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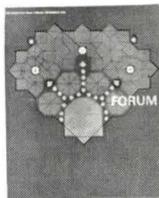
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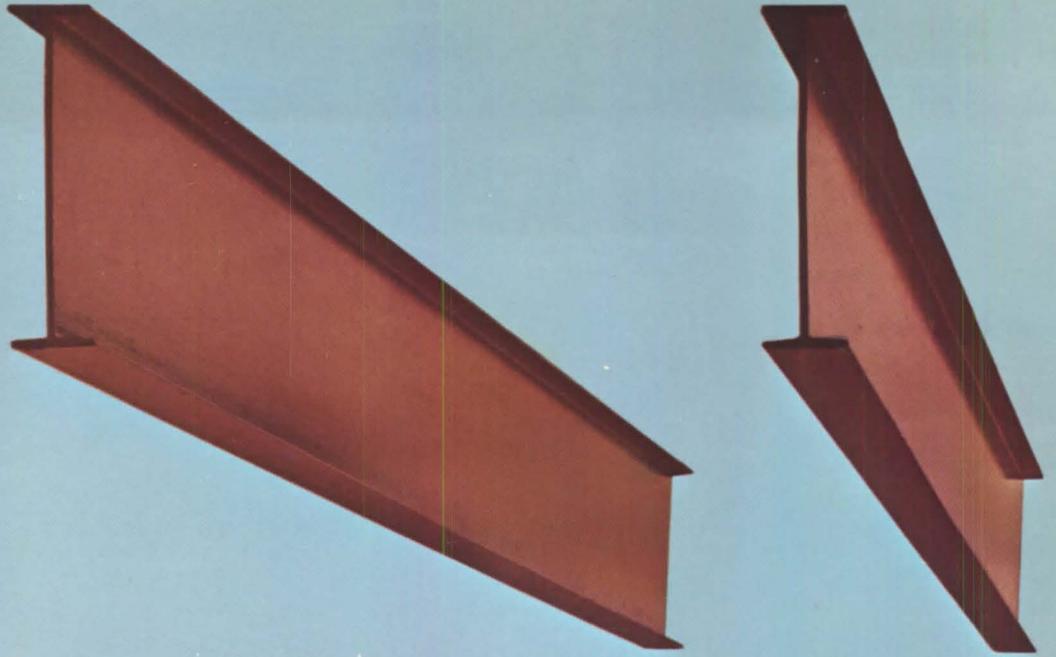
PUBLISHER'S NOTE

Senior Editor John Dixon is an MIT graduate, and proud of it, but there are times when he considers himself an alumnus of the University of Illinois' Chicago Circle Campus. Dixon was never a student *at* that campus, but he has been a student *of* it ever since it began to take shape several years ago. We venture to say that he knows more about it than any other outsider, and probably more than many who study, teach, and work there.

Dixon's association with Chicago Circle began several months before his first article on the new campus appeared in FORUM's September '65 issue. He made several field trips to the site, followed the construction of its first-phase buildings, and talked with scores of people involved. The resulting article, as we noted at the time, was the FORUM's "biggest editorial commitment to a single project, ever."

Since then, Dixon has made a special point of keeping himself informed on the evolution of Chicago Circle. During his frequent trips to the Windy City, he has always taken time out to visit the campus and see for himself how it was working in operation. Thus, when the editors decided to publish a revisit to Chicago Circle in this issue (page 29), Dixon already had a wealth of first-hand information to draw on.

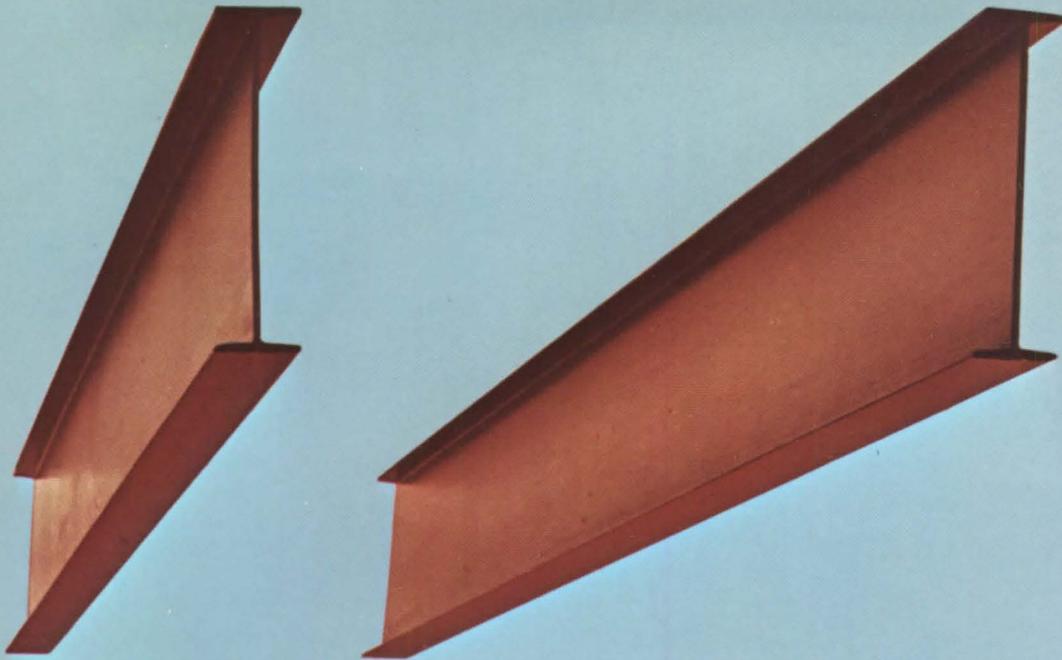
Last month, in final preparation for his article, Dixon spent several intensive days at Chicago Circle. He talked with the architects and university administrators, of course, but much of his time was devoted to the students, getting their reactions, impressions, and opinions about the campus. His report, we think, justifies the effort. It deals with the campus not as a collection of buildings and spaces, but as a living, growing organism designed for people. And it illustrates what good architectural journalism is all about.—L.W.M.



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But even before the advent of the hippies, Haight-Ashbury needed help. Its unemployment rate and per capita income were slipping. A slum in the making.

Still, it is a section of latent beauty in a beautiful and fast-growing city. What could be done to revitalize it? To save it from the fate it is surely headed for?

Would you take its picturesque Victorian character as your leitmotif? And create a city-within-a-city? A Haight-Ashbury of unusual charm and grace?

Or would you level it if you had the chance? And start all over? Rebuild a Haight-Ashbury that only San Francisco's unique topography could make possible? Just how would you do your thing for Haight-Ashbury? Or other city sections in need?

We'd like to stimulate some thinking. So we've established the Eaton Yale & Towne Urban Design Fellowship.

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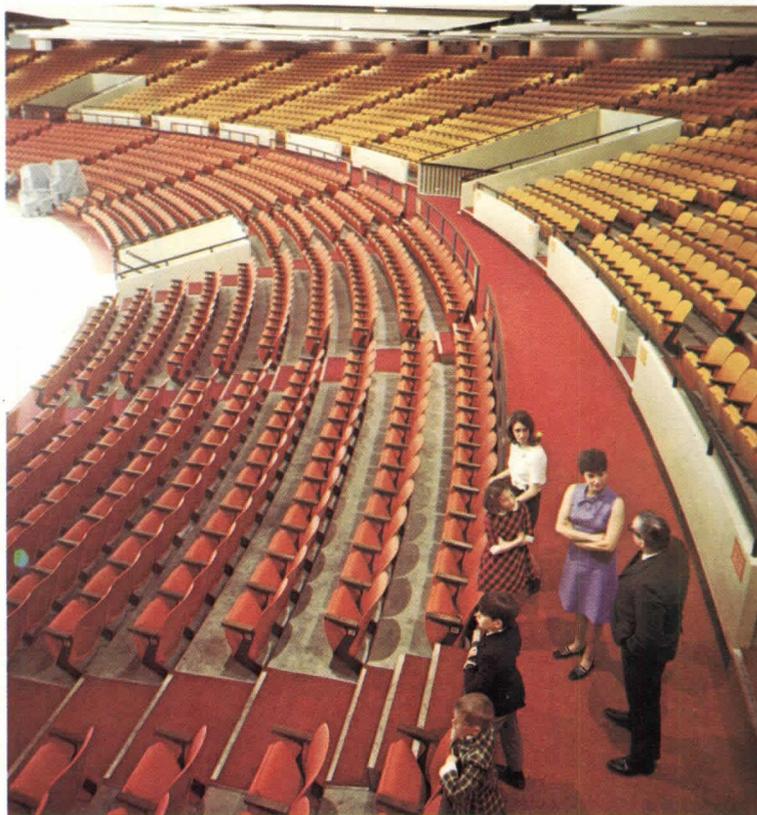
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A guided tour of the new expanded Center includes not only the 20,000-seat Madison Square Garden, The Felt Forum, the Bowling Center and The Center Cinema shown here, but also the Exposition Rotunda, Gallery of Art and Hall of Fame. Charles Luckman Associates, Architect.

The new Madison Square Garden Center: She's changed her style and she may change yours



Many architects anticipate a nationwide trend in communities of every size — a trend away from limited-use arenas and auditoriums, toward the more versatile family "center" in which many different events can be held simultaneously, as in the new Madison Square Garden Center.

While Madison Square Garden has changed in many ways, one thing remains the same — the name on the chairs is still American Seating. But, the Garden's expansion to multiple facilities meant new multiple seating requirements. And American Seating was ready with almost a century of experience in planning and installing institutional seating of every kind.

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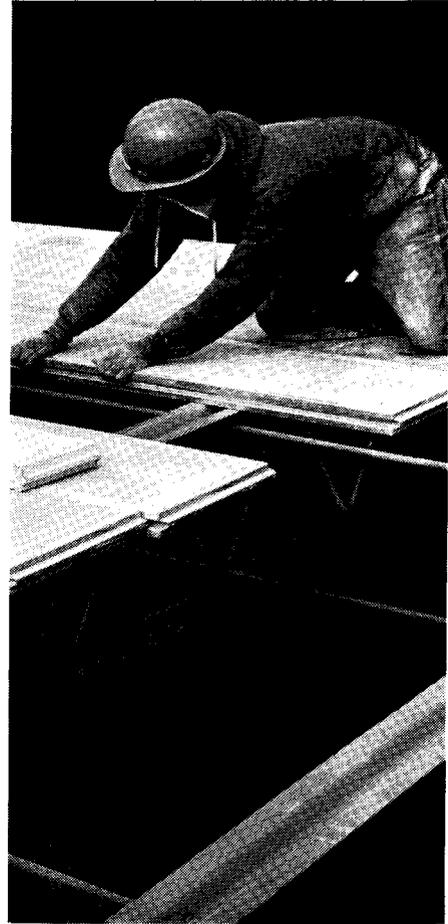
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Steel-edged gypsum planks are welded to steel bar joists and to each other.



CRICKLEWOOD HILL APARTMENTS, Pittsburgh, Pa. Owner: Pittsburgh-Duquesne Development Corp. Architect: Joel Robert Hillman & Assoc. Structural Engineer: William Schimdt & Assoc. General Contractor: Mellon-Stuart Co. Steel Fabricator: Levinson Steel Co.

When steel goes up costs come down



Cricklewood Hill Apartments is costing less to build because of a steel frame and a new floor system. Chicago architect Joel Hillman has designed a steel-framed high-rise apartment building in which he estimates a savings of \$500,000 under the cost of the originally conceived flat plate concrete design. Over-all construction efficiency, reduced foundation costs, reduced dead load in both the structural frame and floors, and the basic efficiency inherent in this new dry-floor system resulted in the savings which works out to about \$2.30 per square foot.

The new dry-floor system consists of 2" thick gypsum planks, manufactured by U. S. Gypsum Co., reinforced with 18 gage steel mesh and edged with 22 gage galvanized steel tongue-and-groove sections. Fitted together on top of steel joists, the planks are tack welded together and to the top flange of the joists. Troweled mastic, applied 1/2 inch thick, will level and provide a subfloor for the

finished flooring when the building is completed.

As the gypsum planks are laid, they form a solid floor for workmen and stacked materials, obviating the need for temporary flooring.

The gypsum plank floors act as diaphragms, transferring lateral loads from the walls to the frame, where they are resisted by four K-braced bents across the building's 60-foot width, and one K-braced bent parallel to the 190-foot longitudinal axis.

The combination system of dry-floor and steel frame was jointly developed by U. S. Steel Corporation and U. S. Gypsum Company. The design was the outgrowth of research into low-cost floor-ceiling construction for low-income high-rise housing.

The braced steel frame uses A36 steel beams and some columns. The more heavily loaded columns are USS EX-TEN 42 and 50 High-Strength Low-Alloy Steels, with 42,000 and 50,000 psi minimum yield points, respectively.

The building's exposed spandrels are made of bare USS COR-TEN High-Strength Low-Alloy Steel. Left unpainted, bare COR-TEN Steel develops an attractive coating that retards further atmospheric corrosion.

STRUCTURAL REPORT. There are many ways to keep costs down with steel. Used imaginatively, steel usually wins out in first cost compared with other building materials. In the long run, there's no question. Only steel-framed buildings can be altered economically when it comes time for major remodeling.

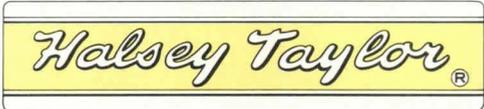
For a more detailed report on Cricklewood, ask for a copy of our "Structural Report" (ADUSS 27-3903-01) on the building. Call a USS Construction Marketing Representative in the nearest USS sales office, or write U. S. Steel, Box 86 (USS 5859), Pittsburgh, Pa. 15230.

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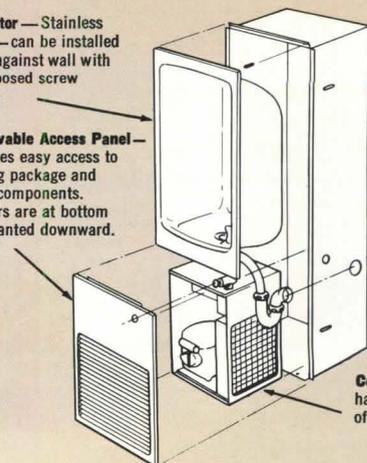
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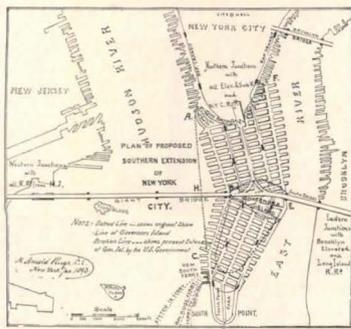
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LETTERS

PRECEDENCE

Forum: Hermann Herrey's plan for adding six square miles of new land to Manhattan Island [Nov. issue] is not as revolutionary as it might seem.

In 1891, Herman A. Ruge, an engineer, devised a scheme for adding 522 acres of new land to the southern tip of Manhattan. He proposed that the new land be supported on stone masonry bulkheads, and that it extend two miles, completely embracing Governors Island [below].



Ruge's scheme also called for a revamping of Manhattan's then-current transportation system, using the new land as the catalyst for bringing it about. For a detailed description of the plan, I refer you to Ruge's paper published in the *Proceedings for 1907* of the Municipal Engineers of the City of New York.

CONSTANCE STIKLER
New York City Historian

MIES IN BERLIN

Forum: Peter Blake gives us some fascinating snippets of information about the new National Gallery in Berlin [Oct. issue], but how he bludgeons us with required hero-worship! Is it really "the most beautiful building ever created by Ludwig Mies van der Rohe"? Who says, and how does he know so soon after the event? "Most of 20th-century architecture looks nearly amateurish," he says, compared with this building, but then it looked nearly amateurish before, compared with 840 Lakeshore Drive or Unité, or any strong building that carried through an IDEA to the end. And how important is the "spectacular achievement in technology" of hydraulically lifting the 1,250-ton roof in eight hours and 57 min-

utes, to the final excellence of the building?

After this very uncritical proclamation of perfection we are treated to a cavalier brushing-off of museum directors who "always say things like that" (about our favorite form-givers), and a rather contemptuous dismissal of Berlin hippies who apparently were NOT bullied into hero-worship. Why in heaven's name would Mies have "scorned" the person who made the clay model of his original memorial wall? Surely he would not interpret that kind of symbolic gesture as an affront to the nature of materials.

Thank you, in spite of all this, for the lovely color plate showing the steel and glass pavilion contrasted against Stüler's striped Matthal-Kirche of 1846; a relationship the text barely mentions. I wonder though if others were struck by the nonchalant way the hefty cruciform columns penetrate rather than rest on the pure plane of the basement-pedestal? Initially it seemed to me a flaw in its vocabulary that this eight-columned configuration, particular rather than universal, should rise from a small regular grid of quite different character (white piers, not highly emphasized structurally) that comprises in turn a structurally deemphasized base. Clearly the eye is not meant to structurally relate the black steel pavilion to the "solid" white box below.

Altogether then, the building reminds me of the Tugendhat House reversed. That house had a peculiar vitality resulting from the juxtaposition of the almost ordinary white "boxes" of the bedroom floor with the open-plan perfection of the living floor below. It was a marriage of the "perfect" and the "humanly necessary" such as Philip Johnson has described very well in his struggles with the Wiley House. This museum building is of the same family.

One has noticed how grand old masters tend to reiterate their earlier works at a higher level of integration. Perhaps Mies, building again in Germany, is retracing his path and somewhat denying, somewhat transcending his American, "I-beam, endless-grid" phase, coming round full circle to the expression of something beyond structure; something in fact having to do with the vocabulary of classicism. Did you notice that even the cruciform columns,

though black and hefty, relate back to the chromed cruciform columns of the Tugendhat House?

JOHN KENYON
Berkeley, Calif. Urban Design Critic

Since Mr. Kenyon asks specific questions, here are the answers: 1. I say it is "the most b. b. ever etc.," and I have seen most of Mies's buildings, in the U. S. and in Europe, and written about them in considerable detail. 2. The achievement in technology contributes to the final excellence of the building because the roof could be put together under optimum conditions and the workmanship, therefore, is superior. 3. The museum directors were not brushed off; an attempt was made to explain the building to them. 4. The Berlin "hippies" very definitely did "hero-worship" Mies and proved it by suggesting that another of his works be rebuilt. 5. The clay model was an incompetent piece of model-making and demonstrated a distinct insensitivity for the original monument. 6. Certain relationships were explained in photographs, others in words, and a very few in both words and pictures. 7. Mr. Kenyon's analysis of the Neue Nationalgalerie and his comparison of it and the Tugendhat House are interesting and suggest that he has seen neither. I have seen both, repeatedly.—P.B.

JUSTICE IN NEW HAMPSHIRE

Forum: Thank you very much for the publicity given in opposition to the New Hampshire Supreme Court Building [Oct. issue, page 33].

You may be interested to know that we have been on the Associated Press Wire and in several newspapers of the state. There appears to be enough interest that I am still giving interviews on the radio regarding it.

I hope all this effort makes it unlikely that we see this sort of monster building again. Thank you for your help.

JOHN A. CARTER
Nashua, N.H. Architect

DISSENT ON CHICAGO

Forum: I have just finished reading the lead article regarding the location of the 1969 AIA convention [Oct. issue, page 31]. Chicago is a great city and does have special significance to architects.

However, your juvenile, inane comparison between such illustrious members of my profession and

the pimply social misfits that roamed the streets of Chicago during the Democratic convention is beyond belief. The photo was particularly trite and leads me to wonder if you have any old photos of FLLW leaning against a wall being prodded with bayonets. Do you seriously think that anyone confused an intelligential dissent such as Sullivan and Wright epitomized with the wild, chaotic, emotional dissent that leaders of this mess propagate?

You criticize Mayor Daley for not permitting freedom of assembly in order to dissent. What you really are saying is that he does not permit freedom of assembly in order to start a riot because you happen to be 23 years old, bearded, have tried LSD, and are full of undisciplined idealism.

Frankly, I want the 1969 AIA convention in Chicago. I plan to do all I can here in my local chapter to support the decision and, in protest to your opinion, I wish my name withdrawn from your free subscription list.

WILLIAM HONNER
Architect

Well, now, we didn't notice that they were pimply, or we wouldn't have defended their right to dissent!

Some of the kid's deserved a spanking, but most of them were serious and "disciplined" (to use Mr. Honner's word) in their idealism, and they were denied sufficient latitude within which to express a legitimate dissent—ED.

Forum: Just where would you suggest we move for that convention? To Washington, D.C., maybe, provided we furnish our own personal bodyguard?

Yes, I saw the force used by police against those "dissenting" hoodlums. I did not see anybody murdered such as happened at the Miami convention. I did not see any candidate assassinated such as in California. I did not see any pillage and arson such as has left so many other cities in a shambles—including the city of Chicago itself earlier in the year.

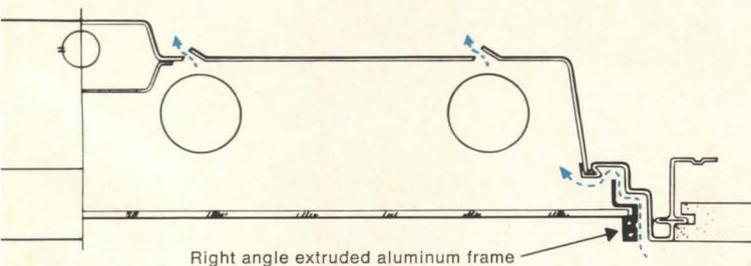
We can now convene in Chicago secure in the knowledge that at least one large city has finally learned its lesson in how to deal with potential saboteurs, and for this we can send fervent thanks to Mayor Daley.

And no thanks to the author of your stupid editorial. How dare he lump Sullivan and Wright with

(continued on page 16)



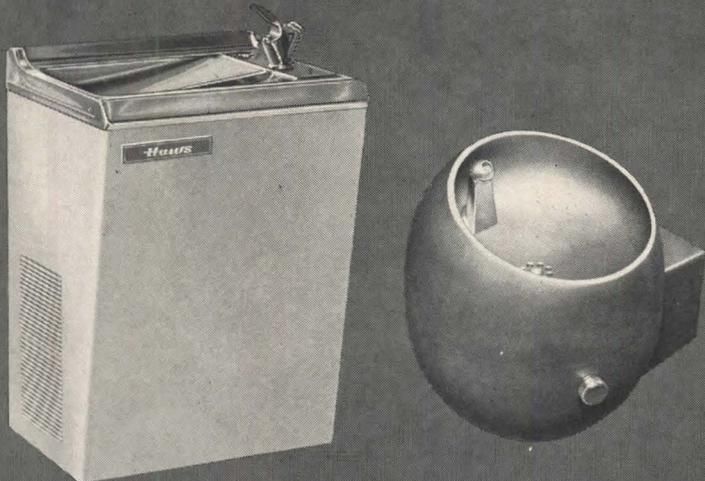
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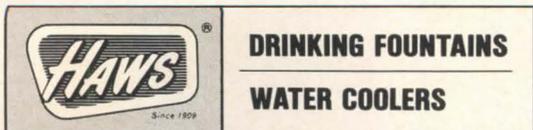
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LETTERS

(continued from page 14)

the kind of scum who throw bricks and human excrement at policemen risking their lives to maintain an orderly society! I suggest that this disgruntled gentleman might better express his feelings by publicly burning his AIA membership card.

CHARLES H. DEAN, JR.
Jackson, Miss. Architect

We are burning our Diners' Club card instead.—ED.

Forum: Your editorial is the type of thing I have come to expect from our more sensational tabloids but not from a journal of our profession. Stating that dissenters have no freedom to assemble in Chicago is absurd enough but equating Sullivan and Wright to the hoodlums who caused the disorder during the Democratic Convention is absolutely asinine.

No group is forbidden peaceful assembly whether they are dissenters or not. When any individual or group interferes with the safety and rights of others (remember, the majority has some rights) it is the duty of local officials to step in and restore order, by force if necessary. . . .

If hooligans were permitted to do as they please, there would be no conventions and soon, no society.

DONALD J. RICHARDS
Chicago Architect

Well, now, who is to decide who is a "hooligan" and who is (for example) Prof. Galbraith? And, supposing there were to be no conventions of the AIA for a year or two—whose loss would that be?

—ED.

VISIT TO RUSSIA

Forum: Surprised and disappointed that apparently you and perhaps others disapproved of our most exciting visit to Russia, sponsored by the AIA, to participate in a series of seminar sessions. These dealt with housing and urban planning of our two countries. When the question arose of whether we should go at all in view of the Czech invasion, the tour director received a reply from the State Department, "By all means go."

This type of exchange of ideas

with our Russian counterparts should be encouraged in professional and cultural matters. Our meetings with architects and planners in Moscow and Leningrad were informative and exciting in the field of planning and urban development. Through it all the Czech crisis was not mentioned; nor was Vietnam. Ideological differences were ignored.

This is the way it should have been; this is the way it was. We met in an atmosphere of mutual understanding, and to me it was a most revealing experience. I am so grateful to have had the chance to participate in these seminars.

GORDON S. MARVEL
Newburgh, N. Y. Architect

Granted that the tour was "informative and exciting," but there is a right time and wrong time for these things. Perhaps this tour occurred at the wrong time.—ED.

MAIER ON CITIES

Forum: "Discrimination in Favor of the Central City" by Mayor Henry W. Maier [October issue] is a beautifully written article that seems to reach the core of urban problems.

I would like to arouse local thought and action by sending copies of the article to various men in government, with a few comments of my own. . . .

ROBERT W. FREY
Allentown, Pa. Architect

CREDITS

Forum: It was gratifying to find our proposal for the U.S. Pavilion at Osaka in the October issue, but distressing to discover that what had been, in essence, a joint venture had been credited exclusively to my own office.

Collaborators in the project were Paul Heyer, architectural planner and designer, Ammann & Whitney, consulting engineers. I would appreciate your correcting this unintentional error of omission.

GEORGE NELSON
New York City Architect

In their presentations to USIA, many of the teams listed a number of consultants, with varying degrees of responsibility. We decided the fairest credits would be the official list of teams from USIA, which in this case included only George Nelson & Co.

Forum: I have read your article on HemisFair [Sept. issue], and, if I may, would like to make a

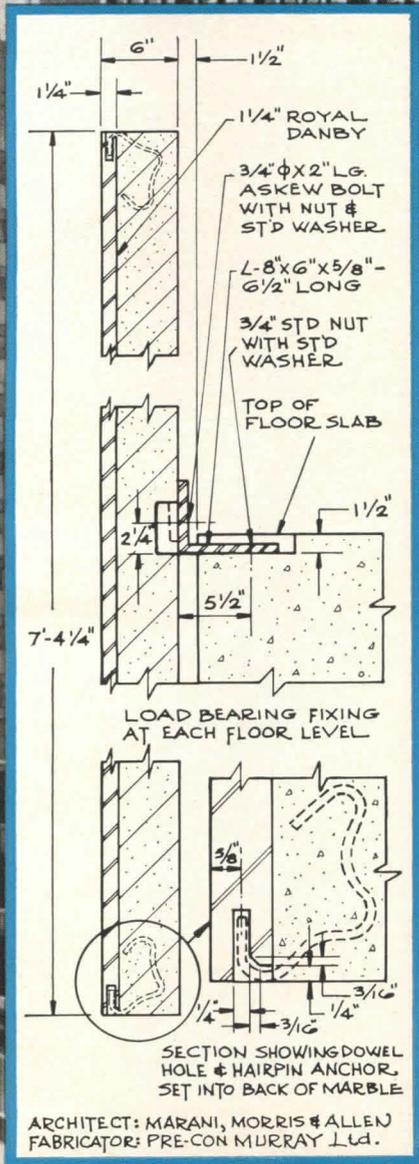
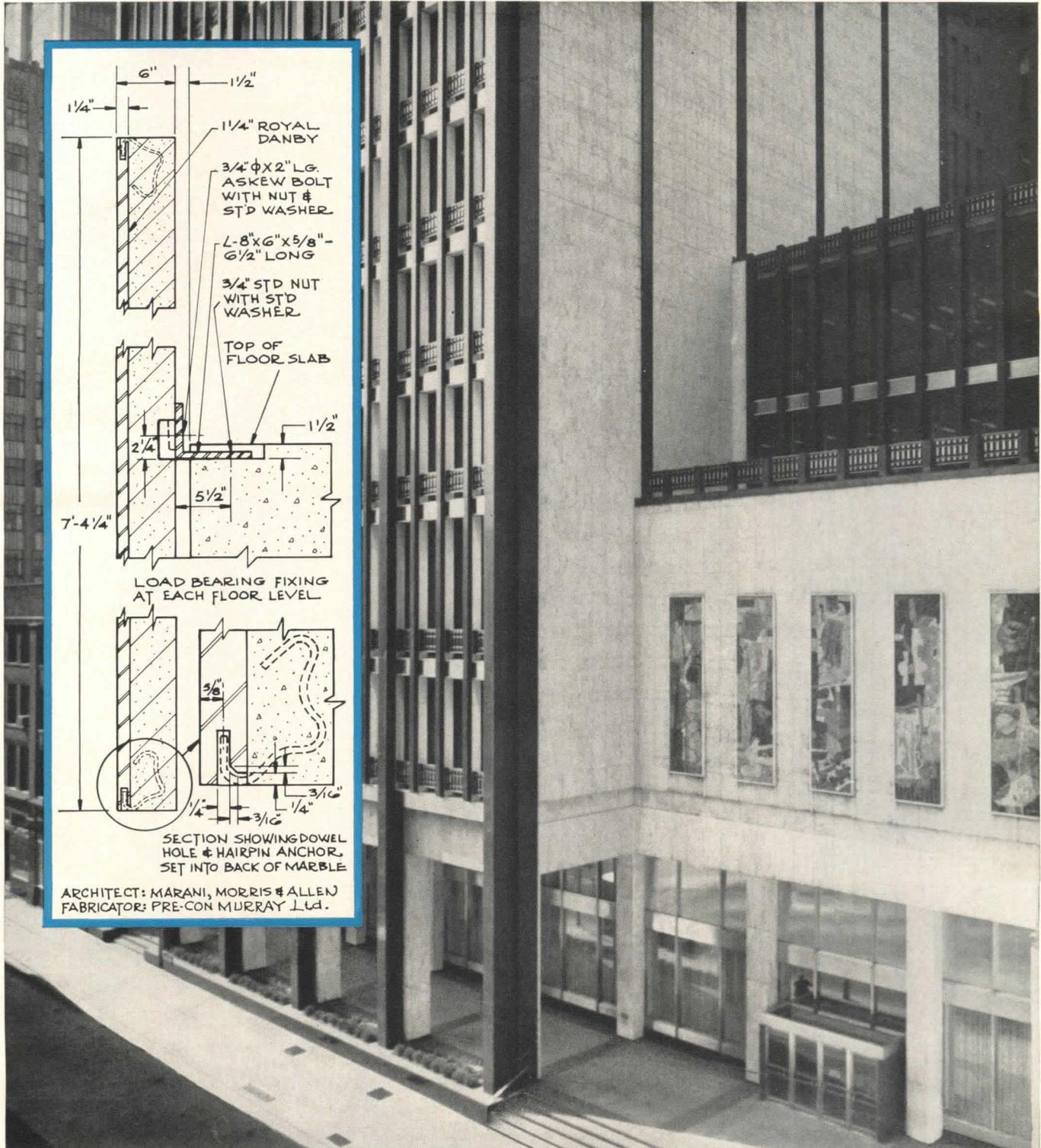
(continued on page 21)

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LETTERS

(continued from page 16)

couple of corrections in your credits.

The extension of the San Antonio River was not a product of the HemisFair design staff. It was designed in the office of Allison B. Peery, in collaboration with James Keeter, landscape architect.

Secondly, the foreign nations site plan and modules were designed by me rather than by the firm of Roberts, Allen & Helmke. The only way the latter became involved in the project was in the preparation of contract documents for the modules themselves.

JOHN KRIVEN
Architect
Cambridge, Mass.

CYBERPHOBIA

Forum: In regard to the Teicholz article "Architecture and the Computer" [Sept. issue], the author has skimpily hinted at the hidden or not-stated fears of architects in dealing with labor-saving machinery. There is a very deep hole here.

Possibly the architectural community should have a mass sensitivity training program to deal with such fear, or we may be facing another Luddite rebellion.

JOHN STUART MILL
Architect
Los Angeles

EDUCATIONAL DISSECTION

Forum: Congratulations to Forum for publishing and to Sibyl Moholy-Nagy for sparking the vital article, "What's Wrong with Architectural Education?" [July/Aug. issue].

I urge all readers of Forum, particularly students, to resurrect the issue from the circular file and read once again Professor Moholy-Nagy's magnificent dissection and balloon-pricking analysis of what's wrong with those who "know" dogmatically that everything is wrong with the practice of architecture!

ANDREW A. TITCOMB
Architect
Perkinsville, Vt.

Forum: I was shocked to read the flippant and pseudo-psychological treatment used by S. Moholy-Nagy to summarize the answers given by Messrs. Yelton, Michels, Field, and Anselevicius. Although S. Moholy-Nagy may not agree with the criticisms and proposed solutions, the manner in

which the summary is written is inexcusable.

It is strange indeed to be asked to comment on a timely and critical question and then to be ridiculed for doing so. This is particularly odd since the four respondents were well qualified: they were involved in the profession, had been or were still a part of the educational process they were examining.

A wise man *can* learn from a fool, but a fool *will not* learn from the wise.

VELTA BAUMANIS
Windsor, Ont., Canada

Forum: Even though nobody asked me, here is my answer to the question, "What's wrong with architectural education?"

The profession of architecture is dead. It died when it failed to address itself to the great social problems of our age; it died when it chose to remain aligned with the elite corporate establishment rather than with the people who really need it and whom it could really serve; it died when it continued to play refined esthetic games while our cities burned down; it died when it failed to join the great revolution of our times—the attempt to establish a truly free and democratic society where all people have political, social, and economic equality.

Architectural education is therefore irrelevant. Besides attempting to train young people for a dead profession, it uses an anachronistic institution which has long ago failed to meet the needs of young people with its dried up attitudes of authoritarianism and repression of meaningful dialogues and answers to questions the institutions are not even willing to ask. . . .

What relevance does the profession of architecture have to the overwhelming majority of citizens in this country except where it is employed to further brutalize their lives? What has the architectural profession done for the black community except to uproot them from their homes and replace huge portions of their community with blank, cold buildings priced far beyond their reach, and prison-like elementary schools walled off with concrete and chain-link fencing to keep the realities of the ghetto out. Architects and planners are despised by the poor and disenfranchised, with whose cause the young people of today identify. . . .

MICHAEL SINGER
Architect
Sacramento, Calif.

Who needs a striking roof treatment in copper?



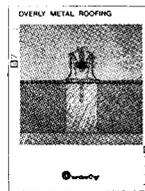
Dormitory Authority of the State of New York did and Overly made it.

The Dormitory Authority of the State of New York has completed a new housing complex at the State University campus at New Paltz. A mansard-type treatment sets off the five dormitories and dining hall.

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Architect: George A. Diamond Associates, New York City.



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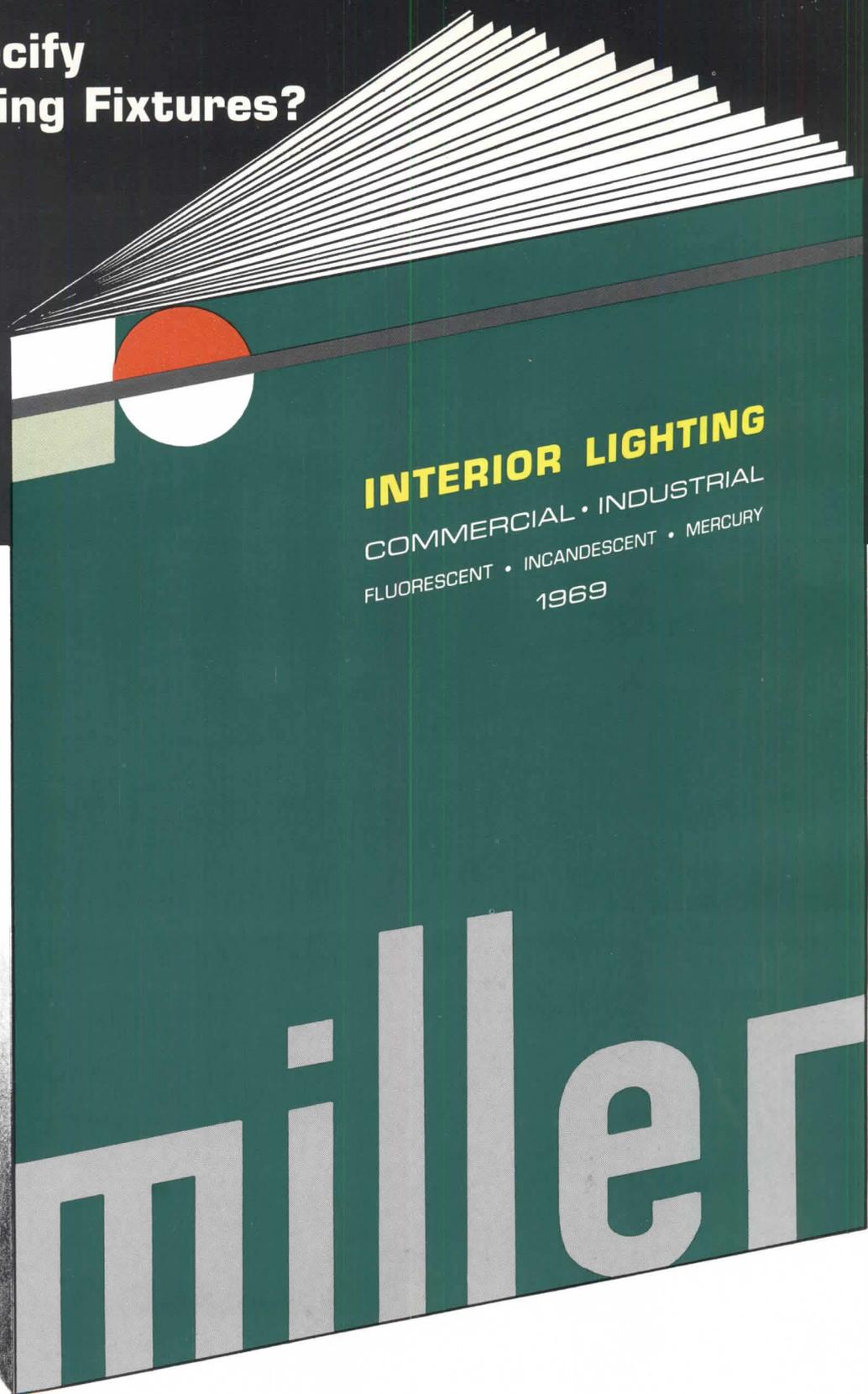
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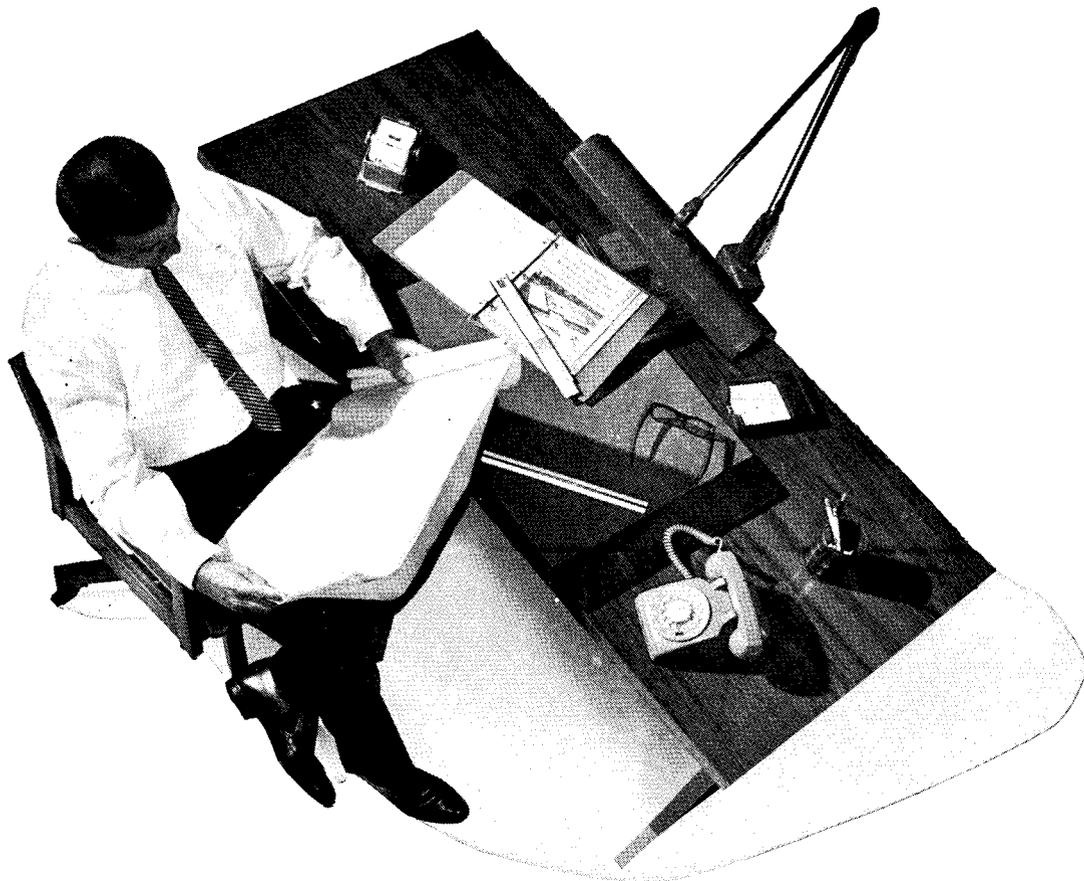
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FORUM

Urbanists last month were busy sifting, sorting, and analyzing every shred of evidence for clues as to how President-elect Richard M. Nixon will handle the urban crisis. They had precious little to go on, since Nixon's urban pronouncements, pre- and post-election, were anything but specific.

Nixon has said repeatedly that he favors tax rebates and other incentives to private enterprise as the best means of attacking urban housing problems, but he has been vague about just how such programs would work. Last month, without waiting to hear the specifics, HUD Secretary Robert Weaver labeled the idea "nonsense." Weaver claimed that tax incentives to businesses would be meaningless unless accompanied by subsidies to poor families so they can afford decent housing.

Weaver, of course, won't be in a position to influence Nixon, who reportedly has been asking prominent private enterprisers for their recommendations of a new HUD Secretary. Meanwhile, Nixon-watchers were playing the HUD Secretary Guessing Game—with seemingly nothing to go on. Among the frequently mentioned possibilities were Senators Charles Percy of Illinois and Edward Brooke of Massachusetts; Governor Richard Hughes of New Jersey (a Democrat); Mayors John Lindsay of New York City and Joseph Alioto of San Francisco (another Democrat); Lieutenant Governor Robert Finch of California, who managed Nixon's campaign; and Martin Anderson, a Nixon adviser on urban problems, whose 1965 book, *The Federal Bulldozer*, violently attacked the federal urban renewal program (May '65 issue).

Nixon seems to have abandoned his campaign pledge to put Spiro

T. Agnew in overall charge of urban problems. Last month, he announced that Agnew will be assigned "some new duties beyond what any Vice President previously has assumed," but the duties did not include urban affairs.

ONE-DAY STAND

The new President will watch his inaugural parade on January 20 from an architect-designed Presidential Reviewing Stand. The stand will be built on the south side of Pennsylvania Avenue in front of the White House.

The Nixon family will occupy a special box projecting out from a larger box holding other dignitaries. All will be sheltered by a cluster of wooden parasols overhead (rendering below).

The stand is the work of Architect William Crandall Suite of Washington, with associates John A. White and Ronald Lee Johnson. It was one of 38 designs submitted to a competition sponsored by the AIA and its Washington-Metropolitan Chapter.

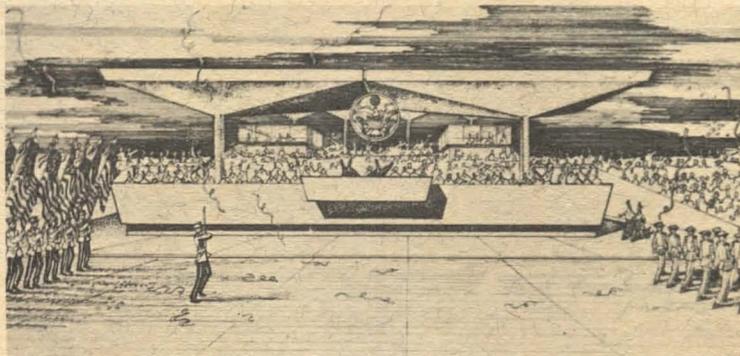
GOALS

SOME LEGACY

"This raises the question of how well the country will do in carrying out the promises of the 1968 Housing Act," said Paul H. Douglas, chairman of the National Commission on Urban Problems, on November 12.

"This" was a report released by the commission which showed that the federal government has never come close to producing the number of public housing units promised by Congress. In 1949, the report notes, Congress authorized 135,000 new public housing units a year for six years. The most units produced in any year since then was 69,224, in 1951.

If the annual Congressional quota had been achieved every year since 1949, the nation would now have 2,575,000 public housing units.



Instead, only 667,249 exist—and an estimated 10.3 million poor families are in need of decent housing.

The report, prepared for the commission by Nathaniel Keith, president of the National Housing Conference, cites four major reasons for the program's failure: the reluctance of Congress to back its goals with sufficient funds to carry them out; excessively complicated administrative procedures and red tape; middle-class hostility to public housing projects; and limitations on participation by private enterprise.

The gloomy record hardly inspires optimism that the nation can achieve the far more ambitious goal called for in the 1968 Housing Act: six million units of low- and middle-income housing over the next ten years. The report states that "a far-reaching streamlining and simplification of federal procedures and requirements" is needed if the goal is to be met.

ACADEME

SAFDIE VERSUS THE TRUSTEES

Eclipsed this fall by violent confrontations between students and police, blacks and administrators, an architectural conflict has arisen at San Francisco State College. Moshe Safdie, who leaped to world recognition by designing and successfully building Montreal's Habitat, has produced an almost equally far-out idea for the new student union at S.F. State.

Safdie proposed building a man-made hill (below) in a strategic central location where people could walk both through it and over it. Then he hollowed it out to house

student activities programmed into the union. The construction system utilizes precast elements on a three-dimensional grid combining 90-degree and 45-degree axes in all three planes. The faceted structure that results looks as much like a landscape as a building.

This fall, schematics on the design came before the board of trustees of the state college system for approval, where it became deadlocked in a tie vote. (Architect Charles Luckman was one of the trustees who voted against it.)

Questions were raised over technical aspects of the design and its construction cost, but special studies of both issues seem to have resolved them. A second set of issues, concerning esthetic appropriateness and compatibility, also seems to have been removed: the campus community strongly approved the design, and on a campus marked by blandly undistinguished buildings, Safdie's big jewel could hardly have been compatible without also being banal.

Still to be resolved are objections concerning the efficiency of the design. To some eyes, too much space lies inaccessible under the angled, nonvertical walls. It is this issue which must be worked out if the tie vote is to be broken.

In the isolated and parochial architectural culture of the San Francisco Bay Area, the trustees of the state college could make a real contribution by permitting Safdie to complete his project. It is sure to become a landmark.

COLUMBIA'S OLIVE BRANCH

Columbia University last month took two major steps toward ending the war with its neighbors on Morningside Heights: it appointed



I.M. Pei & Partners as the university's chief architect and master planner, and it announced that it would do most of its future expanding upwards, instead of outwards.

The Pei firm became Columbia's first long-range, comprehensive planner since McKim, Mead & White did its campus plan in the 1890s. "Mr. Pei and his associates will consult extensively with neighborhood groups, students, and faculty to learn their needs and suggestions," said Dr. Andrew W. Cordier, Columbia's acting president. "Columbia will welcome from the neighborhood groups and residents constructive suggestions on how the university and its neighbors may plan together."

The highrise policy was decided upon, said Cordier, "as a means of reducing to a minimum pressure on the use of land." Pei, he said, "will examine prospects for structures that might contain both university and community housing and service facilities, and government-supported rent subsidies that would make it possible to provide up-to-date housing for people with low- and lower-middle incomes."

PATRONS

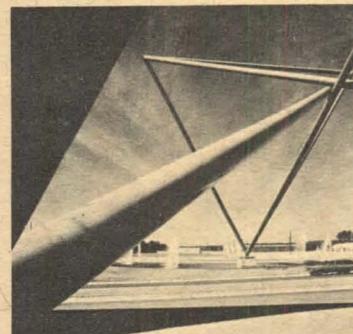
ART FOR PROFIT

On the theory that art is a good investment for industry, the first "industrial sculpture park" in the U.S.—a 3,000-acre site that eventually will contain 1,500 factories and 1,500 pieces of contemporary sculpture—is being developed in Atlanta, Ga. For a start, there are 30 pieces of sculpture in "minimal" style, which have been placed on or among 27 low factory buildings set in a landscaped park.

Formally inaugurated in November, the park is the latest and largest instance of industrial sponsorship of the arts. It is the brainchild of Angus C. Wynne Jr., president of Great Southwest Corp., who has likened the park to

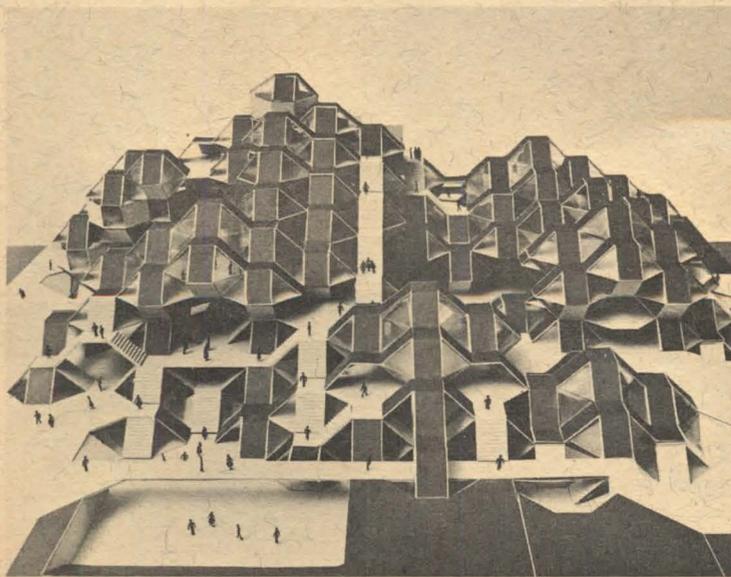
a "museum without walls."

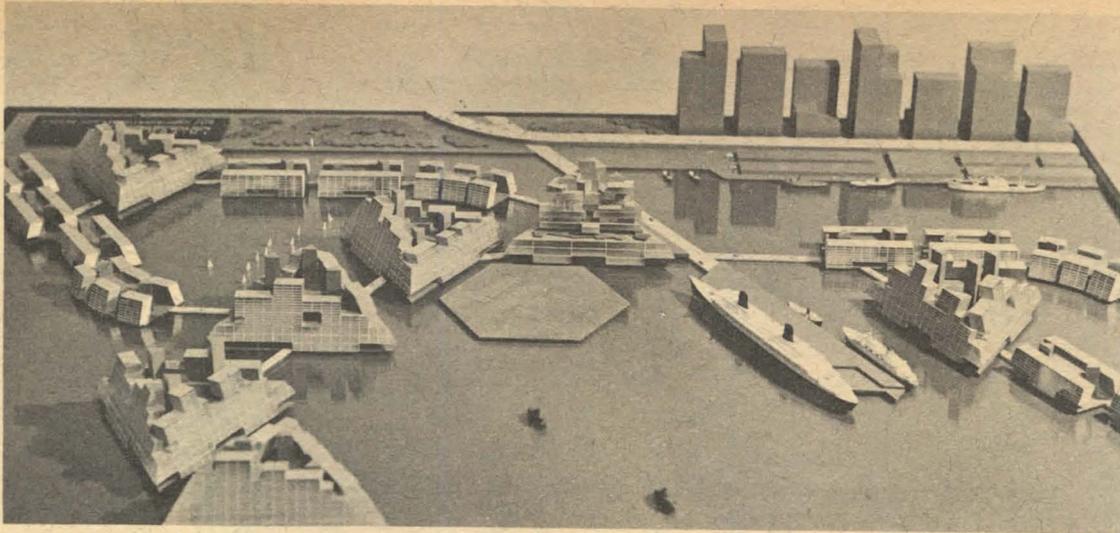
To execute the project, Wynne has retained a number of talented men: painter and color theorist Joseph Albers to coordinate building colors and materials; J. O. Lambert, president and chairman of the board of Lambert Associated Companies Inc. of Dallas, for landscaping; and Douglas MacAgy, deputy chairman of the National Endowment of the Arts and the National Council on the Arts, to head the sculpture committee. Artists whose works were chosen include such familiar names as Donald Judd, Alexander Liberman, and Peter Forakis.



With all the talent and planning that has gone into the project, a more successful installation might have been expected. With the exception of Forakis' "Gateway" (above), a tubular structure at the entrance, the sculptures, totally unrelated to the scale of the buildings or the surrounding space, stand about like erring souls. (Cost limitations—\$3,000 F.O.B. per sculpture—limited, to a certain extent, the size of each piece. Even so, a less simplistic way of placing the individual pieces—one sculpture to one lot—might have offset this.)

Nor is the solution of stringing out the uniform (modular) buildings on their allotted two acres of land along miles of parkways and manicured medians a particularly happy one (top photo). The total effect, unfortunately, is less that of a museum without walls than of walls in search of a space.





FRONTIERS

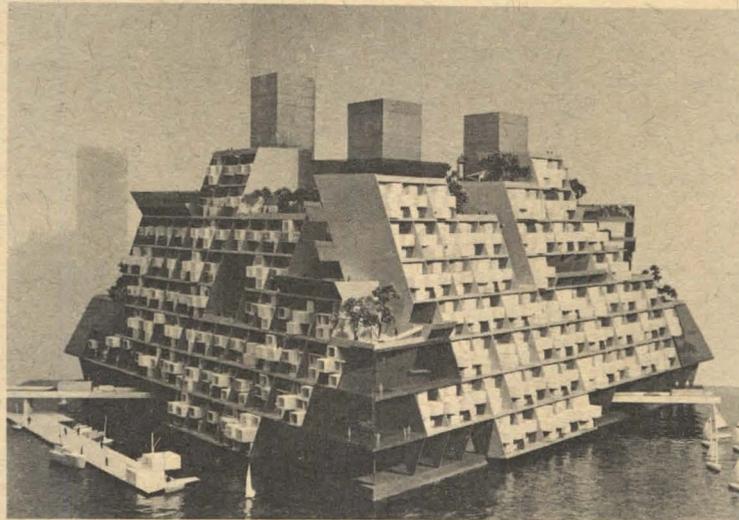
BUCKY WALKS ON WATER

R. Buckminster Fuller's latest brainchild is a "floating city" built in a shipyard and towed into position next to the shoreline of an existing city. Fuller, who headed a \$30,000, HUD-funded study of the concept made by the Triton Foundation of Cambridge, Mass., claims that it is entirely feasible, both technically and economically.

Bucky's supernatant city would be created in three stages, using two basic kinds of prebuilt floating neighborhoods: one composed of a string of four to six small platforms accommodating about a thousand people; the other a larger (four acres), triangular platform housing as many as 6,500 people (above right). Each unit would contain an elementary school, a small supermarket, and local stores and services.

Three to six of the neighborhood units would be linked together to form a town, at which point a new platform would be added, containing a high school, more commercial, recreational, and civic facilities, and possibly some light industry. Three to seven towns would form a full-scale city (top photo). It would include a "city-center module" containing governmental offices, medical facilities, a shopping center, and possibly a community college or industrial development.

Each neighborhood platform (of steel or concrete) and the framework rising from it would form a megastructure into which factory-produced apartments, classrooms, stores, and offices would be slotted. Automobiles would have a separate level segregated from pedestrian areas, and parking decks would be



provided under the platform, below the waterline.

The Triton Foundation points out that 80 per cent of the U.S. metropolitan areas with more than a million population are near bodies of water deep enough (25 to 30 ft.) to accommodate floating cities, and that the technology for building them already exists (shipyards have been turning out comparable-sized passenger liners and tankers for years). The cost would be about \$8,000 per resident, including housing, schools, services, roads, utilities, and community facilities—about the same as the average urban renewal project.

DEBUTS

A HARD LOOK AT FUN CITY

"We have created the *New York Advocate* because we believe that New York City must be made to work," stated Volume 1, Number 1 of a tabloid-sized monthly magazine that made its debut last month.

Its first issue—and hopefully its later ones—was filled with in-

depth, hard-hitting, well-written accounts of why New York City doesn't work. They ranged all the way from the city's inept handling of its housing problem ("there are twice as many *decaying* houses and apartments in the city as there are houses and apartments in the whole state of Connecticut"); to the scope of its model cities program ("just another poor



man's pork barrel—empty"); to the growth of Staten Island ("peppered with private in-holdings, fragmented by tinselled developments, and surrounded by an even larger sea of open lands owned by the same kind of rugged individualists and corporate wheelers that slaughtered Queens and Nassau Counties in the 1950s.").

The handsomely designed magazine is published by the Urban Affairs Foundation Inc., a non-profit organization devoted to seeking practical solutions to the city's problems. Its publisher and editorial director is C. Richard Hatch, an old hand at advocacy planning and a frequent contributor to the FORUM.

Unfortunately, the *Advocate's* first issue failed to match its incisive portrayals of the city's problems with practical suggestions on what to do about them. But, according to Editor Nelson Aldrich, future issues will be more specific. If so, the *Advocate* could become the most meaningful guide to Fun City on the newsstands.

REDRESS

FREEWAYS AND PEOPLE

Much to the chagrin of the highway lobby, Federal Highway Administrator Lowell K. Bridwell has proposed that the public be given a more effective voice in freeways.

On October 22, Bridwell issued a new set of rules requiring two public hearings before a federal-aid highway project can be approved—the first on the selection of a broad corridor within which the highway may be located, the second on the road's detailed design and impact on its surroundings. Only one hearing is required now, and it usually takes place before most of the people affected even know that a freeway project is being planned.

Bridwell said the new policy was designed to "encourage amicable resolution of controversial issues which may arise in such projects," but the highwaymen took a predictably opposite view. "This is a pretty successful way to block the road program," said A. E. Johnson, executive secretary of the American Association of State Highway Officials, who threatened to call an emergency meeting of his organization with the governors of all 50 states.

Actually, the road program has already been blocked in scores of cities where the public has risen

up against the highwaymen. Two well-timed hearings could help to produce the "amicable resolutions" that Bridwell seeks—provided state highway officials conducted them in a democratic spirit of cooperation. Instead, they are expected to ask Congress to overturn the policy early in 1969.

JUSTICE

RELEASE OF JANE JACOBS

Originally charged with rioting, inciting to riot, committing criminal mischief, and obstructing public administration, at the April 10 hearing on New York City's proposed Lower Manhattan Expressway (May issue, page 97), Jane Jacobs pleaded guilty instead, on October 23, to a charge of disorderly conduct. She received a patronizing mini-lecture on "lawful channels of dissent," and was unconditionally discharged. The trial that was to have been "the first real public hearing we have been able to obtain on the Expressway" (according to Edward I. Koch, new congressman from Manhattan's "Silk Stocking" district) was a quiet 20-minute affair, without testimony from either side.

The decision not to use the trial of Jane Jacobs as a trial of the LME was a difficult one for the defense. In part, it was felt that the news media would not report the case with any depth or objectivity, and the impact of a serious trial would be lost. The controversial LME had been approved by the federal government two months ago, with no notice from the press.

As things stand now, the state is the richer by \$150—not, strictly speaking, a fine, but a sum to cover damages to the court recorder's stenotype machine which was toppled during the April 10 hearing. And while it is deeply incised in the stone of the Criminal Courts Building (scene of the October trial) that "The People Are the Foundation of Power," opponents of the LME—like expressway opponents across the country—may be excused some bitterness. Why, ask LME opponents, has there never been a study of the economic impact of the expressway on the community? Where is the money coming from for the housing, parks, and schools that the State Department of Transportation so glowingly promises? Why do officials consistently underestimate the number of

people who will have to be relocated? Why is there so little regard for what has been called the greatest collection of cast-iron buildings remaining in the world? And the ultimate question: why should the official position be credited at all, after a 25-year history (Sept. '67 issue, pages 66-69) of conflicting "facts" and inadequate justifications? The confusion persists: the official reiteration at the April 10 hearing that the LME will not increase the amount of traffic entering Manhattan is compromised by recently unearthed plans for adding four new lanes to the Holland Tunnel, western link between the LME and New Jersey.

IN DEFENSE OF A CRIME

Acting on charges filed by the Italian police, the Office of the Prosecutor General has indicted three full professors of the Rome Faculty of Architecture—Bruno Zevi, Roberto Marino, and Ludovico Quaroni—for condoning a "crime."

The crime in question is the student occupation of the university last summer, which the professors defended in a signed declaration. Their reason: it was the only effective instrument available to the students for calling public attention to the disastrous conditions of the universities—"the archaic, authoritarian, inefficient, and culturally sterile [academic] structure," as the defenders put it.

The signed declaration followed a series of repressive police actions directed against the students last April—arrests, court summonses, and searches.

A trial of the three signatories had been scheduled, but a recent amnesty for all those charged with university agitation may nullify the indictment.

ELEVENTH HOUR

The chances seem slim to preserve intact the site of the Farnsworth House near Plano, Ill.—the first house that Mies van der Rohe built in the U.S. (1950-51).

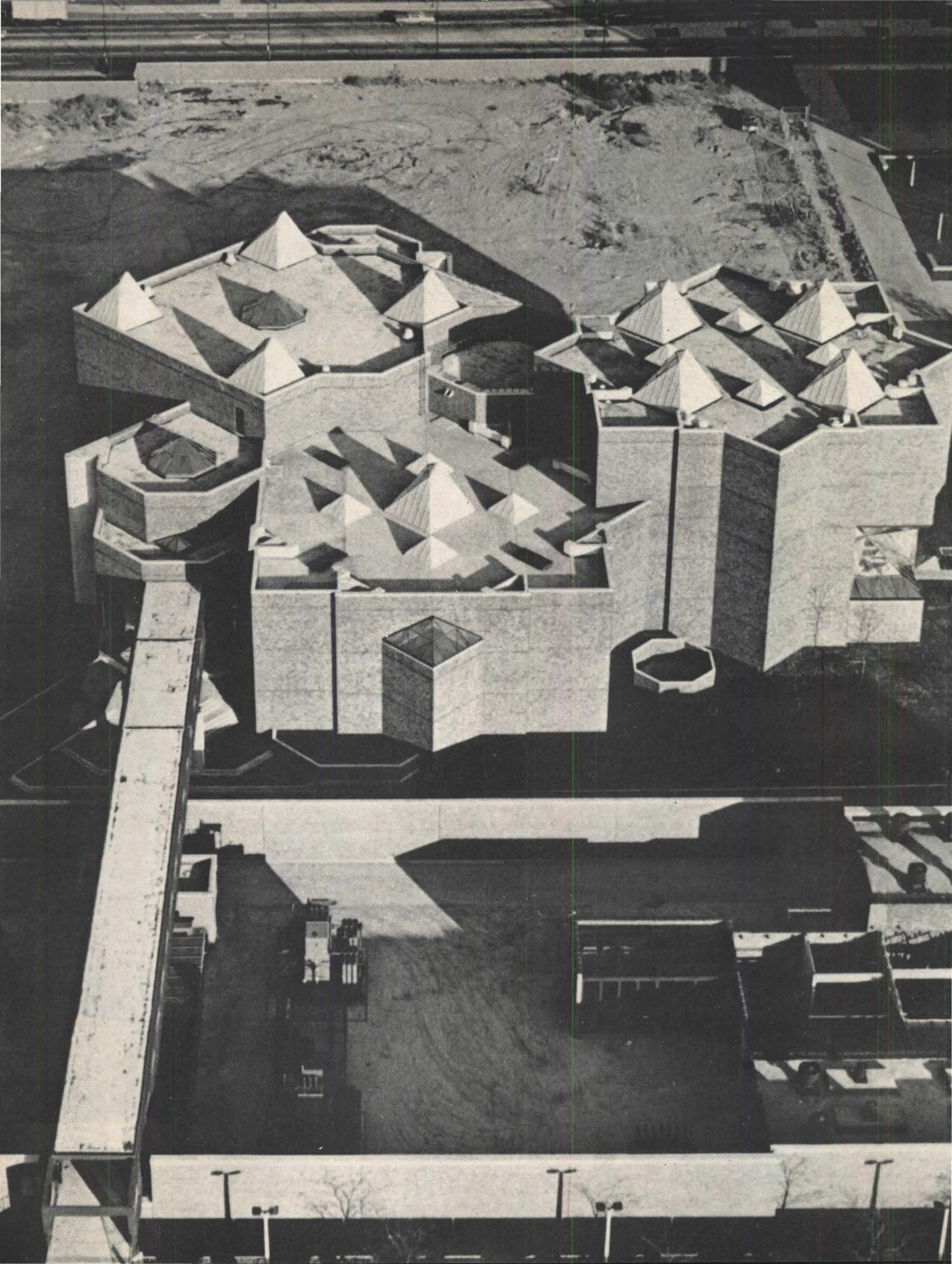
The Kendall County Highway Committee is still determined to build a bridge over the Fox River that would accommodate heavy commercial traffic (Nov. '67 issue). For this it must acquire over two acres of Dr. Edith Farnsworth's property. Should the Highway Committee be successful, it would mean not only the destruction of a beautiful backdrop to an

(continued on page 87)

CAMPUS CITY CONTINUED

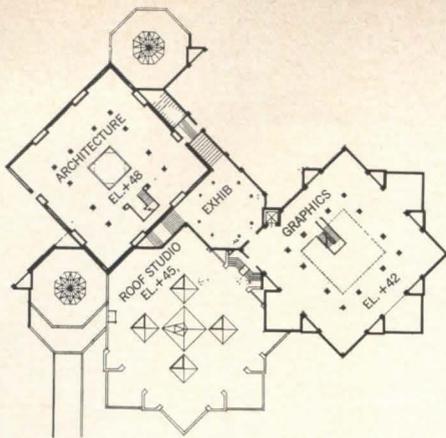
SOM's bold plan for the University of Illinois' Chicago Circle Campus, and the completion of its Phase I buildings, were reported fully in Forum's September 1965 issue. The first stage of the Architecture and Art Building (right) marks the end of Phase II and forecasts the character of spectacular expansion to come.



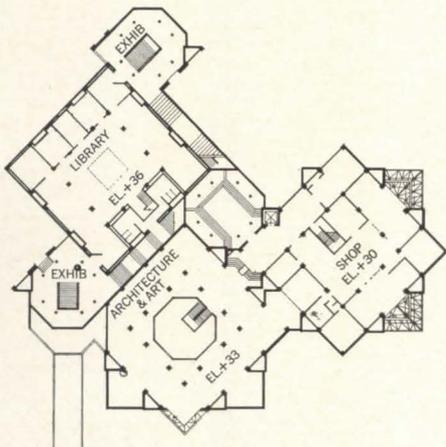




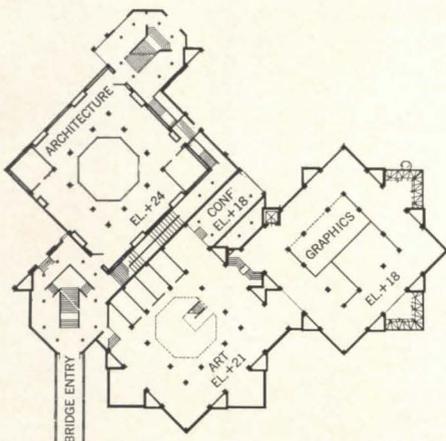
**The first stage of A & A:
a handicapped debut**



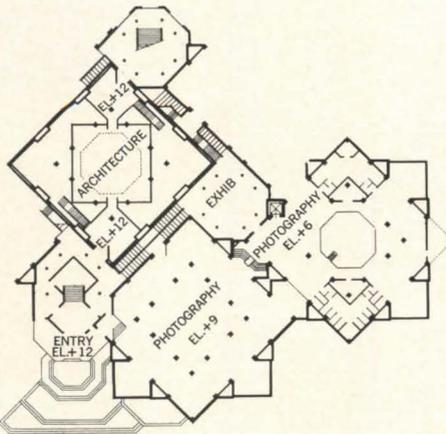
PLAN AT ELEV'S +42, +45, +48



PLAN AT ELEV'S +30, +33, +36



PLAN AT ELEV'S +18, +21, +24



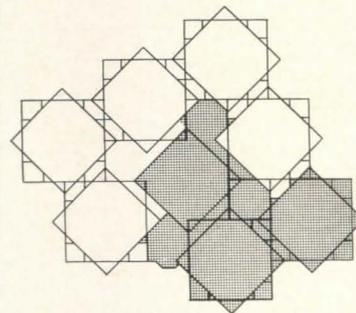
PLAN AT ELEV'S +6, +9, +12

A 200-ft.-long steel bridge, enclosed with insect screen (far left in photo) leads across an electrical substation from the elevated campus walkway system to the completed portion of the Architecture and Art Building. Beyond the building is an area of plain dirt where the rest of the planned structure is to go. The star-shaped tiers of the roof are studded with skylights in a variety of patterns based on the remarkable geometry of the plans (left). Each of the major interior spaces (also star-shaped) is roughly 3 ft. above or below the next one (elevations, in approximate feet above grade, indicated on plans).

For several years, designers working under Walter Netsch's direction in the Chicago office of Skidmore, Owings & Merrill have been turning out exotic geometric patterns which they call "fields." When they use the field as the basis for a building plan, they call the process "field theory" design.

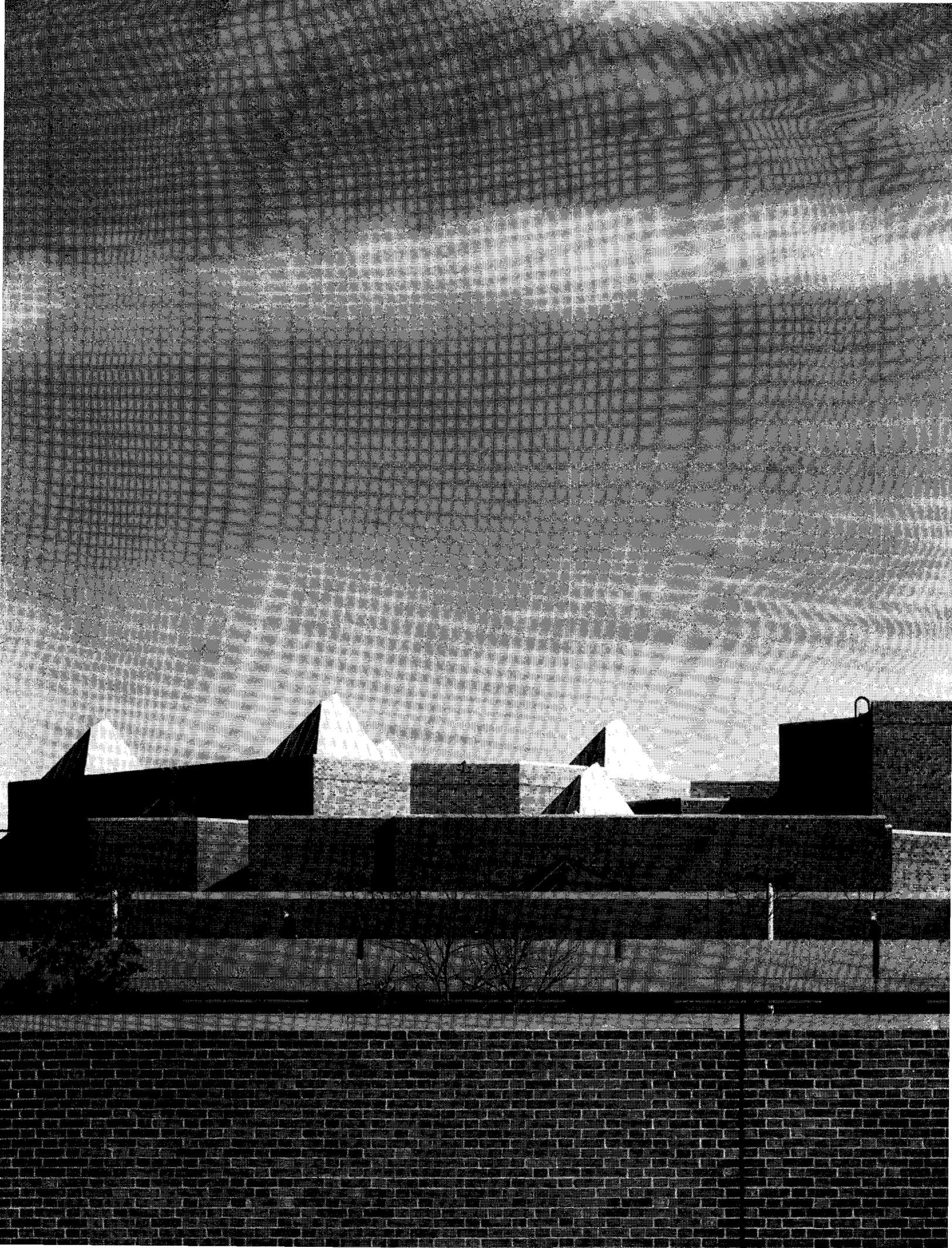
SOM's first thorough-going use of the field theory approach was in the design of the Architecture and Art Building at Chicago Circle (Sept. '65 issue). Now, the first stage of that building is completed. Although this stage represents less than half of the total scheme (plan below), it is nevertheless a milestone: the first test of field theory in a real building.

The objective of field theory design is an arrangement of space better suited to the particular program than any conventional grid could provide—in short, a place for everything.



Each of SOM's fields is generated by superimposing two or more grids at an angle. In this design, for instance, the major module was produced by placing an 80-ft. square over an 85-ft. square at a 45-degree angle. Each of these star-shaped modules houses one studio.

At the boundaries of these major modules are smaller geometrical areas, each of which meets one or more specific needs. The 10-ft.-wide diagonal passages between the 80-ft. squares, for instance, serve as the building's primary circulation routes; the octagonal spaces between each set of four major modules are either circulation nodes or smaller teaching spaces. And triangles at the intersections of the two basic squares are used as hollow structural piers, which double as mechanical risers.



Angular walls and skylights hint at interior complexity

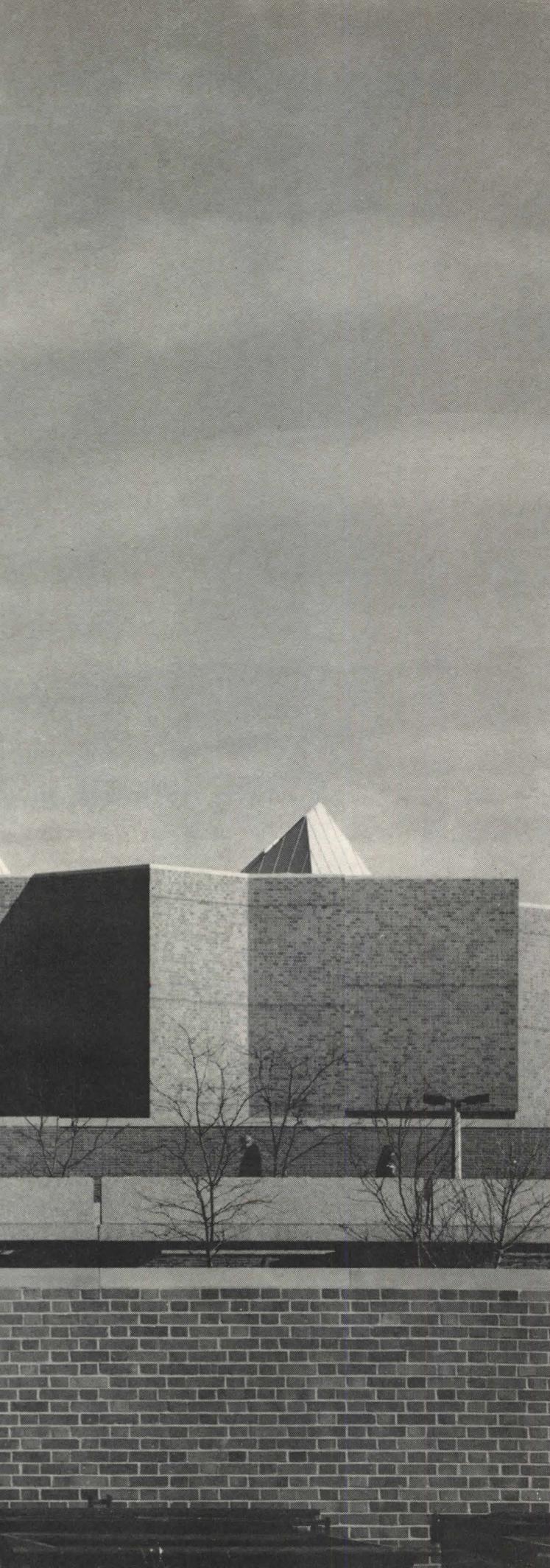
What makes this building especially intricate—even compared to other recent SOM work designed under Netsch's direction—is the fact that it has no floor levels in the conventional sense. Each of the star-shaped studio areas is offset about 3 ft. vertically ($\frac{1}{4}$ of a story) from adjoining ones.

These 3-ft. increments in floor level are a vital part of the overall spatial scheme. When the building is completed, someone making a circuit of four adjoining studio areas will climb (or descend) one whole story in the process.

By manipulating levels in this way, Netsch intended to give the students an environment that would “expand their perception of space.” By illustrating spatial possibilities with an “impersonal system,” rather than through subjective shaping of spaces, he hoped to avoid imposing his personal approach on the students. But as long as this approach remains identified with Walter Netsch, it cannot be considered “impersonal.”

One of the most controversial aspects of the building, its sparsity of windows (photo left), has no relation at all to Netsch's theories. It was agreed early in the design phase not to have conventional windows, but to provide an “introverted” environment, with occasional vantage points that would make looking outside “an event.” Eight major windows—vast faceted constructions of mirrored glass that light three successive floors—were planned for the building (as well as several roof decks). The completed portion of the scheme, unfortunately, includes only two of these eight “windows.” Half of its exterior walls are temporary, windowless ones.

This shortage of windows, like many other drawbacks of this uncompleted building, would not seem so drastic if the remainder had been under way by now, as originally planned. With further construction put off until at least 1970, students and faculty question whether the first stage could not have been a more satisfying place to work. It could have, if only SOM had known.



In a view across the campus from the west, the building is partially concealed—as it is from many angles—by the brick walls around the electrical substation. The angular walls of the building are 5 in. by 8 in. brick of a brownish “Chicago Circle blend” produced especially for this campus, with recessed courses indicating the floor levels. Tall skylights over the studios—of painted terne with glass on the north only—add staccato accents to the composition of massive walls.





Inside, all the corridors are actually stairs

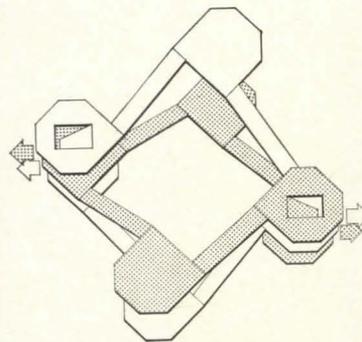
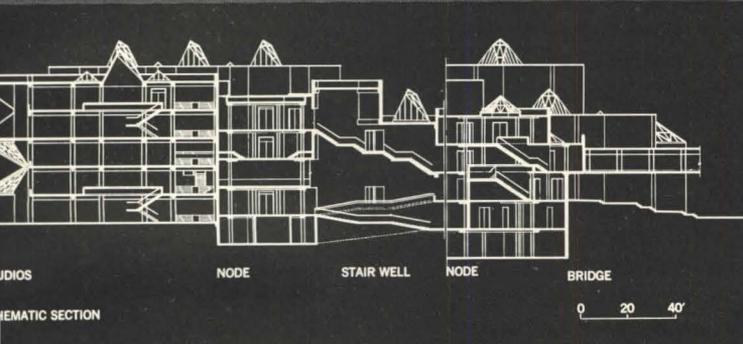
The main routes through the building are 10-ft.-wide passages which serve as both corridors and stairs. SOM's primary objective in combining horizontal movement with vertical was to move an ultimate population of almost 1,000 around in the five-story building, without depending on elevators. The location of the principal entry 2½ stories above grade, of course, also makes the walk-up system less arduous.

Combining the corridors with the stairs may make circulation easier, and it certainly makes it more interesting, but it seriously upsets the orientation of everybody who uses the building. "There are stairs that you go up to get down, stairs that you go down to get up," complains a writer in the campus newspaper. Actually, nobody ever *has* to go down to get up, but sometimes it may be the shortest route.

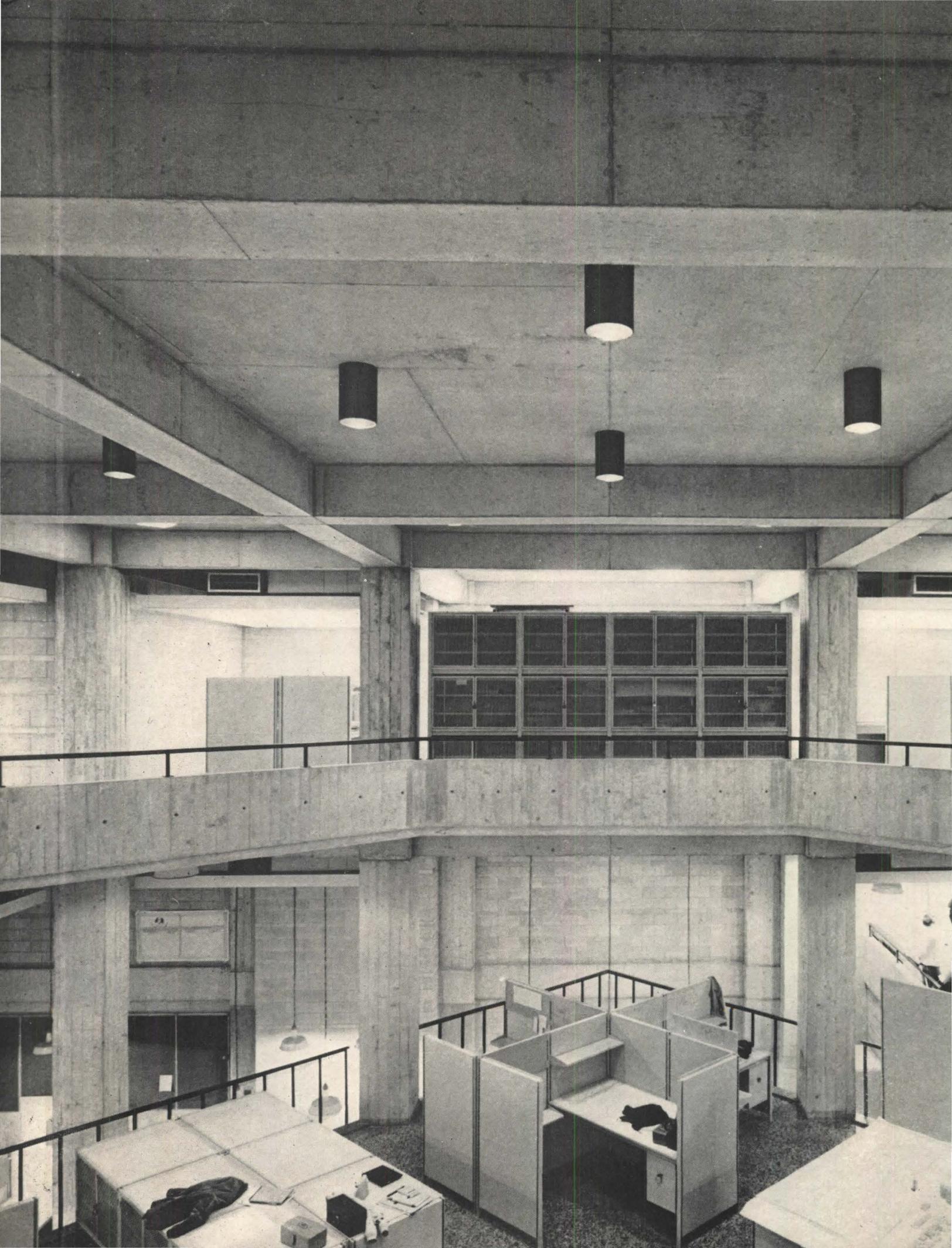
The people who use this building, Netsch feels, are just the people who should enjoy a complex circulation system, with many alternatives; learning their way around should give them the sense of familiarity that one acquires in the complex old quarters of many cities. Perhaps so, eventually; but the first reaction among people who pride themselves on their space perception is indignation.

The students also have a mistaken impression that the circulation spaces are oversized. Their newspaper claims that "48 per cent of the building consists of foyers, hallways, and other unusable [sic] spaces." Circulation spaces do occupy a larger share of the building in the present stage than they ultimately will, but only a modest 13.3 per cent. They provide, moreover, the "social areas" and exhibit spaces called for in the program for the building.

The trouble is that these spaces are not well fitted out either as social areas or as display spaces. Their adjustable lighting has little to illuminate except concrete, brick, and paving tiles—all of them handsome, but hardly an "exhibit." Too bad, because the entire circulation system could be turned into a very exciting kind of gallery.

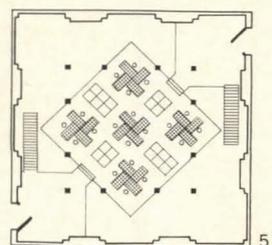
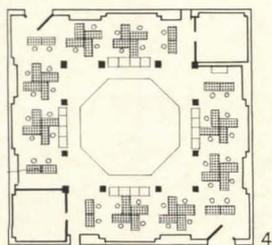
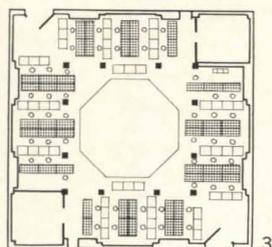
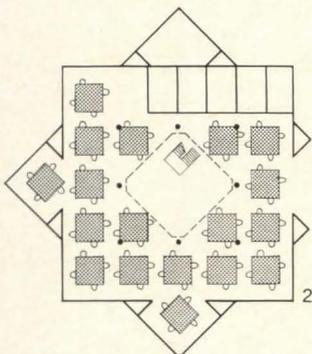
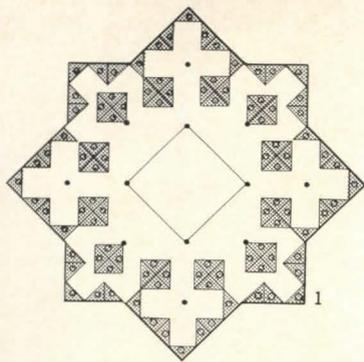


A gradual stair (facing page) leads down from the lower entry to an octagonal node used for exhibits. While this stair descends only 6 ft. in a run of 25 ft., the clearance overhead grows from one story to three stories (see section). SOM-designed signs at the end of this stair point to destinations along the next link (near left). Here a steeper stair—passing under a bridge—climbs two stories to another node, this one capped by a diamond-cut skylight (top left). Only two sides of the square circulation pattern (lower half of sketch above) are now completed.





Studios: turning geometry into working spaces



A three-story complex of architecture studios (photo left), actually designed as an administration floor overlooking a two-story exhibition hall, is more dramatic than other studios but shows typical interior finishes and demountable steel furniture. The geometry of the studios was conceived in early SOM sketches (1) in terms of work stations; later studies (2) accounted for variation in usable space. A contract furnishing plan (3) by Dolores Miller & Assocs. (for the top level, photo left) showed a crowded layout of drafting stations (shaded) and storage units; some of furniture shown was meant to be stockpiled for future use, leaving the studios more open. Final layouts (4, 5) had to be denser than expected, forcing storage units to be stacked in awkward blocks.

It is a long way from star-shaped areas on paper to actual design and art studios. The process has been hard and the results only partly successful.

The concrete structural frame of the studio was laid out to allow for large central openings and has been left exposed, except in a few bays (next to mechanical risers) where dropped ceilings hide air conditioning equipment (background, left).

The typical studio is lighted by fluorescent fixtures (not shown) applied to the concrete slab, which provide uniform light levels within each bay and leave a "trough" of lower intensity along the beam lines. This arrangement meets a program taboo against "blanket lighting," but it complicated the problem of laying out work stations.

After the architectural design was completed, the school commissioned the firm of Dolores Miller & Associates to design a furniture system which allows students to construct their own work stations. The system consists of a set of enameled steel panels, to which other surfaces (tackboard, drafting boards, etc.) can be applied. An ingenious joint permits these parts to be assembled in limitless combinations, without any small hardware to get lost or stolen.

One difficult feature of the furnishings program—unknown to SOM when they laid out the spaces—was a requirement for individual storage units. When these units stand on the floor, where they serve as extra work surfaces (foreground, left), they consume a lot of space. In order to accommodate the present density of students, many of these units have been stacked three high (center)—obstructing the space and making the top tier hard to reach.

Even though the studio spaces and the furniture system are both very flexible in theory, it has not been possible to fit the required 55-60 work stations into a typical studio without apparent crowding. The students are not pleased with their work spaces, and they want to be consulted when detailed plans are made for the next stage.

The Architecture and Art Building is only one of several structures that have gone up on the Chicago Circle Campus since Phase I development was completed (Sept. '65 issue). Near the center of the campus, new construction has followed SOM's original master plan, but significant changes in the university's mission have drastically affected plans for areas outside the original superblock.

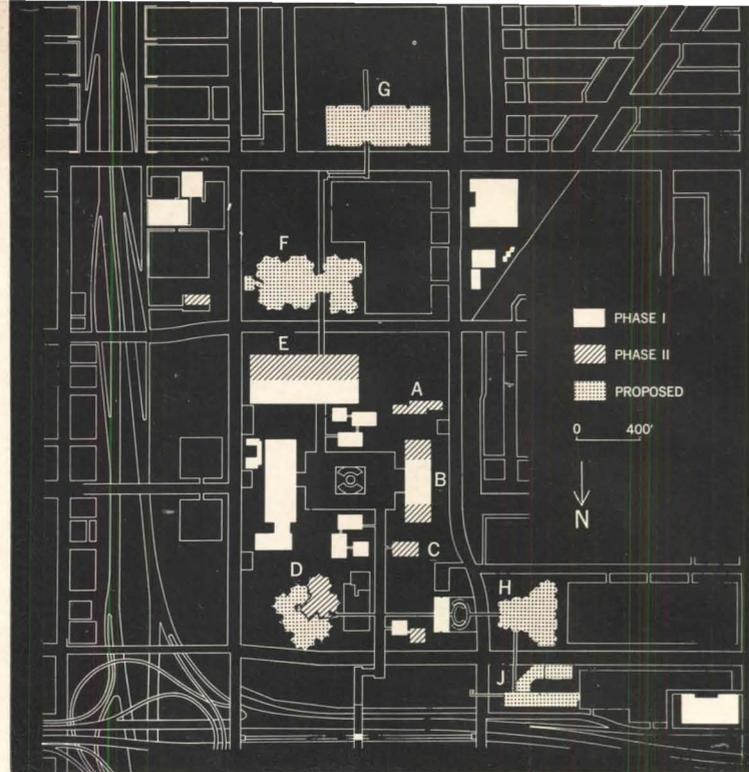
Initially, the campus was to be solely for undergraduates, which were expected to number 24,000 by 1970. The need for graduate studies has since become apparent, and the 1970 population is now expected to be roughly 18,000 undergraduates and 6,000 graduate students.

The concept on which the original plan was based—the grouping of facilities by function (lecture center, classroom buildings, central library, etc.) rather than by fields of study—had to be reconsidered when graduate study became a major part of the program. Graduate students cannot be separated readily from faculty, and their work requires greater building area per student, thus pushing development farther away from central campus facilities.

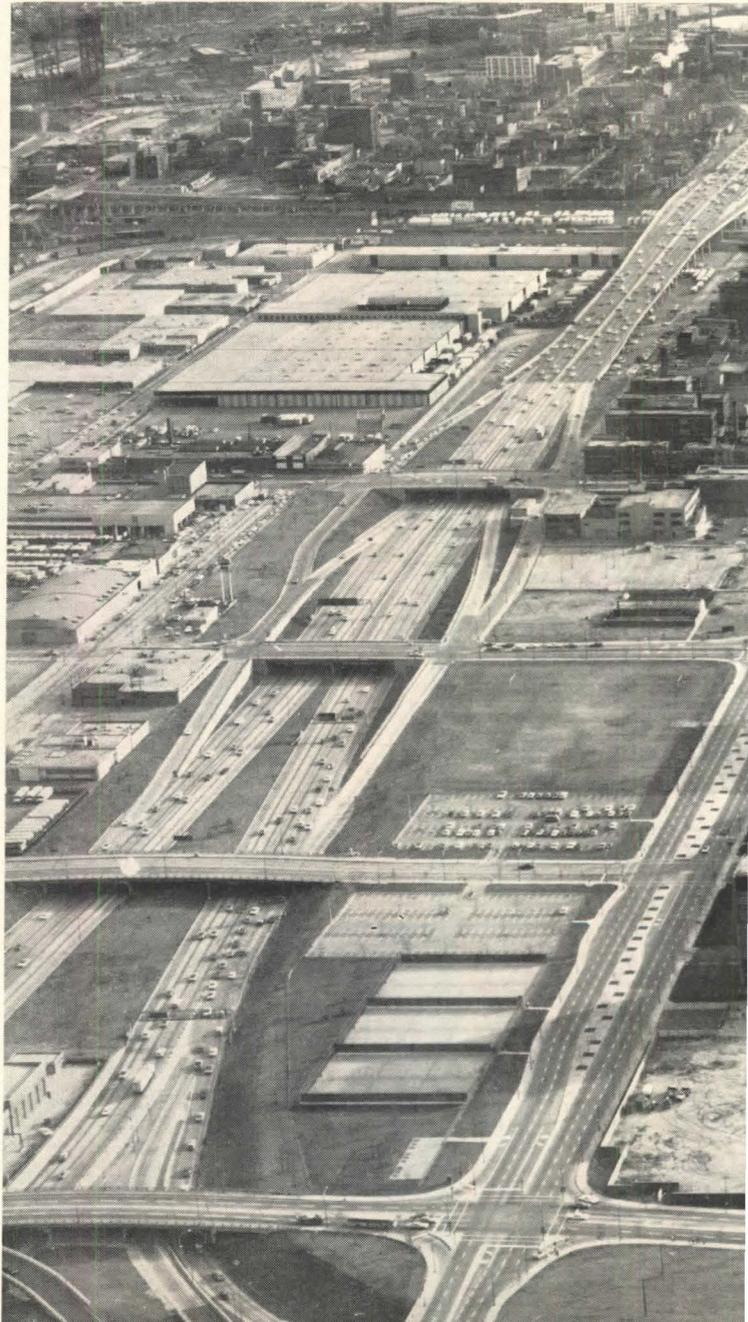
As a result, both of the major new graduate and faculty buildings—the Science and Engineering Center (F on plan) and the Behavioral Science Center (H) will include cafeterias and lecture centers (and Science and Engineering will have its own library, as well). These facilities will also serve neighboring buildings, thus making each of these projects a campus subcenter.

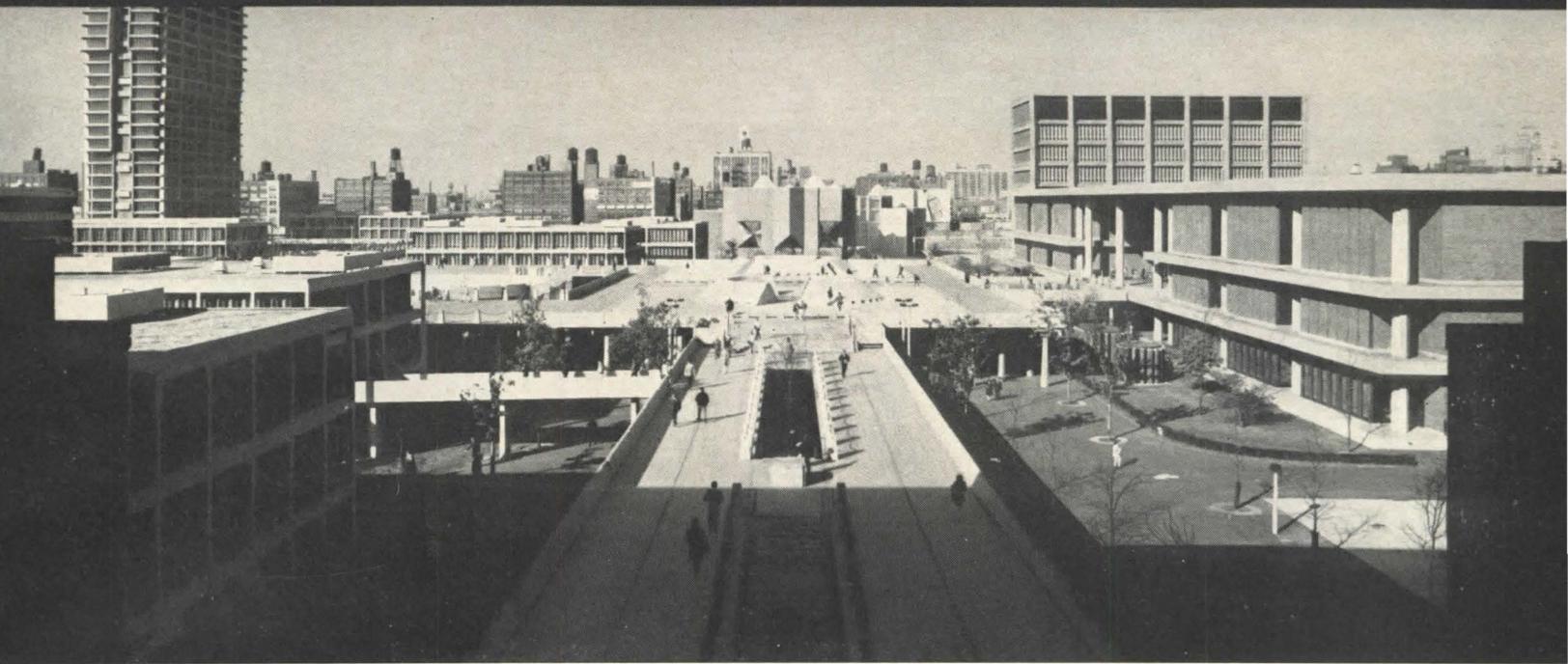
New construction around the central open space has given the plaza on top of the lecture center stronger definition, without actually enclosing it. The 13-story science and engineering staff building (A) serves as a focal point for those entering the campus on the elevated walkway from the north (foreground, right), which links the campus to a transit station. Its counterpart, for those entering by the south walkway (top right) is the very different form of the Architecture and Art Building.

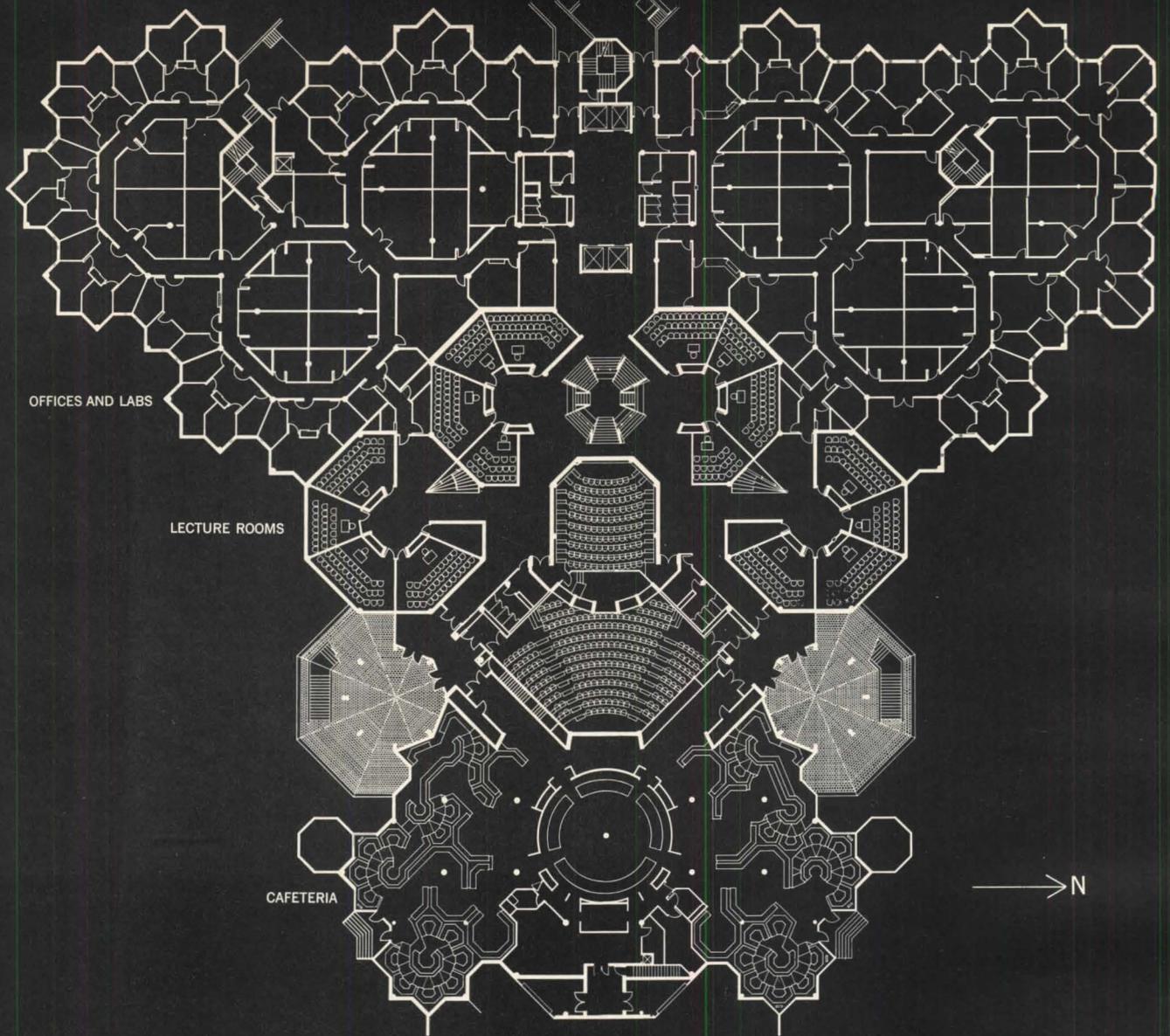
Filling in the campus core and adding subcenters



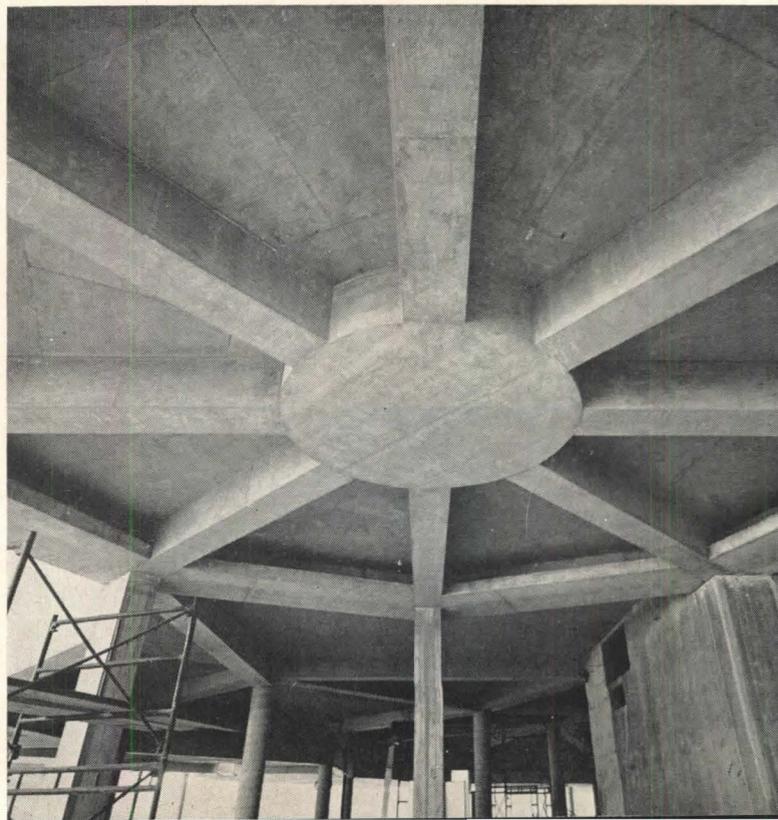
Surrounding the elevated plaza at the core of the campus (actually the roof of the lecture center) are several new buildings that follow the original master plan: a 13-story science and engineering staff tower (A on plan); additions to the library (B); a new classroom building (C); and the Architecture and Art Building (D), which terminates the view from the south (top right). The massive science and engineering laboratories (E) have doubled in size, as planned. One major departure from the earlier plan is the Science and Engineering Research Center (F), going up on a site previously reserved for athletics. The proposed gym (G), by Harry Weese & Assocs., has been moved from this block to a site now being cleared. Another large project not in the original plan is the Behavioral Science Center (H). A proposed education building (J), also by Weese, will be the first of several structures on the strip north of the present campus.







BEHAVIORAL SCIENCE CENTER FIRST FLOOR



**Netsch's geometry blooms
in two new projects**

The two major subcenters outside the walls of the original campus are both well along in construction. And both are extraordinary demonstrations of Netsch's field theory approach to planning.

Aside from 45-degree angles, the floor plans of the two buildings have a few things in common: fringes of angular perimeter offices surrounding masses of interior laboratories; octagonal stair wells which also contain banked seating ("interior exedras") at the junctions of major interior corridors.

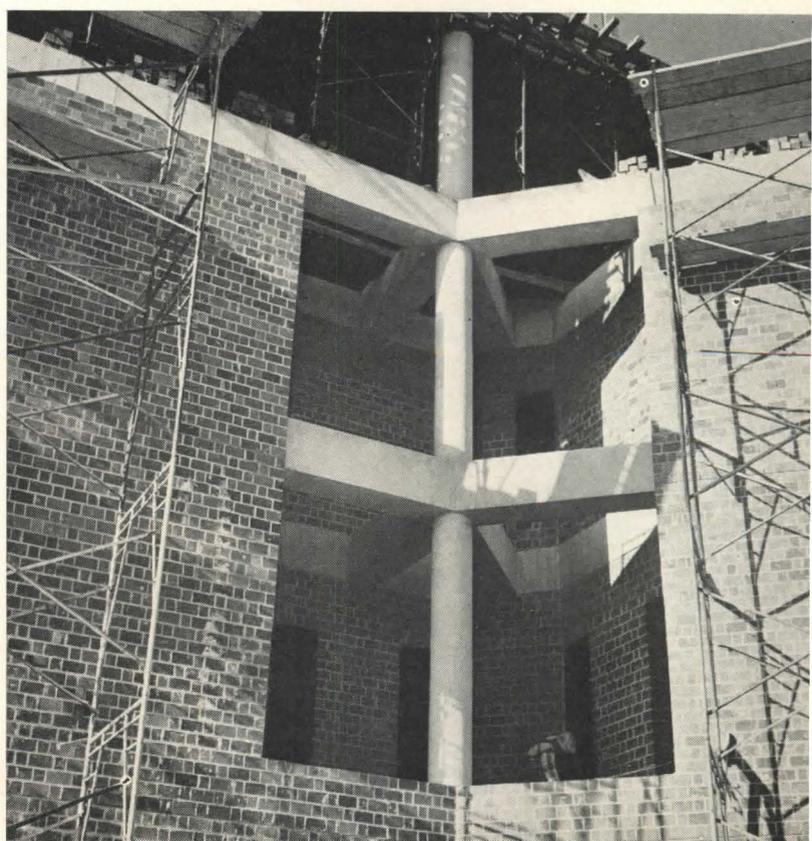
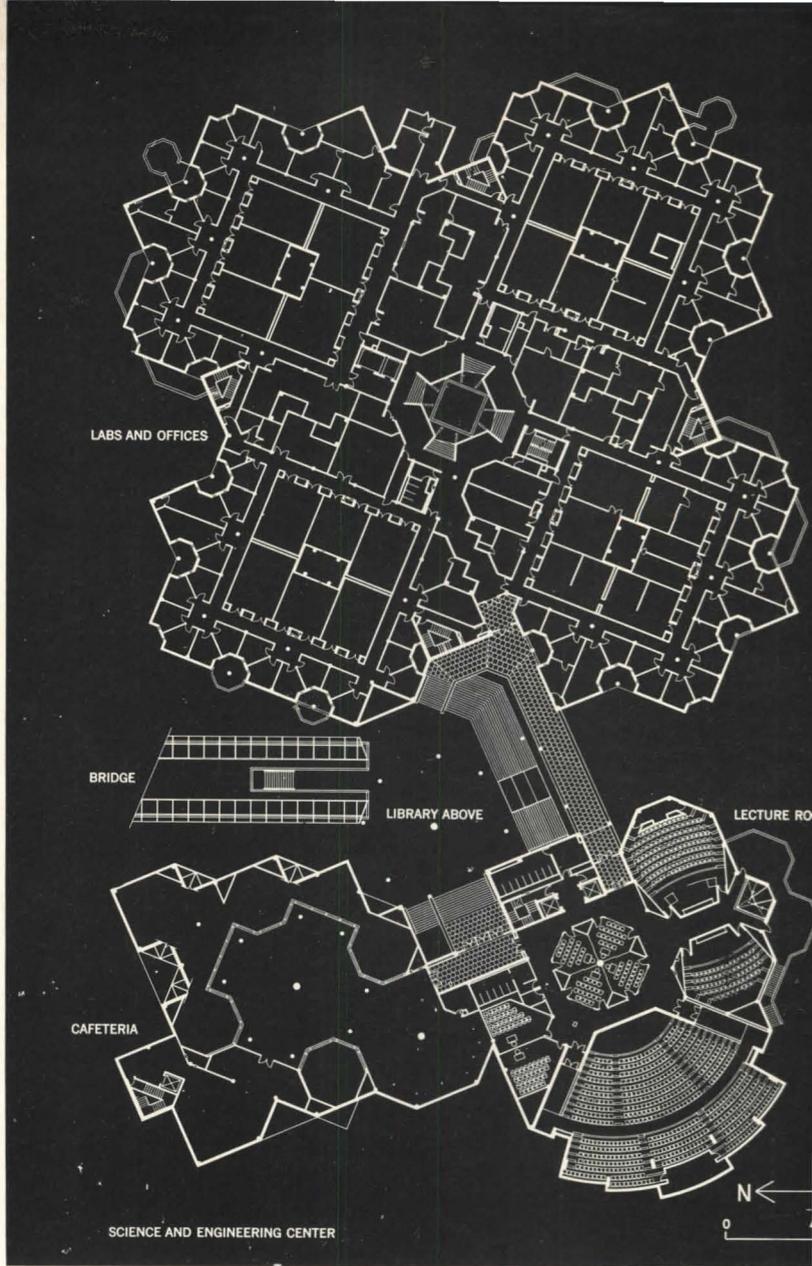
They also have obvious differences: the Behavioral Science plan (left) is compact and rigorously symmetrical; the Science and Engineering plan (right) is separated into distinct blocks, each one organized around a pinwheel circulation pattern.

While both buildings have intricate field theory plans, neither of them has a progression of graduated floor levels like those of the Architecture and Art Building. Except for sloped or tiered lecture room floors, and some play with levels in the Behavioral Science cafeteria, both buildings have conventional, level floors. Netsch says that variations in floor level were ruled out because equipment must be wheeled around in both buildings; whether he would experiment with levels that way again remains an open question.

The plans of both buildings include lecture halls that depart from the field theory geometry. Netsch calls them "pragmatic shapes," which do not follow the lines of the geometry, but are "contained within them."

These buildings, and the Architecture and Art Building as well, show how Netsch and his staff have tended to simplify the shape and texture of structural members as they have developed more intricate building plans. Some of the initial buildings of the campus had faceted columns with angular brackets or capitals and a variety of textures. The exposed concrete members of these new buildings are of plain square and circular shapes and show the imprint of the most straightforward forming methods.

The Behavioral Science Center (plan and photos left) has an almost perfectly symmetrical plan, lined up with the axis of the staff and administration tower across the street (from which the photo at far left was taken). Diagonal corridors lead in from a portico (photo, near left) on either side. The Science and Engineering Research Center (plan and photos, right) straddles a bridge leading across a wide street from the main campus. At the end of the bridge is a vast loggia under the library, which links the two main blocks. The windows of the office-laboratory block are set into polygonal niches (right) in which the structural frame is exposed.



The A&A Building as part of a larger design

As the first structure based on Netsch's field theory at the Chicago Circle Campus (or anywhere, for that matter)—the Architecture and Art Building shows an understandable effort to extract maximum effect from its unique geometry. The result is an utterly unprecedented spatial arrangement; every architect should experience it.

Fascinating as this spatial exercise may be, it is probably difficult to live with every day—at least when it is coupled with the prosaic problems of an uncompleted building: overcrowding; shortage of windows; makeshift use of some areas.

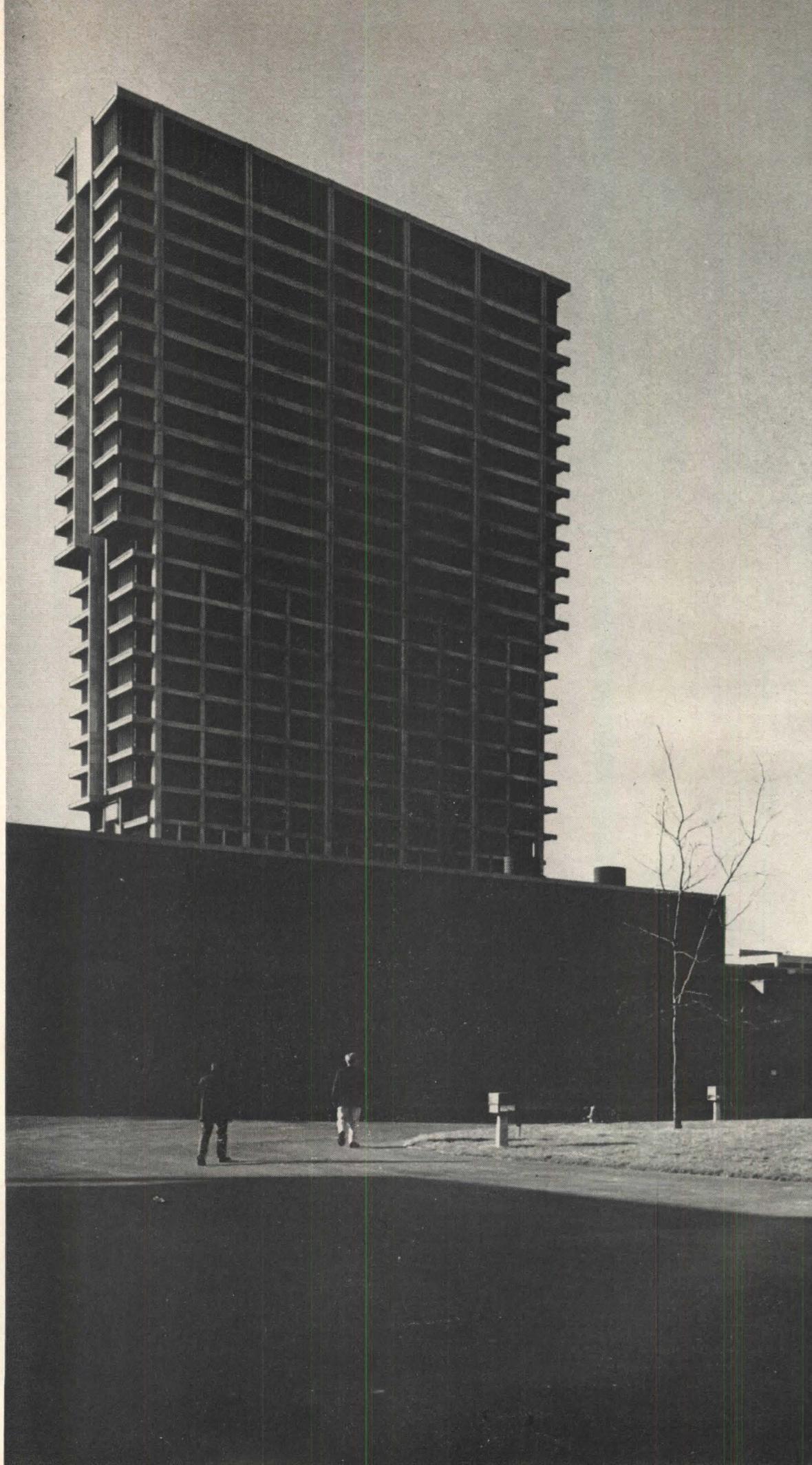
This truncated building is a dramatic demonstration of Netsch's approach, but hardly a fair *test*. In a few years, other buildings at Chicago Circle and elsewhere will show its potential more conclusively.

A&A is, after all, one part of a much larger work of architecture—the campus. Starting with a blank site barely five years ago, Walter Netsch and his co-workers at SOM have turned it into a place with a strong identity. To the students who come here each day, most of them from homes in the anonymous sprawl that separates the Chicago Loop from the prairies, this sense of place is the most valuable gift an architect can offer.

—JOHN MORRIS DIXON

FACTS AND FIGURES

Architecture and Art Laboratories, University of Illinois, Chicago Circle Campus, Chicago, Ill. Architects and engineers: Skidmore, Owings & Merrill (Fred W. Kraft, partner in charge; Walter A. Netsch, partner in charge of design; Richard L. Kreutz, project manager; Arthur Muschenheim, design coordinator; Will Reuter, project designer; Tak Itano, job captain; Kenneth Wertz, designer; Kenneth Belford, project supervisor; J. Vanecko, structural engineer; S. Eisenberg, mechanical engineer). Acoustic consultants: Bolt, Beranek & Newman. Interior furnishings: Dolores Miller & Assocs. General contractor: Gust K. Newberg Construction Co. Building area: 120,182 sq. ft. (first phase); approx. 344,000 sq. ft. (final building). Cost: (first phase, excluding fees and furnishings) \$4,068,000. PHOTOGRAPHS: Orlando R. Cabanban, except page 32, Phillip Turner, and page 38, Airpix.







A Farsighted Study and Some Blind Spots

A critique of the Park-Mall Lawndale study, which develops a flexible and linear system for putting open space into dense residential areas

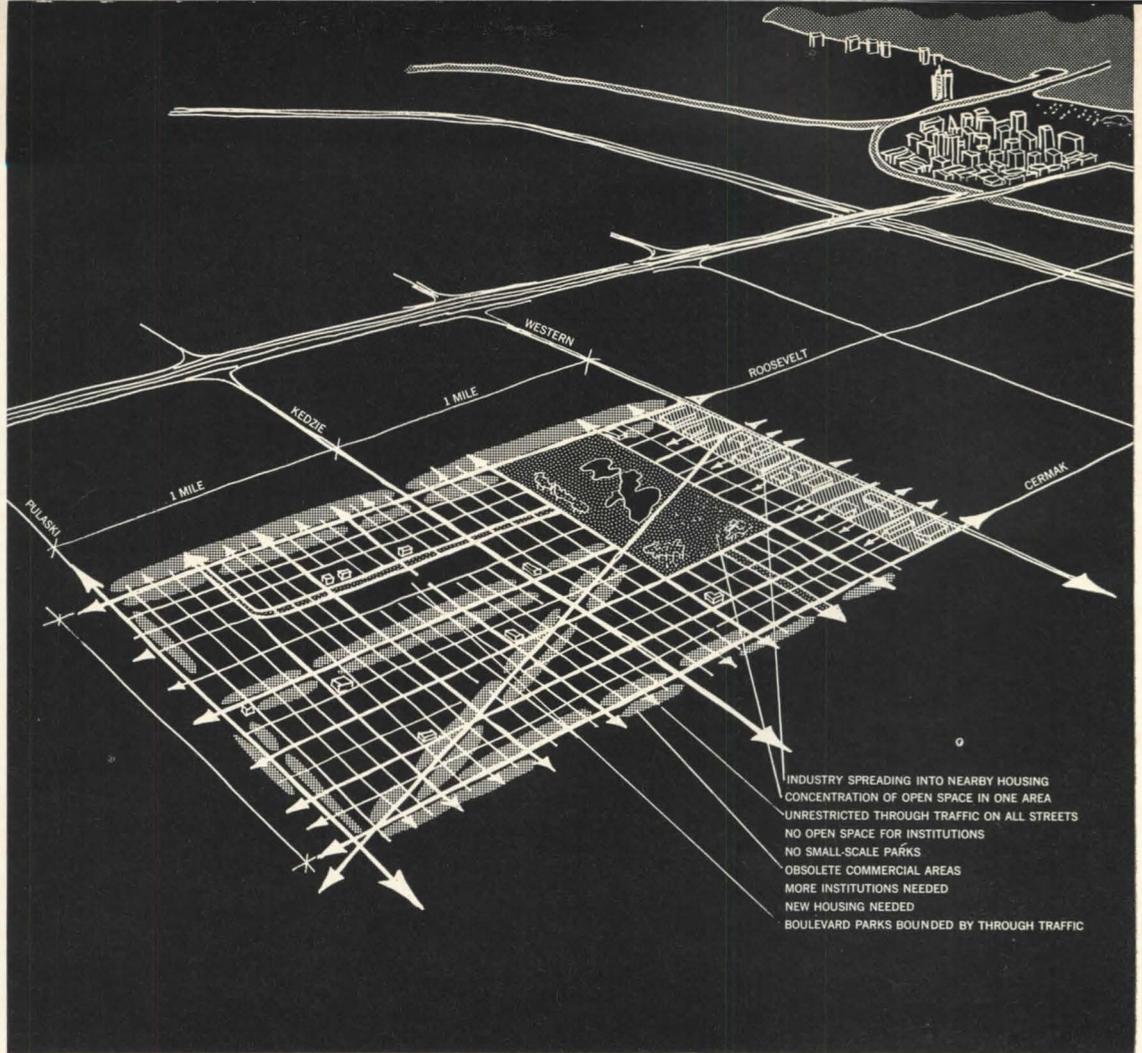
BY W. JOSEPH BLACK

The foremost challenge confronting the urban designer is to develop new urban structures and systems which are more responsive to changing conditions and are designed to reflect a community's cultural values and aspirations. One of the most complex problems is to provide open space in dense residential areas where vacant land is almost nonexistent or is almost totally committed to housing and the traditional community facilities. If this dilemma is to be resolved, new ground rules must be established to frame the balanced growth of various parts of the urban environment. The Park-

Mr. Black studied architecture at Columbia and is now working with the Urban Design Group of New York City's Planning Commission. He is also developing theories on the design of open spaces and cultural facilities relative to the needs of Harlem, with funds from the Brunner Award of the Architectural League of New York. Mr. Black grew up in the Lawndale area of Chicago; an article by him on Lawndale appeared in the June issue.

Mall Lawndale study is a serious effort to deal with some of these monumental problems.

At 33, Oscar Newman is an architect, planner, author, and professor who is gaining a reputation as one of the leading theorists and practitioners in the field of urban design. He is an associate with the New York planning firm of Raymond & May, where he is in charge of several urban design projects that range from city centers to new towns. He is also conducting a graduate seminar in urban design at Columbia University. He was formerly director of the *Master's Program* in Urban Design and the Urban Renewal Design Center at Washington University in St. Louis. In 1966, he contracted with the Department of Development and Planning of the City of Chicago to direct an interdisciplinary team of students and professional consultants towards the further development of the Park-Mall con-



Chicago's Lawndale area: a bird's-eye view (left) and a view of the area's problems (above).

cept (first introduced in the 1966 Comprehensive Plan of Chicago) and its application to the Lawndale community.

The Park-Mall concept is essentially an effort to expand open space in those residential areas where recreational facilities and social amenities are lacking. It is a departure from the traditional concept of concentrating all open space in one place. As a flexible and linear system of open space, it serves to connect a network of commercial and institutional facilities with recreational and residential areas, thereby helping to structure the physical environment and make it visually more comprehensible.

The strength of the Park-Mall Lawndale study lies in its value as a systematic approach to open-space programming and design. The study attempts to provide a new system of vehicular and pedestrian circulation in the modified-superblock grid pat-

tern of the city and to set up a land use model and performance standards that relate to social, economic, and physical constraints in the community. The weakness of the report can probably be traced to the lack of a political commitment to endorse an action program that would have involved the community in the initial decision-making and implementation process. And, while the study succeeds in providing a methodology to program recreational facilities for the body, the design research team apparently lacks a deep understanding of the life style and goals of this predominantly black community, and thus, for instance, fails to provide young people with leisure-time spaces to stimulate the development of their minds.

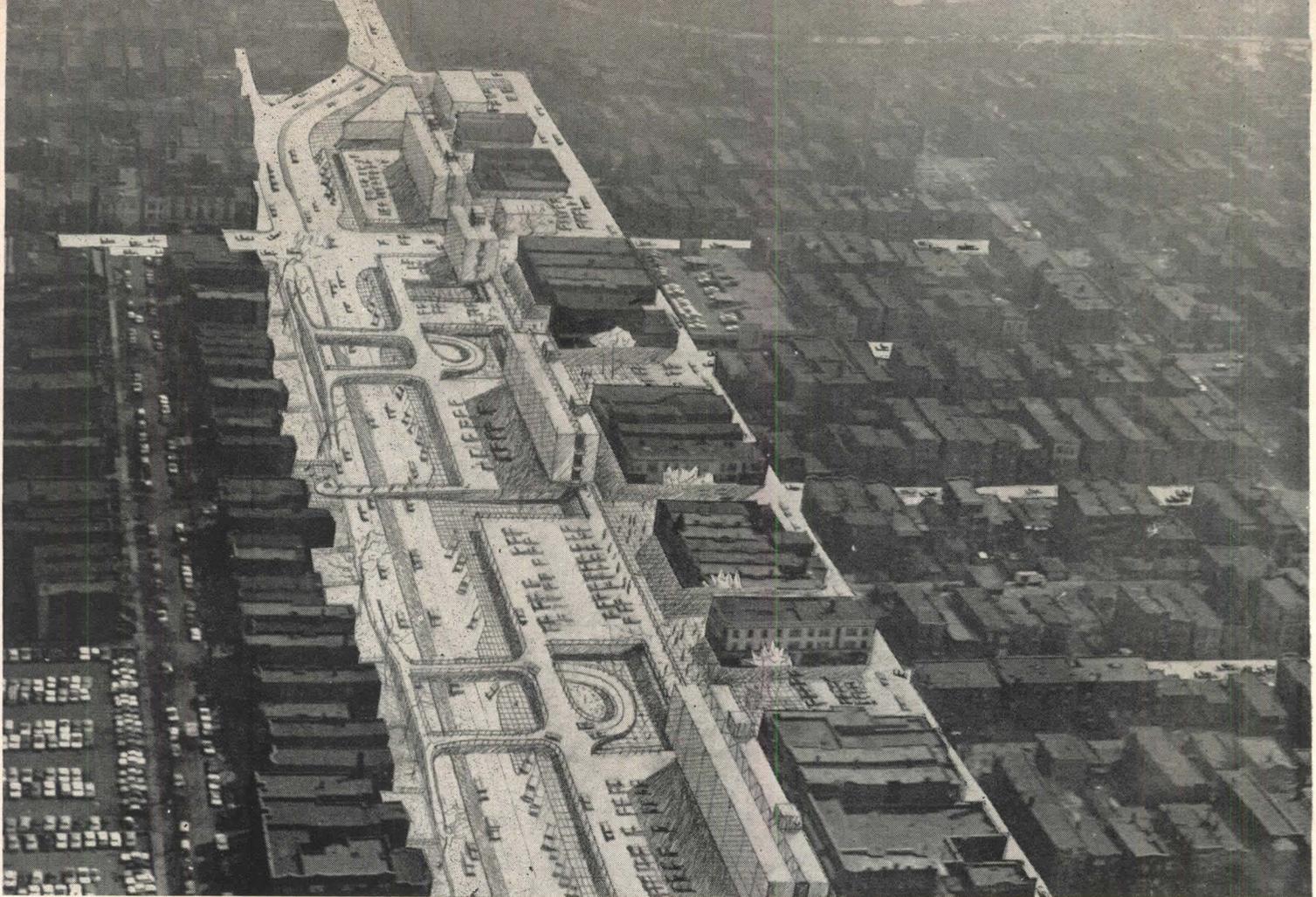
The text describes the terms of reference and the most prominent physical problems, and outlines design directives and implementation strategies. There

is no implication that residents are to be responsible for helping to rebuild and maintain the community, but, in any case, the language of the report could have been made more palatable for their digestion.

In quality and style, the graphic material ranges from precise plans and neat bird's-eye perspectives to imprecise photographs and scruffy eye-level perspectives intended to give the layman a realistic view of how the community could be developed. The technique of superimposing drawings on photographs makes the modifications look real enough, but only a few of the illustrations have the streets labeled and most areas are hard to identify even if one is familiar with the Lawndale community. No doubt budget limitations sacrificed the quality of the reproduction of graphic material. Nevertheless, it is important to realize that residents of the community are rarely impres-

sed with the statistics, models, and eyewash that architects use to gain the praise of politicians and fellow architects. Most people have difficulty in reading road maps, they can hardly be expected to appreciate the three-dimensional implications of a community renewal plan. What they *do* expect is to have a piece of the action! Rightly, the black community is now insisting on becoming involved at every level of the decision-making, programming, planning, and rebuilding of their communities. They too want safer, more attractive and humane environments, responsive to their needs and giving their lives more meaning.

Newman seems to recognize the fact that the community is every bit as much the "client" as the city. The client has come a long way from the wealthy individual who hired an architect to build masonry monuments symbolizing the client's taste



A high-intensity center for commercial and institutional use, at the intersection of two major streets.

and power. In recent years the private client has been replaced by the corporate client who hires a builder to collaborate with the architect and produce a package requiring the minimum investment and yielding the maximum profits. Now, the client is a trio which includes the private developer, government agencies, and the community. Architects and planners have had some dealings with the first two and tend to manage themselves fairly well with them. But when the "community" is black people, everybody gets up tight; the Negro has never been a client before and we know next to nothing about his attitudes on density patterns, FHA space standards and room arrangements for larger families, or about how he uses open spaces, and how he values time and property. James Baldwin put it this way: "The black folks always seemed to know what was happening in the living room, but the white

folks never cared to know what was happening in the kitchen."

The Park-Mall study was conducted in two stages—the first of which was to develop criteria for choosing an area that would most likely benefit from the study (if the recommendations were carried out). Design schematics were developed to establish ideal performance requirements for three study areas of Chicago. From this, an outline was made to explore the possible forms that Park-Malls could take in a particular area. Park-Mall Lawndale is the result of almost two years of design research to establish a framework for reshaping the community.

The study area is two square miles (almost half the size of the Lawndale community itself) and contains half of the population, housing stock, commercial land, most of the elementary schools (Lawndale has no high schools), and almost all of the open space in the community.

Thumbnail sketches effectively portray the problems of traffic congestion, the lack of social amenities, and the need to stimulate the economic revival of the area by creating magnets of attraction to form a network of community facilities. The opportunity exists to modify the urban structure of Lawndale in order to make it a more viable and self-sufficient community.

Newman perceives the development of Lawndale through, 1, the concentration of commercial and institutional facilities into what he labels a Center; 2, the dispersion of recreational facilities along a Spine; and 3, the integration of both into the Fabric of residential areas.

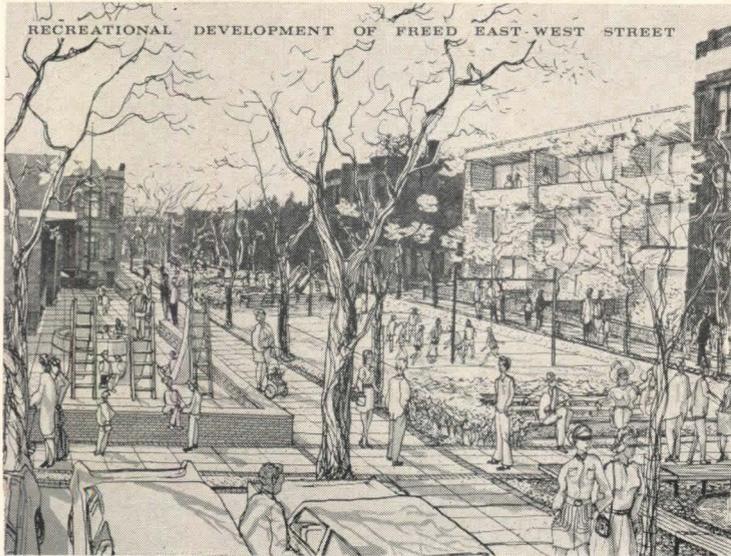
The concept of "Center"

For example, a major center of commercial and institutional activity (composed of shops, health clinics, government agencies, entertainment and sitting areas for adults, and play areas

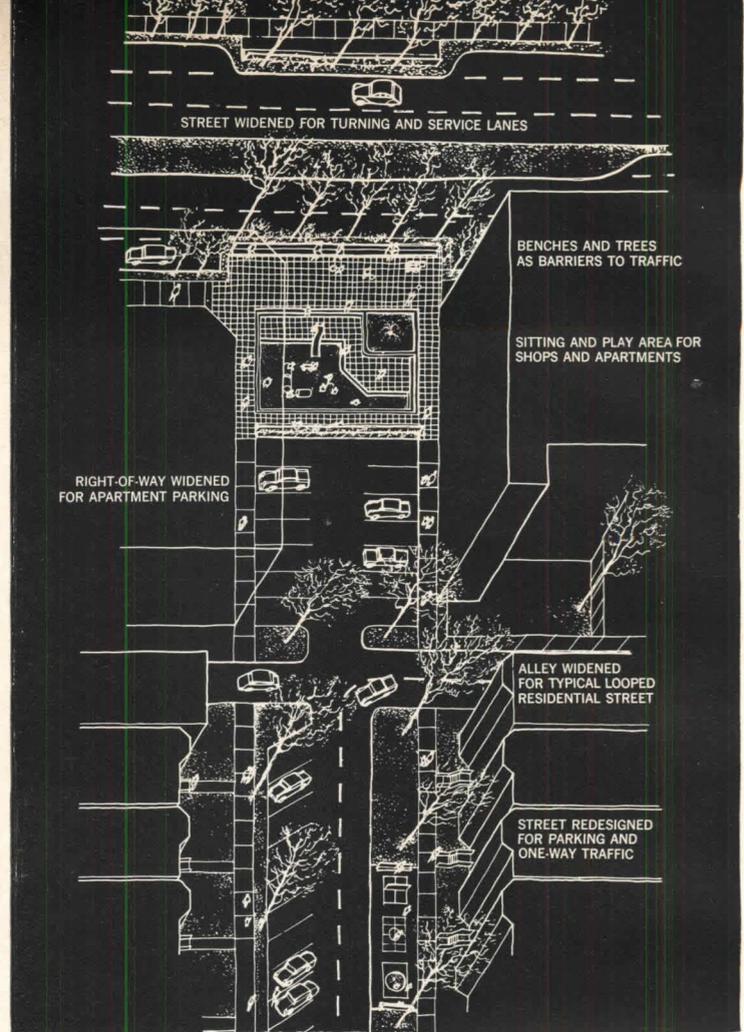
for children) would be located at the intersection of preferential streets such as Roosevelt Road and Kedzie Avenue (above). Parking would be located at grade level and on the roof of buildings—considerably cheaper than underground structures. The proposition put forth here is very attractive to someone who has excess capital to invest in a department store, supermarket, or chain of five-and-dime stores. But it does not seem feasible for someone who has limited capital to invest or for someone who operated a small corner shop on the South side and was relocated by urban renewal to Lawndale.

The Negro is no longer content to be simply a consumer—he wants to be a producer as well. The mood of the black people is to stop buying items that yield profit only to white people who rarely seek the services of Negro doctors, lawyers, or architects.

The current school strife across the country is making the public



Before and after: an east-west street freed of traffic.



Another series of street improvements.

streets." The study's proposal for restructuring the residential quadrants is to restrict through traffic to the main transportation arteries, provide better visual orientation, improve pedestrian and vehicular circulation by creating a looped system which will increase the parking ratio, and provide a pedestrian-oriented mall for recreational activities. I seriously question, however, whether people will be prepared to drive through the alleys and enter their houses from the rear to make this scheme work.

Vacant lots in the study area represent the largest resource of land for development. The area has a total of 1,280 acres, of which 57 are vacant lots, 25 ft. by 125 ft. Newman proposes to use single and double lots for tot-lots and hard-surfaced play areas, and larger lots for new housing. The study calls for one play lot in each residential area—to be easily supervised and maintained by residents of the

area. He suggests that the city could be spared the cost of land acquisition by encouraging land-owners of vacant lots to "allow their land to be used for the short-term provision of amenities by offering them tax rebate incentives." The city would naturally have to assume the responsibility for site preparation and insurance coverage. Isometric drawings illustrate various alternatives of transforming vacant sites into tot-lots and playgrounds—with paving patterns and soft-surfaced areas separated from vigorous play areas by sculpturing the earth or by planting. Lawndale is desperately in need of day-care centers, which could be built on vacant lots so as to give working mothers a place to leave their children within walking distance of their homes.

Performance standards of the Park-Mall study point to the need to correlate existing facilities with economic feasibility

studies and user requirements. Newman stresses the need for visual focal points that will serve as guideposts. He wants to structure the area in the minds of the people who will gravitate there for essential items and leisure-time needs or simply for meeting a friend and passing the time of day.

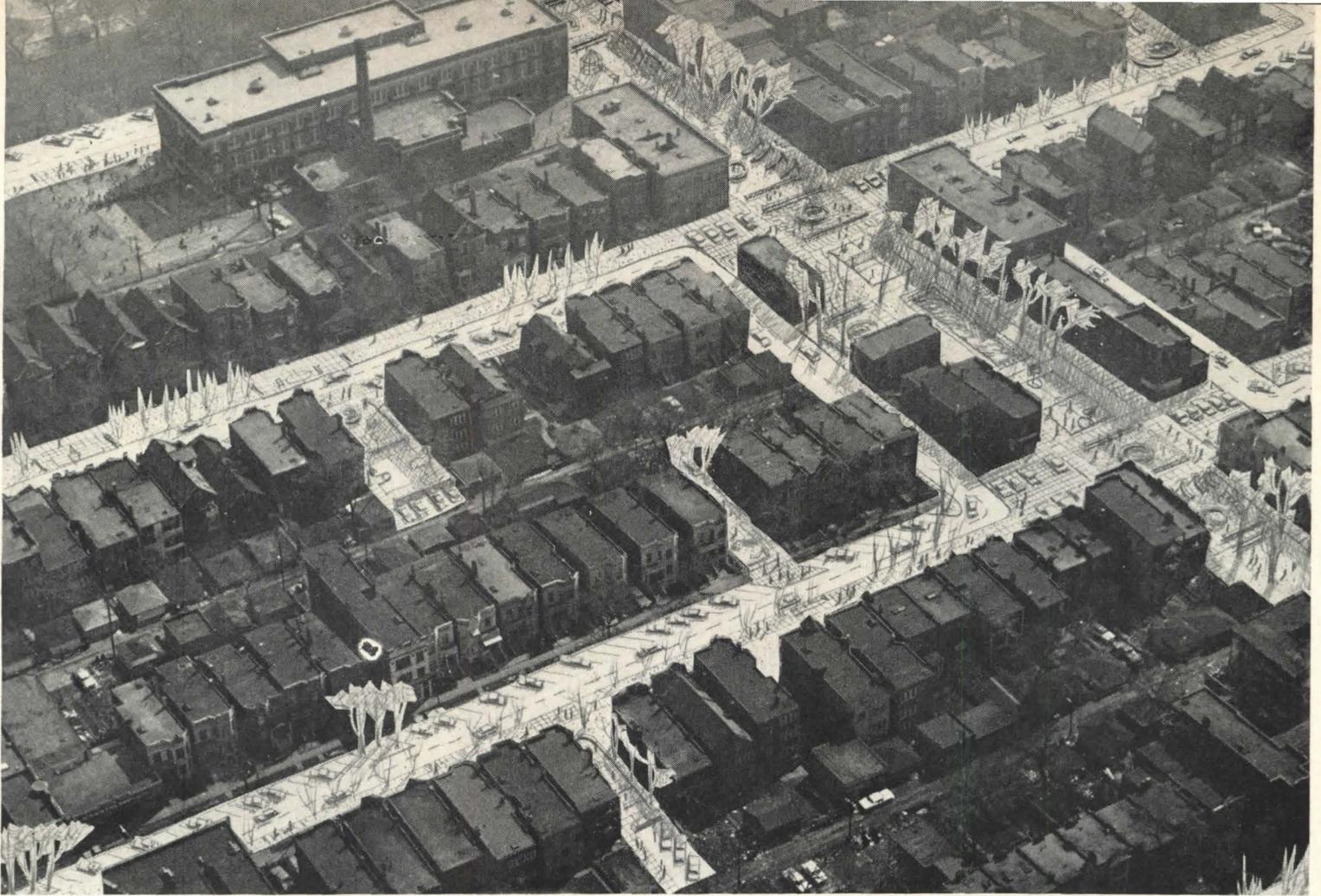
The Park-Mall network builds on the open spaces and the linear pattern of the area by intensifying usage and linking community facilities with residential areas. Transportation corridors are transformed to facilitate the movement of vehicles and pedestrians. A hierarchy of recreational facilities is provided in relation to the average walking distances from dwelling units and to the use of facilities by different age groups.

The study could have benefited from design research now being conducted by Alain Bertaud of New York City's Urban Design Group. Bertaud is an-

alyzing pedestrian movement patterns in various parts of Manhattan to determine how open spaces are actually used by the pedestrian, why some spaces attract people and others do not. He is especially concerned with the use of streets in Harlem and the effects that space, color, light, noise, crowds, and pavement patterns have on the behavior of pedestrians. Isochron charts for various places in the grid pattern of the city clearly demonstrate that the traditional calculation of walking time in terms of the radial distance that a crow can fly is no longer reliable; time and distance must be interpreted by how pedestrians actually move in the grid.

A useful appendix

The second half of the report is an appendix, with fact sheets that lend support to the preceding section of recommendations and proposals. There is a good deal of useful material here that



Application of new looped street pattern to the existing residential grain.

can be applied to the design of open space in other cities. For instance, a chart of "Operational Standards Versus Accepted Standards" relates age groups to recreational areas, and gives the quantity of space required by conventional standards but modified to meet the physical constraints of Lawndale.

The planning framework outlined in this appendix provides a dynamic picture of the demands for land evaluated in terms of their cost benefits. The "sieve" process is used to analyze economic cost and social benefits based on existing land use patterns and development potential.

The policies put forth for housing are by far the most enlightened to be found in documents of this type. Newman proposes that low-rise public housing be built for low-income families and that these families be encouraged in home ownership through liberal loans and

low-interest mortgages. He points out that some of the abandoned factories and warehouses would provide large parcels of land for housing. A wide range of housing types is advocated, to appeal to the various income levels which should be an integral part of the Park-Mall system.

Effect on the community

It is a pity that this study did not produce more information on the leisure habits of the 20 to 40 age group. Current trends clearly indicate that muscle-building activities are on the downswing, and mind-building (and culturally oriented) activities on the upswing. Future generations will deserve and demand a wider range of facilities than this report recommends. If the research team had established an effective dialogue with the community, and looked at the area with a telescopic as well as a wide-angle view, they would have had a

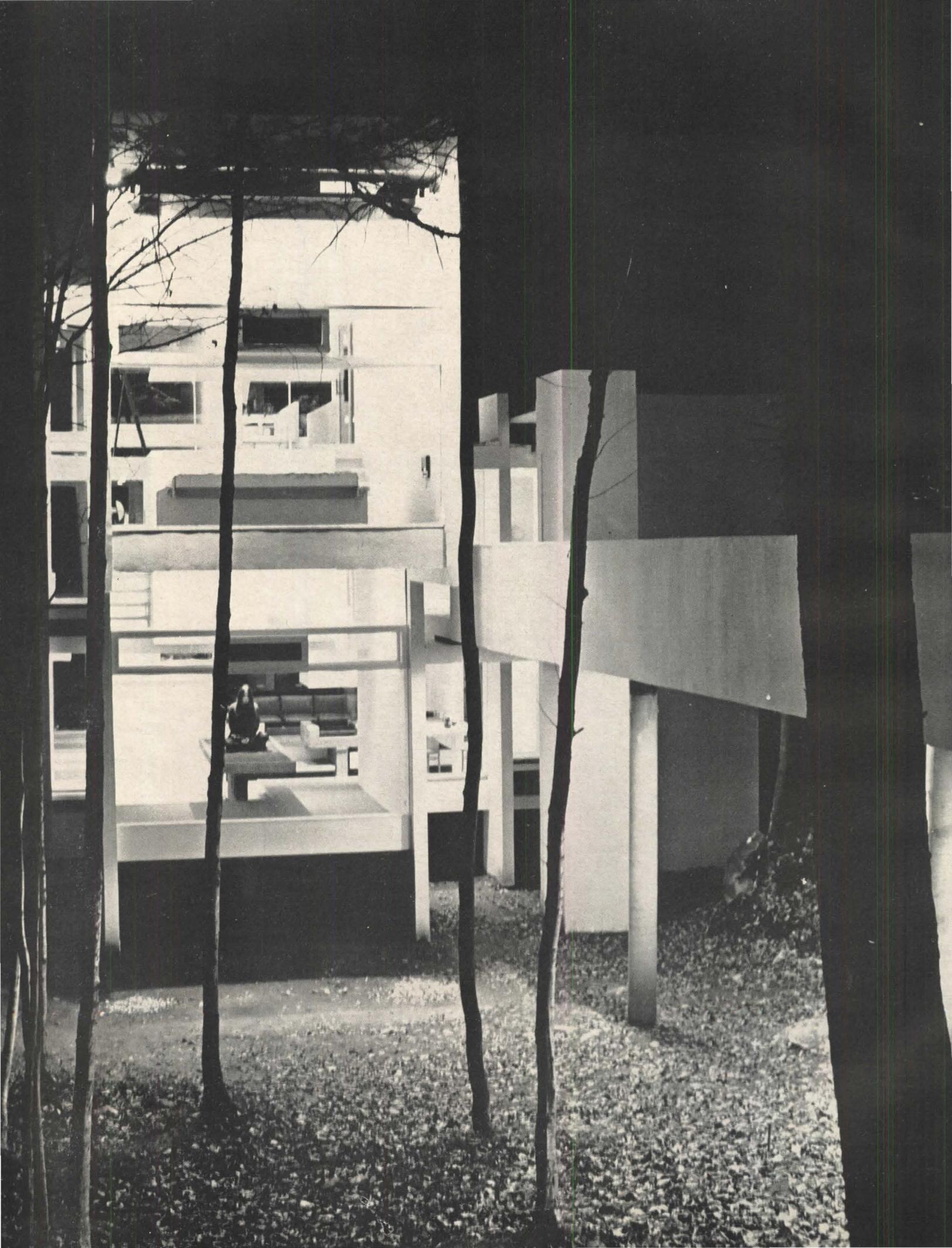
broader picture of the area's problems and potentialities. But one can't expect much from a windshield survey by car and a bird's-eye view from a helicopter.

Very little documentation exists on the character of the black community as a basis for planning. Although numerous studies have explored the effects of crowding on white mice, nobody has carefully analyzed the attitudes of black men concerning open space—analyzing, for example, how the streets of the ghetto serve as living rooms of the community. The dynamic quality and spirit of community in the ghetto are lacking in more affluent areas of American cities. Efforts to reshape the physical environment should not lose sight of the human and cultural resources that are vital to the economic growth of underdeveloped and overexploited communities. Design formulas created in graphics studios and computer centers will help little to stimulate

social interaction, economic integration, and political progress unless one adds the ingredients of intuition and respect for the life style and requirements of people from different cultural backgrounds.

Park-Mall Lawndale is a pioneering study to develop open spaces in overcrowded residential areas, but the report does not demonstrate a deep understanding of the needs of the community, or evaluate the social, economic, and psychological impact of its design solutions on residents of the community.

On a recent visit to the area, I noticed that portions of the Douglas Boulevard Spine were being used for recreational purposes, and some new housing was being built on former industrial sites. It is difficult to determine if the political machinery of Chicago will encourage the team's proposals to be carried out, or if this is merely another study to collect dust on the shelf.



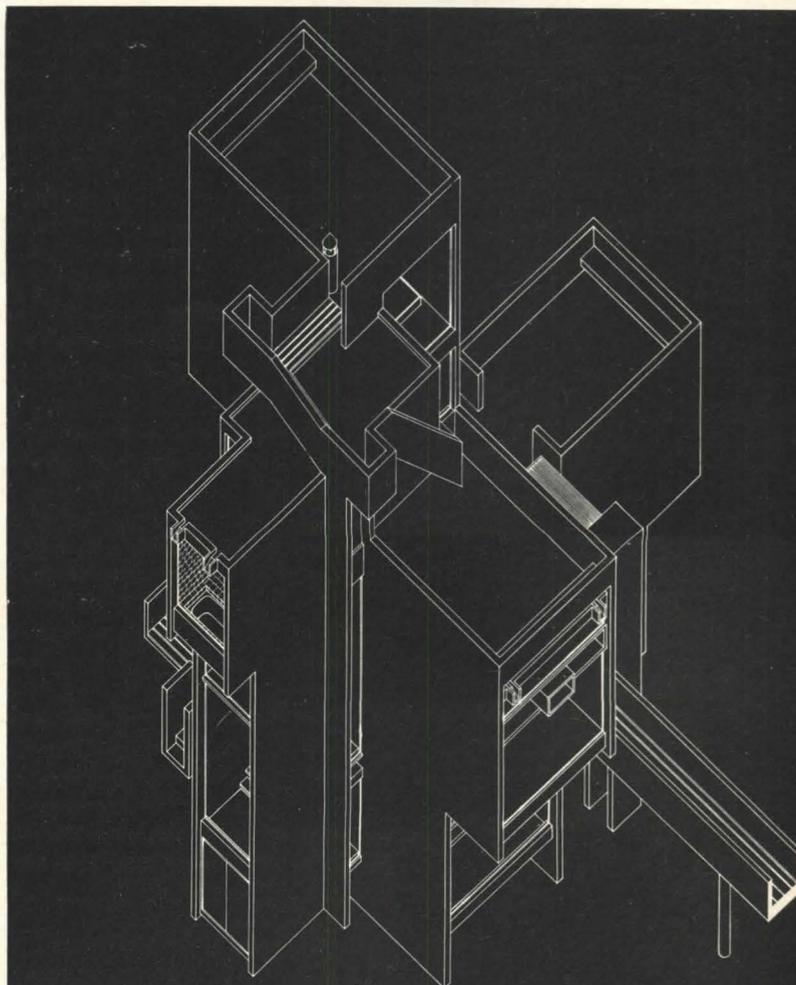
SPACE FRAME

This country house in a forest in Vermont is about five stories high—but all one room. It was built on close to two dozen different levels, all connected by stairs, bridges, and ramps—but there are virtually no partitions in the ordinary sense. It is, in a way, a tour de force—but a tour de force in the best traditions of modern architecture: Le Corbusier once said that architecture is the . . . play of forms brought together in light; Peter Berman, the architect who built this extraordinary structure for himself and his wife, calls it a “light-sensitive piece of sculpture.”

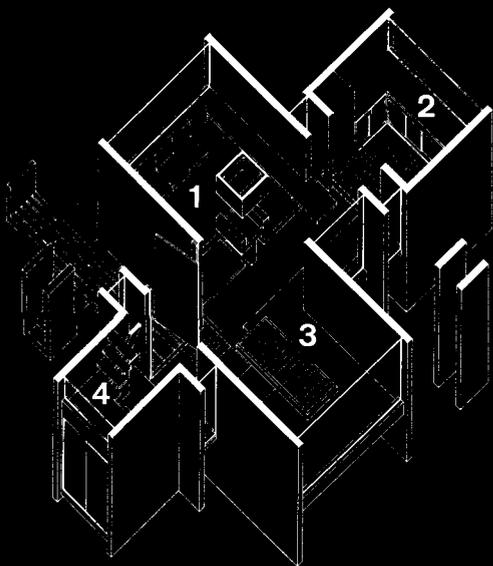
Although the drawings and photographs on these pages appear to show about as complicated a construction as has ever been devised for a one-room cottage, the ideas that motivated Berman are surprisingly simple: he had a 3½-acre site on the north face of a mountain; to achieve a maximum of privacy, he decided to locate his house half way down the slope (and away from the road), and to make it accessible from the uphill side by means of a long entrance ramp; finally, to recapture the views above treetops, he decided to build a tall tower that would reach for those views.

Actually, his house consists of four separate and distinct towers, each beginning at a different level, and each containing a different function at its base (i.e., living area, dining room, kitchen, and main stair.) Each of these four towers, moreover, increases in area as it rises. The four towers spiral upward in a clockwise direction, with the level of each slightly higher than that of its neighbor.

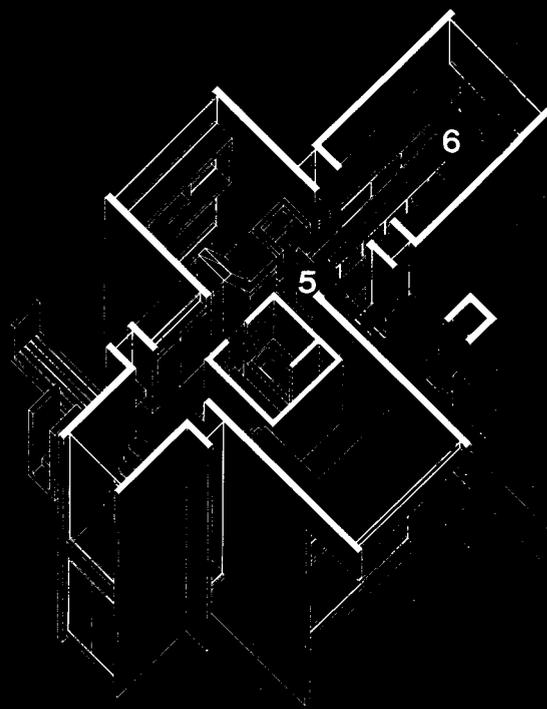
Although the house is almost entirely transparent — “framed views of the landscape,” Berman calls it—there are several solid objects, or points of reference, in its ascending space: e.g., a free-standing concrete fireplace in the living area, and a slate-topped, cantilevered table, 8 ft. long, in the dining space. But in daytime and at night, the house is, above all, a play of light, shadow, and —because of its transparency—of views in all directions.



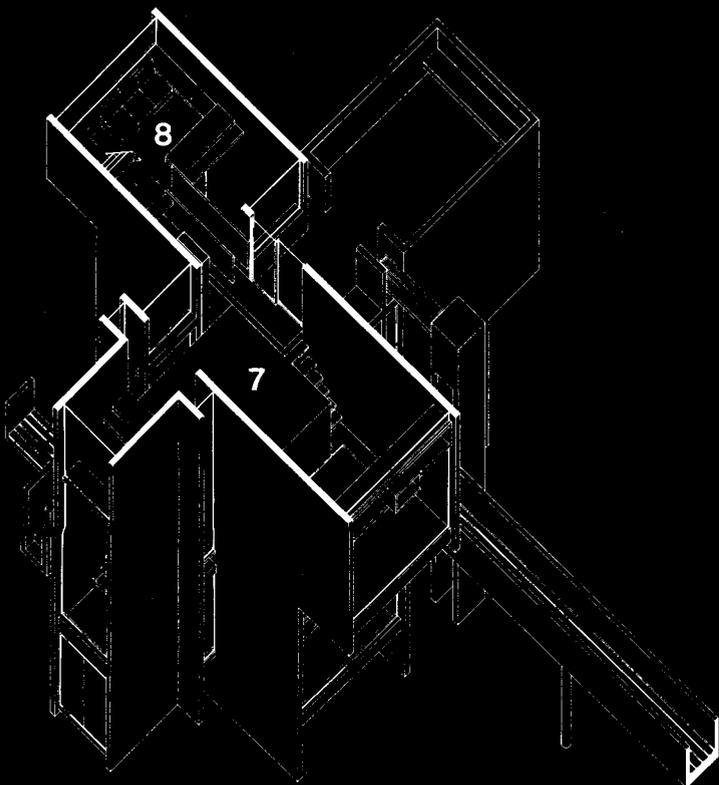
Left: entrance bridge into house is 65 ft. long. Night view shows dining area below, studio above. Top right: daytime view of entrance bridge and approach side of house. Below: isometric, by the architect, explains organization of structure as a complex of four towers.



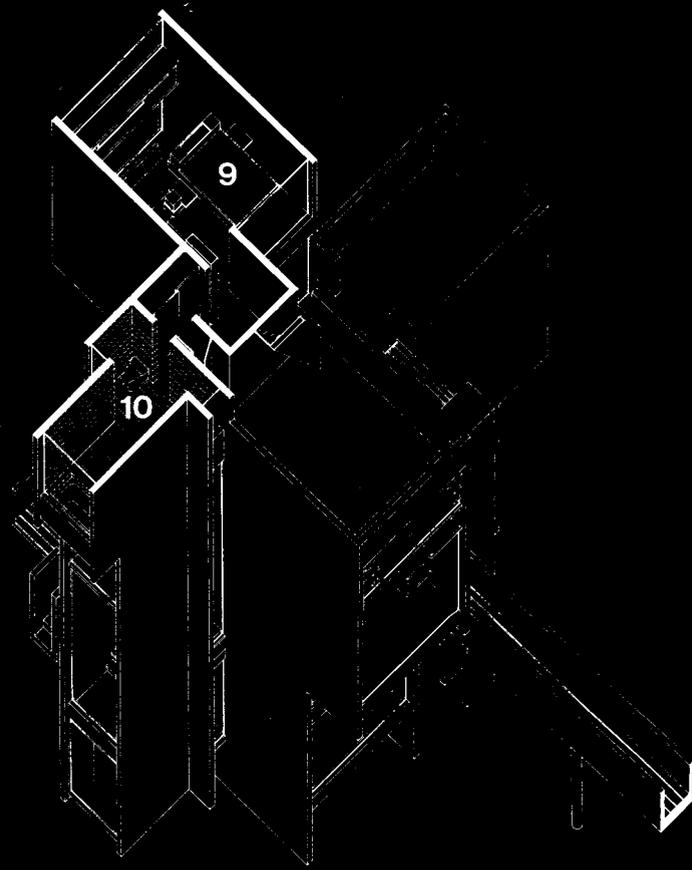
FIRST LEVEL



SECOND LEVEL



THIRD LEVEL



FOURTH LEVEL

The isometric drawings on the facing page show the vertical ascent of the interior space in all its complexity.

The lowest level of the house is about 30 in. above grade; from this elevation, clockwise, the levels of the lowest "floor" rise in 7½-in. increments to 60 in. above grade—the level of the living space. These 7½-in. steps serve as informal seating in the central space that is shared by the four towers.

(Indeed, all the furniture, except for a handful of chairs, is made up of built-in planes and cantilevered slabs that overlap and intersect, serving as table tops here or benches there, with cushions placed on them where needed.)

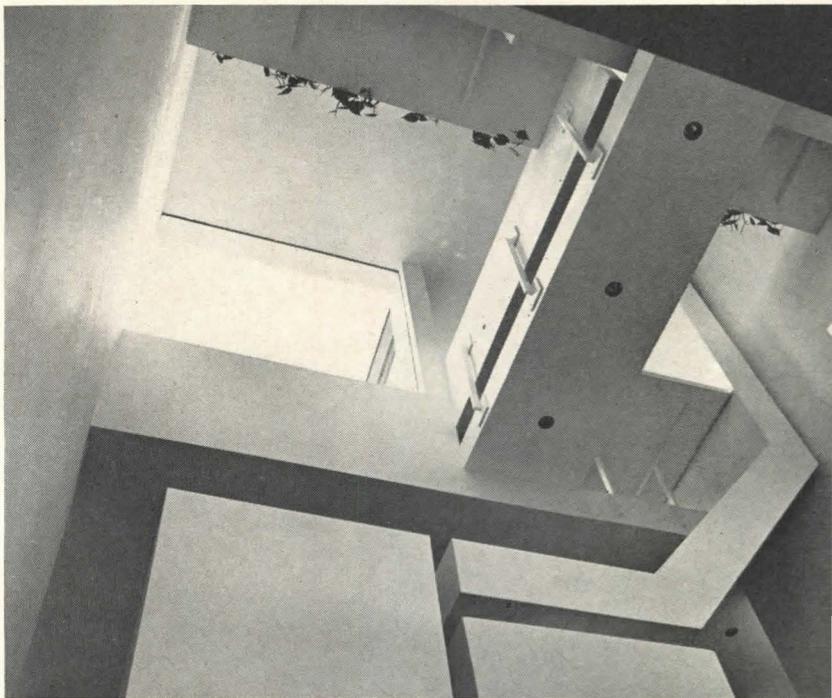
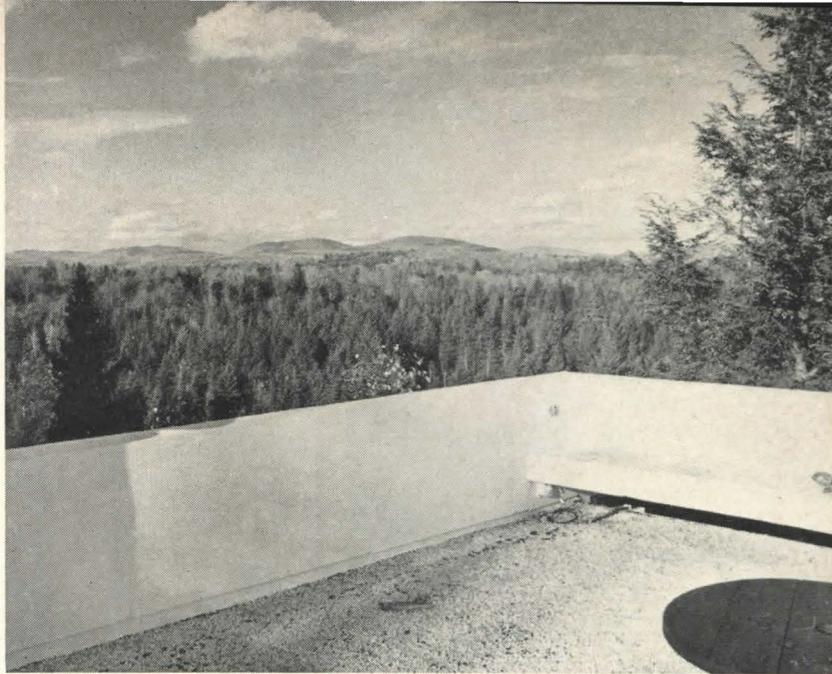
The main stair in the house leads from the lowest "living floor" to the next higher level—that of the entrance with its 65-ft.-long entrance bridge.

The upward circulation from the entrance level is a series of quarter- to half-level progressions in a counterclockwise direction. As one climbs, one becomes aware of larger, vertical spaces, increasing with the expanding scale of the landscape.

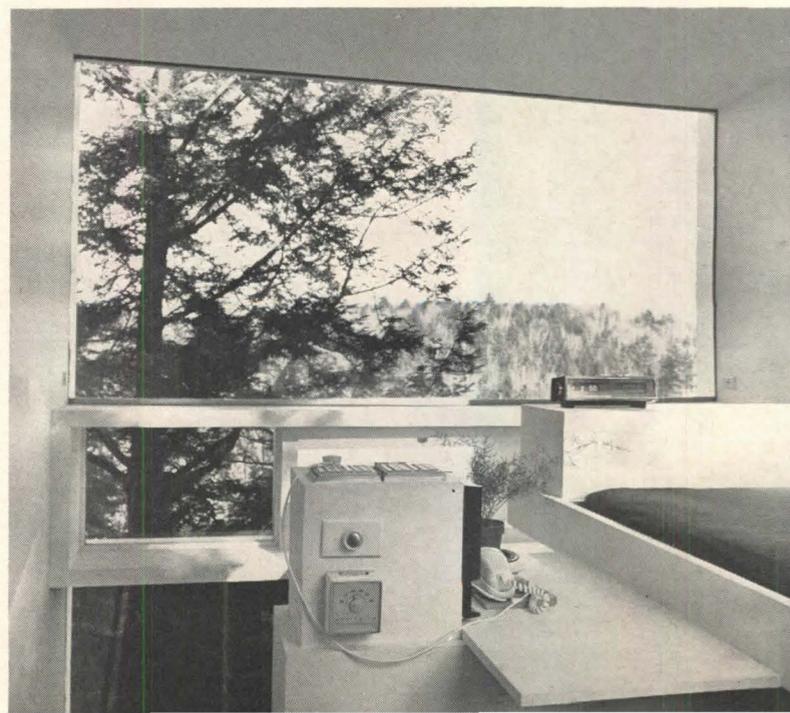
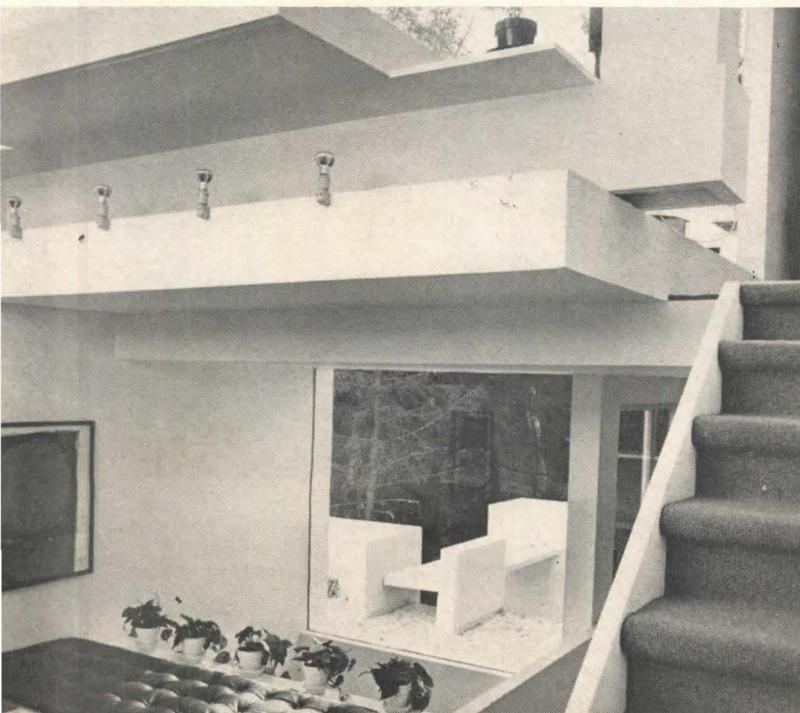
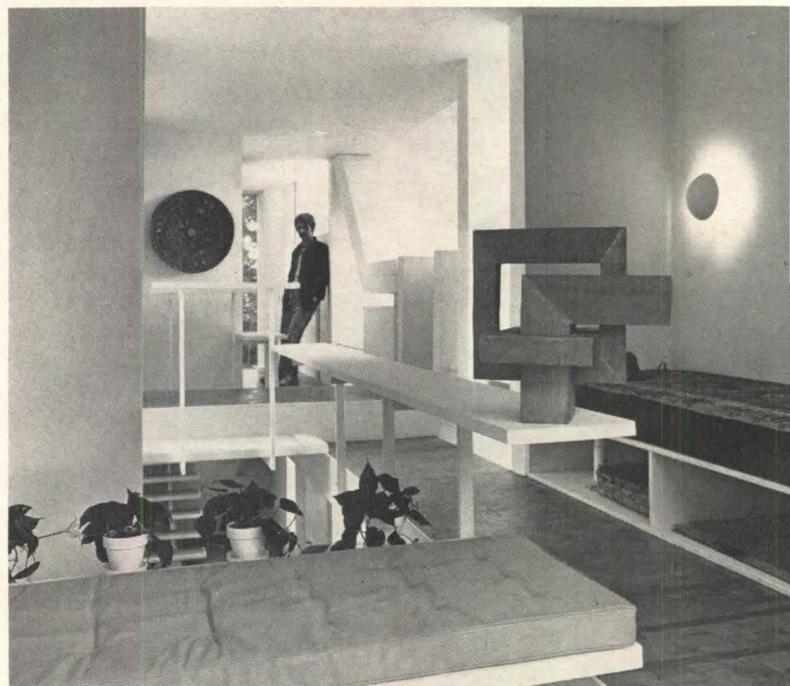
Up one half-level from the entry is a guest bedroom; up another half level, and directly above the entry, is Mr. Berman's studio. The studio has prominent views in all directions, yet it is still below the treetops.

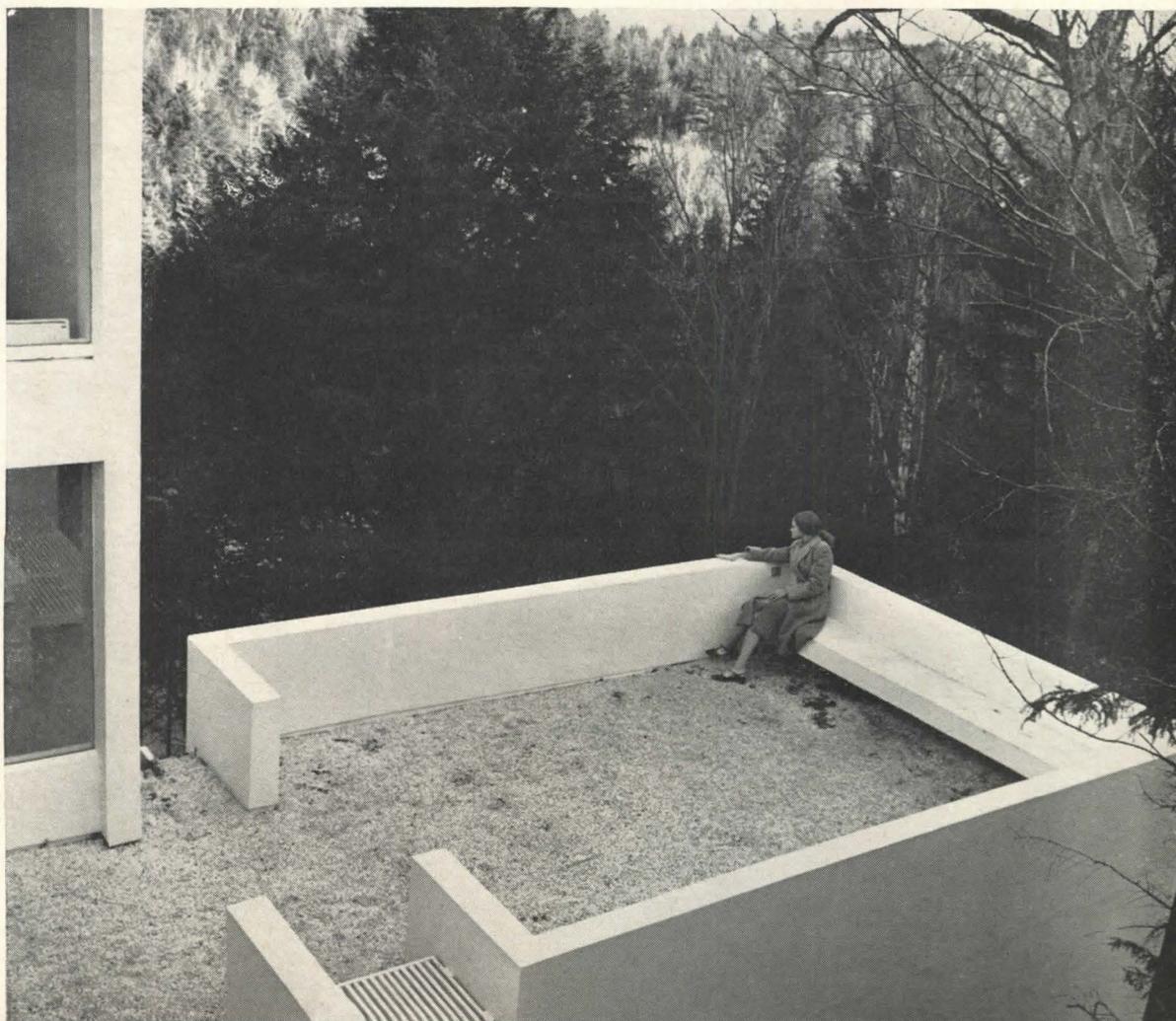
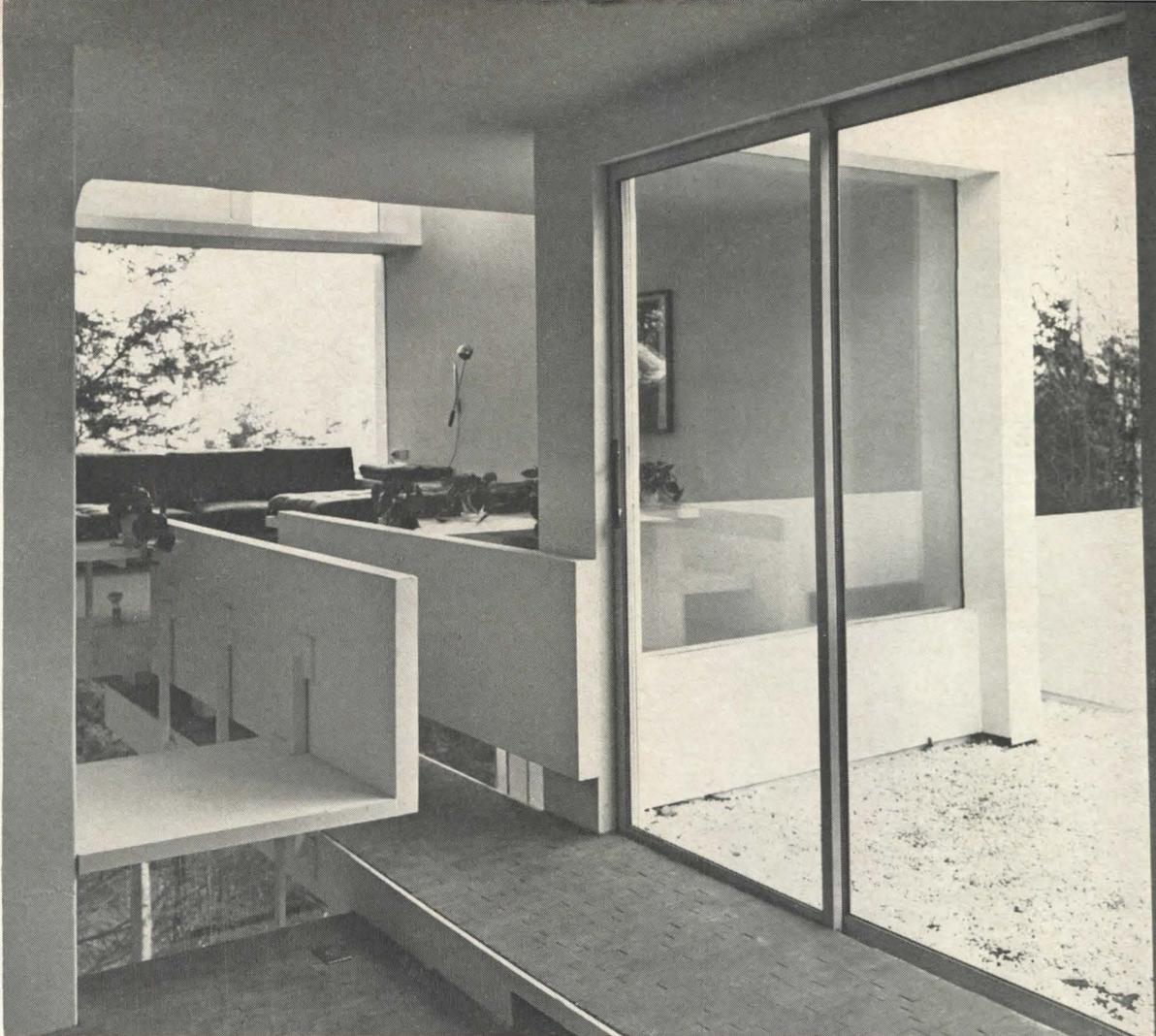
A 2-ft.-wide bridge, 15 ft. above the living room, leads from the studio to the master bedroom—which, in itself, is a two-story space: the lower story is a sitting area, and the upper contains a master bed cantilevered out over the living room 32 ft. below. Adjacent to this sleeping area are a dressing room and master bath. A small door opens onto a terrace at this level, and there is yet another stair and a ramp that lead to the uppermost roof terrace.

Here, 42 ft. above grade, the reason for the height and the long climb becomes obvious: the view is spectacular. In three directions it is possible to see more than six mountain ranges over a distance of 40 miles—without a glimpse of civilization, anywhere!

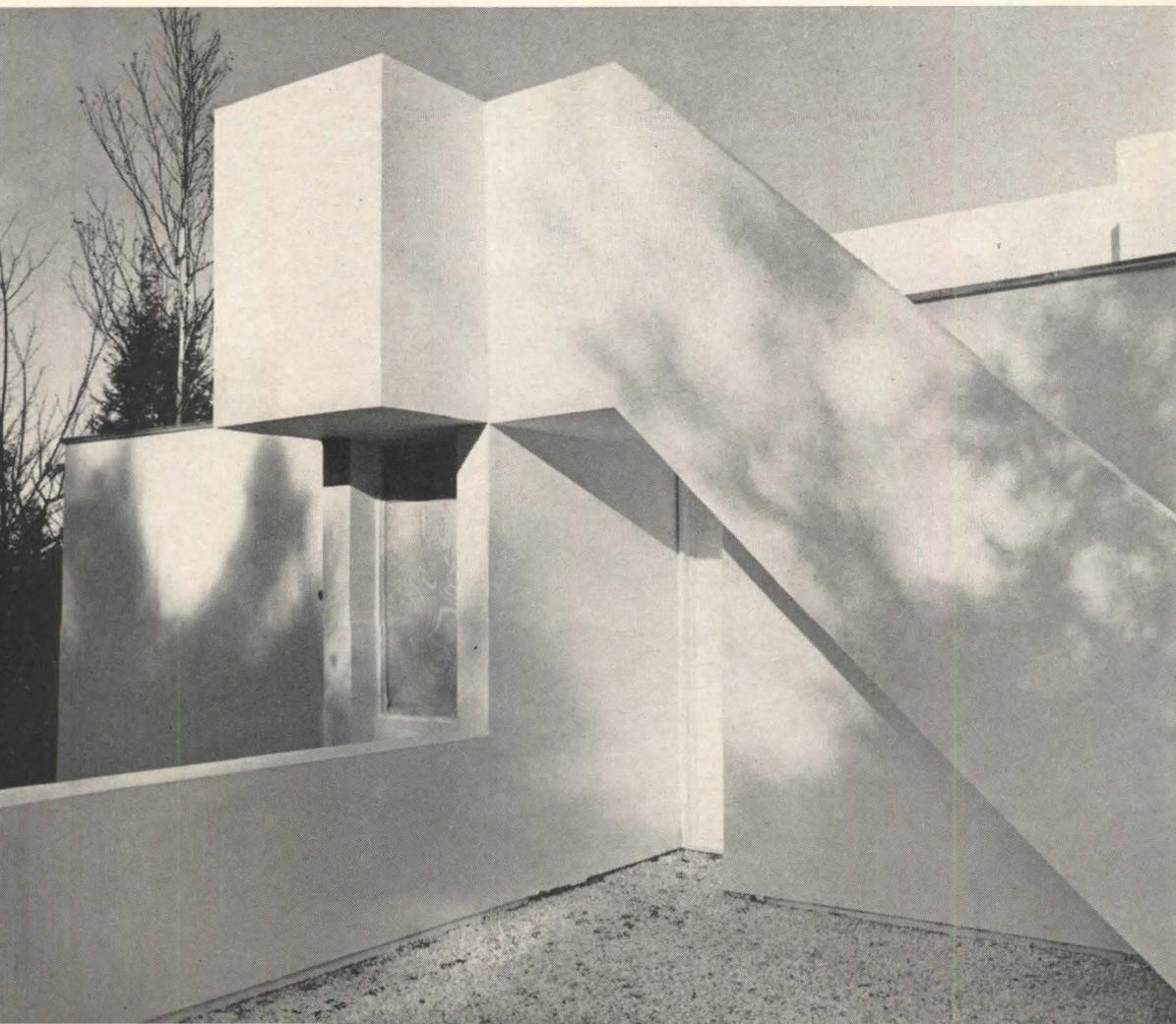
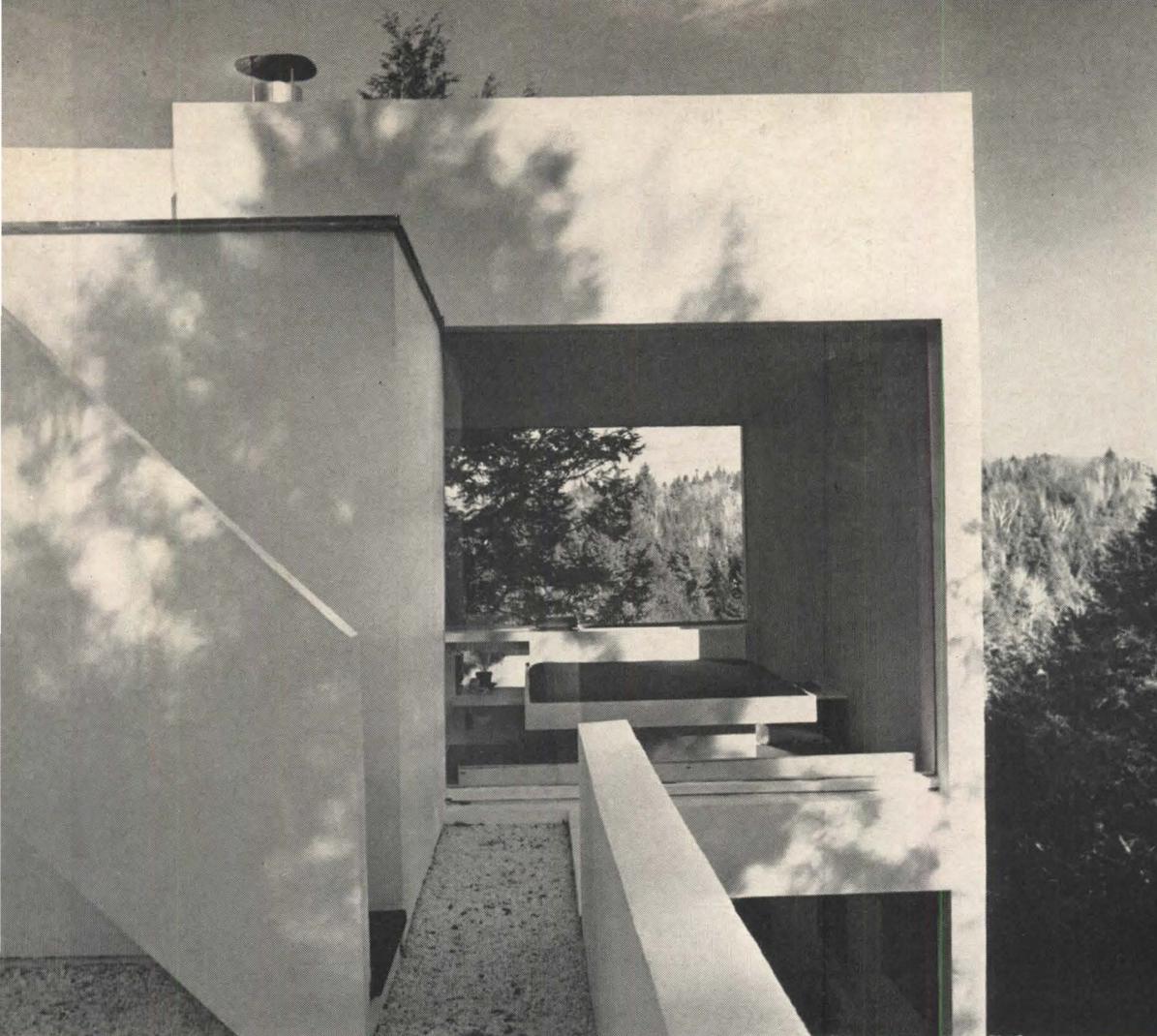


Left: isometric views, drawn by the architect, reveal interlocking levels and spaces: 1. living; 2. kitchen; 3. dining; 4. stair; 5. entry; 6. guest-room; 7. studio; 8. bedroom suite (lower level); 9. bedroom suite (upper level); 10. master bath. Right (top to bottom): view from one of four roof terraces; view up from living area; and approach to the house, showing eccentrically pivoted front door, 6 ft. 8 in. square. All glass is fixed, 1 in. insulating; ventilation is achieved through wooden doors on piano hinges, located in the centers of glazed openings.





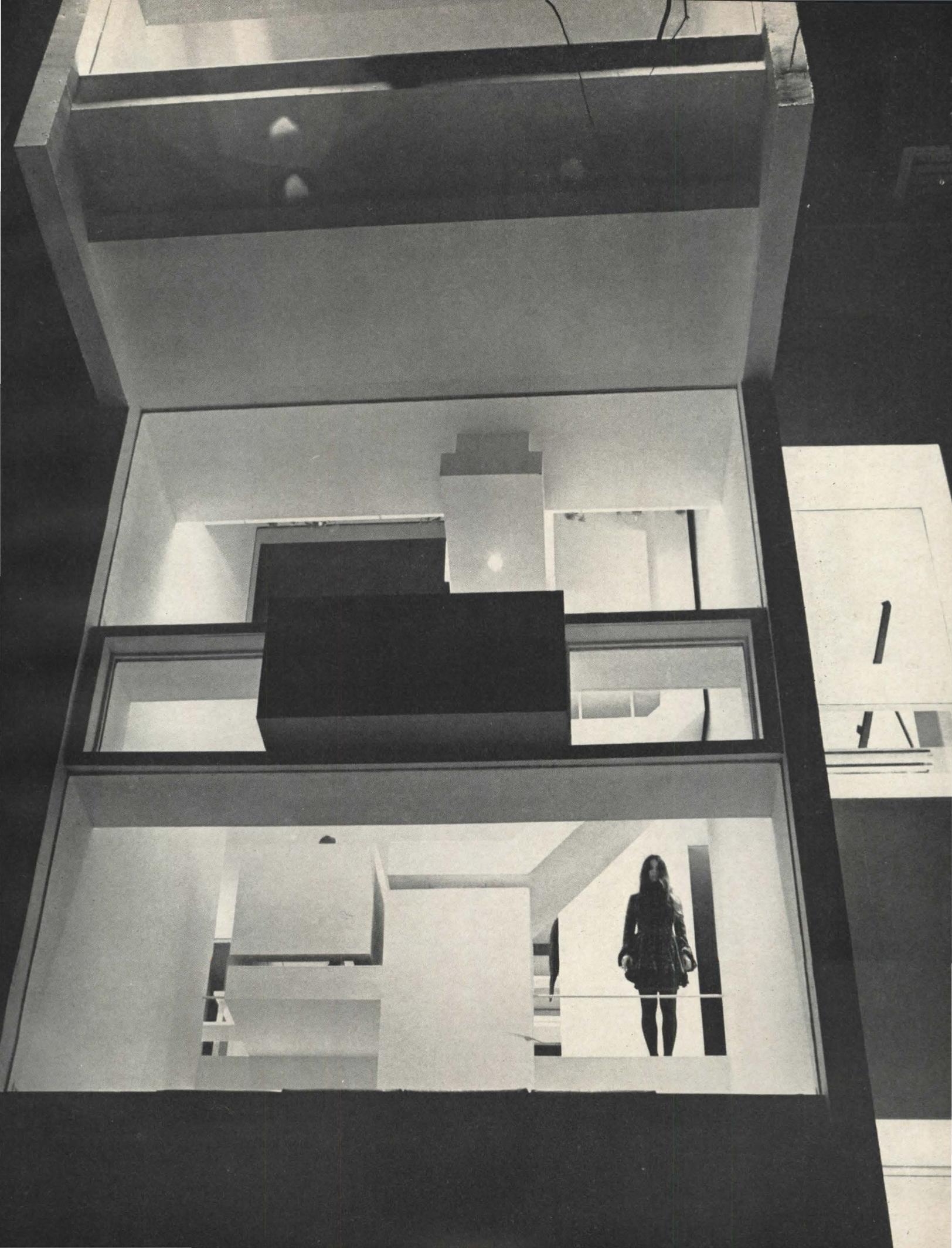
Top left: living area, and view past fireplace into kitchen. Center left: view from kitchen toward stair tower (dining area is at left, fireplace at right); and entrance level, with guest-room at left. Bottom left: master bedroom suite on two levels—sitting area with benches below, sleeping area on cantilevered balcony above. Right: interior bridge leads to lower level of bedroom suite; lowest of four roof terraces is accessible from this level. Despite its apparent complexity, the house was, in fact, designed to be built by any nominally skilled carpenter. There are no intricate details—just plywood surfaces outside, sheet-rock inside, and white paint to cover all of it.



Left: view from second-lowest roof terrace into sleeping balcony. Stair visible in both views leads to highest roof decks. Right: night view into living area of house.

FACTS AND FIGURES

Peter A. Berman house, Peru, Vermont. Architect: Peter A. Berman. Engineer: Robert White (structural). Building Area: 1,800 sq.ft. PHOTOGRAPHS: Clemens Kalischer, except page 53 (bottom) and page 54 (top left), Peter Berman.



THE NEW GAMESMANSHIP

A report on the new urban games, played not so much for fun as for an understanding of the complexities of urban problems

Monopoly had its origins on the boardwalk and along the byways of Atlantic City, N. J. And while it reproduces to some extent the real-estate maneuverings of the real world, it is only a primitive ancestor of the newest games based on the urban scene.

The newest games are not games at all—in the sense of “fun and games”—but important educational devices, some played in the street by ghetto residents, some played in the “laboratory” by students and professionals. These games are more intensely involving than a day of Monopoly; more closely modeled on reality than the disparities between Baltic Avenue and Park Place (there are games patterned after Lansing, Mich., for instance, and Syracuse, N. Y., and incorporating the differentiated behavior of various actors on the metropolitan scene); and more instructive as to how things operate than the unvarying receipt of \$200 for passing Go.

Gaming, applied to military situations, has been practiced for several millennia, although the war games introduced since World War II are so highly sophisticated as to be a new form of the ancient art. The development of the computer, and of a “theory of games” by John Von Neumann, gave further impetus to gaming; business management games, for instance, are now a standard item in many corporations and business schools.

Games have entered high school and college classrooms in psychology, politics, economics, ecology, conservation, and history. And at elementary school, children play games called POLLUTION, in which they investigate the causes and controls of pollution, and NEIGHBORHOOD, in which they develop a gameboard neighborhood (in a simulation of urban growth based on Boston's North End). These two games were developed for the Wellesley, Mass., public schools by Abt Associates Inc., a Cambridge think-tank whose clients range from Creative Playthings to the Pentagon.

Another of Abt's games was staged at last year's “Design-In” in Central Park; some 50 per-

sons playing SIMPOLIS were encouraged to deal with all manner of urban crises, taking roles as Unitarian Minister, White Middle-Class Parent, Slumlord, etc. “You can lie, cheat, and steal in this game,” says Abt, “but you can't conceal your identity.”

Kaiser Aluminum commemorated its 20th anniversary, in 1966, by looking ahead to the next 20 years with a game called FUTURE. Players can operate on chance alone, tossing an icosahedron die to decide the likelihood of future events (whether autos will be barred from cities, for instance, and whether the U. S. and U.S.S.R. will have a military alliance), or they can use strategy, skill, and money to manipulate the 60 chosen events. Some 10,000 sets of the game are now stored in corporate board rooms, municipal offices, and faculty lounges across the country, and while the game is not intensely involving (and becomes less so with continued play), it underlines certain connections among future events. It also teaches the Rand Corporation's Delphi technique of forecasting, developed in part by one of the designers of the game.

And on still another level, the magazine *Psychology Today* recently presented a center-fold CITIES game, for which participants assume roles as business and government personnel, as slum dwellers and agitators. Faced with police action and/or riots (and with inadequate directions for understanding which is which), one reader complained that he was so frustrated he went out and shot the mayor.

On a serious level, the application of gaming to the study of urban problems has looked like a good idea, within the past few years, for several reasons.

As the field of urban studies grows more complex, it is clear that no person or discipline can encompass the entire field.

A game, which reduces the world to a comprehensible whole, and gives each player the same frame of reference, can go a long way toward giving him an understanding of his own concerns in relation to the total picture. In a game situation, he can see

how his decisions affect both the responses of the system and the actions of other players. And in the process of making decisions, he can learn about decision-making—how to separate the important decisions from the unimportant; how to make decisions when there is either too much information, or too little; how to seek more—or more relevant—information.

A game has immense advantages, too, in getting people involved. Players have to be reminded, when feelings run high, that it is “only a game.” During some gaming sessions, players remain half-standing through hours of play, indicating a level of attention that would make any lecturer envious.

As a representation of processes operating in the urban environment, a game may have significant advantages for a student over the case-study method, which tends to give an overall picture of a community as static. As a depiction of theory, a game can quickly convey for analysis some of the essentials on which a student might otherwise have spent weeks simply collecting data. In its ability to bring sophisticated concepts to persons without professional training, or convey the attitudes of untrained people to professionals, a game has tremendous potential for making participation in planning a workable reality. In providing continuing education to the professional who is many years out of school, a game can educate without putting an adult in the possibly awkward position of “student.” In bringing diverse persons of a community together to look at their mutual problems, a game can provide a comfortably “objective” focus.

Effectuation in Michigan

“METROPOLIS may be thought of as the first of a new species,” wrote Richard L. Meier in 1964. Meier, who has been referred to as “the grandfather of gaming,” is at least the godfather of METROPOLIS, having thought it up in 1960 and also named it. The game was developed at Michigan State University (under a National Science Founda-

tion faculty fellowship) by Richard D. Duke, a city and regional planner who is now director of the Environmental Simulation Laboratory at Ann Arbor.

The game shows changes in land use as they are affected by decisions on public expenditures. Players take roles as administrator, politician, and speculator, and make decisions on projects, budgets, capital improvement programs, taxes, investments. Unlike business management games, METROPOLIS is a “non-zero-sum” game—one person’s gain does not necessarily mean another person’s loss.

By 1966, and with a HUD grant, METROPOLIS had led to METRO. (“METROPOLIS resembles METRO as the Model T resembles a modern Ford,” says Duke.) The new game has four roles—politician, planner-administrator, school administrator, and land developer. Each of these is assigned to each political jurisdiction—central city, suburb, and urbanizing township. There is, for instance, a suburban politician, a township politician, and so on. (The game has an inner circle of tables where players meet on decisions about their spatial area, and an outer circle where they discuss problems on a metropolitan level.) Each person is cross-pressured, with his professional role often in conflict with the needs of his area. Furthermore, public demand always exceeds available funds, requiring a continual balancing of costs and benefits. Few unilateral decisions are possible; game play is a constant exercise in making bargains and forming coalitions.

An average day’s play consists of five rounds (each round equal to a year), at the end of which the computer print-out gives projections for the next ten and 20 years as a basis for the discussion that follows. Sets of five-year cycles can also be strung out over several days of play.

The acronym METRO stands for Michigan Effectuation, Training, and Research Operation; a primary aim of the game is to reduce the gap between “planners” and “decision-makers” by letting decision-makers see

the implications of “alternative decision chains.” The game is closely coordinated with the actual Tri-County Regional Plan, and through the game, basic concepts of the plan can be conveyed, and the results of game play compared with it. In addition, METRO was designed to illustrate the kinds of information available for decision-making (such as data banks—the prototype data bank in the game will probably be in common planning use a decade from now), and the techniques available for evaluating and implementing decisions (such as mathematical growth models and capital improvement programs).

The game incorporates a family of mathematical models (which simulate voter response, economic and demographic growth, and redistribution of population), calibrated to the data of Lansing. A computer-printed newspaper, and the SYMAP technique of computer mapping, are used. “In no way do the machine-based operations substitute for player decision functions; rather, the variety of computer-based data manipulation, visual display, and record-keeping activities adds realism to the game, provides an opportunity to experience and experiment with highly intricate data-based analyses, and adds considerably to the continuity and flow of the game by maintaining a

time compression of ‘real world’ years to a few gamed hours.”

Because gaming is a way of building knowledge very quickly, Duke would like to see it used in intensive courses for black leaders, as well as in educational programs for planners, elected officials, administrators, and social scientists. It is dangerous to think of a single game as an all-purpose problem-solver, though, he says. “The beauty of operational gaming is its flexibility. A gaming simulation of the METRO type may be modified to illustrate a galaxy of urban places, with universes of problems. . . . Operational gaming keeps social science from being dull and pedantic. It allows the nonacademic an insight into the connection of complex situations and complex explanations. It warns the academic that the world he wants to explain has a richness and variety that cannot be ignored. As an educational tool, it has value, because it is close to experience; but it is a condensation of experience, and its lessons are infinitely less binding and final.”

Land use at Cornell

A game with the homely name of CLUG (below) was invented by Allen G. Feldt, sociologist and associate professor in the department of city and regional planning at Cornell. The name originally stood for CORNELL LAND USE GAME; when the game was



taken over for marketing by two doctoral candidates at Cornell (students of Feldt's), the official name became COMMUNITY LAND USE GAME. But it's still the same old CLUG, available for \$125 in a veneered case.

CLUG originated several years ago as a class project in Feldt's course in urban ecology. Fairly crude by some standards, complex by others, CLUG lets players experience some of the basic economic forces that affect land use.

The object of the game is to make money. The three players (or teams) start out with a specific amount of money with which to buy and develop land—subject to such predetermined factors as a highway network, shipping points, certain taxation policies, and a limited range of land uses. Development only makes a profit when it is located "fairly efficiently" and when it is integrated into the economy of the game community that is being built.

Players can reduce losses to themselves and the community by, 1, minimizing the distances between land uses that interact frequently, 2, prudently managing a capital improvement program, and, 3, juggling renovation and construction costs on existing buildings. Built into the game are many rules reflecting the "laws" of the real world; new construction is only allowed on a lot serviced by two roads, for instance, and costs of successive buildings of the same kind are reduced.

During each round of play, a set number of operations is performed in a set order (players assess property, receive income, pay taxes, buy and sell land, provide utilities, renovate buildings, establish prices, receive interest). During each round, too, there is bribery, collusion, and general *wheeling and dealing*—unscheduled and without limit.

After 20 rounds—about ten hours—bookkeeping is difficult. And after 30 to 40 rounds, economical development is difficult, with play taking the form of redeveloping existing land uses. Going back over previous rounds, with minor changes, can be an

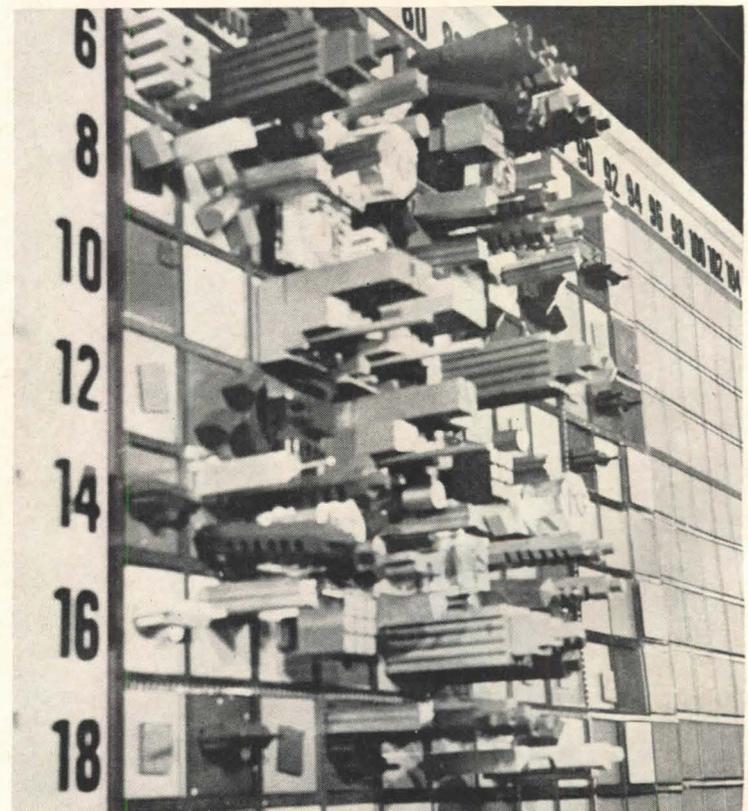
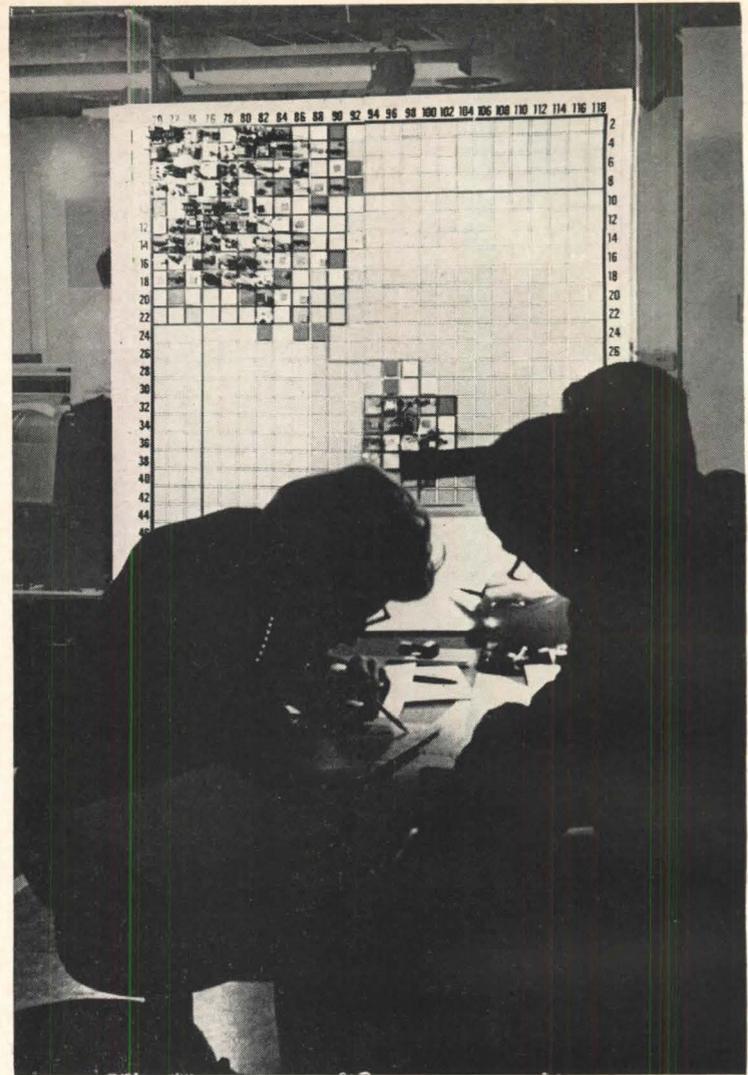
illuminating procedure.

Mathematical sophistication is not required for play, and the game has been well received by such disparate groups as law students and "underachieving" seventh graders. Students at more than 50 universities in the U. S. and Europe are CLUGging in various subjects. And the San Francisco office of Skidmore, Owings & Merrill has a game in play twice a week, during lunch-time.

The game can be criticized, Feldt admits, for its focus on "economic man" and its failure to include social and political factors. At one time, he considered combining CLUG with METROPOLIS, but the merger did not develop. At the moment, he is "digesting—we've about decided to build new games instead of building on CLUG." He would like to attempt a more sociological approach, although the economic, he admits, is easier. The rules have recently been revised for the second time since their original publication in 1966; and a computer program is now available (for use in research or extended plays), although the game is intended to be played manually.

Among the uses Feldt sees for gaming is as a bridge between systems analysis and public administration. "In effect, a game provides a half-step between the languages and techniques employed in systems analysis and the languages and techniques employed by the social sciences." He concedes, however, that it may not be easy convincing public officials and systems analysts to sit down together to play games.

He sees another potential for gaming in helping to make understandable the increasingly complex simulation models used in planning. A model developed for the Pittsburgh Community Renewal Program, derived entirely independently of CLUG, deals with the same processes in much the same ways—allocating new centers of employment, residence, and commerce. Interestingly, says Feldt, the CLUG game is accepted by some of the same people who don't appreciate the Pittsburgh model.



A laboratory in Washington

Rapid experimentation in gaming is going on at the Washington Center for Metropolitan Studies, a nonprofit research institution serving seven universities in the capital area. Director of its Urban Systems Simulations program is Peter House, a recent student of Feldt's at Cornell. (House has an M.A. in public finance, a Ph.D. in public administration and political science. "I was an early generalist, before it was fashionable.")

House and his staff started with a game called REGION, an outgrowth of CLUG. However, while CLUG emphasizes a single dimension, REGION is "at least three-dimensional, incorporating economic and political processes and several aspects of social class." The economic system, however, is the most detailed. There are eight teams, deriving economic power from the ownership of business, and political power from the votes of residences owned. Players buy, sell, trade, and develop land, set prices and wages, elect public officials, set tax rates, build roads, provide utilities, incorporate new cities. It soon becomes apparent that cooperation with other teams can further their private objectives.

It took 25 people and \$150,000 to build their next game (\$70,000 of it from the U.S. Office of Education). CITY I has nine teams, each playing a political role in addition to its entrepreneurial role. Teams try to maximize their private holdings on the one hand, and keep their governmental departments in good shape (according to certain objective criteria) on the other. The political roles can change with each round; a councilman and departments of finance, highways, schools, public works, planning and zoning, are appointed by the elected chairman; in addition, there are citizen and mass media teams.

The black-walled game room at the Washington center (top left) has a different desk for each team. Desks look down to the game board (bottom left) and are equipped with phones for con-

tacting the other teams (although most do their bartering and cajoling in person). As private actors, teams may not undertake any development that isn't planned beforehand. As governmental actors, they must also look ahead, preparing the next year's budget for approval or rejection by the chairman. The model is highly complex (although simple compared to reality, says House): the region has four jurisdictions, called Central City, Estateville, Farmington, and Newtown; land assessment reflects neighboring parcels; zoning restrictions or transportation costs can bar a parcel from certain types of development; depreciation is a regular occurrence; natural disaster is related to depreciation, and so on.

An average round of CITY I takes about an hour and a half. A single day's play can point up the relationships between public and private decisions, although the full complexities of urban-suburban development show up only after many rounds. Computer breakthroughs eliminate tedious accounting. An optimizer function, for instance, simulates a market economy, assigning workers to their jobs, buyers to the best-price sellers, and so on.

House and his staff are already thinking of CITY II, in which they expect to simulate neighborhood politics, complete with racial problems. On the board, each square will represent a smaller area than a square mile. There will be more flexible forms of transportation, and multiple land uses. Players will probably have a third role in addition to the economic and political, spending time at various activities that will have added effect on economic-political life.

Ultimately, House would like to see a social science laboratory having "a family of games, each related to the others in some consistent manner,"—from the neighborhood level (or sub-city, "no one knows what a neighborhood is"), on up through central city, metropolis, sub-region, region, and nation. This kind of laboratory could be used in various ways, some already being explored. The Office of Educa-

tion is using gaming as an alternative to conferences. And the federal government is starting a program in which civil service personnel above the GS-13 rating will play CITY I for several days, at one point demarcating a Model Cities area within the game and trying to solve its problems. House believes that the laboratory could also be used for gaming by mail, with players sending in their decisions, and receiving computer printout by return mail.

"I'd like to see social science taught in an entirely different way," he says. "This approach could do it."

Gaming in the Ghetto

Not all games are spawned in the university, though, or are played in the classroom-laboratory. TRADE-OFF is the brainchild of Jerry Berger, president of La-Clede Town Co. in St. Louis (Nov. '68 issue). He is also a consultant on housing and Model Cities, and sits on various local and national committees. Collaborating with him on the game was Lionel K. Walford, a young mathematician and physicist from Britain.

The game has been played by professionals and nonprofessionals, both separately and together. It has been used by the St. Louis Model Cities agency, as an experiment in citizen participation, and here is where Berger sees its usefulness.

He stresses the game's dual objectives—educating residents and collecting data. In TRADE-OFF, players are asked to build the best possible community with a certain sum of money. They use styrofoam blocks to represent the various physical improvements. Point values are assigned beforehand to each project, by the game designers; priorities are then given to the projects by the players, on a scale that relates each improvement to all others. A grid represents hypothetical—or actual—streets and blocks. The game has been played on the street itself (see next page).

When players have spent the allotted sum for their chosen improvements, they are told they must replay the game with a

smaller amount of money. Now come the hard questions: a park, for instance, versus a clinic.

What the game achieves is a spontaneous involvement that "addresses itself to the psychological problems of powerlessness and anomie felt by the poor," states Berger. The game increases a neighborhood's sense of community and a resident's personal identification with the neighborhood. People have come from a sickbed to take part. The game provides "a convenient structure for accelerated and relevant dialogue between citizens and professionals."

Reaction to TRADE-OFF is mixed. Ghetto residents are enthusiastic about the game, and serious about it, playing with sophistication. But most planners, according to Berger, do not see its value. In fact, almost everyone "looks at it strangely," he says, except for very conservative Establishment people, who see the problem of priorities as a basic one, and militants, who see the essence of reality in the game. Although ghetto residents use the game as part of their continuing participation in planning, planners seem to prefer having it used as a single day's novelty for the ghetto, a way of leaving residents with the thought: "Now you can see how hard it is to make decisions. We will go off and make them for you." This, obviously, is the opposite of what the game designers had in mind.

At one time they had hoped to develop the game for export—with a kit that would include a catalog of project costs (with correction factors translating the data out of St. Louis), and instructions for adapting the game to special situations. But with the pressure of other involvements, and the lack of funds, the game only goes where Berger and Walford themselves can take it.

They still have hopes for more extensive distribution, though. Once a person has played TRADE-OFF he can teach it to others, and a week's training program would prepare a body of missionaries. For the moment, several cities are contemplating the game for Model Cities planning, and it



may also be used to improve communication between the increasingly polarized groups of one riot city. (Along these lines, however, Berger has been considering another game—tentatively called *WHAT DO THOSE PEOPLE WANT?* or *What Do All Those People Out There Want?*—a game of riots and other alternatives, to be played by all members of the community who are represented in the game.)

Finding out user needs

Another who takes gaming out to the people is Neal Mitchell, who developed his game in 1966 while his firm was doing research on low-income housing in Detroit. During the following year, *URBAN PLANNING SIMULATION* (or “the game,” as it is more familiarly called) was expanded by four of Mitchell’s students at the Harvard Graduate School of Design. The game has now been played by people from all socio-economic levels, although Mitchell reports that poor people appear most responsive to it. A typical run will appear on television, on December 30, as part of an NBC report on cities.

“My interest,” says Mitchell, “is in gathering information for architects. The needs and desires of users must be determined, evaluated and ranked.” In the game, players arrange game pieces that represent the physical elements of their environment. “People show you what they can’t verbalize,” says Mitchell; and in the process they also give a verbal explanation of how and why the design evolved.

The players and an operator are in constant interaction during game play. The player locates the simple components on the board, assembling the house—or block—or city—in which he would like to live. On the housing level (opposite, top), the components are walls, windows, furniture, closets, doors, etc. On the block level (middle), they are streets, fences, yards, garbage cans, exterior doors, porches, etc. On the urban scale (bottom), they are homes, schools, day-care centers, hospitals, city halls, grocery and liquor stores, department stores, churches, bars, etc.

The role of the operator is to distinguish between needs and desires. He can also add constraints—limiting the number of rooms, for instance.

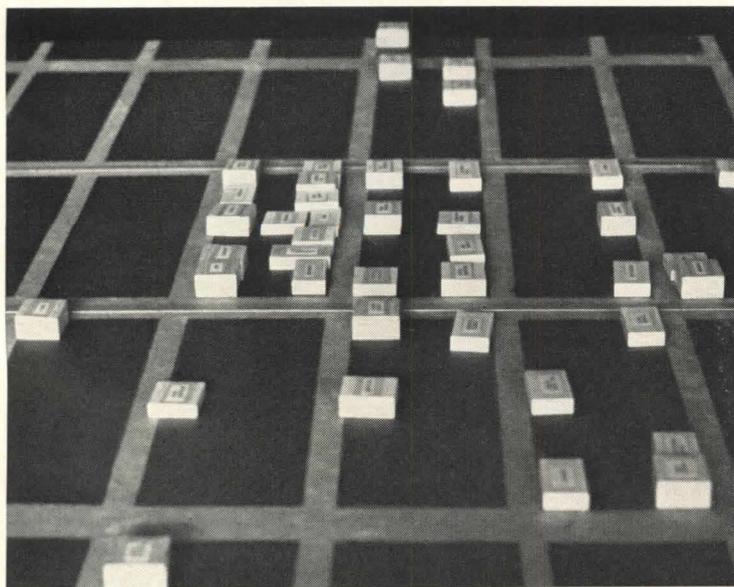
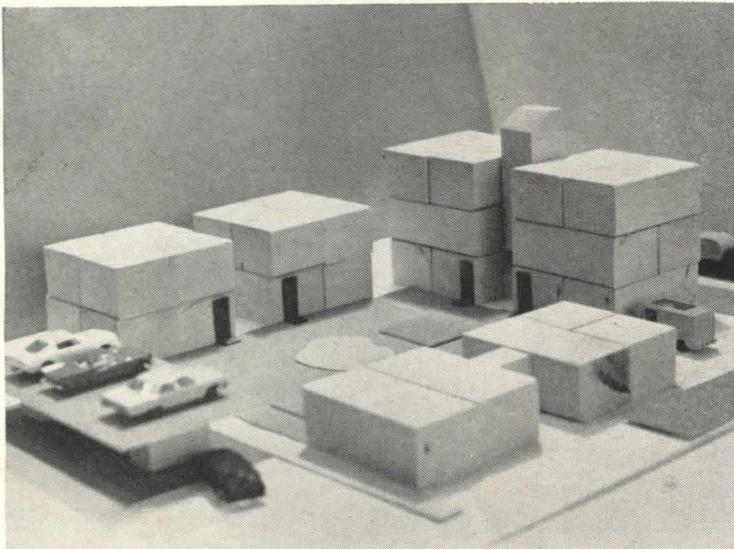
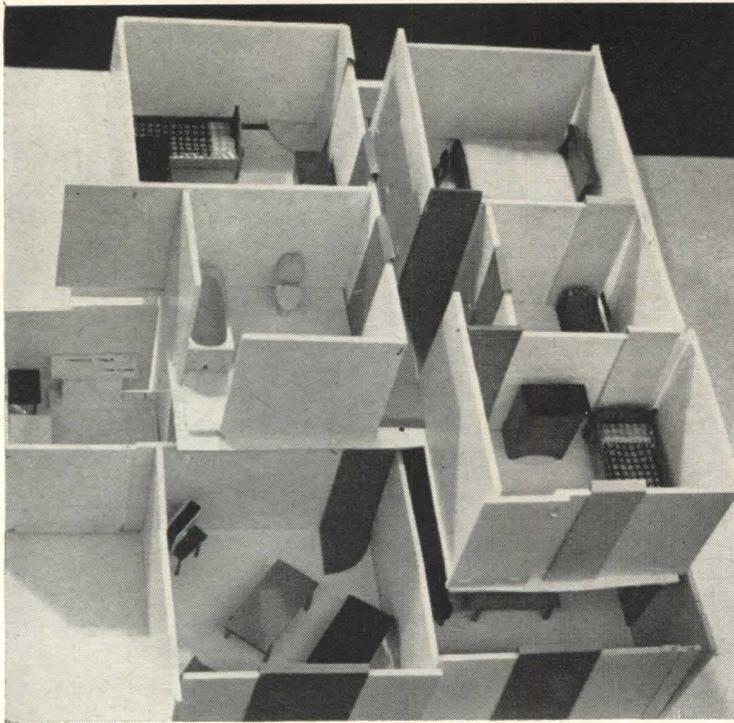
“As they locate garages, totlots, police stations, transportation routes,” says Mitchell, “we begin to find out what is absolutely necessary to support life. We begin to find out how to build a community for people making between \$2,000 and \$5,000 a year. There is such a thing as being poor with dignity, and poor without dignity.”

He points to the ingenuity with which people handle the imposed constraints. They quickly learn how to work within certain spatial requirements, trading off bedroom space for kitchen space, etc. “They have some pretty good ideas of how they ought to live,” says Mitchell. He cites the design of a common outdoor space in the center of some housing units, as having developed from playing the game. Residents expressed a preference for a common space instead of “all those grubby ill-kept yards” (the proposed housing already had small private decks); and through the game it also developed that they wanted a controlled access to the space, limiting it to residents.

“Professionals keep trying to apply the middle-income three-bedroom family structure to what goes on in the ghetto, and it doesn’t make any sense,” believes Mitchell. He turned to gaming as a way of finding out what *would* make sense. Surveys and questionnaires give predetermined and prejudiced data, he feels; but gaming, as an open-ended situation, permits attitudes to be freely explored and alternative solutions to be analyzed.

“If you’re secure, you can play the game and learn. If you’re insecure, the game destroys you.” It is a no-holds-barred confrontation. Mitchell describes a session where one woman told a professional that she was about to punch him in the nose: “You’re not in any position to talk about *my* needs,” she said; “what do *you* know about being a welfare mother living with eight kids?”

The reaction from the educa-



tional Establishment, as reported by Mitchell, is, in effect, "We know the problems, we don't need to go out there." Mitchell sees one reason for this reaction: "If you can define user needs in a more realistic way, you begin to demand a responsibility from the architect that he wasn't required to have before. As his responsibility changes, all his education must change with it."

Among professionals, as Mitchell describes it, the general feeling is that "people are illiterate," and that it is not helpful to consult them in this way. "The Boston Redevelopment Authority hates us." His game has been used by a VISTA team this year in a four-block area of Boston's South End, as they develop an alternate plan to BRA's.

Mitchell hopes to work the gaming technique into a program of community education. He also hopes to develop a consistent method of recording, measuring, and translating the performance of players, in order to develop "a new profile of priorities" for low-income housing.

Games are here to stay

The evaluation of any game must be made in the context of its objectives. In those games seeking to convey a sense of a total system, with a complexity of roles and relationships, gaming serves "as a learning environment, a substitute for an expansion of experience," according to Duke. He emphasizes, however, "that there is no theory of optimal solution that can be derived from operational gaming."

The utility of these games, Feldt believes, depends on how much abstraction a person can tolerate. And how much complexity—if a game gets very complex, a person will limit his attention to a small part of it, and the possibility of getting the holistic view will be lost.

In any case, a game cannot be a substitute for more traditional teaching. It must be properly used, says Duke—in the context of a specific curriculum, and with preparation beforehand and interpretation afterward. "The critiques we have are among the most exciting things I do." Games

are not to be entered upon lightly, as a way for the lazy professor to get rid of his students a few hours each week.

The use of operational games for predictive purposes is less successful. They are "at least as bad as most other forms of prediction available to us," says Feldt. Even when a game is modeled on some existing city, its usefulness in prediction is low. Peter House estimates that, within five to ten years, there will be a model of an actual city in which it will be possible to see, with a high degree of probability, the outcome of different courses of action. The gaming models today are still imprecise. But their reality is sufficient to represent certain basic theories, to sustain involvement, and to make games an impressive device for teaching and communication.

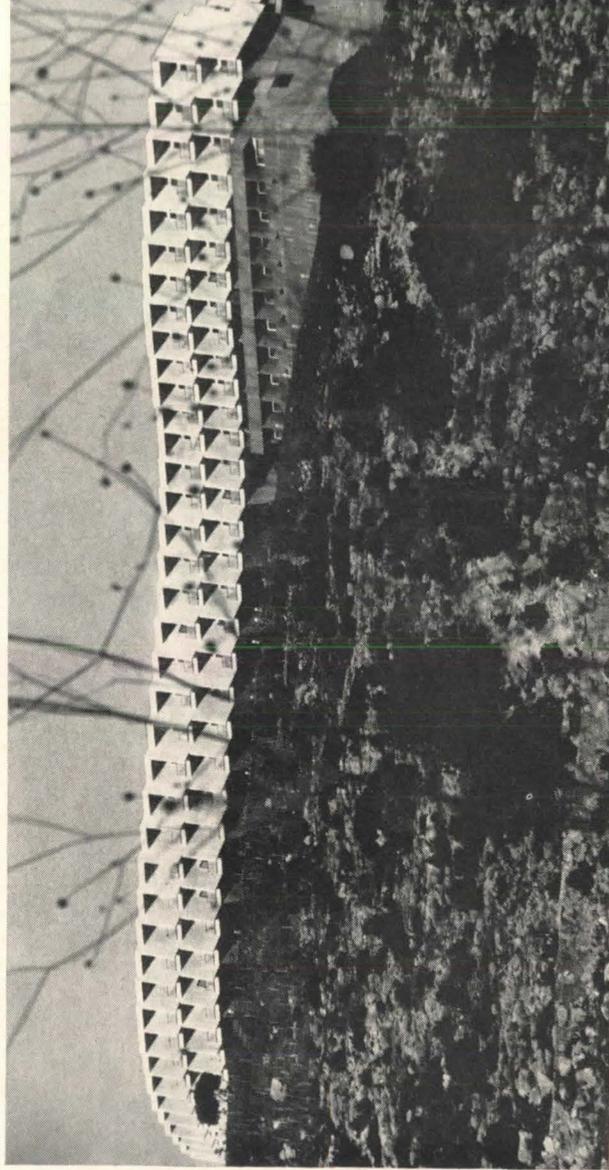
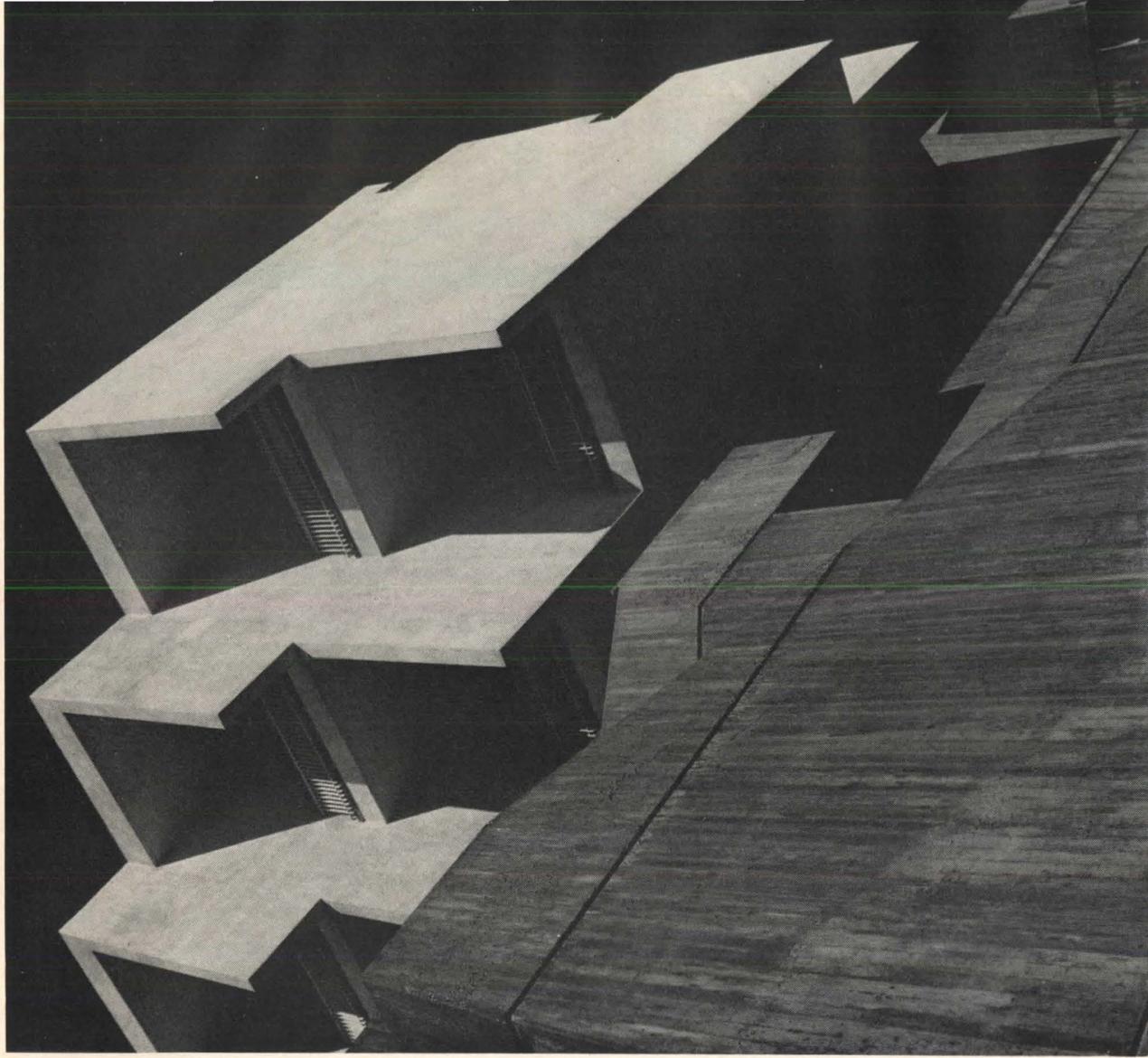
With games like TRADE-OFF and the Mitchell game, other criteria for evaluation are necessary. In the volatile relationships between citizens and professionals, the efficacy of these newest games would seem to depend on the sincerity with which they are used. If they are not used seriously, and Mitchell says that it is immediately obvious if a professional is "running a game" on the community, the potentiality for an open communication is lost. If ghetto residents feel that the exercise is "only a game," their growing hostility to plans from downtown will only increase. And if the professional has little interest in what the non-professional is thinking, it is clearly not worth the effort of putting on a game to hear it.

Such games are here to stay, it would appear, with prospects for increasing use. New games are in process of development, one, called SITTEE, at the Western Behavioral Sciences Institute in La Jolla. And although, as yet, they amount to only a fraction of the 50 million sets of Monopoly in circulation, they are far closer to reality than Monopoly, and will have a far greater impact on reality.

—ELLEN PERRY BERKELEY

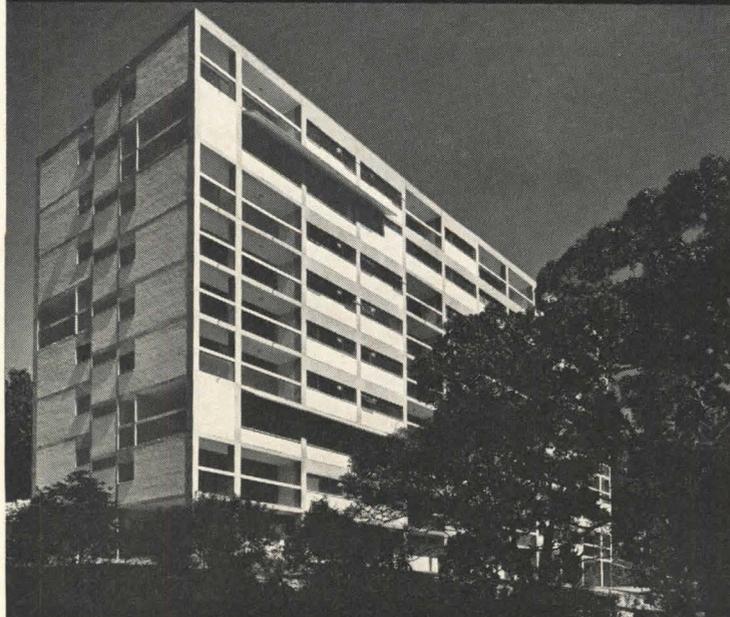
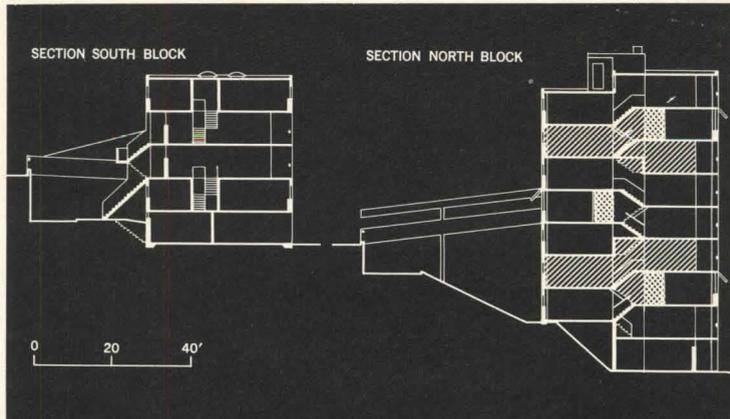
PHOTOGRAPHS: Page 59, James Hall; Page 60, Ellen Perry Berkeley; Page 62, J. Philip Miller; Page 63, Neal B. Mitchell, Jr.

FOCUS



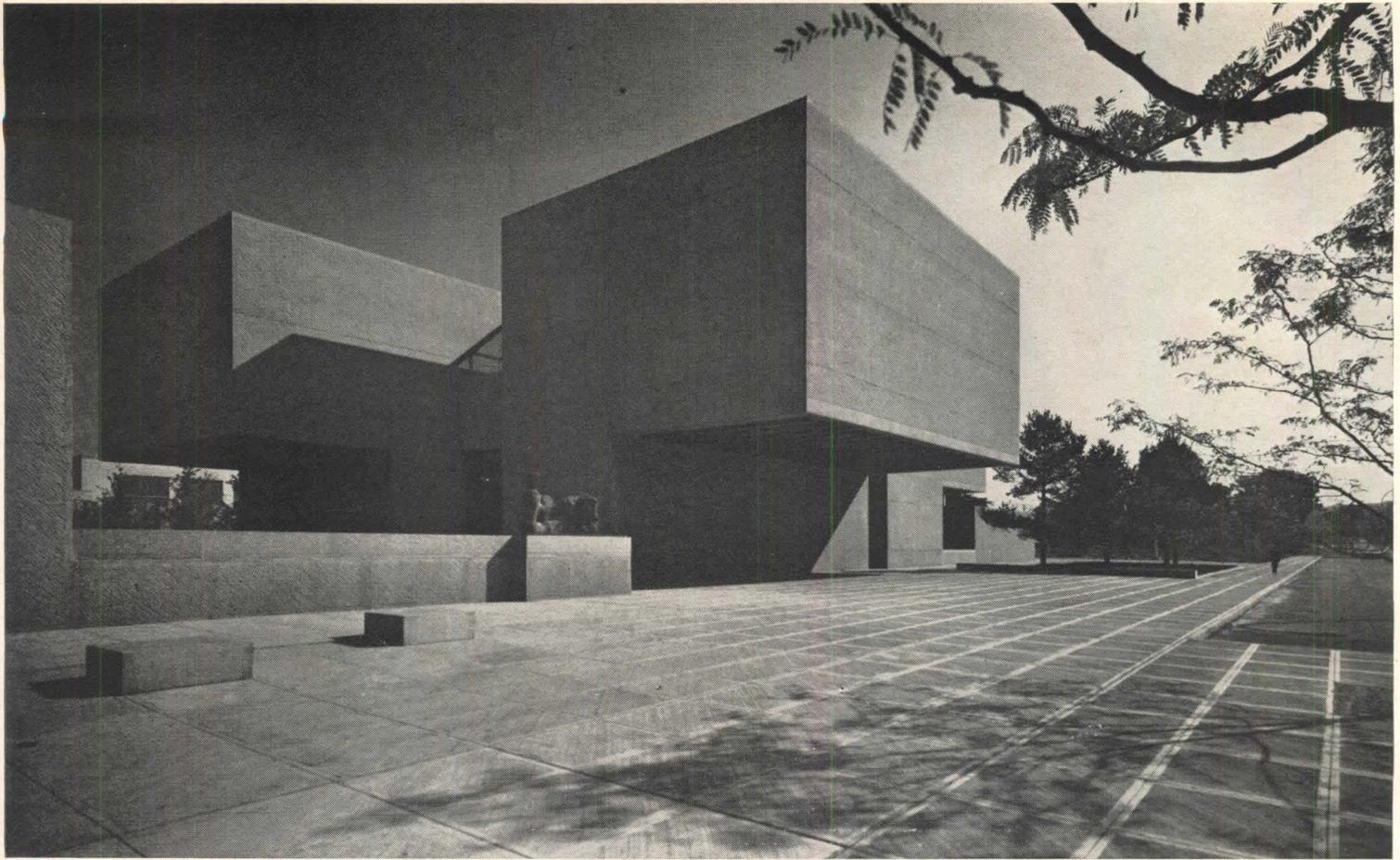
WORKERS' SPA

The serpentine structure (bottom photo, opposite), a resort and rest home for members of Israel's Workers Union, lies on a craggy hilltop above the Mediterranean at Zikhron Ya'aqov, near Haifa. Two levels of 50 guest rooms each, raised on exposed concrete piers and a podium at one end, are staggered vertically and horizontally for maximum privacy and shade (top). Rechter & Zarhy, the architects, have also provided guests with room-high, cross-ventilating panels in the niches along the back. Beyond this block lies an interior courtyard and a second, public wing, for social and recreational use.



TWO AT DOUBLE BAY

Split levels, inside and out, characterize Architect Harry Seidler's dual apartment buildings on a steep slope overlooking Double Bay, near Sydney, Australia. The four-story uphill block (containing eight duplex apartments) and the larger downhill block (left) both rise only two stories above their access road, to meet restrictions that protect harbor views. Of 36 apartments in the downhill block, 30 are split-levels (hatched areas, in section), with bedrooms on the hill side, living areas with recessed terraces facing the bay. The remaining six (all single-level apartments) have terraces at the ends of the building and open directly off three public-access corridors (cross-hatch). From these corridors, the split-level apartments are reached by a half-flight of steps up or down. The main entrance is at the vertical center of the building and is reached by a covered foot-bridge (top).



SCULPTURAL MUSEUM

The four galleries of the Everson Museum of Art in Syracuse, N. Y. (above), designed by I. M. Pei & Partners, surround a two-story sculpture court, but are themselves the best sculpture in town. These cantilevered gallery blocks project out over a podium in Community Plaza, a center city redevelopment project. Their composition and size (totaling only 130 ft. by 140 ft.) achieve both monumentality and intimacy. Inside and out, the reinforced concrete, containing a crushed rose granite aggregate, is bush-hammered with diagonal ridges, a pattern carried over into the plaza paving. Inside, a spiraling concrete stairway leads to the second level, where galleries are connected by glass-walled bridges overlooking court and plaza. A coffered concrete ceiling joins two of the blocks over the court and is separated from the other two by a continuous strip of clear glass, for natural illumination of the court. A 260-ft. long underground area contains offices and a 320-seat auditorium.

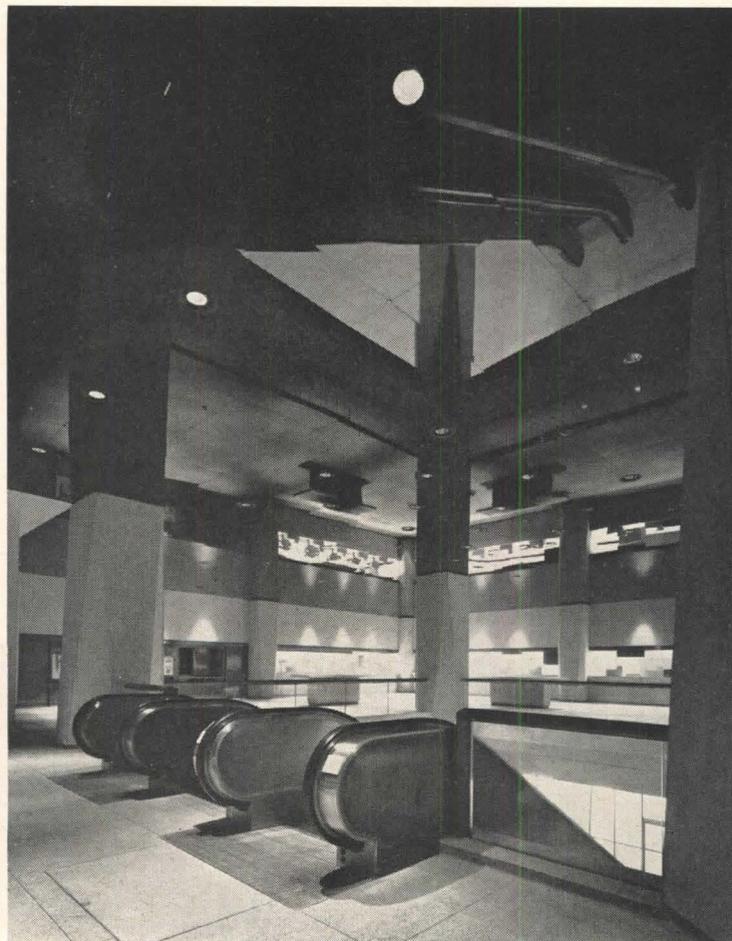


IMAGE BREAKER

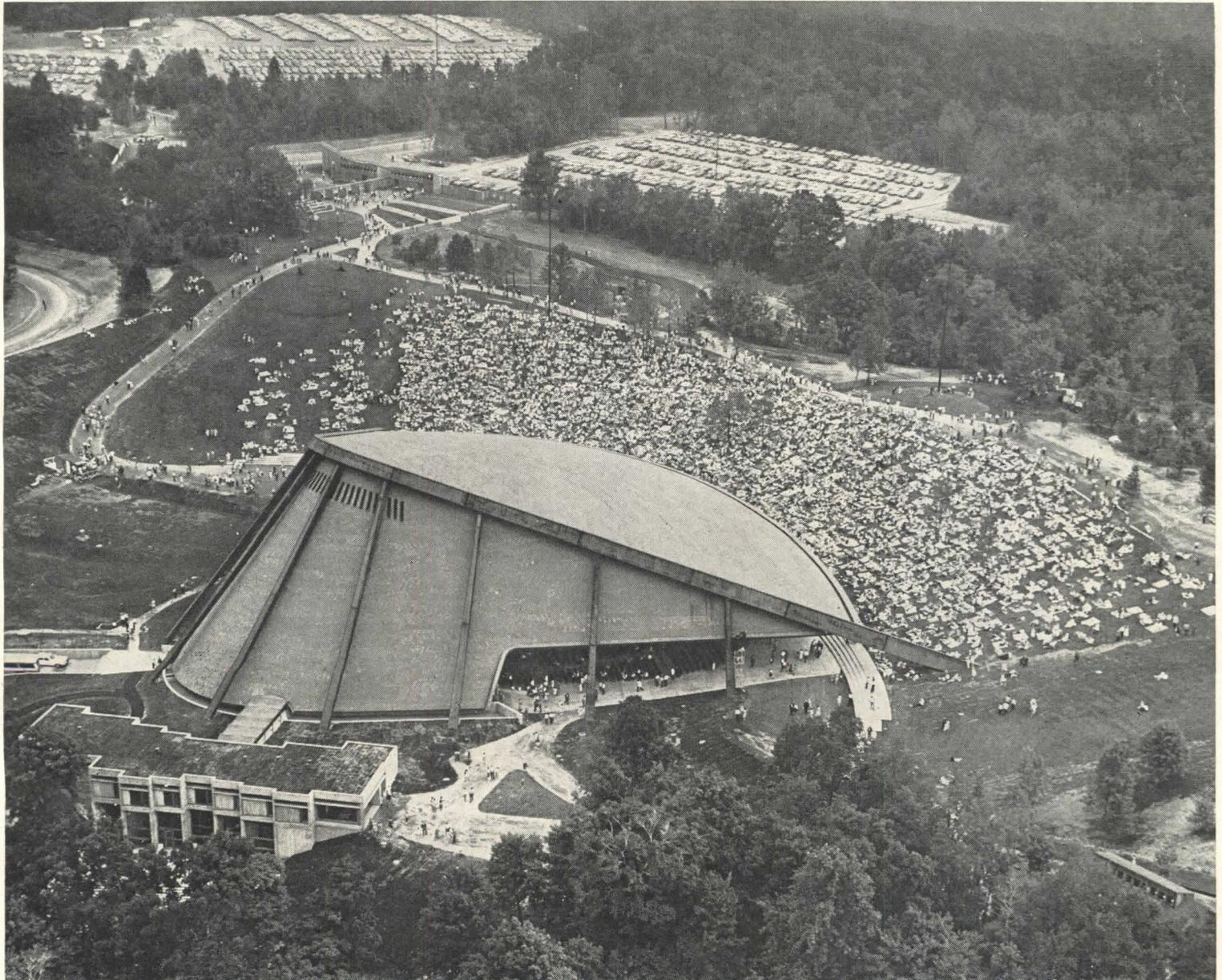
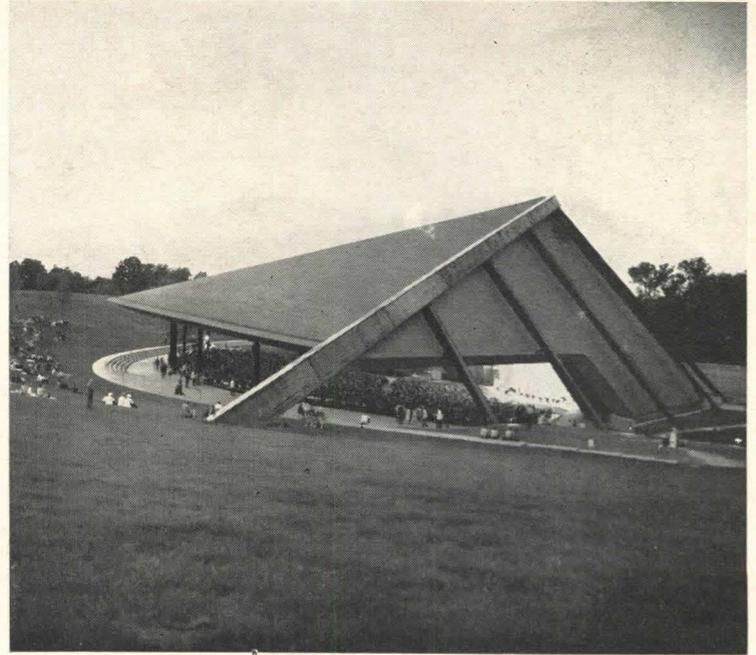
The photograph at left is of the public service floor of the Franklin D. Roosevelt Post Office on 3rd Avenue in Manhattan, built privately and leased by the government—"our first space-age post office," says the post office. The mirrored ceiling, an *inner* space exploration by Architect Max O. Urbahn, is surfaced with black carrara glass. Part Versailles, part fun house, it does turn the post office's stereotyped image upside-down.

PHOTOGRAPHS: Page 64, Isaac Percal. Page 65, Max Dupain. Page 66 (bottom), Louis Reens. Page 67 (top), Jim Cross; (bottom), Hastings-Wilinger & Associates.

SYMPHONY IN THE WOODS

The Blossom Music Center's first summer season featuring the Cleveland Orchestra drew extraordinary numbers (below) to its 520-acre wooded site, 30 miles south of Cleveland and ten miles north of Akron. Not least among the attractions was the pavilion itself, by Architects Schafer, Flynn & van Dijk, a peaked hood seating 15,000 under its roof and on adjacent, sloping lawns. Principal structural member is a giant, reclining steel arch, resting on massive underground footings and braced by slender steel columns which stand free of the sloping walls. Steel-pipe trusses span the seating area (they also act as "micro diffusers" of sound waves) and

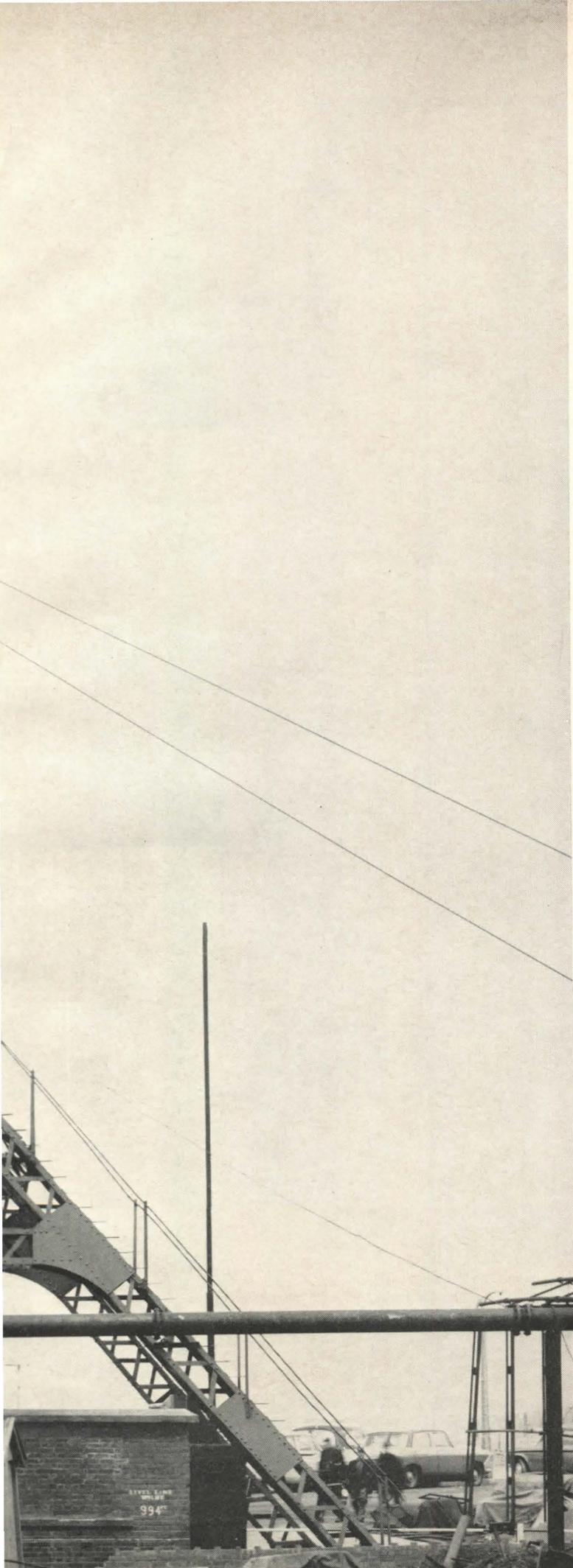
are covered, as are the walls, with cement asbestos shingles over wood decking. Loudspeakers are used only in special circumstances to augment the reportedly superior acoustics.





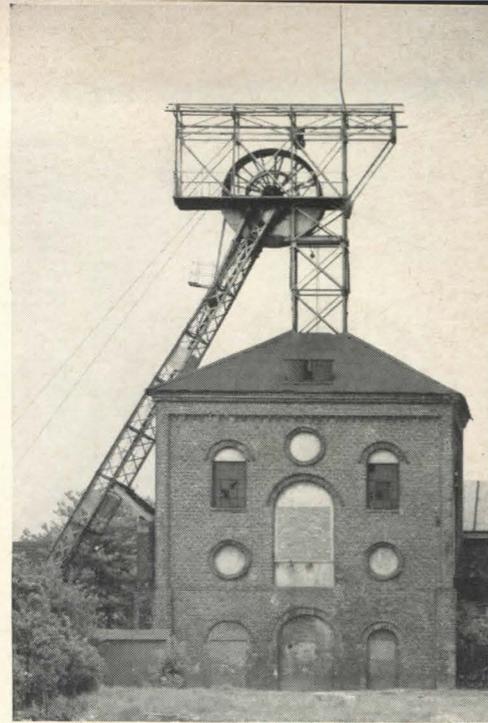
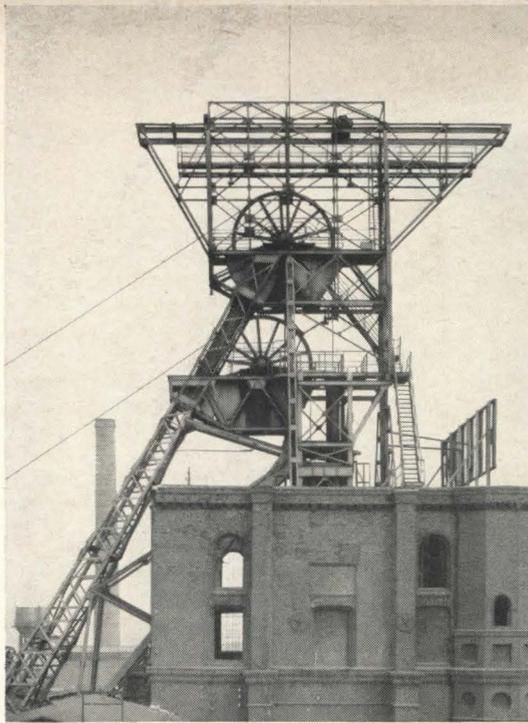
MINEHEADS

The towers on these pages date from 1860. They were built to put men deep into the coal pits of Germany, France, and Wales, and to bring them out with the earth's yield. Often designed by the mine's own engineers, the towers were a modest feat when compared with those built at Cape Kennedy to put men on the moon. But they do demonstrate, with structures as with men, that lyricism and hard work need not be antithetical. The photographs are from the Archives of Industrial Buildings of the 19th Century, the collection of Photographer-Archaeologists Bernhard and Hilla Becher.

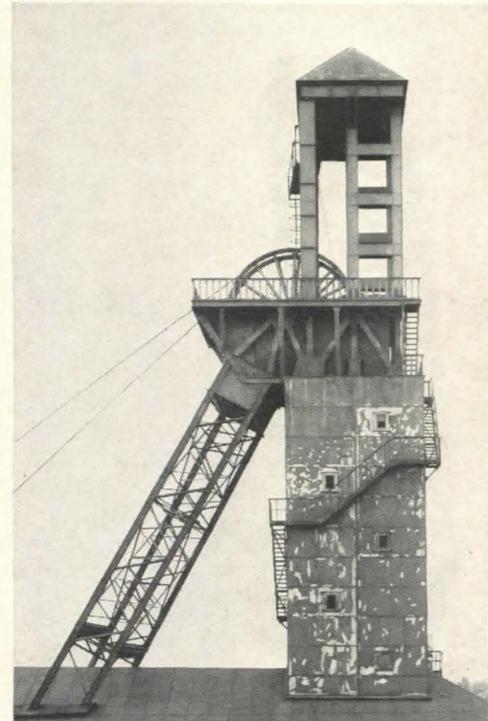
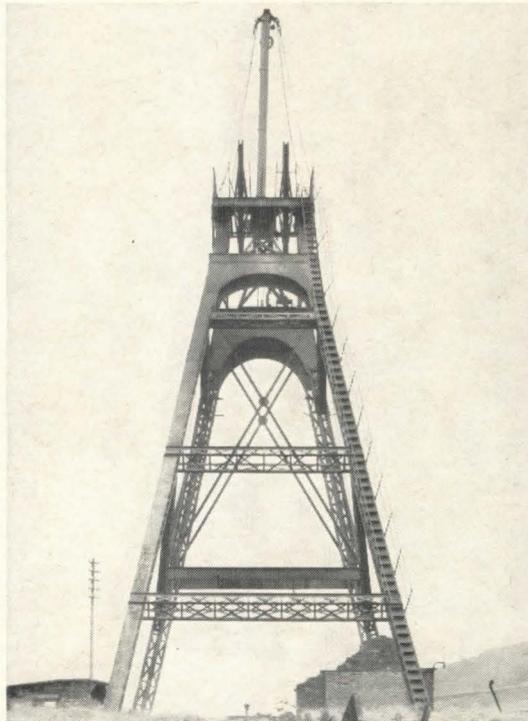




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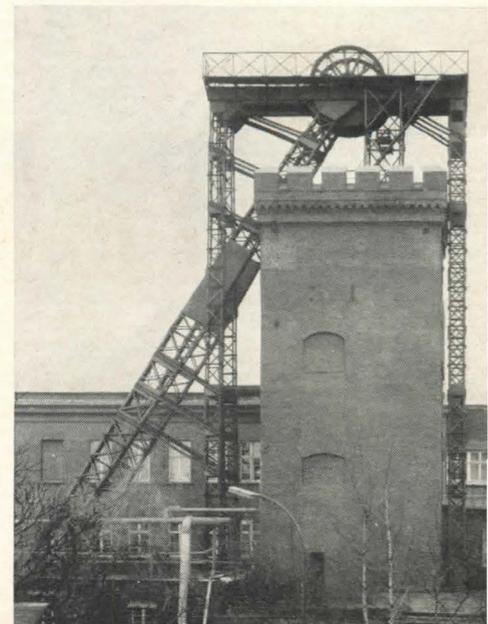


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Colliery towers for pithead winding gear. Preceding pages: Germany, Ruhr District, 1890. Opposite: South Wales, 1925. This page: 1. Germany, Ruhr District, 1860-1950 (modified several times); 2. France, Blanzly District, 1950; 3. South Wales, 1900; 4. Germany, Aachen District, 1922; 5. France, Bassin Du Nord, 1925; 6. Germany, Ruhr District, 1860 (later expanded). Following Pages: left, France, Bassin Du Nord, 1919; right, France, Bassin Du Nord, 1910.

5, 6







CANDILIS, JOSIC, WOODS: BUILDING FOR PEOPLE. By Shadrach Woods. Published by Frederick A. Praeger Inc., New York, N. Y. 226 pp. Illustrated. 9 in. by 11 in. \$20.

REVIEWED BY JERZY SOLTAN

When reporting on a book that in turn reports on something else—on something that has a “life of its own”—in the present case architecture and urban design—one wonders whether it’s the book or the subject it presents that should be of primary concern to the reporter. Sometimes a good book can speak about bad work. Sometimes . . . vice versa. Issues then are getting mixed up. Even an experienced reader might be misled!

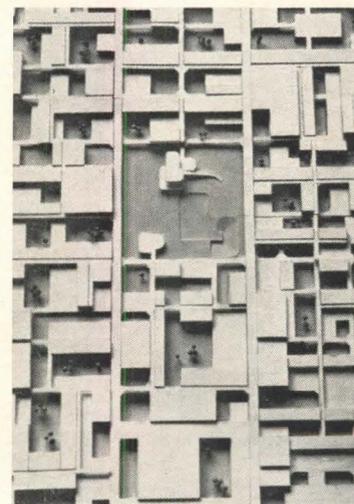
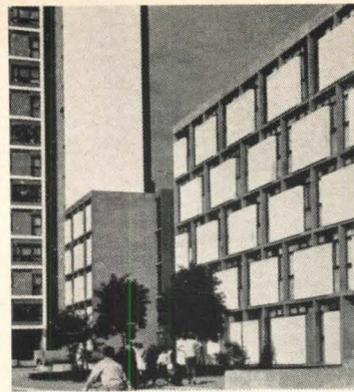
It is fortunate when subject and presentation merge, and this—I believe—is the case with the architectural work of Candilis, Josic, Woods and its “literary summation.”

“. . . In preparing this book we sought to demonstrate a methodology in architecture and urban design . . . we hope that the book reveals a line of conduct which we laid down for ourselves during that decade” (excerpts from the foreword by Candilis, Josic, Woods). And here are a few words of the publisher: “The book not only documents the work of Candilis, Josic and Woods, but is itself a document of their architectural philosophy. The arrangement and format were decided by them . . . Shadrach Woods composed the text and captions.” Having mentioned the above, I feel entitled to write now about work and book somewhat “pell-mell.”

It is a Greek (Georges Candilis), a Yugoslav (Alexis Josic) and an American (Shadrach Woods) that constitute this French team.

And the “mortar” binding them? It is obviously Paris—the

Mr. Soltan, a native of Latvia, studied architecture and engineering in Warsaw. After working with Le Corbusier from 1945 to 1949, he returned to Warsaw, where he designed several buildings and served as a professor at the Academy of Fine Arts. Since 1962 he has been a professor of architecture and urban design at Harvard.



Top to bottom: low-rent housing at Bobigny; apartment complex at Marseilles; block of housing and shops at Casablanca; competition model, Free University of Berlin.

physical place where they decided to settle. But first and above all it is the authentic “Le Corbusierian” mold through which they all three passed working for several years with Le Corbusier himself and, in the case of Josic, with the ATbat—ATelier des BATisseurs, Builders’ Workshop, which Le Corbusier and a few of his closest collaborators created.

Thus it so happens that Candilis, Josic, Woods are today one of the extremely few teams (individual architects are just as rare) who understand Corbu well enough to take from him basic things, who know how to apply the acquired knowledge and sensitivity, and who carried sometimes his ideas further. Granted, that innumerable are the architects who have been licking the visual sugar-coat of Le Corbusier’s projects or stealing from him, which is a little better.

But stealing in design means taking at *random* larger or smaller parts of somebody else’s discovery and applying them without deeper understanding. Randomness is an essential feature of theft in creation. “I like this or that, thus . . . I take it!” One does not steal a coherent, complete system of thoughts and emotions. It is too bulky! To appropriate for oneself or for one’s work a system, one has to get involved and hence really initiated. Candilis, Josic, Woods do.

An element used separately—taken out of a larger context—tends to wither or becomes simply a foolish adornment. This never happens with C-J-W. Thus I do not agree with Jürgen Jöedicke, in his introduction to the book, where he states that, “When one remembers that Candilis and Woods worked for a long time with Le Corbusier it is surprising how slight his formative influence has been on their architecture. . . .”

If one understands architecture rather as elements of form given to a content, then, obviously, as the form of Le Corbusier’s and Candilis, Josic, Woods’ works differ quite a bit, one can say that there is not much in common between them. But if one is concerned very much with the content, with the methods of general approach and ways of

reaching the final synthesis between content and form, then the affinities between the old master and his three former collaborators become apparent.

Trying to sum up these affinities briefly, the most striking common feature is the very complexity and richness of issues attacked simultaneously.

Thus, Candilis, Josic, Woods' approach to architecture and urban design, just as Le Corbusier's, can be compared to a sandwich whose many layers are so strongly connected as to be never successfully separated one from another. To analyze this type of work, it is obviously necessary to cut the sandwich horizontally and dissect the respective layers.

In C-J-W's case each layer is composed of good and healthy food. But the real quality of the sandwich can be appreciated only through the cross-section with a simultaneous awareness of the quality of each layer.

Now, what do these layers represent? They represent among other things logic and discipline of thinking; physical—"outer-world" (climate) and "inner-world" (physiology, behavioral) considerations; social awareness; economic and cultural concerns; clear definition of functions; poetic understanding of functions; sane articulation of spaces assigned to these functions; concern with a rational use of materials, in a really human scale, using clear geometric systems; form—finally—adequately presenting the above enumerated.

It was given to me once to assist during a "jury" in a school of architecture in a discussion about modern housing, located by some student's whim in an Italian-church-campanile-tower-highrise building. Shadrach Woods was present also. What a discussion! The multi-layered approach to architecture here petered down to one layer: the esthetics of a campanile-tower. Woods was belligerently mute. In the discussion, housing as such was of no interest to the discussants. The poetic content of the campanile-tower was, however, also of negligible importance for them. Its "pure" form was dissected. In the process—

the poor thing—completely bastardized—became a fantastic, blown-up dummy.

Thinking simultaneously on different levels about different subjects; getting the most useful feed-back from each separately and yet in a dialectic way connectedly obtained element of solution; poetry and humanism permeating technological precision and vice versa . . . these are characteristic features of Candilis, Josic, Woods' works.

This method, so much in accord with the recognition that growth and change are really permanent elements of design for men, and modern men in particular, led the team to their top rank among the architects today.

Le Corbusier himself, in his last work, the hospital in Venice, was influenced by the Candilis, Josic, Woods' proposal for the Berlin University. Thus, the circle got closed: master molding disciples and being himself influenced by them.

It is characteristic indeed, that the book itself is also structured in this multilayer, sandwich-like way. To a careful reader it is a source of intellectual delight; to those who just want to thumb through its pages, as the overwhelming majority of architectural book users do, it might become a source of misunderstandings and even frustrations. It remains, however, to be seen whether it is possible at all to tackle subjects on this level of complexity in a different way. The sandwich of the book is composed of four main layers and it is cut also four times, revealing the layers each time in a different focus.

Here are the titles of the layers—or rather the titles of chapters: 1. Articulation of function; 2. Articulation of the limits of space; 3. Articulation of volumes and spaces; 4. Articulation of public and private domains.

Now, what do these somewhat cryptic titles mean? The first deals with the ways of analyzing and reaching the synthesis of specific and general functions. The second, with defining spaces using proper materials and methods of building. The third—defining volumes—deals with scale,

measure, and geometric systems. The fourth, finally, deals with problems of urban design.

In turn, what are the focuses or titles of "sections through the sandwich?" 1. housing; 2. ancillaries of housing; 3. urbanization; 4. general equipment. In other words: each of them, one after the other, gives an occasion to a thorough discussion. A design method is presented through its application to housing, its extensions, urbanism, and general equipment.

The criterion of the organization of the book does not rely on descriptions of individual projects. The same projects can be found in several sections serving different purposes—conveying different ideas. As was said before, this organization of the book is a source of delight for a careful reader. It forces you into being intellectually alive!

The passive, perfunctory leafing, however, is inadvisable: it helps less than looking through more conventionally organized books in . . . theft. The essence of the book's content and form lies in its complexity. It deals with complex problems and disavows superficial and hence easily and quickly graspable things. The architectural "playboys," S. Giedion's expression, or the "school of ballet" designers of the Smithsons will be discouraged. "*C'est difficile, l'architecture!*" was one of the favorite sayings of Le Corbusier. You do not grasp difficult things easily. You have sometimes to sweat quite a bit. . . But then your sweat is rewarded! It becomes a blessing!

Doesn't the same happen with the most acclaimed classics, books in all domains and throughout all times? Modern classics included! Architecture, visual arts included! Can one thumb the main publications of Corbu? Can one thumb "The Seeing Eye" of Paul Klee? Yes, one can. But it is more than just waste—it's a sacrilege!

In a strong, well conceived, not easily penetrable shell C-J-W put wholesome, strong but also sometimes lyrically poetic food for eyes, brains and hearts. . . !

It is very much worthwhile to penetrate the shell.

PRESERVING THE PAST IN PRINT

This year, a remarkable number of landmarks of the architectural literature have reappeared in reprints of painstaking quality. This being the season to buy books just for their elegance or eccentricities, here are a few modest, and some not-so-modest, suggestions:

THE BRITISH ARCHITECT. By Abraham Swan. Unabridged republication of the 1758 edition published in London. Preface by Adolf K. Placzek. Published by Da Capo Press, New York, N.Y. 46 pp. 60 plates. 10 in. by 16 in. \$45.

LE FABRICHE E I DISEGNI DI ANDREA PALLADIO. By Ottavio Bertotti Scamozzi. A one-volume facsimile of the four-volume Vicenza edition of 1796 with new introduction by J. Quentin Hughes. Published by Architectural Book Publishing Co., New York, N.Y. 344 pp. and 209 plates. 7½ in. by 10 in. \$20.

THE ARCHITECTURE OF COUNTRY HOUSES. By A. J. Downing. A reprint of the 1850 edition, with a new Introduction by George B. Tatum. Published by Da Capo Press, New York, N.Y. 484 pp. Illustrated. 6 in. by 9¼ in. \$15.

HENRY HOBSON RICHARDSON AND HIS WORKS. By Mrs. Schuyler van Rensselaer (Marianna Griswold van Rensselaer). Originally published privately in 1888. New introduction by James D. Van Trump. Published by The Prairie School Press, Park Forest, Ill. 152 pp. 11 in. by 14¼ in. \$25.

THOMAS JEFFERSON, ARCHITECT. By Fiske Kimball. Unabridged republication of 1916 edition published privately in Boston, with a new introduction by Frederick Doveton Nichols. Published by Da Capo Press, New York, N.Y. 317 pp. Illustrated. 11 in. by 15½ in. \$80.

L'ESPRIT NOUVEAU An eight-volume unabridged republication of 28 undated issues published in Paris between 1920 and 1925. Published by Da Capo Press, New York, N.Y. Eight volumes. Illustrated. 6½ in. by 10¼ in. \$250 for the set.

DANIEL H. BURNHAM, ARCHITECT, PLANNER OF CITIES. By Charles Moore. A reprint of the 1921 edition (two volumes in one). Published by Da Capo Press, New York, N.Y. 498 pp. Illustrated. 7¼ in. by 10¼ in. \$27.50.

THE INTERNATIONAL STYLE. By Henry-Russell Hitchcock and Philip Johnson. A reprint of 1932 edition with a new foreword and appendix by Henry-Russell Hitchcock. Published by W. W. Norton Co., New York, N.Y. 260 pp. Illustrated. 5 in. by 7¾ in. \$2.95.

RICHARD UPJOHN, ARCHITECT AND CHURCHMAN. By Everard M. Upjohn. A reprint of the 1939 edition. Published by Da Capo Press, New York, N.Y. 243 pp. Illustrated. 6¼ in. by 9¼ in. \$12.50.



DORM CITY

BY KENNETH B. SMITH

In his much-heralded design for Scarborough College (May '66 issue), Toronto Architect John Andrews put an entire 6,000-student "city" into a multipurpose building. In his most recent work, a student dormitory for the University of Guelph, near Toronto, he has made a kind of city out of a single-purpose building.

Like the buildings of a city, the study-bedrooms, lounges, dining halls, and social spaces of Guelph's Housing Complex B are distributed along a grid street system—in this case a pedestrian street. At Guelph, the pattern serves much the same purpose as its urban counterpart: it respects the needs of the individual, yet it permits the widest degree of social interaction.

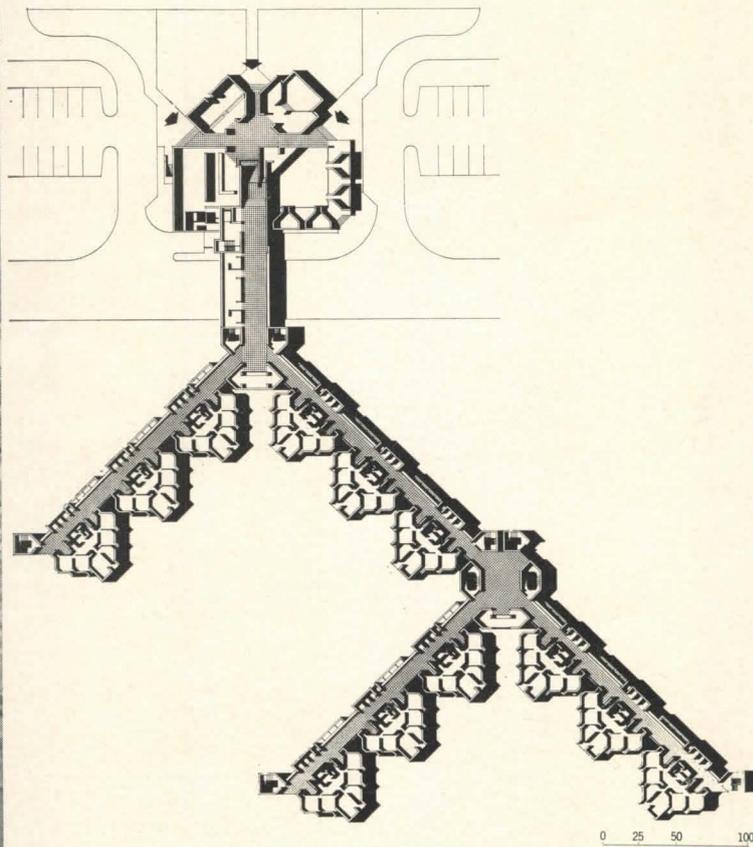
The University of Guelph is the former Ontario Agricultural College, which was elevated to university status four years ago. It had only 1,700 students then, but its projected enrollment in 1980 will be 15,000—a tremendous leap for a small college.

A \$2.4-million residence was built in 1965. Its four blocks—two for women and two for men—have a spectacular view across a river, but the individual rooms, all doubles, are of stereotyped design with the beds bolted into position along the walls and no way for the students to change their surroundings.

University authorities decided that there was plenty of room for improvement, so they commissioned Evan Walker, an Australian architect in Toronto, to do a study of the requirements. His survey showed that a majority of students coming to Guelph wanted single rooms. From his report came a plan to accommodate about 3,000 students in each of four campus areas. Andrews' Housing Complex B will accommodate 1,662.

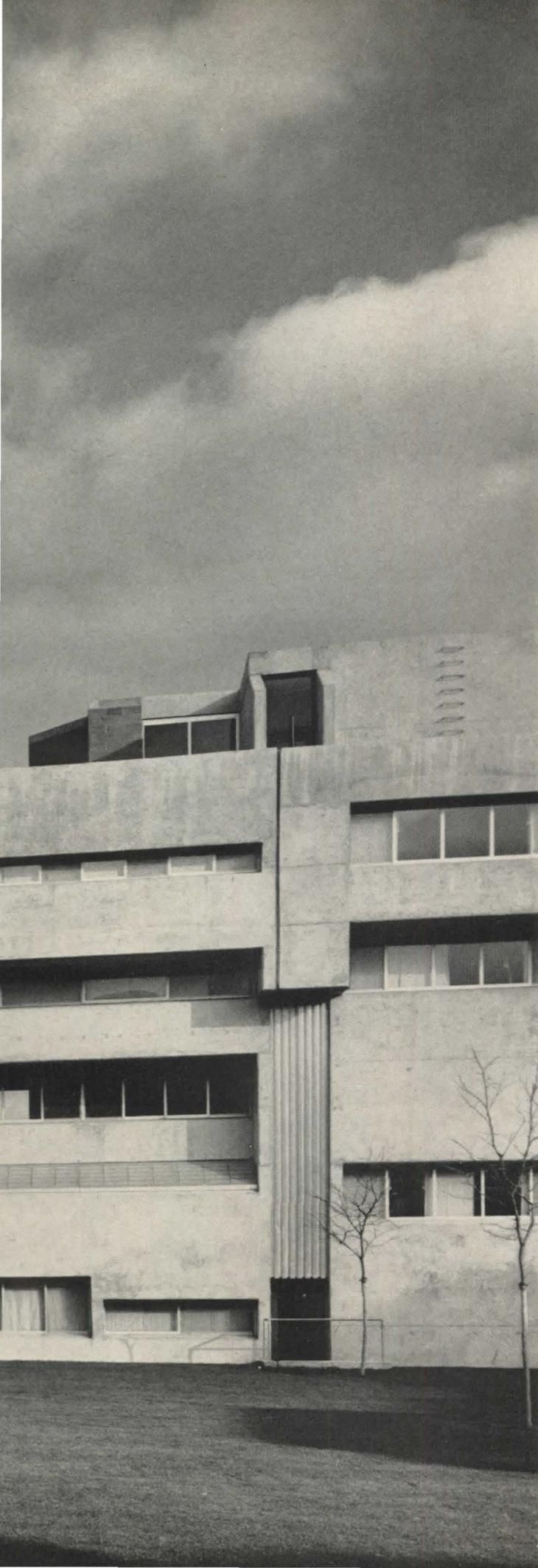
The Walker report became the basis for the Andrews design, and Walker worked with the Andrews office on its development. Scores of university residences in Canada, Great Britain, and

Mr. Smith is a reporter for the Toronto Globe & Mail who specializes in architecture and urban design.



The University of Guelph's Dormitory Complex B (foreground in aerial view) is a radical departure from the other buildings on the campus, which began in 1874 as a small agricultural college. Within the complex is a continuous pedestrian street, in the form of a grid, which joins the dormitory wings together and crosses over a campus road to connect with three dining halls. Each dining hall serves two V-sections of dorms (plan above). When needed, additional V-sections, tying in with additional dining halls, can be added at both ends.





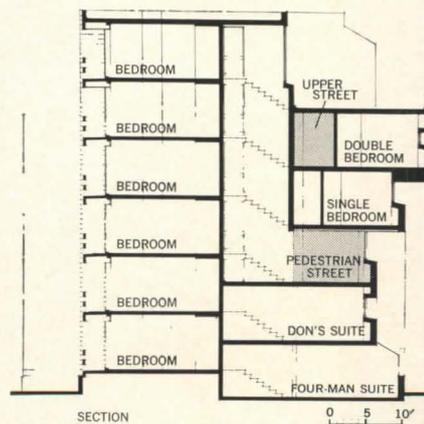
the U.S. were examined to determine the best social groupings of students. Experience showed that six to eight sharing one washroom unit and 12 to 16 one lounge would be the most successful. This, plus the marked preference for single rooms and the inability of the university to provide as much study space in the library as it would have liked, led to the adoption of the study-bedroom as the basic unit.

Edward R. Baldwin, the project architect, explains how the study-bedroom was conceived: "We took the basic furniture elements—bed, desk, and chair—and tried to figure out how we could move them. We decided that if we took a square space and cut the corners off it, we would have a room with walls the length of a bed and corners that would take a door, a window, a closet, or a tackboard. We worked for a month on how to do it the most economically. We grouped four singles with a double to make a washroom group of six and stacked two of these groups with a lounge at half-level.

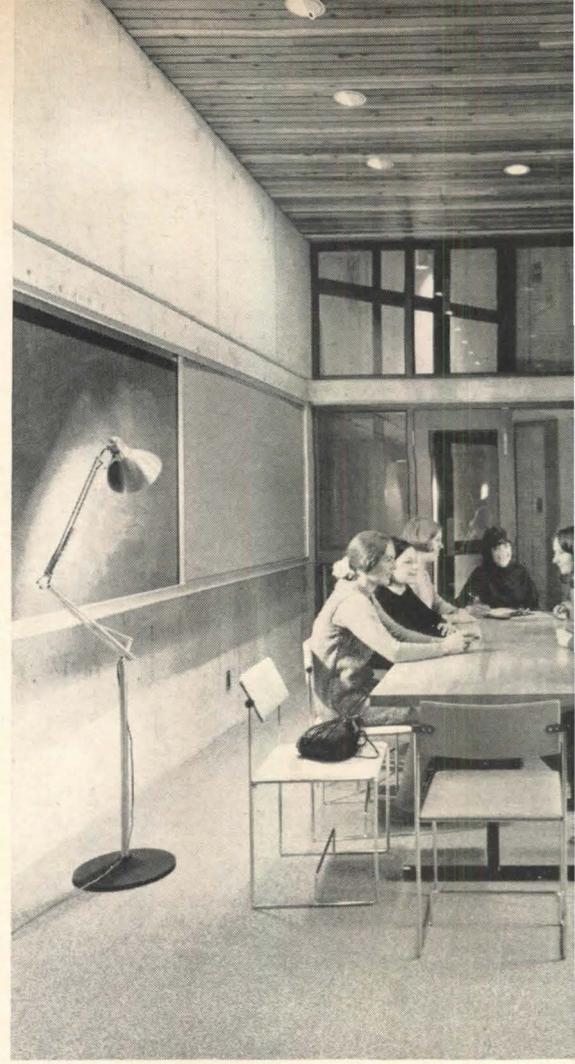
"We decided on six-story towers in the configuration of one double and four single study-bedrooms and grouped them in threes along each side of a V-shaped connecting structure. Two Vs make one residence."

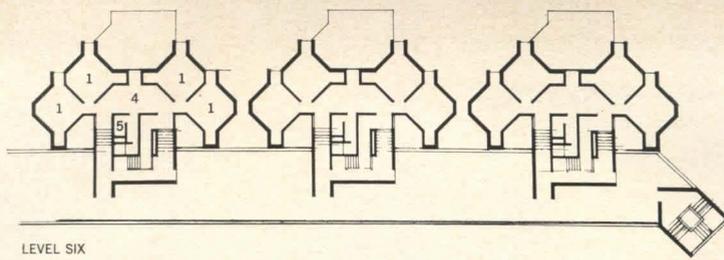
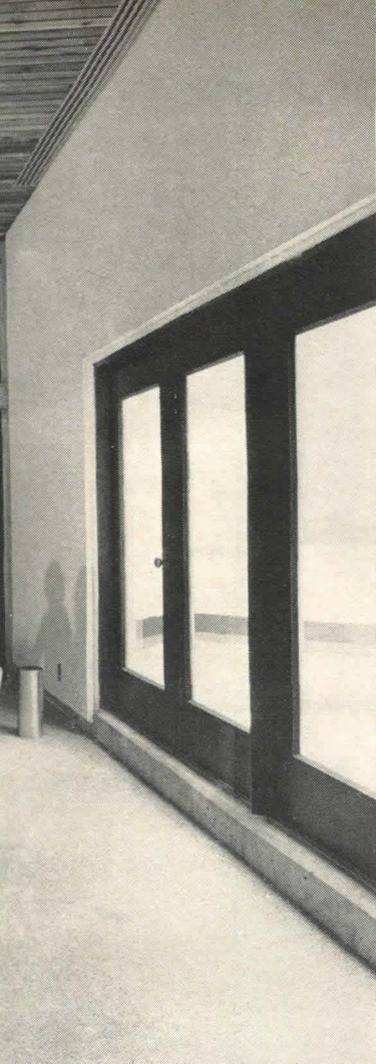
As seen from above, the six Vs form a grid system. Each residence is entered from a dining hall and common room complex, linked to the residence by an enclosed bridge over the inner ring road of the campus. The dining and common rooms are for the use of residents and non-residents alike.

The bridges lead to an interior street joining all the houses two floors above grade. From it the students walk up as many as four floors to their rooms or down as many as two. The basic social groups of six and 12 are combined into houses of approximately 46 students, under the supervision of a don (a married faculty member or senior student). Six houses make a residence of 277. Each has a residence head responsible for promoting cultural and recreational activities.

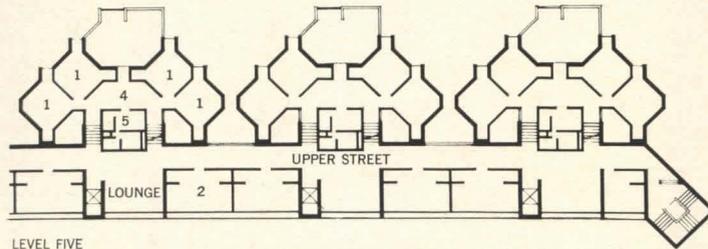


The grid-shaped dormitory section of the complex is formed of two structurally independent units: the six-story "houses" of structural tile which contain most of the living units (left in photo and section), and a four-story reinforced concrete structure containing the horizontal circulation system, supporting facilities, and some living units (right). The floors of the two parts are offset a half-level from each other and joined together by staircases.

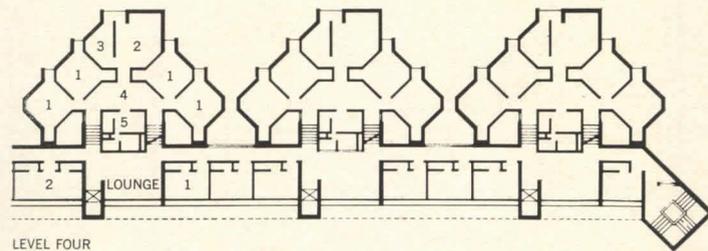




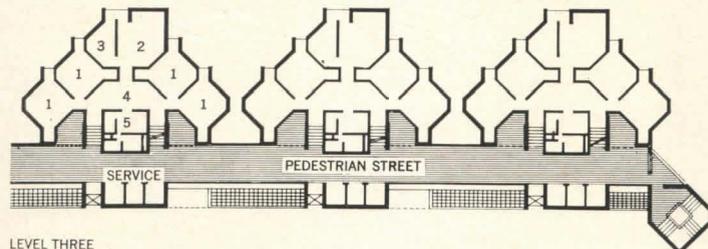
LEVEL SIX



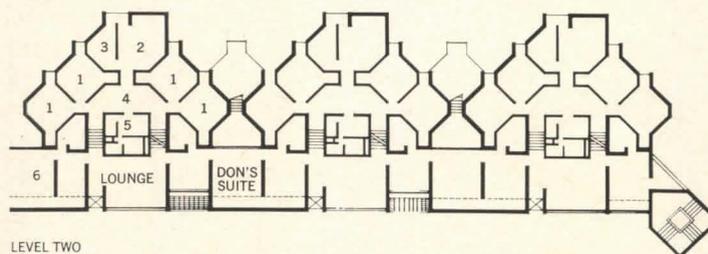
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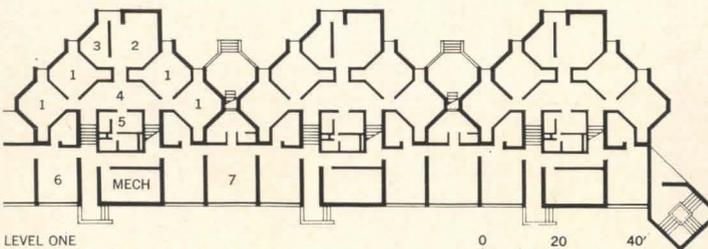
LEVEL FOUR



LEVEL THREE



LEVEL TWO



LEVEL ONE

0 20 40'

- 1 SINGLE BEDROOM
- 2 DOUBLE BEDROOM
- 3 DOUBLE STUDY
- 4 LANDING
- 5 WASHROOM
- 6 TWO-MAN SUITE
- 7 FOUR-MAN SUITE

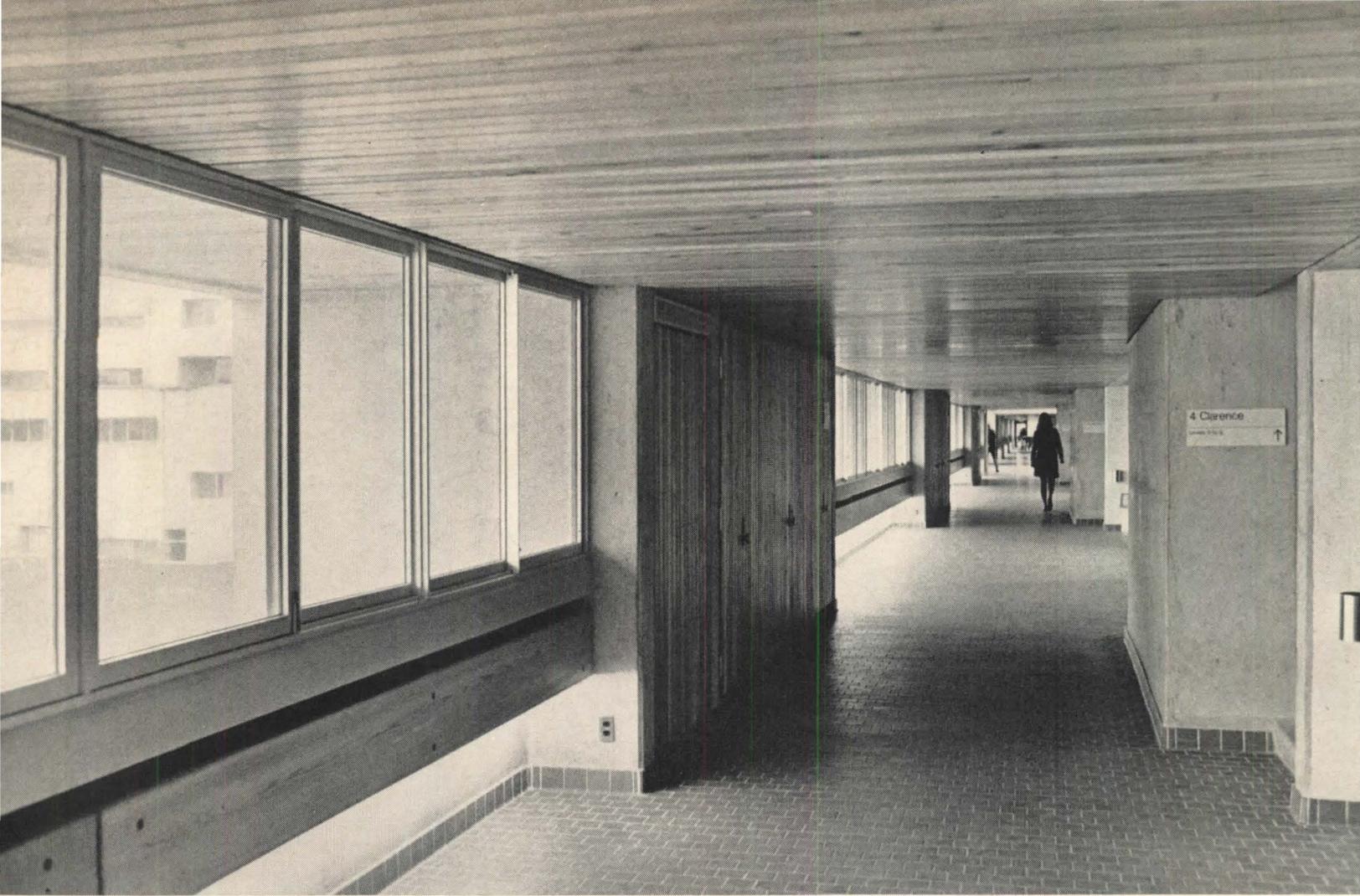
The students like the movable furniture, the abundance of wall plugs, the generous amount of shelf space, and the telephones in every room. The walls of exposed concrete that no amount of scotch tape can ever hurt have their harshness masked by acres of posters and pictures and innumerable forms of paper decoration.

Many of the male students seem to think that the most desirable quarters are the four-man suites at the bottom of each house, while many of the girls tend to envy the occupants of the four singles at the top. The latter rooms have generous balcony space, ideal for sunning.

The students also like the way the rooms cater to their individuality, and the uniqueness of the total design in contrast with traditional dorms. "Many members of the university administration thought the students would find the complex a monstrosity," one proctor said. "The kids love it and the parents hate it because they think it is cold-looking. But once you are in here, it would take a lot to make you go back to a rectangular room on a long hall."

Still, the parents' verdict is not without justification. The exterior of the Guelph complex, with its fortress-like walls of concrete and structural tile, does look a bit uninviting. For Scarborough, Andrews also designed massive walls of concrete, but there they were much more varied, reflecting the multitude of activities going on inside, and they were softened considerably by the beautifully wooded, contoured site. At Guelph, the dorms rest on a flat, dull site, which

The first four levels of each "house" are identical in plan: four single bedrooms (1 and photo at far left, bottom) and a double bedroom-study (2 and 3) are grouped around a landing (4) and washroom (5). The double unit is eliminated on the fifth and sixth levels. The adjoining structure opposite the houses varies considerably from floor to floor: lounges (far left, top) connect with the second, fourth, and fifth levels; service rooms for group activities (top, near left) with the third level; and two-man suites (bottom, near left) with the first and second levels.



does nothing to relieve the starkly repetitive exterior walls—though future landscaping should help.

It was partly a matter of cost. "When we got the Guelph commission," Edward Baldwin explains, "student residences in Canada were averaging \$8,000 a bed. We set out to adhere to that, but eight months later the Ontario Student Housing Corp. took the project over from the university as its first undertaking. They had a maximum budget of \$7,700 a bed. Almost everything was sacrificed to preserve the selected social grouping, the study-bedroom, and its movable furniture. We had to introduce a few more rooms, but we kept a maximum of eight to a washroom and 16 to a lounge. Density worked out to 140 persons to the acre with more than 60 per cent in single rooms."

The Ontario Student Housing Corp., an offshoot of Ontario's social housing agency, was called into being in 1966 because the new universities sprouting in and around small cities were obviously going to be desperately short of residences. With the assistance of 90 per cent federal housing authority loans, the corporation has carried out or has in progress projects for 13 post-secondary schools. This totals about 8,700 beds, and another 4,200 are in the planning stage. Costs have worked out to about \$5,000 a bed, the corporation claims.

Although some architects have expressed concern over the danger of making the dollar the chief criterion, E. J. Simpson, chief architect of the corporation, argues that it is providing housing at prices the public can afford. The corporation has adopted a new builder-proposal method under which builders, after collaboration with the architects and engineers, submit preliminary plans and specifications and a guaranteed, fixed price. The proposals are evaluated by the corporation's professional staff, and the one most adequately meeting the requirements—not necessarily the lowest priced—gets the contract.

While some architects think



The uninterrupted pedestrian street (top left) ties the dormitory units together and joins them with the three dining buildings (one of which is pictured at left). The oval-shaped, skylit stairwell (top right) is one of six that provide the major means of vertical circulation for the dormitory residents. The stairwells flank the three "crossroads" formed by the grid system. Right: one of the crossroads at the pedestrian level.

quality is going to suffer, others concede that the method was brought on by architects themselves. A national survey of the architectural profession two years ago found that a common construction industry impression was that architects were poor estimators of cost.

Some see the proposal technique as a good thing for encouraging architects to work more closely with other members of the building team, but others deplore what they consider to be a removal of the architect from his quality control function.

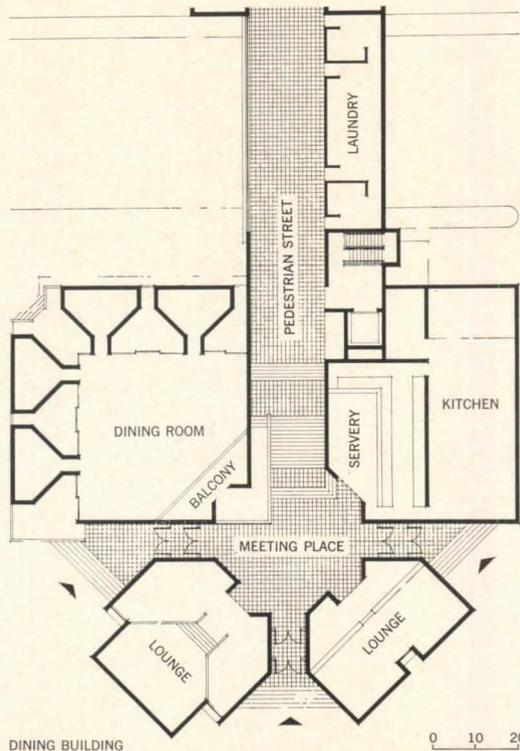
"I think the proposal method has much merit," says Baldwin. "I'm all for lowering students' costs. But the university should have an architect to make sure of quality. Given that, I'm all for the contractor making all the economies possible."

Construction of the Guelph project was contracted through traditional bidding methods and, according to Baldwin, the low bid came in \$1 million over the housing corporation budget. "We finally negotiated a contract at the budget figure," Baldwin says, "but we gave up a lot of quality and the concrete work is poor."

But the students who live in the Guelph complex seem unconcerned about such matters as poor workmanship and an allegedly uninviting exterior. Inside is where the action is, after all, and Andrews' building encourages a great deal of it.

FACTS AND FIGURES

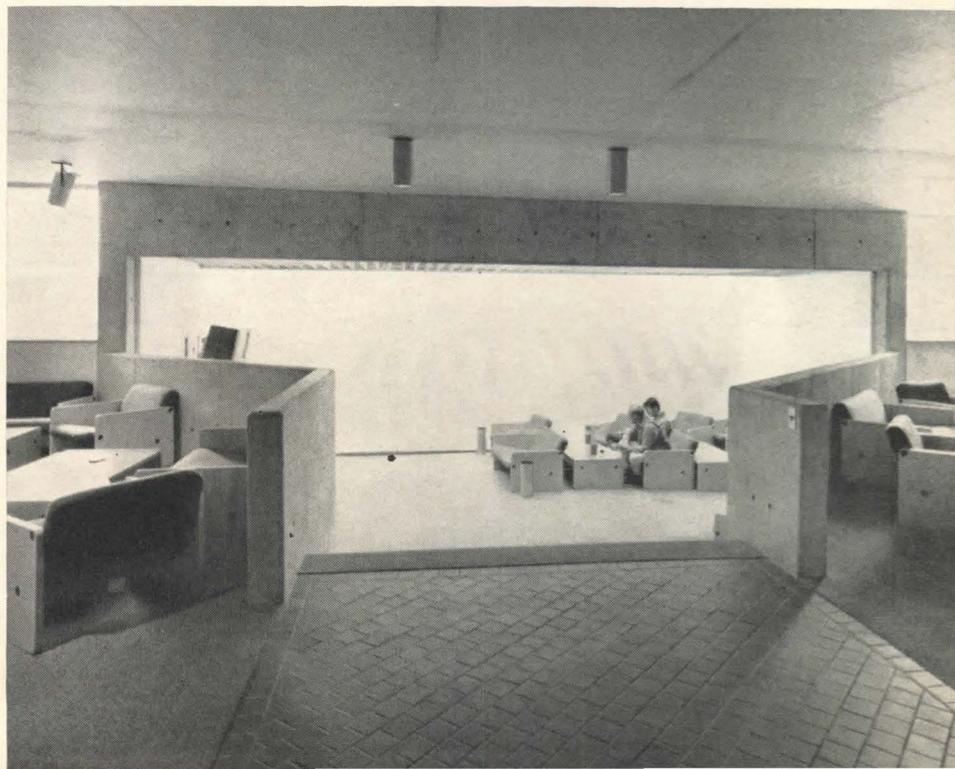
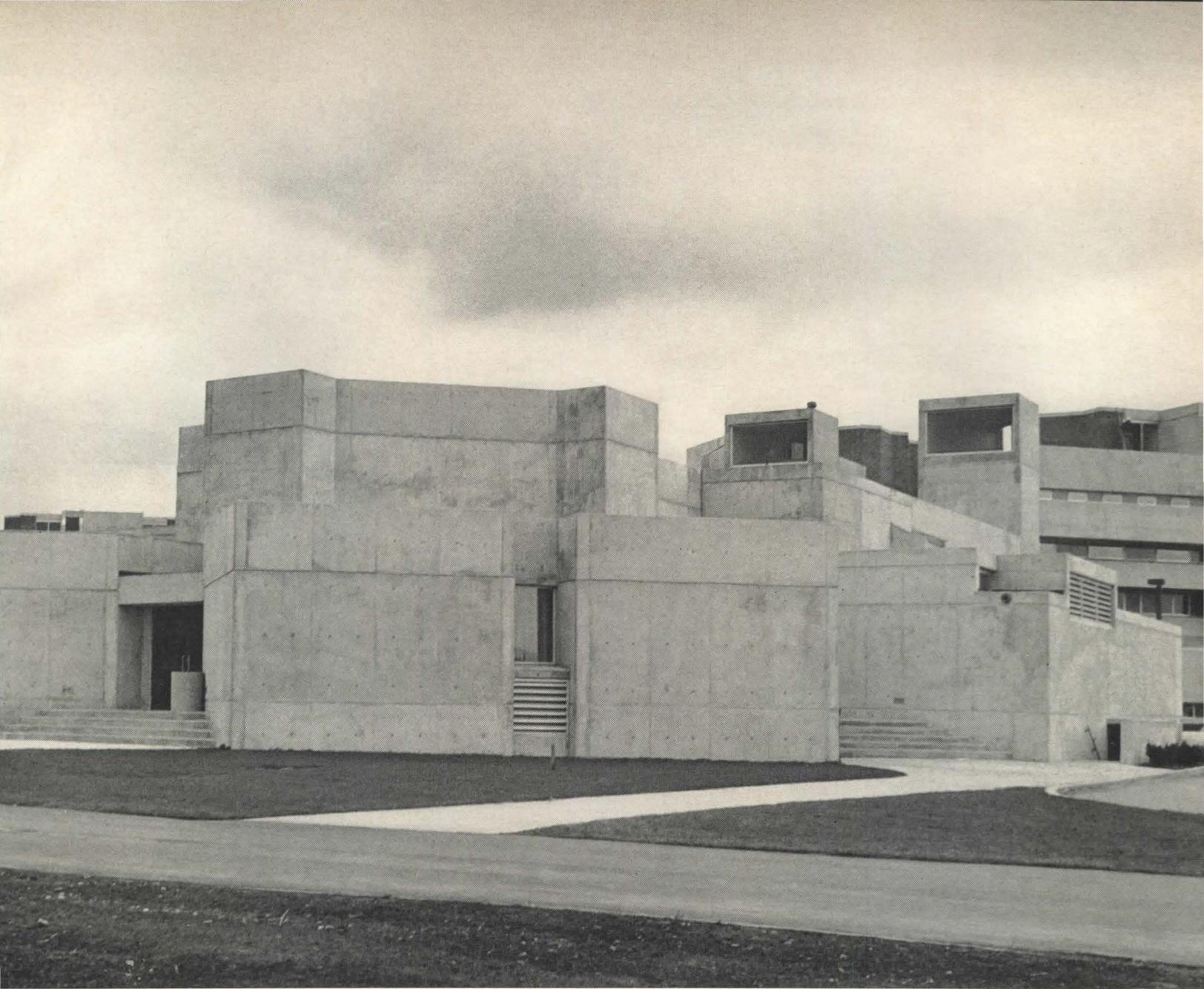
Housing Complex B, University of Guelph, Guelph, Ontario. Owner: Ontario Student Housing Corporation. Architects: John Andrews (Edward R. Baldwin, project architect). Engineers: Seethaler & Bernard (structural); R. E. Crossey & Associates (mechanical); Jack Chisvin & Associates (electrical). Consultants: Helyar, Vermeulen, Rae & Mauhan (cost control); Smith-Somerville Co. Ltd. (critical path); Keith Little & Associates Ltd. (food services); Bolt, Beranek & Newman Ltd. (acoustics); Project Planning Associates Ltd. (master plan); Evan H. Walker (student housing); Al Faux & Associates (furnishings). University Director of Physical Resources: David H. Scott. General contractor: Ellis Don Ltd. Building area: 549,331 sq. ft. Building capacity: 1,662 students. Cost: \$12,081,200 (excluding moveable furniture, equipment and fees); \$21.99 per sq. ft.; \$7,269 per student. PHOTOGRAPHS: George Cserna, except page 76, by Colurychrome Ltd.



DINING BUILDING

The dining building pictured at top right is one of three identical, reinforced concrete structures serving the dormitory complex. The dining and social functions of each are grouped around a "meeting place" (see plan) which forms a terminus of the pedestrian street system. Near right: the main dining room, which is flanked by smaller dining alcoves. Far right: lounge areas off the meeting place.







FORUM CONT'D

international landmark, but very likely the eventual destruction of the house itself: the eyesore of a high bridge, 175 ft. from the front terrace, and the earsore of roaring traffic (not to speak of the glare of automobile lights penetrating the glass walls at night) will hardly enchant any future owner.

Condemnation papers were served on Dr. Farnsworth last year and, in July, a jury awarded her a \$17,000 indemnity fee.

Until now, legal and other recourse has been unsuccessful in protecting the property. (Dr. Farnsworth offered to deed the property to the Department of Conservation, which might have been interested in acquiring it since it contains one of the last undisturbed sites of the Hope-well civilization. She also offered to plant the site and bequeath it to the state for a nature preserve. Both offers were turned down.)

There has been local protest against construction of the bridge, which many citizens deem too large and too expensive, but the highwaymen wield a strong whip. And local pride—if there is any—in a building distinguished by far more than routine esthetic and historic value has not been brought to bear on the case.

ASSETS

HIGH STYLE IN LONDON

Mies van der Rohe has designed his first London building, a 290-ft. headquarters tower for Lloyds Bank. If it gets built—and that is a big if—London will at last possess a distinguished skyscraper.

The rectangular tower of bronze and bronze-tinted glass, designed in collaboration with Lord Holford, will rise from an open, triangular plaza atop a new underground shopping concourse in London's financial district. It will be bounded by some of the city's most venerable structures: the Mansion House, Wren's Church of St. Stephen Walbrook, Lutyens' Midland Bank, and the Bank of England.

But construction of the project could be prevented from two quarters: the general public, which understandably takes a dim view of skyscrapers (those that have sprung up since the war are uni-

formly bad); and the formidable Royal Fine Art Commission, whose role is purely advisory, but often potent.

The City Corporation, anticipating the enactment of a new law requiring public participation in planning and design decisions, held a public exhibition of the Mies-Holford design in October. Over 26,000 Londoners attended the show and inspected Photographer John Donat's montages showing the project's relationship to its surroundings (sample below).

Of those who attended, some 3,500 submitted comments on cards provided by the City Corporation. The results of the poll had not been released by press time, but the *RIBA Journal* reported that public reaction was "on the whole highly favorable."

But the reaction of the Royal Fine Art Commission, it seems, is not at all favorable. The commission has made no public pronouncement, but the *RIBA Journal* reports that it "is believed to have advised the rejection of the Mies-Holford design on two grounds: because the height exceeds 200 ft., and because a new square is said to be out of keeping with the character of the city."

These, said the *RIBA Journal*, "are essentially subjective opinions, of the kind that lead too often to compromises that are fatal to the integrity of a design." And the *RIBA Journal* concluded:

"It would be grotesque if this essay in public consultation were to deprive the City of London of what has been called the first building of architectural quality it has been offered since the war."

UPS & DOWNS

INSTANT FAILURE

The famous 48-hour, hole-in-the-roof, instant-rehab experiment conducted last year in New York City was an expensive failure. That, at least, is the considered opinion of the Institute of Public Administration, the nonprofit organization that conducted the experiment under a HUD grant.

According to an evaluation study published recently by the institute, the cost of renovating the three "old-law" tenements used in the April, 1967, experiment was about \$45 per usable sq. ft., compared with about \$18 for new construction and \$14 for conventional rehabilitation. And the institute has concluded that mass use of the technique would not bring costs down to a competitive level.

The procedure, developed by Conrad Engineers and T.Y. Lin Associates, began with the removal of the residents to a nearby hotel. Then, 8-ft.-square holes were cut in the roofs, and workmen gutted the buildings, tossing the debris into boxes that were lifted out

FOOTNOTE

Urban decoration—The lampposts on New York's Lower East Side have long been festooned with pairs of sneakers, laces tied together, which the neighborhood kids like to toss up there (and which the neighborhood cops periodically come to remove). When some of the kids were asked, recently, why they liked to decorate their street lamps with sneakers, they explained that the lamps looked better that way—and they do.

Photo: Carter Winter.



through the holes by crane. Next, new construction materials were lowered in and put in place by workmen. Then, the holes were plugged with prefabricated kitchen-bathroom cores (below). Finally, 47 hours, 52 minutes, and 24 seconds later, the tenants were moved back in.

HUD, which had high hopes that the technique would be an economical solution to the prob-



lem of relocating slum tenants for long periods of time, is not giving up yet. Thomas F. Rogers, director of HUD's office of technology and research, said that the department will continue to experiment with the technique, though the time schedule for future projects will be two to four weeks, rather than two days. The longer period will eliminate much of the overtime work that contributed heavily to the high cost of the New York project.

HUD estimates that mass use of the technique will bring the square footage costs down to \$24 for one building, \$21 for ten, and \$20 for 100. But Dr. Lyle C. Fitch, president of the institute, considers HUD's estimates wishful thinking. "In order to justify rehabilitating something so old," he said, "it would have had to turn out something miraculously cheap."

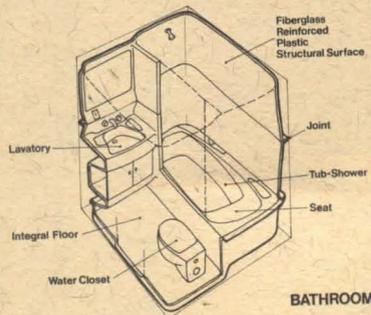
BUILD-A-DORM

The University Residential Building System (URBS) has given the University of California a kit of components for student housing similar in principle to the School Construction Systems Development (SCSD) components for public schools (Apr. '65 issue). Like SCSD, the URBS system is the product of several years of research and component design, helped along by a large grant from the

Educational Facilities Laboratories of the Ford Foundation.

As in the SCSD program, a set of performance specifications was established (by the university in collaboration with Building Systems Development Inc.) covering five vital portions of student housing construction: structure-ceiling, heating-ventilating-cooling, and partitioning systems, plus interior furnishings and prefabricated bathrooms. Would-be suppliers worked with engineers, designers, and architects to develop components meeting the challenging URBS specifications—investing an estimated total of \$4 million in the effort. They then submitted bids on a hypothetical program including 1,600,000 sq. ft. of building to house 4,500 students (single and married).

On the basis of the accepted bids, construction with the new system is expected to cost 11 per cent less than conventional buildings of the same capacity. But the URBS buildings will be superior in many ways to most conventional buildings. Their long-span concrete structural systems, adaptable to either low or highrise buildings, will offer great freedom in laying out (and rearranging) interiors. Demountable partitions, with a number of interchangeable surface materials, will be capable of supporting cabinet, desk, and bunk units (which can also stand on the floor). Bathrooms (below) will be watertight plastic compartments with integral bath-showers and lavatories.



After full-scale prototypes are built and tested, the university plans to use its carefully developed kit of parts for most of its housing construction over the next five years—quarters for somewhere between 5,000 and 9,000 students.

AND THE LEGEND CONTINUES

The rendering at the top appeared in an advertisement published in the October 12 issue of *The New Yorker*. It was accompanied by the following text:

"For all those people who



thought they would miss the old Imperial, here's what is going up in its place: The new Imperial. A majestic, 17-story highrise scheduled to open in March, 1970, on the site of our old wing. With a thousand spacious new rooms added to the 600 in the present building, the Imperial will be the largest hotel in the Orient. And then, as now, you can be sure the Imperial's famous personal attention to service, and its matchless facilities in the heart of the world's biggest city, will live up to the name Imperial . . . and the legend continues."

It better had!

HOUSING

MOBILE HOMES ON THE MOVE

Of all single-family housing selling at \$12,500 or less, last year, a large 86 per cent was in mobile homes. And in the up-to-\$15,000 market, 73 per cent of the housing purchased was in mobile homes. The figures are from market research done under the direction of the Mobile Homes Manufacturers Association, using data from the U.S. Department of Commerce and the Census Bureau.

These impressive statistics do not include "modular housing," now being utilized in a number of pilot projects in urban areas, according to the MHMA—in Detroit, Chicago, Rochester (N.Y.), Amherst (Mass.), Newark, and Dallas. Some 700 modular homes (in one- two- and three-story arrangements) were built and shipped during the first eight months of 1968, MHMA reports.

In other tallies, the industry finds itself 34 per cent ahead of 1967. Predictions are for shipping 300,000 homes in 1968, 400,000 by 1970, and a million by 1975—again, exclusive of modular homes, which could roll up an additional half million sales per year by 1975.

As for size, an overwhelming 84.1 per cent of the mobile homes sold last year were in the 12-ft. width, in lengths from 54 ft. to 65 ft. Only 7 per cent were in the old-fashioned 10-ft. width, and another 6 per cent were in the newest "sectional" models that assemble into 24-ft. width. About half the mobile homes are in mobile home parks (of which the nation has some 22,000) at densities between seven and nine homes per acre. Rental fees for the homesites are \$30 to \$60 per month.

Average price of a mobile home is \$5,700 for a 12 ft. x 60 ft. model (or about \$8 per sq. ft.), complete with furniture, appliances, lamps, carpeting, etc. in a choice of Early American, French or Italian provincial, Oriental, Mediterranean, traditional, or contemporary decor. Financing, too, is attractive—20 or 30 per cent down, with the remainder (typically at 6 per cent) over 7 to 10 years.

GROWTH IN OPEN HOUSING

Mutual Real Estate Investment Trust (M-REIT), which was created to provide open housing, is growing as fast as any three-year-old. Recipient of \$1 million from the Ford Foundation as part of that foundation's "Program-Related Investments" (Nov. issue, page 34), M-REIT has announced that the company now owns or

anticipates owning \$18 million worth of apartment buildings in five states.

Morris Milgram, the hard-headed and idealistic builder who founded M-REIT and serves as its manager, reports that integration goes on quietly; M-REIT does not want to make its tenants feel like guinea pigs, and does not proselytize among them. As another firm policy, M-REIT does not disclose the addresses of its apartment buildings to the public.

Since residents are not forced to move out when M-REIT acquires a building, the percentage of non-whites is still small—10 per cent at the most. M-REIT has no difficulty, however, finding Negroes for almost 50 per cent of all vacancies that occur. Rentals start at \$55 a month; average rentals are \$120-\$155.

Stockholders, receiving a 3 per cent (tax-free) return on their investment, learned at the recent annual meeting that contrary to the usual predictions, there has been no "white flight" from these previously all-white neighborhoods. Speaking at that meeting, McGeorge Bundy, president of the Ford Foundation, expressed the hope that the new investments by Ford would attract other investors to such recipients as M-REIT.

MEMORIALS

LEST WE FORGET

The latest and probably the final design for a New York memorial to the six million Jews murdered in Nazi concentration camps was shown last month at the Museum of Modern Art.

The design by Architect Louis Kahn was commissioned by the Committee to Commemorate the Six Million Jewish Martyrs, an affiliation of Jewish organizations assisted by an art advisory committee. It has been approved in principal by the Parks Department and the City Art Commis-

sion and is scheduled for completion in 1970—estimated cost has not been revealed.

To stand in lower Manhattan's Battery Park, facing the water and the Statue of Liberty, the design is beautiful and simple. A flat gray granite base, 66 ft. square, will support seven piers, 10 ft. square by 11 ft. high, to be constructed of blocks of glass that interlock without the use of mortar. Six of the piers will be solid; the central one, conceived as a chapel that can be entered, will be inscribed—with what is still undecided.

"Changes of light, the seasons of the year, the play of the weather, and the drama of movement on the river will transmit their life to the monument," said Kahn.

SKELETONS

BIELEFELD'S NONFEST

The opening in September of the Municipal Art Gallery, designed by Philip Johnson, in Bielefeld, Germany—also called the Richard Kaselowsky House—was to have been a gala occasion (Sept. issue, page 66). Twelve hundred guests had been invited, many of them government officials. A specially commissioned piano concerto by Hans Werner Henze was to be performed, and Gerhard Stoltenberg, the federal minister of research, was to address the crowd.

Instead, the event shrank to a routine press conference. Although one German critic described the museum as a "combination water-tower, mausoleum, and paperweight," the cause for the wash-out was political and not esthetic. It had to do with the rather belated objection to its name.

What's in a name? Simply this: Richard Kaselowsky who died in 1944 had been a member of both the Nazi party and the Freundekreis Reichsfuehrer SS, a men's club for SS leaders and prominent Nazi businessmen, headed by Heinrich Himmler. Kaselowsky's stepson, Rudolf August Oetker,

Bielefeld's baking powder king and principal donor to the approximately \$3.5-million cost of the gallery, had stipulated that the gallery be named after Kaselowsky. The Oetker name obviously carries a lot of weight in Bielefeld. Despite the fact that Kaselowsky's past was known to Bielefeld's lord mayor and city council (if to no one else), they agreed. Their conscience was clear: the Freundekreis had not been listed as a "criminal organization" at the Nuremberg trials!

What brought things to a head was an exposé by two student groups (the "Left Barracks" and the "Extraparliamentary Opposition"). Despite a successful attempt to bar the "Opposition" from a city council hearing which reconsidered, then stood by the decision to use the Kaselowsky name, their pressure was apparently strong enough to influence official opinion. Suddenly everyone lost interest in the festivities. Beginning with Heinz Kuehn, Nordrhein-Westfalen's cabinet president, prominent guests declined previously accepted invitations. The Bielefeld aldermen then met once more and called it off.

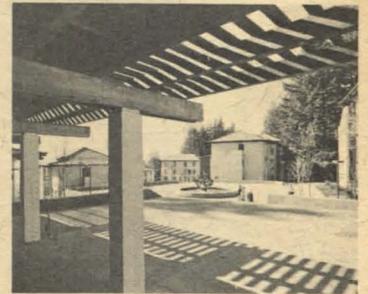
AWARDS

CREATIVITY ON CAMPUS

HUD's recently announced 1968 Awards for Design Excellence (in federally assisted projects) helped to confirm what many observers have been claiming for quite some time: much of today's best architecture is being done on campuses.

Three of the four First Honor Awards selected by HUD's seven-man jury went to college dormitories (pictured at right in the following order): Mathes and Nash Residence Halls, Western Washington State College, Bellingham, by Architect Henry Klein (George Wallace and Folke Nyberg, associates); Cowell College Residence Halls, University of California, Santa Cruz, by Wurster, Bernardi & Emmons Inc.; and a dormitory at Central Washington State College, Ellensburg, by Fred Bassetti & Co. The fourth Honor Award winner was Bluebeard Hill Apartments, St. Thomas, Virgin Islands, by Kramer, Kramer & Gordon.

Why such a good showing? "The major reason for this performance," stated the jury report, "was believed to be the organized concern and responsibility that exist for the character and com-



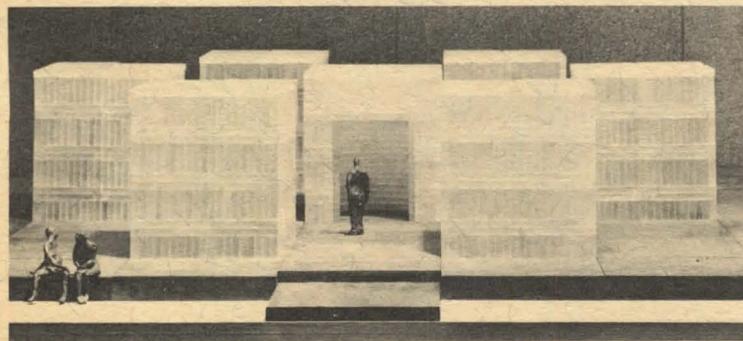
patibility of the campus environment. Such concern and responsibility . . . have not yet been established in the city at large."

RESOLUTIONS

MISGIVINGS

Motion: The New York Chapter of the AIA voted at a special meeting on November 14 to express its misgivings over the fact that next year's AIA convention was to be held in Mayor Daley's City of Chicago, and to suggest that a different location be found.

Other chapters are considering similar resolutions.



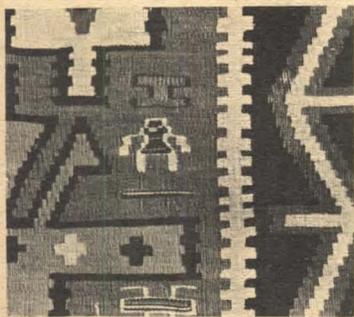
Walter McQuade

THIS MONTH, A SHOPPING COLUMN

A year ago Marian Miller was working in an office in New York, and like most people who do that, she did not really like it very much. What she wanted to do was collect the kind of oriental rugs she discovered are still made in the villages of Greece, Turkey, and Iran, woven as often as not as a part of a daughter's dowry (by the daughter). Miss Miller had spent several years in Greece teaching English in a girls' school and, on holidays, traveling out to village fairs and buying such rugs.

Moving to New York, and into an office, she set about reselling some of these rugs, off-hours. Then last May, she quit her job, took her profits and savings, and made the plunge, traveling back to Greece, Turkey, and Iran to build inventory. When she returned to New York with 150 rugs, she moved into a third-floor walkup on East 28th Street near Third Avenue over the headquarters of a carpenters' union local, and sent out a few notices, which read:

"Collection of peasant rugs and spreads from Greece, Turkey, Iran . . . old and new Kilims . . . old embroidered rugs, prayer rugs, new

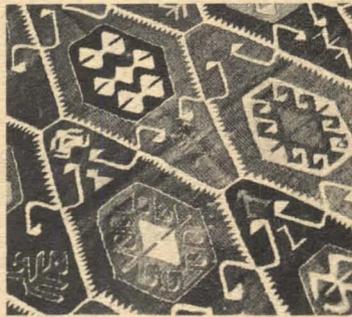


country rugs, striped spreads . . . boldly colored and patterned in plain, striped geometric, or abstract flower designs . . . rough and flat weaves, hand spun, hand dyed, hand woven . . . individually chosen at country fairs and bazaars . . . one-of-a-kind selection for contemporary and for country uses . . . cost from \$25 to \$400 . . . please phone for appointment . . . Marian Miller . . . 148 East 28th Street . . . MU 5-7746."

That about describes it. Her

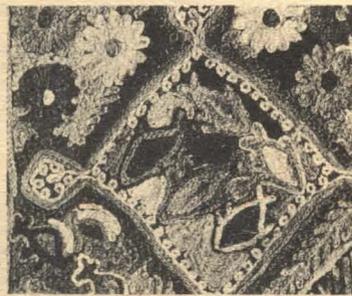
rugs are not deep pile orientals, but mostly flat weaves, less durable, less perfect, and much less pretentious than the conventional imported new orientals. She has a good eye, and knows some wild villages of weavers. A handful of architects and interior decorators have responded and bought rugs, and a couple of such erudite shops as Design Research and Georg Jensen retail a selection.

Do not expect to find one of those matchless old Caucasian dragon Soumaks or Esari Turkoman prayer rugs at Marian Miller's. Her patterns are a little less classically placeable. The dyes do not imitate the old vegetable dyes, but are more frankly chemical. One expert I know finds them gaudy, and says if you want a true antique and have the time and/or money you can still find great ones at the old line rug dealers, or sometimes in someone's barn. He says there are hundreds of thousands of fine antique and



semiantique orientals in North America, many of them dumped on the market in the 1930s by the Soviet government, when the U.S.-S.R., in desperate need for Western currency, cleared the Caucasus of its floor coverings, and sold them here and in England for as little as \$50 a bale.

But Miss Miller's rugs are full of vitality, which most other relatively new orientals certainly are



not. At some point in history, post-broadloom, the design of oriental rugs seemingly went bad for a very simple reason. They began to be designed for the American and German markets, that solid middle class who still shy away

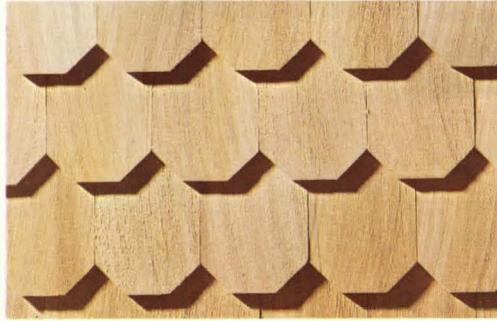


from the sharply bizarre, or violent patterns. It is true that those commercial orientals brought in here for department stores are still made meticulously by hand in rug regions from India to Iran. Which means that thousands and thousands of impoverished weavers are knotting and tufting terrible rugs for us, with beautiful craft—and not getting rich doing it. The fact that the rugs some of them make for their own dowries still have the old lilt in design is a baffling comment on us, not them.

The prices for Miss Miller's rugs average out at six or seven dollars per sq. ft., about the same as the thousands of imitation Chinese patterns in the department stores. I predict that if you do go to see Marian Miller's rugs, you'll find yourself blessing a Turkish troth with your checkbook.

PHOTOGRAPHS: Page 30, Warren L. Bond (top right). Page 33, John Donat. Page 89, George Cserna (bottom); Charles R. Pearson, Roger Sturtevant, Morley Baer (right, top to bottom).

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The Upjohn Company warehouse-office building photographed 30 months after erection.

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PREVIEW

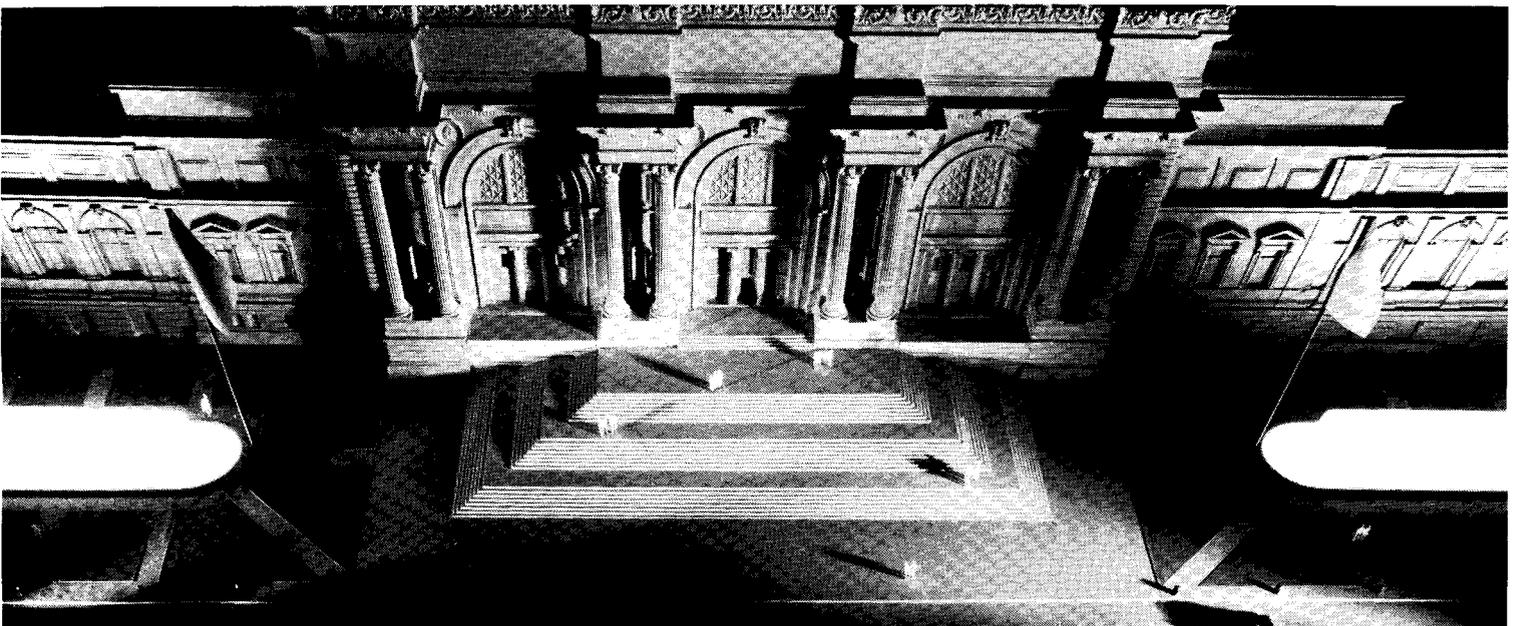
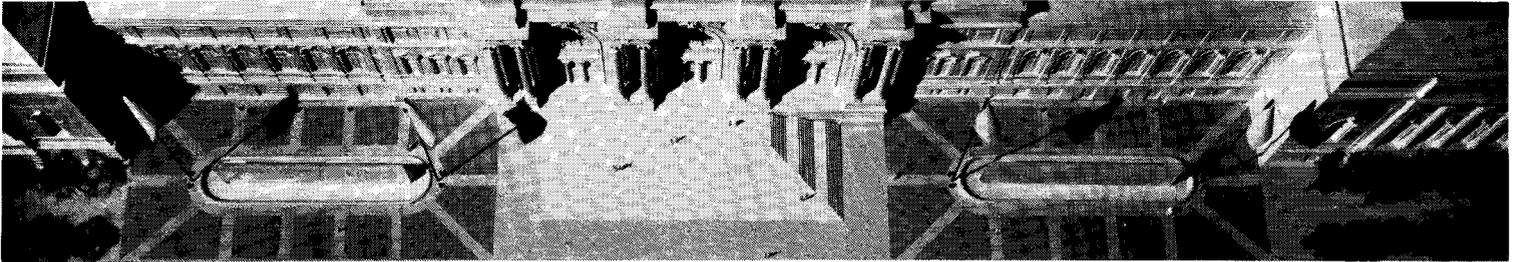
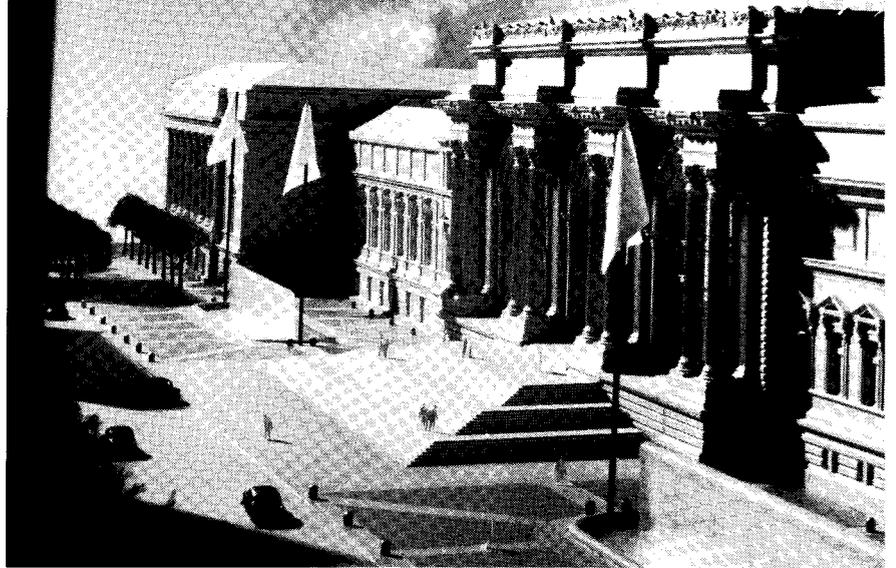
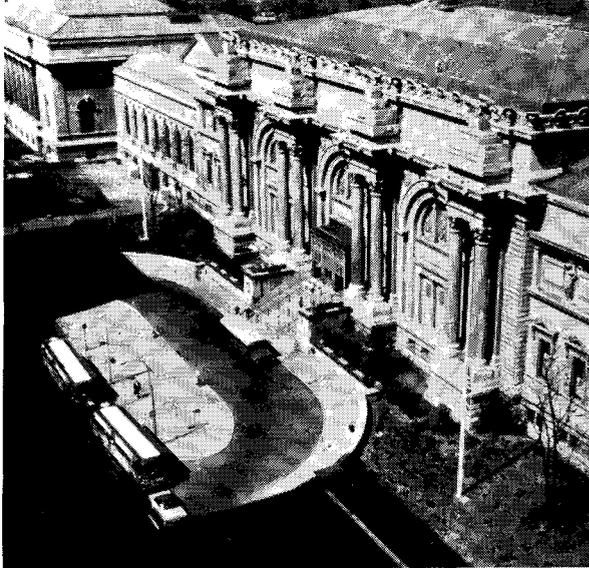
CENTENNIAL FACE-LIFT

To mark 100 years of life, New York City's Metropolitan Museum of Art (chartered in 1870) will complete a redesign by Kevin Roche, John Dinkeloo & Associates of the streetscape along its 1,000-ft.-long Fifth Avenue facade. It is the first phase of a master plan for expansion, which includes permanent housing for the Temple of Dendur, now lying disassembled beneath an inflated bubble in Central Park.

The streetscape presently includes (top left): a driveway off the avenue, shoulder-high walls separating sidewalks from planted areas, and a steep, one-directional flight of steps to the entrance (a wooden vestibule dubbed "the doghouse"). All this will become a continuous plaza of three basic design elements, each clearly demarcating a section of the building's facade (center photo).

A three-directional podium of

steps will lead, on a shallow incline, up to the center section, designed by Richard Morris Hunt and completed in 1902. Fronting the extensions, north and south, will be two fountain-pools set in patterned paving; trees will be planted along the end wings (added later by McKim, Mead & White). An air curtain will replace "the doghouse"; and the unfinished stone piles atop the columns (top left) will be removed.



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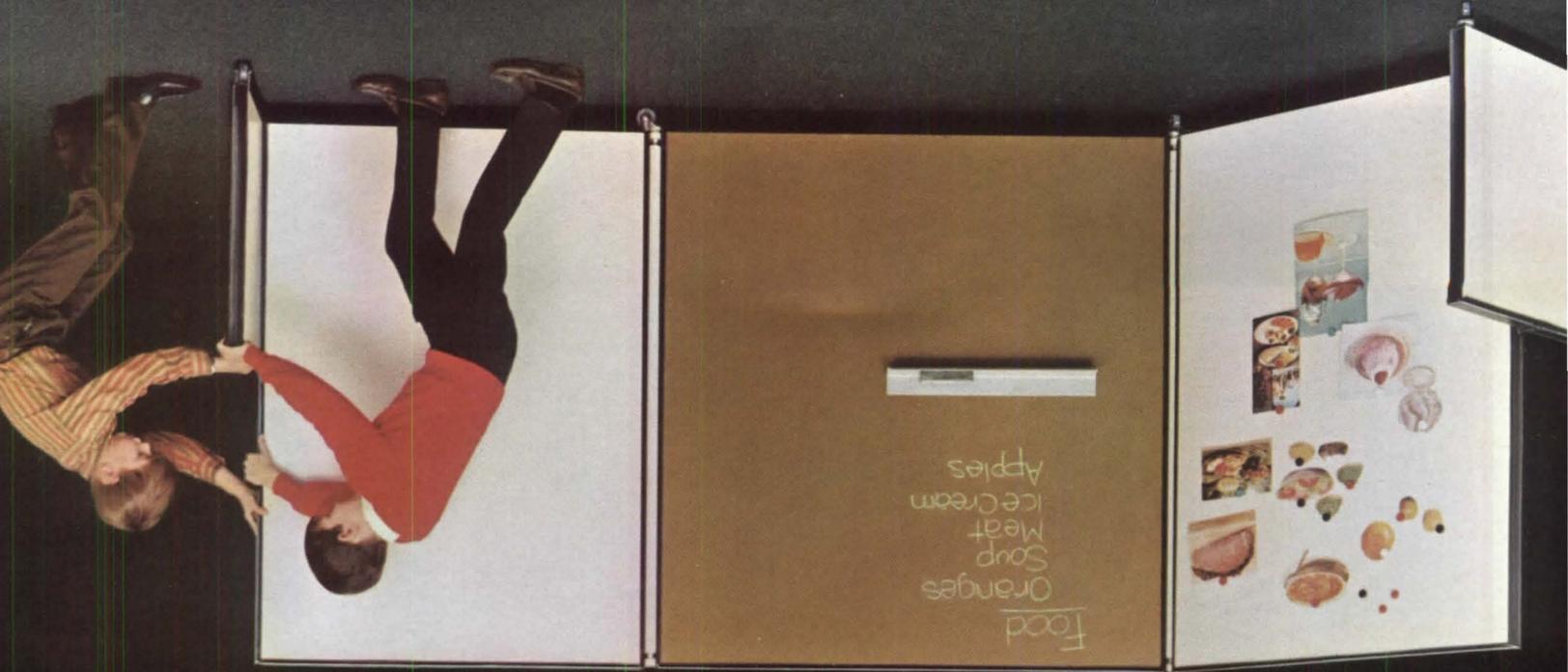
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PREVIEW

"Night Campus will have the effect of an educational nuclear reactor," says Howard H. Juster of the Perkins & Will Partnership. The firm—with Albert Harkness & Peter Geddes and Robinson, Green & Beretta, of Providence—has designed, for Rhode Island Junior College at Warwick, a campus within a megastructure. It is to be insulated from changes in both the weather and the community, which is expected to grow

from suburban to urban within the next ten years.

The building, presumably, will condition students for eventual involvement in just such a community, by integrating academic, vocational, arts, and technical programs in a giant "ant farm" of activity on 200 acres of land.

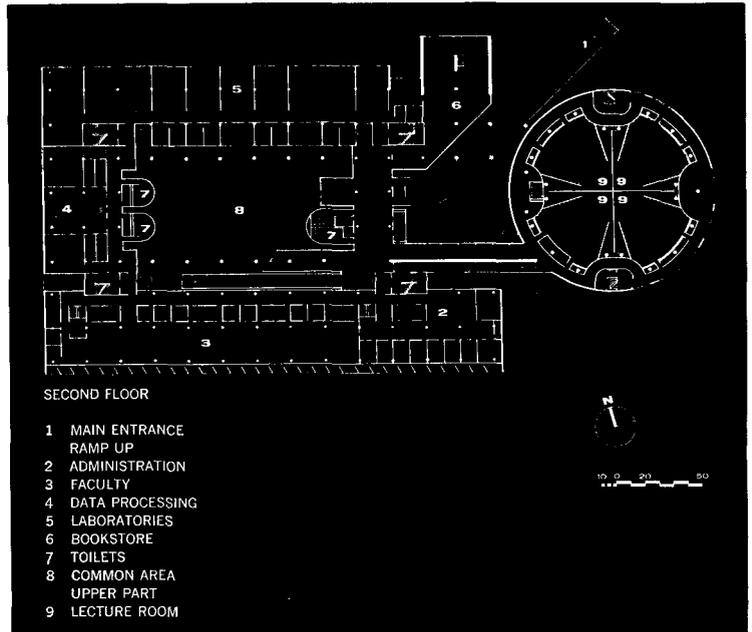
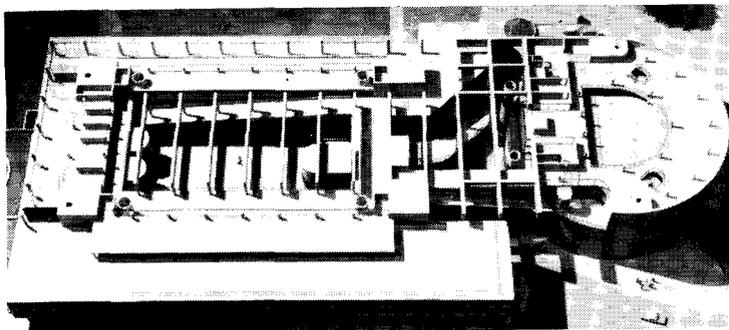
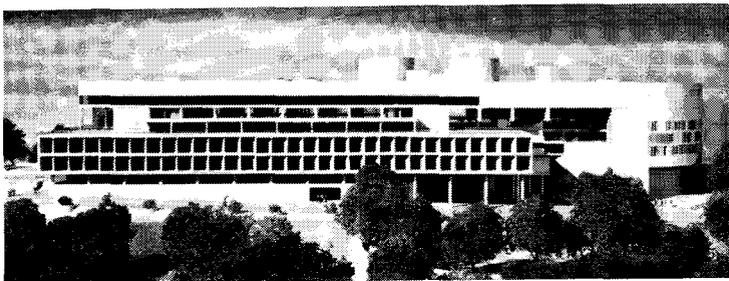
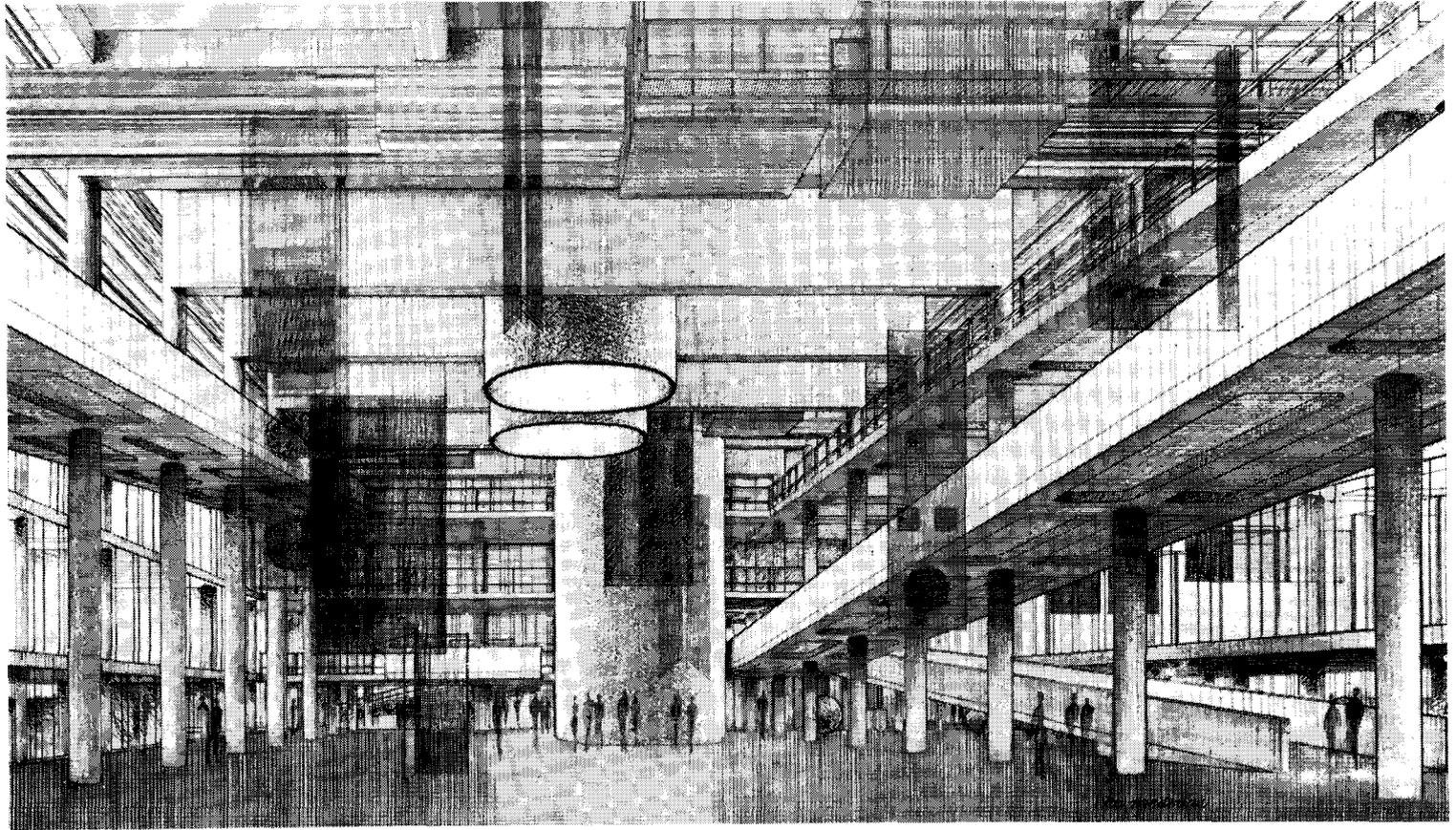
The megastructure, a rectangle measuring 475 by 225 ft., is organized around a 200-ft.-long, four-story-high commons-court (top),

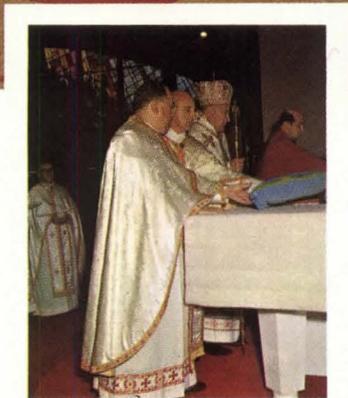
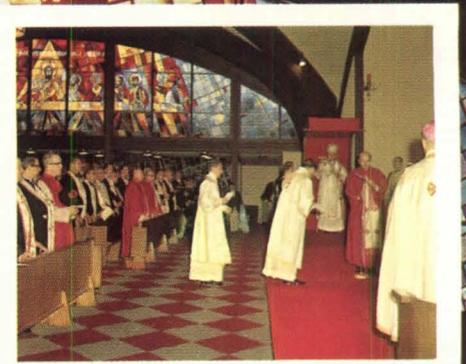
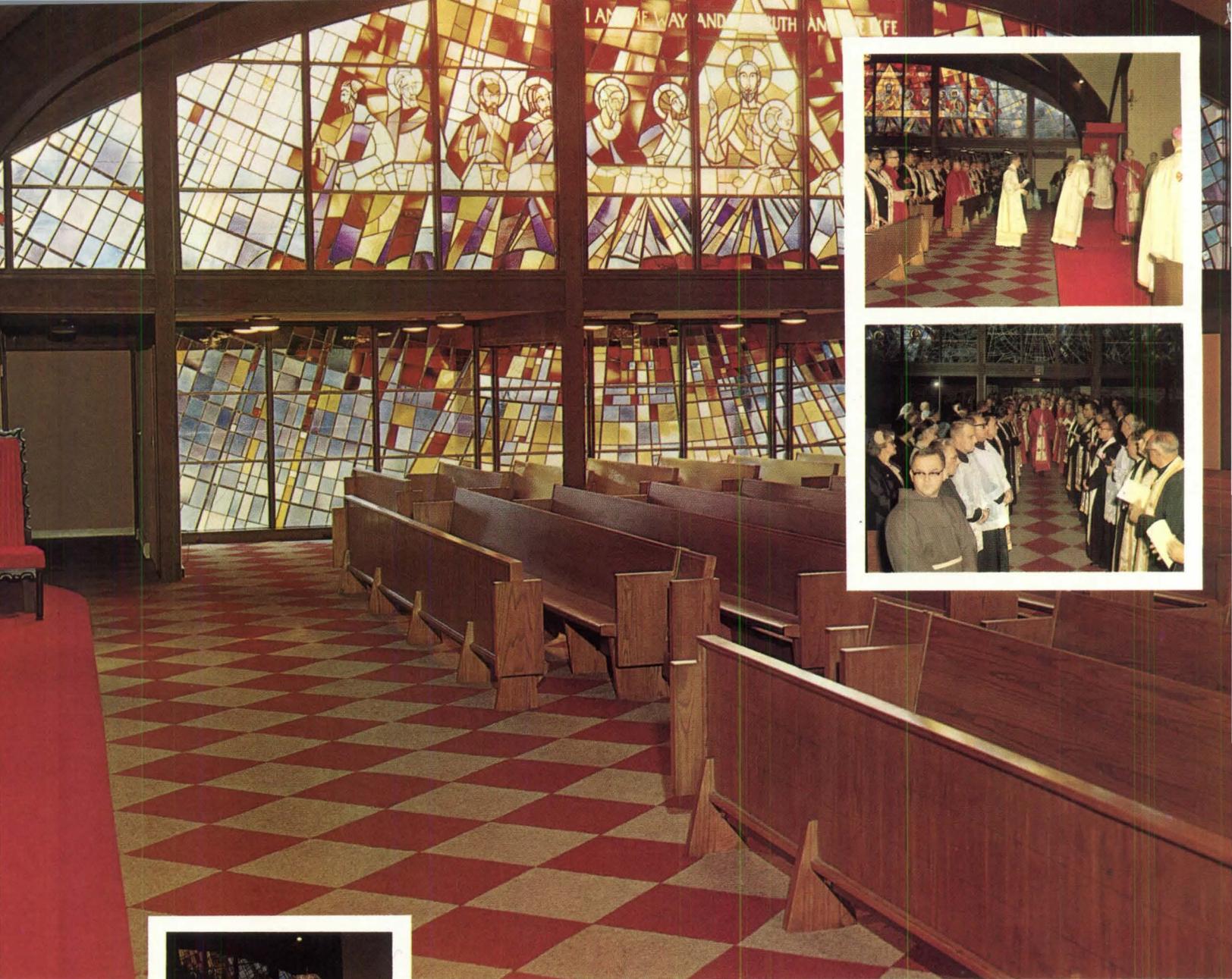
with two large skylights penetrating a fifth, full floor.

The court serves as a circulation hub—with pedestrian ramps to the four levels of laboratories, classrooms, and faculty offices surrounding it—as well as a meeting-dining-exhibition space.

A circular wing at one end of the rectangle (see plan) is an arena theater, which can be converted into four lecture halls as the need arises.

IMPLoding COLLEGE





Over the centuries churches have been built with the community's most precious commodities, the labor and sacrifices of the parishioners. The beauty and utility that is seen in church architecture reflects this deep commitment.

St. Thomas the Apostle remains true to this historical concept. J. Edward Luders, designer of the Rahway church and one of the participating architects for the New York World's Fair Vatican Pavillion noted that St. Thomas is in harmony with Byzantine architectural tradition while serving the utilitarian needs of the parish as they are interpreted by Father Mihalik, pastor of the church.

The interior of the church, with its three massive stained glass windows pictorially telling the story of St. Thomas the Apostle, is a structural understatement that dramatizes the sanctuary area with its free standing altar uniting the celebrants and the congregation.

The dedication ceremonies on October 6th were a celebration of the faith that had sustained the humble since the parish was founded in 1912. Leading them in the liturgy of the colorful Byzantine Rite was the Most Reverend Stephen J. Kocisko, assisted by priests from many neighboring Catholic parishes. For Father Mihalik this was a triumph of prayer and courage through which the parishioners took a collapsing parish and nurtured it back to health. In the modern community the church stands as a tribute to the faith that had bound together the oppressed and alien of all lands.



When Harrison Willar, Jr., the interior decorator representing "1770 Design Techniques Company" first discovered Heugatile, other carpeting had already been installed in St. Thomas'. In a short time it had begun to show signs of wear. Mr. Willar, aware that the formal church dedication date had been set for October 6th, boldly recommended a test installation of Heugatile, starting with the small entrance area shown top right. This area was covered with Heugafelt, one of three Heugatile products. The warmth, durability and the obvious increase in acoustical values soon resulted in the decision to install Heugatile throughout the church. In addition to the existing Heugafelt, all the main corridors and the entire church floor were to be covered with Heugaflor. Because of its brilliant red, luxurious Heugalaine, a rare virgin wool product, was selected for the altar.

Since all the Heugatile products, Heugafelt, Heugaflor and Heugalaine are installed without adhesives, the entire installation was made in several days by only two men easily meeting the deadline for the church dedication date.

Although this is the first major church installation in America, Heugatiles have, for many years, given beauty and service to churches on the Continent.



Top — Down every aisle, under every pew goes Heugatile . . . the silencer. Heugatile builds a sound barrier to reduce extraneous noises that often shatter the contemplation so important to churches, schools and libraries.

Middle — Red and beige Heugatile carpet squares are easily cut and set tight against the floor beam and around a heating vent. This dramatically shows how Heugatile can speed up the installation process because Heugatile eliminates tacking, sewing, underpadding and adhesives. No waxing, scrubbing or polishing and Heugatile can be vacuumed and shampooed in place, will not shift or curl. Heugatile reduces the bulky installers kit to . . . a knife!

Bottom — Radiant red Heugalaine carpet squares are quickly and snugly installed on the altar as seen, left. Again loose-laid without adhesives, a seamless wall-to-wall effect is achieved on the altar crowning the St. Thomas installation as seen completed top left. Notice how soft Heugalaine is easily molded to the round edges of the altar stage.

Like all Heugatile, Heugalaine carpet squares can be interchanged before traffic paths have a chance to develop.



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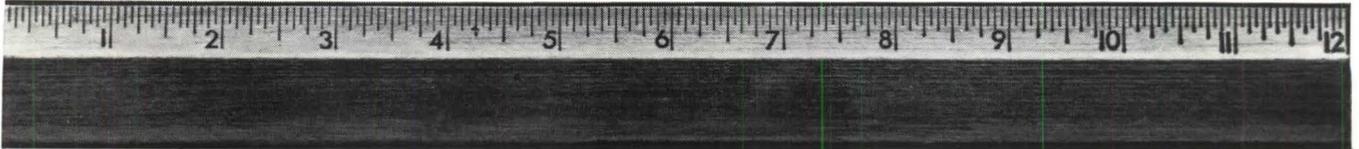


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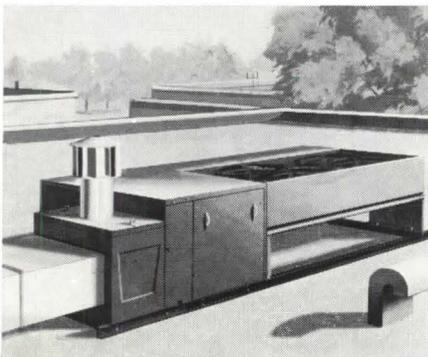


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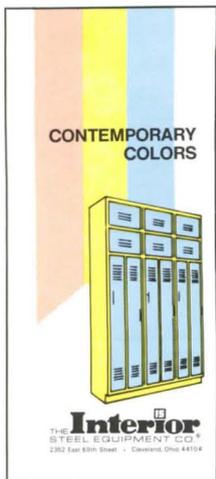
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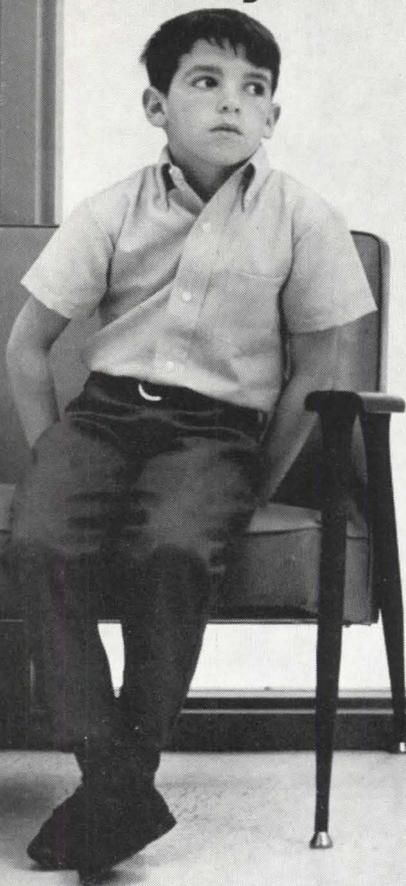


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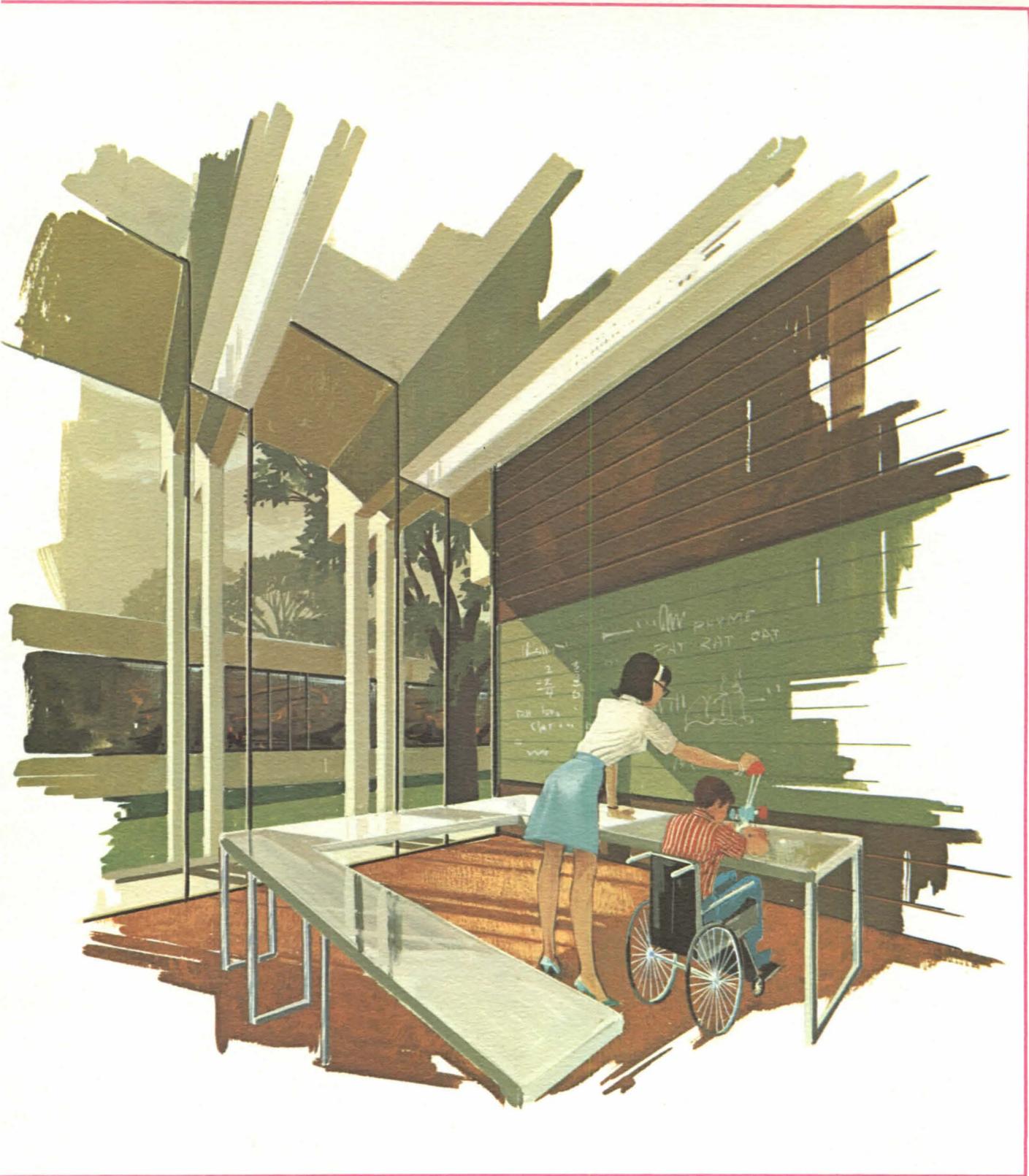
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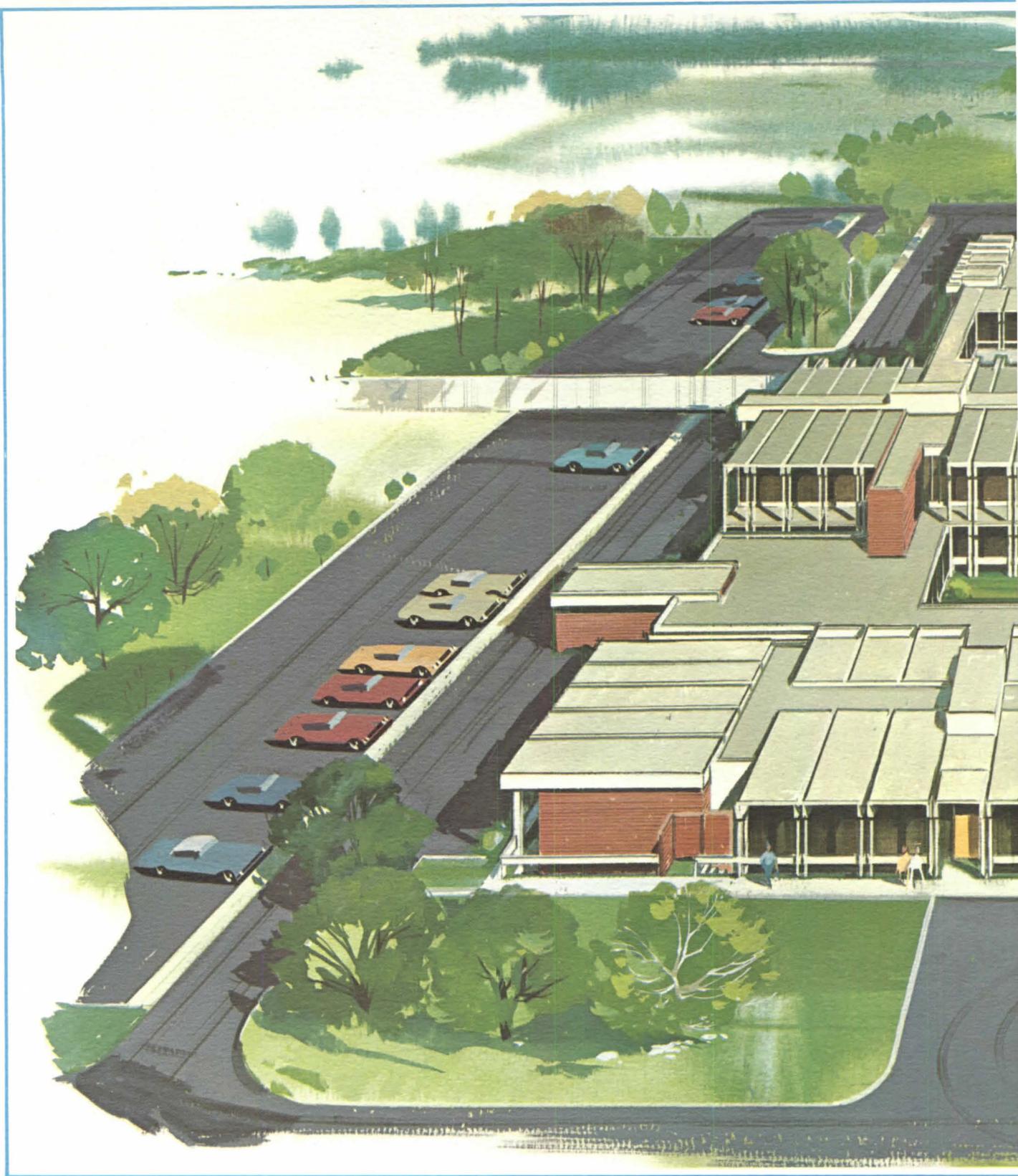
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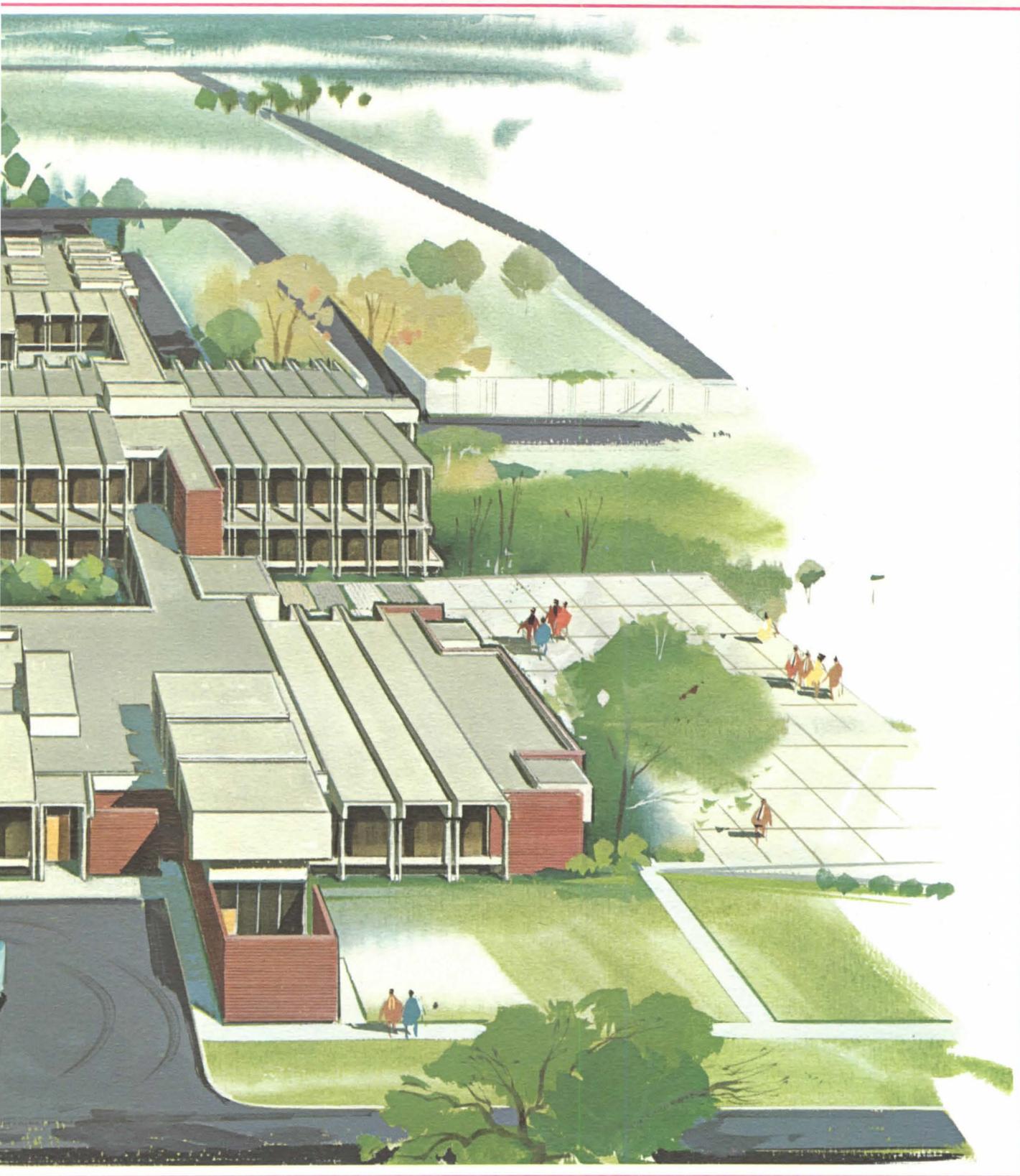


with no ramps to negotiate...with all entrances on grade level...

carry off rain water. And large, unobstructed glass areas so that the children won't feel entrapped in an institution. So that nature can lend them a helping hand.

Daylight can penetrate everywhere the children go. Landscaped atriums pierce the building. A light, bright, cheerful atmosphere will prevail throughout.

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hardship, living quarters would be provided for them.

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overhangs shield glass areas from direct sun rays.

In the natatorium, where privacy is desired, exterior glazing can be L-O-F Patterned Glass. Daylight coming through it and reflecting off the water will cast interesting lights and shadows onto walls and ceilings.

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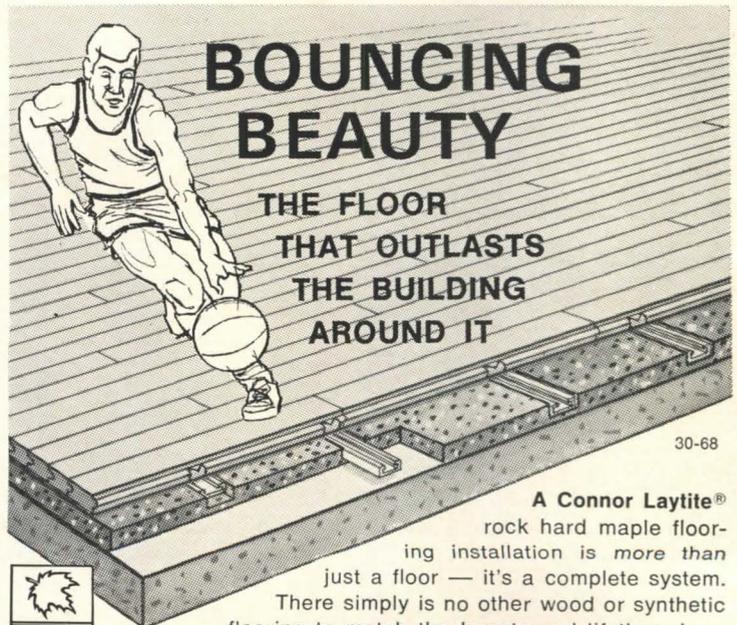
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A. DOORS AND WINDOWS

1. Catalogue including technical information on LOF glass. New Products — Vari-Tran (TM) and Vigilpane (TM) included SA 68. Libbey-Owens-Ford Co. Request A-1.
2. Catalogue 170/OV covers typical installations, specs, test performance data, ASTM acoustical testing and rating procedure. Door, frame and acoustical seal details. Overly Mfg. Co. Request A-2.
3. 4-pg. 2-color folder on "Weather Chamber Windows" weather proofing system combining Neoprene weather stripping with pressure equalization. Republic Steel Corp. Mfg. Div. Request A-3.
4. Plexiglas solar control series. 20-pg. brochure shows applications, data for computing solar heat gain; glazing, sunscreens, domes. Rohm & Haas Co. Request A-4.

C. FLOORING

1. 4-pg. folder illustrates samples Camdura seamless floor/contains architectural spec. Technical literature is also available. The Cambridge Tile Mfg. Co. Request C-1.
2. 8-pg. brochure of maple floor systems for gymnasiums, locked-in-place and nailed systems, detail drawings and suggested specs. Connor Forest Industries, Flooring Div. Request C-2.

D. FLOOR COVERING

1. HEUGATILE loose-laid carpet squares. Heuga Review full color brochure, complete specifications. VAN HEUGTEN USA, 185 Sumner Ave. Kenilworth, N.J. 07033 Request D-1.
2. World Carpets Architect/Designer Series. Flintpoint and Rough 'n Ready, 100% Acrilan acrylic pile,

commercial grade carpet. Sample swatch and descriptive info. Request D-2.

E. FURNISHINGS

1. Arena, stadium, field house seating, detailed specifications listed. Seating plan aid available upon request. American Seating Company, 901 Broadway, Grand Rapids, Michigan 49052. Request E-1.
2. Full line catalogue—steel lockers, types, styles, sizes, specifications. The Interior Steel Equipment Co., 2352 East 69th St., Cleveland, Ohio 44104. Request E-2.
3. New Stow/Davis Bubble Chair catalogue available on written request. Contains all information on expanded line of chairs for office and institutional use. Stow/Davis. Request E-3.

F. HARDWARE

1. Lever Handles by Corbin/Designs available for mortise locks, Corbin unit locks; Maywood Design combining wood with metal. P.&F. Corbin, Div. Emhart Corp. Request F-1.
2. "Door Closers & Controls", 16-pg. brochure, illustrated, door control products. Norton Door Closer Div., Eaton Yale & Towne, Inc. Request F-2.
3. Lever handle locksets. 8-pg. catalogue describes lock functions and illustrates 8 lever handles in 24 design combinations including roseless trim. Sargent & Co. Request F-3.

J. INSULATION/THERMAL

1. ZERO-LITE 8-pg. brochure illustrates various installations, contains product and engineering data, comparative "U" values. Johns-Manville. Request J-1.

K. LIGHTING FIXTURES/EQUIPMENT

1. DMR dust and moisture resistant lighting units. 4-page color catalogue. The Miller Co. Request K-1.
2. ORB LIGHT CATALOG Beautiful aluminum spheres for mercury, quartz, incandescent lighting. Stonco Electric, Kenilworth, N.J. Request K-2.

L. LIGHTING SYSTEMS

1. TROFF-AIRE II. Air handling/heat removal, recessed lighting system. Complete data. Smithcraft Corp. Request L-1.

M. MASONRY AND BUILDING STONE

1. Exterior marble 4-pg. 2-color folder illustrates, describes major methods of installing natural marble, new construction and remodeling, lists varieties of Vermont Marble available. Vermont Marble Co. Request M-1.

P. OPERABLE WALLS

1. 4-page brochure on space dividers entitled "What Can You Do With Hauserman's New Schoolmates." E.F. Hauserman Co. Request P-1.
2. Full color 16-pg. catalog on Demountable Partitions. All heights. Technical information. National Gypsum Co. Request P-2.

R. PAINTS/COATINGS/SEALANTS

1. Stain samples; on wood: AIA information manual and 16-pg. Stained Wood Idea Book. Olympic Stain Co. Request R-1.
2. Thiokol's licensing program provides assurance of Quality for specifiers and buyers of LP polysulfide base sealants. Thiokol Chemical Corporation. Request R-2.

S. PLUMBING EQUIPMENT

1. 32-pg. color catalog No. 168: drinking fountains, water coolers, includes specs and drawings. Haws Drinking Faucet Co. Request S-1.
2. New 1969 32-pg. color catalog illustrates electric water coolers, drinking fountains and fountain accessories. Incorporates drawings, specifications and rough-in dimensions for Halsey Taylor units. The Halsey W. Taylor Co. Request S-2.

T. ROOFING/SIDING/FLASHING

1. 4-pg. full-color folder shows uses, specs and application recommendations for shingles handsplit and grooved side-wall shakes. Red Cedar Shingle & Handsplit Shake Bureau. Request T-1.

U. STRUCTURAL

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2. 12-pg. booklet has full details, specs on 6 to 12 in. Jr. beams, 10 and 12 in. Jr. channels, 10, 12, 14 in. light beams. Jones & Laughlin Steel Corp. Request U-2.

V. WALLS/CEILINGS/PARTITIONS/MATERIALS

1. 1968 laminated plastic solid color series. Easily filed product sampler features '68 solid shades. Formica Corp. Request V-1.

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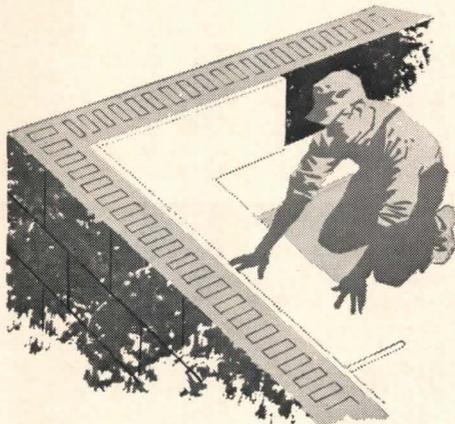
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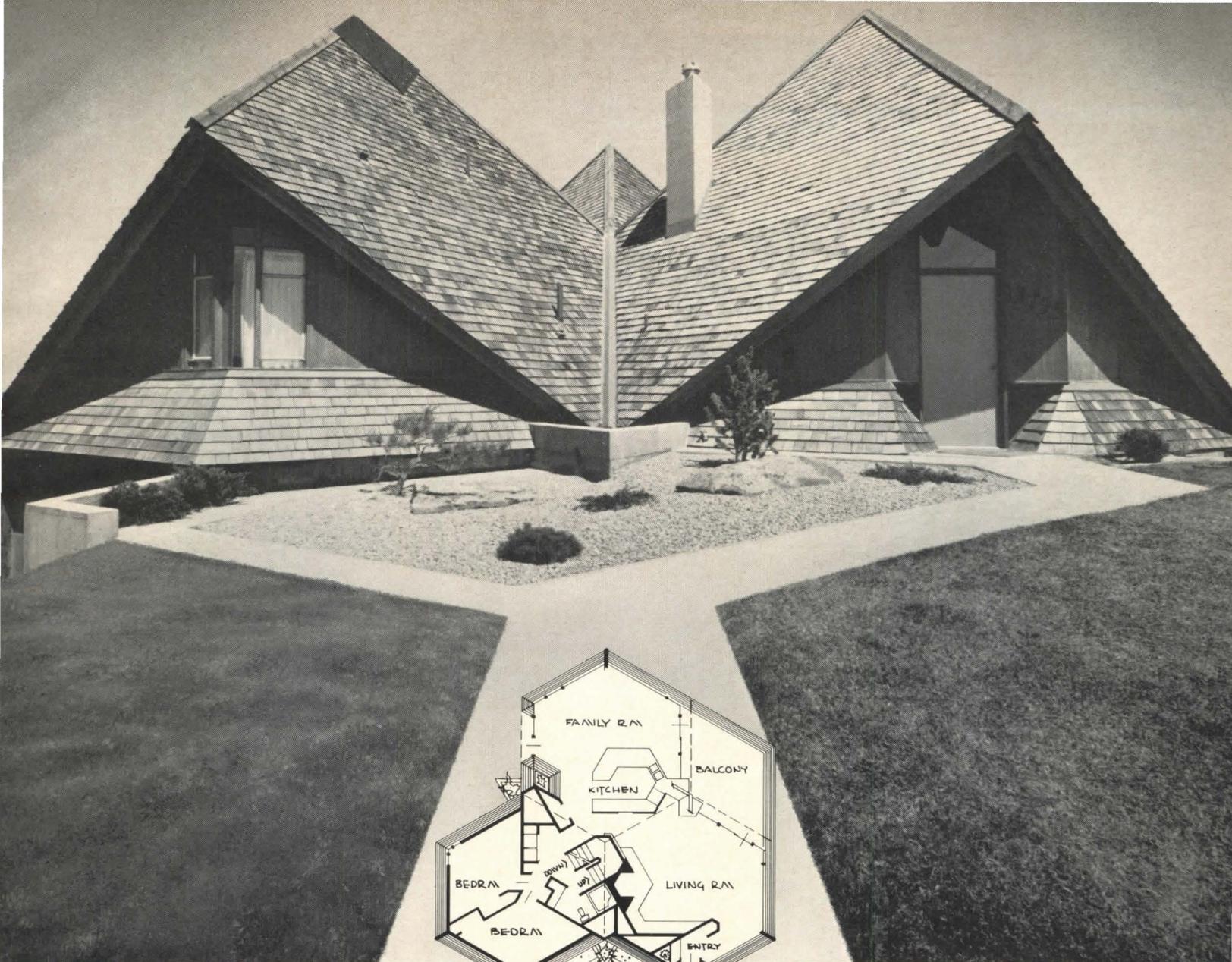
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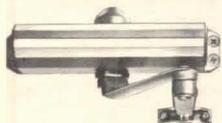
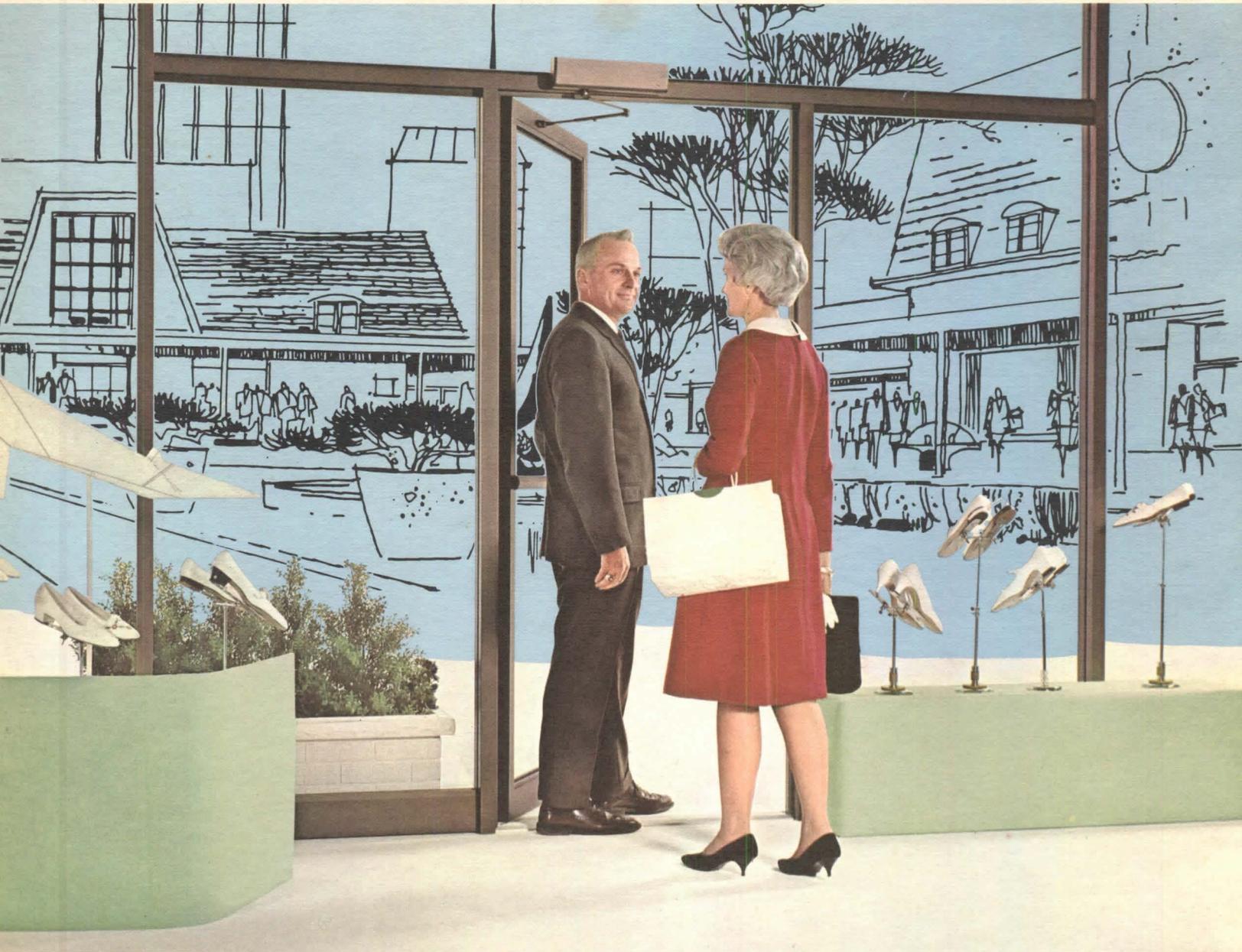


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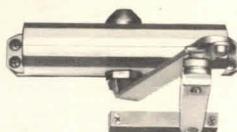
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