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Cover: a photograph of an orthopedic clinic (p. 30) by Robert Gray.

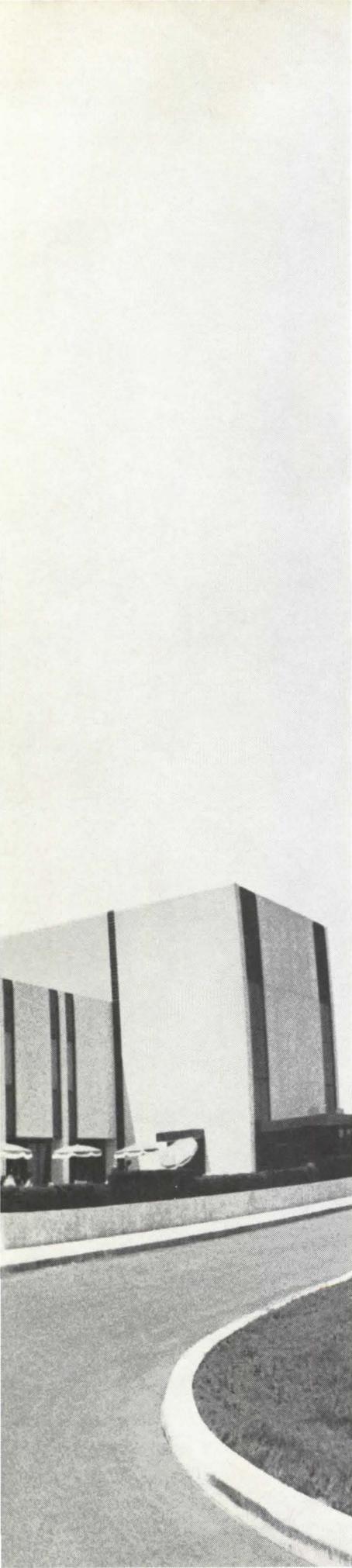
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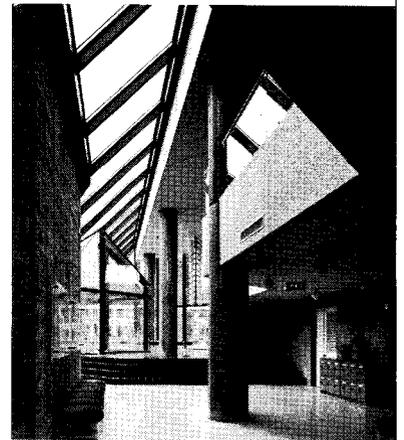
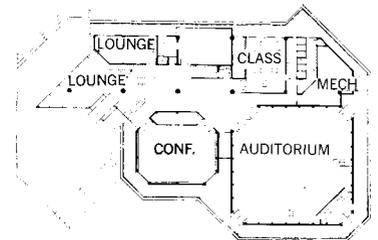
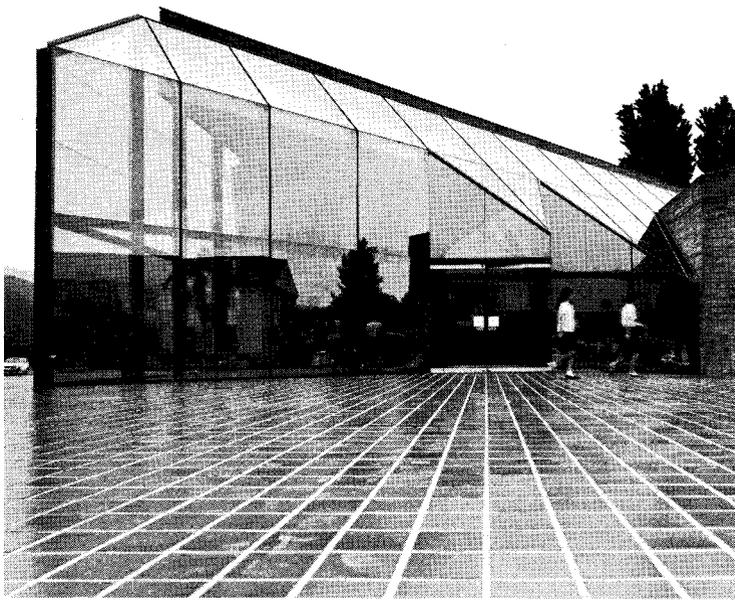
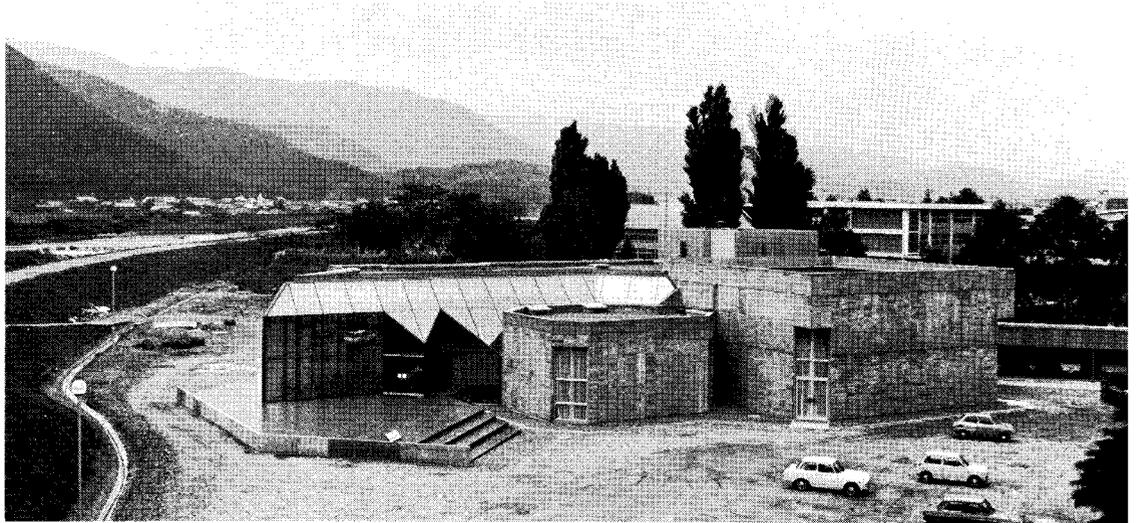
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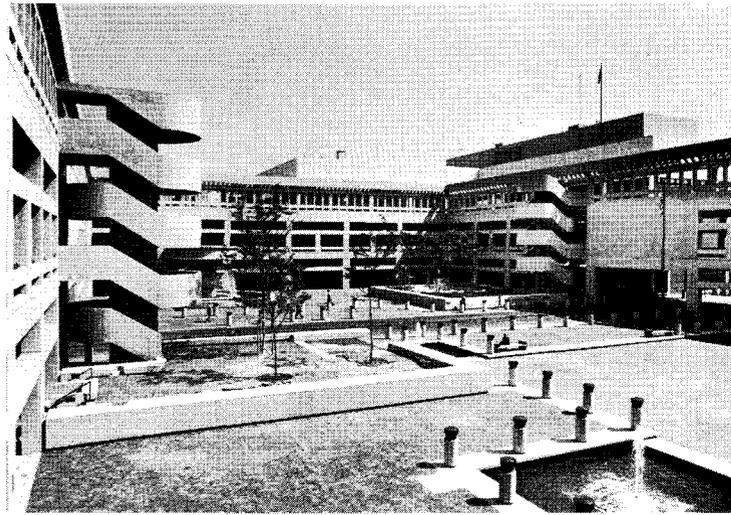
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## WORLDLY IMAGE

Can a small hill-town in Japan adjust gracefully to the world of advanced technology? The sophisticated new civic center at Wake is meant to bridge the gap between the world the townspeople know from television and the still-tranquil setting of their everyday lives. The highly articulated south front of the building (top view) will eventually face a much larger riverside plaza, enclosed to the south by a new City Hall. The crystalline, steel-and-glass lobby (left)—reflective by day and transparent by night—leads into a two-story, skylighted circulation spine (above). Architects for the civic center were the Architectural Research Association and the Kawasaki Laboratory at Kyoto University.



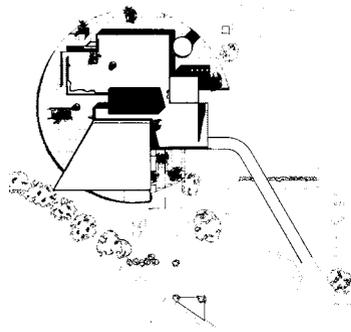
**HEART OF TOWN**

Lancaster Square is ready to become the new focus of activity in Lancaster, Pennsylvania. Designed by Gruen Associates, the 12-acre urban renewal project includes shops, offices, an apartment building, a 237-room hotel,

and two six-story parking garages, all linked by three decks of pedestrian arcades around a central open space. This square, designed by landscape architects M. Paul Friedberg & Associates, will have fountains in summer, a skating rink in winter.

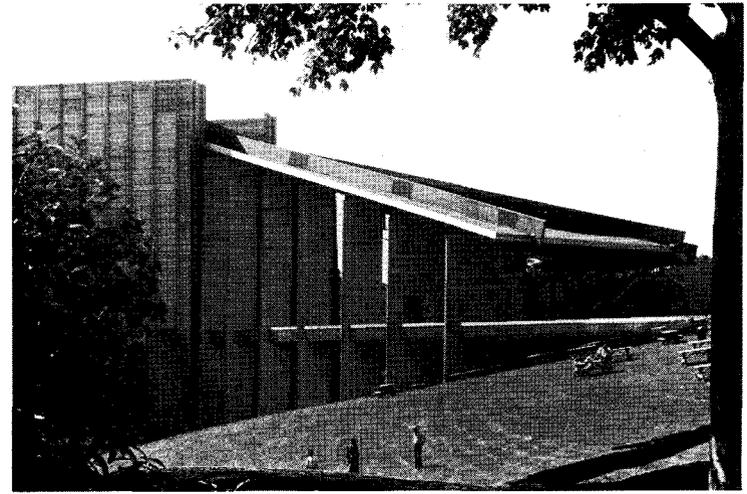
**ACADEMIC ASSEMBLAGE**

To fit a vestpocket site in Bangkok, Architect Ongard Satrabhandhu stacked the various elements of the new Panabhandhu school vertically—each layer occupying part of a broken circle (plan right). Above a ground-level assembly area are an administrative floor (reached by ramp), three floors of classrooms, two floors of dormitories for boarding students and, on the roof, an auditorium and a director's apartment.



**ANOTHER VIENNA**

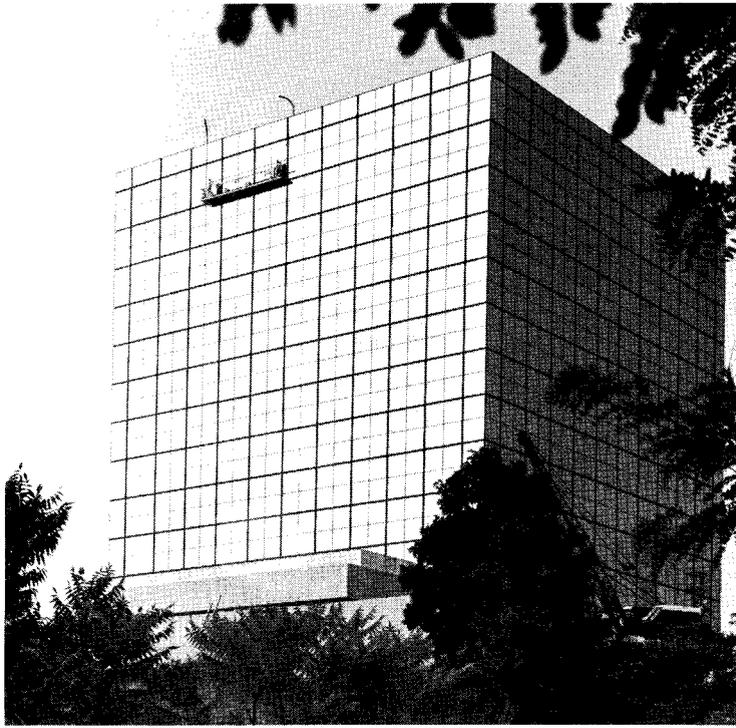
Wolf Trap Farm at Vienna, Va., is the country's first National Park specifically for the arts. Its focal point is Filene Center, an open-air auditorium designed by Architects Edward Knowles and John MacFadyen. The center seats 3,506 under roof, plus 3,000 more on the lawn, and is fully equipped for opera as well as concerts. Its diverse forms—frankly expressing functional parts—are tied together with a uniform cladding of red cedar, which looks at home in the well-preserved farm landscape.



**ODD COUPLE**

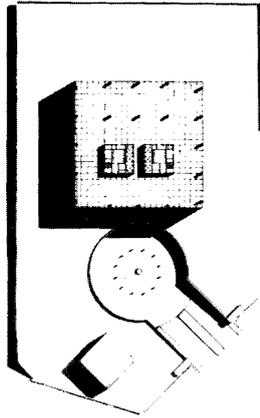
Standing arm in arm on the skyline of Kampala, Uganda, are the structures of Government's new Office Towers and Trade Center. Designed by Architect Renato Severino, the steel-framed buildings were almost totally prefabricated in Italy and shipped to Kampala for assembly by local workmen—at an estimated saving of 20 percent over conven-

tional methods. Surrounding the towers (but not touching them) is a base structure containing commercial space. Sun shades around the upper floors are of brown-tinted glass. At the tenth floor, where the towers are linked, is a projecting conference-cafeteria suite. This special floor and the elevated plaza below it are vantage points along Kampala's main parade route.



**MINIMAL MIRROR**

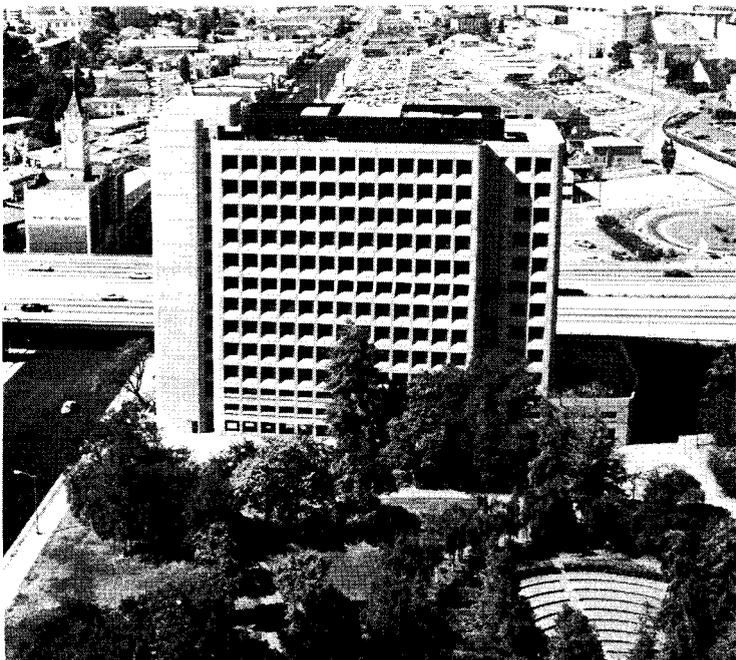
Now nearing completion in suburban Towson, the Maryland Blue Cross and Blue Shield Building rises like a huge sculpture in the landscape. The mirrored cube of office space, 11 stories high, will be surrounded by a planted terrace, beneath which visitors will enter from a circular automobile court (plan, right). A second, smaller cube—clad in red glazed brick—will house mechanical equipment. Architects are Peterson & Brickbauer of Baltimore, with Brown, Guenther & Battaglia.



**MULTIPLE REFLECTIONS**

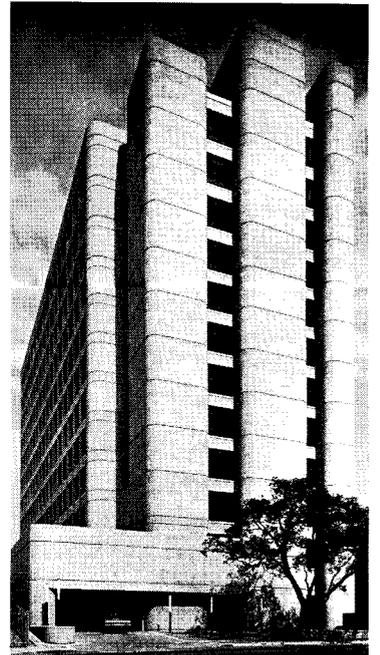
The Tennessee Blue Cross and Blue Shield Building, in Chattanooga, reflects its own pin-wheel wings in its bronze-tinted mirroring walls. Designed by Architects John Portman & Associates, the structure has a skylighted central court, complete with Portman-style space-ride elevator. A top-floor cafe-

teria is open to the public. The building rests on “exploded” cylindrical columns of exposed concrete—10 ft. in diameter—some of which house service functions. Parking space under the tile-paved plaza is skylighted through pill-shaped domes of tinted acrylic, which disperse light from below out across the plaza by night.



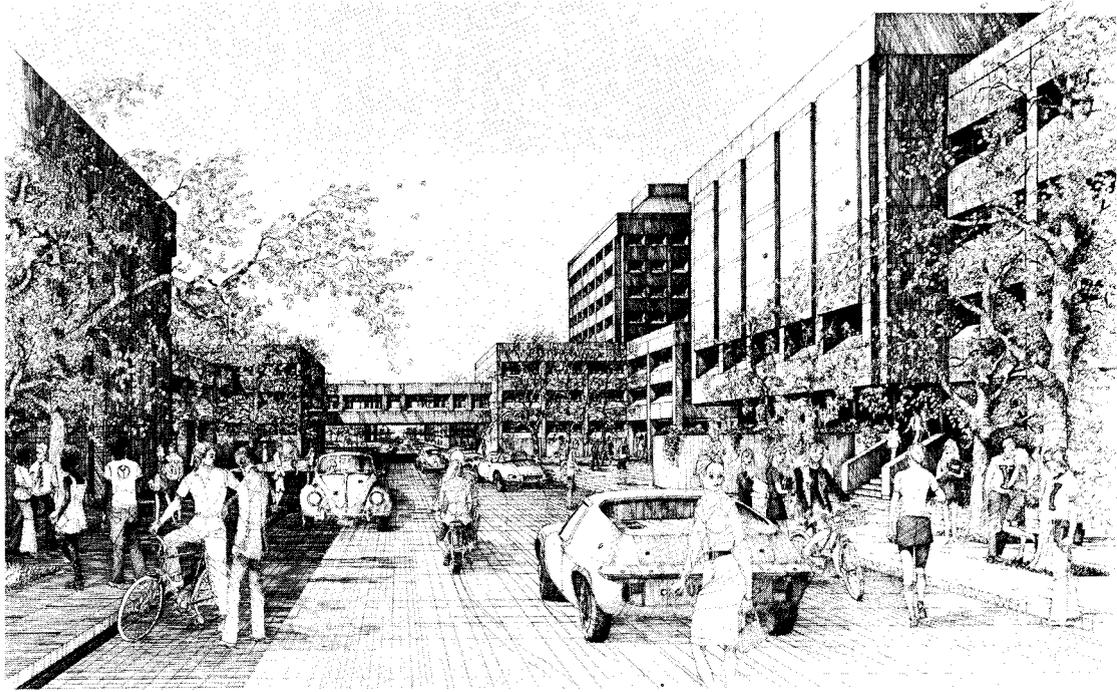
**ROADSIDE BASTION**

Standing on a sliver site, hard against the eight-lane MacArthur Freeway in Oakland, the Mosswood Park Building is a thick-skinned concrete structure. Cast-in-place bearing walls have large windows on the long sides (left), form closed, tubular service towers at the ends (right). The ten floors of rental office space rise above three stories of garage, so that all offices have broad views, above freeway level. Architects Stone, Marracini & Patterson have treated the minimal open space on their site as a visual extension of the adjoining 13-acre park.



PHOTOGRAPHS: Page 5, Kawasaki. Page 6 (top right), Jana Photo/J. R. Black. Page 7 (bottom left), Bill Wasson; (bottom right), Bob Hollingsworth.

# PREVIEW



## NEW COLLEGE TIE

York College, the newest four-year unit in the New York City University system, is planned to link the two distinct halves of the Jamaica community in Queens. Architects Snibbe/Tafel/Lindholm have designed a dense, medium-rise campus to replace the marginal industrial strip that now separates the poor, largely black area south of the Long Island Railroad from the commercial center and middle-class housing to the north.

A north-south pedestrian spine, bridging a major street, links an auditorium and athletic complex to the south with the academic core to the north. A fine arts cluster to the east is sited for easy community access. A theater and art gallery here, as well as the library and athletic facilities elsewhere on campus, are intended for shared use with local residents. The central Commons is meant to double as a community plaza.

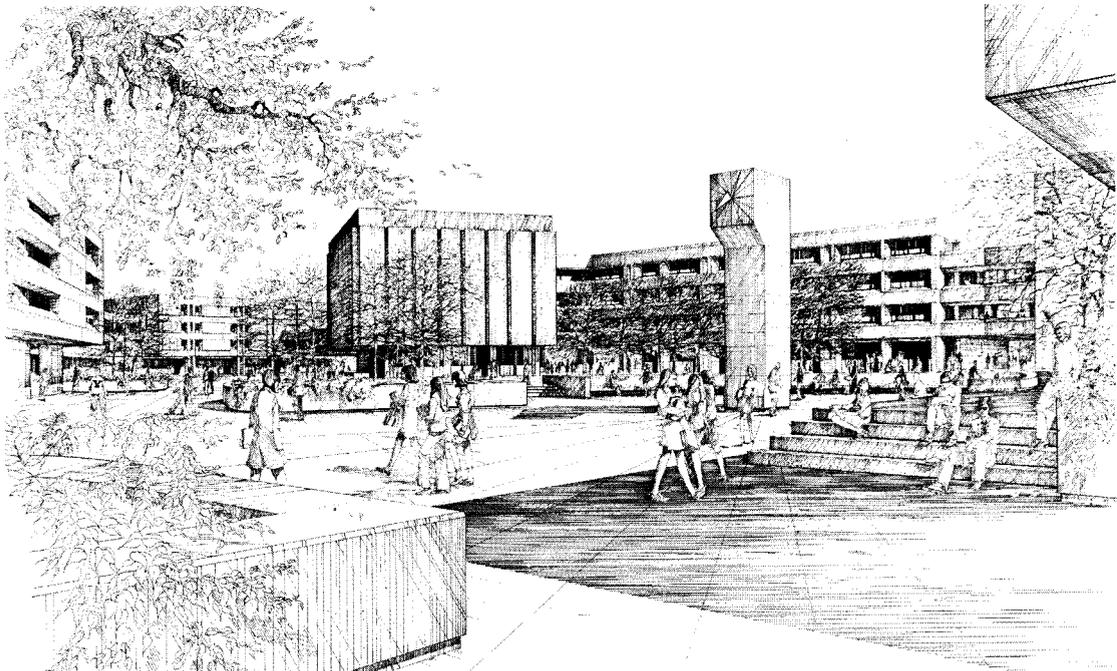
Campus buildings maintain the scale of the surrounding neighborhood—in both height and breadth. Each academic building, though visually distinct, is part of a continuous, layered system. Below-grade services, grade-level student-public amenities, and second-level classroom space are tied together by sheltered links; upper floors, requiring elevators, house specialized functions of various disciplines.



View south on New York Boulevard with academic core at right, linked by enclosed bridge to fine arts complex.

Campus model shows science building 1 (sited for early construction); education, social sciences, and humanities buildings 2, 3, 4; library 5; fine arts complex 6; parking 7; future residences 8; auditorium 9; physical education building 10; administration 11; science and mathematics building 12.

Sketch of central Commons, with terraced seating and dining areas around a sunken plaza.

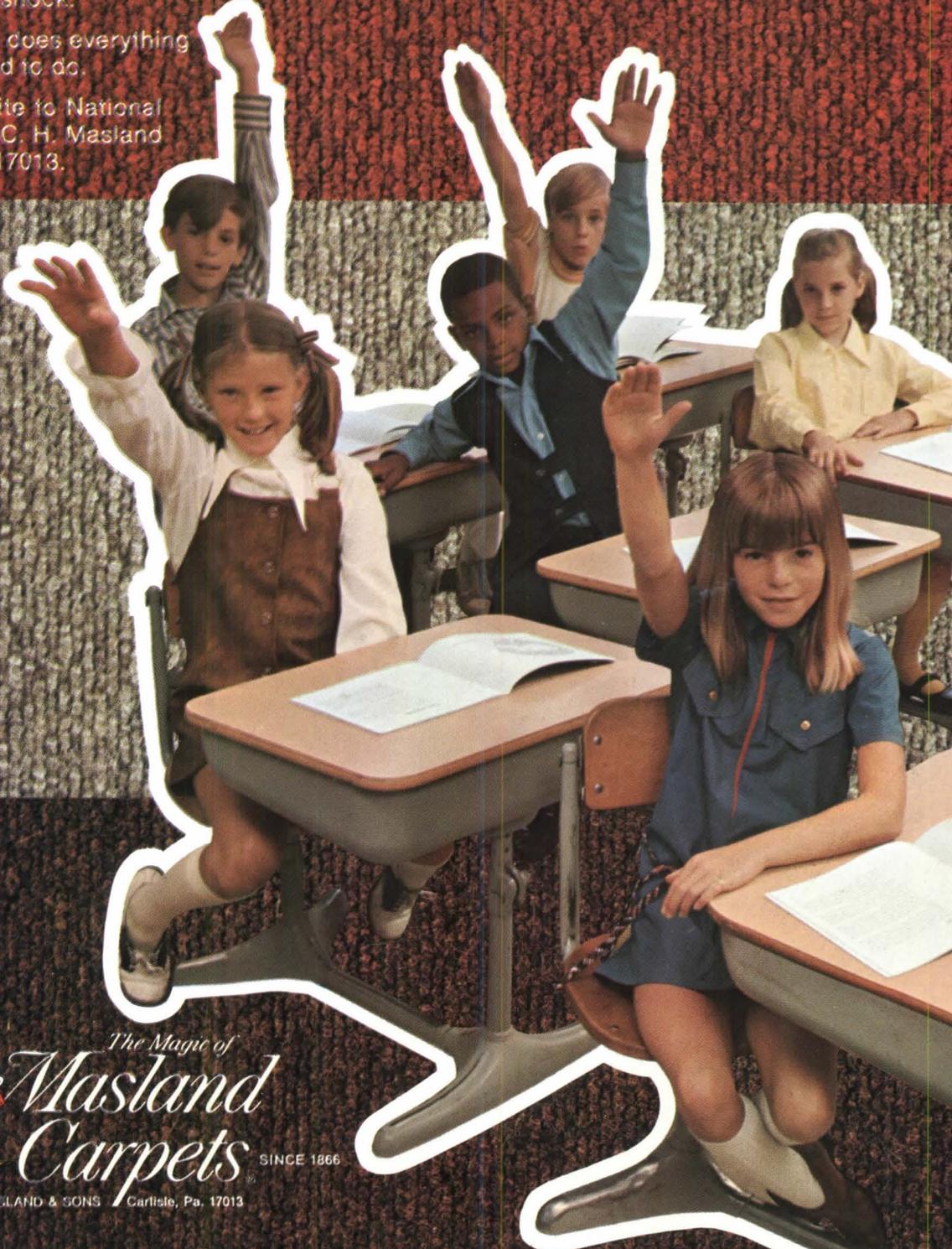


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**LOS ANGELES** The Architecture of Four Ecologies. By Reyner Banham. Published by Harper & Row, New York. 256 pp. Illustrated. \$6.95.

REVIEWED BY JOHN S. MARGOLIES

Is Los Angeles one of the garden spots of the universe? Or is it a hydra-like monster devouring the landscape? Speaking as an enthusiastic and fascinated visitor, Reyner Banham makes a strong case for the positive verdict. When I first read this book I was exhilaratingly convinced by the author's brilliant eloquence. I felt good about this paean because I moved to Los Angeles from that black hole of Calcutta—New York City—last fall. And I'm delighted to be a resident of Southern California. I agree that Los Angeles functions well and efficiently as a big city organism, and that it is a clean and pleasant place to be. Where in New York I would find the message, "Fuck You," scraped in the concrete of a garbage strewn sidewalk, in Santa Monica near my house I've found etched in the sidewalk a stick drawing of a flower along with the message, "Have A Happy Day."

Reyner Banham has accomplished no mean feat; he has legitimized Los Angeles for Angelenos. It is refreshing to find

Mr. Margolies is a member of Great Balls of Fire, Inc., a company concerned with documentation of environmental phenomena. He lives in Santa Monica, California.

that he is dedicated to understanding the unique, simultaneous reality of the place, rather than inflicting preconceived notions and values upon the incomparable 70-square-mile conglomeration called Los Angeles. Several Angelenos to whom I have spoken, conditioned by the typical condescending and negative attitude which many people have brought to the subject ("It gets attention," writes Banham, "but it's like the attention that Sodom and Gomorrah have received, primarily a reflection of other peoples' bad consciences."), now have a new understanding of their city and feel liberated by the intellectual respectability Banham has given them. "I guess Los Angeles isn't so bad after all," one post-Banham Angeleno told me, obviously relieved of his long-standing cultural inferiority complex.

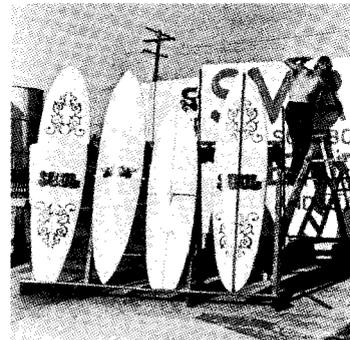
But upon second reading, my enthusiasm began to wane as Banham's continued to wax. Other treatments of Los Angeles have suffered from excessive negativism; this one begins to fall apart because of its unbridled positivism. While being far too erudite and sophisticated to serve as Chamber of Commerce literature, this book shares in common an attitude which plays up the good points while glossing over and rationalizing away the real problems which beset Los Angeles and other large metropolitan areas. Los Angeles just isn't as great as Banham will tell you. Like other major cities it is decaying as social, economic and political forces draw a burgeoning population into urban areas. Banham tells it like it was. This book may become a eulogy to an anachronistic dream; it brilliantly (perhaps not purposely) documents the seeds of a city's destruction.

The book is quite short (244 pages plus a useful annotated bibliography) and it is not a handsome presentation by traditional terms. The quality of the many black and white photographs (no color plates save for the splendid David Hockney crayon drawing on the dust cover—and Los Angeles is indeed a colorful city) is mediocre, and many of these pictures have a candid, almost "snapshot" quality about them. However I am far from being put

off by such photographic treatment; it accurately emphasizes the esthetic of sublime mediocrity which is so characteristic of Los Angeles as a place.

I don't mean to convey an overly negative attitude about this book — it is delightful, entertaining, informative and highly readable. Banham's is not the dry and stodgy architectural historian's approach. He gives a comprehensive and rational explanation to what seems to be an irrational, haphazard place. Banham accomplishes this prodigious explication by pointing out the simultaneous rather than chronologically-ordered nature of Los Angeles, "because the point about this giant city, which has grown almost simultaneously all over, is that all its parts are equal and equally accessible from all other parts at once." And so he invites the reader to explore the 13 chapters "with that freedom of movement that is the prime symbolic attribute of the Angel City"—an organizational device which is bound to alienate non-McLuhanesque seekers of information.

I find the author's ecological approach to architecture fascinating and instructive—consideration of a city as the interrelation of people to their natural and man-made environment rather than narrower, esthetically pretentious discourses on "Architecture" with a capital "A." Three of Banham's four ecologies deal with the unique geographic conditions which make up greater Los Angeles—"Surfurbia"; "Foothills"; and "The Plains of Id." The development of each of these areas is placed in historical and sociological perspective along with highly entertaining descriptions of each pattern of settlement.



Ecology I: "Surfurbia" describes the beach communities which run for some 70 miles

from Malibu south to the Balboa peninsula. "Los Angeles is the greatest City-on-the-Shore in the world," extols Banham. "But Los Angeles is not a seaside city in the classical mold. It was not entered or conquered from the sea, nor was it for a long time a port of consequence. It was an inland foundation that suddenly began to leap-frog to the sea in the railway age, establishing on the shoreline subcities that initiated its peculiar pattern of many-centered growth." The author marvels at the beach culture, surfing and the cult of healthiness ("Sun, sand and surf are held to be ultimate and transcendental values, beyond mere physical goods . . ."), concluding that, "one way and another, the beach is what life is all about in Los Angeles."



Ecology II: "Foothills," deals with the residential communities which developed to the east and west of the downtown areas (such as Bel Air, Beverly Hills, Hollywood, Highland Park and Pasadena), as well as to the south (Palos Verdes, Rolling Hills). "This is landscape that seems to cry out for affluent suburban residences," writes Banham, describing foothill ecology as, "narrow, tortuous residential roads serving precipitous house-plots that often back up directly on unimproved wilderness even now; an air of deeply buried privacy even in relatively broad valley-bottoms. . . . It was in this kind of residential landscape that the very real Bugsy Siegel was rubbed out; the world of the private eye was fact, and much of that fact survives. Visiting houses in Beverly Hills or Bel Air can be an hallucinating experience; an overwhelming sense of *deja vu* mingles with an overwhelming desire to sidle along corridors

(continued on page 23)

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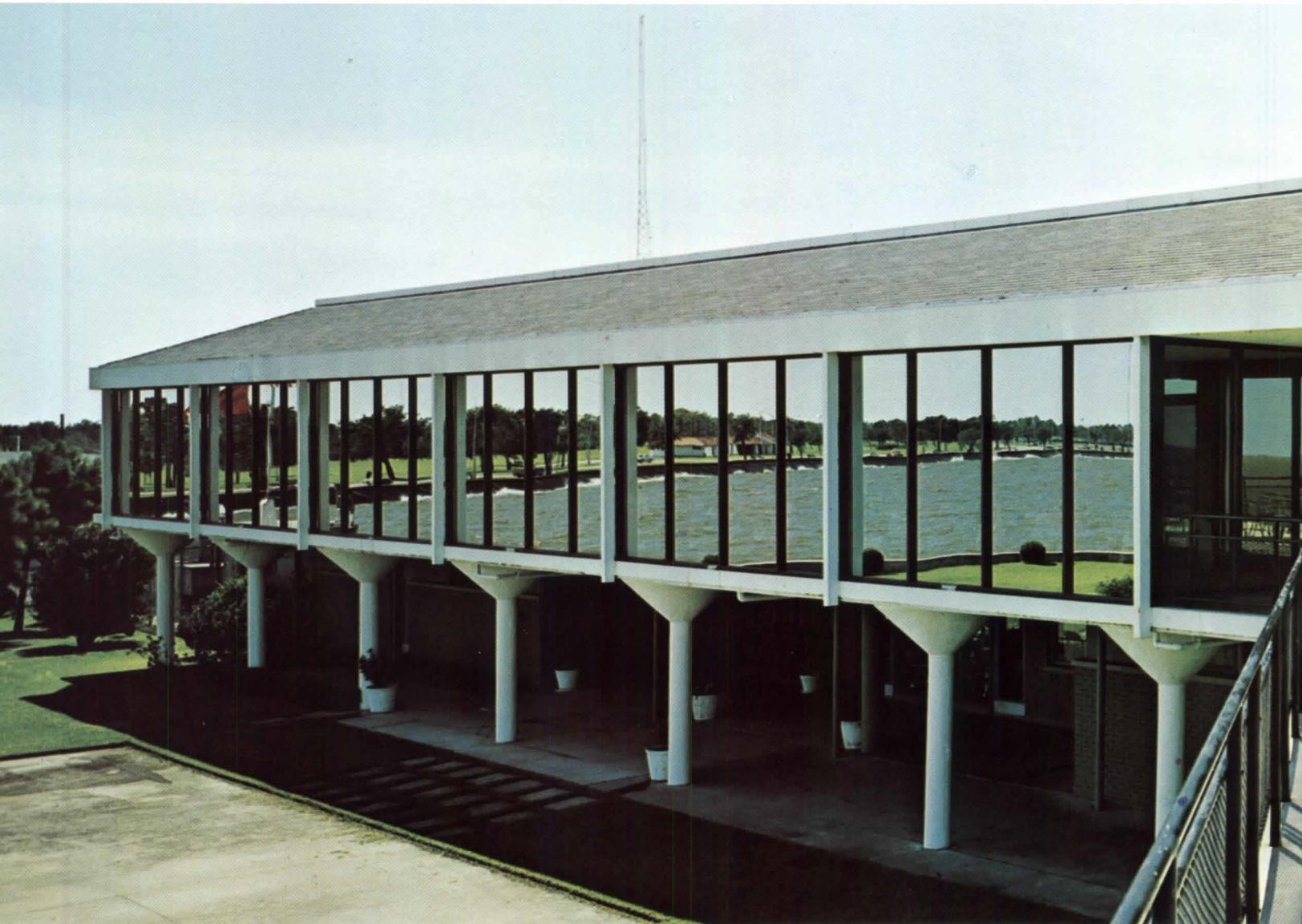
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ARCHITECT: Curtin & Davis, New Orleans, La.  
PPG GLASS: *Solarcool Bronze* Glass



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ARCHITECT: Deeter Ritchey Sippel Associates,  
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PPG GLASS: *LHR Solargray* Glass



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a graceful, live  
exterior.

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OWNER: Westcoast Transmission Company  
Limited, Vancouver, B.C.

ARCHITECT: Rhone & Iredale, Vancouver, B.C.

PPG GLASS: *LHR Solarbronze* Glass

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The Regency Hyatt House—O'Hare:  
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OWNER: Hyatt Corporation, Burlingame, Calif.  
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Burlington Industries Headquarters Building:

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able to ensure optimum performance values for the owners. From indoors, the glass reduces brightness of sun, sky and clouds to approximately one-fifth. This improves brightness control and increases visual comfort. In addition, the *Solarban Twindow* Units provide substantial cost reductions in equipment, operating and

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Greensboro, N.C.

ARCHITECT: Odell Associates Inc.

PPG GLASS: *Solarban 575-20 (2) Twindow*  
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maintenance of the heating and  
cooling system.



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FOR NEUTRAL GRAY TONES

CNA Park Place:  
**the environment is  
reflected to achieve  
a marketable rental  
property.**

The architect of this combination office and rental property was faced not only with an esthetic challenge but also with a marketing problem put to him by CNA Financial Corporation. The owners felt that to give the Los Angeles building the best competitive advantage, it should reflect its eleven acre park setting, not dominate it. The architect selected PPG's *Solarban 480 Twindow* Insulating Glass because its neutral gray reflectivity would provide the "unifying" effect he felt he needed to solve the problem. At the same time, engineering studies showed that the performance characteristics of the glass would offset its higher cost by contributing to savings in heating and air conditioning.

OWNER: CNA Casualty of California,  
Los Angeles, Calif.

ARCHITECT: Langdon & Wilson,  
Los Angeles, Calif.

PPG GLASS: *Solarban 480-20 (2) Twindow*  
Insulating Glass Units



# Twindow<sup>®</sup> Insulating Glass.



Sears' Pacific Coast  
Headquarters Building:

**the human element is  
added to a geometric  
shape.**

The architects determined that a "perfect cube plan" would be appropriate for this combination office/retail complex. With the help of a PPG Computer Analysis, it was indicated that the glare-reducing properties of PPG's *Solarban 480 Twindow* Insulating Glass would provide a comfortable working atmosphere as well as reduce original mechanical equipment and operating costs. In addition, the *Solarban 480* was chosen because its reflectivity is a complement to the design.

OWNER: Sears, Roebuck and Co., Chicago, Ill.

ARCHITECT: Albert C. Martin and Associates,  
Los Angeles, Calif.

PPG GLASS: *Solarban 480-20 (2-3) Twindow*  
Insulating Glass Units



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# PPG SOLARBAN<sup>®</sup> 550 Twindow<sup>®</sup> Insulating Glass

OUR NEWEST GLASS. FOR NEUTRAL-TONED REFLECTIVITY.



Under construction

American College of  
Life Underwriters:

**an unrestricted view,  
and comfort for  
learning.**

The architect chose PPG's *Solarban 550 Twindow* Insulating Glass to achieve high reflectivity of a beautiful site; to afford occupants an open view; and to provide a comfortable, glare-free working atmosphere.

OWNER: American College of Life Underwriters, Adult Learning Center, Bryn Mawr, Pa.  
ARCHITECT: Mitchell & Giurgola Associates, Philadelphia, Pa.

PPG GLASS: *Solarban 550-20 (2) Twindow* Insulating Glass Units

Brandywine River Museum:  
**a building site is  
related to art.**

This museum uses PPG's *Solarban 550 Twindow* Insulating Glass in a mirrorlike three-story window wall to "saturate the eye with the ethos of sky and river." The *Solarban 550 Twindow* Units—neutral gray toned in appearance, neutral by transmission—also provide important environmental-control benefits, including an exceptional ability to reduce heat transfer by conduction.

OWNER: The Tri-County Conservancy of the Brandywine, Inc., Chadds Ford, Pa.

ARCHITECT: James R. Grieves, Village of Cross Keys, Md.

PPG GLASS: *Solarban 550-20 (2) Twindow* Insulating Glass Units

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Day by day, more and more U.S. carpet makers incorporate Brunslon® Static-Control Yarn into more and more of their carpet lines. If you're an architect or specifier, this already tells you a lot.

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Brunslon. 61 carpet makers make it Number One.



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Please send me technical data for information.  
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Company \_\_\_\_\_

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# BOOKS

(continued from page 10)

with one's back to the wall and to kick doors wide open before passing through."

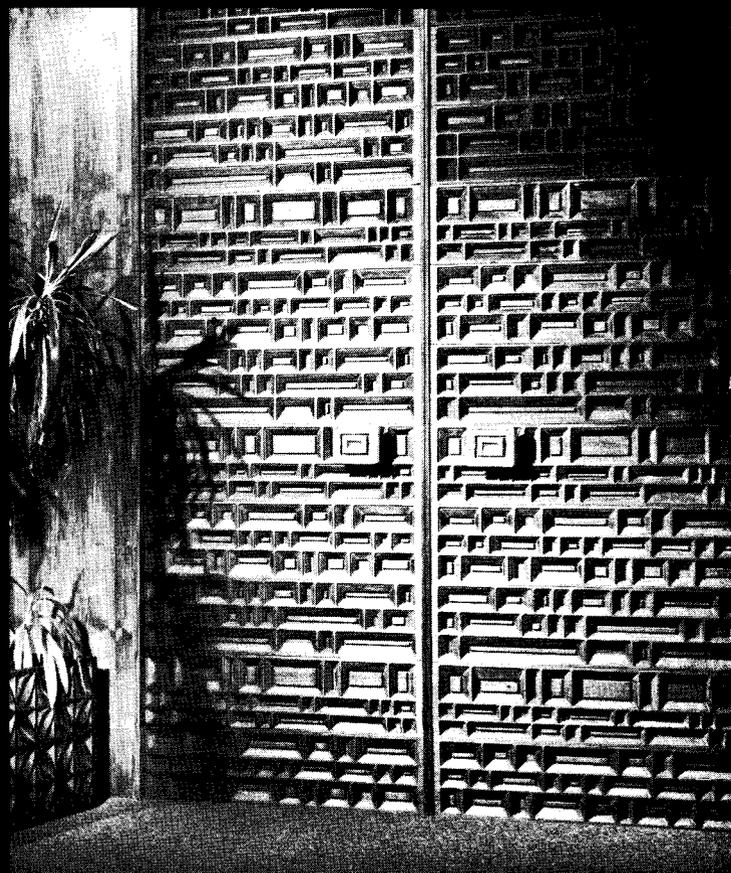
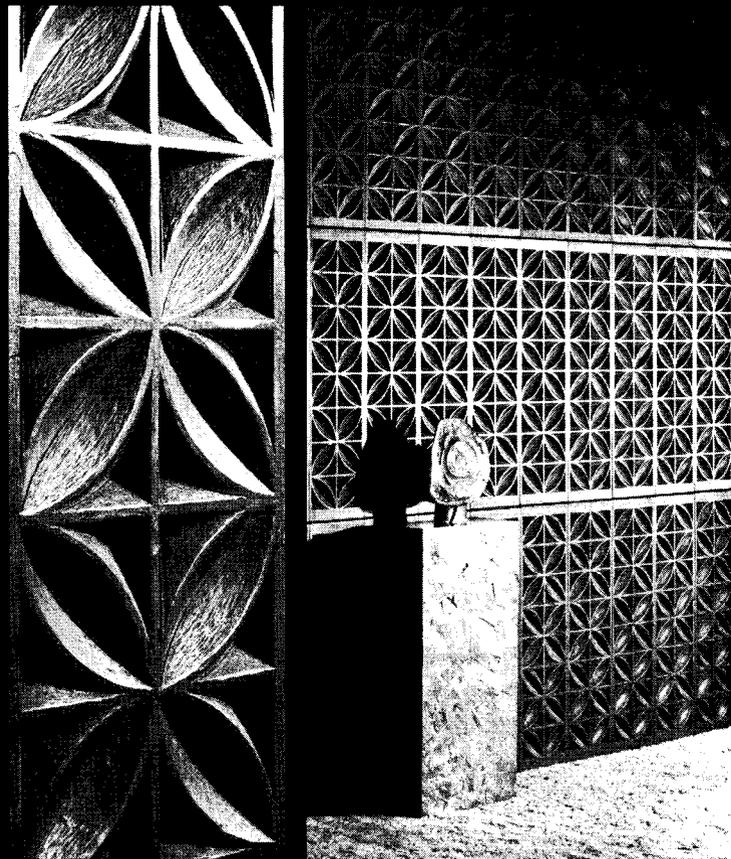
Banham's enthusiasm is shaken but not destroyed as he deals with the relentless vastness of Ecology III: "The plains of Id"—the flatlands of the San Gabriel and San Fernando Valleys, Orange County and the Los Angeles Basin. Banham accurately states that "The world's image of Los Angeles (as opposed to its images of component parts like Hollywood or Malibu) is of an endless plain endlessly gridded with endless streets, peppered endlessly with ticky-tacky houses clustered in indistinguishable neighborhoods, slashed across by endless freeways that have destroyed any community spirit that may once have existed, and so on—endlessly." But then he superficially hedges by saying that "it is an untrue picture on any fair assessment of the built structure and the topography of the Greater Los Angeles area" and then swings the other way by admitting that "there is a certain underlying psychological truth about it." Later (when describing the Basin, but which I feel applies to all the plains) he writes, "in addition the great size and lack of distinction of the area covered by this prospect make it the area where Los Angeles is least distinctively itself." I disagree with this kind of intellectual pussyfooting. I don't recognize the concept of "balance" (except as an intellectual pretext) between so-called good and bad areas of a city, and unfortunately much of Los Angeles can be a pretty depressing place. The misery of Watts is not offset by the pleasantness of the beaches and the foothills.

Ecology IV: "Autopia" is the freeway system, the glue which holds the other three "ecologies" together. In an earlier chapter, the author describes the history and evolution of the freeway system, describing it as "one of the greater works of man." Banham's love of the freeway system is unabashed: "the freeway system in its totality is

now a single comprehensible place, a coherent state of mind, a complete way of life, the fourth ecology of the Angeleno . . . . The freeway is where the Angelenos live a large part of their lives . . . . the place where they spend the two calmest and most rewarding hours of their daily lives." So infatuated is the author that he rationalizes away the freeway's two worst by-products—traffic jams and smog. While traffic jams do not seem so bad when compared to other cities', there are weak and inadequate links in the system which are consistently choked with traffic. As for the smog, dismissing it for its "psychological impact" is a gross rationalization. I disagree with Banham's smog disclaimer, ". . . . for the concentration to be high enough to make the corners of my eyes itch painfully is rare in my personal experience, and at no time does the smog contain levels of soot, grit, and corroding sulphur compounds that are still common in the atmospheres of older American and European cities." Los Angeles smog is much worse than that.

*Los Angeles: The Four Ecologies* is not lacking traditional architectural history treatment. In four chapters scattered through the book, Banham skillfully and concisely summarizes material dealt with much more thoroughly by other sources. The author articulately defines "a very large body of first-class and highly original architecture," which "cannot be brushed off as an accident, an irrelevance upon the face of an indifferent dystopia . . . . If Los Angeles is one of the world's leading cities in architecture," Banham concludes, "then it is because it is a sympathetic ecology for architectural design, and it behooves the world's architects to find out why. The common reflexes of hostility are not a defence of architectural values, but a negation of them, at least in so far as architecture has any part in the thoughts and aspirations of the human race beyond the little private world of the profession."

City watchers and designers in general and Los Angeles lovers and haters in particular should not fail to read, ponder and enjoy this perceptive and enjoyable document.

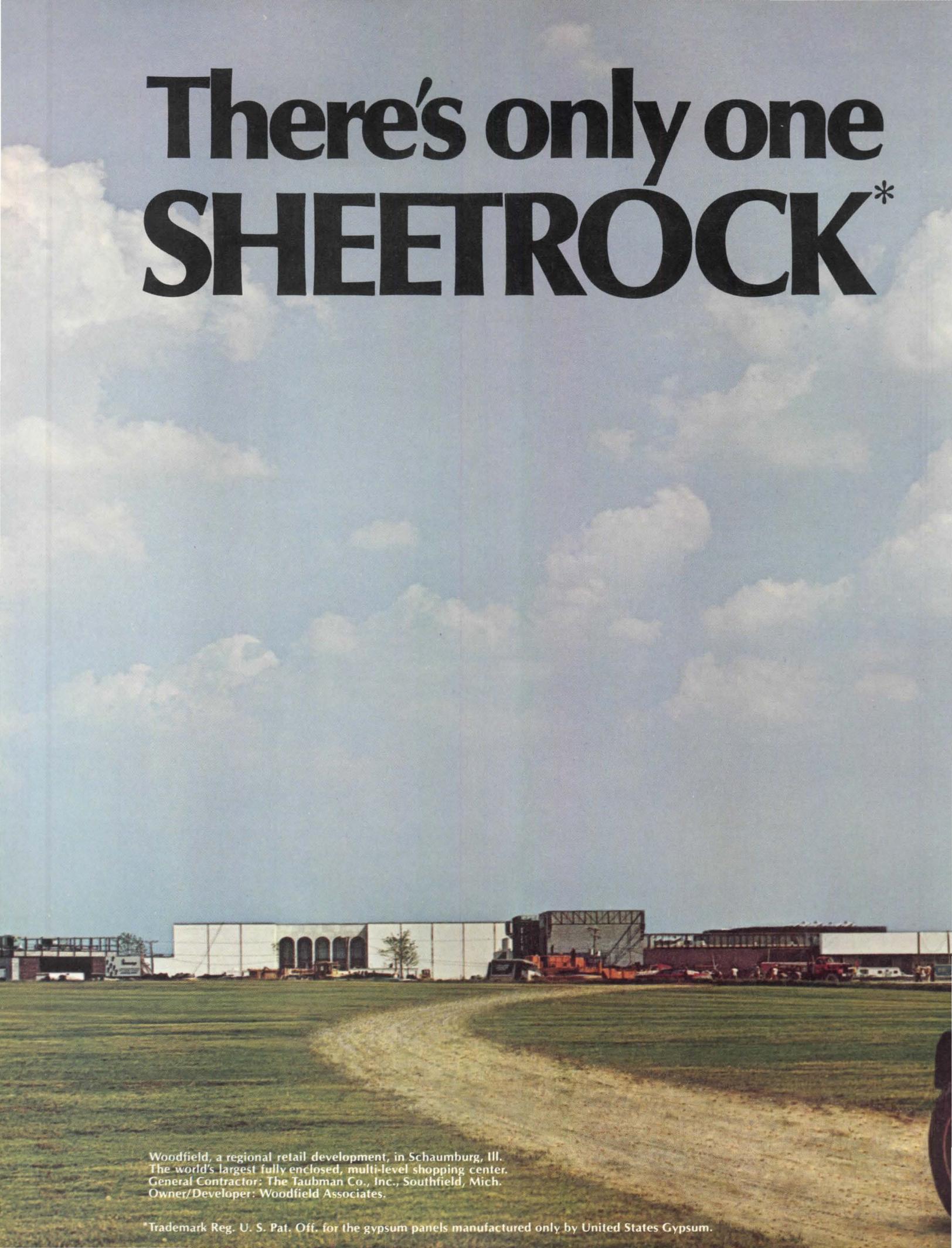


Architect Sherrill Broudy and sculptor Daniel Moran create a new collection of classic designs in carved wood for walls, doors and furniture. Part of a large group of handcrafted architectural materials that includes bonded bronze panels and doors, carved wood grilles, doorpulls, metal tiles.

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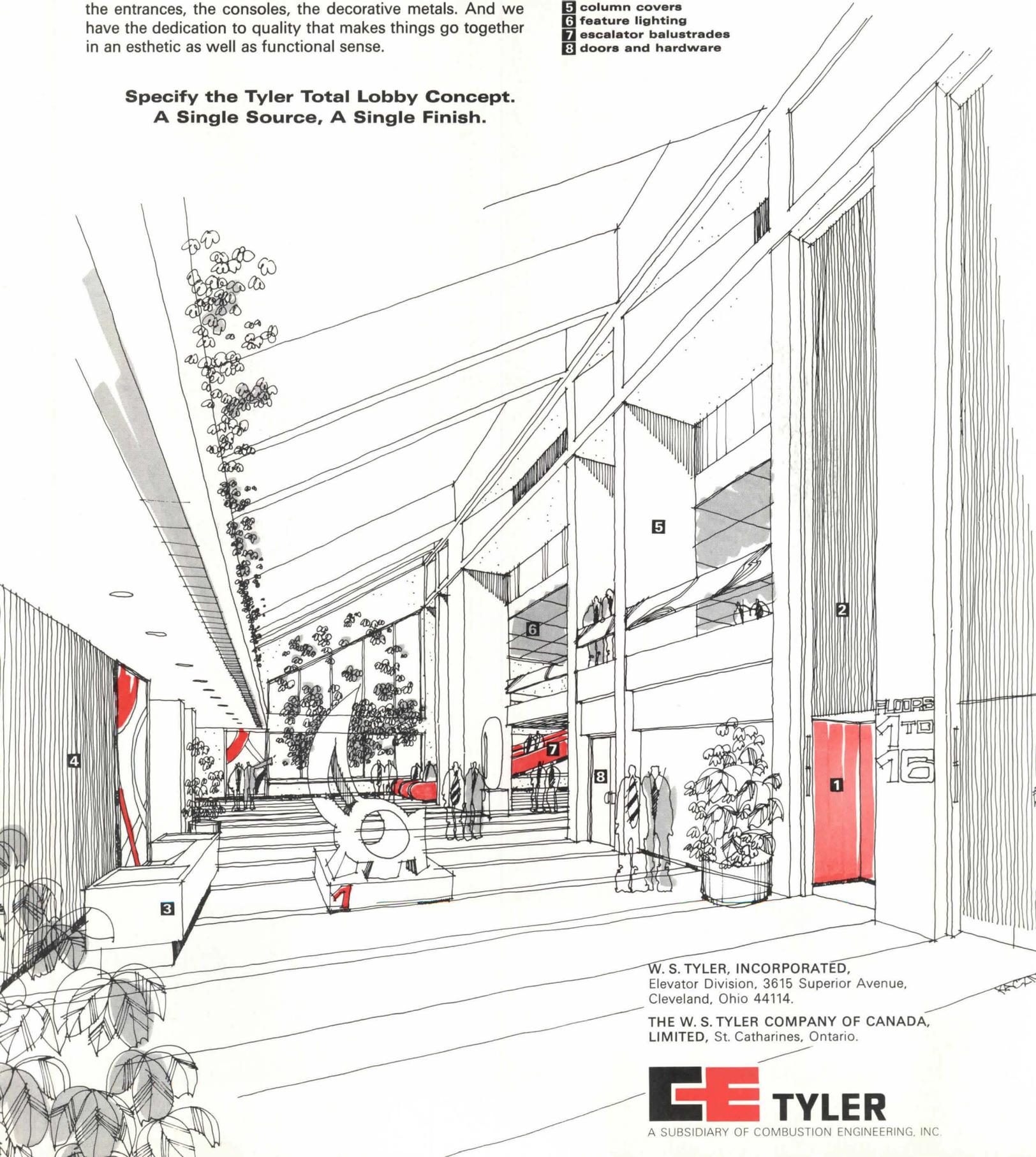
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# FORUM

George Santayana once said: "Those who cannot remember the past are condemned to repeat it." The happy few of us who were not raised, exclusively, on Screaming Yellow Zonkers, may feel that Santayana was almost, but not completely right: Philip Johnson, the best 19th century architect in the U. S. today, is so thoroughly familiar with the work of the German neo-classicist, Karl Friedrich Schinkel (1781-1841) that he (Johnson) has been trying to *un*-remember the past recently. And Louis Kahn, our best medieval architect, does remember Carcassonne and Albi very well indeed.

Still, Santayana's famous dictum does apply to a good many contemporary artists: latter-day constructivists who have never heard of the earlier-day Constructivists—Lissitsky, Tatlin, et al.—or who have, indeed, heard of them but hope that nobody else has; latter-day Dadaists, latter-day de-Stijlists, latter-day Surrealists, and latter-day pre-Raphaelites—all these are repeating the past, dementia praecox-wise, and making headlines in the process (partly because the headline writers can't remember the past, either). And, of course, latter-day op-, pop-, nihilist-, or socialist-realist artists—all of whom seem to be repeating a past some of which wasn't worth initiating in the first place, much less worth repeating.

Some of us (present company excluded) who have never heard about the 1920's in architecture, are condemned to repeat the whole scene, down to the bitter end—the articulated drainpipe! Some of my contemporaries are, in fact, enormously sensitive and perceptive: they have been re-designing, with infinite care, Le Corbusier's Maisons La Roche-Jeanneret (1923), down to the Machine Art tea kettle on the Machine Art stove; his Maison Cook in Boulogne-sur-Seine (1926), down to the pipe railings; and, of course, his Villa Savoye, at Poissy (1929-31) down to the ramps and the spiral stairs. They couldn't have picked better prototypes—nor could some of our contemporary furniture designers, who have been copying all of Marcel Breuer's tubular steel furniture of the 1920's.

There isn't anything very wrong with that—it will give the historians something to write about twenty years from now. But are these trips really necessary? Is there not something about the present and the future that might engage our best talents?

One feels that there is—and one feels that *some* of our best talents are, indeed, so engaged: Jim Stirling, in London, trying to translate available hardware into architecture; Renzo Piano, in Genoa (and now in London), trying to translate advanced plastics technology into architecture; I. M. Pei, in New York, trying to translate sophisticated mud into architecture; or Noriaki Kurokawa, in Tokyo, trying, actively, to welcome future change.

I think that these architects are, in a way, teetering on the brink of the future, where the air is brisk; while the historicists have been mopping up the past. This is perfectly OK—it's a free country. But if we want to know where we are going, let's not label the rearguard "avant".—PETER BLAKE

## COURTS

### COURT ACTION ON HIRING

Without much fanfare, the Supreme Court has rejected a challenge to the constitutionality of the so-called Philadelphia Plan, the Nixon Administration's program that requires contractors on federally financed jobs to meet certain percentage goals in the employment of minority construction workers.

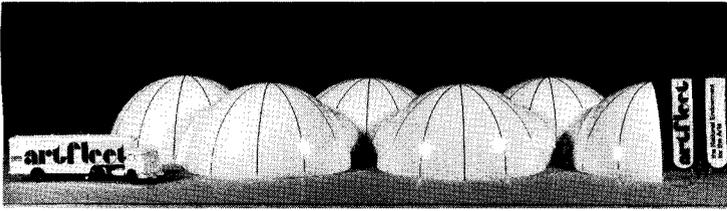
The Court acted without comment, rejecting a test case brought by a group of Philadelphia construction and highway contractors. The basic contention of their case was that racial "quotas" are in violation of the idea of a "color-blind Constitution" and of equal employment provisions of the 1964 Civil Rights Act. The Supreme Court's rejection of the contractors' plea for a hearing is not technically a binding Supreme Court ruling. But authorities on constitutional law believe that because this was the first test of this new concept in minority hiring, it will be widely accepted as an indication that the method is constitutional.

The Philadelphia Plan was launched in Philadelphia in 1969, and has already been extended to Washington, San Francisco, St. Louis and Atlanta. The Labor Department has announced that similar programs will soon begin in 15 other cities—Boston, Buffalo, Cincinnati, Denver, Detroit, Houston, Indianapolis, Kansas City, Los Angeles, Miami, Milwaukee, Newark, New Orleans, New York and Seattle.



### THE GRAY HOUSE

G. Howland Chase and his wife, Mary, have offered their two-story, gray stone house in Kalorama to the U. S. Government as a permanent residence for the Chief Justice. A bill, which would make such a gift feasible, was introduced by Sen. James Eastland (D.Miss.) and has been referred to the Senate Committee on the Judiciary. If



Art in balloons

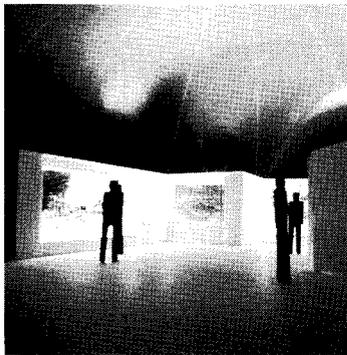
accepted, this house of graceful proportions, designed in 1931 by Bottomley, would become the second official residence for highly placed government officials in Washington.

## ARTS

### ROAD SHOW

Traveling art exhibitions obviously have a long way to go; nowadays collections of real masterpieces rarely reach beyond the audiences of a dozen major museums. The reason, of course, is that leaders cannot afford the risks of changing temperature and humidity, air pollutants, damage during handling, and uncertain security measures.

Nancy Hanks, Chairman of the National Endowment for the Arts, has recently unveiled a scheme that may solve all of these problems and bring first-rate shows to the boondocks.



For 32 million viewers

The scheme is called Art Fleet, and it was worked out by architects George Nelson and Charles Forberg.

The Art Fleet system puts each work in its own controlled capsule, as secure and self-contained as a space suit. These sealed containers—8 ft. high, 12 ft. long, and 2 ft. thick—have internal air-conditioning units that would function on the road as well as at the exhibition site. They would be shock-proof, virtually impenetrable, and would even have built-in fire and smoke alarms. Each one is expected to cost about \$30,000, possibly decreasing to

\$12,000 with volume production.

Traveling along with these art capsules in Art Fleet's gaily painted vans would be a set of air-supported domes to shelter visitors to the shows. These would be fireproof and durable enough to survive 100 relocations.

If all goes according to plan, Art Fleet will begin a one-year tour of the Southeastern states next fall, carrying the Corcoran Gallery's current "Wilderness" show to an estimated 32,000,000 viewers.

### BATTLE OF BEAUMONT

Is it a sin to remodel a widely admired theater *building* to bail out a troubled theater *company*? Conflict over this question has been raging across the theater pages of magazines and papers all over the country this fall.

The theater in question is the Vivian Beaumont Theater at Lincoln Center, by the late Architect Eero Saarinen with designer Jo Mielziner, which is the architectural gem of that otherwise numbing complex. The remodeling proposal (in the hands of Architects Oppenheimer, Brady & Associates) would affect neither the main, 1,100-seat theater nor the handsome plaza facade (designed in collaboration with Skidmore, Owings & Merrill.) It would involve only the basement, where the fine, 299-seat Forum is located, and the cavernous backstage (about 70 ft. by 130 ft. by 100 ft. high), designed for a more ambitious repertory than the company has ever managed to mount.

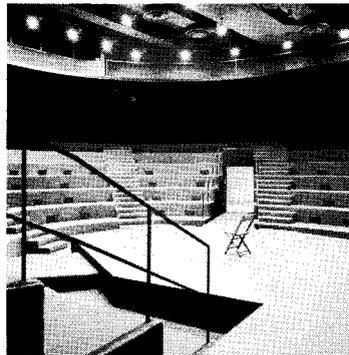
The Forum theater, plus a number of offices, rehearsal rooms, etc., would fill some of this void, and three little film theaters were to move into the basement, showing works from the Cinematique Francaise.

Proponents of the change are the city administration, Lincoln Center, and the City Center of Music and Drama (which already offers ballet and opera at Lincoln Center). They had worked out an intricate formula to make the building operate in

the black and repay the city for the \$5.2 million remodeling costs.

This plan had cleared most of its hurdles and was heading for City Council approval when the opposition made its dramatic entrance. Theater critics protesting the "loss" of the Forum and the "butchery," "rape," etc., of the building were joined by designer Mielziner and Beaumont company director Jules Irving, both of whom still hope for a real repertory program.

As we go to press, the City Council has given the self-styled Committee to Save Theater at Lincoln Center 60 days to come



Beaumont's Forum

up with an alternative way to make the Beaumont solvent. Their solution, if any, will surely interest the management of America's other high-overhead civic theaters.

### NIXON CHOOSES AGAIN

Washington's Fine Arts Commission has had its ups and downs over the years: its ups, most recently, occurred during the Kennedy years, when its Chairman was the painter, William Walton, a close friend of the late President, and its members included such outstanding personalities in the arts as Aline Saarinen, Theodore Roszack, Gordon Bunshaft, and others. The commission, under Walton, made some dubious decisions—notably when it turned down Mitchell-Giurgola's design for the new AIA Headquarters, and Marcel Breuer's design for an FDR Memorial. Still, the Walton Commission was incomparably better than its predecessor, largely appointed during the Eisenhower years. Now, it seems, we are about to see a decline once again.

To replace William Walton, Aline Saarinen, and former National Gallery Director John

Walker, President Nixon this fall appointed J. Carter Brown, Mr. Walker's successor; Mrs. Justin Dart; and Nicolas R. Arroyo. Carter Brown is, of course, an outstanding museum official; and even though his appointment to Mr. Walker's place did not require any breathtaking flights of imagination on anybody's part, the choice is a good one.

The other two appointments seem to be something else again. Mrs. Dart, it is said, "loves art" and is a member of the Board of Governors of the Los Angeles Museum of Natural History (will Art, once again, imitate Nature?); and Mr. Arroyo, a Cuban-born architect, is perhaps best known as Batista's minister of public works and, subsequently, Batista's ambassador to the United States. (He is now a U.S. citizen.) Well, we shall see what we shall see.

Happily, the president named Architect Cloethiel Woodard Smith to a second four-year term. She, and the other holdovers from the Walton Commission, will be having an interesting time.

### TUBE FEST

"Instantly fascinating while totally forgettable." That's commercial television, as described by Billy Adler and John Margolies, creators of a show called "The Television Environment." Their new look at a familiar medium involves several color sets tuned to local stations plus projectors flashing nearly 1,000 telling stills of personalities, game shows, moon shots, funerals, etc.

Sponsored by The American Federation of the Arts, "The Television Environment" has been shown in Pasadena, Tallahassee, Vancouver, and Berkeley,



John and Billy

and will remain through Nov. 28 at the Baltimore Museum of Art. Margolies reports that the show's local rating was lowest in Tallahassee, highest in Vancouver.

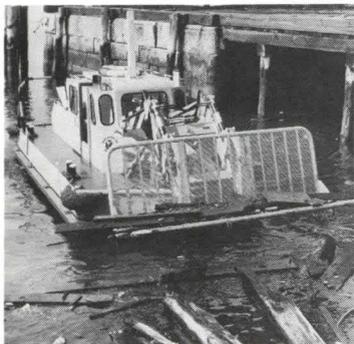
# INNOVATIONS

## WOMBATS AND CARROTS

The quality of life keeps improving relentlessly, regardless of what anybody says. These specific improvements were unveiled during the past few weeks:

- In El Paso, Texas, it was reported that the town's water supply contained enough lithium to tranquilize the entire population. The lithium is found in deep wells, and it makes people cheerful, tranquil, and less manic-depressive.

- In New York City, the authorities launched a \$47,137 water pollution-control boat, to be known as the "Water Witch."



Harbor maid cleans up

The witch is 28 feet long, painted bright yellow, and has a hydraulically operated wire-mesh scoop that scoops up the mess that clogs up the water intake that Con Edison needs for its plants along the City's rivers so the plants can pollute the air.

- At Glen Leslie, 80 miles northeast of Adelaide, Australia, some millionaire animal lovers from Chicago, of all places, bought a 20-square-mile sanctuary for hairy-nosed wombats, so they (the hairy-nosed wombats) won't become extinct. Back home in the Windy City, meanwhile, Louis Sullivan was becoming extinct almost as fast as the wombat: his Stock Exchange building was being demolished, despite much local anguish, to make room for a \$45-million, 45-story tower.

- In Oxford, England, the University Press announced that its famous massive, 13-volume, \$220 dictionary had been compressed, microfilm-wise, into two volumes (complete with magnifying glass) that will retail at \$75. To take up the slack, a public relations firm in Mil-

waukee, Wisconsin, immediately stepped in with a massive, 2½ lbs. brochure for one of its architect-clients, boxed in what appears to be authentic, radiation-proof cast aluminum.

- In Tacoma, Washington, a company that burns worn-out boxcars before turning them into scrap, developed a new incinerator that emits no smoke. The incinerator is a steel-and-concrete building, with all kinds of insulating and ventilating devices built in. The only trouble seems to be that, if things get too hot inside, the building begins to melt.

- In Miami, Florida, an inventor announced that he could run a Chevy on hydrogen more cheaply than on gasoline, and without causing air pollution. The American Petroleum Institute, sensing that the world was about to cave in, expressed skepticism.

- In Swansea, Wales, a scientist called Francis Bacon said he could extract hydrogen from sea water and use it as a substitute for natural gas—to provide buildings with heat and electricity. One problem: the explosive nature of H<sub>2</sub>.

- Elsewhere in the British Isles—in a place called Egham—a superhighway was diverted so as to preserve an ivy-covered cottage in which two elderly sisters (88 and 86, respectively) have lived for 65 years. "We always try to preserve things of beauty," the British Government announced, a bit ambiguously.

- In Los Angeles, a company that makes sound systems announced that it is manufacturing 38 talking Tiki gods that will be able to speak to visitors at a large amusement park being constructed on the southeastern seaboard. The Polynesian

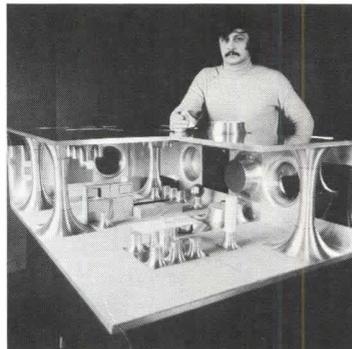
Ye gods



gods vary in height from four to twelve feet and will, presumably, be speaking English.

- In New York City, a professor of biochemistry at the College of Physicians and Surgeons pointed out that noxious gases like nitrogen oxides and carbon monoxide are neutralized with great speed and efficiency by potting soil. He advocated the planting of vacant city lots with carrots.

- In Paris, France, the designer Gerard Baudoin unveiled an Alcoa-sponsored project of alu-



Aluminum rooms

minum stalactites and stalagmites which, when judiciously assembled, will supply all the comforts of home, including the home itself.

## EDUCATION

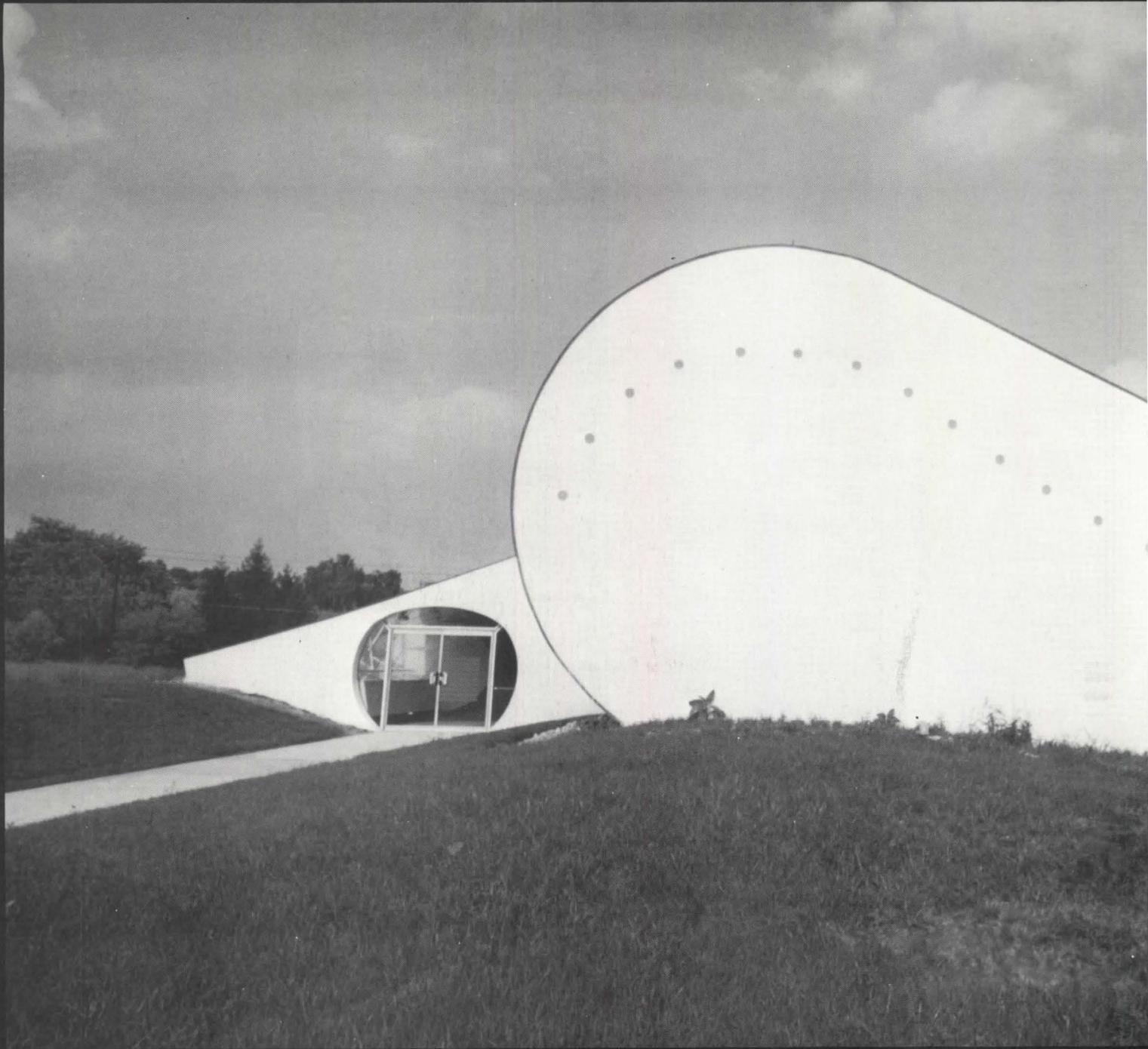
### SCHOOL PASSES ITS TESTS

A school that opened with 15 students a year ago has graduated a class of 12 and has received funds for a second year of operation.

The AIA/Design Center School in Chicago's Uptown is part of the Community Design Center established there in 1969 under AIA sponsorship. The school was only one aspect of the CDC's program—others: to assist in comprehensive physical and social planning aimed at upgrading the total environment, and to provide preliminary design service aimed at increasing the supply of moderate- and low-income housing. After a bit of red tape (see June '70 issue, p. 57), the school began, under the joint auspices of the Illinois Department of Vocational Education and the Illinois State Employment Service.

Robert I. Selby, director of the school, describes its major premises: "First, unless the poverty cycle were broken (or even cracked), plans conceived by the

(continued on page 71)



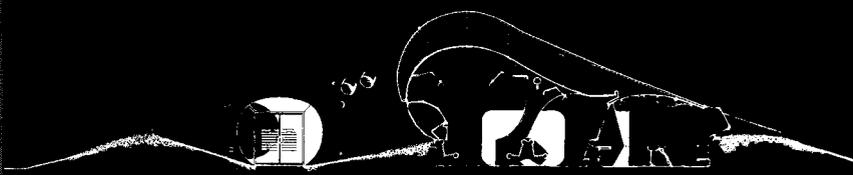
# SUPERCLINIC

Science-fiction structure takes the pain out of medical treatment

Noel Schaffer, who designed this extraordinary structure, never had any formal architectural training. He worked his way up from office boy and draftsman to job captain, through several excellent New York City offices—including those of Philip Johnson and Davis, Brody & Associates. Now, at the age of 35, he is back in his native Allentown, Pa. (pop. 110,000), and this is his first independent building.

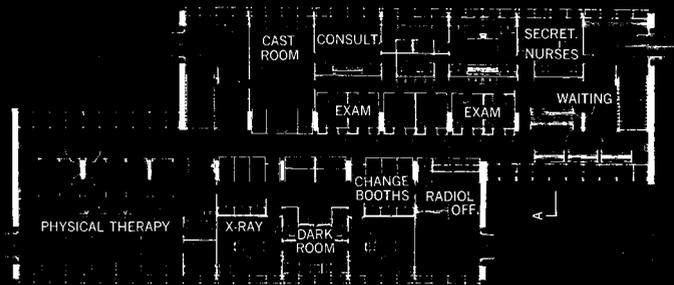
The building—a 14,300 sq. ft. orthopedic clinic—may not put Allentown on the map. That may have been done earlier by such nearby industries as Bethlehem Steel, Western Electric, and Mack Trucks. But the building will certainly put Noel Schaffer on the map, and rightly so. For this little clinic is quite an achievement.

A really good building, the late Eero Saarinen once said, has to

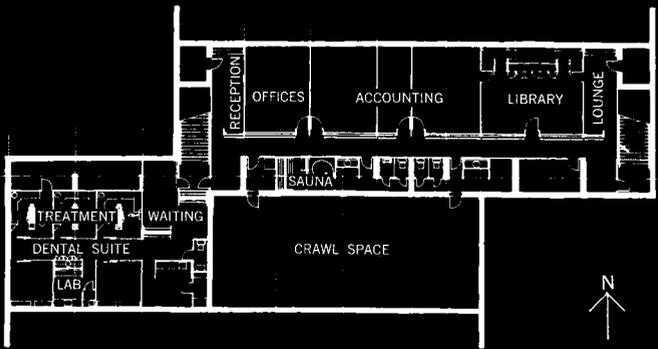


SECTION A-A

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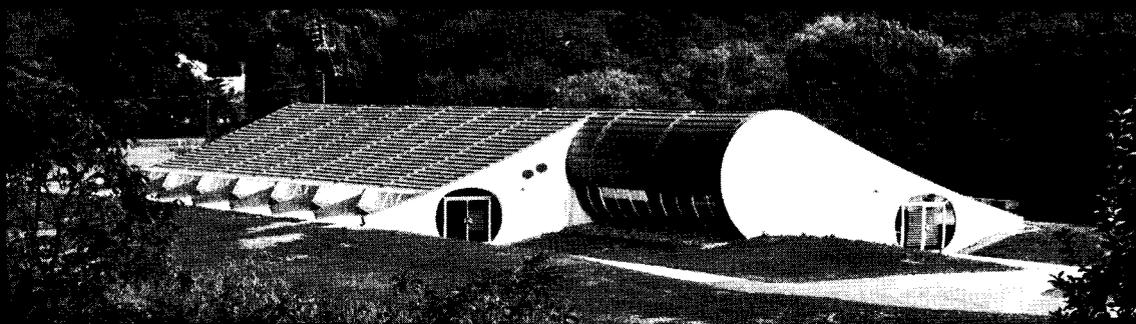
GROUND LEVEL

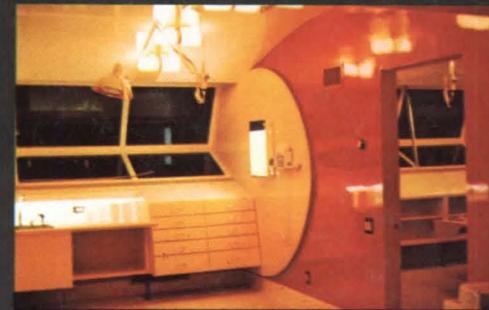


LOWER LEVEL

0 10 20

Approach side of the clinic shows interlocking, double-airfoil wings, with porthole-type entrances. The end walls are stucco on concrete block, and the circular grilles ventilate the roof space. The roof is sheathed in copper. The building site is protected by a man-made dike that protects the clinic from spring floods.





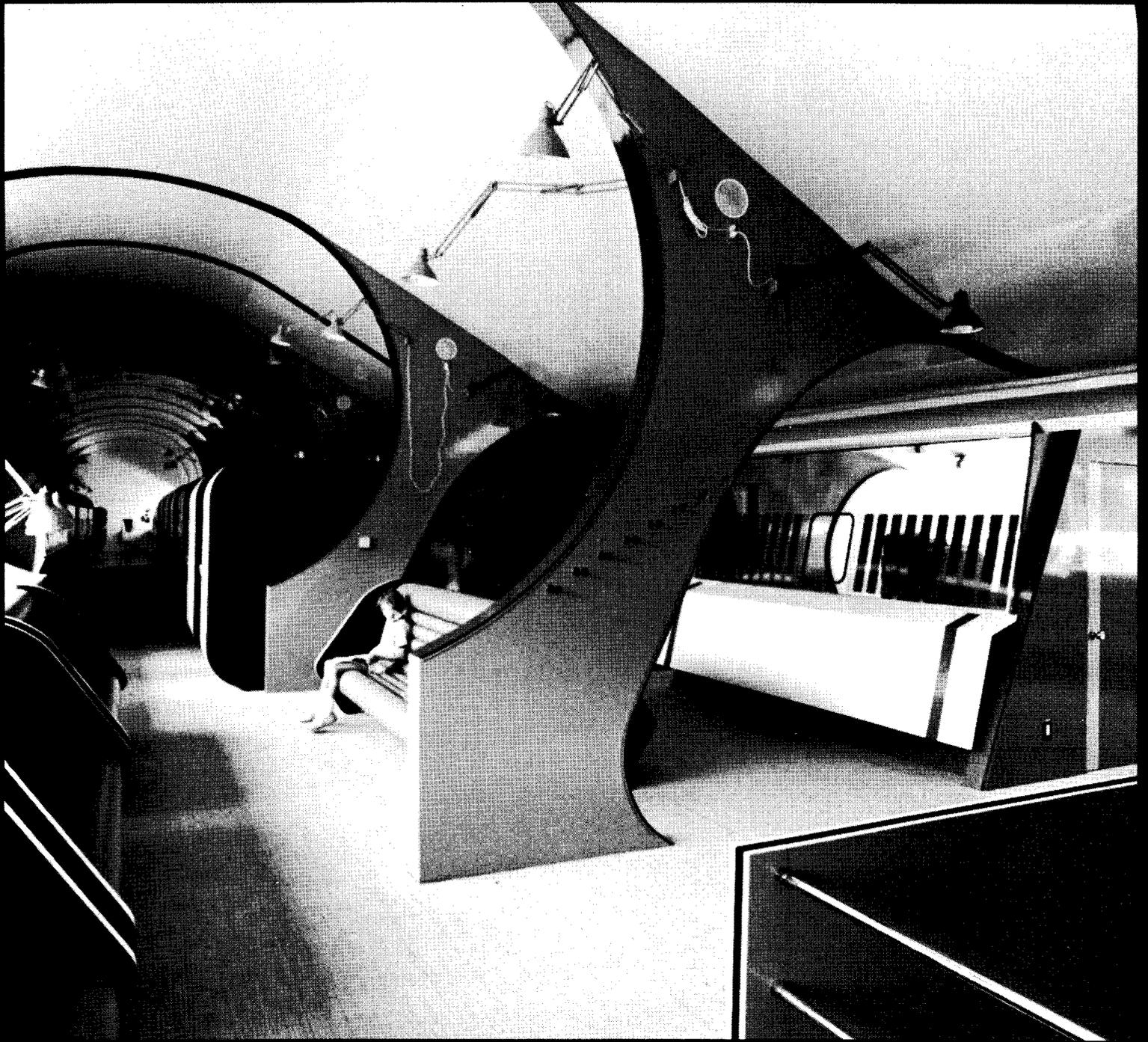
be "all of one thing." What makes this clinic really good is that it is "all of one thing," from overall conception down to the smallest detail. There is almost not a single false move: from the double-airfoil silhouettes and sections, to the built-in seating in the waiting room, the building reveals the sure hand of a first-rate designer.

Whether or not a small clinic should be built in the image of

a couple of airfoils may be questioned by some. Schaffer felt that the rolling forms echoed the topography of the surrounding landscape, and that the copper that sheathes the building would blend in with the surrounding foliage. In any event, he was up against one of those changeable programs that seemed to call for big volumes that could be subdivided pretty much at will: his client, friend, and close collaborator,

Dr. Mike Krainick, felt that he might want to take in a few other doctors and medical technicians whose requirements were somewhat unpredictable. So Schaffer designed a building that is very neatly modular in plan (increments of 4 ft.), but quite fluid in spatial organization. He studied all the predictable (and unpredictable) requirements endlessly. He thought that patients should be made to feel "com-

fortable and surprised while being treated . . . I wanted people to feel good within the building . . . it does remind them of something familiar, maybe their car or boat or a plane they were on once . . . A lot of people say that though they've never seen anything like it, they feel that this is what a medical clinic *should* look like . . . Anyway, it doesn't look like it would give you cancer." And the people

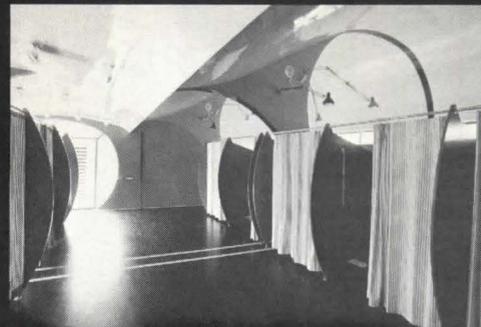
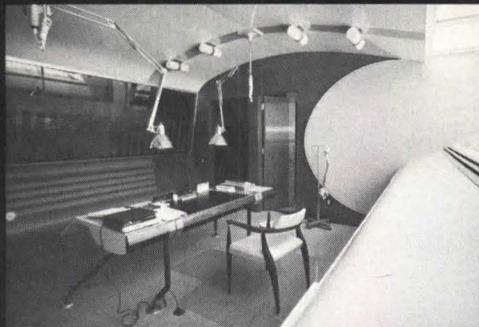


who work there seem to like that very much. "I looked at hospitals, some clinics, and most of the medical profession, and found it all pretty drab," Schaffer says. "At least you can smile when you walk into this one."

Building this clinic was almost as creative an act as designing it. Schaffer had a module and a section and a profile—and just two basic wall details for the whole building. He got a car-

pany contractor and a plumber and an electrician, and then they built the whole thing. He told them that this is what it should look like, and that they could construct it in whatever way seemed most reasonable to them. They did, and then Schaffer and his wife painted the place, working day and night. Motorists from Allentown and environs would drive up at night, watching progress inside the illuminated build-

Interiors on opposite page show wild range of colors—some glossy enamel on plaster, others (especially the cubicles) in plastic laminate surfaces. Top row of color photos shows waiting area, physical therapy spaces, and consultation areas. Bottom photo shows the central "corridor" that forms the spine of the plan. Above: the principal waiting area.



View this page starting top left: one of the entrance portholes, a consultation room, the examination booths, and the principal waiting area, with the stair into the basement spaces (which contain a dentist's suite, among other facilities). Facing: view from the waiting room toward another entrance porthole.

ing, and hardly believing their eyes. "I think most people in Allentown have an opinion about this building," Schaffer says. If they don't, they certainly should: this must be the nicest fun house in town. What a wonderfully disarming idea to make a clinic for arthritics (among others) a neat place to visit. The colors alone (see page 32) are bound to be therapeutic.

Schaffer designed (and, in ef-

fect built) everything in this air-foil tunnel. "It is your building," his friend, Dr. Kraynick, said to him when it was done, "but I'm going to use it." Now and then, Schaffer and his wife and children go there to use the sauna and play with some of the sophisticated equipment.

The building is easily expandable. One day an architect came to look at it and asked the Schaffers why "it ended that



way." Noel Schaffer didn't know what to say, but his wife said "would you like it to go on and on and on?" It could, of course; and the basement (which now contains a Dentist's suite and other offices) could expand with it. And there are plans for adding a ten-bed inpatient hospital behind the clinic if the zoning officials allow it.

Despite its science-fiction look, the clinic was really built quite

conventionally—concrete foundations, concrete block walls, laminated wood columns and beams, etc. "I now know what a technological paradox is," Schaffer says. It doesn't bother him, particularly—it would have been impossible to put together this clinic using space-age materials and technology, and stay within the budget (about \$43 per sq. ft.). Still, the building is full of far-out little details that have not

been tried very often in the past—but, then, not many buildings, heretofore, have been entered through giant portholes, or ventilated through funnels.

It is in these details, so thoroughly in keeping with the overall concept of the structure, that the building becomes a complete unity. Only a very good architect could have carried a single, powerful idea to such a convincing conclusion.

#### FACTS & FIGURES

Doctors' Clinic, Allentown, Pa. Designer: Noel C. Schaffer. General contractor: Edmund P. Mantz. Building area: 14,300 sq. ft. Cost: land and site development, \$60,000; construction, \$540,000.

(For a listing of key products used in this building, see p. 84.)

PHOTOGRAPHS: Robert Gray.

## GRACEFUL SOLUTION TO CONTROVERSY

McCormick Place justifies its lakefront location with a sensitive balance of elegance and strength.

The most obvious comment that can be made about Chicago's new McCormick Place exhibition center is that the building is huge. The roof covers 20 acres and its overhang is 75 ft. on all four sides. Inside, the exhibition space almost doubles that of the original McCormick Place, which burned and was largely destroyed on the same site in January 1967.

The new structure's esthetic qualities are no less impressive than its dimensions—if a bit more subtle. For despite its sheer scale, the new McCormick Place is a triumph of proportion and material that nearly (if not absolutely) justifies its location on what would otherwise be parkland along Lake Michigan.

The building is in fact not one but two structures, set on a platform representing the exhibition level of the original center. The two structures, one for exhibition space and the other for a theater, have a covered but open-ended plaza between them that affords a clear view of the water beyond. The building's elegant proportions are crowned by the huge roof, made of an exposed two-way truss system, 15 ft. deep and with a 75-ft. cantilever on the perimeter. Underneath it gleam the center's glass walls, 50 ft. high.

The design is the third by architects C.F. Murphy Associates and the spirit of Mies van der Rohe is evident in it. The center especially recalls Mies' National Gallery in Berlin (see Oct. '68 issue).

The first proposal by the architects (two entirely separated buildings) and the second (a spectacular, bridge-like, cable-hung roof structure) were rejected. Among the strongest objectors were commercial interests who wanted more exhibition or theater space than either version offered. This resulted in eleventh-hour changes in program.

The final design provides 600,-

000 sq. ft. of exhibition floor space. The prime space, with 50-ft. ceilings and 302,000 sq. ft. of floor area, is in the larger of the two glass structures; secondary space, totaling almost 300,000 sq. ft. and with 15- to 17-ft. ceilings, is in the upper level of the podium. The smaller of the two glass structures houses the new Arie Crown Theater, with 4,350 seats. It features an orchestra pit, full stage, and a highrise stage loft. Meeting and dining rooms are provided in three levels east and west of the theater.

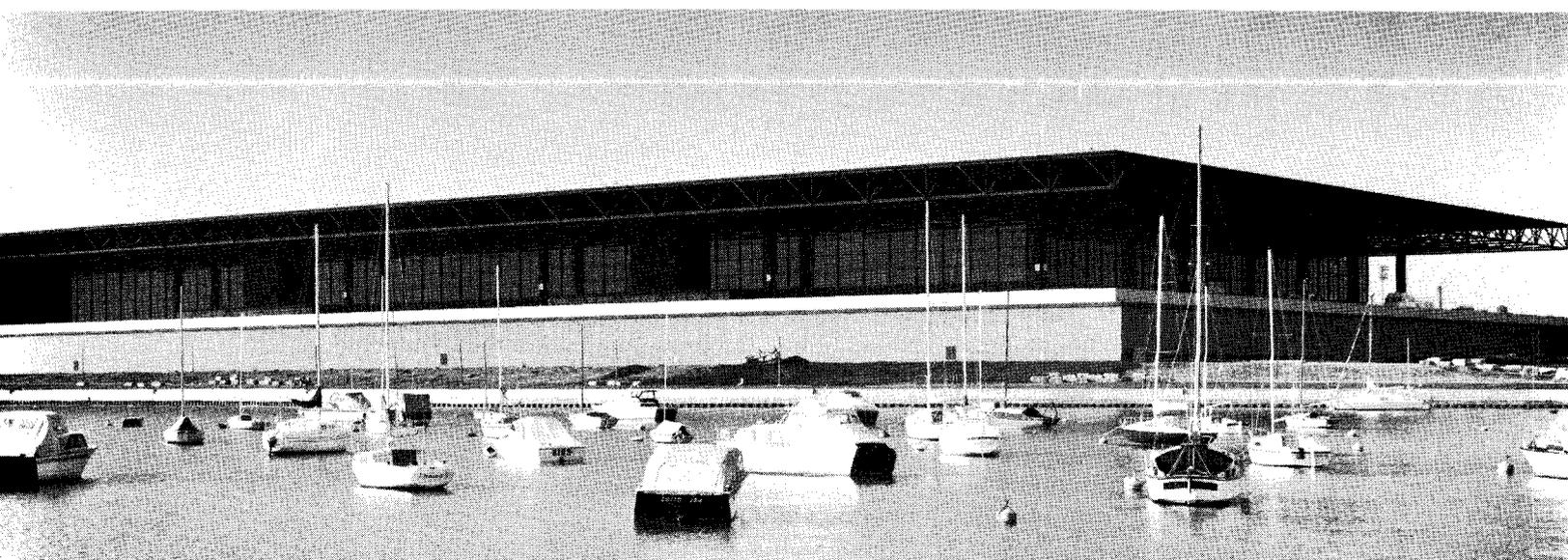
The two levels below represent an expanded version of the old McCormick Place. Besides exhibition space, the upper level contains a registration lobby and main entrance to the theater, meeting rooms, restaurants and a vehicular tunnel loop. There are special dock facilities for the exhibit and theater areas in the lower podium level, which also contains snack bars, the main kitchen for the restaurants, employee and public cafeterias, toilet, locker and storage areas.

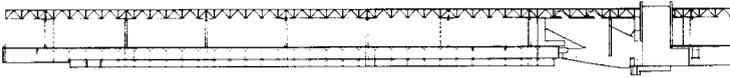
Underground parking is provided for 2,000 cars in a facility south of the center. Community and conservation groups fought hard for this, citing as a travesty of public land use the original structure and its sprawl of parking lots over 42 acres.

Predictably enough, fire prevention was a primary concern in rebuilding McCormick Place. The new one has a fire system designed as a prototype for future public buildings. It is a Class A proprietary system with centralized computer controls that also handle electrical and mechanical systems. The code did not require fireproofing on the exposed steel roof because the building is completely sprinklerized and the roof is over 20 ft. above the floor.

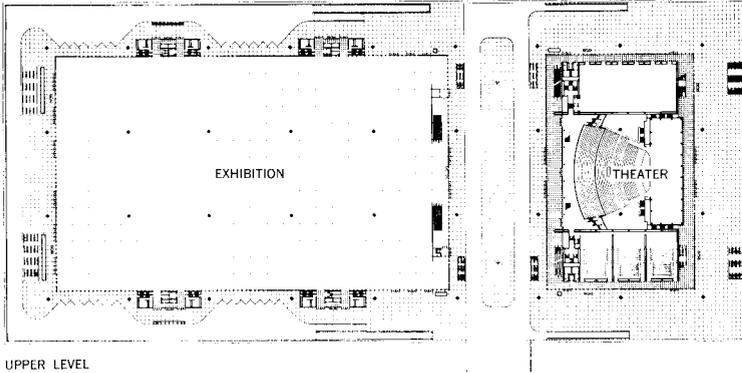
The precautions are well taken. No one wants to lose this McCormick Place. It is simply too good.



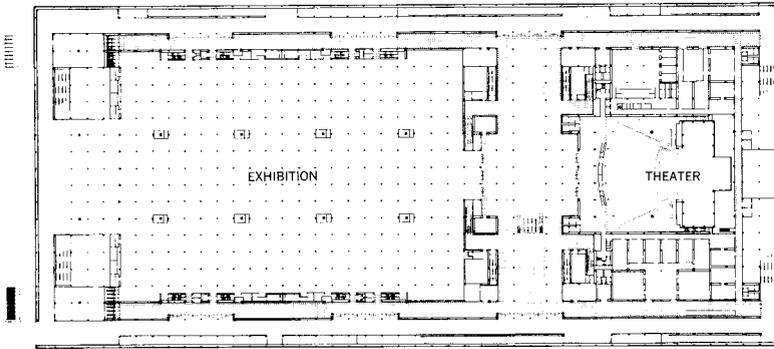




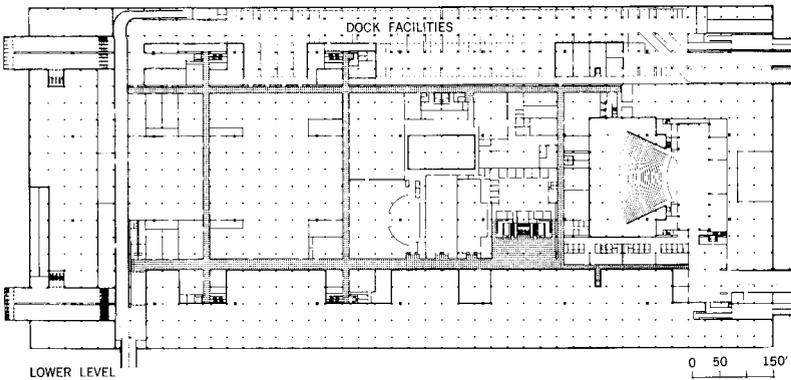
SECTION



UPPER LEVEL

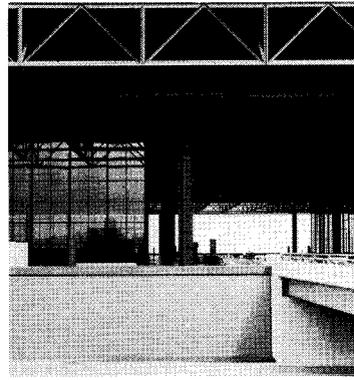


INTERMEDIATE LEVEL



LOWER LEVEL

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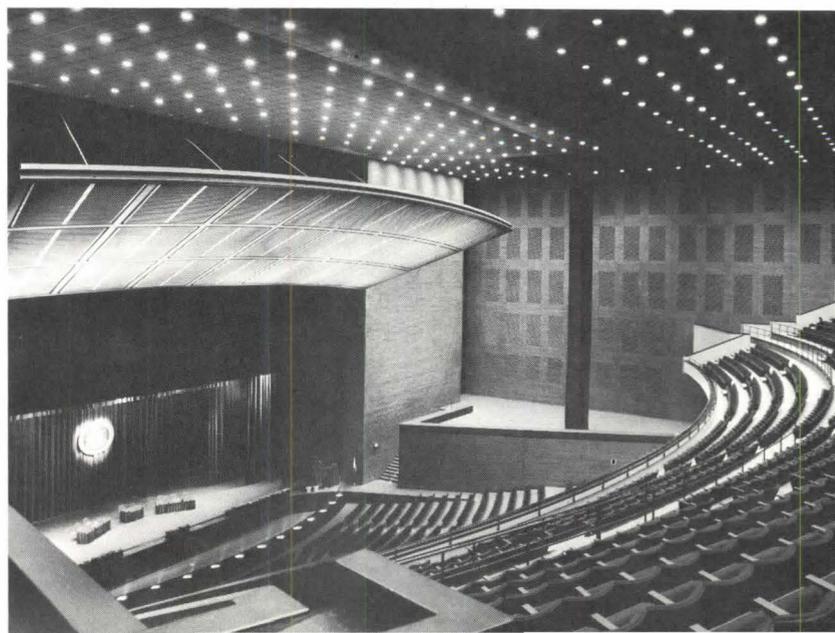
**FACTS AND FIGURES**

McCormick Place, Chicago. Architects and engineers: C. F. Murphy Associates. Consultants: John W. Ditamore (theater); Bolt, Beranek & Newmann (acoustics); Rolf Jensen Assoc. (fire protection). General contractor: Gust K. Newberg Construction and Paschen Contractors (joint venture). Building area: 2.5 million sq. ft. Cost: \$83 million (excluding site development). (For a listing of key products used in this building, see p. 84.)

Entrance to the podium plaza gives a view of Lake Michigan beyond. Even the service areas (upper right) have a kind of elegance of proportion and space. Inside, the prime exhibition area resembles a landscaped lobby during a horticultural display. The theater (lower right) seats an audience of 4,350 persons and features full stage and orchestra facilities.

PHOTOS: Hedrich Blessing, except p. 38 and p. 39 (bottom), Ruyell Ho.





# THE MAKING OF A CIVIC SPACE

BY JAMES BAKER

For a number of years the architectural emphasis in the well-known town of Columbus, Indiana, has been suburban; but with the building of the Cleo Rogers Memorial County Library that emphasis has changed: with this building and the civic space which it provides, the town has been given a physical center in the best architectural tradition. This is no intellectualized essay in non-building but an urbane statement of the town's civic aspirations in brick, concrete and bronze.

The client responsible for this contribution to Columbus was the Bartholomew County Library Association, which showed good sense in selecting, in 1963, I. M. Pei and Partners for the commission. They demonstrated further good judgement by selecting for the site a block of downtown Columbus close by the main street—and bounded by two early architectural contributions to Columbus: Wendell Philip's Irwin House and Eliel Saarinen's First Christian Church of 1940.

Pei soon realized that the full potential of the site could only be achieved by closing LaFayette Street which then separated the library site from the Irwin House. This proposal was made to the City Planning Commission and accepted six months later.

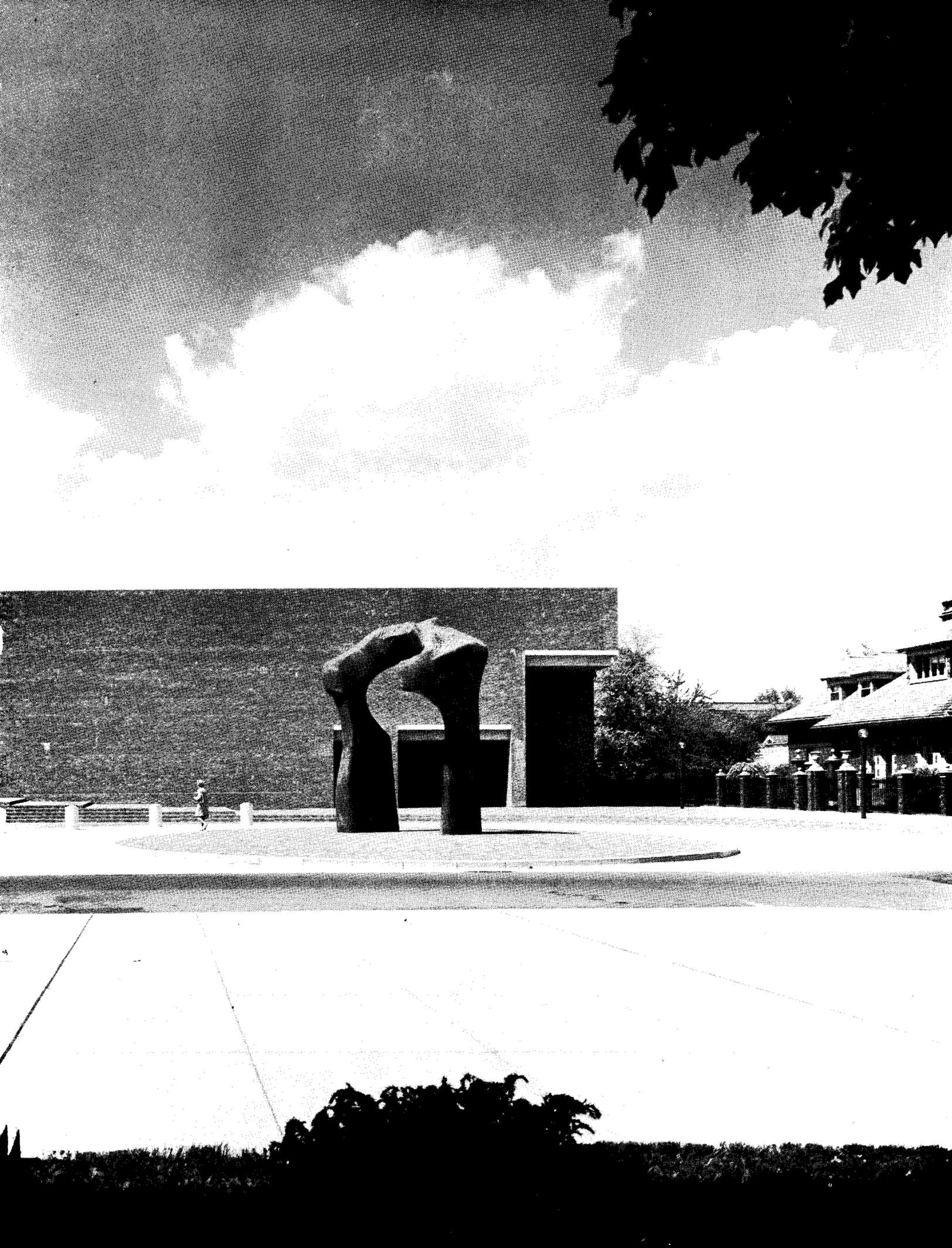
With the site properly in hand, Pei turned to the design of the library itself. The final budget allowed for a building cost of about \$2 million, or \$40 per square foot. With this cost restriction and Pei's desire "not to dance to our own tune", some initial design decisions were made: notably, making the library the third wall of the space being formed between the Irwin House and the First Christian Church, and reinforcing this connection by using a native brick to harmonize with the neighbors.

The result is a library made of two gently articulated brick boxes, one below grade, the other above. There are entrances both above and below grade. This gives the library one of its many assets: all the space around the building is active—it is traversed to get *into* the building, or used as a passage to get *by* the building. The main

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**Mr. Baker** is an architect practicing in New York City, and a professor of architecture on the adjunct faculty at City College. He has been a contributor to the Forum in the past.





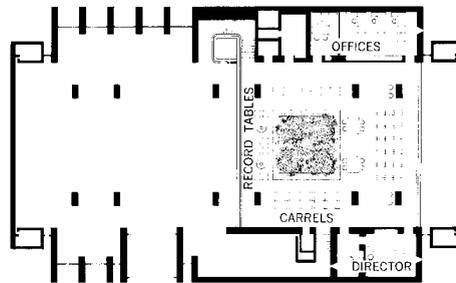
entrance to the library is, however, on the upper level and is reached by six broad brick steps. Inside is the lofty heart of the library: the charging desk, catalog, reference and browsing areas, all of which open to a secluded terrace garden.

This main space is cut vertically by a mezzanine containing areas for music listening, visual arts and the administrative offices of the director. The center of this low-ceilinged area is a raised greenhouse lit from above through skylights. On the below-grade level are located the children's library, an auditorium, a stack area and the bookmobile unit with its own underground driveway and parking facility.

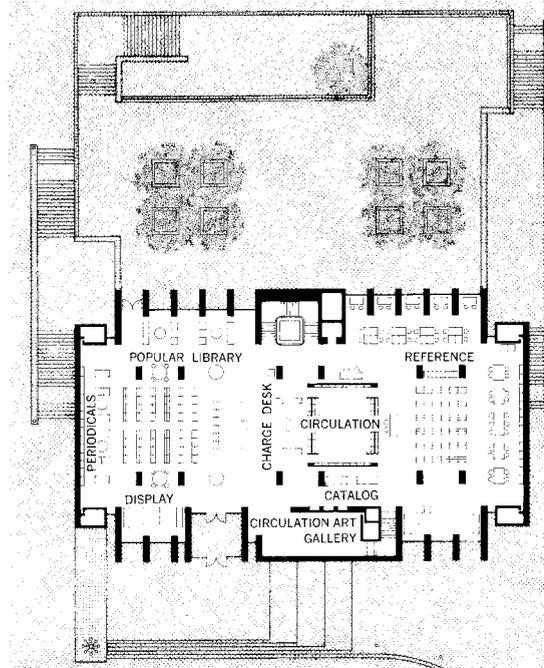
The main thrust of the building, however, is not the functional aspects but the architectural quality of the spaces. The lighting in the general areas is low level. There are nooks and crannies; there are columns to hide behind; the space is soft, inviting and at the same time exhilarating. It is a place where one will want to go. But all this was not managed without some bloodshed. When the preliminary design was brought in for review by the separately-hired library consultant, it was all but rejected since it went against the "defend us against vandalism" approach which requires hard surfaces, total observation and super illumination. It was touch and go but Pei prevailed and the "janitor design" was defeated.

Structurally, with the exception of a few concrete columns in the lower level, the building's walls and columns are all of reinforced brick. This not only turned out to be an economical design approach but it gave the library a sense of strength and solidity wholly in keeping with its character and the character of its neighbors. An advantage of the brick column is that its size eliminates the need for shear plates for the concrete waffle system of which the floors and roof are made.

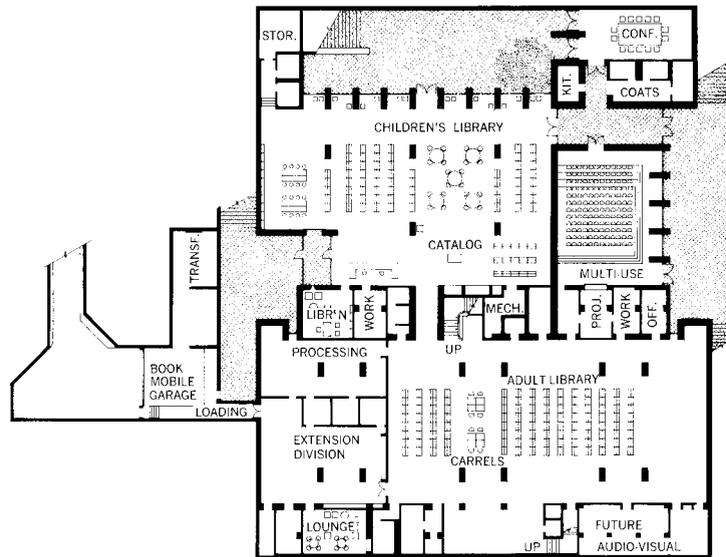
Heating and cooling are provided by an air-floor system with supply and return ducts located at the four corners. These corners are pulled in (see plan). This, on the one hand, encloses the main room and, on the other, allows the exterior space to move more freely around the building. Since the library re-



MEZZANINE LEVEL



PLAZA LEVEL

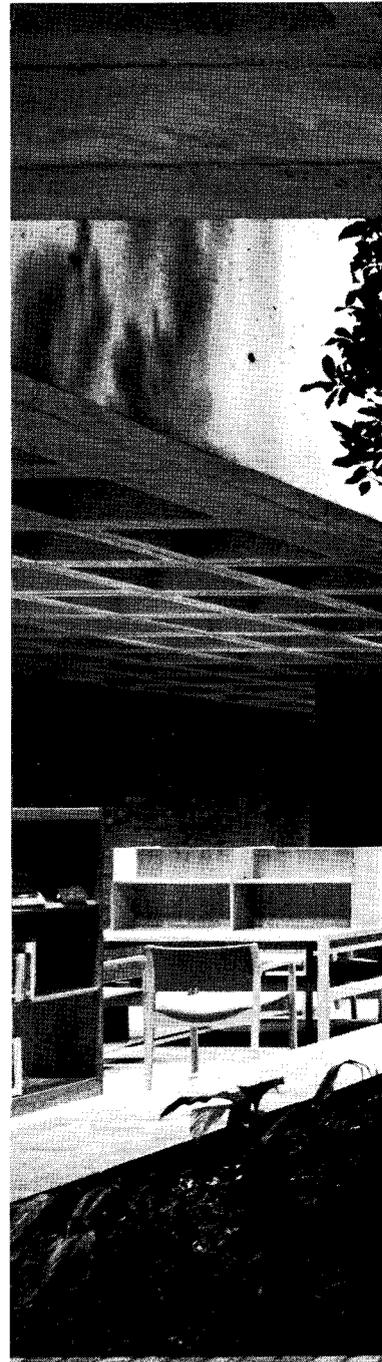


LOWER LEVEL

0 30'

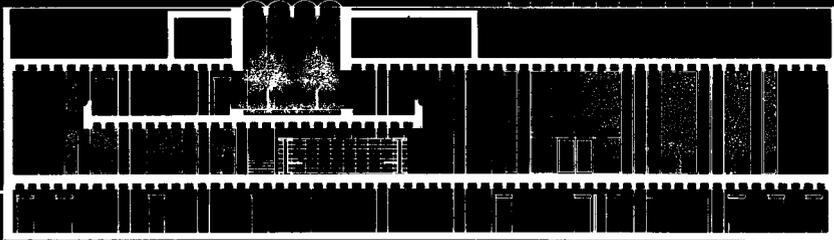


TRANSVERSE SECTION



Plans show the three levels of the library, and the manner in which they relate to various outdoor spaces. Even the top (mezzanine) level opens onto a landscaped space—a raised greenhouse lit through skylights (see section and photo at right). Massive reinforced brick columns carry concrete waffle slabs of floors and roof.

SAARINEN CHURCH



0 10 20 30'



quired 50 percent humidity, there was concern that this might cause excessive condensation on the large glass surfaces. This threat was eliminated by creating a dry, outer envelope of air distributed along the edge of the windows through their hollow frames. Lighting is relatively low-level incandescent set into the waffle ceilings. Higher illumination levels are obtained at reading and work areas.

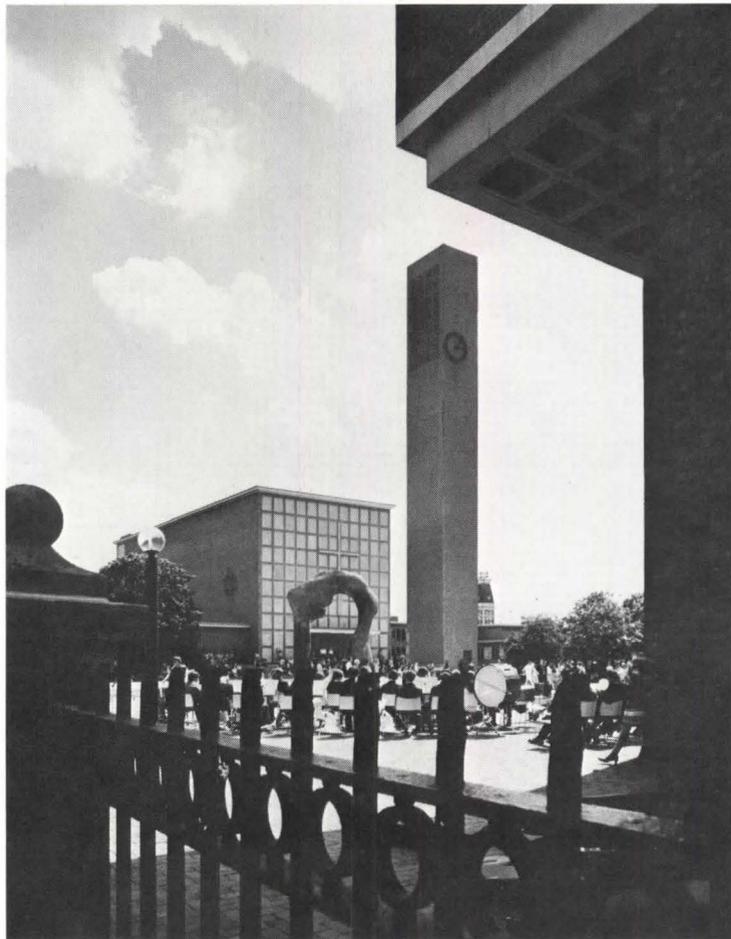
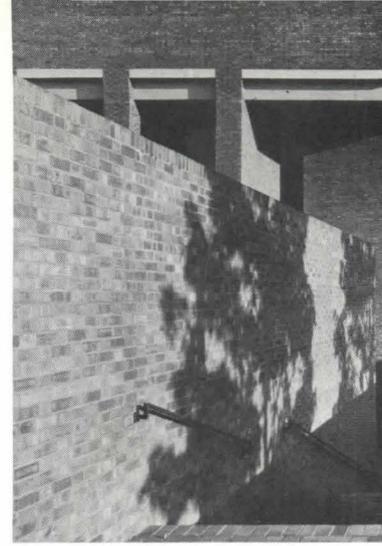
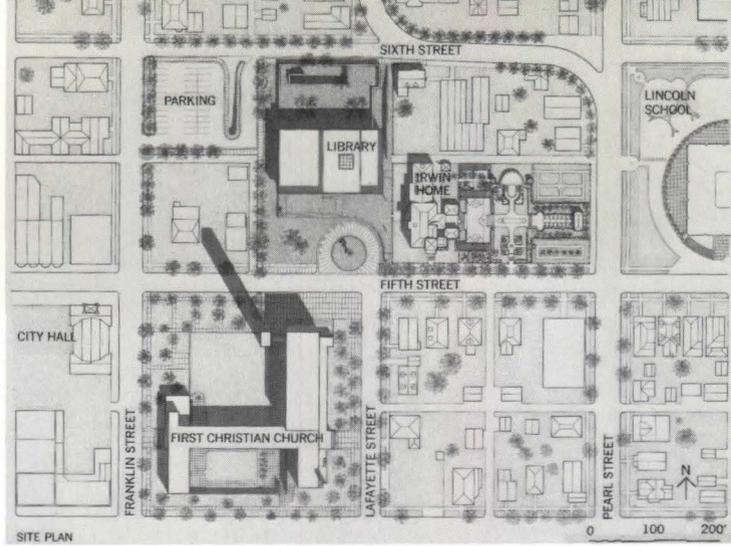
The building's greatest achievement is the architecture outside the library — the place made by the library, the Irwin House and the First Christian Church.

The library clearly succeeds in providing the wall that Pei wanted. At its edge near the broad roofs, iron fence and small scale of the Irwin House, the library drops in scale with the windows coming down to align with the eaves of the house.

At the other edge, opposite Saarinen's church, the window head moves up to provide, in combination with a raised entrance level, a monumental scale sympathetic with the church. Having achieved this transition, Pei felt that the buildings were "not tight enough" and that a "work of art of major proportions" was needed to pull the three buildings together.

He suggested this to the Cummins Foundation, which, in due course, asked Pei for his recommendations. Henry Moore became the joint choice of Pei and the donor-to-be, J. Irwin Miller, Chairman of Cummins. Pei felt that the space needed a sculpture which could be touched and perhaps even walked through. So he went to England to ask Moore if he could make a big arch "big enough for the two of us to walk through." While Moore and Pei had tea, an assistant mocked up the sculpture, and in two hours the decision to go ahead with the *Large Arch* had been made. The piece was cast in bronze in Berlin, shipped to New Orleans and barged up the Mississippi. It has found its resting place on the brick and concrete turnaround in front of the library . . . the exact site of Columbus's first library.

With this addition, some one-and-a-half years after the library was finished, the Civic Space (except for a possible addition of an auditorium to the west), is now complete.



**FACTS AND FIGURES**

Cleo Rogers Memorial County Library, Columbus, Ind. Architect: I. M. Pei & Partners (Kenneth D. B. Carruthers, Associate-in-Charge; Robert H. Landsman and John Laskowski, Project Architects; Robert Lym, Interiors). Engineers: Weiskopf & Pickworth; Segner & Dalton. Contractor: Dunlap Construction Co. Building area: 52,000 sq. ft. Construction Cost: \$2,007,000 (including site development). (For a listing of key products used in this building, see p. 84.) PHOTOGRAPHS: Balthazar Korab, except page 45 (top right), James Baker.

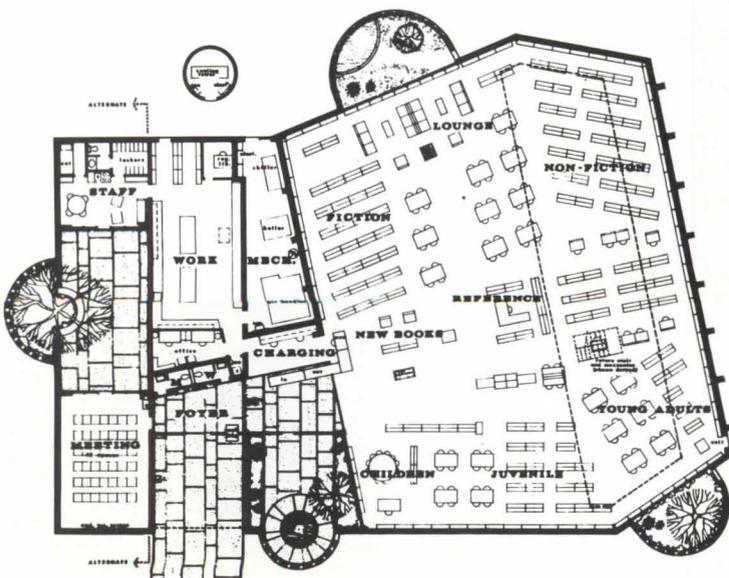
Site plan at top of page explains relationship of library to Eliel Saarinen's 1940 First Christian Church (above), and to the Irwin House to the east. Together, these three structures form the new civic space. The photos at right suggest the character of this space, and reveal the importance of Henry Moore's bronze Arch as a focal point in the space. The Irwin House, with its iron railings, is visible at far right in the bird's-eye view. An auditorium may be built later to close the square on the west.





## BOOKS IN THE SUBURBS

Pleasant branch library  
is designed from a "user-oriented" viewpoint



One of the architects of this small library in San Lorenzo, Calif., reveals that it was because of his first love for a library that he became an architect. John H. Ostwald of Ostwald & Kelly refers to Alvar Aalto's library in Viipuri, Finland, as expressing the "ideal relationship between space and people, use and visual satisfaction."

Ostwald's appraisal of the great Aalto library tells us about his own approach. "Technically speaking," says Ostwald, "these [small] libraries are not challenging or demanding. Their contribution should be in the field of design: attractive to the impulse shopper to draw him into their special ambience and delightful inside to keep him stimulated, inquisitive and intrigued to take with him the records of our civilization." Ostwald believes "it cannot be too strongly emphasized that the library must compete for location

and successful merchants in town to bring its particular merchandise to the public."

The donated site was restrictive. Hemmed in by markets, community buildings and private homes, the library "could not display exterior prominence to attract customers," say the architects. They tried instead to achieve "a special ambience, the island retreat surrounded by a bustling suburban community." Because of the need to block out distractions, the need for extensive interior wall space, and the need for protection against vandalism, windows to the exterior are minimal; the reader gets visual relief from the three walled-in gardens—planted by community groups—that open to the interior.

The plan was partially determined by the irregular site, and by the intention of doubling the size of the main room (by rotating the plan around the axis of the south wall). The building allows for future growth



in two ways: a future mezzanine in the high-ceilinged third of the reading room, and the mirror-image duplication of the reading room area. For flexibility in the existing plan, the steel space frame spanning the total reading area of 8,000 sq. ft. gives complete freedom in the arrangement of furnishings.

The space frame is also a sculptured light fixture, with each V-shaped truss member containing concealed fluorescent tubing. Without exposed ceiling fixtures, the light is glare-free. Lighting is augmented by a continuous light strip along the perimeter of the room where light levels are frequently insufficient; this wall light, at the 8-ft. level, is mounted on the air-conditioning duct that circles the exterior walls. (Additional light, of course, is provided by the grand 16 ft. x 100 ft. window on the north wall.)

The horizontal truss that gives lateral support to the masonry walls of the reading room is

enclosed and thus serves as an air plenum. On heating and cooling, Ostwald says, "There is only one requirement for a building which intends to induce increased mental activity: warm floors for your feet and cool, fresh air at the thinking level." The building throughout is planned for comfort: carpets and acoustical ceilings, for instance, permit conversation in normal voices. The architects feel a library must be "user-oriented." An indication of the success of this library is that circulation doubled in a year.

#### FACTS AND FIGURES

San Lorenzo Branch, Alameda County Library, 395 Paseo Grande, San Lorenzo, Calif. Architects: Ostwald & Kelly. Engineers: Hirsch & Gray (structural); Sanford Fox & Associates (mechanical); R. F. Darmsted & Associates (electrical). General contractor: March Construction Co. Building area: 11,970 sq. ft. Cost: \$290,000 (construction); \$50,000 (furnishing); \$20,000 (site development).

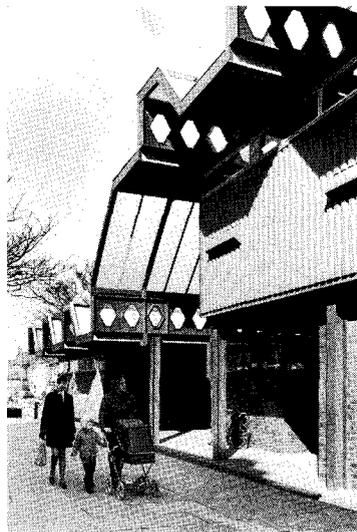
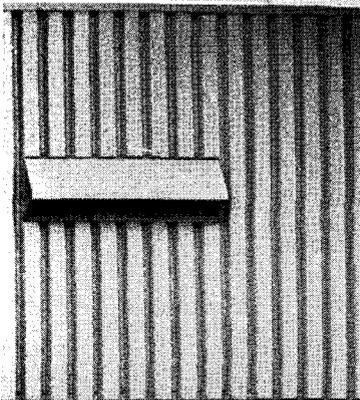
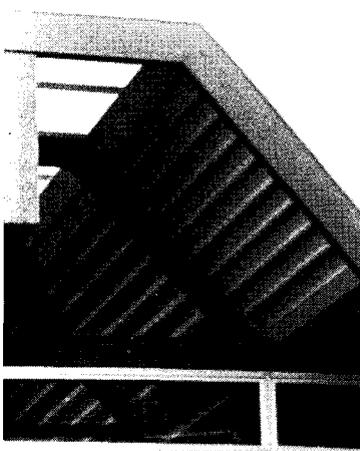
(For listing of key products see p. 84.) PHOTOGRAPHS: Jeremiah O. Bragstad (top and left); Kurt E. Oswald (bottom).



# EASY READING IN REDCAR

Yorkshire library offers comforts of a community center

BY DAVID ROESSLER



Angular skylights along the lines of the castellated roof girders (above) dominate the library's image inside and out. Two tiers of skylights are seen in silhouette at the west entrance (above left); at the east entrance (left), one section of roof extends out to form a covered walk. A brick walled interior "court" breaks up the reading room (far left).



Mr. Roessler, an Australian, teaches at Cooper Union in New York City. He worked in London for Ahrends Burton & Koralek on the Trinity College Library.

Ahrends Burton and Koralek founded their office upon their splendid competition-winning design for the new Trinity College Library in Dublin some ten years ago (Dec. '69 issue).

This building, which was completed earlier this year, is of particular interest, being only the second library from this small but busy firm, and it provides remarkable contrast with their first library.

The Dublin library was, of course, a new facility carefully fitted into a very old and revered university complex. Redcar is a brash, small, but growing center on the Yorkshire coast—a northern English seaside town with its penny arcades and fish and chip shops. Redcar has a population now of some 35,000, and the library is sized to serve 50,000. The town stretches along the coast, and inland, behind it, are chemical industries and the major steel works of Dorman Long, of whose existence one is reminded in the forthright steel detailing of this building.

The site adjoins an existing library and is set between other civic amenities—a public hall, an occupation center, municipal offices and the site of a future health center. Accordingly, the architects have been at some pains in their design to draw the various facilities together and to give some feeling of interconnection to the different elements of the community center which is being formed. To this end the extended covered ways, paved walks and pivotal public spaces all work very well.

The architect's brief called for a flexible building capable of expansion and mindful of its place and purpose in the community. ". . . The library should never be considered as a monument or as a cultural retreat; but a source of pleasure, recreation, information and learning; readily available to all, from family to business organization."

Clearly, a relaxed (and realistic) approach to the question of just what a community library is all about was indicated—an approach which is very much in evidence in the resulting building. A lounge and coffee shop, hall and meeting rooms, exhibition space, enclosed gardens and children's play areas are all given a place in a plan which might sadden the heart of a traditional librarian, but which, in

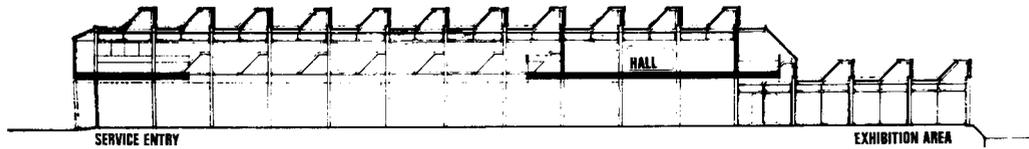
fact makes all sorts of sense.

While the reference library and other quiet library functions are housed on a mezzanine, those areas which we are used to finding in the forgotten corners of public buildings—the lounge, coffee shop, exhibition area, hall and toilets—are all immediately accessible at the main entrance before one passes the control desk.

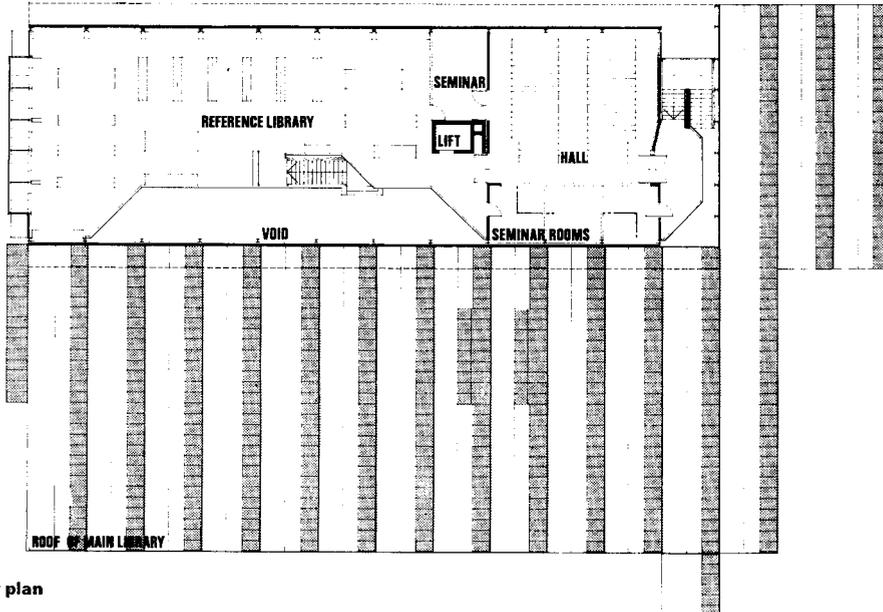
The extensive skylights are true to the building's use and to the damp, grey, northern light, a light which is warmed by the bright orange carpet used throughout the quiet areas. In structure, the library recognizes the industrial character of much of the surrounding area and the castellated beams lend their characteristic clear geometry and make one wonder why they are so little used in this country (there is no good reason—they are competitive with bar joists, over which they have certain advantages).

Looking back at the earlier Dublin library one recalls the great opportunity of the site which was grasped and the enormous care that was exercised on the building in detail and material, the sense of a serious architectural statement being made. At the same time one was aware of overdesigned elements here and there all adding up to that busy surface which Alan Colquhoun writing in the *Architectural Review* at the time described as the ". . . typically Anglo-Saxon penchant for picturesque elaboration."

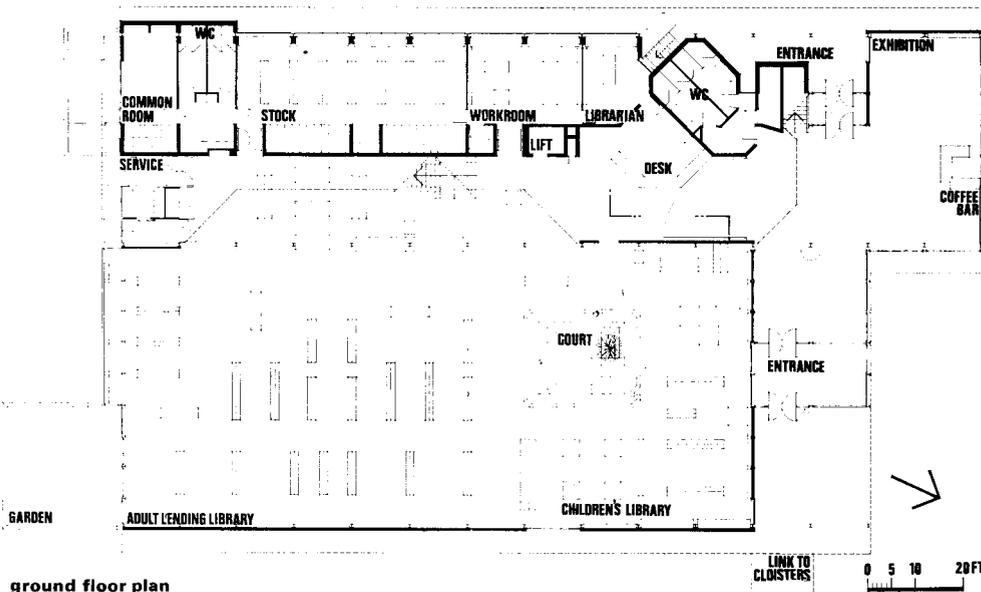
Redcar Library is most certainly from the same stable. Again we see the very careful working out of the programmatic answers architecturally, the siting which catalyses the group, the serious commitment to providing a working environment. Again the "picturesque elaboration" in formalistic liberties with brick plinth and steel roof, skylights in the covered way, castellated cutouts in the unsuitable monumental interior brick screenwall, I-beams supporting telephone books—all indulgences which, doubtless, the people of Redcar will gladly allow the architects who have come through with a sound, functioning building, and done so with such easy informality as to suggest that this might be seen as one of the first true multi-use community libraries.



section



first floor plan

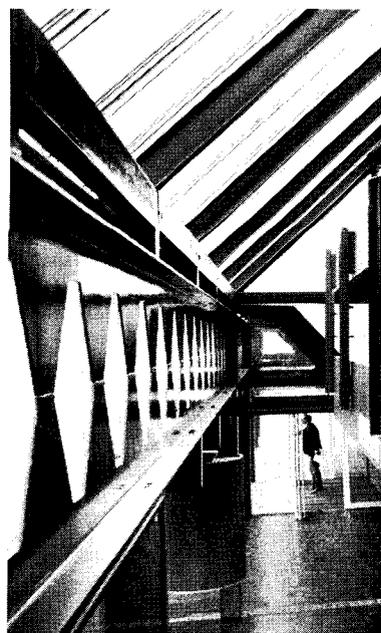
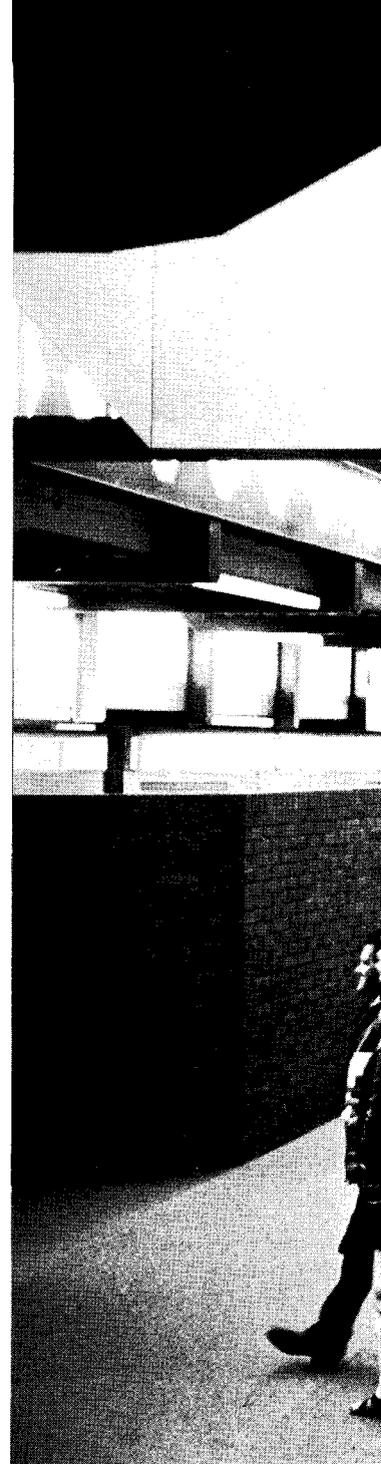


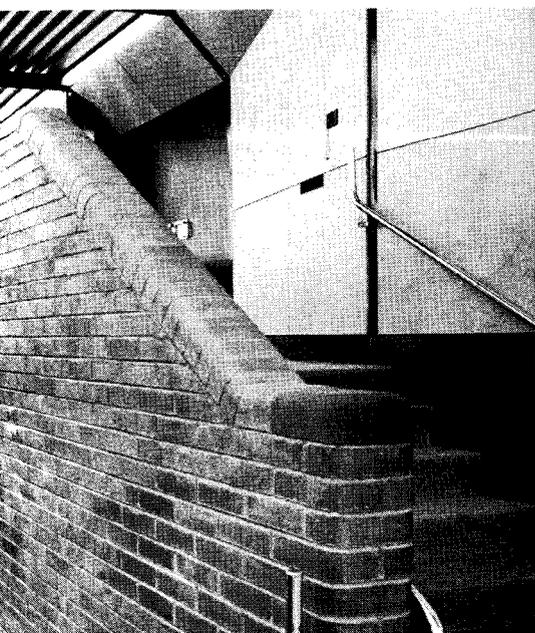
ground floor plan

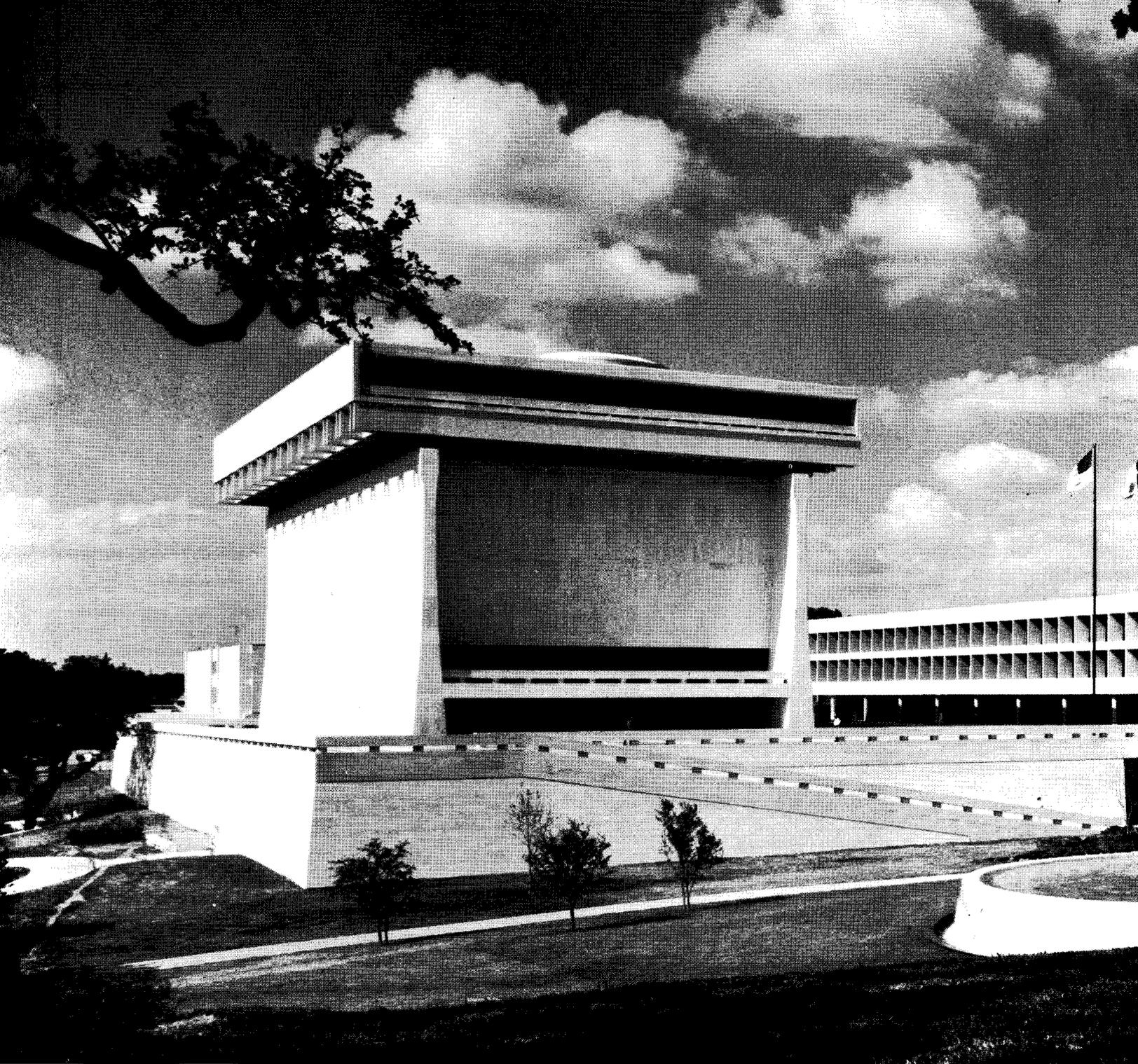
Steel framing and skylights make the main reading room (top right) look like a covered market for books. The tall entrance lobby (right) has stairs with brick parapet leading up to a public meeting hall. Adjoining the lobby is an exhibition area and coffee bar (far right).

**FACTS AND FIGURES**

Redcar District Library, Redcar, Yorkshire, England. Architects: Ahrends, Burton and Koralek. Engineers: structure, Felix Samuely & Partners; services, Engineering Design Consultants. Area: 21,500 sq. ft. Cost: 213,000 pounds sterling. PHOTOGRAPHS: John Donat.







## PRESIDENTIAL PALACES

With LBJ weighing in at 500 million pounds, will RMN be far behind?

The next six pages say something about the American Present and the immediate American Past—but what they say, precisely, is left to the reader. Obviously, presidential monuments do not always reflect the presidential personality, though some quite clearly do: LBJ could hardly have been better portrayed if his architect, Gordon Bunshaft, had been a still photographer; whereas JFK, one feels, might have preferred something other to be remembered by than that Super-Schrafft's-on-the-Potomac. Still, here they are: memorials from FDR to LBJ, with intermediate stops in Abilene and Independence. The only comments, it was felt, should be the vital statistics of each of the presidential memorials.



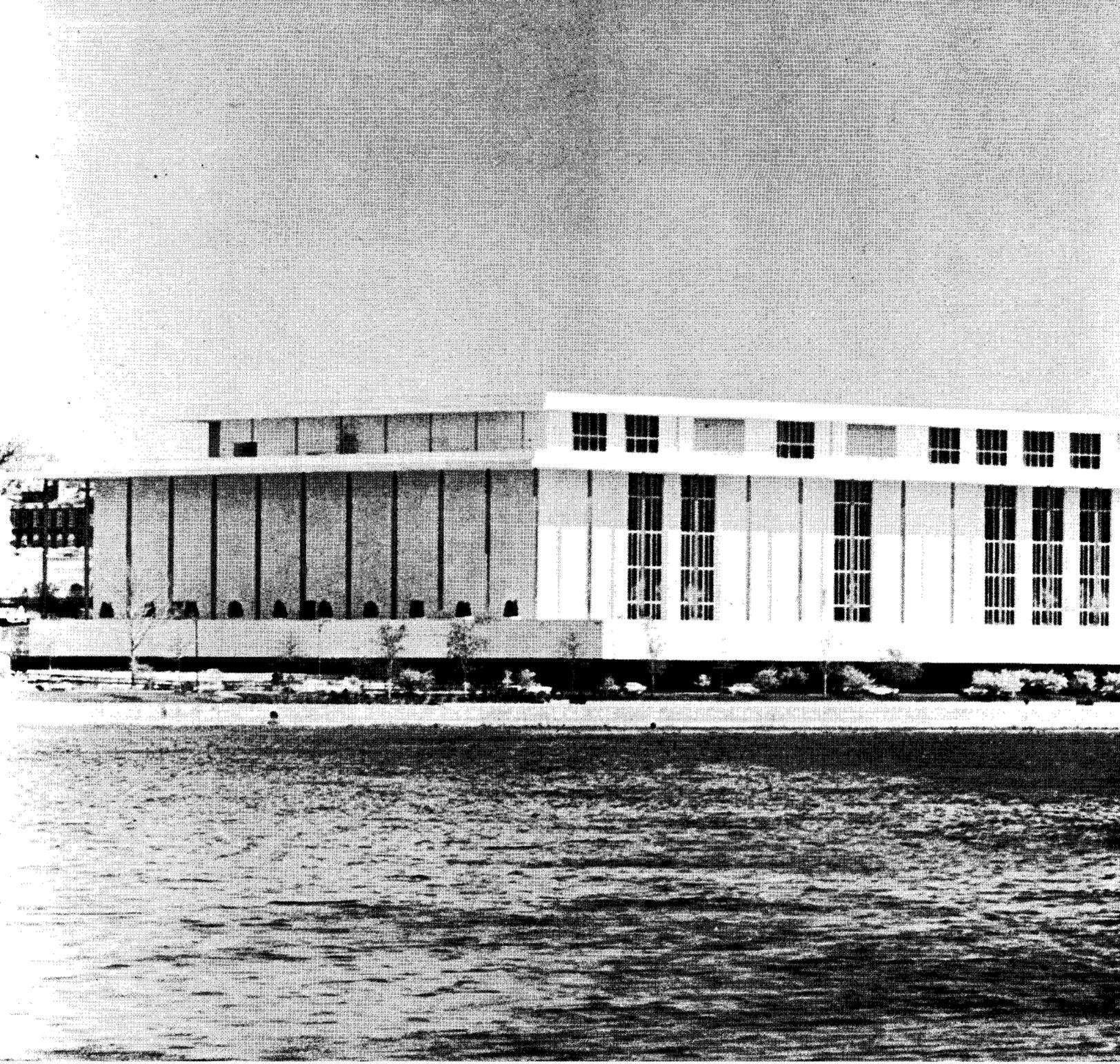
*Ezra Stoller © ESTO*

LYNDON BAINES JOHNSON LIBRARY (and Sid W. Richardson Hall)  
Austin, Texas

Architects: Skidmore, Owings, & Merrill  
(Gordon Bunshaft, Partner-in-Charge)  
and Brooks, Barr, Graeber & White  
(Max Brooks, Partner-in-Charge)

Building area: 425,000 sq. ft.

Cost: \$18.6 million.





THE JOHN FITZGERALD KENNEDY CENTER FOR THE PERFORMING ARTS  
Washington, D. C.  
Architect: Edward Durell Stone.  
Building area: 1.5 million sq. ft. (incl. garage)  
Cost: \$68 million



THE DWIGHT DAVID EISENHOWER LIBRARY

Abilene, Kansas

Architect: John Brink.

Building Area: 55,000 sq. ft.

Cost: \$2 million—plus.

THE HARRY S. TRUMAN LIBRARY

Independence, Missouri

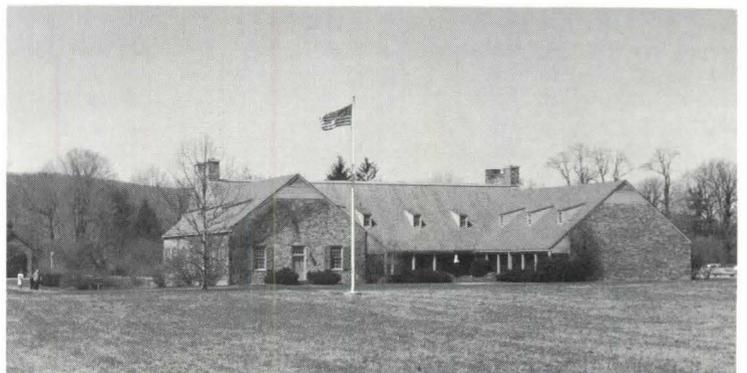
Architects: Voscamp & Gentry.

Building area: 70,000 sq. ft.

Cost: \$1.5 million.



THE FRANKLIN DELANO ROOSEVELT LIBRARY  
Hyde Park, New York  
Architect: Louis A. Simon.  
Building area: 34,407 sq. ft.  
Cost: \$200,000.

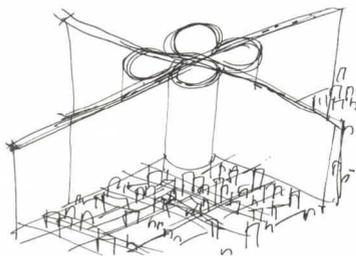


# SUBTERRANEAN SYSTEMS

as a framework for a new urban planning policy. BY GUNNAR BIRKERTS

Vast sections of our metropolitan areas are disfigured by the unassimilated apparatus of the Industrial Revolution. Underestimating the impact of factories, railroad yards, and highway interchanges on the community, society has persistently tried to fit them into pre-existing urban patterns. Such elements have never been compatible with the human environment, and we are suffering the bitter consequences.

These facilities not only consume precious acreage near the centers of human activity, but they fragment and contaminate the neighborhoods around them.



The urban sprawl that has overrun great tracts of open land in recent decades results in part from an urge to flee from these disruptive elements. The result has been a widening physical gap between those who can afford to get away and those who are forced by social and economic circumstances to live close to traffic and industry.

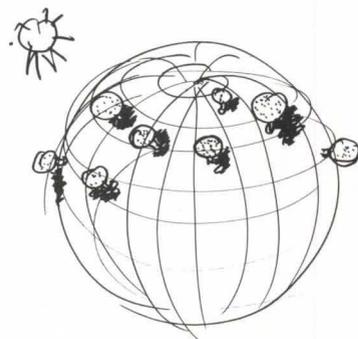
But this migration cannot go on indefinitely. It merely extends transportation and utility lines, further increasing the waste of surface area. And the consumption of agricultural, recreational and wilderness land will reach beyond tolerance—both socially and ecologically.

The need for alternative pat-

terns—the need to reverse the process of physical and social contamination by reorganizing the urban environment—is widely recognized. But the magnitude and complexity of the forces to be dealt with are simply beyond the power of the human mind to comprehend and project into the future. The result has been a number of essentially simplistic proposals—some revolutionary, some merely palliative—each overlooking some critical factor.

One vision of the future—typified by the proposals of Doxiadis—is simply a glamorized projection of current trends. Assuming no significant social or economic changes—and advocating none—it projects an ever wider, thinner layer of development, called Megalopolis. This vision is widely accepted by those who mistakenly consider sprawl to be inevitable.

Another current approach—that of Paolo Soleri—would concentrate humanity in enormous containers, of unprecedented scale, in an effort to preserve the natural skin of the earth.



Such concentrations would require radical changes in community organization and individual expectations, and enormous investment in a structural armature. As the Megalopolis concept lacks vision, Soleri's concept lacks recognition of established social patterns.

Another, older vision—adopt-

ed by Neutra, among others, in his "Rush City" proposal of the 1920's—called for strictly linear extension of urban development along the lines of transportation and utilities. Repudiating the age-old tendency for society to organize concentrically around focal points, this approach would have attenuated both the core and the periphery, and would not have accommodated growth except at the open ends.

Before we allow any of these widely disseminated concepts to become overly influential in shaping our future environment, before we jettison all existing patterns of development, we should examine the following thesis: that the established concentric pattern of urban development around a strong center is still valid—functionally, sociologically, and economically—provided the apparatus of industry, services, and transportation is separated from the environment of human social activity.

The proposal presented here is essentially a *reform* of existing patterns—a radical reform, but not one that requires restructuring a whole society. It demands only an expansion of our traditional ways of assigning space—making possible independent control and development of distinct layers of space, below ground, at the surface, and above ground.

The following specific actions could form the framework of a new planning policy:

- establish a graduated public transportation system, with high-velocity transit underground, lower-speed surface distributors, and even lower-speed people-moving systems.
- organize the movement and distribution of industrial and commercial goods, and place the large-volume, more direct lines in subterranean conduits.
- extend selected transportation

lines to form a cross-country surface and subsurface network, connecting important centers.

- construct subterranean generating stations to supply power, heating, and cooling from centralized sources, eliminating the inefficiency and pollution of scattered fuel consumption.

- remove wastes—trash and fumes, as well as sewage—by high-velocity underground collection systems leading to subterranean treatment plants.

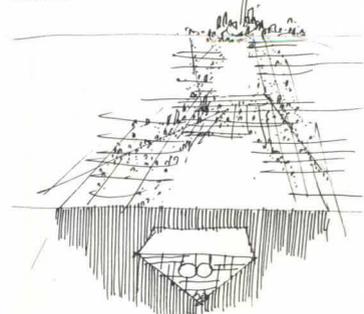
- make all underground service and waste conduits fully accessible for maintenance and modification.

- remove from the surface and place in underground conduits all sparsely populated storage and parking facilities.

- place automated and semi-automated industry in underground conduits along the main lines of goods movement and waste removal—uniformly serviced so that they can be divided and reassigned easily.

- bring green zones into the urban structure. Extending over the subterranean conduits, they would provide recreation areas, as well as devices for introducing air, daylight, and visual awareness to the occupied spaces below.

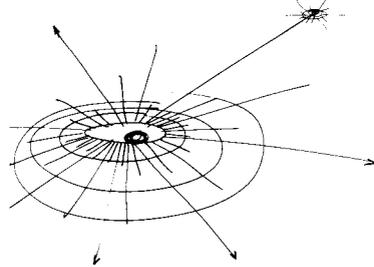
- plan areas where the urban fabric would bridge these natural channels, to maintain the continuity and scale of the social structure and provide points of intimate contact between nature and the man-made environment.



Mr. Birkerts practices architecture in Birmingham, Mich. This article outlines the scope of a study he is now pursuing under a Fellowship Grant from the Graham Foundation for Advanced Studies in the Fine Arts.

- plan easements in the nature channels to accommodate surface movement of whole buildings—possibly of large scale—which would be built outside the zones of their use and rolled into place, thus isolating heavy construction activity from already occupied areas. This process would demand great simplification of the means of connecting above-ground structures to underground anchorages and mechanical lines.

Physically, the components of this reorganized urban fabric would be laid out in a pattern combining concentric, radial, and linear characteristics. Extending out from a well-defined center

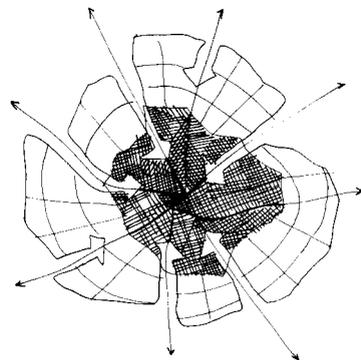


would be transportation/industry/service/green zones—reaching out to form linear connectors with similar fingers extending from other centers. The sectors between these fingers would be developed as living-working neighborhoods, organized around secondary transportation rings that would tie the primary radials together.

Intensity of activity would increase toward the center, but the very center might be treated as a hollow "eye" within a ring of transportation-utility lines, occupied only by functions of symbolic significance to the whole urban area. Beyond certain established boundaries, the sectors between the fingers would be reserved for productive farming, eliminating the band of dormant, speculatively-owned land that now rings our metropolitan centers. Further urban development would be

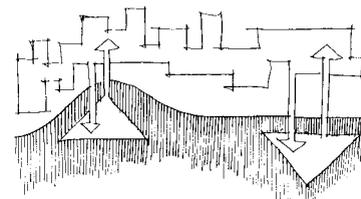
diverted to planned centers farther out along the fingers.

The whole concept could be grafted onto existing urban centers—governing their further ex-



tension and gradually penetrating back into existing developed areas as they are rebuilt.

The "underground" portions of the system would not necessarily be located below natural grade. Depending on local terrain, they could be placed on the existing surface, with a man-made ground level above them. The essential point is creation of a new layer of development, governed by new policies. This new layer would be under public



ownership and control: owners of above-ground structures would depend on subterranean structures for structural and mechanical support, and they would lease portions of them for service functions related to their activities.

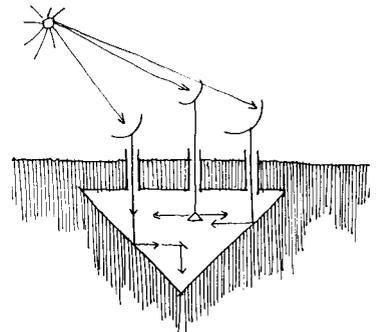
As an environment for manufacturing, storage, transportation, information systems, and goods handling, the underground layer would have the advantages of consistent temperature. Energy consumption for heating and cooling would be drastically

reduced, compared to exposed buildings, as would maintenance costs. Noise insulation could be attained at virtually no expense. Isolation from the natural environment—virtually complete in most above-ground facilities of this kind—could be overcome technically by introducing daylight and visual images either directly, optically, or electronically. In any case, these spaces would be closely linked to the green belt above—making an unprecedented connection between working places and recreation areas.

Technologically, we are now equipped to construct effective underground spaces. Methods of excavation have advanced more rapidly in recent years than other areas of technology; large, automated "moles" and controlled nuclear blasting make large scale operations economically realistic; the application of the laser to rock excavation is near at hand. Air conditioning of underground spaces is no longer a challenge (and underground structures are especially suited to heat exchange systems using the earth as a source).

Recognizing that all of these architectural and technical solutions can be applied only if certain social, political, legal, and economic adjustments are made, the following steps are proposed:

- development of horizontally stratified ownership systems, distinguishing between at least three layers: subterranean, surface, and above-surface. (Considerable precedent already exists in the form of air rights, mineral rights, etc.)
- community ownership and control of all subterranean structures, including conduits for industrial and storage functions.
- re-evaluation of the needs of society versus individual property rights, with gradual acquisition of privately-held urban land



as a community resource.

- revision of existing zoning, taxing, and development regulations to eliminate incentives for land speculation.

- adjustment of existing legislation to facilitate property acquisition through eminent domain.

- private ownership of buildings on leased public land—this private control not to penetrate below the ground plane.

As this plan is carried out—as the mechanical intrusions of the last century are removed from the surface and placed underground—we shall recover all of the above-ground space of our urban areas for social environment. This addition to our resources, in sheer quantity of space, will be invaluable.

But the advantages will be by no means just quantitative. With all urban areas benefiting from subterranean service systems, and none of them subjected to the noise and fumes of heavy industry or large-scale transport, most of the causes of extensive trips to work or of economic segregation of dwellings will be eliminated. In an urban fabric no longer divided by hostile industrial strips, no resident will have to be far removed from the social, commercial, cultural, and recreational opportunities that are the traditional rewards of urban life.

Let us not invest in mega-structures for millions of inhabitants—or give in to self-defeating sprawl. Instead, let us restore the ever-evolving urban pattern that was disrupted by 19th-century technology.

# ARCHITECTURE WITH INNER MEANING

Notes toward a definition of urban design

BY ALBERT MAYER

In architecture and urban design, the professional critique or the public's reaction is, in varying degrees of sophistication, mainly to the physical-esthetic of the single building, the grouping of buildings in space, the ambient open spaces. There is often discussion of functional workability and the discovery and implementation of new functional relationships by the programmer-and-architect. Social characteristics, relationships and degree of fulfillment are sometimes considered.

But in the main it is the physical-visual impact and inspiration that animate the creator and the viewer; and rightly—certainly at the beginning. Compelling distinction at that point, is the *sine qua non*. Without that, one is not attracted to go further.

But the space-volume impact, the visual-emotional impact of juxtaposed masses are in this day not nearly enough. In the current confusions and complexities in which we find ourselves in our cities and on this planet, in our poignant search for directions and answers, in our day when there is no inherited underlying body of assumption and belief, we need clear indications of direction, or presentation of arguable alternatives. Are we having just an exciting or even exhilarating experience, or are we also being confronted with a clear and challenging and satisfying statement of inner meaning? And, have we developed the penetrating insight to recognize the inner meanings? We need to train ourselves; and we need elements which sharpen and sublimate the essential meaning, injecting a luminous flash of clarity into the multiplicity of things that confusingly present themselves, in our surroundings.

There is a moral or inner measure that we must learn to seek out and apply, whether or not the creator had them consciously in mind in shaping his creation. Purely from the facade, from the spatial and the volume-mass point of view, there may be a thrilling experience. But penetrating into deeper meaning,

**Mr. Mayer** has had a long career as an architect and city planner. He has participated in the design of many notable apartment developments—public and private—in New York, and in the planning of several new towns, including Kitimat, British Columbia, and Maumelle, Arkansas. He is the author of *The Urgent Future: People, Housing, City, Region*.

into the heart of the matter, it may turn out that the creator has used for his major mass or emphasis an element or elements that from the deeply inner organic view do not rate that hierarchical prominence, or do so questionably or “neutrally” or even opportunistically at the expense of deeper values.

The fact is, of course, that space does not all have the same value or quality. What might be thought of as “inert”, or less vibrant space should not be permitted to have physical-emotional predominance over more vital organic space. There is no such thing as neutrality or equi-value of space or in space. Who is being sacrificed for whom or what, or at the expense of what truly animating values are we achieving the space solution? Could or should other mass relationships or dispositions, also visually inspiring, more truly reflect a more just inner organic meaning, content, direction, for our time? Has a handsome facade and three-dimensional impact been achieved at the expense of the inner living harmonies, at the expense of optimum development of the individuals living or working there?

I have not seen these aspects discussed currently in a sensitive new dimension, as part of our questing time. But I think I have identified a number of important cases where analysis and reflection make it clear that hierarchical values infuse and structure the creation, that space and volume are not neutral; or, fail to do it. I venture to think that *inner* or *moral* meaning and trend should be clearly recognized so that all of us, fitting ourselves habitually to probe well below the normal criteria, much more sharply grasp the implications of what is being created; react, act, and demand accordingly, for the future.

We can now pursue this thinking further and more vividly, in the pictorial language of architecture itself, by a number of cases for specific illustration and much closer discussion of what the architecture that has been developing currently and in the last decades (and in some cases previously) has to say to these matters. I have chosen three levels: The Architecture of People's Government; The Architecture of Major Cityscape; and The Architecture of Housing.

# 1. The Architecture of People's Government:

the legislative and administrative complex, and what varying or contrasting relations spiritual and actual it embodies or strongly points to; and/or should embody.

The Problem: the administration, i.e., the numerous busy ubiquitous secretariat and its assistants, the experts-specialists, the report-writers, typists, file clerks, messengers overwhelmingly exceed in numbers and in square feet-cubic feet requirements, the space needed by the representatives of the People. Do we let it go at that, neutrally let that be reflected in the massing and positioning? Or can we as the creators transcend that, not bound inorganically by the "deadweights", but find the real substantive organic weightings and positionings, to reflect that it's the People and their representatives who are (or are not) supreme; and as the people demand it? Three cases are considered here, with sharply different weightings and meanings, traversing the gamut from the visual-physical predominance of the "deadweights", through to full and thrilling recognition of the people and the function of service to them.

**U. N. Headquarters:** Secretariat enthroned. Its great mass and cubic content are given full dominance not only in its sheer height, but further celebrated by its emphasized central position. The Assembly Hall—the people's building—is dwarfed, a low secondary element on one side, balanced against and of equal visual significance as the library opposite. The (probably) unintended symbolism results from opportunistic use of masses.

**Punjab Capital (Proposed):** As reaction against this, Matthew Nowicki's and my effort to express the people's dominance by plainly placing the Assembly over the Secretariat, and a long imposing bridge-ramp leading directly to the hall of the legislature. Whether one approaches up the suspended ramp, or at ground level, one is constantly aware of the higher, exalted place of the Legislature. This was discarded because it introduced some questionable other symbolism—e.g., remoteness of the legislature. But it is noted here because of the thinking and values behind it.

**Toronto City Hall:** Beautifully realized statement and relationship, actual and symbolic. The Council, the beating heart, the core, the kernel, surrounded, delicately nurtured and served, protected, by the two arcs (arms) of reflecting office buildings, as by the shell in nature.



## 2. The Architecture of Major Cityscape

and what it has to say with respect to those who hold the real power in city development (in its important core areas), and how they exercise it.

**Midtown Manhattan:** Impressive, overwhelming. Pantingly competitive quest, exploitation of land, minimum control. Buildings viscosly huddled together, contradicting the frenetic attempts at individual distinctiveness or dominance. The only civic control is a very liberal zoning ordinance, now further stretched by huge space-and-height bonuses over and above the zoning limits, in exchange for the individual developer's making some concession, such as ground level plaza, in exchange for the individual developer's making some concession, such as ground level plaza being required. Halting ameliorations by single bargainings with individual developer; no confrontation between individual land-buccaneering and extended civic discipline.

**Washington, D. C.:** Order, calm, wide boulevards in the city generally. A feeling of serenity and detente, punctuated by the Nation's Capitol and Washington monument standing high on already high points of land; visible—and recurringly, compellingly visible—from almost everywhere. But the body of the city is perhaps understated, underplayed, for our time. There is no provision for boldness, virtuosity, outreach for modern structure-imagination.

**Stockholm, center city group:** The tall building, the bold structure, the challenge accepted. But a strong sense of civic discipline, as well as dramatic single group emphasis. The spaciousness of free air between the center's skyscrapers, the opportunity to feel the three dimensions, the rhythm of spacing. Space, and arrangements, for excursions on the street level, and creative refreshment.

The single tall tower (far right) in ambient space (Wenner-Gren tower) in the north end of Stockholm. It has room to count as an urban event.



### 3. The Architecture of Apartment Houses:

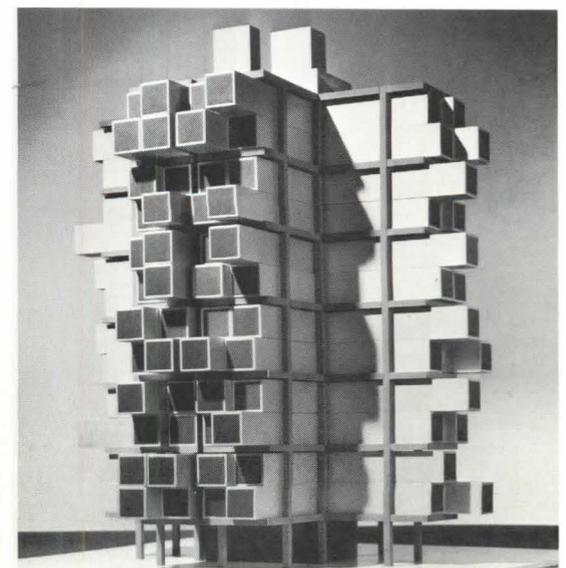
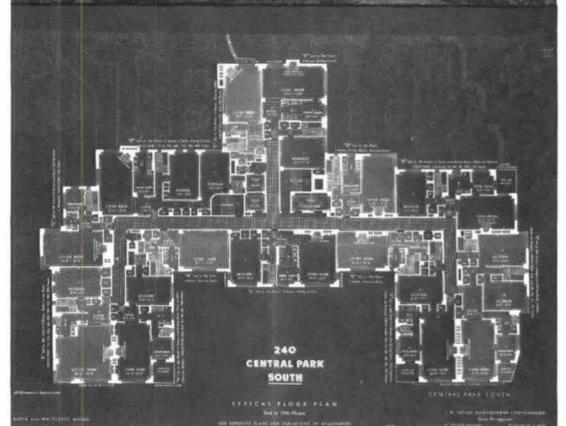
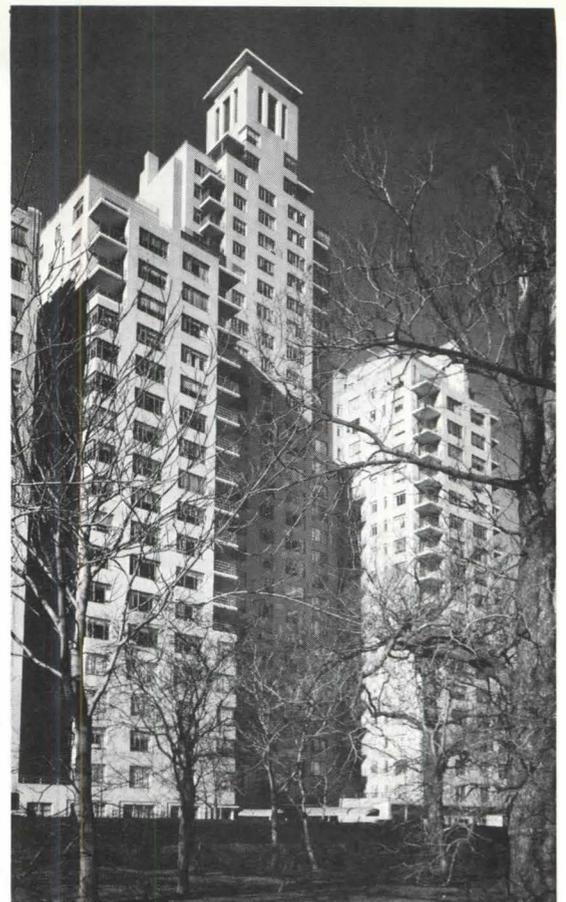
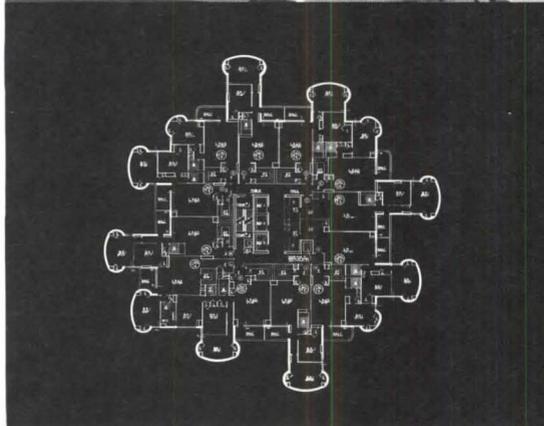
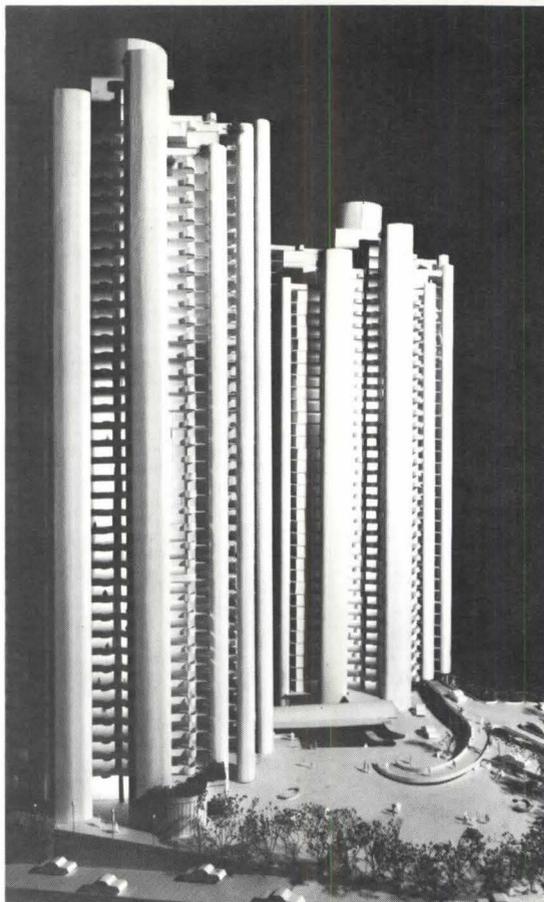
the degree to which people's living habits, comfort, diversity, individuality are considered or made to prevail in plan, and are visually and symbolically reflected in facade-statement; or, are subordinated to monumental requirements in the programming-design and prestige-intentions or other extraneous intentions of the building agency and the architect.

**Tracey Towers, The Bronx:** Impressive masses, deep insets for effective development of light and shade when viewed from the exterior. But, question of adequacy for people living behind the castellated facade. Deep inset adjoining balconies result in noise, noise reflection, diminishing of privacy between adjacent families. Deep inset adjoining balconies result in noise, noise reflection, diminishing of privacy between adjacent families. In all apartments, living room must be completely traversed to reach bedrooms, diminishing intra-family privacy for entertaining. All apartments of same size have identical layout—i.e., no variety for differing needs and tastes.

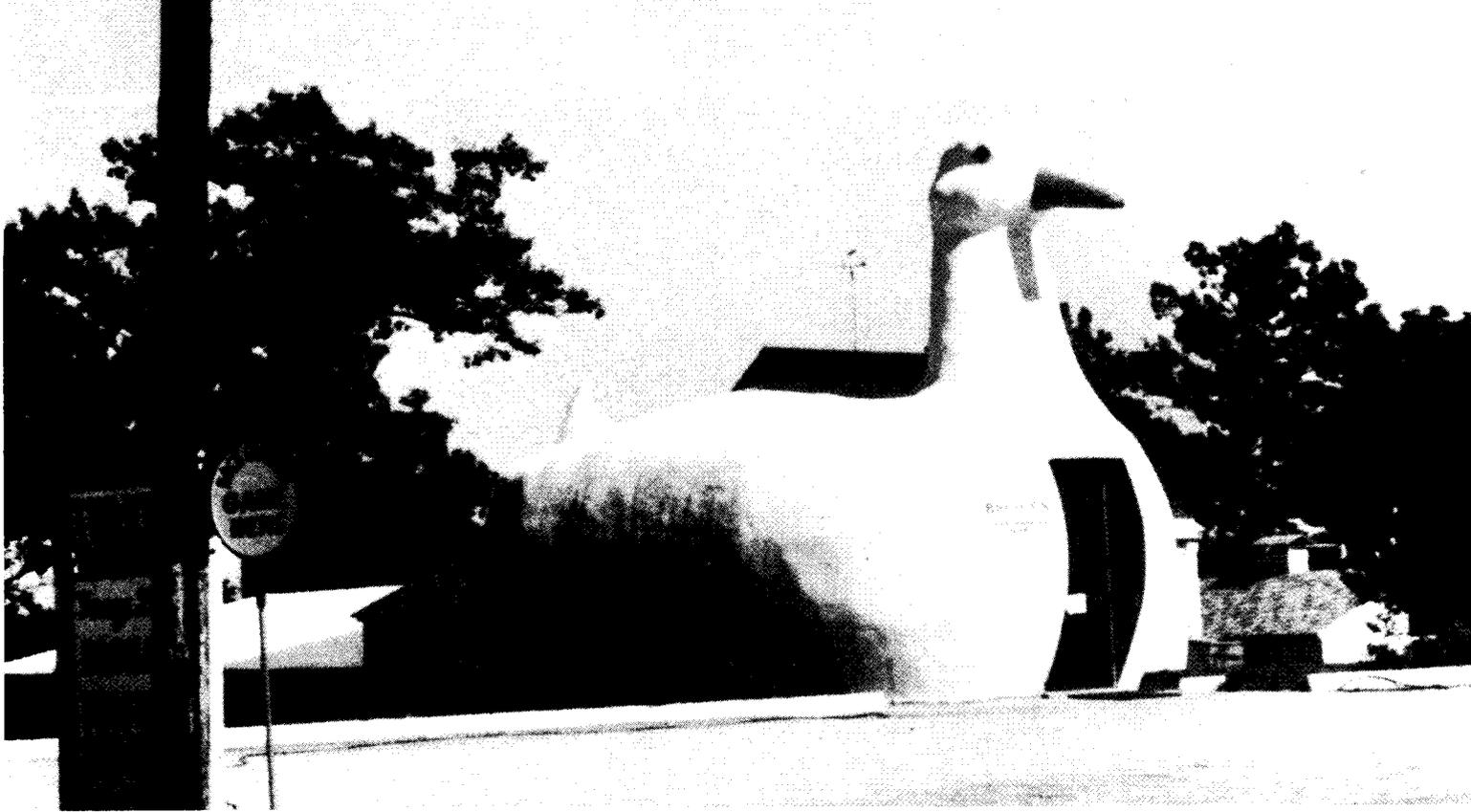
**240 Central Park South:** "Transitional." Though designed much before the Tracey Towers, interior plan and facade-mass speak to liveability and to sublimation of domesticity. The masses and facade-shape are a "tight skin" flowing from and reflecting the inner living. The chimney walls (of 48 gathered fireplaces) project above the 19th floor, are functional; also symbol and climax of domesticity—as Lewis Mumford noted at the time in his New Yorker review. Note on plan, variations for individual living style, within each size of apartment.

**Safdie's Habitat:** Privacy, private gardens, variations in the air. Small individual scale, sensitively and cumulatively expressed in the three-dimensional waterfall of the building's exterior. . . Safdie: not the fashionable architectural "new brutalism," which arbitrarily imposes itself on interior uses, causes pockets of darkness and functionally difficult shapes, but a "humane brutalism" resulting from feeling for individual requirements, desires, complete individualities. His new structural conceptions made this much more organically possible than before in, say, the Transition example. But, much too heavy, too expensive.

**Since Safdie:** Great progress in economy, weight, and ready assembly of prefabricated boxes. Substantial technical progress, but retrogression in creative attention to human quality. The projections and offsets are "architectural," arbitrary; not seeking, developing, extending the gamut of humane living. This remains to be vitally picked up again.



PHOTOGRAPHS: Page 62 (top) Ewing-Galloway; (middle) Capitol Airviews. Page 63 (bottom left) Aerial Photos of New England.



# UGLY AND ORDINARY ARCHITECTURE OR THE DECORATED SHED

## 1. Some definitions using the comparative method

BY ROBERT VENTURI AND DENISE SCOTT BROWN

These are excerpts from *Learning from Las Vegas* by Robert Venturi, Denise Scott Brown and Steven Izenour, to be published shortly by the MIT Press. An earlier portion, "A Significance for A & P Parking Lots, or Learning from Las Vegas," was published in our March '68 issue. A second excerpt will appear in the December issue. Robert Venturi and Denise Scott Brown are partners and Steven Izenour is a member in the firm Venturi and Rauch, architects and planners of Philadelphia.

*"Not innovating willfulness but reverence for the archetype."*

Herman Melville

*"Incessant new beginnings lead to sterility."*

Wallace Stevens

*"I like boring things."*

Andy Warhol

To make the case for a new but old direction in architecture, we shall use some perhaps indiscreet comparisons to show what we are for and what we are against and ultimately to justify our own architecture. When architects talk or write, they philosophize almost solely to justify their own work, and this apology will be no different. Our argument depends on comparisons because it is a simple argument—simple to the point of banality. It needs contrast to point it up. We shall use, somewhat undiplomatically, some of the works of leading architects today as contrast and context.

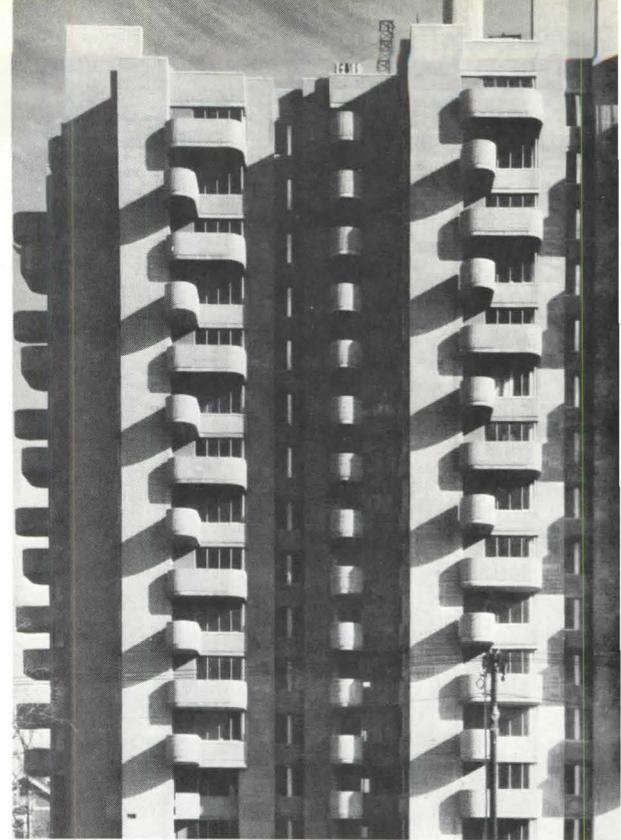
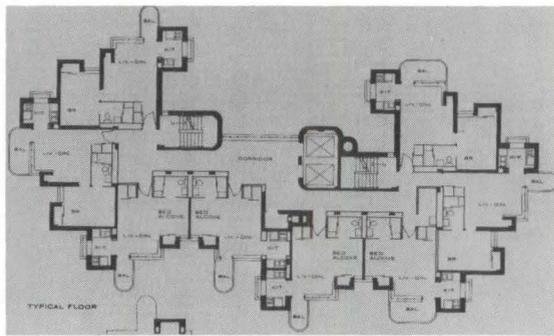
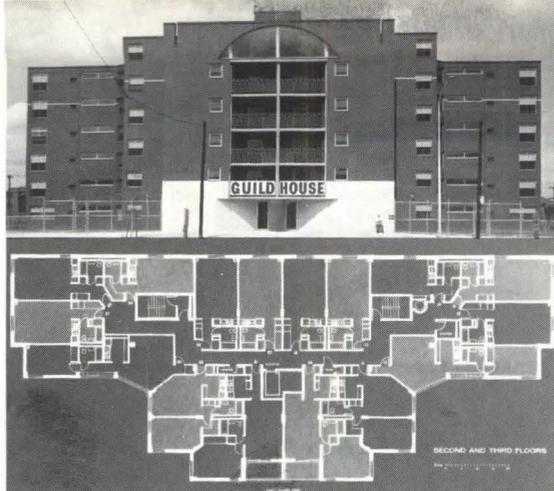
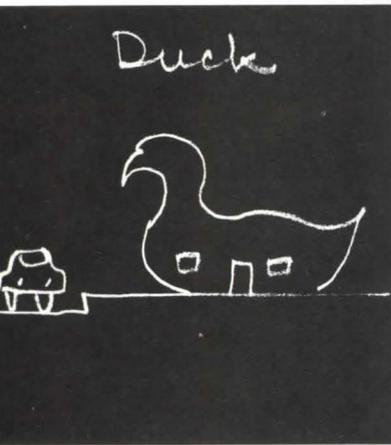
We shall emphasize image—image over process or form—in asserting that architecture depends in its perception and creation on past experience and emotional association, and that these symbolic and representational elements may often be contradictory to the form, structure and program with which they combine in the same building. We shall survey this contradiction in its two main manifestations:

1. Where the architectural systems of space, structure, and program are submerged and distorted by an overall symbolic form: This kind of building-becoming-sculpture we call the *duck* in honor of the duck-shaped drive-in, "The Long Island Duckling" illustrated in *God's Own Junkyard* by Peter Blake.

2. Where systems of space and structure are directly at the service of program, and ornament is applied independently of them: This we call the *decorated shed*.

The duck is the special building that is a symbol, the decorated shed is the conventional shelter that *applies* symbols. We maintain that both kinds of architecture are valid—Chartres is a duck (although it is a decorated shed as well) and the Palazzo Farnese is a decorated shed—but we think that the duck is seldom relevant today although it pervades Modern architecture.

We shall describe how we come by the automobile-oriented commercial architecture of urban sprawl as our source for a civic and residential architecture of meaning, viable now, as the turn-of-the-century industrial vocabulary was viable for a Modern architecture of space and industrial technology 40 years ago. We shall show how the iconography, rather than the space and



Crawford Manor Paul Rudolph, Architect

piazas, of historical architecture, form the background for the study of association and symbolism in commercial art and strip architecture.

Finally we shall argue for the symbolism of the ugly and ordinary in architecture and for the particular significance of the decorated shed with a rhetorical front and conventional behind: for architecture as shelter with symbols on it.

### The Duck & the Decorated Shed

Let us elaborate on the decorated shed by comparing Paul Rudolph's Crawford Manor with our Guild House (in association with Cope & Lippincott).

These buildings correspond in use, size and date of construction: Both are highrise apartments for the elderly of about 90 units, built in the mid-1960s. Their settings vary: Guild House, although freestanding, is a six-story, imitation palazzo, analogous in structure and materials to the surrounding buildings, and continuing through its position and form the street line of the Philadelphia gridiron plan it sits in. Crawford Manor, on the other hand, is unequivocally a soaring tower, unique in its Modern, Ville Radieuse world along New Haven's limited-access, Oak Street Connector.

But it is the contrast in the images of these buildings in relation to their systems of con-

struction that we want to emphasize. The system of construction and program of Guild House is ordinary and conventional and looks it; the system of construction and program of Crawford Manor is ordinary and conventional but doesn't look it.

Let us interject here that we chose Crawford Manor for this comparison not because of any particular antagonism toward that building—it is, in fact, a skillful building by a skillful architect, and we could easily have chosen a much more extreme version of what we are criticizing — but in general because it can represent establishment architecture now (that is, it represents the great majority of what you see today in any architecture journal) and in particular because it corresponds in fundamental ways with Guild House. On the other hand, choosing Guild House for comparison involves a disadvantage, because that building is now five years old and some of our later work can more explicitly and vividly convey our current ideas. Lastly, please don't criticize us for primarily analyzing image: we are doing so simply because image is pertinent to our argument, not because we wish to deny an interest in or the importance of process, program and structure or, indeed, social issues, in architecture or in these two buildings. Along with most architects, we

probably spend 90 percent of our design time on these other important subjects: They are merely not the direct subject of this inquiry.

To continue our comparisons, the construction of Guild House is poured-in-place concrete plate with curtain walls pierced by double-hung windows and enclosing the interior space to make rooms. The material is common brick—darker than usual to match the smog-smudged brick of the neighborhood. The mechanical systems of Guild House are nowhere manifest in the outside forms. The typical floor plan contains a 1920s-apartment-house variety of units to accommodate particular needs, views and exposures; this distorts the efficient grid of columns. The structure of Crawford Manor, which is poured-in-place concrete and concrete block faced with a striated pattern, is likewise a conventional frame supporting laid-up masonry walls. But it doesn't look it. It looks more advanced technologically and more progressive spatially: it looks as if its supports are spatial, perhaps mechanical-harboring shafts made of a continuous, plastic material reminiscent of *beton brut* with the striated marks of violently heroic construction process embossed in their form; they articulate the flowing interior space, their structural purity never

punctured by holes for windows or distorted by exceptions in the plan. Interior light is "modulated" by the voids between the structure and the "floating" cantilevered balconies.

The architectural elements for supplying exterior light in Guild House are frankly windows. We relied on the conventional method of doing windows in a building; we by no means thought through from the beginning the subject of exterior light modulation but started where someone else had left off before us. The windows look familiar; they *look like*, as well as *are*, windows, and in this respect their use is explicitly symbolic. But like all effective symbolic images, they are intended to look familiar *and* unfamiliar. They are the conventional element used slightly unconventionally. Like the subject matter of Pop Art, they are commonplace elements, made uncommon through distortion in shape (slight), change in scale (they are much bigger than normal double-hung windows) and change in context (double-hung windows in a perhaps high-fashion building).

### Decoration on the Shed

Guild House has ornament on it; Crawford Manor doesn't. The ornament on Guild House is explicit. It both reinforces and contradicts the form of the building it adorns. And it is to



Crawford Manor

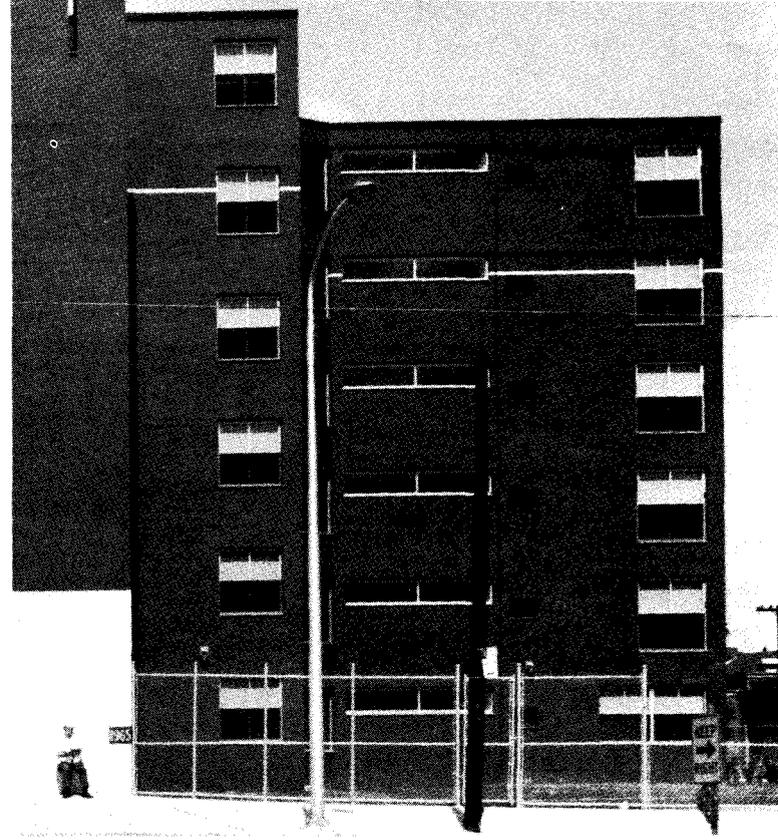
some extent symbolic. The continuous stripe of white-glazed brick high on the facade, in combination with the plane of white-glazed brick below, divides the building into three uneven stories: basement, principal story, and attic. It contradicts the scale of the six real and equal floors on which it is imposed and suggests the proportions of a Renaissance palace. The central white panel also enhances the focus and scale of the entrance. It extends the ground floor to the top of the balcony of the second floor, in the way, and for the same reasons, that the increased elaboration and scale around the door of a Renaissance palace or Gothic portal does. The exceptional and fat column in an otherwise flat wall-surface increases the focus of the entrance, and the luxurious granite and glazed brick enhance the amenity there, as does the veined marble that developers apply at street level to make their apartment entrances more classy and rentable. At the same time the column's being in the middle of the entrance diminishes its importance.

The arched window in Guild House is not structural. Unlike the more purely ornamental elements in this building, it reflects an interior function of the shed, that is, the common activities at the top. But the big common room itself is an exception to

the system inside. On the front elevation, an arch sits above a central vertical stripe of balcony voids, whose base is the ornamental entrance. Arch, balconies and base together unify the facade and, like a giant order (or classic jukebox front), undermine the six stories to increase the scale and monumentality of the front. In turn, the giant order is topped by a flourish, an unconnected, symmetrical television antenna in gold anodized aluminum, which is both an imitation of an abstract Lippold sculpture and a symbol for the elderly. An open-armed, polychromatic, plaster madonna would have been more imageful but unsuitable for a Quaker institution that eschews all outward symbols—as does Crawford Manor and most orthodox Modern architecture, which rejects ornament and association in the perception of forms.

#### Explicit and Implicit Associations

Adornments of representational sculpture on the roof, or a prettily shaped window, or wittiness or rhetoric of any kind are unthinkable for Crawford Manor. Appliques of expensive material on a column or white stripes and wainscoatings copied from Renaissance compositions also it doesn't sport. Crawford Manor's cantilevered balconies, for instance, are "structurally integrated"; they are parapet-



Guild House

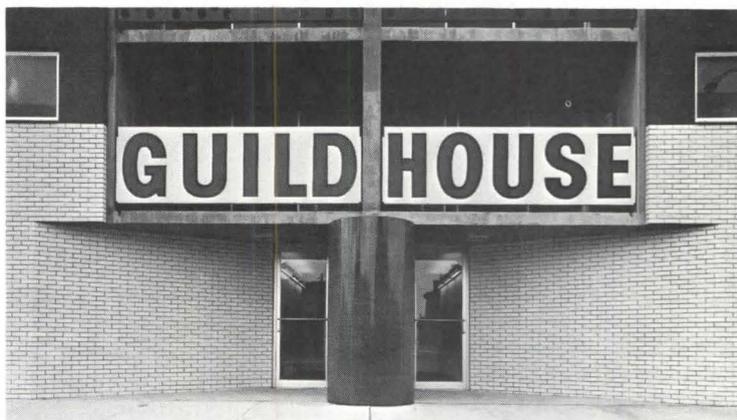
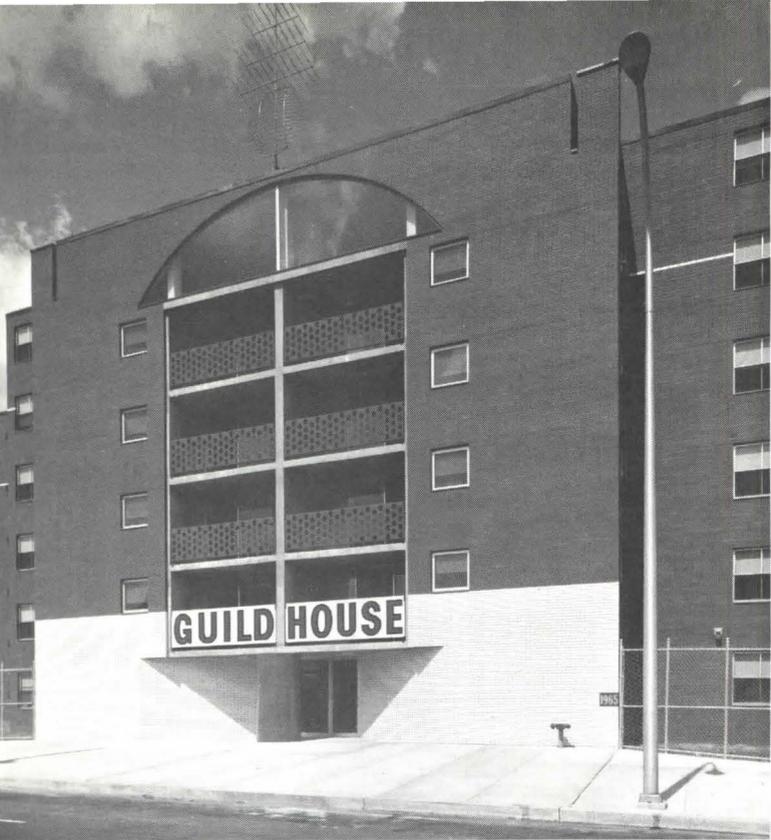
ted with the overall structural material and devoid of ornament. Whereas, balconies at Guild House are not structural exercises, and the railings are adornments as well as recollections at a bigger scale of conventional patterns in stamped metal.

Guild House symbolism involves ornament and is more or less dependent on explicit associations; it looks like what it is, not only because of what it is but also because of what it reminds you of. But the architectural elements of Crawford Manor abound in associations of another, less explicit, kind. Implicit in the pure architectural forms of Crawford Manor is a symbolism different from the applique ornament of Guild House with its explicit, almost heraldic, associations. We read the implicit symbolism of Crawford Manor into the undecorated physiognomy of the building through associations and past experience; it provides layers of meaning beyond the "abstract expressionist" messages derived from the inherent physiognomic characteristics of the forms, their size, texture, color, and so forth. These meanings come from our knowledge of technology, from the work and writings of the Modern form-givers, from the vocabulary of industrial architecture and other sources. For instance, the vertical shafts of Crawford Manor connote struc-

tural piers (they are not structural), made of rusticated "reinforced concrete" (with mortar joints), harboring servant spaces and mechanical systems (actually kitchens), terminating in the silhouettes of exhaust systems (suitable to industrial laboratories), articulating light modulating voids (instead of framing windows), articulating flowing space (confined to efficiency apartments but augmented by very ubiquitous balconies that themselves suggest apartment dwelling), and articulating program functions that protrude sensitively (or expressionistically) from the edges of the plan.

#### Heroic and Original or Ugly and Ordinary

The content of Crawford Manor's implicit symbolism is what we call "heroic and original." Although the substance is conventional and ordinary, the image is heroic and original. The content of the explicit symbolism of Guild House is what we shall call "ugly and ordinary." The technologically undeviant brick, the old-fashioned, double-hung windows, the pretty materials around the entrance, and the ugly antenna not hidden behind the parapet in the accepted fashion, all are distinctly conventional in image as well as substance or, rather, ugly and ordinary. (The inevitable plastic flowers at home in these win-



dows are, rather, *pretty* and ordinary; they don't make this architecture look silly as they would, we think, the heroic and original windows of Crawford Manor.)

But in Guild House the symbolism of the ordinary goes further than this. The pretensions of the "giant order" on the front, the symmetrical, palazzo-like composition with its three monumental stories (as well as its six real stories), topped by a piece of sculpture—or almost sculpture—suggest something of the heroic and original. It is true that in this case the heroic and original is somewhat ironic, but it is this juxtaposition of contrasting symbols—the applique of one order of symbols on another—that conspires for us the decorated shed. This is what makes Guild House an architect's decorated shed—not architecture without architects.

The purest decorated shed would be some form of conventional systems-building shelter that corresponds closely to the space, structure and program requirements of the architecture, and upon which is laid a contrasting—and if in the nature of the circumstances, contradictory—decoration. In Guild House the ornamental-symbolic elements are more or less literally applique: The planes and stripes of white brick are applique; the street facade through its dis-

engagement at the top corners implies its separation from the bulk of the shed at the front. (This quality also implies continuity, and therefore unity, with the street line of facades of the other older, nonfreestanding buildings on each side.) The symbolism of the decoration happens to be ugly and ordinary with a dash of ironic heroic and original, and the shed is straight ugly and ordinary, though in its brick and windows it is symbolic too. Although there is ample historical precedent for the decorated shed, present day roadside commercial architecture—the \$10,000 stand with the \$100,000 sign—was the immediate prototype of our decorated shed. And it is in the sign of Guild House that the purest manifestation of the decorated shed and the most vivid contrast with Crawford Manor lies.

**Ornament: Signs and Symbols, Denotation and Connotation, Heraldry and Physiognomy, Meaning and Expression**

A sign on a building carries a denotative meaning in the explicit message of its letters and words. It contrasts with the connotative expression of the other, more architectural, elements of the building. A big sign, like that over the entrance of Guild House, is particularly

ugly and ordinary in its explicit commercial associations. It is significant that the sign for Crawford Manor is modest, tasteful and not commercial. It is too small to be seen from fast-moving cars on the Oak Street Connector. But signs as explicit symbols, especially big, commercial-looking signs, are anathema in architecture such as Crawford Manor. Its identification does not come through explicit, denotative communication, through literally spelling out "I am Guild House" but through the connotation implicit in the physiognomy of its pure architectural form, which is intended to express in some way housing for the elderly.

**Is Boring Architecture Interesting?**

For all its commonness, is Guild House boring? For all its dramatic balconies, is Crawford Manor interesting? Is it not the other way around? Our criticism of Crawford Manor and the buildings it stands for is not moralistic, nor is it concerned with so-called honesty in architecture or a lack of correspondence between substance and image per se—i.e., that Crawford Manor is ugly and ordinary while *looking* heroic and original. We criticize Crawford Manor not for "dishonesty" but for irrelevance today. We shall try to

show how, in both the method and the content of its images, Crawford Manor (and the architecture it represents) has impoverished itself by rejecting denotative ornament and the rich tradition of iconography in historical architecture and by ignoring—or rather using unawares—the connotative expression it substituted for decoration. When it cast out eclecticism, Modern architecture submerged symbolism. Instead it promoted expressionism, concentrating on the expression of architectural elements themselves: on the expression of structure and function. It suggested, through the image of the building, the reformist-progressive social and industrial aims that it could seldom achieve in reality. By limiting itself to strident articulations of the pure architectural elements of space, structure and program, Modern architecture's expression has become a dry expressionism, empty and boring. And in the end, irresponsible: ironically the Modern architecture of Crawford Manor, while rejecting explicit symbolism and frivolous applique ornament, has distorted the whole building into one big ornament. In substituting "articulation" for decoration, it has become a duck.

PHOTOGRAPHS: page 64, Peter Blake. Page 65 (top, middle), page 66 (right), page 67, Wm. Watkins. Page 65 (right), page 66 (left), Robert Perron.

# TECHNOLOGY

First U.S.  
systems-built  
highrise  
goes up without  
government aid

Unskilled black men in a factory, a group of Columbia University professors, a consortium with members ranging from a Bronx contractor to a Wall St. bank have teamed up with a French building system to produce the first systems - built, highrise apartment in the U.S. Now nearly completed, in Yonkers, N.Y., the 20-story, 110-unit residence stands as a test against the popular notions that systems building cannot succeed in the U.S. or that it is only for poor people.

This luxury project, which will rent for \$80 per room per month (with some penthouse apartments renting for up to \$600), was erected without union pickets, code violations or loss of the system's economy, for less money, and faster than a conventional version of the same design. Almost 60 per cent of the completed building was erected of pre-manufactured concrete components in only four months. The project, which is entirely privately financed, will cost about \$29 per sq. ft., compared to \$34 per sq. ft. for a conventional version, according to the Architect, Renato Severino and his job captain, Steve Winter.

Named Futura by the rental agents, who want to stress a new mode of the good life for residents, the apartment tower is actually constructed by a building system that has been used in Europe for over 70,000 housing units. Called Tracoba, a French concrete loadbearing panel system, the method has been franchised to Module Communities, Inc. (MCI), which owns and is constructing Futura.

Tracoba is not unlike other European concrete panel systems, but features larger panels than the others and a continuous, poured-on-site joint system that provides a virtually seam-free building with absolute structural integrity.

## Production process

MCI's factory, built with the aid of Tracoba engineers and with equipment imported from France, is located in the Bronx, on a bank of the Harlem River. Factory expansion and storage capacity is limited on the site, but barge transportation is a possibility and the site is strategically located in the center of an almost limitless construc-

tion market: New York City. The plant, as constructed, can produce over 600 large apartment units per year on a single shift, or it may expand to double-shift capacity. It started producing its first panels almost exactly one year ago.

The workers for the factory were mostly hardcore unemployed blacks, Puerto Ricans and other minorities, some of whom could not even read a ruler or handle a shovel or a wheelbarrow properly. Since systems building is a new industry in the U.S., MCI reasoned that it would require a new labor force with new skills. Chosen on the basis of health and willingness to work, the new workers were given a six-week training course, with classroom instruction at night and factory experience by day.

The factory has three basic kinds of molds; heated, vibrating tables (with heated tops) form the exterior panels and slabs. They have very strong, adjustable edgemolds, so there is no guesswork while there is flexibility. Vertical, eight-leaf battery molds, also vibrating and heated, form the interior panels. There are molds for stairways, balconies, and other special forms. The molds "pressure cook" the concrete to seven-day strength in less than three hours; then a crane takes the panels out to the storage yards for curing to full strength.

Before pouring, the workers position the reinforcing steel and any other elements (such as conduit) that are to be cast into the panel. The steel placement is so exact that 6-in. walls may be used instead of conventional 12-in.-thick walls, which are usually necessary to assure the proper placement of the reinforcing. The panels optimally range from five to ten tons, with typical slabs measuring 8 ft. high, 20 ft. long and 6 in. thick. Spans are in the 14-ft. to 19-ft. range. The fully cured walls and slabs have a four-hour fire rating (or may be adjusted to local requirements), a 52-decibel sound rating, and meet ACI (American Concrete Institute) Building Code requirements for reinforced concrete structures.

MCI had its genesis in the faculty offices of Columbia University. Here, Harold Bell, a former builder and developer who came to head the Uni-

versity's Urban Action and Experimentation Program, came in contact with Renato Severino, who had considerable experience in European systems design and philosophy. Severino is an adjunct professor of architectural technology. Bell also talked with Mario Salvadori, an expert in concrete design, and the late urban planner, Charles Abrams; both men were also at Columbia. After several study trips to Europe, Bell became convinced that systems building had a future in the U.S. and chose Tracoba, a system designed by Omnium Technique d'Habitation (OTH).

## Organizational strategy

By definition, systems building involves more than industrializing the building product; it involves organizing and coordinating the whole building process. Bell followed this rule in organizing a company. An initial consortium of OTH (set up in the U.S. as Industrialized Building Systems Inc., or IBS), Bell and other building professionals brought the Tracoba license to the U.S., then sold the rights to MCI, which Bell formed and of which he is president.

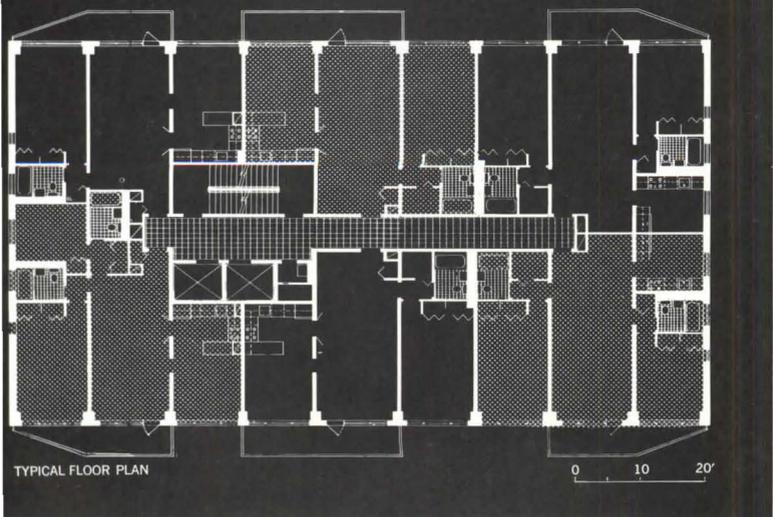
MCI represents the whole spectrum of systems, with mortgage financiers, land and real estate professionals, community relations experts, a design and technical team, labor and production specialists, and property and rental managers. Its initial capitalization was \$3 million from the U.S. Trust Co. and \$100,000 from the company's board of directors.

An MCI client may be a governmental agency, private developer or builder, or housing sponsor and MCI can work with him in a variety of ways, says Bell. MCI will furnish and operate the factory and provide continuous supervision and quality control. It will build a factory near the owner's site; provide components; perform on-site construction (as well as prefabrication); undertake turn-key delivery; or co-venture, depending on the client and specific project.

Technical problems are perhaps the easiest to solve for a systems builder in the U.S. It is management and the ability to deal with such constraints as union and code regulations and maintaining an effective work force, as well as financial and



The nearly-finished building, erected in four months, is a private enterprise success story. This luxury building, with its stepped-back penthouses, is the first systems-built highrise in the U.S. Typical floor has 3 one-bedroom apts. and 3 two-bedroom apts.



marketing expertise, that will make or break MCI and systems builders generally.

MCI did not see field construction as a problem for the unions because it planned to use conventional trades to perform conventional work. Where manufactured components were involved, they were to be union-made and so labeled. It is true, however, that MCI planned to use as few unions as possible on the site (it avoided block construction, for example, to avoid involving an additional union), and as few highly skilled men as possible. Also, fewer men than usual were needed on the site. In fact (although MCI speeded construction by using more) only six men and a crane were really required to put up 60 per cent of the building: two men to guide and place the panels; two to make connections; and two to pour grout.

The real union problem concerned MCI's plan to train largely hardcore unemployed blacks to do the factory work; and how to determine which union would organize them. The solution was that MCI awarded the factory labor contract to the International Laborers Union, AFL-CIO, then worked with them in dealing with other unions wanting a piece of the action, primarily the Electrical Workers Union. Formation of a new union was the result. Called the Material Yard Workers Union (local 1175), it is essentially a branch of the Laborers, but operates in the presence of some members of the Electrical Workers.

The factory workers have a lower wage scale than field workers—a primary rationale for systems building in the U.S. The MCI factory, when in production, employs about 45 members of the new union at \$4.60 per hour, including fringe benefits. Some of this is retrieved by MCI from the federal Department of Labor's JOBS 70 training program, under which the workers are employed and given a six-week training course. The average field wages on the Yonkers job are \$9.50 per hour, including fringes.

The unions did hold sway on some manufacturing and design decisions. In plumbing systems, for example, MCI could not cast any pipes into the concrete in the factory. The elec-

trical union prevented casting prewired conduits into the panels in the factory.

Some projected innovations for Yonkers were rejected because of other than union objections. A plumbing tree (which is compatible with Tracoba) suitable for a 20-story building could not be found when the Yonkers project was under design. Plastic and copper pipes violated the codes. Drop-in, pre-manufactured bathroom units are not compatible with the Tracoba system, which is not designed to carry such units on its slabs. Flexible and other conduits for the electrical system were investigated, but these, too, had to be rejected.

In the end, conventional cast iron pipe installations were being made on site, although MCI was able to develop some techniques to reduce labor and material costs. For the electrical system, MCI finally used a thin-wall rigid electric metallic tubing, which satisfied both codes and unions. It also developed a new flexible jointing system that is pressure-applied and screwed together on site.

#### Architectural challenge

The state of the systems art in the U.S. is still primitive in terms of business acumen and professional skill. For the architect uninitiated into the growing systems cult, designing for a systems project may hold some surprises: it may seem deceptively simple on the one hand and a threat on the other. He may fear that his freedom and authority as designer are threatened, the building condemned to simpleminded dullness.

In fact, say Severino and Winter, the contrary is true. "Systems call for new skills in addition to the old ones and are themselves a tool, not a dictator, of design. Dull systems buildings evidence an architect who does not know his tool."

However, although the systems tool does offer new flexibility, the architect must learn to work within its constraints. The constraints of a concrete panel system, for example, may include limitations in size and number of spans and openings. (For this reason, the kitchen and dining areas in the Yonkers building are fully separated from the living areas.) The height of the building may be limited (with

Tracoba, to 28 stories); in some systems there may be jointing problems. Often it may seem that good architecture is at odds with the economies of the system, which call for the fewest, largest and heaviest panel components possible, and initial designs must often be reworked in this direction.

The whole design process takes longer and costs more for an original systems project than for a conventional version. The architect and engineers must start earlier, work on more intricate levels of decision making and deal with more details. Further, the architect must be much more technically sophisticated than on projects where he could simply turn over his design to an engineer to structure.

The design must relate to the apartment layouts, panel sizes, height and weight. Final working drawings are translated into shop drawings and must be complete in every detail, with full and constant consultation between architect and engineer. A typical drawing for a panel would include reinforcing specifications, electrical systems, doors, windows, hooks, insulation, inserts, etc., as well as size, shape and thickness.

The flexibility of the systems process is generally much greater than assumed. The physical elements may be combined and recombined into innumerable plans and configurations even when a new project tries to reuse the basic elements of a previous building. Virtually any building can be "systematized" with surprisingly few changes.

The time and cost savings potential of a systems-built project is very great, although it depends in part on marketing and management processes still being developed for this country. Such savings occur primarily through repetition, cutting field labor and construction time, and in standardizing and minimizing the number of components.

The Yonkers building illustrates the savings possible in the field. In the time it would take a full field labor force to erect the structural frame, or ten percent of a conventional building, far fewer workers erected 60 percent of the Yonkers building, including the structural elements, insulation, exterior and interior finishes, electrical conduits and outlets, air-condition-

ing sleeves, interior walls and doors, plumbing openings, elevator inserts, balconies, etc.

The Yonkers project may also serve as a prototype for repetitive design savings. The architects estimate that if its elements were essentially duplicated in Newark, for example, design time and costs would equal only ten percent of what was spent on the original. The factory molds and field sequences would remain essentially the same. Design work could concentrate on changes in site preparation, footings, and amenities such as garage space.

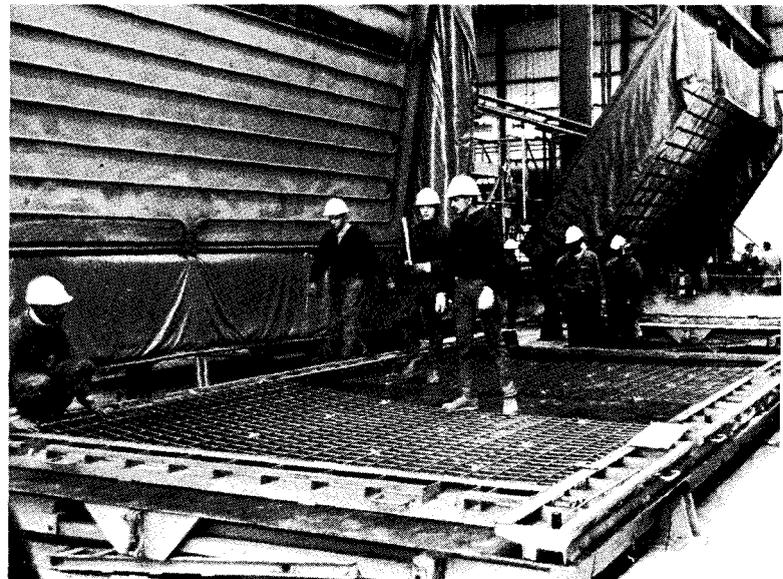
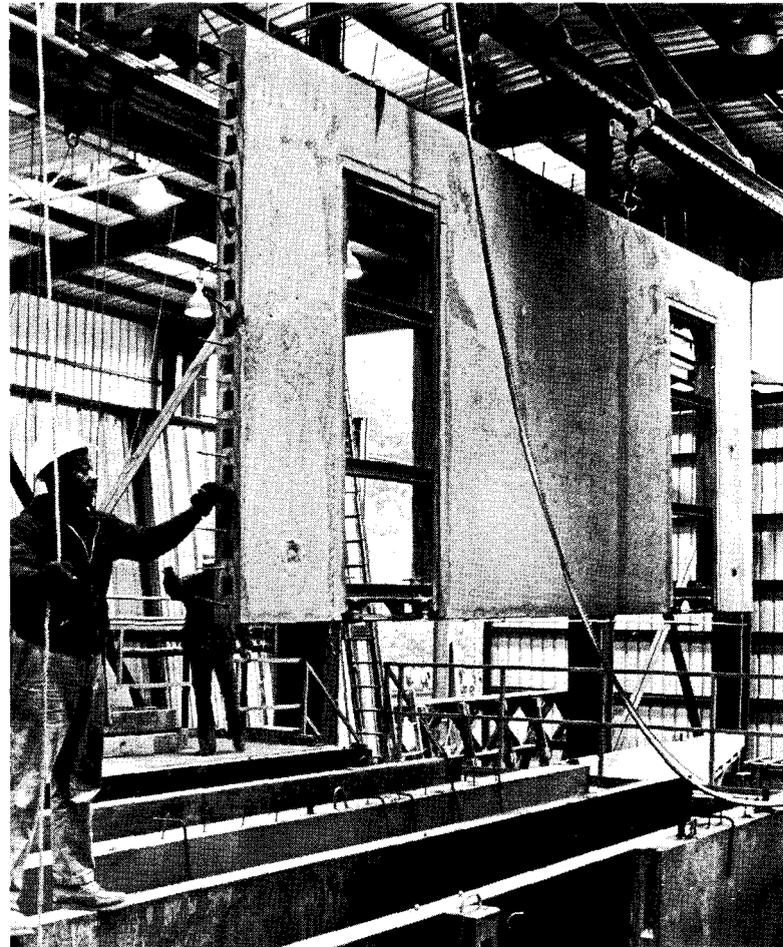
MCI has yet to work out a production schedule that will achieve many of these economies. The factory may produce only about 150 apartment units this year, which does not compare favorably with the 500 units per year for five years traditionally necessary to justify the initial investment and operating costs of a factory of this kind. (This is one reason Severino and Winter, among others, see the future of systems building in lighter and synthetic materials, including metals, plastics, fabrics and foam. These are less expensive to transport, therefore enlarging their market; they may be more flexible, with longer spans and more openings possible; and they may not require such investment.)

However, the Yonkers experience, along with the anticipated accomplishments through a project in Jersey City for the federal government's Operation Breakthrough and a project in the Bronx for the New York State Urban Development Corp., may provide the momentum needed. In the meantime, the building and housing industries are watching MCI management and production closely, for its successes and problems may be indicators for others to follow.

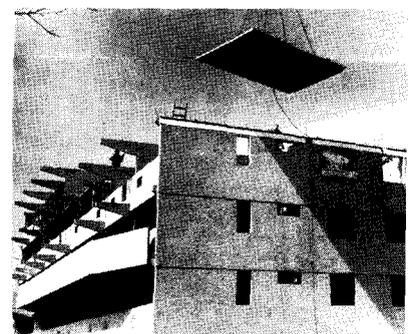
—Marguerite Villecco

**FACTS AND FIGURES**

Apartment building, Yonkers, N. Y. Owner: Module Communities Inc. Architect: Renato Severino (Steve Winter, job captain). Engineers: Paul Weidlinger, consulting; Cosentini Assoc., mechanical. Contractor: Salamone Brothers. Structural system: Tracoba. Building area: approx. 123,700 sq. ft. Cost: \$3.55 million est.



The vertical molds (top) produce the interior panels complete with door openings. All inside walls are load-bearing. The horizontal molds (above) with reinforcing steel in place are ready for the pour. Contremolds prevent the poured concrete from going into door and window openings and air-conditioning sleeves. Conduits are cast into the panels in the factory. The exterior finish used in this Yonkers structure, applied during fabrication, is exposed aggregate, selected after rigorous experiments with other materials. A floor panel (right) is being lowered into place by crane.



# FORUM

(continued from page 29)

CDC to arrest urban decay and permanently upgrade the physical environment would be more difficult, if not virtually impossible to achieve. Second, some of the greatest available 'experts' on urban decay were inner-city young people (frequently unemployed). Third, the best way to get unemployed 'experts' working to solve the problems of urban decay was to supply the intermediate step: technical training."

Students come from the heterogeneous population of Uptown—black, white, brown, yellow, English-speaking, Spanish-speaking. Candidates have to be at least 17 years old, with at least nine years of education, and either unemployed or underemployed.

Students went immediately onto the drawing board, first tracing and copying drawings by others, then doing complete sets of construction drawings themselves (and models) based on the schematic designs prepared by the three architect-instructors.

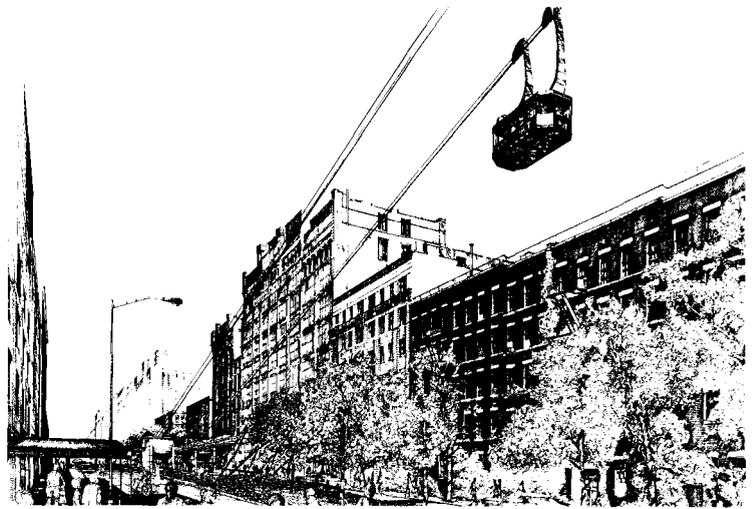
To relieve the apprehensions of students, whose previous experience with "school" was mostly negative, the AIA assured each student at the outset that all graduates would be employed at the end of the program. Some students, in fact, were custom-trained to fit into a specific office.

The course involved a good many field trips—to construction sites (a new community health facility was going up one block from the school); to important Chicago buildings; to the University of Illinois and IIT, where some students began to think seriously of going on with their own studies. One student, Carlos Ramos, has since received a five-year scholarship under the AIA/Ford Foundation program.

## UPS & DOWNS

### WHAT A WAY TO GO!

This bird, sailing high over the East River, is an airbus which will carry 120 passengers from Welfare Island to Manhattan in four minutes (and back again, for the thrill-seeker with 25 cents to burn). A proposal now before the City Planning Commission is receiving "serious consideration" and a commis-



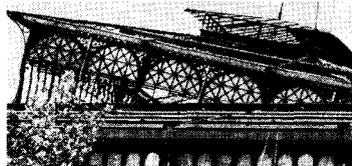
Funiculi funicular

sion spokesman called it, "imaginative, innovative . . . an appealing idea". William Chafee, chief architect of the Welfare Island Development Corporation, thinks the airbus will "break even" with a 25-cent fare, and describes the cars as "noiseless and emissionless". The project was designed by Denver engineer Amos Robert Heron.

### NO MONUMENTS PLEASE

The late Architect Julian Clarence Levi (Oct. '71 issue) bequeathed \$5 million to alma mater Columbia University (class of '96) with one restriction: the money was not to be spent on the construction of new buildings. Perhaps recalling the gymnasium-in-the-park fiasco of 1968, Levi specified that at least a part of his gift be used for "continuing studies of the university's problems and methods of solving them."

### THE BATTLE WAS LOST



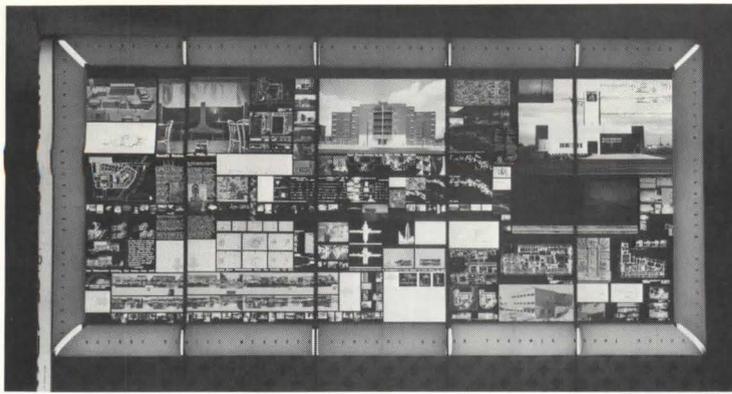
One last glimpse of Les Halles, the cast iron and glass masterpiece designed by Victor Baltard in 1851 for Baron Haussmann's Paris Master Plan. The six identical pavilions are being torn down to make way for a major metro interchange, despite valiant international efforts to prevent it. (July/Aug. '71 issue) It is still hoped that a single pavilion might be spared the ax, but there have been no promises from President Pompidou.

## EXPOS

### PICASSO IS NO DUCK

The real trouble with Bob Venturi's Boring Buildings is that he (and his associates, John Rauch and Denise Scott Brown, or Mrs. Venturi) are not in the least bit boring. In fact, they may be the most interesting theoreticians in architecture visible and audible today, and the most sophisticated, as indicated very clearly in their marvelous pop-architecture show displayed at the Whitney Museum in Manhattan in October. Bob Venturi's theories are well known to readers of this magazine—we have repeatedly published his projects, and his wife's and his articles (e.g. "Learning From Las Vegas"—Mar. '68 issue). Venturi is, obviously, one of the wittiest commentators on the current architectural and cultural scene; and though it is hard to take his "Main Street is almost all right", or his "Parthenon is a Duck" very seriously, such aphorisms may contain just enough truth and humor to shake up everybody in his native Philadelphia, and in a few other, equally swinging precincts.

The difficulty is, of course, that there is just an ounce or two of condescension in an attitude that gives people what they allegedly want, especially when the attitude is displayed by artists of extraordinary talent. Admittedly, the reverse of this—giving people what they ought to want—can be almost as infuriating; but not quite. It does seem reasonable for awfully good artists to set examples of excellence, especially at a time



The Venturi's in the Whitney

Louis Reens

when the powers that be set their sights on the intellectual levels of a Spiro Agnew and the Middle-American Snooze. After all, Faulkner didn't write "Winston tastes good, like a cigarette should;" and Joyce, who might have been pretty successful writing an Advice to the Lovelorn column, probably thought this a waste of time, of talent, and, possibly, of integrity. And Picasso did not paint Mickey Mouse.

Every now and then, Venturi, the really Superior Artist, will out: his little auditorium for the new campus at Purchase, N. Y., is said (by those who have seen it) to be superlatively good—even though it is, inexplicably, wrapped in a sort of South Street taproom facade. The Parthenon may be a Duck, but this Duck ain't no Parthenon. Too bad—but never too late.

## ACADEME

### CHARGES AGAINST GSD DEAN

Three tenured faculty members of the Graduate School of Design at Harvard have lodged formal charges against Maurice D. Kilbridge, dean of the GSD, and have asked the Harvard Corporation to terminate his deanship.

The three professors are Reginald R. Isaacs, Norton Professor of City and Regional Planning; William W. Nash Jr., former professor of City and Regional Planning (and now associate director of Urban Public Service at Georgia State University); and Francois C. Vigier, professor of City Planning and Urban Design.

Grievance proceedings have reportedly been underway since last November, when the Harvard Corporation decided that the charges made by the three professors were serious enough

to warrant an investigation. Two Fellows of the Corporation were appointed to hear the charges.

The charges, in brief, are these: that the dean violated the rights of faculty members to academic freedom, fairness and due process; that he disrupted the government of the Department of Regional Planning by infringing on faculty duties and powers; and that he impaired the atmosphere within which the department can operate and develop by actions tending to produce distrust, fear and division.

Kilbridge has denied all charges and has asked the Corporation to dismiss the grievances with prejudice.

"Perhaps the most unusual aspect of the case," says the *Harvard Crimson*, "is the very fact that it has remained a well-kept secret for so long. President Pusey first announced that the proceedings were in progress at a full meeting of the GSD Faculty in July of 1970. The meeting was open to Design School students, but none signed up to attend. Since then, GSD Faculty members have kept quiet their knowledge of the grievance proceedings, and most are reticent to discuss it even now."

Commenting on what might be behind the situation, the *Crimson* says, "Many faculty members at the School feel that the root of the problems today lie in Sert's relatively lax administration, which allowed each department to pretty much go its own way. When Kilbridge arrived, [in 1969] and tried to assert more guidance from the dean's office, some department members resisted. 'Departmental autonomy is great if you have a faculty that can handle it,' one professor noted recently. 'But it's disastrous if the faculty can not.'"

## PEOPLE

### DIED

Peter Graham Harnden, who died in Cadaques, Spain, on October 14th, was an American expatriate architect and designer who spent the past twenty-five years or so in Paris and in Barcelona. His work over these years included some of the most elegant houses built anywhere during that period (May '65 issue), and some of the most effective exhibitions shown in Europe, Asia, and North America. His houses were distinguished by a sensitivity for native building crafts, a complete understanding of the most advanced modern idiom, and extraordinarily good taste. His exhibitions were inventive, lively, and dramatic: they included those in the U.S. pavilion at the Brussels World's



Peter Harnden

Fair of 1958, and the innumerable traveling shows (on boats, trains, and trucks) designed by Harnden when he headed the exhibits division for the Marshall Plan in the post-WWII years. His personal influence, however, was even broader than the scope of his work as an architect: an accomplished linguist, and the sophisticated product of European as well as North American cultures, Harnden was an intimate friend of innumerable artists, designers, architects and other intellectuals all over the world. He was 58 years old when he died, and he had fought a hard battle with cancer for the past couple of years, never doubting for a moment that he would, as so many times before, beat all the odds.

• Historian Rudolf Wittkower, 70, died in October. He was then lecturing at the Metropolitan Museum in New York on 17th-century Italian architecture.

His better-known published works include *Architectural principles in the Age of Humanism*, and *Art and Architecture in Italy, 1600-1750*. He was a member of the American Academy of Arts and Sciences, the British Academy (from which he received the Serena Medal), the International Institute of Arts and Letters, and several other major institutes.

### AWARDS

J. Irwin Miller, Chairman of the Board of the Cummins Engine Company (and the man behind the architectural renaissance that has been taking place in Columbus, Indiana — (Dec. '65 and other issues) has been awarded a three-inch by three-inch by three-inch silver cube, weighing six pounds. The cube is the Tiffany Design Award, and it is given, whenever appropriate, to a leading non-designer who has used his clout effectively and creatively to advance the cause of good design in business and industry. (Earlier recipients include CBS' Dr. Frank Stanton.) A report on Mr. Miller's latest doings in Columbus appears on p. 40 of this issue.

• Architect-archaeologist Paul H. Beidler of Raubsville, Pa., has received the Meritorious Honor Award from the U.S. Government in honor of his "dedicated contributions to the realization of advanced environmental, architectural and engineering concepts in Southeast Asia." Beidler,



Paul H. Beidler

currently working with the Regional Economic Development Section of the U.S. Embassy in Bangkok, is considered a foremost expert on Asian cultural affairs. Beidler also manages a design and construction program involving projects in Malaysia, Singapore, Indonesia, Philippines and Thailand, evaluating each country's building methods.

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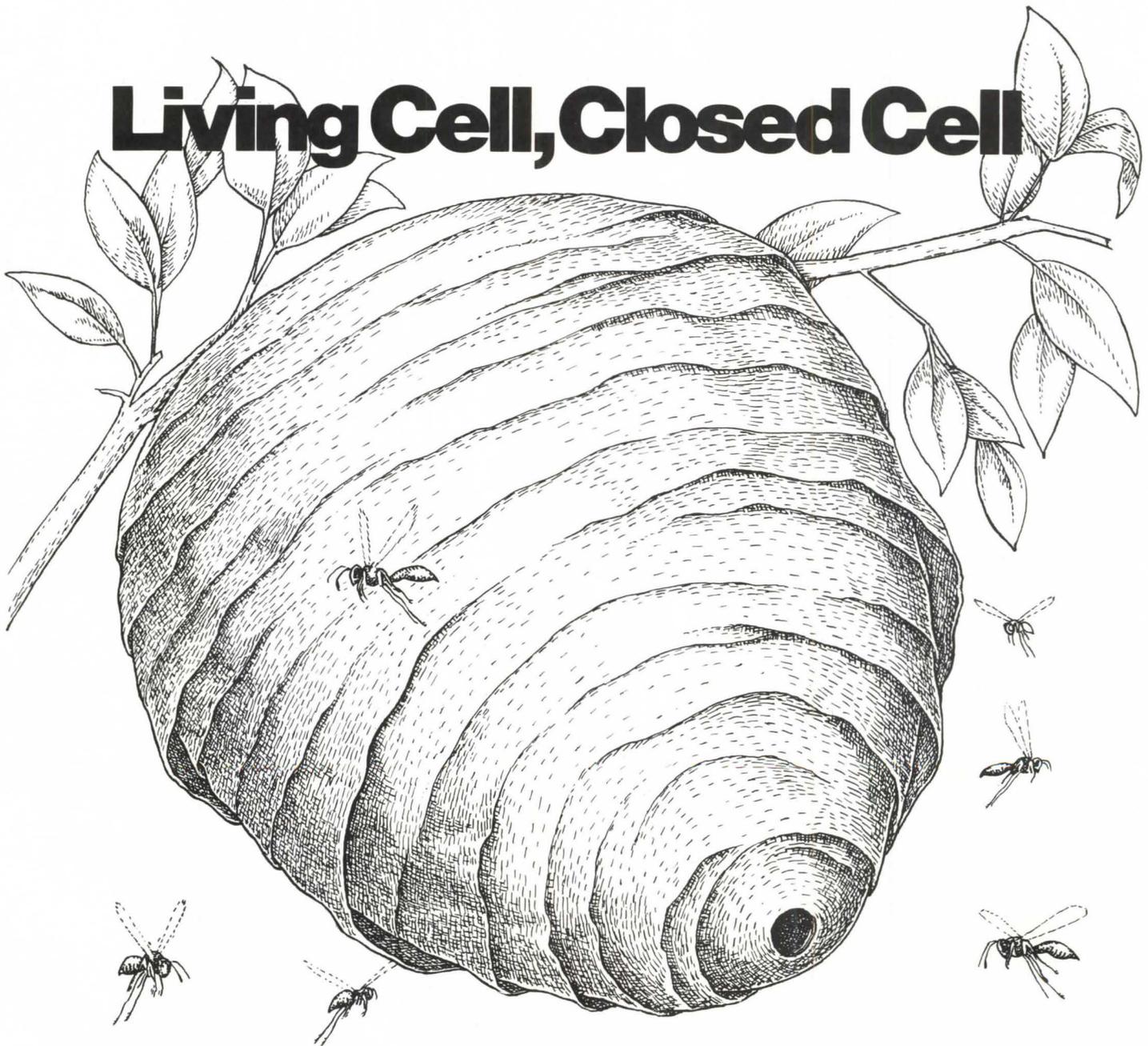
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# Living Cell, Closed Cell



On Readers Service Card, Circle 311

# PRODUCT REVIEW

This month's Product Review concentrates on wall and floor coverings, sealants and coatings.

## CERAMIC TILING

A waterproof ceramic tiling system with a grout that will not crack out has been developed by American Olean Tile Co. Called Redi-Set, the system consists of 2-ft.-sq. sheets of glazed ceramic tile held together by factory grouting of flexible, waterproof silicone rubber, plus caulking-gun cartridges of the silicone compound for grouting the perimeters of the sheets. The sheets set faster than equal areas of loose tile and they will conform to irregular backing surfaces. On-the-job grouting is limited to the seams between sheets and top and bottom edges.

On Readers Service Card, circle 101.



## ASBESTOS TILE

Hampshire Brick is a new pattern for vinyl asbestos floor tile, manufactured by Azrock Floor Products. The tile comes in three colors (whites, red and tan) and measures 9 x 9 in. The classic brick design also features a textured surface that helps conceal heel and scuff marks and irregularities in the subfloor. The tile is also resistant to grease, stains and alkali.

On Readers Service Card, circle 102.

## LAB SURFACING

Corning Labtop, by Corning Glass Works, is a durable glass-ceramic laboratory benchtop material now available in large-size sheets to allow flexibility in field fabrication. The 4-ft. by 8-ft. sheets can be cut to exact dimensions and holes may be drilled for fixtures and supply lines with standard saws and core drills. Strips are also available for on-site fabrication into shelves, curbs and ledges. Modules are also available in standard widths of 24 and 30 in. The sheets are made of Pyroceram brand glass-ceramic laminated to a 3/8-in. thick sheet of hardboard.

On Readers Service Card, circle 103.



## FLOOR TILE

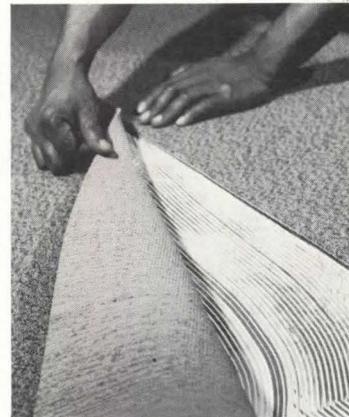
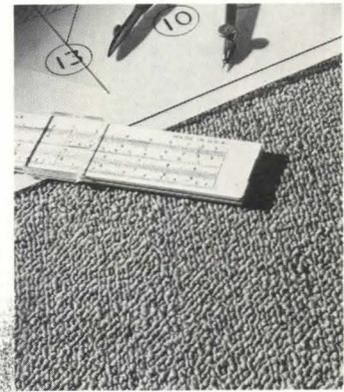
GAF Corp. has announced that its entire commercial vinyl asbestos tile line is available in Contract Sure-Stik patterns. The self-adhesive back tiles have been used frequently in residential installations, now their labor-saving efficiency will be available in commercial installations. Any custodial or clerical labor in an office, school or retail store can easily install the tiles, says the company, which also sees the tiles as especially suitable for replacement jobs.

On Readers Service Card, circle 104.

## HEAVY-DUTY CARPET

A new heavy-duty carpet, called Sandhurst, has been introduced by the Philadelphia Carpet Co. Sandhurst has a level-loop pile of Herculon olefin fiber and has a unique construction that packs the tufts so that they present a dense face that resists dirt and aids maintenance. The fibers are virtually crevice-free and non-absorbent; the colors are impervious to sunlight, spills and strong cleaning agents.

On Readers Service Card, circle 105.



## CARPET BACKING

An improved type of tufted carpet construction allows the use of single, primary backing, instead of the conventional laminate of two backing materials. The unitary system, developed after 18 months of research by DuPont, relies on a specially engineered four-ounce form of spunbonded polypropylene which provides tufted carpets with the dimensional stability and strength required to eliminate the need for a second backing.

On Readers Service Card, circle 106.

## TEXTURED COATING

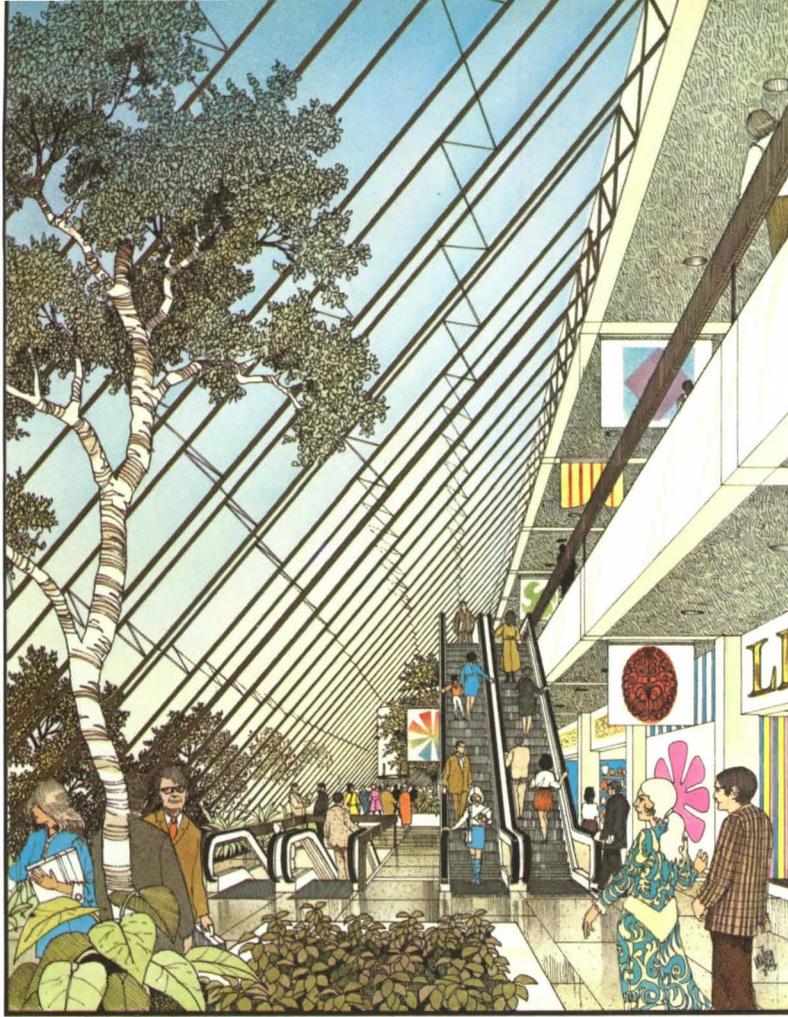
PPG Industries has developed a new textured coating that will camouflage badly weathered masonry surfaces and enhance new masonry construction. Called Speedhide Textured Masonry Coating, the epoxy-alkyd paint produces a masonry-like finish on block, stucco, porous brick and poured concrete surfaces. A semi-paste material, it covers minor cracks and holes. Setting time is four hours and the coating dries overnight, reaching full hardness in about ten days. The coating is available in white, but may be topcoated.

On Readers Service Card, circle 107.

(continued on page 79)

Neuhaus + Taylor designs a beehive of activity.





This projected suburban megastructure includes high and low rise office space, a motel and a regional shopping center. A widely diverse mix to make the structure a center of activity throughout most of the day and evening hours.

In its two 21-story towers, Neuhaus+ Taylor of Houston, Texas, provides a total of 170,000 square feet of office space. Faceted bay windows make every office a corner office. Vision panels for these bay windows are 1" Thermopane® insulating glass with golden Vari-Tran reflective coating on the airspace surface of outer light. Spandrels are ¼" tempered golden Vari-Tran.

Vari-Tran turns away most of the sun's heat and glare and would greatly reduce the initial cost of air-conditioning equipment. Plus the cost of operating it. A representative case history: Edison Plaza Building, Toledo, Ohio, using Thermopane with Vari-Tran coating compared with single regular glass. Savings in cost of air conditioning *and glass*: \$123,700. Annual reduction in owning and operating costs: \$39,900.





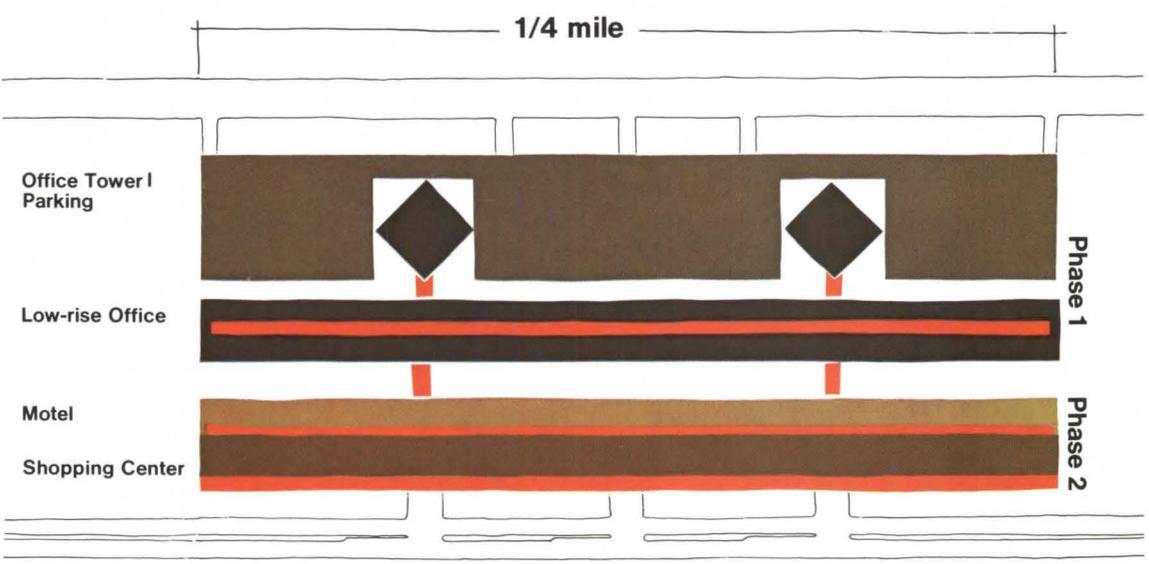
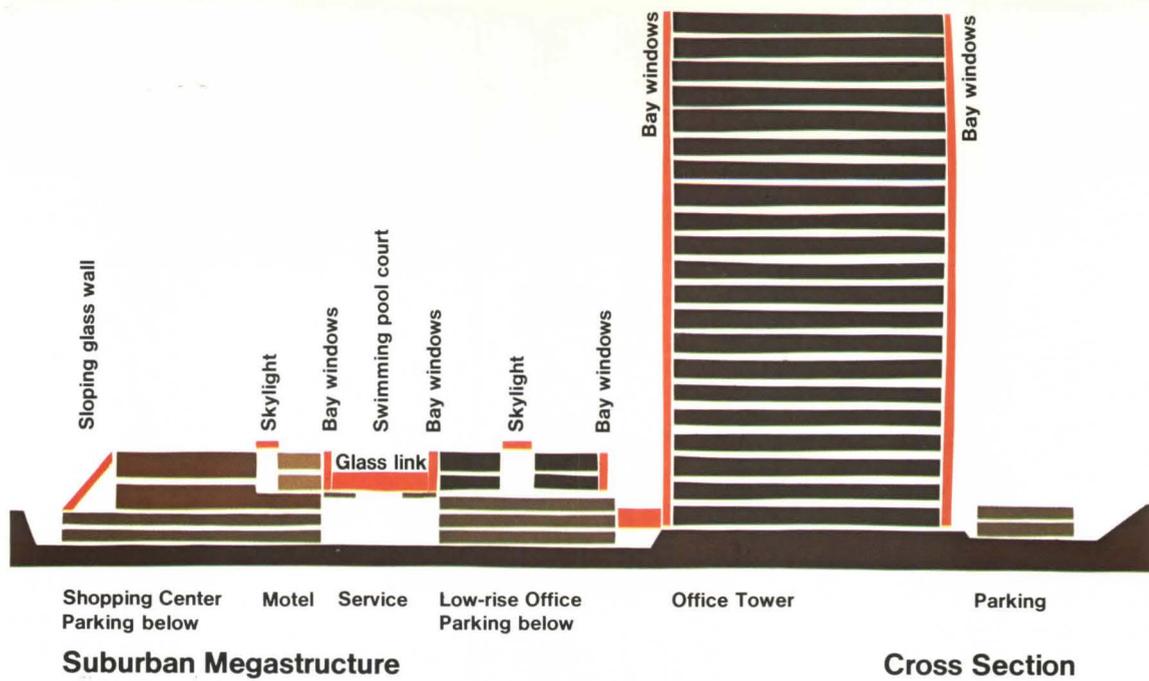
Alternating with the vision panels are solid panels of lightweight precast concrete faced with travertine. These alternating panels of glass and travertine from the base to the top of the towers give a striking sense of verticality to the design. The champagne color of the travertine combines with the Vari-Tran to lend a softly modulated golden tone to the towers.

391,000 square feet of additional office space are located in a low block adjacent to the towers. Within the block is a "private sky" that runs for more than a quarter of a mile. It's a two-story, sky-lighted, air-conditioned greenway. The skylight would be 1/2" laminated glass using tempered golden Vari-Tran. It has the reflective qualities to cope with all-day exposure to the sun.

Parallel to the low-rise office block is the linear motel and retailing complex. Another covered walkway with a private sky separates the motel from the shopping center. Pedestrian bridges tie the office buildings, motel and stores together into a unique whole.

A sloping wall of 1/2" laminated glass using tempered golden Vari-Tran runs the full length of the shopping center along its major road frontage. It encloses a 32-foot-high garden space that serves shops on two floors. Two levels of parking are below.

Creatively and functionally, golden and silvery Vari-Tran coatings have unlimited potential. Both come in three heat and light transmittances, 8%, 14% and 20%. For more details, write **Architectural Construction Department, Libbey-Owens-Ford Company, Toledo, Ohio 43624.**



Talk with an L-O-F Architectural Construction Specialist about your next project. Whether it's residential, commercial, industrial or institutional. Or call your L-O-F Glass Distributor listed under "Glass" in the Yellow Pages. Libbey-Owens-Ford Company, 811 Madison Avenue, Toledo, Ohio 43624.

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 Parallel-O-Plate/Float®, 3/16", 1/4"  
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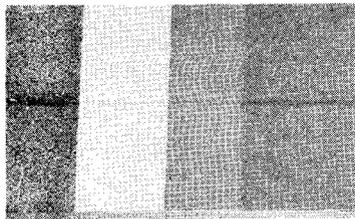
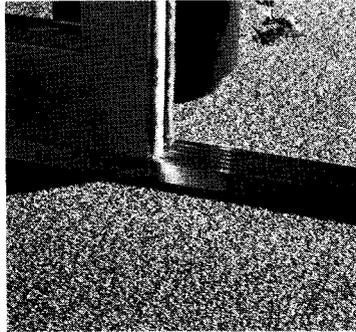
# PRODUCT REVIEW

(continued from page 74)

## NYLON CARPETING

Stalwart is a new contract carpet line developed by Armstrong Cork Co. for the most severe traffic conditions, such as schools, malls and lobbies. The level loop carpeting comes with nylon fiber that helps resist dirt and abrasion; two-color tweed designs also aid maintenance, as does extra-dense construction. Metallic fibers dissipate static.

On Readers Service Card, circle 108.



## WALL COATING

Glazetite, a new wall coating that resists fire, dirt and stains, is being marketed by the Desco

International Association. The glaze is tough and durable, says the company, and virtually impervious to harsh cleaning compounds, waxes, most acids and alkalis. The glaze is available in standard and custom colors, with gloss and semi-gloss finishes. Almost maintenance-free, the glaze is easily patched; it is applied seamlessly and is moisture-proof.

On Readers Service Card, circle 109.



## SEALANT

Dow Corning 780 building sealant is designed specifically for porous masonry surfaces. The one-part, ready-to-use elastomeric sealant adheres to concrete and mortar and remains permanently flexible and weatherproof. Available in four permanent colors, the silicone sealant is easy to apply and finish.

On Readers Service Card, circle 110.

## POLYMER WATERPROOFING

The Tremco Manufacturing Company has produced a new two-part liquid polymer to waterproof areas protected by decks, roof terraces, pedestrian concourses, tunnels, etc. TREMproof 50, a tar-modified polyditremzene polymer was developed as part of a complete structural waterproofing system. Highly versatile, it adheres to any configuration of vertical or horizontal substrate, according to the manufacturer. It is cold-applied and self-adhering and cures to a flexible, rubber-like seamless blanket. It will not crack or become brittle, and remains flexible even at  $-50^{\circ}\text{F}$ . The new liquid polymer adheres to con-



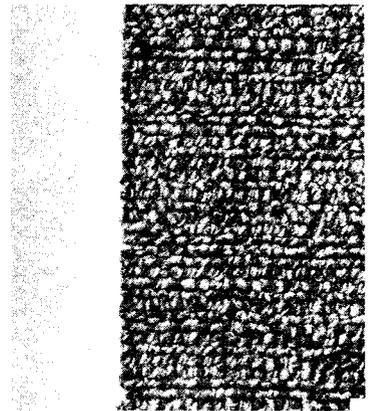
crete, wood, metal, glass, insulation boards, and it is claimed to be maintenance-free and not affected by bacterial attack.

On Readers Service Card, circle 111.

## FIBER FLOOR

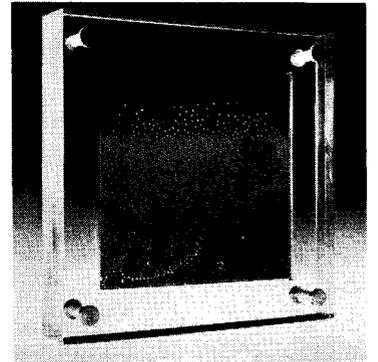
A new fiber floor, from J. P. Stevens & Co., Inc., has been developed for schools and general office areas. Called Carrel, the carpet is made almost wholly of DuPont Antron II, with additional static control fiber. A striated, loop pile pattern, the covering is recommended for direct glue-down applications to cement, tile or wood surfaces, as well as over padding. Made in 12-ft. widths, Carrel is available in 10 colors.

On Readers Service Card, circle 112.



## TOY WITH A MESSAGE

The ideal desk gift or conversation piece for a "friend of the arts" (and that includes architects, we trust) is ATOMIX, says its creator Francois Dallegret. A kinetic sculpture toy, ATOMIX contains almost 6,000 stainless steel "atoms," or balls that, with a shake or push of the hand, make an almost infinite number of patterns, or crystallographic constellations. The atoms are neatly housed in a 5-in.-square acrylic box, 1-in. thick. For the architect or designer with nearly everything, ATOMIX has something new to say and to show about move-



ment, mass and structure. It is yours for \$35 and your address, sent to Emotion Productions Inc., P.O.B. 282, Montreal, 215, Canada



## BIRD PROOFING

Electrepel Electronic Bird Proofing, by Serex Inc., is a system of electronic wires that are strung where birds usually roost and set up a "tickle shock" that sends them away. As long as the system is working, the birds will not return. The humane

treatment not only aids building appearances, but cuts maintenance and cleaning costs. The illustration shows one window bay "birdproofed" while the others still serve as a roost.

On Readers Service Card, circle 113.

(continued on page 84)

# PPG Solarban<sup>®</sup> 575 Twindow<sup>®</sup> Insulating Glass



## How a PPG Environmental Glass gave The Regency Hyatt House—O'Hare, a highly visible and exciting design.

The architect for The Regency Hyatt House near Chicago's O'Hare Field wanted to give guests a comfortable, but exciting and "open" environment. He began working on his design concept by experimenting with circular tower shapes. Modern environmental glass, it proved out, was the most practical, exciting material for his circular design.

Working with PPG, the architect

investigated several of our Environmental Glass products. He chose *Solarban 575 Twindow* insulating glass because it answered his many design objectives. Its high reflectivity offered high visibility and visual excitement for the building. Its double-glazed construction offered insulation against the demanding Chicago climate. It also acted as an acoustic barrier against aircraft noise.

Just as important, the performance characteristics of the glass would enable the owner to reduce his investment in heating and cooling equipment, as well as cut annual heating and cooling bills.

See PPG about *Solarban 575 Twindow* insulating glass—or the others in our family of Environmental Glasses for your next building. Early

in the design stages. There's a PPG Environmental Glass that you can use as an active design medium to meet any esthetic consideration, increase occupant comfort, and contribute to a return on investment.

Write PPG Industries, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

### PPG: a Concern for the Future

Owner: Hyatt Corporation, Burlingame, Calif.  
Architect: John Portman & Associates, Atlanta, Ga.

On Readers Service Card, Circle 314



# Carrier cools without be

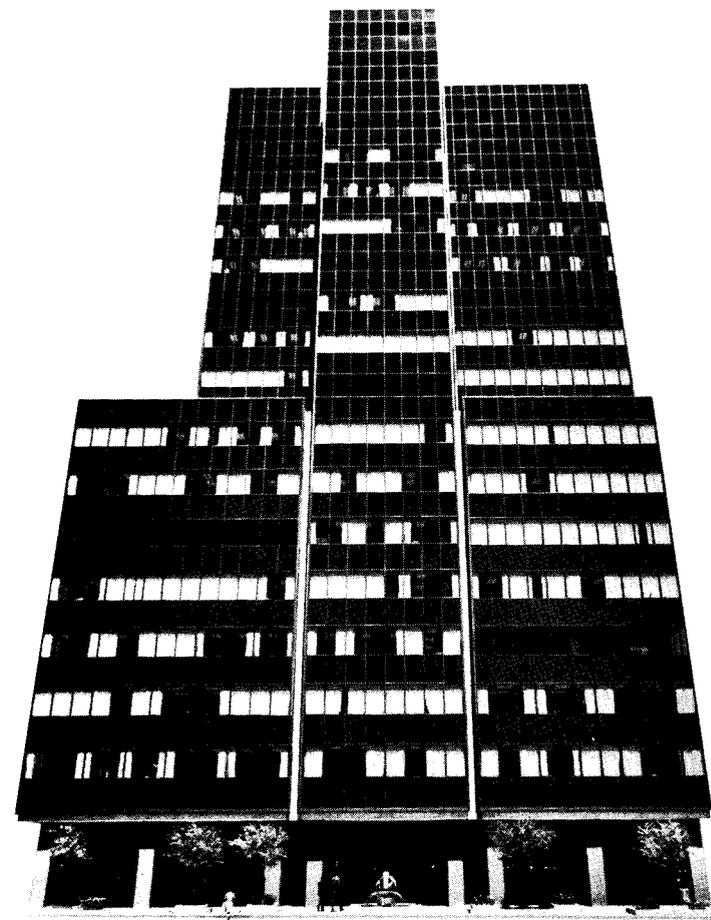
The Towers in San Jose is 18 stories of new offices. Mostly glass outside. Cooled all over inside by Carrier's Dual Moduline® all-air system.

The only system with 3" wide linear diffusers that virtually hide in the ceiling. Straddle partitions to cool two offices at once. Independently.

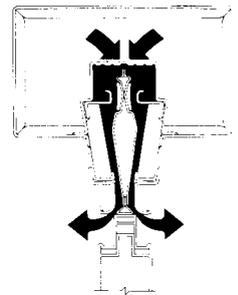


Building Contractor & Mechanical Contractor: Builder-Owner: Pittsburgh-Des Moines Steel Company/Fred Sahadi. Joint Developers. Architect: Walker & Moody. Mechanical Engineer: Samuel A. Be...

# a glass tower being obvious.



This is a one-duct system, too. Saves space. Its unique efficiency even helped add a rentable floor to The Towers by using less mechanical equipment and shaft space.



The modular make-up of these dual-cooling units also cuts moving-in costs as much as 50 cents a square foot. Allows changing office interiors with few (if any) system changes. Ideally benefits both tenant and building owner.

See how the Dual Moduline System can work into your plans. Without being obvious. Just contact our nearest office. Or write us. Carrier Air Conditioning Company, Syracuse, N.Y. 13201.

They know when to add or cut back the cool. And they handle The Towers' heavy load of up to 3 cfm/sq. ft. With no strain.

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**We keep on inventing air conditioning.**

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## PRODUCT REVIEW

(continued from page 79)

The following is a listing of the key products incorporated in some of the buildings featured in this issue:

DOCTOR'S CLINIC. ARCHITECT: Noel C. Schaffer. (Materials & Manufacturers as submitted by the architect). STRUCTURAL WOOD: American Fabricators. FRAMING LUMBER & PLYWOOD: Weyerhaeuser, Boise Cascade, Douglas Fir. METAL LATH: Milcor. ENTRANCE DOORS: Alumiline Corp. AUTOMATIC DOOR OPERATORS: Stanley Hardware. INTERIOR SLIDING GLASS DOORS: Peterson. INTERIOR WOOD DOORS: Young Corp., Wall-Lake. DOOR HARDWARE: Jackson. INTERIOR METAL SASH: Pittco by PPG. GLASS: PPG, Hamilton Glass, Mississippi. BLINDS: Vert-A-Vanes. WINDOWS: Compro (P.V.C.). CERAMIC TILE: American-Olean. RESILIENT TILE: Armstrong. PLASTIC LAMINATE: Formica Corp. ENAMELED HARDBOARD: Barclay, Marlite. MASONITE: Masonite Corp. INSULATION: Owens-Corning Fiberglas. PAINT: Sherwin-Williams. CAULKING & SEALANTS: Tremco Tape, Pecora Uni-Crylic, G.E. Silicone. CARPETING: Allison-Seymour. LIGHTING ARRESTORS: Thompson. PLUMBING FIXTURES: American Standard, Moen, Richard K. Fife, Swan Shower. PURIFIERS: Ultra-Dinamic. WELL PUMP & SOFTENERS: Myers. HEATERS: Jackson. VALVE FITTINGS & PIPING: Nibco, Tyler, American Lead, Wolverine Valves. KITCHEN: Davis. HYDROSTATIC WATER PUMP: Hydro-Matic. HEATING & AIR CONDITIONING: Fedders, Electro-Aire, Tuttle, Air-Guide, Acme. CONTROLS: Honeywell. ELECTRICAL EQUIP. & LIGHTING FIXTURES: Lightolier, Danlite, Luxo, Alco, Stonco, Slater. BREAKERS: ITE, Square D.

McCORMICK PLACE ON THE LAKE. ARCHITECTS: C. F. Murphy Associates. (Materials & Manufacturers as submitted by the architects). FOUNDATION WATERPROOFING: Union Chemical. WATERPROOFING: Koppers Company. CONCRETE & CEMENT: Medusa. BRICK, BLOCK & STONE: Heights Block, Endicott Clay Products Co. STRUCTURAL STEEL: Allied Structural Steel. CURTAIN-WALL: General Bronze Corp. FLOOR & DECK SYSTEMS: Inland Ryerson. ROOF MATERIALS: Koppers Co. THERMAL INSULATION: Owens Fiberglas, Dow Styrofoam. ACOUSTICAL MATERIALS: Sound Lock, U.S. Gypsum. GLASS: PPG, Amerada. ELEVATORS & ELECTRIC STAIRWAYS: Montgomery Elevator, Otis Elevator. DOORS: Johnson Fire Proof Door Co., Crane Fulview Glass. HARDWARE: Sargent, LCN, Rixson Closers. PAINT: Detroit Graphite. ELECTRICAL DUCTS & WIRING: Youngstown, Kaiser. ELECTRICAL EQUIP.: General Electric. STANDBY EMERGENCY POWER: Patten Energy Systems. LIGHTING FIXTURES: Curtis-Electro, Hub, Major, Smithcraft.

PLUMBING FIXTURES: Crane Fixture, Beneke. PIPING: Crane Ductile Iron, Tyler Cast Iron Pipe, Zurn Drainage Products, Sloan Flush Valves. HEATING BOILERS: Cleaver-Brooks. ULTRASONIC HEATERS: American Standard. ULTRASONIC VENTILATORS, RADIATORS & CONDENSERS: Modine. HEATING VALVES & CONTROLS: Crane, Honeywell. AIR CONDITIONING: Carrier, Marlo. DEFROSTERS & PUMPS: Buffalo Forge, Peerless, Tuttle & Bailey, Sycro-Tec. INTERCOM SYSTEMS: Cor-Plex International Corp. RADIO & TV SYSTEMS: F&M Systems. SPRINKLER SYSTEMS & FIRE PROTECTION EQUIP.: Peerless Fire Pumps, Fyr-Fyter Extinguishers, Wid. Allen, Star-Viking Sprinkler Heads, Autocall Co., Honeywell Computer, Pratt Valve Co. CEILING MATERIALS: USG Board & Plaster, Lath, Wheeling. FINISH FLOORING: CARPETING: Armstrong Tile, Laminated Carpet, Kalman Topping. FURNITURE: General Fireproofing, American Seating. DIMMERS: Major Equip. Co.

CLEO ROGERS MEMORIAL COUNTY LIBRARY. ARCHITECTS: I. M. Pei Partners. (Materials & Manufacturers as submitted by the architect). FOUNDATION DAMPPROOFING: Phoenix Carey Mfg. Co. WATERPROOFING: Carlisle Tire & Rubber. CONCRETE & CEMENT: Lone Star Cement. BRICK, BLOCK & STONE: Wakefield Brick Press Brick Co. STRUCTURAL STEEL: Engineering Metal Products Co. FLOOR & DECK SYSTEMS: Granco Steel Products Co. ROOF MATERIALS: Promdek, Seley Battersby & Co. WINDOW FENESTRATION: Engineering Metal Products Co. GLASS: PPG. INTERIOR PARTITIONS: Ferrometal. DOOR HARDWARE: Yale & Towne, Corbin, Stanley, Von Duprin. TILE: U.S. Ceramic Tile. MILLWORK: Burnet-Binford Lumbar Co. PAINT: PPG. ELECTRICAL DUCTS & WIRING: Walker Duct, Triang General or Crescent Wire. ELECTRICAL EQUIP.: Square D. LIGHTING FIXTURES: Simes Co., Edison-Pratt, Gruber Bros. PLUMBING FIXTURES: American Standard. PIPING: Reading Brass Co., U.S. Steel. UNIT HEATERS: Chromalox. HEATING VALVES: Moeller, Duro Instrument, Ruskin, Anderson, Greenwood, Honeywell, Cutler-Hammer. AIR CONDITIONING: Carrier, Marley Co. DIFFUSERS & PUMPS: Weinman Pump, Colby Equip., Titus. SPECIAL FANS: Penn Ventilator Co. WATER COOLERS: Halsey Taylor. SHADES: Joanna Western Mills. CARPETING: Lees Carpet, V'Soske/Kemper Carpet. FURNITURE & SEATING: Jernigan, Risom, Eppinger Furniture Co., Halsey Taylor. SEATING: Anton Maix, Arthur H. Lee, Herman Miller. CLOCK: Edwards Electric Time Co. LIBRARY TABLES & DESKS: Remington Rand. SEALANTS: Vulkem, Atlantic Industrial Rubber.

SAN LORENZO LIBRARY. ARCHITECTS: Ostwald & Kelly. (Materials & Manufacturers as submitted by the architects). WATERPROOFING: Hontela's Waterseal. ROOF MATERIALS: Johns-Manville. THERMAL INSULATION & ACOUSTICAL MATERIALS: Tectum. GLASS: PPG. HARDWARE: Schlage. INTERIOR MATERIALS: Mosaic Tile. PAINT: Glidden. LIGHTING FIXTURES: Prescolite, Lightolier. PLUMBING FIXTURES: Koppers. HEATING BOILERS: Bryant. KITCHEN EQUIP.: Crane. CARPETING: Dan River Carpet.

# The Architect's Guide to Blinds.

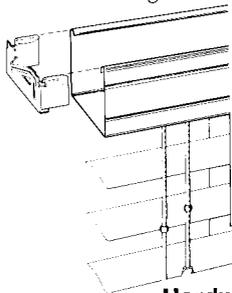
**In this chapter: How much there is to know; the quality of blinds; hardware and slats; size of slats; a word about versatility; A-frame blinds; hi-lo blinds; what to do for more information.**

## How Much There Is to Know.

The subject of blinds is a complex one. It's a subject that we at Levolor live for. We are specialists, and in this series of ads we're trying to convey a little bit of our specialty to the architects we serve. Please feel free to call on us for any advice you might need about blinds. And mail the coupon at the bottom of this ad for more information and reprints of this series.

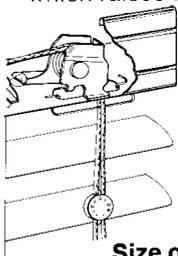
## The Quality of Blinds.

Blinds, like any other fixture you can specify, can be well made, or poorly made. At Levolor, we only make good ones, since good blinds are our life, and our reputation depends on them. A good blind has a head channel made of .025 inch Tomized steel, for strength. (Galvanized and bonderized for high rust resistance and then painted.) It has an end brace (with adjusting tabs) that adds rigidity to the head, insures safe installation. The installation brackets are of special, heavy-gauge .042-inch thick Tomized steel with a baked finish to match the color of the head.



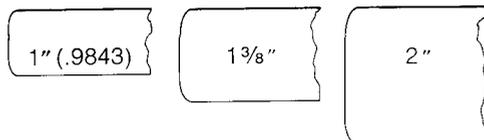
## Hardware and Slats.

The hardware used in the construction of a blind should be treated to prevent corrosion. All Levolor blinds have this kind of hardware. The cord lock, which raises the slats, is securely fastened to the head. And Levolor blinds have a cord separator to prevent twisting and jamming at the cord lock. The slats themselves are constructed of virgin aluminum, alloyed with a high percentage of magnesium, to insure maximum resistance to corrosion. They have a plastic-type finish coat applied under pressure and at high temperature.



## Size of Slats.

A lot of architects write us inquiring if we have blinds with different sized slats. We do. The Riviera model, considered practically tapeless, comes with 1-inch-wide (25mm) slats, 1 3/8-inch-wide-slats (35mm), or 2-inch wide slats, your choice.



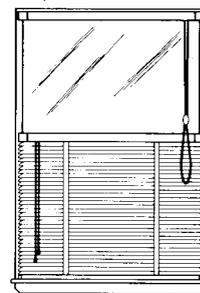
## A Word about Versatility.

Many architects are unaware of the versatility of the blind. The fact is that blinds are available to fit almost any size and shape window you can think of. And they fit comfortably into areas that other window coverings just can't make use of.



## A-Frame Blinds.

The A-Frame is a good example of an unusual window shape for which blinds are the ideal coverings, and which has grown tremendously in popularity in the past few years. Levolor's A-frame blind is as easy to install as a conventional blind—the head parallels the angle of the soffit, and the slats are horizontal except that each is progressively shorter where it meets the angled head. And variations of this blind are available for triangular windows, double-triangular windows, and trapezoidal windows, be they wide or narrow.



## Hi-Lo Blinds.

Not only are blinds available to fit unconventional window shapes, there are also some unconventional blinds for the ordinary windows, as well. For example, in a school or hospital, where you might want the lower half of the window covered by a blind some of the time, and the upper half or entire window covered at other times, Levolor makes the hi-lo blind. Of course, the slats tilt too. It's hard to imagine a more versatile window covering than that one.

## What to Do for More Information.

For more information, mail the coupon. We'll put your name on our bulletin list, or we'll send you technical specifications on our blinds, or we'll send you a book about window covering that a lot of decorators have found useful (Window Magic). Or if you have a specific question, call or write the Levolor Blind specialist near you.

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**1972: A YEAR  
OF CELEBRATION  
ON THE 80<sup>TH</sup>  
ANNIVERSARY  
THE ARCHITECTURAL  
FORUM OPENS ITS  
1972 EDITORIAL  
CALENDAR WITH  
A MAJOR ISSUE  
FOCUSING ON  
THE WORLD OF  
BUCKMINSTER FULLER**

THE ARCHITECTURAL FORUM is due for an anniversary. And you are invited to join a celebration that will be refreshingly free of the dreary formalities so often reserved for senior citizens' birthdays. This will be no time for smug congratulations, no time for prideful looking back at editorial exploits of the past.

No looking back. For eight decades the FORUM's look has been forward. And on this anniversary, the FORUM will view the skylines of present and future through the visionary trifocal lenses of R. Buckminster Fuller.

In a lifetime almost identical with the FORUM's (Fuller is just 3 years younger) he has exercised an extraordinary genius for keeping two decades or so ahead of his time. The broad span of his visions and structures has inspired a multitude of youthful Americans. He is the man to celebrate with. And the FORUM will salute Dr. Fuller in a major editorial celebration at the start of an anniversary calendar that hopefully will be the magazine's finest editorial effort.

**Special January/February Double Number**

The FORUM will open the year, 1972, with a full-issue report on the latest adventures of this architect-engineer-scientist-philosopher whose busy career carries him around the earth at the rate of 100,000 miles a year. An attempt to keep up to date with Fuller may seem to be the height of futility. But the FORUM's writers and cameramen are rather fast travellers themselves. And they are keeping a close watch on his worldwide outlay of projects and plans:

He has covered the South Pole with an aluminum dome engineered and constructed by Temcor to house a U.S. weather station.

He has planned a mammoth geosphere for the Port of New York.

He has engineered the design for a floating city in collaboration with Charles Haar.

He has contracted to design three airports for India.

He has worked with students on a proposal for a half-mile-high tetrahedrona city for East St. Louis.

He has designed a religious center now under construction at Southern Illinois University.

He has watched the progress of his new auditorium, soon to be completed in Israel.

He has designed a tower two miles high.

Out of Fuller's wide world the FORUM's editors will produce an issue of high excitement and significance. Readers will keep it for reference and refreshment, for it will put them intimately in touch with one of the world's most fascinating minds.

**An anniversary 12 months long**

This turn-of-the-year publication will be the opening event for a celebration that will continue, issue after issue, all the way through 1972. The FORUM's staff has everything it needs to keep the celebration going. Their antenna is out. The editors are in communication with the architectural offices and building sites throughout the nation and the world where important news is soon to break. And even at a time when economic

tides are low, the field of architecture is alive with construction activity and fresh, influential ideas.

### **An exciting calendar of editorial events**

A wealth of striking design, new technologies, new uses of materials and ingenious building economies are due to appear on the FORUM's 1972 anniversary schedule. For example:

The editors are looking into "fallout" from the space program—materials and environmental techniques developed for NASA that could revolutionize some of our most modern building technologies in the immediate future.

They are looking to the Pacific rim to see where the impact of modern architecture has extended dramatically to Japan, Australia, Hong Kong, Singapore, The Philippines, Taiwan and other regions.

They are visiting sites where the technology of mobile homes has made possible some fascinating economies and opportunities for good design of modular low and highrise housing.

They are ready to report from Crown Center, Kansas City where an important housing-office-hotel cluster has attracted the talents of Edward L. Barnes, Harry Weese and The Architects Collaborative.

They are following the progress of America's biggest unzoned city, Houston, whose mushrooming midtown blocks have convinced city planners that absence of zoning helped the city more than it hindered.

They are visiting sites where architects are exploiting the underground, showing how factories, libraries and theaters can often best be built below the earth's surface.

They are keeping watch on Munich, Germany where exciting architecture is in progress for the 1972 Olympic Games. They are in touch with the Olivetti Corporation's new offices nearing completion in England, Germany, Japan and Brazil. They are alert to the progress of a new library and an art gallery by Louis Kahn; a museum and an art center by Phillip Johnson; a corporate headquarters by Paul Rudolph; an engine plant by Roche & Dinkeloo; these and numberless other projects.

### **Eight decades of leadership**

There is an abundance of fine architecture to celebrate with. And the FORUM has much to celebrate: eighty years of youthful vitality and strong leadership as architecture's most thoughtful and articulate editorial voice. In 1972, even more than past years, the FORUM will carry on the kind of journalism which produced the still-remembered Frank Lloyd Wright issue of 1938, the more recent salute to Le Corbusier, the special surveys of the urban scene in Chicago, Boston and Washington, the editorial insights and handsome photography that continue to extend the FORUM's influence as a field of force in architecture.

Again and again THE ARCHITECTURAL FORUM has been first with the most discerning reports on the great buildings of the past eight decades. That is something to celebrate. And as 1972 begins, we know you will enjoy the FORUM's opening anniversary issue which promises many fresh insights into the projects and visions of that fascinating citizen of "spaceship earth," R. Buckminster Fuller.



### **Memo to Advertisers:**

Advertising forms for the January/February issue of The Architectural Forum, featuring the world of R. Buckminster Fuller will close on December 20.

### **The Architectural Forum**

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# READERS SERVICE FILE

## PRODUCT LITERATURE

To order material described, circle indicated number on self-addressed Reader Service Card, facing page 78.

### CARPETING

A merchandising kit containing swatches of Ozite, Wool and Lustra lines of contract carpeting is available through Ozite distributors. On Readers Service Card, circle 200.

### CATCH BASINS

Catch Basins and grates without brick or cement manufactured from high-impact styrene by National Drain Supplies. This system offers economy and flexibility for draining pool decks, turf, etc. On Readers Service Card, circle 201.

### CLOCKS

An ingenious world clock which shows the time in a digital display in any one of 24 standard time zones with electronic accuracy is described and illustrated in a leaflet from the California Time Service. On Readers Service Card, circle 202.

### CONDUIT

The Wiremold Company. "When the Walls Come Down." An 8-page color brochure shows how to bring power and communications for overhead wiring systems to desks in open spaces. On Readers Service Card, circle 203.

### DOORS

A useful fire protection handbook has been produced by Kinnear, manufacturers of automatic closing fire doors. On Readers Service Card, circle 204.

Remote door openers are explained in a catalog from Trine. Models are available for standard and narrow doors. Template drawings are included. On Readers Service Card, circle 205.

### ELEVATORS

Illustrated color brochure featuring elevator doors, entrances. Architectural components take on a new dimension of design and decor with many combinations of Ty-Weave lustrous woven metal. W. S. Tyler Co. On Readers Service Card, circle 206.

### FAUCETS

A colorful brochure from Delta Faucet shows their new line of washerless faucets. There is no metal-to-metal contact and there are no washers to wear out. It is claimed that this dripless faucet is completely trouble free. On Readers Service Card, circle 207.

### FLOOR COVERINGS

Design World: a collection of Printed Carpets. Package includes beautiful color examples and details special features of these attractive patterns. World Carpet. On Readers Service Card, circle 208.

### FORMS & SURFACES

A new type of bronze casting, rein-

forced with fiberglass, accurately reproduces the beauty of sculptured metals. This new material is suitable for walls, doors and furniture. A number of architectural applications are included in a brochure from Forms & Surfaces. On Readers Service Card, circle 209.

### GLASS

Remarkable test results on the use of Acousta-Pane glass at O'Hare International Airport are available from Amerada-Glass. Their laminate process eliminates the critical noise frequency range of 250-2300 cycles per second. On Readers Service Card, circle 210.

Useful information on Pilkington Bros. Ltd., Glass Products is contained in an informative, interesting brochure. On Readers Service Card, circle 211.

### HEATING/COOLING

More capacity and less noise is claimed for a new system of window unit ventilators. A straight-through air pattern allows air to pass through a system with a minimum of obstruction and turbulence. A 40-page booklet details this system. Available from the Modine Company. On Readers Service Card, circle 212.

A new 16-page edition of "Manual On Clearances for Heat Producing Appliances," is now available from the National Fire Protection Association. On Readers Service Card, circle 213.

### INSULATION

A new 48-page publication, "Using Gypsum Board for Walls and Ceilings," describes the different kinds of gypsum wallboard; their composition, uses, and correct methods of handling and installation. Gypsum Association. On Readers Service Card, circle 214.

### LIGHTING

Complete descriptions and specifications for each fixture in the 32-page color brochure available from Lightlier Lighting Company. On Readers Service Card, circle 215.

Plug-in energy for all types of lighting fixtures is now practical through a pre-wired hanging ceiling system. Manufactured by Miroflector Company, Inc. On Readers Service Card, circle 216.

A new line of wall-hung lighting fixtures from Art Metal Lighting. The Wallens 1000 and 1200 Lighting Units are illustrated in a leaflet. The lighting distribution for the fixtures is shown graphically. On Readers Service Card, circle 217.

"Lighting For Safety and Security." A new 12-page publication is available from the General Electric Large Lamp

Dept. On Readers Service Card, circle 218.

A 96-page catalog of outdoor lighting solutions is available from the Stonco Lighting Co., Div. of Keene Corp. There have been a lot of new developments in this area. This is a helpful, hint-filled booklet for your reference. On Readers Service Card, circle 219.

### METALS IN BUILDINGS

A color guide for pre-formed building components together with siding and gutter profiles is detailed in a booklet from Alcoa. On Readers Service Card, circle 220.

A colorful 24-page booklet detailing design methods for construction of pre-formed metal buildings is offered by the Republic Steel Corp. A wide variety of installations is shown. On Readers Service Card, circle 221.

### OFFICE FURNITURE

For the purist, a new line of furniture "flush-cube" has been introduced by Steelcase. Details available on the 5200 Series Desk Line. On Readers Service Card, circle 222.

A new space- and money-saving open-shelf filing system has been announced by Spacemaster, Institutional Products Division of Reflector Hardware Corporation. It is a modular system which can be rearranged to accommodate different size files and folios. This system comes in a variety of colors. On Readers Service Card, circle 223.

### ROOFING

A useful guide to the insulating, fireproofing and roof deck materials produced by W. R. Grace & Co. is now available. In addition to product description, the brochure contains addresses of local sales offices. On Readers Service Card, circle 224.

Koppers Roofing System may be used directly on metal, wood, poured concrete and pre-cast concrete. The system is shown in a helpful, informative, detailed reference folder. On Readers Service Card, circle 225.

Roof scuttles are detailed in a comprehensive catalog from Bilco. Also automatic heat and smoke vents are shown. On Readers Service Card, circle 226.

New extruded aluminum fascia system provides fast permanent installation of a water dam for roofing. This new, easily installed system will withstand high winds, hide building irregularities and comes in a variety of colors. Available from Silbrico. On Readers Service Card, circle 227.

### WALLS/LAMINATES

"Panel Systems 1971" eight-page,

four-color illustrated booklet gives installation, application and maintenance data on panels for high-moisture areas and large commercial applications. Formica Corp. On Readers Service Card, circle 228.

Advanced developments in pre-formed concrete walls are explained and illustrated in an interesting brochure from John Laing & Son, British Construction Company. On Readers Service Card, circle 229.

A colorful brochure showing installations where Desco wall coatings have been used. On Readers Service Card, circle 230.

### WINDOWS

Catalog includes technical information on LOF glass: includes Varitran® and Vigilpane® SA 68. Libbey-Owens-Ford Co. On Readers Service Card, circle 231.

Substantial savings in initial installation and operating costs are claimed for "Solar Ban 550 Twindo" from PPG. Data sheets are available. On Readers Service Card, circle 232.

Architectural bulletins available from Levelor Lorentzen and a booklet with descriptions describing creative windows and coverings. On Readers Service Card, circle 233.

### WOOD IN BUILDINGS

A colorful brochure from the California Redwood Association shows new water-repellent finishes for Redwood. Also information on refinishing Redwood exteriors. On Readers Service Card, circle 234.

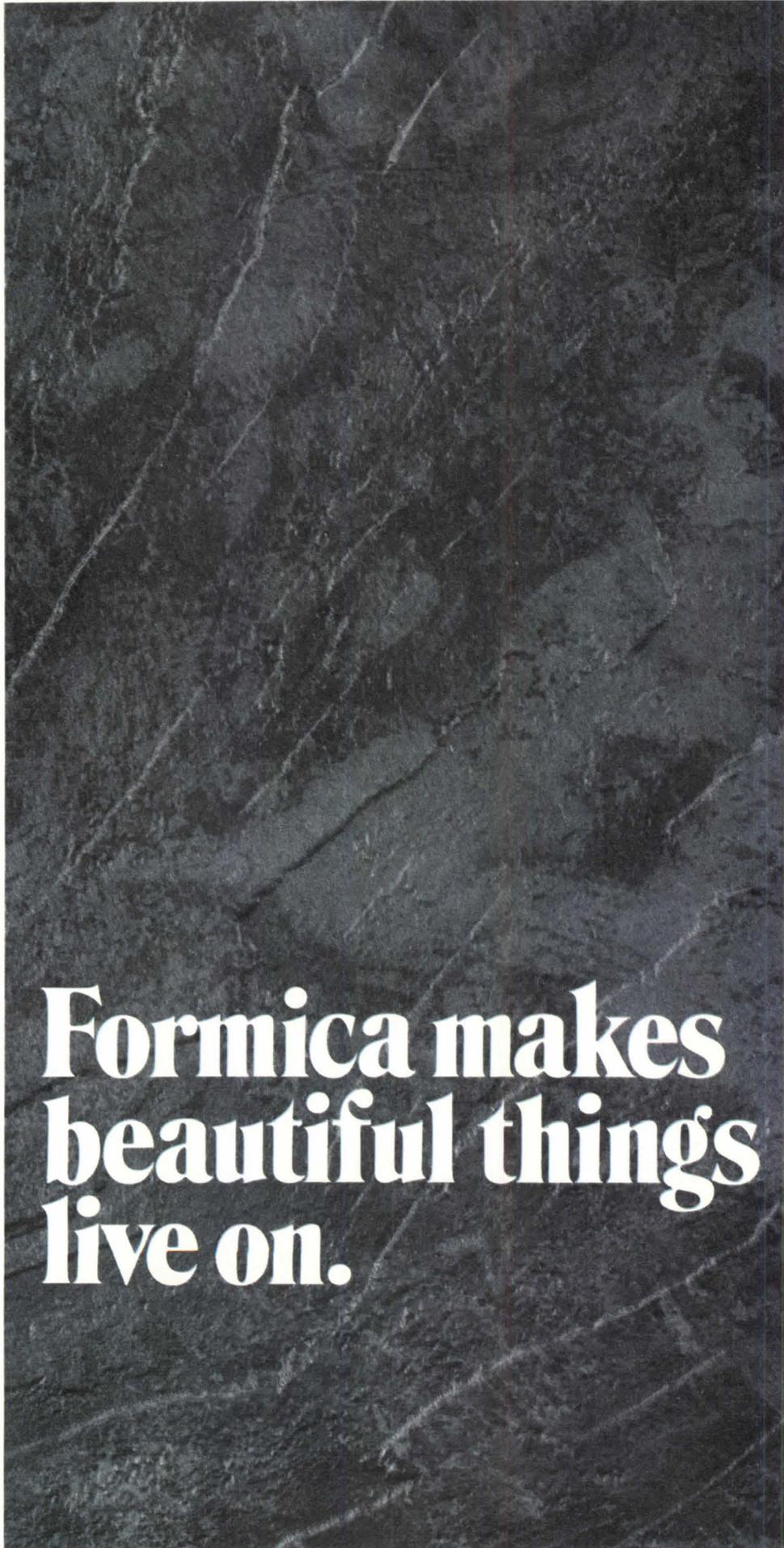
### MISCELLANEOUS

A planning guide for engineers and architects which details the many services offered free by the Edison Electric Institute. On Readers Service Card, circle 235.

"Kodak Compass," a booklet describing how photographic techniques such as paste-up drafting as well as economical production of renderings, shadow prints, multiple floor plans, and reduced-size prints can save architects hours of repetitive drafting time. Eastman Kodak Co. On Readers Service Card, circle 236.

Bells, bells, bells for indoor and outdoor applications. All sizes, shown in brochure now available from America's oldest bellmaker, Bevin Bros. Mfg. Co. On Readers Service Card, circle 237.

Telescoping cylinders are the key to the economies of a stage lift system by Westmont Engineering Co. It is possible, with this system, to raise and lower different sections of the stage, individually or together. On Readers Service Card, circle 238.



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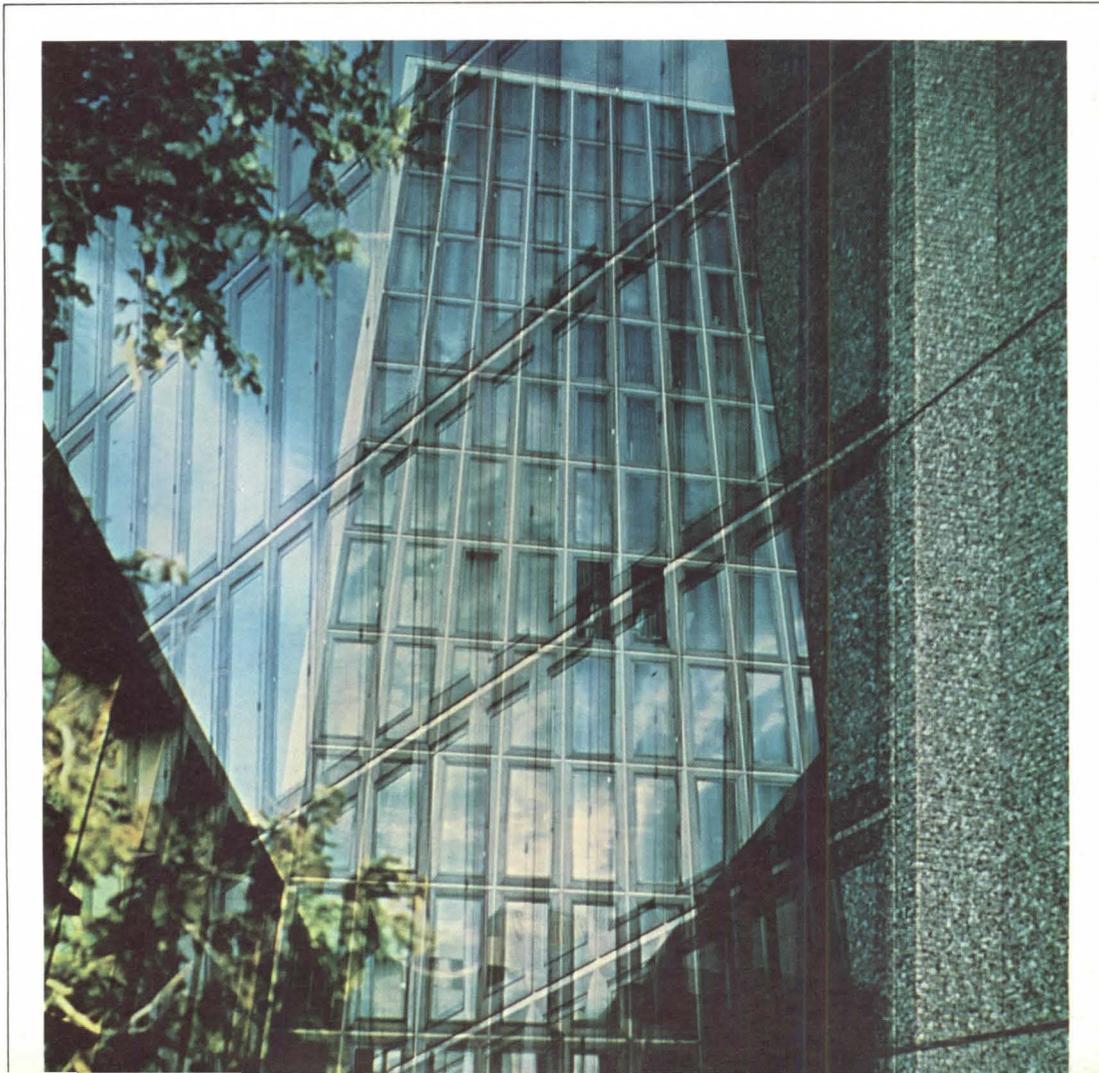
Now, Shatterproof Glass Corporation has developed a refined, subdued Reflective Glass that still offers the benefits of the harsh reflective glasses.

... Manufactured in three configurations—Insulating, Laminated and Monolithic—for complete versatility.

Depending on the type specified, it can also provide thermal control, sound control, security and safety benefits. Available in subdued tones of bronze, gold, gray and chrome ... in the largest quality sizes in the industry.

To learn more, write for our Reflective Brochure, Shatterproof Glass Corporation, Dept. 101A, 4815 Cabot Avenue, Detroit, Michigan 48210. Phone: 313/582-6200.

***Shatterproof***  
GLASS CORPORATION *Architectural Division*



## Introducing the **In**vironment

A new office system has evolved at Hardwood House.

It grew quietly out of 10 years of pioneering experience with vertical space—and developed into a total interior environment.

We've named it the Hardwood Office **In**vironment.

The OI, a freestanding modular system available in 62 or 80 inch heights, adapts to open or

enclosed office plans of any kind.

The OI is complemented by a new desk series we call the Hardwood Executive Desk **In**vironment. The EDI offers a choice of these three end designs: conventional leg, sleigh or full panel.

Both the OI and EDI collections feature distinctive radius edges, flush drawer fronts and careful attention to architectural details.

Functional, yes. But also warm and dignified because each of the components is hand-crafted in either white oak or walnut.

So if our **In**vironments look like fine furniture, no wonder. For that is precisely what they are.

For more information about our OI or EDI collections, contact Hardwood House, 10 St. James St. Rochester, New York 14606.

## **Hardwood House**

Subsidiary of OPIC Corp.

We create better **In**vironments for you

Showrooms

New York City

at 150 East 58 Street

Chicago

at 1167 Merchandise Mart

