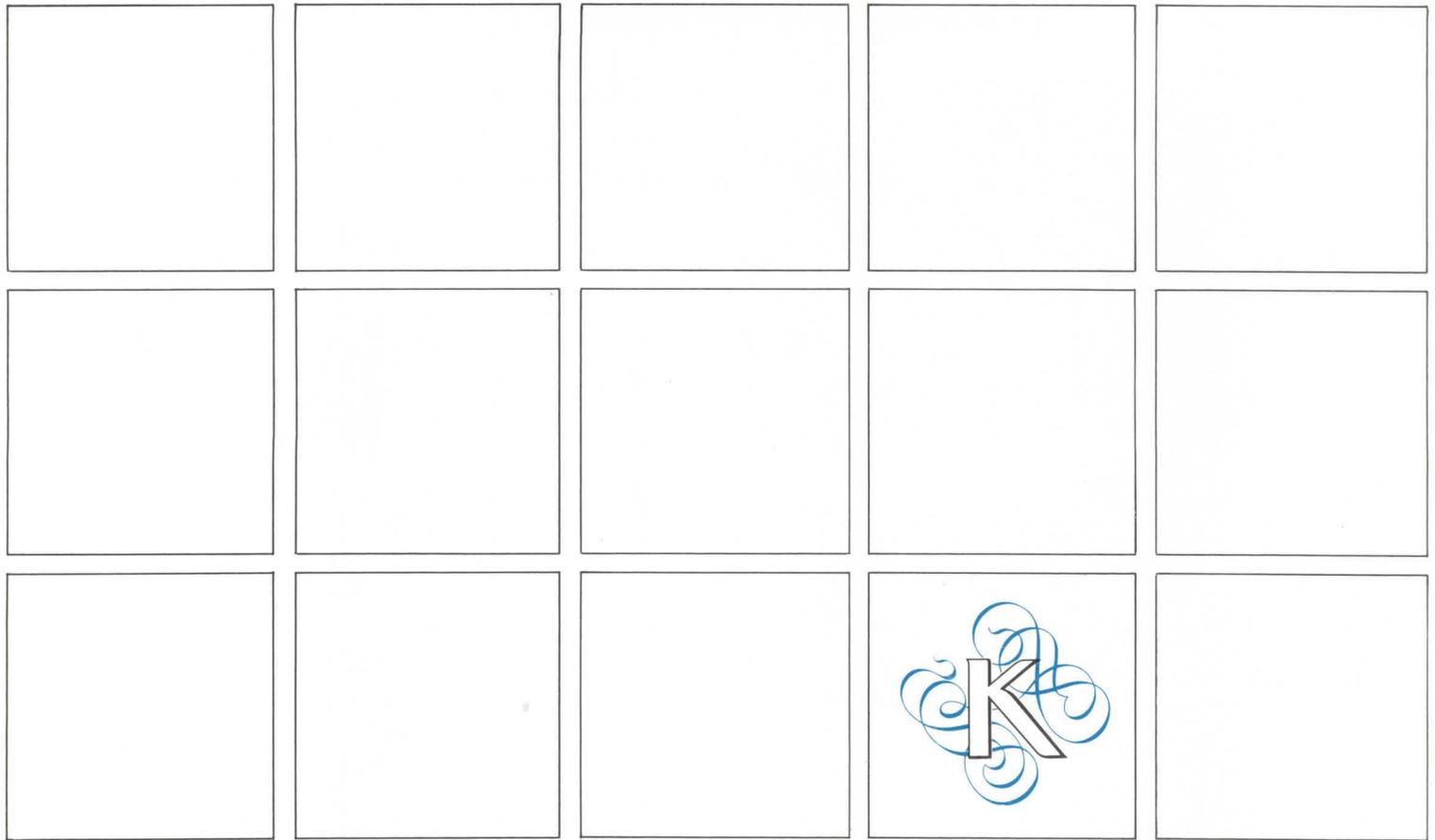
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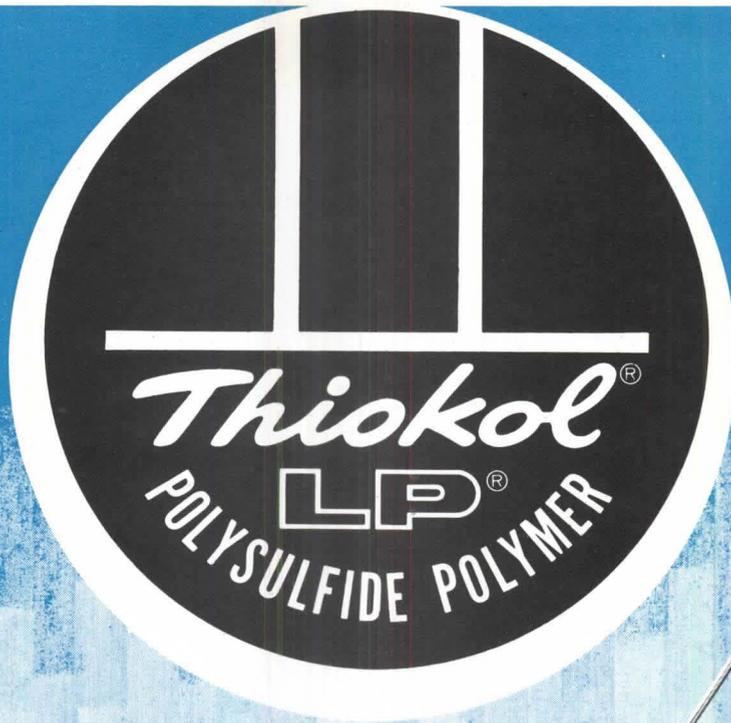
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FORUM

Dear Reader:

I have known and admired *The Architectural Forum* for more than 40 years—from the 1920s on, when I occupied an office just below its old editorial offices on Madison Avenue. In fact, over the years, many of the editors and staff became my close, personal friends; but, I hope, that wasn't the only reason for the flattering things they frequently said about *Interiors* and *Industrial Design*. We have really admired each other's work for a very long time; and so we felt it was the most natural thing in the world for us to join forces.

For these three magazines—*The Architectural Forum*, *Industrial Design* and *Interiors*—stand for certain values that are not always upheld in our fields: editorial independence, graphic excellence, and (hopefully) high sophistication. Because we three have always talked up to our readers rather than down to them, we have been blessed with an incredibly loyal following.

Together, these three magazines represent all the design professions that are engaged in the shaping of our environment—from the lettering on a throw-away package (in a trash can, of course), to the design of cities. Our readers—that is, you—are interior designers and landscape architects, skyscraper architects and graphics specialists, city planners and lighting experts, urbanologists and industrial designers. And much more. There are close to 100,000 of you, and you represent quite a constituency—a powerful force for the creation of a new, more humane environment.

Our three magazines, now, at long last, working together, plan to be the "Voice of Design" in America—and in those many parts of the world to which our separate voices have already penetrated. The "Voice of Design"—your voice—will be impossible to ignore; and so we ask you to continue to give us your loyalty, your best ideas, your finest achievements, and your ear.

Charles Whitney

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ENVIRONMENT

SOUNDING THE ALARM . . .

We all know, of course, that the *New York Times* is one of those "liberal Communist" rags that doesn't reflect the views of the silent majority; still, all of us like to peek into the pages of the radical press now and then. We took a chance a few weeks ago and found that the *Times* revealed something that even its own editors may not have quite noticed: an enormously accelerated concern, all over the U.S. and the world, about the quality of our environment.

It was really amazing: on the front page that day (November

30, 1969) there appeared a four-column wide story headlined "Environment May Eclipse Vietnam As College Issue," and the story was run over into many more columns in the back of the paper. The article, by Gladwin Hill, reported that "rising concern about the 'environmental crisis' is sweeping the nation's campuses with an intensity that may be on its way to eclipsing student discontent over the war in Vietnam."

On page five there was a report from Kingston, Jamaica, on family planning; next, there was a report on a newly proposed air pollution code for Pittsburgh; next, a report on rapid transit in Chicago, another on a riverfront

improvement project in East St. Louis, Ill., another on a revamping of air routes into and out of New York, and still other reports on parking problems in Paris, a proposed transcontinental auto race to stimulate the development of vehicles that cause less air pollution, and the use of chemicals to dispel fog.

The *Times* continued: on page 116, from Montreal, a report on noise pollution; on page 119, a story on more landmarks designations in New York City; on page 120, a story from Tacoma, Wash., on ways of cutting down air pollution through the use of very high smoke stacks; on page 122, a story from the Everglades, Fla., on how a herd of deer was dying off because of some ecological changes caused by a flood control program; and on page 123, a story from Ceylon about the rapid disappearance of elephants on the island because agricultural expansion meant cutting down more and more forests.

Meanwhile, back in the "Arts and Leisure" department, Ada Louise Huxtable had a long article about stepping back "from the political, social and economic crunch of the physical environment" and looking at higher environmental values. (The TV listings indicated that Channel 13, that night, was broadcasting "FOUL!", a collection of separate plays with the common theme—our "Pollution Crisis.") And finally, on its editorial page, the *Times* revealed that winter was just around the corner, and that the cold winds were about to rattle shutters. It all sounded very poetic—until we stepped out into the street and got a whiff of those winds, and a nail-sized cinder in one eye.

Just as the Vice-President says: the *Times* is just plain out of touch with all of us in that fumigated, cinderized silent majority.

. . . AND THE WORD SPREADS

As it was pointed out in the *Times* (see above), student activists have indeed responded to the urgency of the environmental crisis.

Pennfield Jensen, an activist from San Francisco State College, recently told a rap session at a UNESCO conference on the environment: "We will stop the destruction of this planet even at the cost of our futures, careers, and blood."

But when, in response to this

pledge, Arthur Godfrey stood up and drawled, "I would feel better if the President's distinguished science adviser had said it," one sensed that the message was sifting through. (The President's distinguished science adviser had keynoted the conference on a less dramatic note.)

Shirley Temple Black, a member of the U.S. delegation to the U.N., is another unexpected convert to the ecosystem. Delivering what she called "a layman's tale of oxygen" to a U.N. committee, she touched on photosynthesis, ocean plant life, and summed up with her own definition of ecology, in words that were meaningful for her: "One cannot pluck a flower," she said, "without disturbing a star."

One house builder, who advertises in the *Washington Post*, has his ear to the ground, as well: "Ecology," reads his ad, "New in-word. . . Delicate balance between Man and Nature. Contemporary homes, architect-designed and sited to respect (even enhance) natural land contours, to rub elbows with old trees. . . . See our ecology this weekend. Six designs, priced from the lower fifties." The ad ends with instructions on which freeways to take to get there.

SQUAT-INS

ROCKY'S 125TH STREET WAR

The excavation pit for the on-again, off-again Harlem State Office Building has been dug, but the site is deserted and still. The loaded question—what kind of building, if any, will rise there—is still up in the air. A State Office Building (SOB as it is called by Harlemites), was proposed by Rockefeller in 1966, its model was unveiled in 1968 and its site was the scene of a three-month "squat-in" by locals last fall (above).

This embattled project has been nicknamed by some "Rockefeller's Viet Nam." Opponents of the project have characterized its supporters as "lying lawyers, greedy businessmen, pork chop preachers, and opportunistic politicians." SOB's supporters seem a good deal less vocal. In between are black advocate planning groups like ARCH (Architects' Renewal Committee in Harlem) which in October announced three proposals to incorporate low-cost



housing, schools, and a variety of commercial and cultural facilities into the block-square site.

Alarmed at the fracas, Rockefeller last month summoned into battle his Urban Development Corporation chief, Ed Logue, who knows a confrontation when he sees one. Just three days before hundreds of Harlem organizations mobilized to try to vote SOB out of business, Logue revealed UDC's preferences for the land use: "A service center that would include hundreds of units of housing, a wide variety of community services and commercial spaces"—and the SOB.

"It sounded a bit familiar, and so Harlem pulled out the vote anyway, preceded by a free-for-all two-day town meeting where all sorts of proposals were aired, including the idea of "an African-American-West Indian department store" for the block. Finally, on December 15, black delegates voted 178 to 55 against the SOB and 167 to 20 against Logue's compromise. A proposal to form a Harlem co-op to take over the block is now gaining ground.

Still trying to make peace, Rockefeller suggested that "no one can realistically expect that Harlem, a community larger than some states in our nation, will speak with a single voice." The Governor seemed to think that Harlem should be grateful for any skyscraper it could get. Ignoring some of the noisy opposition, Rocky seemed ready to negotiate with any black "silent majority" he might find.

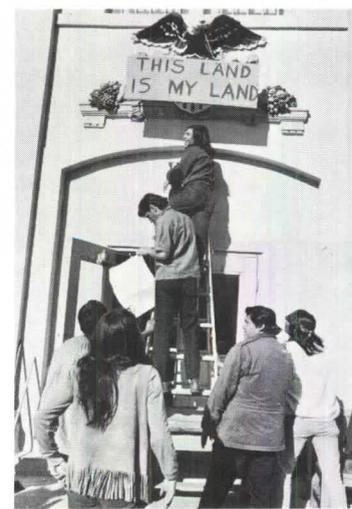
RED POWER POWWOW

The first SOS flashing a warning that redmen were taking over white man's territory on November 20 (right) was signaled by the only man left on Alcatraz, care-

taker John Hart—"Mayday, Mayday, the Indians have landed." In a three-wave midnight invasion, 80 Indians, bearing bedrolls and potato salad, boated through the San Francisco fog to claim squatters' rights to the prison island that many consider the city's most troublesome architectural albatross. The invaders have remained there ever since.

"As bad as Alcatraz is, it's better than many of our reservations," say its predominantly young captors, many of whom are college students. Washington Bureau of Indian Affairs statistics tell it all: "unemployment 40 per cent . . . ten times the national average . . . annual income \$1,500 . . . 75 per cent below the country's average . . . infant mortality rate . . . twice as high as other Americans . . . average life expectancy 44 . . . for the rest of our citizens it is 65."

Alcatraz has been suggested as a site for a huge Buddha, for "a pillar of light," for a United Nations college, and for a statue of St. Francis "with a bridge and thruway running under and through him." Just



last summer, San Francisco's Board of Supervisors voted (6 to 5) for Texan Lamar Hunt's \$6-million brain wave (Nov. '69 issue, page 87).

Since the November landing, the Indian population on the island has grown to 200, with 400 to 700 more, drawn from a dozen tribes, arriving for weekend powwows. (Says Sioux Lehman Brightman, a Berkeley teacher, "It's the best thing that has happened to Indian unity since Custer's last stand.")

So far, there has been a lot of governmental buckpassing and few white powwows. Hickel refuses to go to "The Rock" and GSA, which (as it were) owns the facility, says only Congress can unseat the squatters.

Meanwhile on the island, named *Isla de los Alcatrazes* (Island of the Pelicans) in 1775, tribes are setting up housekeeping as best they can. They have appointed a "president," a 27-year-old Mohawk ex-bridge-worker, now attending San Francisco State College, and have put up a flag . . . blue with a red teepee under a broken peace pipe. Children are playing in exercise yards, a classroom has been set up in Al Capone's old cell, bead work is going on in the chapel, and fishermen are pulling a good catch of red snapper from the Bay. And the Army Corps of Engineers has eased the water problem by bringing in 150,000 gallons.

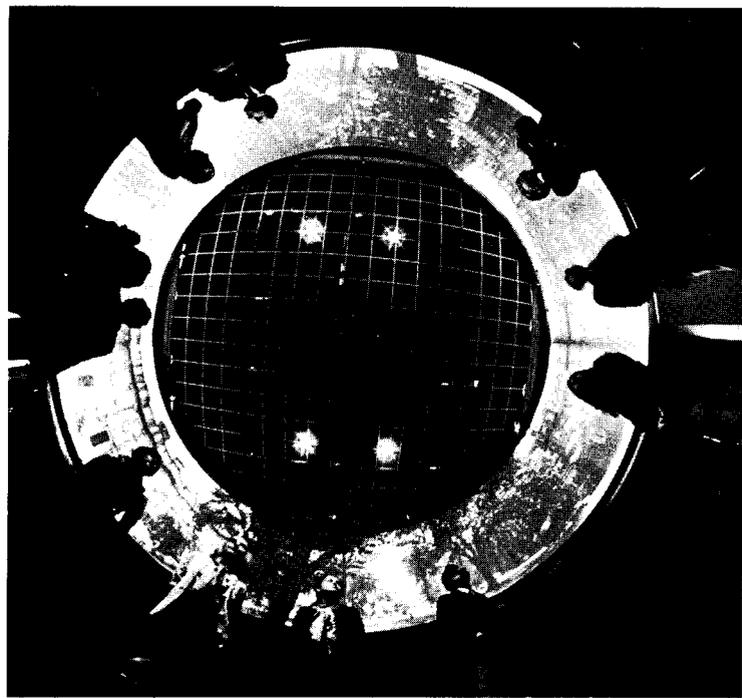
Off-island sympathizers are sending over food, clothing, bedrolls, even washtubs. (Balloonists tried a "tortilla drop," but missed.) But no words of encouragement from the white fathers.

MUSEUMS

URBANISM AS AN ART

The Boston Museum of Fine Arts kicked off its 100th-anniversary celebration with a new kind of exhibition about its own urban environment. "Back Bay Boston: The City as a Work of Art," organized by William Alex, was on display from November 2 to January 11.

Billed as "both a tribute and a timely warning," the show took up every art form from ladies' fashions to city planning—past and present—as part of an interwoven process. A variety of exhibition techniques was used. In one area portraits of Back



Bay art patrons were shown, with photographs of the houses they lived in and works they contributed to the museum. In another area, the art of urban design was illustrated with a narrated program of 360-degree, seamless projections (above) surrounding the viewers.

Probably no urban area in the country is better suited to be shown as a large-scale art work than Back Bay. It is entirely a work of man—starting with the soil it is built on, which was dumped into a tidal backwater between 1850 and 1890. As a precise grid of tree-lined streets stretched across its 450 acres of landfill, most of Boston's art patrons moved in. Their houses were generally conservative on the exterior, conforming to farsighted restrictions on land use, cornice height, etc. But they were rich on the interior, and filled with collections of Far Eastern art, Greek antiques, and Impressionist paintings.

Back Bay patrons also encouraged native talent. Trinity Church was the commission that established Henry Hobson Richardson's reputation in 1877, and the magnificent Public Library facing it across Copley Square did the same for McKim, Mead & White a decade later. Back Bay patronage also supported painters and sculptors such as Sargent, LaFarge, and Saint-Gaudens. And Planner-Landscape Architect Olmsted's greatest achievement may have been the system of parks he designed

stretching from Back Bay to the outer suburbs.

Today, Back Bay is still providing major commissions for architects and planners such as Philip Johnson, Paul Rudolph, Sasaki-Dawson-DeMay Associates, and I. M. Pei & Associates. Their projects—several now under construction—were handsomely shown, but the viewer was left largely on his own to decide whether all of these presentations were “tributes,” or whether some of them were “warnings.”

ART ON WHEELS

Culture is cruising along roads in the Midwest in a new “tasteful and dignified” form this winter. Illinois' first “Art Resources Traveler,” a prototype mini-museum on wheels, is pulling in art fanciers from every generation (\$6,000 to date) as it rolls



into villages and towns for week-long, free-admission stands. Initiated by the state's Superintendent of Public Instruction, Ray Page, and programmed by Kenneth Englund, this mobile showcase is basically a 10 by 40 ft.

trailer mounted on a truck chassis with a “cushion air ride” suspension system. Illinois' sleek gallery has been carefully designed without the ribbed surfaces normally associated with trailers and therefore succeeds in sharing “little visual identification with trucks, moving vans or mobile homes.” Simple identifying graphics are mounted on the outside. Inside the carpeted, thermally controlled space (left), art ranging from Egyptian pottery to Rauschenberg Pop is arranged against walls covered with seamless vinyl.

Loaned by the Chicago Art Institute, state museums, and city galleries, the 15 or so objects worked into a show are changed every six months. Sophisticated interior trimmings include audiovisual equipment—tape decks and slide projectors used as teaching aids—as well as light dimmers and a burglar alarm system. This little museum, billed as “the most advanced mobile educational facility ever built” is in itself a rolling lesson in good design.

LANDMARKS

COMPROMISE ON THE CAPITOL

As architecture critic Wolf Von Eckardt recently reported, the newly issued “National Register of Historic Places 1969” is guilty of some astonishing omissions. Left off its list (produced under the National Historic Preservation Act of 1966) of great buildings not to be tampered with is the United States Capitol—to Von Eckardt “the nation's foremost historic building.” Why? Because House Speaker John McCormack and House Minority Leader Gerald Ford, who head the Commission for the Extension of the Capitol, refused to pass the Preservation Act of 1966 if the Capitol was on the “don't touch” list.

Ford and McCormack, eager to spend \$45 million to extend the Capitol by no less than 4.6 acres (Nov. '69 issue, page 88; Dec. '69, page 24) and bury the building's oldest portion, couldn't avert the Capitol compromise reached December 9, 1969. On that date, both House and Senate voted \$250,000 for a restoration study to be completed in six months by an architectural firm that has no connection whatsoever with the Office of the

“Architect” of the Capitol, J. George Stewart.

\$25,000 was also authorized that day to be spent immediately to shore up the already deteriorating West Front walls. Only should the restoration study find that restoration is *not* feasible, may the \$2 million already authorized to pay for expansion studies be touched.

DALEY'S DILEMMA

The worst rumor from the Windy City at year's end is that the old Stock Exchange, designed by Louis Sullivan and Dankmar Adler in 1894, is about to be razed. During 1969, real estate developers Edward W. Ross and Jerrold Wexler quietly bought the 13-story landmark, with its majestically arched entryway and



strong rows of bay windows (above), and announced that they would put up something “large, high, and more profitable in its place”—starting, probably, sometime this year.

Ross, who says frankly “I like new buildings,” suggests the old Stock Exchange “is no gem,” but not everyone in town is agreeing. Cries of “barbarism” and “cultural vandalism” are in the air, but the question is really if Mayor Daley and his City Council are listening.

The Stock Exchange made design history before it was even up. It was the first building in Chicago to use “caisson foundations,” now standard procedure for all skyscrapers. Since its opening day on April 30, 1894, when

(continued on page 90)



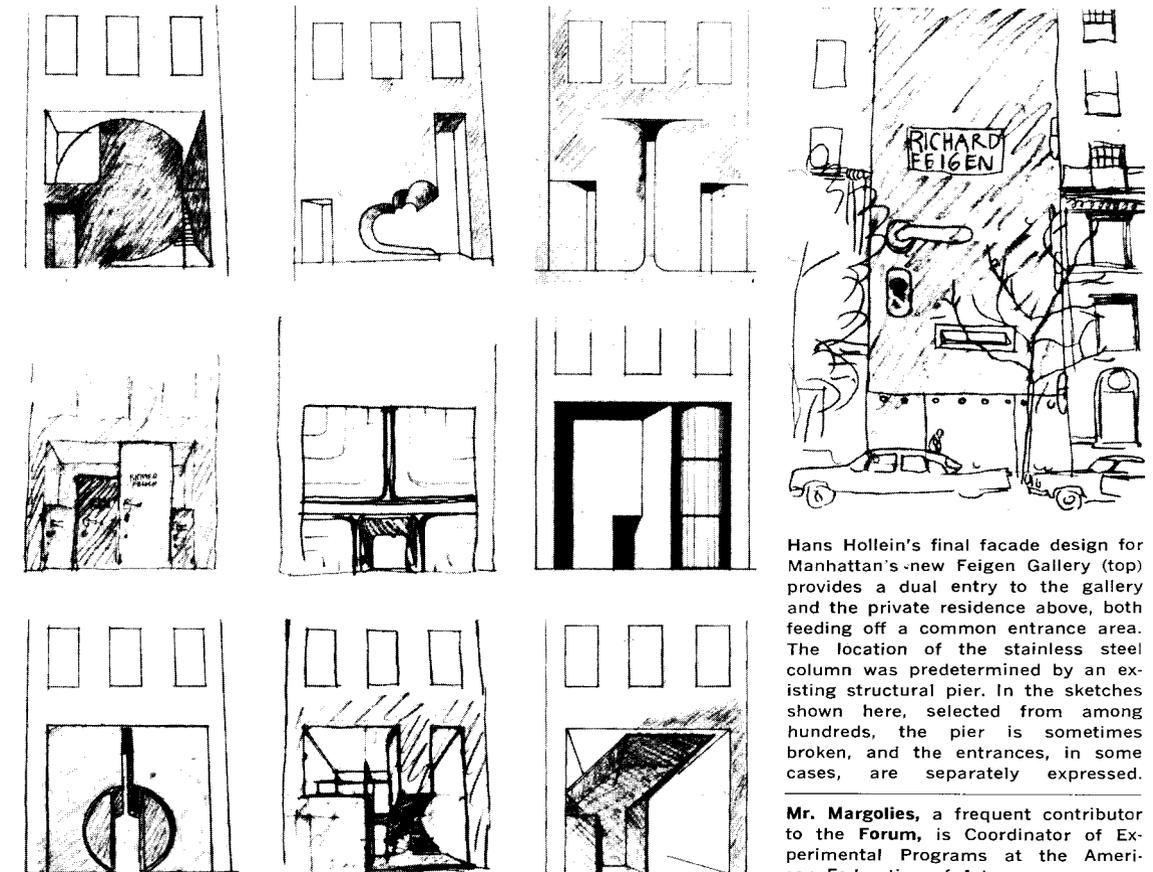
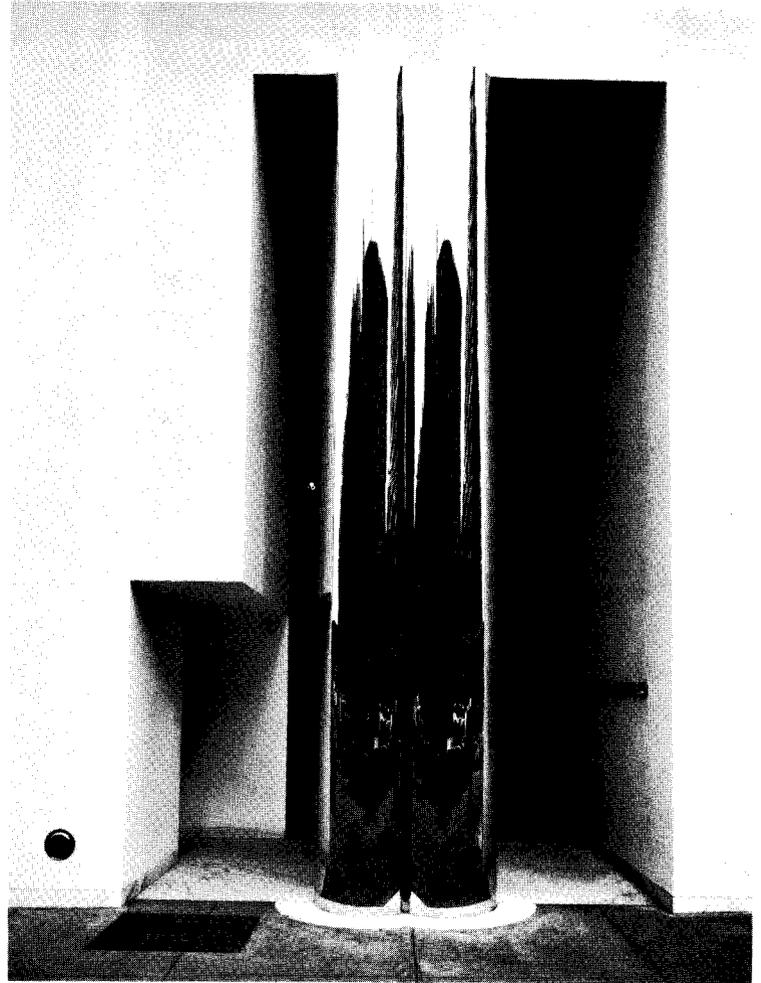
ART MACHINE FOR THE 70'S

BY JOHN S. MARGOLIES

"I want to use materials which fit in with our century. The whole mood in the gallery should say 'I'm living in 1970' and not some other period," comments Austrian architect Hans Hollein about his first commission in the United States.

The Feigen Gallery at 27 East 79th Street in the heart of Manhattan's uptown art scene, is a carefully calculated "machine" for the display of almost any type of art. This machine is given an opulent expression by the use of such building materials as cool-veined white Alabama marble, stainless steel, and rich-textured and bright-colored surfaces executed with great precision and exquisite detailing. The design is a *tour de force* in its play of curvilinear and rectilinear elements and in the sequential development of elegant spaces.

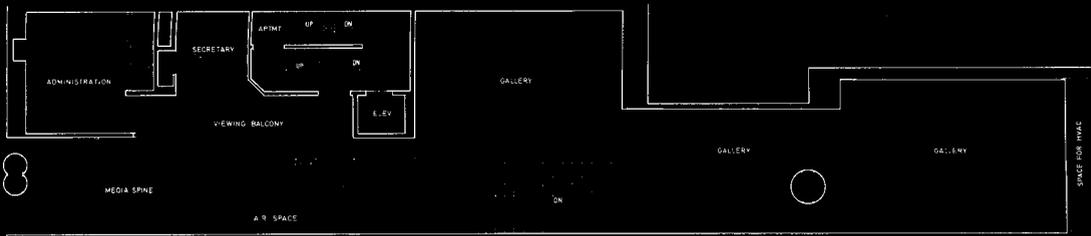
The gallery clearly suggests that here is a sumptuous place for people to buy precious art objects. A gleaming 18-ft.-high "exploded" stainless steel twin column, reaching invitingly onto the sidewalk and reflecting its neighborhood environment of turn-of-the-century townhouses and highrise apartment buildings, is the first element in the



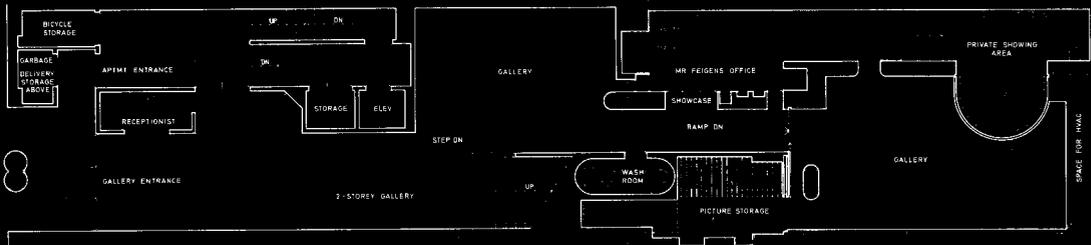
Hans Hollein's final facade design for Manhattan's new Feigen Gallery (top) provides a dual entry to the gallery and the private residence above, both feeding off a common entrance area. The location of the stainless steel column was predetermined by an existing structural pier. In the sketches shown here, selected from among hundreds, the pier is sometimes broken, and the entrances, in some cases, are separately expressed.

Mr. Margolies, a frequent contributor to the *Forum*, is Coordinator of Experimental Programs at the American Federation of Arts.

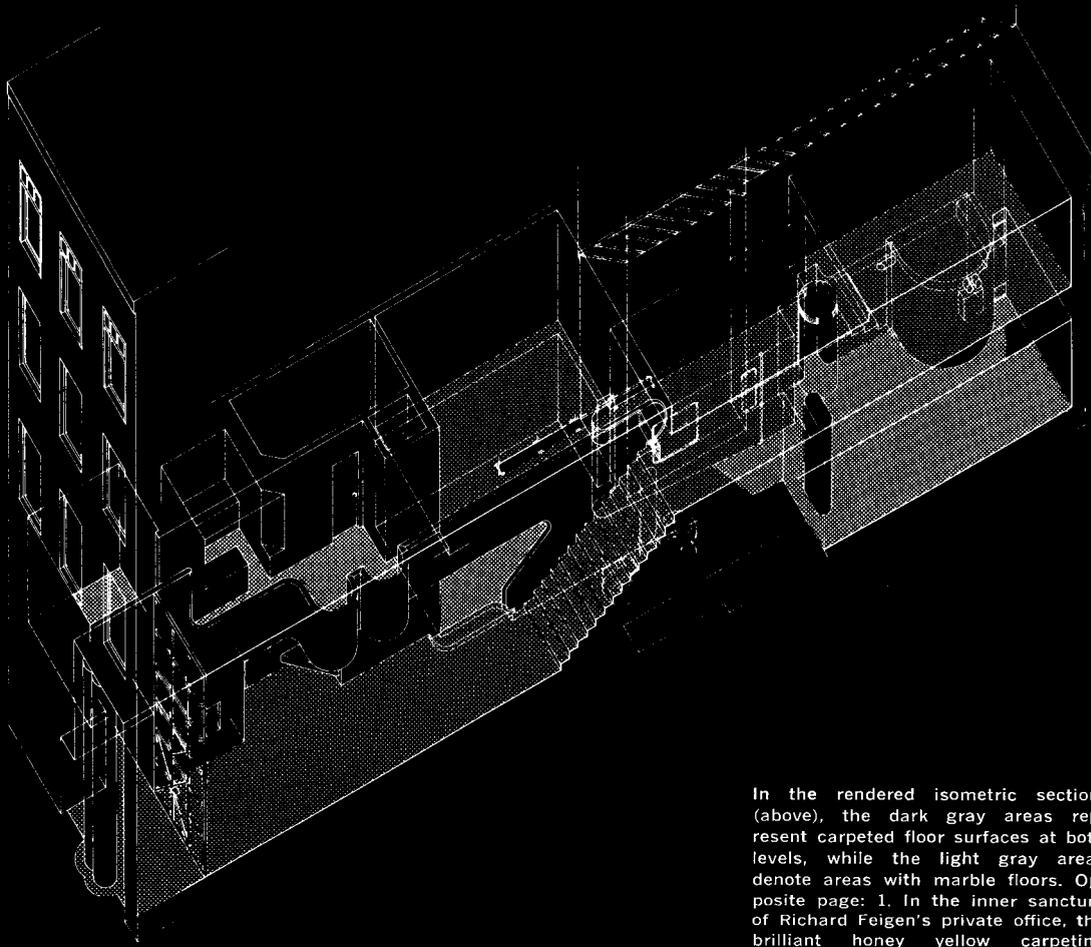




2ND FLOOR



1ST FLOOR



In the rendered isometric section, (above), the dark gray areas represent carpeted floor surfaces at both levels, while the light gray areas denote areas with marble floors. Opposite page: 1. In the inner sanctum of Richard Feigen's private office, the brilliant honey yellow carpeting clashes openly with the shocking pink velvet of a recessed semicircular couch in the private viewing area. The other three photographs show the sequential development of successively more sumptuous public spaces on the first floor: 2. The neutral, double-level, marble-floored area for display of contemporary art. 3. The transitional gallery introduces carpeting while retaining the white plaster walls. 4. The final, most lavish gallery has tea-colored shantung walls and a luminous ceiling continuing along the stainless steel passageway wall to the transitional gallery.

process of entering and experiencing the gallery. "People," explains Hollein, "are supposed to be surprised by the column, look at it, walk into this open space, see the gallery and be drawn in the door." The proportions of the facade and the entrance are monumental in relation to the spaces of the interior. The double-level gallery area with its grand staircase strangely expresses a ceremonial purpose.

A courageous client

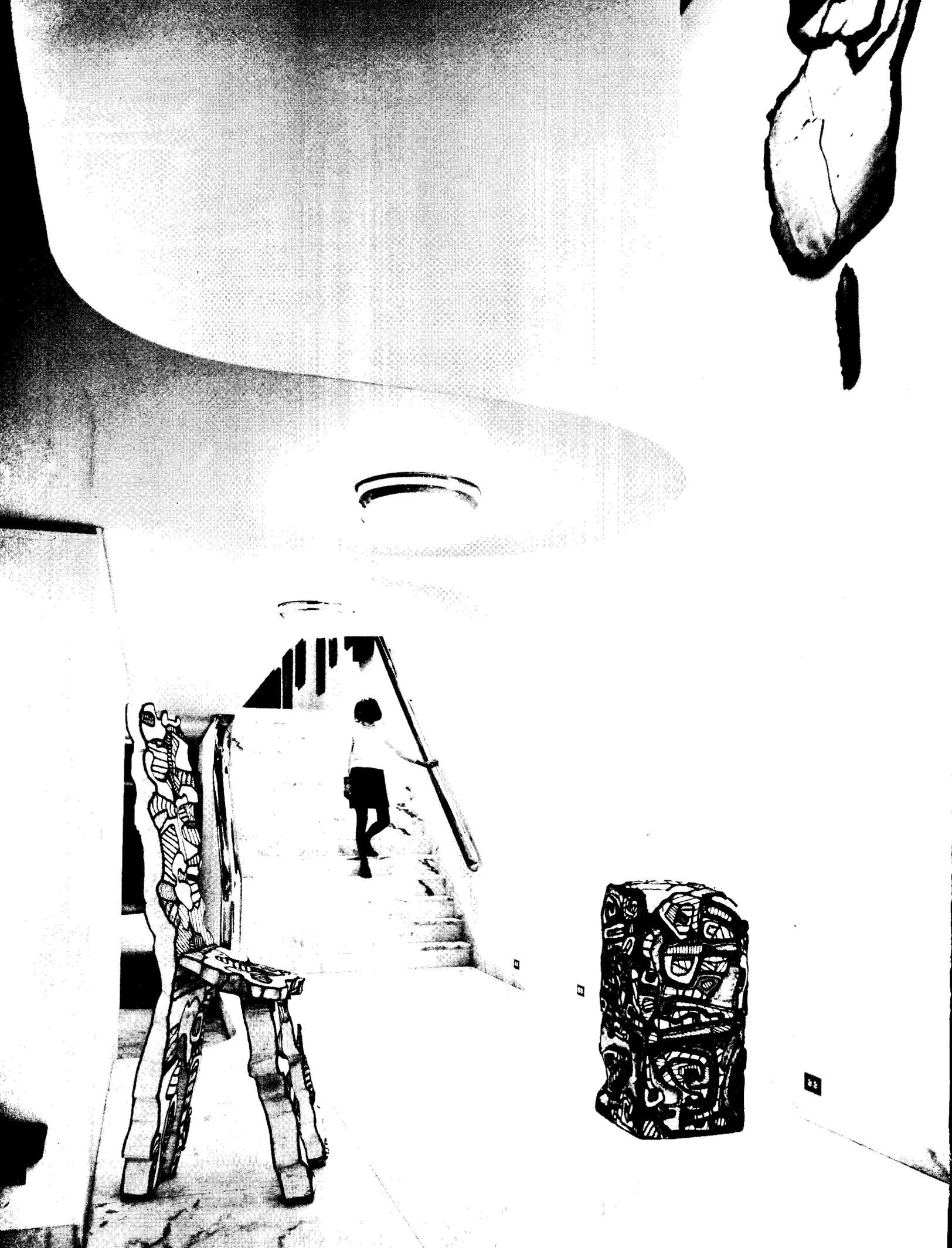
Symbolic elegance was a major function in this brazenly theatrical design for Richard Feigen, a courageous and far-sighted art dealer who is surely becoming a democratic Duveen-to-be of the '70s and '80s. The existence and purpose of this plush, marble art palace becomes clearer when one realizes that Feigen has another branch of his gallery operation in the artists' loft section of lower Manhattan. This rough, clear-space building provides him with a place where experimental and non-object oriented artistic activity can "happen"—as well as substantial space for open storage. By building the new gallery, Feigen is, in effect, having his cake and eating it too.

Unlike the conservative and exclusive art moguls of the past who isolated their operations from public view, Feigen chose to make his a walk-in space, an inviting element of the streetscape—devoting the lower two floors of this old townhouse to the gallery and using the upper three floors as his private residence. Hollein's facade design sensitively expresses this dual function, with the residence entrance suppressed to one side, and yet feeding off the same area as the more conspicuous gallery entrance.

Restrictions on design

As in Hollein's other completed building projects such as the Retti Candle Shop in Vienna (June '66 issue), he was faced with a constricting, unsympathetic space within an older building. "It's too narrow," says Hollein. "If you asked me for the ideal gallery space, I wouldn't say it should be 22 ft. wide by 100 ft. deep by 18 ft. high!" Further complicating the situation was a given structure of a brick bearing wall, bearing piers, a staircase and an elevator shaft.

Commenting on such severe



limitations, Hollein admits that "of course I would be glad to have a building on an empty meadow where I could just start off without any restrictions. But on the other hand, at this scale or at a larger scale—especially a city scale—I think we are always working within certain limitations. We are constantly restructuring and transforming an existing situation. . . ."

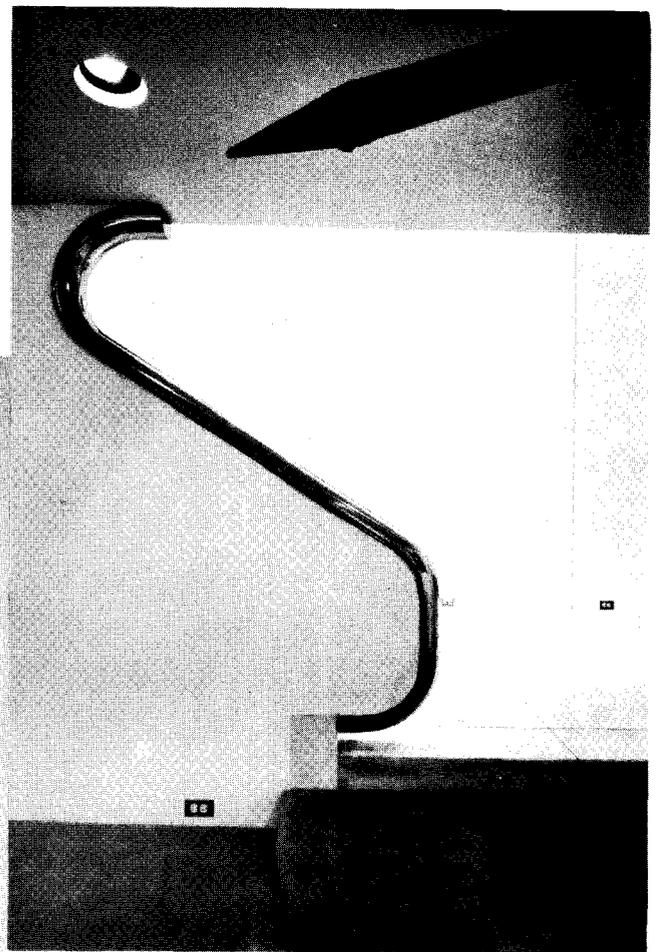
The gallery as an instrument

Hans Hollein has designed this gallery as an "instrument"—a spatial instrument where exhibitions can be installed as an experience; and, at the request of the client, as an electronic instrument of staggering flexibility. The major unifying element of the electronics and other equipment is the so-called "media spine," made of four stock aluminum angles bolted together, and openly expressed as it runs along the ceiling of the high space from the top of the stairs forward to the glass front.

The following systems and equipment are incorporated into the media spine, and can be plugged in—or unplugged—as needed: a permanently installed fluorescent light strip running the full length of the spine; incandescent lighting; various attachments and brackets for quartz lights and theater lights; brackets for hanging art objects; a closed-circuit television system and ultrasonic alarm devices for purposes of security; and loudspeakers, part of a sound system for the entire gallery (speakers are elsewhere concealed in column casings, with the sound system controlled from Feigen's private office).

The lighting system for other areas is also quite elaborate, although not quite as flexible as along the media spine. Swivel spots, light tracks, recessed, fixed wall washers and continuous runs of electrical outlets abound. Almost every light in the gallery is on a dimmer.

The air conditioning system is openly expressed, as it has been in all of Hollein's buildings, because he feels that "those things which help make our environment shouldn't be hidden." Gleaming stainless steel diffuser pipes (cut off at an angle and painted brilliant red on interior surfaces) pop out of various walls and ceilings. Still others are concealed in column casings. The only conventional grille is on the back wall of the second floor



At left, "tenement kitchen" fixtures light the areas under the twin overhangs of the balcony in the grand, double-level, marble-floored entrance gallery. Above is the "hatch" door to the stainless steel capsule bathroom. At right, the juncture between the neutral and intimate gallery areas is strongly expressed by a step down from hard, cool marble to the soft, warmly colored carpet. Looking back, top right, this transition is strengthened by an "S-curve" expression of the stainless steel railing form, shown here in a curious juxtaposition with a suspended Claes Oldenberg pencil.

gallery, in an opening which Hollein planned to cover with a Rolls Royce radiator grille. This was eventually vetoed by the client, who didn't care for the connotations of such a "symbol."

Spatial sequence

The spatial organization is a carefully structured sequence of experiences from the more neutral, most-public spaces to softer, more intimate areas. This organization was achieved by tactile, multisensory transformations denoting different uses of space—changes in color, texture and at least 15 changes in floor level and/or ceiling height. "The gallery is meant to be a very active space," explains Hollein, "and the movement of people is an important part of the design."

The major unifying element in the design—Hollein calls it the "macro-element"—is the east wall, a straightened sweep of smooth white plaster running in a continuous plane through the level changes in the 100-ft. depth of the gallery. The spectator entering the gallery can look along the wall from the two-story section at the entrance, up the stairs, to the farthest extension of the upper galleries. The cool, white spaces encompassed in this line of sight are considered as the "neutral" area for the display of contemporary art.

The balcony has two semicircular overhangs which can specifically be used as areas for viewing: huge paintings hung on the upper part of the east wall; valuable works which shouldn't be touched; or contemporary works which require a fixed relationship to the spectator. The configuration of the balcony was influenced by an existing elevator shaft which prevented the space from being completely gutted, and which, at the lower level, along with a bearing wall, narrowed the gallery entrance.

At the foot of the marble stairway the gallery visitor can decide either to remain in the neutral areas by going up to the second level; or to enter the more intimate areas developed to the left and intended for the display of smaller objects and old masters. The difference in function is expressed by a transition from hard to soft, the descent from solid white marble to soft honey-yellow carpet; and by the compression of ceiling height from the soaring two-story space to the 8-ft. ceil-

ing of the transitional gallery.

From the transitional gallery to the rear ground-floor gallery, the plush carpet continues as the unifying element in a play of successively more intimate and luxurious spaces. A low ramp passageway marks the introduction of two "rich" elements: a matte-finished brushed stainless steel wall with recessed display cases for tiny objects; and a marvelous luminous ceiling—a plastic, mirror-coated hexagonal-parabolic grid which reads as a subtle, softly-lit solid surface when viewed on a bias.

In the final rear gallery, intended specifically for the old masters, the east wall and rear wall are covered in a tea-colored shantung. A sliding door allows this gallery to be closed off without affecting the overall circulation pattern.

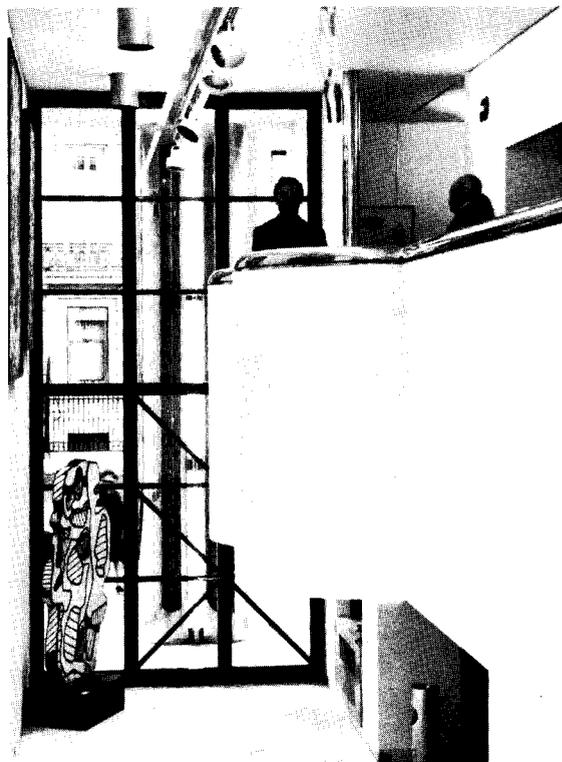
The most remote inner sanctum is Richard Feigen's private office—a dramatic, narrow, 13- to 15-ft.-high skylighted space. At one end is a desk and office area. At the other end is a shocking pink velvet semicircular couch in the private showing area—a couch that surely would fit right into the decor of any Las Vegas night club. Hollein intended that this area create a "relaxed, a little seductive, slightly erotic atmosphere."

On the second floor are three additional marble-floored rectangular galleries, each of a different size and different ceiling height. The semiprivate administration spaces for the gallery director and secretary, and the passageway along the balcony leading to them, are deliberately separated by a single step upward to a blue-carpeted floor.

The Flash Gordon bathroom

What is perhaps the most sensational detail and greatest joy in all of the gallery is the bathroom, entered by stepping over the threshold of a "hatch" door off of the first floor ramp area. Flash Gordon, Buck Rogers and maybe even Neil Armstrong would feel right at home in this brushed stainless steel capsule with black tile floor, stainless steel sink, small rectangular mirror over the sink (punched through and beyond the capsule enclosure), wall-hung black toilet, and luminous ceiling sloping downward at the end under the stair. "Why shouldn't the john be a nice place to be?" asks

(continued on page 98)



At top, the "media spine" which serves as an organizing element for the gallery's elaborate array of electronic systems, runs along the ceiling aligned on axis with the bronze and solar glass front. The fluorescent light strip along the spine is repeated on the backside of the facade column to light the entrance area at night. Above and to the right are two views of the sweeping, semicircular polished stainless steel handrail, a major unifying element in Hollein's design. At far right, the three upstairs contemporary galleries, each with a different ceiling height, are easily discernible.





SMALL TARGET AREAS.



LOCATION.



SIZE BASED ON POPULATION.



COMMUNITY TERRITORY.



SMALL SERVICES WITHOUT RED TAPE.



EXPANSION.



ENTRANCE LOCATIONS.



PARKING.



ARENA THOROUGHFARE.



OPEN TO STREET.



ARENA ENCLOSURE.



LOCKED AND UNLOCKED ZONES.



ALL SERVICES OFF ARENA.



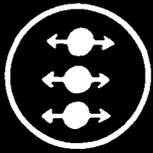
FREE WAITING.



OVERVIEW OF SERVICES.



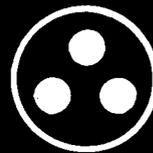
NECKLACE OF COMMUNITY PROJECTS.



COMMUNITY PROJECTS TWO SIDED.



WINDOWS OVERLOOKING LIFE.



CORE SERVICE ADJACENCIES.



ACTIVITY POCKETS.



SELF SERVICE.



PEDESTRIAN DENSITY IN PUBLIC PLACES.



ENTRANCE SHAPE.



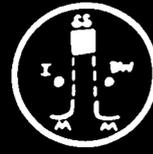
SUBCOMMITTEE WATCHDOGS.



BUILDING STEPPED BACK FROM ARENA.



VERTICAL CIRCULATION IN SERVICES.



SELF SERVICE PROGRESSION.



THE INTAKE PROCESS.



OUTDOOR SEATS.



CEILING HEIGHTS.



SHORT CORRIDORS.



CHILD-CARE POSITION.



SERVICE LAYOUT.



STREET NICHES.



INFORMATION CONVERSATION.



DISH-SHAPED ARENA.



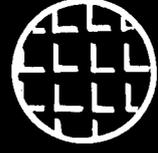
DIRECTOR'S OVERVIEW.



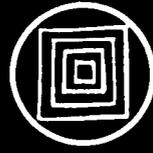
COMMUNITY WALL.



ARENA DIAMETER.



OFFICE FLEXIBILITY.



TOWN MEETING.



SLEEPING OK.



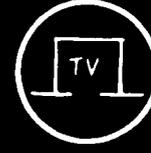
WAITING DIVERSIONS.



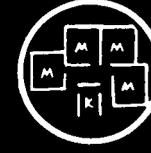
ELEVATOR RAMP.



BLOCK WORKER LAYOUT.



RADIO/TV STATION.



MEETING ROOMS CLUSTERED.



BARBERSHOP POLITICS.



STAFF LOUNGE.



INTERVIEW BOOTHS.



STAIR SEATS.



WINDOW SIGNS.



FORM FILLING TABLES.



ACCESSIBLE BATHROOMS.



SECRETARY'S WORKSPACE.



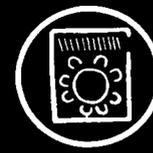
INFORMAL RECEPTION.



SEATS OUTSIDE MEETING ROOMS.



CHILD CARE CONTENTS.



SQUARE SEMINAR ROOMS.



SELF SERVICE CONTENTS.



ARENA STORAGE.



WINDOW HEIGHT IN MEETING ROOMS.



POOLS OF LIGHT.



WARM COLORS.

PATTERN LANGUAGE

The contribution of Christopher Alexander's Center for Environmental Structure to the science of design

BY ROGER MONTGOMERY

The worldwide movement to give design a rational basis belongs in large part to Christopher Alexander. When his *Notes on the Synthesis of Form* exploded into our consciousness, the movement gained a rallying point—its first manifesto. Since then, in a series of shorter publications, among them his greatly acclaimed FORUM article "A City is not a Tree" (April and May '65 issues), he has continued to stimulate thought and give direction to architects and others working to modernize design methods and bring scientific rigor into their ancient craft.

Alexander and a team of associates in his Center for Environmental Structure have created the outlines of a universal design vocabulary and grammar. They call it *pattern language*. It represents a bold extension of the ideas contained in *Notes*. At the same time it signifies a surprising shift, almost a reversal, by emphasizing pre-designed component images and the combinatorial problems of making a design—rather than the decomposition of a problem into a program. Already, in the three years or so that it has been in development, the pattern language has proven effective in practice. At the same time its conceptual basis has been strengthened and enriched by further analysis.

What is a pattern language? Actually nothing mysterious or obstruse bars direct understanding and application of the pattern language. Put more simply, it means just what its name implies: a set of elements or component images called patterns, plus the rules for their combination into complete designs. Just as a verbal language is made up of words and grammatical rules for their combination into sentences, the pattern language is composed of physical or spatial elements and rules for their combination into patterns. Patterns in turn generate buildings and building groups much as sentences generate narratives.

The analogy between pattern language and word or verbal language serves well. Alexander points out that a finite set of words in the English language plus a finite set of grammatical

rules can, in the hands of a writer or a poet, produce an infinite number of sentences and poems. So it is with design. Given a finite set of patterns, an infinite set of possible man-made environments can be generated. This is what the pattern language seeks to do. In Alexander's own words: "Where an ordinary language is a system which generates one dimensional strings [of words] called sentences, a *pattern language* is a natural generalization of this idea to three dimensions."

Three-part patterns

Patterns are re-usable design ideas, the components from which man-made environments are formed. The language includes as well the rules for their combination, the grammar and syntax which governs their assembly into complete environments. Each pattern consists of an *if-then* statement plus a discussion of the problem and its solution. The if-then statement has the form of the "ensemble comprising [a] form and its context" which Alexander defined first in the *Notes*. For instance:

"IF (the context): Any office chiefly used to conduct interviews, THEN (the form):

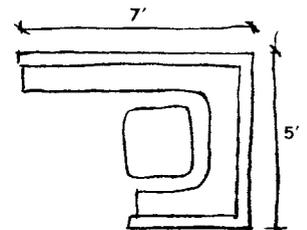
"1. The office is a booth, entirely enclosed, with a ceiling.

"2. The door to the booth is a bit wider than the usual office door; wide enough for two men to enter simultaneously.

"3. The booth contains a table, not a desk, that is either round or roughly square, and a continuous sofa-like seat wrapped around half of this table. The booth walls are immediately behind the seat. The seat is about 12 ft. long, and a part of it extends along the wall away from the table.

"4. The table is never more than 3½ ft. across.

"5. The floor of the booth to be carpeted."



A supporting discussion of the interview office problems is an integral part of the *pattern statement*. It deals at length with the various problems of the interview office, and with the social

Symbols (left) representing 64 patterns applicable to multiservice centers. These basic patterns were worked out by Christopher Alexander and CES members Sara Ishikawa and Murray Silverstein. Each one describes a relationship required to solve a problem that occurs in the design of such a center.

Mr. Montgomery is professor of urban design in the Department of Architecture and the Department of City and Regional Planning at the University of California, Berkeley. He is the West Coast correspondent for Forum.

research and other data on which a correct design solution must be based.

Note that each pattern always contains three distinct components. Each begins with a context or "if" statement that defines precisely the situation in which the pattern applies. Second, each contains the pattern itself, or the "then" statement. The pattern is a physical configuration, a spatially defined image, not a verbal or quantitative performance standard; and it usually requires both verbal and graphic indications to define it. Finally, each one contains the problem statement that gives the background for the pattern and the specific data on which it is based. The "if" statement and the problem discussion make the pattern open to criticism, modification and continual reassessment. The importance of these three fundamental aspects of patterns, which give them a certain formal rigor, stands out sharply in the experience which has been built up in using them, as well as in the intensive theoretical effort carried out over the last few years at the Center for Environmental Structure, CES.

Trying out patterns

The Center, in fact, was established expressly "to develop, and implement, a pattern language." The Center's articles of incorporation state that both the theory of patterns and their content "will be subject to continuous review, change, and improvement . . .;" and that "the Center will actively seek projects which concern themselves with the testing, communication, implementation, and criticism of pattern ideas."

Thus far the Center has taken on three major projects. Also, several of the staff have worked on patterns with groups of architecture graduate students. In their first major pattern language project, the Center acted as consultant to Urban America and Architect Kenneth Simmons who directed the UA Hunts Point office in the Bronx during 1967 and 1968. This association resulted in a publication on patterns reviewed below. A second opportunity to develop and test patterns in practice came about a year ago when the San Francisco office of Skidmore, Owings & Merrill retained the Center for Environmental Structure to

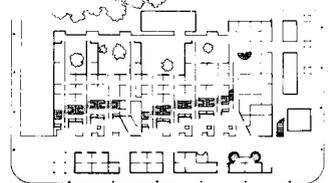
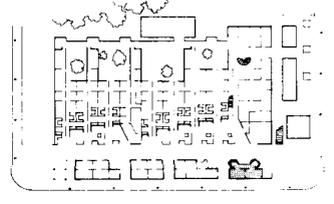
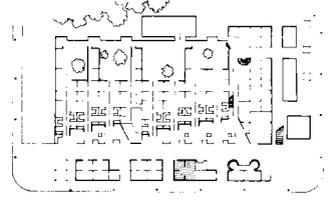
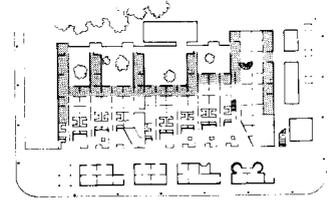
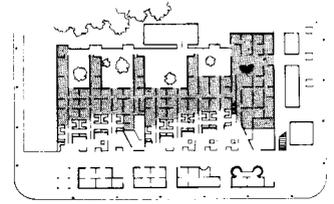
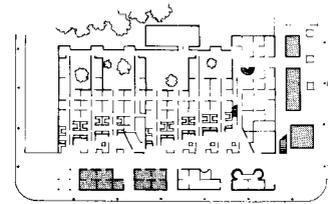
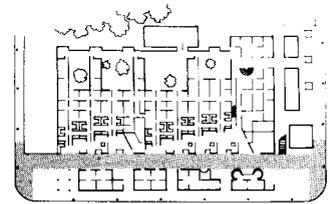
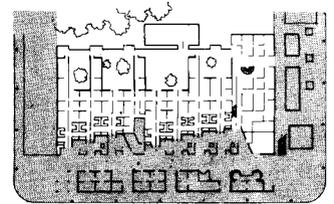
work with them on a newfangled educational research facility in Southern California. The most recent and most ambitious project came in the form of an invited design competition for a low-income residential district in Lima, Peru.

The multiservice center

At Hunts Point, Simmons and his staff were called upon to design an unprecedented social service facility which would bring together activities never before carried on together under the same roof. The Hunts Point Multi-service Center was to be a pilot scheme. The agreement with the New York City Human Resources Administration, which had put up the money, included developing general planning policy for such facilities. Simmons brought in the Center for Environmental Structure as a third party to the contract between HRA and Urban America. CES in turn brought in the Berkeley architects Hirshen and Van der Ryn, and, as New York associates, Gruzen & Partners.

During the winter of 1967-68 Alexander and Center members Sara Ishikawa and Murray Silverstein, hammered out 64 basic patterns applicable to multi-service centers, developed some outlines for combining them into complete designs, and generated preliminary schemes for eight centers including one on the site selected by the Hunts Point group. Concurrently with this effort, Simmons began putting together the application for federal financing under the HUD 702 Neighborhood Centers Program. The actual design developed by Simmons for submission with the application incorporates many of the patterns; others had to be abandoned because Simmons felt they posed operating difficulties, or ran counter to the expressed community preferences. Others were vetoed by one or another of the government agencies. But the pattern ideas were important in managing this unprecedented project. Simmons called them "the grains around which the building accreted."

Unfortunately the Hunts Point Center has yet to get underway. Local problems and federal red tape have effectively stalled it. But in another sense the project has already paid off handsomely. It provided the proving ground for assembling



Plan diagrams (near right) show how eight of the 64 patterns that generated the design of the multiservice center (opposite) were incorporated into the building. The corresponding pattern statements (opposite) have been drastically edited for publication; the original statements, with full argument and substantiating evidence, would have been far too long to present here. Incorporation of the other 56 patterns was carried out in a similar way. The design is the work of Eric Adlercreutz, a graduate student at the University of California at Berkeley under Ron Walkey, lecturer in the Department of Architecture and member of the CES staff. Photographs: Jeremiah O. Bragstad.



Community territory. The multiservice center has two main parts: an area devoted to the services themselves, and an area called community territory which contains an arena for public meetings and discussion, and space for community projects. The community territory is yours—it belongs to you—you can be there when you want, and do what you want.



Arena thoroughfare. The arena is placed to form a shortcut through the building; its surface is the same as that of the surrounding sidewalks, the entrances are large and inviting, and, along the shortcut itself, there are various things to do, so that you feel free to drift in and linger there.



Necklace of community projects. The outside of the building is surrounded by a continuous chain of community projects, broken only by the entrances to the building, so that the people who live nearby don't feel that the neighborhood is violated by a bureaucratic monster, and everyone who comes in contact with the building sees, from the very outset, that it is run and owned by the community.



Office flexibility. The office area contains a large number of small, interconnecting offices, so that as your work groups change, you can easily create new groupings of work space.



Windows overlooking life. Each office has windows looking onto some kind of life, as different as possible from the life inside—a chance to refresh your thoughts as you work.



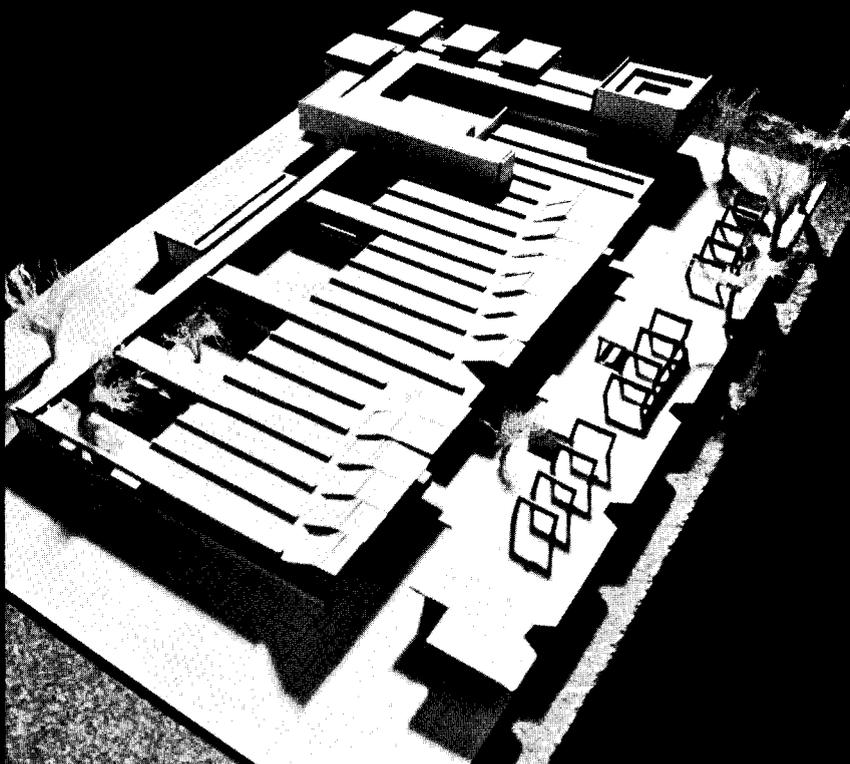
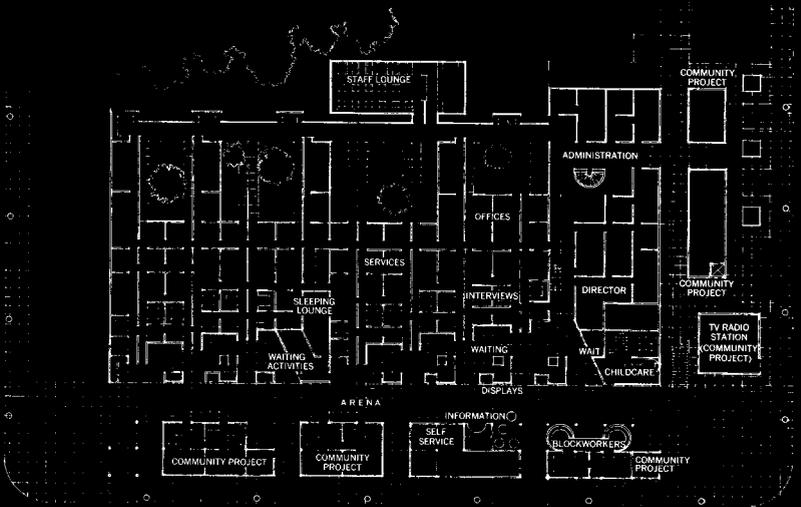
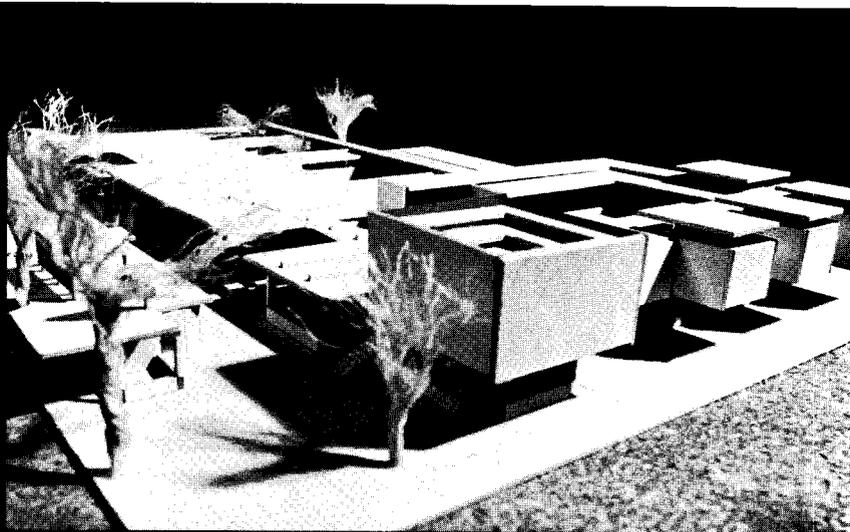
Self service. In the waiting area, there is a self service facility that lets you look up welfare rights information, job listings, and other help-yourself-items, without having to be helped by an agency.



Block worker layout. In the block workers lounge, there are two or three large alcoves, where you can talk to your block worker. The block workers' desks are in a room which opens right off this lounge, so that, as a block worker, you can keep up with your paper work, and yet still be near the lounge when a client comes looking for you.



Interview booth. In the interview area of a service, each interviewer has a private booth, rather like the high backed booths found in restaurants—so that interviews are informal, and you feel more like talking about your personal problems, than you would over someone's desk.



and testing the first set of patterns. These have been carefully documented in a new publication, *A Pattern Language which Generates Multi-Service Centers*, by Christopher Alexander, Sara Ishikawa and Murray Silverstein.*

The book begins with one-sentence summaries of the 64 patterns developed for use in designing multiservice centers. (Eight of these appear in the captions of the diagrams illustrating a student multiservice center design, preceding page.) Following this comes a very brief discussion of the pattern idea, then eight examples of multiservice centers for different communities all generated by the pattern language. (One of these designs is illustrated at right.) The main part of the book ends with a discussion of the assembly problem and suggests a system for combining patterns called a "cascade."

A long appendix, 226 pages in all, details each of the patterns one by one. This is really the meat of the book. To the designer of a multiservice facility this is the part he must digest and internalize so that he can work intuitively in generating a design. And to the person who wants to understand and use the general concept of pattern language, this appendix also holds the chief interest—for it is in the careful study of the *if-then* statements, and the detailed problem statements with their wealth of behavioral data on user needs, that the richness in the ideas becomes manifest.

Testing in the classroom

Some of the most interesting evidence on the potential of the pattern language comes from the classroom. Ron Walkey, of CES, taught last year in the Department of Architecture at University of California in Berkeley. He chose a site for a possible multiservice center, then gave his design classes the 64 patterns instead of the usual program. Good things came out of this.

In a post-mortem on one of Walkey's classes a student wrote: *"The patterns provided a fast comprehensive method of design. From the beginning, many criteria were provided by which to judge the success of prelim-*

inary schemes. Consideration for users of the building was incorporated into the design automatically. The design process was faster and easier and more satisfying than is generally the case during a three-month period."

Other students gave similar testimonials. They expressed an increased confidence in dealing with complex user requirements while suffering no curtailment in the opportunity to make form creatively. This educational experiment may be one of the most important tests of the pattern language at this point in time. With the publication of the book, perhaps other schools will take a turn at it. Some work has already been done at the University of Washington where CES member Murray Silverstein taught for a while last year. This year another experiment is underway at the Berkeley department where Sara Ishikawa is introducing a large group of students to the patterns developed for housing in Peru.

Building plan repatterned

Shortly after the publication of the work on multiservice facilities, Skidmore, Owings & Merrill asked the Center for Environmental Structure to work with them on the schematic development of a facility for the Southwest Regional Laboratory for Educational Research and Development, SWRL for short, to be constructed in Orange County in Southern California. The job was peculiar from two standpoints. Nobody had any very clear idea what form an R&D facility in this field ought to take. Yet whatever that form might be, the fact that it was to be built by a long-term investor and leased back to SWRL meant that it had to be shoehorned into the typical two-story speculative office building envelope.

A team from CES—Barbara Schreiner, Ron Walkey, Denny Abrams, and Jim Smith—developed more than a hundred patterns for SOM to use in designing the SWRL facility. A great many of these were developed in an intensive field study effort. Walkey and his associates went into the present SWRL establishment. There, using typical social research techniques like interviewing and disciplined observation, they built up a detailed stock of knowledge on its unique user needs. This material was supplemented by informa-

tion drawn from the growing pattern library at CES. As the results were formed into provisional patterns, they were subjected to criticism by all three parties, CES, SOM, and SWRL. As patterns emerged from this review process, they were furnished to the designers in the architectural firm for use in developing the schematics.

Because time demands pressed for early solutions, the architects began their work even before the Center began the background study which produced the patterns. However, they largely scrapped this preliminary work when they got the patterns. The comparison of before and after plans (opposite page, bottom) demonstrates the effectiveness of the patterns. The patterns which dealt with the research workers' immediate environment had a profound effect on the design. Instead of providing endless equal little cells as in SOM's first scheme, a rich mixture of various sized offices were grouped together and served by clerical and researcher workspaces identified with each of the groups.

Some of the contributions made by the Center staff were rejected by the architects. These mainly included patterns which sought to produce a special "child's world" in that part of the SWRL facility where real children would test the educational hardware devised by the researchers. Here the patterns implied a very special, child-scaled environment. SOM rejected this because they felt the special economics of a lease-back facility prevented such special treatment and because the change in scale would be hard to handle "architecturally" in the sense of creating a strongly unified building design.

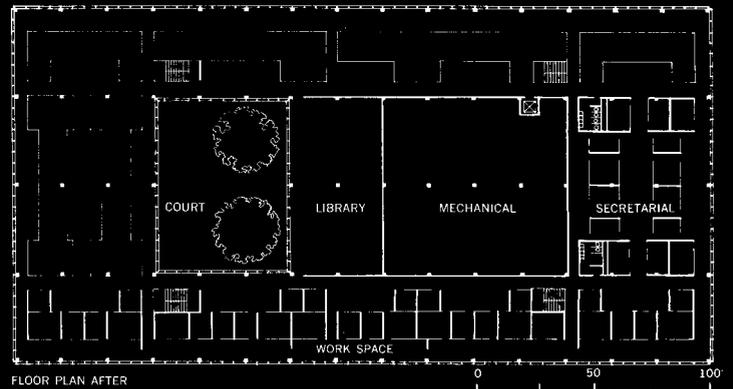
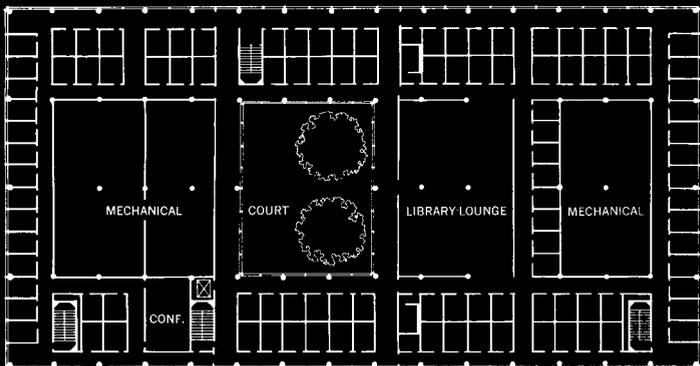
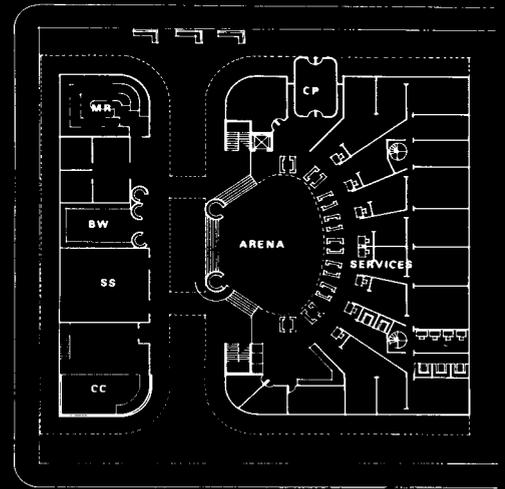
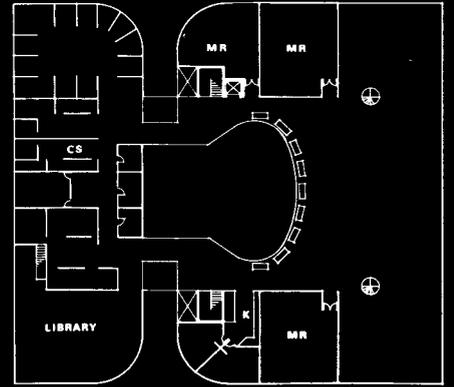
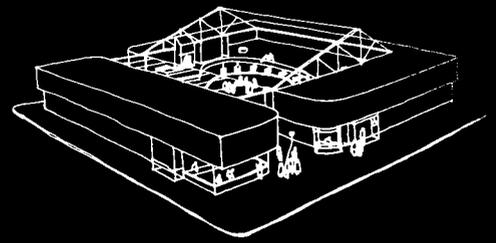
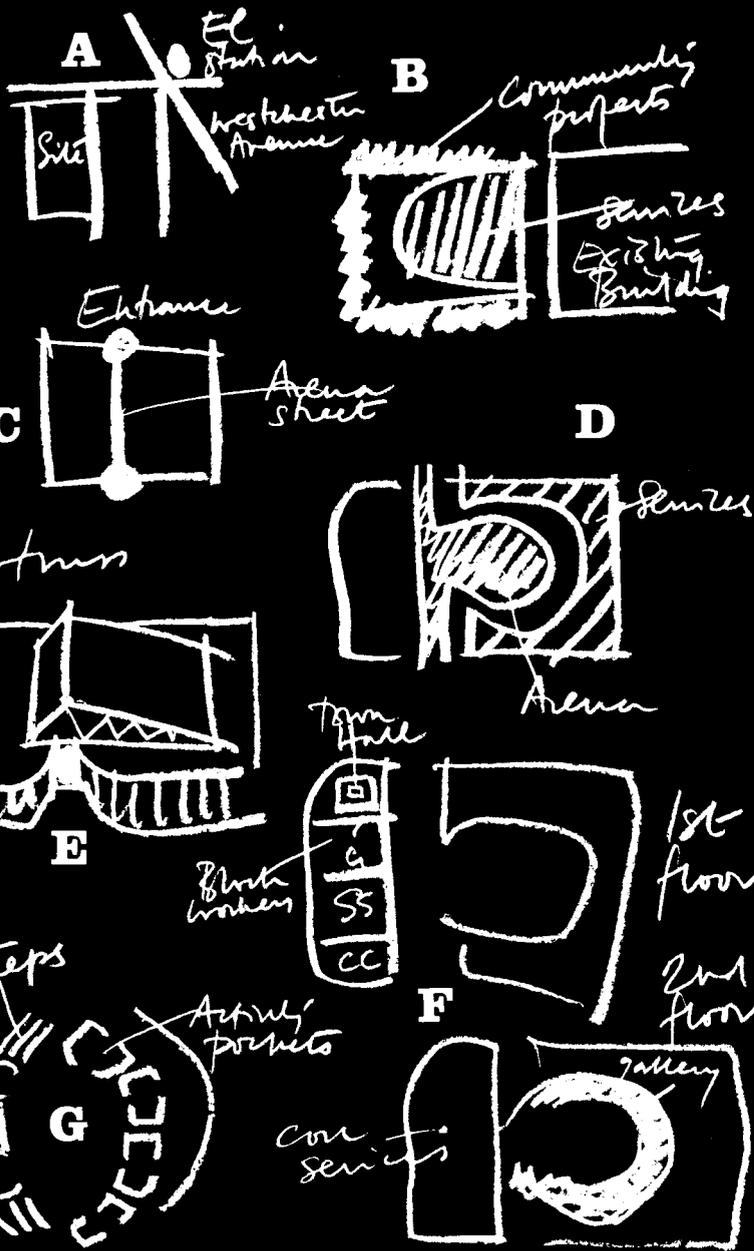
The most interesting result of the CES-SOM experience lies in the response of a team of sophisticated practitioners to the pattern language. One senior SOM associate observed: "the usefulness of patterns was in direct proportion to the unusualness of the project." John Woodbridge, who was in charge of the SWRL work for the architects, offered a number of observations. He felt the "if-then construction overdrawn"; the value lay in "taking apart the things that go on in a building and looking at them one by one." This was a "valuable thing."

- A**  Small target areas
-  Location
-  Size based on population
- B**  Necklace
- C**  Community territory
-  Entrance location
-  Arena thoroughfare
-  Arena enclosure
- D**  Locked and unlocked
-  All services off arena
-  Free waiting
-  Overview of services
-  Windows overlooking
- E**  Open to street
-  Entrance shape
-  Ceiling heights
-  Street niches
- F**  Core service adjacencies
-  Self-service
-  Self-service progression
-  The intake process
-  Child-care position
-  Director's overview
- G**  Activity pockets
-  Information-conversation
-  Dish-shaped arena
-  Sleeping OK
-  Waiting diversions
-  Stair seats

Design of a multiservice center for the Hunt's Point site (Bronx, N.Y.), one of eight hypothetical examples from the CES book, *A Pattern Language Which Generates Multi-Service Centers*. Related patterns are grouped and arranged in sequence (A, B, C, above). Each group of patterns then determines some part of the building design (opposite, top).

Plans of a facility for the Southwest Regional Laboratory for Educational Research and Development, designed by Skidmore, Owings & Merrill. Earlier plan (near right) was drawn up by SOM before CES was called in. Revised plan (far right), after CES team had worked out the necessary patterns and reviewed them with architects and client.

*Published by the Center for Environmental Structure, 2531 Etna St., Berkeley, Calif. 94705. 283 pp. \$7.50.



The chief designer on the project, Paul Bartlett, perhaps worked more closely with the patterns and the developers than anyone else on the SOM staff. He found them helpful and not confining. Since the "patterns were not hierarchically presented, it was our job to decide which were most important." Bartlett feels that in a facility like an audio-visual center the patterns at the present time do not include much of the stuff that is determinative such as the technical problems of equipment, acoustical, optical and mechanical requirements. So far the patterns have concentrated on behavioral-oriented user requirements, and SOM partner John Fisher-Smith somewhat cynically observes, "User requirements are not controlling in most projects." CES is currently expanding the language to include some of these other design issues.

Patterns for Peruvians

The latest project based on patterns differed from the earlier two: it took place entirely in the Center for Environmental Structure, so there was no split between pattern builder and designer. Early this year Alexander was invited to participate in a closed, international architectural competition to design a neighborhood of new houses for low-income families in Lima, Peru. Alexander, Sara Ishikawa, Sanford Hirshen, Shlomo Angel, and Christie Coffin of the Center immediately went to Peru. There they each lived with a Peruvian family of the same social strata for which the project was intended. Using the classical field-work techniques of the social anthropologist, in a few weeks the Center team developed the behavioral evidence on which to base a pattern language for low-cost housing in Peru.

At this point the scene of action moved back to Berkeley where, during the spring and summer of this year, an intensive, crash effort simultaneously developed the patterns and the designs. This permitted an ideal two-way flow: effective patterns need refinement through feedback from design. The result was the Proyecto Experimental (excerpts, opposite page). The Center has published this design, its most sophisticated work to date, in the book *Houses Generated by Patterns*.^{*} Both the pat-

terns and the design for the Peruvian housing deal with the whole range of considerations from community facility planning at the neighborhood scale to the construction detailing of the individual dwelling. Esthetically the results achieve a beautiful fit between the conservative tradition of the country and sensitive response to modern planning, management and construction technology.

What do the Hunts Point, SOM/SWRL, and Proyecto Experimental pattern language trials add up to? For one thing, they confirm Alexander's carefully intended shift away from the methods outlined in *Notes*. He had observed four kinds of inadequacies in using them: 1) Shortcuts appeared in practice which bypassed the need for painstaking decomposition and tree-like recombination; 2) operationally it cost too much to go back to ground zero on each job, so many components were repeated, and many sub-assemblies were usually at hand; 3) the *Notes* approach seemed not to represent adequately the "gigantic, interlocking tapestry of the metro area," with all its collective, mutually supporting design elements; and 4) the often widespread diffusion and participation in design decisions made imagery a more powerful tool than analysis; analysis might produce images but in the act of design only patterns operated. So far the evidence looks promising. Perhaps most promising are the benefits from formalization of the pattern material, a necessary instrumental step in going on with the language.

Reusable patterns

Alexander has lumped the benefits of formalization under the concept of being *re-usable*, a quality that depends upon realizing four conditions: 1) abstractness or generality; 2) direct applicability as contrasted in this case with planning and performance standards which produce no directly useable images; 3) the quality of being criticizable so that users will continuously ask questions and make improvements; and 4) communicability so that, in Alexander's words, "anyone who wants to take the trouble can understand it." The

^{*}Published by the Center for Environmental Structure, 2531 Etna St., Berkeley, Calif. 94705. 219 pp. \$7.50.

pattern language has these qualities. Jerry Goldberg, one of the SOM users, in evaluating his experience with it observed: "The potential of this thing as a communication device in a firm of our size seems to be immense."

New tool for research

Another, perhaps unanticipated, benefit from formalization appears in its potential for effective structuring of much of the rapidly growing architectural research effort. Almost without further examination each statement of a pattern, however provisional, defines a research task. Furthermore, viewed from the opposite end, simple insistence that research produce patterns would bring instant relevance to an area too often marked by academic withdrawal from a meaningful relationship to the affairs of environment building.

The very formality of the pattern language may mask some important things and some negative aspects of the experience on the three projects. For one thing the patterns exhibit a disturbing narrowness, even a certain tendency to defend the narrowness as a good thing. The patterns singlemindedly emphasize user needs. The needs of non-users, economic and institutional factors, esthetics, aspects of designs which have to do with the legitimate concerns of artists, bankers, construction men, and engineers get little attention. Simmons, for instance, complains that the format of patterns does not leave room for urban design considerations growing from the character of place. The Proyecto Experimental indicates this problem can be solved. When certain kinds of user requirements embodied in the patterns are disregarded (as were the children's world patterns in the SOM/SWRL project), the fault may in part lie in the failure of the patterns to embody the needs of the speculative developer. Certainly no conceptual reason exists for such on-sidedness. The pattern language could be easily broadened; only the intentions of the pattern authors, and the necessary man-hour commitment, limit it.

The passage of time should naturally resolve the man-hour problem. The intentions of Alexander and his co-workers present another kind of issue. So far development of the pattern language has taken on a certain

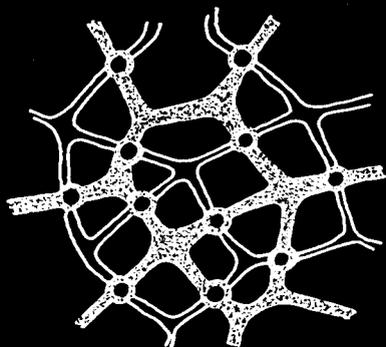
style, characteristically architectural, which emphasizes the use of pattern language as a private language. Granted that there must be a bit of the true believer in any innovator, and that it takes some myth-making to realize innovation, this tendency holds dangers for the pattern language. It tends to vitiate its potential power. Anyone can see that the patterns, with their formal layout, richer imagery, and explicit, integral, arguable back-up data, represent a significant departure from old fashioned performance and planning standards. But anyone can see the family resemblance too.

They fit into a natural evolution of architectural design material which extends from Vitruvius to Sleeper, from Gaudet to Ehrenkrantz. The most sophisticated work of other innovators in design methodology, for instance Hermann Field and his system of design directives for the Tufts-New England Medical Center, or the student work of Brolin and Zeisel (July/Aug. '68 issue), point in the same direction as the work at the Center.

In three years Christopher Alexander and the Center for *Environmental Structure* have done a lot. If the next three years prove as productive, designers will have gained an effective new tool with which to face the ever increasing complexity of environment building. If it is to work, the pattern language will have to become as ubiquitous and impersonalized as the ancient motives in anonymous architecture. That is a tall order in a world which tends to encapsulate individual effort in sterile packages on the one hand, and on the other hand tends to homogenize people and ideas bureaucratically into a featureless syrup. However it works out in the long run, the patterns represent a significant jump forward in the practical power of Alexander's ideas.

Three patterns (opposite) reproduced from *Houses Generated by Patterns*, based on CES submissions for Proyecto Experimental, a design competition for low-cost housing in Peru. These patterns were developed in large part on the site by CES staff members who lived with local families. Each pattern is accompanied in the book by a detailed statement of the problem it answers, in terms of Peruvian living habits.

CAR - PEDESTRIAN SYMBIOSIS

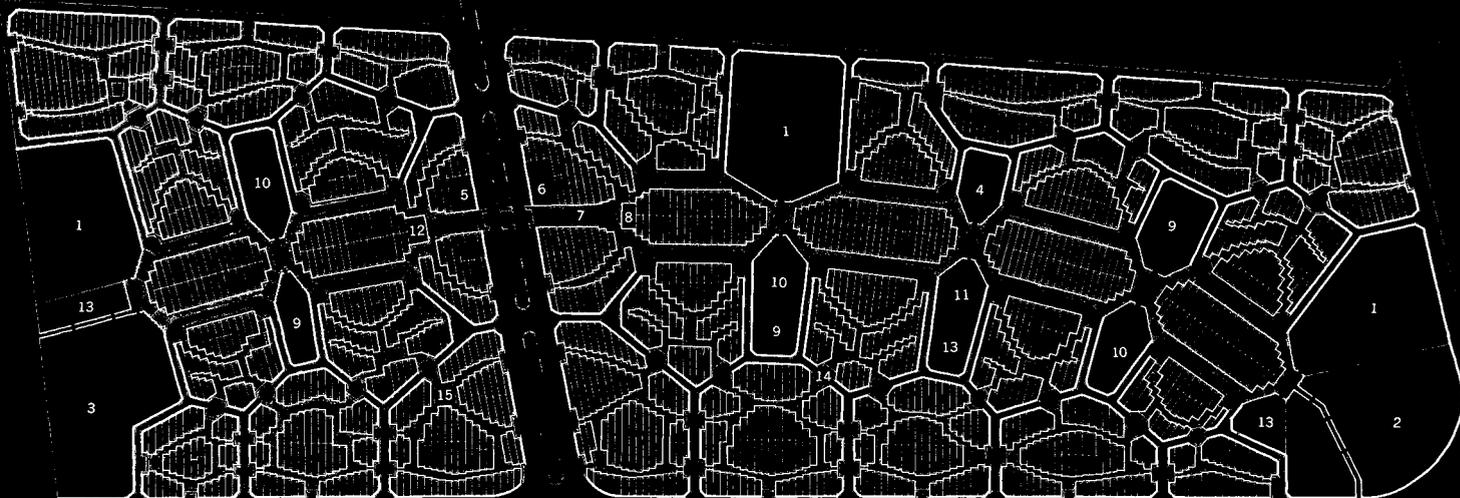


In the *Proyecto Experimental*, the car roads form loops, and the pedestrian paths form a diagonal network which crosses these loops at right angles. Where they cross, there are parking lots, cell gateways, and space for pedestrian activity. The two systems form a double gradient: car densities dominate towards the outside of the site, pedestrian densities dominate towards the inside of the site, and there is a smooth gradient between the center and the edge.

THE GENERAL PATTERN

Context: Any area which contains pedestrian paths and local car roads.
Solution: The system of pedestrian paths and the system of roads are two entirely distinct orthogonal systems. They cross frequently; so that no point on either system is more than about 50 meters from a crossing. Every time they cross, both paths and roads swell out, making room for pedestrian activity and for parking and standing.

1. Primary School
2. Secondary School
3. Technical Secondary School
4. Church
5. Cinema
6. Supermarket
7. Market
8. Municipal Offices
9. Grove of Trees
10. Kindergarten
11. Clinic
12. Dance Hall
13. Sports Center
14. Parking
15. Outdoor Room



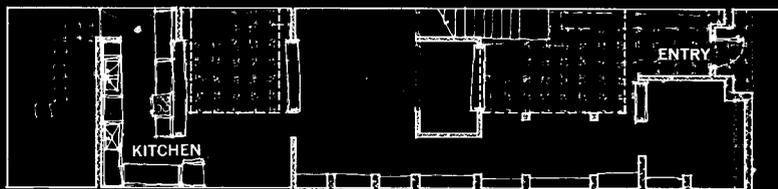
INTIMACY GRADIENT

In the *Proyecto Experimental*, there is a strict gradient from formal to informal, front to back. Each house contains entry, sala, family room-kitchen in that order. Those houses too small to have a proper sala, have a small receiving alcove, just inside the front door, which functions as a sala.

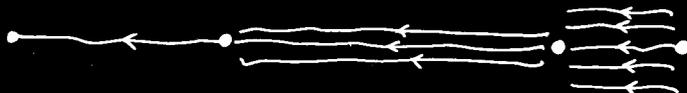
THE GENERAL PATTERN

Context: A house in Peru, or any other Latin country.
Solution: There is a gradient from front to back, from the most formal at the front, to most intimate and private at the back. This gradient requires the following sequence: Entry, sala, family room, kitchen, bedrooms.

The most important element in this sequence is the sala (parlor). It is essential that the house contain a sala. If the house is so small that cost rules this out, the house should at least contain a tiny receiving alcove just inside the front door.



FIRST FLOOR

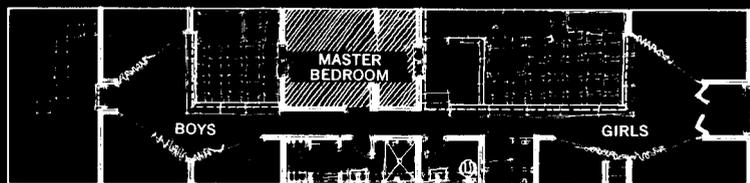


BED CLUSTERS

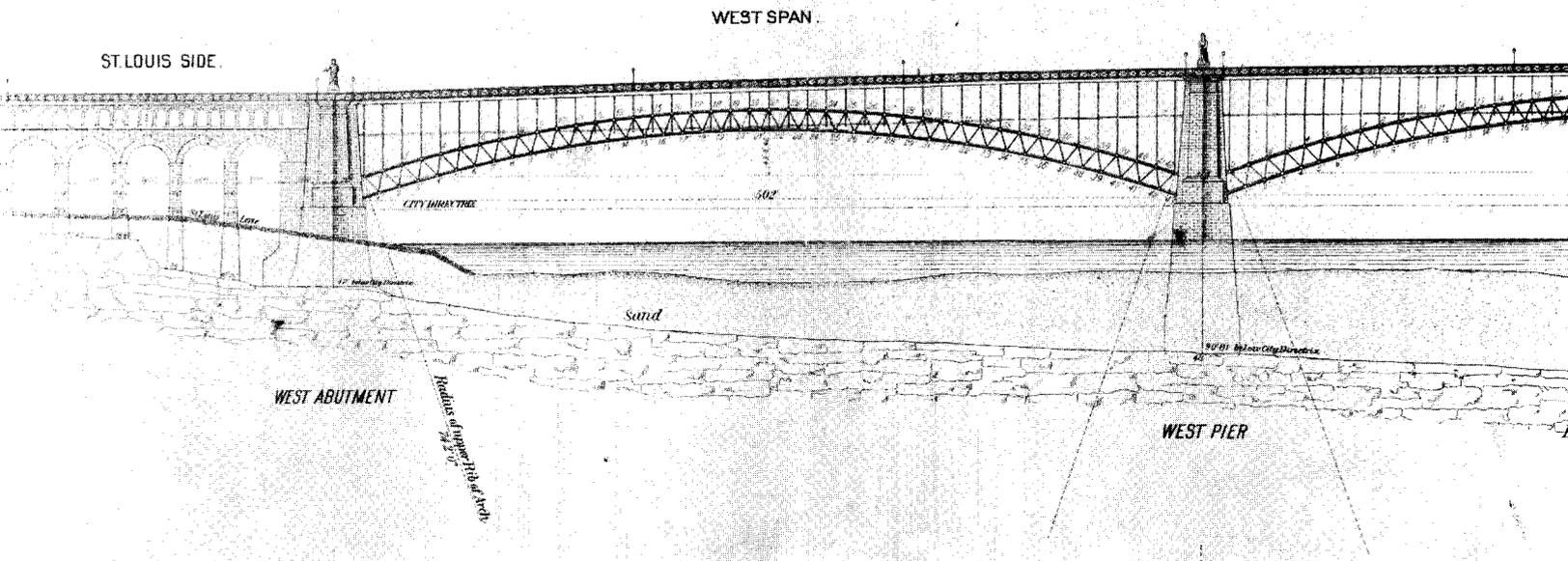
In the *Proyecto Experimental House*, there are two clusters of bed alcoves—one around the front patio, the other around the second patio. Each may have up to five beds in it.

THE GENERAL PATTERN

Context: The sleeping areas of a Peruvian house.
Solution: The children's beds are arranged around common areas, to form strongly inward looking clusters. There are at least two distinct clusters, one for boys and one for girls.



SECOND FLOOR



PONTE VECCHIO FOR ST. LOUIS

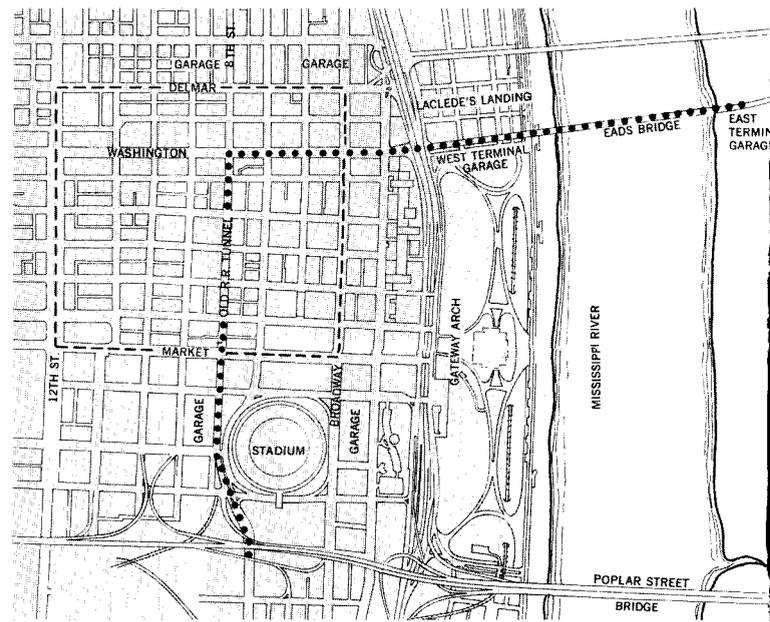
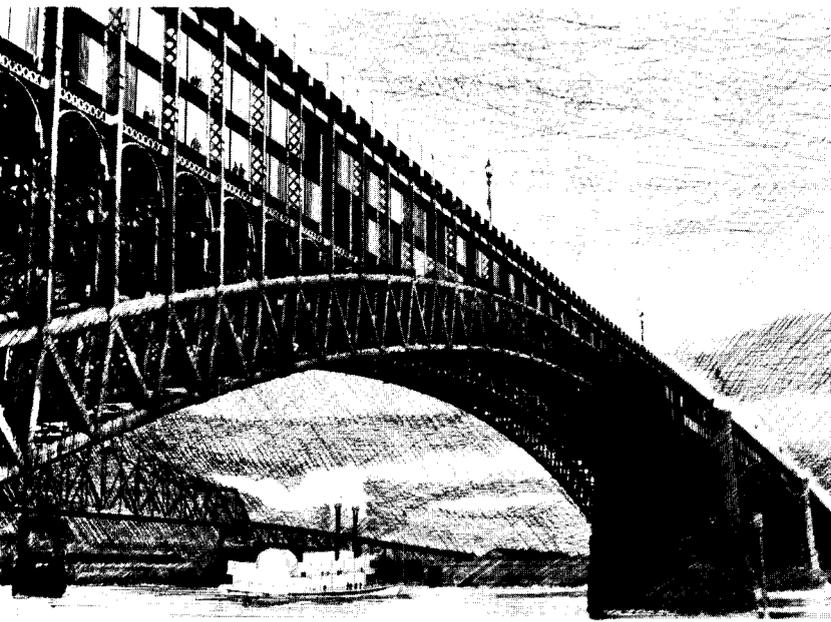
Eads Bridge in St. Louis was the first steel-truss bridge in the world. Now, 94 years old, and a national landmark, the future of the "Great Iron Bridge" is uncertain. Revenue from vehicular traffic has dropped almost 50 per cent since the opening of the free Poplar Street Bridge, and modern freight cars are too large to go from the bridge's rail deck into the downtown tunnel.

James Bock, 29-year-old architect and city planner (now studying for his MCP at Harvard), has come up—at his own expense—with an imaginative and innovative solution for Eads. In brief, he would convert the 22-ft.-high rail deck into two floors of commercial space (over 100,000 sq. ft.) and, above that, on the auto roadway, put a four-strip moving

sidewalk connecting the Missouri and Illinois riverfronts.

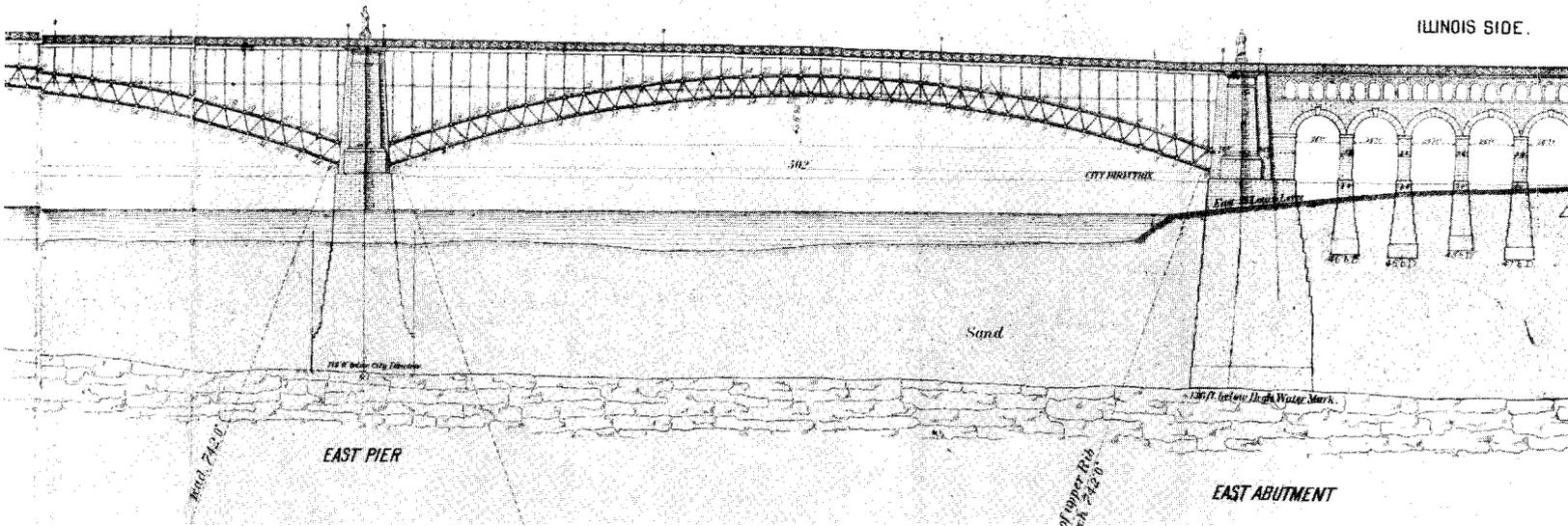
Bock's proposal leaves the bridge intact: a dark glass skin would be dropped in behind the existing structure as a continuous plane. Inside space would be divided according to needs of individual tenants—offices, shops, restaurants, tourist facilities—some of which could retain the full two-story height (see sketches, below right). Old railings and lamp-posts would be restored. Heating, air conditioning, electrical and plumbing services could be threaded between the two levels, if ceiling height were 9 ft.—or some elements could be carried beneath the lower deck.

As in Italy's Ponte Vecchio, shoppers, tourists and commuters could wander through the shop-



EAST SPAN.

ILLINOIS SIDE.



ping levels—or go up to the top level and travel across on one of the conveyor belts. The 2,000 ft. journey overlooking the Mississippi—at either 2½ or 5 mph—would take either three or ten minutes. This moving sidewalk would also be enclosed by glass; alongside it would be an exposed promenade and restaurant.

But the Eads proposal is more than a renovation of the bridge or a feature of a tourist itinerary. Bock envisions a broader transportation scheme for the downtown area of St. Louis for which the bridge would only be a part. At either end of Eads would be parking garages and transit terminals. The west end (downtown) terminal would link the bridge to the Gateway Arch and to LaCledé's Landing (May '68

issue, page 98; May '69, page 91); it would also serve as a transition to an underground shoppers' mall in the existing railroad tunnel. Shops would line the tunnel alongside a walkway and conveyor belt, and would also be located in the basements of adjacent buildings. These shops would extend as far as the Busch Memorial Stadium where another terminal would serve airport traffic and where parking facilities are located.

In Bock's overall scheme, traffic would be eliminated from the downtown area except for an electric, smogless minitransit system. Major transit vehicles would stop at terminals along the periphery of the downtown area which Bock calls the Loop. Skylights could then be built into the

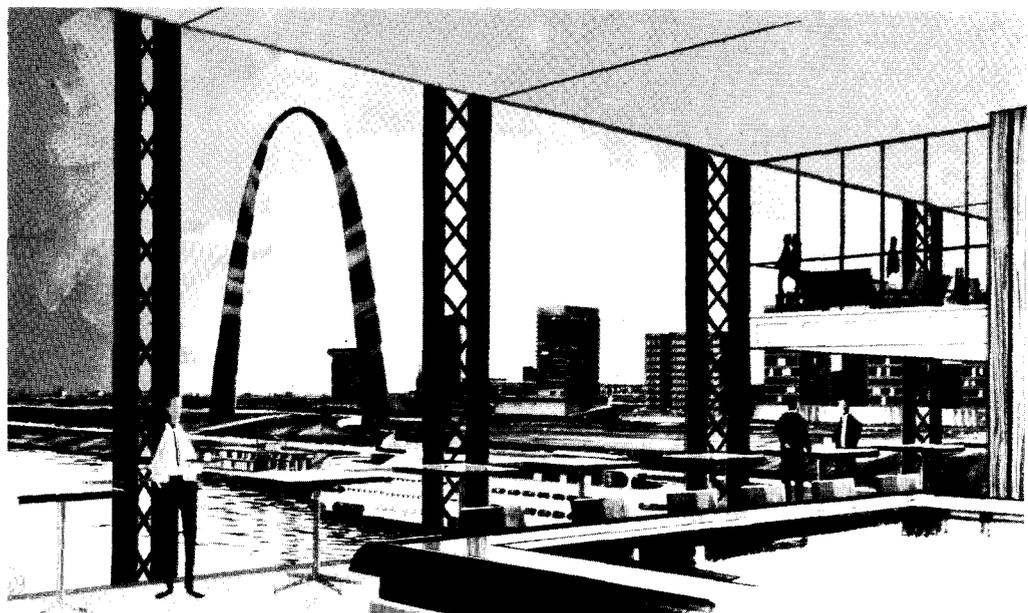
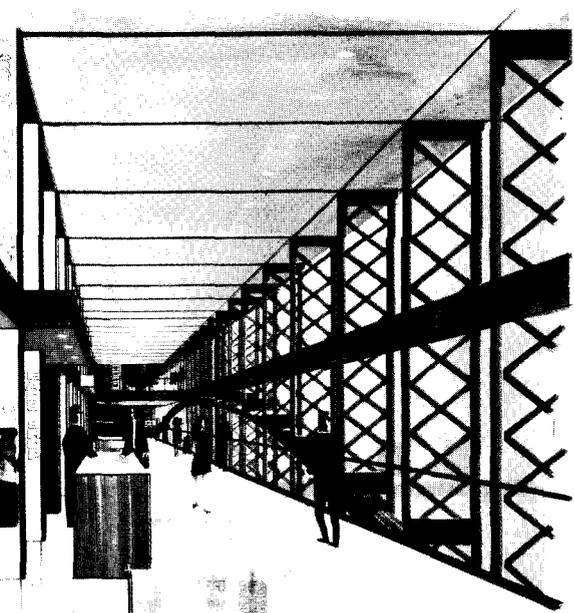
street over the shopping mall allowing natural light into the tunnel passageway.

Cost of the Eads project, including terminals, conveyors, bridge and tunnel renovation, and commercial space would come to about \$14 million, but Bock believes that the bridge and tunnel, no longer being tax-supported, would quickly make profits, and conveyor maintenance would be only 2 per cent of the cost of bus maintenance.

Eads, therefore, would be self-supporting and a money-maker, and it would be part of a simplified and smogless transit system for downtown St. Louis. It would also be a vital part of the riverfront development, and a lively tourist attraction. Bock is presenting his proposal to the

railroad company, to the Bi-State Development Agency, and to city authorities. He is also promoting it for the people of St. Louis. "One purpose of the scheme," he says, "is to bring people into the life of Eads, and Eads back into the life of St. Louis as a vital and lively experience."

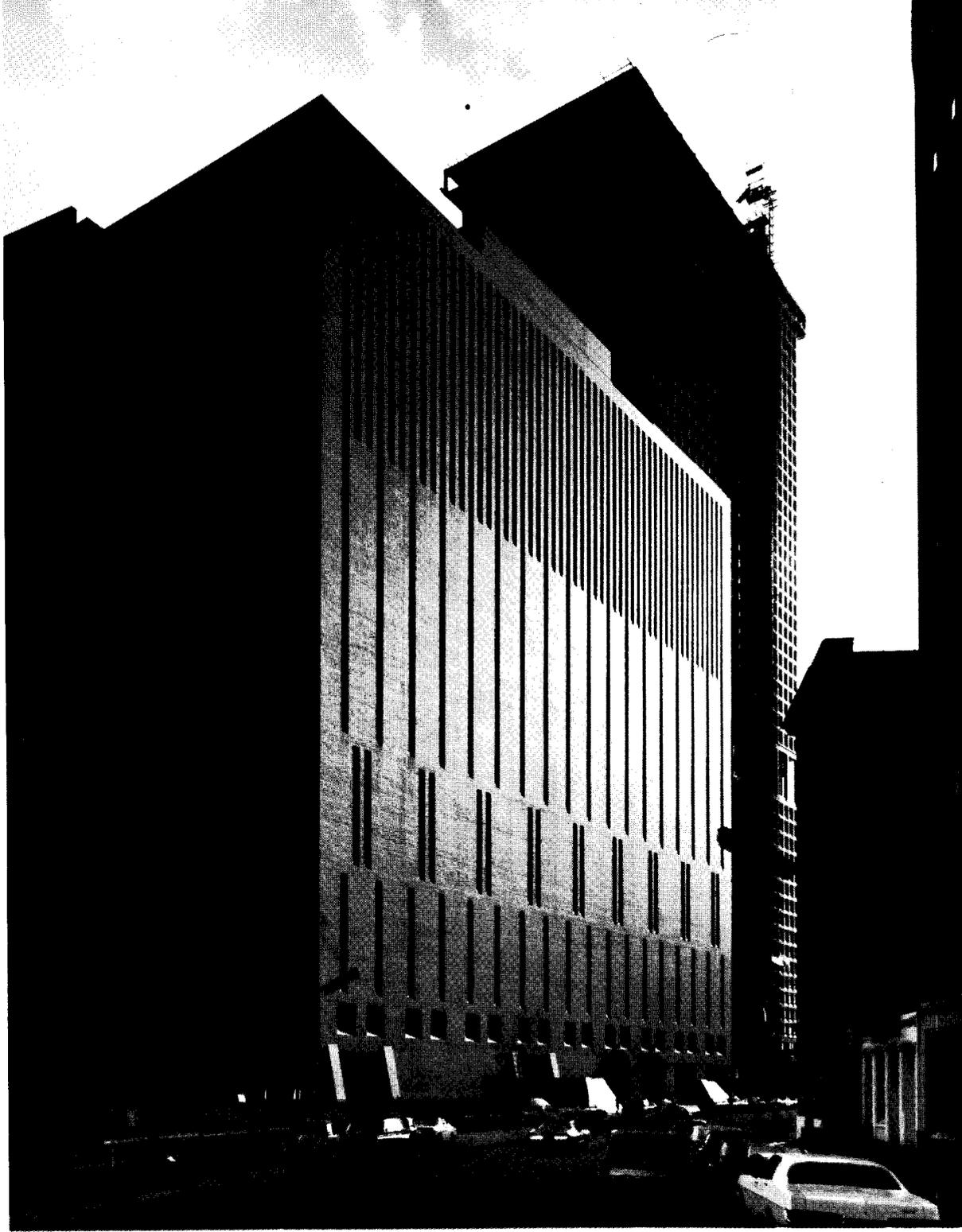
Or, as he sums it up: "If you build it, you'd create jobs, get the investment back, keep the bridge self-supporting economically, keep lots of cars and therefore air pollution out of downtown, help out Veterans and MacArthur Bridges [in rerouting cars and thereby building up toll revenue], create new commercial space, give the U.S. its own Ponte Vecchio and have another good place to sit outside with a blonde and a beer." —B.T.





BULWARK IN LOWER MANHATTAN

Spontaneous construction along the East River (left) is transforming many city blocks (shaded on map) from century-old loft buildings to massive office blocks. The 22-story Manufacturers Hanover Trust operations center (2), already overshadowed by a 50-story One New York Plaza (1), will soon be surrounded by an adjoining 40-story tower (3), and a 53-story, 3.2 million sq. ft. structure to the east (4). The main facade of the center (right), prominently sited at a bend in Water Street, is subtly embossed with narrow windows and recessed spandrels. The pattern of openings is based on the needs of spaces behind them, except for a deliberate shift in window placement to identify the three floors (6, 7, and 8) housing the bank's computers.



After remaining virtually unchanged for more than a century, the east flank of New York's Financial District is now one big construction site (aerial photo and map). Between 1968 and 1971, about 12 million sq. ft. of office space will have been completed in a two-block swath along the East River between Battery Park and Fulton Street. Amidst the brittle-looking curtain walls on most of this speculative construction, the finely de-

tailed brick facade of the Manufacturers Hanover Trust's new operations center by Architects Carson, Lundin & Shaw, is a pleasing surprise.

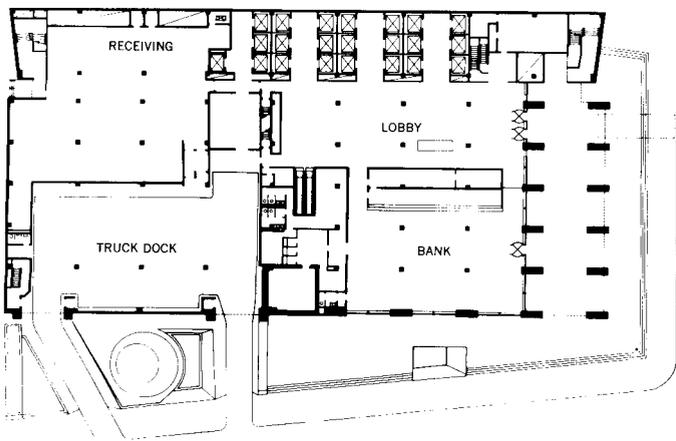
Like many of the new buildings in the area, the bank's operations center houses mainly computers and other business machines which process a growing flood of paper work for corporate headquarters in the core of the Financial District.

Since computers cannot look

out of windows, and business machine operators can enjoy the view only during work breaks, the operations center did not need vast areas of glass on the exterior. In fact, the critical air-conditioning demands of the equipment make windows distinct liabilities. This fact is frankly expressed in the walls of the building, which have generous windows only at the second floor, where the center's small administrative corps is located.

Above that, there are only two narrow windows (2 ft. 8 in. wide) per 30-ft. structural bay, except for the top seven floors, where the windows are placed at 5-ft. intervals. These floors, leased out until the bank needs them, had to be adaptable to a wide variety of uses.

Brick was chosen for the building's exterior walls mainly because it was the least expensive material available for walls with few openings. In fact, it was pos-



FIRST FLOOR

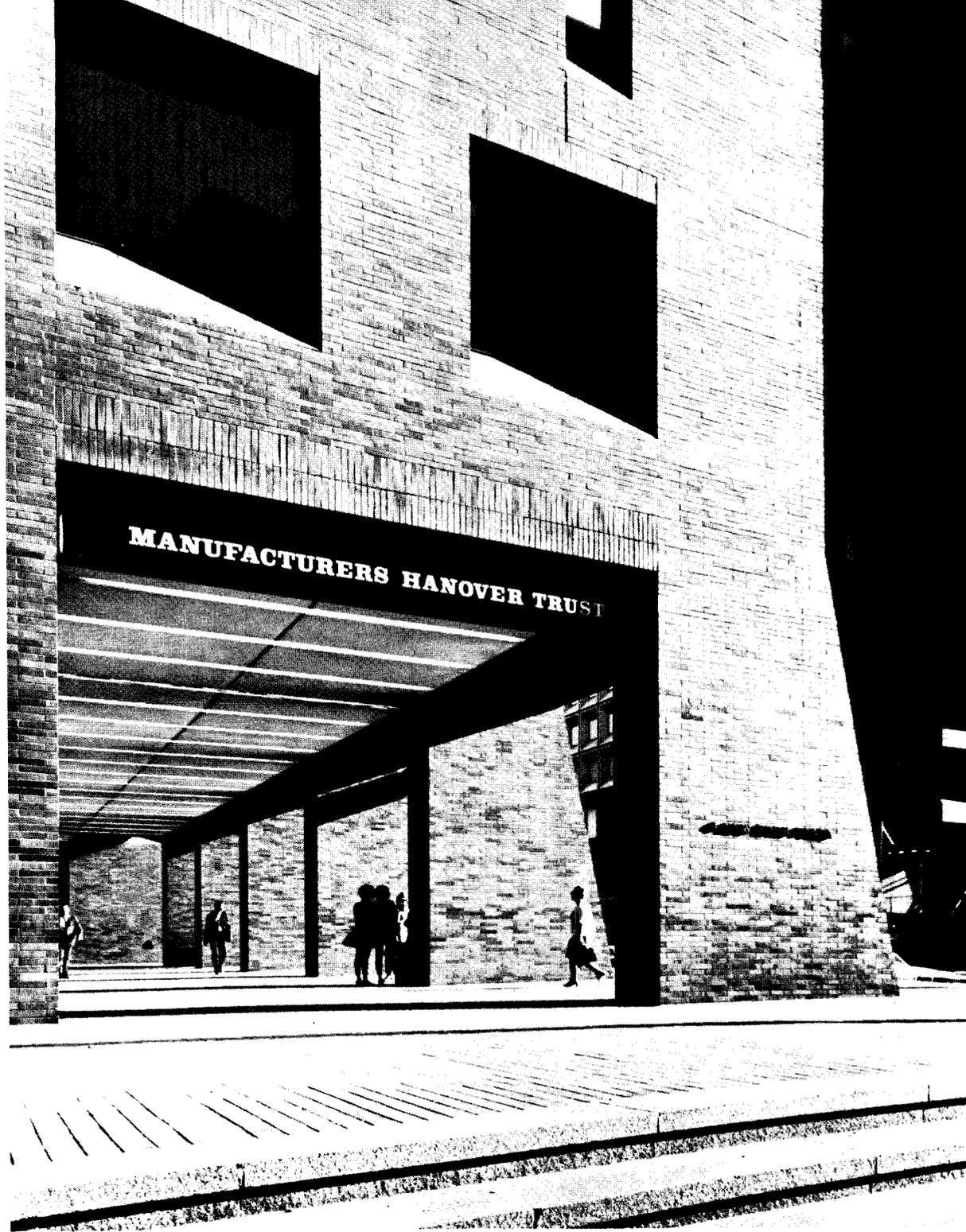
0 40'

sible at a modest cost to have fine, hard-burned brick laid up in a special pattern.

During the design stage, the architects were particularly concerned about the kind of brick to use, since there was then a plan to set aside the entire city block just to the north for restored and reconstructed historic landmarks. The liberally restored 18th-century Fraunces Tavern is on that block, and the 17th-century Dutch Stadthuys

was to be rebuilt just across Water Street from the operations center site.

The designers actually carried brick samples around the area, comparing them with surviving examples of old brickwork, and finally selected a brick of mellow, reddish brown color with a very hard, iron-spotted surface. They realized that much of the charm of the old walls was due to their Flemish bond—with its alternating long bricks and short



Pyramidal mounds rising out of the elevated, brick-paved plaza (left) house air intake and exhaust ducts and an emergency exit for the basement cafeteria. Almost half of the first floor (plan left) is taken up by a truck dock and handling space for the mass of checks and other papers that pass through the building; the small branch bank is intended mainly to serve employees. A deep arcade (right) leads from the corner of the building near Broad and Water Streets to the lobby entrance.

headers; although they could not afford to use this bond in a curtain wall, they worked out a pattern with 12-in.-long bricks offset 4 inches in alternate courses to produce a similar intricate, small-scaled pattern. The thin mortar joints were tinted grayish brown, roughly the color they would become in time as they collect New York soot.

Manufacturers Hanover's operations center does not function like an ordinary office building.

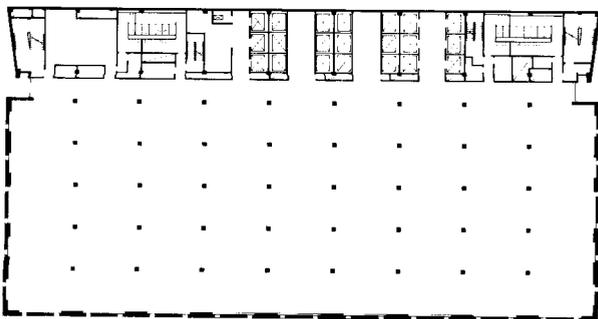
For one thing, its work goes on 24 hours a day, seven days a week. The building has to be nearly self-sufficient, since Lower Manhattan is virtually deserted nights and weekends. (It will be less lonely, of course, when other round-the-clock operations move into new buildings nearby.) The cafeteria, which occupies the entire basement level, must provide each of the 5,000 bank employees per shift with at least one meal—often two—and also

serve most of the 1,500 workers on the tenant floors.

And, unlike conventional office buildings, this one required extensive facilities for delivery, circulation, and pickup of the tons of paper that pass through it daily. Minibuses carrying checks and other records from all over the city are unloaded in the large, indoor truck dock. Heavy loads are carried to the freight elevators in carts, and smaller items can be distributed

to any floor of the building by a conveyor system.

The simple, cubic volume of the building was established by the bank's projected need for space (500,000 sq. ft. immediately and 300,000 in reserve), all to be in uniformly large, uninterrupted floor areas. The zoning ordinance would have allowed a larger building on the site, but the bank's lease of the land from the owner of the entire block stipulated a maximum floor area



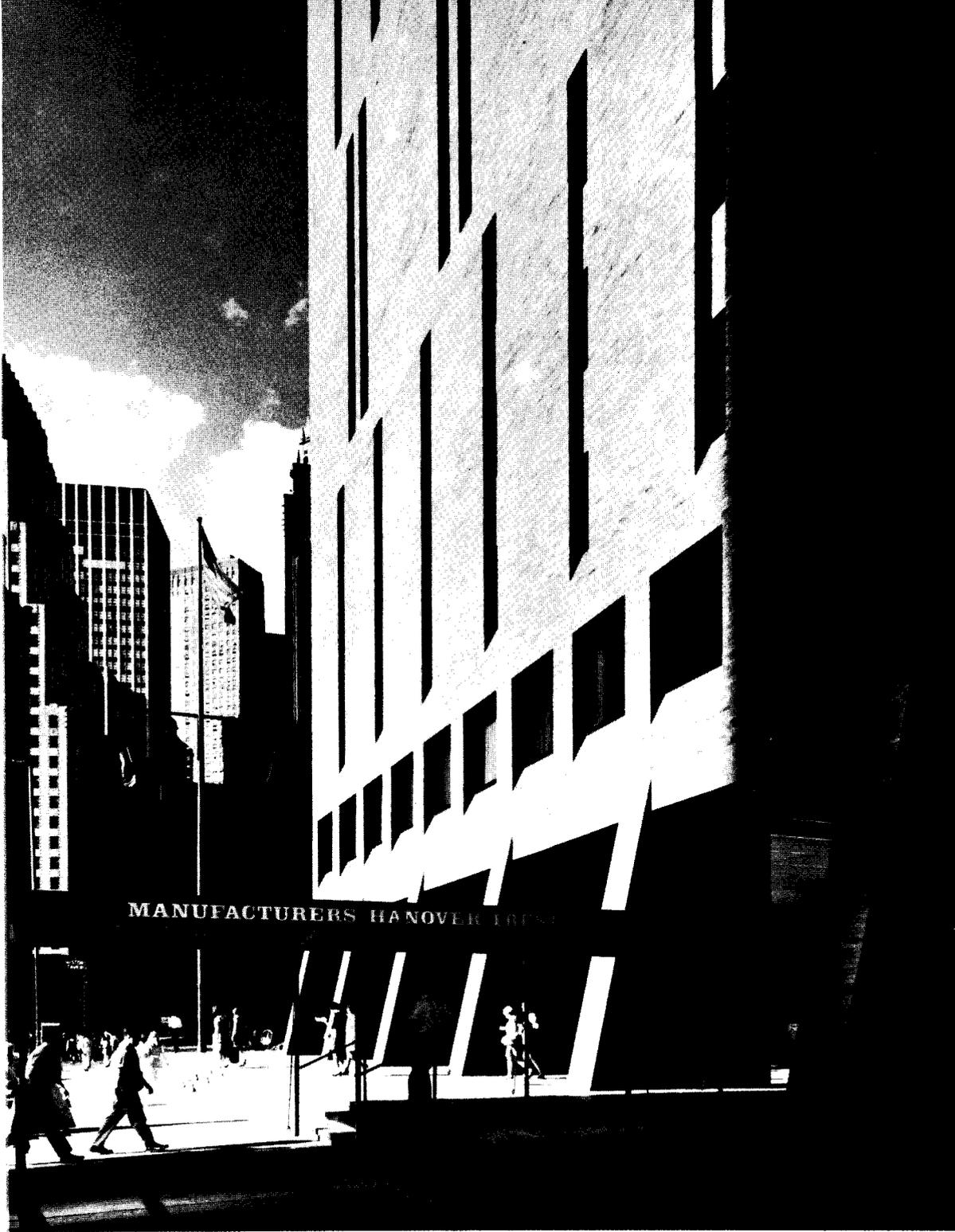
TYPICAL FLOOR

for this structure. The rest of the allowable floor area for the whole block has been retained by the owner, who is building a 40-story tower adjoining this building to the south.

At the base of the building is a brick-paved plaza, raised above the highest recorded level of storm-driven water from the harbor. The few areas of planting on the plaza had to be elevated further, since the space beneath it is used for mechanical rooms.

A colonnade under the west end of the building provides some cover for workers approaching down Broad Street from nearby subway stations. The columns are flared at the base not for structural reasons, but to provide more protection from winds off the harbor. The similarly angled piers flanking the truck entrances also serve as wind deflectors.

The typical floors have been designed so that any one-in-



The hard-burned, red-brown brick of the exterior extends through to the interior of the ground-floor branch bank (top left) and the elevator lobby. A typical computer floor (left) is an area 270 by 110 ft., interrupted only by structural columns. Narrow view windows around the perimeter have uniform accordion-pleated blinds. A view along Broad Street at the main entrance (right) shows how the new building's vertically divided masonry walls relate to earlier skyscraper architecture of the district.

cluding the rental floors at the top—can be used for computers. The clear floor-to-ceiling height of 8 ft. 9 in. allows for raised floors—with space beneath them for special electrical and air-conditioning equipment needed for computers—to be installed in any area. All floors—whatever their initial use—have electrical and telephone connections needed for business machines or clerical operations placed at 5-ft. intervals in the floor slab.

Manufacturers Hanover's operations center was designed and built in a remarkably short time—26 months from beginning of design until the first occupants moved in—and the contract price was \$2,400,000 *below* estimates. Working within this tight budget and schedule—on a program which put little stress on public image—the architects managed to produce a modest but distinguished building. Perhaps it is the use of a single, subdued ma-

terial for almost all exposed surfaces—not just walls, but columns, paving, raised planters, etc.—that makes this otherwise routine building exceptional. At this location on the tip of Manhattan Island, exposed to winds from the harbor and surrounded for years to come by construction activity, these firm masonry walls are a welcome sight—both for the occupants of the building and for passersby.

—JOHN MORRIS DIXON

FACTS AND FIGURES

Manufacturers Hanover Trust Company Operations Building, New York, N. Y. Architects: Carson, Lundin & Shaw (Arvin Shaw III, partner in charge of design; Jaraslav Burbello, project manager). Engineers: Edwards & Hjorth (structural); Meyer, Strong & Jones (mechanical); Mueser, Rutledge, Westworth & Johnston (foundations). General contractor: George A. Fuller Co. Building area: 1,024,686 sq. ft. Cost (including finished interiors and equipment for 824,000 sq. ft. occupied by the bank): \$27,175,477. PHOTOGRAPHS: © Ezra Stoller (ESTO), except page 62, Skyview Surveys.



OH! SAN FRANCISCO!

BY ALVIN ZELVER

Architectural arguments are nothing new in San Francisco. This is the city where the local press and the mayor have seriously proposed that a freeway along the waterfront be demolished because it blocks the view of the beloved old Ferry Building and the Bay. And it is where resistance to tearing down the romantic Palace of Fine Arts (built for the Panama Pacific Exposition) continued for half a century, until finally a local philanthropist and a public bond issue provided millions to restore its crumbling plaster in a permanent form.

Even in such an impassioned atmosphere, Transamerica Corporation was unprepared for the acrimony with which William Pereira's design for their new world headquarters (see Oct. '69 issue, p. 33) would be attacked. *Newsweek* quoted Allan Temko as saying "this building would be wrong in any city. It would be wrong in Los Angeles where it was hatched, or in Las Vegas where it belongs . . . but it is particularly wrong in urbane and easily wounded San Francisco." Wolf Von Eckardt of the *Washington Post* and Allan Jacobs, San Francisco's Director of Planning, used similarly strong language: "hideous nonsense." "An inhuman creation. . . . a look-at-me building."

The Citizens Planning Committee called a mass meeting to stop "Transamerica Corporation's 840-ft. monument to itself" (later raised to 853 ft.). Pickets appeared around Transamerica's present offices wearing "dunce caps" designed to look like the proposed building. Representatives from the local chapters of the AIA, ASLS, and the AIP spoke out publicly against the building. The Environmental Workshop (a local group of young architects, landscape architects, and planners which calls itself a kind of urban Sierra Club, founded several years ago to educate the public to perceive architecture) passed out handbills headlined "San Francisco Gets The Shaft" and claimed that Transamerica was on an "ego trip."

Among the local design professionals, Landscape Architect Garrett Eckbo remained detached, observing that "The

Mr. Zelter, at one time a reporter for the *San Francisco Chronicle*, is now a city planning consultant practicing in San Francisco.

city is already an architectural menagerie. We're only adding one more dog."

The interesting question is not why Transamerica selected its conspicuously flamboyant shape (given the nature of the company's public relations stance, that was to be expected), but rather how such a design came to be approved in a city like San Francisco.

Cleared for launching

Despite the invectives of the opposition, both the Planning Commission (in a final 3-4 vote) and the Board of Supervisors approved Transamerica's plans late last summer and its revisions later. Now the conglomerate's executives have two years, until completion in the spring of 1972, in which to worry. Will the building really look as outrageous as the professionals and the critics have claimed? If so, Transamerica may be embarrassed, but they will hardly be in a position to write off their \$32-million investment and tear the tower down.

Pereira's controversial concept (a pyramid) is not especially original architecture, except as a highrise office building and at the scale proposed: 149 sq. ft. at the first floor, tapering to 45 sq. ft. at the 48th floor. The topping of a 212-ft. spire for mechanical equipment and Transamerica's board room will make the tower one of the tallest, most conspicuous buildings in town.

To the three commissioners and the critics who opposed the building, city planning and architecture were both contested issues. Although challenged by the Planning Director as inappropriate for its location, the building will be within the law as far as the zoning ordinance is concerned. In fact, it will have less than the 14:1 permitted floor area ratio. There is no height restriction for the zoning district in which the site is located, so it was permissible for Pereira's people to design a building going up over 850 feet.

The Planning Director argued that the design was inappropriate for a site located in the tier of blocks between Portsmouth Plaza and the North Waterfront, which had been designated for special consideration as "The Portsmouth Corridor." This corridor was intended to serve as a transition between the offices in the financial district,

with no height restriction (except by floor area ratio), and Jackson Square's historic buildings, now protected by a 65-ft. height limit. When the new downtown zoning ordinance was adopted in 1967, after years of study and months of haggling, the Planning Commission assumed that development would be reduced automatically within the Portsmouth Corridor by the street and parcel pattern. With narrow Merchant Street bisecting the blocks in the Portsmouth Corridor, developers seemed precluded from assembling enough

enough base for a building that could pierce the 300- to 400-ft. transitional height limit and still stay within the permitted floor area ratio.

Whether or not a blocky 400-ft. building would have been a more fitting transition between the financial core and Jackson Square than a slender spire twice as high is debatable. Playing with variety in heights, setbacks, and landscaping might have worked better, if it could have been administered. Nevertheless, the Planning Commission's policy had been arrived at by a rational

tionary review" over Transamerica's proposal, it is questionable in any case whether the Commission could have accomplished much in the way of changes to plans which comply with the zoning ordinance. In retrospect, it is clear that policy for the Portsmouth Corridor was too general and too weak; it depended upon the willingness of property owners to collaborate with the Planning Director. Effective urban design controls obviously demand more than good intentions.

As far as the architecture was



Client's-eye view of Transamerica's pyramidal tower (semifinal design) in the city.

land in the right size and shape to build a building over 300 to 400 ft. high. This, for some reason, had been established as the maximum height to be allowed for this transitional area.

It had not occurred to the Planning Commissioners, apparently, that anyone would do what Transamerica did: 1) find an architect who would design a pyramid, permitting a higher structure than had been thought possible within the constraints of the 14:1 floor area ratio; 2) buy parcels on both sides of Merchant Street and request that it be closed, claiming that it is only a service alley and is not required for delivery access when the same owner holds both sides. With Merchant Street closed and included within the site, Transamerica then owned a large

procedure of hearings; and that policy, after new hearings and new arguments, might have been changed. Instead, in the face of Pereira's smooth presentation and pressure from Mayor Alioto, the Commission voted for approval. Only one architect in the audience, along with Commissioner William Brinton, recalled the old policy as support for the Planning Director's strong opposition to the building.

The nuances of city planning which the Director contended should guide development in this transitional area were lost on most of the Commissioners; they simply refused to become deeply involved with sensitive urban design and the problems of forcing it on the property owner and his architect. With nothing but the rather vague power of "discre-

concerned, a majority of the Planning Commissioners seemed to like the pyramid as something new and different. One hailed it "an artistic adornment to the skyline of San Francisco."

Tapering rental income

Certainly, by established architectural criteria, the building is questionable on the basis of economics, function, or beauty. The building is expected to cost over \$56 per sq. ft., and it will yield a lower than typical ratio of net rentable area to gross area. As a highrise office building, its economic efficiency is doubtful; each bank of elevators will serve less and less space as it ascends. A local engineer suggests that "although it might create a few structural problems, to put it mildly, the building

would appear to make more sense functionally if it could be built upside down."

Historically the pyramid form has usually been handled with caution. The big ones in Egypt and Mexico are flatter and set off by themselves. Even obelisks with more subtly sloping sides and truncated tops typically command squares rather than being set among other architectural forms, (except in cemeteries), and they generally are monuments to men or deeds rather than spaces for living or working. The slanted sides of a pyr-

there are no concessions in the final, revised design to show it. Blunting the spire to a 9½-ft.-diameter cigar-shaped terminus, rather than a needle point, will hardly affect the building's pyramidal thrust. If anything, the final design is worse in the eyes of the Planning Director. "I regret to say," he told the Commissioners, "that all [the original] discrepancies remain and several more have been added."

Pereira's own perception was widely, if not surprisingly, different. "Actually, the pyramid is the ideal configuration for high-

Transamerica's executives were perhaps a bit puzzled by the fervor of designers and planners who stood up against them, but were still without discernible doubt that as owners of the site they should be allowed to build whatever the ordinance literally permits. The manager of public relations reported no outraged letters from shareholders.

From Transamerica's point of view, the site at one end of Montgomery Street is ideal. It is securely within the financial district, but tantalizingly close to the topless/bottomless spots at

the trylon in the 1939 New York World's Fair's Trylon and Perisphere centerpiece, with embellishments that will make it look like a rocket on a launch pad.

I have heard Transamerica criticized by conservative businessmen at the other end of Montgomery Street for not building a small institutional gem (like the Ford Foundation's). This is to criticize a profit-seeking conglomerate for not acting like a charitable foundation. A conglomerate is almost by definition a bit pushy and grabby, depending upon continual attention from that section of the investment public interested in "go-go" performance. The tower may not be the only expression to which Transamerica might have turned to present its image, but it certainly fits a company that began its last annual report, "We need but look around us to be reminded that change in modern America is a way of life."

Politically, the building was "in" with the Board of Supervisors even more solidly than with the Planning Commission. Here there was only one opposing vote. Despite opposition of the police and fire departments to the closing of Merchant Street, Mayor Alioto had taken a strong position of advocacy in his letter to the Commission when he said, "The decisions of an internationally famed architect such as Mr. Pereira should be given considerable weight unless it can be said that all reasonable persons must agree that the design is inappropriate. . . ." Mr. Alioto, who is a successful attorney, appeared to reason that architectural excellence can be determined as one adjudicates in a court, assuming that "reasonable men" know as much about design as they do about justice. "I, for one," the Mayor continued, "believe that the design of the building will add considerable urban beauty to San Francisco." Political support was added by the Downtown Association which was "thrilled by the daring design." The Chamber of Commerce Board of Directors voted unanimously to support the new headquarters as proposed. The \$750,000 increase in real estate taxes and the hundreds of construction and allied jobs which the tower would create were duly noted in the minutes of the Planning Commission hearing.

Because political support at



The tower as seen by members of San Francisco's Environmental Workshop.

amid catch the eye at the base and carry it to a brittle finale. There is no relief, no way for the eye to get away to wander among the random patterns of flat roofs at various heights or over softer domes or sharp spires which occasionally punctuate the city's skyline but do not insist on attention for their entire height. A pyramid, like an arrow, forces the eye to make a supreme effort to unrivet itself to see anything else; looking away is a strain.

Two views of a pyramid

To Pereira, the building will be a "soaring structure" rising from a dramatic podium (later eliminated in the revised plan). If he felt abused in any way by the attacks from his peers or the disgruntled *Planning Director*,

rise buildings in a densely urban area. Our design for the Transamerica Tower is in every sense functional . . . (it) has the practical advantage of admitting more light and air to the street below, and it forms an interesting and graceful silhouette against the sky. Occupying, as it does, one of the most commanding sites in all of San Francisco, the building must be more than a receptacle for desks and chairs and people. We felt that it could be a statement of architectural sculpture." Nor did the Transamerica executive hierarchy give the impression of being perturbed by their opposition. Judging by their representation before the Planning Commission and the Board of Supervisors and by their press releases,

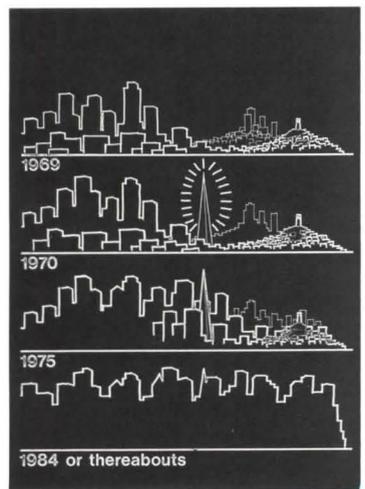
nearby North Beach, and only one block from the local Playboy Club. The location befits a solidly based establishment (with assets of over \$3 billion) which likes to present the image of a swinging conglomerate whose holdings include a movie company (which produced "Alice's Restaurant") as well as less glamorous finance, insurance, and real estate firms.

To the charge that the tower would be a "look-at-me" building, the fact sheet in Transamerica's press kit replies with a question: "why mediocrity?" The pyramidal shape does, in fact, have the look of the 21st century found in Sunday supplement fantasies of the city of the future, usually under an air-conditioned dome. But it is about as fresh as

the upper levels of power has been so wholly on Transamerica's side, the tower may have as much impact on the city's politics as on its skyline. Once the building is built, it cannot go unnoticed, and the public will not be allowed to forget that it represents Lower Manhattan come to San Francisco. On September 16 the *San Francisco Examiner* carried a speech by William Roth (who developed the city's elegant Ghirardelli Square) before the San Francisco Planning and Urban Renewal Association: "The city mustn't scream with delight, fall down and roll over each time money comes with yet another outrageous insult to its sensibilities." On the same day, U. S. Steel proposed a 40- to 50-story building (35 ft. higher than the towers of the Bay Bridge) which, if built, will interrupt views from the hills to the Bay.

Politics and environment

The issue is no longer the approval of any one Transamerica tower, but where future power will be vested to determine how San Francisco will change. Traditionally, the city's development has intensified on its hills, with taller structures accentuating their tops, not blocking views from structures on the lower slopes and in the valleys.



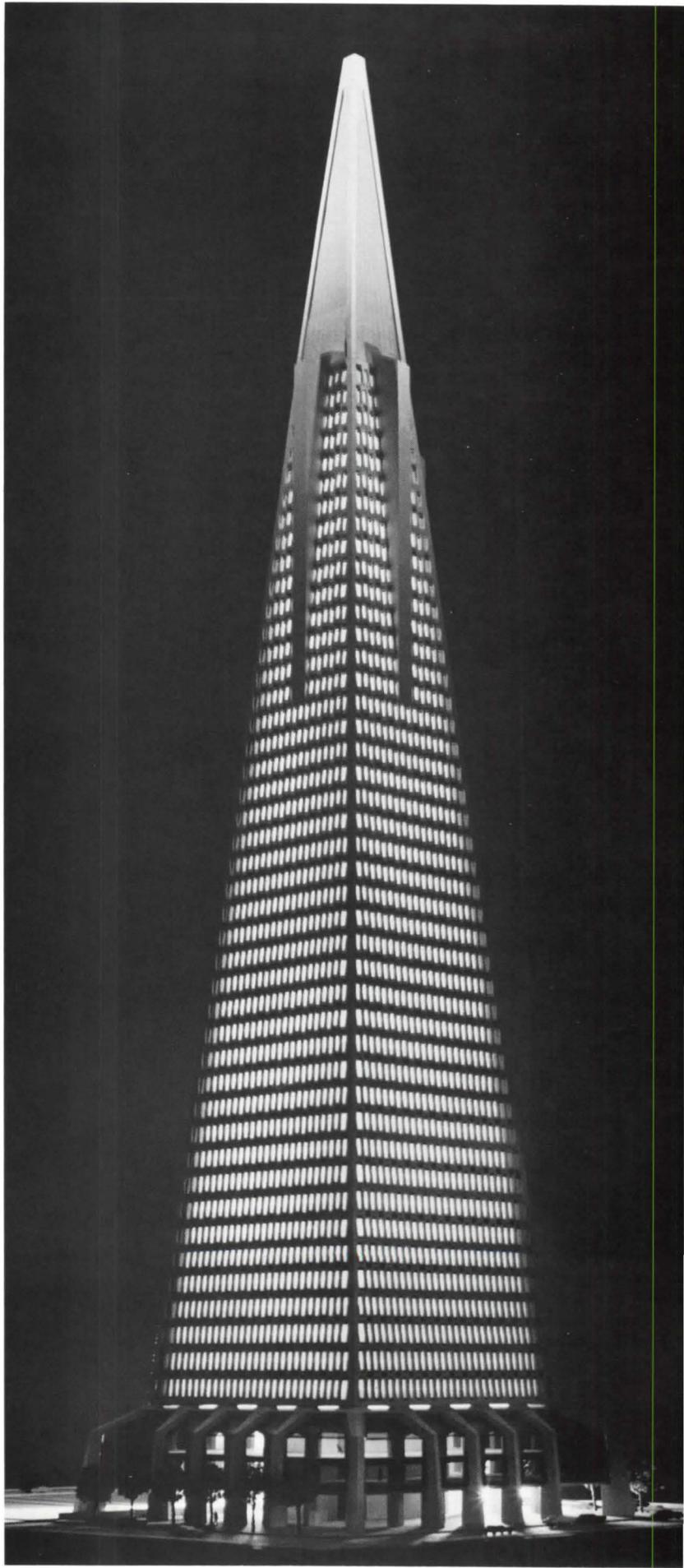
One of the founders of the Environmental Workshop has said that his group would never again oppose an organization like Transamerica. But the group's disappointment is still deep and its passion is not yet spent. I cannot believe they will let Transamerica's tower fade into the background even if it could. It is now a cause, and in the next few campaigns we may see a new kind of politician running for the Board of Super-

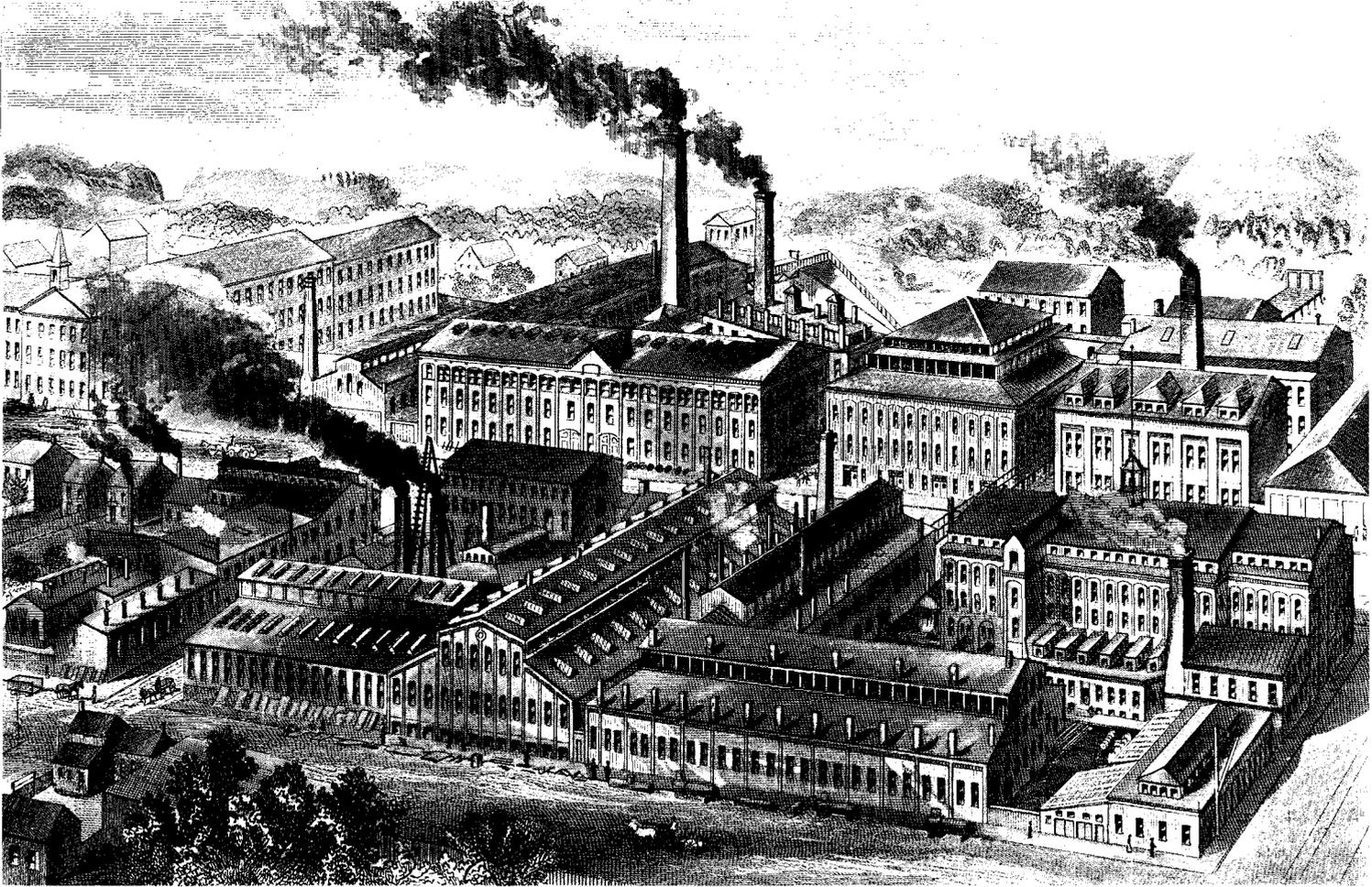
visors in San Francisco. He may have to be skillful enough to balance such simplistic values as jobs and tax base against protecting the subtle qualities of the city scene.

In fact, within weeks following approval of the Transamerica Tower (even before the building permit was issued), evidence of a change in the politics of planning began to appear. First, in a humbling session, the Board of Supervisors reversed a 6-5 decision giving preliminary approval for Lamar Hunt (son of H. L. Hunt of Texas) to turn Alcatraz into a commercial tourist attraction (see page 42, and Nov. '69, p. 87). The Supervisors had been pressured by a sudden flood of 10,000 coupons opposing Hunt's plans, clipped from an ad in the *San Francisco Chronicle* placed by a private citizen-conservationist (at a cost of \$5,000).

Next, the October 18 issue of the *New Republic* carried an ad among the personals, urging "SAN FRANCISCO AFFICIONADOS" everywhere to "show appreciation of Supervisor Jack Morrison's continuing fight against the spoliation of the city's natural beauty and charm by sending \$1 to Morrison headquarters" for his support in the election on November 4. In the Transamerica hearing before the Board of Supervisors, Morrison's was the one opposing vote. As a doctrinaire liberal he lost, but by the end of the campaign environment and ecology had become catch words. It has become good politics, at least, to sound like Morrison when he spoke before a collection of the region's conservation and birth control groups, prophesying that in a few years "nobody's going to get elected unless he's right on environmental issues." And a newcomer to elective politics (Diane Feinstein) who had been supported by such groups as the Environmental Workshop, pulled more votes than anybody else.

San Francisco is a romantic city; like Venice, Florence, and Paris, it captures the heart of casual visitors and the imagination of even those who have never been there. In the face of devastating environmental change, the politics in San Francisco may offer a small opportunity to the growing numbers of people everywhere who would like to see things left as they are, or perhaps put back the way mythology says they were.





PROPOSAL FOR PATERSON

Unrecognized
historic architecture
becomes the focus
of a challenging plan
for renewal

BY ADELE CHATFIELD-TAYLOR

If you've ever been to Paterson, New Jersey, chances are you didn't go there to see the oldest urban industrial experiment in the United States. Or, if you live there, chances are you do not know that Paterson was once intended to be the country's "National Manufactory." Or you don't care. For you must first deal with what Paterson is today: another American city in the grip of urban decay.

There is nothing unique about present-day Paterson—it has the universal problems of pollution, racism, poverty, unemployment, and old politics—but there is something unique about an ailing 20th-century city that still has its 180-year history intact. When major industry moved out fifty years ago, and the homeless and jobless moved in to remain ever after, the physical part of the city stayed as it was and the rest of the city spoiled around it.

The city can be repaired with standard urban renewal finesse—raze it and rebuild it—or destroyed by spontaneous combustion like Detroit in 1967, but it probably won't be, since Paterson cannot afford it and neither can Nixon. So Paterson is considering a proposal for renewal that has been presented by a group known as Urban Deadline. The renewal is designed to be a self-help project, and thus must also be self-made; Urban Deadline has provided the general outlines and the people of Paterson will supply the specifics. The proposal is based on the belief that Paterson will discover a means of treating the present—which makes renewal necessary—by reclaiming the past, which gives the city a purpose and precedent.

The proposal recommends the preservation, rehabilitation and continued use of historic industrial architecture, and the development of city-owned land and the frontage along the Passaic River. It will provide new public recreational facilities, a new source of employment, and new revenue for the city. It is intended to demonstrate that the physical evidence of Paterson's distinguished history can be salvaged to become the focus of a comprehensive renewal program.

Paterson was founded in 1791. Earlier that year, Alexander Hamilton had presented to the House of Representatives his *Report on Manufactures*, showing that the United States need-

ed to develop its own industry (previously forbidden by the mother country) in order to be totally independent.

To put his theory into immediate action, the then-Secretary of State joined the Society for Establishing Useful Manufactures (strangely shortened to SUM), an organization formed to initiate large-scale industrial activity in the state of New Jersey. Due largely to his interest and encouragement, the SUM was New Jersey's first business corporation and in its charter was given a unique set of powers, including exemption from state and local taxes. The SUM's ambition was to manufacture everything.

L'Enfant in Paterson

The Society chose for the seat of its enterprise the Great Falls of the Passaic River—a 70-ft. waterfall that was an astonishing sight even in the comparative wilderness of the 18th century and that remains Paterson's most spectacular attraction. They bought over 700 acres of land and named the place Paterson after the governor of the state.

After choosing the site, the most difficult task before the SUM was harnessing the Passaic. At Hamilton's recommendation, but not without some hesitation, the Society engaged Pierre Charles L'Enfant to plan the waterways and lay out the town. The impetuous L'Enfant, engineer-planner-architect, was available only because he had been freshly fired from his post as planner of Washington, D.C.—he had proven himself *Penfant terrible* by spending, in his first year at the nation's new capital, more than the entire budget for the city, and by insulting everyone in town including the President and Hamilton himself.

L'Enfant was hired at a particularly unfortunate time for the SUM. The governor of the Society, William Duer, had been disgraced and imprisoned in the New York panic of '92; half of the SUM funds had been lost in the shuffle; and superintendents who had been hired prematurely to manage the nonexistent mills remained on the payroll.

Characteristically for L'Enfant, he plunged in with great energy and grand ideas. He planned a five-mile aqueduct and a city of radiating spokes, but construction had scarcely begun when he was again banished for his ex-

travagance—and later blamed entirely for the failure of the first SUM venture. While the plan for Washington was more or less executed, the plan for Paterson was deliberately discarded, and the city's long non-planning tradition begun.

Having disposed of L'Enfant, the SUM imported Peter Colt from Hartford, Conn., to superintend the project. Using the scant beginnings of the aqueduct, Colt built a raceway for more expedient ends—to give the SUM immediate waterpower, and to put them in business at last. But it was too late for Colt too; his first mill was finished by 1794, not soon enough to save the SUM from near bankruptcy. By 1800, there were several mills, but business was not good and Colt returned to Hartford. In 1814, his son Roswell Colt appeared, acquired control of the corporation, and cashed in on its tax exempt status by leasing out the waterpower and the land. He made a killing, and Paterson went into its prime.

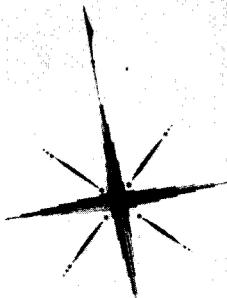
Water power was promptly replaced by steam and eventually by electricity, so the oft-extended raceway and riverfront factories became a background for inland industry; the town grew rapidly and at random. Paterson became the home of the first Colt firearm, the Rogers locomotive, and the majority of manufactured textiles for New York City and Philadelphia.

Despite periodic prosperity, the city of Paterson collected nothing when SUM business was booming and suffered (at about 20-year intervals) when business was bad. But the city was not in serious trouble until the end of the 19th century when the major manufacturers moved to Pittsburgh and to the south, leaving Paterson to live off the leftover light industry and the economic opportunities of nearby New York City.

One happy effect of unsteady success was that Paterson industrialists were rarely able to replace their old factories with completely new models, and the older ones were only occasionally updated. Thus, some of the

Miss Chatfield-Taylor has been very much involved in this project. She did extensive research into Paterson's architectural history, and she is a member of Urban Deadline. She expects to receive her M.A. in the Restoration and Preservation of Historic Architecture at Columbia University.

An 1872 rendition of the "Rogers Locomotive Works" (above left) depicts a prosperous Paterson, and illustrates the complex architectural requirements of mid-19th-century industry. The Great Falls of the Passaic (left) were the original incentive to industry; raceways provided water power for the first mills and factories, and then steam enabled manufacturers like Rogers to expand inland, independent of the river.



CITY OF
PATERSON
 PART OF THE
4, 5, 6 & 7 WARDS

buildings in operation today date from the early 1800s, and along with those built throughout the 19th century, provide in Paterson a complete catalog of industrial architecture in this country.

If the move of big industry weakened Paterson's already uncertain footing as an eastern industrial power, the influx of immigrants after the turn of the century brought the city to its knees. The increased numbers introduced shortages in housing, jobs and recreation facilities that have never been relieved.

History: key to the future

Paterson is a town that has always been popular when prosperous, and abandoned when threatened; it is threatened now, but there are people who are proud of the past and want to do something about it. The present mayor, Lawrence Kramer, and Mrs. Kramer are among them, along with a few local historians and a number of other interested individuals.

Kramer's credentials are good: he is a Republican who was elected in 1965, before it was fashionable; he has just been re-elected; and he has not been indicted for anything. But traditionally, the mayor of a city like Paterson occupies a position somewhere between the black man and the unliberated white woman: he is eligible for blame, but not entitled to beg. When Paterson's blacks rioted in 1968, it was prime-time television news, but when Paterson City Hall asks for substantial federal assistance that is no news at all; the requests are filed away, and no one in Washington expects to be criticised because—as cities go—Paterson is a second-rate city.

The situation is changing slightly. A Model Cities project is underway; HUD and OEO have programs in job training and education; and private organizations like the Inter-City Christian Action Group, the United Group, and the Catholic Archdiocese are active. But the combined strength of all federal grants to Paterson constitutes little more than a vestpocket attack on a sinking city. Washington has its own problems restoring Pennsylvania Avenue to its original L'Enfant grandeur. Paterson is not the nation's or even New Jersey's capital, and it sent L'Enfant packing before he had a chance to leave any

landmarks of great significance.

L'Enfant and his contemporaries, however, may still be the key to Paterson's recovery. Since L'Enfant himself did not leave any evidence of his involvement, the industrial architecture becomes important, historically, as an evolving technological complex. The individual buildings are not distinguished architecturally, but all together along the meandering raceways they are often picturesque and certainly are uncommon.

As yet, the historic buildings have not been noticed by the government agencies charged with protecting America's past. In 1967, the Department of the Interior designated the Great Falls a "Natural Historic Landmark," opposite which a vast and ever-empty parking lot was installed—institutionalizing the site and almost obscuring the view of the river below—and in honor of which a bronze Alexander Hamilton was erected to guard the lookout and sport a National Parks Service plaque.

Beyond this, no government agency has responded to the call. Even the Smithsonian Institution's energetic Robert Vogel, who recorded much about the Merrimac Valley Textile Mills in New England (many now demolished to make way for "urban renewal"), was unable to stretch the war-shortened Smithsonian resources to fund a preliminary survey.

The worthiest historic causes seem to need a bulldozer to be convincing as threatened monuments have first priority. But Paterson now has the threat of its own Interstate highway, so application has been made to the National Register in hopes of having the entire site declared an Historic District, and favorable action is expected.

Enter Urban Deadline

Some time ago, Mrs. Kramer was advised by an architectural historian and restorationist to generate public support for a preservation project, and—since funds were lacking—to find someone to do the architectural investigation for nothing.

John Young, who is a member of Urban Deadline, had gone to Paterson in 1967 to examine the industrial architecture as a possible subject for a master's thesis: he was in the M.S. program in Preservation and Restoration of Historic Architecture

at Columbia University. Greatly impressed by its potential, he wanted to plan a preservation and renewal project around the old buildings. When a faculty member in the department at Columbia vetoed the subject ("there is nothing there"), Young submitted no thesis. That was the year that Columbia "blew up," and Young joined the student strike.

Remembering his interest, Mrs. Kramer later contacted Young as her possible "good for nothing." She found that in the interim he and some 15 others from Columbia had formed what is now Urban Deadline. The strike was its initial impetus—the group wished to demonstrate in architectural terms that the insurrection was constructive rather than destructive. Relieved of academic constraints, they soon became involved in community projects, were constituted a nonprofit, tax-exempt corporation, and have been active in New York City and elsewhere since the summer of 1968.

Urban Deadliners have been called advocate architects, architectural activists, guerilla architects, and kooks; they are usually involved in no- or low-budget projects that have been overlooked or rejected by professional architects, or in projects that are vainly awaiting some other kind of expert attention. They have been involved in almost every aspect of traditional architecture, from bandaid maintenance and actual construction on existing buildings, to design and planning for new buildings, camps, and parks. Their work is always done *with* the people who want it done, and is intended to demonstrate that people are capable of, benefited by, and responsible for "doing their own architecture."

The Urban Deadline project for Paterson begins with a preliminary proposal (which includes the material shown on these pages), and will be followed by research, participatory planning, and implementation. The graphic material and historical reports prepared by John Young were submitted to Columbia in June 1969, and were enthusiastically received by Professor James Marston Fitch, head of the graduate program in Preservation and Restoration of Historic Architecture. Thanks to Fitch, students can explore the curious idea that preservation



A detail of an 1877 map (left) shows the raceway in its final form. The Urban Deadline drawing (above) shows the same area after the loop of Interstate Highway 20 has been built (late 1970s). This route—which saw off a corner of the oldest part of Paterson—has been chosen for reasons which include the following two: 1) low density of the industrial district, and 2) lack of opposition from the adjacent residential district, which is to say, the poor will put up with it. Urban Deadline chose the site for the center of a renewal proposal because 1) it is the heart of Paterson's history, and 2) its development may neutralize the effect of the highway and prevent a poor section of the city from becoming another Watts.

of historic architecture *can* result in something more than another Williamsburg, and that restoration can be a basis for urban design.

The historic area is bounded roughly by the raceways and the Passaic River, Paterson's oldest landmarks. Young chose 40 buildings to be restored and preserved—some will continue to function as factories, others (crippled by the highway) will become community centers, restaurants or factory museums. Amenities now absent have been introduced, and some historical precedents revived. Much of what Young has proposed is not unheard of—he has concentrated on the city's current problems, and taken into account the fact that Paterson will probably not be selected for outside assistance, and that any plan for improvement will have to come from the people inside. So he has not tried to create anything that is too fancy; he has illustrated that the people can turn their history into part of a renewal plan for the future, for their own use and pleasure.

Building on the past

One of his ideas is to build a bridge below the falls and restore the 19th-century situation of a public park on the riverbank opposite the factories. The drawing from Monument Hill (right) shows the development of both sides of the riverfront; the bridge leads from the factories to an amphitheater or other facility that would encourage public use of what is now a dumping grounds. The spot is also easily reached by residents of the Fifth Ward, which is in an isolated section that will be completely cut off unless an attractive connection links it to the other side of the river.

The borders of the raceways would become a park. The thicket around the raceways is already popular for those who are willing to venture in—to play in the water or sniff glue in the bushes. The thicket needn't be disturbed, but it can be made accessible to more people. The view from the Ivanhoe Works (right) takes in two levels of the raceway—but it is now taken in only by those willing to scale the bank and stand knee-deep in the upper race staring at what looks like an open sewer. Young's drawing shows what this might be if

opened to the public as part of a meandering path along the raceways.

Ideas like these are not intended as final designs; they are intended to inspire the people who will be making the decisions and who will be planning what *will* be the design—the people of Paterson. "Urban Deadline's role," says Young, "is to be the advocate and investigator of a process of planning that must be carried out by the groups who will be affected by the project." From now on, Urban Deadline will operate only in certain situations: 1) they will see that the ideas of all groups are heard, given graphic form, and then integrated into the project; 2) they will present the project to all groups, outline its potential development, and describe the process that can be used to carry it out; and 3) they will identify and evaluate sources of funds, public and private.

The rest will be the work of the people. The historical research will proceed, and the real research will begin. That is, the Patersonians who know about the project will contact the people who are to be affected, and begin to collect ideas. This is the most delicate part of the operation, for as Young says: "It has components that could appeal equally to all contending factions: low-, middle- and upper-income. It is not just architecture, or historic preservation, or beautification, or housing, or job training; nor can it become a political football to be kicked around by various factions. It is necessary that all participate who will be affected by it."

Urban Deadline sees Paterson as a New York storefront, with which they have had much experience, writ large. They know that it is possible to take an abandoned building and make it work again, once it is accepted as given—you can't count on a new one, so you think in terms of what's there—and make the most of it. Paterson is a city, not a storefront, but it is not a huge city. With a population of 150,000, it is not big enough to have a slick City Hall that runs things by remote control, but it is not small enough to be without political suspicion. It is big enough to have to contend with the same problems that plague the biggest cities, but too small to warrant major federal or state attention. So, no matter how presentable

and traditional its structure, it cannot manage in a traditional way, and it will have to hustle what major cities can demand.

"Clearly," says Young, "the major hurdle is the resistance to be found in most groups to proposals that they have not begun themselves. Urban Deadline thinks that this resistance is justified with respect to most projects coming from groups with special interests." He adds that Urban Deadline has already been told that the project will be rejected if it comes out of City Hall. So it will be Urban Deadline's responsibility to generate interest and public support for the project, because they are less suspect politically than City Hall. They aren't on anybody's payroll.

People are the real planners

Urban Deadline believes that their storefront discoveries can be extended to Paterson, in spite of the scale, because it involves the same *process*. "It might be called advocacy architecture," says Tyler Smith, of Urban Deadline, "but that is too narrow. It goes beyond architecture to the politics, sociology, and economics that establish the preconditions of architecture."

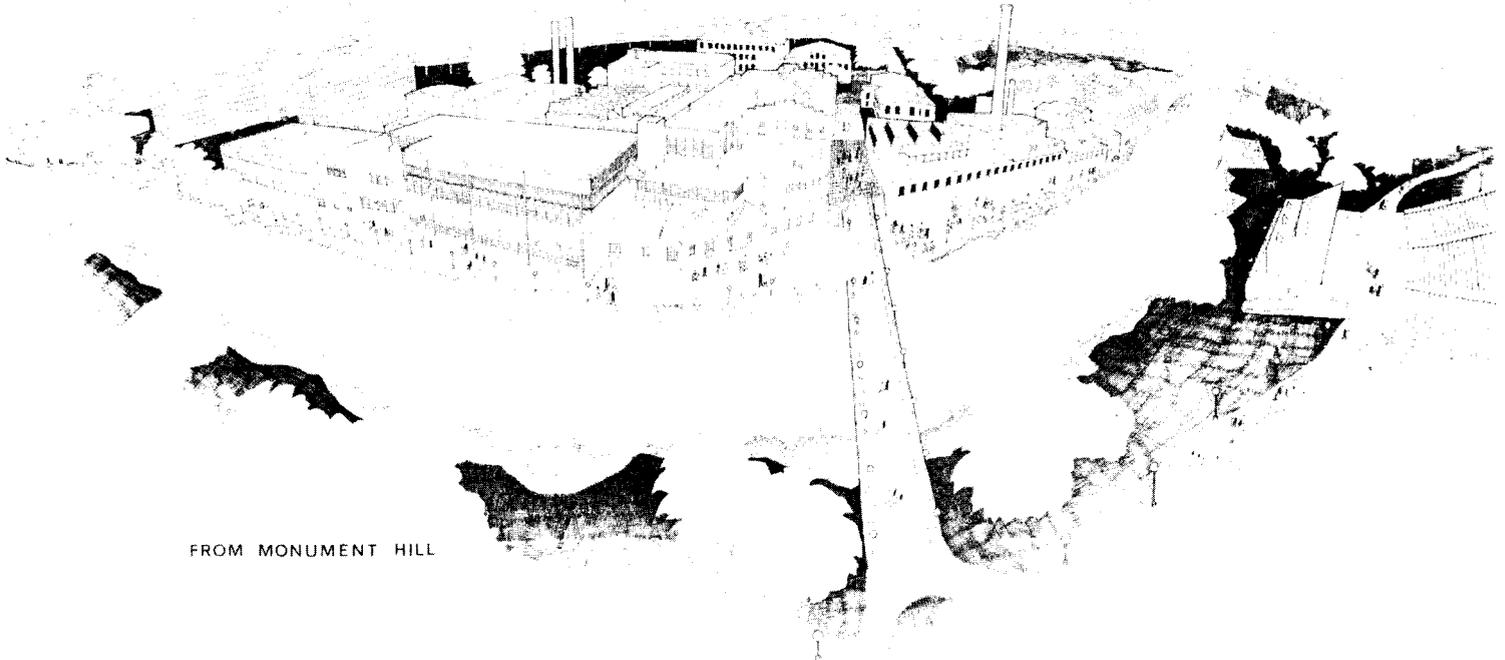
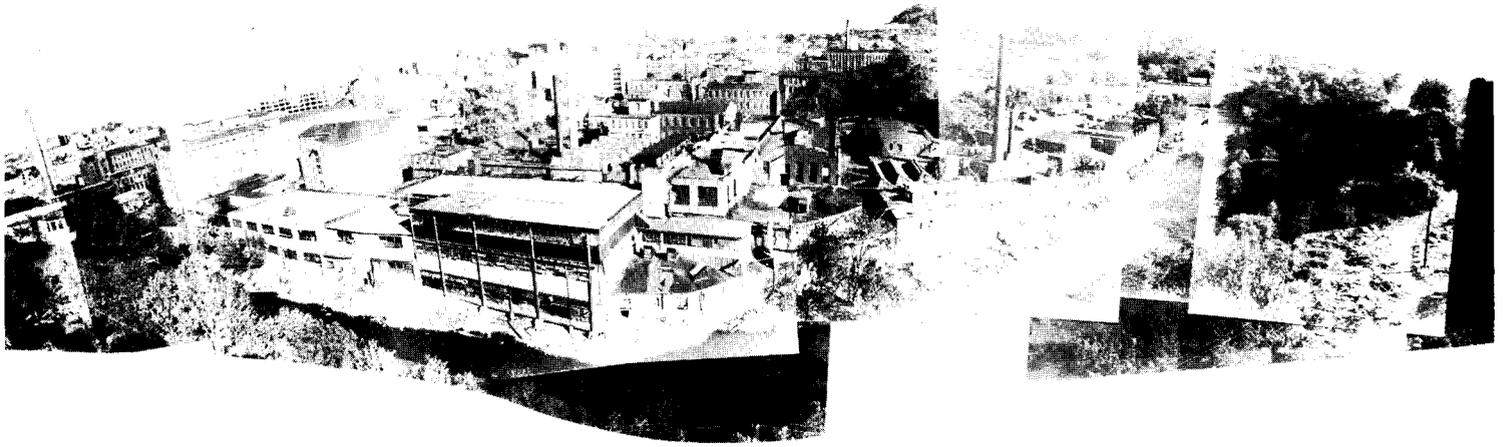
The process begins to work when every faction is notified that it can be heard, and the planning begins when they are satisfied that they have been heard. Implementation involves all the experts, organizations and conventional schemes that need to be brought into the process in order to execute the plan—once the plan is such that no one can walk away with it.

First, though, Paterson must accept itself as given, and must see what it has to get by with. Its industry was once its fortune, and the remains may be a new key. "Paterson's history gives the city an understanding of how it evolved and where it is going," says Joel Silverberg, an Urban Deadliner. "It gives it a place to re-evaluate its existing resources, and it becomes a symbol which can be expanded into something concrete for the future."

This is not a sentimental attempt to retrieve another era. It is an attempt to unbury the past in order to telescope the events that have led to the Paterson of today, and remind the people of Paterson that the present will not be the last chapter of Paterson's history.

John Young's drawings—below photographs of present Paterson scenes—show some possibilities for the old industrial area. Here (above right), Monument Hill is the site of a public amphitheater and a hillside park; the factories open onto a riverwalk, much like the celebrated version in San Antonio, Tex. The Power Station (right), built by the SUM in 1912, is an indoor-outdoor restaurant with a fine view of the Falls above and boaters below.

Photographs: C. K. Livitsanos.



FROM MONUMENT HILL



GREAT FALLS

The most depressing places in urban America today are not the slums but the offices of Model Cities agencies. Some give the impression of frenzied purposeful activity, with people busily preparing documents and holding high level meetings. Others are almost quiescent and one wonders about the seeming waste of public money. The Model Cities agencies are engaged in a job of planning and program development that is bound to fail. In dozens of cities around the country, Model Cities programs are being prepared for federal approval—but not one program is likely to have any significant impact on the physical, social or economic problems of poor neighborhoods.

As an active participant in planning a variety of Model Cities and Community Action projects, I have seen early high hopes give way to disillusionment and cynicism. Many residents and community leaders—people who will be most directly affected by the Model Cities programs—no longer expect any dramatic changes.

Model Cities will fail for several interrelated reasons—none of which has much to do with the fact that inadequate funds were appropriated and that the Nixon Administration has further reduced the available funds. It will fail because:

- 1) like the Urban Renewal program, it is based on false and irrelevant diagnoses of the problems of poor neighborhoods, and proposes to treat symptoms rather than underlying causes;
- 2) while the program promises substantial citizen participation and control, it will undermine existing community organizations and leave communities more powerless than before; and
- 3) it depends upon an unworkable notion that competing and unsympathetic municipal bureaucracies will be able to provide better services through cooperation and coordination.

These points can be best illustrated by a close look at one Model Cities neighborhood, the East New York section of Brooklyn. Over the past several years, I have participated in the plan-

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MODEL CITIES

MODEL FOR FAILURE

BY DAVID STOLOFF

ning of the East New York anti-poverty and the Vest Pocket Housing programs which preceded the Model Cities Program. An advantage of examining this slum neighborhood is that it is farther advanced in the Model Cities program than other areas; the City of New York initiated the program nearly a year before the first federal planning grants were made. Familiarity with programs in other cities indicates that the situation in East New York is quite typical.

Problems versus solutions

Implicit in the Model Cities approach are some very simple-minded notions about how to deal with urban problems: rehabilitation and new construction are the answer to physical deterioration; more educational, medical or other social services are the answer to social problems; more training and jobs will do away with un- and underemployment; and, enticements to private investors will make up for the lack of capital investment.

While this may seem very straightforward, it ignores the causes of inner-city deterioration, social neglect, unemployment and lack of private investment, and thus avoids the necessity for dealing with them.

In East New York, for instance, Model Cities proposes to replace deteriorated housing without intervening in the social and economic processes that continue to destroy the housing stock, and these processes are operative in practically every Model Neighborhood in the country. Until the early 1960s in East New York, housing was basically sound. Rapid deterioration began as housing demand declined among the aging white population whose children were finding improved housing in nearby suburbs. At the same time, there was a tremendous upsurge in demand for housing among poor and working class Negroes and Puerto Ricans. Landlords and homeowners panicked or attempted to exploit Negro and Puerto Rican families desperate for housing. Blockbusting, rent gouging, inflated sales prices, withdrawal of maintenance services, and phony sales contracts became and continue as common practice.

The Model Cities program won't stop any of these practices—it will squander its limited housing funds paying inflated

prices for properties that have been totally destroyed by over-exploitation. Slum speculators, many of whom learned their trade by outguessing urban renewal administrators, take their profits and invest in buildings that are likely to be purchased in the next round of slum clearance. As long as such payoffs are permitted, there isn't enough money in the entire HUD budget to buy the slum housing in East New York, much less the slum housing of urban America.

The unemployment problems of East New York are to be attacked through Model Cities by instituting job training programs and attempting to bring new industry into a nearby industrial town. However, any sophisticated analysis of industrial trends in the New York Metropolitan Region, or in any other metropolitan area, would show that such programs run counter to basic economic development trends. Most new and expanding industry is interested in the cheaper suburban sites with access to the interstate highway system. Industries likely to remain in East New York are those that have an extremely localized market, are undercapitalized, or for other reasons have limited potential for providing a substantial number of well-paying jobs.

The education, health, recreation, and other social service problems of East New York are ostensibly to be solved by building more schools, health centers, day care centers, recreation facilities and the like. However, little will be done to change the ways in which services are provided in these facilities. Since one of the basic causes of inadequate social services in poor neighborhoods around the country is the fact that they are designed and operated by insensitive bureaucracies as if to serve people with middle-class tastes and aspirations, there is little reason to expect the Model Cities solutions to bring about much improvement.

The lack of private capital willing to invest in housing and other construction in Model Cities neighborhoods is a problem that the Model Cities planners have not begun to fathom. Since Model Cities does not possess the resources to guarantee profits or reduce risks to levels found in suburbs and high-income areas, it cannot hope to

entice private investment in any substantial amounts. Yet, without such investments, the \$100 per capita to be spent by Model Cities in most areas will not have the essential multiplier effect that was the saving grace of some of the more successful urban renewal projects. The money spent by Model Cities will not generate other private investment or expenditures but will be absorbed by the impoverished local economy with no visible effect.

Model Cities is supposed to "... provide a meaningful role in policy-making to area residents . . ."; however, in New York, Pittsburgh, Chicago, Philadelphia and probably in many other Model Cities areas, it is actually providing a reduced role for citizen organizations that have long been struggling to strengthen their communities.

Over the past several years, the New York City administration has behaved like a capricious parent, first granting substantial power to community groups, then taking it back. In part, this has been due to regressive Congressional actions requiring cities to take back control of antipoverty funds from citizen-controlled Community Action agencies. In part, it has been due to the city administration's ignorance of the social dynamics of poor neighborhoods. Regardless of intent, the effect has been to foster unnecessary and destructive confusion, animosity and competition within many communities. East New York is a clear case in point.

Confusion by committee

After the 1966 riots in East New York, the Council for a Better East New York (CBENY) was recognized as the most viable and representative community organization. That summer, most of the area's antipoverty funds were given to CBENY to initiate recreation, education, health and other programs. CBENY opened several storefront centers and engaged hundreds of youths in a variety of activities. The mood on the streets of East New York seemed to change and many residents felt that at last conditions were beginning to improve.

However, later that year, the city reversed itself and decided to impose an independent antipoverty organization on East New York, as part of a city-wide reorganization plan. CBENY and

the other groups became "delegate" agencies of the new organization, called the East New York Community Corporation, and were allowed to continue a portion of their programs. However, CBENY lost fiscal control and lost its role as the planning agency responsible for developing a community-wide attack on poverty and other community problems. This shift in responsibilities, plus the questionable election procedures by which the Community Corporation was formed, generated distrust and hostility among many community leaders who had been actively engaged in planning for neighborhood programs. The Community Corporation itself became simply a funding agency that mediates among the various organizations seeking to operate social service programs.

Compounding this community organization error, the city administration initiated the Vest Pocket Housing and Rehabilitation Program late in 1966 without consulting or involving either CBENY or the Community Corporation. This program was one of four such efforts initiated in communities that were to become Model Cities neighborhoods. Each was allocated funds to begin planning and building "Phase I" of the Model Cities program, thus giving the city a head start before federal planning funds actually became available. To plan this program, an entirely new organization was established—the East New York Housing and Urban Planning Committee—and various organizations were invited to send representatives. The city administration was to be in charge of carrying out those portions of the plan of which it approved. CBENY chose to participate in the planning effort, but the Community Corporation remained aloof. Those taking part in the Housing and Urban Planning Committee overcame their initial distrust and were able to recapture some of the pride of involvement in community progress enjoyed earlier by members of CBENY. This committee worked long and hard to develop, with community approval, a truly innovative and sensitive plan.

But this effort too was short lived. Last year, the city established still another administrative structure for planning and operating community better-

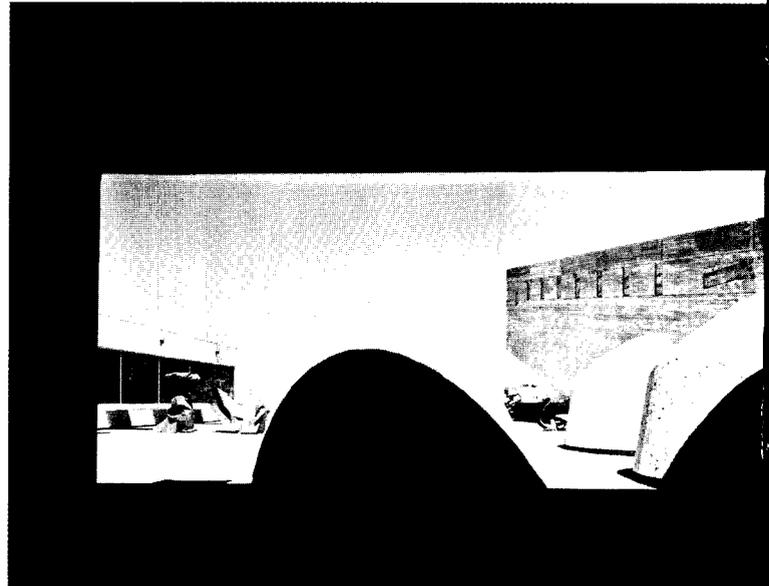
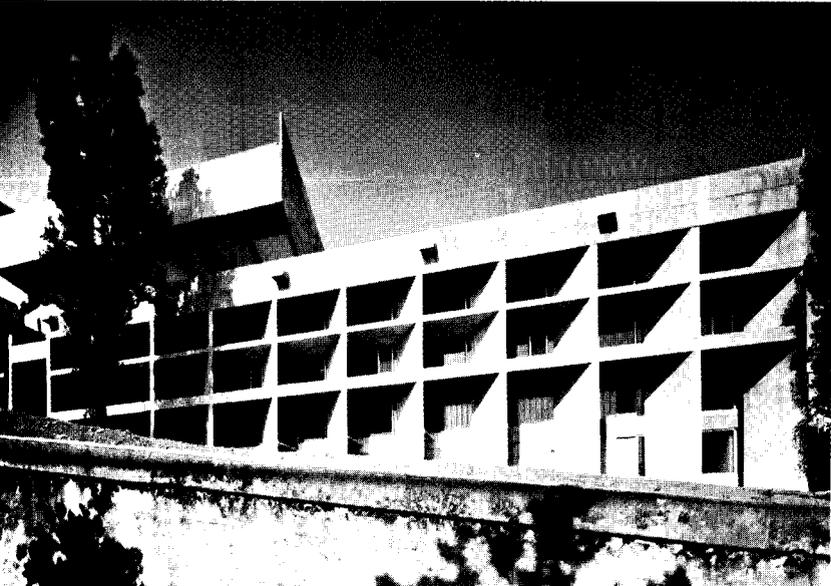
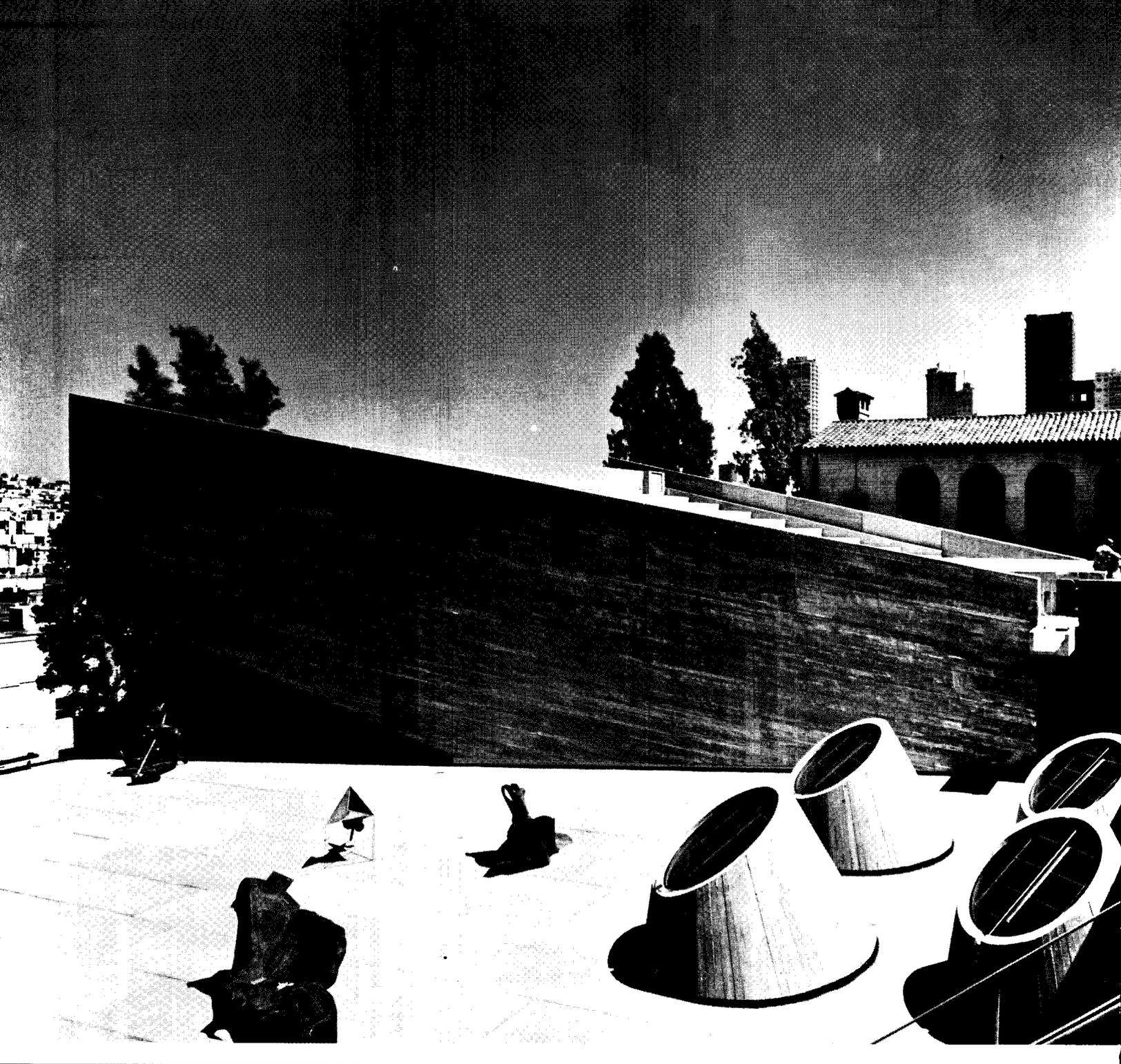
ment programs in East New York—the Central Brooklyn Model Cities Agency. And this was not only set up without consulting or involving the community corporations (there are three in the territory designated as Central Brooklyn) or the Housing and Urban Planning Committee—it was also to be a superior agency to them. Model Cities Committees were elected at hastily convened public meetings in East New York, Brownsville and Bedford-Stuyvesant. A Model Cities director was selected and immediately began operating the Central Brooklyn Model Cities Agency—which turned out to be a city agency operating under the jurisdiction of a special city administration created to oversee Model Cities staff in several sections of the city. The Model Cities Committee, which supposedly has program approval powers, is used by the Model Cities director more as an advisory body.

Dissipated powers

This agency was given the responsibility for the execution of a Phase I program as well as all future Model Cities planning and action phases. In East New York, the Housing and Urban Planning Committee members were understandably upset at the cavalier manner in which they had been treated; nonetheless, the Committee managed to retain the right to review changes in the Phase I program, and several participants were elected to the Model Cities Committee where they continue to function in reduced roles.

Much has been lost in the way of community spirit and cohesion. Participants are fully aware that they have much less influence than before—especially since the Model Cities director is unresponsive to their requests for information and organizational services. East New York participants feel with some justification that the Committees of Brownsville and Bedford-Stuyvesant are better organized and will receive the lion's share of Model Cities money. Puerto Rican residents who are approximately 45 per cent of East New York's population feel that their interests will suffer by being merged with the black communities of Brownsville and Bedford-Stuyvesant. The community corporations are angry with both

(continued on page 101)



Building for the arts

SAN FRANCISCO'S ART INSTITUTE

The Architectural Forum's man on the West Coast, Roger Montgomery, here reviews two San Francisco Bay Area art school additions by two different English-born immigrants to California. Despite superficial similarities, there were striking differences in their programs. Still, their settings and their designs make them both strong, independent contributions to the art-education environment and the architectural culture of the Bay Region. The second of these two buildings is described on pages 86-89.

Twice in as many generations the San Francisco Art Institute has built a new building and in doing so sponsored important architecture. Architect Paffard Keatinge Clay's new building opened this fall and about doubled the space available to the Institute in its 1927 eclectic masterwork by Architects Bakewell and Brown. And it more than doubled the architectural adventure available to the art students, their faculty and the community surrounding it on the lower slopes of Russian Hill.

The original building occupied only half the SFAI site, leaving the rest to a tangly backyard garden. When Clay first proposed his rough concrete box, many understandably objected because they wanted to hang onto their improbable old garden in the middle of the city. Greatly increased student demand, inadequate space for making sculpture, no place to hold large lecture classes, and a number of other pressing needs for space hobbled the Institute. The economics of the school (a tuition supported institution) demanded expansion. Now that it is accomplished it is clear they got more than a solution to immediate problems. They got an extraordinary work of architecture.

After a false start or two, in 1963 SFAI picked a largely unknown new San Franciscan, English-born architect Clay to program its expansion. The choice, due to the confident perceptions of two architect members of the board of trustees, John O. Merrill, Jr. and Mason Wells, proved a stroke of genius. Le Corbusier-trained Clay—he studied at Taliesin with Wright also—made them a building of striking power that relates sympathetically to the old structure of the Institute and to the surrounding city fabric.

The building section Clay invented responds directly to the site to produce a sequence of architectural experiences unmatched elsewhere in this city of stunning sites and spaces. Entry to the Art Institute remains on Chestnut Street through a convincing Baroque portal. The old building (actually a complex of spaces more than a building) represented a Spanish colonial mission quite freely translated into a rough board-formed concrete dyed a soft adobe-ochre under red tile roofs. The entrance leads directly to a quiet

court with a properly octagonal, colored tile fountain. Moving diagonally across the court and around the belltower in the corner through a dark vaulted passageway, one sees light at the end of the path signifying new space beyond. And what new space! So different from the preceding experiences, and yet so tightly related it takes some moments to tion and experiencing to assimilate.

What has happened becomes clear in retrospect. A transition occurred from a world of shapely hollowed-out space in the old building to a new world of primitive forms. At first these are tightly compacted—then they thin out, opening up to the infinite space which stretches to distant mountains across the Bay. Clay has created a city plaza with the roof of his new studios and populated it with a rich collection of elemental volumes. The big ones house principal activity spaces, gallery, lecture hall and cafeteria. The little ones exist for supporting architectural purposes, stairs for vertical access, skylights for studios, walls, railings, vents and chimneys.

At first the roof-plaza space is tightly limited on the left by a long wall shielding the offices, gallery, and seminar wing, and partially closed on the right by the lecture hall block. Passing the entrance to the lecture hall, the path works its way through a cluster of skylight cones out onto the main roof-plaza space and a spectacular view out over North Beach, the Embarcadero and the Bay.

Making the topography count

This sort of experience lies implicit in the San Francisco physiography—but infrequently realized and never better done. By squeezing the transition from hollowed spaces to sculptured volumes before exploding to the horizon with the space itself, Clay has magically intensified the experience. By making this space the hub of the school community, by merging completely activities patterns and form he has produced a work of genius, however obvious its pedigree.

Another almost equally powerful sequence relationship unfolds below. The roof-plaza covers a great studio space more than 150 ft. square and 20 ft. high. A simple loft space formed from 30- by 30-ft. concrete structural bays houses a variety of painting



Clay's Art Institute addition replaces gardens that ran down the slope from the original building (background, above) with a series of paved roof terraces. Truncated-cone skylights for the studios below pierce the main roof-plaza (foreground, above), which is bounded by the cafeteria wing and the lecture hall (near left). A view from the street along the east side of the site (far left) shows layers of studios below the roof-plaza, their windows shielded by a massive brise-soleil.

studios, ceramics and sculpture work spaces, and assorted ancillary support equipment. Some divisions of the space occur, all more or less temporary, ranging from concrete block partitions to locker banks and plywood. It appears busy, constantly changing, lively. Welding, life classes, roaring ceramic kilns, power tools, expansive areas of clay and plaster working, a mysterious enclosure for manipulating plastics, people in corners by themselves, in clusters arguing or trying to fix a stopped drain in the floor, classes ranged around their instructor animate the great space.

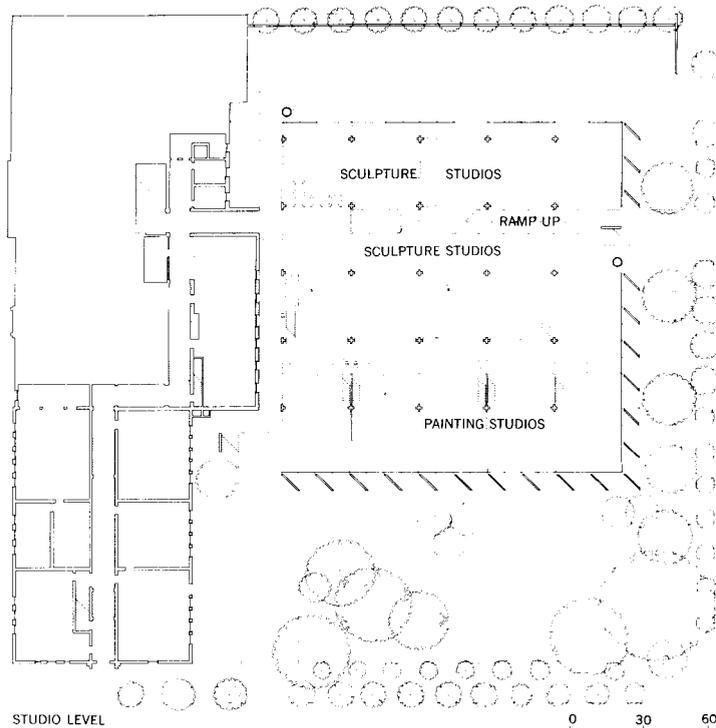
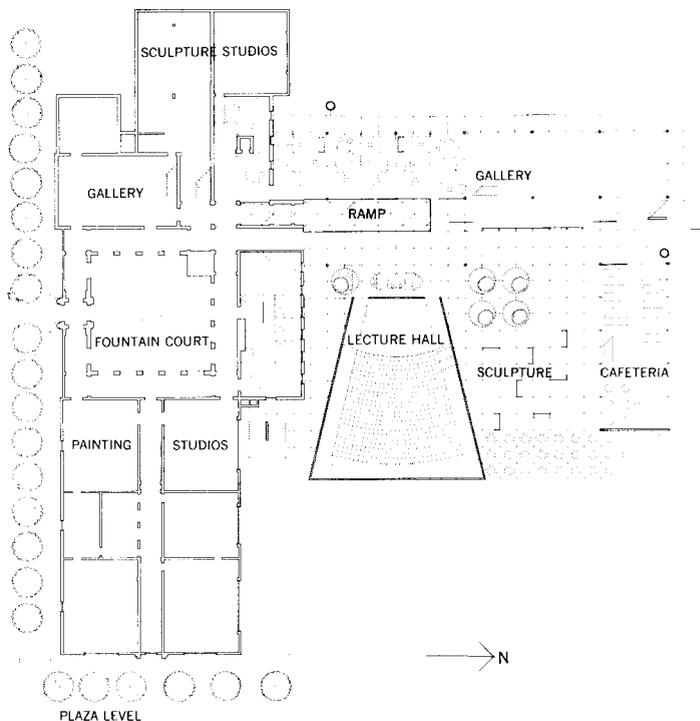
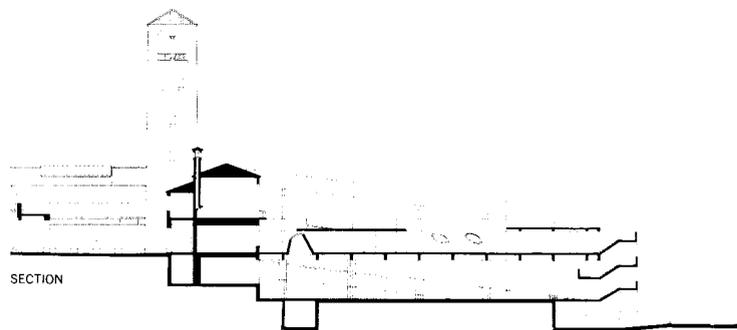
The architect intrudes upon its anonymity only with his concrete slab brise-soleil on the outside and the long ramp inside which slants clear across the whole space. (Incidentally, purists who wonder about the north-facing brise-soleil need to recognize their structural function, the importance of privacy in a painting studio and their value in plastic terms. Where bare glass makes sense, as in the roof-plaza cafeteria, Clay uses it.)

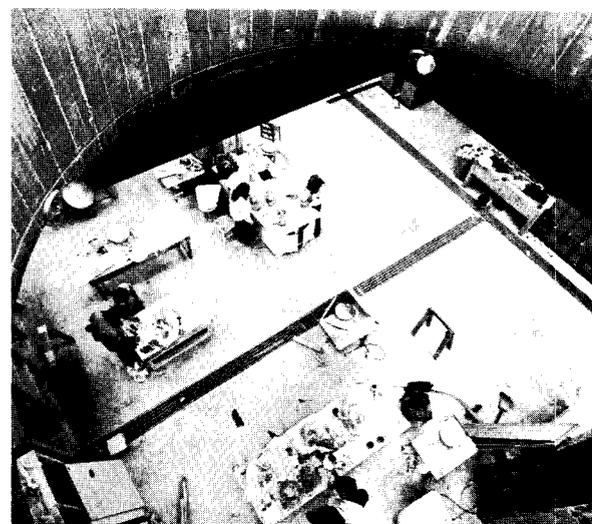
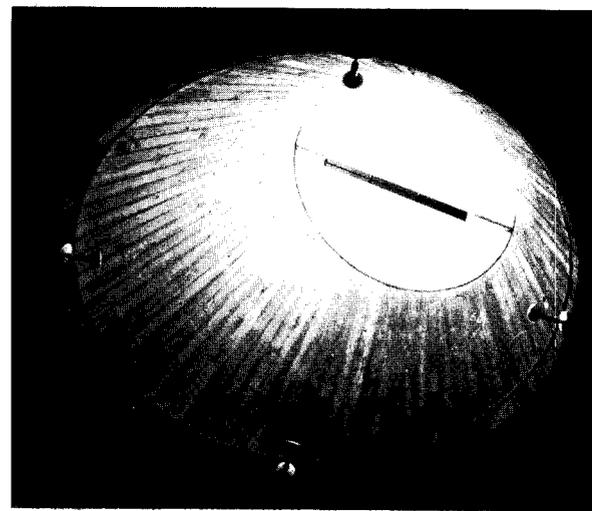
From the old building, access to the new studio space starts from an opening right beside the one leading to the roof-plaza. From this, the long ramp slants down through the studio to a new, on-grade entrance on the other side of the block on Francisco Street to the north. The moving vantage point, the ramp, provides, organizes, and orients the cluttered goings on in the studios. Inevitably taking this new, mid-block route between the two streets brings Corbu's Carpenter Center to mind. Though less grand, this ramp follows the slope, avoiding the march up to come down.

Inside, plain lofts

Technically the project seems perfectly straightforward. Béton-brut, glass set in black metal sash, railing of galvanized or painted steel flats, a few strategic wood wall surfaces, some special finishes here and there where needed to reflect sound in the lecture hall or insure sanitation elsewhere make up the material vocabulary. For the most part lighting and heating use the most direct exposed solutions. The only constructional item worth special mention appears in the roof of the lecture hall, which has been stepped to form an outdoor amphitheater high above the roof-plaza. On

A single, continuous ramp leads down from the first floor of the old art institute building (left in section and plans) down to the studios (top photo), then one story farther down to the north entrance. The typical studio space (near right) is a two-story-high loft, lighted by exposed fluorescent fixtures mounted on the structural slabs. A few conical skylights (far right) admit diffused natural light to interior studios.





top, its untreated, unsurfaced concrete depends upon post-tensioning to prevent moisture penetration. So far it has worked, a neat way to save the cost of waterproof membrane and a separate wearing surface. Clay's concrete echos the texture of the 1927 building, but remains gray against the ochre of the old work.

How do people like it? Surprisingly well seems to be the answer considering the initial hostility toward replacing the garden with any building at all, much less a raw concrete one. If actions speak, the art students find it useful and congenial. The roof-plaza has completely replaced the beloved courtyard of the old building as the center of student life at the San Francisco Art Institute. Users chiefly criticize the studio space, its failure to be carefully based on their special needs and some questionable detailing, such as the use of high-brightness fluorescent units without shielding. The latter seems a reasonable gripe. But the former problem, the failure to plan studios tightly to individual needs and preferences, may well be the correct approach. In today's art world, change dominates so completely that already in the few months of use there have been significant modifications of the original layout; plastics work has replaced a metal sculpture area.

The essence of Corbu

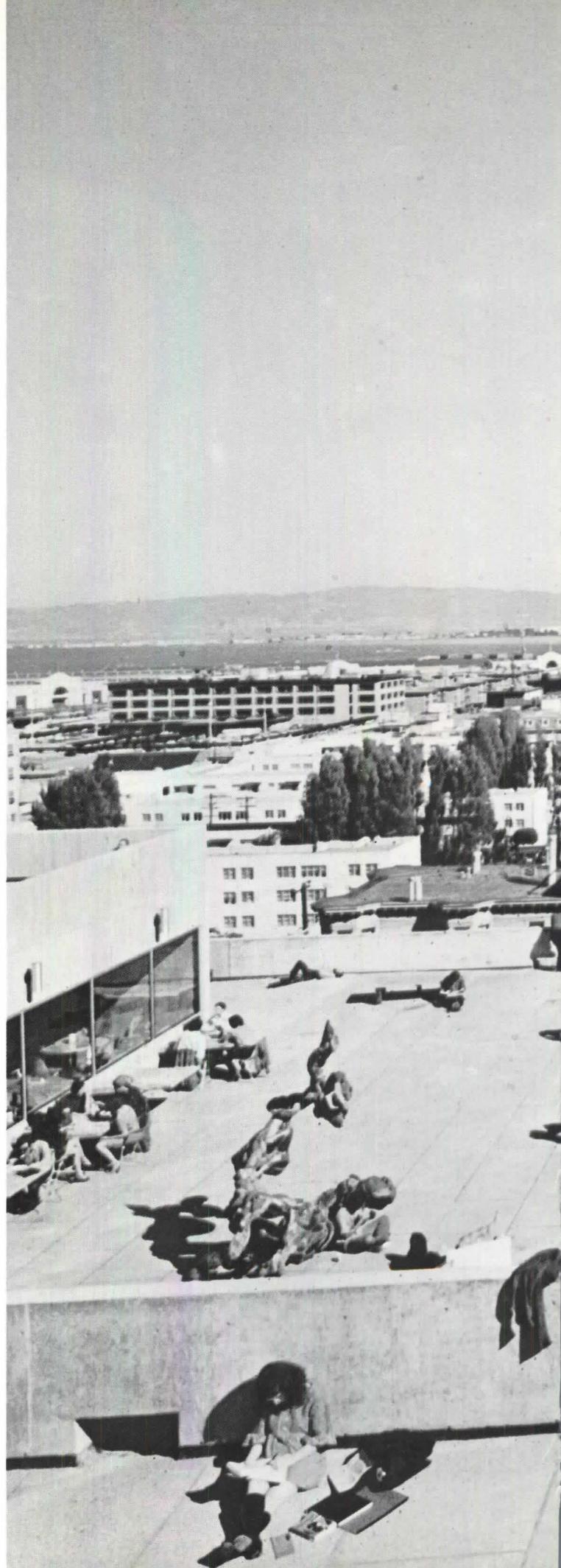
Clay's building obviously raises issues which go beyond equipment detailing and functional layout. In a region dominated by well-mannered but frequently characterless contemporary styles, the modern movement seems curiously distant. This context gives the San Francisco Art Institute building a special meaning for it comes closer to the spirit and experience of a Corbuan environment than anything in North America but the Carpenter Center itself. This holds true not in the limp sense of a precise recapitulation of familiar forms, but in the forcefully imaginative sense of transforming a building need into a work of artistic value, one that affords a rewarding setting for human action. Sure we all know the forms intellectually. It is what they do existentially that counts. Clay has captured, and peopled, the cubist landscape Le Corbusier made possible.

A view from the upper terrace across the main roof-plaza toward Telegraph Hill and San Francisco Bay is framed on the left by the cafeteria, on the right by the amphitheater on top of the angular lecture hall.

FACTS AND FIGURES

San Francisco Art Institute Expansion. Architect: Paffard Keatinge Clay. Engineers: Eric Elsesser and Associates (structural); Yanow and Bauer (mechanical); Darmsted-Parenti and Associates (electrical). General contractor: Pacific Coast Builders. Building area: 57,000 sq. ft. Cost: \$1,558,809.58 (with furnishings, movable equipment).

PHOTOGRAPHS: Page 80, Robert Brandeis; page 83 (top), Roger Montgomery; (bottom) and page 85, Serge A. Scherbatskoy.





OAKLAND'S CCAC

Across San Francisco Bay in Oakland, the California College of Arts and Crafts recently added to its facilities, following a master plan by Architects DeMars and Reay. The architects, who also designed the two new buildings, proposed complete reconstruction, over the long run, of CCAC's present campus. Availability of U.S. Department of Health, Education and Welfare funds in the mid-1960s made construction possible by supplementing the private money raised by the college. The results offer another testimonial to the positive benefits of federal aid to education during the 1960s in encouraging imaginative college and university building.

CCAC's master plan gave highest priority to two rather disparate needs. One called for a multiple-purpose academic structure to house a new library, lecture hall and teacher training complex along with some ancillary facilities for TV taping and filmmaking. The other called for a studio building devoted mainly to workspace for graduate students in painting. The two buildings fell into different zones of the master plan. The academic unit occurred in a front region of permanent constructions which would eventually include a wall of shops and stores lining the main route between downtown Oakland and the University of California campus in Berkeley.

The studios, on the other hand, were programmed for a back area of flexible, less permanent building running across the rear of the site. This planning determination, coupled with building code, safety, and cost factors, lies behind the remarkable architectural dissimilarity of the two elements. However rational the decision, the results startle the eye. It looks on first sight as if the two structures had been done by two different architects and built by different builders. Yet they do touch, and the mystery of their junction enlivens the campus.

The studio building, a two-story, faceted wooden prism, is both programmatically and constructionally much the simpler of the two. On the ground floor it provides a variety of seminar, classroom and office spaces plus a large printmaking studio. A more generously proportioned second floor offers a single space under a north-light sawtooth, to

be freely subdivided into individual painting studios. The building has no interior circulation space. Ground floor rooms are entered directly from grade outside. Above, an open-air gallery surrounding the second floor leads to modularly spaced, cryptically blank doors corresponding to potential private studios for graduate students.

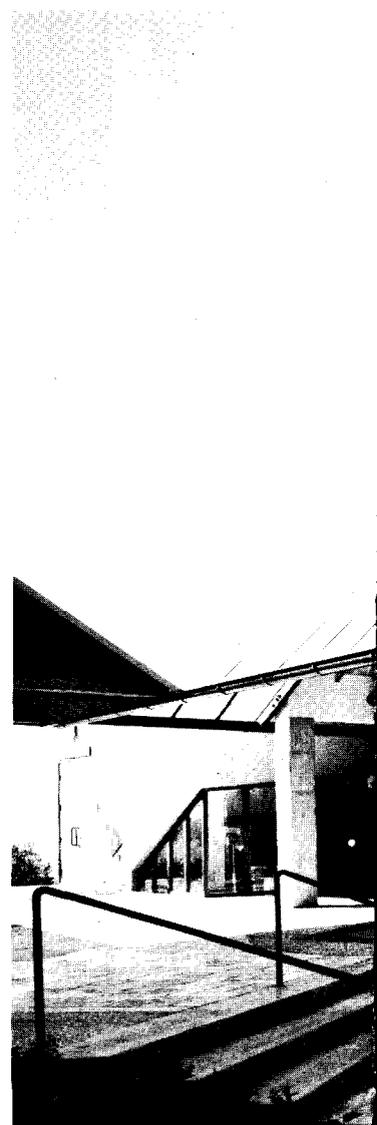
Ambiguous connection

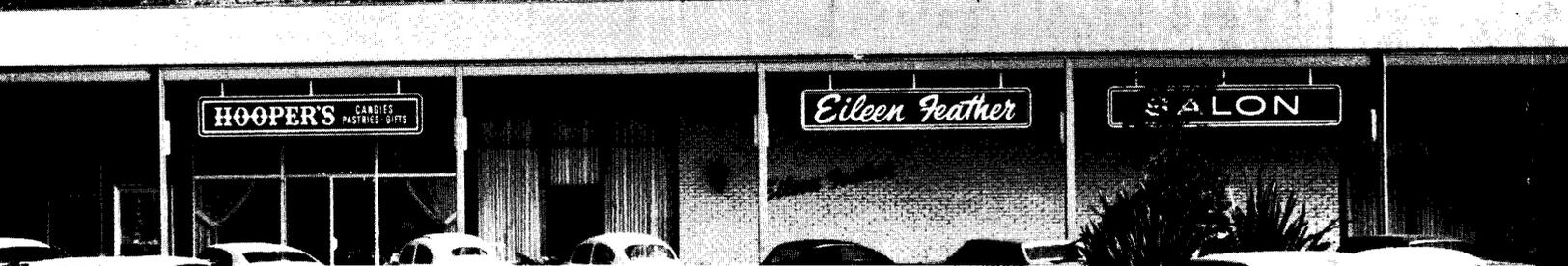
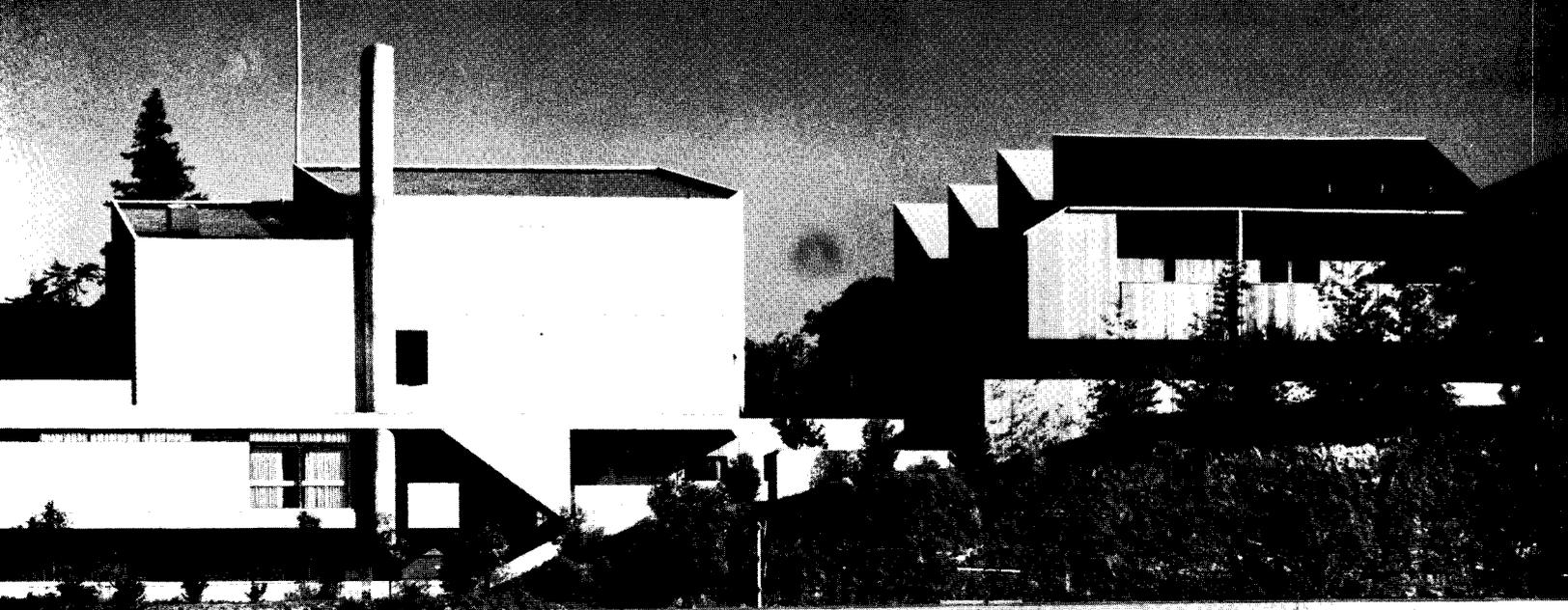
Natural finish, rough-sawn lumber surfaces appear everywhere. The structure supporting them looks perfectly ordinary. Only at one point does any complexity interrupt: a quartered piece of hip roof juts out to touch a matching form made of glass and metal which reaches across from the concrete academic building. This curiously complex and ambiguous junction relates somehow to the astonishing juxtapositions produced decades ago by Bernard Maybeck.

From this point, the academic building descends stepwise along the bluff on the south edge of the CCAC campus. Its boldly idiosyncratic form set forth in smooth light gray, almost white, concrete makes a new landmark on the Oakland skyline. It stands out clearly seven miles away from the bridge in the middle of the Bay. And it stands out even more sharply on the campus, where it forms a splendid foil for its immediate neighbor, the gingerbread Victorian manor house which serves now as the college administration building. On top of these tensions between its very contemporary feel and the two kinds of carpentry—19th-century exuberant and 20th-century controlled—it adds allusions to Corbu-Sert concrete details quite new to Bay Area building.

Inside, the academic building gives the college its first permanent-feeling, generously proportioned spaces. On a campus totally dominated by makeshift and temporary interiors—which may be quite appropriate for art studios—this seems a particularly welcome contrast. Though some

The two new buildings by DeMars & Reay—a library and a studio building (left and right in top photo)—are strikingly different. The library (near right) is a permanent structure of cast-in-place concrete. The studio building (far right) is a smaller-scaled structure of wood. The glass and steel library canopy and the wood-framed studio canopy reach out and meet—sharing an elongated rain gutter—above a crazy-quilt pavement designed by the students and faculty.





of its users find the lecture hall almost too big and well finished, it clearly provides a kind of setting much needed in such an otherwise fragmented environment. And the associated gallery, which grows out of the circulation space, gives the campus a new kind of facility.

Serene space, lively details

But it is the new library which contributes most on all counts. Here the building's duality of clarity and complexity works most successfully. The concrete structure stands completely exposed and perfectly straightforward, panel-formed walls, joist floors and roof, round columns, well-made and uncluttered. Carpeted floors and a rich spatial composition of balconies, alcoves, and great double-height main space give it a strong but quiet ambiance. The fenestration seems especially effective—each opening frames a special view of the specimen planting that enriches the campus, or a panorama out across downtown Oakland, the Bay, and San Francisco, or (in the great north window) a framed study of the Victorian administration building. Of the considerable number of art and design school libraries in the Bay Area, this must be the most comfortable, spatially, and satisfying, visually.

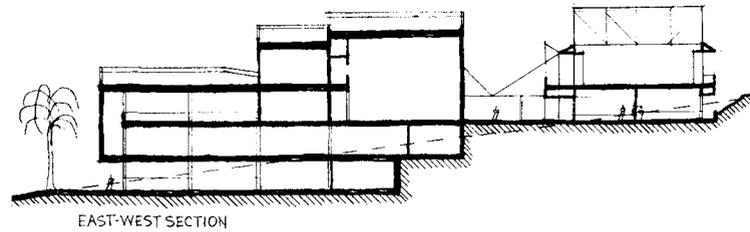
The project includes some engaging minor details. Colors, for instance, were chosen by Don Reay, the partner in charge of the job. He used a process blue on the sprinkler piping in the lecture hall lobby which has very likely never been used that way before. At certain moments he correctly bowed out and let the users take over. For instance the floor in the same lobby and in the small plaza outside between the two buildings (where the strange roof meeting takes place) have been turned over to the school community, which has laid a wild patterned paving of marble samples and pebbles.

Oakland, which won an AIA award for the high quality of its civic architecture, has got another good piece of architecture at CCAC. And the college, which had previously added nothing but clutter to the old homestead it took over 40 years ago, now has some architecture worthy of the name. With this auspicious start the community can eagerly anticipate further development of the master plan.

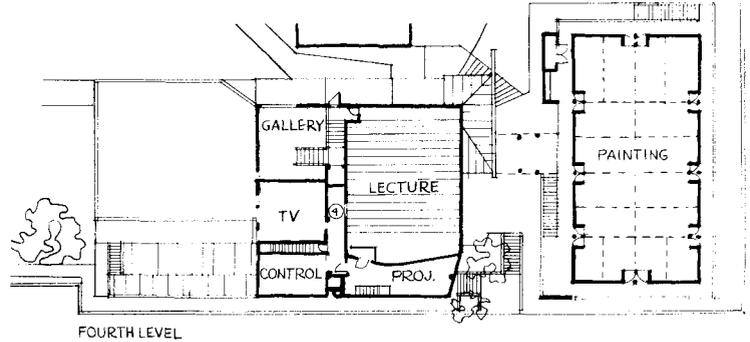
Painting studios (top left photo) can be divided at will; paired doors from the open entrance gallery allow separate access to each potential cubicle. The main reading room of the library (top right) is, by contrast, serene and static; carefully placed windows frame views of specimen plantings outside. The lobby of the library building (bottom left photo) is under the sloping floor of the lecture hall. The space between the two buildings (bottom right) serves as an outdoor extension of the lobby, linked to it by the uninterrupted paving pattern.

FACTS AND FIGURES

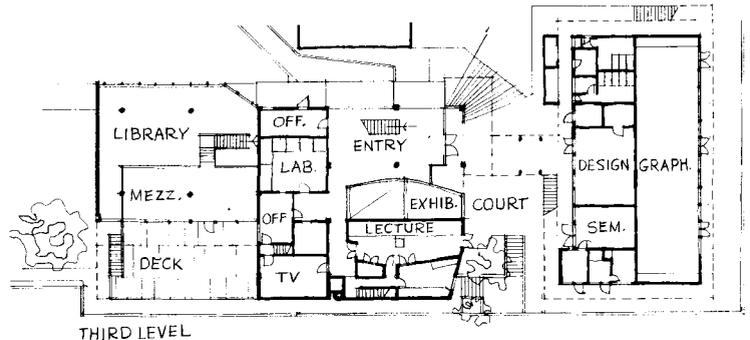
Academic unit and studio, California College of Arts and Crafts, Oakland, Calif. Architects: DeMars and Reay; (Don Reay, partner in charge, and Ed Stromsen, job captain). Landscape architect: Mai Arbegast. Engineers: Stephen Medwadowski (structural); O'Kelly and Schoenlank (mechanical). General contractor: Lathrop Construction Co. Building area: 29,667 sq. ft. Cost: \$950,000 (contract price only). PHOTOGRAPHS: Jeremiah O. Bragstad.



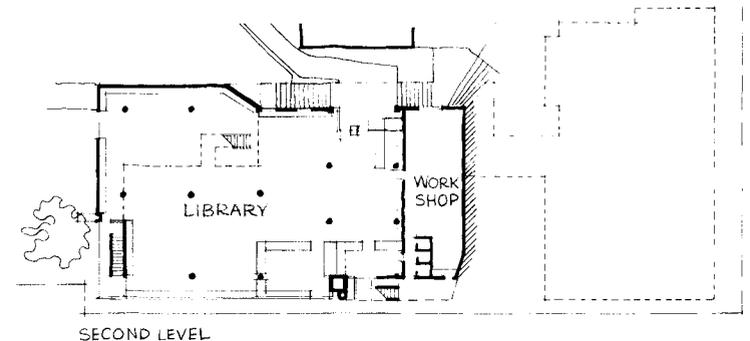
EAST-WEST SECTION



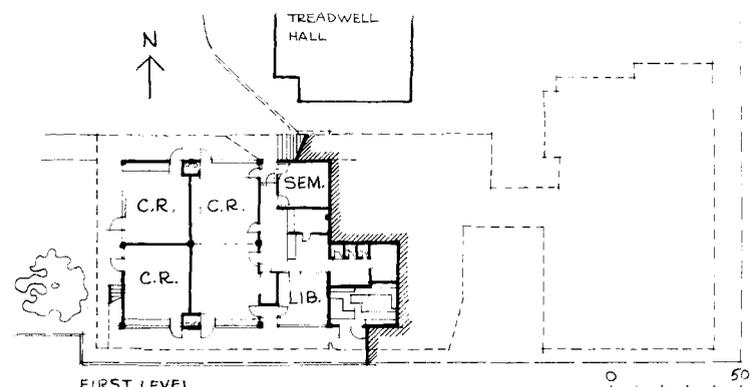
FOURTH LEVEL



THIRD LEVEL



SECOND LEVEL



FIRST LEVEL



FORUM

(continued from page 43)

people rushed in to see the two-story-high trading room and the brilliant ornamentation outside and in, the Stock Exchange has turned a profit for its owners. Daniel Brenner, member of a local architecture firm which rehabilitated the lobby and elevator areas recently, says that "even during the Depression, . . . (occupancy) never went below 95 per cent. It was never a white elephant."

However, the Stock Exchange is located in one of the most valuable parts of town. Lewis W. Hill, Chicago's powerful commissioner of development and planning, categorizes the building as "obsolete, no longer distinctive architecturally." If it stays up, it will not fulfill LaSalle Street's need "for dramatic new commercial development" in the Loop area, he says.

C. F. Murphy Associates made preliminary studies for what to put up if the Stock Exchange comes down. A move by Ross's opposition, the Mayor's Commission on Historical and Architectural Landmarks, was recently made . . . but very gingerly. They voted (5 to 4) to try and save Sullivan's masterpiece. But as M. W. Newman, the *Chicago Daily News*' reporter who has been fighting for the Stock Exchange, puts it: "This group is not known for biting anyone since it was given teeth in 1968."

The box score for major Adler & Sullivan Chicago buildings is not encouraging. Still up is the Carson, Pirie, Scott store and the Auditorium (now Roosevelt University). Already down, in the last two decades, are the Meyer building and the Revell building and the great Garrick Theatre. Chicago, like many other cities, may yet succeed in wiping out its own heritage.

SEQUELS

HEAVENLY RAZE

Fifty-two years ago, on a site selected by President Franklin D. Roosevelt on Washington, D.C.'s Mall, "temporary" structures for the main Navy and Munitions offices were built. FDR later deplored his own act, saying that he would be "kept out of heaven" for "desecrating" the Mall.

President Richard Nixon, always concerned about making it to the top, has ordered these



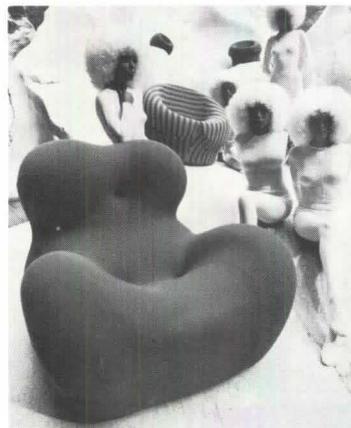
structures (above) and others at 4th Street and Adams Drive, S.W., to be razed to clear some 1.8 million sq. ft. of space for parkland.

About 12,000 employees must be relocated by April, and demolition should be completed by the end of 1970. With the new parkland, the Mall will finally attain the look meant for it in the first Pennsylvania Avenue master plan.

LIE-INS

FURNITURE FOR FUN

Performing for the Christmas-time crowds looking into Macy's windows in New York, were the most extraordinary chairs. Actually shoppers were seeing the life-cycle of six polyurethane seats which started out flat packed, but expanded into marvelously rounded shapes (below).



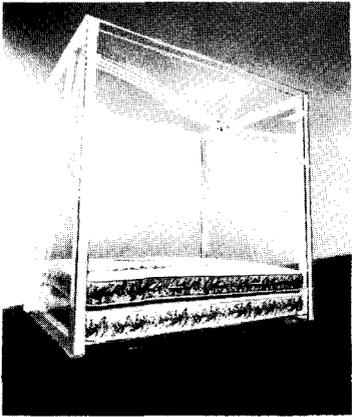
The chairs ("plastics used as plastics") are made by a curve-conscious Italian group, the Cesare Cassina Design Center in Milan. They named the seating series "Up." This "space age material," as Macy's titles it, acts like a full balloon. If you pinch it in one place, it expands in another. The chairs are therefore

shipped in a vacuum chamber where the air has been withdrawn, pressure applied and the material heat-sealed between sheets of vinyl. When the vacuum chamber arrives, one cuts it open, air fills its "pores" and in 45 minutes "Up" is up.



● Less curvy, but just as sociable for a group sit-in is this rococo tub-for-two (above) unveiled in London at the end of the year. Made by a company which has been purveying tubs since 1853, this one is plastic, except where it is gold-plated—its corner decorative columns, plughole and taps. It is called The Conversation Bath, costs \$1,320, and has a most genteel genealogy. This posh bit of home plumbing is here, say its creators, because there is a real need for the Victorian concept of conversation furniture "designed so people could sit decorously, yet close together, and chat quietly into each other's ears." The Conversation Tub promises that "couples will be able to escape from the tempo of high-speed living."

● Not to be outshaped in the Seventies by bathroom or living room inventions, "neonist" Ronald Ferri has lit up a cold winter with his glowing plexiglass bed. It costs \$25,000 with see-through headboard, footboard and canopy roof all glowing with neon tubing in orange and pink. This



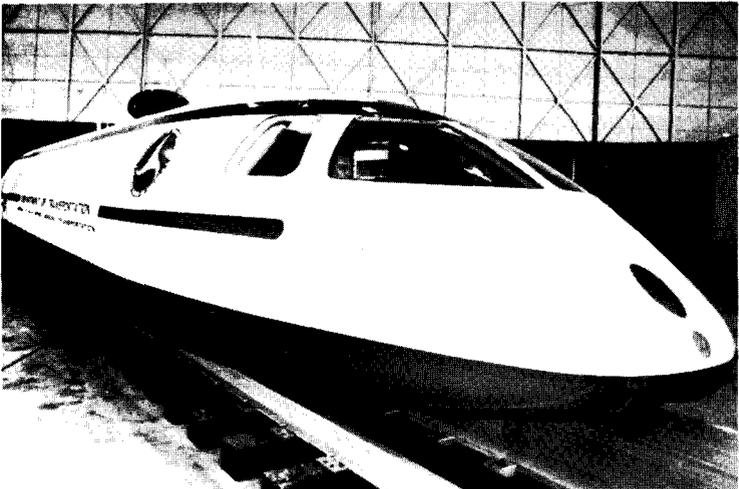
sleep-in Electric Circus is not only made for neonists but also for music lovers. Music on tapes originates from a plexiglass control box under the bed (above) which glows brighter in the dark when the beat is loud, softly in the dark when the musical dynamics are pianissimo.

TRANSIT

NEW THRUST FOR TRAINS

A new form of motorized grace is this sleek prototype railway car (below) introduced at a "roll-out" ceremony in early December at the Los Angeles International Airport. Developed for Washington's Department of Transportation by the Garrett Corporation, a California aerospace concern, at a cost of \$3.2 million, this prototype, surprisingly, carries only two passengers and is made to travel on tracks at 250 mph, almost twice as fast as our fastest trains. It is also programmed to run pollution-free and very quietly.

The propulsion key to this invention is its linear induction motor. Tested during World War II as a catapult for aircraft and once proposed as a way of



getting unmanned projectiles back from the moon, the Linear Induction Motor (LIM) may do best right on land. It has no moving parts and operates on the principle of invisible electrically generated magnetic forces. The car rides on eight wheels, but propulsion energy centers on the thin vertical rail which the vehicle straddles but does not touch. Electricity generated inside the car flows to electromagnets on this rail and the reaction between this induced current and the electromagnetic field is what gives the railway car its thrust.

Said Under Secretary of Transportation James M. Beggs grandly at the L. A. unveiling: "LIM promises to enable us, on the ground, to be freed from dependence on the wheel." DOT officials predict the craft is a streamlined way to move masses of travelers between city centers and outlying airports and eventually to and from our largest population centers.

ARTS

PRIZES FOR PRINCETON

This winter, Princetonians will not only be watching the first female undergraduates, but also a superlative collection of indoor and outdoor sculpture, both curvy and hard-edge, now being installed all over campus. Twenty sculptures—an investment of approximately \$1 million—have been acquired through a fund donated in memory of Lt. John B. Putnam Jr. (Princeton '45), a young man "deeply involved in both painting and sculpture" who was killed in World War II. A partial list of artists whose work is being com-



missioned and bought reads like a great "who's who" in art—Picasso, Henry Moore, David Smith, Calder, Lipchitz (above), Tony Smith (below), and Louise Nevelson. This extraordinary roster was drawn up by an ad-



visory committee which includes Thomas Hoving and Alfred H. Barr Jr., two Princeton alumni who know their way around the art world rather well. Keeping the vicissitudes of creativity in mind—"You don't ask Picasso when he expects to finish," said a University official—all 20 sculptures are expected to be on campus by the end of the year.

DADDY WARBUCKS GIVES

After a series of severe federal cutbacks affecting all kinds of programs and organizations, President Nixon has chosen to smile upon that orphan child, the arts. In a message to Congress on December 10, he asked that federal funding for cultural programs be doubled—to a total for 1971 of \$40 million—and that legislation for the National Foundation on the Arts and Humanities be extended for three years.

"I believe," he said, "that the

need for a new impetus to the understanding and expression of the American idea has a compelling claim on our resources. . . . Few investments we could make would give us so great a return in terms of human understanding, human satisfaction and the intangible but essential qualities of grace, beauty and spiritual fulfillment."

Expression in the arts, he feels, would heighten our awareness of domestic problems and social ills, and might "heal divisions" among people and between races and generations.

Nancy Hanks, new director of the National Endowment for the Arts, voiced her support: "Artistic organizations have in effect, in the past five years, moved from private organizations to public institutions. They are no longer for the few people. They are working more with the youth and the disadvantaged areas. They are totally incapable of supporting themselves solely as they did in the past, with private funding."

She added that the cost of the performing arts has almost quadrupled in the past five years, to \$207 million, and cost of museums has risen to \$513 million. Forty million will still only be matchsticks for the orphan child—but, for the President it should be spiritually fulfilling—if not downright creative.

HUD

ARDUOUS BREAKTHROUGH

Since last September, HUD officials have been sifting through hundreds of submissions to the Operation Breakthrough program, which aims to produce 1,500 prototype industrialized housing units by early 1971. The Breakthrough selection process actually involved three parallel contests: one to choose among prototype housing sites proposed by local officials; another to select building systems from proposals by consortiums of developers, producers, and designers; and yet another to select the site planners who will fit the systems to the sites.

On December 16, HUD announced a list of competitors in all three categories chosen for further discussions and negotiations.

The site selections seemed closest to final: eight locations,

distributed across the country from Jersey City to Sacramento, were announced, and two others are being considered—out of 218 original contenders. Of the 82 site planning organizations that applied, 11 were tentatively selected—all of them well known planning or architectural firms.

The choice of the systems themselves was the farthest from resolution. Out of 236 proposals of Type A (full housing system ready for prototype production), 37 were picked for further analysis and review before final acceptance is bestowed on "about 20" proposals. In announcing the list of finalists among the systems, HUD Secretary George Romney emphasized that they were chosen not only for proposed improvements in fabrication techniques, but in financing and management as well.

The list of producing consortiums included most of the systems generally considered likely prospects for the U.S. market (July/Aug. '69 issue): Stressed Structures' concrete box modules, for instance, and concrete component systems by Techcrete, Neal Mitchell Associates, and Balency. Major producers of lightweight prefabricated housing are also represented: Scholz Homes, National Homes, and Stirling Homex, for instance. Diversified corporations are well represented (Alcoa, Martin-Marietta, U.S. Steel, et al.), as well as widely known developers (Levitt, Rouse, Development Corporation of America) and recognized architectural firms (eg: Skidmore, Owings & Merrill, C. F. Murphy, Edward D. Stone).

HUD will have to speed up the process if it hopes to get construction started on ten sites by April 1970, as called for in its schedule. If it can get work going by any time in 1970, the U.S. will have taken a small but decisive step toward rational housing production.

SELF-HELP

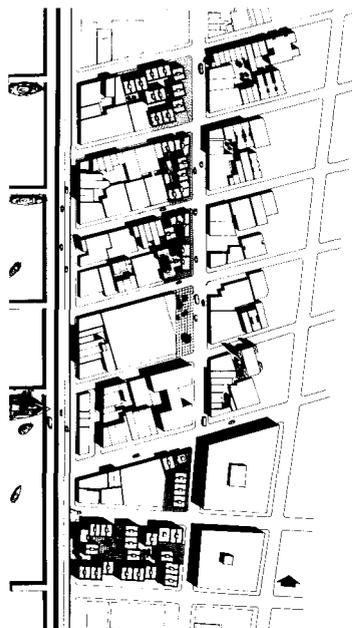
THE VILLAGE IS SAVED

In 1961, Jane Jacobs became a legend. She and a sturdy group of West Villagers defeated a \$30-million urban renewal plan that would have created only 300 new housing units and would have forever destroyed the character of part of New York City's Greenwich Village.

Thus began an eight-year

struggle by the West Village Committee—against assorted bureaucracies and Bad Guys—for approval of an alternate plan. That approval has recently been voted by the City Planning Commission and the Board of Estimate; and William Zeckendorf, who had been lurking on the sidelines with a \$250-million highrise extravaganza for the same site, has been foiled again.

The \$10-million plan worked out by the West Village Committee involves no demolition, but



creates 457 units of housing on one block and four vest pocket sites among the truck terminals and parking lots near the Hudson River. None of the buildings is over six stories high; duplex apartments at the top minimize the effect of walking-up. The architects are The Perkins & Will Partnership, with J. Raymond Matz as designer/project manager.

Opposition to the plan had been constant during the past eight years, as officials found one reason after another to delay or deny approval. Some people regarded any walk-up building as an anachronism, and Jason R. Nathan, Lindsay's Housing and Development Administrator, approved the plan over the objections of his staff.

The remaining hurdle is now how the get the units built. With a low interest loan and tax abatement, the monthly carrying charges are expected to be about \$50 a room. If the cooperative apartments had gone up soon after the original plan was submitted in 1963, it might have been \$26 a room.

PEOPLE

DIED

● Ole Singstad, a Norwegian-born engineer lauded as "the master tunnel builder" in the U.S., died at the age of 87 in New York on December 8, 1969. He designed, built or was consultant on dozens of tunnels, including the Queens Midtown, Lincoln, and Brooklyn-Battery tunnels in New York, the Baltimore Harbor tunnel, and the underwater tube that connects Oakland and Alameda, California. But his most sensational job was probably Manhattan's Holland Tunnel, "the world's oldest underwater automobile highway" which opened in 1927. On opening day, cars were barred for a few hours, and people swarmed through the Holland Tunnel, some pushing baby carriages, to inspect "the new wonder of the world."

● Emerson Goble, 68, who retired in 1967 after nine years as editor and 17 years as managing editor of the *Architectural Record*, died of cancer in Cambridge, Mass. in November.

During his reign at the *Record* he covered a range (as he put it) from "nuts-and-bolts to inspiration, and from esthetics through functional planning to technology and economics."

● Ernesto N. Rogers, long a partner in the famous Milan firm of architects known as BBPR, died on November 7, 1969 after a drawn-out illness. Among the important buildings for which Rogers and his partners were responsible is the Torre Velasca in Milan (Feb. '58 issue)—a combination office-and-apartment building near the Duomo which attempted, very successfully, to relate a 20th-century skyscraper expression to the city's architectural traditions. In addition to his work as an architect, Rogers was a highly admired teacher, and one of the great editors in his field in this century: under his leadership, magazines like *Domus* and *Casabella* attained their present levels of eminence. His surviving partners—Lodovico de Belgioioso and Enrico Peressutti—carried on the work of the firm for the past several years, while their friend and associate was virtually immobilized by a series of strokes.

PHOTOGRAPHS: Page 42, Lawrence Strong (top), Vincent Maggiora (bottom); page 43, John Szarkowski (right); page 90, London Daily Express (center, right); page 91, UPI (bottom), Marie E. Bellis (center and top right).

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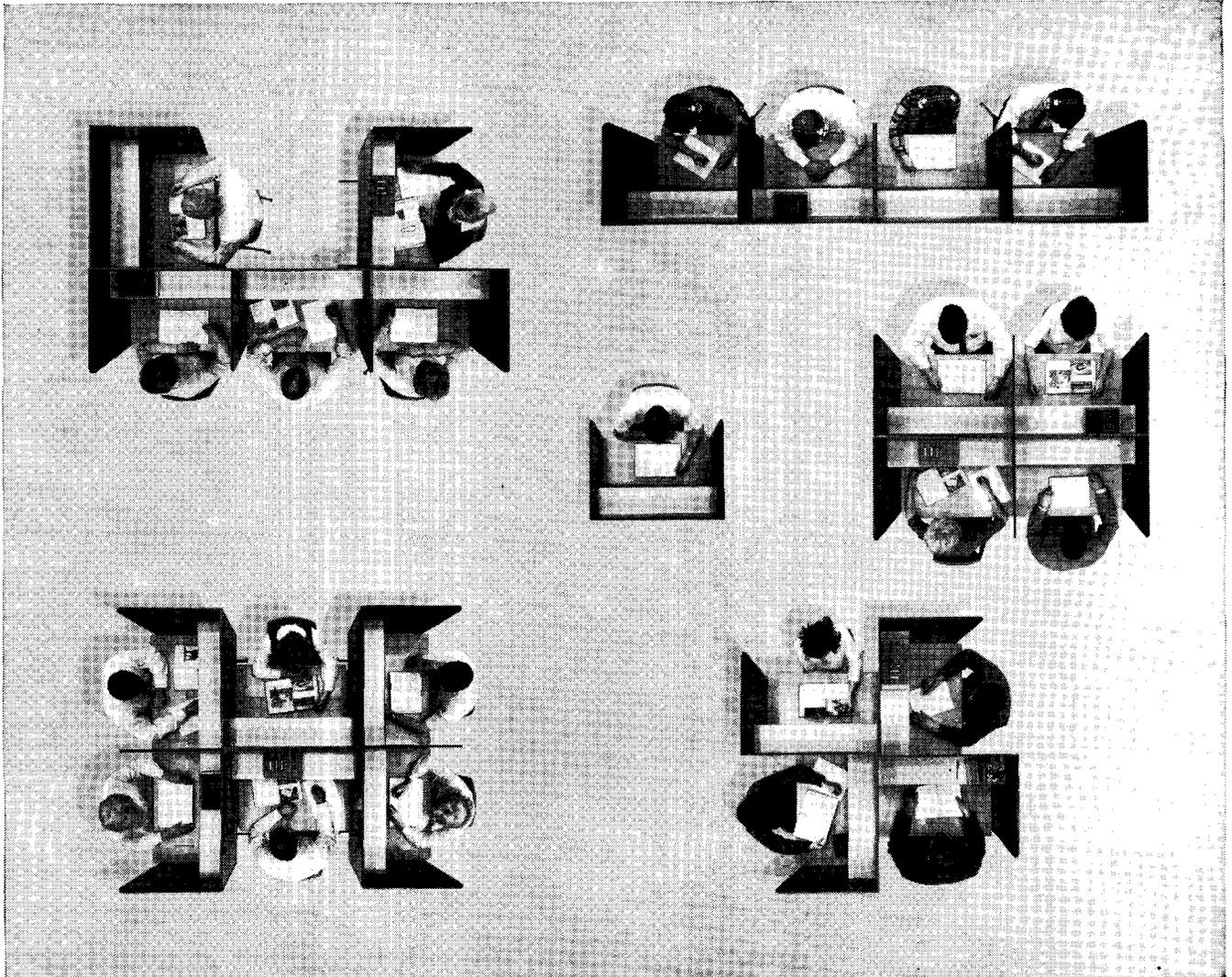
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ART MACHINE

(continued from page 50)

Hollein. Commenting on the rather precarious step one has to take to enter and leave the bathroom, the architect explains that "stepping over a threshold is an important experience in all my designs . . . just the way you enter things, how you approach things, the way you operate things."

There is a great profusion of small details and design refinements which bear testimony to the almost compulsive thoroughness of Hollein's design solution. To mention a few more not previously discussed: custom-designed twin-light wall fixtures; a glass-top stainless steel revolving desk; stainless steel hanging brackets on some gallery ceilings; and four carpet-cube seats for the plush downstairs areas (two of them specially weighted to serve as painting display stands); cross-hatched elements on the bronze and solar glass front, providing the necessary bracing for and denoting the two entrances—one for people, the other for oversized paintings; a second thin, tall door to Feigen's office from the transitional gallery, enabling oversized paintings to be brought in and also providing Feigen with an emergency escape hatch; and a carousel slide "storage" system (with the major storage of objects at Feigen's downtown location).

The long, semicircular polished stainless steel handrail, which wends its way along the balcony and sweeps upward at the front of the gallery, is the major organizing detail element in the design. It is semicircular, says the architect, "so nobody will put a handbag or glass on it, and there's no danger of objects falling on people below."

A lengthy design process

The design process for the Feigen Gallery was a long and painful one—an 18-month trans-Atlantic process made more complex by constantly shifting program requirements. "I was unable to understand architectural drawings," Feigen admits. "I had complete confidence in Hans and let him make the esthetic decisions." To ease this problem of

communications and to assist him in many other ways, Hollein associated with the New York architectural firm of James Baker & Peter Blake, with Dorothy Alexander heading up the New York operation.

Hollein estimates that he made a total of some 2,000 drawings in addition to reams of program analysis—charts, memos and several hundred exchanges of notes. Hollein's design process was elaborate and thorough: "I work by probing several alternative possibilities, because I can't see the problem as one sort of easy path to follow. I have to get information and make alternative proposals and get feedback from the proposals I work out. The next step is all done in terms of sketches, I mean very elaborately worked out drawings, not final drawings, just to check the possibilities" (see p. 45).

Prior to evolving his final design, Hollein had completed two entirely different schemes for Feigen's contorted gallery space. A ramp scheme had the advantage of no interruption by a stairway in looking at the art objects, but was rejected by the client because he felt that it isolated the lower gallery spaces. The multistair scheme allowed separate exhibit areas to be created by partitioning at various points, or the whole space (including a new large painting gallery at the rear) to be used as an entity. This scheme was rejected because of lack of administrative space not then called for in the program.

Neutral or strong space?

The Feigen Gallery is a super-strong statement of one type of gallery solution:

On the one hand, there is the loft-type of gallery space prevalent in most new museums and galleries. In such a space, the art objects placed within it become the central focus of the space, creating a one-to-one experience between spectator and object. A space where a connoisseur, say, can contemplate an art object with all of the attendant intellectual and "esthetic" electricity inherent in such an

approach to art.

On the other hand, there is the kind of space such as the Feigen Gallery, where the gallery itself becomes an equal partner with the spectator and object in the art experience. Such an approach was desired by Feigen, who doesn't "recognize the barrier between art and life." This type of gallery solution provides an environment which is in some way analogous to how a work of art is experienced in the home, where the object is but one part of its surroundings. In his new gallery, Richard Feigen feels that "the client can get a better idea of the scale of the object and how it will fit into his own situation. In a loft space the client can be more easily deceived by the scale or by the appropriateness of the object."

A comparison of the Feigen Gallery with Frank Lloyd Wright's Guggenheim Museum is interesting not only because they both are strong expressions of a circulation pattern, but because they also provide an analogous type of architectonic-art experience. "I like most of Wright's work very much," comments Hollein. "What I like about the Guggenheim is that it's a wonderful place to just be in as well as to see the art. . . . I don't completely subscribe to the theory that you have to have a rather bare blank space and then in comes the big artist with his object beautifying your whole environment. Like you tell a Peruvian peasant—he lives in a shack, but if he puts up a picture of the Madonna, it will change his whole environment and make it nice. I don't quite think that art has this sort of sacred function."

Hans Hollein has created an amazingly versatile and complex gallery-instrument for Richard Feigen, and Feigen is "absolutely ecstatic" over the final result. But Feigen realizes that it will take him and his staff some time to learn how to utilize the facility effectively.

The opening exhibition in October 1969, was nothing short of a disaster—a great prolifera-

tion of Monet paintings in elaborate gilt frames, pasted like so many postage stamps on every available wall space. The second exhibit (shown here in Evelyn Hofer's photographs)—sculpture and paintings by Jean Dubuffet interspaced with a variety of works by other artists—was a more successful installation, although there still seem to be too many objects within the space.

"The gallery is full of surprises," explains Hans Hollein. "You turn around a corner and find new things. I think a good artist would be extremely capable of making use of all these possibilities." And Richard Feigen looks forward to having artists plan works for the space and supervise their own installations.

The "new environment"

Hans Hollein comments, "I think we are working today in completely different scales, in completely different communications and in completely different environmental determinations." He characterizes his remodeling projects as "experiments in one or another direction. In some ways they are physical determinations of space. They are experiments in new materials. They are experiments in psychological determinations of space."

"For several years I have been interested in space as not just a thing you create; environment as not just a thing you create by walls and ceilings. These are all the means, and as technology advances, there will be many more means to create a living environment. Television is one of them in various ways. When I was asked to make a proposal for a university extension in Vienna, all I sent in was a drawing of the old university with a television set plugged into its side."

FACTS AND FIGURES

Gallery for Richard L. Feigen & Co., 27 East 79th Street, NYC. Architect: Hans Hollein. Consulting Architects: James Baker & Peter Blake, and Dorothy Alexander. Engineers: Robert Silman (structural); Flack & Kurtz (mechanical). Contractor: Dunhill Construction Corp. Gallery Area: 5,800 sq. ft. PHOTOGRAPHS: Evelyn Hofer, except page 50 (bottom), Hubmann.



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MODEL CITIES

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the city administration and the Model Cities Agency for ignoring their prerogatives as the focus of community planning. Concerned residents are highly cynical about the city's intentions and the complicated community politics that have arisen.

The man on the street is, of course, totally confused. He may or may not want to involve himself as a citizen participant; but who can suggest to him where he can most fruitfully expend his time?

Many cities have experienced similar frustrations, and in others, such as Los Angeles and Chicago, local community residents were never even given the illusion of a meaningful role in antipoverty or Model Cities programs.

In Philadelphia, a citizens board elected to represent Model Cities area residents brought suit (unsuccessfully) against HUD, charging that HUD had illegally stripped the board of power.

Coordination of services

Many might be willing to forgive the inept handling of community organization, if public services and facilities could actually be delivered in the manner promised. But it is becoming increasingly apparent that this will not happen.

In the rhetoric of Model Cities (and the Vest Pocket Program which preceded it) a consolidated, coordinated and cooperative attack on slum problems is to be made by all responsible agencies, public and private. If new schools are required, the Board of Education is supposed to participate in planning, and coordinate its efforts with the construction of housing and other facilities. If new sanitation procedures are needed, the Sanitation Department is supposed to cooperate in filling the need; if special costs are incurred, Model Cities will pay them. The Model Cities Agency is supposedly imbued with "... sufficient powers, authority and stature to achieve the coordinated

administration of all aspects of the program."

I do not know if the HUD administrators who drew up the Model Cities guidelines, or the municipal administrators who are putting together Model Cities programs, fully comprehend the implications of what they are attempting. It is bold to create an agency responsible for planning and carrying out a total array of public services and rebuilding activities for a single area within the city. But then to depend upon the agencies that share the responsibility for the poor quality of services and facilities to execute the program is sheer fantasy. Boards of Education believe they are doing the best job possible with the money available. They will not agree that city-wide priorities should be changed to build more schools in Model Neighborhoods unless Model Cities will foot the bill—and Model Cities simply does not have that kind of money. Nor will they agree that Model Cities' innovative approaches to educating children are any better than experiments sponsored by the Board of Education.

In one New Jersey city, the Board of Education balked at Model Cities educational projects designed to serve high school dropouts and functional illiterates, because they didn't want to admit the existence of dropout or reading problems. This is just one example chosen at random; the same will be true of practically every public or private agency.

The failure of the first attempt at coordination and cooperation in East New York provides a clear indication of what is likely to happen in every city as Model Cities moves into high gear. Phase I of Model Cities in East New York focused the limited resources available for housing into a small area of nine square blocks. A prime objective was to schedule the program so that site residents could remain in the neighborhood and benefit from the improved housing. The plan proposed that landlords use the available municipal loan funds and that nonprofit sponsors use the FHA 221d3 and 236 programs to rehabilitate a number of vacant but structurally sound buildings. These would serve as a relocation resource for the remainder of the area, which would then be torn down to pre-

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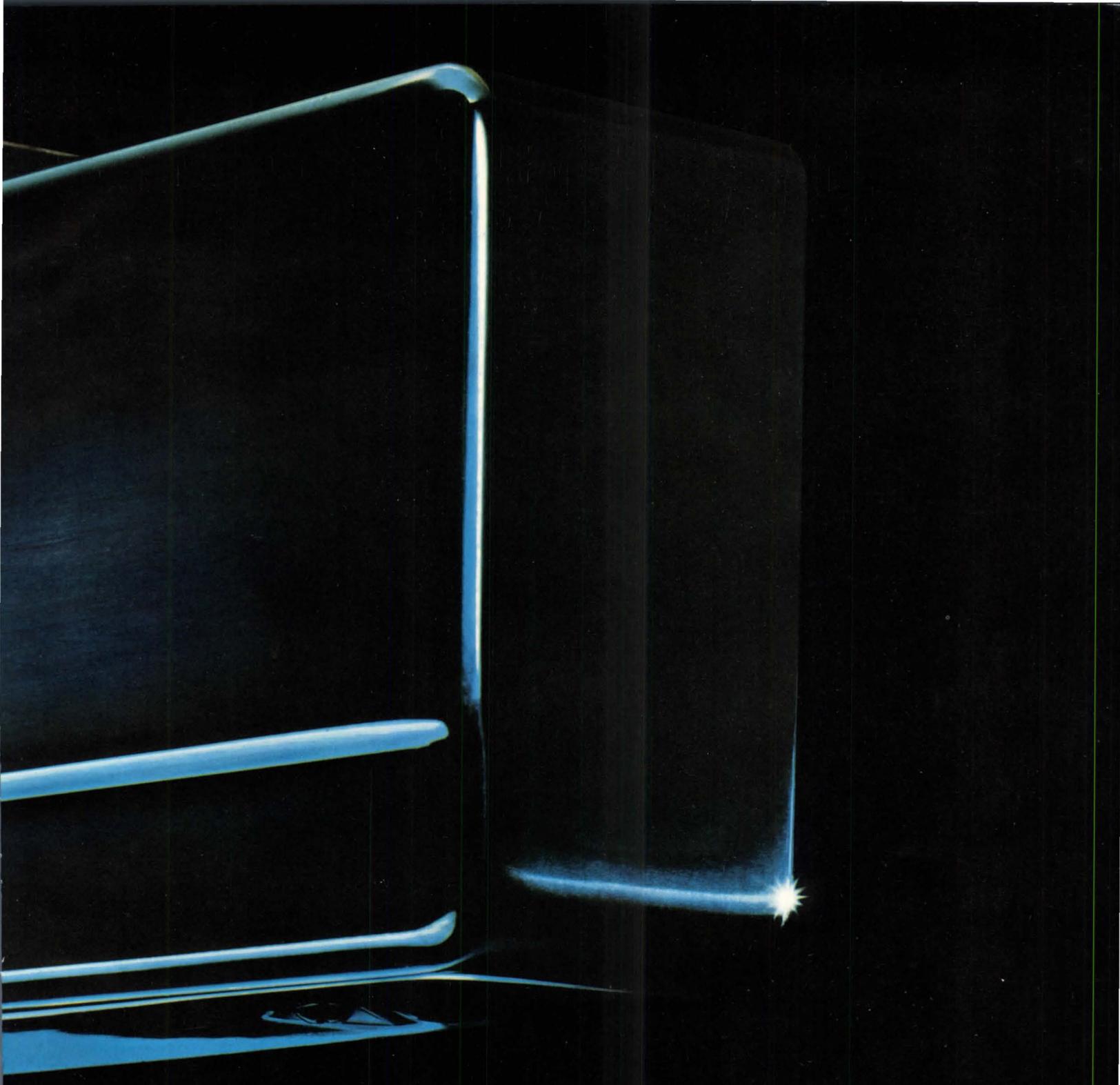
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MODEL CITIES

(continued from page 101)

pare sites for new construction by the Housing Authority and nonprofit sponsors. The rehabilitated structures were intended to provide architectural variety to the rebuilt neighborhood.

What happened was a far cry from the plan. Each developer proceeded at his own pace and in his own style. No coordination and little cooperation took place. The Housing Authority, which had a backlog of construction authorizations but few approved sites, immediately acquired its sites and began to relocate tenants. Only one local landlord took the plan seriously enough to apply for municipal loan funds and undertake rehabilitation of a few buildings (and he is now worried since buildings next door to his, lie vacant and invite vandalism.)

The nonprofit sponsors and their architects found rehabilitation too complicated or too expensive, and with the tacit approval of the city's Housing and Development Administration, revised the proposals for their assigned sites to eliminate most of the rehabilitation. The Housing Authority, under contract to the HDA, then took possession of the sites, relocated the tenants and cleared away the old buildings before turning them over to the nonprofit sponsors. Today the area looks strikingly like an old Title I clearance project being readied for the construction of the inevitable look-alike apartments. The former tenants, some of whom were placed in public housing outside the neighborhood, but most of whom relocated without leaving a trace, are gone and are not likely to return. The rehabilitation concept died aborning.

The fatal flaw

Another example of non-coordination and non-cooperation concerns the City of New York Department of Social Services. For the past year the Multi-Services Subcommittee of East

New York Model Cities has been developing proposals for day care services. They have invited DOSS representatives to meet with them since it is the agency that would be responsible for providing the services. While ignoring these invitations, DOSS has been busily making its own plans for day care services in East New York without consulting anyone from the community. Twice during this past year, DOSS has selected sites for a day care center and requested City Planning Commission approval. So far they have been thwarted by the CPC chairman who wants them to cooperate with Model Cities; but so far, there is no indication that DOSS is at all interested in working with Model Cities and there seems no way to force them to do so.

Perhaps these experiences would be worthwhile if they were used to point up ways in which the original objectives could be achieved in Phase II and subsequent phases of the program. However, they illustrate a basic weakness in the Model Cities concept—a weakness that cannot be remedied by insisting that developers and agencies make greater efforts at coordination and cooperation. Model Cities cannot command compliance of the massive and inert bureaucracies that run the city. Most of these agencies have city-wide constituencies, have budgets that are larger than that of the total Model Cities program, are directed by persons of considerable prestige and power, and are responsible to political, labor and citizen pressures beyond those that can be exerted by the model neighborhoods.

What is wrong with Model Cities is not to be remedied by better legislation or more adequate funding. It attempts to rescue cities from consequences of destructive national and local urban development policies, and from the neglect of incompetent local governments, without changing policies or reforming governments. Perhaps the situation in the cities is not quite bad enough yet to convince national and local political and economic leadership that substantial resources must be directed into poor communities and that such communities must be allowed to share in making the decisions affecting their lives. Perhaps true urban reform is a few riot years in the future.

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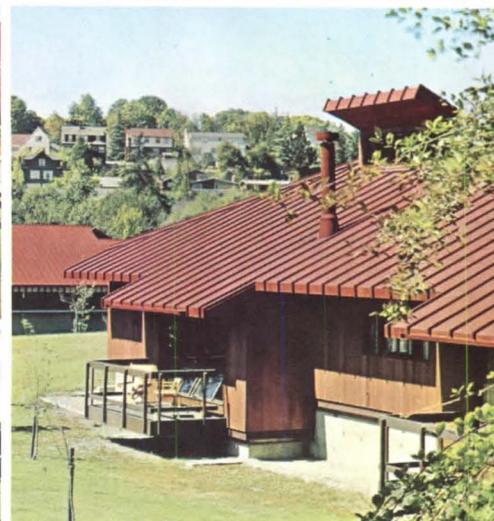
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ARCHITECTS, DESIGNERS AND PLANNERS

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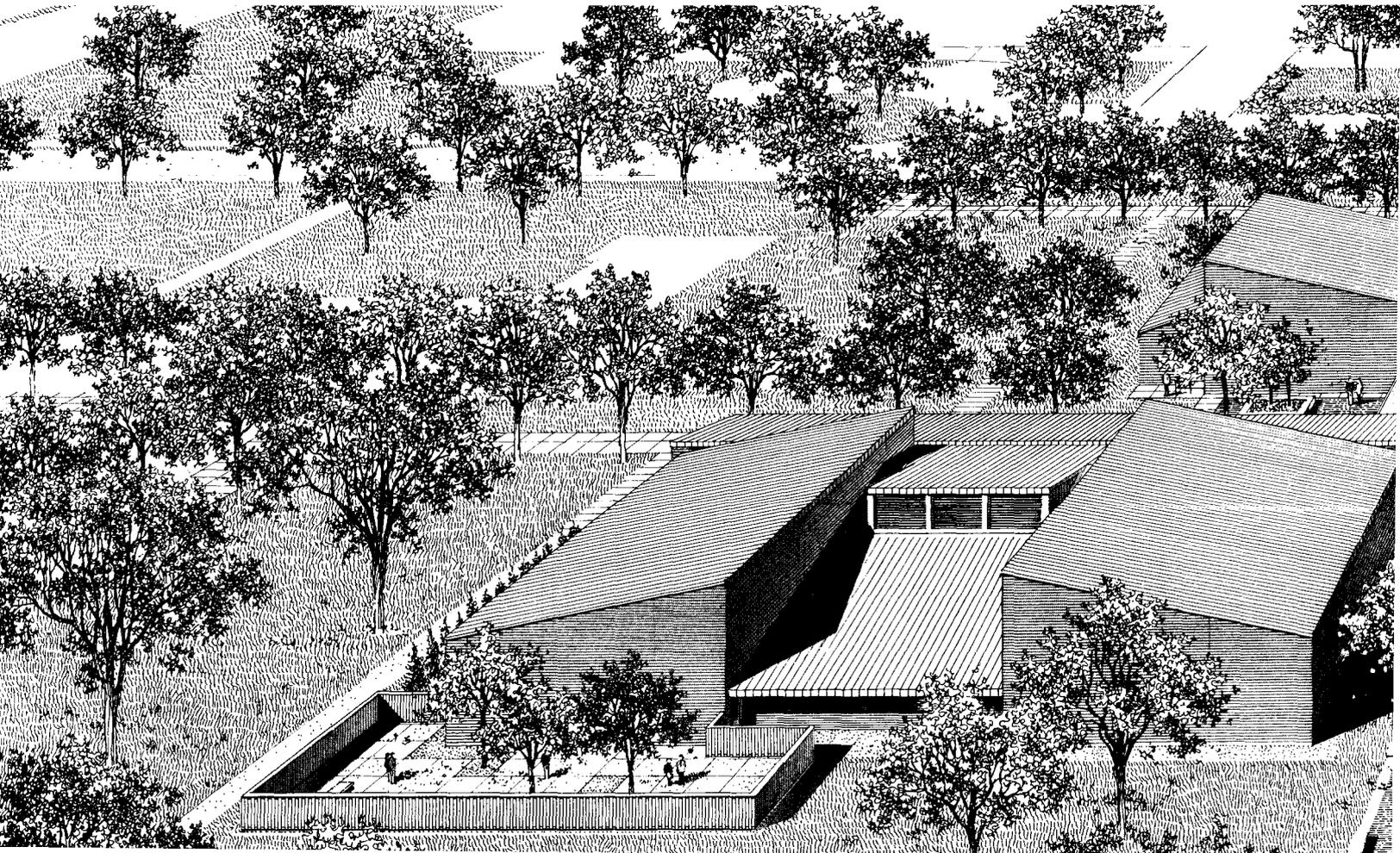
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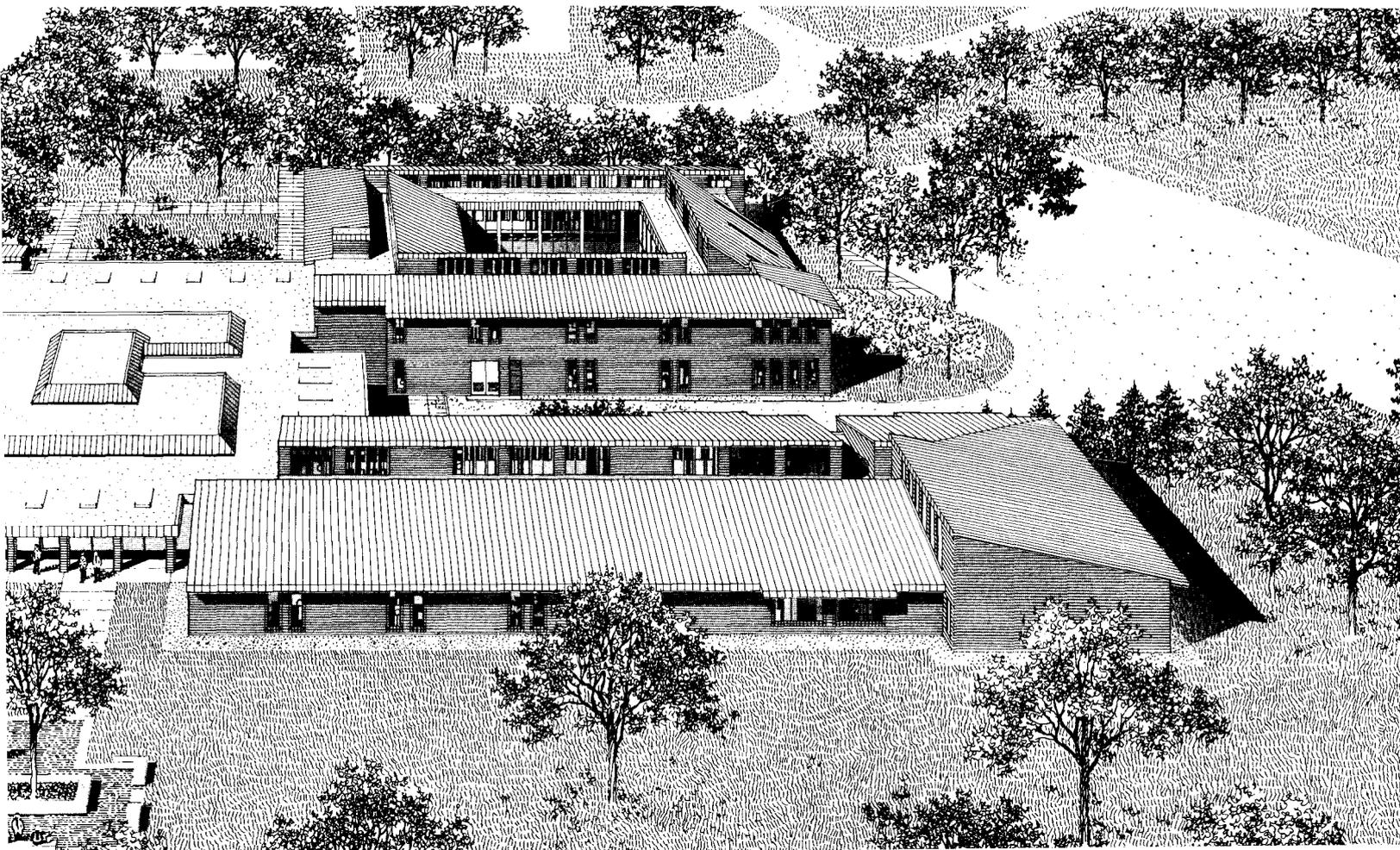
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Washington Plaza Hotel, Seattle, John Graham & Co., archts., Sept.	73

HOUSES

Farnsworth House, Plano, Ill., Mies van der Rohe, archt., Oct.	36
Hisaka house, Shaker Heights, Ohio, Don Hisaka, archt., July/Aug.	86

Koerfer house, Switzerland, Marcel Breuer, and Herbert Beckhard archts., Dec.	52
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HOUSING

Acorn Project, Oakland, Calif., Burger & Coplans, archts., by Roger Montgomery, July/Aug.	90
Industrialized housing, various building systems, July/Aug.	100
La Luz, Albuquerque, N. Mex., Antoine Predock, archt., July/Aug.	66
Locus Bolton, Bolton Valley Ski Area, Bolton, Vt., Peter L. Gluck, archt., Dec.	40
Nine-G Cooperative, NYC brownstones, Edelman & Salzman, archts., July/Aug.	78
Riverbend Houses, Harlem, NYC, Davis, Brody & Assocs., July/Aug.	44
Scotland, Md., townhouses, Rurik F. Ekstrom, Collins & Kronstadt and Randolph Janney, archts., July/Aug.	82
Thamesmead, England, Hubert Bennett and Greater London Council architectural staff, archts., July/Aug.	58
Westmount Square, Montreal, Greenspoon, Freedlander, Plachta & Kryton, archts., with Mies Van der Rohe, consultant, Sept.	82
Woodlawn Gardens, Chicago, Stanley Tigerman, archt., July/Aug.	72

INDUSTRIAL

CBS/Sony Records Factory, Oigawa, Japan, Takenaka Komuten Co. Ltd., archts., Dec.	49
Factory, France, George Mathieu, archt., Dec.	76
Fagus Building, Germany, Walter Gropius, archt., revisit, Sept.	34
Plant, Forest Park, Ga., Graves & Toy, archts., Sept.	75
SDS Administration Building, El Segundo, Calif., Craig Ellwood, archt., Sept.	50

OFFICE

Armstrong Rubber Company, New Haven, Conn., Marcel Breuer, archt., July/Aug.	95
Bank of America, San Francisco, Wurster, Bernardi and Emmons, and Skidmore, Owings & Merrill, archts., with Pietro Beluschi, consultant, Oct.	70
IDS Office Building, Nicollet Mall, Minneapolis, Minn., Johnson & Burgee, archts. and Edward F. Baker, archt., Dec.	84
Jewish Family and Children's Service Building, Boston, Marvin E. Goody, and John M. Clancy, archts., Nov.	66
Knights of Columbus World Headquarters, New Haven, Conn., Kevin Roche, John Dinkeloo & Assoc., archts., Nov.	66
KQED-TV Station, San Francisco, George T. Rockrise and John M. Johansen, archts., Sept.	96
Readers Digest, Sydney, Australia, John James & Assoc., Dec.	47
SDS Administration Building, El Segundo, Calif., Craig Ellwood, archt., Sept.	50
U. N. area proposals for offices, NYC, Kevin Roche, John Dinkeloo, archts., Dec.	86
Westcoast Transmission Co., Ltd., Vancouver, B.C., Canada, Rhone & Iredale, archts., Nov.	64
Worcester County National Bank, Mass., Kevin Roche, John Dinkeloo & Assoc., archts., July/Aug.	116

PLANNING

Charleston, West Va., urban planning, Marcou, O'Leary & Assoc., archts., with Abeles, Schwartz & Assoc., Nov.	48
New York State Urban Development Corp., "Bridging The Gap From Rhetoric to Reality," by Samuel Kaplan, Nov.	70
"Planning and Design Workbook for Community Participation," Princeton Univ. Research Center for Urban and Environmental Planning, Bernard P. Spring, Dir., Dec.	32
"Pre-Copernican Views of the City," by George Rand, Sept.	76

U. N. Area proposals, Kevin Roche, John Dinkeloo, archts., Dec.	86
"Urban Design With Soul," by Jerome Aumante, Griffin Ward & Agee, Urban Design Development Group, Inc., Detroit, Dec.	44
Welfare Island plan, NYC, Philip Johnson and John Burgee, archts., by John Margolis, Oct.	40

RECREATION

Agora, Dronten, Netherlands community center, Frank van Klingeren, archt., Nov.	68
Bicentennial Commemoration 1976, by Denise Scott Brown and Robert Venturi, Oct.	66
Fairfax Village Playground, Washington, D. C., George E. Hartman, Jr. and Warren J. Cox, archts., Oct.	82
McCormick Place, Chicago, Ill., C. F. Murphy, archt., Sept.	72
New England Aquarium, Boston, Mass., Cambridge Seven, archts., July/Aug.	96
Rivergate Exhibition and Convention Center, New Orleans, Curtis & Davis, Edward B. Silverstein & Assoc. and Mathes-Bergman & Assoc., archts., Dec.	48
L. Stockwell Jadwin Gymnasium, Princeton Univ., N.J., Walker O. Cain & Associates, archts., Dec.	47
Surf Club West, Long Island Sound, Milford, Conn., Roth & Saad, archts., Oct.	58
Tompkins County Trust Co., Ithaca, N.Y., pocket park, Robert L. Mann, archt., Oct.	72
Usdan Day Camp, Huntington, L.I., Conklin & Rossant, archts., Nov.	56
U. S. Pavilion, Expo 70, Osaka, Japan, Davis, Brody, Chermayeff, Geismar, De Harak Assoc., archts., Dec.	68
Visitors Center, West Rock Center, New Haven, Conn., Roth & Saad, archts., Oct.	58

RELIGIOUS

All Saints Church, Episcopal, Palo Alto, Calif., William Guy Garwood, archt., Oct.	77
Brothers of the Church of St. Sebastian, monastery, Neusz, Germany, Joachim Schurmann, archt., Dec.	48
Church, Nevigis, Germany, Gottfried Bohm, archt., July/Aug.	94
Firestone inflatable church, Costa Rica, July/Aug.	108
Jain-Ji Temple, Osaka, Japan, Kiyoshi Kawasaki, archt., Dec.	48
Precious Blood Roman Catholic Church, St. Boniface, Winnipeg, Manitoba, Etienne Gaboury with Denis L. Lusier, archts., Nov.	67
St. Mary's Cathedral, San Francisco, McSweeney, Ryan & Lee, archts., with Pietro Belluschi and Luigi Nervi, consultants, Oct.	72
Trinity Church of Nazarene, Orange, Conn. Roth & Saad, archts., Oct.	58
Uganda Martyr's Shrine, Justus Dahinden, archt., Nov.	65
University Methodist Chapel, Florida State Univ., Tallahassee, Victor Lundy, archt., Nov.	78

TECHNOLOGY

Industrialized housing, various building systems, July/Aug.	100
Salt Lake County Civic Auditorium, Utah, Zetlin, DeSimone, Chaplin and Assoc., archts., July/Aug.	95
Thamesmead, England, Greater London Council, archts., July/Aug.	58

TRANSPORTATION

Bonn-Cologne Airport, Paul Schneider-Esleben, archt., Sept.	74
Houston Intercontinental Airport, Golemon & Rolfe and Pierce & Pierce, archts., Sept.	60
Mexico City Subway, Bernardo Quintana, Archt., Oct.	71

Electric Heat Plays Major Role In Governor Dummer Academy's Extensive Building Program



Eames Dormitory, a complex of five buildings at Governor Dummer Academy at Byfield, Massachusetts.

THE CASE—Governor Dummer Academy is the oldest boys' boarding school in America. Established in 1763, it is located in a typically beautiful New England setting in Byfield, Massachusetts. Its original enrollment of 28 students has expanded to 300 and its campus complement has grown from two to 31 buildings.

In 1960, the academy undertook a major building and remodeling program which, to date, has involved the construction or remodeling of eight structures. Electric heating systems have been incorporated in all eight. Included are an addition to the headmaster's residence, two dormitory units, a chapel, an arts center, a classroom building, a hockey rink, and an addition to the gymnasium. Still underway is the construction of a new residence building and the remodeling of a classroom structure.

One of the latest of the new structures (completed in November, 1966) is Eames Dormitory, actually a complex of five attached buildings: three dormitory units flanked at either end by residential units for faculty members and their families. Designed by Kilham, Hopkins, Greeley & Brodie of Boston, architects for many of the buildings at the academy, Eames Dormitory is a two-story structure constructed of clapboard and brick with

accommodations for 45 students. The basement has windows and is fully utilized for student rooms, laundries, storage areas and equipment rooms. The electric heating system for the building was designed by Hubbard, Tracey & Blakeley Associates, consulting engineers of Boston. Electric baseboard units were selected to provide comfortable heating with individual room control in both the dormitories and faculty residences. Forced-air convectors are recessed in the walls of hallways and near doorways.

THE HISTORY—Explaining why the academy has chosen electric heat for all of its construction projects since 1960, Business Manager John Hosmer, says: "The elimination of boiler rooms and stacks has resulted in substantial savings and provided important aesthetic advantages. We have also found electric heat to be competitive with fossil fuels in operating costs and maintenance has been greatly reduced."

Speaking specifically about Eames, Mr. Hosmer says, "The electric heating system has been very satisfactory. It's economical to operate, convenient for the students and faculty, and particularly well suited to vacation periods since the heat can be turned down in each room."

1 CATEGORY OF STRUCTURE:

Residential—Dorms and Homes

2 GENERAL DESCRIPTION:

Area: 22,000 sq ft
 Volume: 180,000 cu ft
 Number of floors: two plus full basement
 Number of occupants: 45 students
 Types of rooms: student rooms plus living quarters for two faculty families

3 CONSTRUCTION DETAILS:

Glass: single
 Exterior walls: clapboard or brick or masonry veneer on frame; 3 3/8" mineral fiber batts (R=13), gyp. bd.; U-factor: 0.06
 Roof or ceilings: asphalt shingles on sheathing, 6" mineral fiber batts (R=19), gyp. bd.; U-factor: 0.04
 Floors: wood
 Gross exposed wall area: 13,000 sq ft
 Glass area: 2,400 sq ft

4 ENVIRONMENTAL DESIGN CONDITIONS:**Heating:**

Heat loss Btuh: 533,000
 Normal degree days: 6,500
 Ventilation requirements: 1,200 cfm
 Design conditions: -10F outdoors; 70F indoors

Cooling:

None

5 LIGHTING:

Levels in footcandles: 20-50
 Levels in watts/sq ft: 1-3
 Type: fluorescent and incandescent

6 HEATING SYSTEM:

Electric baseboard units provide the comfort heating for the boys' rooms in the dormitory section of the building and for each of the rooms in the two faculty houses. Forced-air convectors are recessed in the walls of the corridors and near doorways.

7 ELECTRICAL SERVICE:

Type: underground
 Voltage: 277/480v, 3 phase
 Metering: secondary

8 CONNECTED LOADS:

Heating	166 kw
Ventilation	20 kw
Lighting	44 kw
Water Heating	54 kw
Cooking	40 kw
Other	30 kw
TOTAL	354 kw

9 INSTALLED COST:*

General Work	\$252,320	\$11.46/sq ft
Plumbing	20,500	.94/sq ft
Electrical (Inc. Mech.)	56,400	2.56/sq ft
TOTALS	\$329,220	\$14.96/sq ft

*Building was completed 11/66

10 HOURS AND METHODS OF OPERATION:

24 hours a day, seven days a week with selective setbacks.

11 OPERATING COST:

Period: August 1967 through July 1968
 Actual degree days: 6718
 Actual kwh: 335,700*
 Actual cost: \$5,472.60*
 Avg. cost per kwh: 1.61 cents*
 *For total electrical usage

Month	Degree Days	kwh	Amount
8/67	11	3,000	\$ 53.60
9/67	120	3,900	68.00
10/67	386	18,000	292.84
11/67	836	33,300	539.10
12/67	1,021	48,300	782.62
1/68	1,400	45,900	745.51
2/68	1,271	52,500	853.34
3/68	878	54,000	872.41
4/68	430	25,200	411.23
5/68	276	29,100	475.12
6/68	88	18,900	316.03
7/68	1	3,600	62.80
TOTALS	6,718	335,700	\$5,472.60

12 FEATURES:

Each room is equipped with an individual wall-mounted thermostat control that can be set back when the room is not in use.

13 REASONS FOR INSTALLING ELECTRIC HEAT:

Since 1960 when it began an extensive building and remodeling program, the academy has been incorporating electric heating systems in its plans for these reasons: no need for boiler rooms or stacks, resulting in a saving on construction costs and aesthetic advantages; low operating costs; reduced maintenance; greater comfort and convenience.

14 PERSONNEL:

Owner: Governor Dummer Academy
 Architects: Kilham, Hopkins, Greeley & Brodie Consulting Engineers: Hubbard, Tracey, and Blakeley Associates, Inc.
 General Contractor: Joseph Welch Company
 Electrical Contractor: Ipswich Electric Co.
 Mechanical Contractors: Gaffney Plumbing & Ventilating
 Utility: Massachusetts Electric Company

15 PREPARED BY:

Clifford D. White, Commercial Sales Representative, Massachusetts Electric Company.

16 VERIFIED BY:

Walter Scott Brodie

Walter Scott Brodie, AIA

E. M. Tracey

Edward M. Tracey, P.E.



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On Readers' Service Card, Circle 242

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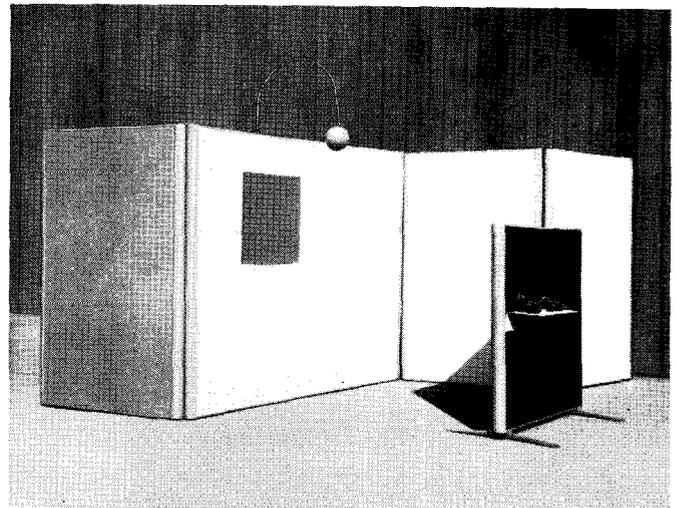
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December 11, 1969.

On Readers' Service Card, Circle 244



"Waltz the walls 'round again, Willie!"

It's just that easy with SHO-WALL. This light, portable panel system lets you rearrange space division and exhibit surface on a moment's notice and without tools. SHO-WALLS now come in 12 sizes and 6 surfaces from hot red GRABFAB to cool sand burlap to pegboard to chalkboard. They'll support demountable shelves, paintings, prints and paraphernalia. And they come wired for our SATELLIGHT (on second panel from left above) at small additional cost. Prices start at \$57.

(SEE 1970 SWEET'S INTERIOR FILE (SEC. B3a))

BREWSTER

Dept. 68 Old Saybrook, Ct. 06475

Tel. 203-388-4441

On Readers' Service Card, Circle 243

READERS SERVICE FILE

PRODUCT LITERATURE

To order material described, circle indicated number on self-addressed Reader Service Card, facing page 122.

DOORS/WINDOWS 601

Amerada 1970—a 12-pg 4-color catalog with information and data for all glazing needs: Sound Control, Heat Exclusion, Fade protection, Bullet-resistance, etc. Amerada Glass Co. On Reader's Service Card, circle 101.

Pre-cured, expanded Foam Core Door. Available in full-flash and seamless styles. Limitless variety of hardware applications. Complete details in 8-pg brochure. Amweld Building Prods. On Reader's Service Card, circle 102.

16-pg 2-color comprehensive 1970 catalog spearheads Crawford's bid to capture a significant share of the \$25 million rolling door, grille and shutter market. Illustrations, specs. The Crawford Door Co. On Reader's Service Card, circle 103.

Architectural glass. 8-pg full color catalog. Applications and properties of drawn sheet, enamelled, float, figured, solar, diffusing and tinted. Glaverbel (USA), Inc. On Reader's Service Card, circle 104.

Bulletin 161 details Kinnear sectional overhead-type aluminum doors for all classes of industrial and commercial buildings. Manual, mechanical through hand chain and reduction gearing, or electric power operators. Dimensional and clearance data. Kinnear Corp. On Reader's Service Card, circle 105.

Bulletin 162 details complete line of rolling doors, fire doors, counter shutters, rolling grilles and other metal doors. Dimensions tabulated and keyed to line drawings. Complete specs. Kinnear Corp. On Reader's Service Card, circle 106.

Catalog includes technical information on LOF glass; includes Vari-Tran® and Vigilpane® SA 68. Libbey-Owens-Ford Co. On Reader's Service Card, circle 107.

1970 full color catalog featuring pre-

finished, machined and polyethylene lines of wood flush and panel doors. 14 types and 5 veneers offered. Mohawk Flush Doors, Inc. On Reader's Service Card, circle 108.

Catalog 170/OV covers typical installations, specs, test performance data, ASTM acoustical testing and rating procedure, Door, frame, acoustical seal details. Overly Mfg. Co. On Reader's Service Card, circle 109.

Literature contains general information on Pilkington Glass Products. Pilkington Brothers, Ltd. On Reader's Service Card, circle 110.

ELECTRICAL EQUIPMENT 602

8-pg 4-color brochure describes "Haughton 1090 Supervisory System." Illustrations include the Compact Nerve Center, Electronic Computer and Demand Response Modules. Haughton Elevator Co. Div. of Toledo Scale Corp. On Reader's Service Card, circle 111.

FLOORING 603

8-pg color brochure on highlights of in depth research of woodblock flooring produced by Jennison-Wright Corp. Jennison-Wright Corp. On Reader's Service Card, circle 112.

Weberfloor. Unique access flooring in use in many jobs with few, if any, special-purpose requirements. 12-pg illustrated brochure details construction and economic benefits. Weber Architectural Prods. Div. of Walter Kidde & Co. On Reader's Service Card, circle 113.

FLOOR COVERING 604

"Successful Contract Carpeting with du Pont Fibers," a new book addressed to the specifier in the important contract market. Highlights ANTRON® nylon, optimal commercial carpet fiber with unique ability to minimize soil appearance. E. I. du Pont de Nemours Co. On Reader's Service Card, circle 114.

Powerhouse by World Carpets. A 5/64 gauge, level loop quality with

100% solution dyed Acrilan acrylic pile. 10 heather colorations. Sample swatch, descriptive information. World Carpets. On Reader's Service Card, circle 115.

FURNISHINGS 605

New Sundberg Chair. Full line. Durable cast nylon. Many colors, mounting options, specifications. American Seating Co. On Reader's Service Card, circle 116.

8-pg brochure features 8 new bench units in Fisher Lab furniture giving maximum flexibility. Fisher Scientific Co. On Reader's Service Card, circle 117.

Action Office II. Modular components for open planning. Complete literature. Herman Miller, Inc. On Reader's Service Card, circle 118.

Traditional 700 Series. 24-pg color catalog, complete line of Chippendale desks, credenzas, bookcases and correlated seating. Myrtle Desk Co. On Reader's Service Card, circle 119.

Full color catalog on library furniture, plus details of "Three Dimensional Planning," a service designed to help gain prompt approval and support from supervising authorities. Sjöström USA. On Reader's Service Card, circle 120.

HARDWARE 606

12-pg booklet on Architectural Hardware for Schools and Colleges covers wide variety of hardware items; many unusual designs, information re Corbin's Master Keying Systems Form No. K-873. P&F Corbin Div. Emhart Corp. On Reader's Service Card, circle 121.

24-pg fully illustrated booklet gives information on choosing correct types of hardware for every type of entrance. Kawneer/Amx Co. On Reader's Service Card, circle 122.

"Electrac by Kirsch." 12-pg full color brochure with complete technical

information on linear motor-powered drapery traverse rod. Kirsch Co. On Reader's Service Card, circle 123.

16 pgs of catalog and special information on LCN Door Closers, includes surface mounted, overhead, concealed and floor models. LCN Closers. On Reader's Service Card, circle 124.

Fire control devices—8-pg brochure contains illustrations and diagrams of complete line of fire control equipment for doors. Norton Door Closer Div. Eaton Yale & Towne, Inc. On Reader's Service Card, circle 125.

1970 Condensed Catalog. New 20-pg catalog describes full line of advanced architectural hardware including specs and function charts. Sargent & Co. On Reader's Service Card, circle 126.

HEATING/ AIR CONDITIONING 607

New 24-pg catalog featuring a complete line of Gas Engine Drive products for refrigeration applications. Includes design features, mechanical specification charts, diagrams, photographs and application data. Acme Industries, Inc. On Reader's Service Card, circle 127.

Anemostat regulators for air flow. Complete catalog with descriptions of units, installations and performances. Anemostat Products Div. On Reader's Service Card, circle 128.

Ventilating fans of all types for home and industry are featured in new 8-pg 2-color catalog from Hunter. Hunter Div. Robbins & Meyer. On Reader's Service Card, circle 129.

INSULATION 608

New 6-pg 2-color brochure on "Tapered Foamglas (TR) Roof Insulation System" describes the system with detailed drawings and specifications. Pittsburgh Corning Corp. On Reader's Service Card, circle 130.

4 pg brochure features Soundblox®

sound absorbing structural masonry units for attractive, economical construction. The Proudfoot Co. On Reader's Service Card, circle 131.

4-pg 2-color folder on "Weather Chamber Windows" weatherproofing system combining Neoprene stripping with pressure equalization. Republic Steel Corp. Mfg. Div. On Reader's Service Card, circle 132.

Thermal insulation for roof decks, re-roofing, parking decks, plazas and ice rinks. 16-pg technical brochure including charts, tables, specs, etc. Silbrico Corp. On Reader's Service Card, circle 133.

New 4-pg bulletin describes Cafco® Blaze-Shield® Type D direct-to-steel spray-fiber fireproofing. Includes features, applications, advantages, specs. United States Mineral Products Co. On Reader's Service Card, circle 134.

LIGHTING 610

Portable wall panels for space division and exhibition described in 8-pg full color catalog including prices and specs for 11 SHO-WALL models in 12 sizes, 6 surfaces, 16 colors. Brewster Corp. On Reader's Service Card, circle 135.

24-pg fully illustrated brochure contains details on the Power-Trac System of high-style display lighting. Includes functional information on its use. Halo Lighting Div. McGraw Edison Co. On Reader's Service Card, circle 136.

18-pg 2-color brochure on Versaline II Troffers contains extensive details on uses and specs, with illustrations. The Miller Co. On Reader's Service Card, circle 137.

Plexiglas in Lighting—44-pg booklet gives complete optical-physical data on Plexiglas® acrylic plastic for indoor and outdoor lenses and diffusers. Rohm & Haas Co. On Reader's Service Card, circle 138.

MASONRY 611

Precast Concrete Exterior Units Brochure, 24-pg, color, shows 41 precast panel instructions. Medusa Portland Cement Co. On Reader's Service Card, circle 139.

COATINGS/SEALANTS 614

New 4-pg full color bulletin describes application of Vynatex 23, heavy-duty protective coating on asphalt and portland cement concrete tennis courts and recreational areas. Complete details. Maintenance, Inc. On Reader's Service Card, circle 140.

Stain samples, on wood: AIA Information manual and 16-pg Stained Wood Idea Book. Olympic Stain Co. On Reader's Service Card, circle 141.

Full color, illustrated brochure providing details on durability, formability, life expectancy, weather and chemical resistance of Kynar 500® resin. Statistical data and comparisons with other materials. Pennwalt Corp. On Reader's Service Card, circle 142.

Thoroseal brochure explains how to waterproof basements, foundations, concrete and block buildings; how to eliminate rubbing concrete. Standard Dry Wall Products. On Reader's Service Card, circle 143.

A Guide to Sealant Quality and Performance. New 4-pg brochure detailing Thiokol's Tested and Approved Program. Thiokol Chemical Corp. On Reader's Service Card, circle 144.

PLUMBING EQUIPMENT 615

12-pg 2-color catalog shows American's complete line of laundry machinery. American Laundry Machinery Industries. On Reader's Service Card, circle 145.

Form C 150. 12-pg color catalog of water coolers. Architect illustrations. Cordley Prods., Dispenser Div. Eaton Yale & Towne, Inc. On Reader's Service Card, circle 146.

"Water Can Serve You Throughout

Your Home;" 48-pg booklet on Elkay Stainless Steel Sinks: for the kitchen, laundry, lavatory, designed for gracious living. Elkay Mfg. Co. On Reader's Service Card, circle 147.

Comprehensive 8-pg color brochure with reply paid postcard enabling inquirer to obtain specific quotations/information from manufacturer quickly. Richard Fife, Inc. On Reader's Service Card, circle 148.

32-pg color catalog #168; drinking fountains, water coolers — includes specs, drawings. Haws Drinking Faucet Co. On Reader's Service Card, circle 149.

1969 32-pg color catalog illustrates electric water coolers, drinking fountains, accessories; incorporates drawings for units. The Halsey W. Taylor Co. On Reader's Service Card, circle 150.

ROOFING/SIDING 616

8-pg 2-color brochure on seamless Terne roofing contains standard and seam specs. Illustrated. Follansbee Steel Corp. On Reader's Service Card, circle 151.

STRUCTURAL 617

New 10-pg illustrated brochure providing up-to-date design and installation data, commercial and industrial applications for 2.4.1 plywood. American Plywood Association. On Reader's Service Card, circle 152.

4-pg 4-color brochure on "Childers Mansard Roof and Fascia Panels." Specs, illustrations, colors and cost reduction possibilities included. Childers Mfg. Co. On Reader's Service Card, circle 153.

16-pg illustrated brochure gives details, specs, uses and advantages of Dur-O-Wal masonry reinforcement products. Dur-O-Wal National, Inc. On Reader's Service Card, circle 154.

12-pg illustrated brochure highlights features of Fenmark all steel Grid Wall Systems. Includes specs, ap-

plications, 8 available colors. Fenestra Div. of the Marmon Group. On Reader's Service Card, circle 155.

Roof Decking. For bulb-T framing, insulating, structural deck for various roof configurations and finishes. Complete technical information in Bulletin 9-148. Homasote Co. On Reader's Service Card, circle 156.

New 4-color technical bulletin describing properties, applications, and standard stocked sizes of EXTREN® fiber glass reinforced polyester structural shapes. Include general corrosion resistance guide. Koppers Co., Inc. On Reader's Service Card, circle 157.

1970 Edition of "Standard Specifications and Load Tables;" 32-pg manual has information for fast, accurate specs of joists for uniform loads on spans up to 96 feet. Steel Joist Institute. On Reader's Service Card, circle 158.

16-pg 4-color catalog includes illustrations and specs, as well as available colors, for Walcon Metal Wall Systems, Roof Decks and Louvers. Covers a wide variety of possibilities. Walcon Corp. On Reader's Service Card, circle 159.

WALLS/LAMINATES/PARTITIONS 618

Portable wall panels for space division and exhibition described in 8-pg full color catalog including prices and specs for 11 SHO-WALL models in 12 sizes, 6 surfaces, 16 colors. Brewster Corp. On Reader's Service Card, circle 160.

1968 laminated solid color series. Easily filed product sampler features '68 solid shades. Formica Corp. On Reader's Service Card, circle 161.

Metal Wall Panels, including new Foamwall. 20-pg catalog includes complete specs with color photos of walls in place. Elwin G. Smith & Co., Inc. On Reader's Service Card, circle 162.

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"PACERS" PROVIDE
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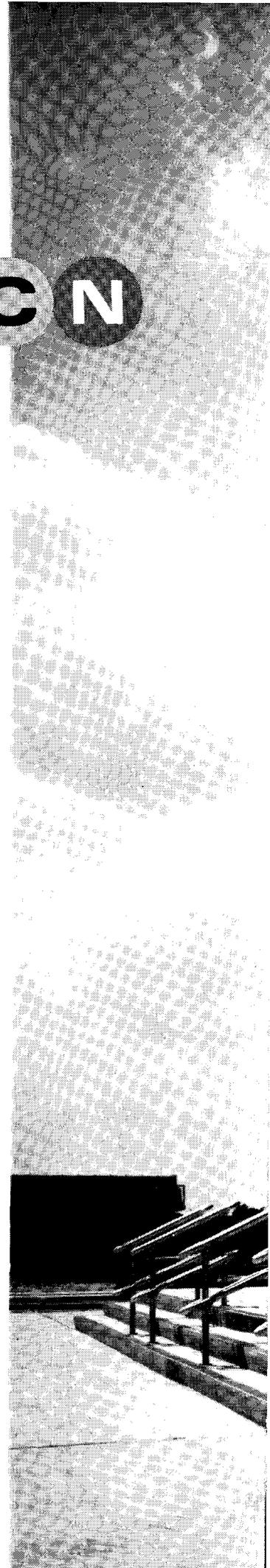
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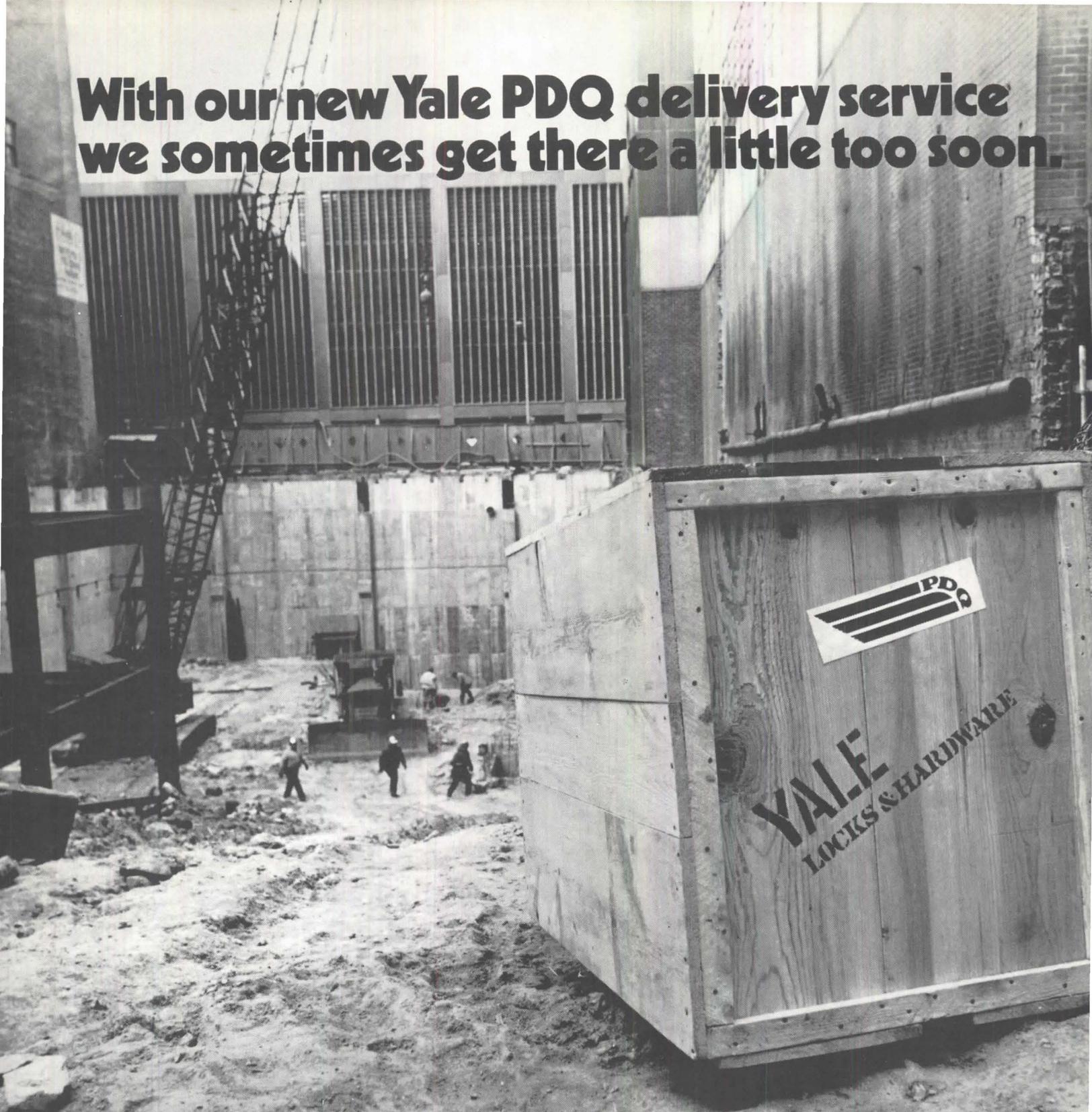
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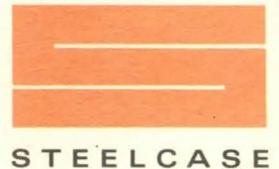


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