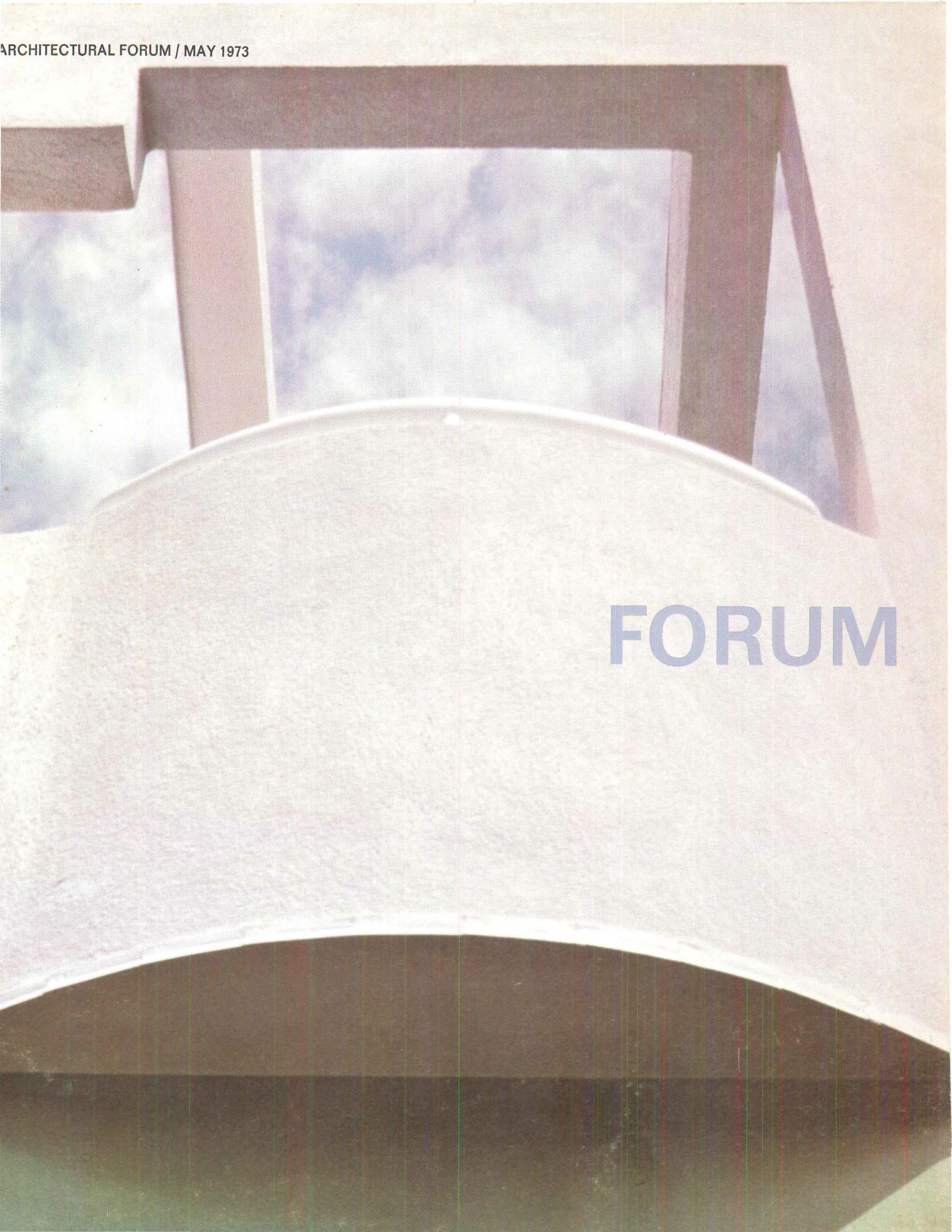


ARCHITECTURAL FORUM / MAY 1973

A large, abstract architectural photograph occupies the background of the page. It depicts a building's exterior with a prominent, light-colored, curved roofline. Large, dark rectangular shapes, possibly windows or architectural elements, are visible against a lighter sky. The overall composition is minimalist and modern.

FORUM



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Cover: Detail of Michael Graves' Benacerraf House Addition, photographed by the architect.

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LOF

LETTERS

tectural trends in America today.

WALLACE W. HEATH, AIA
Nyack, N.Y.

FORUM: The Jan/Feb issue featuring Philip Johnson is excellent. I remember Philip as a student at Harvard. He said he would emulate Mies until he thought he could do something much better. His recent work shows this maturity and sureness.

I was also favorably impressed with your editorial—it was refreshing.

HUGH STUBBINS, FAIA
Cambridge, Mass.

FORUM: I am intrigued by the contrast of the Johnson and Burgee Addition to the Boston Public Library to the original building, shown on page 52.

The comparison between a rapid 6B pencil study and a careful pen and ink rendering comes to mind.

JOHN MILLER MATTINGLY, AIA
Jackson, Miss.

FORUM: Your Philip Johnson issue is a beautiful, milestone book and I was especially gratified to find his Graham Lecture featured. When President of the Chicago AIA, I wangled a grant for a five year trial lecture series which certainly stands a better chance of extension when the importance of the first lecture is signalled by your publishing it!

I fear the number of genuine, giant individual designers will dwindle with the growth of corporate offices with names like "Architectonics", the "Design Four", TAC, which means there must be a new journalism that reflects the excitement of the current "team approach" to design.

The reality of today's architecture changes so fast!

The "corporate" organizations whose existence expects to be projected beyond this life span of the individuals who found them, lower the chance of providing clear cut personal recognition and hero building.

I love the Johnson issue as I am sure all design-oriented architects do—and such coverage will be wonderful and exciting from time to time. But the emerging, necessary team way of doing architecture can also reflect the excitement of a new era in building. The interrelation of the specialists in the

office, the increasing interplay of all members of the total team—material men, contractors, engineers, architects and client from the very inception of a project—can also be made into great journalism.

This letter, a quick knee-jerk response, probably over reflects nostalgia for the age of giants (which, of course, may still be here) but, even more, reflects my excitement over coming changes which may not be as profound as I imagine them.

RICHARD M. BENNETT, FAIA
Chicago, Ill.

FORUM: The Johnson issue is impressive. Philip—so long noted for his wit and acid tongue—should now be recognized for his new work and attitudes.

WALTER A. NETSCH, FAIA
Chicago, Ill.

FORUM: Your slightly blemished cover of Philip Johnson's portraits does somehow suggest the importance of being earnest. His mind has been ranging far afield from the early days of the International Style to the kindergarten block design of Pennzoil Place, shaped with slanting roofs which may become a company trademark. As a miniature block puzzle distributed by dealers, the parts when properly assembled form a square.

The wonder of modelmaking has created a style of Industrial Design Architecture which happily can be patented as a commercial trademark and written off as advertising, thereby deriving additional income to make an architect's office pay.

Little did I realize over forty-five years ago when I first pioneered the use of machinery to make models that power tools capable of cutting almost any shape would set the trend of the latest architecture of the month club style and triumph over the once rigid world of design, proportion and function.

Philip Johnson's modelshop made some bold experiments of using machines to design the new Church Street Telephone Building. The versatility of the tilt arbor saw was brought into play. Superb bevel cutting of compound miters by a skilled craftsman taxed the capacity of the machine to groove out great architecture. Many architects are already busy beveling away at fantastic birthday cake projects which sell easily at one shot meetings.

The fact that he is devoted more to modelmaking than architecture was the reason Philip Johnson had a quarter scale pavilion in the Indonesian Doric Lincoln Center style erected on the shore of his lake-front estate. He was more successful, however, in having the addition to the Boston Public Library look like the world's largest out of scale model. As a preservationist, he says the arches echo the ones of the original library, which must have caused the body of Stanford White to roll over in its grave.

The once great disciple of Mies van der Rohe, groping for years to find a style of his own has finally found one through modelmaking. At last the Bauhaus of international fame, thanks to Philip Johnson's efforts, has been replaced by the Baukasten.

Jersey City, N.J. THEODORE CONRAD

FORUM: Your article on Philip Johnson was excellent. To all those who contributed in preparing this memorable writing "Bravo!"

Buffalo, N.Y. GEORGE E. MOLNAR

CRITERIA

FORUM: Thanks for your magnificent editorial (Jan/Feb 73). The criteria of architecture remain, I think, Firmness, Commodity, Delight. Especially delight.

EDWARD V. LOFSTROM, Architect
Minneapolis, Minn.

FORUM: Architects talk and write too much. If we really want to "ask for and get society's time of day", and if our contribution is to be in the built environment, then we must do our own building.

All that we require is the sweat and guts to do it, but most of us have had our courage philosophized away.

Toronto, Canada A. RANSON PARKER

FORUM: Your January-February editorial raises a very significant issue which affects not only the architectural profession but that of the several other closely related professions involved in the design of the human environment, including, particularly, those of landscape architecture and of planning. The AIP is going through a period of "agonizing self-appraisal", and the ASLA, as readers of the FORUM probably know, has re-

PHILIP JOHNSON

FORUM: The January-February issue is an exceptional example of enlightened biography and presentation of the architecture of Philip Johnson whom I have known and admired for many years. I want to convey my appreciation and congratulations for this beautiful issue of a magazine we architects are privileged to receive and enjoy. Finally, a special thanks for your editorial about the importance of "the" architect.

MAURICE B. ALLEN, JR., AIA
Bloomfield Hills, Mich.

FORUM: It was a pleasure to receive the January-February issue featuring the work of Philip Johnson.

Like that extremely successful issue on Louis Kahn, it features the basic philosophy and approach to design for a very eminent architect. I believe that this is an invaluable analysis of current architectural leadership. It strikes home to the core of Phil's practice and properly omits the nitty-gritty technical detail.

In short, it is concise, readable and inspiring. I hope that you will continue to explore this theme in future issues.

MORRIS KETCHUM, JR., FAIA
New York, N.Y.

FORUM: Your editors and staff certainly deserve praise for the magnificent special issues devoted to outstanding American architects. From domes to diagonals, beton brut to weathered steel, they will make a comprehensive record of the archi-

cently been conducting an extensive study (directed by Professor Albert Fein of Long Island University under a foundation grant) on the very question you raise about architecture, namely, what the "landscape" profession should encompass, what it should be called, and what type of specialists it should include or not include. (I believe this report has recently appeared or will soon be available.)

It would be worthwhile for the AIA to conduct a parallel study, for the FORUM's editorial correctly points out that the terms "architect" and "architecture" tend to be so loosely used, these days.

There is also the matter of a considerable overlap between the closely related professions of planning, landscape architecture, and architecture—to use their present names. The elimination of much duplication of effort, by some type of consolidation, might be beneficial to all three now separately organized professions. The close inter-relation between these three fields moreover, has long been recognized in the academic world, as, for example, in the organization and curricula at the Harvard Graduate School of Design. As an alumnus of that school, who, however, attended Harvard's then separate schools of architecture and city planning before they were merged in the 1940's, along with Harvard's school of landscape architecture, by its great dean, the late Joseph Hudnut, I am constantly aware of the confusion which is still caused in the public mind by the overlap and duplication of the aims and performance of practitioners in the three "professions."

I remember when the AIA, under the presidency of Philip Will, a number of years ago, adopted certain policies which implied that architects could or should all be *planners*, and that, subsequently, many individual architects and architectural firms so designate themselves even on their letterheads. Many members of the ASLA and firms in that field similarly describe themselves as competent in *all* aspects of design of man's environment, as do members of the AIP and "planning consulting" firms. The AIP, however, has become even more fuzzy in the outlining of its members' professional qualifications, since

it admits to membership persons from fields so completely peripheral to *design* as political scientists, geographers, lawyers, traffic engineers, social workers and a lot of others who do not even know how to use a pencil or read a working drawing.

Your editorial, therefore, is most timely and it is hoped that the discussion will continue and that some logical resolution will be reached before the public is further befuddled.

ROBERT C. WEINBERG,
AIP, FAIA, (aff.) ASLA
New York, N.Y.

FORUM: It is with great pleasure that I read your perceptive and "needed to be said" editorial.

All in all I have always felt the word "architect" would be around for some time to come; but more importantly that man's spirit is directly affected by good and sometimes great works of architecture.

JOHN HEJDUK, Chairman
Division of Architecture
New York, N.Y. The Cooper Union

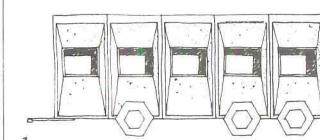
ON THE ROAD

FORUM: Since the Taliesin Fellowship has "broken ground" with their design for a trailer, it would seem that the logical next step would be for other "architects of note" to follow this example and design mobile homes using their own vocabulary of design.

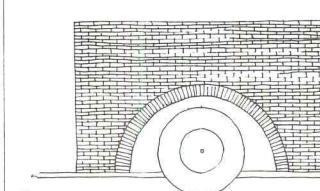
Following is a short matching quiz. Who did what? The answers are not included on any page. If you can't get this—too bad.

LAURENCE F. ROEDER, AIA
Boston, Mass.

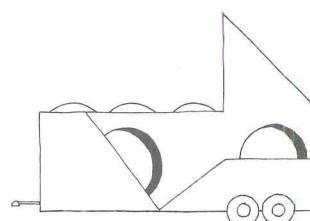
- _____ Ed Barnes
- _____ Marcel Breuer
- _____ Corbu'
- _____ Louis Kahn
- _____ Mies
- _____ Charles Moore
- _____ Sasaki, Dawson, DeMay
- P.S. And I know what Mnemiscles' Mobile Home would look like!



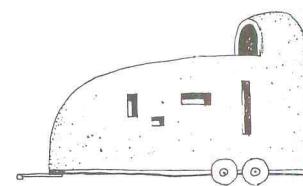
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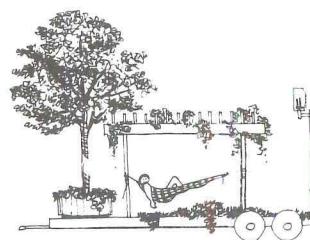
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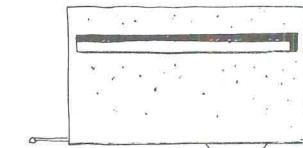
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LEGACY

FORUM: Thank you for "Le Corbusier: Legacy in Limbo" (December '72). I should hope that the governmental agency that funds the Foundation Le Corbusier sees it and realizes the concern.

I would like to call your attention to Brian Brace Taylor, the person who has, for two years, been working part time for the Foundation. He has been doing work gathering together the plans at L-C's apartment. He is also the person in charge of organizing the exhibition, "Le Corbusier et Pesac 1914-1928" which was shown in Paris, 16 June 1972. This exhibition provided the material for the opening of the design building at Harvard-MIT.

Chicago, Ill. M. G. KERSHAW

ODE

FORUM: I enjoyed your Philadelphia poet's "Ode to Venturi"

(Forum December, '72). Especially interesting was his report of how the owner of the pushcart was able to pack persimmons. In all my experience with persimmons, I have never been able to get 8 to stack in a pyramid—4, 10, 20, and 35, yes, and even 5, 14, 30 and 55. But never 8. Temporarily, at least, I have made a simple cube of persimmons, using only 8, but only temporarily. The simplest pyramid arises when you place three rotten persimmons in a triangle on the bottom row and the one healthy specimen on the top. Larger triangular arrays can be used and more layers added, the total number of persimmons being given by the expansion long familiar to operators of pushcarts, $1/6n(n+1)(n+2)$. (The same formula describes the packing of rotten watermelons.)

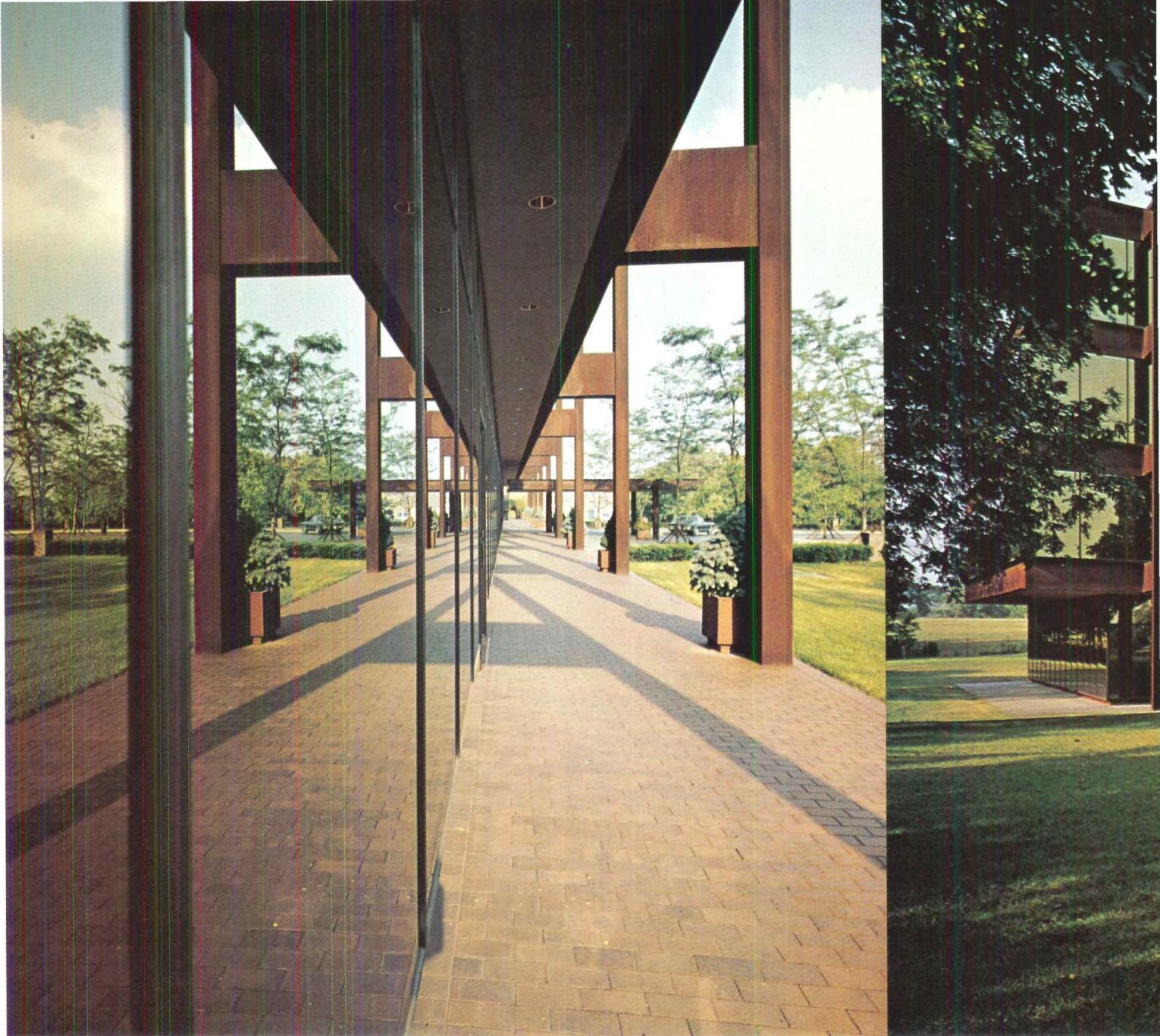
Alternatively you can make an "Egyptian Pyramid" by arranging the rotten persimmons in a square on the bottom and adding square layers of less rotten ones on top in conformance with the old Egyptian expression, $1/6n(n+1)(2n+1)$. Occasionally, too, I have seen layers of healthy persimmons arranged on a pentagonal or even a hexagonal base of rotten ones, but the total has never been 8. Clearly, the pushcart owners in Philadelphia have achieved a breakthrough in persimmon packing and I eagerly await your photographic review of the matter.

PETER S. STEVENS, Architect
Boston, Mass.

FORUM: I should guess that the writer of "Ode to Venturi" must have gotten his start about the time Bertram G. Goodhue was saying that if you were an architect it helped to be a gentleman. If so, "Poet" should have hung around for Lesson Two.

I never met Venturi's father and don't know whether he had a gold tooth, but I met his mother. We talked about Ortega y Gasset and then she got off onto Santayana's sonnets. I remembered a line of a sonnet and she filled in the rest. A Philadelphia Poet should get in touch with her if he wants to pursue writing. His style, which has the flavor of Gibran, beloved in the 20's, could stand some work. If he isn't too old—after all the gold tooth joke must have been current in 1910 before porcelain was perfected and long before the root canal job was pioneered.

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BOOKS

DEFENSIBLE SPACE: Crime Prevention Through Urban Design. By Oscar Newman. Published by MacMillan, New York. Illustrated, 251 pages. \$8.95.

REVIEWED BY SAMUEL KAPLAN

It has not been a good year for public low income housing. The Forest Hills controversy, the dramatic demolition of a plagued St. Louis project, the sorties in hysterical suburban communities across the country and other incidents playing upon the raw nerves of neighborhoods have created the image in the public mind that public housing is not the solution to our slums, but rather has become the new slums. Yet government statistics tell us that publicly assisted low-income housing is the only type of shelter that an estimated 20 million ill-housed Americans can afford. In New York City alone, 550,000 persons now reside in public housing, with another 550,000 impatiently waiting to get in. It is not just a conundrum that will be debated in the next legislative session by bureaucrats, technocrats and politicians. It is a crisis that will be suffered this winter in every slum tenement and rural shack.

Central to the controversy concerning the future of public housing and, indeed, our cities is the related issue of crime, which therefore makes Oscar Newman's ambitious study of public housing a timely addition to the continuing debate. Financed with generous grants from the Department of Justice's National Institute of Law Enforcement and Criminal Justice, Newman, an architect by training, has sought to prove that design can inhibit crime. It is his thesis, if not hope, that "it is possible, through the provision of facilities in certain juxtapositions, to release potential behavioral attitudes and positive social relationships."

As indicated by the quote, it is a pedantic study, but also an important one—to a point. Mr. Newman has documented the intuitive planning theories of Jane Jacobs, Elizabeth Wood and Charles Abrams, and the intuitive design theories of such firms as Davis, Brody and Associates, and selecting data—particularly from the New York City Housing Authority.

Mr. Newman's design recommendations—to create something he calls defensible space and from which he takes his title—are a compendium of common sense, too often lost in the cost accounting procedures and code restrictions dictating housing construction today. The

recommendations are specific and illustrated; such as the simple placement of windows to allow tenants to view, and therefore control, public areas; sensitive landscaping to give tenants "territorial influence"; facing lobbies toward active public areas; designing buildings to blend into neighborhoods, thus avoiding the public housing stigma; in sum, to giving tenants a sense of place, and pride, stimulating concern for and control of their environment. These recommendations are welcome, and should be a required guide for those shaping (or misshaping) our cities today.

The result undoubtedly will be better housing, but it is questionable whether we can also expect crime prevention. Like many professionals pursuing a thesis, Mr. Newman takes his theories beyond his purview; in doing so, I fear he reinforces the public's prejudices against public housing. We are presented extensive statistics comparing crime rates in low, medium and highrise public projects, and with the impression that highrise housing is the apex of crime. In his documentation, however, Mr. Newman failed to include the telling statistics that while public highrise projects might have a higher crime rate than low and medium rise projects, they are still apparently safer than similar densities in surrounding neighborhoods and, according to the New York City Housing Authority, safer than most neighborhoods, anywhere.

In a dramatic example of his thesis, Mr. Newman compares two adjacent projects in Brooklyn with almost identical demographic characteristics: size, density, population, race and income. The only apparent difference is design, with the VanDyke Homes composed of highrise towers and the adjacent Brownsville Houses of low and medium rise buildings. The study revealed 66 percent more crime incidents in VanDyke.

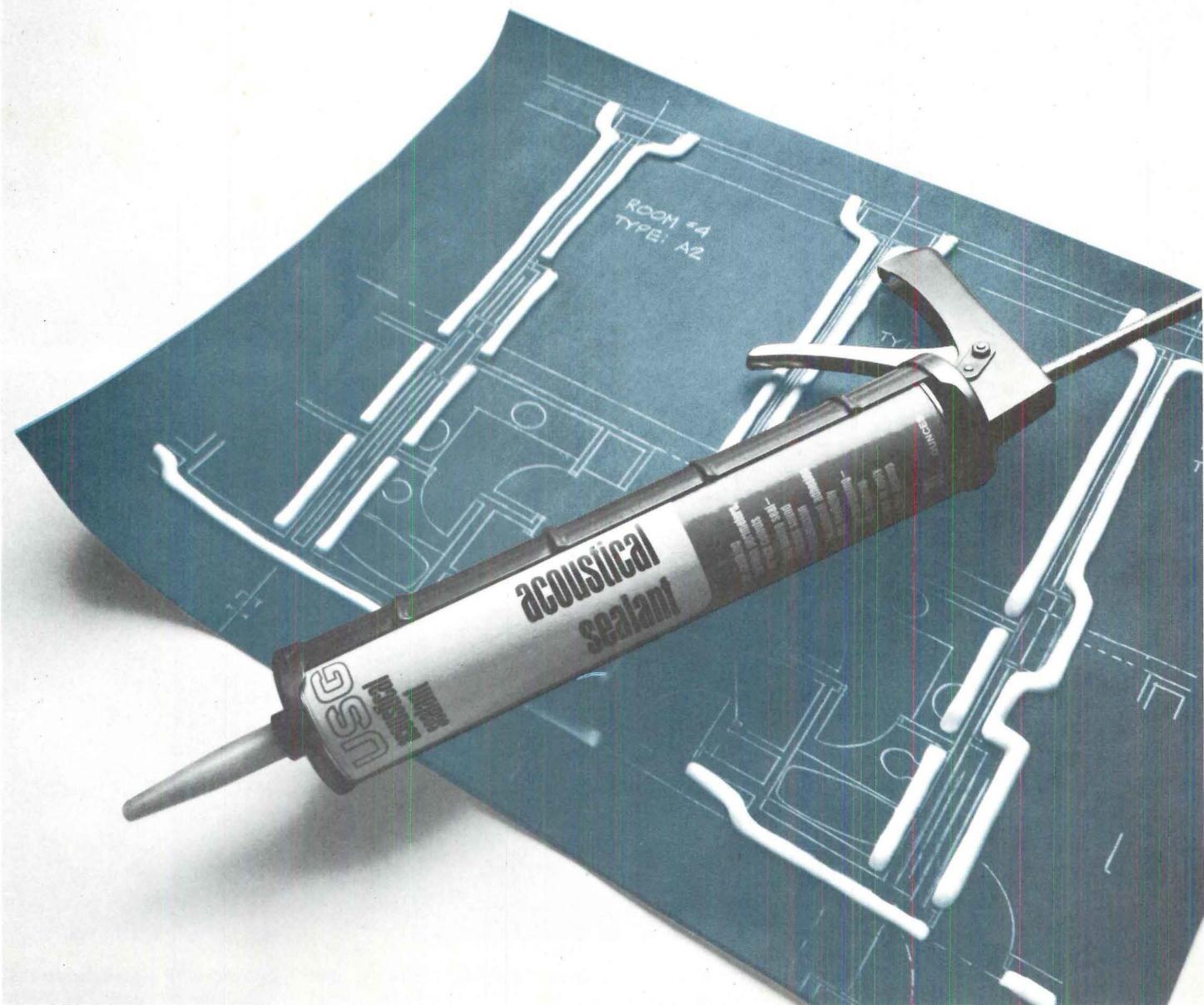
A recent tour of the projects bore out the feeling that Brownsville, with its "defensible" spaces created by its design, was relatively safer. But in random interviews in both projects, residents complained that the higher crime rate in VanDyke was caused by teenagers from both the VanDyke and Brownsville projects. It was apparent, to this trained

eye anyway, that the Brownsville teenagers—inhibited by defensible space in their own project—roamed the more spacious grounds and vulnerable corridors of VanDyke Homes. What we have is not crime prevention through urban design, as touted by the book's subtitle, but crime displacement. Mr. Newman does briefly admit this possibility and concludes, like any academic on to a good thing, with a call for more studies.

If indeed Mr. Newman had broadened his study, and gone into more depth, he would have found some glaring inconsistencies in his flagrant generalities. Across the street from the three and six-story Brownsville, and 14-story VanDyke projects, is the 16-story low-income Tilden project. In 1971 the crime index per 1,000 population for Brownsville Houses was 28.2, and VanDyke 54.1. However, the taller Tilden's rate was 32.4. And just a few blocks away, in the same neighborhood, the crime rate in a relatively new 24-story low-income project, Glenmore Plaza, was 13.1. According to the statistics of the 73rd Police Precinct, which covers the four projects as well as most of Brownsville, the overall crime rate for the neighborhood was 97.8. The conclusion is a strong case for low-income housing, including highrise, which is not the impression generated by Mr. Newman.

In addition, if we apply Mr. Newman's recommended design standards to existing housing, we find excellent examples of defensible space, at least in theory, in Harlem and the South Bronx, as well as on Manhattan's gold coast, the East Side. The dominant variable in the crime equation in these areas (as in all areas) is, of course, the prevailing social system of the neighborhood. Defensible space worked in most low-income neighborhoods, such as the South Bronx, until their social systems went into a vicious spiral and a slum emerged. The pathology of poverty, and the greed that feeds upon it, can and has destroyed the most viable designs. Design, which is certainly a worthwhile goal, can have many positive results. But these must be kept in perspective. Unfortunately for Mr. Newman's thesis, and more unfortunately for us, design alone will not solve society's ills.

Mr. Kaplan is urban design critic at the School of Architecture and Environmental Studies of The City College of New York.



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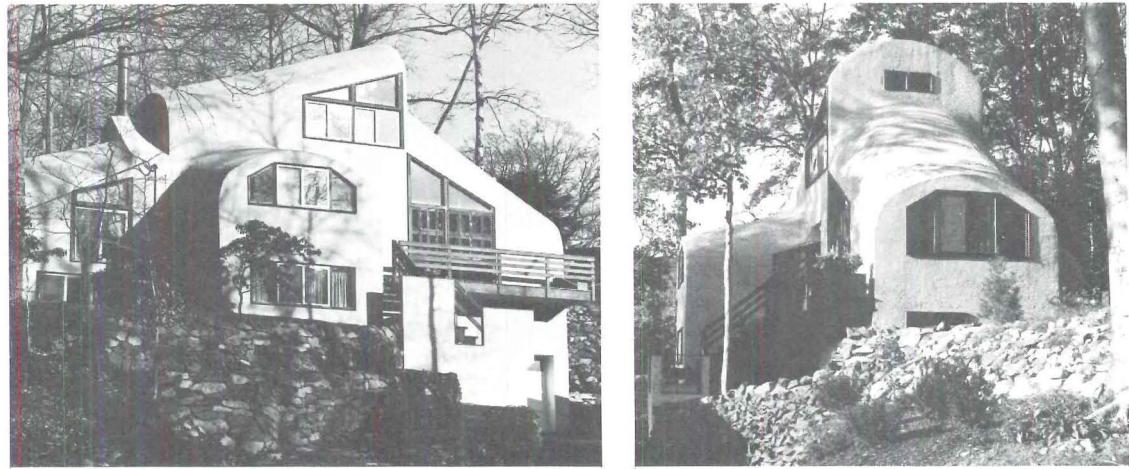


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MASS PRODUCED IN PLASTIC

At first glance one might speculate that this house had been designed by a German Expressionist architect sometime between 1901 (Behren's Darmstadt House) and 1920 (Mendelsohn's Einstein Tower). Actually the house is American, built in 1972, and designed by female architect Valerie Batorewicz. The first in a series of mass-produced plastic houses, the house may be ordered for about \$25,000 from Housing Systems Corporation, of which Ms. Batorewicz is president.

Batorewicz built the prototypical house for a typical suburban setting in New Haven where she and her husband live. Although the house is largely plastic and prefab, it still employs conventional materials and on-site construction. Because of the high cost of plastic molding, the central core that

carries utilities, stairway, and furnace is conventional wood frame. Satellite rooms, attached to the core, are comprised of wood frame joints and frame-and-plywood end wall. The end walls and floor fold out from the core so that the 12-foot wide wood frame unit can be built in the factory and then trucked to the site. One version, a 12-foot cube, yields a two-bedroom 1,000 square foot house in which rooms all connect directly to the two core levels containing kitchen and bath. However, the length of the modules can range from 12 to 65 feet to create a larger house, as shown by the prototype.

At the site, after the framing is unfolded, a strong fiberglass mesh is stretched from the core to the satellite rooms' end walls. Prebuilt windows and doors are installed before the mesh is

sprayed with isocyanurate foam. An additional coating of cement-resin sprayed inside and out seals the mesh and covers plywood end walls with an elastic stucco finish. Fireproof cellular foam plastic, used as a final coating, further minimizes cracking.

Because of the materials and vaulted roofs, no downspouts, shingles, siding, joints, or flashing are required. Heating and air conditioning ducts can be minimal because of the highly insulative quality of the plastic.

Ms. Batorewicz received funds for research and development from the Center Church on the Green in New Haven, as well as Yale University and Uniroyal. Upjohn Company, major suppliers of the plastic, and engineers Spiegel and Zamecnik lent assistance on testing, while Ms. Batorewicz' husband, Wadim, acted as her plastics consultant.

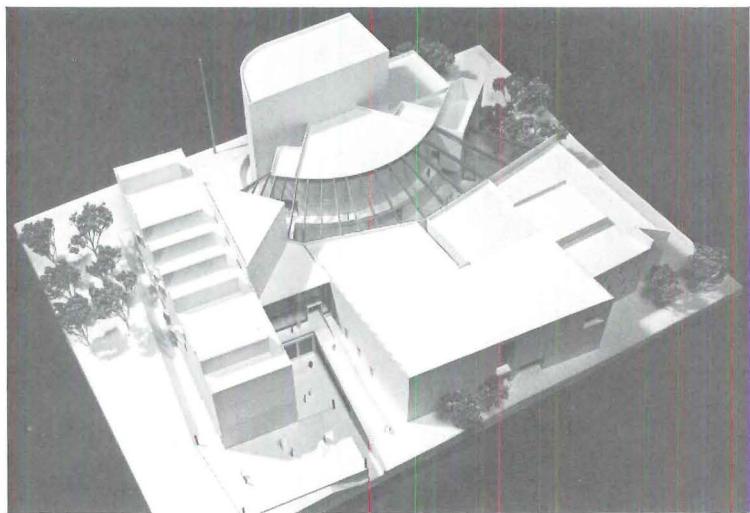
THREE IN ONE

Nearing completion at Wright State University in Dayton, Ohio, is this large (105,000 sq. ft.) Creative Arts Center. The building, designed to house a 375-seat theatre, and a 350-seat concert hall, also contains specialized spaces for art and education, drama and music classes. Architects Tweddell, Wheeler, Strickland & Beumer of Cincinnati divided the structure into three distinct masses, all united by a two-story high crescent-shaped lobby-display area.

The art and art education classrooms occupy a narrow loft-

like building (left of model photo). Natural light enters the building through pitched skylights in the roof, as well as light scoops of reflected glass on the south side, and north facing windows punched in the east and west walls.

The drama theatre occupies the rear most portion of the complex behind the crescent lobby space, while the concert hall and a recital hall have been located in front. Music classrooms extend off these halls (right of model photo). The poured-in-place concrete structure will cost a total of \$3,700,000.



NOSTALGIE DE LA CHATEAU

There can be no question about the location of this fanciful house, except whether it's in southern or northern California. (Actually it's in La Jolla). Architect Paul Thoryk of Pacific Beach, Calif., has taken materials and forms common to California—redwood siding liberally slathered inside and out, and a cluster of tower-like units topped off with truncated pyramidal roofs (and a one-directional pitched roof)—and combined them with a funky elegance. Like the antique car in the driveway.

The 1,963 sq. ft. house is comprised of really only two living levels, a fact obscured by the arrangement of living spaces in tower units and the use of fir poles to carry the house from the steep hillside site almost to treeline. The entry bridge that terminates in the carport takes

one to the stairs leading to the main living level on the top floor. Here the master bedroom (jutting out over the carport), a living unit lit by clerestory windows of the high truncated pyramidal roof, the kitchen in its own similar tower, and the dining room (likewise) can be found. On the lower, carport level are two bedrooms underneath living and dining rooms, and a study/den behind the carport. A smaller level for utilities and laundry areas can be found more or less at grade.

The exterior redwood has not been treated, so that it will weather a gray tone. Structural members, including glu-lam beams are expressed throughout, and even the nails on the exterior were galvanized so they would rust and stain the exterior. The honesty may be self-conscious, but even that is Californian.

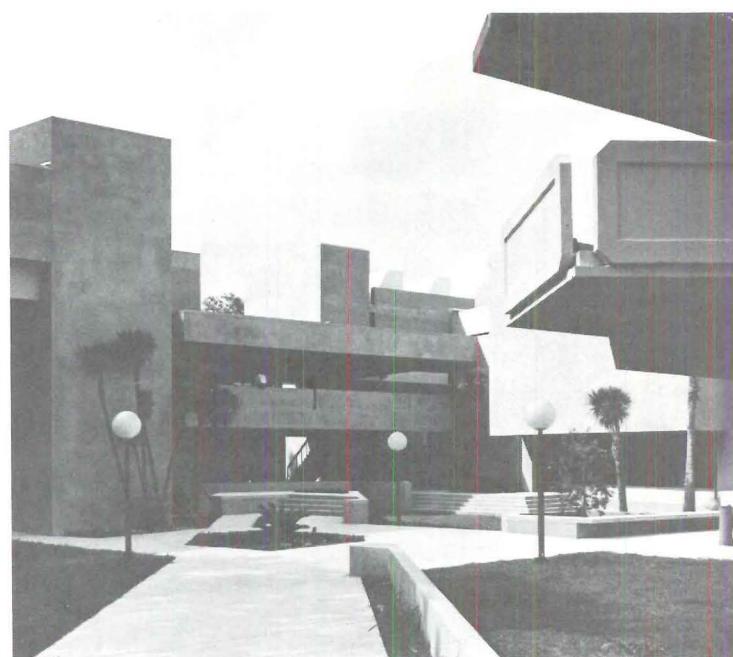
WRIGHT RELATIONS

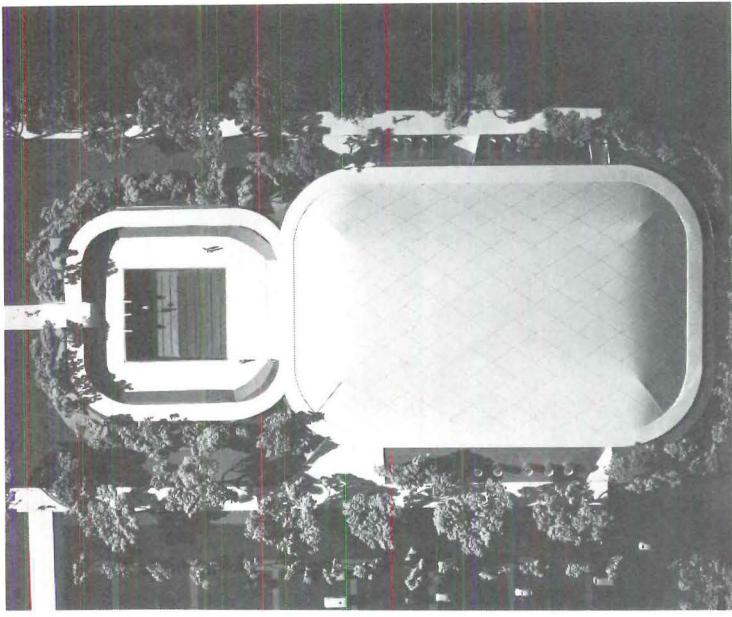
The newest addition to Florida Southern College in Lakeland, the Ludd M. Spivey Fine Arts Center, has been planned to harmonize with the rest of the Frank Lloyd Wright designed campus, the largest concentration of the architect's work in existence. Architects for the job, Schweitzer Associates of Winter Park, placed the large 47,000 square foot building on a corner of the site practically abutting Branscomb Auditorium (also previously designed by this firm). Neither building actually conforms to Wright's master plan of 1938, although the campus itself, finished in 1959 had already deviated somewhat from the original conception.

The reasons for the Fine Arts Center's siting are mostly functional: While the Fine Arts Center will contain classrooms for

visual and performing arts, administration, a gallery and a 300-seat theatre, the drama department will continue to use the loft stage lecture halls and workshops available in Branscomb.

The architects were also required by the program to retain an existing neo-Georgian music building standing on the site of the new center. So they simply wrapped the new building around the old. Materials, and massing are intended to blend with nearby Wright buildings: Concrete block load-bearing walls, supporting poured concrete flooring and steel-decked roof, are covered with beige-colored concrete on the exterior. Inside the building some walls are left exposed, others carpeted or finished with acoustical panels.





INVISIBLE JUXTAPOSITION

When the University of Santa Clara in California, a two-hundred year-old campus laced with mission-style architecture, needed a student activity center and swimming pool, it wisely agreed to an inflatable roof structure.

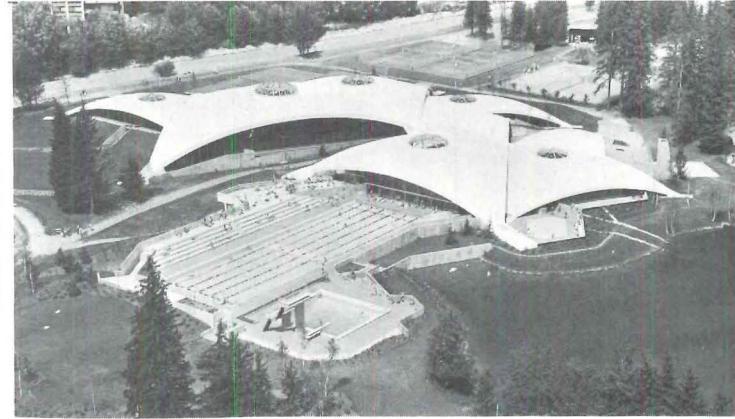
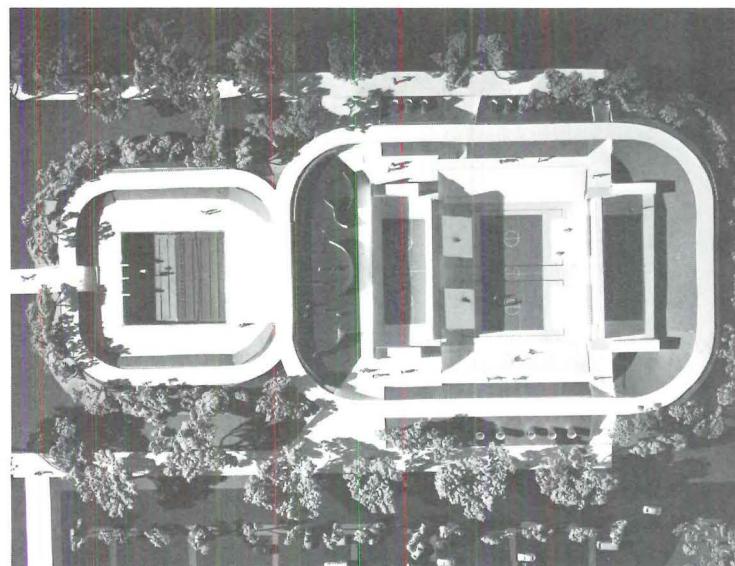
The activity center will consist of two air structures of translucent fiberglass, reinforced with cables and supported by an environmental control system that will maintain a pressure differential of five pounds per square foot.

The main structure, comprised of a large gymnasium and two auxiliary recreation spaces, is to be 60,000 sq. ft. The second inflated roof covering the adjoining swimming pool can be removed in good weather and folded to provide a canopy for outdoor dining. Earth berms

will form the perimeter walls topped by a concrete ring.

Inside, a sub-framework of steel will carry artificial lighting and give extra roof support if the air system fails. Interior finishes include a synthetic urethane compound for the hard playing surfaces and acoustically treated metal panels for partitions.

Architects Caudill, Rowlett, Scott, famous for their fast-tracking in school construction, is applying the same techniques here: The inflatable roof was installed in January, and now construction of the substructure, protected from inclement weather, is proceeding. Consultants for the project include engineers and air structure experts, David Geiger and Horst Berger, and structural engineers Pregnooff/Mattheu/Kellam/Beebe.

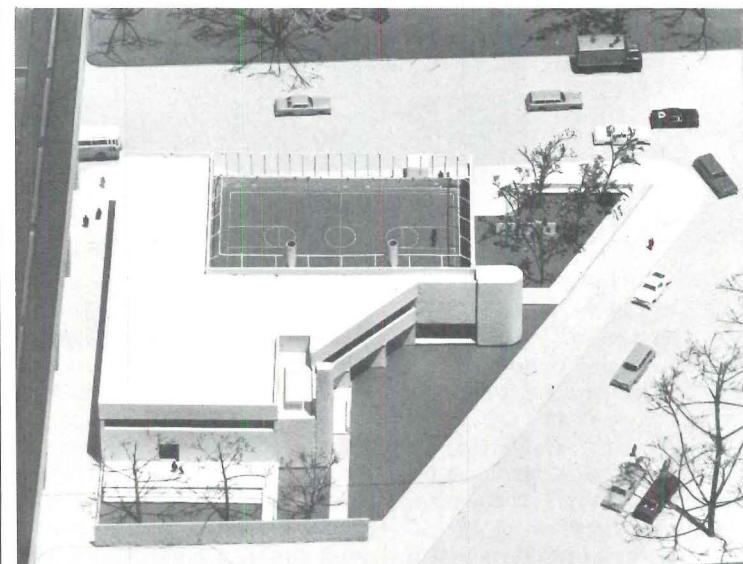


POUR LE SPORT

A series of concrete domical shells similar in form to Saarinen's Kresge Auditorium at MIT, are closely juxtaposed to form a sports complex for Chamonix, France. The nine roofs, equilateral triangles if flattened out, cover a total of 775,000 sq. ft. The sides of the various triangles range in four lengths from approximately 73 feet to 195 feet. Each of the three corners of the domical shells rests on poured concrete hinges, the abutments of which serve in some places as bearings for sev-

eral shells. Prestressed cable ties, buried under the ground, connect with each other to keep the thrust of the vaults from deflecting outward.

The sports center and olympic pool buildings represent the first stage of what is projected to be a cultural and recreational complex, and will include museums, hotels and even a ski school. Architect for the project is Roger Taillibert, Chief Architect for Civil Buildings and National Palaces in the French Government.



TIGHT SITE

A half-acre trapezoidal site almost overwhelmed by highways and elevated train tracks in The Bronx has deterred neither New York's Department of Parks, Recreation and Cultural Affairs, nor the community, nor the architects from placing a community center there.

In meeting with the various clients and users, architects Julian Neski and Alexander Gartner came up with a 16,000 sq. ft. structure of steel frame

with brick facing construction that fits neatly onto the site at the busy intersection. The L-shaped three-level structure contains swimming pool and rooftop play area in one wing, lockers, multi-purpose rooms and a Golden Age Lounge in the other. The building is expected to be completed in late 1974.

PHOTOGRAPHS: Julius Shulman, middle, page 11; Jerry Morgenroth, top right, page 11; Richard Karl Koch, top and bottom, left, page 12.

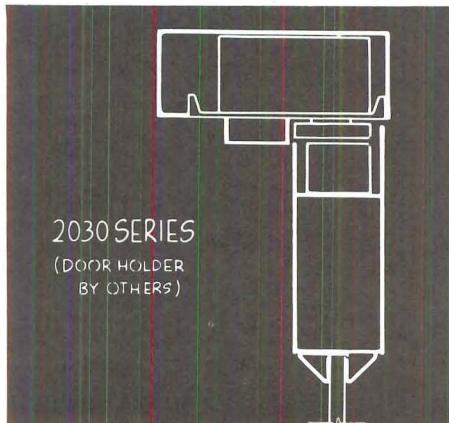


Hyatt Regency O'Hare, Chicago. Architect: John Portman & Associates, Atlanta, Ga.

DOORWAY NOTES ...

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FACETS

PRESERVATION

FOR SALE

The Landmarks Preservation Commission of New York has described the restoration of nine Federal houses in the Washington Street Urban Renewal Area (which extends north from the World Trade Center) as "the largest, most important and most costly historic restoration project ever carried out in New York City." The original renewal plan, made before the Landmarks Commission existed, called for complete site clearance. However, with the encouragement of Mayor Lindsay and Housing and Development Administrator Jason Nathan, the Landmarks Commission was called upon for the first time to make recommendations that would contribute to an urban renewal plan.

In 1810 the area was genteel and residential. By the end of the 19th century, the activities of the Washington Market had expanded northward and the area became wholly commercial. The nine houses being restored (dating from 1797-1828) were then converted into warehouses and the ground floor detail destroyed. But they preserve the characteristic late 18th century scale and profile which exists nowhere else in the City.

Six of the houses, in a group including a corner, have been

left in place. In accordance with the Landmarks Commission's suggestion, the other three houses a block away have been moved up to form a group of nine around a court. The Commission feels that this solution "preserves intact not merely architectural specimens, but the entire ambience of an era."

The uniqueness of these buildings is that they are two and a half stories high, not the usual three or four, a scale quite unfamiliar in New York. Also they retain their original roof lines with gables and unaltered dormers. The most notable houses are two by John McComb, New York's first native-born architect, and its leading architect from 1790 to 1820. He was also reputed to be the leading architect of the Federal period and designed City Hall. Although there are no exact records of the ground floor plans for these two houses (one of which McComb lived in), there was sufficient documentation of his work to guide the restoration.

Oppenheimer, Brady & Associates, architects for the Mitchell-Lama Washington Plaza Towers project surrounding the restoration site, were also appointed to do the restoration. Their major aim has been the integration of the historic buildings with new patterns of land use and requirements for high density. They have stepped the 39-story towers and the town houses to ease the vast discrepancy in scale. The plan (bottom) includes a school above duplex apartments to the south of the restoration. The towers are now about half done; project completion is scheduled for



Four Federal houses remaining on their original site.

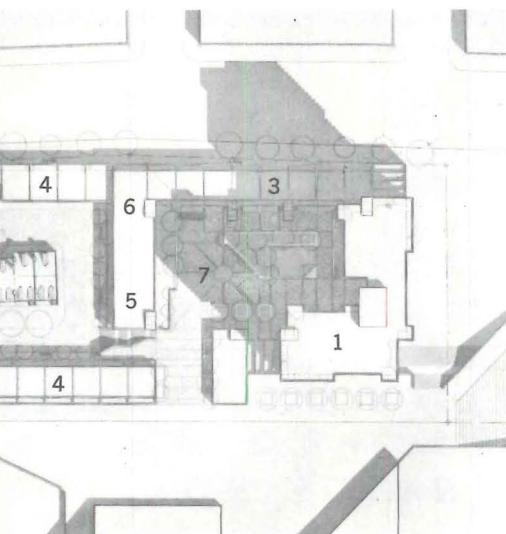
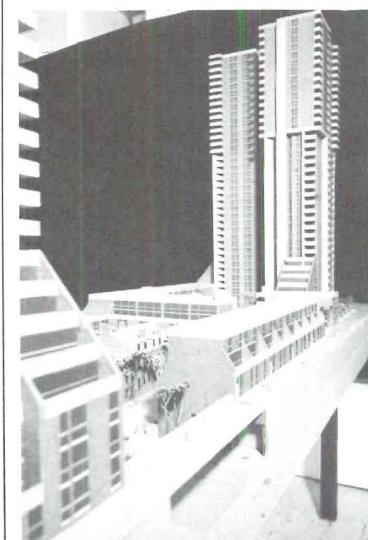
the fall of 1974.

The Oppenheimer, Brady plan is one of the first projects to contribute to the realization of a plan to establish pedestrian walkways above vehicular traffic across the whole city. The pedestrian level to the west is 23 feet above street level, a height which is to be used in all Lower Manhattan projects.

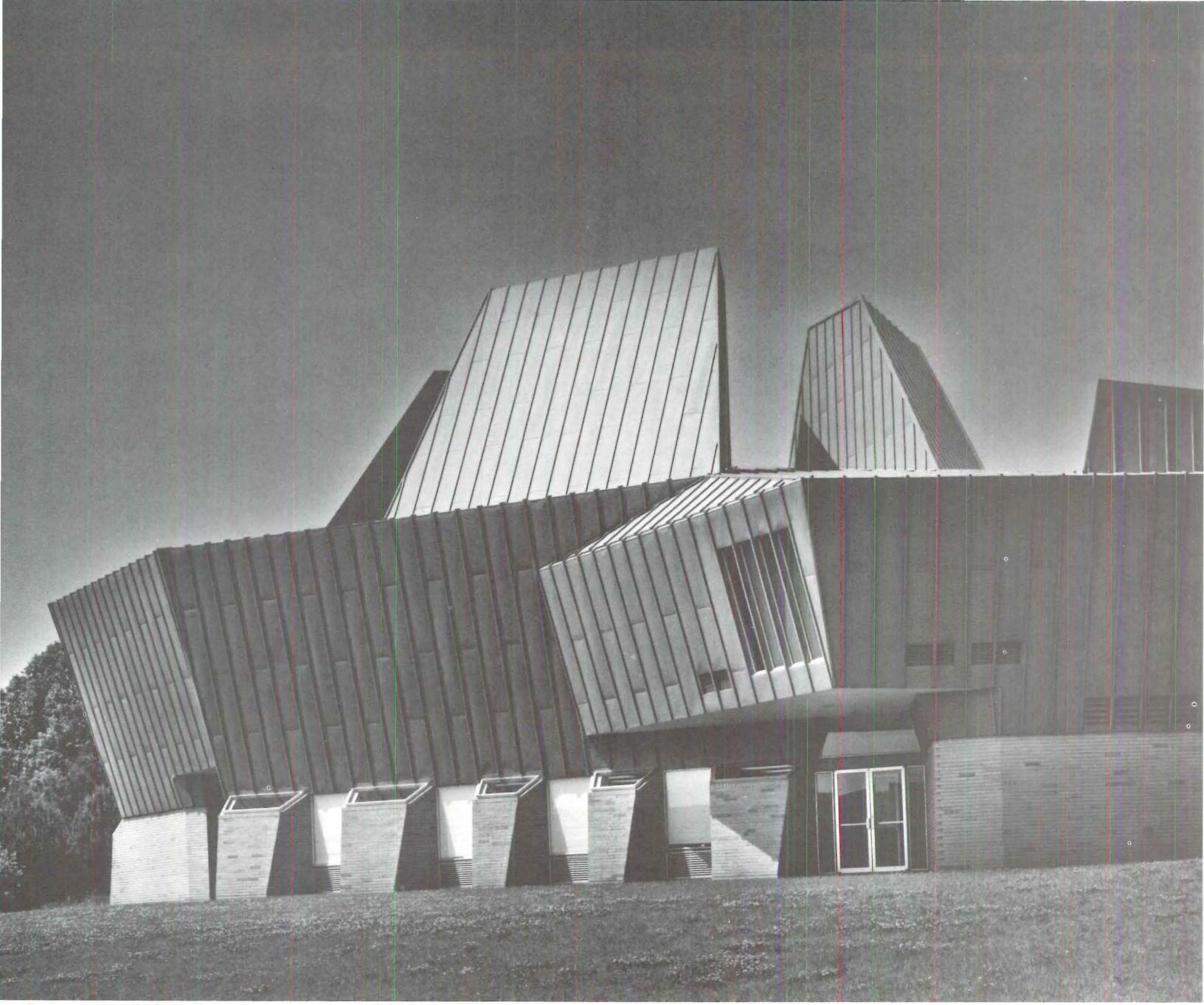
Some of the new townhouses relate to the elevated plaza, others to the street-level historic houses (model photo).

Manhattan Community College, designed by Caudill Rowlett Scott and now in final working drawings, is to be built across the pedestrian platform. It is planned that the Bogardus building facade—the first complete cast iron building front ever erected in the U.S. and, with its novel system of assembly and erection, a forerunner of multi-story steel-frame office buildings—will be incorporated in the college. It is hoped that the facade will be reused as part of a wall system and not as decorative bits and pieces.

The restoration of the houses, which should be completed by late summer, became feasible because of funds from HUD, and they represent one of its biggest restoration projects. To restore exactly the front exterior of each house, including replacing stoops, and to provide sound shells with stairs and floors cost between \$70,000 and



- 1 TOWERS
- 2 HISTORIC HOUSES
- 3 PLATFORM HOUSES
- 4 TOWNHOUSES
- 5 SCHOOL ABOVE
- 6 DUPLEXES AT GRADE
- 7 PLATFORM LEVEL
- 8 ELEVATED PEDESTRIAN WAY



Congregation Beth El, New London, Conn.; Architect: Paul Rudolph, FAIA, New York, N.Y.; Roofer: H. R. Hillery Company, Groton, Conn.

THE ARCHITECT, METALS AND IMAGINATION

Many critics regard Paul Rudolph as one of the logical heirs to the late Frank Lloyd Wright's professional mantle, and his major projects have clearly influenced the whole range and dynamics of contemporary architecture. As Sibyl Moholy-Nagy once wrote, he has "great courage, comprehensiveness of talent, profound faith in the integrity of the architect's mission."

In conceptual felicity and strength of execution, Congregation Beth El is a notable example of Mr. Rudolph's recent work, and we are indeed gratified that in selecting a metal to sheathe and roof this distinguished building, he chose Follansbee Terne.

FOLLANSBEE

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(continued from page 14)

\$90,000. This does not include electricity or plumbing. The houses, altered by various owners, are being stripped to their original designs and will provide open loft spaces. Some have the original attic partitioning intact.

The city is retaining title to them until restoration is complete. Thereafter their fate is uncertain. The college has rejected the idea of buying them for faculty housing or anything else. They can be sold individually, or as a block—which would certainly seem preferable. Hopefully they will find respectful owners and tenants soon.

BANKING ON ART

A privately endowed museum found the answer to its building budget problems by literally taking over a bank. The Tacoma Art Museum appropriated the Pacific National Bank of Washington and remodeled it for its own purposes.

Architects Alan Liddle and Charles Rueger, left the facade of the 1920 building intact, transforming the main banking floor into a large exhibition space by blocking the windows with plywood, carpeting walls, and hanging spots on tracks attached to an already hung ceiling.

The largest vault in the basement was turned into a children's auditorium, while the others were reserved for storage. Second floor banking offices now house museum administration offices and a large multipurpose auditorium.



The former Pacific National Bank of Washington.

LAND USE

THE BIG SQUEEZE

You'd think that both people and fish like to be in the subway at rush hour from the facts brought out by coastal land use studies. Over 75 percent of the U.S. population lives in states bordering the 53,677-miles-long ocean coastline, and the Great Lakes. Half of the population lives within 100 miles of the water. The Woods Hole Oceanographic Institute reports that 200 million people will crowd into this zone by the year 2000. Sea life is equally attracted to the coast. Half of marine life goes on in shallow coastal waters where fish feed and spawn and some live their entire life cycles. According to Dr. Bostwick Ketchum of Woods Hole, coastal estuaries are twice as productive as the richest agricultural land.

Ignorant of, or oblivious to these facts, Californians in the last 20 years have filled and dredged 67 percent of its estuarine areas. (The same carelessness is held responsible for the drastic reduction in Florida's shrimp harvest.) In addition to construction—pollution loads, recreation demands and the energy crisis are bearing down ever harder and faster on the coasts. The U.S. Geological Survey estimates that there are 200 billion barrels of recoverable oil on the U.S. continental margin, five times the proven land reserves, and three times as much gas as is known to exist on land.

As the first state to try comprehensive shoreline regulation, California's efforts are of nationwide interest. They passed a Coastal Zone Conservation law last November which es-



California coast.

tablished a 12-member citizen panel with veto power over almost any coastal development. They have a \$5-million budget for four years to run commissions—six regional and one statewide—with jurisdiction to issue permits for development within 1,000 yards of the mean high tide line. Their main task is to prepare a long range plan for a 1,000-mile-long, eight-mile-wide strip extending three miles out to sea and five miles inland, for presentation to the State Legislature in December 1975. The permits are an interim device for controlling rampant development until a comprehensive management plan becomes law.

The commissions have been delayed in issuing guidelines which were due February 1 and this has held up some projects because lending institutions are refusing to issue financing without knowing what the guidelines are. The executive director of the commission says the guidelines can't supersede local building regulations and will be more concerned with whether or not a project should be built than with refinements of its design.

Under the law, permits must be obtained for any develop-

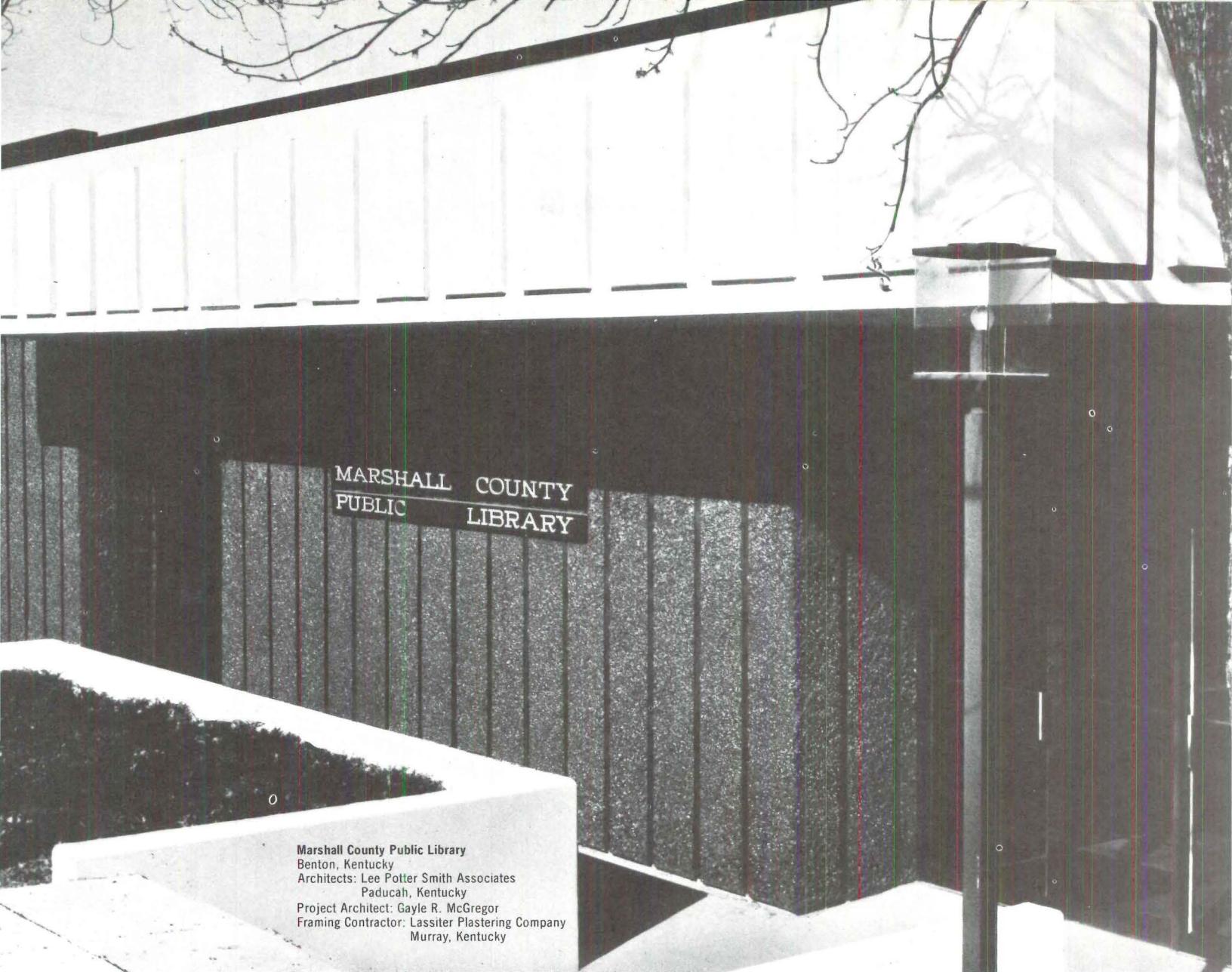
ment which would reduce beaches, interfere with access to them or obstruct ocean views. Exceptions are private home improvements under \$7,500 and San Francisco Bay developments which are under the jurisdiction of a special state agency. The law calls for fines of up to \$10,000 plus \$500 for each day's violation.

The regional commissions are made up of half city and county representatives, and half private citizens appointed by the Governor and legislators. The statewide commission is composed half of appointees and half of representatives from the regional commissions. Fortunately the statewide commission now has environmentally oriented leadership. The weakness in the situation is that limited funds provide little or no machinery for spotting violations, so there is an urgent need for coastwatchers.

It is estimated that unproblematic permit applications could clear in about 100 days, but those involving appeals would take an additional 200. Problem cases could take years.

A class-action suit has been filed by property owners charging that the law is unconstitu-

(continued on page 64)



Marshall County Public Library
Benton, Kentucky
Architects: Lee Potter Smith Associates
Paducah, Kentucky
Project Architect: Gayle R. McGregor
Framing Contractor: Lassiter Plastering Company
Murray, Kentucky

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It is easy to be cynical, and such good copy. This is especially so when it comes to an event like the First Federal Design Assembly, held early last month at Washington—a city where “design” has been a slab-stick comedy (usually of errors).

This first Assembly—there will be more—must make the cynic pause. Held at President Nixon's request, and coordinated by the National Endowment for the Arts, it could have been (what's the saying?) just one of those things.

There is something to be said, however, for an event which pulls together 450 people who have, quite literally, never been pulled together before: design professionals, representatives of business and (the touchstone) government agency officials—all of whom had a chance to exchange thoughts on a series of case studies dealing with visual communication, interior and industrial design, architecture, and landscaped environment. Ivan Chermayeff and Richard Wurman, program co-chairmen, kept the cases coming, illustrating the economic, social and community dividends of good design. It was like passing the meat and potatoes.

Beginning with the Assembly, a lot of government people are finding out that this kind of nourishment isn't all that hard to swallow. They are also finding out that those of us who have been trying to pass the meat and potatoes know a little something about living within a budget. J. Carter Brown, Director of the National Gallery of Art and chairman of the Assembly task force, emphasized, “Good design, as a functional factor, can improve the functioning of government.” All of which is fine and well, as far as it goes. A lot of people have been wondering about follow-up.

The Endowment intends to go considerably farther. And the Assembly is just one facet of its Design Improvement Program. Another is a review and expansion of the “1962 Guiding Principles for Federal Architecture,” which was done at President Kennedy's request. Bill Lacy, director of the Endowment's Architecture and Environmental Arts Program, is in charge of this, with research supervision by Lois Craig, former senior editor of *City Magazine*. Still another facet is a review of federal graphics, which Jerome Perlmutter is spearheading. One of the most decisive programs involves review of Civil Service Commission procedures for employing design professionals within the various government agencies. Finally, many of these agencies have now designated representatives to act as liaison with the Design Improvement Programs. Until now, there has been no mechanism by which, say, the Corps of Engineers and the General Services Administration can communicate about programs bearing on each other. The “Design Necessity” has provided an excuse.

Right now, you're probably thinking that I've been taken in. Maybe. Most important, however, is that so many government people have been—taken into confidence, that is. And into account. There are some tremendously creative people hidden away in the bureaucracy and (for once) there is a chance that they may be listened to. Again, the “Design Necessity” has provided an excuse.

FORUM

MAY 1973 VOL. 138 NO. 4

Sure enough, it's going to take two or three years to see results. But is two years too long to wait? Especially after two centuries? I think not.

It is my hope that these much-needed, and even noble, initiatives lead to agency policy, so that design can, indeed, be a functional factor in planning and expressing government programs. Bill Lacy put it pretty well when he called for “design counsels” with status comparable to those “legal counsels” who are an ever-present part of agency decisions. If you are talking policy, you are automatically talking logistics, which means discovering those pressure points within the bureaucracy where design values can be most constructively applied. Then there is the whole problem of designing a climate, both within and outside of government—a climate in which good design, at every level of national life, can be better understood. As far as I'm concerned, “The Design Climate” would be a logical theme for next year's Federal Design Assembly—and it would be well for its organizers to include leading writers and critics, not as mere reporters but as participants. “Design” can no longer be talked about as an esoteric, isolated element. The first Assembly demonstrated that design is the element by which other elements can cohere, and function with greater smoothness. The Fourth Estate is a basic tool for educating the public to these dimensions of design; its more respected representatives could be part of future proceedings without compromising their objectivity as journalists.

I guess of all the things President Kennedy said, I feel strongest about this: “If you let the tide come in, all the boats can rise.” Design, in the total (and truest) sense, has such surge. While no one in Washington is pretending that the tide has come in, lots of us have reason to think that it has turned.—WILLIAM MARLIN

CHANGING WALLS

Art for the people and the people as artists



"Protect the People's Homes" (above), directed by Mark Rogovin in Chicago, was painted out overnight by a new owner after being up two years. It depicted an Appalachian white woman and Puerto Rican man uniting in a common struggle to hold off the wrecking crane. Rogovin feels strongly that a mural should engage in a specific issue and not represent pretty brotherly love in general for no reason at all.

"People of Lakeview Unite," another Chicago mural, was directed by John Weber who spent over a year organizing to do a mural in this neighborhood: getting approval and donations from four community groups and five churches, and setting up a representative committee to discuss themes. The problems in the mixed community were a lack of communication between Anglos and Latins and the threat of housing speculation pushing out poor and large families. The block party theme shows the people can keep up their neighborhood. And their response: they want another mural.



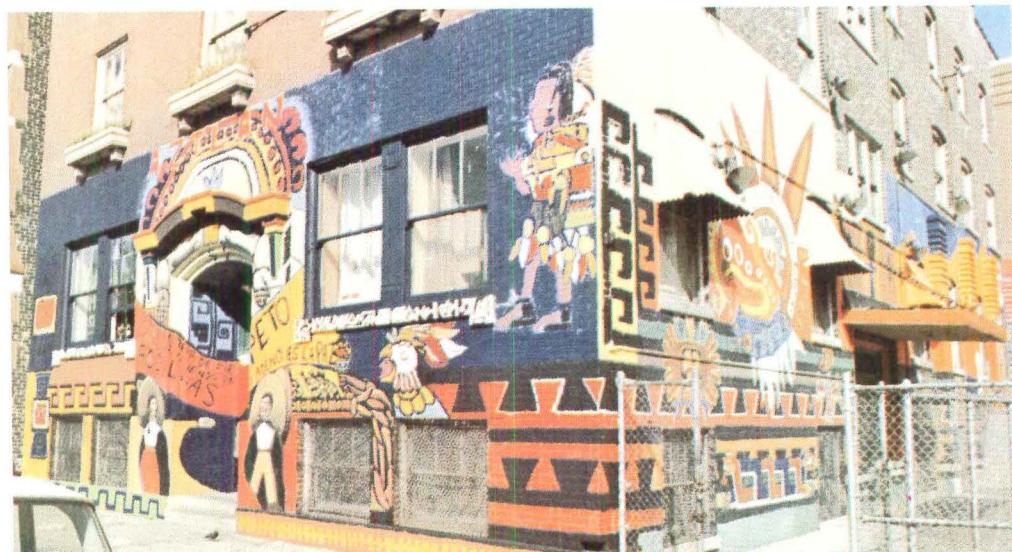
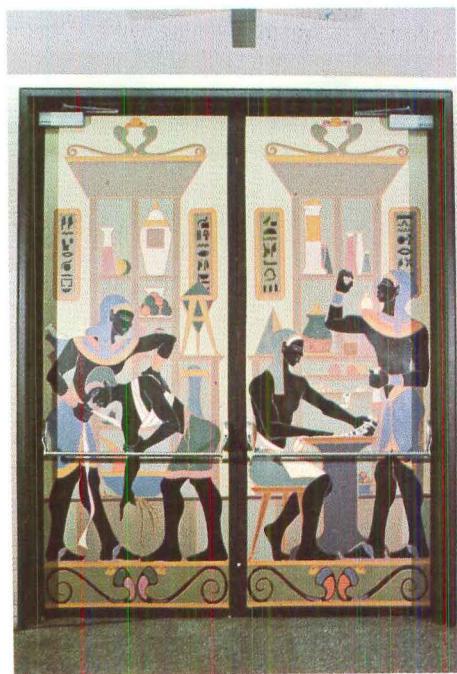
Arnold Belkin, who won a big struggle with graffiti while doing his first New York mural, says you wouldn't take a pin to a photograph of someone you love and poke out the eyes. He feels that this remaining magical sense explains the absence of graffiti on most murals. True or not, the first answer you get when asking about the effects of a mural is, "It hasn't been defaced," expressed with continuing awe. It's as if the murals become faces on previously faceless communities. The regard for the murals is accompanied by a new respect for the artist. This response combines protectiveness for their work (because of the care shown in its execution) and becoming engaged in the artists' struggles for better conceptions of life.

Bill Walker was the catalyst for the first community mural, the Wall of Respect, done by 21 black artists on Chicago's south side in 1967. He is thought to be the movement's founder and finest painter. He hopes muralists will "remain dedicated to bringing art to the people for the people, in the name of dignity, respect, pride, consciousness," believing art is powerful enough to help prevent oppression and barbarism. It is his sort of faith in art eliciting creative, civilizing powers from people which fuels the mural movement. But many muralists share Walker's view that a mural is "just a reminder; I am not saying the walls will do all the work; most of that must be sincere, dedicated community leadership."

The Chicago Mural Movement Group, of which Walker is a member, "puts a premium on the development of community organizing skills in the artist," according to John Weber, who feels the group is ready for major architectural commissions. He and Mark Rogovin, who runs the Public Arts Workshop on Chicago's west side, are both mural directors and central sources of information

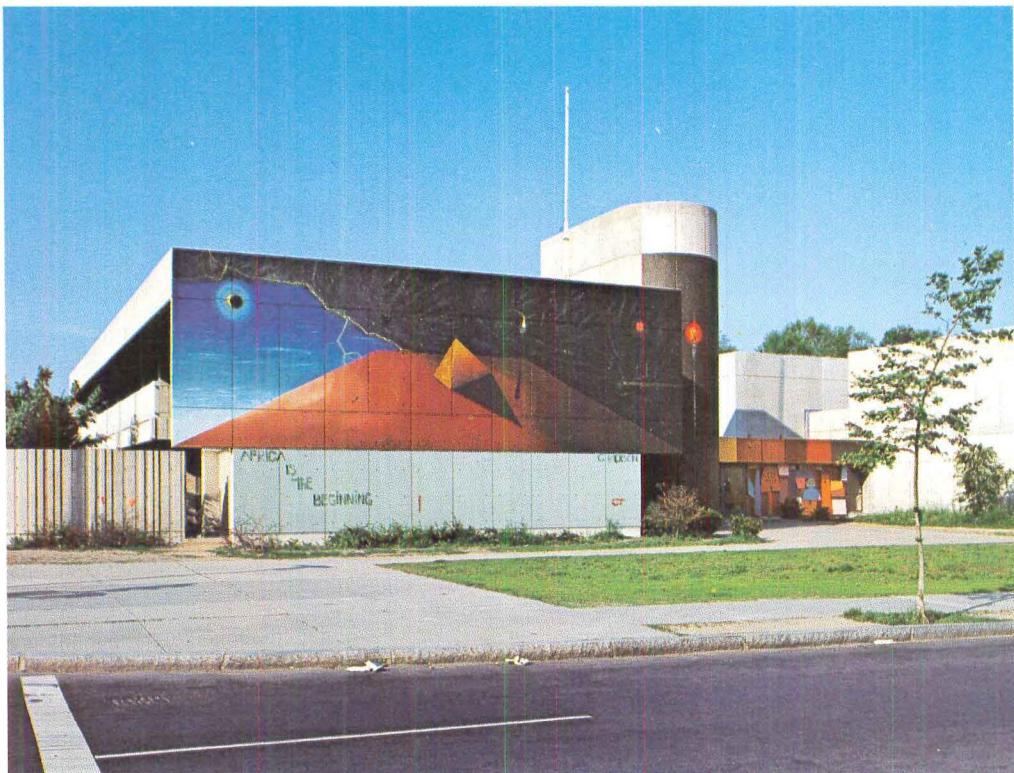


Bill Walker's revered "Wall of Peace and Salvation" (left) responded to killings in its rough Chicago neighborhood. It says it's dangerous to hate which leads to confrontation and death, and that we're going to see people coming together more and more. In the center, the confrontation of militants is surmounted by death masks and surrounded by guns. Above are the races hand in hand on the globe under the dove. Below is a band of civil rights martyrs, and below that a unity march of famous leaders and different street groups. The painted posters, bricks and windows blend with the setting. Eugene Eda, once militant and now into black Egyptian origins and astrology, is painting all the stairwell doors at Malcolm X College (by C.F. Murphy Assocs.). Many, like those below, are strongly ceremonial. Ray Patlan's main responsibility as a youth worker at Casa Aztlan settlement house is doing art with the kids. In summer they paint the outside of the building (below left), mainly with pre-Columbian designs. Inside he's doing a history of Chicano struggles. Sachio Yamashita, who wants to paint all the buildings and runways at O'Hare, swamped a near north side apartment house with a Hiroshige wave.



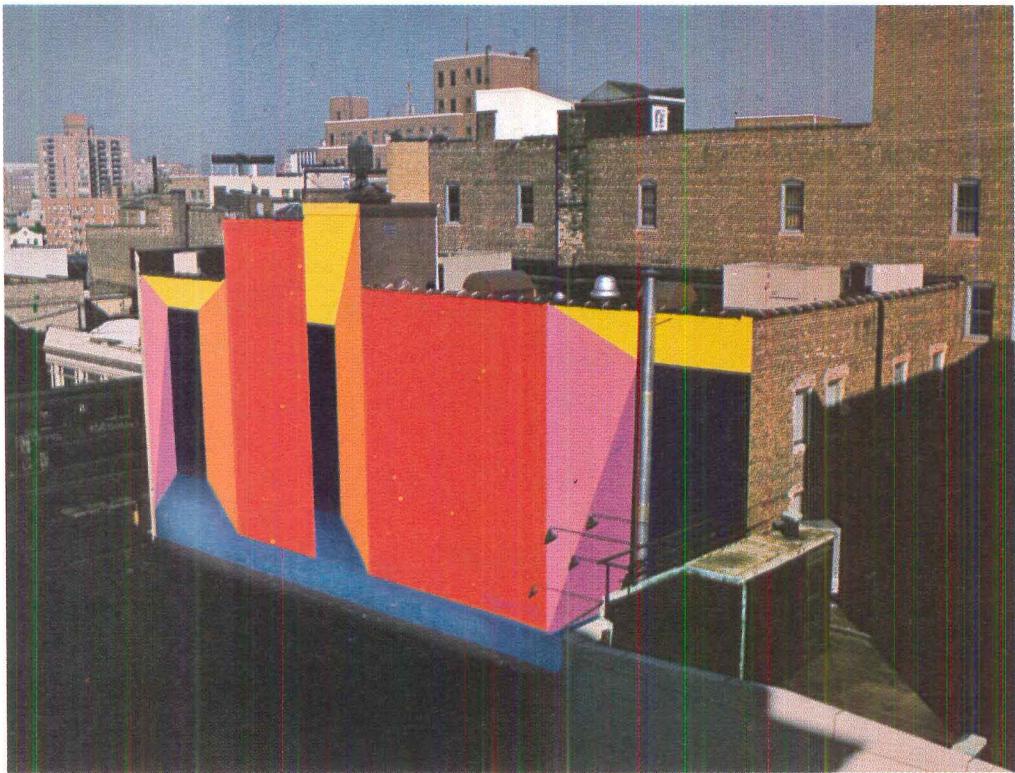


Dana Chandler of Boston says all his work is geared to black liberation. The major colors of his mural (above), "Knowledge Is Power; Stay In School" (the words at both sides) are those of the black flag. At lower left is an Everyman who has called upon the all-seeing African god above to shine a ray into the egg of whiteness which doesn't allow black people to be themselves. At right educated heros are blowing a spiritual flame to crack the egg. The central figures are using knowledge to make it out of the egg. Gary Rickson painted his surreal and cosmological "Africa Is The Beginning" on a YMCA by TAC without the consent of the architects who had had a white artist do a concrete, entrance wall sculpture, which Rickson also painted. He and his sympathizers feel the building is an imposition of white man's grey on people who love color. TAC feels he took rather prominent walls but was very sympathetic with the building. They both plea for collaboration.

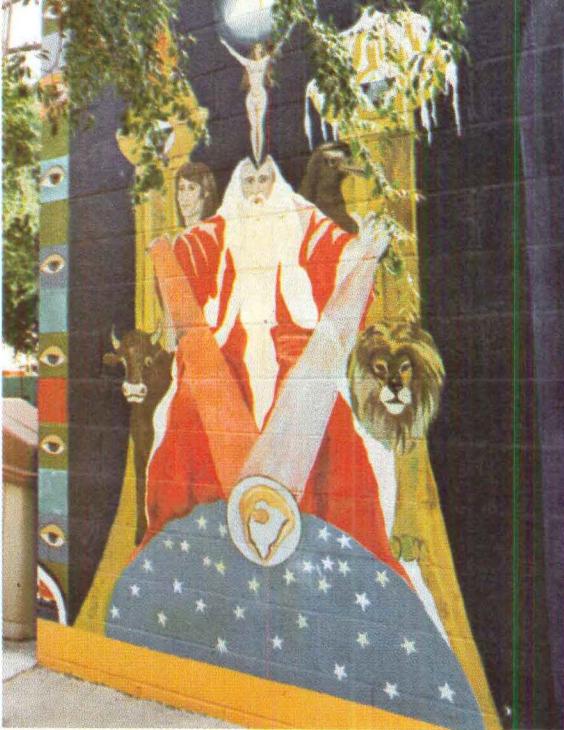




The Henry Street Settlement House wall in New York (above) was painted by over 30 local kids directed by Susan Green and James Januzzi of City Arts Workshop. Many meetings were held to arrive at the themes: the sense of entrapment in the ghetto by dope, buildings, pregnancy; and the struggle to break out of it physically or spiritually. One boy said, "All of us enjoy expressing our ideas of the problems that we face." The Jewish neighbors were so upset about the cross in the center that a loop was added to convert it into the Egyptian symbol of fertility. The City Walls mural in Queens by Robert Weigand (right) has caused such a stir among local artists who feel they should have been invited to do the wall that City Walls is working with them to find a way to do a wall of their own. This mural cost \$3500. City Walls uses licensed riggers and painters. Most community murals are done for well under \$1000.



The florid essence of California (right) was painted on a Los Angeles restaurant by Janet Spagg. Another L.A. mural (below) was the result of a social worker's efforts to help make a peace settlement between two gangs after two members, memorialized in the mural, were killed. The gangs painted the mural on the boundary between their turfs and signed it rather than using gang markers. In Philadelphia (bottom) high school senior Carlton Baxter, who used to be a big graffiti artist, has painted seven murals in his neighborhood. This one, paired with an almost equally large one perpendicular to it, was approved by the Fine Arts Committee of the Redevelopment Authority, and flanks a plaza. Asked what he liked about being a graffiti artist Baxter said, "I got to be known." He got into murals from being paid to remove and paint over graffiti. And because of him, graffiti has been out in Nicetown. He had some commercial art in school and works without professional help.

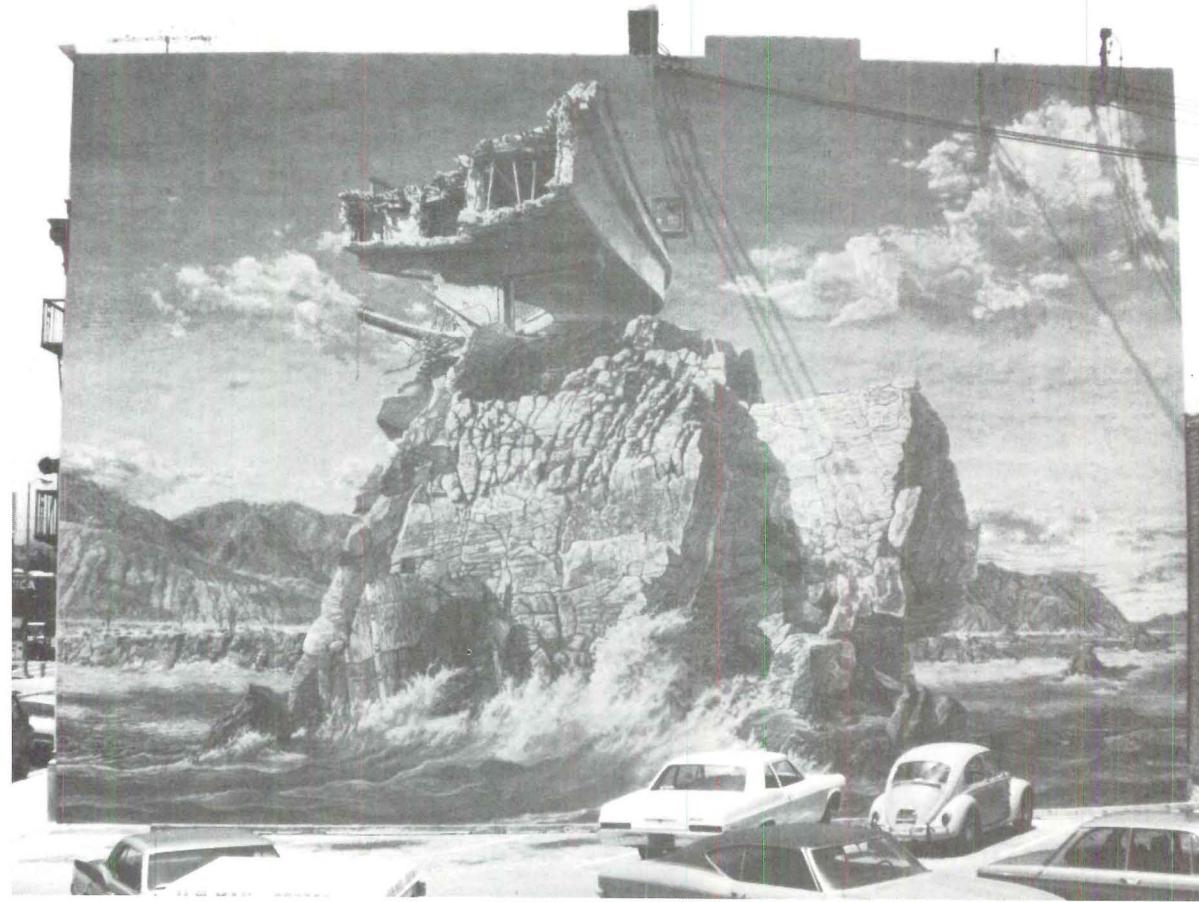


about the movement. Rogovin is publishing a comprehensive mural manual with a technical and historical bibliography. He dreams of artists in residence in housing projects who would conduct ongoing workshops with tenants. And, like all the other muralists who have been working with very limited funds and scrounging for donated materials and old, deteriorating walls, he would like to do a new wall and be brought into the project by the architect early in the game, not as an afterthought.

Sachio Yamashita aims at the ugliness permeating the Loop and its prosperous fringes. He has embarked on painting 1000 water towers. A macaroni company wanted macaroni on theirs. He painted it macaroni color. Imagining the cumulative effect of his negotiations, you can almost agree with him that his work is the most political in Chicago.

In Boston where, as in Chicago, there are now almost 100 murals, the Mayor's Office of Cultural Affairs has been finding and funding walls, and supplying paints, scaffolding and community coordinators since spring 1968. The black artists have regarded murals as a chance to make a statement and most like to work alone. As Gary Rickson put it, "If we're not political we're not being real." Roy Cato feels the first murals came out with political messages like bombs but now there is more concern with culture. Adele Seronde, an initiator of the Boston program, says the white artists, inspired by Allan Kaprow, are thinking of the city as a place full of potential for the creation of environments. She'd like to see the murals echo through the city just as horns send messages between mountaintops. Now the murals are so few and far between.

In New York the establishment avant garde and community artists are at odds. City Walls Inc., headed by Doris Freedman, acts largely as a non-profit agent and fund-raiser for professional abstract artists, and as consultant to cities who want their kind of mural. With City Arts workshop, directed by Susan Kiok, neighborhoods are very much involved, as in Chicago. People of all ages and skills work under experienced artists. They've done murals in and on a housing project and,



The story goes that they're selling ocean front land in Nevada because California is going to drop into the sea. It's no story that a number of freeways collapsed in the 1972 earthquake. The Fine Arts Squad put the two together in their super-realistic manner (above), to the tune of \$20,000, on the back of a self-realization center in L.A. The fame of the Squad is such that they were commissioned to do a mural in Paris which they've just completed. In San Francisco, the city and county Neighborhood Arts Program hired artist Renee Yanez to see what was needed in the Mission area. He got together a group of unemployed artists in the neighborhood who painted the gang headquarters of the Mission Rebels. Robert Crumb, famous for "Zap Comix," a favorite of the gang, was brought in for the lower part.

PHOTOGRAPHS. Page 20 (top) Mark Rogovin. Page 20 (bottom), page 21 (left, top and bottom) John P. Weber. Page 21 (top right) Eugene Eda, (bottom right) Dennis Shapiro. Page 22 (top) Dana Chandler, (bottom) Institute of Contemporary Art. Page 23 (top) Susan Kiok, (bottom) Joel Peter Witkin. Page 24 (bottom) James P. MacGruther. Page 24 (top, middle), page 25, page 26, Seymour Rosen. Page 27 (top) Boston Mayor's Office of Cultural Affairs, (middle) Tana Krizova, (bottom) Susan Kiok.

for the National Park Service, are completing a Gaudiesque concrete and mosaic bench around Grant's Tomb. The issue between the two groups was well expressed when James Januzzi of City Arts was asked if a City Walls mural contributed cheer. "No," he said, "because cheerfulness comes from inside, not from outside." The community muralists feel that by the curiosity, controversy, creativity and cooperation they provoke, and by the pride, identity and unity these en-gender, they are generating cheer from inside.

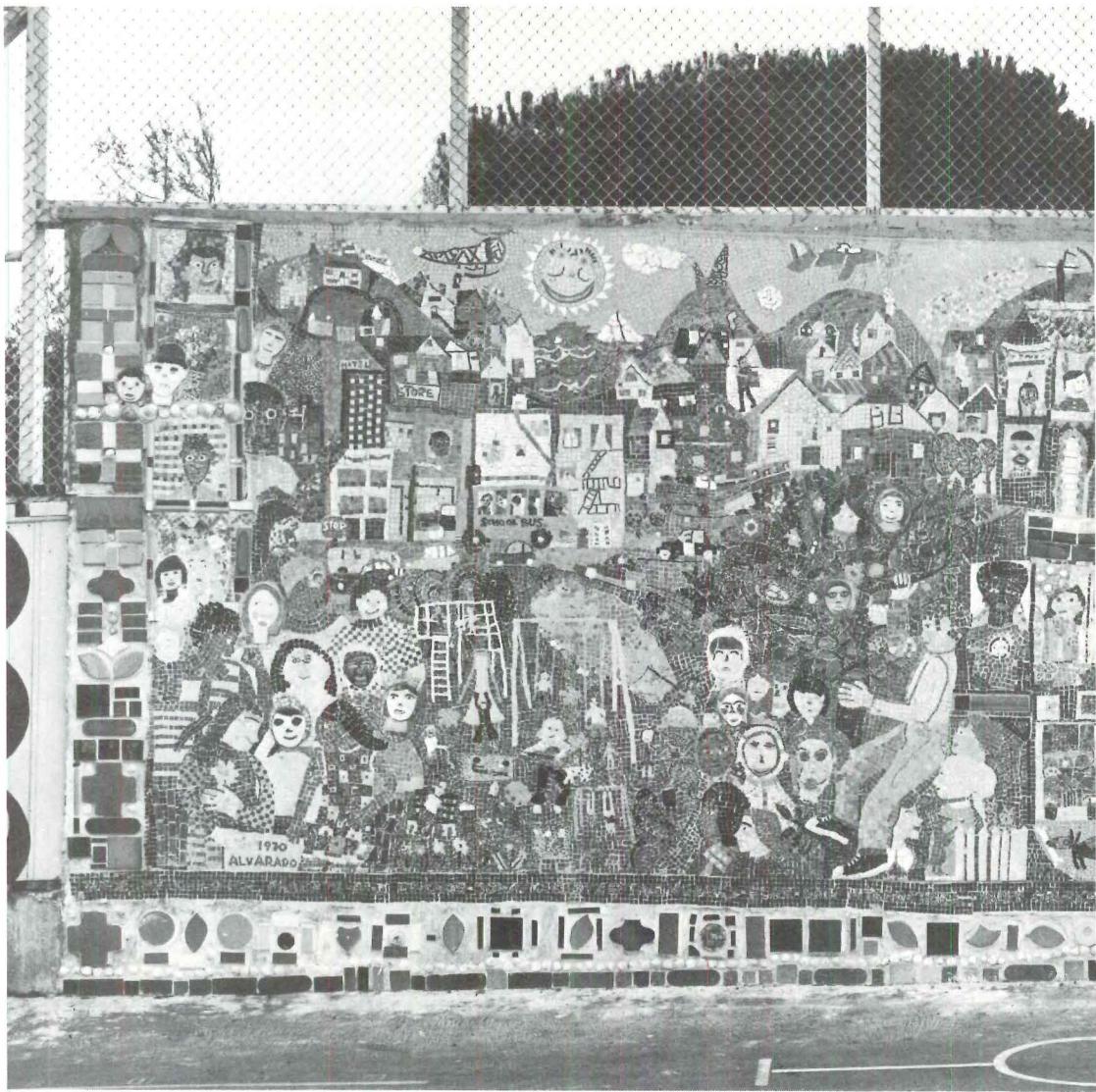
Among the many types of Los Angeles murals are those Judy Grupp of the City Department of Recreation and Parks has coordinated with 20 Youth Corps workers, replacing graffiti on recreation buildings. They spend many hours in trust sessions—some are members of warring gangs—before painting begins.

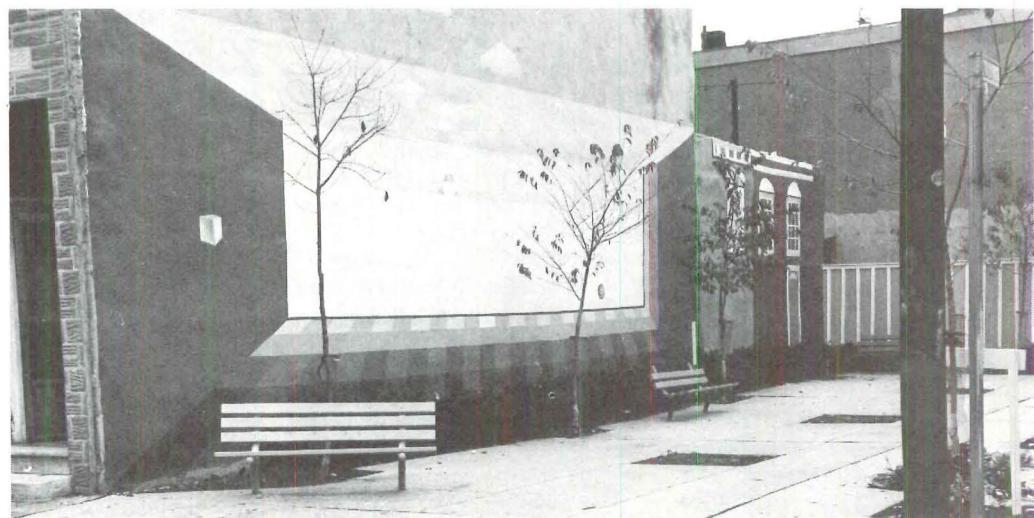
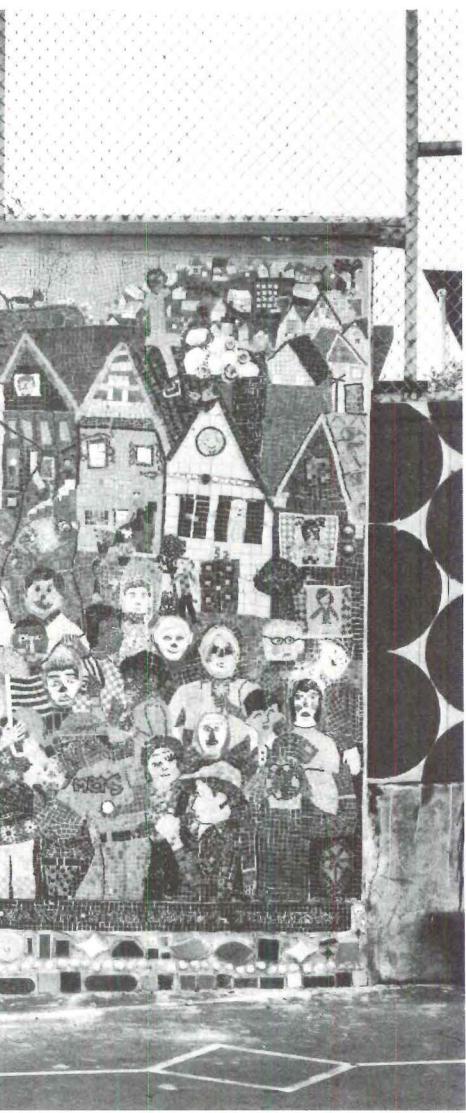
A San Francisco program of school art workshops, initiated by artist Ruth Asawa Lanier, has spread to seven schools. Parents, teachers and artists work with the children to liven up school curricula and walls.

The Graffiti Alternatives Workshop in Philadelphia converted ardent graffiti writers into muralists and community workers. They've put out a spirited, practical primer to establish anti-graffiti programs.

When asked about the murals, Louis Kahn distinguished between "painting on walls" and work "associated with Giotto that has qualities of the eternal." (Most muralists are aware that, with rare exception, what's happening so far is not major art but a beginning which may lead in that direction.) Kahn said he would like a mural on a building of his; he would make all the walls equally receivable. He thought of a building of such integrity that it defies an artist to make a mural. "The man that feels he can enhance it, I would enjoy him very much."

Kahn also said, "We live to express. That's our whole motive." Architects have the option of agreeing with this and giving other people opportunities to live a little, or continuing to impose their tastes which may fall on deaf ears. Community-oriented murals are giving people something they end up wanting.—JANET BLOOM

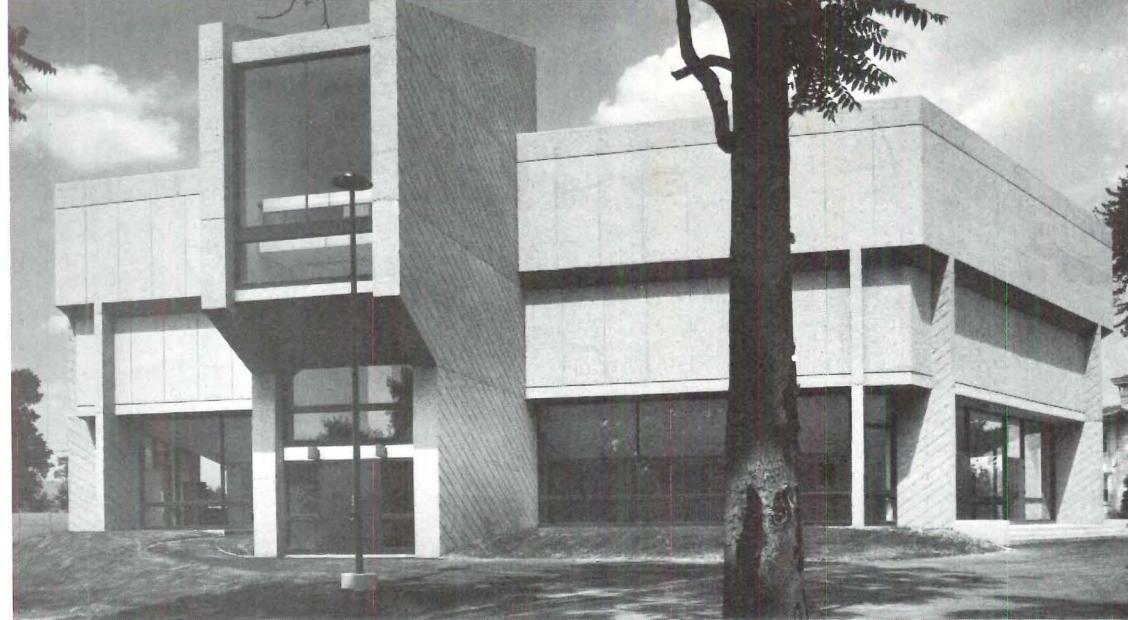




San Francisco children made the Alvarado School mosaic (above) with Ruth Asawa and Nancy Thompson. The L.A. bandshell (left) was painted by Youth Corps workers coordinated by the Recreation and Parks Department. Two Boston design students, Dan Hueng and Bob Uyeda, painted a backdrop for a Chinatown festival (top). Tana Krizova donated her talents (as so many muralists do) to create a spacious illusion in a little Philadelphia park (middle). Arnold Belkin, who has done several murals in Mexico, was commissioned by architect Michael Altschuler to do a six story mural above a New York playground (bottom). Belkin says murals are like morality plays, and addressed this one to the threat of high rises, dope and poverty in the neighborhood, and the hope for a united, constructive future. 'Altschuler will extend the colors of the mural into the poured epoxy playground; and he decided, watching Belkin work, "I will do everything possible in every project I have to get a muralist."

MIXING MEDIA

This multipurpose auditorium is quite a performance



The Architects Collaborative was not commissioned just to design a multi-purpose auditorium and arts center for Dickinson College. They were given a mandate to "provide a focus for the entire campus." Astute siting, assertive form and a highly functional, heavily utilized building are the result.

The site which was finally chosen, between the library and student center, concentrates activity; in the bargain, the site which had been first preferred has been left free to become a third green. Anticipating the growth of the college, TAC introduced density to complement and preserve the existing spaciousness. The full realization of their intent—to create an urbane, tight-knit, paved space—awaits the demolition of a dormitory and the construction of the arts building, which will be auxiliary to the auditorium, and their joint plaza.

The primary program require-

ments were for both instrumental and choral practice and performance rooms for the music department (which rarely has audiences of over 400); 150-seat lecture rooms; and a 1000-seat auditorium. The arts building will later accommodate green rooms, studios and offices for art, dance and music, lounges and exhibition space.

Len Auerback, formerly of Bolt, Beranek and Newman, suggested the catwalk system for lighting, projection and scenic drops. The architects say this changed the concept from that of a simple auditorium, divisible into lecture rooms, to a versatile theatre.

The auditorium is divided by three dual coil-walls which provide air-borne sound isolation for simultaneous music activities when all three are closed. Vibration isolation joints in the floor and roof construction between the major spaces reduce the transmission of structure-

bome noise and prevent sound from flanking the coil-walls. Resilient skins on various interior surfaces also reduce air and structure-borne noise. On one occasion, with the hall fully divided, there was a pantomime in one section, chamber music in another and a movie in the third without any sound leaks. The sound of a full orchestra rehearsal, or an electronic guitar, will get through. Nevertheless, rock and play rehearsals are scheduled simultaneously. In all other configurations, when one or two of the walls are open, there is adequate sound isolation for simultaneous speech activities.

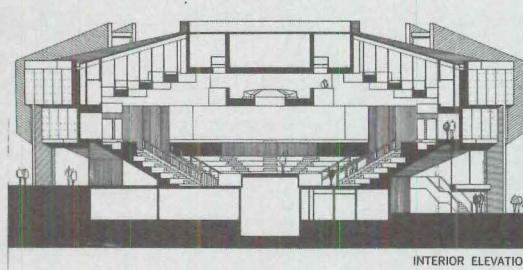
Dr. Truman Bullard, Chairman of the Music Department, says that solo performers and quartets love the place, particularly when they are using one or two sections, but they like the whole hall too. However, for choral performances on the grand stage a portable acousti-

cal shell has to be installed.

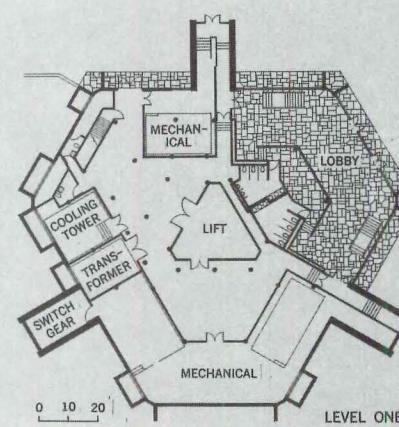
Dr. Bullard finds what he calls the drier acoustics—compared to a warm, resonant church—very good for rehearsing. He points out: "They do no favors for any of our groups. It's very honest, which professional performers like. In terms of hearing mistakes, poor intonation, poor attack, poor diction, the building is marvelous to work in." In fact, the improvement in student performances is receiving comment when they give concerts away from home base.

This hall reminds Dr. Bullard of the MIT Kresge auditorium, which is the Juilliard Quartet's favorite. He adds that several performers have been very impressed with the Dickinson audience; it is very silent and moves around much less than usual. He attributes this to the fact that audience noise is very perceptible.

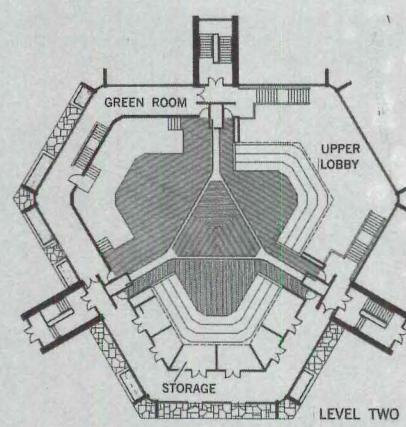
Charles Eldridge, Assistant Director of Instructional Media,



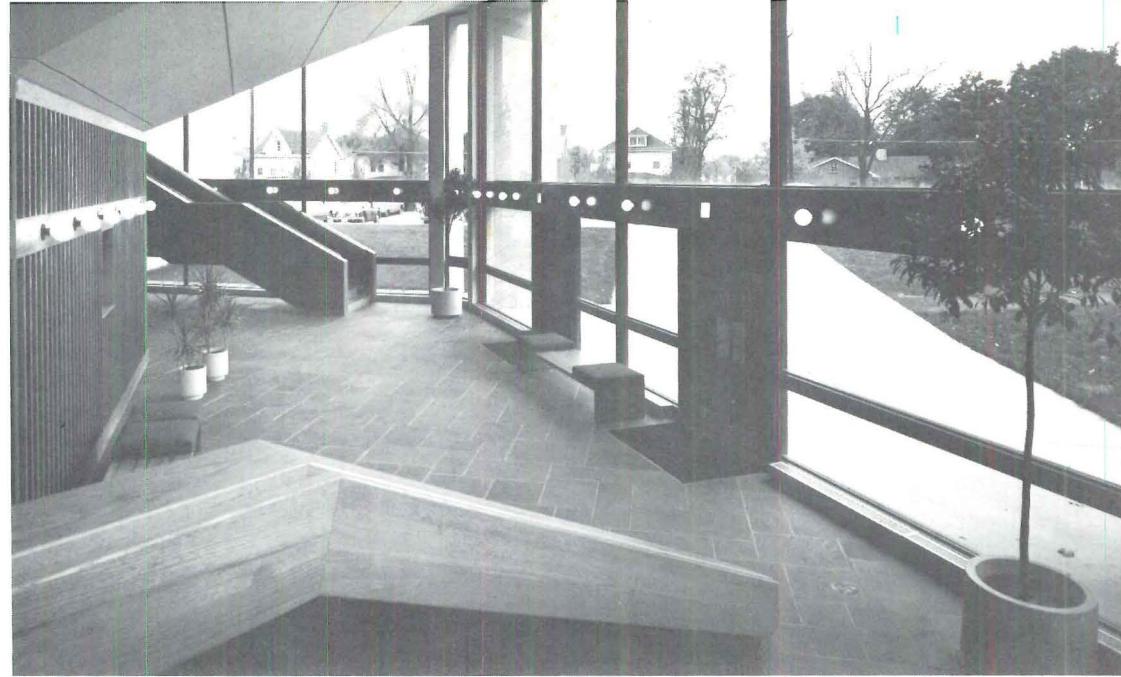
INTERIOR ELEVATION



LEVEL ONE



LEVEL TWO



The auditorium can be entered from five sides. The entrance facing the library (at right in far photo) opens onto a perimeter corridor lined with ample instrument and robe storage closets. There are three stair tower entrances. The main lobby (left) faces the student center and what will eventually be the main public access to the auditorium through the arts building and across the plaza.

who has been running the building for two years, says: "The stage lighting is good. The systems available are very flexible and a lot of fun to work with. Most road companies enjoy working here and the technical people are intrigued with it." The only deficiency is that front lighting for the grand stage must come from the lower catwalks opposite the stage, and it comes straight in rather than at a 45 degree angle, the ideal for proscenium lighting.

Among the mixed blessings: good intercoms connect the projection booths with the rest of the building, but there is no means of communication between the control room and the floor. Walkie-talkies are used now. The loudspeakers are very well-focused on the seating in individual sections, but there is a dead spot in the center, under the control room, which causes difficulties when the whole hall is open for films or

lectures. In this situation the sound for films is garbled, which might be rectified by different usage of the acoustical curtains behind the catwalks. Very little sound reinforcement is needed for the speaking voice.

The spacing between seats is very agreeable and the angular rows give a sense of intimacy to the audience which straight rows, parallel to the stage front, couldn't do. The major drawback here is that the swivel seats (in the two sections closest to the grand stage area) don't swivel quite far enough, so people watching the main screen have to crane their necks. Likewise, people in the lowest rows have to raise their heads considerably to look at the section screens, which only drop to seven feet above the floor.

The most serious problem is that people frequently trip and fall on the aisle stairs. The treads are too shallow, their edges insufficiently visible, and

the aisle lights inadequate.

The catwalks were designed with great consideration for anyone who might feel queasy about climbing around on them. But the floor boards which contribute to this reassuring effect turned out to be rather resonant, so wallboard has been laid over them to deaden the sound of footsteps.

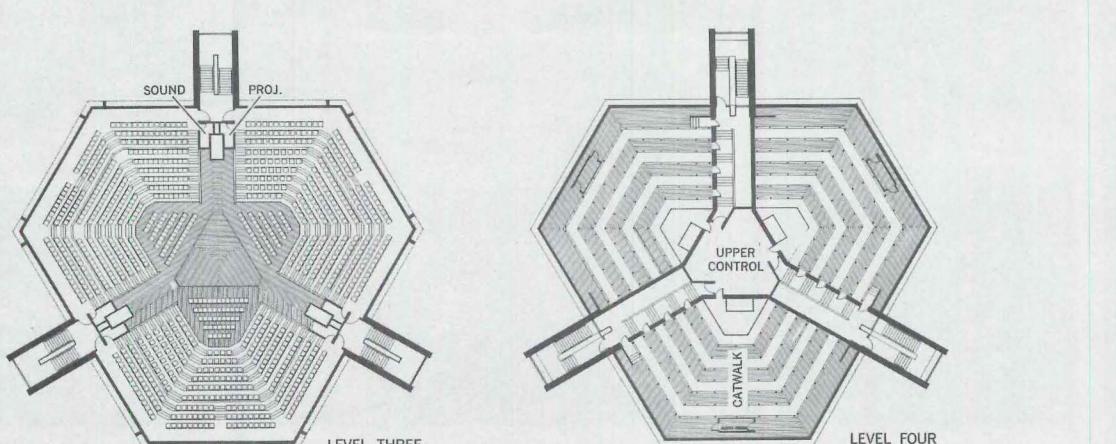
Little pity has been taken on projectionists when making economies in this building. For example, the three sectional projection booths are at a level which forces the projectionist to his hands and knees to focus the image on the screen. The architect suggests sitting on a carpet (in a yoga position?) would solve the problem.

The building takes the liberty of being concrete. While constrained by function, it is an obtrusively free form compared to the calm, classical rectangularity of the campus buildings, most of them stone, or stone

veneer. Although relating to the other buildings in height and having the same native stone as aggregate, the building stands out as muscular. As of now, it raises an open question about the integration or interplay of styles. The completion of the whole arts center will determine whether or not TAC has successfully created a different experience on campus.

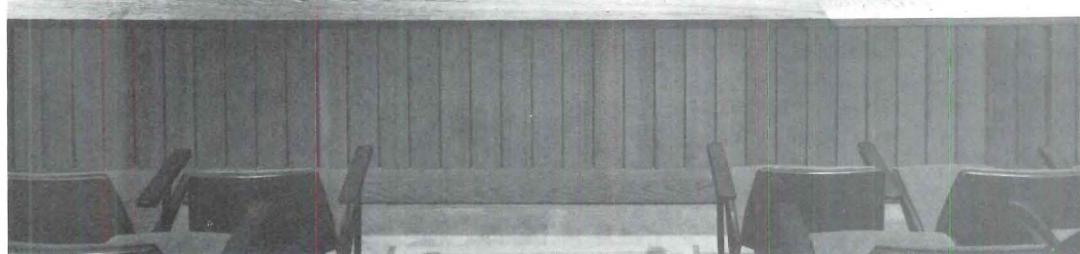
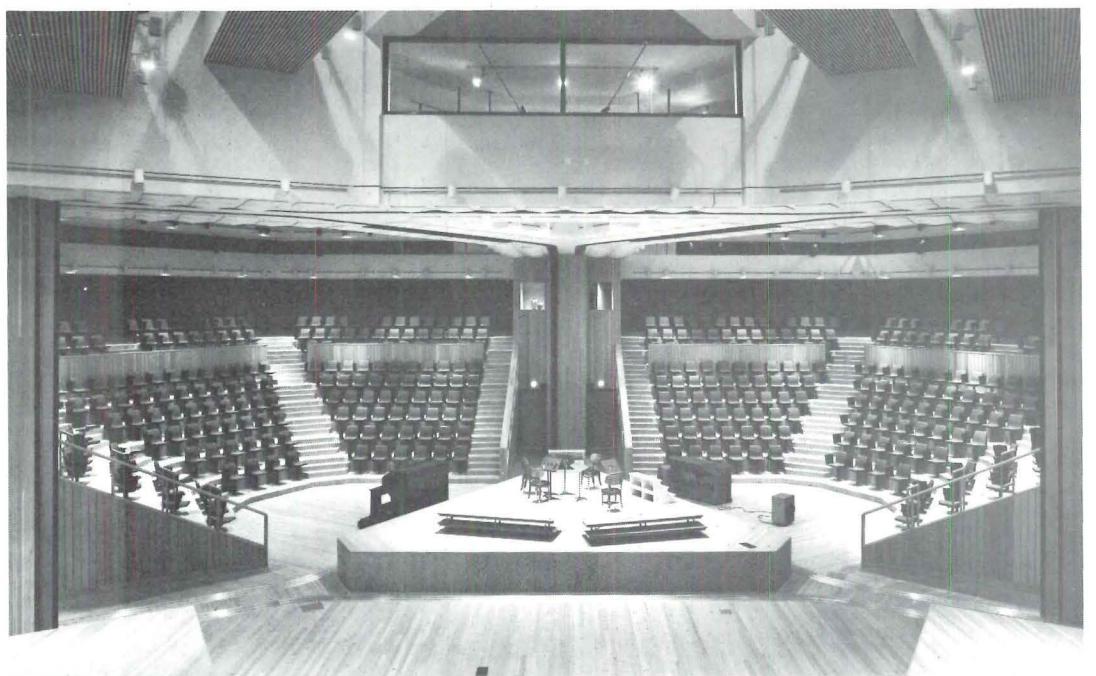
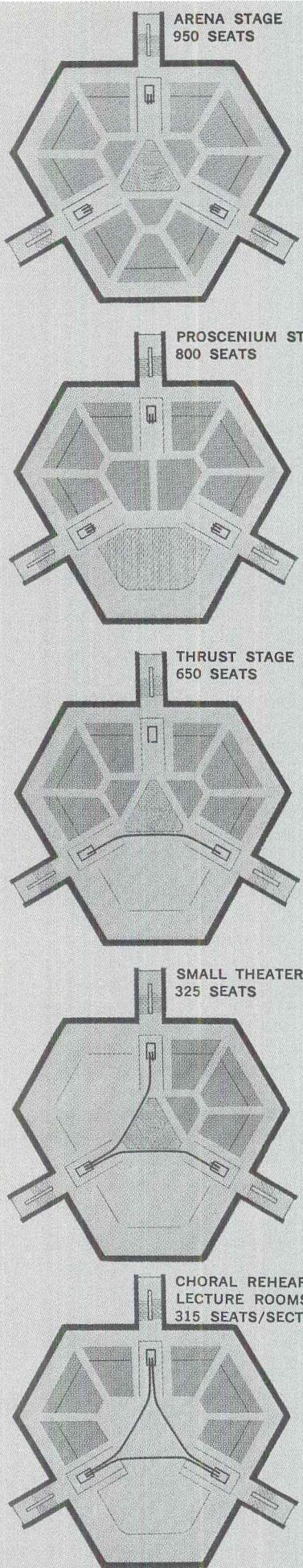
Meanwhile Dickinson College is taking great pleasure in the abundant warmth and grace of the interior: the fine and simple detailing of the wood floors, walls and rails; the intriguing and satisfying geometry of the rows, catwalks and soffits.

It is said that multi-purpose usually means no purpose. But at Dickinson you can hardly count the ways this auditorium is being used all day, every day. And, because it is so pleasing and versatile, you imagine the building inspiring unforeseen uses.



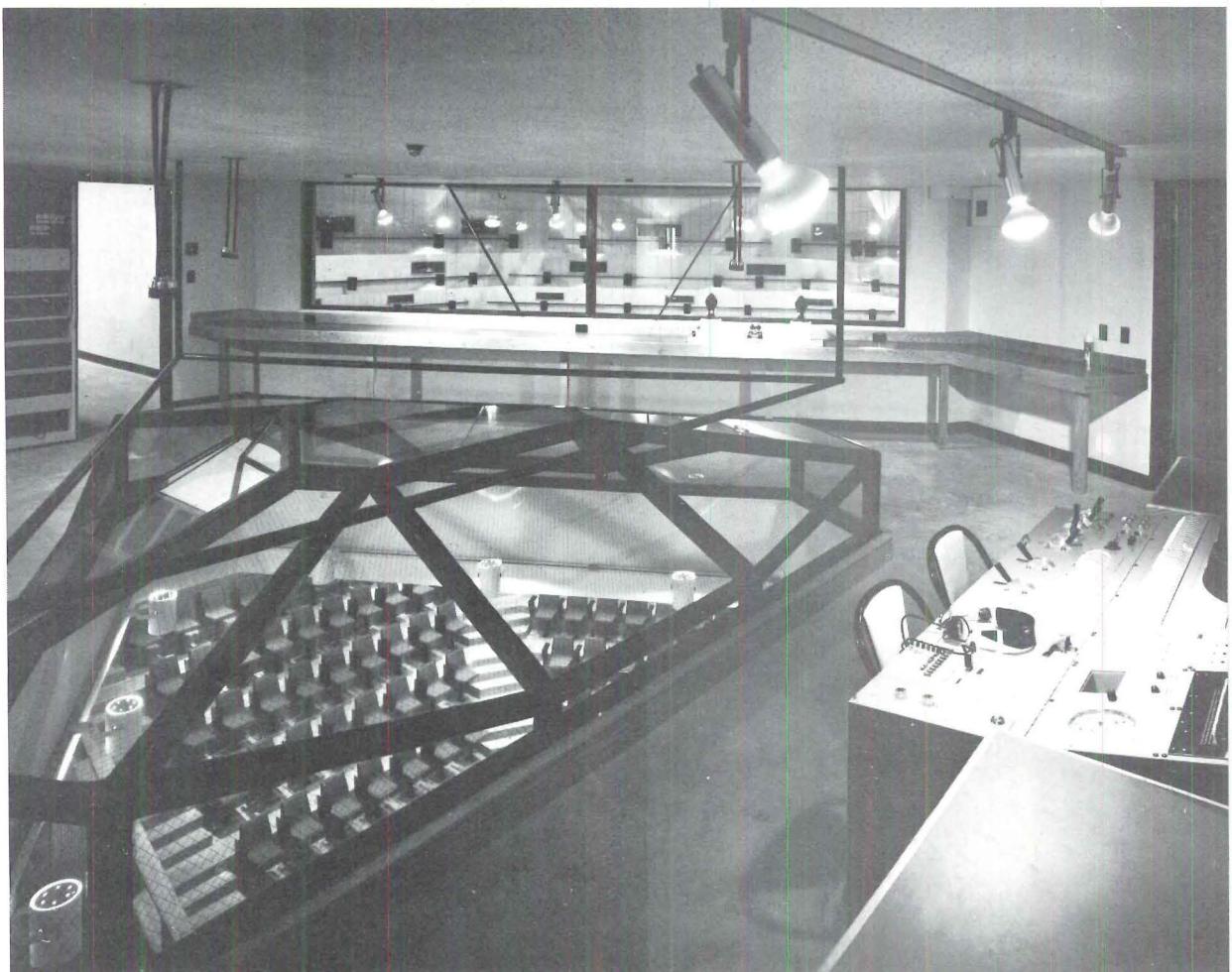
FACTS AND FIGURES

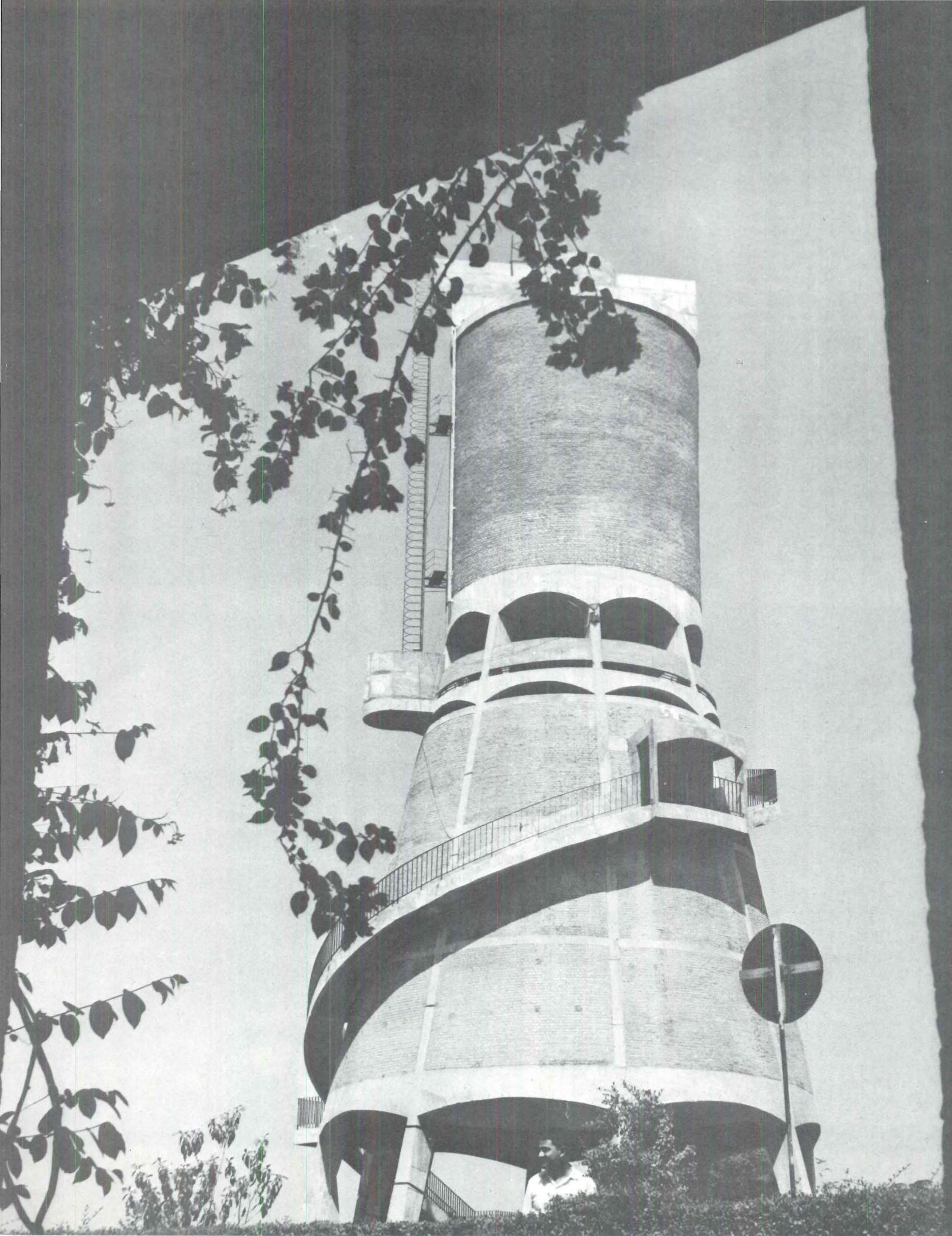
Anita Tuvin Schlechter Auditorium, Dickinson College, Carlisle, Pa. OWNER: Dickinson College. ARCHITECT: The Architects Collaborative. PRINCIPALS: Sarah Harkness, H. Morse Payne. ASSOCIATE-IN-CHARGE: Gregory Downes. ENGINEERS: Le Mesurier Assoc. (structural); Francis Assoc. (mechanical and electrical). LANDSCAPE ARCHITECT: TAC Landscape Dept. CONSULTANTS: Bolt, Beranek Newman. CONTRACTORS: J.E. Hurley Co. (general); H.B. McClure Co. (mechanical); Reiter's Inc. (electrical). BUILDING AREA: 38,000 sq. ft. LAND AND SITE DEVELOPMENT COST: \$75,000.00. CONSTRUCTION COST: \$1,425,000.00. FURNISHING AND EQUIPMENT: \$175,000.00. FEES: \$150,000.00.



Of the five basic configurations (far left) the arena stage has been used only once in two years. The building is in such demand they can't afford the two and one-half days (and the cost of labor) to set up the grand stage area to be identical with the other sections. The open auditorium (left) is seen with platforms filling out the fixed portion of the grand stage. Balcony walls define the grand stage and diminish the scale for smaller groups. From the balcony behind the grand stage (below left) one sees straight across to the main projection booth window and the lower control room overhead. The central triangular platform is raised to enhance site lines. It could be connected to the grand stage to form a large thrust stage. It is used to transport the organ, pianos, chairs and platforms stored in the basement, and as an orchestra pit. The lower control room (right), which is part of a truss, has a central viewing port and a stage lighting console on casters which would be movable given an adequate cable. Entrances and exits can be made from the back of the small stage (below) if one door is slightly retracted. Below right is the standard lecture hall usage.

PHOTOGRAPHS: Julius Shulman.
(For a listing of key products used in this building, see p. 73.)





BALKRISHNA DOSHI

A socially conscious architect combines the traditional forms and evolving technologies of India

BY JOHN NICOLAIS

Balkrishna Doshi's international reputation as one of India's most significant architects was underscored in 1971 when the A.I.A. named him an honorary Fellow. But to fully understand Doshi's contribution, one must be aware of the peculiar context his homeland provides to architecture as a discipline and a profession.

Architecture in India manifests itself in a wide range of building typologies. Village structures (there are more than 565,000 villages) and city squatter settlements are still built in widely varied vernacular traditions with local materials and conventional methods, usually by the owner or tradesman. Newer small-scale commercial, governmental, and residential construction, cropping up in

such as white-washed plaster throughout. Indigenous design amenities include the roof terraces, numerous balconies, verandahs, and projecting concrete sunshades over windows, which assume bizarre shapes in inverse proportion to their effectiveness. Apartment blocks are virtually stacked agglomerations of these houses.

Construction occurs in stages, so that the roof of a house may have wisps of reinforcing emerging from the tops of each column, waiting for the addition of another story. Elsewhere, beam stubs may protrude from the sides of a building, waiting for adjoining rooms. The owners and users of buildings generally feel no obligation to care for finishes and mechanical systems. With the usual consequences.

The climate naturally plays a role in India's architecture. In general, this vast country is hot—hot and dry, or hot and wet. Cross ventilation is therefore essential, as is sun protection, and surfaces are chosen for their "coolness" rather than softness or warmth. The weathering of a building can be severe, and gray-green fungus appears quite freely on exteriors.

In a populous country like India, with a large, fatuous bureaucracy and definite socialistic ambitions, the interest of the government in architecture and housing might be expected to be significant. Not so. Except for the hiring of architects for prestige commissions, the government, through lack of funds or imagination, has produced little work of quality.

The Indian architect, operating in this indifferent situation, is typically a man of high caste, sufficient finances, good connections, and considerable education. He can speak English, he works in one of the relatively few urban centers, has often received part of his education abroad, and is a member of the urban elite. For most of the architects in India, it is enough to be part of this coterie. Because opportunities to design towns or housing for the poor are rare, architects have generally neglected these problems in their work. Even so, an Indian architect with compassion and sensitivity continually finds himself in a frustrating situation. He senses the limited value of serving the urban rich, yet there is no call

for his services from the masses, and the government has not adequately mobilized its resources for creative action.

Doshi's situation in Indian society follows the typical pattern up to a point. He is an upper-caste Hindu. He lives and works in Ahmedabad, the nation's sixth largest city and its principal textile center. And he once worked in Paris with Le Corbusier. But his office Vastu Shilpa (which means "skill to create structures" in Hindi) is by no means typical in the scope of its work.

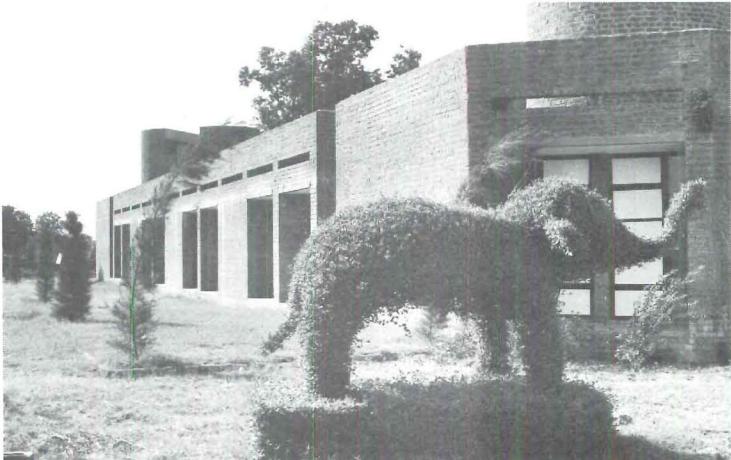
While Doshi has executed his full share of houses for the wealthy, and other isolated buildings, he began to make a deliberate effort to confront India's social problems as early as 1953, in a competition design for low-cost housing. This concern led to explorations with flexible, easy to expand structures, completed about ten years ago (FORUM, Dec. '65).

With the township projects finished since then, Doshi's interest in larger urban planning issues has become evident: At Baroda and Hyderabad, pedestrians and vehicles are separated, and open space generously allocated in private dwellings, neighborhoods, and the community as a whole. In Hyderabad, Doshi pressed for and achieved a social mix in his township plan—countering the country's deep caste consciousness that results in almost total stratification in rural areas.

Doshi has relied on simple, locally produced materials for the township projects, and thus the housing has proved economical to build. Yet technological advances are not ignored: In the Hyderabad project, on-site precast panels were used—one of the first large-scale applications of this technique in India.

Commenting on the application of technology in his work, Doshi explains: "For India, with her dispersed and diversified operational needs, it is better to use many installations of smaller equipment rather than—in pursuit of alien values—to burden herself with heavy technology."

Although Doshi has recently stressed measurable criteria for design, he has not forsaken his old love for space, light and form—those universal architectural values he understands so well.



towns and cities, follows similar patterns except that it may be designed by engineers or draftsmen. For their part, architects have generally been limited to offices, houses for the wealthy, apartment buildings, theatres and educational structures in large cities, particularly in the north. These two extremes are usually juxtaposed in cities with western-style highrises next to owner-built squatter homes.

While the architect-designed buildings tend to correspond to current international developments in building, non-architect designed construction features indigenous materials and architectural elements. Houses are flat-roofed, one to three stories in height, and built of brick or concrete. Finishes are minimal,

Mr. Nicolaus, an architect who taught with Doshi from 1968-70 at the Center for Environmental Planning and Technology in Ahmedabad, is now with Kajima Associates, Los Angeles.

The water tower (opposite) in the township of GSFC Fertilizer Nagar is located in the center of the village. Doshi has taken a necessary element of village life and made it the point of orientation for the town. Also in the village center is the primary school marked by a sample of topiary art (above).

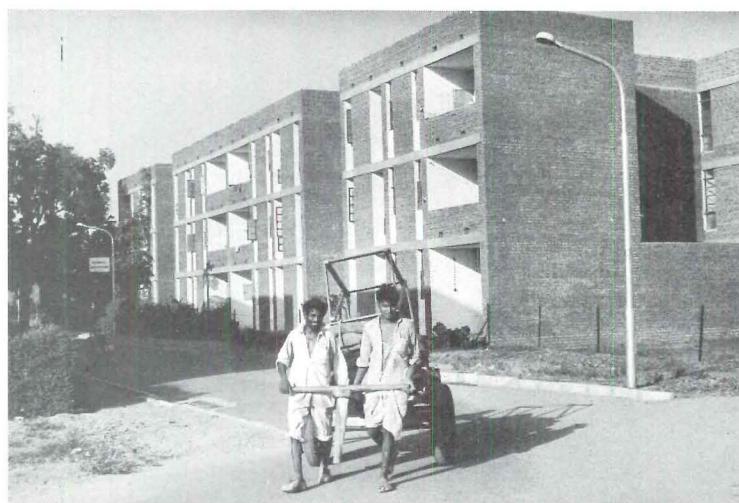
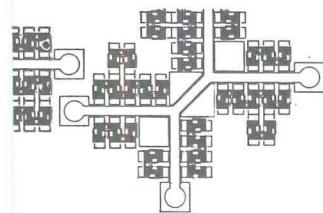
GSFC Fertilizer Nagar

As noted, Doshi's interest in housing and planning was evident in 1953, when he designed a low-cost housing project for a New Delhi competition while working with Le Corbusier in Paris.

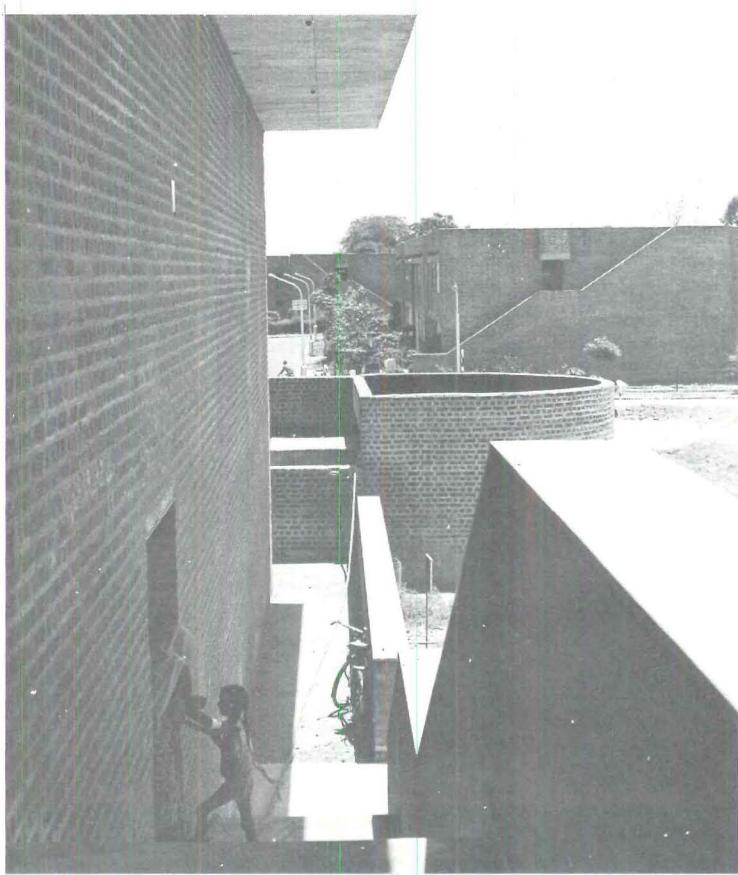
In the scheme, Doshi kept a village scale while introducing an urban sense of neighborhood. Houses were related to each other to create various types of private and public spaces.

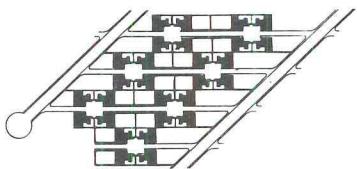
The plan he executed for the Gujarat State Fertilizer Corporation township (more simply known as Fertilizer Nagar) embodies these earlier concepts. The company town, some eight miles from the city of Baroda, houses all classes of employees of the GSFC. Nine categories of housing, plus a guest house, a small clinic and hospital, sports facilities, and a temple (not by Vastu Shilpa) are arranged around a village center.

Because the GSFC is a semi-government corporation, there were numerous quantitative and qualitative standards to be met regarding space allocation, room types, amenities, and cost for dwellings. In addition, many detailed requirements had to be confronted with regard to standards of services, public amenities, roads and open space for the town as a whole.

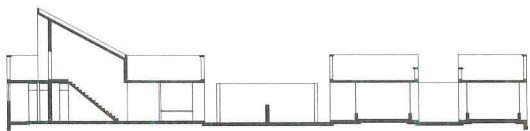
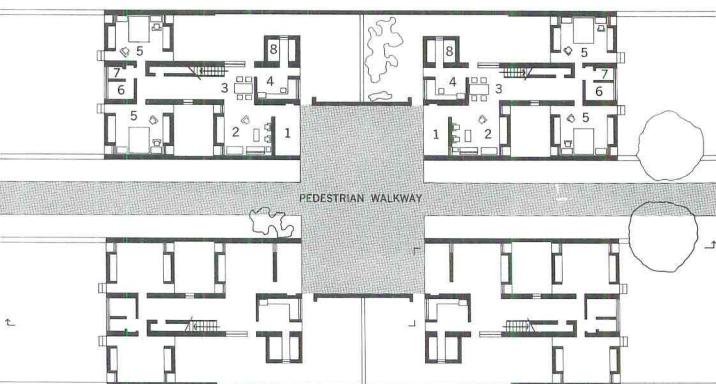


Doshi designed the houses to have well-lit rooms and cross-ventilation where needed. Housing is oriented to receive the southwest wind, particularly desirable in the hot season, when temperatures rise to 117 degrees. Balconies abound and open space for private use is commonplace. Communal open spaces are carefully provided in each neighborhood unit (plan, above).



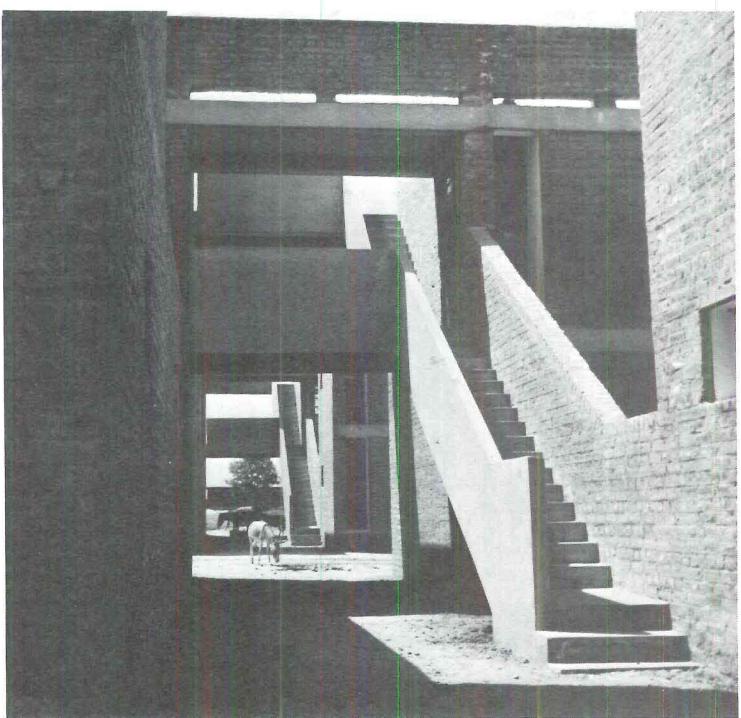


Each street intersection is stretched at a diagonal to create three linked open spaces belonging to that particular neighborhood. The elimination of the four-corner vehicular intersection also offers additional safety to playing children. Residents are expected to care for their neighborhood open space, with uneven results.



Housing Type Four is typical of the variety in plans offered by the nine categories of housing. Materials used in construction are brick—plastered over or left natural—for load-bearing walls (photo, right) and reinforced concrete for spanning members.

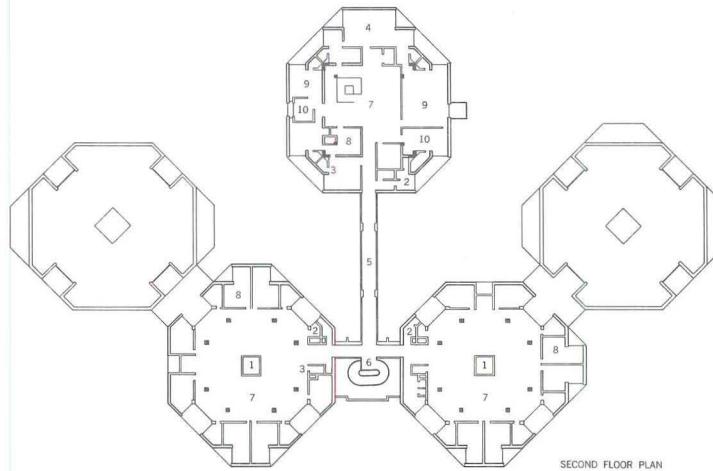
1. ENTRY
2. LIVING
3. DINING
4. KITCHEN
5. BEDROOM
6. BATH
7. TOILET
8. STORAGE



GSFC Office Building

The offices of the GSFC, adjoining the plant at Fertilizer Nagar, illustrate an original concept for an office building. Several octagonal units containing offices, work space, and services are linked by corridors (plan, above). These octagonal units generate an open, central space for typing pools and other office functions, with specific spaces for senior offices, conference rooms and services on the perimeter. An octagonal skylight in the center of the roof admits natural light into the two-level structure through a lightwell (photo below).

While the building's large dimensions increase the air-conditioning load, they make possible a convenient humanly scaled office arrangement, and allow for several expansion possibilities: In some cases, the senior offices or conference rooms can be enlarged by adding or extending cantilevered floors. By building one or two more stories, the building can also grow vertically; or with the addition of more octagonal units, horizontally. Structural materials are, again, plastered and painted brick and concrete.



Entrance (above) to the office complex is through a lobby that bridges two of the octagonal units. A covered walkway leads from the lobby to the executive offices in the rearmost unit (plan, left). The central area in each octagonal building is used for general clerical function (photo below).

- 1. LIGHTWELL
- 2. STORAGE
- 3. BATHROOM
- 4. CONFERENCE
- 5. ELEVATED BRIDGE
- 6. LOBBY STAIR
- 7. OFFICE POOL
- 8. OFFICE
- 9. EXECUTIVE OFFICE
- 10. SECRETARY



Central Bank of India, Ahmedabad

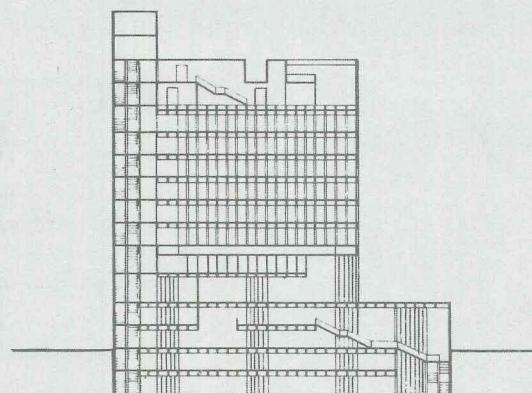
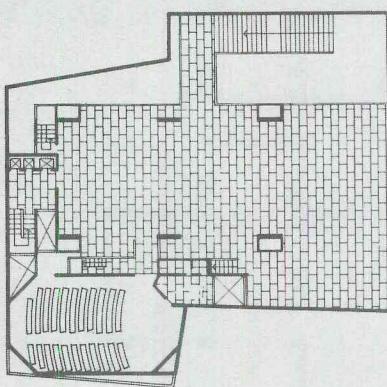
Doshi integrated the commercial structure with the downtown center of Ahmedabad. Public banking facilities are contained in a two-level structure entered from street level. The roof of the banking floors has been turned into a public plaza, that could eventually connect with other elevated plazas to create a pedestrian system, separate from street traffic. (India's street traffic is a motley combination of trucks, cars, rickshaws, camels, hand carts, ele-

phants, cows, donkeys, and horse-drawn tongas.) Adjoining this plaza structure is a small auditorium with a steeply pitched roof (plan, below).

Six office floors rise above the plaza, topped by apartments, suites and a roof garden. Although the building is constructed mostly of poured-in-place reinforced concrete, the floors of the office block are carried on pre-cast concrete beams spanning 47 feet.

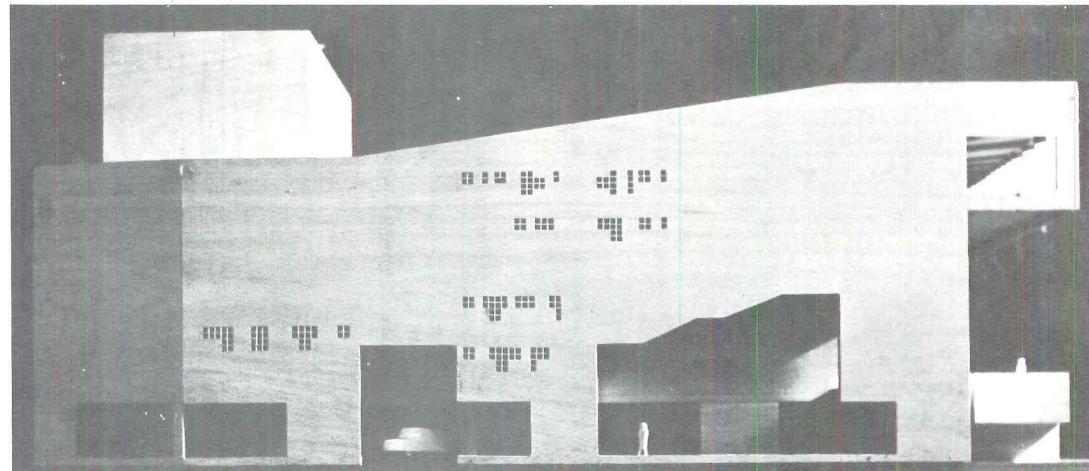


Photo (above) indicates the plaza level elevated above the busy downtown street, and accessible by stairs at right. Public banking facilities are contained within the two-story podium (section left) that forms the base of the plaza and can be entered directly from the street. The auditorium (left in model photo) has its entrance at plaza level (plan, far left).



Premabhai Hall

Currently under construction in the Bhadra section of Ahmedabad, Premabhai Hall will accommodate 100 when finished in 1974. The theater lobby, one floor above street level, is accessible from a small elevated plaza. The street level itself will be reserved for shops, and the basement level for parking. As in the Central Bank office building (shown above) Doshi is using reinforced poured-in-place concrete as the basic material for structure, walls, and slabs. The simplicity and large scale of the building are intended to harmonize with the nearby 15th Century gate of the old Citadel of Ahmedabad, as well as the adjacent 16th Century palace of Azam Khan.

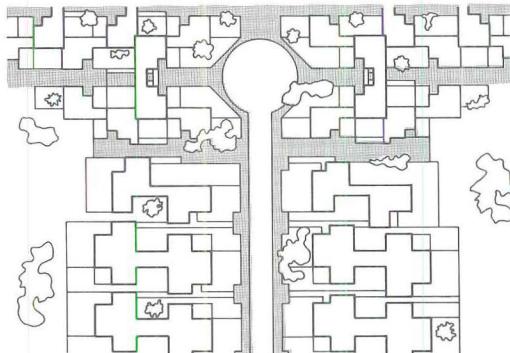
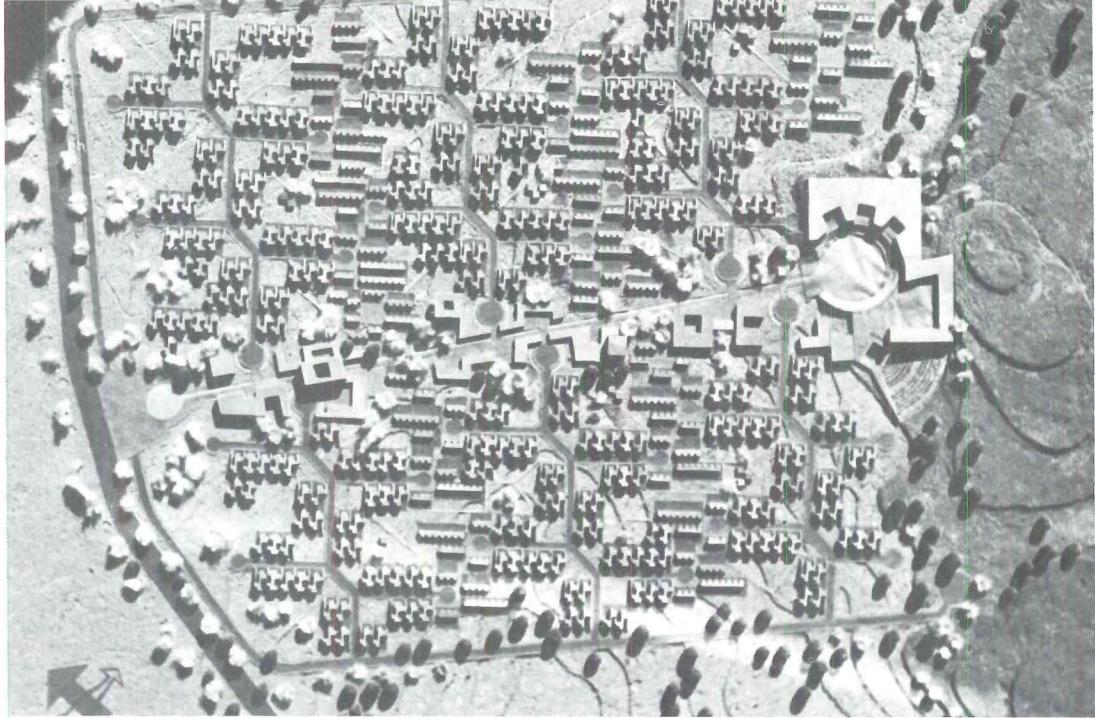


The auditorium profile is expressed on the elevation by etched out planes (model photo, above). Balkrishna Doshi (photo, second from left) discusses the auditorium of Premabhai Hall with members of his office.

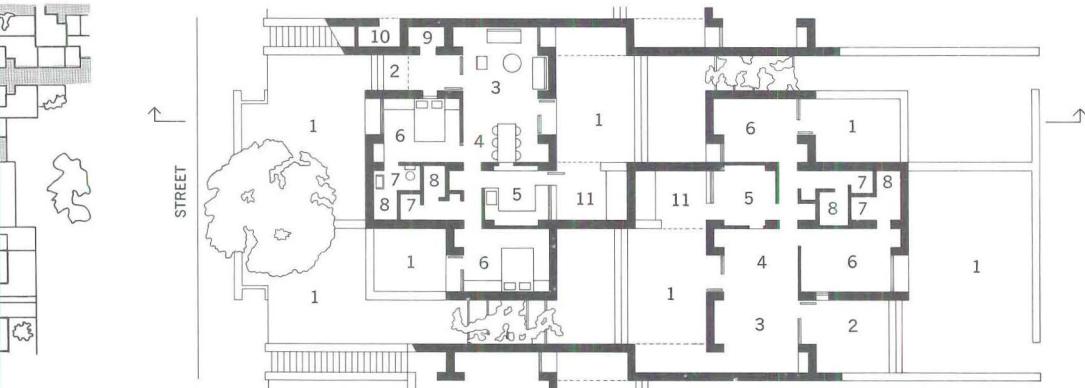
ECIL Hyderabad

Doshi designed this new town for the Electronics Corporation of India Ltd. (a government corporation, part of the Atomic Energy Commission) in a rolling hillside site at the outskirts of the Hyderabad-Secunderabad, the fifth largest metropolitan area in India. The area abounds in the grey stone used as a basic construction material for the township.

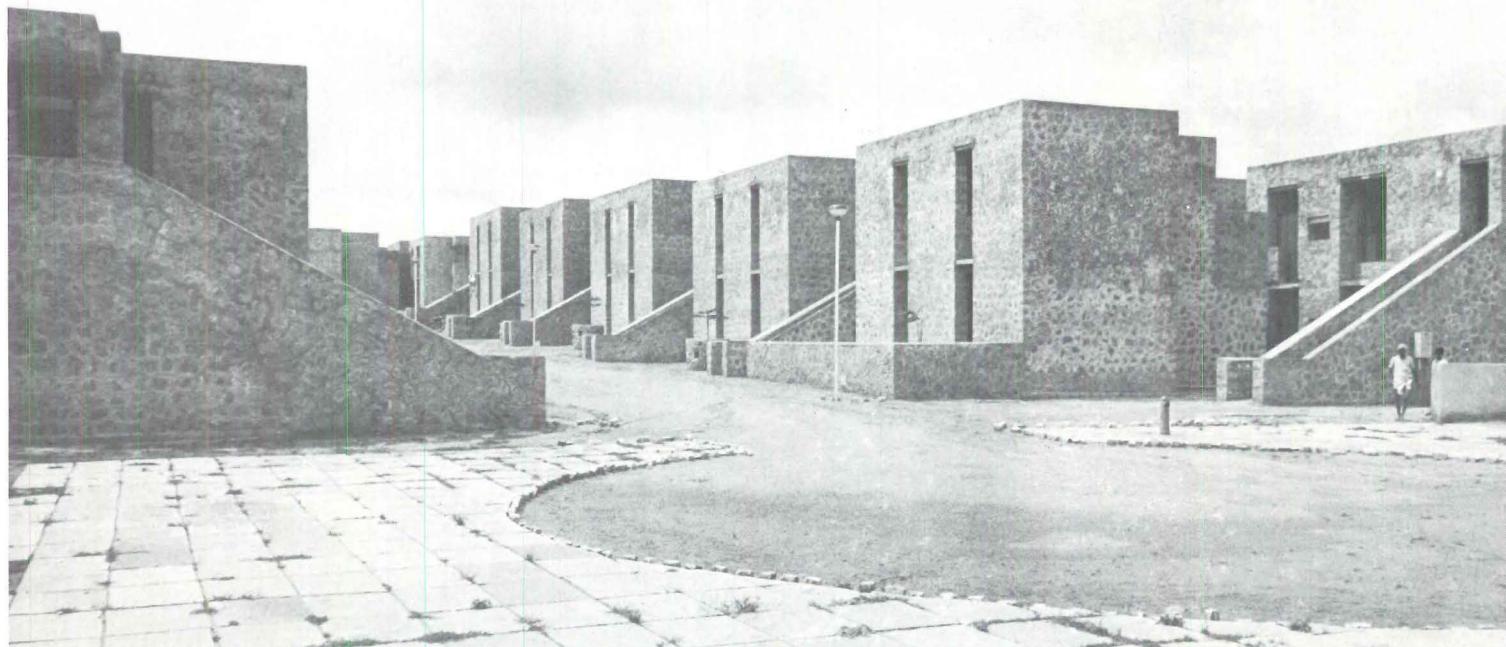
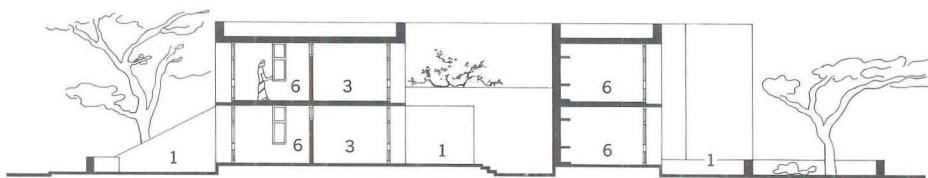
Because the company was reluctant to undertake heavy maintenance for the town (a problem in other projects), Doshi made the plan quite compact, while generously apportioning open space through the middle (site model, left). The plan helps separate pedestrians from vehicles by putting traffic around the town itself.



The swath of open space links retail and commercial facilities (model top, right). The residential blocks themselves (plan, above) are organized around cul-de-sacs for cars (a rare commodity), bicycles, and pedestrians. Doshi arranged the housing units to permit a variety of public and private open spaces, as seen in the two separate dwelling types (plan, right top) placed back to back, with open space intervening (section, right).



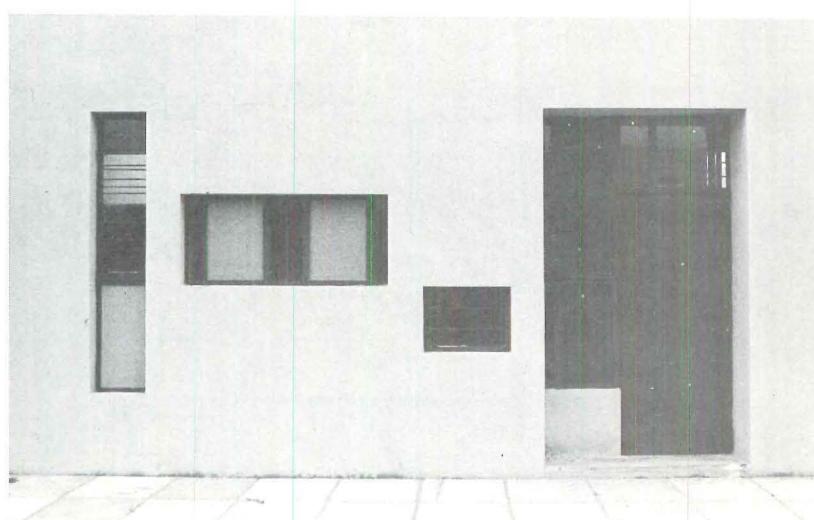
- 1. GARDEN COURT
- 2. ENTRY
- 3. LIVING
- 4. DINING
- 5. KITCHEN
- 6. BEDROOM
- 7. TOILET
- 8. BATH
- 9. STORAGE
- 10. BICYCLES
- 11. LAUNDRY





To trim the high cost for site work and party walls, Doshi stretched the stairs from the second floor dwelling units out to the street (above). The stairs thus act as defining element between the houses (below). Exterior walls are load-bearing, constructed of local stone, with precast concrete T's spanning the walls. Interior wall surfaces are plastered and painted. Another housing type (below, right) features one-story row house living in brick construction plastered over.

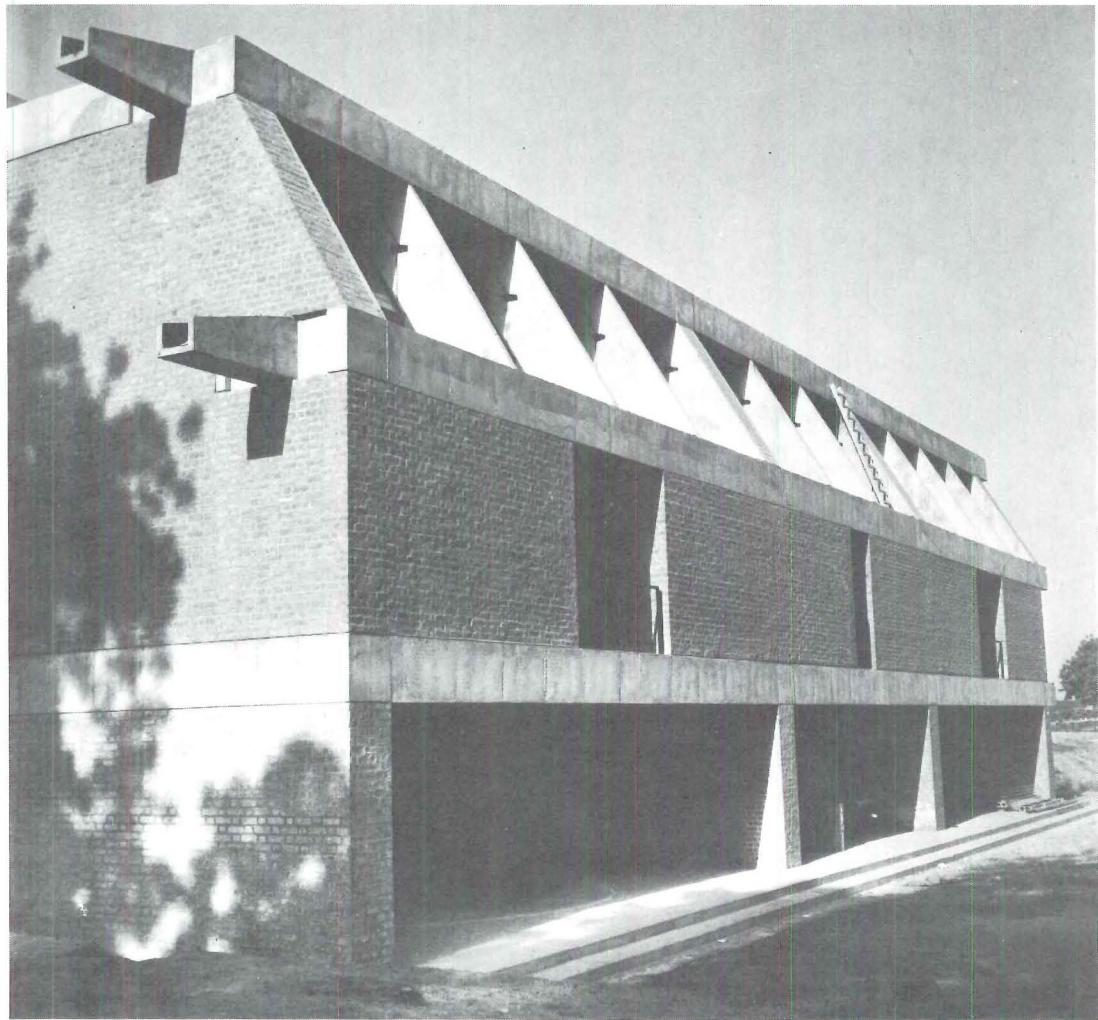
Of the eight new towns built according to governmental standards, a study by the AEC shows that Hyderabad is the most efficient in terms of circulation, costs, erection time, construction techniques, and range of facilities. Costs were cut by use of pre-cast concrete floor planks by the built-in expandability through a nine-foot module.



Center for Environmental Planning and Technology

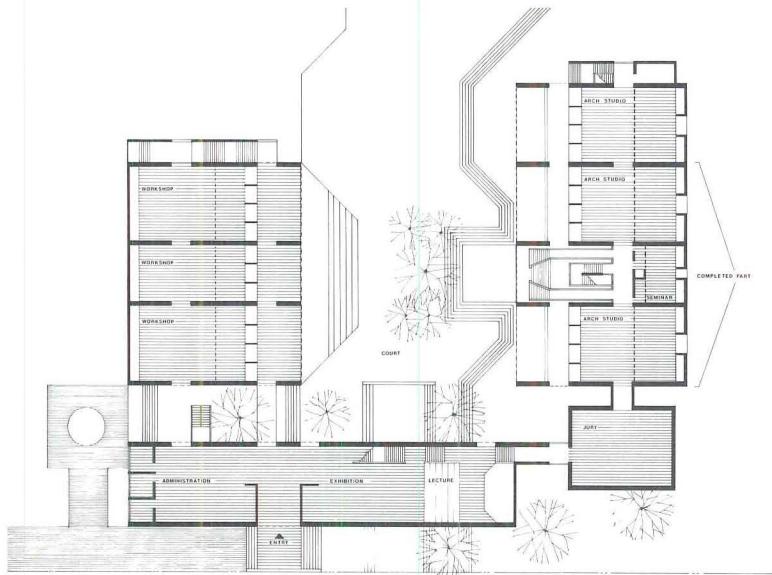
The School of Architecture, the first phase of a Center for Environmental Planning and Technology (of which Doshi is to be director), is located on a site adjoining the Gujarat University in Ahmedabad. The final scheme will be a U-shaped grouping of connected bays (plan, below). At present the building, housing the schools of architecture and planning, consists of two studio bays, and one containing stair service and seminar rooms. Meanwhile, these areas also serve as classrooms, administration, library, workshops and exhibition spaces.

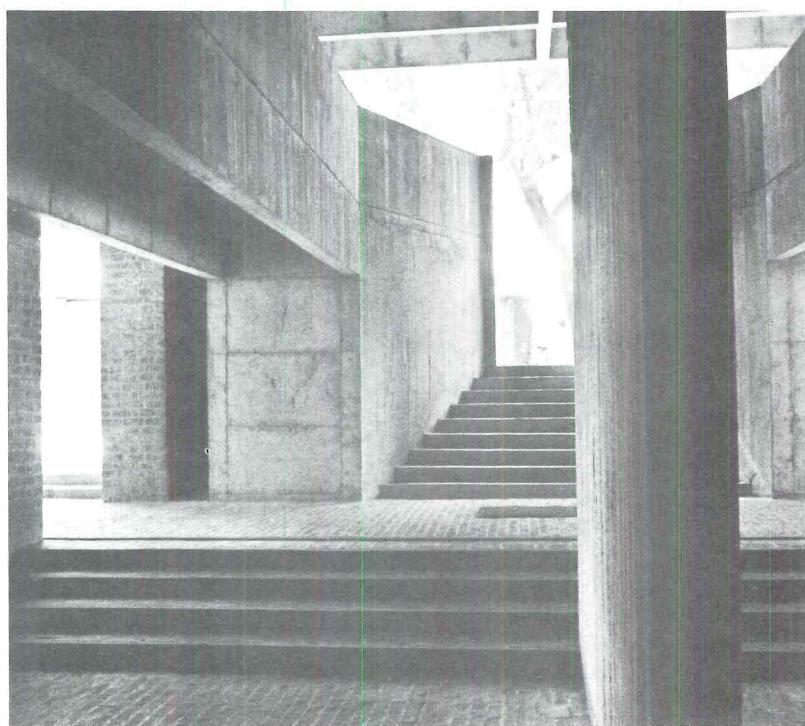
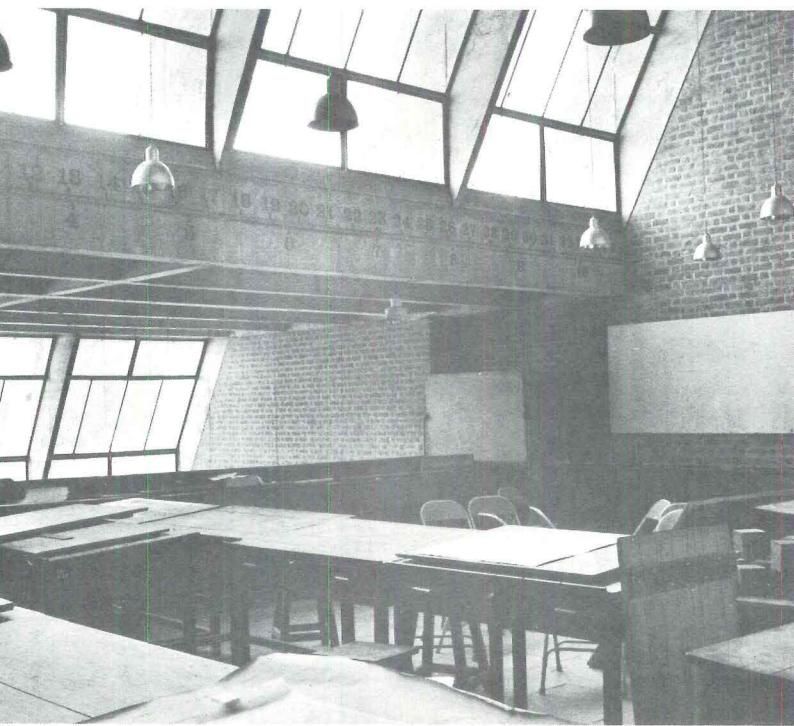
Many of the building's design elements such as stairs, entrance bridges, and rainspouts (indicative of Le Corbusier's influence on Doshi), provide strong sculptural counterpoint to the brick bearing wall structure.



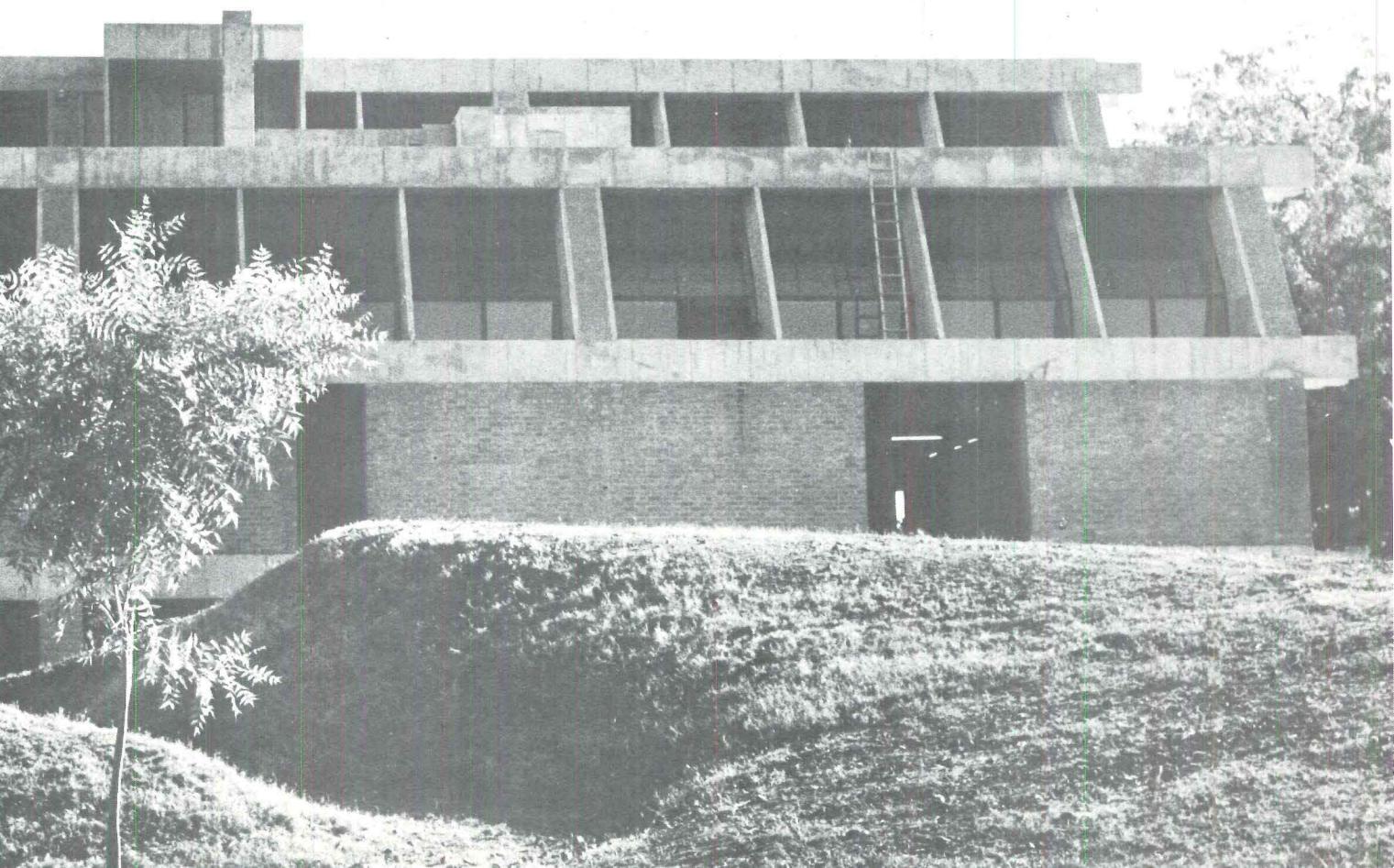
Since air conditioning is not economically feasible, Doshi has eliminated windows on the south elevation at ground level, substituting swinging wooden panels that can be opened to receive a south west wind (below). The western elevation is a blank brick bearing wall, and the north has slanted windows to admit indirect light (above).

PHOTOGRAPHS: Courtesy of Homi Jal, Vikram Dalal, Pranjal K. Patel, and John Nicolais.





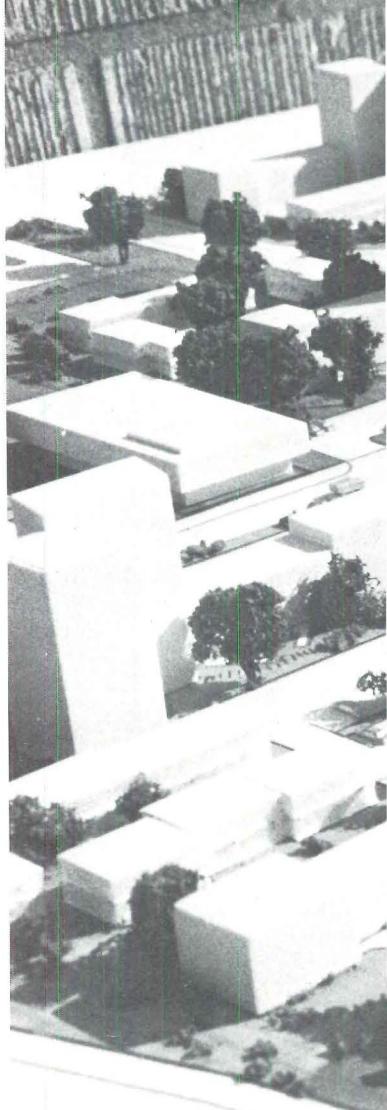
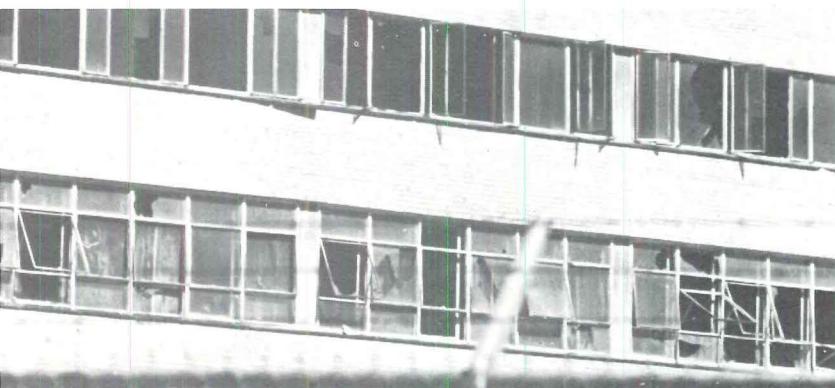
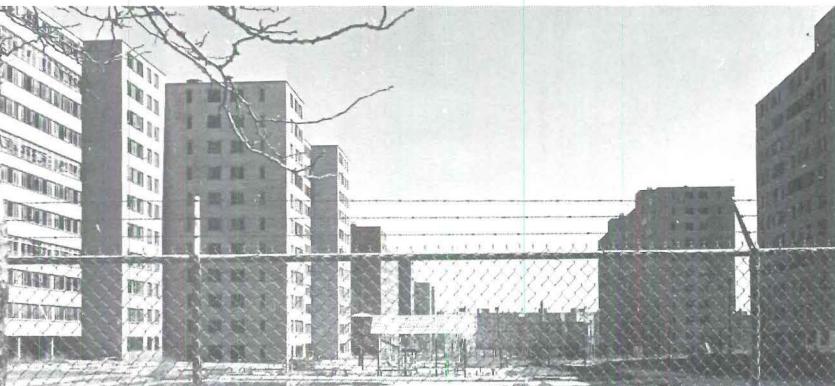
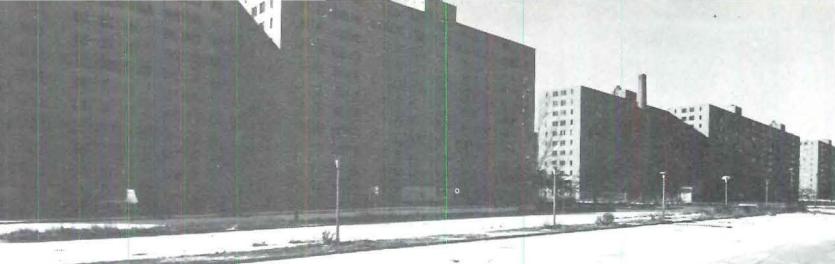
Each studio has a high light central portion (above), intended for the drafting activities, and lower intimate spaces for discussions. The open ground level (above, right) of the building can accommodate various functions such as annual talent programs, carpentry, workshop and architectural history classes. Overhangs protect students from the sun, and since there are no walls to the north and south, breezes are continually present.



\$57,000,000 LATER

An interdisciplinary effort is being made to put Pruitt-Igoe together again

BY GEORGE McCUE



The disgrace of Pruitt-Igoe (left) may yet be redeemed if a proposed development plan (model right) survives the current federal purge of housing programs. It would combine new walk-ups with several of the salvaged highrises, and include community services, stores and amenities. The model shows the northern part of the development area, looking east.

Pruitt-Igoe, an internationally recognized public housing project—first for its unique application of planning economies; and second, for its failure as a social institution, has received more comment and written words than any other project of its kind in America. Its failure as a public housing project cannot be attributed alone to the architecture, to the community or to the tenants, but must be recognized as the object lesson of a series of social events and social conflicts."

This is from one of a series of reports by a task force commissioned to analyze what had happened to Pruitt-Igoe, and to see what could be retrieved from the ruins, just 16 years old at the time.

When the Wendell Oliver Pruitt Homes and the William L.

Igoe Apartments were opened in 1954 and 1955, they were acclaimed as new prototypes of mass housing for poor people. St. Louis had wiped out 57½ acres of slums in a North Side high-crime district, just a few blocks from the downtown core, and had put up an apartment project that towered like a monument to civic pride and budget ingenuity above the crumbling houses and flats along its south, west and north borders.

The two developments, completed a year apart, were named for a black St. Louis war hero and a progressive former Congressman, and they were the biggest and most visible of a succession of slum clearance projects dating back to the 1930s and extending, off and on, for some 20 blocks between Broadway and Jefferson Avenue.

Pruitt, with 20 buildings, was designated as housing for blacks; Igoe, 13 buildings, was the city's

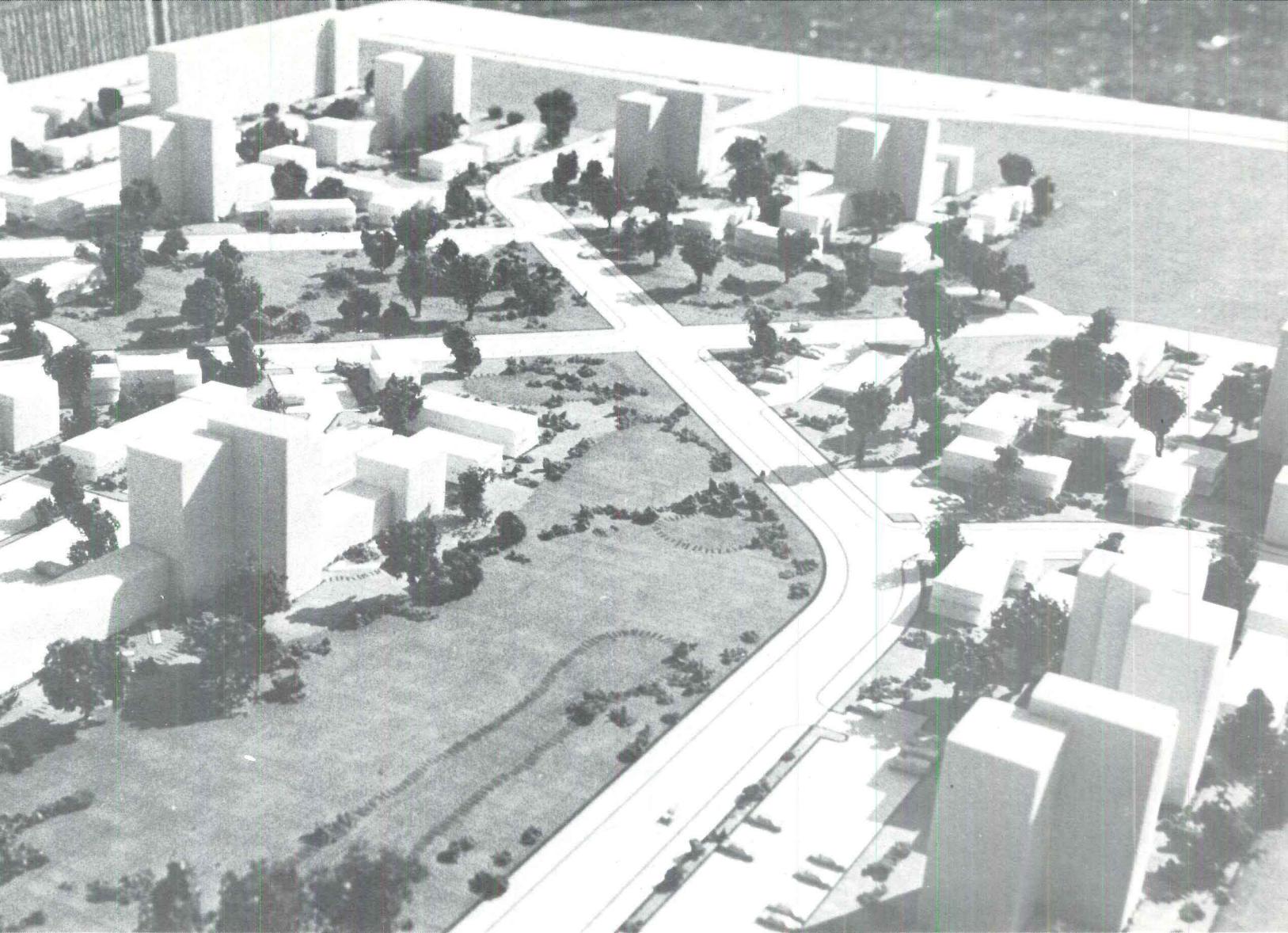
first public housing to be non-segregated. Together, they were praised for having provided "decent, safe" homes for 10,000 men, women and children in approximately 2700 units of one to five bedrooms as replacement for about 400 slum dwellings. All 33 of the new buildings had 11 stories, which advanced the density from about seven to about 45 units per acre.

A 1947 city plan for this area had proposed walk-up apartments, but additional stories were demanded by the federal formula for adjusting density to land value. So the architects, Hellmuth, Yamasaki and Leinweber, responded with elevator buildings, as they had done in the city's first high-rise, low-income housing development, the 1952 John J. Cochran Garden Apartments, a few blocks to the east. Cochran was a combination of 12-story and 6-story buildings on 18 acres.

Federal objections to what

were considered needless amenities caused other revisions of both concept and physical disposition of the housing units. There were small economies, such as the elimination of wall paint in general circulation areas, and there was a large economy in lining up the buildings in six rows that followed the east-west patterns of vacated streets, so as to plug into existing utilities.

This eliminated cloistered private space, which was a little understood idea at that time, but the architects worked out a composition of their long, narrow structures that countered the effect of slab corridors by offsetting adjacent buildings to break up the ranks. End units of each building were expanded outward from the front wall, and these elements, square in plan, were often joined by an end corner to an end corner of the nextdoor building, alternating front and rear corners in



these contacts to establish the offset lines. Brick tones ranging from buff to red gave a light and dark differentiation to the building masses.

Although several playgrounds were provided, the ground area between and around buildings ended up empty, and a no-man's land. This was conceived of as public space, as much accessible to nonresidents as to tenants, and the long rows of buildings with their long walks along phantom streets provided no separation of space where a group of tenants could establish even semiprivate territoriality.

There was one more major breakthrough in economy—the innovation of skip-stop elevators. The first three floors of all buildings were treated as a layer of walk-up apartments, and elevator stops were provided on the fourth, seventh and tenth floors where laundry rooms were spaced out along a broad corridor, planned as a

children's play gallery. From the floors with elevator stops, tenants walked up or down one flight to residence floors. For a final touch of built-in disaster, first-floor toilets were scratched off the plans.

The apartment interiors were made light and airy by bands of windows, and kitchen equipment was included. But the kitchen-living-dining area of a four-bedroom apartment, housing up to ten people, was made the same size as that for a two-bedroom unit, and families that needed five bedrooms rarely had more than one bathroom.

So there stood Pruitt-Igoe, as the two developments soon became identified under merged management. The bricks-and-mortar answer to slums. The award-winning design that pulled advantage out of adversity. The gleaming towers standing tall and apart from their shudderingly dilapidated surroundings. The project with

the imbedded social time bombs ticking away.

The first signs of trouble showed up in units in the isolated southeast corner of the project site. These were hazardous to approach across the open wasteland, mentioned earlier, which had been created by building high to meet density requirements. The trouble quickly spread throughout the area—not only physical danger, but the afflictions of a community with no identity, except for its conspicuous "stigma of poverty and minority group membership . . . marked off as clearly as if by quarantine," as Oscar Newman puts it in his recent book, "Defensible Space."

Another aspect of life at Pruitt-Igoe was described by Helen Floyd, a neighborhood worker at the project's anti-poverty station, who pointed out that many tenants were migrants from the rural South. "This is a totally segregated

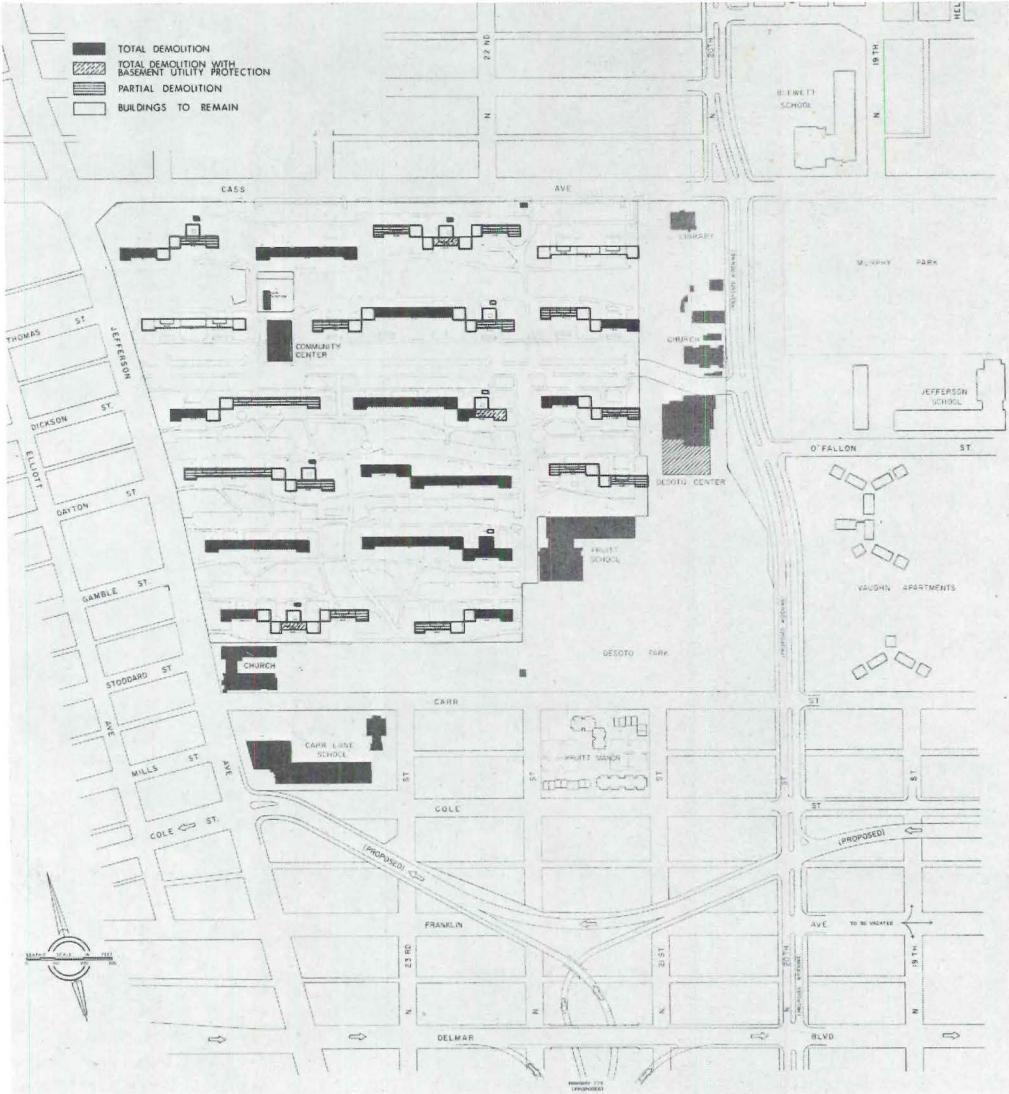
area of people barely able to take care of themselves," she said. "They don't know how to live on an eleventh floor."

The fact that this 57½-acre tract is referred to as a "project," rather than as a neighborhood, speaks volumes, not only of its appearance but of its character as an isolated demoralizing social element.

The ravages of Pruitt-Igoe's sickness can be traced through their symptoms. Mothers on upper floors had no way of keeping surveillance over the playgrounds, and often kept their children inside. Children at play, with an impatient need for one of those non-existent ground-floor toilets, resorted to an elevator as a substitute. Elevator access was around a corner or two, with convenient lurking places. The pattern of rape began with capture on an elevator and completion in a hallway or vacant apartment. The windows began to get



The demolition plan (right) calls for keeping only two of the 33 11-story slabs; others will be partly demolished, their corner elements converted into twin towers and connecting elevator shafts. Some members of the design team: Top photo, Robert Hutchins (foreground) and David C. Sharpe of Skidmore, Owings and Merrill. Photo above, from left to right, Donald Ross of Ross & Baruzzini, consulting engineers; Charles Fleming of Jenkins & Fleming, architects; and George Kern, also with Ross & Baruzzini.



broken—and those on the upper floors could be broken only from the inside. Plumbing fixtures and other material were ripped out for sale to support drug addiction. Within a year, all the locks were changed because burglars found the original security easily breached.

There came a time when mailmen would not deliver packages, but would leave a note for the resident to present at the post office. Western Union refused to deliver telegrams. Retail stores stopped sending delivery trucks. Moving companies had trouble hiring men who would enter the grounds. Cab drivers refused to take passengers within the area at night. Firemen wouldn't answer alarms except with a police escort. Cops answering routine calls would arrive with guns drawn.

Once, when a playground was installed, workmen built a chain link fence around the building and play equipment to protect

their materials. Tenants asked that the fence remain, and the crime rate of that one building dropped a spectacular 80 per cent. Eventually similar fences surrounded large portions of the area, but these were to keep people away from buildings that had been vacated—23 of them so badly vandalized that they were unusable. (Some of the materials had been taken out by the Housing Authority as spare parts to repair other buildings.) Entrances of the stripped buildings were welded shut.

Two years ago, the tenants declared a strike against rent payments until what was left of Pruitt-Igoe was repaired. By then the time bombs had all gone off. The St. Louis Housing Authority offered to give the whole development, and its other troubled high-rise public housing projects, to the federal government.

The dismal arithmetic of Pruitt-Igoe's planning and con-

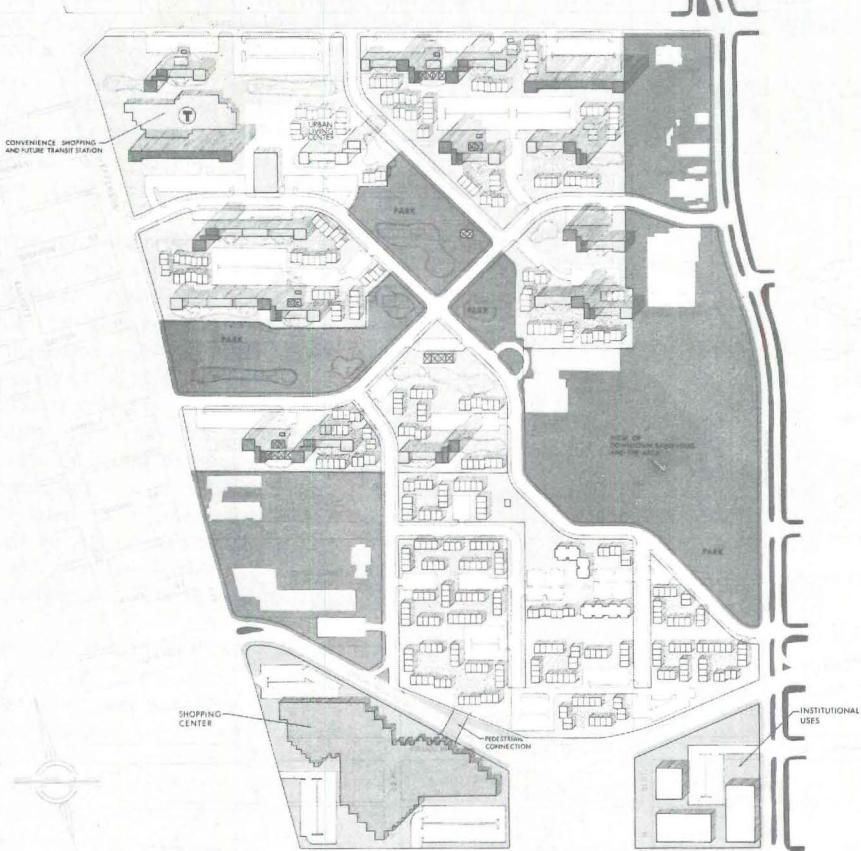
struction economies was laid on the table. Original cost: \$36,127,000. Interest on bonds to January, 1971, \$12,403,900. Federal modernization funds, \$5 million, with interest on that debt of \$500,000. Operating subsidies, \$1,092,286. Cost of closing down 23 apartment buildings and three others, \$284,700. Operating deficits paid from other developments' surpluses, \$1,765,848. Total cost, at that time: \$56,973,734. The bonds, with 25 years still to run, would cost the federal government another \$42,500,000 for normal retirement.

Thomas Costello, Executive Director of the Housing Authority, proposed that the Department of Housing and Urban Development recall the bonds and rebuild Pruitt-Igoe. "That's not too costly a mistake in comparison to the space program's and the Defense Department's billion-dollar cost overruns," he urged.

HUD's problem was similar financial difficulties in some 20 other cities, and the risky precedent of bailing one out. It authorized \$60,000 for a study of private redevelopment of Pruitt-Igoe, and a blue ribbon consultant task force moved in. It was headed by A.J. Wilson, assistant to Mayor Alfonso J. Cervantes. The professional consultants were Skidmore, Owings and Merrill, Chicago; Harland Bartholomew and Associates, St. Louis; St. Louis Architects Carey Jenkins and Charles Fleming; Urban Design Development Group, Detroit; Morton Hoffman and Company, urban economists, Baltimore; Edward T. and Mildred Hall, anthropologists; and Wayne Vasey, sociologist.

This group set up shop in the Pruitt-Igoe Community Building from October, 1971, to June, 1972. Walter Netsch, SOM general partner, commuted to St. Louis almost weekly with David

EXISTING BUILDING REHABILITATED—
 REDUCED TO ONE OR TWO STORIES
 EXISTING BUILDING REHABILITATED—
 REDUCED TO THREE-FOUR-FIVE STORIES
 NEW SINGLE FAMILY ATTACHED DWELLING
 AREA WITH ACCESS CONTROLLED BY TENANTS
 SERVICE FACILITY—STORES, RESTAURANTS,
 LAUNDRIES, ETC.
 BERM—FROM DEMOLITION DEBRIS



The development plan (left) indicates location of proposed walk-ups and those highrises to be salvaged and remodeled. Other design team members: Top photo, from left to right, Edward Ewell, Urban Design Development Group (U.D.D.G.); Charles Duster, SOM; Mort Hoffman, Morton Hoffman & Co., economic consultants; George Bradford, U.D.D.G.; and Elizabeth Moser, also with the Hoffman company. Photo above, left to right, Mort Hoffman; Walter Netsch, general partner of SOM; and Edward Ewell, U.D.D.G.

C. Sharpe and Charles E. Duster. Eldredge Lovelace headed the Bartholomew staff. George Romney, HUD's director at the time, visited the enterprise enough to know some tenants by sight. This all-out, highly dedicated effort, of financial advantage to no one, produced a plan that promises once again to make Pruitt-Igoe a prototype.

This plan found it would be unfeasible (because of floor plan and lack of a market) to convert the buildings to commercial, industrial or institutional use. In fact, it found most of them unusable for anything. The alternative? Make 1,009 dwelling units in remodeled existing buildings; 223 in new walk-up buildings, with an evenly divided mix of low-income and moderate-income households; convert the whole enterprise to nonpublic ownership and management; and create an urban living center for training in consumer lore, maintenance

and use of apartment facilities.

To remedy one of the grievous defects of the original scheme—not even a place to buy an ice cream cone—it suggested shops within the apartment areas, a small shopping center on the north side and a large one on additional land to the south, both tied to Pruitt-Igoe with pleasant walks and streets. The buildings would be clustered in six "villages," still using the street-aligned utilities but not following the street patterns.

It also calls for considerable demolition. Only two of the 11-story slabs would be retained, but the corner elements of others would be converted to twin towers with connecting elevator shafts—stops on every floor. Families with children would be in walk-ups with the elderly and childless higher up, but not marooned there. ("I met one eleventh-floor family in which the older members hadn't

been out of the house in years because they couldn't walk down stairs," Sharpe said.)

HUD financed \$500,000 in demolition tests on three buildings. In 10-second intervals, they were brought down with dynamite, which left vertical cleavages so clean that they need only to be reskinned to be usable. Dynamite was found to cost 32 cents per square foot of gross floor area, as against 90 cents to \$1.15 for the headache ball, which would, however, be necessary for removing top floors of buildings converted to walk-ups.

The plan calls for leaving the debris in place, to be compacted and mounded for landscaping, and in some cases to be piled against buildings to convert present ground floors into subfloors. Debris from the test demolition, intended for a test green earth form, finally was hauled away at cost of another \$52,000 because of what seemed to be a misunderstanding of this proposal. Pruitt-Igoe was again the victim of cross-purposes.

The new scheme, prepared from painstaking and well-aimed research in both design and social implications, shows promise of making Pruitt-Igoe a neighborhood instead of a project, and of involving it in surrounding Model Cities activities as an ongoing community. It offers laboratory conditions for developing new techniques and attitudes as a means of rescuing misconceived projects for poor people from going all the way as tragic social and architectural mistakes. It now waits on proposals by the City of St. Louis to a new HUD administration that may be facing curtailed appropriations. But private money has shown interest in the plan, subject to burning the mortgage, and if it doesn't get buried in a bureau drawer, maybe Pruitt-Igoe can be pulled back from the edge of the cliff.

FIVE ON FIVE

Constructive criticism has long been a characteristic of the Forum. So has constructive candor. On the following pages, the work of Architects Peter Eisenman, Michael Graves, Charles Gwathmey, John Hejduk and Richard Meier—published in Five Architects (Wittenborn, 1973)—is criticized by five other architects. Robert Stern organized the team of critics because he felt that Five Architects presented an opportunity (too rare these days) to discuss current architectural attitudes. It is only to be expected that Mr. Stern sought a team whose orientation is more or less opposite that of the original Five—a stance that could be loosely described as sympathetic to the Yale-Philadelphia Axis, meaning Louis Kahn and Robert Venturi. It is the Forum's position that confrontations between various philosophical camps are much needed, and sallies like the ones you are about to read not enough with us. Thanks are due to the original Five, of course, for being so sporting.

STOMPIN' AT THE SAVOYE

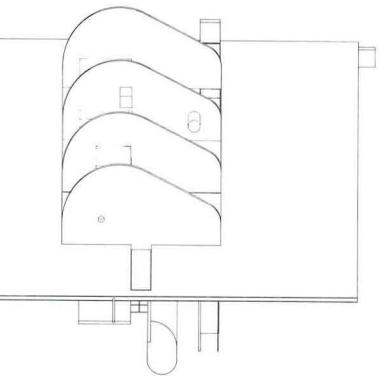
BY ROBERT STERN

The almost simultaneous publication of Five Architects and the Venturis' *Learning from Las Vegas* marks, one hopes, an opportunity to step back and consider what it is that our architecture stands for at this time; it gives us a chance to evaluate opposing points of view that have been described as European/idealist on the one hand, American/pragmatic on the other, exclusive and inclusive, conceptual and perceptual, invulnerable and vulnerable. Although the two books, and for that matter the positions they embody, are pretty much opposite to each other, they are not of equal importance.

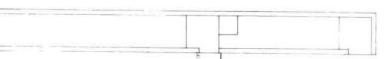
Las Vegas builds upon the most important architectural text of the 1960's, *Complexity and Contradiction in Architecture*, by Robert Venturi. Whereas Five Architects is a perhaps premature effort at polemical assertion by architects who really have no claims as a group, Las Vegas is a cohesive record of six productive years of work by Venturi and his partners. Together with the writings of Herbert Gans, Jane Jacobs and some others, Las Vegas is helping us at least to break from the hot-house aesthetics of the 1920's, to see familiar things in fresh contexts, and to assimilate diverse experiences into our work.

Five Architects, and particularly its introductory essay by Colin Rowe, the intellectual guru of the group whose work is presented therein, contains an implicit reply to the Venturis' work and especially to Vincent Scully's introduction to *Complexity and Contradiction*. In that introduction, Scully made claims not only for the book in relationship to Le Corbusier's *Towards a New Architecture* but also, by implication, for Venturi's position as logical complement to that of Le Corbusier as form-giver. Such a claim sticks in Rowe's craw. After all, for the last fifteen years or so, as design critic and theorist, he has initiated architectural students into a systematized version of 1920's Corbusian form. The irony of his faithfulness to the most questionable aspects of Le Corbusier's philosophy is nowhere clearer than in his 1966 Museum of Modern Art project for Harlem, where despite previous efforts to develop Corbusier's ideas about town planning on that part of Shad Woods and others, and in the face of major reassessments by other participants in the exhibition, he and his team projected the most sweeping and absolute "ville radieuse" scheme ever.

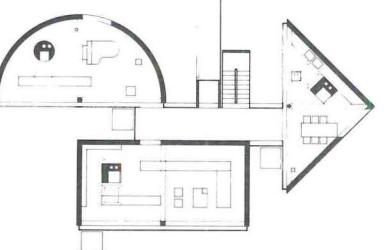
Rowe states in Five Architects that "rather than constantly to endorse the revolutionary myth, it might be more reasonable, and more modest to recognize that, in the opening years of this century, great revolutions in thought occurred and that then profound visual discoveries resulted, that these are still unexplained, and that rather than assume intrinsic changes to be the



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Mr. Stern, a partner in the New York firm of Robert A. M. Stern and John S. Hagmann teaches architecture at Columbia University, and is the President of the New York Architectural League.

prerogative of every generation, it might be more useful to recognize that certain changes are so enormous as to impose a directive which cannot be resolved in any individual life span." Thus, as Rowe sees it, the revolution of the twenties is so fundamental to our architecture as to preclude its own evolution. I think it is not. Indeed, there seems to be a certain inconsistency of position on Rowe's part as manifest by his sudden affection for Aldo van Eyck, under whose slogan his essay is written, and even more clearly by his suggestion that we place the work of the "five architects" in a "context of choices" that include "Mesian neo-classicism . . . ; the New Brutalism . . . ; the Futurist Revival . . . ; and the *neo-art nouveau*" which I guess means Yale/Philadelphia architects with "Shingle Style and Italian ramifications . . ." This concept of choice (stylistic choice to boot), reveals more about Rowe's misgivings (not to mention his predilections) than I would have imagined possible, and finally, casts doubt on the firmness of his convictions in the five architects as logical successors to Le Corbusier, even on his own terms.

Against Rowe's highly colored polemics, Kenneth Frampton's critical essay on the work is cool and remarkably forthright. Frampton is to be commended for trying to make connections (Italian Mannerism, the Shingle Style, Frank Lloyd Wright) between the work of the Five and an architectural culture outside that of de Stijl and cubism. But though his intention is to be commended, his claims cannot be substantiated. The work of the Five is so hermetic in its conception as to be virtually incapable of connection outside the puritanical cultural attitudes of the 1920's avant garde. What I will attempt to do is to fill in around the edges of Frampton's essay, following his order of discussion, concentrating on operational aspects of the buildings discussed, many of which were not complete when the article was first formulated as a talk in 1969, and on subsequent developments in some of the architect's work which shed light on his remarks.

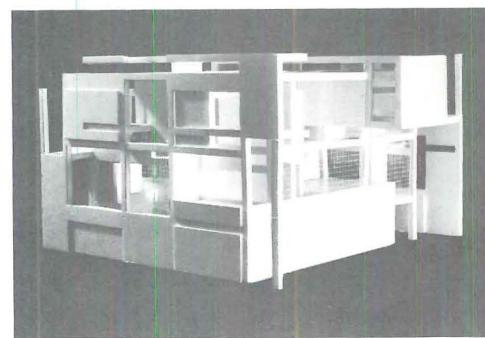
I find the projects of John Hejduk included in *Five Architects* less convincing than his "Wall House" (1) previously published in *Artforum* because, as they attempt in varying degrees to become habitable, they vitiate the intensity of their polemic. Thus the One-Half House (2) bogs down in a series of expedient gestures toward useful accommodation that make the geometry of the inside spaces unclear as well as barely usable. Hejduk, like Eisenman, is probably best at a paper architecture and, as such, possibly quite valuable to other architects as a stimulant to clear thinking. But it must be kept in mind that without the transparent axonometric and isometric drawings which the Five favor, a large number of the conceptual and formalistic relationships developed become illegible.

Peter Eisenman has proved himself the unquestioned intellect among the Five, out-

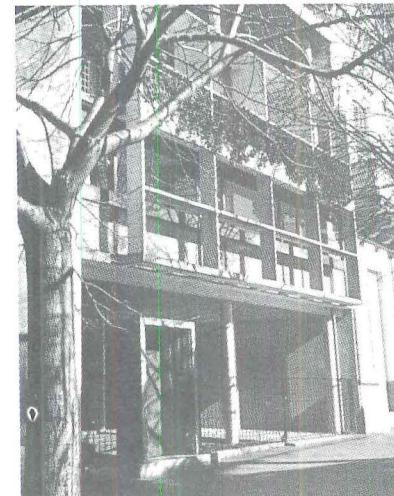
growing the comfortable cubism of Meier and Graves. He has developed a philosophical position based on the belief, derived from the researches of Noam Chomsky, that architecture is a language which can be freed from cultural associations in an effort to get at the essential meanings of spaces and enclosures. To be candid, much that Eisenman writes gives me a headache; like his isometric drawings, it is too dense with information, and in desperate need of editing. I disagree with Eisenman's philosophical stance most vehemently in regards to his belief that one can and presumably should divorce architectural experience from culture. Yet, my belief in the integrity of his search remains. How ironic that he, who unlike Hejduk, has made no effort to accommodate program, has actually succeeded in building houses! What I do not believe is that so-called "deep structure" contributes at all to man's understanding of his place in relationship to the natural world and other man-made objects—the essential purpose of architecture. I do not believe that structure, no matter how "deep," is a particularly expressive tool in architecture. In fact, I think that all that the superfluity of walls, beams and columns which characterize his design contributes to his claustrophobia. Moreover, the increasing complexity of Eisenman's houses, as seen in Houses III and IV, (3, 4) indicate that the logic of the search notwithstanding, the results can be confusing from a perceptual point of view as well as anti-habitational on a strictly pragmatic basis.

Michael Graves takes cubism the most seriously of the Five. His buildings are like collage reveries inspired by prolonged examination of the early volumes of Le Corbusier's *Oeuvre Complete*. At times, however, Graves' dependence on Le Corbusier can be unintentionally ironic. The Hanselmann house (5) is an effort to pay homage to Le Corbusier's Carrutchet house (6), but Graves fails to understand that the tension between the "façade" and the house behind it in Le Corbusier's prototype—a response to a complex urbanistic and programmatic situation—loses most of its meaning when cleaned up and straightened out, so to speak, and set in the Indiana countryside.

In the Benecerraf House Addition (7), the dependent structure is so compulsive in its "modernity" that it deprives the original house of all meaning and calls into question the validity of the neighboring buildings as well. The order of the new plan must compete with the order of the old one which it replaces but which continues its influence by means of the window placement and exterior wall configuration. (Compare the clumsiness of this stylistic confrontation with the skill of Robert Venturi's Duke House conversion (8) in which a university program was accommodated within a preexisting dwelling.) Graves' new spatial order is to a remarkable extent contrary to the old; it includes a new and large-



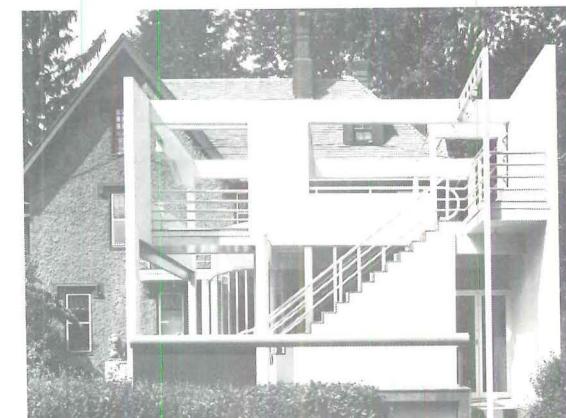
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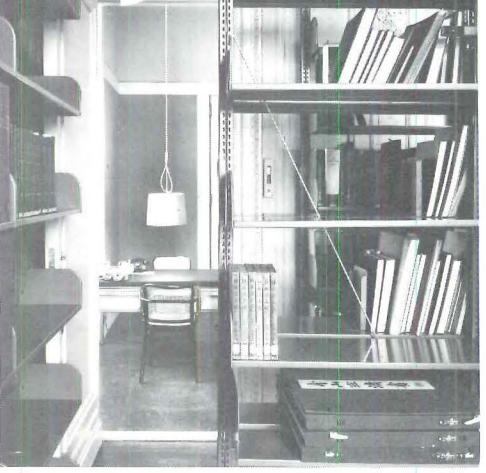
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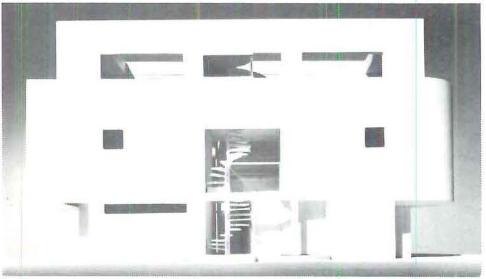
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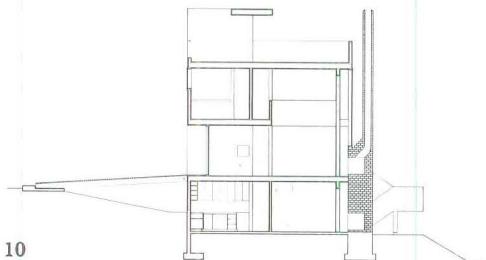
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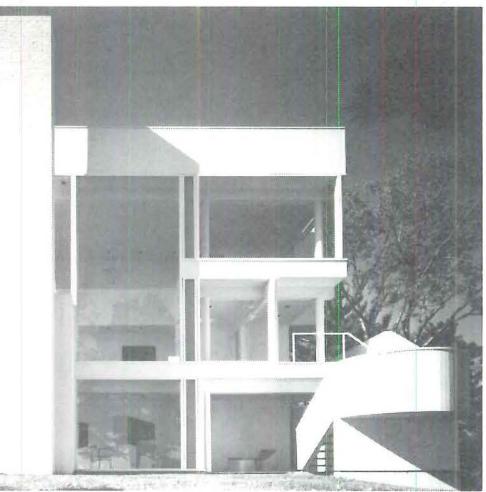
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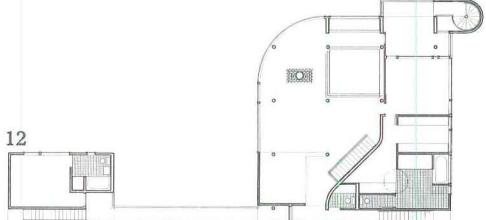
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ly decorative grid of columns that appear to do little else than make furnishing difficult. As for the addition to the house at the rear, its excesses are obvious from an examination of the plan (all that roof deck resulting from a flat roof) and from the elevations where quantities of structure are employed to define literal and implied spaces, barely providing more than incidental sun protection for the spaces below.

Richard Meier is also a compulsive "modernist," though he takes chances by varying the rules of cubism in a way that Graves does not (but Mendelsohn, Stone and Lescaze did). His recent project for a house at Pound Ridge (9) is better than either of his houses in the book, yet they all share a remarkable object quality, almost miniaturized in scale and slick in surface, that implies that they have been sheathed in large enameled metal panels when, in fact, they are sheathed in vertical boarding painted white.

Meier's Smith House is very beautiful, but it is a facade that we admire. The overdesigned living spaces within, though spectacular in section (10), are narrow and seem trapped behind that expanse of largely fixed glass facing southeast (11). And a master bedroom right off the living room with one small window looking east across the roof of a tool shed seems not quite right. The Saltzman House has been completed since Frampton first prepared his criticism. As a result of Meier's insistence on an exterior expression fundamentally at odds with the materials used, and to be fair, the use of a contractor who built badly, the house has undergone the most serious vicissitudes in the face of a harsh climate marked by extremes of temperature and dampness.

Even as an object it disappoints and seems lumpish; perhaps because the plan (12), a square bisected along its diagonal by a path of circulation with open spaces along one side and closed along the other, is seriously violated at its ends. Also, the location of the upper stair is unresolved, while the inflected corner of the square produces an absolutely useless subspace at what should have been the climax of the design. I don't think I am carping to note that **the bedrooms face west, with unshaded glass, a good deal of which is fixed**; that the house, generally short on operable sash, is not adapted for air-conditioning; and that the three-story high dining room, completely glazed along its southern end, is spectacular and intimidating in equal measure, and virtually uninhabitable during the daytime. **The fundamental problem is with the conception of architecture as insistently new, abstract and divorced from the place in which it is built**: from its landscape and from its architectural traditions which are, after all, the record of experience over a long period of time.

Of the five architects, Charles Gwathmey demonstrates the most consistent grasp of the technical and environmental aspects of

architecture. He has not succumbed to the impossible dream—the dematerialized structure of wood painted white. He prefers, as in the design for his parents' house and studio, a vocabulary of natural stained cedar boarding, and in that house at least, as Frampton points out, he has "accommodated in very direct terms a local 'sub-culture' of weekend living, using and expressing local technique . . ."

His larger houses, like those for the Steel families suggest the limitations of his approach: the geometric relationships between the two houses so clear in plan (13), simply are not legible in three dimensions (14). The desire to make the inside and the outside the same, so alien to the possibilities of architecture as enclosure, robs the house of much of its sculptural potential; as Gwathmey's buildings become bigger, and develop a more complex geometry, that geometry ceases to be capable of organizing the whole and, in fact, tends to fracture it. In a more recent house in East Hampton (15), Gwathmey recognizes this, and tries to organize the program within a single volume. Intended, no doubt (and for reasons beyond my comprehension), to relate to Le Corbusier's High Court at Chandigarh, it lacks the variety of scales and the sculptural thrust of its prototype.

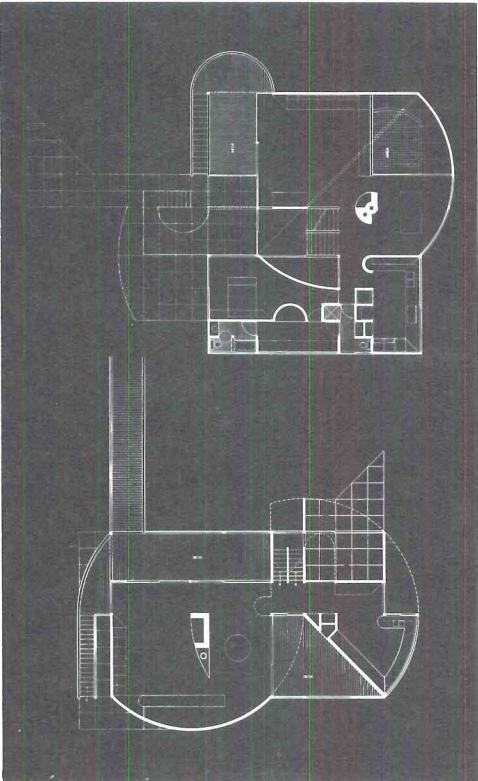
Gwathmey stands apart from the other four in his sympathy for the particulars of places; he alone seems concerned with the materiality of buildings. On the other hand his new work at East Hampton and Princeton reveals a tendency to grossly oversimplify when dealing with problems of greater size or scale. He very badly needs to resolve the dilemma of his current work—to recapture the impromptu character of clashing geometries, active shapes reaching for light, articulating movement patterns within, gestures extended across time and space to older architectures.

Five Architects is a victim of bad timing. What was conceived in early 1969 as an informal report on works in progress has now become, more than three and one-half years later, a major publication with slick, thick paper and overworked graphics. Not only is it laden with an introduction (that makes claims for these architects as a "New York School") as well as a preface, not to mention the texts of the architects who choose to speak for themselves (Eisenman and Meier) or William La Riche's remarks on Graves; but it is also burdened with so much inflation of so little that seems really vital or important.

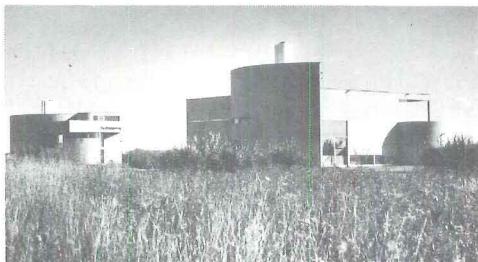
Despite its unfortunate slickness, size and cost, *Las Vegas*, on the other hand, delivers important ideas, expressed in words as well as actual building designs. This book adds up to a consistent point of view, which, in drawing on so many aspects of our culture, does not (as is often implied) sacrifice design to life; nor as in *Five Architects*, does it imply the substitution of one for the other.

MACHINES IN THE GARDEN

BY JAQUELIN ROBERTSON



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Having been dissociated from the rigors of private domestic architectural practice for the last five years, I have not had to contend with that peculiar combination of fad, trauma, predilection, polemic, and discipline, which make it such an intriguing, taxing, and elitist "sport." Instead, I have wrestled clumsily and fretfully (it is difficult to judge how successfully) with the chunkier stuff of a public architecture. I feel out of shape, so to speak. The high architecture of the custom-designed private house requires not only white flannels (and white book bindings) but special and highly mannered mental gymnastics—a particular "frame of mind." Without practice one's "timing" gets off; it's hard to concentrate; you keep thinking of other things . . . and missing the point. Nonetheless, it is good exercise and, like most other sports, once you get into it and learn the tricks, it can be quite fascinating.

Five Architects is a manual of technique and strategy for addicted professionals that says something about how a certain modern version of the sport is played. Unfortunately, like most such advanced work, it is almost totally unintelligible to the interested layman or beginner. It should have a devoted but—alas!—limited audience.

My remarks about the book then are to be taken both as those of an outsider, and a past practitioner who has been away from the game too long. And as such they carry, I'm afraid, not a little of the envy a one-time enthusiast has when appraising the current and rated talents at play. Nevertheless, I should add, my comments are written from the point of view of another set of concerns.

Over the past years I have been observing "resort" building activity in eastern Long Island—in particular, several cottage colonies in the dunes on the outskirts of the Hamptons.

Everywhere new weekend "villas" are rising, a good many of them, as the locals say, "architect designed." In fact "architecture" is everywhere. But as yet there is no promise of an attractive community to come. Indeed each year brings along with its rash of daring and individual houses, an increasing sense of bleak ugliness. There are no new villages being built, only agglomerations of units, unrelated objects of every shape and design, pockmarking a once lovely land.

This grim impression is heightened by the contrast with nearby older tree-shaded villages, and their gentle, rural-domestic, homogeneous, patterns that have evolved so successfully over the past 300 years. (Admittedly manicured by recent generations of resort money.) Today these villages offer the area's only remaining amenity besides the ocean itself. In fact, these old villages provide a retreat from the

glaring world of our own contemporary hand. We have made a shambles of the dunes and scrub forests and can only escape them by returning to the old tribal places we have not yet destroyed.

(Such is the residue of modern design in a culture that does not provide a larger and governing vision in which to fit all the objects it produces; a culture gripped by a devastating schizophrenia that finds no mediation between specific things and their real or implied framework. We make very few successful places, only things.)

It is particularly disturbing that the models for many of the houses comprising these new beach wastes, these placeless places, stand nearby on more expensive land—looking out, like proud-if-shamed gentry, over their bastard flock. (Ah! the *machismo* of the spawn; architectural virility—but here seen as a kind of individual, one-shot affair—all the children are idiosyncratic.) A number of the houses illustrated so artistically in *Five Architects* are here. Yes, some of the prizewinners are the models for so much of the wreckage nearby. Although the architects have been able to provide models or prototypes galore, these are only parts, without a blueprint or set of instructions of how they might go together.

Why is this? Why are these houses and their progeny interesting, sometimes beautiful, seen as separate objects, yet together a depressing and disjointed assortment of parts, that imply no larger and readily achievable order of the whole, one capable of successful replication in less able hands? Why, for example, are the buildings or complexes seldom photographed in the company of their neighbors? When they are seen in such proximity, why do they wreak such havoc around them? Why are they so restless, jerky, confused? Why do they look more like equipment than houses? Why is everything particularized? Why are there so many eccentrically shaped and tormented spaces inside—spaces that are uncomfortable and/or unusable? More pointedly, why, for the most part, do they look and act like "cardboard" when exposed to the elements when their owners have had to pay so much for them? Is this an architecture of drawing or of living? How will they age—both physically and stylistically? Will the "pure" style survive?

These are questions raised by most of the work, rhetorical questions that go beyond the individual work to a set of general problems posed by so much of what we have called "modern architecture" over the last fifty years.

Yet there are a good many things here I admire and indeed envy. For one, the buildings as drawings are beautiful: cold, machine-tooled, elegant. But also lifeless. Only one shaky sketch! Too much risked? No, by its very nature this world is white and hermetically sealed. As spotlessly "arranged" as it is drawn. In short, the drawings set the stage. These pristine planar designs will carry into the world

Mr. Robertson, former Director of the Office of Midtown Planning in New York City has recently returned to private practice and serves as a member of the New York City Planning Commission.

some of their museum fragility and unreality; a tendency "to dirty," like fingerprints on the white binding of the book that presents them. You have to look at this book with gloves on. One has to value these drawings as works of art in themselves, particularly those of John Hejduk whose work ought really to be collected for what it is: exquisitely machined calligraphy designed (and conceived?) for gallery display, architectural bas-reliefs to be looked at.

I also like the Five for having more or less attempted to remain true to a particular style and master; particularly in a time where the major cultural trauma revolves around newness and change. Colin Rowe describes this affinity very succinctly in a single paragraph in his otherwise rambling and almost totally incomprehensible essay. (In fact one of the mysteries in the book is Rowe's piece. Very much an intellectual mandarin to at least some of the Five and surely at times one of the very few cultured, original, and truly intelligent architectural critics, Colin seems flustered, almost purposely contrary and opaque here, as if he were irritated and confused by what he had wrought and what he was being forced to defend.) Let's admit that Le Corbusier gave modern architecture, among other things, a rich and seductive vocabulary albeit a rather perverse one; that is, he invented a family of forms, details, organizational schemas, proportional systems, and ways of conceiving and representing pictorial space (together with a properly apocalyptic view of the future) of the kind usually necessary to any historically sustained architectural output. And his talent, his eye, his sculptural magic made even the most outrageous propositions when clothed in this style (or language) appear as Platonic revelation. The Five are justifiably impressed; and are still trying to unravel it all.

All right, so we have a gifted group with good eyes, who draw well, design with elegance and are intelligent enough to stay within a suggested architectural mode. What else do they do that warrants so much formal "interest" such as the MOMA seal of approval in the form of the characteristically refined forward by Arthur Drexler? I think essentially two things: One, they treat architecture as "high art" similar to and indeed derived from painting which brings them into a select and protected art world—and this is dangerous. Secondly, they attempt, particularly Eisenman, to sort out some of the epistemological problems of architectural theory and conception; for example, the differences between questions of substance (the laws of gravity, forces, strength of materials, function, etc.) from those of form (the laws of order, pattern, information, meaning). This investigation is fruitful and not unimportant. But it is difficult, and decent attempts at it are rare and usually logically confused. One scores points for trying, nonetheless.

Architecture should attempt, to quote Eisenman, to involve "the individual in his

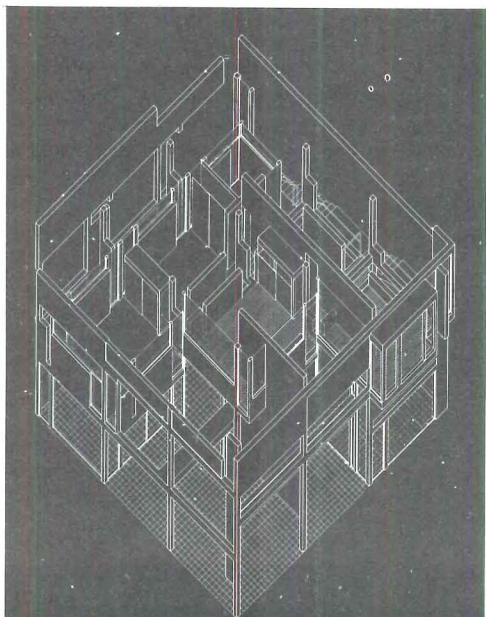
purely conceptual or mental capacity which has little to do, as before, with his aesthetic predilections." There are inherent formal principles to be found below the surface and it is the architect's job to try to retrieve them. "Deep structure" (an appropriately "now" title!), if I read him correctly, is an essential part of an as yet distilled theory of architectural cybernetics—the ways in which the mind formally (and mysteriously) sorts and maps the territory of the architectural "experience." Physically it may be a question of matter but intellectually it is a problem of order that "may not be perceived in the actual environment, but rather may be understood as a mental construct . . ." Eisenman seeks in his "models" an investigation of this "deep structure" and the attainment of a potentially neutral state "with respect to existing social meanings which accrue to the ideas of a country house."

These ideas in themselves as exercises in the logic of architectural logic are not bad even though I disagree with them in part (and suspect it's better to only think about his "cardboard" house, not live there!). No, the "deep structure" stuff, though heavy going, is not really boring; and it gives the book its most serious intellectual punch and brings its attempts at architectural theory closer to the effort of the scientific "structuralists" — biologists, semanticists, geneticists, cyberneticists, evolutionary theorists, etc.—who are presently changing most of the ground rules of science as we know them. (As architects often don't.)

Our arrival at any architectural "order" is the result of an extraordinarily complex cultural process that melds perceived data, including historical/social "warping," with knowledge about real physical requirements in some special way into appropriate structures. The result is the selection and ordering of relevant information about these requirements into a formal mode that allows us to record and transmit them.

As Gregory Bateson put it in *Steps to an Ecology of the Mind*: "No doubt deeper levels of the mind guide the scientist and the artist toward experiences and thoughts which are relevant to those problems which

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are somehow his, and this guidance seems to operate long before the scientist has any conscious knowledge of his goals. But how this happens we do not know."

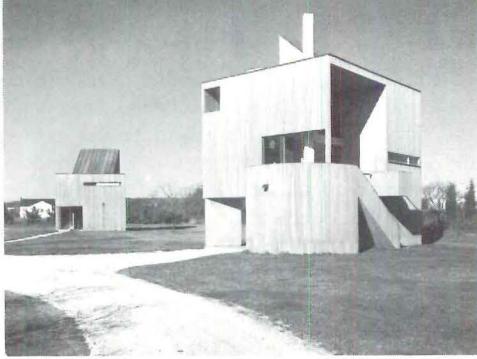
Eisenman's work, and it is fundamentally different from the others both in its nature and depth, seems to be an attempt through models, and a formal vocabulary which happens to be architectural (16), to illustrate the tracking of certain systems of this deeper order and how they interact with and in turn shape our attempts to deal with and structure real world data for pragmatic and aesthetic purposes. It is serious work and he has pursued it painfully, and I believe, with some real success. He has tried to throw light into the dark, inner-closet of the creative act in a structured way—and I applaud him for it.

Where Eisenman falls short is in his attempt to somehow sever the intellectual process of "ordering" from, say, the "subjective perceptions of an actual environment" or the cultural inheritance of the orderer—when they are indivisible in the mental process. The artistic statement is a combination of the conscious, unconscious and external levels of the mind operating in a continuous and dynamic circuit. Eisenman who still seems to be caught up in serious "mind-body" arguments, can't quite get hold of this in his models (neither could Russell or Wittgenstein).

Incidentally it is interesting that of all the projects, his are the only ones that while containing implied diagonal movement and order, do not indulge in "diagonalosis"—the creation of those particularly painful and disrupting wedges and points and slices, "zoots," which have become the favorite yet peculiarly crippling fad of recent design.

I have touched here on the things that have to be credited—I have singled out Eisenman for breaking new ground in trying to bring architectural theory alongside of some current philosophic/scientific positions, and commended Hejduk for his hieroglyphic artistry. Let me try now to capsule (inherently unfair) my feelings about the others (Ken Frampton has done a precise comparative architectural criticism, which achieves objectivity and I think, is exemplary, thorough and rather elegant).

Gwathmey and Meier are the two real architects in the group since their concern is essentially in building their ideas. Of the two, Gwathmey is by far the best "builder," that is, his houses are beautifully put together; they stand up well under adverse weather conditions, and don't leak and peel. A Gwathmey house is sound as well as stylish and probably worth the money. More than this, the freshness and unembarrassed quality about the Beach House studio complex (17), gives it a unique place in recent architectural output. The oblique planning principles, appropriate or not at a larger scale of reference, hold the complex together very neatly. (If only they could help plan the development on the dunes below.) In itself, it's a nice precinct



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to be in. Stylistically Ed Barnes is successfully wedded to Corb here, bearing an independent child—a no mean feat. Passing the compound always gives me some real joy. Gwathmey is the real father of a legitimate sub-style of neo-Corbusianism.

However, the two Steel houses, planned in tandem, are another story (14). In this case, some of the problems inherent in the style as it has evolved begin to surface. Conversely to Frampton's reaction that all the projects want (or attempt) to be bigger, my own is that they are only successful at a smaller scale. Conceived as objects they must be treated as playful toys. (As Barnes himself found out when he moved up in the scale of his projects, it's no good just blowing up the domestic scaled openings, making them larger. Changes in kind and articulation and different combinations—especially for windows—are required. But these don't exist, strictly speaking, in the new-Corbusian "Hamptonian" vocabulary.) As the buildings grow larger the openings become exaggerated and awkward, their combinations and adjacencies unnatural. So that Gwathmey's two houses are not only of a clumsy and indeterminant scale and want to be much smaller, but they seem very uneasy on the land, eyeing one another rather like two stranded and suspicious hippos. And the plans and interior spaces (13) seem to me more unsuccessful and mannered than the exteriors; shape and geometry for its own sake (note that the door-swings seem part of the plan geometry). It is only Gwathmey's eye and the Master's proportional system that keep the thing together at all. On top of all the difficulties in combining and relating exterior openings and masses, almost none of the shape relationships of the plan (the problem of the picture plane and the organizational principles of painting transposed to architecture) are apparent to the observer (not to mention whether they are pleasing or not). They just don't come to the rescue. Although the houses are not among Gwathmey's best work, they illustrate some of the problems of Corbusian genetic inheritance where style combined with environment and requirement—produces a strange progeny.

Richard Meier, an architect with acute visual sensibilities is probably the most elegant architectural designer of the group. He is able and willing to take a clean, straightforward plan like the Smith House

and make it into a refined, delightful three-dimensional construct through the use of finely attuned proportional devices and limited but crucial surface articulation. This is real architectural skill. Knowing what not to do. That windowwall—illogical and/or inoperable as it may be—creates a beautiful and powerful image that almost makes you accept the whole style. I haven't seen the house and I have problems judging how big it is. But in pictures, at least, it seems to me to be a first class work.

The Saltzman House (18), which I do know, is much more complex; more agitated and problematic; the vocabulary gets confused and "stretched" (e.g., the fenestration). The details don't pull it all together. What is worse they don't "work" in the ocean climate. Like so much of the "white architecture" of the 30's it's better only to



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look at the photographs of this house—a major flaw of the style. Meier, however, is developing into one of our best "high art" architects and as he becomes involved in larger projects, may be able to move away from some of these "building" deficiencies of the Master's style.

Michael Graves (despite the real let down he gets as a result of a pretty dreadful essay meant to build him up) is, I feel, much more talented as an architect than the two projects illustrated here suggest. There's no question that he has a fine eye and hand and (again from photographs) he appears to be a very good painter (I suspect he is closest to Drexler's heart because of this). Although I have not seen either of these houses, the Benacerraf Addition represents in an exaggerated way so much of what I consider weak, no wrong-headed, about neo-Corbusianism. This is the ultimate piece of architecture as object: the sculpture in the garden; the pavilion as an aesthetic jungle-gym. And it is not an independent abstract exercise either (like Eisenman's); it "connects" to an existing real order. Something lives next door, so to speak, but the damned thing tears into the old house like a McCormack-Deering combine threshing wheat. Indeed the inescapable image of this disturbing neo-machinery is precisely that of an ominous, futuristic (and pointless) piece of farm equipment whose blades and planes will start scything and cutting at any moment. And all of this to provide a breakfast room with a terrace on top. (Does the architect really have to maim the old house to live? to announce himself?)

Not only is an inordinately fussy and

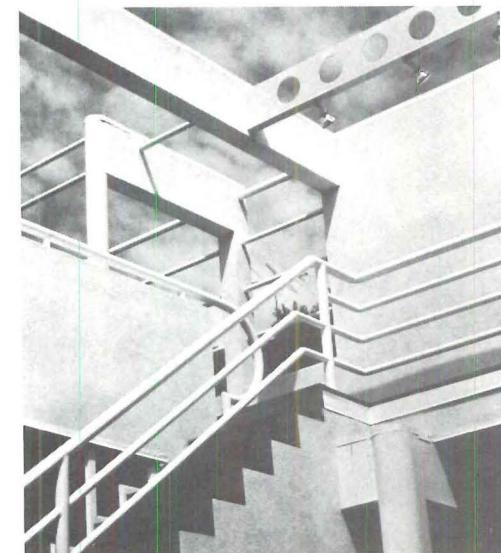
self-conscious effort made over a small addition to a rather bland suburban house, but the result seems to discourage either active inspection or use. Obviously the history of architecture is filled with disdaining juxtapositions, but this hardly seems the place.

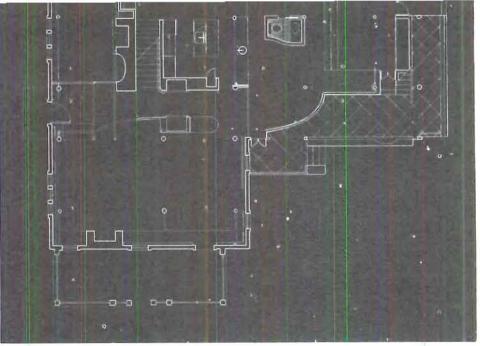
Graves has a field day with Corb's nautical motif, but with confusing results. Both his houses are literally crawling inside and out with a sort of nasty modern ivy in the way of railings, metal trellises, unexplained pipes, exposed beams, inexplicable and obtuse tubes—most to no apparent real or architectural purpose; and the guillotine-like quality of the wavy soffit (which Graves' essayist finds so satisfying) seems to me to discourage enjoyable use of the tiny balcony next to which it hovers so expectantly (a kind of stapling device that fits in with the hay baling or threshing machine image) (19).

I have tried several fantasy trips through the playroom or across the terrace of this small addition and always bump into unexplained and unnecessary columns (20). A real obstacle course. The "language" has become so mannered as to defeat its purpose—which, I assume, is *artful accommodation*. And if the basis of the design is metaphoric then comparison with the ceremonial aspects of the Acropolis referred to in this essay would hardly seem apt. Initiation into a civilization's "high place" and into a rumpus room just don't call healthily upon the same metaphors (the essay makes one more aware than one wants to be of some of our serious architectural confusions; the same type of stickiness that one experiences with popular analogies between Bach and the Beatles). The "selective synthesis between architecture, sculpture, and painting" mentioned in this rather muddled essay, has not only filtered out our patience but most of the architecture as well.

Graves' drawings and his sense of compositional subtlety keep reversing the decisions arrived at when reading the essay or viewing the final product. We like one so much, but . . . which of these are we judging? Drawing or built product?

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Herein lies one of the great problems in style, and therefore in the book. Appreciation in architecture requires use. An architecture derived too exclusively from painting is doomed. For the requirements, criteria, choices, the whole mental processes involved in architecture are fundamentally different from those of painting and sculpture despite the fact that architects employ many of the same devices, that many great architects have also excelled as great painters and sculptors, that legitimate architectural styles have been and may be born in painting . . . and on and on. Despite this . . . "Architecture-cum-environment" fulfills other purposes and calls other cybernetic circuits into operation in its "processing." So that the differences between painting and architecture are precisely the "differences that make the difference," as Bateson has expressed it. Corbu liked to make a big thing of painting in the morning and architecture in the afternoon; this may have hurt him more than it helped. Indeed it's the *seeming* similarities between Le Corbusier's painting and his architecture that are most damaging. To the extent that all good architects are always part "artist," many seek the refuge offered by museums—those lifeless places—as an alternative to the brawl of the market place. It is, however, an unhealthy environment. (Once high art was removed from having to meet the pragmatic as well as the symbolic requirements in a society at large, once it was free of having to satisfy any real needs imposed from the outside and could live a life-away-from-life behind high walls, then the exclusive "art environment" became potentially lethal to any art which had to live to survive.)

The cult of modern art has badly maimed much of modern architecture by making it unduly conscious of and responsive to requirements of painting and display and, without realizing it almost, by divorcing it from day-to-day life. Graves and Hejduk and many others are victims of this, though Hedjuk seems more content at making architectural art per se.

Where does this leave us? Let me try to sum up my essential dissatisfaction with neo-Corbusianism and its practitioners by going back to that long list of rhetorical questions asked earlier. This is not a conclusive list of dissatisfactions nor a consistent one (we all know about consistency). I do believe it is relevant to the work

shown in Five Architects.

1) Serge Chermayeff's comment, "Environments are still conceived of largely either as receptacles for machinery, or as sculpture or scenery," is true of modern architects in general and of this group particularly. "Nature," the surroundings (context), they see as a separate, neutral stage or backdrop for the artistic placement of the unrelated pieces or groups of sculpture, often neo-machinery; buildings conceived as objects, final in themselves, requiring only our appreciation of the "magnificent play of light" upon their forms. They neither carry with them instructions about such a larger order when and if this is required nor do they, when aggregated, create one.

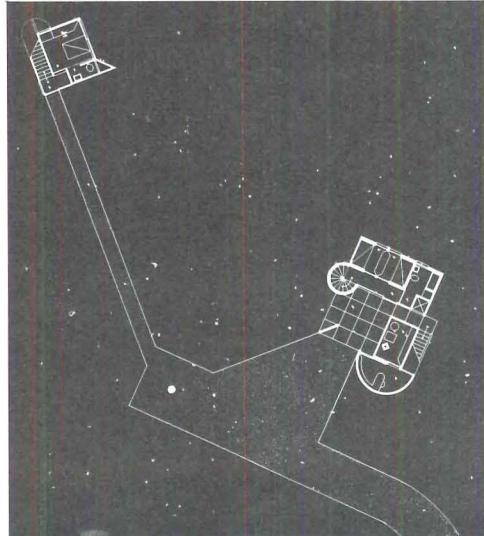
Our culture offers many "well-designed" buildings and almost no architecturally integrated communities or even streets. (Corb's architect must do it all from scratch; "everything must be wrought afresh"; architecture is "a human operation directed against nature.")

Yet, as we are finding out, everything cannot be built anew; the need is not so much for the ability to lay out an entire new order (whether as a single house or a new community) as to incrementally build one within or next to what exists. The fact that the requirements of "within" and "next to" are different from those of isolation and the difference is crucial to the "ecology of ideas" inherent in the architectural (or any creative) act. It is probably both improper and impossible to separate ideas of form from those of substance which was Eisenman's effort.

Precisely what is new in architectural thinking is not abstract "revolution" but the issue of "incrementalism:" A change of view that attempts to encompass the notion, to paraphrase Bateson that all change can be understood as the effort to maintain some constancy and all constancy as maintained through change.

The "solution" to the Gwathmey's Beach House for example does not contain within it a structure applicable to the Beach Colony (21). Such direction towards a larger cohesion is usually attained in architecture not only through a common albeit variable vocabulary of materials, details,

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scales, shapes, and hierarchies, but by an agreement as to the "social" placement of the next unit (part of the deep structure) on the next piece of ground by someone else. This agreement as to siting and landscaping, the architectural "social contract," is the essential "glue" bonding the whole. It allows and dissolves great variety and even dissimilarity among the parts within a readily discernible matrix of the whole.

2) The imagery of much of neo-Corbusianism—the sculpture in the garden, which invokes the ship, the airport, farm equipment, gun emplacements, etc.—is not only misleading but intellectually wrong-headed and psychologically damaging.

3) Similarly, the propositions and logics of cubism—or any other school of painting—are neither appropriately nor safely transferred to architecture and this continuous and synthetic transformation of sometimes mutually exclusive logics clouds rather than clears the very real differences between the processes needed for two-dimensional rendering and usable buildings (it's all too easy to confuse drawings with buildings without having the confusion canonized).

4) Because of this fault it follows that the requirements of the museum world as it is now conceived are particularly crippling to the production of a healthy, variable, and living architecture; and that the museum "scoring system" demoralizes both those who judge and those who practice architecture.

5) Since the strain of recent architecture labelled "modern" threw almost everything learned from the past away (and was usually most successful when it didn't, i.e., Corb's honoring of classical proportioning devices) it soon became increasingly synthetic and unsatisfactory to architects and public alike. It was short-lived.

Much of the weakness of neo-Corbusianism with its polemical deification of technology and the neo-machine image lies precisely in its inability to provide a vocabulary of details—the framing around openings, cornices, base-boards, chair rails, choice of boarding—that solve real and commonplace technical problems in the process of enrichment. This kind of refinement of the details posed by the original style did not for the most part, occur in its evolution.

6) Since decoration of the surface was doctrinally unacceptable and yet its total absence unsupportable (no one could live for long in a squash court) the disposition of shapes and rooms in plan took the place, so to speak, of ornamentation of the wall and ceiling planes. The occupant was being asked in much of this modern architecture to live in the ornament instead of just look at it (22). (Of course, wall/ceiling ornamentation did come back but not so much in terms of an articulation of details of the surface plane as the attempt to make certain architectural features—stairs, balconies, openings, etc.—become a kind of wall-mounted sculptural furniture. Interior walls and ceilings become continually and increasingly more violent and aggressive; to be followed by a calmer period of applied ornamenta-

tion, "cut-outs" and supergraphics.)

7) A part of this neo-Corbusian "ornamentation of the plan" was a particularization of the spaces, a proliferation of oddly shaped areas, increasingly in contradiction to the initial stated purpose of the "open plan." This particularization, justified partially as a response to so-called "functional" needs, has depended in many cases for its aesthetic success on the careful placement of freestanding furniture (more as works of art than accommodation) and resulted either in a kind of frozen territory immune to the vicissitudes and irregularities of life or to a maze of shapely but ultimately tiresome enclosures. Indeed, as we have found out there is nothing more impractical, inflexible, and in some cases uncomfortable than the so-called free-flowing space of the open plan unless it's the wedged, diagonal, zooted plan. Both are rigid, hard-programmed; and in comparison to, say, the Regency House's ordered arrangement of discrete, simply arranged and regular spaces neither is as amendable, as reusable. Tailormaking the house to the particular requirements and eccentricities of a given client or program destroyed its general usefulness.

Architecture has to be able to survive many tests including not smudging under a variety of tenant's uses and/or decorating styles. Neo-Corbusianism doesn't meet this test very well.

8) The emphasis on space *per se* and on spatial variety, on movement and violent shifts in orientation inside and out all but killed any ability of a space or an occupant to be at rest. All spaces circulate; the style is a continual trauma of movement and dislocation; a style obsessed with creating "exciting" spaces which too rarely produces any places pleasing to remain in.

9) As a replicable, usable, consumer environment most modern houses in this mold are not as satisfactory as your Williamsburg replica—and a neighborhood of them (much) less satisfactory. Modern architecture, in not yet producing attractive modern suburbs, compares badly with some of the styles of the past; and even to the "unmodern" but contemporary suburbs of say, a Beverly Hills.

10) As a result of all of the above, the style, unpopular from the outset, is not now in good health, and is only being maintained precariously in a special isolation wing through the donated intravenous feeding of the "art world."

Having said all this let me counter it all by saying how much I admire so much of what is shown here (much of it is beautiful) simply because doing good architecture is so hard—and there is no easy or proper way.

All routes are legitimate . . . and many of the criticisms I level here also apply to too much of the architecture of the past which I love.

The real test will come when and if these architects take on larger projects—wholes rather than parts. Our architectural culture will be affected by that outcome.

IN SIMILAR STATES OF UNDRESS

BY CHARLES MOORE

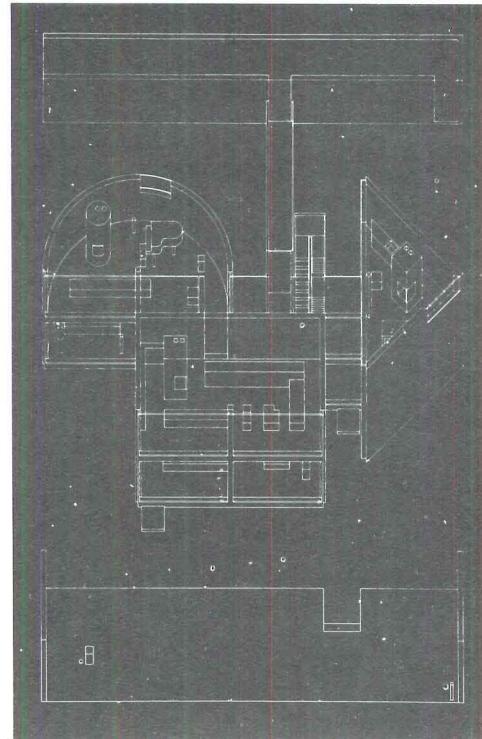
New buildings are numerous across our country, built to just about every conceivable configuration. Architectural ideas, on the other hand, or even polemics, are disarmingly scarce, and people or groups of people who care about them and make them are, I think, desperately to be prized.

The five architects in the book at hand are such a group and a potent one. As the "Cardboard Corbu" people, they have strong (and I think generally benign) influence in many architecture schools and some of them, by all odds, are the biggest news in the shelter magazines since Shibusi. A whole book by and about them should have constituted an important event. But, I don't think it did.

I can't tell whether the book's authors are being shy or spiteful (either one a negative state for polemicists) but I can report that by the time I had penetrated the Preface, the Introduction, the Criticism and then an initial explanation, I felt very much like a confirmed nudist at an incredibly elaborate presentation of the Emperor's New Clothes. So they're naked (*unclothed*, that is, in social redemption). Fine, but I had gotten from Colin Rowe's Introduction the impression that this was deliciously naughty. Or maybe trivial. Or perhaps, refined in its triviality, Very Significant, and therefore possibly not naughty after all. Just naked.

The evanescent fibers of the Introduction contrast with the stuff of the Kenneth Frampton criticism (their Majesties' well tailored hair shirt, I should think) which I enjoyed reading and found helpful in trying to figure out what the collection meant. I was also pleased to find Frampton examining parallels between the work at hand and Shingle Style houses (how could there not be?) since the Introduction had been pretty chilly about any such possibility.

The invisible thread is by all odds most intricately loomed in Peter Eisenman's descriptions of his two houses. (One of the complexities about this reenactment is that the Emperor(s) and the tailors keep changing roles.) He describes in words and axonometrics a process (I think) for unloading meaning and then dealing with two concurrent structures, the real nature of which you can't see, in order, through the unseen part (called "deep structure") to arrive at a much more important understanding—so subtle you don't know you have it—of the real meaning of the architecture, or of life. My characterization is certainly unfair; it is based on my complete failure after several readings of the text to understand what it's all about and why anybody would want to do that. I can certainly understand why any artist would follow a quirky and exacting regimen if it produced works of surpassing wonder, and I enthusiastically endorse Stravinsky's proposition that an artist must seek always to



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Mr. Moore has his own office, Charles W. Moore and Associates, in Connecticut and teaches architecture at Yale University.

tighten the limitations on himself; but except for some meticulously fine drawings the reader is presented with surprisingly skimpy evidence about the outcome. Or maybe I've missed it again and the real meaning is not in the buildings at all.

I confess to an unfailing surliness when I'm confronted with the rather standard architectural historical trick of puffing up a contemporary building (of one's own, or a friend's) by seeing in it a striking kinship with an older building of undisputed importance, then building the gossamer bridge through time so that the near abutment (our friend's building, or our own) seems perforce as substantial as the far one. The visible extent to which this self service could go was exemplified, when I studied at Princeton, by the description of someone's vacation house as the modern equivalent of the Athenian Acropolis, with a conveniently sited woodshed as Nike Apteros and the two bedroom manse as the you-know-what. So imagine my orange and black apoplexy on reading a deadpan announcement by William La Riche (a lecturer at Princeton), that "the organization of the Hanselmann design of Michael Graves (23) is intended to recall, more than anything else, the procession from the profane to the sacred spaces of the Athenian Acropolis. Among the historical artifacts which have most influenced Graves, the Propylaea holds a predominant position. Like the Propylaea, the Hanselmann Residence imparts a precise spatial and temporal dimension to the activity of transition . . . The similarity extends to a locational correspondence between the Studio house and the Temple of the Nike Apteros." All this

the Gwathmey Residence and Studio of 1967 (17) comes across stronger than the subtleties of the Steel Residences of 1970 (14).

The complementarities between Gwathmey's work and John Hejduk's are (as I guess they are meant to be) arresting, though curiously the designs occupy altogether different realms. Gwathmey's, that is, are buildings: they occupy real space and stand in the weather and the sun shines on them. And they are built to endure, and to change when the sun moves through the sky. The photographs show us some of that. It is also the case that some of the plan forms are fragments of giant circles. John Hejduk's One-Half House (2) has plans with half a circle, half a square, and half a diamond. In them are fireplaces and other plan forms which play on the three shapes. It was not built, apparently, since there are no photographs. Not many of the world's great designs were ever built, God knows, but this house looks as though it wasn't intended to be, that the sun wasn't meant to shine on it, or you weren't meant to wedge into the laundry room. It appears, that is, to be not architecture at all, but some other art form closer to painting. Which is all right, too, except that it was otherwise advertised.

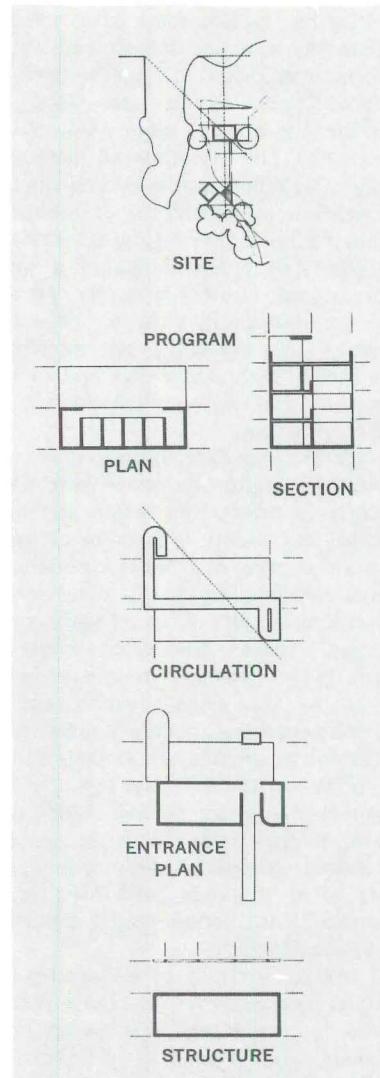
The concluding section, two houses of Richard Meier, was by far the most accessible to me. A whole range of architectural considerations (site, program circulation, entrance, structure, and enclosures) is described in words and photographs and plans and elevations and the curious slaunchwise axonometrics the Five seem to favor.

We are told little of the people who live in Meier's houses and nothing of the interesting problems which must have attached to building that way, yet almost for the first time in the book I get the sense that these are, however coolly they accomplished their mission, for human habitation. Also, I happen to like the shapes. That may be simple conservatism on my part, since these houses look rather like some few houses have for half a century and there's comfort in that. (How can you, Colin Rowe had asked, be intelligible without involving retrospection?) Or perhaps I finally caught a point the book had all along been seeking to make. The one about how good the Emperor looked.

I'm sorry I caught so few points, and rather angry about it, since I test well for this sort of thing. The book contains some buildings I admire, but I'd seen them published before, and had counted on the weighty phenomenon of a book to clarify my understanding of what the group is about. I want urgently for such a group to speak, since I think, as I started out by saying, that the need for polemics (and hopefully attendant architectural theories and ideas) is desperate and that few are interested enough or able to provide it. I thought these five had a very good chance. And now I'm not even sure they're a group.

THE LURKING AMERICAN LEGACY

BY ALLAN GREENBERG



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bearing out his statement: "The architecture of Michael Graves embodies the most extensive and provocative recent exploration of these themes." Bad form. Especially since the two houses of Graves are, I think from the photographs, interesting work, in no need of all that puffing up.

Charles Gwathmey is represented with two sets of houses on Long Island. No text. The houses seem beautifully put together. They are "pure," if that means sharing Le Corbusier's enthusiasm for cubes and spheres and cylinders and combining them in ways which maintain their clarity. In photographs (for me) the full "purity" of

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The standard versions of the history of architecture of the 20th century have been extremely selective in choosing both the buildings that are worth writing about, and the areas of the past that need to be explored in the search for roots. The very designations modern movement and International Style imply that all the buildings and ideas that do not conform are somehow parochial and unworthy of consideration. By including two critical commentaries which more or less accept this proposition it appears that the authors of *Five Architects* would prefer to limit the context in which their buildings are viewed to the official line (i.e. Pevsner, Giedion, Banham, et al.). The quality of the papers by Colin Rowe and Kenneth Frampton, and of the eleven buildings presented, is outstanding, but to accept this stricture would be debilitating indeed. A reviewer could no more than paraphrase and elaborate on the comments of Rowe and Frampton. More seriously it would necessitate having to accept the "international fallacy" and a partisan view of architectural history. No work of art or architecture is ever merely the sum of its author's goals. The history of the modern movement and its later off-shoots, is not the whole history of the architecture of this century.

The latter statement clearly requires some explication beyond the obvious fact that I do not share the authors' veneration for the modern movement. I would claim in justification that firstly, the profound differences that distinguish the work of its masters, Mies, Corbu, Terragni, Aalto and Breuer, are more significant than their membership in C.I.A.M., and common vocabulary of white walls, grids and large glass windows, etc. Secondly, the work of those architects who did not toe the official line—Edwin Lutyens, Gunnar Asplund, Peter Behrens, Michael de Klerk in Europe, and James Gamble Rogers, Cass Gilbert, Bertrand Goodhue, Paul Cret, and George Howe in the United States—is as interesting (if not more so), and as good (if not better), as that of Gropius, Breuer, Van Doesberg, the Vesnins, Markelius and Co. It is obvious that the modern movement represents only a portion of the architectural output of our time, and that the actual history of architecture of the 20th century has barely been attempted, except perhaps by Henry-Russell Hitchcock in *Modern Architecture: Romanticism and Reintegration*. Until this more objective and comprehensive survey is available it is exceptionally difficult to see the work of any group of architects in a proper perspective.

I have dwelt on this point at length because I doubt that the obvious influence of European architects on these eleven houses is always as crucial as it has been made to appear. The notion that American archi-

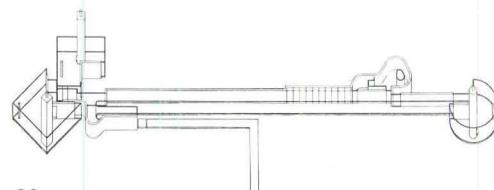
tects are dependent on European ideas and use them without properly understanding their full import, is demeaning and has been fashionable for too long. It denies any claim to a valid local tradition, and to the obvious transformations that occur when new ideas are applied to an existing set of circumstances. The fact that no one studying these buildings could possibly confuse them with their European models, or have trouble recognizing them as American buildings, needs a better explanation.

An interesting case in point is the work of Richard Meier. His Smith House of 1965 seems to me to be a continuation of the East Coast Stick and Shingle Style vernacular Vincent Scully so well describes in his book *The Shingle Style and the Stick Style*. The lucid diagrams Meier uses to illustrate the building's physical organization as it relates to site, program, circulation, entrance and structure (24), have more in common with the method of Andrew Jackson Downing than that of Le Corbusier, despite the obvious references to the Villa at Garches. Meier's categories are a moving illustration of the first of Downing's three principles of architectural design, the Principle of Fitness. In his book *Cottage Residences* of 1842, Downing explains this principle as the organization of the plan as it relates to orientation, view (site) and the convenient arrangement of rooms—with each department of the house being complete in itself (program, circulation and entrance). The second category, the Principle of Expression of Purpose states the need for the design to reflect its function, in this case, domestic, by expressing verandas, porches, windows and chimneys—all crucial elements in the design of the Smith House. The third category, the Principle of the Expression of Style, has partly to do with the choice of a particular style or vocabulary. The Smith House's overt references to Garches (25) are as important in their associations today as were Downing's options of the grecian or gothic mode 120 years ago. This principle also includes the more 'absolute' qualities of proportion, symmetry, variety, harmony and unity: The subtle precision with which Richard Meier has both eroded and extended the basic cubic mass to achieve a complex 'balance of opposite parts necessary to achieve an agreeable whole,' would have been appreciated by Downing.

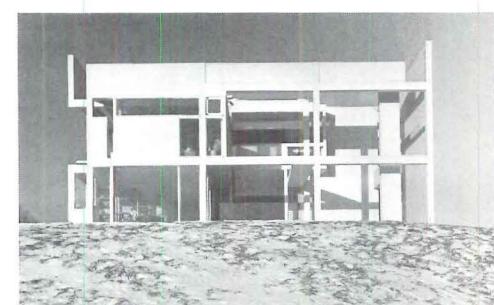
Charles Gwathmey's clear articulation of the plan, the experience of the components of the program on the exterior of his buildings, and the pictorial qualities of the massing, would also have been applauded by Downing and the other Gothic Revivalists. He shares with the Stick Style a vocabulary that relies on the tension between void and skin, shadow and plane, and the use of a regular mass articulated into an asymmetrical composition of varied but restrained silhouette. This is perhaps also true of the work of Michael Graves. The Shingle Style's use of large verandas, porches and windows was partially an at-

tempt to trap the summer breezes and to distribute them to all parts of the house. Gwathmey's plans—especially the Steel Residences (14)—suggest a similar intention, but lack the grand sweep of space from room to room and the relaxed sense of interior grace.

The projects of John Hejduk and Peter Eisenman seem to be exercises in design rather than construction. Hejduk's House 10 (26) and One-Half House (2) use forms derived from cubist paintings, but their spatial organization depends on separate volumes and picturesque massing. The exceptional attention paid to the inter-



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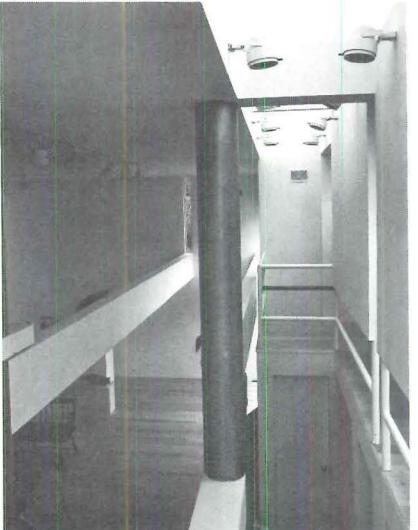
vening connecting spaces suggests the nineteenth century rather than the International Style. Peter Eisenman's work is a different order. The two buildings, and their attendant text pose more difficult and important problems. They seem to be exercises, or perhaps theorems is a better word, to explore the limits of architecture and to define its components. On the other hand there is also a rich and sensuous interplay of forms, especially in House II (27), and obvious care has been taken to accommodate the program. The thoroughness with which the syntactic relationships are studied and emphasized raises a fundamental question as to the precise boundary between architecture and sculpture. If House II were reduced in scale, say 25 percent, to permit one to enter and experience the interior space, but obviously not to live, would its role as a paradigm be diminished or its essential intention be changed? The architect would probably say no, but while he was busy explaining his answer the building itself may be heard quietly protesting, 'Yes.'

In the end, as one tries to synthesize the ideas and feelings generated by most of the work in this book it seems as if the question of style is dominant—in this case an International Style garb over a vernacular wood-frame structure. Style thus remains for us as fundamental an issue as it was for our Victorian forefathers a century ago.

Mr. Greenberg, a visiting architecture critic at Yale, has his own architectural practice, and is the consulting architect to the Judicial Department for the State of Connecticut.

THE DISCREET CHARM OF THE BOURGEOISIE

BY ROMALDO GIURGOLA



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Five Architects, a book of beautiful images: drawings, isometrics and telephotographs, contains an apologia as well as a critique taken from a formalistic viewpoint, the only possible point of view meaningful for criticism of this work. We are told that the work included makes the modest claim of being *only* architecture.

But the work shown, in fact, presents a singular approach to but one particular problem in architecture: the single family residence for a singular type of client. Perhaps the merit of this work is its ability to embody so faithful an expression of singlemindedness—although one regrets that the results are a far cry from the singleness of mind of the architecture that was produced for the great barons by the Richardsons, Hunts and Stanford Whites. These new clients must show a lot while paying a little.

Unfortunately there are far too many ways to make a show with architecture. The need seems more urgent when the content is small and of little ultimate consequence; after all, the house is able to generate only minor programmatic concerns. One of the ways of making a show is to resort to a vocabulary patinaed by time, a vocabulary not ambiguous but good mannered, wherein sophistication is obtained through the act of remembrance by a collector more involved with his own emotional demands than with the intrinsic values of a new presence.

The architecture is charged with meaning; i.e., that fusion between form and content to which the introduction warns us the architects are indifferent. In fact, the effort towards an absolute, unequivocal synthesis seems to be the ultimate aspiration of this work. To attain this end every magic effect—numbers, grids, painting and paints—is brought into a play that only the obvious talent of the architects involved can sustain.

But by operating on what is asserted to be an exclusively formalistic level, they force themselves into an experienced, older vocabulary as if to exclude for themselves the possibility of finding forms adequate to their time. Since form *per se* cannot be invented, the alternative left to them is to recall what has been seen.

In architecture as well as within the other arts, the creative impulse is rarely generated from inner searches within form but develops rather from instances set by new attitudes toward the dynamics of life; attitudes which are eventually capable of fracture and re-creation. The expression of these evolving attitudes is often harsh and difficult to take; they bring however, the fresh air of imagination and discovery; a sense of a new and valuable presence which is the true aspect of any great architecture. Peter Eisenman's attempts to gener-

ate form will only produce old forms, despite his structuralist investigations, for the concept guiding these researches relies on a basically formalistic mathematical ordering of physical elements (28).

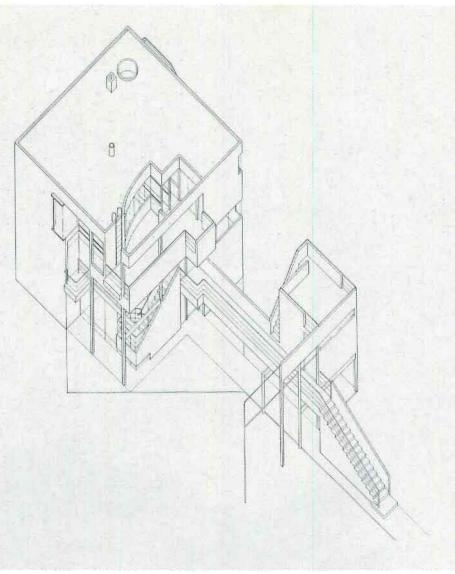
It should be remembered that there is a "non-classical" Palladio whose books and works, for the matter, were eminently practical in their embodiment of an earthly description of functions as shown by his carefully balanced building plans. His numbers relate more to the accurate calibration of structure, materials and the requirements of internal situations than to the abstractions of figuration!

Synthesis has always been a magic word for architects; perhaps even more so for architectural critics. Since the design of a building, or in fact even a city, tries to reduce into one single configuration a variety of elements or factors, it was thought that the more autonomous and independent the formal result, the more successfully a synthesis was created. Remember too, that all the gothic and all the classical architecture of the past became, when subjected to the scholarly criticism of the 19th century, a cogent and wonderful synthesis of all the things they wanted to see in it. Tradition has always identified the Parthenon as the very definition of this kind of architectural synthesis while quite forgetting the urban complexities of the Acropolis whose site characteristics made possible its existence.

To rely on the invariables of form in the search for synthesis while apparently dealing with tangible elements, one eludes reality: For in doing so, one tends to ignore the programmatic resolution of the complex relationships that exist between the many elements which make architecture. As in life, complexity is a characteristic factor in architecture; but the solution is not found in stepping from complexity to simplicity. It is found, rather, through the exploration of various successive degrees of complexities, thus making the environment more and more understandable, and therefore eventually creating an architecture that communicates naturally and unequivocally. This process can be regarded as the beginnings of architecture. Of the five, only Michael Graves' work contains this complexity, of a rich and varied nature, although he, like the others, subscribes too much to a formal vocabulary (29).

In the work shown here, the synthetic act is performed through the use of an intellectually applied language. It is a language rich in symbolic citations, which, while having perhaps a certain value in the twenties, today has only the ability to dissolve any chance for communication. This application tends to reduce the work presented to a series of cold, irrational super-symbols. Emotions are hidden, as well as those contradictions arising naturally from the dynamics of life which, if admitted, would reveal human nature, its struggle with life's limitations, and its inability to change.

Mr. Giurgola is a partner with the New York and Philadelphia-based firm of Mitchell/Giurgola and teaches architecture at Columbia University.



29

The conceptual nature of structure is often mentioned in the text, but it seems to be introduced principally as a link between formal elements caught in the syntactic operation of a design without purpose.

Structure cannot be regarded as an isolated phenomenon. It is rather, a concept that emerges and becomes active at the beginning of the relationship between user and object. Structure becomes evident as an answer to an initial question, which is not indifferently asked but which is asked in response to intentions and preferences. This sort of structuring should not force a dichotomy between subjective, intuitive, experimentally-based preferences, and objective, rational, scientifically derived theory. These two states cannot be divorced at the same time that form and content are unified.

It should be clear that structure, not only in architecture but in general terms as well, must be intended as the significant connective link between form and content. Levi-Strauss contends that content derives its reality from structure but structure does not have a separate content.

The only possible way to make architecture is the way arrived at consequent to the discovery and understanding of all of the internal relationships involved in its potential physical configuration. While even an exhaustive study of these relationships cannot generate design without the eventual jump into a formal synthesis, a formal synthesis cannot provide, by itself, a lever to the analysis of a problem. It may be said that the architecture presented here, accepting the premise that function is to be formed rather than forming, cannot avoid Whitehead's "error of obvious abstraction."

We owe to Louis Kahn a fundamental re-evaluation of the problem of form and content. Charles Gwathmey might be closest of all to Kahn's position, but he is still too enamored with the sculptural effect of his work. With the affirmation of their non-separable character, the only possible

synthesis becomes "the function of form." Much of the work contained in this book takes its basic start from that principle but it seems that every effort has been made to hide this good intention.

Le Corbusier is often recalled by the five architects; paraphrased and evoked. Actually the many quotations are more apparent than substantial, since the work starts and builds its foundation upon premises quite different from those of the Swiss master. It is the deviation from those premises that loses for their work the lyric and poetic aspects contained in the early Corbusier buildings the five architects seem so dearly to admire. Their buildings tend to dissolve into images in search of an intellectual status. They could be considered as perfect answers to a perennial eclecticism that never touches anything fundamental.

One is urged by this architecture and its presentation to continually make distinctions; to distinguish between purely formal aspects and semantic ones, between anthropomorphic ways of perceiving space and the geometric. Perhaps this is a consequence of the "basic design" courses given in the architectural schools, that pretends to separate all architectural research into syntactic, semantic and pragmatic elements, each of which is thought to be able to develop in an autonomous, non-related manner.

There is no human activity, and in particular that of the architect, which may be deduced from geometrical and logical principles alone. No science of space rules the design of a building. Architecture is not a matter of theorizing a new space, nor of identifying significant forms selected by a perceptive process in a field of vision where human activity is inserted only later. That procedure must be reversed.

The problem is not to use the visual disciplines as instruments so much as to give them a theme; that is, to reach conclusions that actively mediate between project and purpose—the purpose being the transformation of object from passive to active. The object must become a means for a purpose. Then it will become an organism that is alive.

Architecture must reflect more than an internal and compositional order. The internal organization may in fact be the derived element organized by external factors which, if they are not urban, are the land, trees and nature.

The talent of the Five Architects when employed in the simple realization of a better reality (the real task of an architect today) rather than the making of simple images comes out unquestioned. Richard Meier's housing project in the Bronx is a perfect example of this potential (30).

One must say finally, then, that this book is incomplete and inadequate. Its scope is devoted only to the defining of a school or tendency in architecture; a tendency which rests particularly on a slippery dialectic, learned citation, aesthetic exclusivism and basic indifference.



30

MAGICAL MARKET PLACE

The battle to save Seattle's Pike Place Market has been won

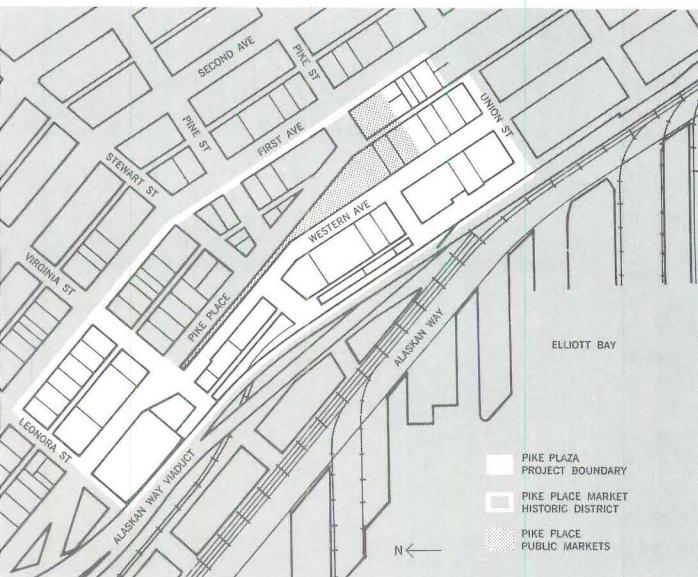
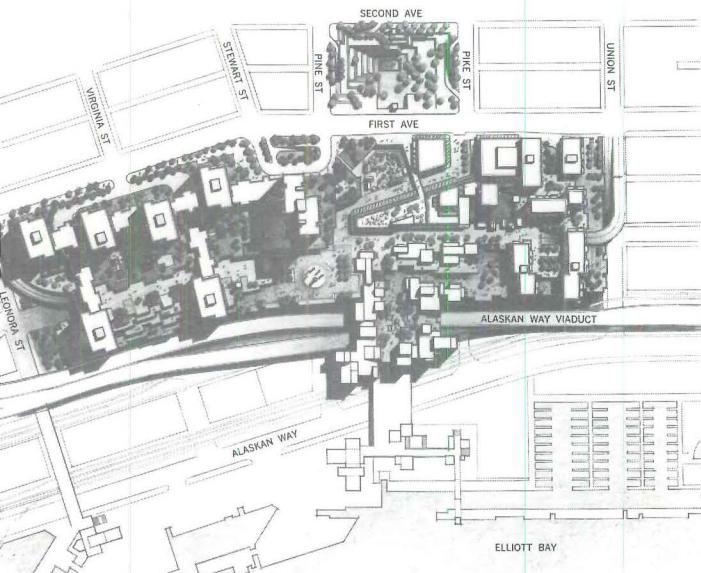
BY BETTY J. RITTER, A.I.A.

It's been almost ten years of exhausting, emotional debate. And no one in Seattle, Washington quite knew, half the time, whether the Pike Place Market was being preserved or destroyed. Now that preservation of the Market is about to get underway, Seattle citizens have time to reflect on a practical lesson in semantics: the difference between "urban renewal" and "preservation."

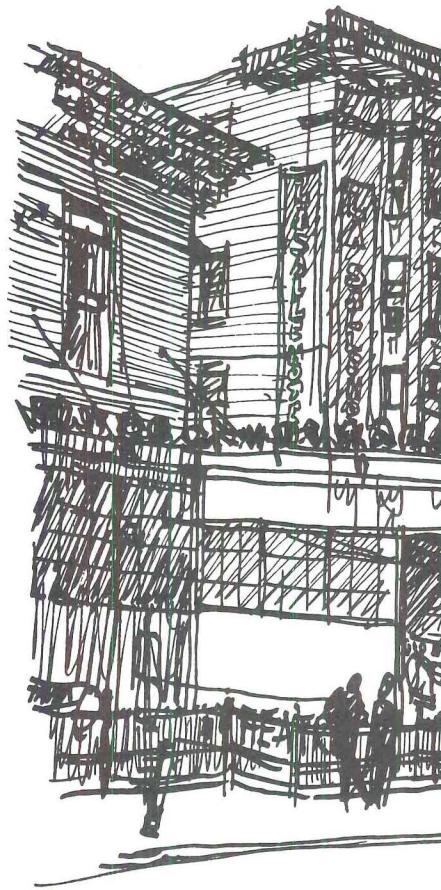
Generally speaking, urban renewal is accomplished by rehabilitation and preservation of buildings, or by razing and replacement. In this country, urban renewal plans have, more often than not, opted for the bulldozer. Many people became alarmed when urban renewal was recommended as the cure for the Market's blighted neighborhood in 1964. Led by Architect Victor Steinbrueck, they organized Friends of the Market (FOM) to inform the general public about the possible danger.

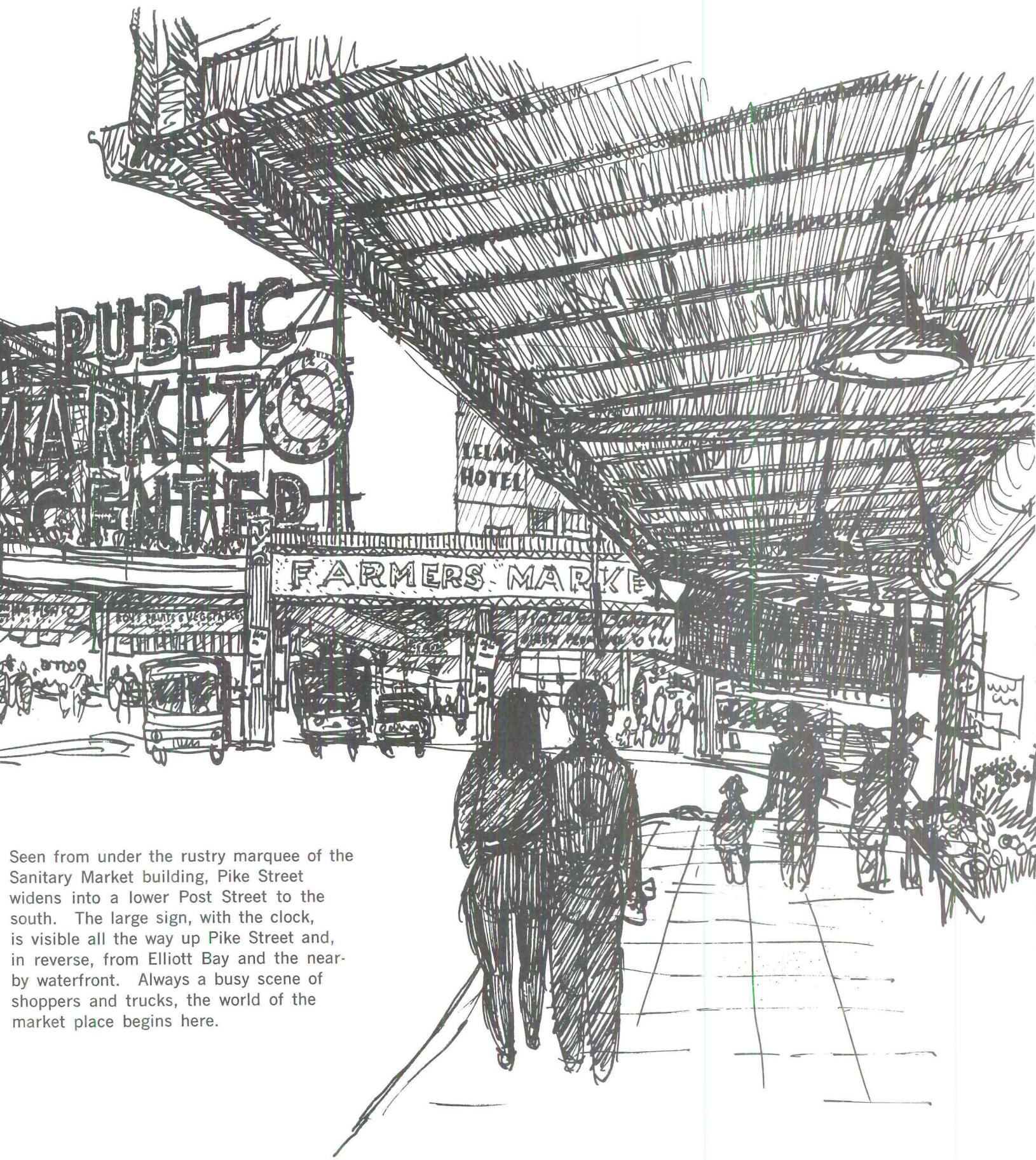
The FOM alert seemed to heighten and sharpen the love affair that had long existed between Seattle residents and the Pike Place Market. By the time a development plan was unveiled in 1968, FOM was geared for action. It spearheaded reaction against the plan, which would have created major changes on a 22-acre site. The plan featured a 600-room luxury convention hotel; some 1,400

Ms. Ritter, former Senior Editor of *Building, Design and Construction*, writes on architecture from her new home base in Seattle, Washington.



The \$85,000,000 development plan above was adopted by the city council and was going to receive HUD funding before voters defeated it in 1971. The ordinance that followed created a Pike Place Market Historical District (dotted area of the map) and a commission responsible for approving any future changes.





Seen from under the rusty marquee of the Sanitary Market building, Pike Street widens into a lower Post Street to the south. The large sign, with the clock, is visible all the way up Pike Street and, in reverse, from Elliott Bay and the nearby waterfront. Always a busy scene of shoppers and trucks, the world of the market place begins here.

units of upper and middle income apartments in highrise towers; 350 units of low income housing; 500,000 sq. ft. of commercial space; and parking for nearly 4,200 cars. The development cost was estimated at \$85,000,000.

FOM feared the impact on the Market. So, when the plan was adopted by the city council in 1969, and approved for HUD funding in 1971, FOM redoubled its efforts. Nearly 53,000 petition signatures were obtained, enough to bring the objections to the city council. The council, in turn, decided to put the issue before Seattle voters in November, 1971, in the form of an initiative. The voters approved the initiative, which called for action to "preserve, improve, and restore" the Market. Accordingly, an ordinance was passed on December 1, 1971, creating a 7-acre Pike Place Market Historical District and a Market Historical Commission charged with the responsibility of approving any changes to buildings or structures within that District.

The ordinance touchingly describes the market buildings "... which, although humble and anonymous in character, are an example of intriguing, dramatic architectural space servicing and adjusting to the varied and varying characteristic marketing activities. The central building spaces are particularly unique in form and character, having grown to the present form through years of anonymous and functional creation to conform to the changing market activities which serve low-income consumers along with other special needs of the public. The District possesses integrity of location, original construction, use, and of feeling and association."

Created in 1907, the Market has grown into a unique, beloved Seattle institution. Unlike many landmark buildings, the Market is alive and functioning. It is not an artificial tourist attraction, although it does attract tourists. It is a *real* market, and serves all kinds of people—rich, poor, young, old, hip, square. And they come to the Market because it has vitality—a vitality growing out of its unselfconscious charm, its carefree rubbing of elbows. There is that jubilant array of fruits, vegetables, fish, meat, breads,

coffee, spices, antiques, books, records, and arts and craft handiwork—enough to set the head swirling, and to suit the most exotic taste. Whether you come to shop or merely look, visiting the Market is an exuberant experience.

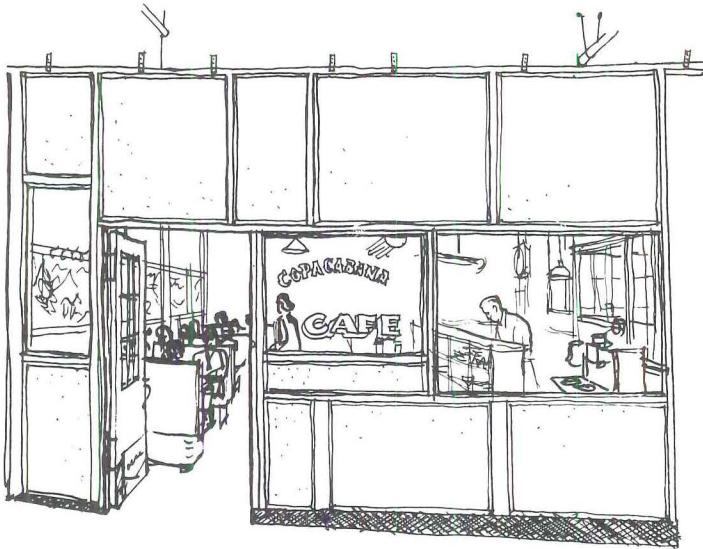
As Steinbrueck says, "The Market is a good, living market. There are things that can be done to enhance it—clean it up, paint it, and so on. But it doesn't need Ghiradelli-type buildings, or a chi-chi kind of development. It's an ordinary people's marketplace, and the qualities that are there are the ones that should be enhanced. Not shabbiness, but a sort of anonymous quality that is very hard for architects to do. It's an effective architectural space, framed by people. And it has all the delights of an architectural experience in space."

Architect Paul Hayden Kirk, one of those who created the 1968 plan, disclaims charges that the scheme would have destroyed the Market. Kirk, who worked with John Morse & Associates on the design team, says, "There was never a plan we presented that didn't save the Market. The core buildings were not to be touched, except to be rehabilitated. And that rehabilitation was to be exactly in kind—if you took out a bent pipe, you put back a bent pipe, but you installed it with the right kind of wiring inside—that sort of thing. It was all very carefully programmed."

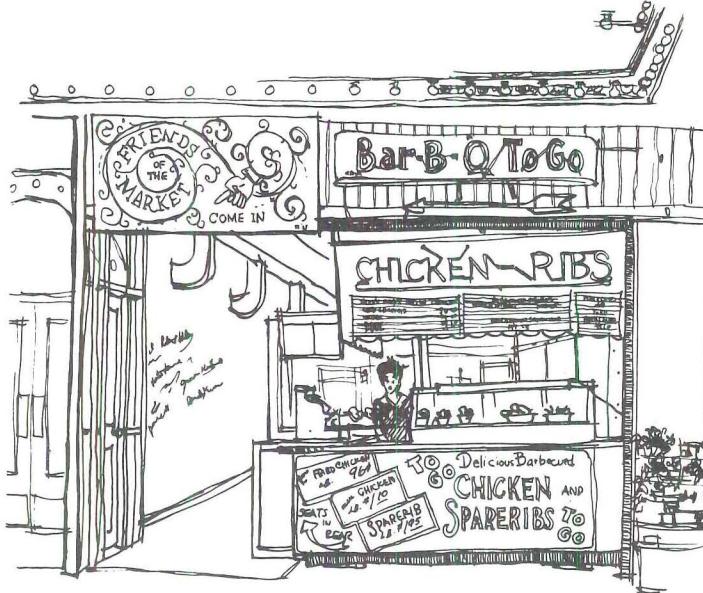
But critics of the Kirk/Morse plan asserted that such drastic upgrading of the neighborhood surrounding the Market would inevitably change the character of the Market and ultimately turn it into an "attraction."

Steinbrueck insists, "The Pike Place Market is more than just the core buildings—the L-shaped farmer's row building—it's those thrift shops across the way, the taverns and junk shops down the street. This kind of low-cost market can, in no way, exist as an isolated thing surrounded by high-rise buildings, luxury apartments, and non-market uses."

Kirk says, "We had a very extensive plan and it obviously made major changes in the area. But I seriously question that the market shops would start to lose their identity because of the impact of our plan.



Open-air stalls give way to the Sanitary Market building, an array of colorful old shops and cafes where market people meet over cups of coffee, gossip and stories.





In the bright space of the Pure Food Markets, with fruits and vegetables stands, a small doughnut cafe and Philippine import shop contrast with open counters, containing local produce. Victorian cast-iron columns stand amidst dazzling rows of incandescent light bulbs above the farmers' stalls.



"We felt we had something for everyone. We were saving the Market. We were introducing parks, open public spaces, and opportunities to enjoy scenic vistas of Elliott Bay and the Olympic Mountains. And, because we eliminated the street grid, we were able to take advantage of the views in patterns that fit the topography."

Architect James E. Mason, manager of the current project, says the preservation plan now being implemented is an amended version of the Kirk/Morse proposal. But the emphasis is on preservation. Mason says: "The whole ecology of the Market is a cultural thing. What you have is institutions that have to be housed in physical surroundings. We have visual and functional images of the Market. It's a very complex organism that we're dealing with. One that, at the moment, is sustaining itself. That's why I believe we have to be sensitive and, having taken one step, look at it and see what effect that will have on the rest of the project before we take the next step. The traditional approach of City Hall—a lot of ribbon cutting within a short period of time—just won't work here, if we're going to save the Market."

Mason and his project staff, who are employees of Seattle's Department of Community Development, must solicit approval of their work from a five-man Pike Place Design Review Board and the Historical Commission, as well as from the city council and HUD.

The four architects on Mason's staff have covered the walls of their project offices with composite photographs that show block-long elevations of every street within the 7-acre Historical District. Each building in the area has been examined and evaluated from several points of view including structural condition, code compliance, and type of occupancy. Mason says rehabilitation is the preferred option that has been recommended whenever possible.

Taking a cue from the past stormy decade, Mason has made an effort to encourage citizen participation. There are weekly progress meetings open to the public. He says, "We have a mailing list of some 200 organizations. We send them a monthly newsletter and notify them

of all our meetings. We sent the preservation plan to a number of the key groups for their review and comment."

To maintain the rent levels in the renewed Market, Seattle is studying the possibility of forming a public corporation similar to those successfully used in Philadelphia, New York, and Baltimore. Mason says, "It's impossible to maintain the level of rents unless there is some form of subsidy. We think a public corporation, acting as a preferred developer, can accomplish that."

The \$14.6-million preservation plan is geared to a completion time of five years. But Mason thinks it will take longer, if they move as slowly and sensitively as he wants to. Work on the remaining 15 acres of the urban renewal area could be undertaken simultaneously with the 7-acre core preservation, Mason says. But he wants to concentrate first on the more critical core work.

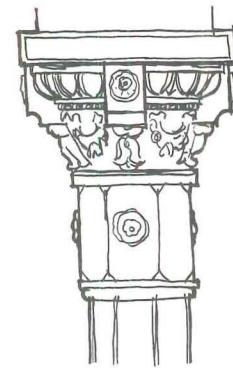
He does feel a certain urgency because, as he explains, "This Market is slowly slipping through the cracks because of lack of maintenance and upkeep by the owners. They're saying, 'We're not spending any money as long as urban renewal is sitting over us.' So as long as we delay, we are, in effect, demolishing by neglect here."

Mason and Steinbrueck raise this plea to fellow architects: *learn to think in total urban design terms*. Mason says ruefully, "Most architects think of individual buildings and, if that building is a masterpiece, they don't give a damn how it affects other buildings nearby." Steinbrueck says, "Architects have a need to design something that doesn't need to be redesigned. They seem to feel they can design something better than that which has grown over a period of years."

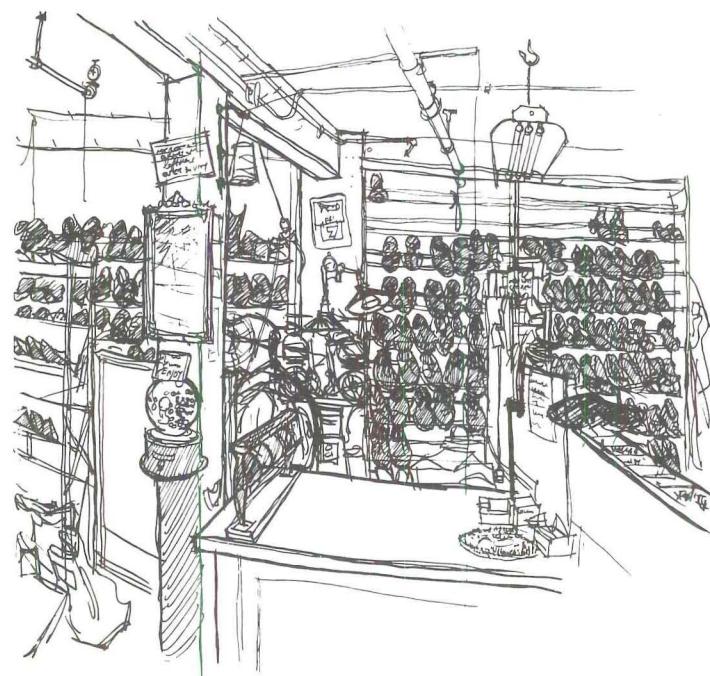
Whatever the philosophic differences that have existed among Seattle's architects during the past decade, it is significant that the Pike Place Market project is presently referred to as "preservation" plan, and not an "urban renewal" plan. That is a winning change in emphasis—one worth watching. There are, after all, many different fruits this Market could bear—among them, solid lessons about making the most of our urban heritage.



Elisa and Elena's Cafe, at the foot of the ramp down to the lower level is a small shop with just ten stools, and a magnificent view of Elliott Bay.



Down in the corridors and byways of the lower level shops and stores have been doing business for decades. Van's Shoe Repair serves many of the area's old residents.





A small hillside park at the end of Western Avenue marks the ramp structure of Flower Farmer's, and the mass of the market to the left. The reversed letters of the Public Market Center sign gain an abstract quality when viewed from this direction. The market has always attracted people because of its concentrated variety of places and activities and offers a dramatic, esthetic appeal in contrast with the usual shopping center.

Drawings and captions are adapted from Victor Steinbrueck's MARKET SKETCHBOOK, ©1968 by the University of Washington Press.

(continued from page 16)

tional because it confiscates private property for public use. The owners estimate over \$500 billion in development losses. Nevertheless there are heartening signs that the warring business and ecology interests are ready to compromise on future environmental legislation.

PLANNING

BATTLE OF GEORGETOWN

May will be a crucial month for a battle raging in Washington between government agencies and architects. The Georgetown waterfront, along the Potomac, has become the focus for a



Waterfront development is expected to affect rest of Georgetown.

controversy that carries implications not only for waterfront property, but historic Georgetown nearby (above).

A hearing this month will determine whether a development project, slated under present zoning, will proceed—or whether new zoning will be adopted to govern future development, thus squashing the present plans.

The waterfront, at one time a tobacco shipping port (from the middle of the 18th century to the early 19th), also became a milling area and then a home for concrete companies, lumber yards and an incinerator. Today the concrete companies and lumber yards are almost gone, and only one industry is really left—a flour company operating in the historic Bomford Mill (1847). When two companies,

Inland Steel and Maloney Concrete Company, decided to develop waterfront property for commercial and recreational use, the citizens of Georgetown, led by the very powerful Georgetown Citizens Association, put up a fight. They claimed the waterfront should be developed for uses other than those allowed under present zoning, and that the basic character of the historic two-story-high waterfront buildings be retained.

In a 1971 address, President Nixon called for immediate action on an overall development and preservation plan for the Georgetown waterfront and asked the National Capital Planning Commission, the departments of Urban Development, Transportation and Interior to join with the citizens in preparing a plan. The result was a three-phase report prepared by Wallace, McHarg Roberts and Todd of Philadelphia; Keyes, Lethbridge and Condon of Wash-

ington; along with other consultants. The first phase of the report, issued last fall, proposed several alternative solutions that emphasize common design determinants: Development would be mostly residential and low-rise (40 feet maximum height). Commercial growth would be limited, to keep economic pressures off historic structures and emphasize the residential character of the area; any planned commercial development would occur away from the water's edge and not exceed 60 feet in height. A park is proposed along the waterfront. Finally it was recommended that the elevated Whitehurst Freeway, designated several years ago as part of an expanded Potomac River Freeway (a "given" in the study)

be depressed below grade. After the publication of the report, the Georgetown Citizens Association noticed that the Zoning Commission of the District of Columbia hadn't implemented temporary zoning while the comprehensive plan was being developed, to prevent further construction under present zoning. The Fine Arts Commission had approved the first phase of Inland Steel's development—a 65-ft.-high office building with retail and recreational spaces—although the project had not been issued a building permit. (Architects for the development are Arthur Cotton Moore—architect for nearby Canal Square—and Elbasini, Logan and Severin.) And meanwhile, Maloney Concrete Company's 90-ft.-high office and retail building designed by Hartman-Cox for a one-acre site, had received a building permit.

To prevent continuing construction of these two projects, the Georgetown Citizens, led by Architect Grosvenor Chapman, was able to obtain an injunction from the U.S. Court of Appeals preventing further action until further investigation. In the beginning of April, Chapman and the rest of the citizens filed a brief attacking the reasons that the Zoning Commission did not grant interim zoning (implications are that Mayor Washington, by trying to delay the plan and block interim zoning, was keeping some sort of bargain with Inland Steel). The Planning Commission asked the Zoning Commission for a joint meeting on May 9 for a hearing on the waterfront—thus postponing final zoning action until Phase II of the planning proposal could be developed. This section contains more specific recommendations for the area, with detailed proposals for re-use of historic buildings. Also the study will present a more complete traffic analysis—the thorn in new use proposals for the waterfront—owing to hesitation to tunneling the highway. The Georgetown citizens group expects that the court injunction will be maintained until decisions are made. Hartman-Cox on the other hand is optimistic that the injunction for their particular project—already out of working drawings—will be lifted, since the impact is of a lesser degree than the Inland Steel project.

AWARDS

Winners of the 1972-73 Design In Steel Award Program sponsored by the American Iron and Steel Institute have been announced and we are in wholehearted agreement with the judges: Architects Scott Ferebee, Jr., Robert Harris, Max Urbaahn; museum directors Sebastian Adler, Thomas Messer and Gerald Nordland; industrial designers Arthur BecVar, William Goldsmith, and Arthur Pulos; and engineers Harold Bolz, George Habach and John Rinne. Among the 24 Awards and 84 Citations in 14 categories are the following:

- High Rise Construction: Award to I.M. Pei & Partners for Commerce Court, Toronto. Citations to: John Andrews/Anderson/Baldwin, architects, and LeMessurier Associates, Inc., engineers for Gund Hall, Harvard Graduate School of Design; and Reynolds, Smith and Hills Architects-Engineers-Planners, Inc. for the Landside/Airside Terminal Complex at Tampa International airport.
- Housing: Award to J. Robert Hillier for his own home



Architect Hillier's own home.

(above) in Princeton. Citations to: A. J. Diamond and Barton Myers for the Myers home in Toronto; The Office of Sigmund Blum, Vaporiciyan & Mitch, Inc. for the Blum residence in Franklin, Michigan.

- Low Rise Construction: Award to C.F. Murphy Associates for McCormick Place On-The-Lake, Chicago. Citations to: Skidmore, Owings & Merrill for The Republic Newspaper Plant, Columbus, Ohio; Harry Weese



IBM Central Utilities Plant by Harry Weese & Associates.

(continued on page 68)

ENERGY

“Architecture creates its own world—literally. A building is more than a space enclosure; it is a sealed life support system. A high rise building is artificially lighted, heated, ventilated and cooled. Think about that. Think about it in terms of Playing with the environment. Think of it in terms of the *energy crisis*. And polluting side effects. And the multiplication of power needed for every commercial or institutional building in a city.”

Ada Louise Huxtable
The New York Times
July 16, 1972

The FORUM'S editors have thought
about that...AND TAKEN ACTION...

The Architectural Forum
announces a special July-August issue
devoted to the coming crisis in

ENERGY

This publishing event will itself be a source of energy—creative energy for the architectural profession at a time when energy was never needed more.

The bad news...and the good news...

Something new in architecture must happen—and soon. Only recently have architects begun to think about design in terms of the ominous news that between now and the year 2,000, the USA will consume more energy than it has in its entire history . . . that our demands for energy by then will have doubled . . . that in the perspective of history the era of fossil fuels (coal, oil, gas) will be a short-lived interlude . . . that within a generation, the depletion of our fuel reserves may be in sight . . .

. . . and that in terms of this energy crisis, that glistening achievement of twentieth century design, the glass box, has been, as Ada Louise Huxtable called it, "an invitation to disaster."

Both industry and the design professions have recognized the problem. And industry—either out of enlightened self-interest, social conscience or both—has taken the initiative in developing materials, especially glass products, with superior screening and insulation properties. For it is now understood that even the finest new buildings in our cities are squandering energy. Their sealed glass walls have invited floods of solar heat to invade their interiors—as their air conditioning systems devour huge supplies of energy to do battle with the sun. Their structural engineering may be designed to save *human* energy in minimized construction labor, but the office building grid is eminently wasteful of steel, and the energy needed to produce it. Their efficiencies in heating and lighting could be vastly improved—as they must and will be as the fuel shortage nears the point of crisis expected near 1985.

Architects must now think of energy consumption as a design standard and search for a new esthetic. Looking three decades ahead, they can entertain happier visions of the coming nuclear age and the promise of energy that is almost limitless.

By the turn of the century, breeder reactors will be producing vast supplies of low-cost energy. The controlled fusion process has a similar potential and is, beyond that, pollutionless. Fusion scientists may have a controlled reaction running in their laboratories by the end of this decade, an operating power plant late in the 1980's and plans that are economically attractive by the end of the century. When this reality arrives, our unsightly networks of electrical wiring may be torn down, and,

conceivably, large office buildings may gain all their power from a self-generating plant in the basement that is hardly larger than a suitcase.

Impact of Energy on Tomorrow's Design

How will the energy crisis change the face of architecture? The FORUM's editors are gathering some fascinating answers. They will offer readers an absorbing insight into new energy economies for the building industry which influences our energy use more than any other industry except transportation and the military.

The FORUM will draw on the insights of professional activists like Richard G. Stein who has lately become an architect-of-the hour for his research into the energy problem and its influence on design.

Stein has pointed out that in office buildings, heating and air conditioning needs can be cut 19% by eliminating sealed windows, and using untreated outdoor air during temperate seasons. He claims that energy used for lighting could be cut 50%—and still satisfy the occupants' visual and psychological needs. He has shown how redesign of steel beams could save a tremendous outlay of energy in steel production. In the July-August issue, the findings of Stein and other thinkers will bridge the practical and the poetic, the scientific and the esthetic, showing how the energy crisis will influence architecture and environmental design.

New Directions in Research

The FORUM will also cover the full spectrum of expertise in energy research. The editors will report on what's being done to develop synthetic fuels from coal and shale oil . . . to reduce pollutants in petroleum fuels . . . to tap the earth for developing geo-thermal energy . . . to return (at least in theory) to the windmill and harness the air currents, also the tides, also the ocean temperature gradients to develop the strange new science called magnetohydrodynamics.

The FORUM will also appraise the design of the latest nuclear plants, including their tourist and educational facilities. Reports will also appear on progress toward workable breeder reactors and controlled fusion—a possibility so potent that fusion energy from a cubic kilometer of seawater corresponds to the energy equivalent of 2,000 billion barrels of oil—or roughly the world's oil reserves!

Publishing Events in 1973-4

The July-August ENERGY issue will be a major landmark in a series of important publications, including most recently the January-February 1973 issue about Philip Johnson. Future issues this year will take readers to Boston for an assessment of I. M. Pei's new Hancock Tower and his Christian Science Center . . . to Manhattan for a fresh look at that controversial landmark, Grand Central Station . . . to Chicago for the story behind the story of that city's stunning architectural progress . . . around the Pacific perimeter to view the new architecture of Australia, Singapore and Japan . . . to China (in a special January-February 1974 issue) for a first look at the architectural and planning scene in that vigorous society . . . to sites all over the USA and abroad for a hard look at the situation in housing, labor, building codes, zoning practices and the tax structure.

Throughout this handsome editorial series, the better instincts of both architects and the industries which serve them will be brought to light, as will the momentous social and technological trends which influence us all.

The attention of everyone concerned with architecture's evaluation will focus on the FORUM as the ENERGY issue appears this summer. As Richard G. Stein has said, "We architects can either reinforce the rapid acceleration of energy use or dramatically reduce its rate of consumption, and, in fact, can help reclaim a significant part of our present capacity."

THE ARCHITECTURAL FORUM agrees and has laid its editorial policy on the line.

Memo to Advertisers

Advertising forms for the July-August issue of The Architectural Forum will close on July 2.

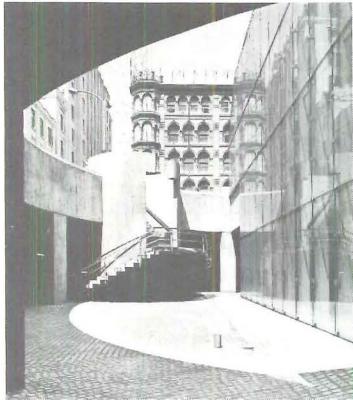
THE ARCHITECTURAL FORUM

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130 East 59th Street
New York, New York 10022 • (212) PL 1-2626

FACETS

(continued from page 64)

& Associates for the IBM Central Utilities Plant (page 64, bottom), Endicott, N. Y.; McCue-Boone-Tomsick Architects for Alza Corporation Headquarters; Odell Associates, Inc. for Burlington Industries Headquarters in Greensboro, N. C.; Mitchell/Giurgola Associates Architects for Eighth and Market Streets Subway Concourse Entrance



Philadelphia subway concourse entrance by Mitchell/Giurgola.

(above) in Philadelphia; Cope-Linder-Walmsley for the Mall at Columbia, Maryland. An engineering citation went to Craig Zeidler Strong Architects for Ontario Place, Toronto (FORUM July-August 1971).

BRUNNER PRIZE

Robert Venturi is the winner of The National Institute of Arts and Letters annual, \$1,000 Arnold W. Brunner Memorial Prize for his "contribution to architecture as an art." He designed for Eero Saarinen and Louis Kahn before opening his own office, and has taught at the University of Pennsylvania and Yale. Last year the award went to Richard Meier.

ACADEME

Raymond Reed, currently Professor of Architecture at Iowa State University, has been appointed Dean of the College of Architecture and Environmental Design at Texas A & M University. He has been on the Iowa faculty since 1964, serving as head of the department until 1970 when he became coordina-

tor of graduate research and design. He was previously chairman of architecture and interior design at the University of Southwestern Louisiana. The 42-year-old Californian received an undergraduate architecture degree from Tulane and a master's from Harvard. He has practiced in Louisiana and Iowa, and was former national chairman of the AIA Committee on Architectural Education and Research.

CONFABS

M.I.T. is having a summer session, July 24 through August 2, on Programming Environments For Human Use. It will focus on emerging environmental programming techniques for buildings and development areas, including: pattern language, performance specifications, involving users in programming and design, information handling and programming practice. Contact: Director of the Summer Session, M.I.T., Room E19-356, Cambridge, Mass. 02139.

• The Metropolitan Association of Urban Designers and Environmental Planners (MAUDEP) has several interesting foreign study tours planned: a condensed tour of Montreal and Toronto, May 25-28; a two week guided bicycle tour in Holland and Belgium, starting July 1, with transportation and urban planning as the theme; a three week August tour of Brazil (including Brasilia, Rio de Janeiro, Sao Paulo, Manaus) emphasizing population redistribution; study tours of Israel and several European cities before and after The 3rd World Congress of Engineers and Architects in Tel Aviv, December 17-21; and a Moscow, Leningrad tour, leaving New York August 4, ending with various Western European options leaving from Amsterdam August 15. For membership applications (individuals \$4, organizations \$25 annually) and information write MAUDEP, Box 722, Church St. Station, New York, N. Y. 10008.

• A four-day conference, "Models and Systems in Architecture and Building," will be held September 10-14, 1973 under the auspices of the University of Cambridge, Department of Architecture, Land Use and Built Form Studies. There will be

accommodations for 100 participants in Pembroke College. The fee, including accommodations, will be 70 pounds sterling (50 for nonresidential participation). Write: University of Cambridge, Department of Architecture, Cambridge, CB 2-ITN, England.

PEOPLE

Architectural historian and MIT professor Henry Millon will assume the position of Director of the American Academy in Rome next January. The professor, himself a former fellow of the Academy from 1958-1960 and an art historian in residence in 1966, will replace retiring head Barlett Haynes Jr., a former museum director.

The American Academy was founded in 1905 as a nonprofit educational institution where scholars and artists could live on a stipend for two years, and pursue advanced study in the areas that interest them, without lectures or classes. Millon is seeking to expand the Academy program to include photography, graphics and film, as well as painting, sculpture and architecture.

During his three-year-leave of absence from MIT, Millon will serve as advisor for an architectural design studio MIT is establishing in Rome.

He is preparing a catalogue of the drawings of the early 18th-century Italian architect Filippo Juvarra in the months prior to taking over the directorship, and will continue researching a book on Michelangelo and his work on St. Peter's.

AIA

The AIA has elected three women and seven men to honorary memberships:

• Lieutenant General Frederick J. Clarke, Chief Engineer of the U.S. Army who directs a \$1.5-billion annual construction program for the Army, Air Force and Postal Service as well as the government's major planning and construction program for the comprehensive development of the nation's water resources.

• Ben E. Graves who heads the Chicago office of Educational Facilities Laboratories and has

helped to establish fuller communication between architects and educators.

• Nancy Hanks, Chairman of the National Endowment for the Arts, who has made distinguished contributions to architecture and the environmental arts.

• Vernon E. Jordan, Jr., Executive Director, National Urban League, who shares the AIA commitment to restructure the ground rules for community development.

• Rita E. Miller, Executive Secretary, Southern California Chapter, AIA, a vital force in helping architects organize for more legislative influence.

• Betty Silver, Executive Secretary, North Carolina Chapter, AIA, and editor and publisher of the state's architectural magazine, as well as an active preservationist.

• Herman D. J. Spiegel, Dean of the Yale School of Architecture, who has contributed to the formulation of a new structures curriculum for architecture schools.

• Arthur F. Sampson, Administrator of the General Services Administration, former commissioner of GSA's Public Buildings Service, who now has responsibility for construction, leasing and maintenance of 10,000 federal buildings.

• James Johnson Sweeney, museum director, author and lecturer for his contribution to architectural literature and museum installation techniques.

• Paul N. Ylvisaker, Dean of the Graduate School of Education, Harvard University, who assisted the AIA National Policy Task Force in making a national land development and urban growth plan.

The AIA Board of Directors has also elected 10 foreign architects as Honorary Fellows. They are: Nikolai B. Baranov, U.S.S.R.; Justus Dahinden, Switzerland; Robert LeRicolais, France; Nikola Nikolov, Bulgaria; Fabio Penteado, Brazil; Roland Rainer, Austria; Cyril Frederick Thomas Rounthwaite, Canada; Takeo Satow, Japan (posthumously); Manuel de la Sierra-Amieva, Mexico; and Sir John Newenham Summerson, United Kingdom.

PHOTOGRAPHS: Federal houses, A. Rogers; Tacoma Art Museum, Tom Upper; California coast, Gordon N. Converse, The Christian Science Monitor; Georgetown, Ron Nelson, The New York Times.

PRODUCT LITERATURE

To order any of the literature described, circle the indicated number on the self-addressed Reader Service Card on page 69

ENTRANCES

One-inch wide I-Line glass framing system and compatible narrow stile aluminum doors described in brochure from Kawneer Co. I-Line "1000," "2000," "3000," series doors discussed, including center panel styling options. Also shown: Push-pull hardware selections, locks, flushbolts, pivots, door closers. Information on glass thickness and glass types included. On Reader Service Card, circle 200.

ARCHITECTURAL GLASS

Comprehensive guide to architectural glass products for windows and doors, "PPG Glass Products for Architecture," from PPG Industries. Full-color reprint of PPG's '73 Sweet's Architectural File insert, guide outlines performance, appearance, characteristics of firm's vision glasses—clear, tinted, and reflective in single and double glazing. Also describes PPG's new "Total Vision System" concept. Other features: Silhouette and Herculite doors and frames; stiles, rails, safety glass selections, glazed panels. On Reader Service Card, circle 201.

ALUMINUM PANELS

"Alcoa Alply Panels," a quick reference guide from Alcoa, provides up-to-date look at all-purpose prefabricated construction panels with finished interior and exterior facings. Lists available finishes, colors, and shows panel edging, joining, assembly methods. Also lists authorized Alcoa wall systems contractors. On Reader Service Card, circle 202.

VINYL RESIN COATING

A chemically resistant vinyl resin coating introduced by Subox Coatings, BASF Wyandotte Corp. Series VL-200 based on a non-hydrolyzable, internally plasticized vinyl copolymer resin, combining excellent gloss and color retention, plus high chemical resistance. Information contained in Bulletin #22 from Subox. On Reader Service Card, circle 203.

PORCELAIN PANELS

Detailed, 8-page brochure describes new porcelain-on-steel building material that can be formed with the porcelain already on it at angles up to 90-degrees without spalling, chipping, or crazing. Called Vitriform 90, and produced by AllianceWall Corp., new product can be used without moldings. Said to be competitive in price with other partition and wall coverings. On Reader Service Card, circle 204.

LAVATORY, HOSPITAL LINE

1973 Washroom and Hospital Equipment Catalog, issued by Bobrick Washroom Equipment, Inc., features line of more than 600 design co-

ordinated products, many new, and several redesigned for improved performance. Photos of stainless steel and laminated equipment. Guide specification and listing of units included. On Reader Service Card, circle 205.

GROUT/MORTAR

The task of selecting a non-shrink grout or mortar for any project is simplified by a new booklet from Master Builders, "Guide to Selection of Non-Shrink Grouts, Mortars, and Concretes." Covers entire Embeco line, and contains listing of performance characteristics and typical applications. On Reader Service Card, circle 206.

ROOF DECKS

A 12-page catalog on Zonolite Insulating Roof Decks, W.R. Grace & Co., featuring "U" factors and load span tables, sectional illustrations, technical data on various vermiculite insulating concrete deck assemblies; slope, nailability, strength, permanence, fire resistance, certification discussed. On Reader Service Card, circle 207.

STOCK COMPONENTS

4 bulletins presenting Julius Blum & Co. stock component line, containing condensed information on expansion joints, tubing, bars, shapes, ornamental screening, railing systems, and new Carlstadt Acrylic/Wood Handrailing. On Reader Service Card, circle 208.

HARDWARE

Compact catalog from Grant Hardware Co., describing both specific products and applications; organized in sliding door, drawer slide, hospital, drapery, and shelf hardware sections. Specific items spotlighted by description of item, examination of features and characteristics, suggested applications. On Reader Service Card, circle 209.

WINDOWWALLS, GLIDING DOORS

1973, 52-page Andersen Windowwalls and Gliding Doors catalog, features Andersen Corporation's complete line: Prefinished Flex-Pac window units in white and terratone, Perma-Shield gliding windows, decorative Perma-Shield shutters for windows, entry doors. Lists unit sizes, glazing options, window/door combinations, and installation data for wood-framed, brick-veneer, and solid-masonry walls. On Reader Service Card, circle 210.

FILES

Brochure on Steelcase's 3000 Series file, detailing styling, construction, optional features of vertical file series; included are illustrations and "in-motion" photographs. On Reader Service Card, circle 211.

EMERGENCY POWER SYSTEM

A comprehensive, 76-page technical report from Onan, entitled "Coordination and Protection for Emergency and Standby Power Systems," published for consulting electrical engineers, electrical contractors, and electrical design engineers. Booklet identifies problem faced in designing system to assure maximum continuity of essential electrical services in the emergency power system and all other feeder circuits. On Reader Service Card, circle 212.

MICROFILM

"Engineering Document Control," a 20-page fully-illustrated brochure from Eastman Kodak Co., details microfilm applications for engineering-drawing programs. Explains how engineers, architects, draftsmen can benefit from storing documents on microfilm, then reproducing on microfilm or paper. Discusses microforms, reproduction, coding, and retrieval. On Reader Service Card, circle 213.

METAL ROOFING

Various types of metal roofing, spires, steeples described in 8-page brochure from Overly Mfg. Co. Roofing, metal coping investigated in depth in separate sections. Contains installation data, finishes, materials, sample specifications for roofing. Composition, material, sizes, shapes, delivery for coping. Joint and drain channel, typical sightline also included. On Reader Service Card, circle 214.

AUTOMATION SYSTEMS

Series of brochures detailing case histories of automation systems at work in buildings throughout the country published by Honeywell's Commercial Division. Spells out how building automation has made specific savings in power and manpower costs. Brochures now available include analyses of building operations at Ford Motor Co., Mutual of Omaha, Stephen B. Austin University, and Evergreen State College. On Reader Service Card, circle 215.

SAFING INSULATION

Results of fire-testing U.S. Gypsum's new Thermafiber Safing Insulation reported in 4-page brochure. Contains technical data, specifications, typical assembly details. Product is a precision-formed, mineral fiber, semi-rigid felt designed for use as a fire stop in the safe-off area of curtain-wall high-rise construction. On Reader Service Card, circle 216.

SAFETY PRODUCTS

12-page, 3 color catalog describing full range of architectural hardware and fire/life safety products, including specification and selection data on Rixon-Firemark, Inc., line of door closers and pivot sets; Checkmate line of door holders and stops; Firemark line of smoke ionization fire detectors and door releases. New combination ionization fire detector/door release/door closer also featured. On Reader Service Card, circle 217.

LIGHTING SYSTEMS

"Commercial Lighting Systems—Designer's Guide," combines into one reference book General Electric's complete line of commercial lighting system using high intensity discharge (HID) lamps of mercury, metal halide, or Lucox. Also includes data, coeffi-

cients of utilization, and lighting system sound ratings to assist lighting users. On Reader Service Card, circle 218.

SEALANTS

Brochure on durable, flexible, weather-tight Tremco sealants for all types of building joints available from Tremco Mfg. Co. Sealant selector chart provides architects, designers, specifiers with a quick reference to performance characteristics, specification ratings, joint application sizes, surface types, life expectancies, and color availability of complete line. On Reader Service Card, circle 219.

SEATING & TABLES

A 64-page Seating & Tables catalog from R-Way Furniture Co., encompassing a comprehensive view of traditional, colonial, and modern seating and table variations. Pictured and described are upholstered pieces, high and low back chairs with or without arms, metal and wood frames, lounge, side and colonial seating; occasional and restaurant tables to complement seating, described as to sizes, finished bases, leg styles. 230 pieces available. On Reader Service Card, circle 220.

ELEVATORS

Pre-engineered, pre-manufactured electric passenger elevators for high-rises up to 30 stories described and illustrated in publication from Otis Elevator Co. Completely automatic, maximum load of 16 passengers; speed of 200 ft./minute for rises to 16 stories, 350 ft./minute to 30 stories. Automatically coordinated for prompt response. Equipment stocked for delivery timed to construction schedules. On Reader Service Card, circle 221.

INSULATION

Brochure on Zonolite Insulation offered by W.R. Grace & Co., with glass fiber, loose-fill vermiculite, styrene foam, and masonry wall applications summarized. Fire resistance data, installation costs, specifications included. On Reader Service Card, circle 222.

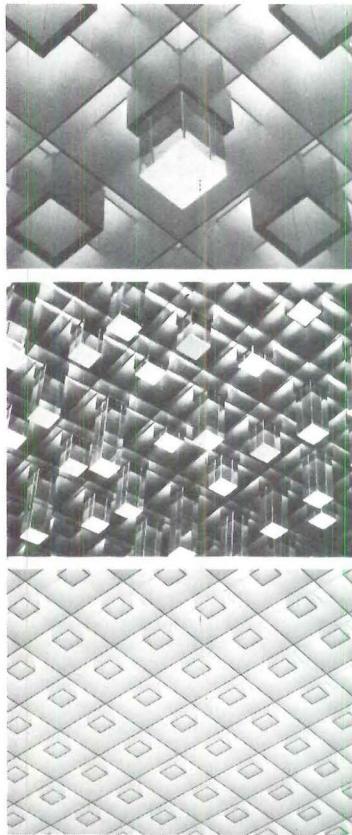
METAL WALL/ROOF SYSTEMS

36-page catalog covering complete line of metal wall and roof systems issued by Elwin G. Smith Division, Cyclops Corp. Products profiled include Varispan Panel system, Dyna-Span panels, Formed Foamwall. Also has cutaway illustrations of exterior profiles, panel systems, dimensions, features, load span tables, and complete specifications. On Reader Service Card, circle 223.

SHEET COPPER

"Contemporary Copper in Architecture," new 52-page updated and expanded reference book on how leading architects use sheet copper to create "outstanding" contemporary structures—from private homes to shopping centers—published by the Copper Development Association, Inc. Volume designed as illustrated handbook for architects. Handbook's 4 sections arranged in same sequence an architect might follow in the progress of his work: (1) sheet copper fundamentals, (2) sheet copper design, (3) sheet copper details, and (4) sheet copper specifications. On Reader Service Card, circle 224.

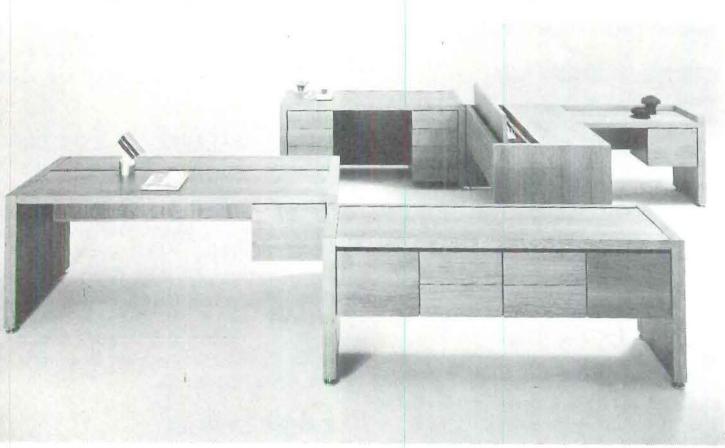
PRODUCTS



LIGHTING UP

Neo-Ray Lighting Systems, Inc. has introduced an illuminated ceiling system utilizing two design accessories which afford limitless variations on the basic "matrix" theme. Accessories can be rearranged for different lighting effects, and can be used to indicate traffic patterns and to set off contiguous room areas. The basic matrix ceiling is a pattern of cells within cells: 1" square cells recessed within concentric 3" cells. Colors are white, gold, bronze or to custom order. Accent pods snap over the 1" cells and can be applied in any color and in any pattern so as to alleviate the basic grid pattern. Acrylic crystals, clear or with color filters, slip inside the 1" cells, with or without accent pods. The matrix panels may be used in unbroken, modular, or parallel ceiling motifs, and work in wall-to-wall, soffit-to-soffit and floating ceiling arrangements. Panels are 3' square by 2 $\frac{3}{4}$ " deep.

On Reader Service Card, circle 100.

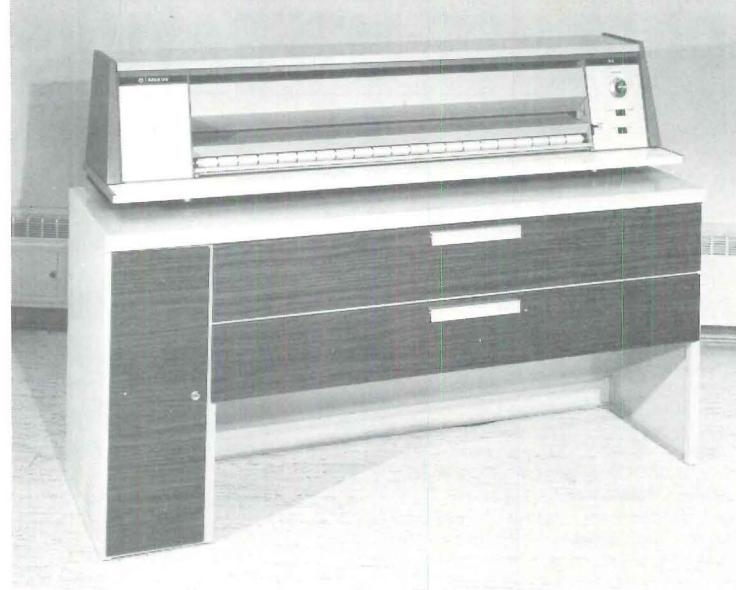


STEPHENS DESKS

Knoll International has introduced an expansion of the Stephens Landscape System. Called "Stephens Desks", and designed by William Stephens of Knoll's Design & Development Group, the desks are an organizational tool to simplify working methods in office spaces. A top filing concept gives accessibility to papers without sacri-

ficing mobility behind the desk. A full pedestal version desk when maximum linear filing inches are needed is also available. Oak is used throughout in a panel assembly which pays close attention to details: there is no exposed hardware. Standard dimensions are 64" wide, 32" deep, and 28 $\frac{3}{4}$ " high.

On Reader Service Card, circle 101.



PD-80

The "PD-80" is an answer for producing engineering checkprints without ammonia odors. Offered by the Bruning Division of Addressograph - Multigraph Corp., the PD-80 produces 42 inch diazo copies. It has instant on/off operation, requiring no warm-up time. Prints, whether blue line, black line, blue on blue, or sepia, can be produced

in about 10 seconds. The unit is easy to place because it is only 13 $\frac{1}{2}$ " high by 64" long and needs no venting. An activator fluid used for development comes sealed in pint cartridges, thereby eliminating chemical mixing. The PD-80 is self-cleaning, leaves no residue, and needs no flushing.

On Reader Service Card, circle 102.

LAIZY CHAISE

Syroco, a division of Dart Industries Inc., has introduced ABS plastic chaise lounges which stack to form a compact high-rise unit for easy storage. Called "Laizy Chaise", the chairs are molded plastic and have rust-proof aluminum supports at each end. The supports raise to four positions, making the chair convertible to a table position. The chaise top has a flexible grid design which gives resiliency and comfort to the one piece cushions. Chaise is of white plastic and cushion pads are available in many colors and are

cotton or vinyl backed. Laizy Chaise comes knocked down with six snap-on legs.

On Reader Service Card, circle 103.

