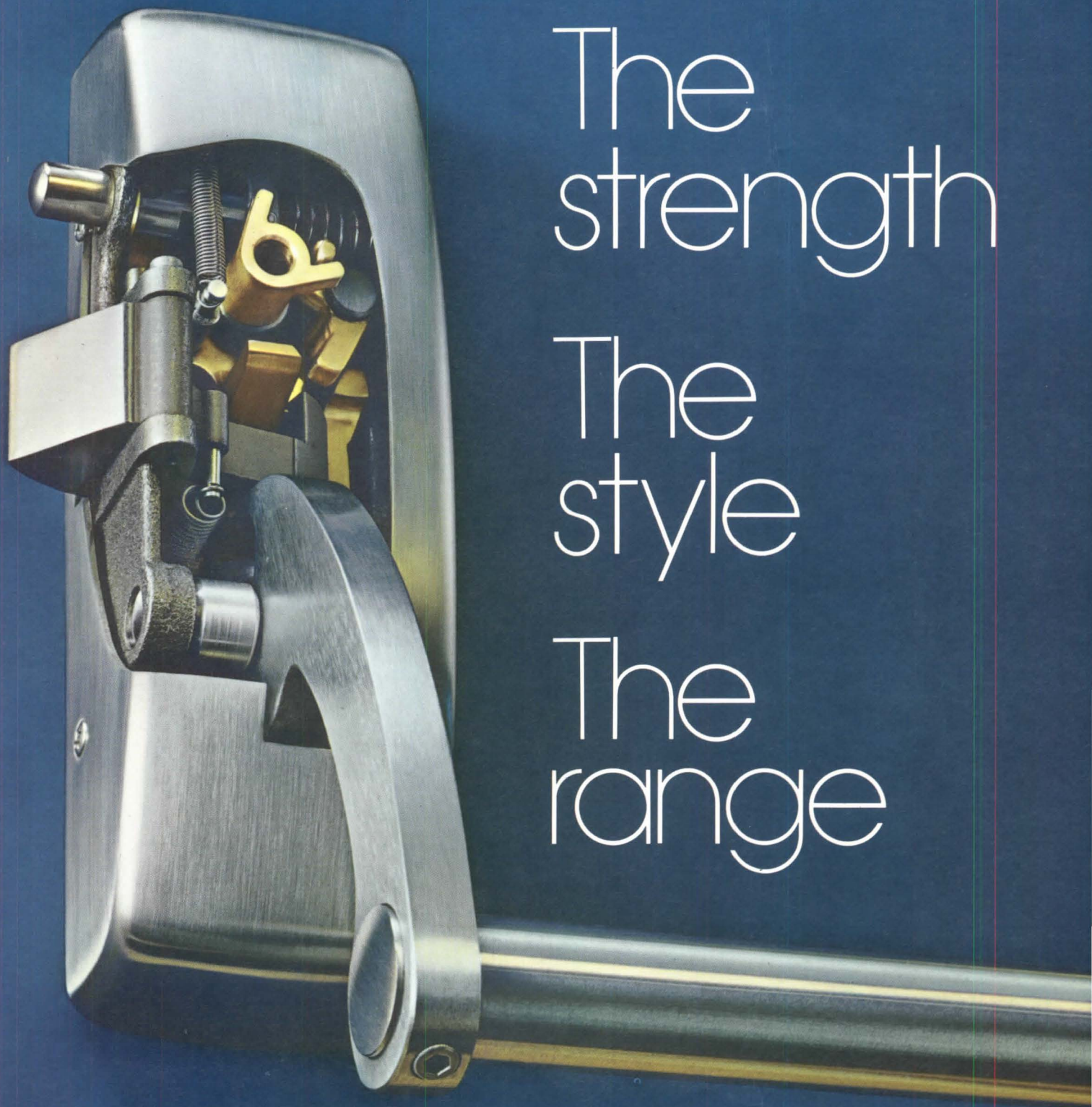


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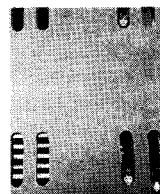
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Cover design: A photograph  
of housing near Barcelona (p. 22)  
by Bofill Architectural Workshop

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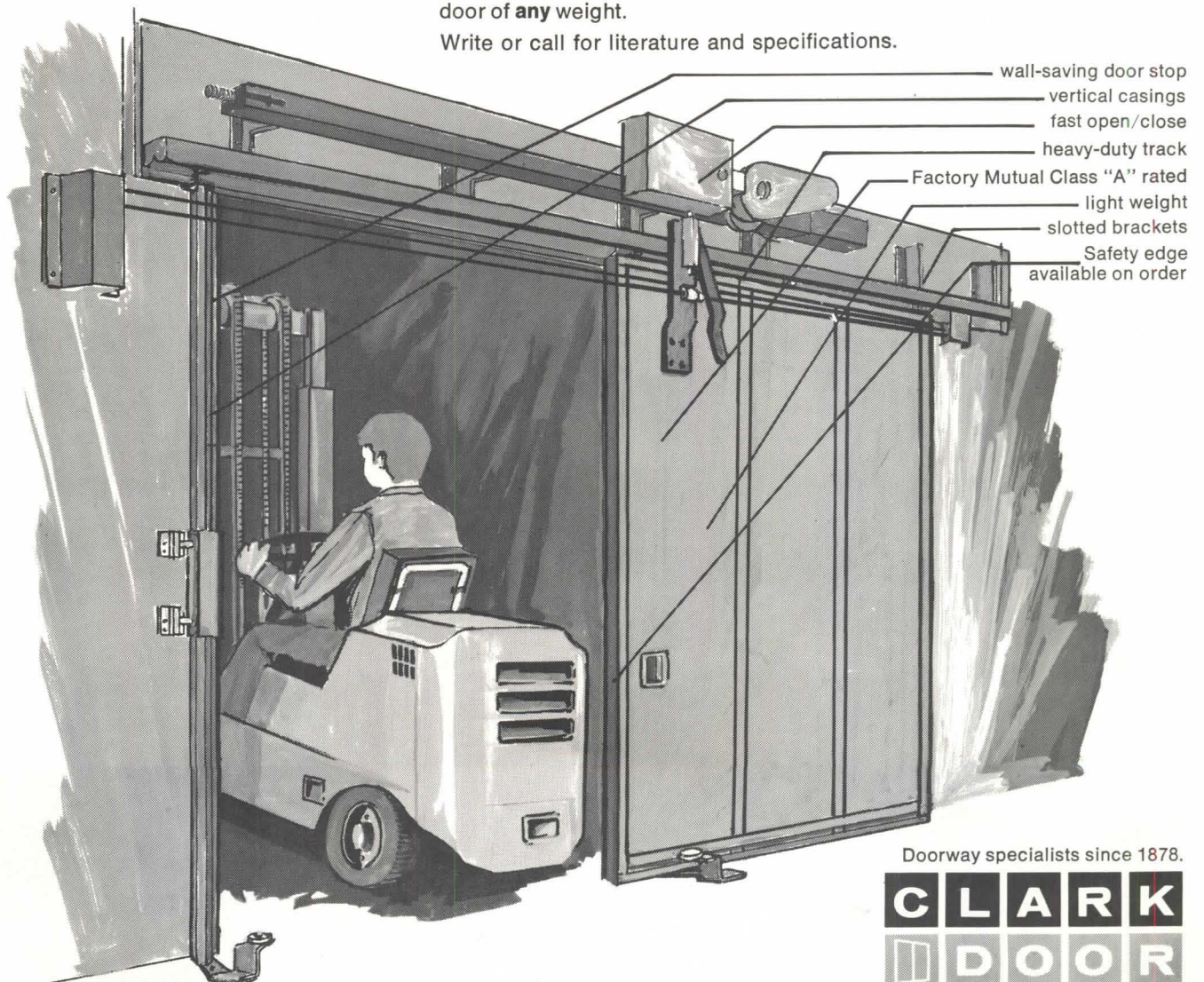
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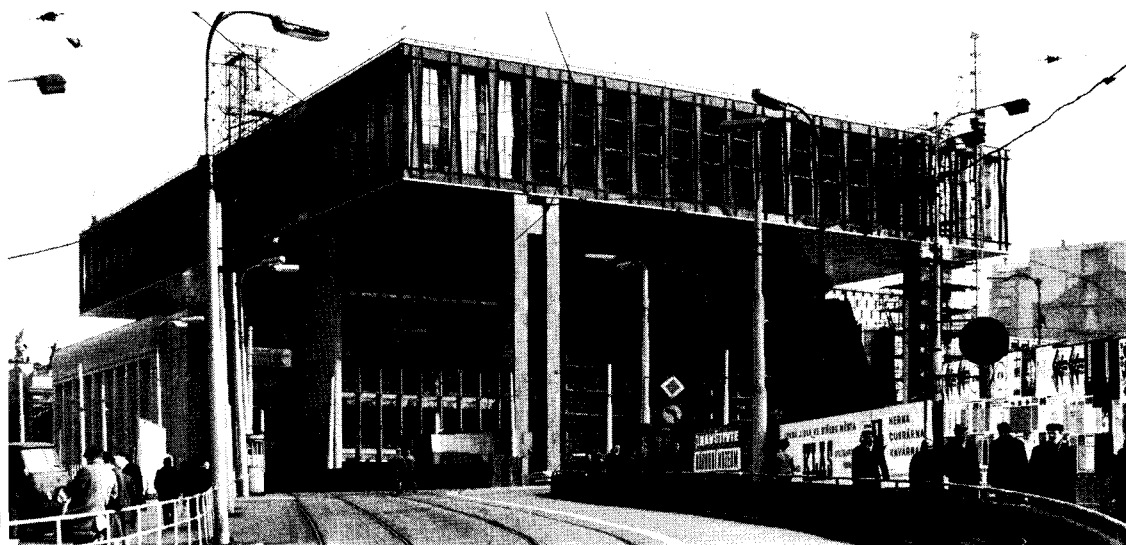
## MIRRORS ALOFT

Awarded the 1970-71 Design in Steel Award for best engineering in highrise construction, the Westcoast Building is one of the most striking structures in Vancouver. Designed by architects Rhone & Iredale and by structural engineers Bogue Babicki & Assoc., the building has 12 floors of office space suspended three stories above an open plaza by continuous steel bridge cables that run from the lowest floor, over the top of the concrete core, and on to the opposite side of the lowest floor. The service core was poured from the bottom and the steel floors built from the top, saving 20% in structural material costs and 40% in erection time, say the designers. Also, since the core is in compression, it is post-stressed and highly resistant to earthquake forces. The building, which is sheathed in anodized aluminum and reflective glass, has five floors underground for parking and a total energy system. The building's black elevator doors open to reveal "daffodil yellow" cab interiors.

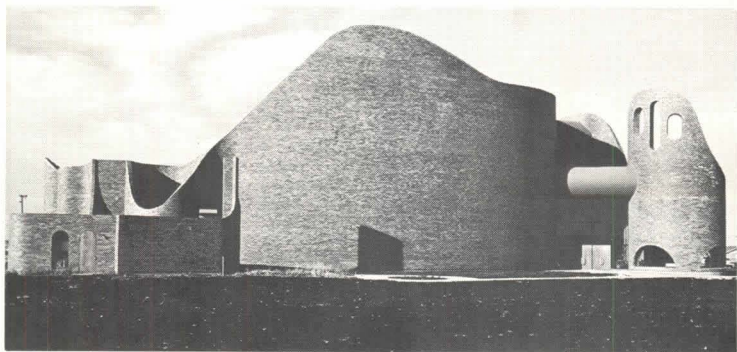
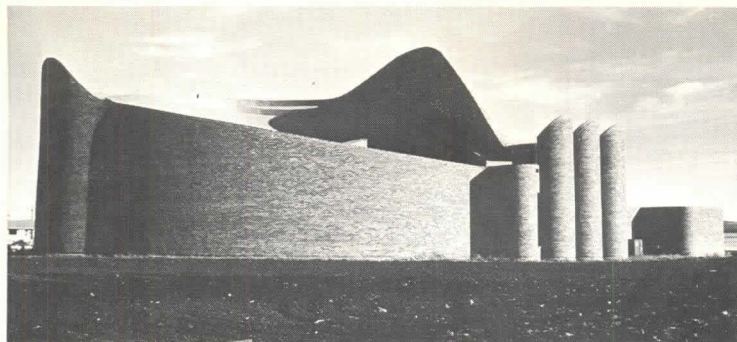
## COVERING PARLIAMENT

Almost ready for occupancy are the new offices straddling the landmark Parliament building next to Prague's Wenceslaus Square (see May, 1969 issue). The two-level structure is elevated by four pairs of 72-ft.-high columns parallel to the Parliament building on two sides. Vierendeel trusses frame the open court structure. The unusual design resulted from a competition won by the Czech architectural group GAMA, with

architects Albrecht, Kaderabek & Prager. The competition's guidelines were that the new office space preserve the landmark Parliament, that its roof not exceed the height of the nearby National Museum, and that there be a minimum 307,000 sq. ft. of usable floor space. The elevated portion of the design solution contains 87,000 sq. ft. of space; also nearing occupancy are two separate office structures that will provide the remaining space required.

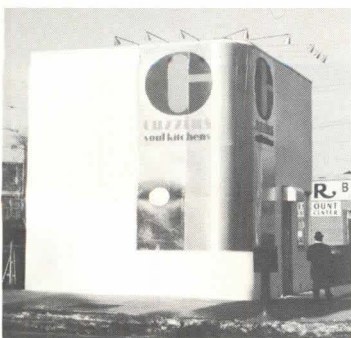
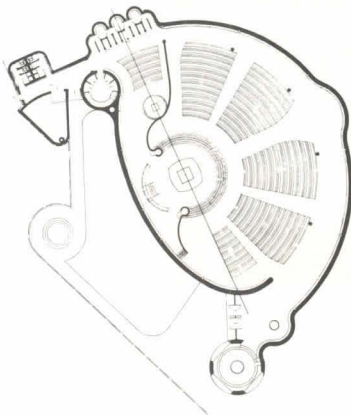






#### UNCONVENTIONAL FORM

The concrete roof of the curvilinear St. Mary's Church in Red Deer, Alberta, was built without conventional formwork. High-tensile steel cables wrapped in plastic were hung from the walls; concrete was pumped onto the cables, and supported by mesh and insulation attached to the cables. After the 3-in. shell was cured, the cables were post-tensioned and 250 tons of concrete was suspended to span the space. Architect: Douglas J. Cardinal.



#### TIME MARCHES ON

A former White Tower stand in the borough of Queens, New York City, is now a Cuzzins Soul Kitchen (specializing in fast food preparation for stand-up counter service and take-out orders), having been converted inside and out by Kenneth Walker Design Group, Inc. The designers did the graphics and logo as well as the architectural and interior renovation. The parapet was extended to conceal the tower and give better visibility to the graphics. White glazed ceramic tiles 1" x 1", were applied over the old porcelain enamel panels on all exterior and interior surfaces. The graphics are Day-Glo, applied to a stainless steel panel and brightly illuminated by eight quartz fixtures. The graphics are seen both from Liberty Avenue and Sutphin Boulevard.

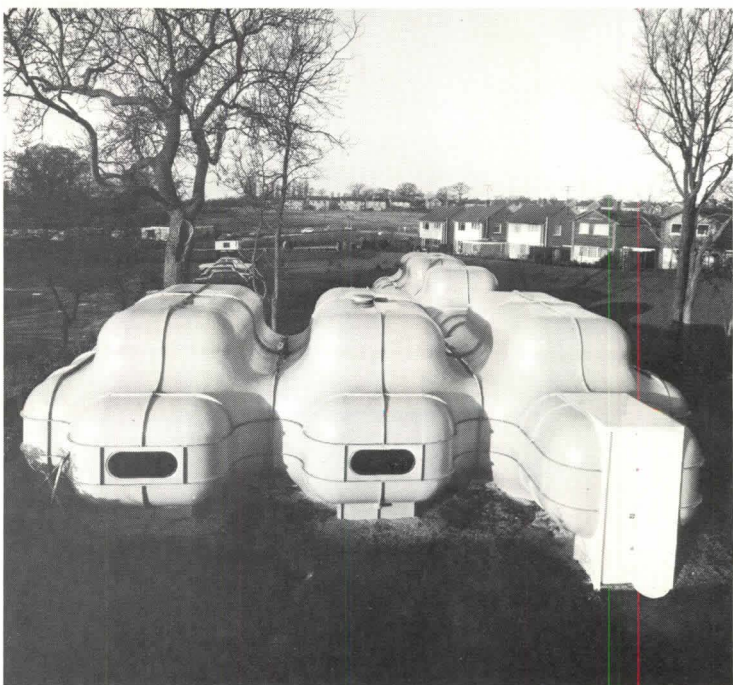
#### HIGH FASHION

The new Valentino Boutique stops traffic on Madison Avenue at 67th Street in New York City. Occupying six levels of an 18-ft.-wide brownstone, the shop is as highly styled in its design as in the items it sells. The five-story brownstone was completely gutted, then reinforced with steel beams and refurbished. The glass facade is rounded and flanked by mirrors to give the illusion of a five-story cylinder. The facade is trimmed in aluminum and encased at the third and fourth floors in free-flowing panels of brown porcelain enamel. The interior has rounded walls and molded ceilings, and is a dazzlement of mirrors, vinyl and chrome. The architect was Aldo Jacober of Milan. Consulting architect was George K. Wasser, Devcon Construction, Inc. of New York.



#### WATES AT LETCHWORTH

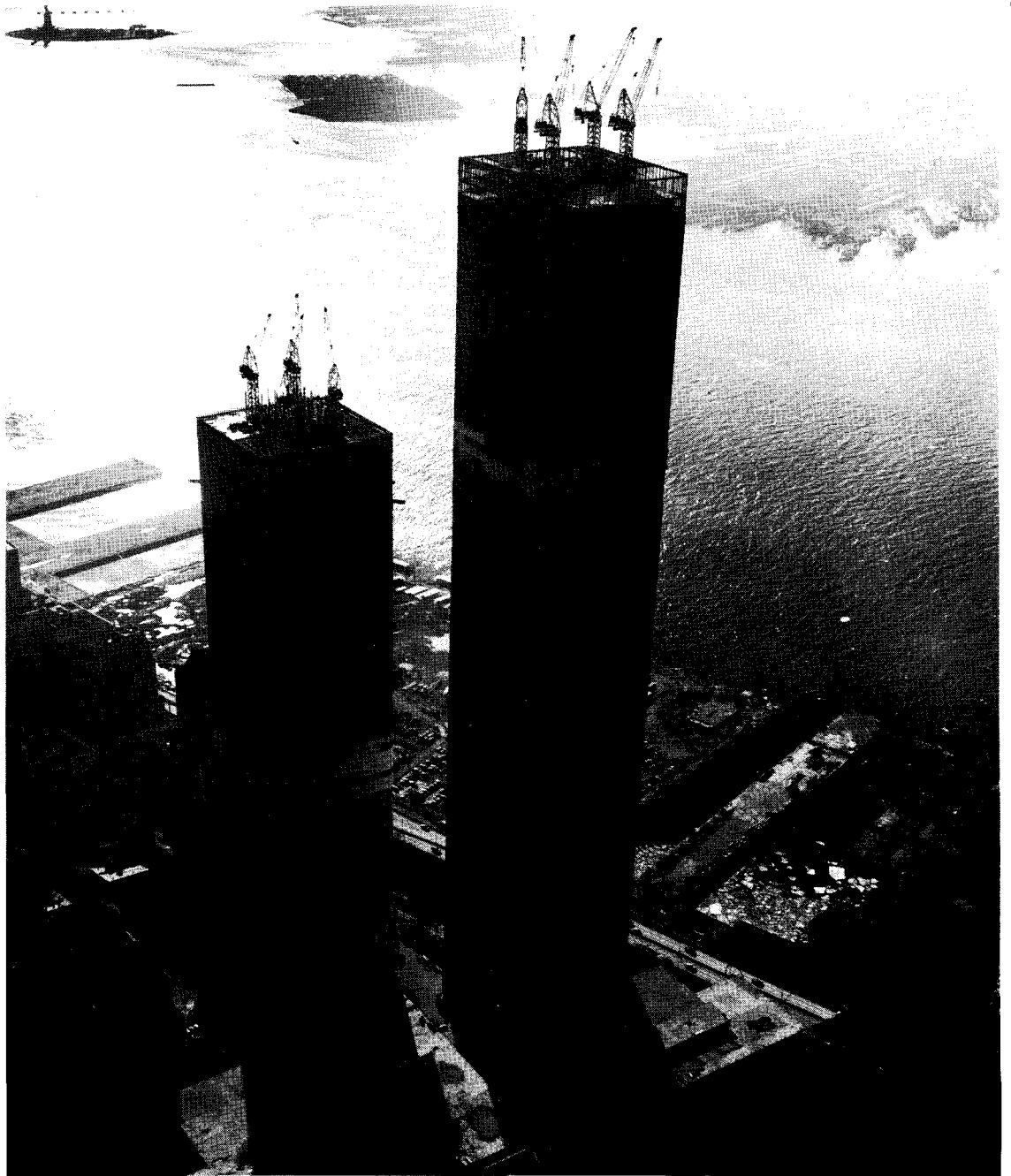
A yellow plastic pavilion draws potential customers to the Wates Ltd. exhibit in Letchworth, first of Ebenezer Howard's Garden Cities. Inside double-thick plastic shells, visitors get a suggestion of the town's greenery and clouds, and a sales pitch on two new housing neighborhoods to be built here by Wates. The pavilion was designed by Keith Albarn, with interiors by John McConnell and David Pocknell. Total cost of the pavilion and exhibit was \$26,400.





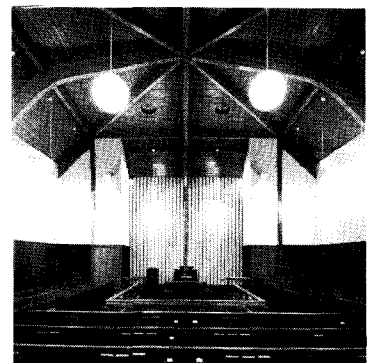
## ONWARD AND UPWARD

Unmistakably recognizable on New York City's skyline are the twin towers of the World Trade Center. The first tower has been topped out, at 110 stories and 1,350 ft., and the first tenants have moved into its lower floors. The second tower is pushing toward the 80th floor. The six-building complex will provide 9 million sq. ft. of rentable space, and its 16-acre site will daily see 50,000 workers and 80,000 visitors. (It will even have its own zip code!) As the office towers become more visible, though, an old argument becomes more audible—that the Port of New York Authority should stick to the main purpose for which it was created (i.e. transportation) and pay some attention to the area's troubled mass transit. The latest to raise the question was New Jersey's Governor Cahill. But the Port Authority always turns its bad ear to this idea, and the "quasi-public" agency continues to be accountable primarily to its bondholders. Architects: Minoru Yamasaki & Associates and Emery Roth & Sons.



## RURAL CHURCH

Located in the farmland of eastern North Carolina, this small church in Pender County is for a Methodist congregation of 21 families. Anticipating growth, the congregation will eventually use all of the existing building as sanctuary; parts of it are now used as classrooms. New classroom buildings will be built in the future. The church is of laminated timber arches and beams, with timber deck. The exterior is of cedar plywood, left to weather like surrounding farm buildings. Cost was \$69,200, including fees and furnishings. Architects: Ballard, McKim & Sawyer.



PHOTOGRAPHS: Page 5 (middle) Czechoslovak News Agency; (bottom) Bohumil Straka. Page 7 (top) Port of New York Authority; (bottom) Gordon H. Schenck, Jr.

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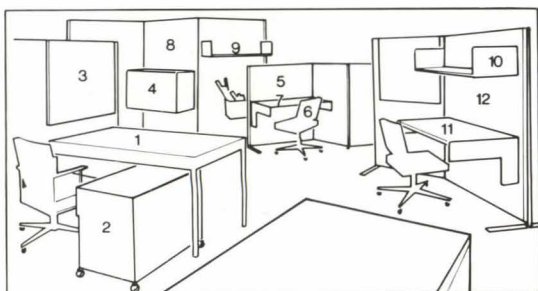
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# LETTERS

## MUMMERS THEATER

Forum: The Architectural Forum's uncritical acclaim of what to me is a new low in architecture, *The Mummers Theater* (Mar. '71 issue), impels me to write you. The regression of American taste is unfortunate, but it is completely deplorable when it is espoused and promoted by America's allegedly leading professional architectural magazine.

This building, which is disorganized and ugly, is considered appropriate for its purpose because a previous design for a similar project by the critic was "not crummy enough." It is also suggested that this building with "its helter-skelter form, and in its ad hoc spaces within, is just the sort of theater that will survive." I hope not. Instead, I urge the Forum to reexamine its thinking and align itself with that which is organized and beautiful.

To quote the timeless Dostoevsky: "The need for beauty and the creation which embodies it is inseparable from man, and without it man, perhaps, would not want to live in the world. . . . But when the ideal, or tension toward the ideal, vanishes from man's life, man loses his equilibrium. . . . Man in these moments excites in himself alien tastes, unhealthy, sharp, inharmonic, sometimes monstrous ones, losing measure and esthetic feeling for healthy beauty and demanding instead of it exceptions."

GEORGE NEMENY  
New York, N. Y. Architect

Forum: Remembering the forced shapes of prevailing "masters" my old friend Johansen's theater promises much.

SERGE CHERMAYEFF  
New Haven, Conn. Architect

Forum: I was in Oklahoma City March 23 and had an opportunity to see the Mummers Theater.

This structure will undoubtedly go down in history as a major American architectural folly.

I was appalled to see this monster on the cover of the March Forum.

JAMES A. BURRAN, JR., A.I.A.  
Clovis, N. M. Architect

Forum: While we in the Oklahoma City Department of Planning fully appreciate the comprehensive coverage given to our

Mummers Theater by the March issue of Forum, we are perplexed by Mr. Blake's humiliating assessment of the City itself. His characterization of our provincial desire for gentility leaves one with the distinct impression that he considers careful, ambitious and far-thinking environmental planning, such as that embodied in our core renewal plan, a pathetic and somewhat belated attempt to partake of a faddish movement now out of date by "national" standards.

To be sure, we have our share of "neo-Yamasaki" architecture, but only our share. During my last trip to New York City, I noticed no overwhelming concentration of exquisite architectural or civic design gems. Nor have I discovered uniform environmental excellence in any other American city, San Francisco propaganda notwithstanding.

We have the Mummers. No other city has the Mummers. Mr. Johansen does not have the Mummers; and contrary to Mr. Blake's prejudicial assessment of our fear of the effects of the building on our image, many Oklahoma Citians love it.

The Mummers exists in downtown Oklahoma City because of the core plan. Such architectural achievements as Pietro Belluschi's Kerr McGee tower exist in the core because of the plan. We are confident that the projected 31-acre urban activity center known as Myriad Gardens will warrant coverage in your magazine at least equal to that received by the Mummers. It will come into being because the people of Oklahoma City are not the timid, brainwashed mimics painted by Mr. Blake. . . . We solve problems.

PAT PAINTER, AIP  
Director of Planning  
Oklahoma City, Okla.

Forum: I was overwhelmed by the scintillating brilliance of *The Mummers Theater* in Oklahoma City. It is the most meaningful architecture I have seen in the magazines for years.

What a gorgeous break from the endless marble-veneered neo-neo institutional classicism. It ranks with the Vehicular Assembly Building at Cape Kennedy for me, as the two most important buildings of our time—and, the to-the-point story that went with it was perfect.

HOWARD BARNSTONE, FAIA  
Houston, Texas Architect

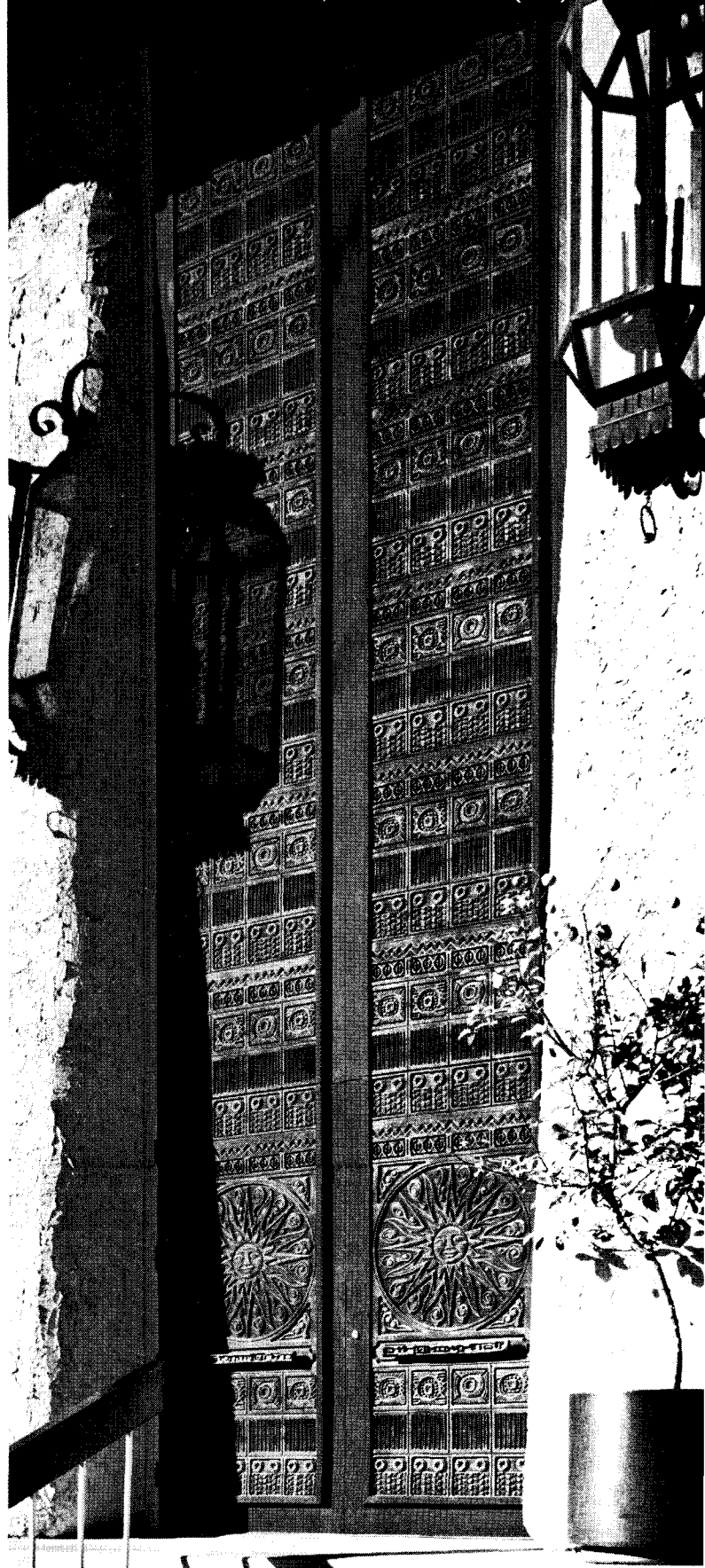
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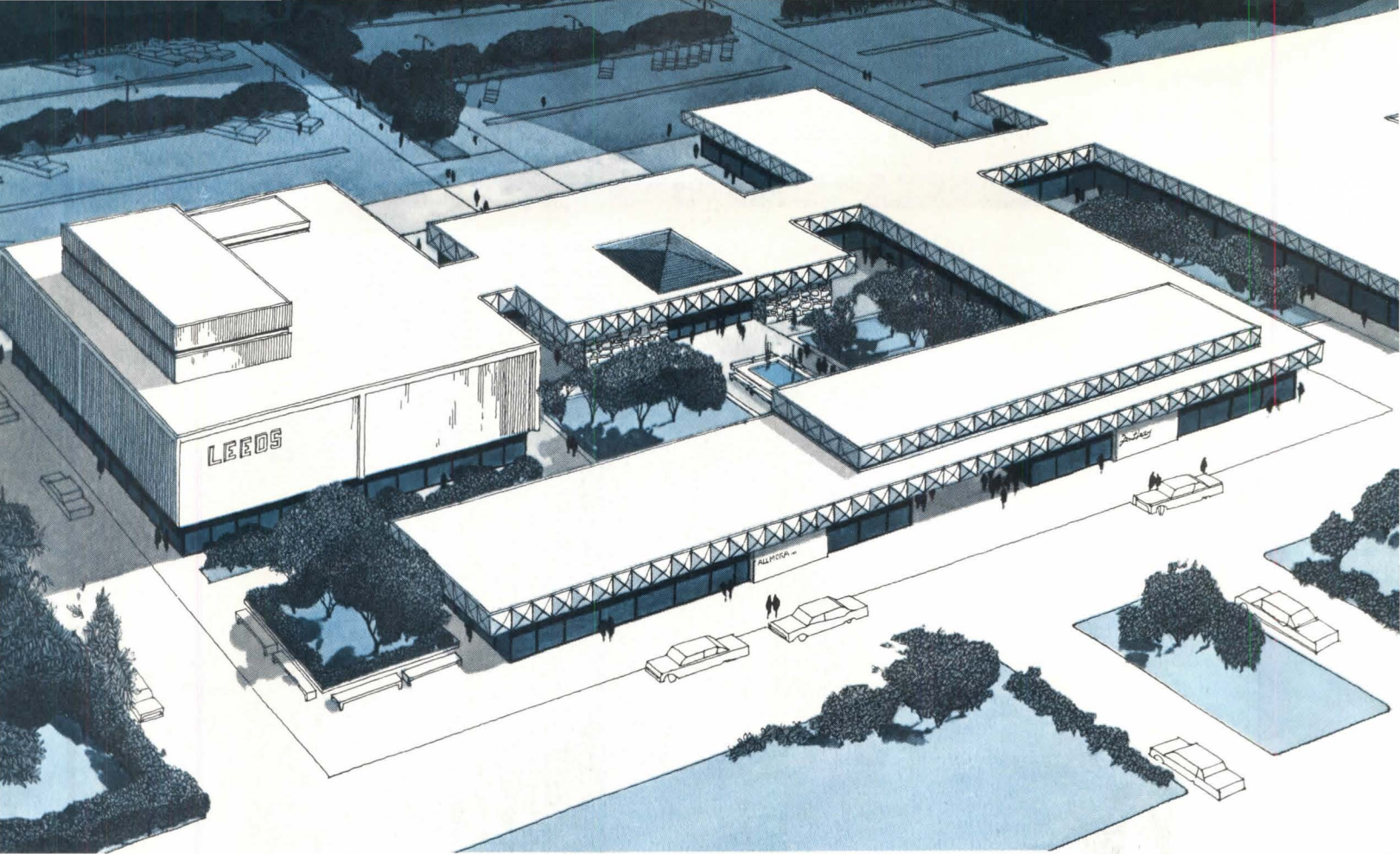
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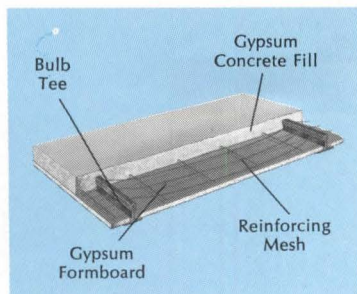


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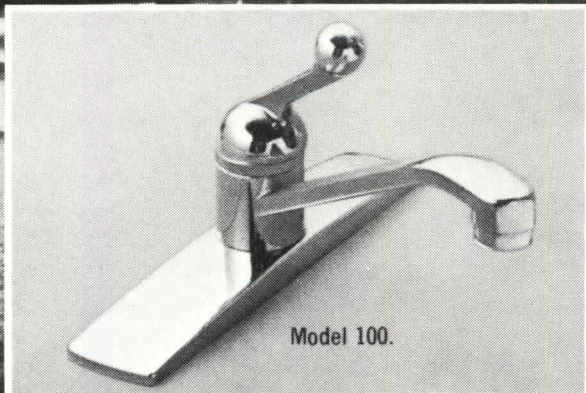
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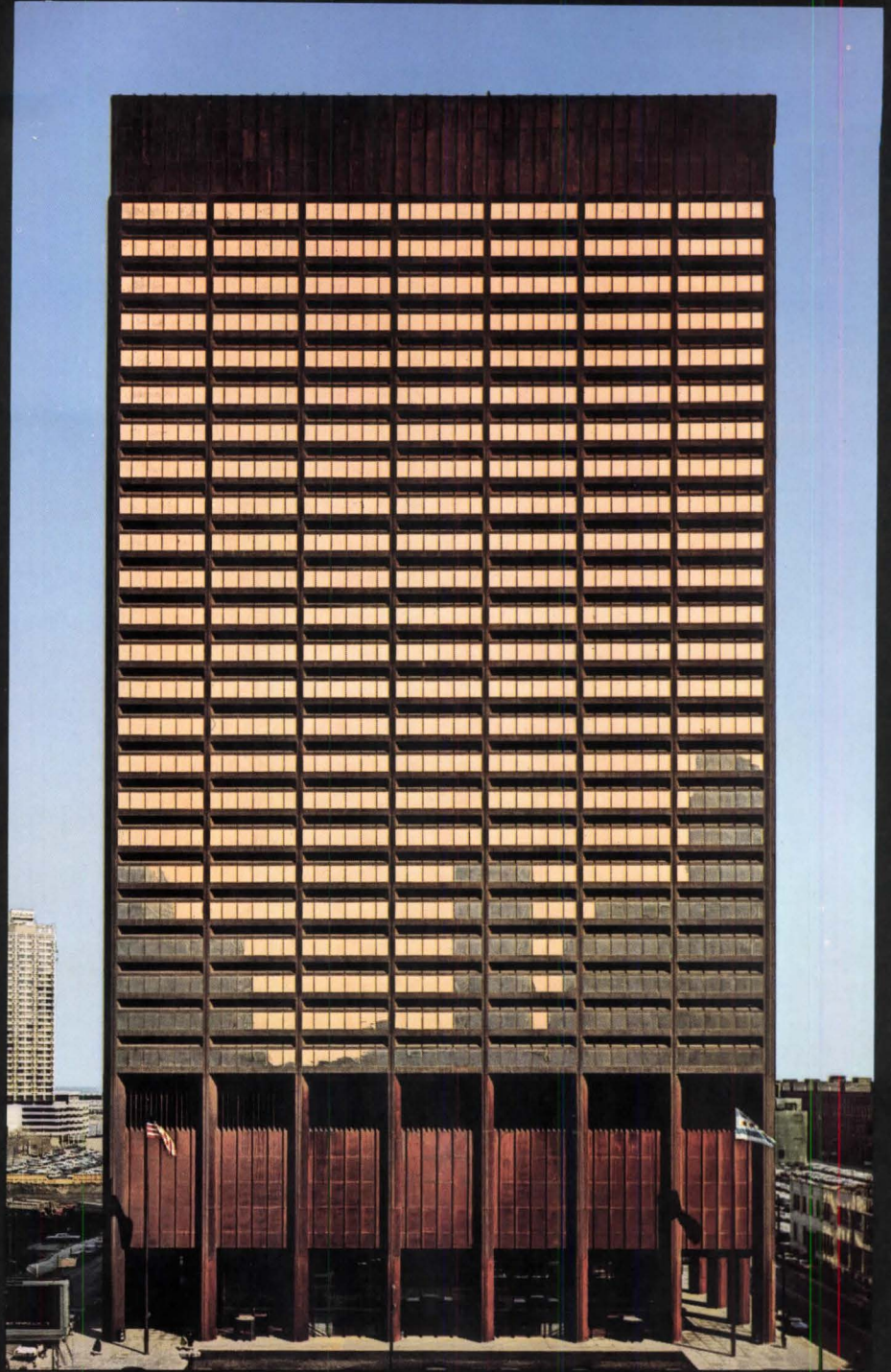


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# FORUM

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Now, I am happy to report, you can also Dial-a-Deathwish. The number for Deathwish is Plaza 5-3300, and the message you get is the daily air pollution report prepared and recorded by an admirable outfit called Citizens for Clean Air.

On one recent day, Plaza 5-3300 broadcast the following message loud and clear: "Citizens for Clean Air brings you the New York City air pollution report for Thursday, April 1st, with statistics from the New York City Department of Air Resources . . . City-wide pollution levels today are considered unsatisfactory. Carbon Monoxide: The federal standard is 8 parts per million; 24 parts per million was the highest one-hour reading at 9 a.m. at street-level at Lexington Avenue and 45th Street. Sulfur Dioxide: The federal standard is .04 parts per million, .13 parts per million was the highest 24-hour average. This reading was taken at Greenpoint, Brooklyn. Particulates of Airborne Bits of Dirt: The federal standard is .06 units; 1.0 units was the highest 24-hour average. This reading was taken at Morrisania, Springfield Gardens and Greenpoint. Photochemical Oxidants or Smog: The federal standard is .03 parts per million; .01 parts per million was the average for today."

Well, good for Photochemical Oxidants, anyway! But the rest, of course, is pretty shattering news, and it isn't confined to New York City either. In the Bay Area you can get this sort of message by dialing 771-6000; in Philadelphia, you have to dial MU 6-7879 (and you can then complain at MU 6-5163, for whatever good *that'll* do you!) In Detroit, you can dial 224-4650, and in L. A. the number is 629-4711. ("4711," by the way, is the trade name of a German *Eau de Cologne* that is supposed to make you smell sensational.) In Boston, you can phone 727-2658 and ask for Mr. Simmons; and in New Orleans you may wish to call the Louisiana State Air Pollution Control Commission (whose phone number escapes me at the moment)—it only takes readings twice a month, however.

Every one of these good people will tell you, on almost any day of the year, that the air you are breathing at that very moment is, in fact, unacceptable.

What do you do with "unacceptable" air? Send it back? The Gallup Poll reported the other day that 12 percent of all Americans (or about 17 million of us) want to emigrate. We didn't seem to know exactly where we wanted to emigrate to; all we knew was that we wanted to get the hell out of here. Is anybody listening? Is anybody in his or her right mind still breathing?—PETER BLAKE

## TRANSIT

### CONVERTS ON THE COURT

In a controversy that has been going on for over three years, both the Johnson and Nixon Administration's Transportation Secretaries (Alan S. Boyd and John A. Volpe) approved federal funding for a 2.4-mile, six-lane section of highway that would have destroyed 26 acres of Overton Park in the center of Memphis.

Now, all eight justices of the U.S. Supreme Court have agreed that the Secretaries were too hasty and have sent the case back to federal district court for review. The Secretaries, by law, may approve such projects only if no "feasible and prudent alternatives" exist and if "all possible planning to minimize harm" has been undertaken. Justice Hugo L. Black, in a separate opinion, noted that DOT had not "raised even a finger to comply with the command of Congress."

The new get-tough attitude of the court was welcomed by conservationists who have been riding the highwaymen for years. Last December, the court had refused to consider a similar case, involving a superhighway through San Antonio's largest park.

### PEOPLE MOVING

The new International Airport in Tampa, Florida, opened on April 15. The \$80-million facility consists of a central, 1-million sq. ft. "landside" terminal and four "airside" satellite structures where the planes dock. The five buildings, in an open-fan-shaped plan, were designed by Reynolds, Smith & Hills, architects and engineers.

To connect landside with airside—a distance of about 1,000 ft.—Westinghouse has designed and supplied a fully automatic,

Westinghouse shuttle

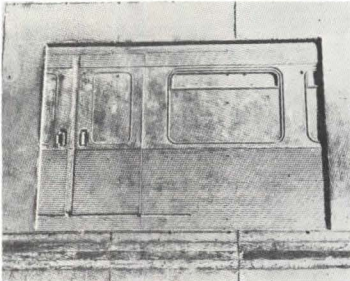




electric shuttle system. Each satellite is serviced by two transit cars that travel on adjoining, elevated concrete roadbeds. The air-conditioned cars travel on rubber tires and are locked onto the roadbed by guide wheels that follow a center beam. Each accommodates 100 standing passengers, and the trip takes about 40 seconds.

## BAVARIAN DIGS

With the Munich subway system's new Olympia Line, which is being built to accommodate visitors to the 1972 summer Olympics, the designers have found a unique way of decorating the normally drab concrete walls of subway tunnels. They have used the ribbed-metal sides of the subway cars themselves as formwork for pouring the concrete, creating a series of instant fossils in their excavations beneath the old city.



Olympian imprint

Meanwhile, other construction news from Munich features an "architectural" gymnast, Margarete Probst, doing handstands over the nearly finished Olympic Village apartment-housing.



Miss Probst, on point

## WORKSHOPS

### ARCOSANTI VOLUNTEERS

Architect/Sculptor/Arcologist/Genius Paolo Soleri (May '70 issue) is having a series of "workshops" in his desert in Arizona starting on the following

dates: July 19, Aug. 9, Aug. 30, Sept. 20, Oct. 11. If you like to camp out, activities, quoted from his poster, will be:

"(1) Production of kiosk shelters, made of precast assembled concrete panels. Each kiosk is an 8½-ft. cube with large circular openings. Each kiosk will serve two participants (mainly sleeping quarters). . . (3) Addition to the kitchen area . . . addition of a second septic tank. . . (4) Landscape the flat area south and west of the camp. Start vegetable gardens for group consumption. . ."

You will be laying out Arcosanti, a working/learning community for 1,200 Soleri followers.

To apply, write: Paolo Soleri, Cosanti Foundation, 6433 E. Doubletree Rd., Scottsdale, Ariz., 85253, and include a deposit of \$20, refundable if you are not selected.

Again from the poster, "Fee: \$250. Bring sleeping bag and a hammer. No pets allowed."

## LABOR

### NEW "CONSTRAINTS"

The President has taken one more step toward controlling inflationary wage settlements in the construction industry, stopping short of a wage-price freeze and enforceable controls. The Executive order was issued under the Economic Stabilization Act of 1970 which gives the President standby authority to invoke general or selective wage and price "controls," though the Administration hastened to explain that the move merely imposes "constraints" and that the mechanism is "largely self-regulating."

At the same time the President reinstated the Davis-Bacon Act (he had suspended it in late February—see our April issue), which requires the government to pay the prevailing local union scale on all federal building projects. The suspension of the act had been denounced by union leaders; and the President, in his travels, had been met by hostile construction workers.

The new plan is specific in setting a guideline for wage increases at an annual level of about 6 per cent (last year's industry-wide increases averaged between 15 and 18 per cent); it sets no guidelines, however, for prices and profits, but as-

signs a committee to look into the matter.

A separate labor-management board for each of the construction crafts would review wage and contract settlements. If a board were to find a settlement "inflationary," its powers would supposedly be limited to discouraging government procurement in the offending area; publicizing what it considers to be the excesses of the settlement; and, in effect, to freeze the Davis-Bacon wage rate for the affected craft and locality at the level that existed before the settlement.

But though Labor Secretary Hodgson denied it, AFL/CIO lawyers pointed out that the order would enable the Secretary to impose fines of up to \$5,000 or to obtain court injunctions under provisions of the Economic Stabilization Act under which the order was issued.

And C. J. Haggerty, president of the building and construction trades department of the AFL/CIO, said the unions would "fight" the order by all legal means available.

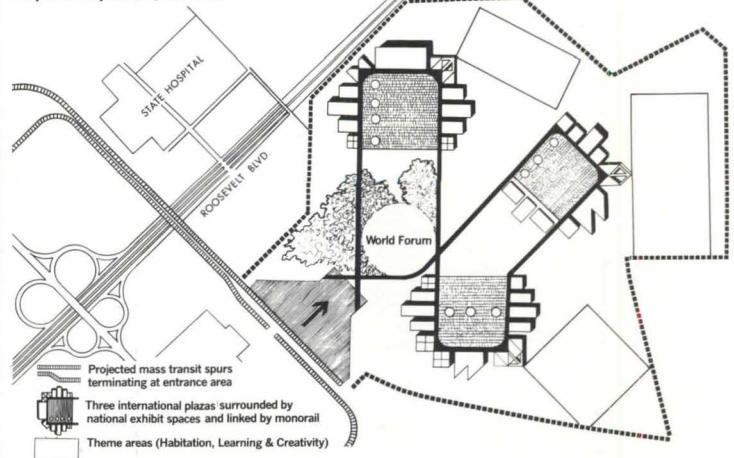
Meanwhile, the United Steelworkers of America, who will shortly be negotiating a new contract, have announced that they cannot accept the guidelines set by the President for the construction industry and would settle for nothing less than the 31.5 per cent pay increase over three years won recently by the same union in the can industry.

## EXPOS

### '76, PLAN TWO

A new scheme has been proposed by the Philadelphia 1976 Bicentennial Corp. to the U.S.

#### Proposed Exposition Site Plan



Department of Commerce and the American Revolution Bicentennial Commission in Washington. This one, unlike the original proposal—which was to have been built largely on platforms over the Pennsylvania Railroad—is not quite so daring and will not cost the government \$1.2 billion (Mar. '71 issue, page 71).

On 1,400 acres (1,000 of them undeveloped) in northeast Philadelphia, adjacent to Byberry State Hospital, the exposition would "celebrate human fulfillment and values, rather than technology and commerce."

The symbol of the exposition would be the "World Forum"—perhaps an earth sculpture expressing, in open space, the interdependence of man and nature. Fanning out from it would be three international plazas with foreign government pavilions grouped around them. Small countries which could not afford imposing pavilions would be encouraged to utilize the plaza space itself.

Still farther out from the "Forum" would be three "Theme Areas": Habitation, Learning, and Creativity.

Private exhibitors and corporations, which might be expected to contribute about \$100 million, would participate by financing demonstration projects for the theme areas, with cultural programs, and with visitor services such as transportation. But the traditional corporate pavilions as such would not be permitted.

The site is serviced by four major highways and the Penn Central Metroliner. The Reading Railroad line would be extended to the site.

Philadelphia and Pennsylvania would contribute \$30 million



worth of land, the Bicentennial Corp. \$30 million from anticipated revenues, and the federal government would be asked for \$95 million. The U.S. would also guarantee \$50 million in loans to cover "recoverable expenses" such as permanent buildings erected on the site. And foreign governments might be expected to invest \$250 million in permanent structures.

The planners presented the new scheme personally last month in Washington along with a number of citizens who came to protest it. Perhaps because—on the face of it—the idea is as uninspiring as the price is low, it may be just what Washington is looking for.

## ARTS

### MUSEUM IN THE STREETS



Liberman in the garden

New York City has a new outdoor sculpture garden in midtown, the joint gift to the public of Developer Harry Macklowe and the Parks Recreation and Cultural Affairs Administration.

Macklowe's new building at 866 Second Ave. and its plaza were designed by Architects Raymond & Rado. The plaza, combined with a 6,500 sq. ft. strip of the city's Hammar-skjold Park—which runs the length of 47th St. between 1st and 2nd Avenues—form the new 10,000 sq. ft. garden. The improved, multiterraced brick garden has been turned back to the city as a gift from Macklowe, who has agreed to maintain it.

Through June, the Hammar-skjold garden is displaying six new, massive metal sculptures

by Alexander Liberman. One of the works is 26 ft. high and weighs 9,000 pounds. Another spans an area 17 ft. wide. All are painted a vivid orange.

There will be four shows a year by contemporary sculptors, each lasting approximately three months.

## CONFABS

### 200 YEARS LATER

The American Iron and Steel Institute's two-part seminar on problems and solutions to the nation's living environment by America's 1976 Bicentennial, opened in San Francisco March 16th.

Paolo Soleri with his visions of Arcology, Richard Wurman in views of the city, industrial un-designer Jay Doblin on product design, and Alvin (*Future Shock*) Toffler looking at Society, made up the roster along with Tom Willson's message from the sponsor on materials. The speakers jostled with the audience and each other with messages that were more kaleidoscopic than prophetic.

Soleri was impressive with 450 color slides of the work of the Cosanti Foundation from the fun-in-the-sun sand mold structures and tinker bells, to the powerfully sculptural models of vessel-like city structures. Included were some of the slides of the beginning work on *Arco-santi*, the 1,200-population prototype city now started outside Scottsdale (see also page 20).

Wurman pleaded for a lucid, graphically understandable city, "... messages for curbing your dog are interesting, but curbing human excrement in the form of the unwanted, useless and confusing signs, litter, street furniture, wires, fumes and poisons is perhaps of a higher priority." Contending that half the city is owned by the public, he proposed a city approach for developing the public half and suggested, among other things, using it as the public school, creating "urban observatories" and displaying on the ground floors of buildings exhibits explaining exactly what happens within.

With tongue-in-cheek, Jay Doblin argued for sanity in product design, calling for de-novation rather than more in-

novation. Design simplification was demonstrated by slides of a remarkable 4-key typewriter which could sell for \$5.95 and, with readable hieroglyphics, type out any message in the English language. Yet another example was his redesign of eating utensils into two basic types—a cutter-spreader and a scoop-er-stabber that was a combination fork and spoon... irreverently referred to as a spork, or foon.

Toffler's concern was with man's lack of adaptability to evaluate and adjust when confronted with a vast proliferation of choices and a shrinking time scale. Commenting on the transience of life (37 million Americans change homes every 12 months), he cited the growing trend to throw-away items, temporary structures, and the spread of modularism which he defined as the attempt to lend whole structures greater permanence at the cost of making their sub-structures less permanent.

If the occasion didn't add up to the wide screen, red-white-and-blue image of 200 years brought to you by the American Iron and Steel Institute, it did bring speakers with something to say into one room for one day and that, at least, is what good seminars—if not solutions—are all about.

## ETHICS

### POLITICAL PRECEDENT

The New York Chapter of the AIA, the largest in the institute, has issued controls on political contributions by members. If their validity (challenged as we go to press) is sustained, the rules will be as follows:

Architectural firms will be prohibited from making any contributions at all. Individuals may make no personal contributions exceeding \$500 annually for all candidates of any one party within the state. Beyond direct donations in money, material or the services of his firm's employees, an individual's contributions are defined to include the purchase of tickets to political events, and advertisements in political publications. Contributions must be re-

(continued on page 63)

# HOUSING

A 30-page review of the latest concepts and accomplishments in the U. S. and abroad



# BARRIO GAUDI

Poetry, variety and fantasy abound in a revolutionary version of a Spanish suburb

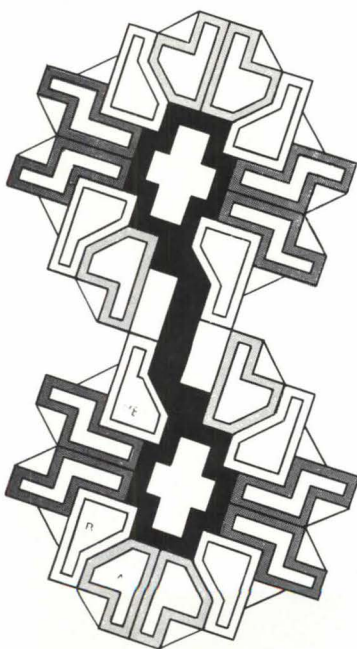
The illustrations on these pages show the first stage of a new suburb being built in Reus, a town about 60 miles to the southwest of Barcelona. The architects are the Taller de Arquitectura of Barcelona, whose fantastic structures have been published in the pages of the *Architectural Forum* before (June '68 and Nov. '69 issues). The description of this latest project—the Barrio Gaudi—was written by Jose Maria Carandell, a well-known Spanish journalist who writes, regularly, for *Telexpress*. Translation from Spanish into English is by Tom Burgess.—Ed.

The surname of Antonio Gaudi, creator of the Catalan Art Nouveau movement and one of the pioneers of contemporary architecture (the church "Sagrada Familia", the "Parque Guell", the "Casa Mila") will henceforth be linked to a new suburb which has just been constructed in Reus, 62 miles from Barcelona.

The project comes from the "Taller de Arquitectura" (Architectural Workshop) of Barcelona, an unusual group comprising architects, engineers, economists, sociologists, sculptors and writers who began to work as a team in 1963. Some of their work has been seen in the best international architectural reviews, notably the projects for "Xanadu" in Alicante and the "Castle" in Sitges.

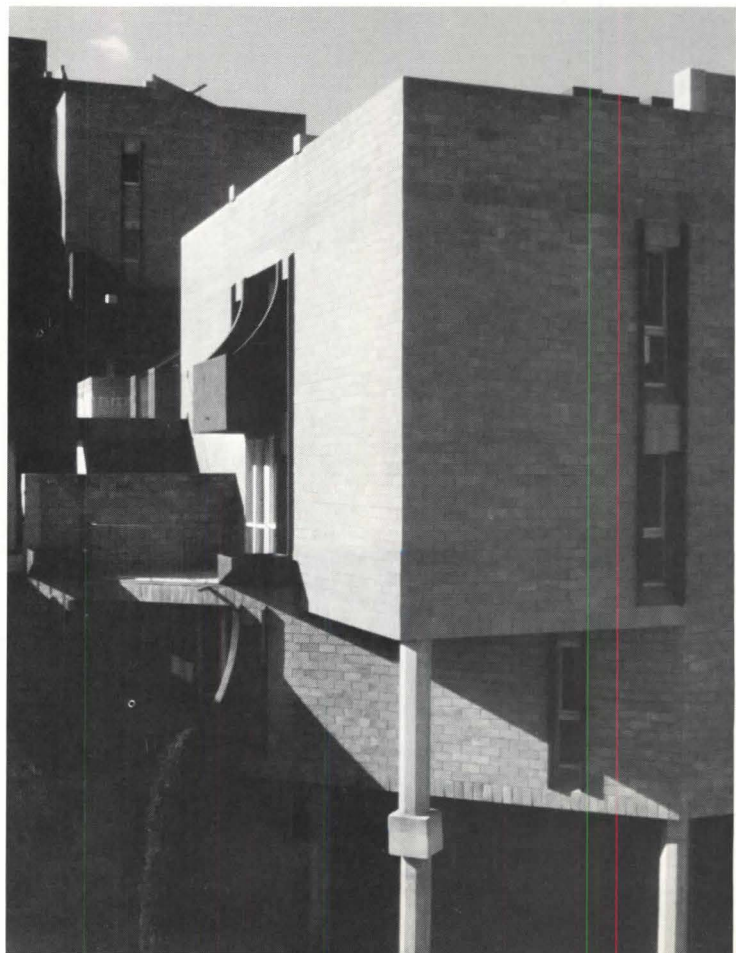
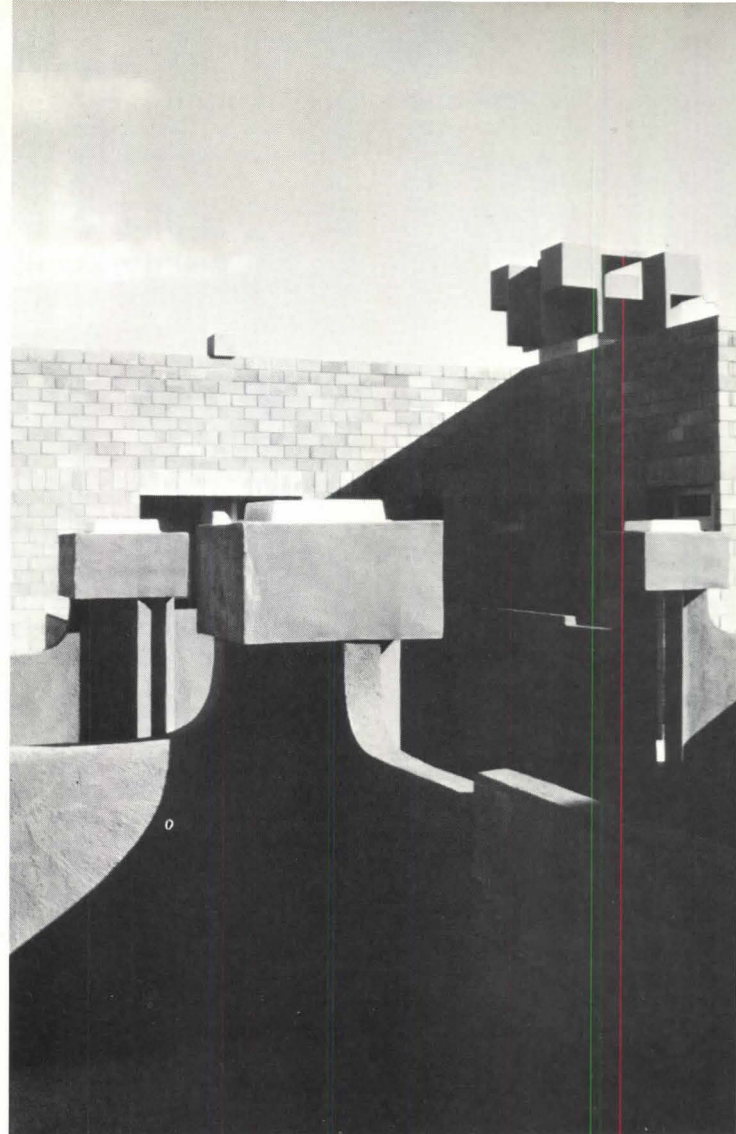
Now the "Taller", directed by Architect Ricardo Bofill, has completed the first phase of the revolutionary Gaudi suburb, consisting of 2,000 dwellings. It is an entire reworking of the idea of a large urban nucleus, done with a highly imaginative and revolutionary criterion.

Blocks are done away with; in their place we have a harmonious united ensemble connected vertically and horizontally on the various levels of the construction. The ground floor is for vehicular traffic and parking space. On the upper floors marvelous communal spaces: elevated streets, hanging gardens, squares, staircases, all related, all connected. Those who live there may enter by any one of the numerous staircases and elevators that will take them to the appropriate floor and from there make their way home along the elevated streets.



PLAN

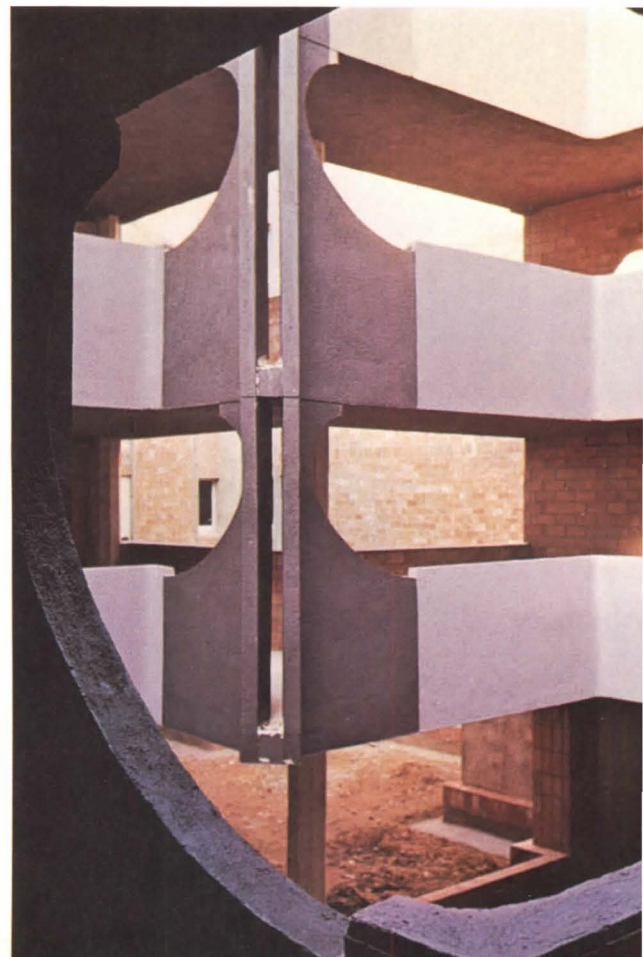
Diagrammatic plan of the first stage shows apartment modules of different but related shapes, varying in size (two-, three-, and four-bedroom units), and interlocking like a Chinese puzzle around tall, central courts ringed by open access galleries. The structure is reinforced concrete, and the infill tile, brick, and/or stucco.



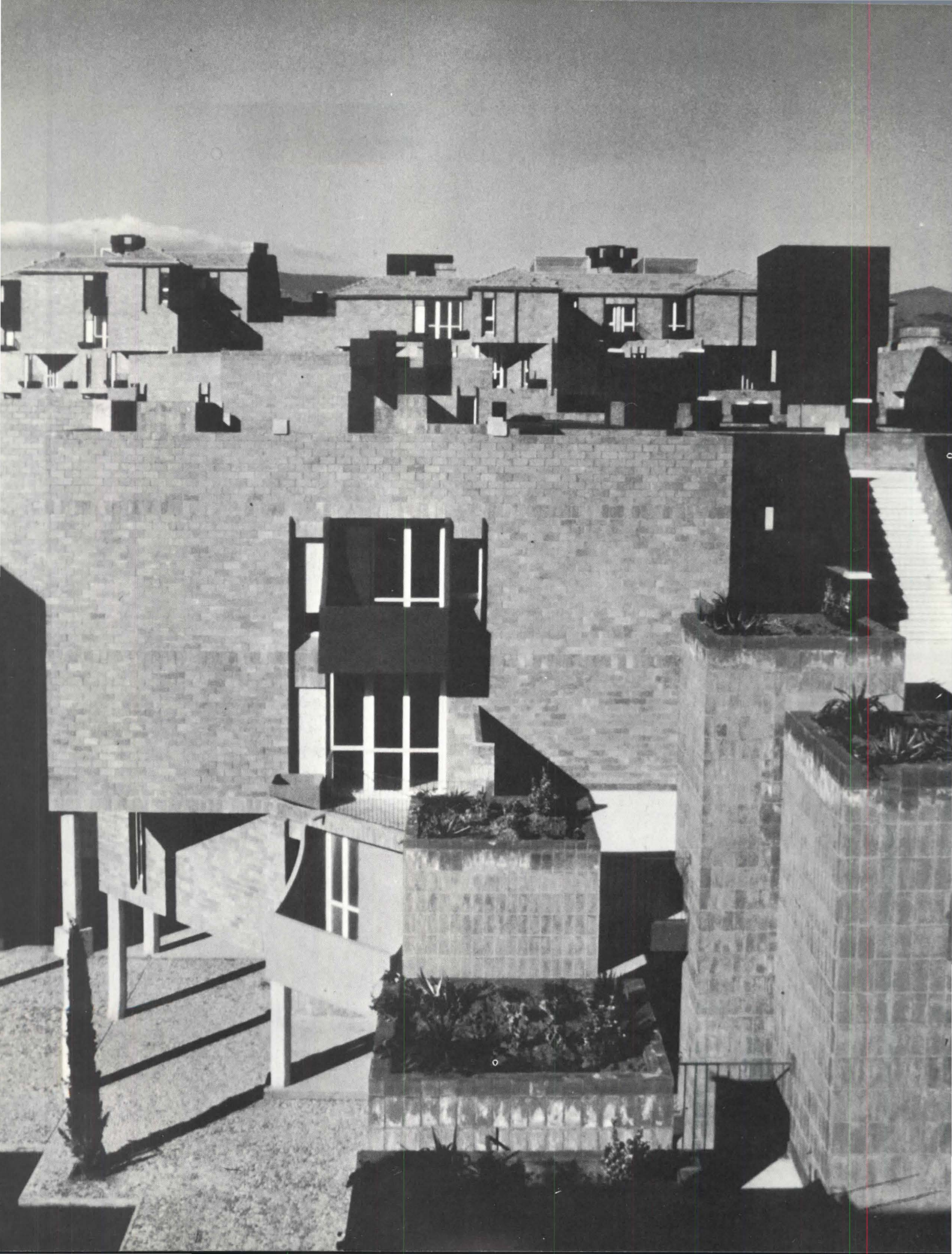




The rich variety of forms, colors and textures effectively masks the fact that the Barrio Gaudi is a repetitive arrangement of modular units—see plan on opposite page. The first phase of the development was planned in 1964/65; construction took place in 1968/69; and the first 500 units were occupied last year.









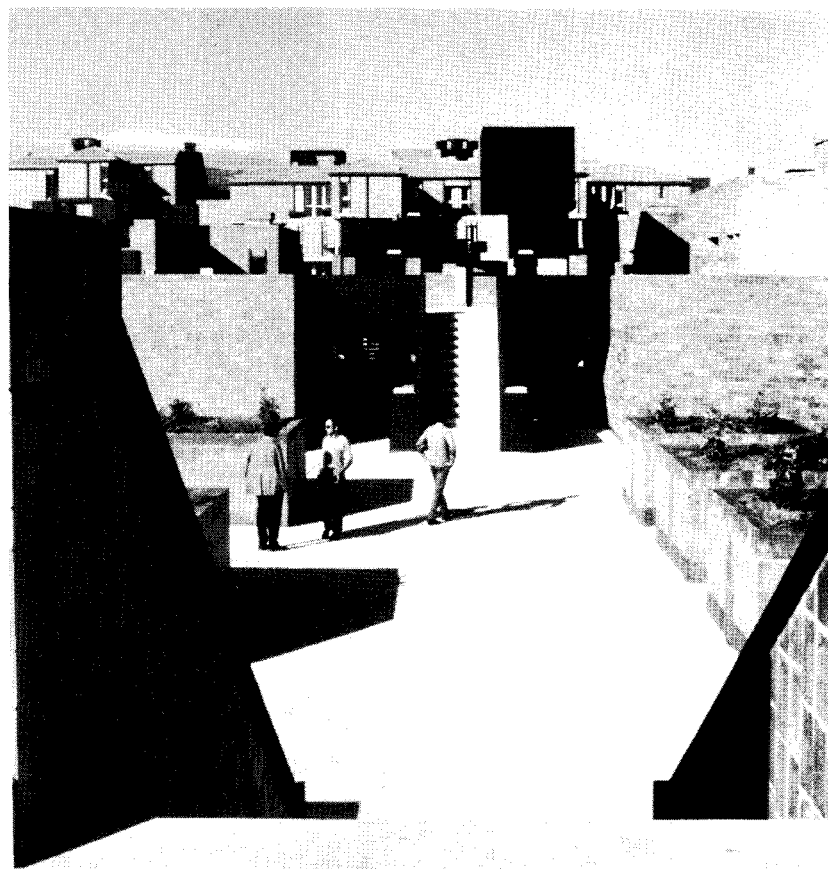
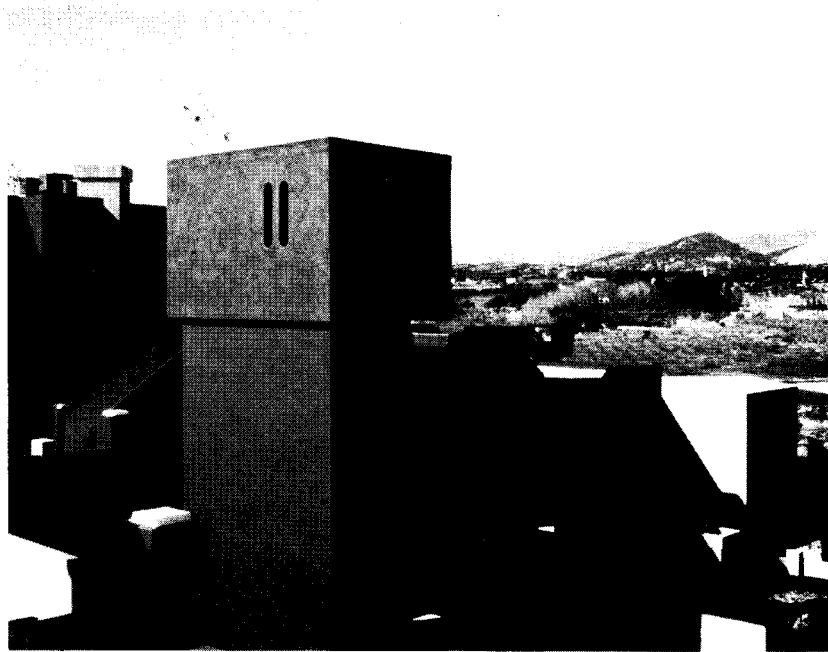
Using a reticulated grid to profit from the variations on the possible combinations, the "Taller de Arquitectura" has given the "Barrio Gaudi" an enormous feeling of mobility and variety. No two facades are the same; the streets, squares and heights are diverse. The monotony of dwellings facing each other has been avoided. The ornaments are an integral part of the building: the finishings of the elevators and staircases, balconies, fireplaces, flower pots; and all with a calculated volumetric rhythm, the greatest possible use being made of full-empty light-shadow concepts through the treatment of color.

The whole project looks like a glittering polychromed living sculpture, a revolutionary version of a residential suburb that together with surprising surrealistic or futuristic images contains the traditional features of communal life and customs associated with the Latin countries: places to meet and talk, to stroll, sit in the sun, argue, without having to go down to ground level.

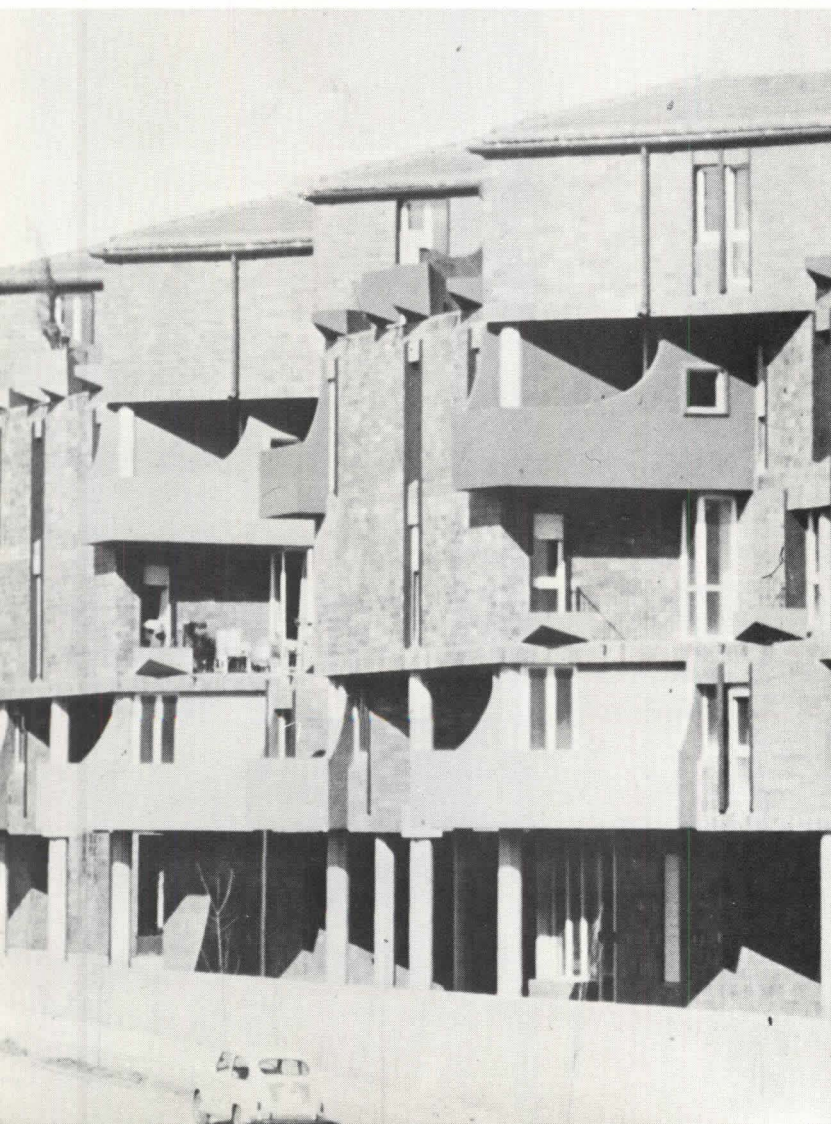
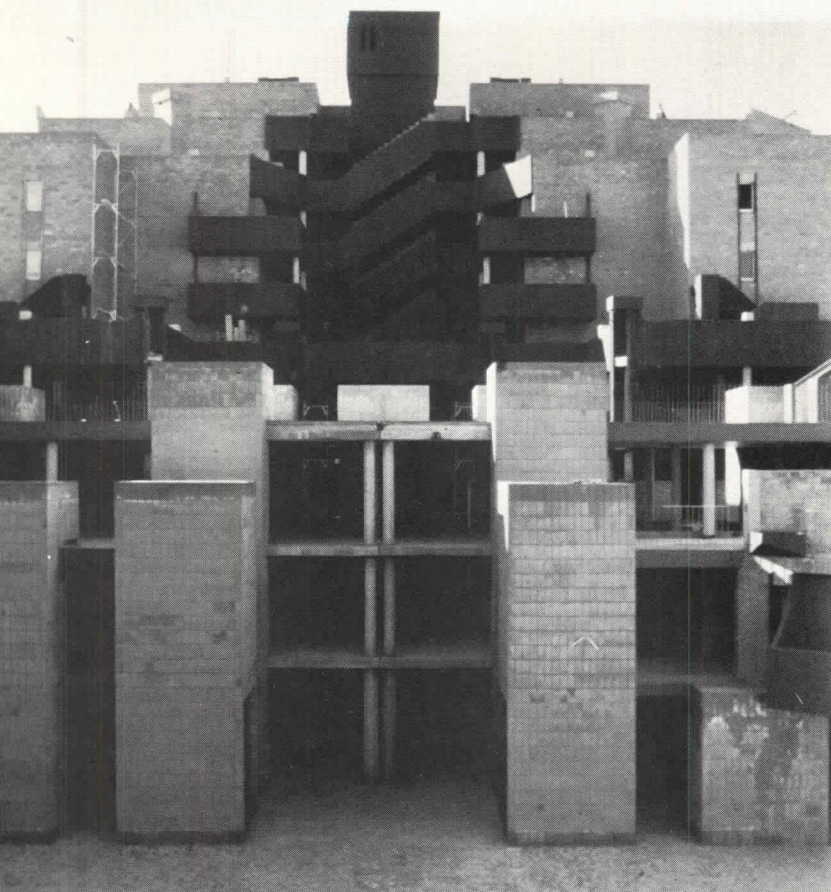
Perhaps the most important achievement of the "Taller" in this suburb is that the privacy of the dwellings is compatible with this public and communal aspect and that this has been managed so economically. Though the "Barrio Gaudi" looks luxurious, the budget involved was the lowest in the country and it is to house workers' families. The materials employed are the cheapest in Spain, the cost per square foot of building is about \$3.30. Almost the miracle of Reus!

Quoting Ricardo Bofill: "a project is a matter of imagination. This suburb is made of those materials which are the cheapest and the most readily found in this country. If we had been in the Congo we would have built it of mud and wood, and it would have been beautiful and fitted to the needs and landscape of the Congo. Imagination is essential; an architect should break with outworn rationalism, and let his imagination soar. Better to be crazy than copy or repeat yourself." The "Taller", due to its historical situation, (Spain has an underdeveloped economy and is on the brink of becoming a consumer society) places no confidence in architectural solutions solely

According to the architects, the principal objective was to achieve an urban nucleus that would break with the system of housing slabs. This, they say, was managed by interlocking the different nuclei, by the inversion of stories and the use of the roof space for paths and gardens. Photos at left and right show the patterns of linked open spaces on roof terraces and (bottom right) a detail of one of the stairs that connect the different levels.







based on technological development.

Thus the propositions of the "Taller" are related to a different idea of neocapitalist social structures, and tends to the invention of new ways of living. It has added a total comprehension of the building process to formal and intuitive knowledge: economic and technical laws, social problems, the composition and needs of urban groups.

But never forgetting the vital importance of intuition in the creative process, since this represents the irrational and necessary contrast to the cold objectivity of reasoning and data. The "Taller", after this magical "Barrio Gaudi", has embarked on the construction of two ambitious projects "La Ciudad en el Espacio" (The City in Space) in Madrid (15,000 dwellings) and "Walden 7" in Barcelona (5,000 dwellings) where the deconventionalization process is carried to the point of incorporating the furniture in the actual building, that is, eliminating its present concept, and where communal spaces can create a new idea of urban nuclei.

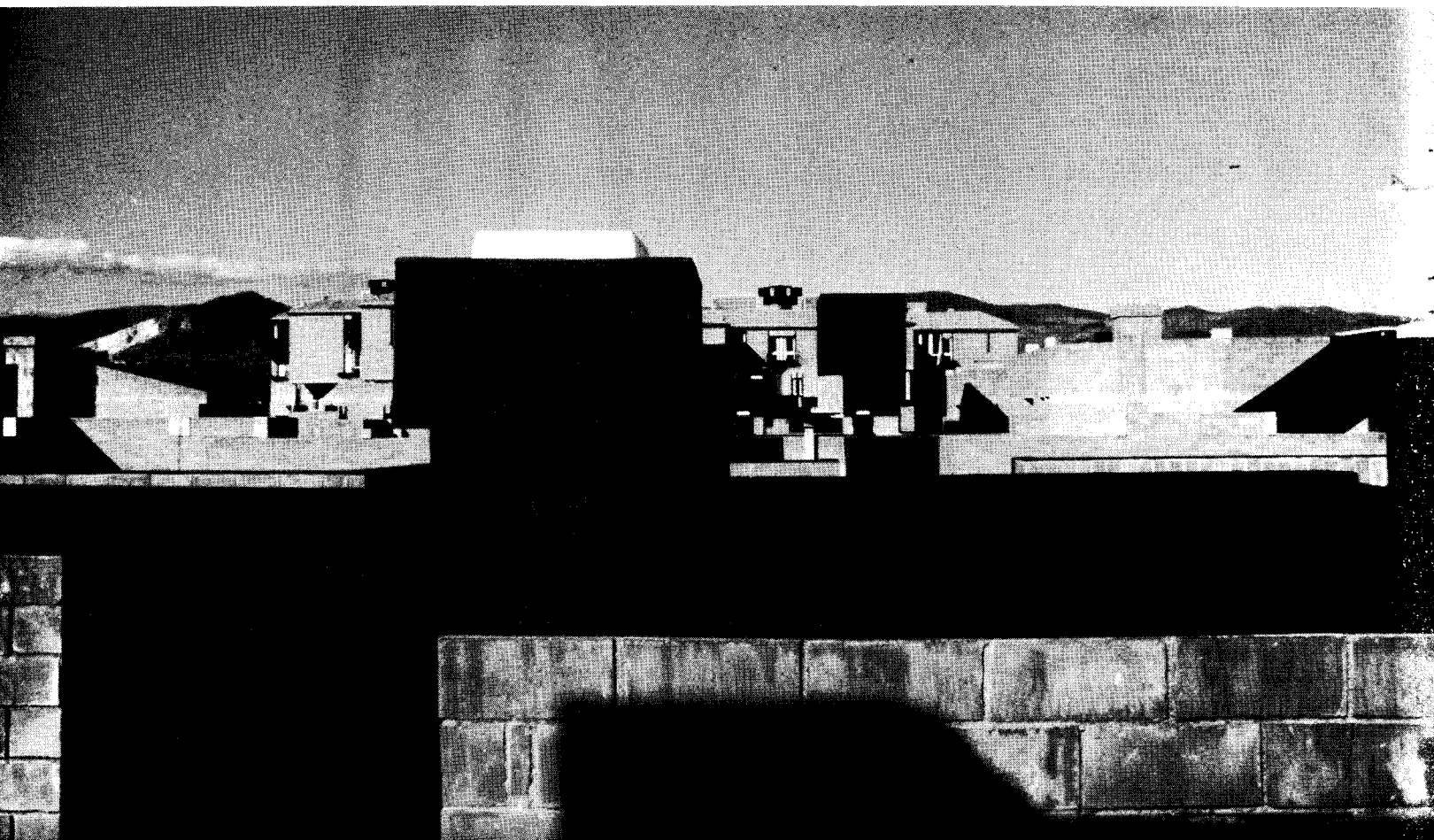
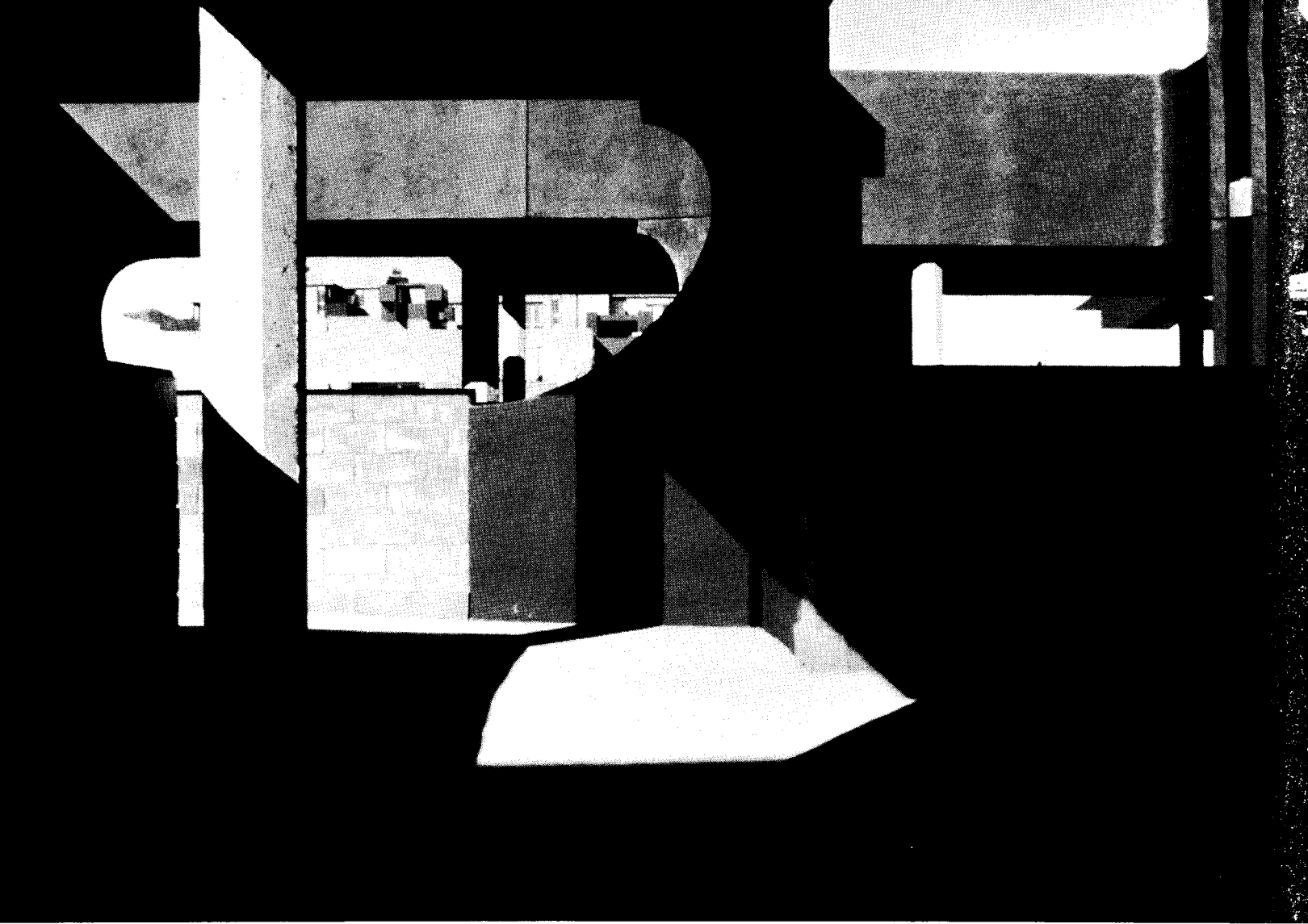
#### FACTS AND FIGURES

Barrio Gaudi, Reus, Spain. Client: "El Patronato local de la vivienda," Reus. Architects: Taller de Arquitectura (job architects: Ricardo Bofill, Xavier Bague, Ramon Collado; director: Emilio Bofill. Supervision and quality engineering: Francisco Vila. Contractors: I.C.U.R.S.A., Reus.

PHOTOGRAPHS: Page 22, lower right, David Hirsch; page 22, top, and page 26, lower left, Joaquim Montaner; others courtesy L'Architecture d'Aujourd'hui.

Not only does the Barrio Gaudi look like an assemblage of related but different works of sculpture; its social texture is similarly varied: while the upper floors are residential (with elevated streets and squares connecting the different "houses,") there are commercial and social facilities at ground floor level below. These photographs show, at left, the great variety of forms achieved with the use of basically related modules; and, on the opposite page, some of the deliberately "Gaudiesque" forms created along streets and on rooftops.







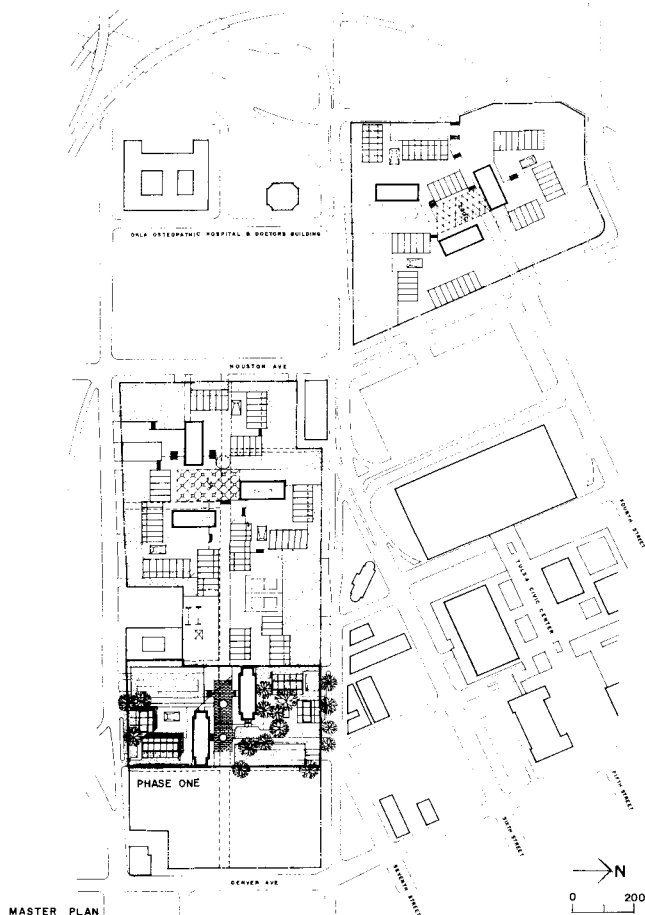
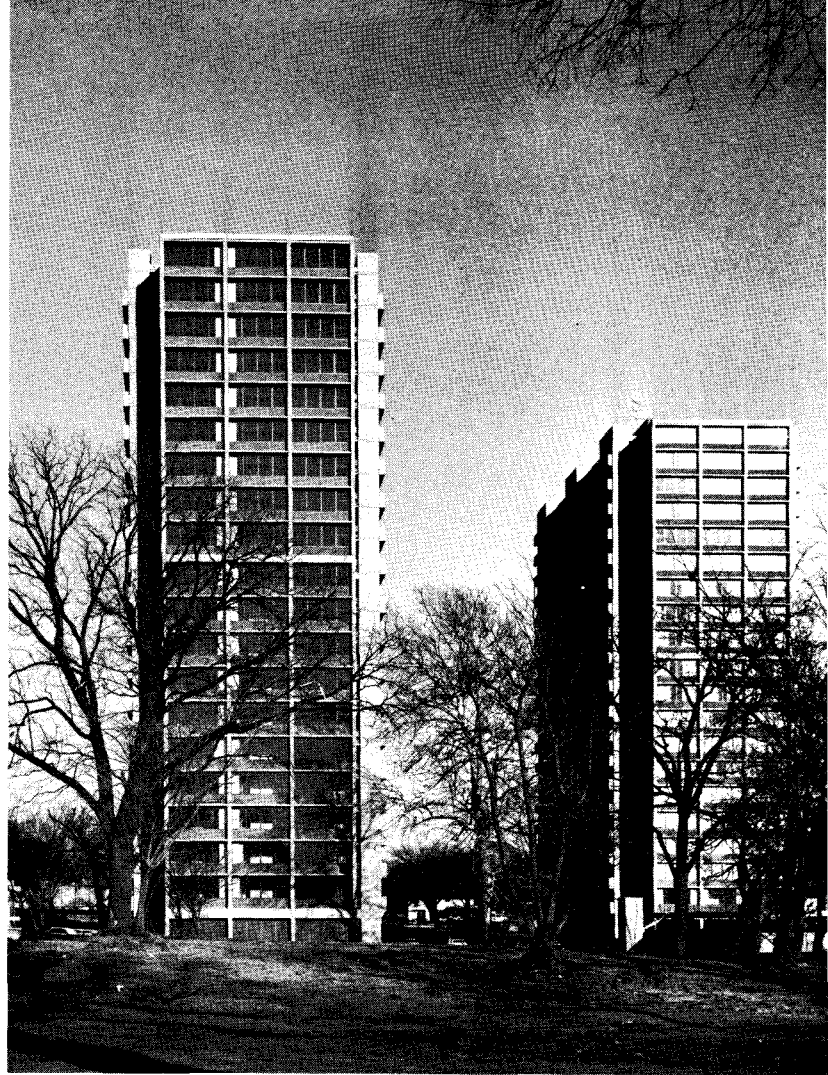




# TULSA, OKLA.

Initial phase of a downtown renewal area sets promising pattern for housing and open spaces

The two towers that rise at the center of each of the two neighborhoods are framed in exposed concrete filled in with stuccoed block and glass. Sliding glass doors open each apartment to its own balcony. The site plan shows relationship of Center Plaza housing to the new Tulsa Civic Center, which was planned 16 years ago and is now nearing completion. Eventually, Center Plaza will have eight neighborhoods on 28 acres. Initial two neighborhoods shown here cover five acres.



The close to 400 units of housing contained in these apartment towers and townhouses are an important part of Tulsa, Oklahoma's Downtown Northwest Urban Renewal area—an area that encompasses 330 acres of downtown real estate. Both in architectural quality and in underlying planning philosophy, these initial units of housing, on a mere 5 acres, are full of promise for the eventual outcome of the project as a whole.

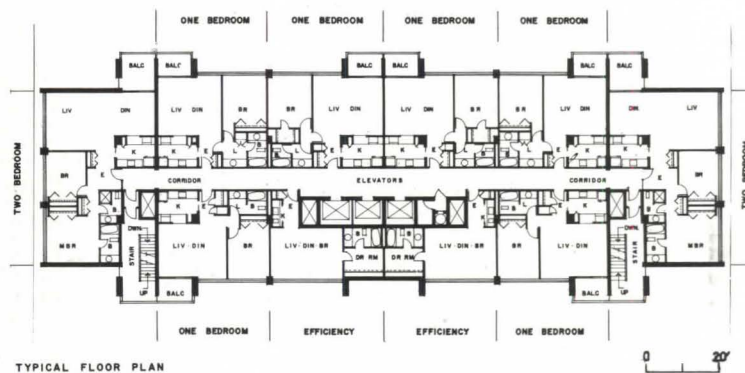
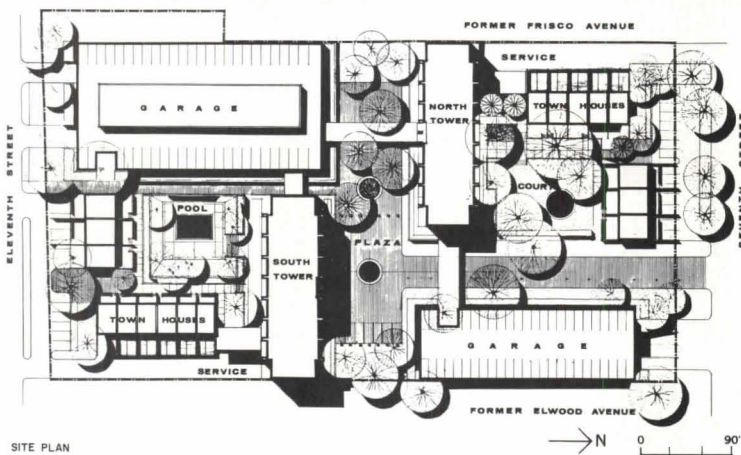
Center Plaza, as this complex is called, is located due south of the new Tulsa Civic Center (see site plan at left)—a large assemblage of public buildings, including a big convention hall designed by Edward Durrell Stone. It consists of two 20-story tower slabs, with a total of 379 apartments ranging from efficiencies to two-bedroom units; and 17 townhouses, most with two bedrooms, some with three. Between these structures there are plazas, courts, pools and walkways, all handsomely landscaped; and there are parking garages (plus some open parking) for a total of 358 cars.

In describing Center Plaza, the

architects—Murray Jones Murray—make these points:

- This initial, five-acre segment consists, really, of two "neighborhoods." (Eventually there will be eight such neighborhoods on a total of 28 acres.)
- Each neighborhood has one highrise building placed at the interior of the site; this tower is then surrounded by clusters of townhouses and a partially submerged parking structure.
- Service roads lead to each tower, and pedestrian links connect each tower with its parking garage; but the townhouses have their own parking facilities at the perimeter of the site.
- Private outdoor space for each neighborhood is defined and framed by the tower, the townhouses, and the parking structure.
- A more public, urban space is created between neighborhoods, and framed (in this case) by the two towers.
- And the major pedestrian corridors within each neighborhood are extended to provide links with nearby developments and with the downtown employment centers.





The site plan of the first two neighborhoods, shown at left, illustrates the manner in which these planning principles worked out in practice. Sasaki Walker Associates were responsible for the landscaping of the pleasant outdoor spaces.

What makes Center Plaza particularly interesting is the quality of its detailing—and the low construction cost. Although these buildings are as elegantly designed and finished as the best to be found in current U. S. residential construction, the square foot cost for the towers was only \$12.91, and that for the townhouses even lower—\$12.57. Because financing was conventional, rents are not low. Still, the highest rental (for a three-bedroom, 1,730-sq.-ft. townhouse) is only \$450 per month—which, unhappily, qualifies as “middle income” in most new U. S. apartments nowadays. There are numerous community amenities on the ground floors of each tower: a game room, a TV room, a health club as well as the usual laundry facilities. While all tower apartments have balconies, townhouses have

Townhouses with two and three bedrooms are arranged around the perimeter of each of the two neighborhoods, as are the partially submerged parking structures (see site plan). These different elements are placed to create more or less private outdoor spaces for each neighborhood, as well as a more public plaza between the neighborhoods. Apartments in towers range in size from efficiencies to two-bedroom units (see typical floor plan).

their own little walled gardens and decks to provide private outdoor space.

These first two Center Plaza neighborhoods were completed this past fall and winter, and almost half the units are now occupied. The project is, therefore, an economic success. It is, of course, an architectural success, as these illustrations indicate; and with its thoughtfully planned communal facilities, it is likely to become a success in social terms as well.

#### FACTS AND FIGURES

Center Plaza, Tulsa, Oklahoma. Owner: Tulsa Center Development Company. Architects: Murray Jones Murray (Jack McSorley, associate in charge). Consultant: Ralph Myers. Engineers: Netherton, Solnok and Associates. Landscape architects: Sasaki Walker Associates, Inc. General Contractor: H. A. Lott, Inc. Building area: 442,000 sq. ft. (plus 91,000 sq. ft. garage). Construction cost: \$6,115,000 (plus \$385,000 garage).

(For a listing of key products used in this building, see p. 72.)

PHOTOGRAPHS: Cornelius Photography







# HOUSING AND THE PUBLIC SECTOR

BY MICHAEL HARRINGTON

A strong argument against the view that the basic task of urban rehabilitation belongs to private enterprise

The private market in housing—or more precisely, the state subsidized market run according to private priorities—is now such a spectacular failure that even conservatives want to change it radically.

The late President Eisenhower was one of the first to signal this momentous shift. Shortly before he died, in the spring of 1968, he published an article in the Reader's Digest advocating the creation of planned and integrated new cities and new towns. He was, however, true to his old-fashioned values even as he advocated a program originated by European socialists, for he argued that the private sector would carry out his scheme on the basis of a traditional profit motivation. Then in the summer of 1969, the report of the National Committee on Urban Growth Policy recommended building ten new cities. That document was more realistic than Eisenhower had been, noting that only in rare circumstances could such undertakings be carried out on the usual profit calculus. The report was enthusiastically introduced by Spiro Agnew.

President Nixon attacked his vice president that summer, at least by implication, for he pointed out in the Population Message that such an approach would "only" provide housing for one-fifth of the anticipated growth in the number of Americans. And we now have the requirements of a really adequate plan on the authority of Mr. David Rockefeller, head of the Chase Manhattan Bank. (Rockefeller outlined his ideas in a speech on February 16, 1971, which was then excerpted for an article in *The New York Times*

on February 28, 1971.)

We need, Rockefeller said, the equivalent of a new Yonkers, N. Y., every month between now and the year 2000, i.e., a new city of roughly 200,000 citizens per month. But this, he admitted candidly, cannot be done under our present institutional arrangements. Among the impediments are "financing and land acquisition, together with the coordination of the efforts of all private and public organizations involved in creating new communities." Indeed, there must be a "national land-use policy to guide the physical distribution of the nation's growth. Experience to date confirms that the initiative for this land-use policy can come only from the Federal Government."

Bankers, in short, can no longer put their trust in the invisible hand of Adam Smith.

**A**nd so Rockefeller is quite precise about the reforms that must take place. The start-up costs for ten new cities and 100 new towns add up, he says, to \$10 billion. This would be provided by a National Development Bank organized by Washington on a non-profit basis and working in tandem with a new public agency (the agency would be governed by a board appointed by the President but would not be a part of the Executive Office). This agency would have the power of condemnation and eminent domain. Private developers cooperating with the Federally financed and planned effort would, in Rockefeller's proposal, be required to clear their activities with this governmental agency.

In the February 16 speech, all of this was preface to a marvelous *non sequitur*: "I believe that the basic task of urban rehabilitation is one for private enterprise. But it must be a cooperative venture. Government must lend support through zoning, through supplying essential services and through tax incentives."

Mr. Harrington is chairman of the board of the League for Industrial Democracy. Among his books are the recent *Toward a Democratic Left: A Radical Program for a New Majority* and *The Other America*, which is widely credited with sparking the anti-poverty program. He succeeded Norman Thomas as national chairman of Socialist Party.



Thus says Rockefeller. But if Washington is going to do those things—and provide the start-up money and implement a national land-use policy through the power of eminent domain—isn't it a bit silly to assert that the "basic task" is for the private sector? It is clear from Rockefeller's own analysis that the crucial component in his scheme, its *sine qua non*, is the public sector.

I do not make this point simply because, as a socialist and a man of the Democratic Left, I am hostile to the mythology of free enterprise. That is quite true, of course. But in addition I am concerned about the financing and the design of the new cities and towns if the fundamentally Federal effort is carried out in deference to the values and motives of the private sector. And on that count I would hope to persuade liberals, or even pragmatic conservatives, to my point of view.

The underlying philosophic problem with the financial aspects of the Rockefeller proposal was suggested as long ago as the 1967 Report of the Council of Economic Advisors. In discussing how government intervention into the economy was smoothing out the peaks and valleys in the business cycle—and even President Nixon's ingenious inflation-recession has not altered that long range trend—the Council remarked, "profit margins not only should be lower in the boom phase of a cyclical economy, but should be reduced on the average because operations in such an environment carry lesser risk."

If that point is true with regard to the economy as a whole—and I think it is—it applies with much greater force to a plan for new cities and towns that would receive direct Federal support of the kind outlined by Rockefeller. If the government is using all of its enormous power to finance the infrastructure and to acquire the land (in the latter case using a doctrine of eminent domain

which asserts the priority of the public good as against the simple determinations of the market), by what warrant should private enterprise make a large, almost riskless profit? There is, as the Council pointed out, no economic justification for paying such a reward since the developer hardly needs any great incentive to make a guaranteed profit. And there is certainly no ethical justification for such a policy at a time when the maldistribution of American wealth has remained stable for an entire generation.

**T**his problem, it should be added, is not confined to the area of housing. In more and more areas of social and economic life there is going to be state intervention—even if Mr. Nixon is returned to the White House in 1972. And to operate essentially public undertakings within a private enterprise logic, as Mr. Rockefeller proposes, will lead to a situation Adam Smith would most certainly have abominated: governmentally subsidized profits. That is both bad capitalism and bad socialism. And the President is currently proposing just such an approach in his plan to have the Federal power give the private medical insurance industry a \$5 billion windfall.

But even though I object most strenuously to such social underwriting of private gain, that is not the most basic element in my disagreement with Mr. Rockefeller. If paying such an unconscionable tribute to the private sector were an effective means of getting decent housing for the poor and the minorities, I might reluctantly agree to the ransom. But I believe it can be shown that, if the private enterprise priorities dominate, the housing will not be built.

The private sector simply does not think of problems of design and resource allocation in terms of social need. It is, by its own definition, constrained to build

that kind of new city and new town providing housing the government will support and yielding a goodly profit. And the second element in that equation often comes into conflict with society's urgent needs.

Consider the sad history of Section 235 of the 1968 Housing Act. It was supposed to be a Federal subsidy in order to allow people who had been priced out of the private market to buy houses. It thus is an excellent example of the Rockefeller philosophy—Washington provided the money and the incentive but the developers took over to carry out the actual operation of the program. The problem is that the private sector understood 235 as a welfare program for the industry, not for low-income consumers. Shoddy construction and consistent overpricing were the result—a sort of speculation in social misery. As *The New York Times* summarized the situation, "The slogan of some home builders during the slump last year was 'Stay alive with 235.' Profits had been high and the risk minimal."

In other words, the dominance of private priorities led to an anti-social misallocation of public funds. A related point became apparent in the case of Reston, Virginia, some years back. The original plans for that community proposed social, as well as architectural, innovations. There were to be both class and racial integration. But then the oil company supplying the financing intervened and, with an admirable logic taken straight from Milton Friedman, refused to allow its funds to be used for such unbusinesslike experimentation.

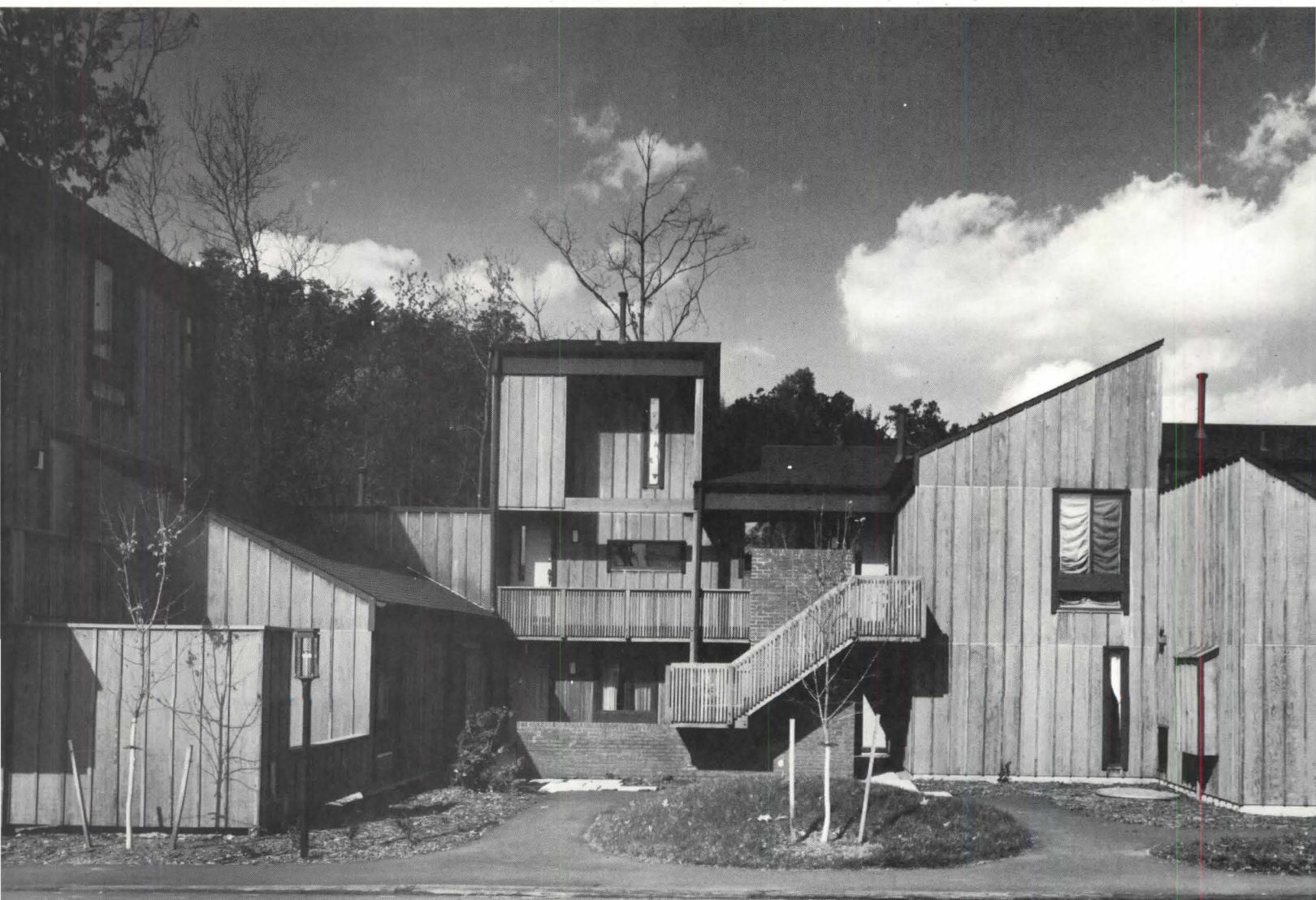
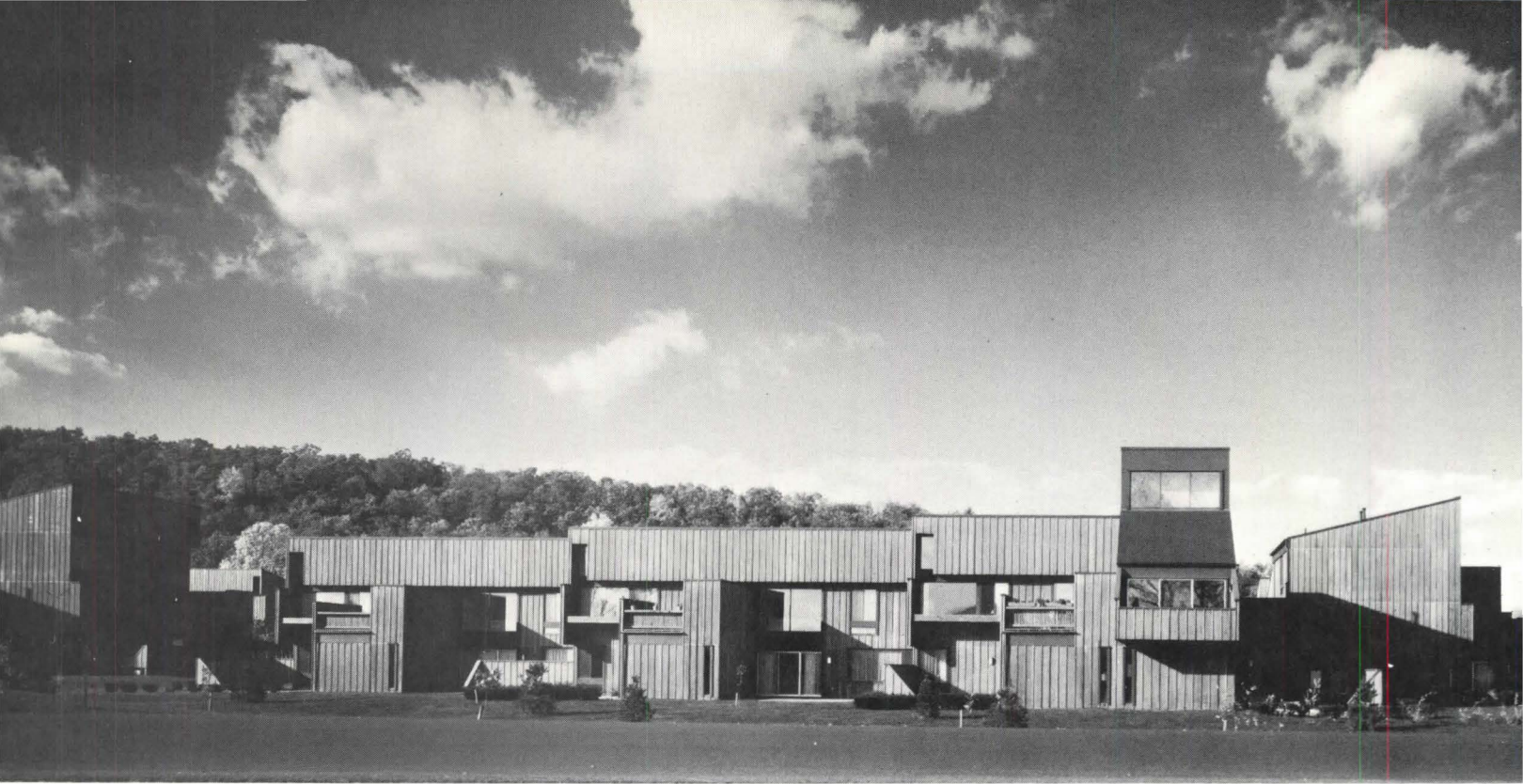
**A**nd yet, it is quite clear that, if these new cities and towns now favored by so many conservatives are to meet the needs of the country, they must be built according to social priorities and not to the private calculus. So I must reject David

Rockefeller's conception of the business role in his scheme on the very practical grounds that it could well subvert the whole plan.

But does that then mean that I want to federalize every last function in the area of housing? Of course not. I do believe that Washington must utilize its power in order to overhaul the structure of the industry. If there were a serious commitment to build all those new cities and towns—which would in effect guarantee employment for the existing membership of the building trades and require the recruitment of a large number of new workers (and union members)—I believe that labor's objection to technological rationalization could be waived. Then if Federal financing were made contingent upon the creation of large and effective units of production, we could stop building houses with a Model T technology. And ultimately, as Galbraith persuasively argued in *The New Industrial State*, we need a new kind of housing industry which operates in terms of regions instead of plots or developments.

But even in such a scheme there will be a place for private companies in the foreseeable future. What I would insist on, in contrast to Mr. Rockefeller, is that their profit and design decisions be subjected to a strict public control. And this means, if I may take a theme from Charles Reich, that we need a new consciousness about housing. We must stop consoling ourselves with traditional pieties in which, even though it is the Government which provides all of the essentials, it is private enterprise which is deemed to be the dynamic and superior partner. We must, in short, turn David Rockefeller's mythological formula upside down and say clearly, "the basic task of urban rehabilitation is one for public effort. But it must be a cooperative venture in which business will play a subordinate, and junior, role."

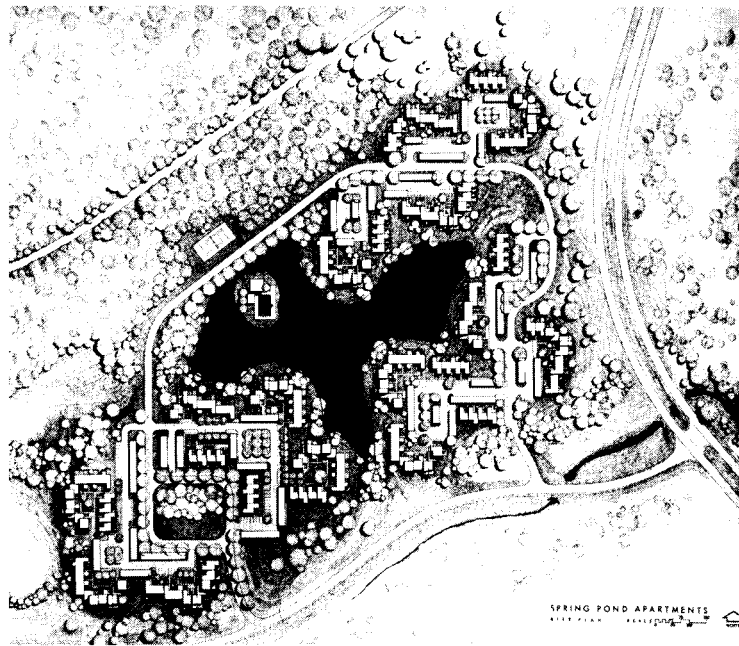






# CORNING, N.Y.

Diversity of shapes and layouts in countryside apartments was achieved using repetitive building methods



Apartments at Spring Pond have private terraces and large open decks facing outward from building clusters (upper left). Inside the clusters (lower left), walled entrance courts and outside stairs give private access to every unit. Long, low structures among the meandering apartment rows (site plan above) are shared carports. Only the 108-unit first phase of the project, west of its five-acre artificial pond, has been completed.

Approached from U. S. Highway 15 where it skirts the little city of Corning, N. Y., the Spring Pond development looks as picturesque as an old mining town in the West. Its jagged brown forms are seen silhouetted against the wooded hills. On closer approach, the variegated curtains in the windows, then the carports around the neatly trimmed internal greens, identify the complex as a cluster of contemporary housing.

Spring Pond's architect, Louis Sauer, has designed several other picturesque housing clusters, for Reston, Va., and for Philadelphia's Society Hill area. For this project, he had the added problem of designing an attractive alternative to the single-family house—for an area with no other apartment developments.

The sponsors of Spring Pond expected to find a market for rental housing among young executives and other relatively transient employees of local industries. But they had no sure way to gauge the market, so they wanted to build in some distinct advantages over the conventional house.

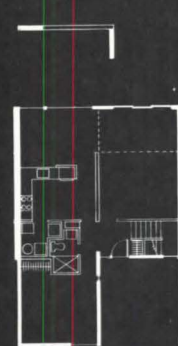
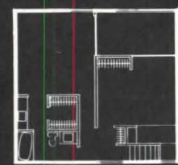
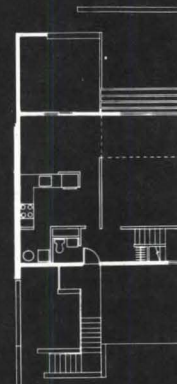
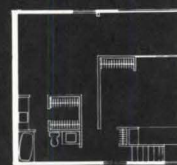
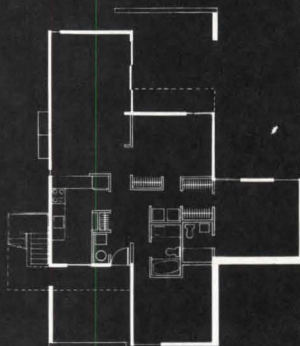
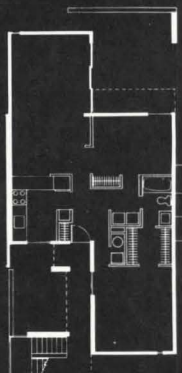
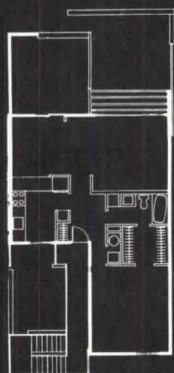
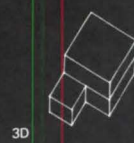
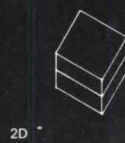
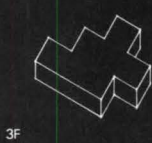
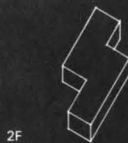
One advantage was the setting—rural in character but only minutes by the ubiquitous car from a complete shopping center. An artificial pond with a swimming pool at its edge reinforces the joys of country living.

The housing itself is organized in clusters with large central greens, around which automobile traffic is distributed to small parking areas and long, shared carports. Irregular rows of housing line the greens and wrap around smaller pedestrian courts.

In the units themselves, diversity was the big drawing card. Two-story rowhouse type units are interspersed with stacked apartments—flats over flats or duplexes over flats. Every unit, regardless of type, has its own entrance, either at ground level or at the top of a private outdoor stair. And every unit has a terrace or an open deck on the side facing away from the entrance. Upper-floor decks are not the usual shallow balconies: most of them are 13 ft. square, with a solid parapet and a full-height wall on one side providing privacy and wind protection.

The six unit types are quite different from the point of view of living arrangements. Yet the design allowed for the kind of standardization of construction



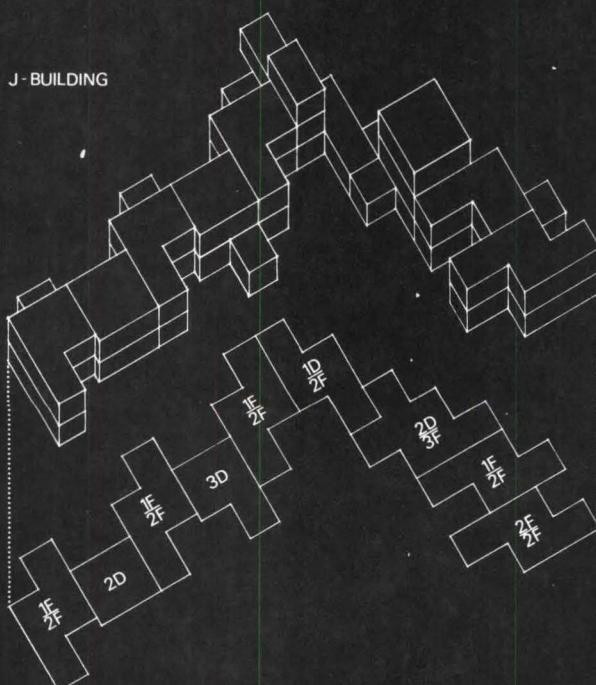


The six types of flats and duplexes (1F, 1D, etc., above) offer a wide variety of indoor and outdoor spaces. These units could be assembled in innumerable combinations but—to simplify construction—they are arranged in only three building types (below), which look anything but repetitive on the site. Spatial interest of the interiors is illustrated by the two-story well of a duplex unit (top, opposite), with upper floor openings that close for privacy. In the view across a green (bottom, opposite) the foreground buildings make an interesting frame.

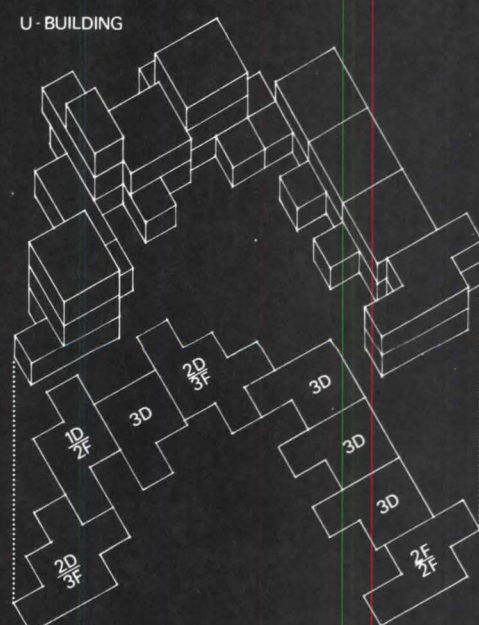
I - BUILDING



J - BUILDING



U - BUILDING





processes that makes large-scale house - building economical. Standardized interior components (cabinetwork, storage units, stairs, etc.) made finishing work largely repetitive; standardized dimensions (in particular the economical 13 ft. 4 in. span of the 2 by 10 floor joists) made the framing process routine; and the use of only three different building types throughout the project made foundation construction simpler than a glance at the plans would suggest.

Variety among the six unit types is not just two-dimensional, but includes two-story spaces in duplex units and high, sloping ceilings in top-floor spaces, some with clerestory windows. There are unconventional features, such as the two-tiered platform—for sleeping or playing—above the stairs of the duplex units.

Materials at Spring Pond are all simple ones that house builders are used to. This simplicity is most apparent in the exterior walls of readily available plywood sheet, with a simulated board-and-batten surface.

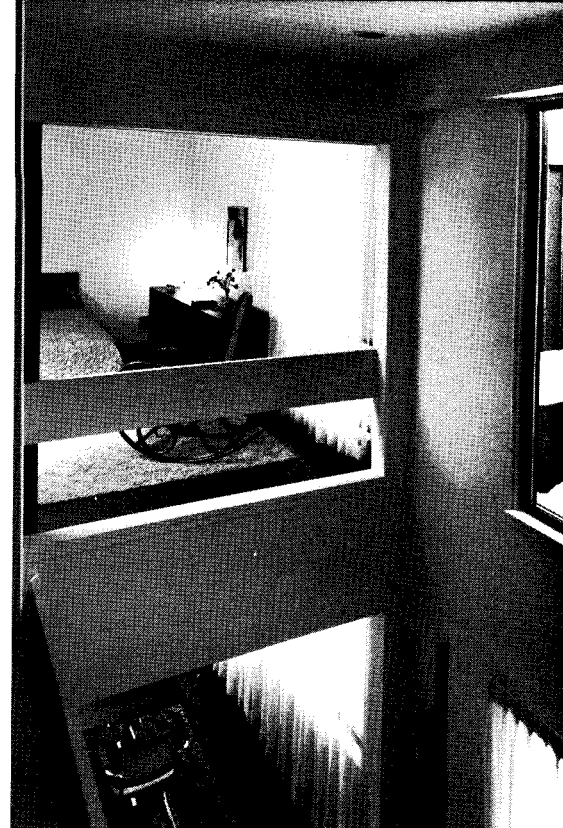
Exterior railings and parapets, as well as trash sheds and carports, are constructed of standard lumberyard materials. The only exceptions to the all-wood construction are the brick walls that support stairs to the upper units (and incidentally shield the entrance gardens of the lower units). The architects introduced these walls not only for their structural logic, but also to make the stairs look like "large-scale furniture" visually separated from the buildings.

Spring Pond's diversity and visual appeal may have no obvious relationship to large-scale housing problems. But this project, and others like it, do point the way toward more rational use of land outside the metropolitan centers. Government policy can encourage cluster housing, but only consumer acceptance—built on experience—can make it work economically.

#### FACTS AND FIGURES

Spring Pond Apartments, Painted Post, N. Y. Architects: Sauer & DeVito (Louis Sauer, partner in charge; Lynn Charles Taylor, project architect). Engineers: Joseph Hoffmann (structural), Clark & Rapuano (site). Landscape architect: Richard Cripps. Interior design: Dian Boone. General contractor: Frank Smith Associates. Dwelling units: 108. Gross area: 136,207 sq. ft. Cost: not available. (For a listing of key products used in this building, see p. 72.)

PHOTOGRAPHS: David Hirsch.





# CHICAGO, ILL.

The nation's largest low-rise  
221d3 project, ten years  
in the making, is now finished





In 1961, The Woodlawn Organization was formed around the issue of better housing on Chicago's mid-South Side. The Architectural Forum reported on TWO's first housing project (July/Aug. '69), describing how participants cared as much for process as for product.

The finished project was honored last fall in a national design awards program for nonprofit low- and moderate-income housing (sponsored by the AIA, National Center for Low- and Moderate-Income Housing, Na-

tional Urban Coalition, and Urban Design and Development Corp.) But Woodlawn Gardens is not yet a finished product; the flow of process continues.

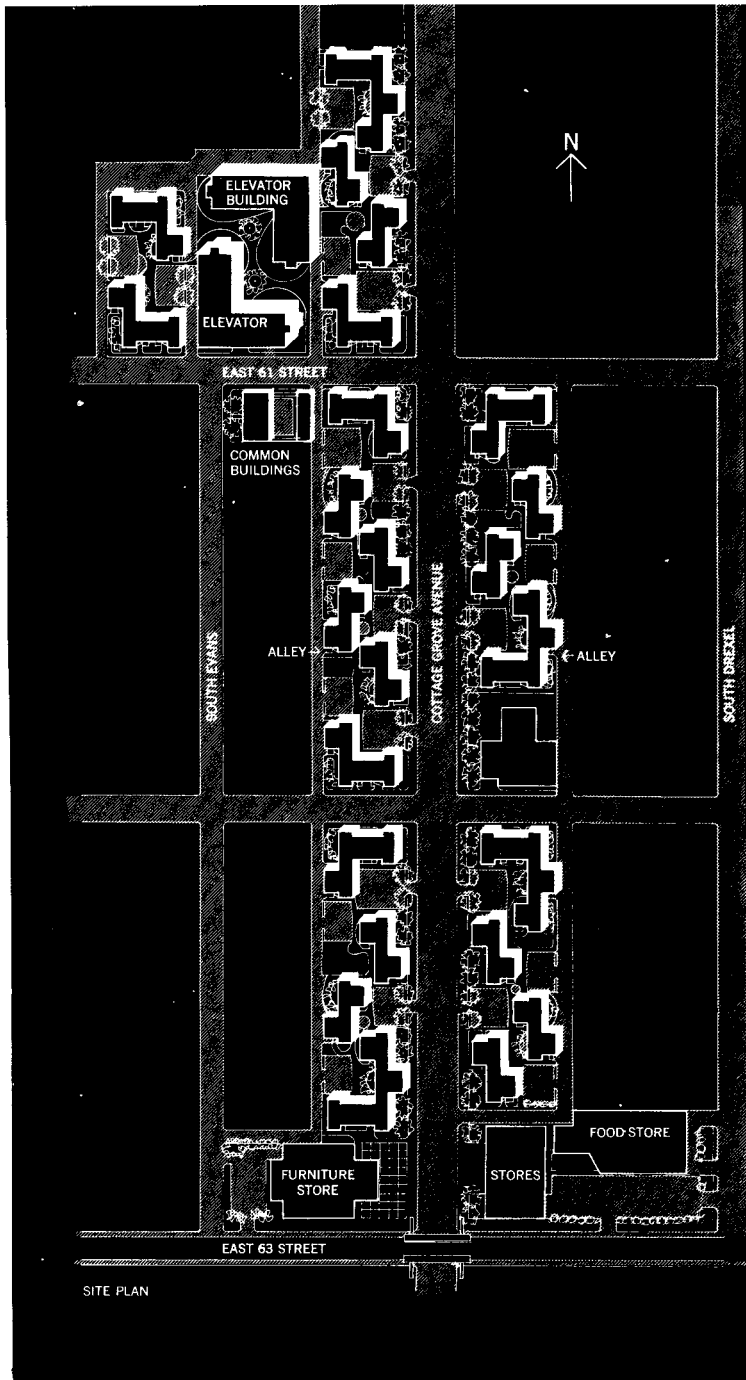
The architect, Stanley Tigerman, gave each building its own open space. And even in this narrow site (only one-half block deep on each side), an alternate pathway weaves through the development parallel to the street. But the sheer number of people in 504 units (especially the many children) will overtax the ground area. Tot-lots were

worked out with the residents, and a grant has just been received for day care. Five block clubs are functioning. But Tigerman is disappointed in the lack of professional programming for the community building.

A nonproject atmosphere was the aim—no highrise, no corridors, and all apartment doors visible from outdoors. Thus, although the unpretentious buildings may look very "project-like" to some, they are the antithesis of Chicago's public housing. (The density of Woodlawn Gar-

dens is 55 du's per acre, higher than the average 45-49 du's in Chicago's postwar public housing.) It is hoped that the different pattern of coverage—and ownership—will keep Woodlawn Gardens from becoming another kind of "typical project." Social and economic factors are as crucial as the physical ones.

Only 20 per cent of the units are subsidized by the Chicago Housing Authority, reduced from the anticipated 50 per cent. Families most in need are thus in a minority. The 28 vacancies are





In the "systemless system" designed by Tigerman, a T plan is the basic unit of six apartments. The stem of the T is a blank wall facing the street or backing up to another T. In hindsight the architect thinks the kitchens should have been larger, family-sized. The builder thinks the structure should have been concrete. Brick was chosen, among other reasons, as a more feasible medium for small (black) contractors. The large-scale "engineer" brick tends to reduce the overall scale of the buildings. In the design award given to the project, the exterior expression is cited as that of "no-nonsense, dignified, purposeful inner-city dwelling." Jo Ann Tigerman was interior designer of the inexpensively furnished model.

all in 3 BR apartments, renting for as much as \$168. The triple trouble in filling these is that there must be a certain family size, and a maximum income of \$11,500. "We're thinking of asking the FHA to let us rent them as 2 BR's," says E. Duke McNeil, president of TWO. And high as \$168 is, the project will need a rent raise from FHA to meet its mortgage payments, comments Bennet Greenwald of Metropolitan Structures. (He points out that FHA's not unreasonable policy is to

deny a raise unless the project is full.)

The shopping plaza, an integral part of the project, has 11 of its 12 stores operating (11 of the 12 will be black-owned). The supermarket is a "business marriage," as McNeil calls it, between TWO and the Hillman food chain; TWO put up money for a two-thirds ownership. A similar venture between TWO and a national oil company will be an automotive training center a block away from the Woodlawn Gardens development.





One of the nation's strongest community organizations, TWO is about to break ground on another project (320 units in a 12-story highrise and row houses) and is planning a third project for 105 units. Both are by black architects.

The Kate Maremont Foundation, co-owner with TWO of Woodlawn Gardens, has closed its office in Chicago and ceased its program in new and rehab housing. Arnold Maremont cites red tape, and the need to build at huge scale, among the diffi-

culties in building housing.

A more successful story concerns the 40 per cent of the job's subcontractors who were black. A consortium of four electrical contractors is still in business. A masonry sub is working on a large downtown office building. In most cases, says Greenwald, the black subcontractors started out slower; by the end of the job this was no longer true. (One sub—white, incidentally—went broke on the job.) With the black subs, says Greenwald, "the big

problem was never the work, it was paper work, organization and money management. We didn't help on this; it wasn't our job. We helped them on pricing, sitting down and negotiating a contract. And we called banks to get loans for them; but once they got it, it was their job. We didn't do anything special. But we'll continue to use them because they're good—a good sub is hard to find."

A good community is hard to find. Almost ten years in the

making, this could well be one. Time will tell.

—ELLEN PERRY BERKELEY

#### FACTS AND FIGURES

Woodlawn Gardens, S. Cottage Grove Ave. 60 to 63 Sts., Chicago, Ill. Owner: TWO-KMF Development Association. Architect: Stanley Tigerman (Richard Rothman, job captain). Engineers: The Engineers Collaborative (structural); Wallace & Migdal (mechanical and electrical). Interiors: Jo Ann Tigerman. General contractor: Metropolitan Construction Corp. Building area: 475,007 sq. ft. Construction cost: \$7,502,620.

(For a listing of key products used in this building, see p. 72.)

PHOTOGRAPHS: Philip A. Turner.









# NEW YORK, N.Y.

Design for a 1,600-unit East Harlem project has emerged from administrative limbo in completely revised form

It is not unusual for a housing development in New York City to be delayed for eight years, but it is rare for a project to emerge from limbo completely reshaped by the preferences of its residents-to-be. The East River Project, a 1,600-family middle-income cooperative designed by the Hodne/Stageberg Partners, went through just such a transformation.

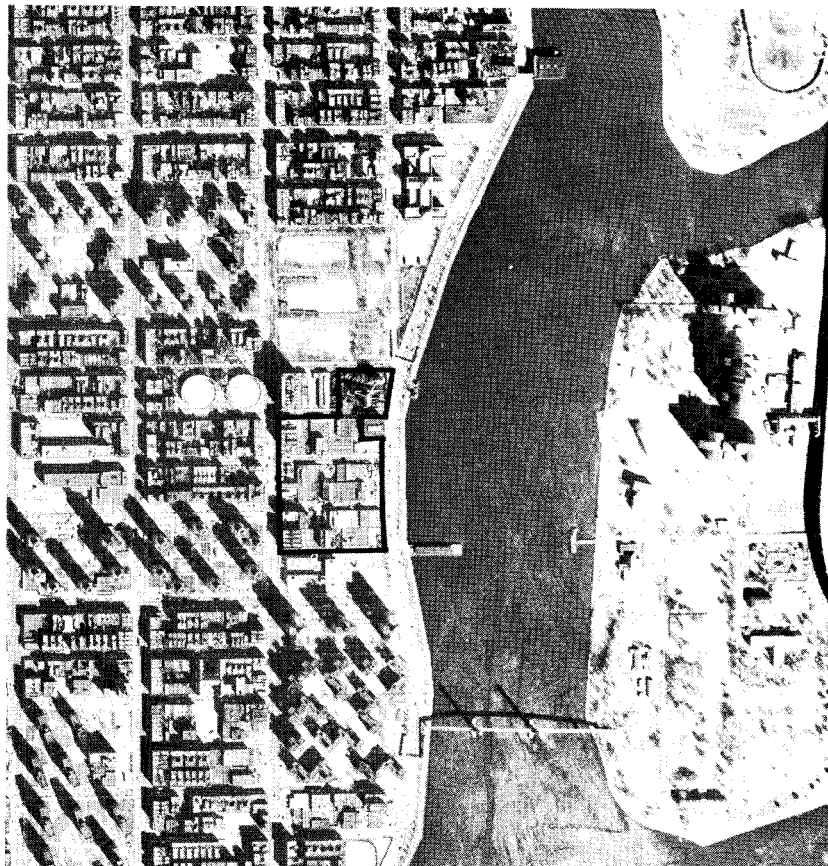
A comparison of the scheme now under construction (left) with the competition-winning design of 1963 (below right) illustrates some major changes in housing design during the years between. The 1963 solution represents the most advanced planning theory of its time—as understood by the jury for the nationwide Ruberoid Competition.\* This theory was based not on earlier visions of the Radiant City, but on observations of existing urban patterns by Jane Jacobs and other writers.

By 1968, however, when a sponsor for the project was finally selected, planning practice had changed again; now theory—any theory—was subordinate to user preferences. The radical revision of this design was not due to any major change in the program, or in the architects involved, but to the convictions of the sponsor, Local 1199 of the Drug and Hospital Workers Union. This organization has 1,500 members living in East Harlem and 4,000 working there, and its leaders know the life styles and ambitions of East Harlem residents from personal experience.

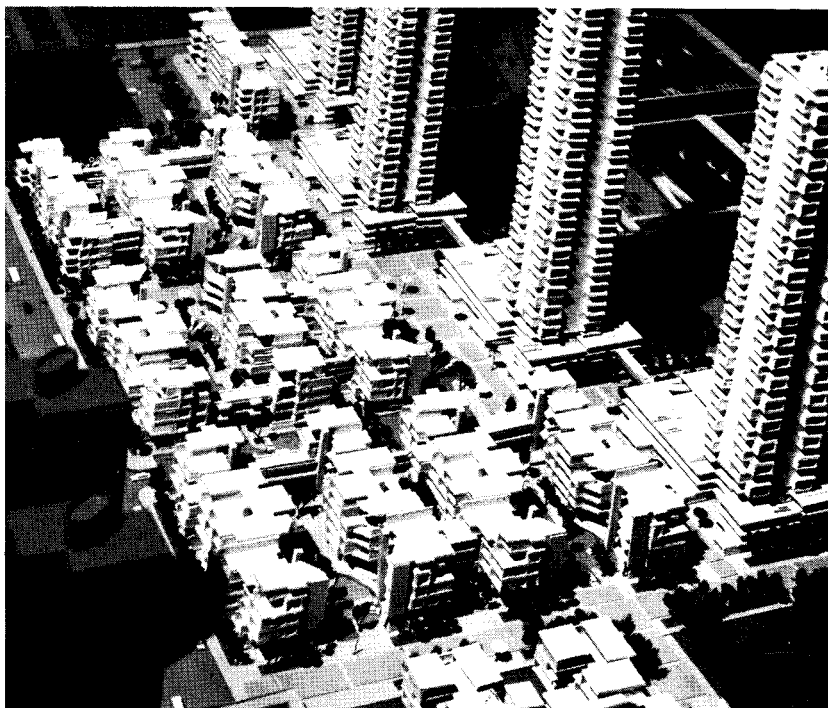
Such local input counted for little in the 1963 contest, which sought instead “the fresh thoughts, ingenuity, and talent of architects from all over the nation.” The winning team, headed by Thomas H. Hodne of Minneapolis, proposed to cover most of the site with six-story buildings housing a fine-grained mixture of uses. Streets lined with small shops were to penetrate the complex, widening in places to form sitting areas or automobile turn-arounds—all under the watchful eyes of low-rise apartment tenants. To fit in the required 1,500 units, the architects added four slender towers along the river.

The jury felt that the unique

\*Jurors: Albert Mayer, David A. Crane, Harry Weese, Milton Mollen, Lewis E. Kitchen, Sir Leslie Martin, Herbert J. Gans, B. Sumner Gruzen.



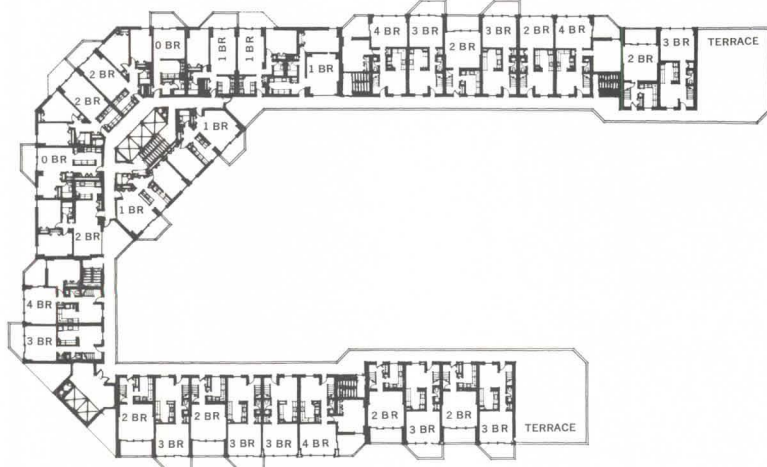
The four U-shaped housing blocks (model, left) are shaped and staggered to take advantage of views south along the East River (aerial photo, top right). Only 96 families had to be relocated from the four-block site; two valuable industrial buildings will remain. The original, competition-winning scheme for the site (below right) was favored by experts for maintaining the traditional street pattern and scale of East Harlem, which potential residents of the project found unattractive.





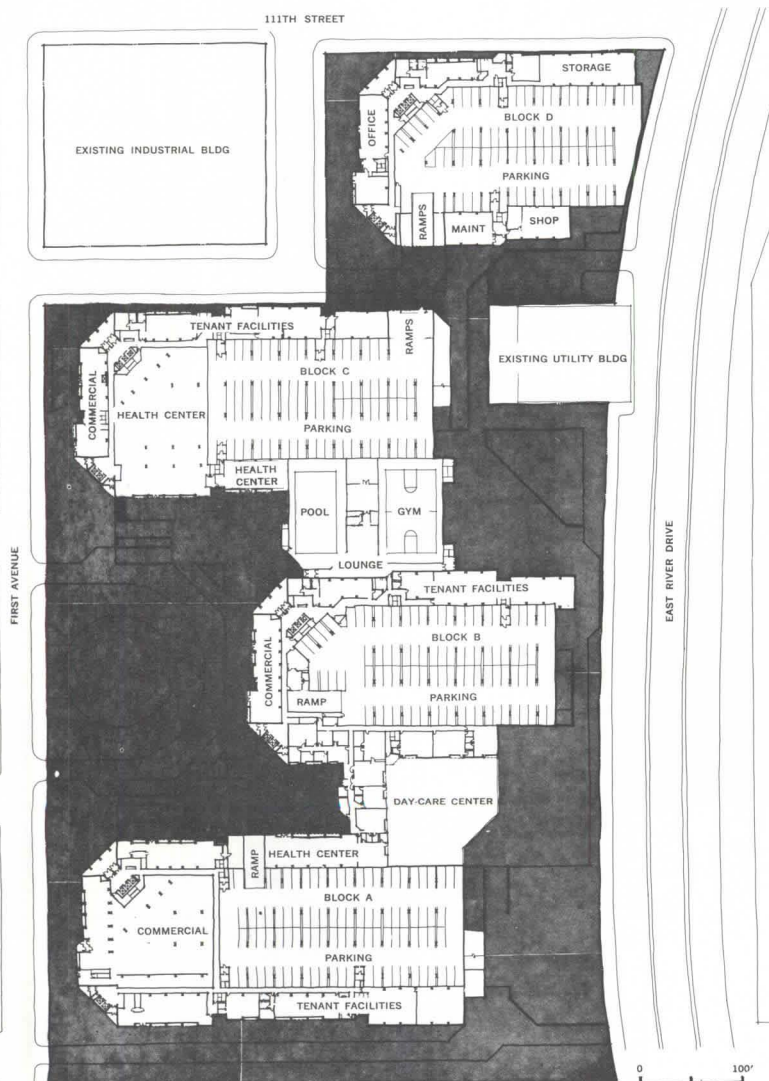


28TH FLOOR, BLOCK A, B, C



6TH FLOOR, BLOCK B

0 50'



Highrise apartments will share common rooms at the top of each tower. Duplexes in the low wings will have open corridors leading to terraces facing the river. Each terrace will have a central, all-purpose wood platform—differing in color and geometry from all others—and a minimum of perishable planting. At the base of buildings will be two levels of parking, plus extensive community and shopping facilities open to the neighborhood.

character of the low-rise structures, plus the four "striking" towers, would "generate a feeling of pride, without, however, alienating the development from the texture of the surrounding areas of East Harlem."

In actual fact, almost all of this old neighborhood texture had been removed from areas around this site to make room for highrise housing, schools, and a riverfront park. What is more, union members and community representatives (on a joint board set up to oversee this project) were opposed to perpetuating the texture of the old tenement streets. They didn't want apartments in intimate contact with noisy streets. Like residents of New York's "luxury" apartments, they wanted security (for themselves and their cars) and they prized the views from the site. "It's such a wonderful view: why should we keep people from seeing it?" asks Doris Turner, head of the union's hospital division (who was a \$30-a-week hospital worker herself a few years ago).

When the architects resumed work, with the actual sponsors, they decided to pull the low- and highrise portions together into four large buildings for the sake of security (controlled access) and convenience (shared elevators). The elevator cores—hence the tower portions of the buildings—were placed logically near the normal points of access along First Avenue. Large units for families were still concentrated on the lower floors—in wings reaching out toward the river, where views are good even from lower elevations.

Units in the lower wings are all duplexes, entered from open corridors that run around the U-shaped court at the center of each building. At either end of these galleries are large terraces overlooking the river, easily reached by tricycle from any apartment.

Reasonable as the design may seem, it includes many features that city and Federal authorities found hard to accept. (The project is assisted by the city Mitchell-Lama program, which makes mortgage funds available, and The Federal 236 program, which reduces interest on these loans.) Among the controversial features were the many duplex units (25 per cent of the total), the large proportion of three- and four-bedroom units (17 per cent), the separation of dining space from

living rooms in most of the duplexes, the large rooftop terraces, and garage for 685 cars.

In addition, the project includes such amenities as an Olympic-sized pool, a large gym, a multipurpose meeting hall, and the shells for a 20,000-sq.-ft. health center and a 12,000-sq.-ft. day-care center. All of these fell within overall cost ceilings for the 1,600-unit development but only union intransigence kept them from being stricken from the plans. "If the union could only put up apartments—if they could not influence the quality of life," says Hodne, "they were not interested in proceeding."

Medical and day-care facilities will be open to the community at large, as will the 27,000 sq. ft. of retail space extending along First Avenue and around the two-acre plaza which the architects call "a welcome mat" for the project. Beyond this mingling space, however, the project's open areas will be accessible only to residents (which will include many low-income families receiving rent supplements).

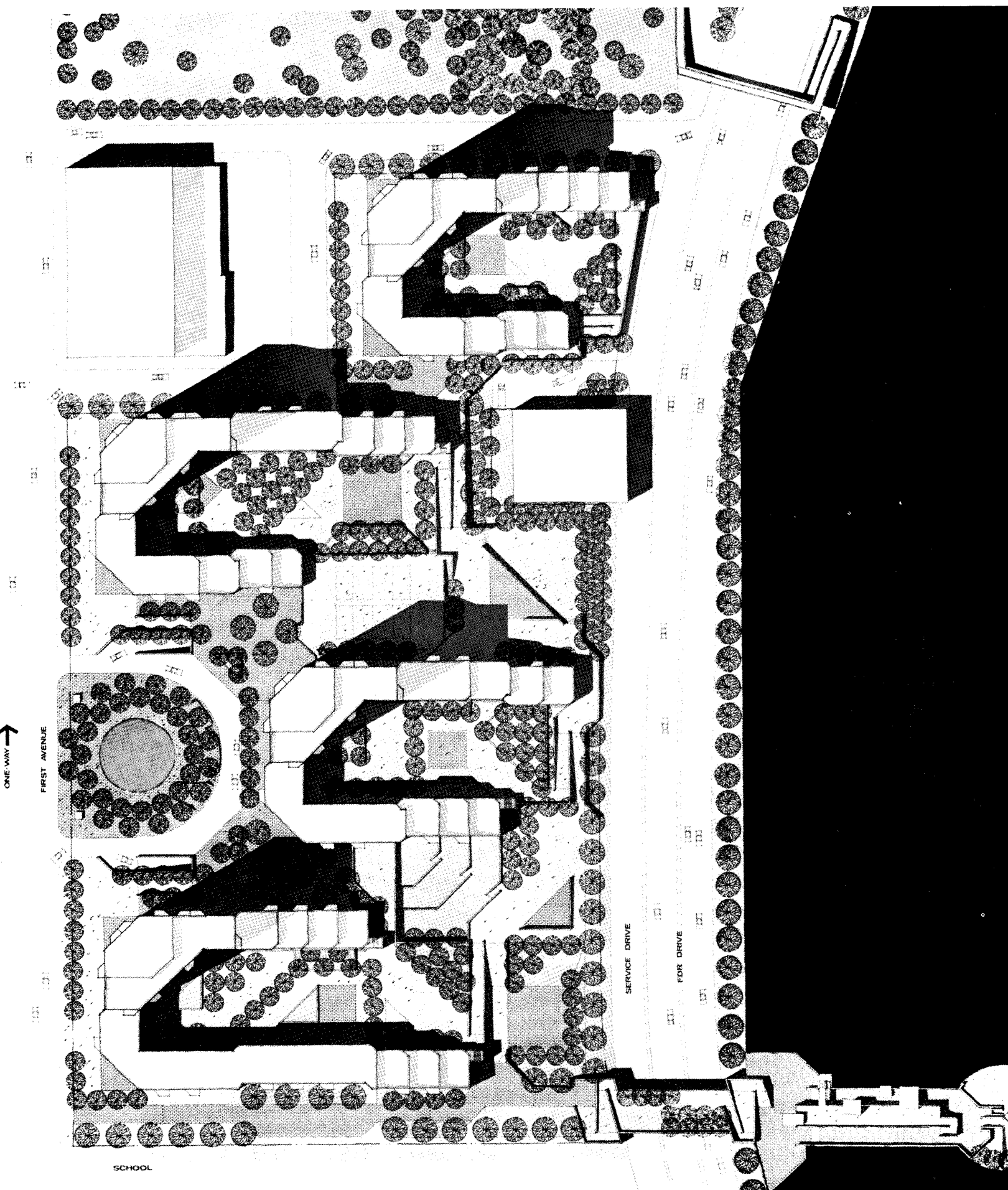
To discourage criminal behavior originating inside the 6,000-person enclave, several deterrents have been built into the project itself. The U-shaped courts will be under informal surveillance from galleries and terraces, all of which will be visible from other galleries and terraces. And all galleries will pass apartment windows.

Local 1199 could have chosen, like other union sponsors, to build in an area that at least seemed safer. But union members in East Harlem want comfortable apartments near their work, their friends, and familiar shopping areas. "Running away is no solution," says Leon Davis, the indomitable, gray-bearded president of 1199. "A union should give people a feeling of what they can do in society."

#### FACTS AND FIGURES

East River Project, New York, N. Y.  
Sponsors: The 1199 Housing Corp.  
Architects: The Hodne/Stageberg Partners (Thomas H. Hodne, Jr., partner in charge; Vern E. Svedberg, partner, project director). Consulting architects: Ifill-Johnson-Hanchard. Planning consultant: Albert Mayer. Landscape architects: Herb Baldwin; Coffey-Levine-Blumberg. Engineers: Robert Rosenwasser (structural); Arthur L. Zigas (mechanical and electrical). Developers: Douglass Urban Corp. Builders: Cauldwell Wingate Co. Site area: 11.6 acres. Dwelling units: 1594. Estimated construction cost: \$58 million.







# AUSTRALIA'S TERRACE HOUSES

Sydney's ornate fronts reflect 19th-century optimism

BY KEN WOOLLEY

The City of Sydney is surrounded by a ring of old inner suburbs, originally built for town residences, later declined into slums, but now undergoing a wave of regeneration due to a belated recognition of their virtues. The buildings—known as terrace houses—share with the other older cities and the large country towns of Australia, qualities which are of contemporary interest. They are, of course, a manifestation of all the virtues and defects of the bustling, 19th century pioneering society; with our affluence and modern plumbing it is easy to forget that behind the ornate facades of these middle class townhouses there existed poverty, mean hovels and the night soil carter.

Nevertheless these terrace houses were built in a period of tremendous optimism which can be seen bursting forth in a riot of decorative plaster and cast iron; yet an essentially practical and resourceful attitude can also be found running through every detail. Created in the period of colonial migration, gold rushes and mining booms, these suburbs were largely the result of land speculation and investment by small developers. The texture of the environment has all the vitality to be expected of low-rise, medium-density, mixed-use development created over the course of a prolific century. A fair sprinkling of Georgian houses and shops in gentle sandstock brickwork, dressed stone and "temporary" weatherboards occurs among the row houses, corner shops and pubs of the Victorians. This is fairly typical in the Australian cities but in Sydney there is something else.

A combination of topography and the uniquely Australian variation of the row house produced

some of the most visually interesting architecture in the world.

Although they are called terrace houses, they do not overlap. The name comes to us from the builders, appearing proudly in plaster as "So and So's Terrace" on the central parapet of many groups. It was probably intended to invoke the Regency concept of formal streets.

19th century row houses throughout the world are characterized by masonry cross walls separating individual dwellings on narrow sites, and unified by cornice lines, repetition of entries and windows, and by prominent chimneys. They are generally two rooms deep with a narrower wing at the rear; and the height bears a relationship to the social status of the occupants, more stories meaning more servants.

The orderly attitudes of the time made streets level and straight, removing articulation of individual house units in favor of street-scale elevations. Balconies, porches and bow windows were built for viewing the passing parade or for sitting out in hot climates, but seldom, apparently, for sun control of the rooms behind.

At the beginning of the boom period, when Australia was changing from a convict depository, a more conscious effort was made in town planning, resulting in the adoption in 1838 of a derivative of the London Building Act—essentially a fire code requiring parapets above the roof level of adjoining buildings and separation of projecting verandas. The party wall, invisible in Georgian architecture, was brought out into the open.

Cast iron railings were also a universal fashion; but compared with the ironwork of New Orleans or of Paris, the Australian ironwork dominated the facade, due to the concentration of railings, friezes and columns contained between the extended cross walls.

To the Victorian eye, this ironwork was the main decorative element and deserved embellish-



Mr. Woolley is an architect who graduated from Sydney University in 1955 and is now a member of the firm of Ancher Mortlock Murray & Woolley, Architects and Planners of North Sydney, Australia. Their office is in a group of three converted terrace houses.







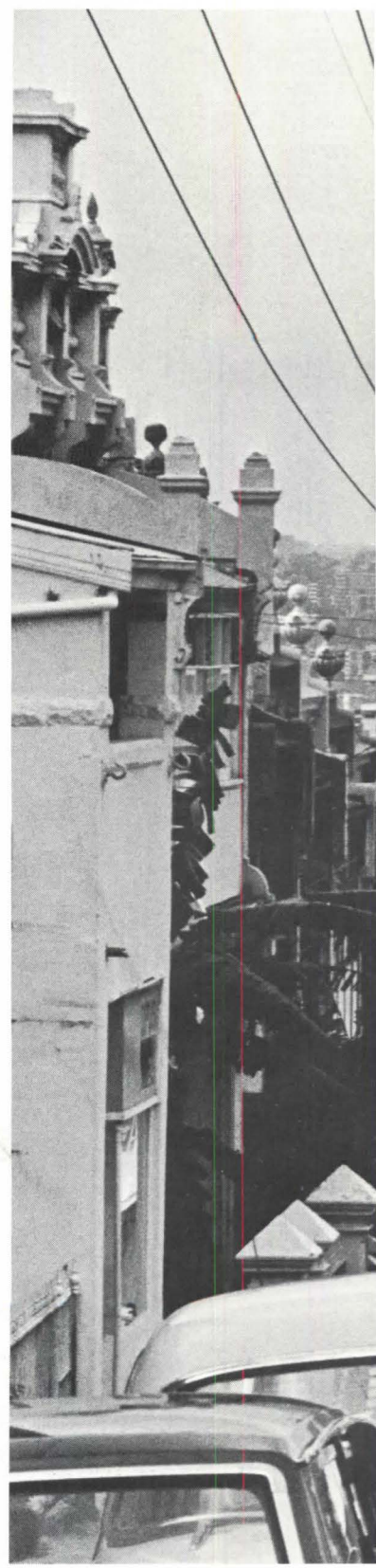


ment. And so it flourished, with myriad patterns and unique coarseness of detail, perhaps unconsciously increasing its effectiveness as sun shading. The cast iron balconies add to the emphasis of the cross walls by diminishing the effect of the solid front wall. The iron itself, being half solid, half void with an overall undistinguished pattern and frilly undefined edges, forms a screen and casts a dappled, broken edged shadow on the wall behind. As a result the balconies look deeper than they really are and the front walls are lost.

Sydney is unique in the configuration of the inner suburbs; for its steep hillsides drop down from narrow ridges to the convoluted harbor shoreline.

The streets wind, twist and drop, forcing improvisation on the builders. As the housing was built mostly by small investors, it was in groups of about three to twenty so that individual solutions had to be found for particular siting problems within the constraints of the fashionable and acceptable. The result was a further emphasis on the individual house element, for houses had to step down by several feet in relation to each other—and also to step forward or back because their boundary lines were not at right angles to the winding streets. The cross wall, under such conditions, becomes absolutely dominant with obvious similarities to some of our contemporary solutions.

Plastered brickwork was used almost exclusively until the later part of the century, being cheap, plentiful and having the necessary decorative potential. It also helped builders to overcome problems of form which did not have ready-made solutions in any established style. Such solutions had been found in the organic Mediterranean towns, with which Sydney has strong similarities. Bearing in mind that architects were not involved in this work, and that all the components were of standard sizes and detail, the results are









ingenious, innovative and consequently topical. They result from exposing the third dimension of a fashionable style which was two dimensional having much in common with the flat facades of frontier towns.

A typical street elevation of a set of terrace houses consists of a two-story wall with a shallow timber balcony faced with cast iron railings, posts, brackets and friezes and fronted by a yard with railings and gate.

The balcony has a corrugated iron roof in a simple catenary shape, or in a bullnose or ogee. Above, on the main wall line, there is a plaster parapet, or—in more modest houses—the simple eaves of a slate roof rising to a transverse ridge. At the rear is a projecting two-story wing at a slightly lower level and often behind that a single-story lean-to outhouse.

The end wall of a group of these houses, reflecting this cross section, was frequently exposed in an unpredictable way. Sometimes it formed a street corner, or it would be next to a group of terrace houses with different proportions.

So an extraordinary informal elevation was created by the exposed flanks of pretentious, ornate facades. As the front section of the side wall was most frequently visible much attention was paid to decoration in that area.

Originally these houses were painted in Victorian browns and ochres, but now they are mostly white. The old colors remained undisturbed until European immigrants arrived after the Second World War; and being mostly from the Mediterranean area, they painted them in extraordinary hues, such as one sees in Athens but not in Mykonos. Among the old brown houses they looked marvelous and still remain, in pockets of sea green and turquoise, blue, violet, red and green.

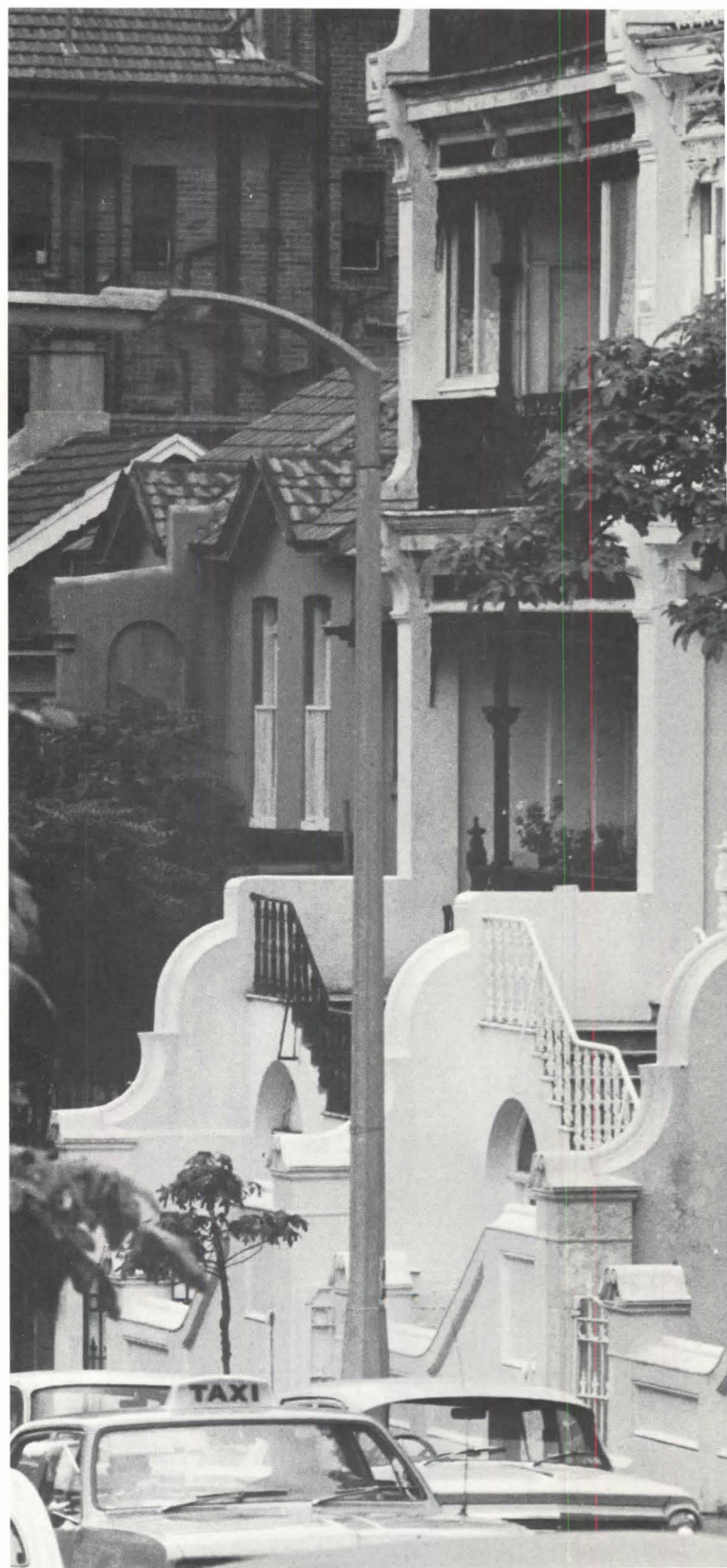
The more recent regeneration resulted from a combination of land shortage within easy travelling distance of the downtown

area, the return of awakened young Australians from their service overseas, and the overflowing of adjoining fashionable suburbs. Paddington was the first suburb in Sydney to be revived. It has now gained social status and become expensive, and the acceptability of town housing has increased to the point where the movement has spread to similar suburbs.

The result could be a regeneration of most terrace housing. However, this inheritance is threatened from within and without, on the one hand by misunderstanding of the real values in the style leading to unsympathetic restorations, and on the other hand by zoning which assumes terrace houses to be slums and provides an incentive of higher density for redevelopment. Paddington has been saved, after the first intrusions of multi-story apartments, by local pressure forcing rezoning; but an even more exciting suburb, Balmain, is doomed unless something is done.

There is no count of terrace houses except for an old survey of substandard dwellings based on lot size, which is misleading. There are undoubtedly many thousands of these houses, one of the most valuable inherited housing stocks in the world. Yet we destroy them by the thousands, replacing them, under outdated uniform zoning, with barren boxes of apartments perched over cars and surrounded by little lawns, bush rocks and concrete. When we restore the terrace houses we often restore them to the wrong period, nor have we solved how to accommodate cars in or near them. While the vigorous vulgar styles of the recent past are still fashionable, we must act to remove density incentives, close streets for parks and put cars on the land occupied by the really substandard buildings, old and new, at least until we can do better ourselves.

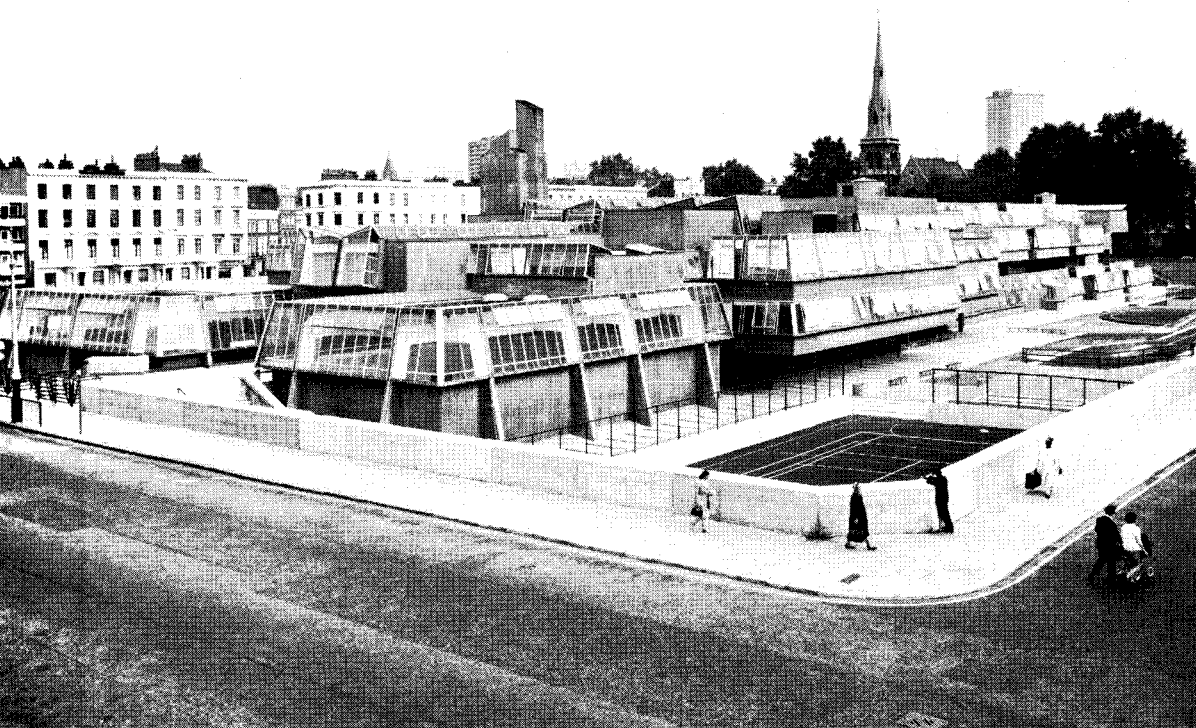
PHOTOGRAPHS: Page 46, Peter Blake; pages 48 and 49, Harry Sowden; page 50, the author.











## PIMLICO COMPREHENSIVE

London secondary school is  
a rugged, controversial  
experiment in Brutalism

The school sits in what is, in effect, a 4½-acre sunken court. Pedestrian access is to the second floor level, as shown in the picture at top of page. Opposite: view at second floor level. Classrooms are framed like greenhouses, in aluminum and glass.

Any visitor to London who is interested in what's been cooking there recently on the front burner, architecture-wise, is likely to be dragged off by his or her friends to see the Pimlico Secondary School built by the Inner London Education Authority, and opened to 1,725 boys and girls between 11 and 18 this past September. It is a fascinating piece of work: brutalist, in many ways innovative, and quite controversial.

It is brutalist—i.e. raw, abrasive concrete; industrial-type aluminum sash; and jagged shapes and forms—as these photographs show.

It is innovative, at least by British standards. But some critics feel that the innovations are far from radical. (More about that below.)

And it is controversial for several reasons, one being that, according to *The Times* it is "the most expensive school for its size in London to date."

The plan of Pimlico Comprehensive (as it is also known) is somewhat unusual: there is a circulation spine that bisects the tight, 4½ acre site; and along this are strung out various classrooms and other facilities. When the site, a small city block, was cleared, the lowest level of the houses that formerly occupied it was found to be about 10 feet below the level of surrounding sidewalks. So the school sits in a block-sized sunken court, ringed with parapets. This court contains various outdoor exercise areas, as well as some parking. Inside, at this sunken level, there is the gym, a pool, and various crafts and science workshops. (See bird's-eye view, left.)

The entrance level is really that of the second floor—which is on grade with the surrounding sidewalks. This level is taken up almost entirely with a long and generously wide corridor, off which there are clothes lockers and, at one end, a cluster of four dining rooms. The latter are duplicated on the next floor up, with classrooms strung out along the central hall on this level. On the fourth floor the central hallway or spine disappears (a system of secondary, localized "dog-leg" stairs provides access to this level) and the classrooms here are grouped together and can be divided up to accommodate groups of varying sizes.

In form and finish the school is a very self-assured piece of







architecture. "The faceted glass form of the building is complementary to the older adjoining buildings," the architects say, "and has sufficient complexity to counterbalance their greater bulk. The modelling is continued over the adjoining parts of the site by paving and grass at various levels for walking and sitting." Still, there is something a little curious about this British brutalism: it is, at Pimlico Comprehensive at least, only skin-deep. The outside is aggressively proletarian—and this is intended as a compliment; but the interiors of the school are neat, clean, affluent and middle class.

In certain aspects of its plan the building is quite innovative. The auditorium at the third floor level, for example, is a large, square space with a sunken arena floor that permits all kinds of dramatic and musical performances. Curtains can be used to form a proscenium, and modular boxes to form a stage for more conventional theatrical productions.

One school operation implied in the plan has not been implemented by the headmaster: the 8 dining halls on the second and third floors were meant to become centers for 8 separate "houses" of 200 pupils each—with food service from the kitchen on the lowest level. The headmaster decided, instead, to use these 8 spaces for additional teaching areas, and to rely upon a cafeteria system to feed the pupils. Whether or not this will work remains to be seen.

In one respect, at least, the school does not appear to be "innovative" to some critics. A German observer comments that the plan, with its separate entrances for teachers and pupils of different age groups, is a reflection of certain "elitist" tendencies in British education; and that reserving classrooms adjacent to the library for older pupils is further reflection of such tendencies. The comment seems a bit far-fetched and possibly grounded in a misconception of the nature of modern public education in Britain. Circulation problems in a school used by close to 2,000 people are immense, and sorting out different groups and directing them to different areas within the building seems a reasonable solution.

So far as the cost of the building is concerned (allegedly

high, as mentioned earlier) it should be said that placing a building of this size and complexity on so tight a site is bound to cost a little more. Initially, the London County Council proposed to build a tower on this site to house all the needed facilities; but this might have been even more costly in view of the need for elaborate vertical transportation systems in such a scheme. Pimlico Comprehensive, as built, uses circulation spaces as assets rather than necessary evils, and the school is a better building for that.

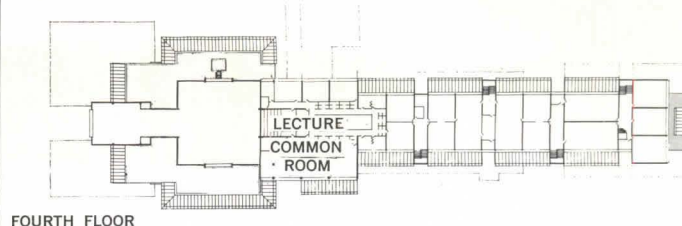
As the photographs on these pages show, the school's classrooms have been treated almost as if they were greenhouses. The effect is quite remarkable: a reporter writing in *The Times* compared the school to some sort of "futuristic aircraft-carrier temporarily settled in dry dock below street level of St. George's Square. . . . As I sat in one of the bright red moulded plastic chairs in a classroom," he continued, "with all that sky (visible above), I had a curious lopsided sensation of being about to fall overboard." One feels that Pimlico Comprehensive, apart from being a very efficient educational plant, is a great deal of fun to learn and to teach in.

#### FACTS AND FIGURES

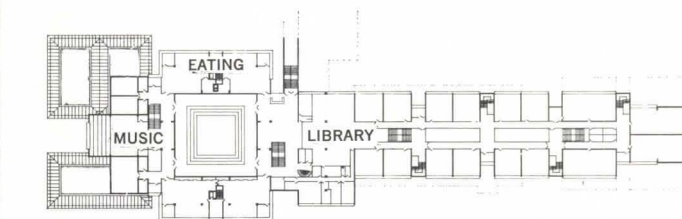
Pimlico Secondary School, London, for the Inner London Education Authority. Chief Architect, GLC: Sir Hubert Bennett; Deputy Architect: Jack Whittle; Education Architect: Michael Powell; Schools Architect: Cedric Hartland; Assistant Schools Architect: James Pace; Job Architect: John Bancroft. Quantity Surveyor: M. F. Rice. Structural Engineer: E. W. Bunn. General Contractor: W. J. Simms, Sons and Cooke Ltd. Building Area: 135,124 sq. ft. Net cost per sq. ft.: £515s.

PHOTOGRAPHS: Sam Lambert

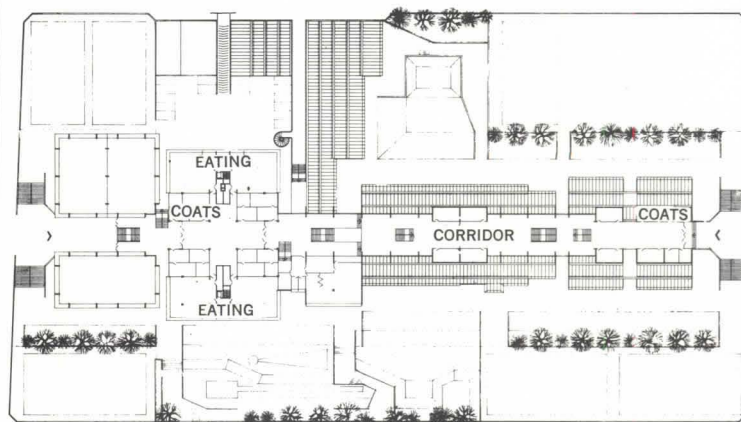
Plans show the wide circulation spine off which are strung classrooms and other facilities at various levels. Photos (opposite page) show one of the two principal entrances framed between glazed gym and pool; and various interior spaces: the library on the third and fourth floors, and a typical classroom. Exterior view documents the multifaceted forms of glass and ribbed concrete. The sunken court in which the building sits has been divided into areas for different outdoor activities.



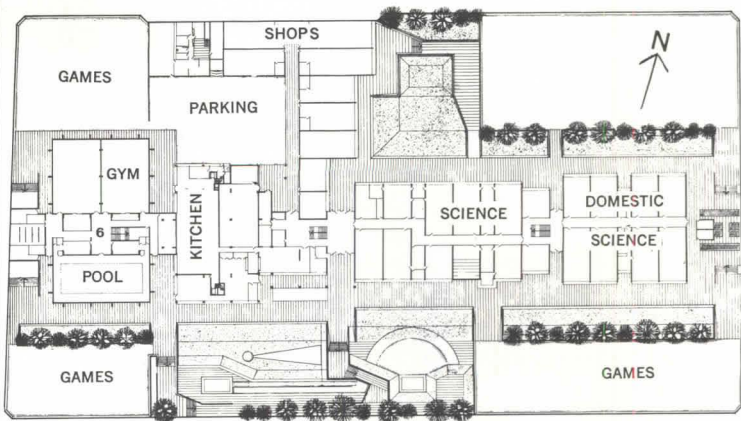
FOURTH FLOOR



THIRD FLOOR



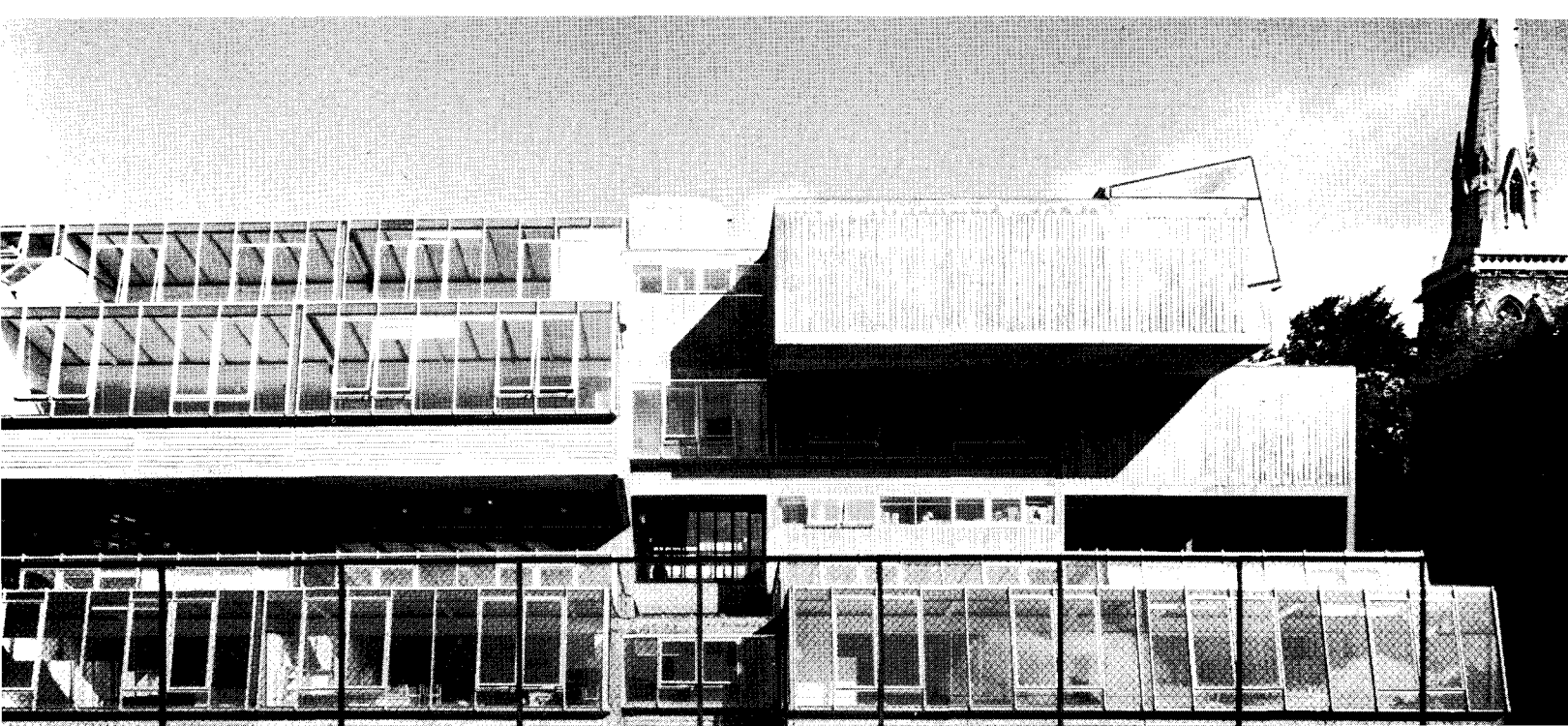
SECOND FLOOR



FIRST FLOOR

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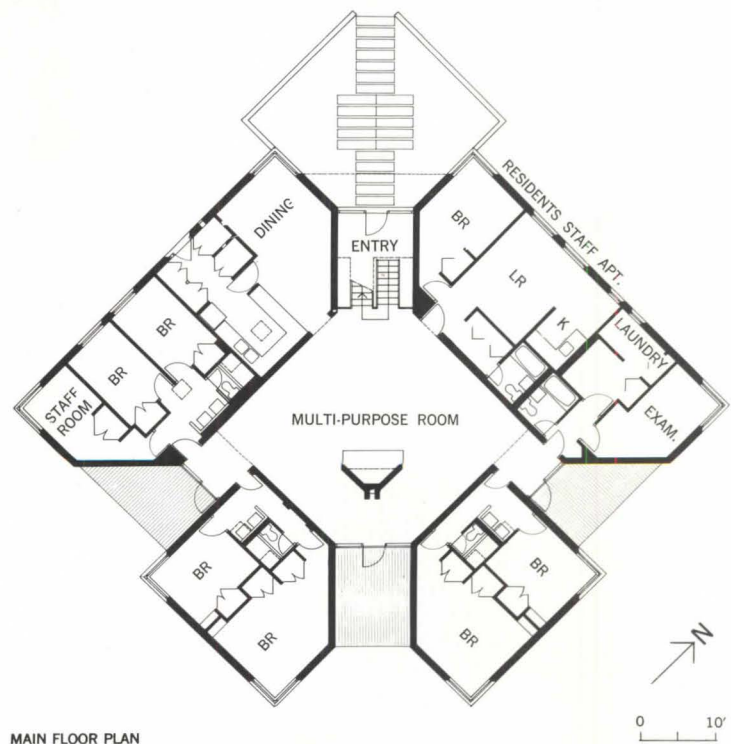






## A HOUSE IN PLACE OF HOME

New residence for underprivileged children is a prototype that has taught some useful lessons



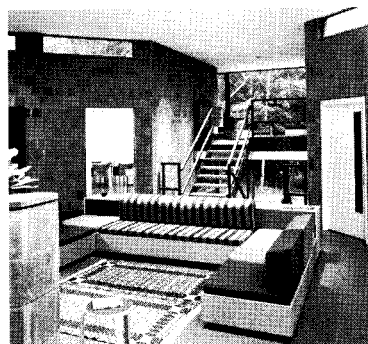


The Children's Aid Society (CAS) is a private, New York-based organization which spends some \$5 million a year helping underprivileged kids in innumerable ways. One of those ways is to house children from broken homes in the new "residence" shown on these two pages—a rather unusual building that was opened last year and now houses eight kids and two social workers who take care of the children until permanent foster homes can be found.

The building is located near one entrance to a wooded, 41-acre Staten Island estate. Davis-Brody, the architects, were asked by CAS to develop a master plan for the use of the estate, and this building is the first visible result.

The key concept was to produce something as unlike an institution as possible—to create a real home for these kids that would include privacy for each, as well as a common living area. The resulting plan (opposite page) is, roughly, a square with a central living room, ringed by four clusters of bedrooms and other, more private areas. The living room is taller than the rooms surrounding it, and is thus lit, in part, through clerestory windows. Each corner of the square plan has been notched out to form an entrance or a porch; and glass doors at these notches bring additional light and pleasant views into the central living area.

This is the first of four similar residences planned by CAS, and it turned out to be a useful prototype for architects and clients alike. The basic plan seems to work extremely well, but some of the finishes and details have not stood up adequately to the rough usage they have received. The jumbo-sized brick-block seems to be indestructible, inside and out; but smoother, painted interior surfaces, and ordinary domestic hardware have taken quite a beating. The building was designed to house children between 5 and 10 years old; instead, it was initially occupied by kids in their late teens, and the building shows the imprint of their far-from-dainty hands. All in all, however, this is a most successful structure, and its three successors will be similar to it in all but a few minor details in finishes.



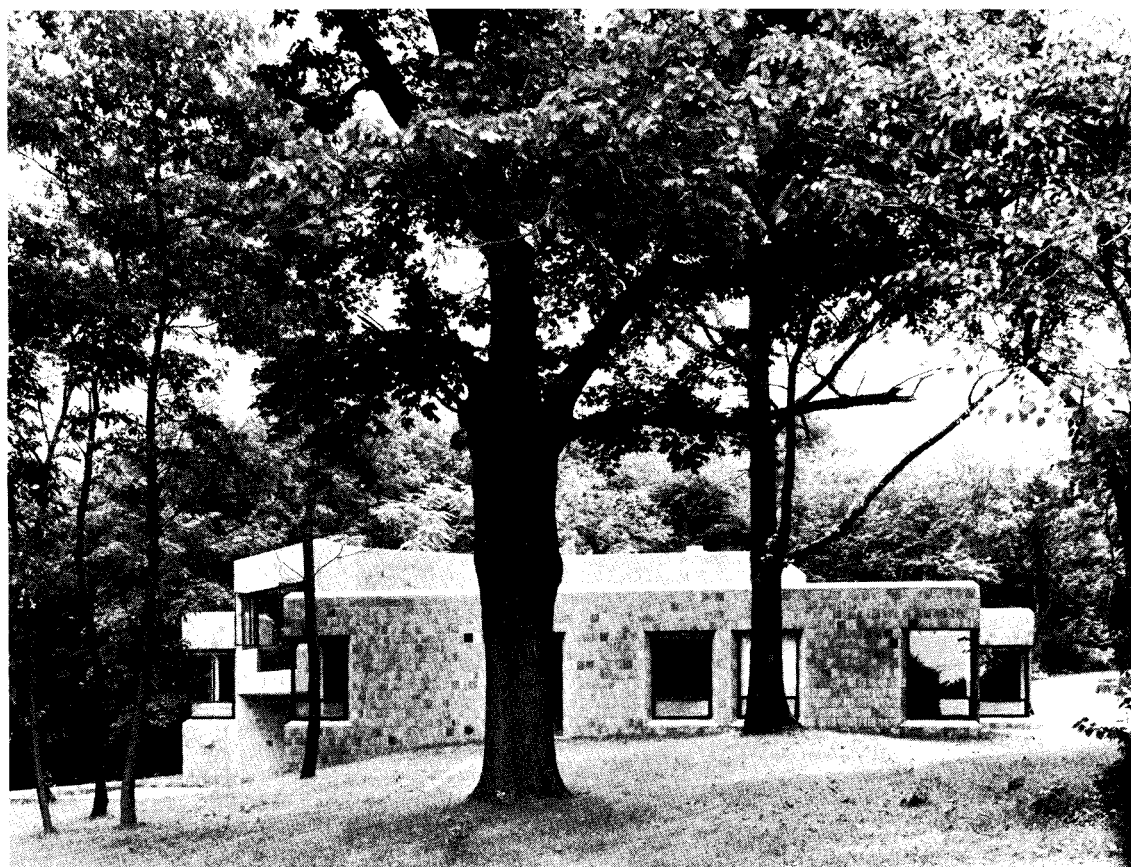
Central living room (opposite page) is used for reading, games, listening to music. It is ringed by single and double bedrooms like the one shown above. These bedrooms are arranged in four clusters, two of which also contain a kitchen and dining room, and a staff apartment, respectively. This first residence sits on a sloping site and is entered from a half-level below. The space over the lobby is used as a separate, more intimate living area (see photo at left). The view, below, shows main entrance to the residence from the bottom of the hill at the far left.

#### FACTS AND FIGURES

Group Residence, Staten Island, New York. Owner: The Children's Aid Society. Architects: Davis, Brody & Associates (Brian Smith, Senior Associate in charge). Engineers: Wiesenfeld & Leon (structural). Arthur L. Zigas (mechanical and electrical). Landscape Architect: A. E. Bye Associates. Interior Designer: Rosanne Gordon. General Contractor: Max Drill, Inc. Building Area: 4,215 sq. ft. Construction Cost: \$193,174.

(For a listing of key products used in this building, see p. 72.)

PHOTOGRAPHS: Norman McGrath





# TECHNOLOGY

**Operation Breakthrough has not revolutionized the home building industry, but it is helping to loosen some constraints**

"The reports of my death are greatly exaggerated," cabled Mark Twain once from Europe. And reports that the federal government's Operation Breakthrough is dead or dying seem similarly exaggerated.

It is true that \$20 million and almost two years after the Department of Housing and Urban Development (HUD) announced the program and goals of Operation Breakthrough, it has yet to produce a single housing unit. It is true that the program is running about 18 months behind its original schedule; that two sites have been dropped from the original ten; that some manufacturers may yet be dropped by HUD or get out of their own volition; and that HUD's supply of money and staff is short.

But Breakthrough nonetheless is having an impact on the fragmented, handicraft-oriented housing industry that promises to grow. The fact is that new and old housing producers alike are thinking in terms of mass production and industrialization—some to criticize, others to

participate, but all aware the process may be inevitable, with or without them (see Apr. '70 issue).

Companies that never before considered producing housing are now entering or planning to enter the market. On the national level at least, labor leaders are finding ways to make industrialization benefit their members instead of merely resisting it, and local leaders show signs they will follow suit. Many states are reexamining their building code authority and 32 of them have passed, proposed, or will submit new, mandatory code regulations for industrialized housing. The emotion-ridden zoning battle continues to be waged as community resistance to mixed-housing types and residents persists, but the Breakthrough site plans promise to demonstrate new land use concepts and housing patterns that HUD hopes will provide some incentive for change. Industrialized housing markets remain embroiled in institutional and financial constraints, but manufacturers in and out of

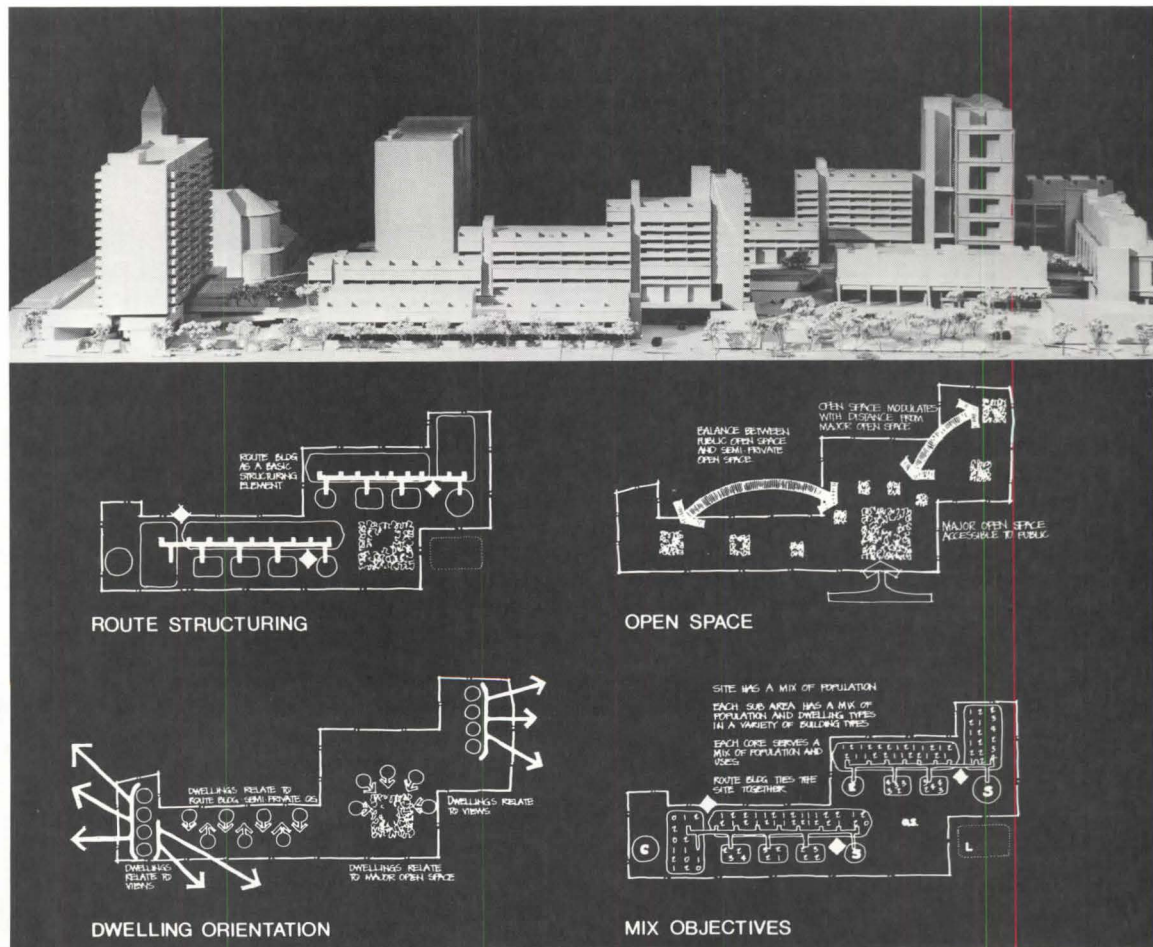
Breakthrough (as well as many Wall Street analysts) see success ahead.

Certainly all of these changing conditions cannot all be attributed to Operation Breakthrough or to HUD. Whether or not the Breakthrough rationale is HUD's most effective instrument is, however, a valid question.

## Government commitment?

HUD is not one of the favored agencies of the Nixon administration and it has been plagued consistently by lack of funding and government commitment for many of its programs and policies. Operation Breakthrough is no exception.

This fiscal year, HUD asked for about \$50 million in research and development funds (a pittance compared to agriculture R & D, for example), with about one-half of that intended for Breakthrough. Congress granted it only \$30 million initially and HUD was forced to eliminate two sites in an effort to cut its unit commitments. Later, HUD was granted \$15 million in





supplemental funds, but program demands were such that last February HUD made a special appeal to the White House for an additional \$20 million to pay for overruns on its present commitments to Breakthrough. This money was denied.

According to one manufacturer, HUD's money problems would have been greatly alleviated had its sites been located in the districts of appropriate Congressmen. Harold Finger, Breakthrough director, notes that the mere mention of a government project conjures images of poor blacks taking over residential neighborhoods, and Big Brother, so that "people immediately turn off all hearing." Another problem has been the ballyhoo given the program by the press—too much, too soon and much of it encouraged by HUD.

The effects of poor funding are myriad and have in many cases aggravated the weaker portions of the program.

#### Staff and scheduling

Breakthrough was first an-

nounced in May, 1969, and plans then called for occupancy of the first units by the end of last year. Today, however, few of the producers have yet signed Phase II (prototype construction) contracts, though negotiations are well under way and are expected to be completed in May. Occupancy isn't expected until the end of 1971.

Critics have severely scored the program for falling behind its original deadlines. But the delays are not nearly so surprising as the original schedules.

Many of the HUD staff have research and development—not housing—backgrounds and are experienced in the inevitable delays of experimental programs. Yet the original schedules made no allowances for HUD's or local red tape or for R&D trial and error.

Finger, whose own background was in aerospace research, admits that HUD underestimated how often plans would have to be redesigned and modified and how often HUD would have to review and evaluate each stage. He also admits that

his office is understaffed for such an operation and that each stage therefore takes far longer than it would otherwise.

The problem, he says, is money. Redesign takes time, minimal staffing causes delays, negotiations are long, red tape and controversy are inevitable. All this in a period of national inflation so that each day's loss means costs go up, for HUD and its contractors. Yet HUD is less and less able to absorb these added and increasing costs.

#### Contract negotiations

When they agreed to participate in Breakthrough, most housing producers understood that HUD would compensate them for specific overcosts in production, transportation and erection of their prototype units. Such a cost-plus situation, however, has not occurred—HUD simply does not have the money.

The result is that Phase II contract negotiations have been tough and long. The White House recently got involved and advised HUD to name John H. Willingham, a former official of

the Alodex Corp. (developer for the Breakthrough site in Memphis), director of HUD's special projects division. Willingham's first job: helping to negotiate Phase II contracts between the housing producers and the site developers.

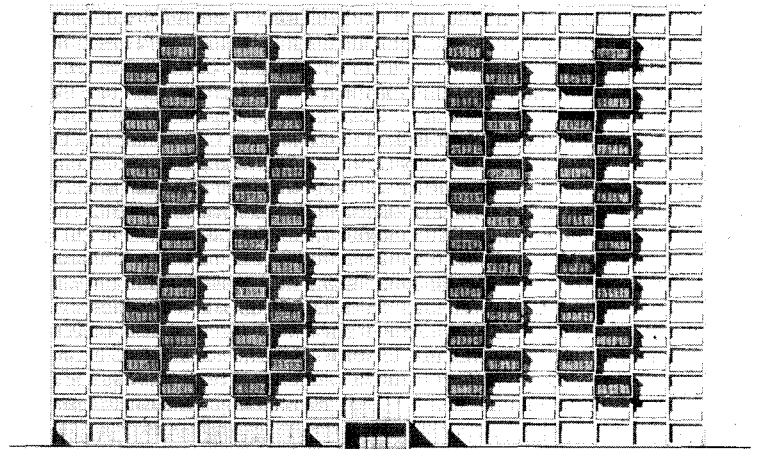
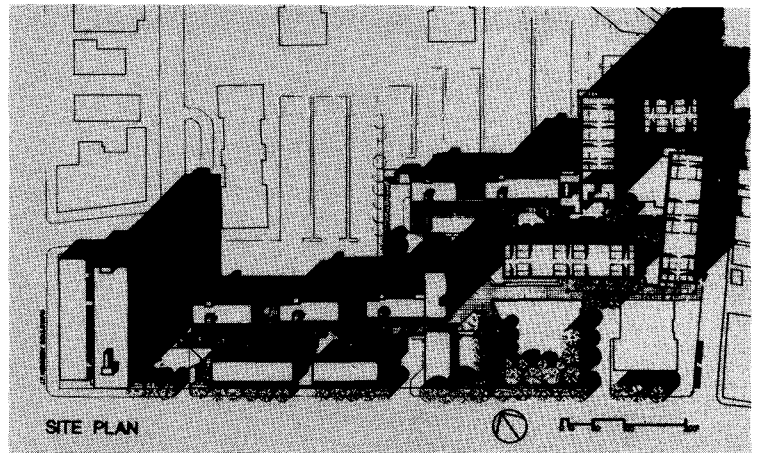
Until all of the contract negotiations—47 in all—are completed, HUD will not release the terms. But the fact is that the prototypes will cost many of the firms substantial sums of money.

The optimists among the producers look forward to long-term profits to compensate prototype expenditures. But one of the smaller companies admits that Breakthrough, so far, has been a "financial drain." Rouse-Wates hopes to break even on Breakthrough, writing off its expenditures to experience and a chance to be among the first to enter a new housing market. Townland has reduced its unit commitments so that its "financial exposure is at an acceptable level of risk," yet remains grateful to Breakthrough for giving its system its start. TRW credits Breakthrough with getting

## JERSEY CITY

Jersey City seems a good illustration of both the ambitions and problems HUD has with Operation Breakthrough. Based on an interconnected/interlayered megastructure concept—the densest, most complex plan of all—the project had to be redesigned and scaled down as recently as mid-February. Then it was evident that costs would far exceed available monies. The reasons for the high costs were several. HUD, planner David A. Crane Associates, and the systems producers (Townland, Descon/Concordia, CAMCI) knew the plan (pictured) was not inexpensive, but remained optimistic that the money would be found. Estimates came in even higher than most expected. Some of the problems: Crane asked each builder to erect a variety of structure types and, often, to build them over other structures. For example, Townland (the most flexible system) was scheduled for 150 units in a 5-story, two 7-story and a 16-story structure, using from one to six platform levels of its suspended land system and spanning parking levels, a school and

office space. In addition, Townland itself tried for larger than minimal floor space in its apartment units, which is economical on a square footage basis, but still resulted in higher total costs. The end result was that Townland prices came in almost 100 per cent higher than the \$20/sq. ft. range HUD hoped for. The other systems had similar problems and, in some cases, just could not meet the plan requirements. For example, Descon is an off-the-shelf component system and would have problems spanning large open areas such as parking garages. Crane finally had to overhaul its plans, cutting the units of some producers (Townland, will now have one 8-story building with 42 units). Crane may also separate commercial, school and parking areas into separate (non-systems) structures. The final plan, however, has not been released. The most obvious change is that Shelley Systems is now expected to build 152 units in an 18-story tower (pictured). Shelley, a concrete box system, came in at very attractive costs. The site's developer is Volt Information Sciences, Inc.





"reasonable compensation for Phases I and II."

Some systems producers are more bitter, however. Negotiations with some have threatened to break down; and site plans, unit and site assignments, and even program participants may yet change. One producer estimates it has spent \$2 for every \$1 it has received from HUD, notes that it spent \$400,000 to produce its winning Breakthrough proposal in the first place and now looks forward to a \$250,000 loss on Phase II.

HUD's agents in the contract negotiations are the site developers, which are authorized as HUD's prime contractors on the individual sites. The producers sign contracts with these developers, not HUD directly.

The site developers, under HUD direction, assume complete charge of all phases of construction, maintenance, community relations, management, financial arrangements and eventual sale and/or rental of the completed developments. It is the site developers, for example, that file for mortgage commitments from the Federal Housing Administra-

tion (FHA) and enforce provisions of HUD's Quality Assurance Program.

#### Quality assurance

To assure safety and win public acceptance for the systems, HUD has organized a thorough program of testing, certification, inspection and standards maintenance. The National Bureau of Standards is acting as HUD's technical arm in the program and doing some of the testing. The rest of the testing, either physical or by calculations, is done privately, but with NBS supervision.

The guide criteria for the systems have been published by HUD in five volumes, the last of which outlines a Quality Assurance Program. These guidelines must be followed by the producers during and after Breakthrough in order for them to maintain their systems' government certification.

Some of the systems have changed their original concepts during the past year of development; others will erect the Breakthrough units conventionally while their more innovative techniques are still being tested.

TRW, which had proposed a mandrel-wrapped housing module, considers the past year of work extremely rewarding. Some observers will be disappointed to see the exotic mandrel replaced by panels, but not TRW. TRW had to prepare panels for NBS testing (theirs is a composite system, using new materials) and, in the process, discovered a very inexpensive panel process. The result is that it will take more units than they had thought to justify the tooling costs of the mandrel when compared to the panels. The panel system has also allowed TRW to develop a vacuum system for joining the panel layers by suction — also cheaper and more efficient than earlier concepts. This technique was developed for the panels, and requires more research to work on the mandrel. Aside from the forming process, the TRW components will be as originally conceived. The honeycomb sandwich remains as it was and, after the panels are formed, they are joined, wrapped and coated into modules just like the mandrel versions.

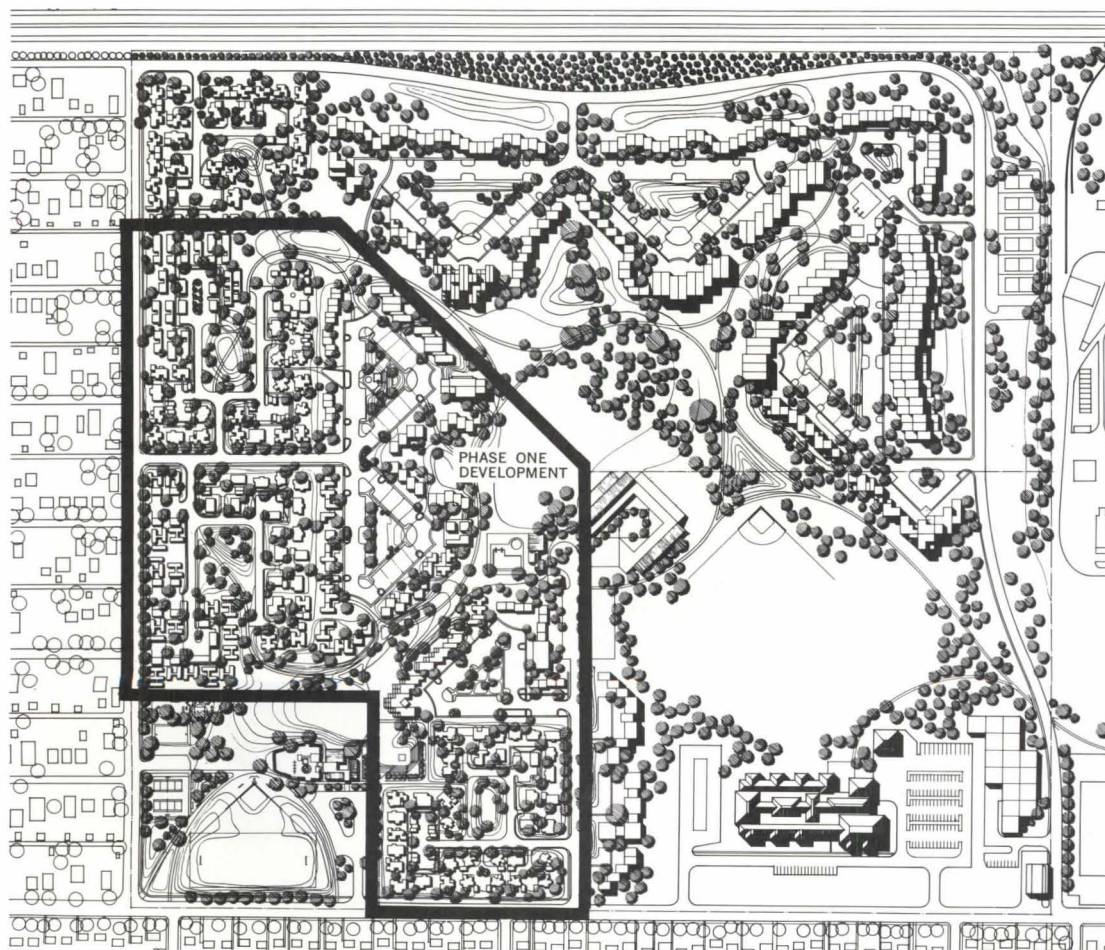
Other systems that have

changed or are still in development: National Homes will use panels to save long-distance shipping costs. They will be assembled near the site and erected as modules. Pemton proposed a stressed skin with adhesive, but the adhesive requires longrange testing, so the Breakthrough units will use nails as well. General Electric has discovered its honeycomb floor system may not be economical. Says Finger: "This is all part of the development cycle."

#### Site planning

Breakthrough was designed to demonstrate innovations and economies in planning and community concepts, as well as technical innovations. The site plans try to fulfill the key needs of the residents (such as separation of auto and pedestrian ways, recreation space, and access to community facilities) and to demonstrate the advantages of clustered housing units.

The cluster groupings leave more open space and efficiencies in the site's infrastructure than would otherwise be achieved. New Jersey's Radburn demon-



#### INDIANAPOLIS

Located in an urban fringe area of single-family homes, the 120-acre Indianapolis site will be dominated (60 per cent) by single-family units in Phase 1 development. Houses will have private back yards, but side and front yards will be organized into common parks for each grid-like housing cluster. Creative grading will raise houses above street level; parking areas will be lowered; and mid-rise apartments will be built into a slope, where they will not require elevators. Density is lowest at the site's perimeter, increasing to multi-family units surrounding central open space. Access roads from the site periphery end in the parking courts. The planner was Skidmore, Owings & Merrill (Washington, D. C.) and the developer is Urban Systems Development Corp. (a subsidiary of Westinghouse). The producers: FCE-Dillon, Inc.; Home Building Corp.; Material Systems Corp.; National Homes Corp.; Pantek Corp. (formerly Ball Bros.); Republic Steel Corp.; Scholz Homes, Inc.; TRW Systems, Inc.; and, possibly, Pemton, Inc.



strated similar concepts in 1927, but the country failed to follow suit.

According to Finger, however, some of the site plans have had to be modified to reduce costs and some of the amenities have had to be sacrificed, including heavy landscaping. Jersey City (page 58) is a notable example of how HUD's funding problems affected site development.

Finger also says he is pleased with the variety of systems and housing types each site will offer. He believes the "line, form and mass still go together well." He also admits that "each producer tends to look at his own system and there can be wild personality conflicts," but maintains that he would add more systems to the sites if he could.

According to another HUD official, however, the site plans were somewhat disappointing. The site planners were chosen as "the best we have," but the problems of putting several systems and building types onto one site was a new one for many firms. Many of the plans had to be modified several times and the results "vary in quality."

## Marketing

Most of the producers feel that HUD must develop a much more concrete approach to the problems of market aggregation. But few will knock HUD's initial plans; they are bread and butter. The producers are also striking out on their own to develop marketing strategies and contacts and many systems are already negotiating or constructing non-Breakthrough projects.

HUD's hope is that Breakthrough will demonstrate the systems to a variety of market areas and that this will have a snowball effect. It hopes the producers will gain a consistent volume market in one area that will justify tooling costs in one factory and that they will expand with other factories as demand dictates. HUD's marketing efforts are therefore directed at creating regional, manageable markets. The size of the region depends on the system: a light system, such as Christiana-Western, has a market potential of over 200,000 units in the western states and it is not constrained by distance. A heavy concrete system, such as Building Sys-

tems International (BSI) can only ship a limited distance, so its market is restricted to an urban area that can support it.

HUD plans to help the producers establish a market by using earmarked funds for its 235, 236 and public housing programs. HUD will also work with local developers and encourage them to use the systems, promising quick FHA approval as an incentive.

According to HUD's marketing aggregation director, Jack Betz, negotiations are in progress all over the country. His strategy is that once a system breaks into a city or region, it will be hard for the authorities to resist it the second time around. He is trying to work with the states to establish markets and with the state financing agencies to set up basic operating procedures, and to organize and pool markets.

"The first units are the critical ones," says Betz. "The systems are new and full of unknowns to most people; usually they are strange to the local FHA offices too. We want to build enough units so that these

systems are given a competitive chance to succeed."

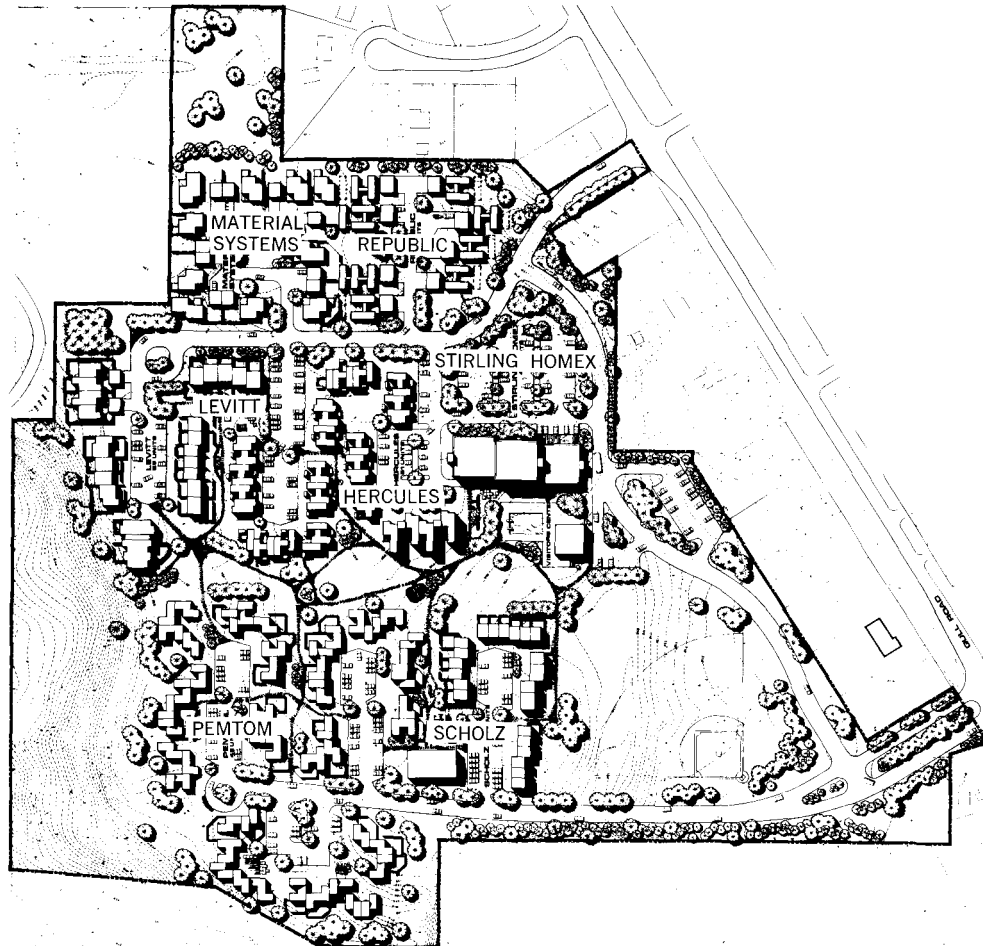
## Codes and labor

The traditional constraints to volume housing have included local building and zoning regulations and labor unions. Betz thinks that these are beginning to loosen.

Some of the building systems that use unusual or synthetic structural materials would have obvious problems with most building code regulations. Until the codes are modified to accept them, these systems' market is greatly limited.

Betz, however, points out that almost a dozen states have already passed mandatory state codes for industrialized housing and 16 states have bills in the legislature. Five other states, including New York, have shown "definite interest."

Once a system is approved under an industrialized building code, it will get a sticker certification that local officials are legally bound to honor. There will undoubtedly be some local resistance and delay, says Betz, but this will wear down as more



## KALAMAZOO

HUD considers the Kalamazoo site the "cleanest" Breakthrough plan. Conceived by Perkins & Will Partnership (Chicago), it clusters housing along two north-south access roads and separates pedestrian and vehicular traffic. Each cluster has interconnected playlots which are linked to community play areas and to Spring Valley Park by a pedestrian way. The 34-acre site is close to public transportation, shopping facilities, lakes and there is a swimming pool planned. A community of single-family homes borders one side of the site so P&W has placed single-family homes as transition units between that community and townhouse and mid-rise units. About 200 units will be divided among these producers: Material Systems, Inc. and Republic Steel Corp. (single-family); Hercules, Inc., Scholz Homes, Inc., Penton, Inc., and Levitt Technology Corp. (townhouses); and Stirling Homex Corp. (mid-rise). The developer is a joint venture of the National Corp. for Housing Partnerships and Bert L. Smokler & Co.



and more of the units are built.

Betz also sees the labor market as increasingly amenable to industrialization. "The unions are recognizing that it is in their own interest to participate. Today, unions are involved in only 25 per cent of the homebuilding in the U. S. Industrialization opens up a whole new area of employment to them."

Few will question that unions will be happy to get more work. The main issue, of course, is wages; industrial wages are far lower than most field wages in the building trades. Some unions, however, have already moved towards organizing on an industrial wage base. The plumbers, electricians and carpenters have a tri-trade agreement to this effect. Many of the Breakthrough systems have already negotiated basic labor agreements for the prototype sites; few anticipate real problems. Finger also says that some non-union labor may be used on the Breakthrough sites, though this is not yet settled.

Finger also looks to the establishment of a new labor force, citing CAMCI's (formerly Modular Communities) New York City Operations as an example. "I visited that plant and never saw such total enthusiasm and commitment. Yet all of their workers were formerly unemployed and unskilled—many are black and had never really had a decent job. CAMCI has trained them from scratch and I hope for more of this."

HUD has let word out in the past year that it might assert federal jurisdiction over local rule, but it has not done so yet (except in negotiating the Breakthrough site agreements). It is, however, encouraging the states to centralize zoning and building code authority in the state house, away from local special interest groups. New York's Urban Development Corp., which has state authorization to override local codes, is the type of organization HUD is encouraging.

HUD has lost some zoning battles, however — even with Breakthrough. When funds were short, it cut two sites from its planned development projects: Wilmington (New Castle County) and Houston. These were the sites chosen because both had been delayed by protracted community resistance. Houston was a suburban site and the

residents did not want any federal, multi-family housing project nearby. New Castle encountered similar opposition, plus a legal boondoggle over the terms of a will that had deeded the property to the county for "the public welfare." How long these disputes could have delayed construction can only be guessed, but the results would have been costly in any case.

#### **Cost Accounting**

HUD's methods of cost accounting have been a source of program controversy. As late as last summer, HUD was still casting about for a way accurately to measure the costs of innovations and compare conventional to systems techniques. At that time, HUD officials approached the New York Urban Development Corp. and asked if it could use UDC's Cost Analog System, which breaks conventional buildings down into components and uses them as a standard for comparing innovations.

HUD did not end up using UDC's system, but many contractors, especially, fault the costing system HUD does use. The original firm that HUD chose to develop a cost accounting system is no longer in business, but members of that organization, through the Research Analysis Corp., have developed a system that breaks projects down into their components.

The problem, says one contractor, is that variances in each bit of minutiae have a multiplier effect—"each item has a little fat and this multiplies into obesity." One contractor estimates the system has cost him \$10,000 to work with. Still another says he found the system so unsatisfactory that HUD told him not to use it anymore.

HUD emphasizes more than component cost in its accounting, however. "Cost, manpower and schedules are inseparable," says Tobias Gottesman, program controller. Contractors working on the sites will have to fill out monthly estimates and reports on each of these and HUD plans to maintain close control on performance.

#### **Minority participation**

Operation Breakthrough, like all HUD programs, is subject to the equal opportunity employment sections of the Civil Rights Act of 1964 and to section 3 (amended) of the Housing Act

of 1968. The latter states that "to the greatest extent feasible" HUD must give residents of assisted project areas the opportunity for training and employment, and local businesses the chance to win contract awards.

Minority leaders, therefore, hailed the announcement of Breakthrough as a fresh chance for entry into the "lily-white construction industry." Such operations as CAMCI's, which Finger has cited, illustrate the potential of systems building for providing new jobs for unskilled minority groups.

Some minority groups, however, are not content to work only with and for the Breakthrough winners. Under the direction of the NAACP, some have set out to organize their own version of Operation Breakthrough, with 3,100 units the housing goal. The sites of Gary (Ind.), Hollywood (Fla.) and Tucson (Ariz.) have already been selected and negotiations with systems builders are in process.

Says Finger: "We have tried to work with the NAACP and others. We cannot pay to build their organization, but we can help them organize private support and help push their plans through FHA. We may also help with design and testing."

#### **Conclusion**

It is easy to judge the Breakthrough program on the basis of its own headlines and schedule pronouncements—but many of these were obviously unrealistic to begin with. Few informed individuals, in or out of HUD, could really have believed that a program on the scale of this one, however levered, could: "solve the housing crisis in two years"; "turn the homebuilding industry into a modern assembly line"; "provide instant housing every family can afford"; or "break forever the power of the union, zoning, building code and other special interest lobbies." Yet all of these claims, and similar ones, have been heard.

More difficult is an evaluation of the basic program rationale in terms of the problems it seeks to confront. And right now, little more can be concluded than that Breakthrough is at least starting the process of change we need so badly—and defining the problems more clearly than ever before.

—MARGUERITE VILLECCO



# FORUM

(continued from page 21)

ported annually to the chapter, but amounts and recipients need not be specified if the member attests that his total contributions have not exceeded \$500. Reporting of contributions, as well as the names of members who refuse or fail to comply, will be published annually.

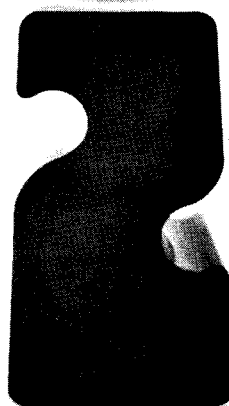
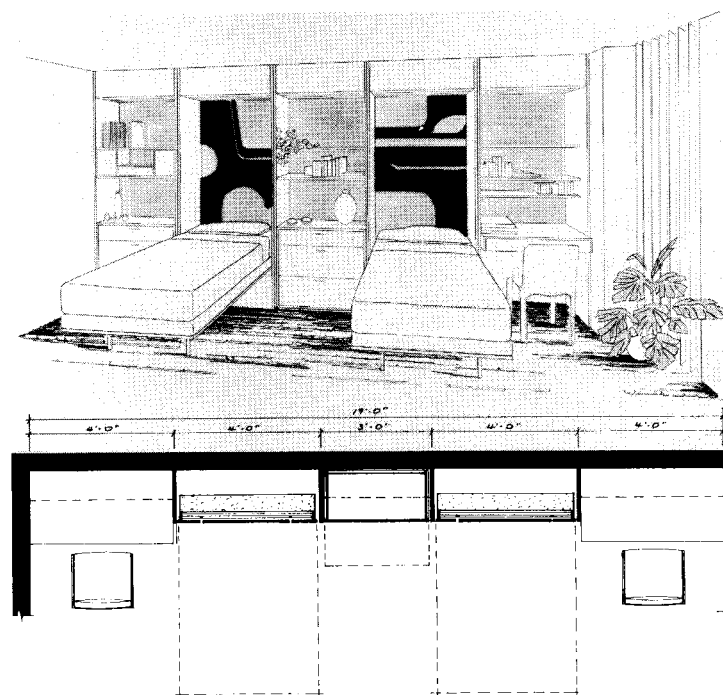
The action was taken for two reasons. One was the growing demand, nationwide, for reforms in the system of campaign spending and financing. The other was a series of articles published late last year in the Long Island daily, *Newsday*, which reported one highly organized and successful "collection apparatus" operated by one county's political leaders and its department of public works. Contracts were alleged to have been offered to architects, engineers and planners in consideration of political contributions, including some demanded and received in advance of the award of contracts for specific projects.

The chapter will now urge the institute and the N. Y. state legislature to follow its lead.

## ■ FURNISHINGS

### LOW-COST FURNITURE . . .

To find out what kind of furniture could best be used efficiently and economically in low-income, industrialized housing, HUD, through its Operation Breakthrough program, commis-



### "S" for stool

sioned a \$90,000 research study by the Washington Center for Metropolitan Studies. Jointly, they held a competition, and a jury selected 67 of the 200 entries.

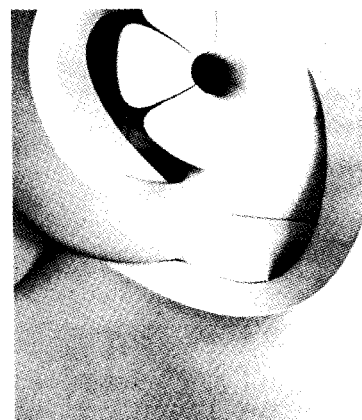
Before the jury's choices went on view to the public, they were seen by a group of potential customers, who were encouraged to air their preferences and recommendations. The group, of all ages and ethnic origins, was selected in part by directors of the AIA Community Design Centers across the country. The designs—some already in production, others in mock-up or prototype form—then went on display at the Smithsonian Institution through the middle of last month.

Mrs. Erma B. Striner, director of the project, emphasized that the design competition was

"just a starting point for further investigation."

Among the finalists were a plug-in children's environment by Stanley Selengut (Jan/Feb issue, page 70); an S-shaped stool that doubles as a table base by Spiros Zakas; and a multifunctional "Wall-With-All" of modular units by Morley J. Winnick and Penny Hallock Lehman.

### . . . AND A DOOR THAT BLOOMS



Door before . . .



. . . and after

If your taste in furnishings runs more to the extravagant and impractical, we can recommend a playful door designed by Duane Brown. Visitors to the California Design exhibition last month at the Pasadena Art Museum lined up for a chance to watch it "perform."

The door is actually an abstract floral sculpture, made up of six twining, petal-stem-shaped components. At the press of a button, first one, then another of the petal-stems unfolds like a flower bud blooming in time-lapse photography.

The door is made of fiberglass over sculptured foam. Robert Spencer did the fiberglassing, and the mechanism for opening was designed by Ken Oxx.

## ■ EXHIBITIONS

### NEOCON 3

The third National Exposition of Contract Interior Furnishings will be held at the Merchandise



Mart in Chicago, June 23-25, concurrent with the AIA convention in Detroit.

The speakers and discussion groups this year will dwell heavily on cost-cutting procedures and finding new ways of doing business more economically—a reflection of everyone's preoccupation with the nation's economy. More and more architects, also for reasons of economy, have designed or may find themselves designing interiors, and should find the discussions of value.

Various talk sessions have been programmed in the broad categories of education, health care, and office planning. Other subjects listed on the program include: *The Library is a Brain: The Mind's Eye (Design for Electronic Library Science)*, with guest panelists Michael Brawne, British architect and author, and Architects Danforth W. Toan and Nelson W. Aldrich; *The Economics of Remodeling, Rehabilitation, Conversion, Renewal and Found Space*; and *Living Under Water*.

Most of the subjects will be explored in a challenge-response format—90-minute sessions consisting of opening statements from the panel and the remainder of time devoted to questions from the floor. And if one still wishes to take issue, the experts will be available for "corridor conferences" in pre-scheduled and well-publicized time periods, either informally or by appointment.

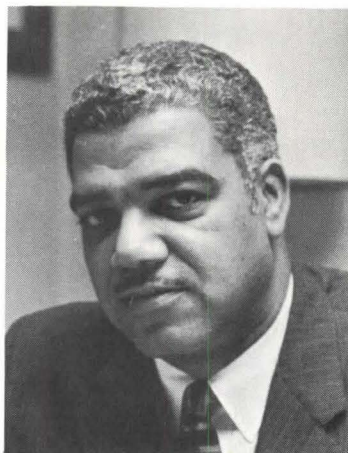
There will, of course, also be the Exposition—"the most complete variety of products for the contract market ever made available."

## PEOPLE

### A SILENCE WITH ECHOES

"You are not a profession that has distinguished itself by your social and civic contributions to the cause of civil rights," said the late Whitney M. Young Jr. to the opening session of the 1968 AIA convention in Portland, Oregon. "I am sure," he said, "this has not come to you as any shock. You are most distinguished by your thunderous silence and your complete irrelevance."

It did come as a shock. "Our collective conscience was stung



Whitney M. Young Jr.

by those words," said the AIA's board of directors, meeting last month to honor the memory of Young, who died March 11.

Young pointed out to architects in '68 their own best hope: their children. "The young," he said, "can document with unerring accuracy the inconsistency in our society, the pervasive gap between what we practice and what we preach. . . . If you are a mother or a father, today you are being challenged either silently by young people or you will be challenged even more violently by them. . . ."

The year following these prophetic remarks, the AIA adopted a \$15 million program of social action, in response largely to the activism of students.

Said the AIA board last month: "The institute's response to Whitney Young's challenge—the Program of Professional Responsibility to Society—must be rededicated as our memorial to him."

But Young, himself, perhaps wrote his own best epitaph: "The only criterion by which I want to be measured is whether or not I have helped to improve the economic, political, health and social future for black people—not on the basis of how many white people I curse out."

### INTERNATIONALIST

Arne Jacobsen, 69, Danish architect and designer, died in Copenhagen on March 25. In April he was to have received the gold medal of the French Academy of Art in Paris for the elegant buildings and furniture that reflected his design philosophy: "Economy plus function equals style."

His famous "egg" and "ant" chairs, the Landskrona sports hall

in Sweden (Jan/Feb '67 issue, p. 104), his buildings at Oxford University's St. Catherine's College in England, and the Hamburg electricity administration center in West Germany, among many others, attest to his international stature. At the time of his death, he was completing the designs for the National Bank of Kuwait.

And the honors flowed back to him: Oxford awarded him an honorary doctorship in 1966, its first to an architect; the AIA awarded him its Fellowship Medal in 1962; and Britain's Royal Institute of Architects made him an honorary member in 1963.

He was working on the Mainz town hall and a Hamburg high school when he collapsed of a heart attack, "looking," says a colleague of many years, "through old sketches for new ideas."

### BUILDER OF CAMPUSES

Dr. Anthony G. Adinolfi, general manager of the New York State University Construction Fund (Jul./Aug. '68 issue) died last month in Albany at the age of 40.

Dr. Adinolfi, as chief executive of the world's largest program for the development of educational facilities, sacrificed nothing in quality to its size. By engaging many of the country's leading architects and devising a rigorous system of cost controls, he was able to produce superior buildings and campuses and to do so frequently under budget estimates.

Joining the construction fund at its inception in 1962 as manager of planning, Adinolfi moved up to general manager in 1968. Among the projects for which he was responsible are entire new campuses at Purchase, N. Y. (Nov. '70 issue); Old Westbury, L. I.; and the \$650-million Amherst campus at Buffalo, now under construction.

Winner of many awards himself from the AIA and other professional organizations, Dr. Adinolfi and the construction fund were clients of award-winning architecture, including the academic center at Fredonia, N. Y. (May '69 issue) designed by I. M. Pei & Partners.

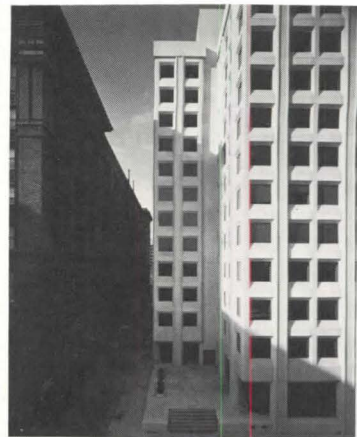
"He was neither an architect nor an engineer," said Governor Rockefeller, "but he blended those disciplines successfully to produce buildings of the highest

quality both in terms of efficiency and of esthetics. . . . Tony Adinolfi was truly a remarkable man."

### IN MEMORIAM

The Continental Building, a 12-story office structure in Philadelphia's Independence Mall urban renewal project, has been dedicated to the memory of its architect, Salvatore Calabiano.

Calabiano died over two years ago in a flash fire that destroyed the New York City offices of David Rosen & Associates (Apr. '69, page 23).



Continental building

The dedication is marked by a bronze plaque at the Market Street entrance to the building, the last which Calabiano personally designed.

## AWARDS

### ARCHITECTURAL SCULPTOR

Tony Smith, an architect who turned sculptor "because of the capriciousness of clients," is the recipient of this year's Fine Arts Medal of the AIA.

A student at the New Bauhaus in Chicago in 1937, a builder of log cabins in the Rockies, a laborer on Frank Lloyd Wright's Ardmore Experiment, a designer of some two dozen houses, Smith gave up building in 1962 and had some steel boxes made and placed around his yard. "I don't know exactly what my intentions were," he says. Today his welded steel forms can be found in museums around the world and adorn the plazas, foyers, and grounds of many public and semi-public buildings in this country.

The award will be made at the institute's annual convention in Detroit next month.





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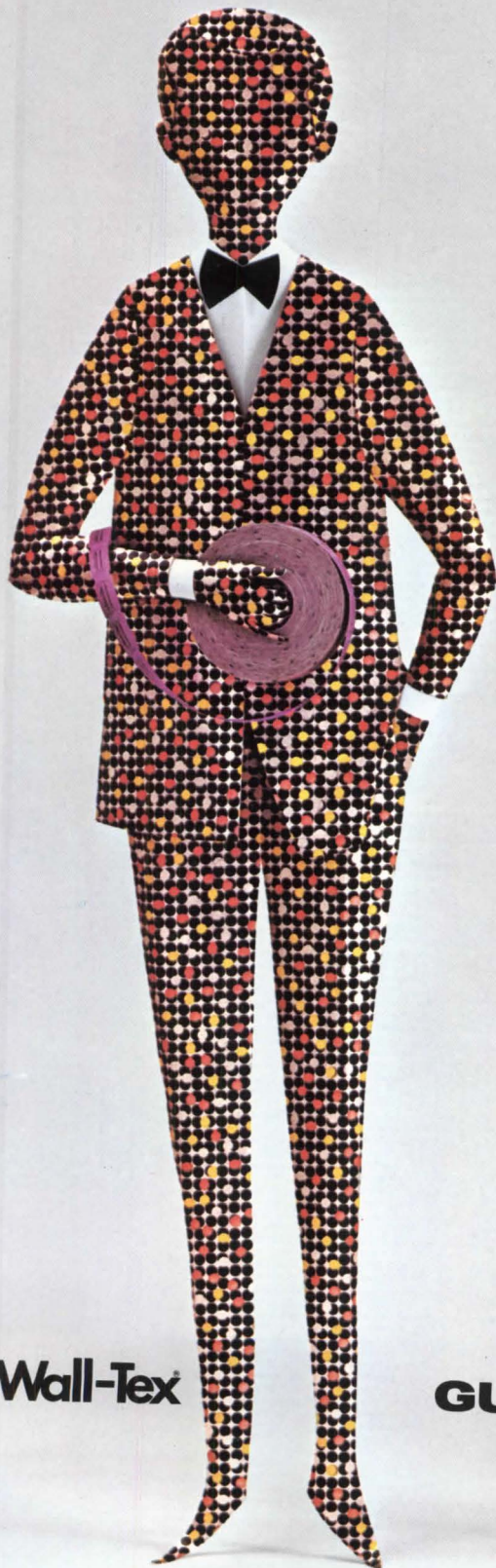




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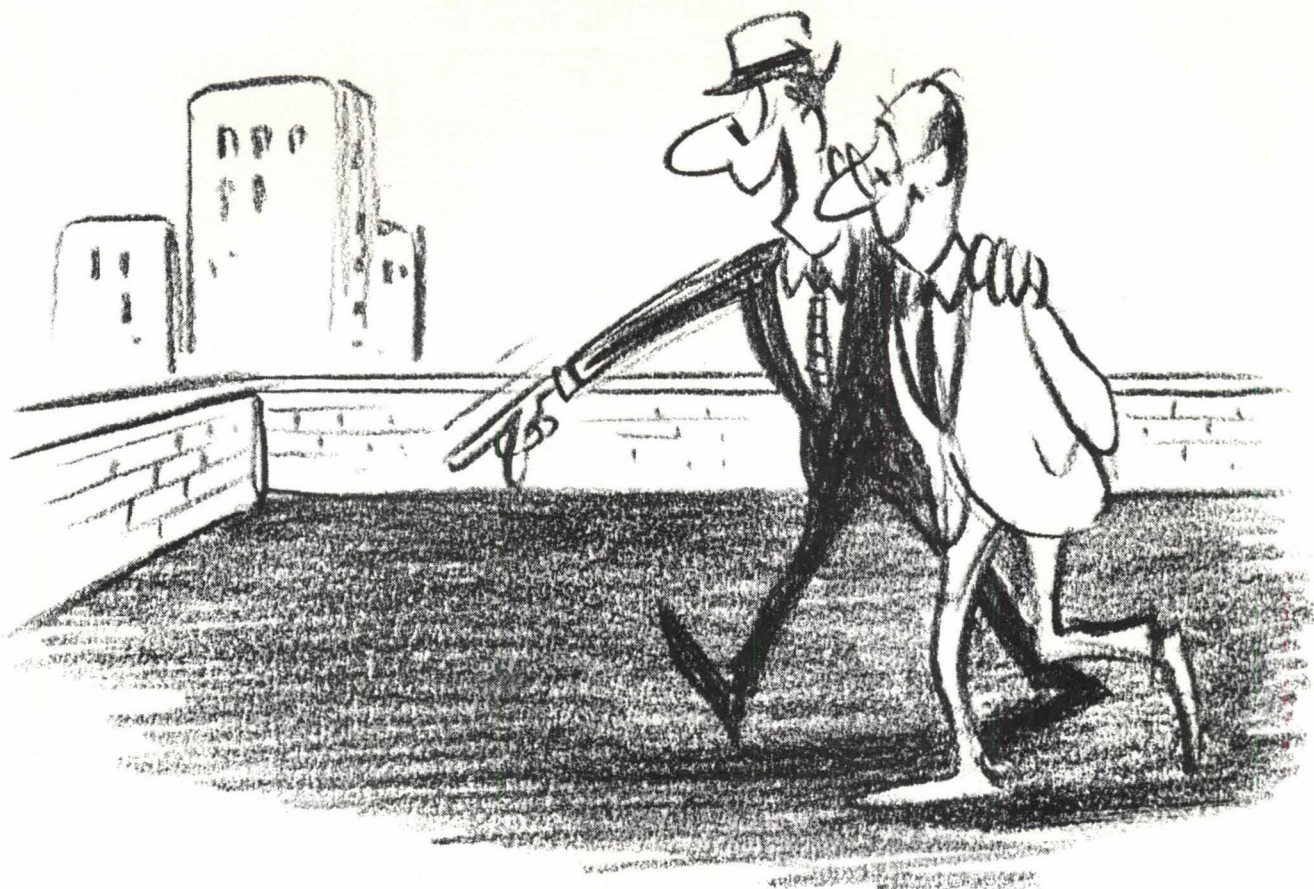
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# PRODUCT REVIEW

This month's Product Review concentrates on computers and audio visual equipment that may be helpful to architects.

## CALCULATOR

A lightweight, 12-digit capacity memory electronic calculator is being produced by Commodore Business Machines. The new desk-top compact, with automatic overflow, register exchange, true credit balance, grand total accumulation and decimally accurate results has a suggested retail price of \$479.00. The new model can instantly retain and accumulate problems in series; it also has

a feature that facilitates checking previous answers and using a first entry as a constant.

On Readers Service Card, circle 101.

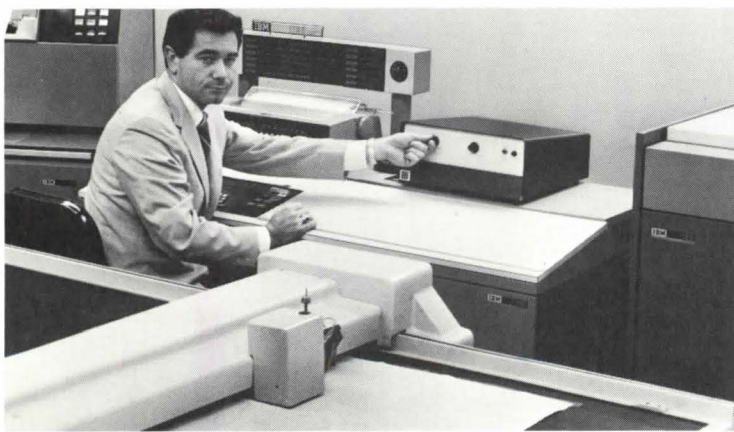


## COMPUTER MANAGEMENT

A new computerized project-management control system is being manufactured by the IDAC division of National Design Center, Inc. The system may be used to aid definition of client requirements through programming, schematics, preliminaries, working drawings, supervision and historical reference phases of a project. It includes com-

puter-printed project controls, multi-copy communications media, information retrieval and a supporting bank of manufacturer product information. All components are specialized to the specific building type involved. The system is manually operated; computer work is provided by IDAC previous to shipping.

On Readers Service Card, circle 102.



## DRAFTING PACKAGE

A new, economical drafting package for users of the IBM 1130 computer, has been introduced by Gerber Scientific Instrument Co. The package will improve line quality and increase throughput of digital plotting done on line to any 1130 with at least an 8K core and a storage access option. Sup-

ported by a software package, the system's graphic capabilities include producing data plots, drawings and master artwork, saving hours of repetitive man work. It also provides a means for translating design calculations directly to graphical presentations. Installation time and cost are minimal, says Gerber.

On Readers Service Card, circle 103.

## COMPUTER EQUIPMENT

A new computer, Model 135, of the IBM System/370 is the newest and cheapest of that line, extending expanded communications capabilities to users of medium-sized and smaller computers. Also available is the new IBM 3735 programmable buffered terminal, which works like a typewriter and may be programmed to guide an operator in preparing invoices and other business documents for high-speed transmission to a central 360 or 370 computer. The terminal can perform basic logic and arithmetic functions and store up to 146,400 characters of information on a high-density magnetic disk. A new 3505 card reader and 3525 card punch are useful to 370 operators for processing 80-column punched cards. Many remote terminals and processors may also be attached to the 370 communications lines.

On Readers Service Card, circle 104.



## SPEAKER/PROJECTOR COMBO

Synchromedia, by SETCO Audio-Visual, Inc., is a totally new approach to 35 mm. slide and synchronized cassette sound programs, says its maker. The unit combines a NORELCO "Synchroplayer," speaker and carousel projector packaged in a portable plastic carrying case. The system may be purchased with or without a projector, with prices starting at \$275.

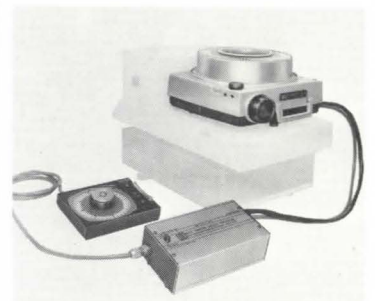
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## PROTECTION SYSTEM

Honeywell has introduced a new system for protecting property from fire, theft and breakdown. Called Alpha 3000, the system includes a fire alarm, sprinkler supervision, patrol tour, intrusion detection, audio communication, closed circuit TV, a card reader and equipment surveillance, plus command control. The variety of options allows a building owner to tailor the system to his specific needs, says Honeywell. It is designed for commercial, institutional, transportation and industrial facilities.

On Readers Service Card, circle 106.



## RANDOM ACCESS PROJECTOR

A new random access projector designed for use with a Kodak light source (the Ektagaphic Arc Slide Lamphouse Assembly) is being produced by the Mast Development Co. Called Model 137-H, the new unit is interchangeable with the Ektagaphic projector. The combination Mast-Kodak system will allow remote random selection of slides, screen images three times brighter than those produced by a standard lamp, making the system ideal for auditoriums and other large-screen rear projection, says the manufacturer. The Mast projector automatically retrieves, projects and focuses; remote controls are also available.

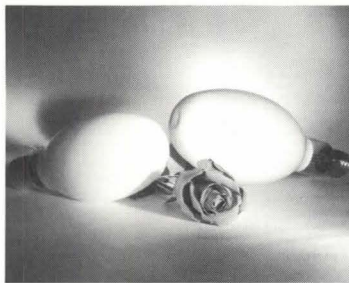
On Readers Service Card, circle 107.

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## PRODUCT REVIEW

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### MERCURY LAMPS

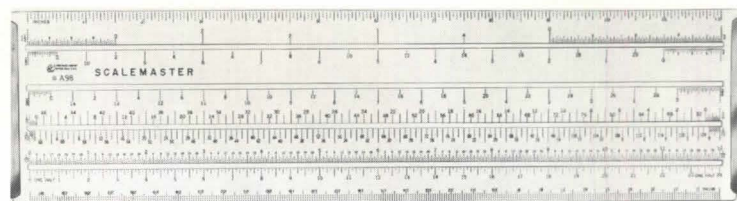
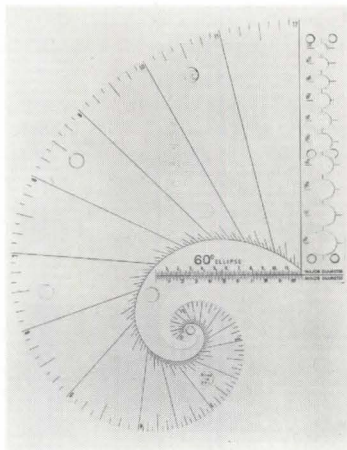
A new line of mercury lamps, made by General Electric, features an improved phosphor coating for a warmer, richer-in-red white light. Available in 175- and 400-watt sizes, the new lamps are intended largely for commercial and institutional interiors. The lamps produce light that is particularly complimentary to complexions, clothing, food, fabrics, etc., according to GE, which markets them as "Warm Deluxe White" mercury lamps.

On Readers Service Card, circle 108.

### ELLIPSE TEMPLATES

A new set of five ellipse templates in the range of 15, 30, 45 and 60 degree projections has been introduced by the C-Thru Ruler Co. Each ellipse permits the drawing of a 1/4-in. to 12-in. ellipse and each has a proportional scale to check the proper degree template when the major and minor diameter is known. The ellipses are made of plastic; they are used by placing them in four positions and drawing the ellipse in quarters; and a set of five lists for \$8.

On Readers Service Card, circle 109.

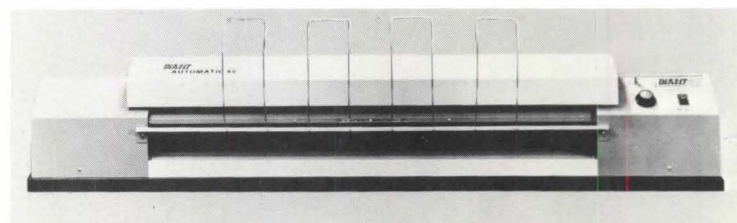


### DRAWING AIDS

Three new drawing aids, manufactured by C-Thru Ruler Co., are useful to architects. Model AB-309 is a 6-in., four-bevel scale that features gradations in fractions of an inch to the foot, open divided with divisions before zero divided. Model AR-46

is a 6-in. and model A-98 a 12-in. version that is transparent, laminated for permanency with four slotted openings and open divided gradations. The AB-309 runs about \$1.50 each; the AR-46 about \$7.20 per dozen; and the A-98 about \$12.00 per dozen.

On Readers Service Card, circle 110.



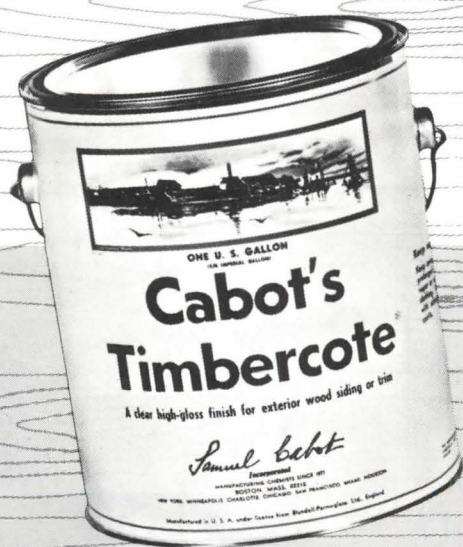
### WHITEPRINTER

The DiAZiT automatic 42 is the first fluorescent lamp whiteprinter available with automatic separation of copy prints and originals. It reproduces clearly

on sepia, mylar, black line, blue line and other diazo materials with one-step dry operation. The equipment requires no unusual power, venting or plumbing.

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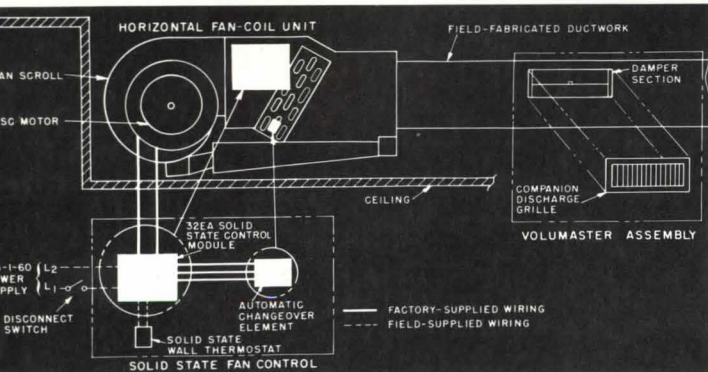
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## APARTMENT CLIMATE CONTROL

Volumaster, by Carrier Air Conditioning Co., is a new heating and air-conditioning system especially designed for highrise and clustered garden apartments and combining the low-cost advantages of individual room controls with a central system. The repackaged components of the system include a horizontal fan coil unit, electronic solid state fan control that provides variable amounts of air in response to a thermostat control, and the room outlets. Mounted 4 in. from the ceiling, the room outlets and thermostat are the only visible room equipment. Working on an area basis, to one or several rooms, the central unit is normally installed above a closet and is connected to the

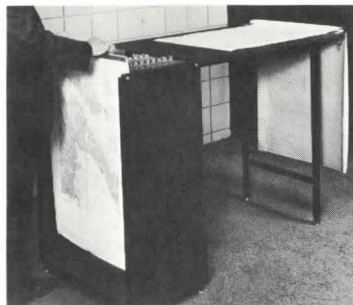
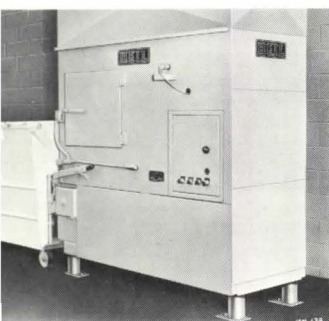
individual outlets by ducts. The air distribution system is designed so that conditioned air will cling to the ceiling. According to the aerodynamic effect known as the Bernoulli principle, the rapid movement of air from a room outlet creates a negative pressure between the stream and ceiling, and positive pressure from below holds the stream against the ceiling until velocity slows it, near the opposite wall. Then the inflow of conditioned air mixes with the ambient air uniformly throughout the room. The central climate control system units are available in six sizes, from 210 to 1,160 cfm of air delivery; room outlets are available in 200 to 300 cfm capacities.

On Readers Service Card, circle 112.

## WASTE COMPACTOR

An automatic refuse handling unit for residential, institutional and commercial highrises is manufactured by The Heil Co., Milwaukee, Wisconsin. The Heil-Pac can be loaded through top or side and operates with any standard chute design. A compaction force forces refuse into a container where it is compacted to one or less of its original volume. The packer plate returns to its starting position automatically ready to cycle again. Entire unit shuts down when hopper is cleared. The few moving parts are electrically controlled.

On Readers Service Card, circle 113.



## VERTICAL FILES

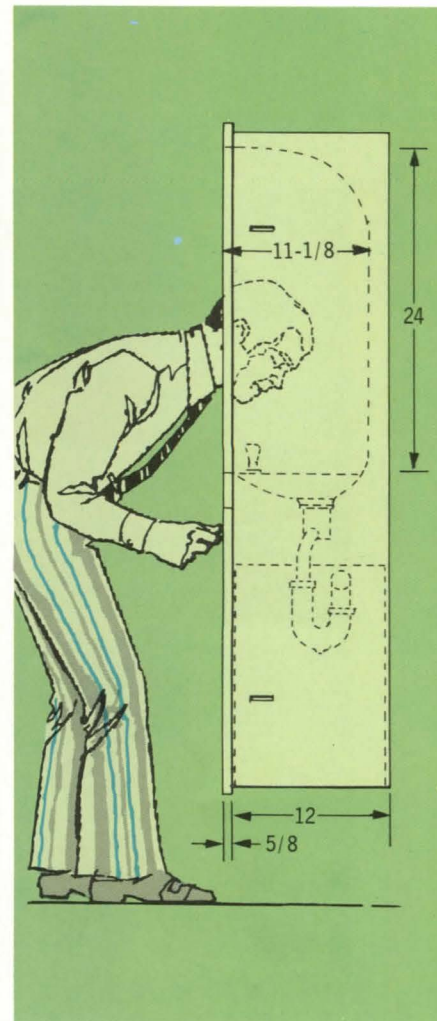
Century 1, a new series of vertical files manufactured by Plan Hold, combines the styling of furniture with the holding capacity of standard files. Paneled in walnut design, the vertical and rolled drawing files provide for instant retrieval for up to 2,700 prints. A front-loading feature eliminates the problems of refiling. Using special binders, plans are refiled by simply returning a binder to the front of the vertical rack. Plans may be retrieved from any position. Available in stationary and mobile models.

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(continued on page 72)



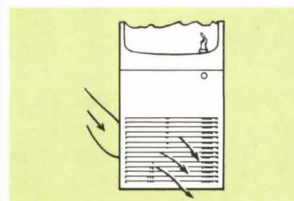
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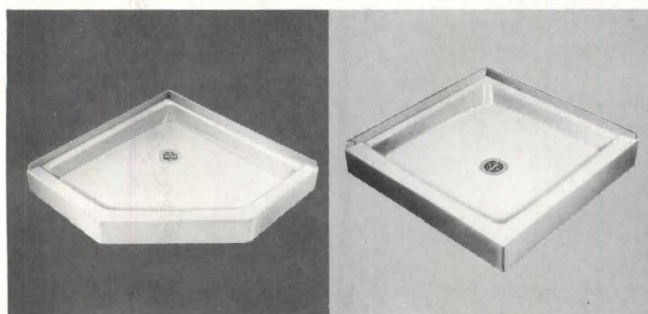


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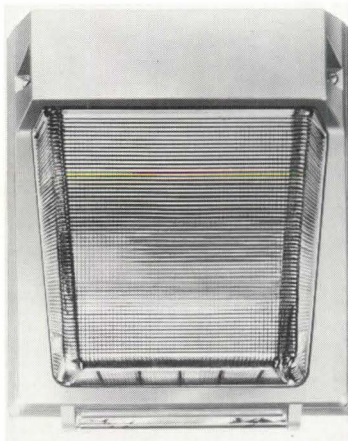
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CYANAMID

## PRODUCT REVIEW

(continued from page 71)



### WIDE LIGHT SOURCE

Designed for lighting parking garages and area lighting from buildings, the new "Super Illuminator," by Edwin F. Guth Co., is a mercury vapor lighting system that precisely controls vertical beam distribution, but allows a wide lateral spread of light. The system is now available for vertically mounted 175-watt and 250-watt lamps, with a 400-watt version under development. The housing and door frame are aluminum; the door is completely gasketed as a moisture seal; fittings are stainless steel. A heat-resistant glass refractor controls light distribution.

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

CENTER PLAZA. ARCHITECT: Murray Jones Murray. (Materials & Manufacturers as submitted by the architect). CONCRETE & CEMENT: Dewey Portland Cement. THERMAL INSULATION: U. S. Gypsum Thermafiber. ACOUSTICAL MATERIALS: U. S. Gypsum Q-T. FENESTRATION: General Aluminum Corp. GLASS: PPG. INTERIOR PARTITIONS: U. S. Gypsum. ELEVATORS: Westinghouse, Parkline Cabs. EXTERIOR DOORS: Harding Glass, Steel Craft, Float-Away. HARDWARE: Sargent. TILE: Mosaic Tile, Formica, Vent-a-Shelf, Master Metal Products. PANELING: U. S. Plywood-Texture 1-11. PAINT: Anchor Paint, Superware. LIGHTING FIXTURES: Marco, Mark-

stone, Prescolite, Lightolier. PLUMBING FIXTURES: American Standard, Kilgore, Kohler. HEATING VALVES: Honeywell. AIR CONDITIONER: Whalen. INTERCOM SYSTEM: Dukane. CEILING MATERIALS: Armstrong. WATER COOLERS: Halsey-Taylor. MOVABLE PARTITIONS: Hough. KITCHEN EQUIP.: Whirlpool. FINISH FLOORING: Kentile, Stephens, Gulistan.

SPRING POND APARTMENTS. ARCHITECT: Sauer & DeVito. (Materials & Manufacturers as submitted by the architects). WATERPROOFING: Koppers Co. CONCRETE & CEMENT: Martin Fireproofing. STRUCTURAL STEEL: Wallace. SIDING: Evans Products. FLOOR & DECK SYSTEMS: U. S. Plywood Woodlife. ROOF MATERIALS: Barrett Roofing, Flexstone Roofing. THERMAL INSULATION: Celotex, Certainteed, Zero Weatherstripping. FENESTRATION: Peterson Aluminum Windows, Johns-Manville Colorlith-Sills. GLASS: PPG. INTERIOR PARTITIONS: National Gypsum Drywall, Douglas Fir Plywood. HARDWARE: Wiser, Sargent, Johnson. TILE: American Olean. PANELING: U. S. Cedar Plywood. PAINT: Cabot Creosote, Cabot Woodlife, Rustoleum. ELECTRICAL EQUIP.: Ite Co., Seymour, Slater. LIGHTING FIXTURES: Sterner/Bethel. PLUMBING FIXTURES: American Standard. PIPING: Cast Iron Pipe Co., Joints-SuperSeal by Cabot. UNIT HEATERS: G.E., Bryant. UNIT VENTILATORS: U. S. Register Co. HEATING VALVES: Bryant. AIR CONDITIONERS: Bryant. DIFFUSERS: U. S. Register Co., Son-airducts, NuTone. SPECIAL VENTILATORS: Bryant. CEILING MATERIALS: National Gypsum. MOVABLE PARTITIONS: Johnson Bifold. KITCHEN EQUIP.: Hardwick, Insinkerator, Formica-Kemper, Frigidaire, Sunset Stainless Steel Sink. FINISH FLOORING: Bruce Parquet, Kentile, Gulistan Carpeting. DRAPERY HARDWARE: Stanley, Kirsch.

WOODLAWN GARDENS. ARCHITECT: Stanley Tigerman. (Materials & Manufacturers as submitted by the architect). HEATING BOILERS: Rite. UNIT HEATERS: Trane. HEATING VALVES: Minneapolis-Honeywell. PUMPS: Bell & Gossett. ELECTRICAL DUCTS: Federal Pacific. LIGHTING FIXTURES: Lightolier, Markstone. PLUMBING FIXTURES: Eljer.

GROUP RESIDENCE. THE CHILDREN'S AID SOCIETY. ARCHITECT: Davis, Brody & Associates. (Materials & Manufacturers as submitted by the architects). BRICK: Glen-Gery Corp. ROOFING: Bird Roofing Corp. HARDWARE: Modric, General Lock Co., Eaton, Yale, Towne, Inc. PAINT: Glidden, Purity. LIGHTING FIXTURES: Lightolier, Habitat, Lighting Associates. PLUMBING FIXTURES: American-Standard. CONVECTORS: Chromalox. FIRE ALARMS: Acme Fire Alarm Co. VENETIAN BLINDS: Custom Shade Co. KITCHEN EQUIP.: Westinghouse, Nordia Importers. FLOORING: Durkan Carpet, Kaufman Carpet, Flintkote, Armstrong Tile. FURNITURE: Children's Workbench, Custom Furnishings, Unicorn Woodworking Ltd., Herman Miller, Stendig, International Contract Furnishings. MOVABLE PARTITIONS: Pella Products. OTHER FURNISHINGS: Edwin Jackson, Inc.



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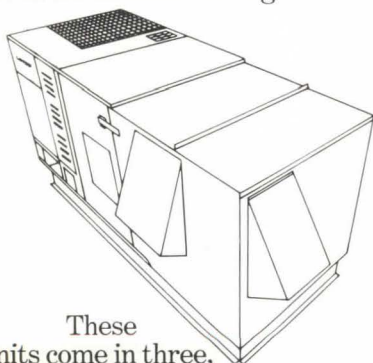
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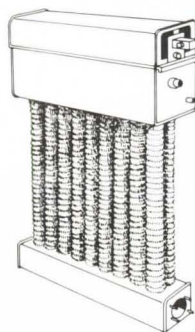
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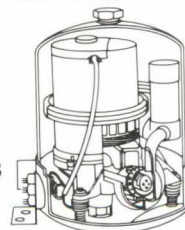


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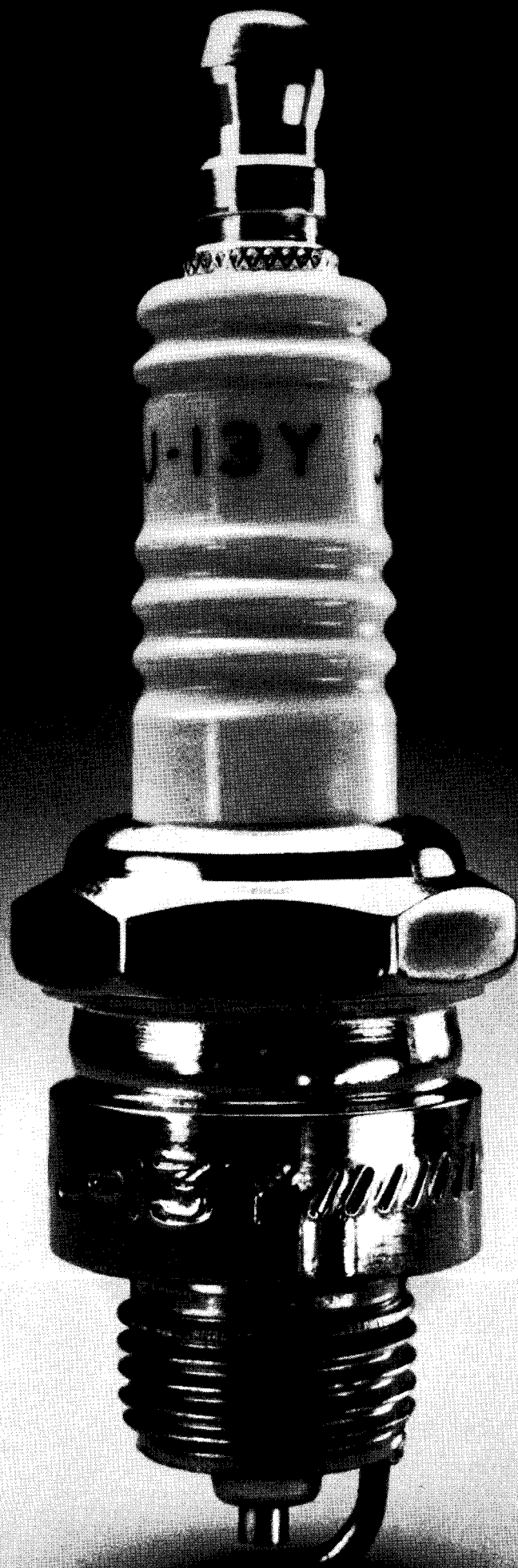
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GENERAL  ELECTRIC







**ORDINARINESS AND LIGHT.** By Alison and Peter Smithson. Published by The MIT Press, Cambridge, Mass. 195 pp., illustrated. \$10.00

REVIEWED BY PETER D. EISENMAN

The American romance with English intellectual attitudes since 1950 has induced what can be described only as a form of culture shock in certain American architectural circles. This state had become so pervasive in the last ten years that it became almost a requirement for an eastern school of architecture to maintain at least one pendant Englishman, as a modest sign of being with it. Even today, a recent count of five centers of learning along the east coast revealed nine English "types" in various stages of transience. Add a few more lured by one or two provincial outposts, imitating their eastern counterparts, and include a few South Africans, and one begins to understand the extent of this intrusion.

As was to be expected, an opposing attitude to this sibling affair has appeared, not only in the profession, but extending into critical and academic circles as well. Such comments as "overly intellectual", "excessively verbal", and "non-building" are common pejoratives given up by this hostility. And while it is fashionable in private to be "not nice about the English", one may well think twice about publicly challenging an "I. Chipendale" with these epithets.

It would be interesting to speculate why Peter and Alison Smithson, the authors of the book, *Ordinariness and Light* who must stand even before the publication of this book as two of the central figures of post-war English architecture, have never been part of the American academic circuit. Since 1958 except for a brief visit to the industrial wasteland of New Jersey and the European archetypal American city—Chicago, they have appeared only rarely in this country and their influence up to now has been minimal.

Is it because they were too

Mr. Eisenman is director of the Institute for Architecture and Urban Studies in New York City.

outspoken, too committed to a position, too iconoclastic, and ultimately too hot to handle? After all, these were not carefully bred, cautious, well-spoken academics, but rather tough, pull-no-punches north-countrymen. They engaged in a hard-hitting polemic, a street-fighting kind of criticism, with an intensity which discounted personal feelings. Their assault on English establishment values and culture after the war, which was not only characteristic of architecture but also of literature, theatre and art, honed a generation of architects, who at least if they did not produce "great architecture", attempted not to perpetuate the mistakes of a professional mediocrity.

Yet how many people know their Hunstanton school, their Sheffield University competition, their Golden Lane housing scheme, projects which in their time were and will remain of a significance at least equal to their more popularized successors—the Archigram group. For it was the Smithsons who first introduced "pop" into architecture with their participation in the "This is Tomorrow" exhibition in 1956. It was the Smithsons who early broke with the esthetics of the "modern movement" with their "house of the future", also in 1956—events without which no Archigram would have been possible.

One answer to the above question may be found in the fact that the publication of this book follows almost twenty years after most of it was written. The first part of the book originally written in 1952, and entitled "Urban Re-identification", was intended as a statement of the Smithson program; for some reason it was not published at that time. The second half of the book contains a series of essays on urban theory, mostly published in the late 1950's in *Architectural Design* magazine—which at that time under the direction of Monica Pidgeon and Theo. Crosby was the house organ for these angry young men.

The book was consciously modeled, as acknowledged in the preface, on Le Corbusier's *Urbanisme*. This is evident in its format, layout and typography. While in itself it is not the actual past of Le Corbusier's text, it evokes a sense of this past through its style and the im-

ages it presents. In many respects, it is in reality a document of the 1950's, in that such a lyrical, sometimes rather naive manifesto would be difficult to conceive of today. It is perhaps because the text is now history, rather than polemic, that one senses a kind of melancholy, in that the polemicists of fifteen years ago could present us with ideas which require the context of when they were written.

It is a book to be enjoyed for its spirit rather than to be admired for its precision. There is much to disagree with—statements which cause those who believe in the efficacy of rationalism as a continuing idea rather than as a period style, to react. However, in a review, to quarrel with these issues, would be to miss the point of the book and distort its real value.

If there is one idea in the book which stands of particular interest to 1970's America, it is the question of ordinariness. Again, for those who feel "the ordinary" to be part of an *avant garde*, it must be pointed out that it has been part of the Smithson baggage since at least 1958. Ordinariness for the Smithsons can be ultimately traced to their love-hate relationship with the European modern movement; in aspects of their "brutalism" from late Le Corbusier; in aspects of their "coolness" from Mies, and aspects of their attempt to "humanize" the abstraction of the twenties seen in their *Team 10* work. It is possible therefore to distinguish three different "esthetic" notations in their concern for ordinariness. But one has always thought that the idea of ordinariness which the Smithsons were getting at, was not the ordinariness of "dumb and ordinary" as espoused by a new wave of architects; it was not an ordinariness concerned with a cult of folk art—a pandering to popular taste—nor an appeal to a new American populism. Ordinariness for the Smithsons was not an esthetic, but rather it was concerned with an idea—the concept of norm. There are two keys to this interpretation.

One, not included in this book, is an article entitled "Without Rhetoric—some thoughts for Berlin", written in September and October of 1965 in which can be found an initial insight

to this interpretation of ordinariness. It reads, "When the few had cars, then was the time of rhetoric about the machine, of violence as an ideal. When all have cars, transistor radios and light—to throw about, then is the time for the lyricism of control, for calm as an ideal." The article ends by equating "calm as an ideal" with ordinariness. "This is the way one thinks over and over again about the *Hochschule fur Gestaltung* at Ulm—of its ease, of its lack of rhetoric, or its ordinariness". Now Ulm is not ordinariness in the sense of the Las Vegas Strip, but rather an ordinariness thought of as, or aspiring to, a norm.

A second key comes at the end of another essay, previously unpublished, called "Chicago", written in 1959. Here in the last two paragraphs, in addition to providing an insight to the juxtaposition "Ordinariness and Light", is a further evolution of the Smithsons' idea of "ordinariness". He says, "whereas the spaces in the new architecture were at worst *normal* (regular, well-lit, hygienic)" they were "at best *poetic* (somehow the light itself was modelled—light everywhere)". This idea is elaborated in the last sentence: "And in a curious way Mies van der Rohe's work in Chicago has both these characteristics, normality and light-filled poetic space". Here is the equation of normal and poetic, and since poetic = light and light-filled, it would seem that the Smithsons are linking normality and ordinariness.

That the book provides us with this interpretation would alone make it a welcome document. But further, it opens upon another issue, the relationship of the written word to built form.

The Smithsons are often accused of being writers and philosophers first and architects second. In this sense, many critics have attempted to substantiate this interpretation by comparing them with James Stirling—to present them as opposite poles of a similar phenomenon. To do this is not only to be overly simplistic about the nature of architecture, but also to do a disservice to each of them. Stirling is an intuitive architect operating quite naturally in the tradition of the individ-

(continued on page 80)



# The Architect's Guide to Blinds.

**In this chapter: Introduction; how to cut costs on air conditioning; surfaces that reflect heat; how to keep heating bills down; surfaces that absorb; color; what to do to learn more.**

## Introduction.

There are as many different blinds as there are windows. A busy architect can't be expected to know about all of them. This convenient guide should serve as an aid to specifying more creative window coverings. Reprints of this guide and additional information are available from Levolor on request.

## How to Cut Costs on Air Conditioning.

We get quite a few letters every month asking about the problem. And the answer is quite simple: blinds are the best window covering for this purpose and the correct choice of blind can make a substantial difference in the air-conditioning load of a building. And contrary to what a lot of our correspondents seem to think, white is no longer the best color you can specify to keep air-conditioning bills down.

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Comparative Shading Coefficients

Coating of Slat	Thru 1/4" Clear Plate		Thru 1/4" HA Plate		Reflect.	Absorpt.
	Open	Closed	Open	Closed		
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Sand	.52	.38	.45	.28	.53	.47
Raw Umber	.67	.65	.49	.48	.08	.92
Polished Alum.	.45	.22	.34	.27	.76	.24
Brushed Alum.	.50	.25	.41	.28	.73	.27
Polished Brass	.52	.36	.42	.30	.55	.45
High Gloss Alum. Mirror Finish	.37	.15	.34	.23	.89	.11
Low Gloss on Mirror Finish	.40	.19	.36	.25	.81	.19

And don't think that, just because the side of the slats toward the outside of the building is silver, you're limited to silver for the inside. The other side of the blind can be any color you like; you'd choose it to go with the rest of the interior decor. If you wonder how the correct color is maintained for the outside, we've solved that problem with our "tiltone tilter."

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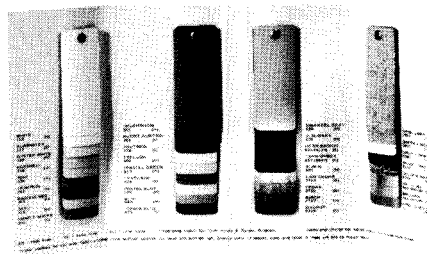
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# International Design Conference in Aspen

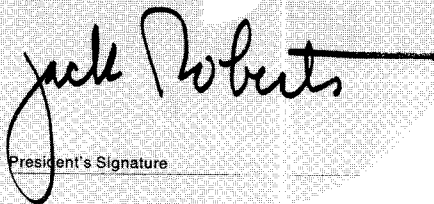
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IDCA 71: Paradox is being planned by behavioral scientist Richard Farson with a design team from California Institute of the Arts.

Conference registration will be by mail only. Registration will be limited and closes May 31, 1971. Return this part of registration card with your check to Box 664, Aspen, Colorado 81611 USA. Your check will be your receipt.

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### ROOFING

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"Architectural Reflections". A full-color pictorial brochure depicting history of esthetic applications of Kinney reflecting glass. Kinney Vacuum Division. On Readers Service Card, circle 243.



# BOOKS

(continued from page 76)

ual building. The Smithsons are thinking architects concerned as much for the written word as the built artifact. This does not deny to each the opposite qualities, nor imply to one, more or less of a concern for social responsibility; it is merely to say that these categories are not the only measures for judgment. For me it is not a question of agreeing with the Smithsons—it is rather more important to recognize the range and intensity of their contribution.

This comes across most strikingly in the book which only touches the surface of their writings and their projects. For example, the same Smithsons could produce within three years, from 1962-1965, such diverse works as a critique of Vincent Scully's book, *The Earth, The Temple and the Gods*; a review of the Dutch architect Johannes Duiker; the *Team 10 Primer*; a special issue of *Architectural Design* on the *Heroic Period of Modern Architecture*; and the *Economist* building. In fact, it

is through the book that one realizes that their energy which was so apparent until 1965 seems to have dissipated—that they again might have been the victims of a "temps perdu".

But, whatever their shortcomings; their iconoclasm; their deficiencies in building—these seem minor when compared to the impact of their polemic and their projects on the history of post World War II architecture.

What they brought to their generation, which one senses is missing even from the radical movements in architecture today, is: first, a sense of history; second, a sense of what it is "that is architecture"; and third, the inevitable dialectic of the two.

For me they represent the essence of what it is to be an architect: a commitment to a set of ideas—a philosophical position—and a body of work generated by, representative of, and embodying these ideas. Would that we in America today had such an integrity and commitment. It is perhaps we who should stop the quibbling, the verbalizing and the rhetoric—and get on with it!

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