ARCHITECTURAL FORUM / NOVEMBER 1970

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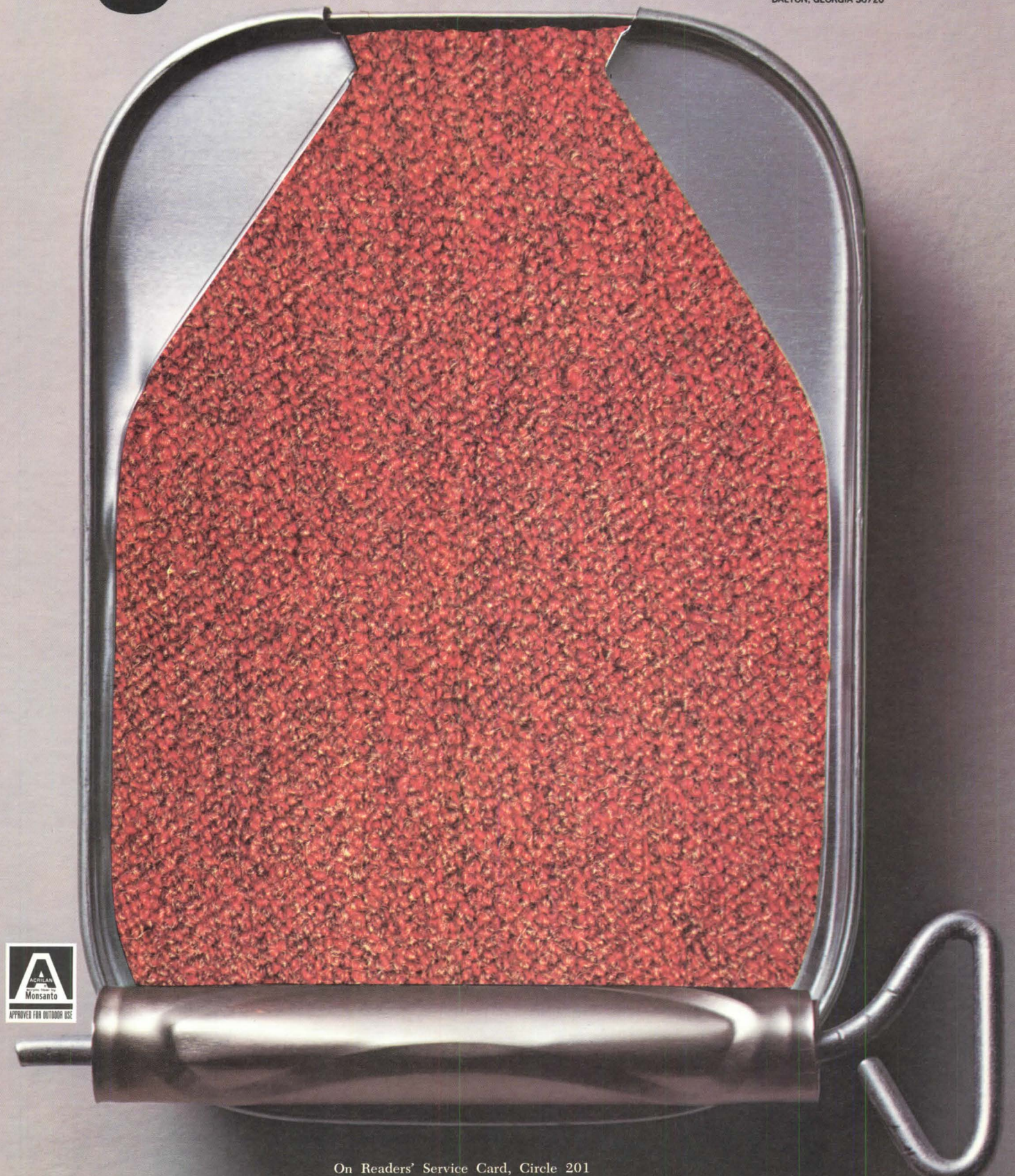

On Readers' Service Card, Circle 201

THE ARCHITECTURAL FORUM

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Cover: From a photograph by Orlando Cabanban of SOM's Science & Engineering South (p. 24).

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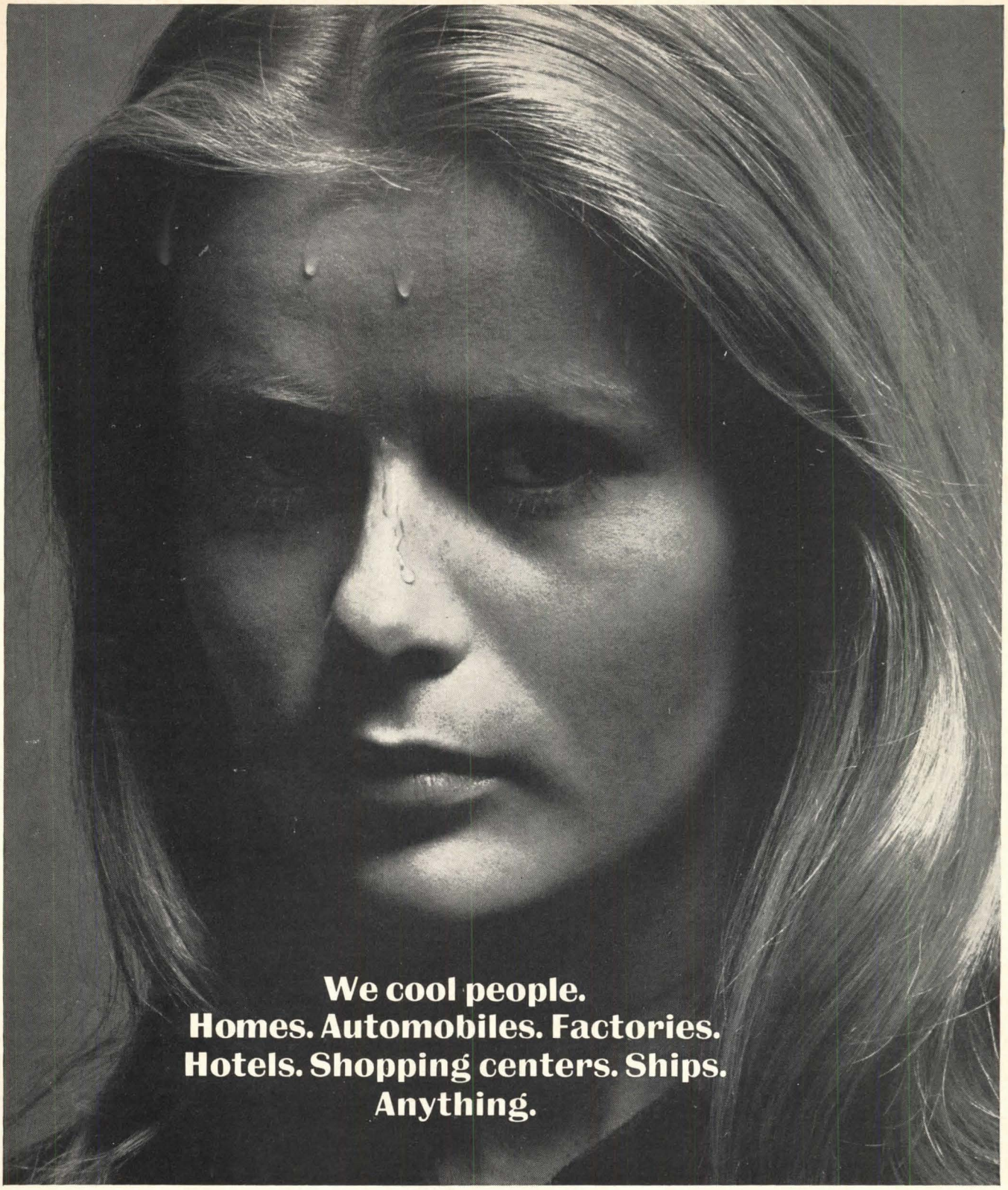

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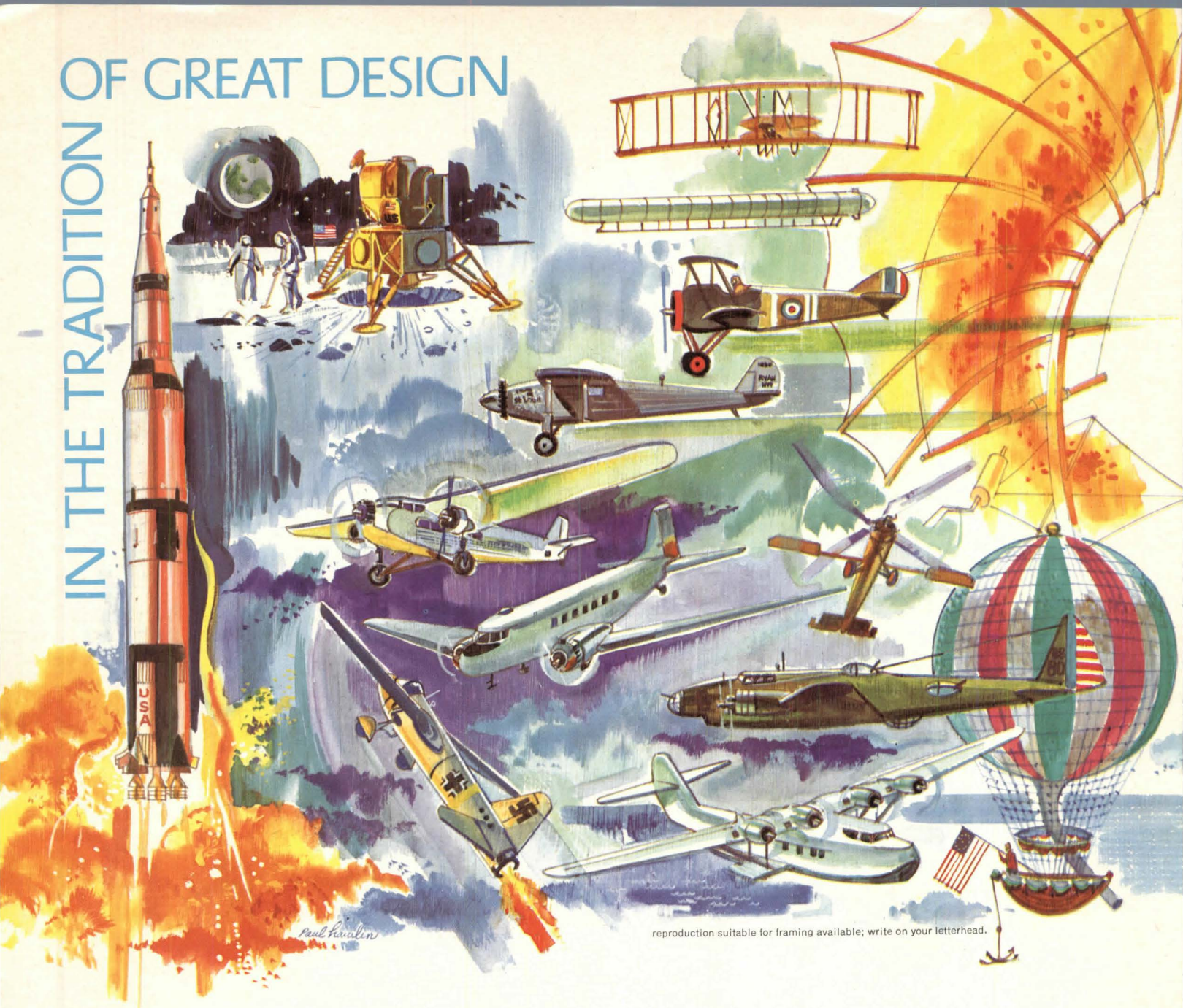

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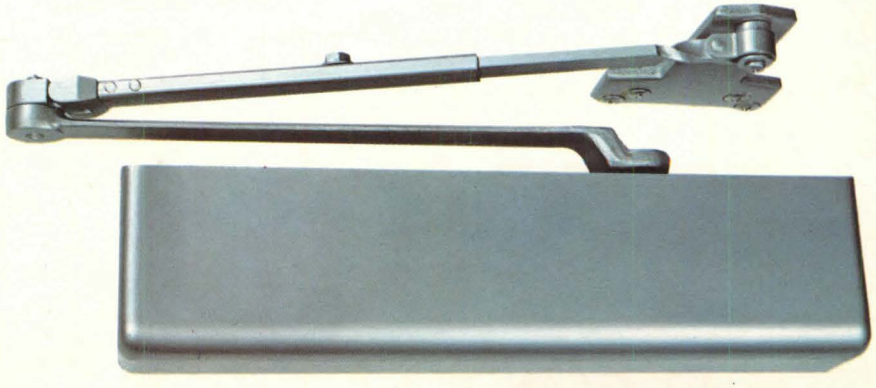


EATON YALE & **NORTON** DOOR CLOSER DIVISION

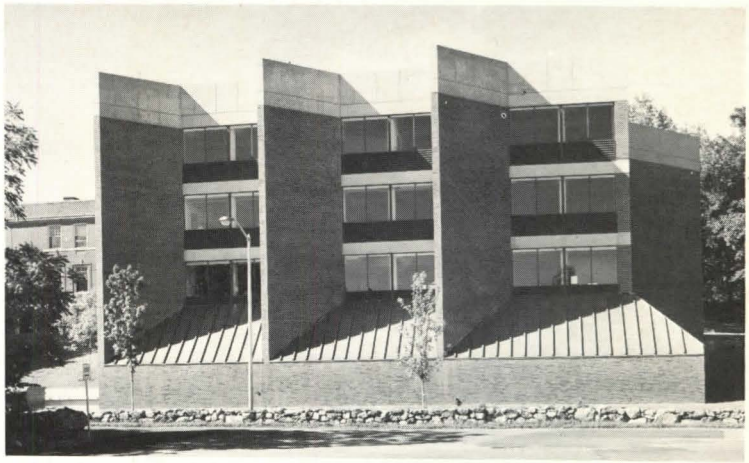
FOCUS

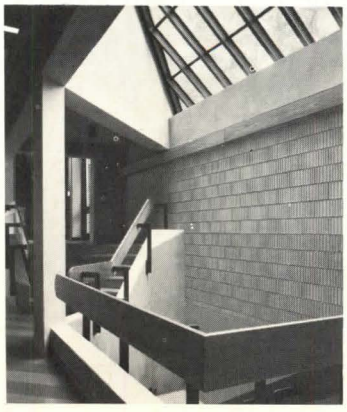
UNIVERSITY MUSEUM

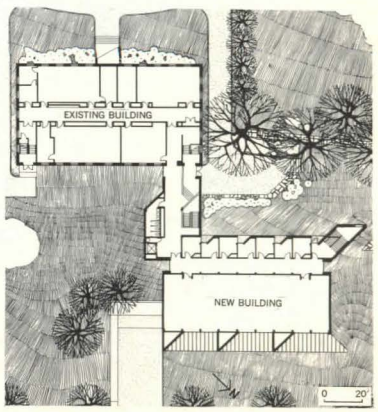
The largest university museum in the U.S. has opened in Berkeley, Calif., the result of a national competition won by Mario J. Ciampi, with Richard L. Jorasch and Ronald E. Wagner as design associates. The jury found it a building that is "itself an eloquent statement of architectural art." On a site with a sharp diagonal slope, the concrete building has its entry at the high northeast corner, then a fan-like arrangement of galleries radiating through 90 degrees and opening visually to a great central space. Two layers of galleries are arranged in easy cascaded levels, connected by ramps. Total exhibition space is 31,050 sq. ft., with expansion possible to the east. Cost was $4,850,000, most of it from student registration fees, none from state funds.

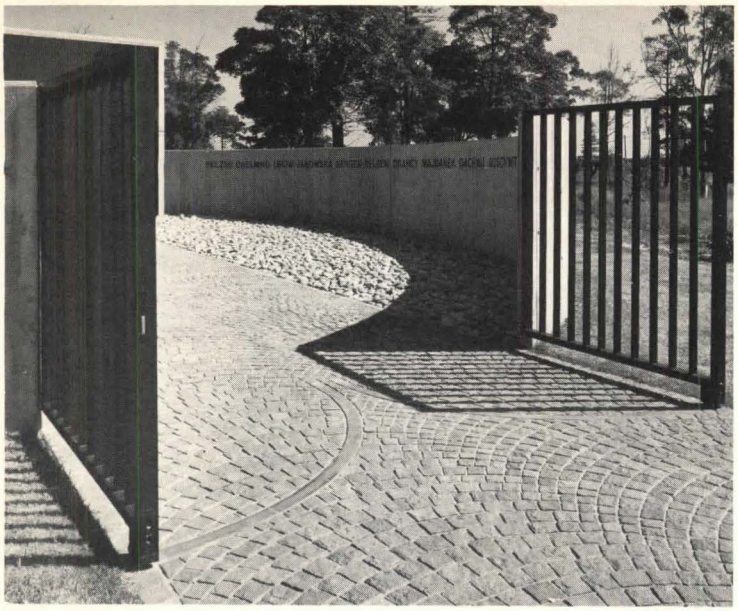
TASTEFUL ADDITION

The small campus of Regis College in Weston, Mass., is the location of a tasteful addition by Sasaki, Dawson & DeMay to an existing science building. The new laboratory/classroom building is joined to the old one, yet separated from it, by a pleasant circulation link (below right). The building steps down a considerable slope, thus is lower in silhouette on the uphill side where it ties in to the Georgian Revival building. On the downhill side, it faces an extensive parking lot and fields. The building's facade on this side (photo right) is punctuated by three large angular shafts which house mechanical risers and the vents for laboratory fume hoods; these shafts also function (successfully, it would appear) as sun baffles. The new building can be enlarged by repeating the basic form for three additional bays. Materials used in the new building—brick, concrete and copper—were intended to blend with the existing science building. The unobtrusive brick of the new exterior is identical in appearance to the existing brick.



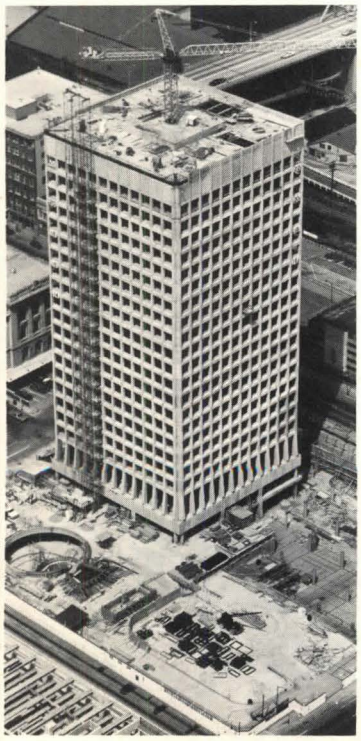






IN REMEMBRANCE

This memorial to the six million Jews killed by the Nazis is in Rockwood Cemetery in Sydney, Australia. Its shape evokes the confinement of a concentration camp. Its surrounding walls form the egg shape symbolic of immortality. On the granite wall: "May the world never again witness such inhumanity of man against man." The path is of cobble stones, like many streets in Central Europe; other surfacing is of jagged gravel in an attempt to remind visitors of the horror of the camps. Architects: Harry Seidler & Associates.

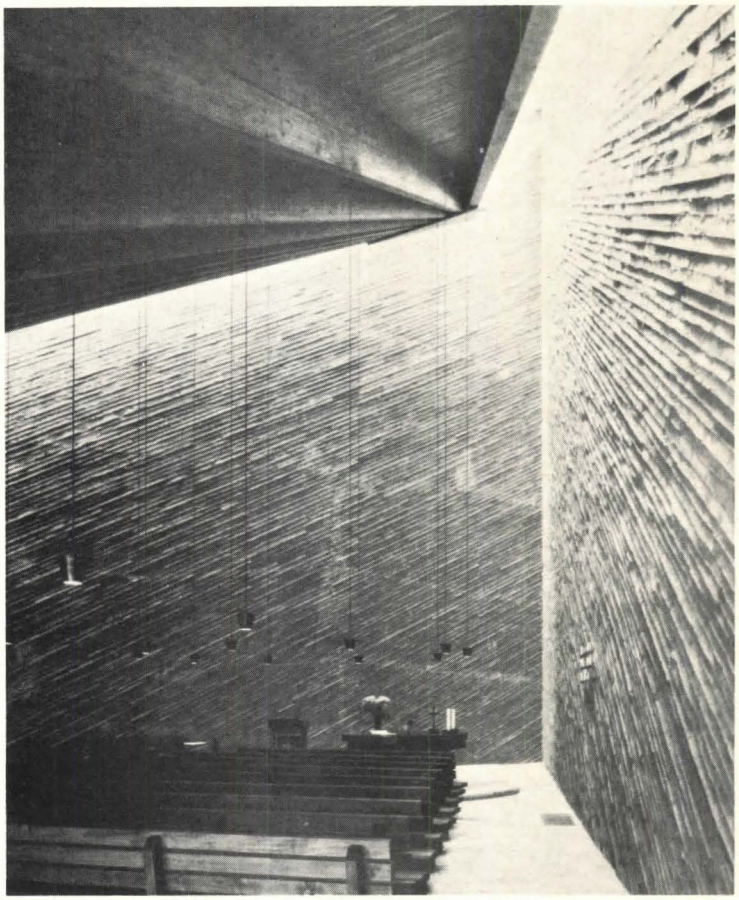


TACOMA'S HIGHEST

The first high-rise office building to be built in Tacoma in 40 years is the Bank of Washington Plaza. The city's tallest building, it will house the Bank of Washington on its lower 12 floors, and tenants above. It has a generous 80-ft. setback, giving a plaza that will be landscaped with trees and highlighted by a spiral staircase descending to a daylight courtyard below. An unusual "hull and core" structural system makes the reinforced-concrete building actually two structures in one: the outer hull supports the floors and some of the vertical loads, and the inner core houses elevators and all mechanical facilities. The result is a column-free interior utilizing more than 85 per cent of the 15,210 total sq. ft. on each floor. Architects of the building are Skidmore, Owings & Merrill of Portland, and Lea, Pearson & Richards of Tacoma.

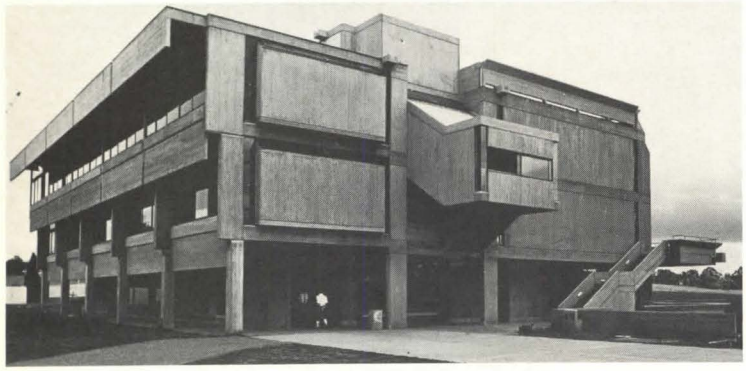
HEAVEN BOUND

Designed as an upward sweep of wood and concrete, this church is visible from the autobahn outside Cologne, Germany. The plan is an equilateral triangle, with the lower portion of the roof sheltering an entrance and the peak directly over the altar. Natural sunlight filters along the sides of the church through a skylight opening that separates the walls from the roof. The walls are exposed reinforced concrete inside and out, with a linear texture produced by pouring into forms lined with uneven-edged and rough-sawn boards. The roof structure has wood rafters and decking and the floors are covered with slate which continues across a semi-circular court surrounded by the living quarters for the minister and sexton. The architects were G. Rasch and Winfried Wolsky.



RENDERED UNTO CAESAR

A 14-story addition to the Las Vegas hotel-casino, Caesar's Palace, includes 222 rooms, six duplex suites, two restaurants and bars, expanded casino and parking facilities and a cocktail lounge the hotel describes as "exotic." Exotic modestly describes a lounge copy of Cleopatra's Barge —floating in 5 ft. of water and seating 108 persons—a hotel "first" that may rival the hotel's Roman fountains, 100,000-crystal chandelier and marble replica of the Rape of the Sabines as an attraction. The architect is Miami's Melvin Grossman.

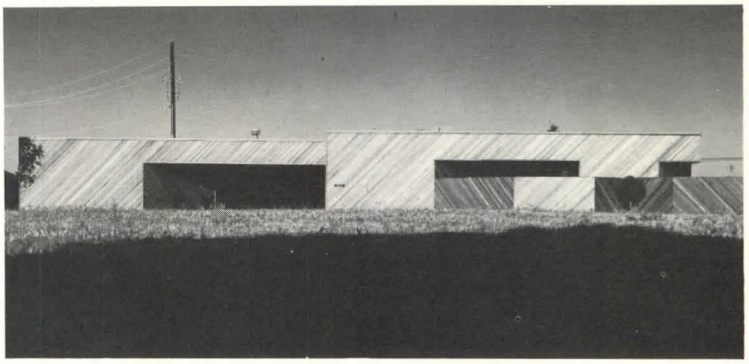


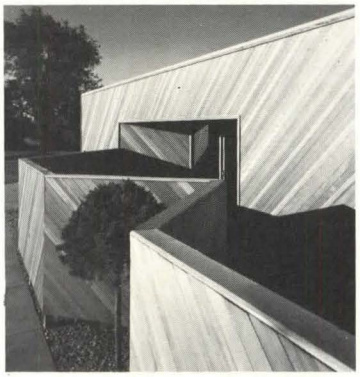
UNIVERSITY DOWN UNDER

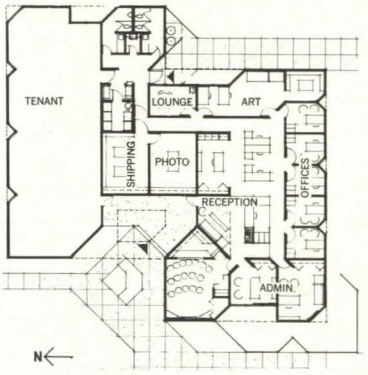
The first in a series of courtyard projects, the new Union for Macquarie University in Sydney, Australia, is planned for linear expansion. The four-story building is form-textured concrete on a 22-ft. 6-in. frame grid, and has a vertical access spine. Facing a courtyard on one side of the spine, lounges and galleries form a straight line. On the far side of the spine, facing more informal open park land, the rooms have irregular dimensions and purposes, making the building's exterior also irregular in shape. Ancher Mortlock Murray & Woolley, architects.

SMALL OFFICE BUILDING

This small redwood-clad building in Wichita, Kansas, has 6,000 sq. ft. of office space for its owner, Forbes Inc., and 2,000 sq. ft. for a tenant. As described by the architects, Schaefer, Schirmer & Eflin, the owner wanted an image of integrity and professional purpose that would reflect contemporary thought but would avoid any connotation of commercialism. The architects wanted a building of monolithic appearance, with its strength and solidity coming from the uncomplicated forms and simple materials. Voids were cut into the basic form to produce interest without detracting from the unity of the design. The two office suites have a common front entrance court, restroom and rear entrance. Top photo: the rear facade; bottom photo: the view looking toward the main entrance.



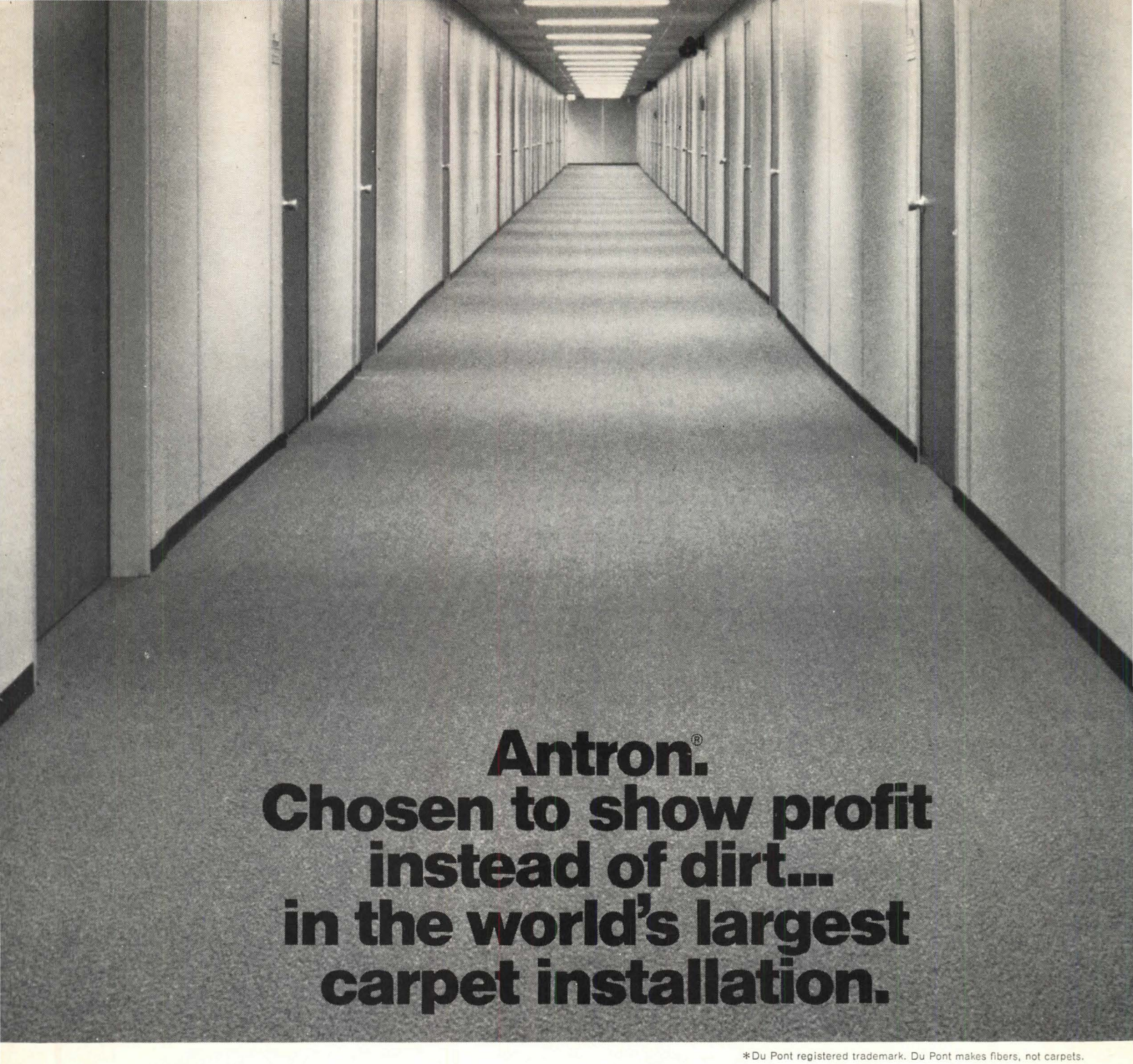




EAST-WEST LINK

A new Holiday Inn opening this month in San Francisco is designed as a concrete and steel tower, 27 stories high, that links the city's financial district and Chinatown via a pedestrian bridge spanning a playground. Containing 572 rooms, the hotel was designed by Clement Chen & Associates in conjunction with John Carl Warnecke & Associates. They chose the simple A-shape after an earlier pseudo-pagoda design was rejected. The second, third and fourth floors are suspended from a structural arch that eliminates first-floor columns. Facilities include a Chinese cultural center, convention and banquet halls, two dining rooms and two cocktail lounges.

PHOTOGRAPHS: Page 5 (top) Dennis Galloway, (bottom) Hutchins Photography Inc.; page 6 (top left) Max Dupain; page 7 (bottom left) Harry Sowden and C. A. T. (Centre for Advancement of Teaching Photography); (top right) Joal Strasser.



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Tenant: The Department of Transportation
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Carpet: Pile of 100% Antron® nylon
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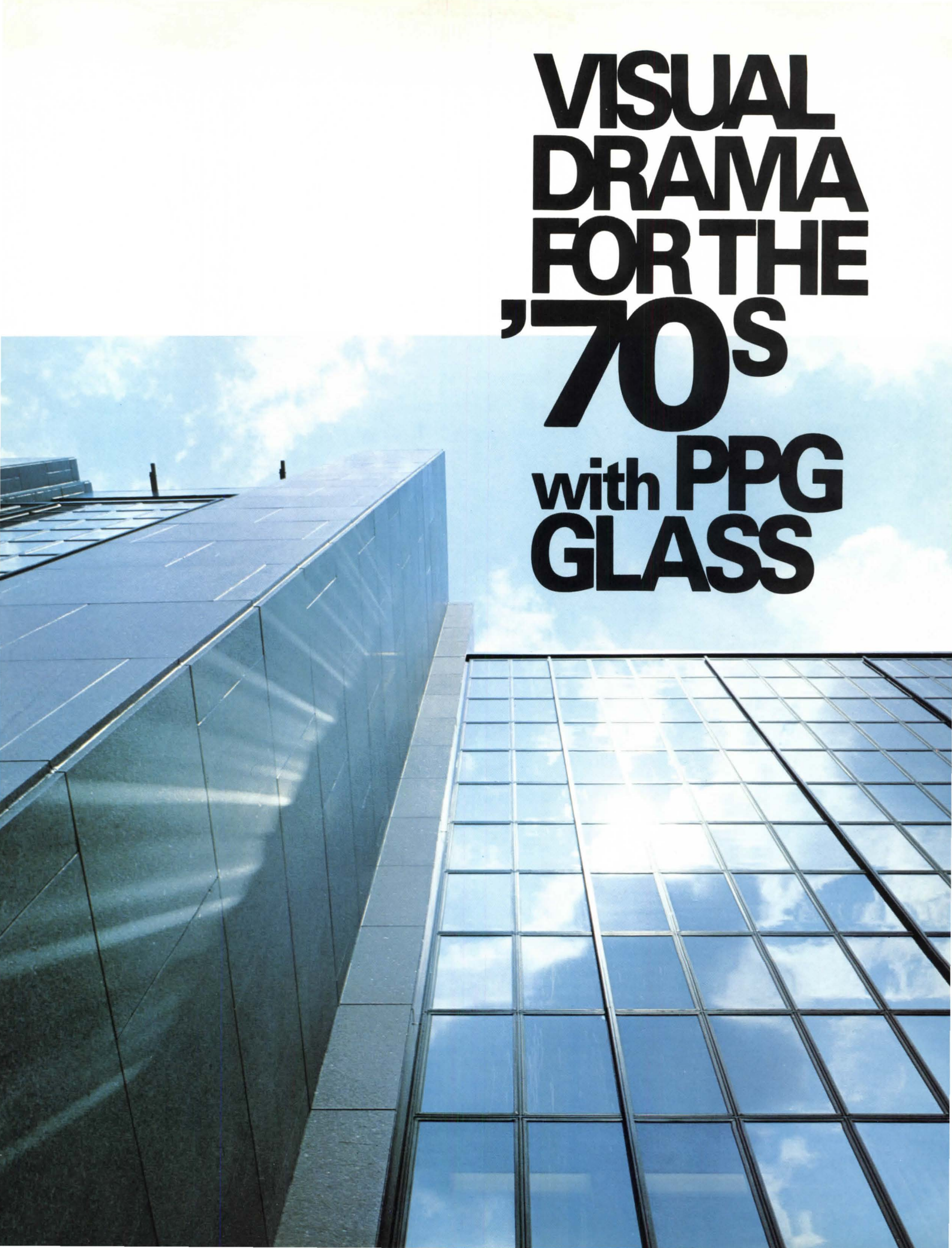
VISUAL
DRAMA
FOR THE
'70S
with PPG
GLASS

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For the '70s, American architects have formed a new attitude. It centers on environmental design.

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PPG Performance Glass, in many cases, is part of the environmental solutions in many of our cities' buildings. The solutions we have seen, using Performance Glass, all show a greater awareness of planning and building with people—and their comfort and values—in mind. Performance Glass is being used not only as a beauty treatment, but as a medium for comfort conditioning; for creating illusions of space where communication is paramount; and for visual comfort and privacy when that is a consideration. And, of course, what makes these glass solutions totally viable to the developers and owners is PPG's sound story of economics and return on investment.

On the following pages, we present some fine examples. For information, write PPG INDUSTRIES, Inc., One Gateway Center, Pittsburgh, Pa. 15222.

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INDUSTRIES

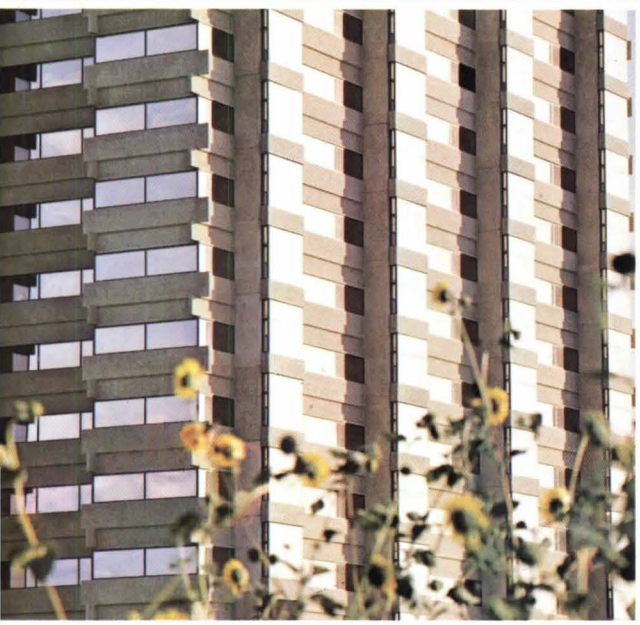
VISUAL DRAMA FOR THE '70S

University of Louisville Medical-Dental Complex, Louisville, Ky.

Architect: Smith, Hinchman & Grylls Associates, Inc., Detroit, Mich.

Associate Architects and Engineers: Arrasmith/Judd/Rapp & Associates, Louisville, Ky.; Louis & Henry, Louisville, Ky.; E. R. Ronald & Associates, Louisville, Ky.

PPG Glass: *Solarban*® 575 (2) *Twindow*® Units

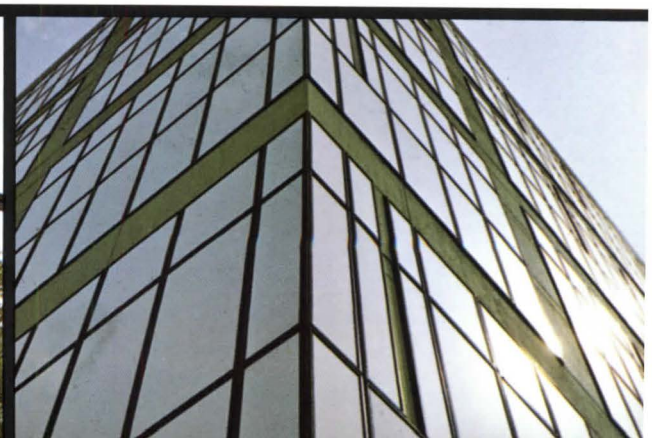


One Brookhollow Plaza, Dallas, Texas
Architect: Paul Rudolph, New York, N.Y.
and Harwood K. Smith and Partners,
Dallas, Texas, Associated Architects
PPG Glass: *Solarban*® 575 (2) *Twindow*® Units

VISUAL DRAMA FOR THE '70s

Cities Service Building, Atlanta, Ga.
Architect: Toombs, Amisano & Wells, Atlanta, Ga.
PPG Glass: *Solarban*® 575 (2) *Twindow*® Units

PPG INDUSTRIES



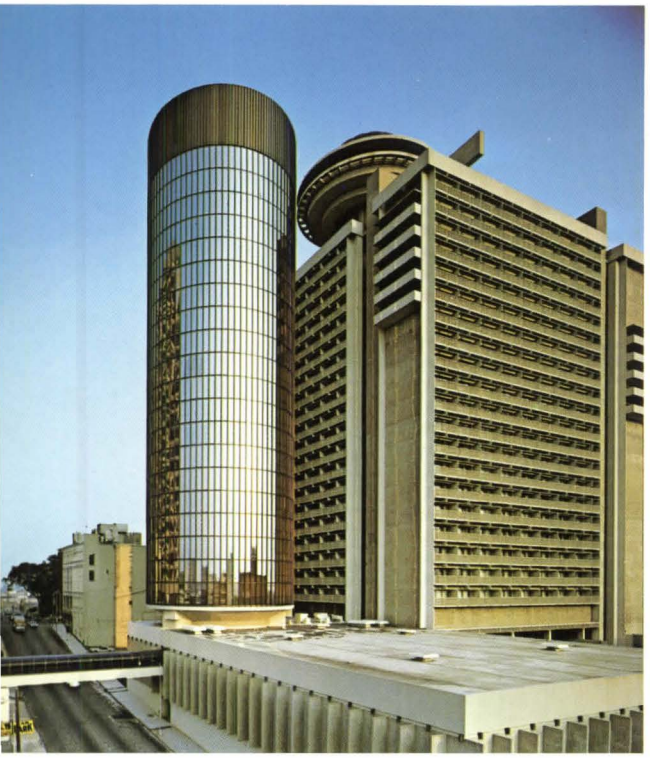
VISUAL DRAMA FOR THE '70s

Mississippi Power Company, Gulfport, Miss.
Architect: Curtis & Davis, New Orleans-New York
Associate Architect and Structural Engineer: Milton B. E. Hill, Gulfport, Miss.
PPG Glass: *Solarban*® 575 (3) *Twindow*® Units

PPG INDUSTRIES

Goodrich World Headquarters Building,
Akron, Ohio
Architect: Dalton • Dalton • Little,
Cleveland, Ohio
PPG Glass: *LHR*® *Solarbronze*® Glass

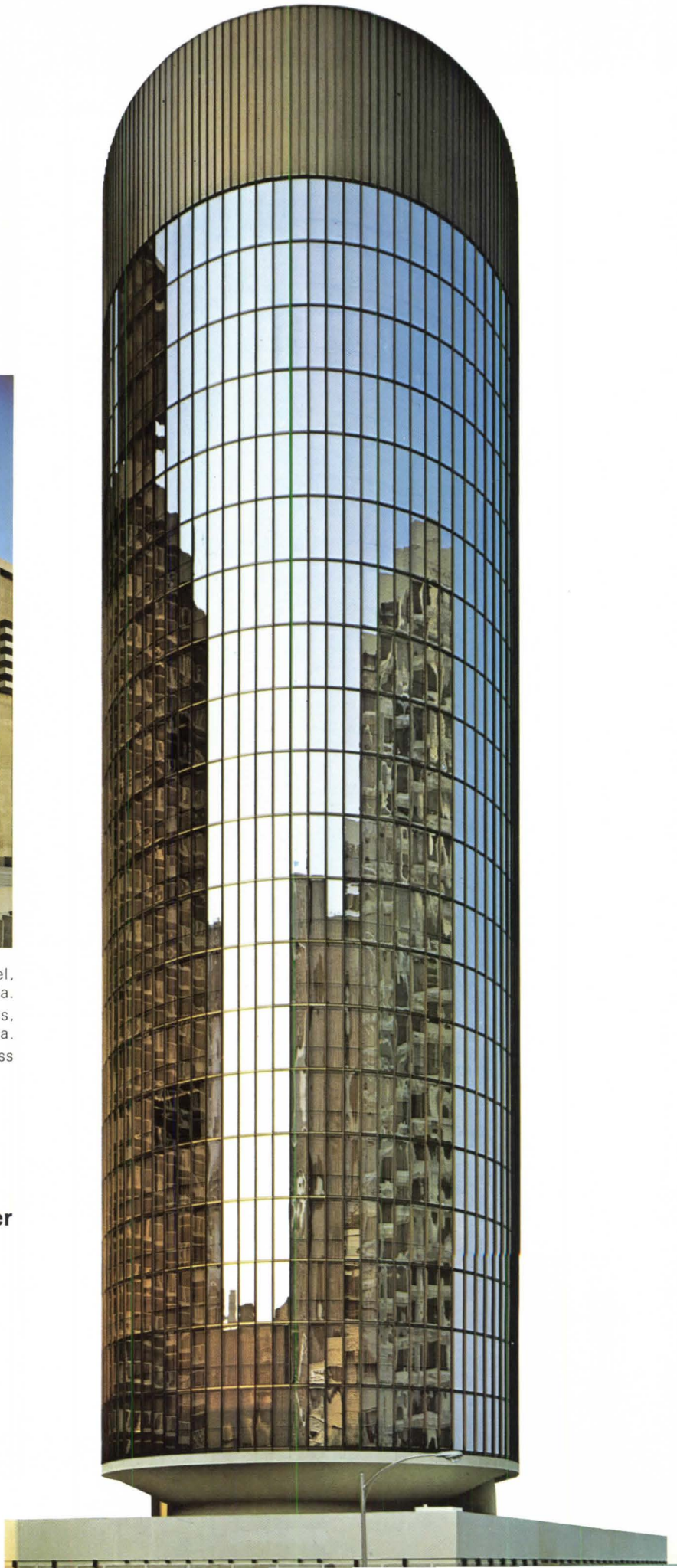
VISUAL DRAMA FOR THE '70s



Addition to Regency-Hyatt House Hotel, Atlanta, Ga.
Architect: John Portman and Associates, Atlanta, Ga.
PPG Glass: *LHR*® *Solarbronze*® Glass

PPG is Chemicals, Minerals, Fiber Glass, Paints and Glass. So far.

PPG INDUSTRIES



Electric Heating/Cooling System Selected for Virginia Holiday Inn

Vertical black anodized aluminum sections accent white brick exterior of the Holiday Inn at Rosslyn, Virginia.

PROJECT: Holiday Inn, Rosslyn, Virginia. ARCHITECT: Harvey L. Gordon, Alexandria, Virginia. CONSULTING ENGINEERS: Dollar-Blitz & Associates, Washington, D.C.

DESIGN CHARGE: To design a motor inn that would conform to a limited tract, yet would provide 185 guestrooms, public dining and recreational facilities, and parking for 260 automobiles.

DESIGN RESPONSE: Architect Harvey L. Gordon's solution to the narrow, sloping site is an 11-story structure of white brick accented by vertical sections of black aluminum. The first three levels of the motel are given over to a spacious lobby, kitchen, banquet room, and large multi-purpose room used for social and recreational activities. A glass-enclosed restaurant extends 200 feet across the front entrance at the third floor level. Administrative offices take up part of the fourth floor and the motel's 185 guestrooms are located on the fourth through twelfth floors.

Surface parking for 30 vehicles is provided at the front entrance. A parking deck at the rear accommodates 50 cars and inside parking for 180 cars is provided on the first two levels at the rear of the building. An outdoor swimming pool and bathhouse are at the left of the main entrance.

All of the guestrooms are conditioned by individual through-the-wall electric heating/cooling units. Six packaged water-cooled air conditioning units, ranging from 5 to 15 tons and equipped with strip heaters, serve the restaurant and other public areas of the motel through zoned ducted systems. A single cooling tower handles all condenser water. Baseboard heating units provide supplementary heating in the restaurant.

The electric system was selected because it would provide maximum flexibility at minimum cost based on the results of a feasibility study which indicated that the electric system would cost less to buy and install than an equivalent system using a flame fuel for heating and would easily provide the desired supervisory control of occupied/unoccupied conditions in the guestrooms.

SEE REVERSE SIDE FOR DETAIL INFORMATION

Gentlemen:
Please send the complete series of Electric Heating Case Histories as they become available to me at the following address:

Name and Profession:
Firm, University or other affiliation:
Address:
Zip Code:

1 CATEGORY OF STRUCTURE:
Motor Inn

2 GENERAL DESCRIPTION:
Area: 125,015 sq ft
Volume: 1,017, 386 cu ft
Number of floors: 11
Number of occupants: 800
Number of rooms: 185 guestrooms
Types of rooms: guestrooms, banquet room, lobby, kitchen, offices, restaurant, bathhouse

3 CONSTRUCTION DETAILS:
Glass: single
Exterior walls: 8" brick and block; U-factor: 0.33
Roof and ceilings: built-up roof on 1" rigid insulation (R = 4) over concrete deck; suspended gypsum board ceiling; U-factor: 0.20
Floors: concrete slab with vinyl tile or carpet
Gross exposed wall area: 37,900 sq ft
Glass area: 12,760 sq ft

4 ENVIRONMENTAL DESIGN CONDITIONS:
Heating:
Heat loss Btuh: 2,170,000
Normal degree days: 4224
Ventilation requirements: 12,000 cfm
Design conditions: 0°F outdoors; 70F indoors
Cooling:
Heat gain Btuh: 2,700,000
Ventilation requirements: 12,000 cfm
Design conditions: 95F dbt, 78F wbt outdoors; 75F, 50% rh indoors

5 LIGHTING:
Levels in footcandles: 20-50
Levels in watts/sq ft: 1-2
Type: fluorescent and incandescent

6 HEATING AND COOLING SYSTEM:
The guestrooms are conditioned by individual electric through-the-wall heating/cooling units with integral thermostats for room temperature control. Six packaged water-cooled air conditioning units, ranging from 5 to 15 tons and equipped with strip heaters, serve all of the public areas, including the restaurant, through zoned ducted systems. A single cooling tower handles all condenser water. Baseboard heating units provide supplementary heating in the glass-enclosed restaurant.

7 ELECTRICAL SERVICE:
Type: underground
Voltage: 120/208v, 3-phase, 4-wire, wye
Metering: secondary

8 CONNECTED LOADS:

Heating & Cooling (300) tons	980 kw
Lighting	170 kw
Cooking	40 kw
TOTAL	1190 kw

9 INSTALLED COST:*

General Work	$1,201,000	$ 9.70/sq ft
Elec., Mech., Etc.	499,000	3.98/sq ft
TOTALS	$1,700,000	$13.68/sq ft

*Building was completed 8/65

10 HOURS AND METHODS OF OPERATION:
24 hours a day, seven days a week.

11 OPERATING COST:
Period: 10/12/68 to 10/14/69
Actual degree days: 4101
Actual kwh: 2,980,700*
Actual cost: $43,950.34*
Avg. cost per kwh: 1.47 cents*
*For total electrical usage

Billing Date	Degree Days	Demand	kwh	Amount
11/13/68	296	391	185,500	$ 2,962.59
12/13/68	620	391	256,200	3,605.57
1/15/69	1049	666	372,300	4,661.33
2/14/69	822	630	303,700	4,056.13
3/18/69	836	594	321,500	4,256.30
4/16/69	338	468	176,200	2,948.37
5/15/69	125	414	162,000	2,836.24
6/16/69		504	234,900	3,790.81
7/16/69		576	262,100	4,206.36
8/14/69		558	257,200	4,135.42
9/15/69		522	279,000	3,752.38
10/14/69	15	486	170,100	2,738.84
TOTALS	4101		2,980,700	$43,950.34

12 FEATURES:
All of the heating/cooling units in the guestrooms are wired into a central control panel. At this convenient location, the equipment in any room can be deenergized when that room is unoccupied so that unnecessary heating or cooling is eliminated.

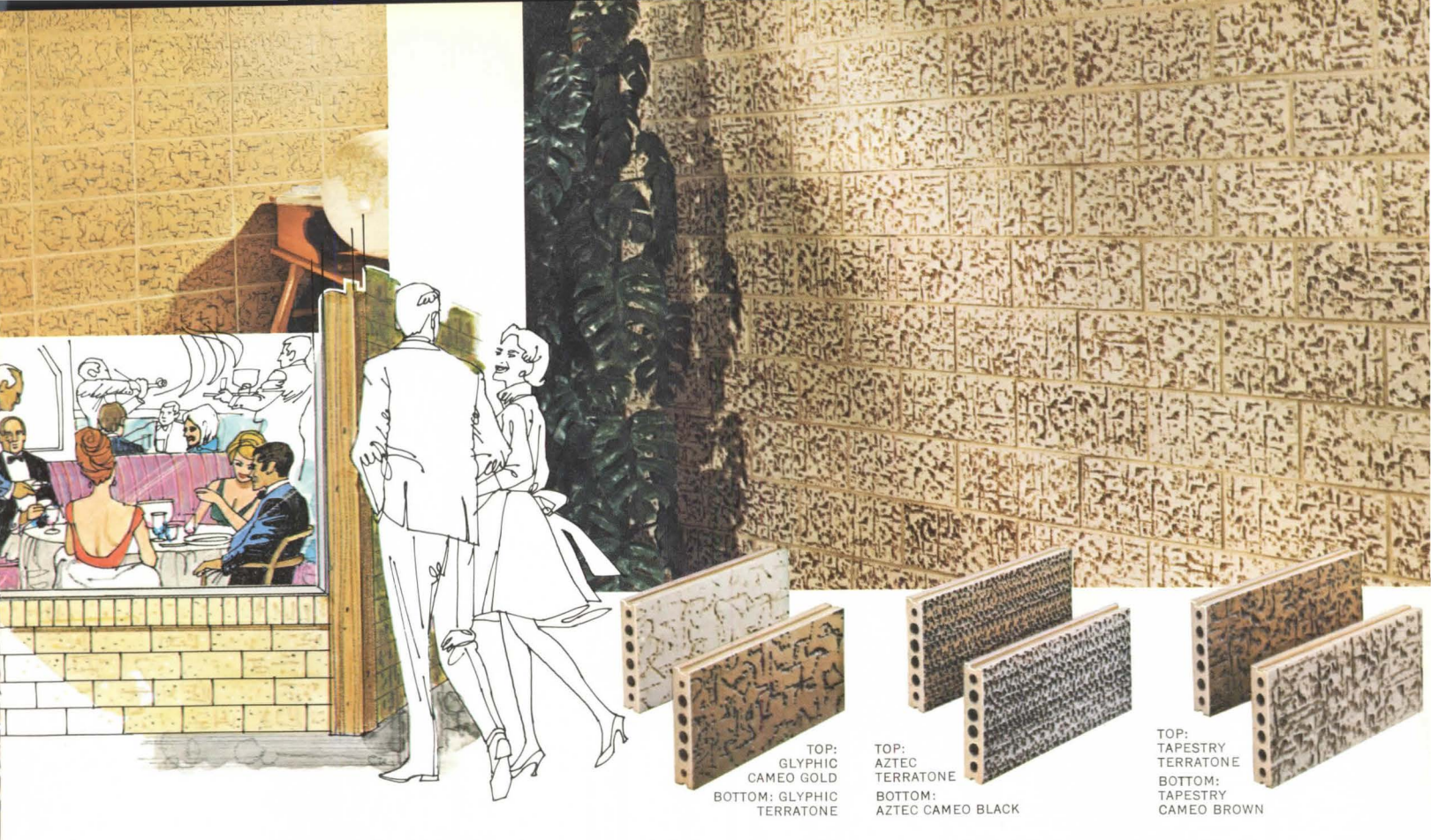
13 REASONS FOR INSTALLING ELECTRIC HEAT:
A feasibility study indicated that the electric system would cost less to buy and install than an equivalent system using a flame fuel for heating and would easily provide the desired supervisory control of occupied - unoccupied conditions in the guestrooms.

14 PERSONNEL:
Owner: Frank M. Perper
Architect: Harvey L. Gordon
Consulting Engineers: Dollar-Blitz & Associates
General Contractor: Donahoe Const. Co.
Electrical Contractor: Walter Truland Corp.
Mechanical Contractor: George Warner
Utility: Potomac Electric Power Company

15 PREPARED BY:
C. E. O'Daniel, Supervisor, Commercial Customer Dept., Potomac Electric Power Company.

16 VERIFIED BY:
Harvey L. Gordon, AIA

Murray Blitz, P.E.



TOP: GLYPHIC CAMEO GOLD
BOTTOM: GLYPHIC TERRATONE

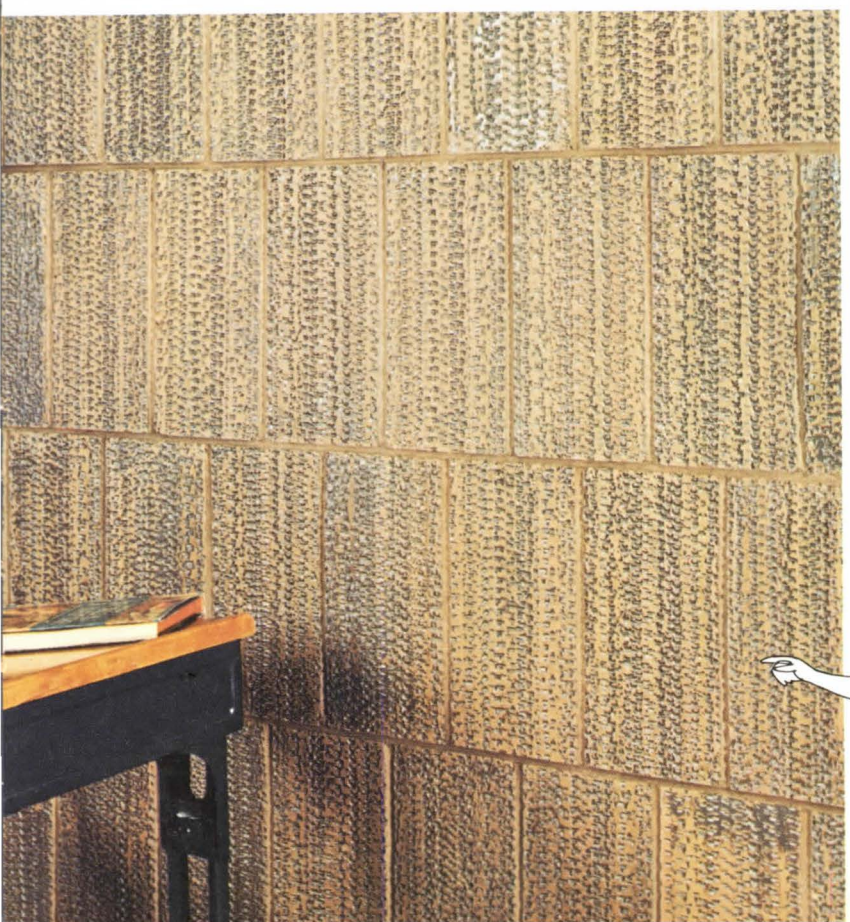
TOP: AZTEC TERRATONE
BOTTOM: AZTEC CAMEO BLACK

TOP: TAPESTRY TERRATONE
BOTTOM: TAPESTRY CAMEO BROWN

New STARK *Textured Structural Tile*

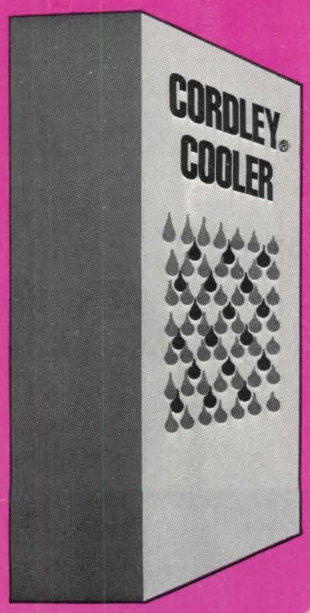
Finally . . . The wall product that has it all . . . Structural strength, color, permanence, economy and "personality". New, deep relief random textures and a wide range of variable color systems provide walls with a 'custom' appearance. Best of all, true economy is the result. You can count on **less than** $1.50 sq. ft. at the site (east of Miss. River) . . . Textured Stark Tile lays up as easily as any masonry wall yet . . . presto! It's all finished . . . and beautifully, excitingly, dramatically, forever . . . with minimum maintenance. In addition it's flame spread rating is zero, highest resistance possible to stains, scratches and effects of weather. There's more, much more — call your Stark Ceramics' rep. or distributor for the whole beautiful story.

STARK CERAMICS, INC., CANTON, OHIO 44701



STOP:

DON'T CONSIDER Another Water Cooler Until You've Seen the NEW CORDLEY® Simulated·Recessed COOLER Next Month!



Or You May Be Disappointed

EATON YALE & TOWNE INC.

DISPENSER DIVISION
CORDLEY PRODUCTS
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GLEN ELLYN, ILLINOIS 60137

On Readers' Service Card, Circle 209

FORUM

Some friends have accused me of making up that story about the $20 anti-pollution gas mask last month, so I thought I should show you a drawing of the gadget in question, if only to uphold my reputation for truthfulness (and that of this publication). Moreover, there are quite a few items of that sort available nowadays in case you are interested in assembling an Urban Survival Kit. For example:

Hammacher Schlemmer, in Manhattan, will sell you a "Giant Stand-By Light" (sealed beam 13,000 candlepower model) which turns itself on automatically in the event of a local blackout. (HS also offer a "Trash Masher" that will compact your garbage in case the local Sanitation Department goes out on strike. Cost: $249.95). Your neighborhood drugstore will sell you a small, emergency oxygen tank (complete with spare capsule) in case you run out of air, and the delicatessen has Deer Park Mountain Spring Water (and similar elixirs) so you won't have to swallow detergents or chlorinated sewage. Your hardware store has innumerable varieties of police locks, burglar alarms, electric eye safety devices, etc. You can get pocket-sized mace from the drugstore, and "Beau Alarms" (for use in cases of attempted rape) from mail order houses. (Another version of this gadget is called "Shriek Alarm.") Walkie-Talkies are, of course, available from any Army Surplus store, in the likely event that the telephone company conks out just before the rates go up. You can also buy malleable ear plugs for protection against the SST, and caffeine tablets that will keep you awake during the dayshift. (Ammonia ampules will help if you faint around cocktail time.) If rats invade your apartment, the rat control people will tell you to scatter broken glass on your floor because rats go crazy and die when they lacerate their tootsies. So you will want to keep some broken glass readily available. In the event that the urban strain is beginning to tell, you can buy a $5 Executive Security Blanket, described by its manufacturer as "a little something to hold on to." It comes in IBM blue or Steelmaster beige. If *that* doesn't work, resort to your Abercrombie & Fitch "brandy cane" at $18.50, whose plastic-tube lining will accommodate 8 oz. And if *that* doesn't work—especially while you are subjected to nuclear blast—you might wish to try "The Peace Rug." It costs only $6.50, and the manufacturer says "If you stand for it, stand on it. Right on!"

—PETER BLAKE

P.S. An urban architect I know decided to buy himself a personal fire engine. But he is not really a typical case.

AUTOLAND

WHAT LEAD CAN DO TO US . . .

Since 1923, the oil industry has provided motorists with fewer knocks and faster acceleration by putting lead additives in our gasoline. As the lead level got pushed higher and higher, so did the octane rating—an artificial measure of power—and so did the lead in our blood streams, inhaled from the fumes. (Automobiles account for 90 per cent of the lead in the atmosphere.) The average urban male's blood has nearly one-third the level associated with overt lead poisoning.

The World Health Organization recognizes 2 micrograms of lead per cubic meter of air as the threshold beyond which adverse effects are believed to occur in humans. Lead levels *average* twice that amount in Los Angeles and sometimes reach 72 micrograms per cubic meter along freeways. Week-long averages of 8 micrograms are not unusual in San Diego, where the levels have been rising by 5 per cent a year.

Dr. Tsaihwa J. Chow, of the Scripps Institute of Oceanography, says that rain falling through Southern California skies frequently contains more lead than the U.S. Public Health Service considers safe for drinking water.

How does lead affect us? Recent studies show that lead slows down the production of hemoglobin, a component of the red blood cells that carry oxygen throughout the body. Experiments with rats and mice at the Dartmouth Medical School showed that lead drastically shortened their lives. Said Dr. Henry A. Schroeder, "They not only die young, but they also die looking old."

In 1926, a small group of advisers to the U.S. Surgeon General urged that automotive lead be closely monitored, believing that it was a potential public menace. Today, not one single state or federal law exists to regulate the lead content of fuels.

. . . WHAT TO DO ABOUT LEAD . . .

The Nixon Administration's stopgap solution to the lead problem is to tax the producers, a cost that would eventually be passed on to the motorist. Treasury Secretary David M. Kennedy: "In the end, Ethyl Corp. will have to go out of the lead additive business because we're going to have to get the lead out . . ."

The Ethyl Corp., meanwhile, points out that makers of new "no-lead" and "low-lead" gasoline—who are pushing a lot of public relations but very little gas—are replacing lead with other additives that themselves contribute to air pollution; and that the lower octane ratings require more gas to power a car, hence more of the other kinds of tailpipe gook.

Some of Ethyl's arguments, says Dr. Arie J. Haagen-Smit, profes-

sor of biochemistry at the California Institute of Technology, are "quite valid. But the overlooked point," he says, "is that we will have to get the lead out of gasoline and the sooner we start the better."

The real villain, it would seem, is still the internal combustion engine that eats the fuel. And auto makers are concentrating on devices to filter out pollutants rather than on development of new non-polluting engines.

The tough anti-pollution bill, written by Senator Edmund Muskie and passed unanimously by the Senate, would require the automobile manufacturers to virtually eliminate *all* pollutants by 1975. A further year of grace has since been added, and the bill may be further compromised in joint Senate-House conference. In any event, the industry has called the bill's requirements "impossible."

. . . LIKE A LEAD BALLOON

The Federal Trade Commission is presently investigating air-pollution-abatement claims made by a number of oil companies in video and print advertising. Last month the FTC accused Standard Oil Co. of California (SOC) of making false claims for an additive of its Chevron brand gasoline called F-310.

In the ad, balloons were attached to the tailpipes of two cars, one fueled by Chevron, the other using another brand. While the other balloon turned black, Chevron's remained clear.

The FTC charges:

- The "other" fuel was "a specially formulated gasoline . . . which caused black exhaust to be emitted."
- The clear exhaust contained "large amounts of pollutants."
- The ad was staged outside what SOC labeled its "Research Center," a building that was actually the Riverside County, Calif. courthouse.
- F-310 is a common detergent additive used for years by a number of the "other" brands.

The FTC called on SOC to voluntarily cease the advertising. It also proposed that, for one year, the company devote at least one-fourth of its ads to a statement detailing the FTC's charges against it.

Standard Oil did not volunteer, but responded by hyping up its advertising campaign and reiterating its claims in bolder type.

ABROAD

NASSER AND THE CIA

Following the death last month of Egypt's President Gamal Abdel Nasser, one news-service dispatch appeared concerning the Tower of Cairo, a $3-million structure that was reportedly paid for by the U.S. Central Intelligence Agency in 1964.

The tower, on an island in the Nile facing the Nile Hilton, is wrapped in what looks like a concrete lattice peaked out in points that are supposed to represent the lotus, sacred flower of Ancient Egypt.

The report goes on to say that Nasser's "joke" on the CIA was that he had it built to be "deliberately unfunctional." Not precisely true.

It has its functions. At the ground there is a trade fair, and at the very top a revolving restaurant with the highest view in Cairo. And the spire, shaped like a golf tee, is a radio transmitter. In Cairo that is how telegrams—and long distance telephone messages—are relayed.

As Cold-War booty, it is, of course, a little tacky next to the Russian-built Aswan Dam.

Tower of Cairo

THE SUN NEVER SETS

"My first consideration is preservation of the pub as an English tradition," says Israeli Architect Tiko Alalouff. For preservation read proliferation. Alalouff is mass producing prefabricated British pubs for export around the world. They are assembled out of interlocking sheets of plastic and fiberglass, and are complete down to fireproofed timbers carved with new-old grafitti and signs reading "No Dogs Allowed Unless On A Lead."

Plastic pub for export

For about $150,000 you can get the Tudor, the Regency or the Victorian pub made to order from Alalouff's firm, Ayala Designs Ltd. It will be delivered in about two months.

One mini version can be erected in your back yard, says Alalouff—who has one in his own, just for parties. Get your guests to erect it for their shepherd's pie and pint of bitters. It has been done by a crew of two in one hour and 37 minutes.

The pubs already can be found in Belgium, Sweden, Israel, the Bahamas and Luxembourg, and are soon to come to America.

Oi vay!

BIG PLANS

FORE!

Anyone who may have feared that this country might one day be paved with concrete and blacktop will be interested in the views of Desmond Muirhead, planning consultant and "golf course architect," who has designed golf-course communities in such places as Haystack, Vt. Muirhead, writing in the October issue of *Golf Digest:*

"People use the term, ecological balance, as if it were a static thing. It is not. A lake gradually becomes a swamp, which becomes a green field, which eventually becomes a forest. We don't always need to preserve this sort of thing. We do need to arrest the ecological development at a point at which it will best serve man."

Muirhead, it seems, would make a good many such citizen's arrests.

"In my view, there is 'ecologically' a powerful argument for building *40,000 new golf courses in America over the next few years* [our italics].

"Right now, 8 per cent of this country's population, or 15 million people, play golf. Many more would do so if it weren't so hard to get on a course. Three hundred people will support a golf course. As we edge toward an affluent recreation-oriented society we will need *at least one golf course per 5,000 people* [ours again].

And here is Muirhead's description of the kind of community he is in the business of designing:

"All homes are linked by tree lined green-grass fingers to the actual golf course so that everyone has a visual and spiritual link with 150 or more acres which seems like his own back yard. These golf communities point directly to the future."

Well, perhaps if you have tunnel vision. Tree-lined, of course.

PROGRESS REPORT

With a projected 1973 spring opening, the Sydney Opera House has been abuilding since 1957 when Architect Joern Utzon's spectacular design won an international competition. To transform his sketches into reality it has been necessary to pioneer new techniques. A computer was put to work for 2,000 hours

to prove that the soaring sail-like roof structures were, in fact, possible.

The computer also mapped out such things as the intricate positioning of the tiles used to surface the spheroid curvatures of the shells. Over 1 million Swedish ceramic tiles that resemble old Ming china were joined on the site into 4,750 chevron-shaped tile-lids weighing up to three tons each.

Costs have reflected the technological problems and consequent delays. The cost, originally estimated at $7.8 million, is now expected to reach $95.2 million.

Ming-like tiles, Sydney Opera House

STEEL TOWER ATTACKED

A preliminary model of a proposed U.S. Steel complex, which would be built on a pile-supported platform in San Francisco Bay, was unveiled last month in the offices of Architects Skidmore, Owings & Merrill. The controversy over the project's highrise office tower, however, had already been boiling for weeks.

The City Planning Commission had accommodated U.S. Steel by raising the height limit on new buildings between the Ferry Building and the Bay Bridge to 550 ft. Planning Director Allan Jacobs had been recommending a general limit of 84 ft. with no more than 10 percent of the development going up to 175 ft.

With approval still necessary from the Board of Supervisors, conservationists hustled to get the issue before the citizens on the November ballot. They failed, narrowly. But the impressive citizen response was sufficient to evoke a more cautious approach by the Supervisors, and some wavering by other earlier supporters of the plan. Supervisor Roger Boas called for a 60-day delay in order to update studies on the economic needs of the Port Commission, principal backer of the project.

The Port Commission stands to profit considerably. U.S. Steel has promised to build them a passenger terminal in the complex (foreground in model), which would be repaid, over the years, from terminal revenues. The Port Commission contends that the highrise is necessary to make the terminal, the public parks and promenades of the complex economically feasible. Other supporters, not surprisingly, are Mayor Alioto, the Chamber of Commerce and organized labor.

Also yet to rule on the project is the Bay Conservation and Development Commission (BCDC), which has jurisdiction over bay-fill proposals. One standard by which such projects might be judged has been advanced by BCDC's executive director Joseph E. Bodovitz. It would mean that for every square foot of water that is covered by new development, an equivalent area of water must be *un*covered —that is, previous bay-fill land would be reclaimed for the bay, maintaining the net water area while replacing unused, deteriorating piers.

A vote by the Board of Supervisors may not come before December.

U.S. Steel in San Francisco Bay

POLLUTION

ON THE HUSTINGS . . .

Ecological issues are playing important parts in this month's elections in at least half of the 50 states.

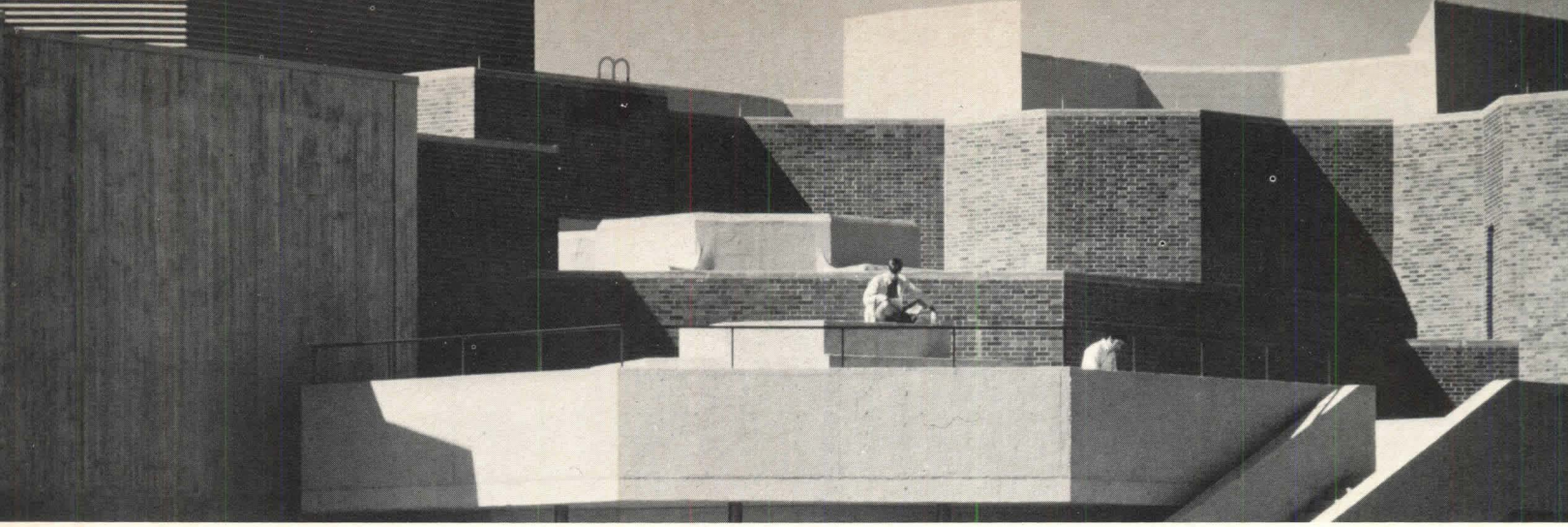
The League of Conservation Voters, political arm of Friends of the Earth, has contributed funds and campaign volunteers in support of 16 candidates in 12 states. Environmental Action, the young group that organized this spring's Earth Day, has singled out 12 House members from nine states that it wants eliminated. Two of EA's "Dirty Dozen" were defeated in the primaries. One, George Fallon of Maryland, was a 13-term veteran who has served as chairman of the House Public Works Committee.

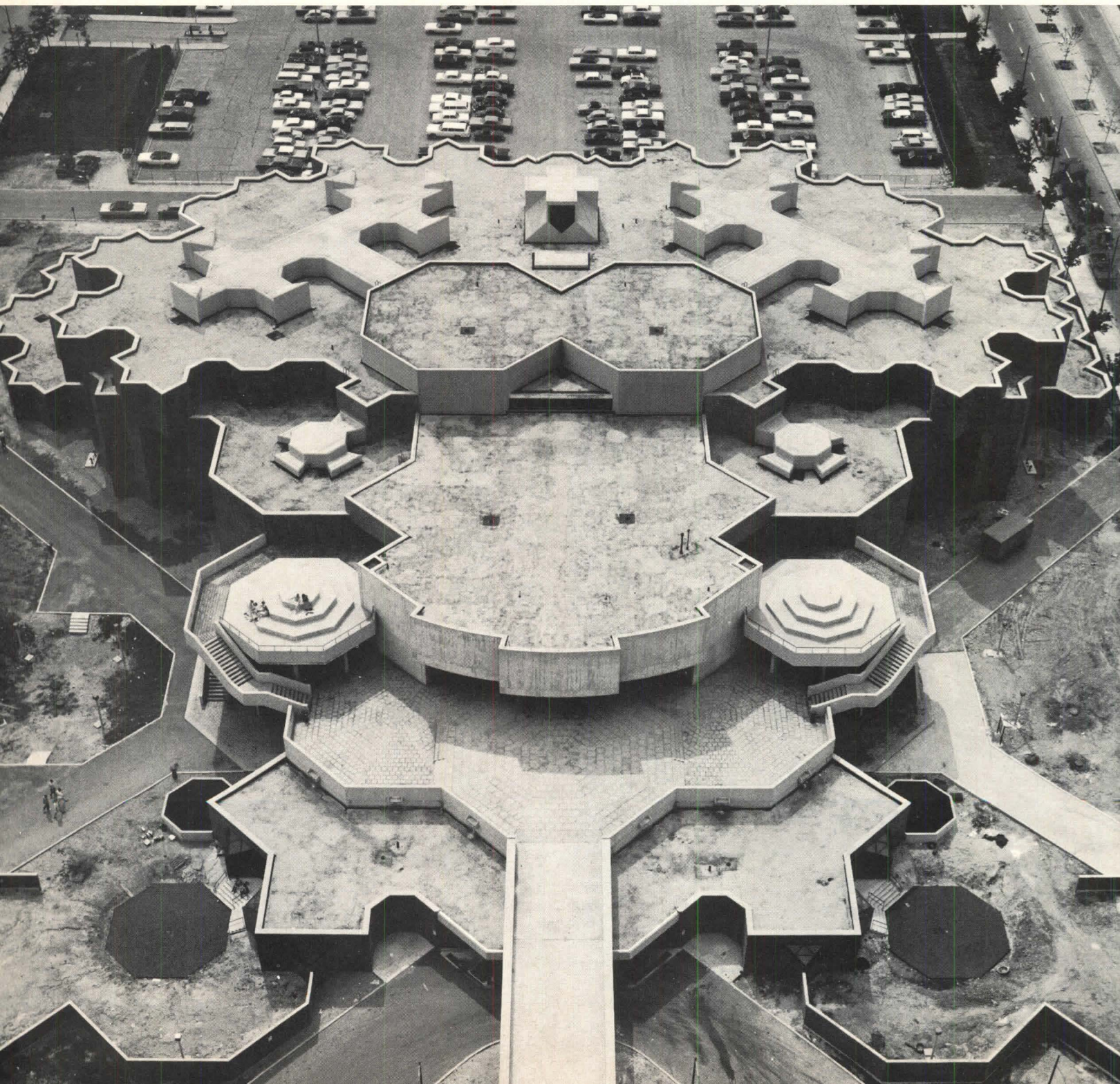
The surge of interest in the environment has, for many politicians, meant taking on powerful corporate polluters. In Illinois, State Treasurer Adlai Stevenson III, a Democrat, has been attacking his Republican opponent, Senator Ralph T. Smith, for receiving large campaign contributions from officers of the Olin-Mathieson Chemical Co. O-M has been in trouble with federal authorities for water pollution in various parts of the country.

In Idaho, Democrat Cecil Andrus is fighting a big molybdenum mine in the Challis National Forest proposed by the American Smelting and Refining Co. The mine is supported by his gubernatorial opponent, incumbent Don Samuelson, whose campaign coffers are kept full by mining interests.

Running for a third term in Wyoming, Senator Gale McGee has said that the U.S. Forest Service logging policies "seem to be designed to accommodate the U.S. Plywood Corp. instead of preserving what environment we have left." Meanwhile, in New York, Democrat Richard L. Ottinger, accused by incumbent Senator Charles E. Goodell of

(continued on page 63)





NEW GALAXIES AT CHICAGO CIRCLE

I. Behavior Science Center

If Walter Netsch's "field theory" approach to design can be considered a style, then the two newest additions to the Chicago Circle Campus represent its "high" phase. The Behavioral Science Center (shown here) and Science & Engineering South (page 29) are the first completed field theory buildings that are big enough, complex enough—and true enough to the architects' intentions—to show the potential of the approach.

Size and complexity are important, since the objective is a system of space modules in a wide range of sizes, recurring at regular intervals. Properly applied, field theory can yield areas for various kinds of rooms, corridors, and mechanical voids, arranged to follow an ideal circulation diagram.

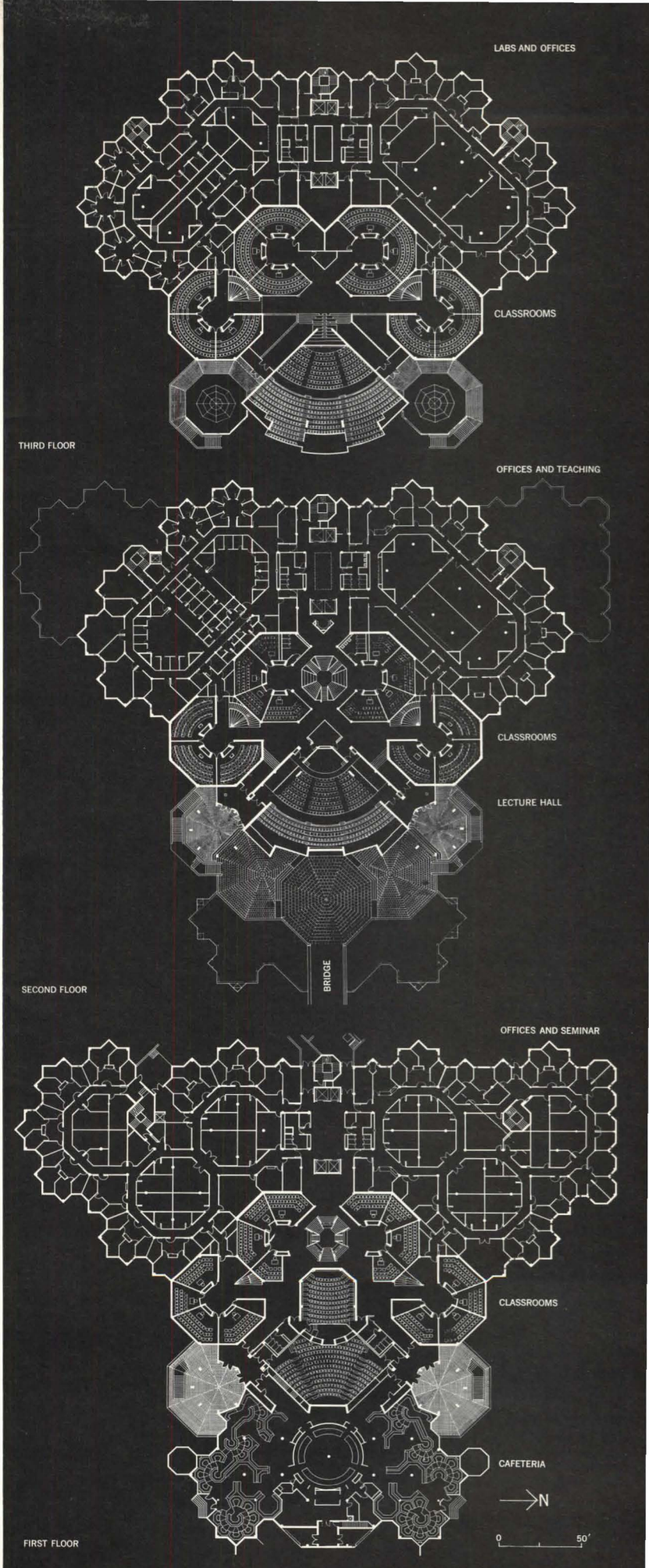
In the plans of Behavioral Science, offices can be seen clustered about shared secretarial areas, and laboratories around vertical service cores; corridors from the classrooms converge on central elevator and stair lobbies, then branch out to feed individual offices and laboratories.

The remarkable geometry of the plan—based on a pattern of squares superimposed at 45-degree angles—is boldly expressed on the exterior. There, angular walls project and recede in layers, as each floor extends out to include the portion it needs of the theoretically endless field.

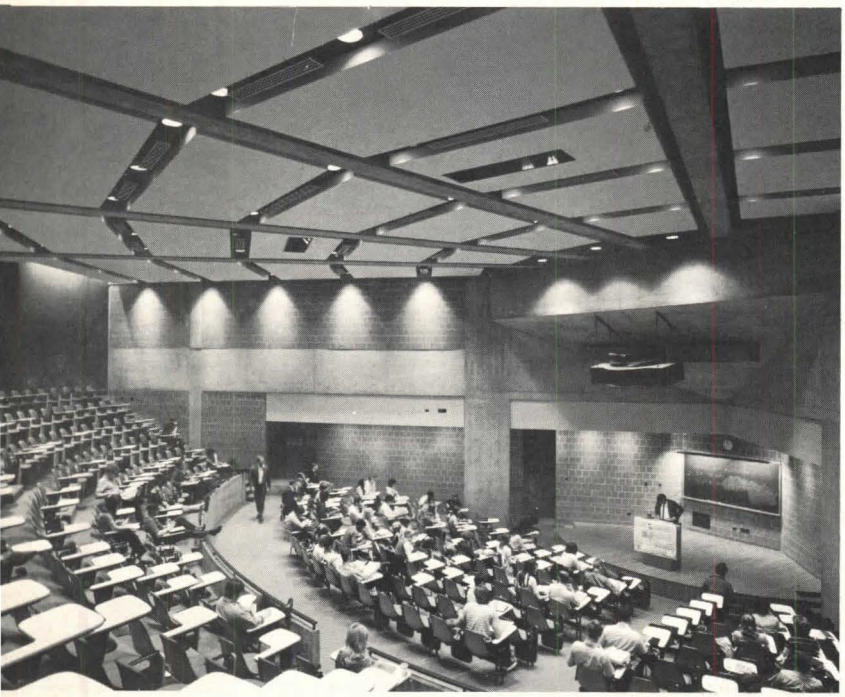
SOM began the Chicago Circle Campus (Sept. '65 issue) with an innovative planning concept, but with buildings of relatively conventional geometry. Even as those buildings were going up, however, designers on Netsch's team were covering their drafting boards with patterns resembling caned chair seats.

In their first application of this new geometry, in the Chicago Circle Architecture & Art Building (Dec. '68 issue), their zeal to exploit the approach to the fullest collided head-on with administrative indecision about the building program and apparent misgivings about the design. The result was a stunted version of Netsch's original scheme.

The same design team then went to work on these two buildings, wiser about how this kind of geometry works out in real spaces for real people. More important, they had accumulated insights into the space needs of this all-commuter campus, where students must have some place to feel at home in between classes.



A bridge over a major street (foreground left) links Behavioral Science to the rest of the campus—joining the elevated walkway system at the faculty tower (from which photo was taken) The building is entered through loggias on either side of the main lecture hall. Stairs to third-floor entrances wind around sitting mounds above these loggias (top left). Walled areas outside the building will be dining terraces. Plans (right) are based on networks of squares superimposed on the diagonal.



Windows above the elevator lobby (top left) offer a glimpse of the nearby faculty tower. The 460-seat main lecture hall (middle left) has its own "pragmatic" geometry. The cafeteria (left) is a maze of carpet-lined alcoves, rising and falling along gently ramped walks. Angular private offices (above), some only 95 sq. ft. in area, have efficient built-in furniture; window blinds are hinged panels of dark-tinted plastic. Corridors at every level expand to form indoor plazas like the terraced one between the third-floor entrances (top right). A complex, eight-side "exedra" (right) links first and second floors.

In the original plan, this need was met by centralized spaces—a main plaza, a large student union, a central library. They were part of a unique plan—tailored to an undergraduate program—in which activities were segregated by type (lecture center, classroom buildings, etc.) rather than by discipline. But the university grew beyond convenient walking distance from the center, and it added graduate programs, which call for close ties between offices, labs, lecture halls.

Experience at A & A, the first building to have its own library and faculty offices, showed that students whose activities were concentrated in one building were reluctant to leave their home base for food or relaxation. Instead, they congregated at the "nodes" in the circulation system—and around food vending machines installed at their request.

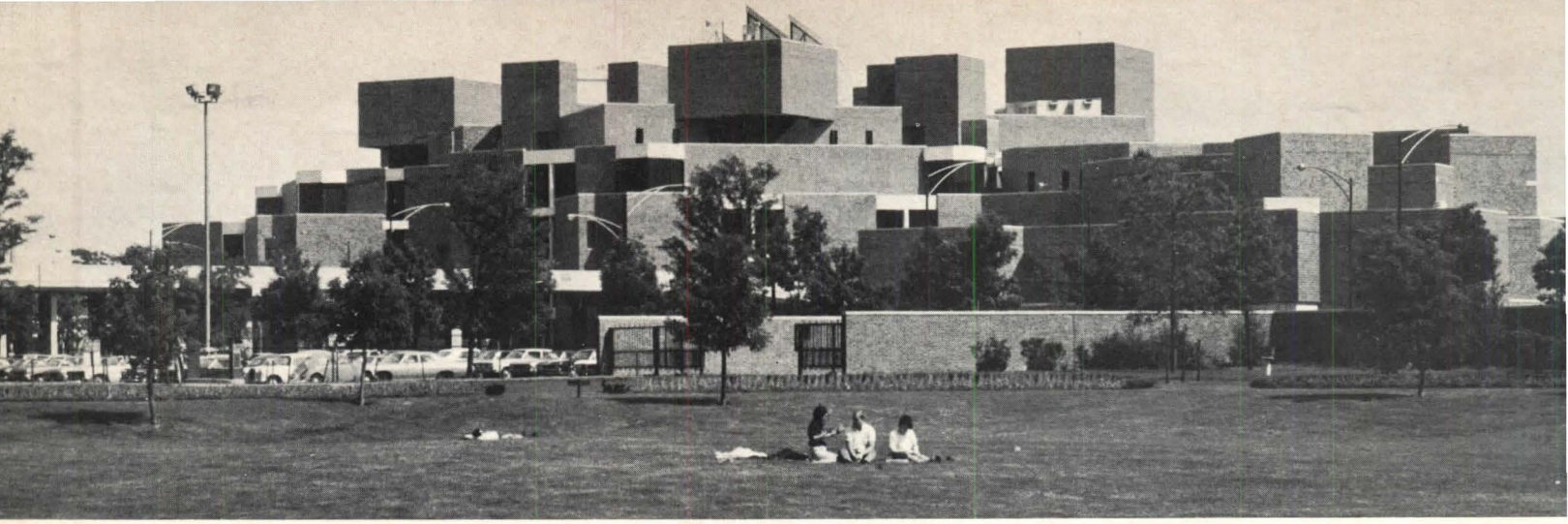
In these two latest Chicago Circle buildings, the corridors converge on indoor plazas and break out into alcoves full of tiered seating. No space was actually programmed for this indoor campus space; the architects had to create it within the state's standard ratio for net to gross space (60 per cent). And field theory geometry helped: pie-shaped classrooms and hexagonal offices can be smaller without being cramped; diagonal corridors can sometimes be shorter—and the area saved can be put back at points where they join.

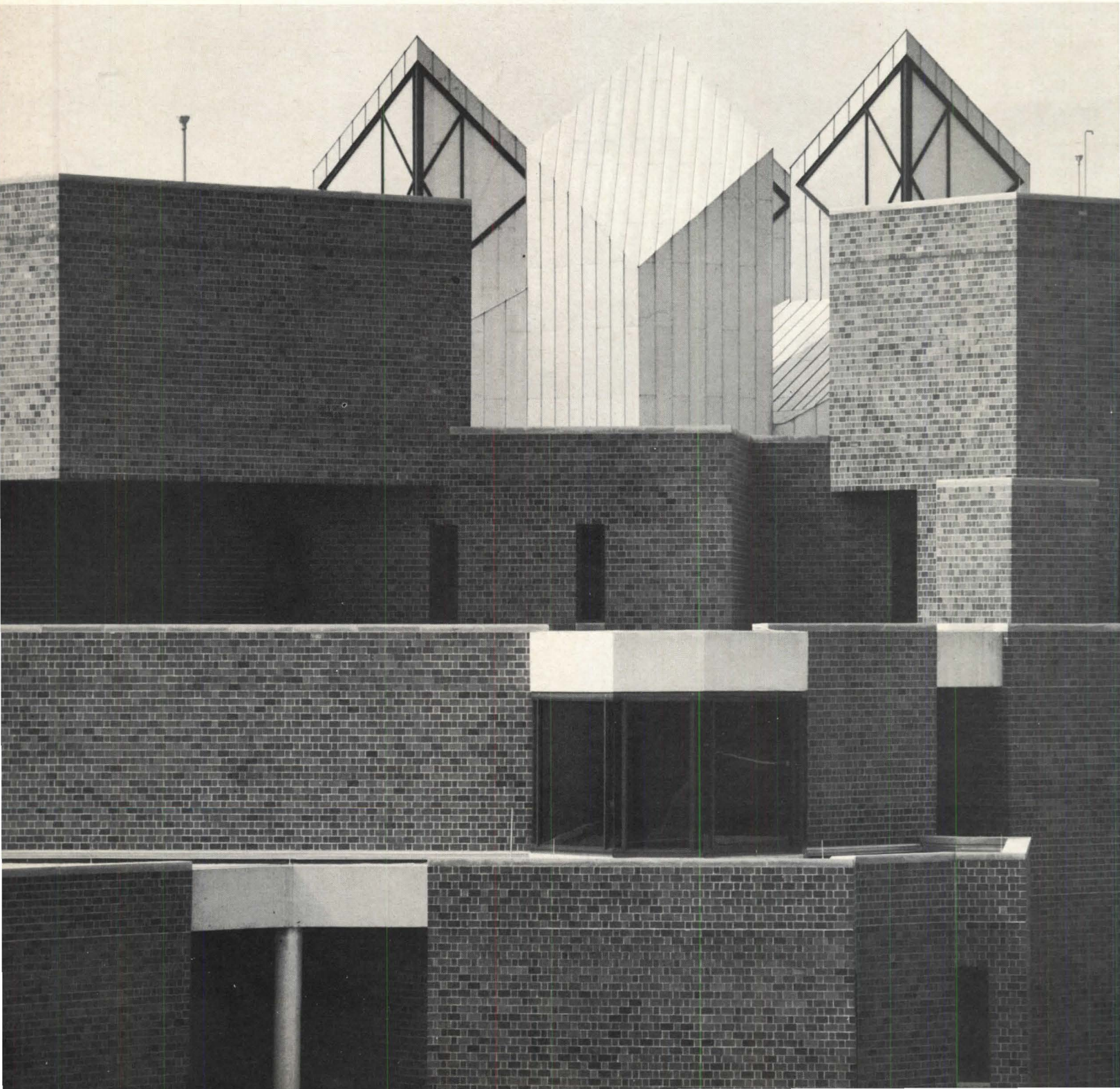
Netsch has placed skylights and clerestories above indoor sitting areas to give them the feeling of courtyards. And he has recovered some roof area for outdoor terraces—high enough above surrounding streets and expressways to command broad views of the city. And he has also turned the cafeteria into a full-time space—a combined social center and reading room, divided into many carpet-lined cells, where a student can spend hours over coffee.

FACTS & FIGURES

Behavioral Science Center, Chicago Circle Campus, University of Illinois, Chicago, Ill. Architects: Skidmore, Owings & Merrill (partner in charge, Fred W. Kraft; partner in charge of design, Walter A. Netsch). Consultants: Earl Walls & Associates (laboratories); Fred Schmid & Associates (food service); Bolt, Beranek & Newman (acoustics). General contractor: Turner Construction Co. Building area: 232,868 sq. ft. (gross). Cost: $8,990,000 (including fixed equipment; excluding fees and landscaping).

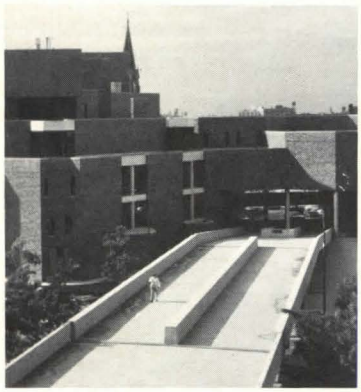
PHOTOGRAPHS: Orlando Cabanban.





CHICAGO CIRCLE

II. Science & Engineering South



The angular masses of Engineering & Science South are topped by pointed light-scoops clad in white-painted tern (photos left). The concrete structural frame shows at recesses in the brick walls. A concrete bridge (above) crosses Taylor Street from the Science & Engineering Building of the original campus. Plans (right) show a more definite geometric order in the laboratory-office block than in the smaller classroom-cafeteria wing, which has many one-of-a-kind spaces.

Science & Engineering South—like the Behavioral Science Center (preceding pages)—is a self-contained subcenter outside the walls of the original campus superblock—with it own cafeteria, library, and bookstore. And, like Behavioral Science, it is linked to the campus core by a bridge spanning a major thoroughfare.

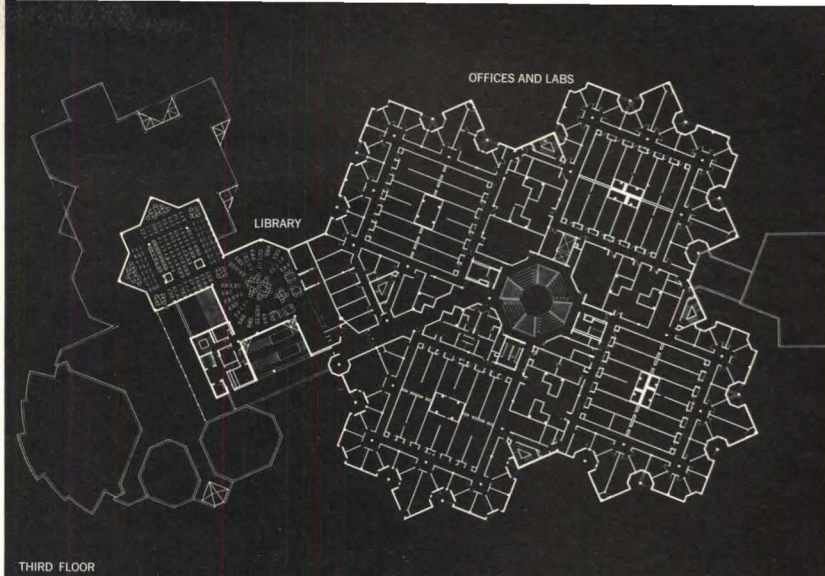
Here, the bridge touches down in an extensive "covered square," sheltered under the library that links the two distinct parts of the building. This square is an efficient circulation node, where traffic from the bridge can go directly into both wings at either first or second floor level. Like any good square, this one is a good place from which to find your bearings; major buildings on the main campus, as well as the principal parts of this building, are all clearly comprehensible from here.

The walls enclosing this building, according to Netsch's field theory, are no more than "edge conditions" that occur where the field is arbitrarily cut off. Although all the walls at Chicago Circle are of rather solid-looking brick, the *concept* of an edge is expressed in this building at polygonal recesses in the walls, where intersections in the structural frame are exposed. Office windows open only into these recesses—that is, into space which is conceptually inside the building, though outside the walls. (Aside from its symbolic value, this arrangement also gives office occupants identifiable fragments of their own building to look at, rather than just stretches of barren urban renewal terrain.)

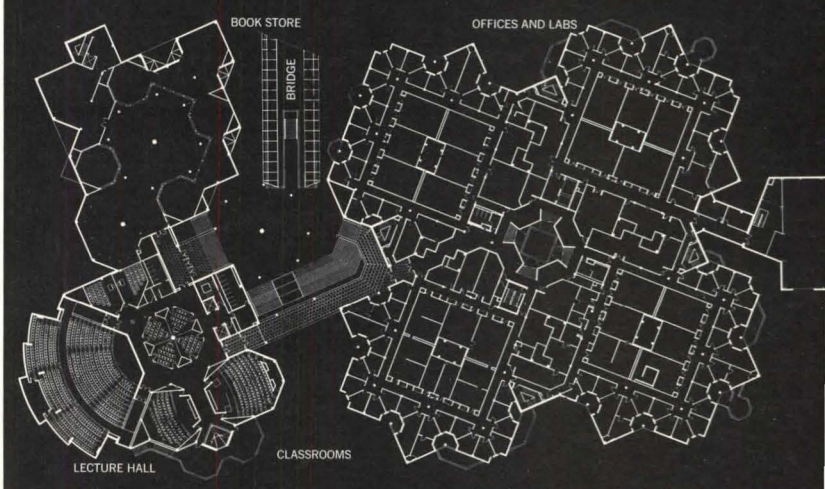
The roof of Science & Engineering South, like the walls, is conceived of as an arbitrary boundary in a pattern that could go on indefinitely. In actual fact, the structure was designed to be expandable by adding another story. It would still support another floor, but the connections that would have made it possible to add one without disturbing the floor below were deleted for the sake of economy.

The central "exedra" extends up through the roof barrier in a cluster of angular light scoops (opposite) that are prominent in distant views of the building—marking the center around which the pinwheel array of labs and offices is laid out.

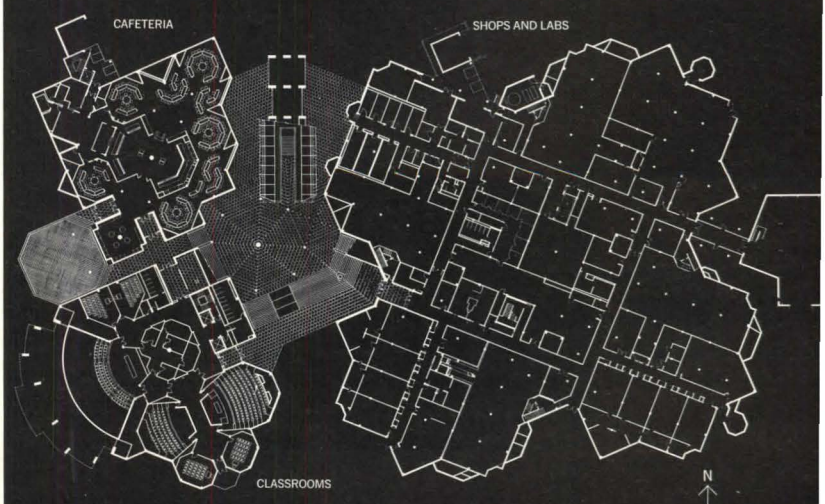
The circulation systems of both new buildings are maze-like, but not frustrating, like that of the



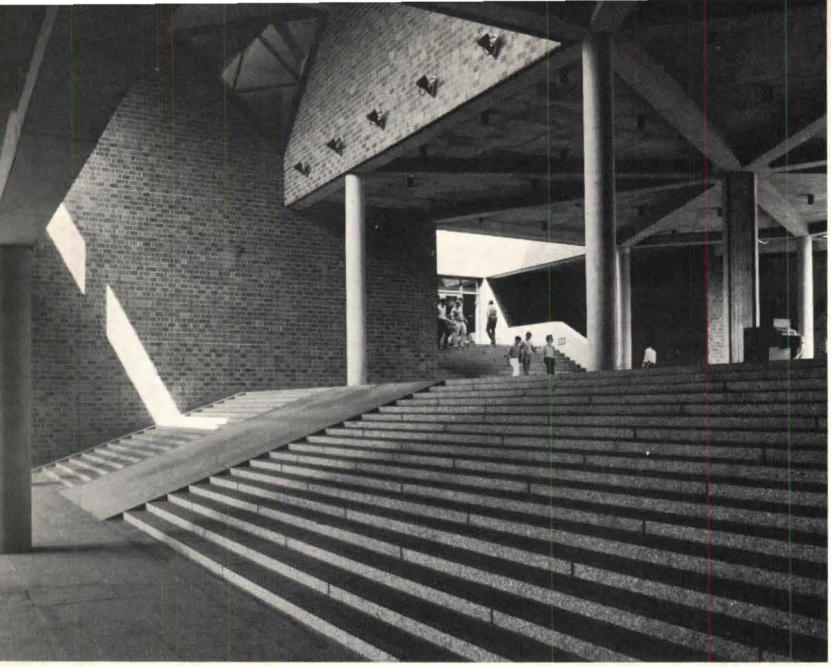
THIRD FLOOR

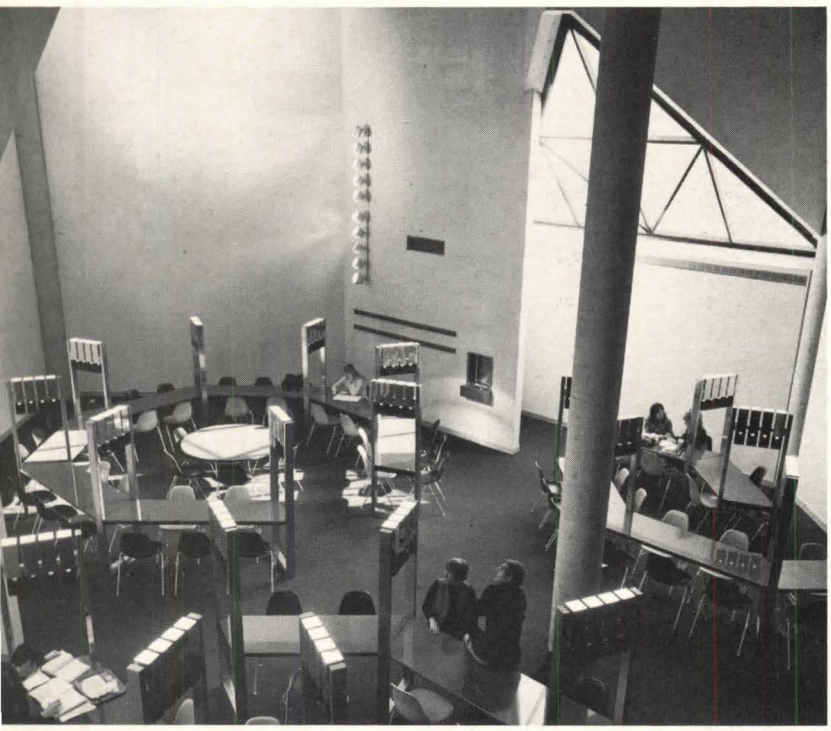


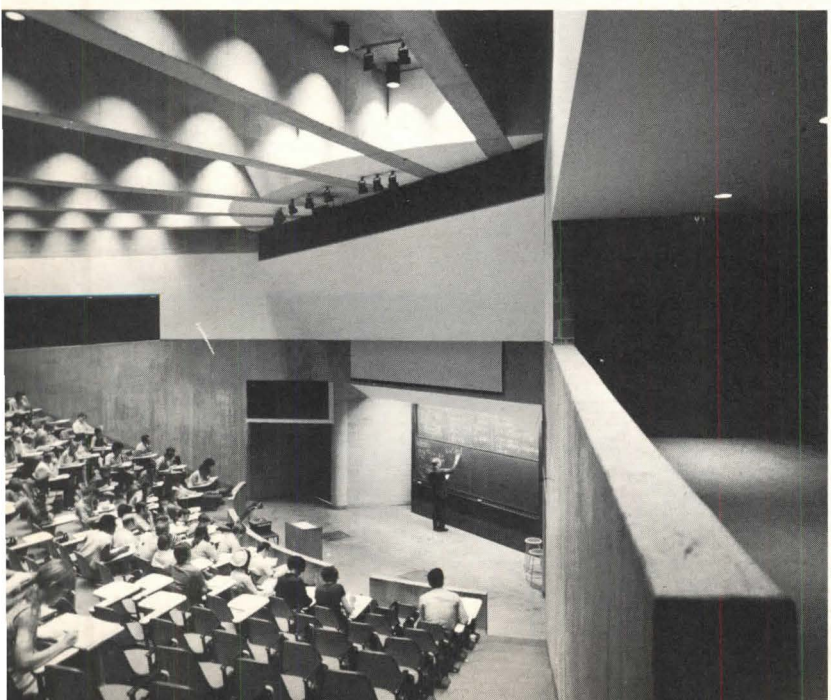
SECOND FLOOR

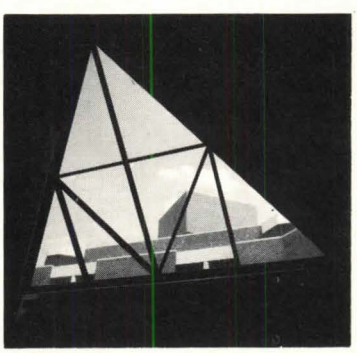


FIRST FLOOR









The "covered square" at the Science & Engineering South entrance (top left) is between first and second floor levels, with stairs leading to both. The cafeteria (middle left, seen from book store above it) has meandering granite-slab tables and high, angular windows that frame views of the building itself (above). The 500-seat lecture hall (left) is entered along side galleries. Corridors in the lab-office block (near left) converge on a skylighted rotunda (top left and far left), where seating-stairs link the second and third floors; suspended panels screen cantilevered stairs to the fourth and fifth floors.

earlier Architecture and Art Building. There, circulation moved through passages that were actually elongated stairwells linking the many finely-graduated floor levels of the structure; finding one's way *in such* a system was so difficult that it alienated many of the building's occupants.

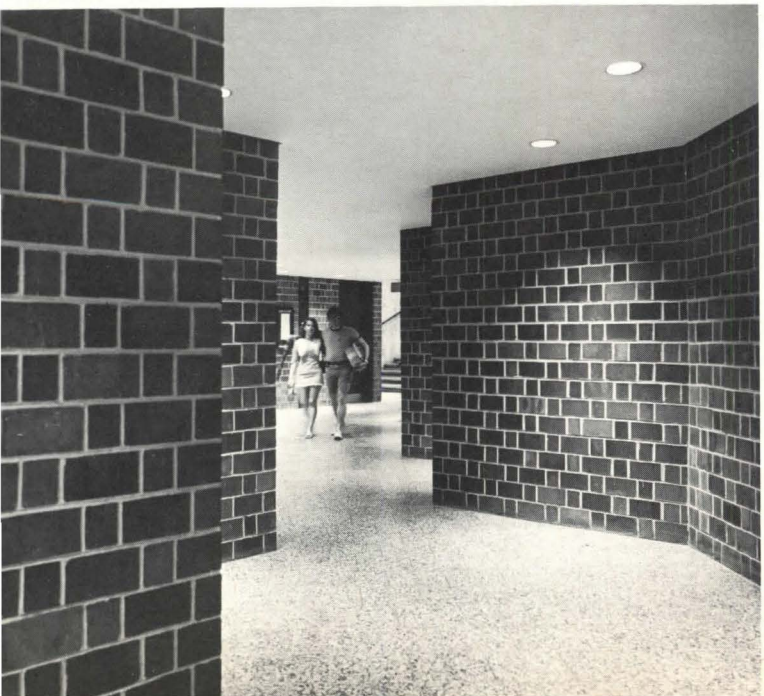
In these latest buildings, there has been no tampering with floor levels; except at lecture halls, they are divided vertically into conventional stories of uniform height. And there are clues that make the circulation plan easy to learn. At Behavioral Science, there is the obvious bilateral symmetry around central nodes. Here, the larger laboratory-office block is entered through a main corridor leading to the central exedra (except on the first floor, where the layout is simpler). From the exedra, straight corridors lead into the rectangular blocks of labs, clustered around their rectangular mechanical risers and separated from their angular offices by straight corridors. In the classroom-cafeteria wing of the building, circulation space is less regular in geometry, but no harder to follow.

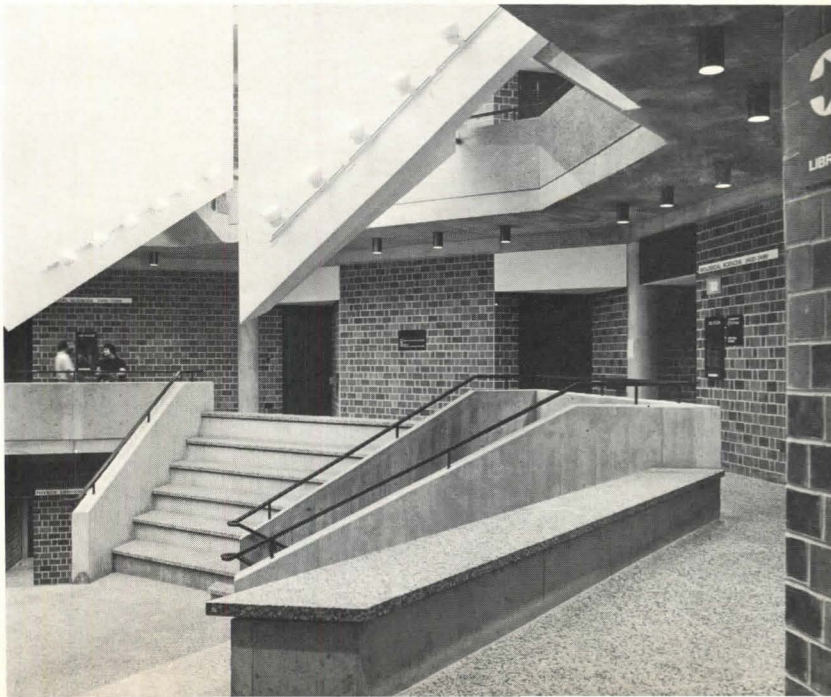
The cafeteria in this building, like the one in Behavioral Science, is more than a dining hall. But, in design, it is just the opposite: instead of fixed seating alcoves with movable tables, this cafeteria has fixed granite-slab tables with movable chairs. Engineering students, says Netsch, would rather have an "everything out on the table" atmosphere, with no hidden corners; and, practically speaking, they need firm table tops to study at. The space is divided up somewhat—and kept from ever looking empty—by the tall lighting fixtures attached to the tables. And the visible light bulbs, in aluminum frames behind smoky glass, provide the kind of glimmer the students seem to favor in off-campus *bierstuben,* says Netsch.

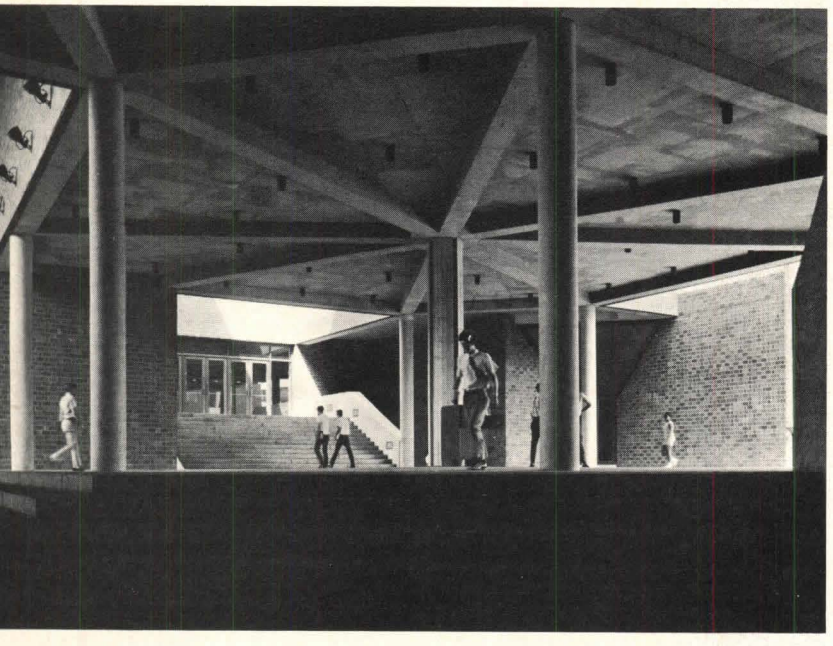
FACTS & FIGURES

Science and Engineering South, Chicago Circle Campus, University of Illinois, Chicago, Ill. Architects: Skidmore, Owings & Merrill (Fred W. Kraft, partner in charge; Walter A. Netsch, partner in charge of design). Consultants: Earl Walls & Associates (laboratories); Fred Schmid & Associates (food service); Bolt, Beranek & Newman (acoustics). General contractor: Gust K. Newberg Construction Co. Building area: 364,085 sq. ft. (gross). Cost: $17,513,380 (including fixed equipment; excluding fees and landscaping).

PHOTOGRAPHS: Orlando Cabanban.







The intricate geometry of both buildings is outlined with simple concrete beams and columns, as in the "exedra" in Behavioral Science (top left), and the "covered square" (middle left) and the library (bottom left) of Science & Engineering South. The "indoor plaza" at the core of SES (near right) is flooded with daylight from tall light-scoops (p. 29); two paint colors—both yellow—are used on panels suspended in the space. At the Behavioral Science cafeteria (far right), red paint accentuates the structural daisy above the serving area; deep orange carpet flows over fixed seating and undulating floor in the eating area.

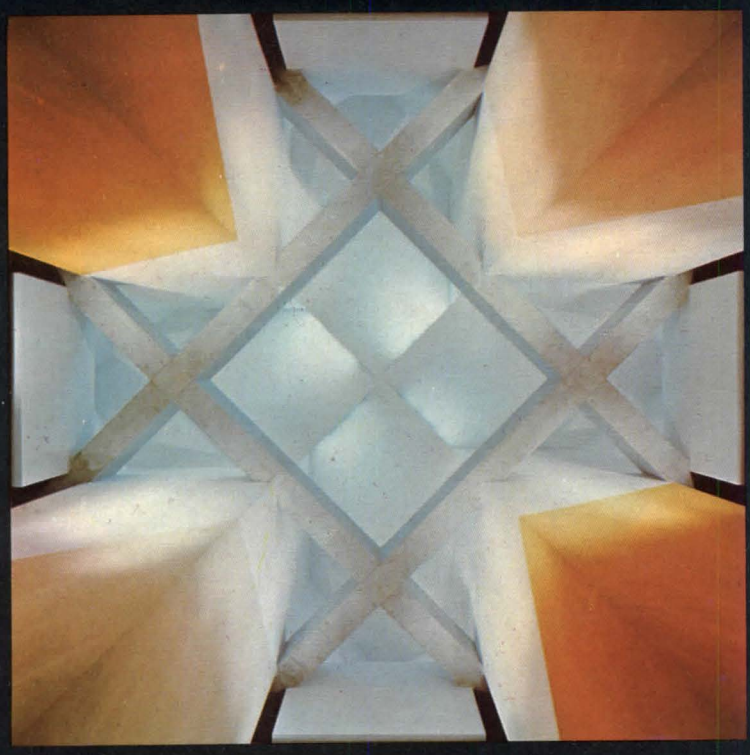
The most striking departure in these new buildings from the character of earlier Chicago Circle work is the appearance of applied color. When the first phase of the campus was planned (1961-1965), Netsch and his colleagues were still relying on the sober colors and textures of structural materials to articulate their architectural forms; even the interiors were dominated by exposed concrete and brick.

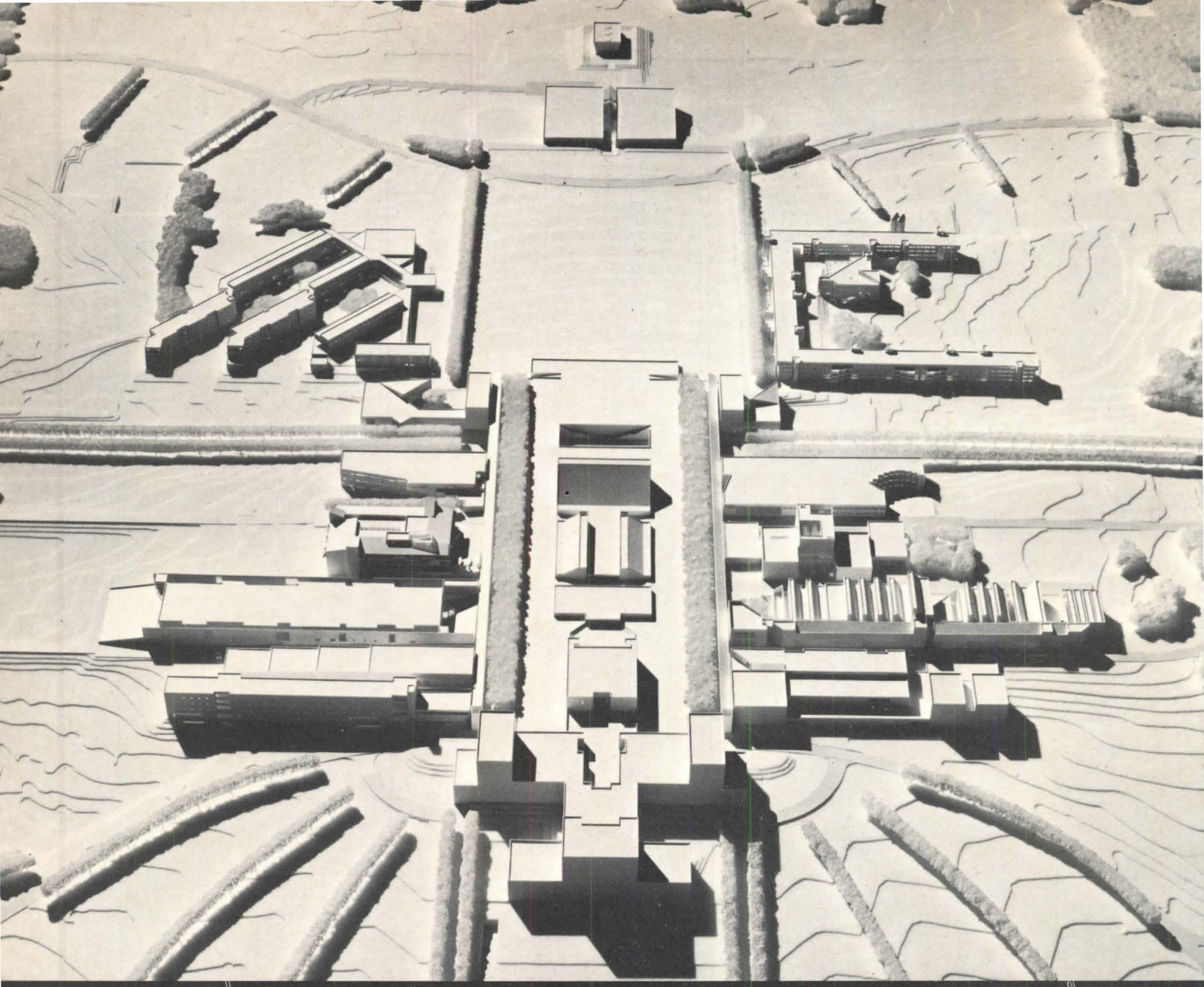
The firm is still using the same handsome "Chicago Circle Blend" of brown brick—inside and out—but their handling of concrete has been drastically simplified. Instead of a rich vocabulary of board-formed, exposed-aggregate, and smoothly precast concrete—shaped into faceted members with articulated joints—the architects are now using plywood-formed structural framing of almost primitive simplicity—tubular columns and square-sectioned beams that butt into each other like children's blocks.

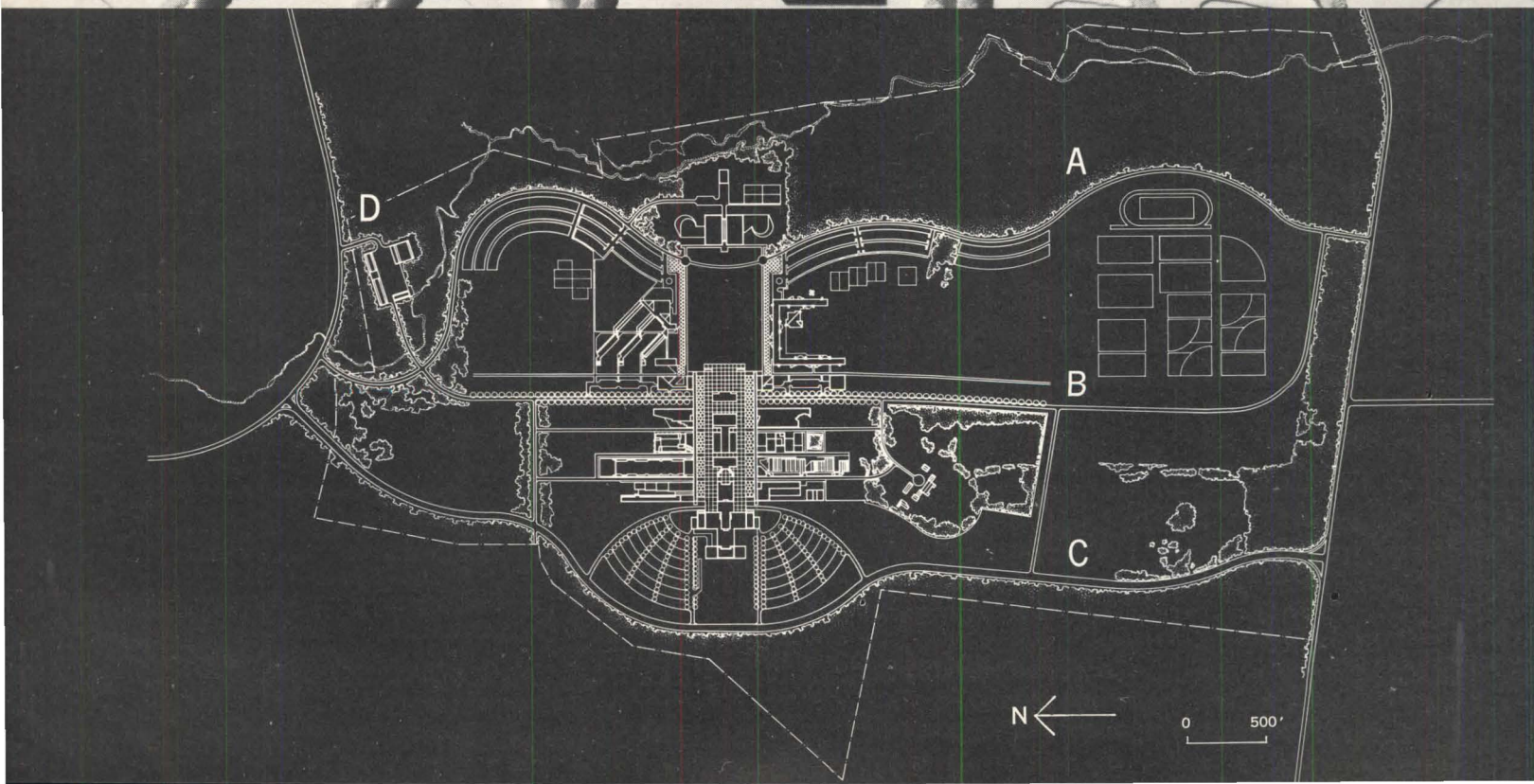
Visual enrichment is provided not by structural details, but by paint—a material Netsch was only beginning to admit five years ago, and has since used on several smaller buildings elsewhere. Here, paint has been used—in arbitrary ways appropriate to its superficial nature—to emphasize certain surfaces: the angled wall of a corridor, the ceiling in a cafeteria, an array of exposed ducts. Used on recessed planes between structural members (never on the frame itself), bold colors call attention to the geometry underlying the plans.

Netsch's enthusiasm for applied color—and for integrally-colored plastic whenever he can use it—is only part of a major transformation in his thinking that occurred between 1964 and 1967, when he and his associates developed their field theory approach to the "high" phase exemplified in these two buildings. (Unlike some of his other recently completed works, which are long-delayed realizations of his first tentative steps toward field theory, these buildings proceeded from design through construction in less than three years.) Once their grasp of field theory was firm, Netsch's team at SOM designed numerous other buildings—none yet completed—quite similar in approach to these two.

But what they will do next is not easy to predict. Walter Netsch is not one to stand by the status quo. —JOHN MORRIS DIXON



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ACADEMIC VILLAGE

The plan for the State University College now under construction at Purchase, N. Y., is the highly unusual product of a novel approach to collaboration among architects. For the dense core of the arts-oriented college, master-planning architect Edward Larrabee Barnes allotted plots of ground—literally building lots—to six widely known firms (one of them his own) and let them meet the client's needs in their characteristic ways.

The client in this case is not just the administration of the college-to-be and the parent university, but also the State University Construction Fund (July/Aug. '68 issue), which has acquired a reputation as a uniquely knowledgeable patron of architecture. The architects involved, besides the Barnes office, include Philip Johnson & John Burgee, Venturi & Rauch, Paul Rudolph, Gunnar Birkerts & Associates, and The Architects Collaborative. Dormitory groups north of the academic core have been designed by Gwathmey, Henderson & Siegel and Giovanni Pasanella.

A few simple, but strict, ground-rules were laid down—covering such matters as access and exterior materials, but there was no effort to impose harmony, except in color and texture, among the closely spaced buildings. Informal coordination was allowed; each architect traded drawings with the architects next-door.

The academic building lots—each assigned to a single discipline—extend out to the north and south from an arcade-lined central plaza, designed by the Barnes office as part of a highly formal spine along which the diverse extensions are plugged in.

The whole academic complex stands in the middle of the 500-acre pastoral site much as a monastery might rise among its fields. The dense man-made cluster—with only a bit of formal planting inside—like that of a cloister—extends out to a ragged, potentially expandable perimeter, where the natural landscape takes over. And the landscape here is a particularly handsome one of rolling land, long cultivated by gentlemen farmers. Rubble stone walls divide the fields and line the old roads; lawns and specimen plantings surround the mansion on the site, which now serves as an administration building.

The academic center rides a gentle ridge that runs north-south across the campus. Dormitories will be dispersed across a broad band of fields sloping off toward a stream at the east edge of the campus. East of the dormitories is the gymnasium, planned more as a social center—with snack bar and lounges—than as an educational or team-sports center. The alignment of the gym on the axis of the core is a rather monumental gesture, but a time-proven way of relating the whole landscape to the center.

Automobile traffic will be carried by three parallel road systems—connected at some points but designed to function independently. A new road along the east side of the campus will serve dormitory residents. The existing country road will become a service route through the middle of the campus, passing under the east end of the central plaza, where a delivery dock will be linked to under-plaza service corridors. To the west will be the main public road, wide enough to accommodate surges of traffic from the four theaters massed at the west end of the academic core.

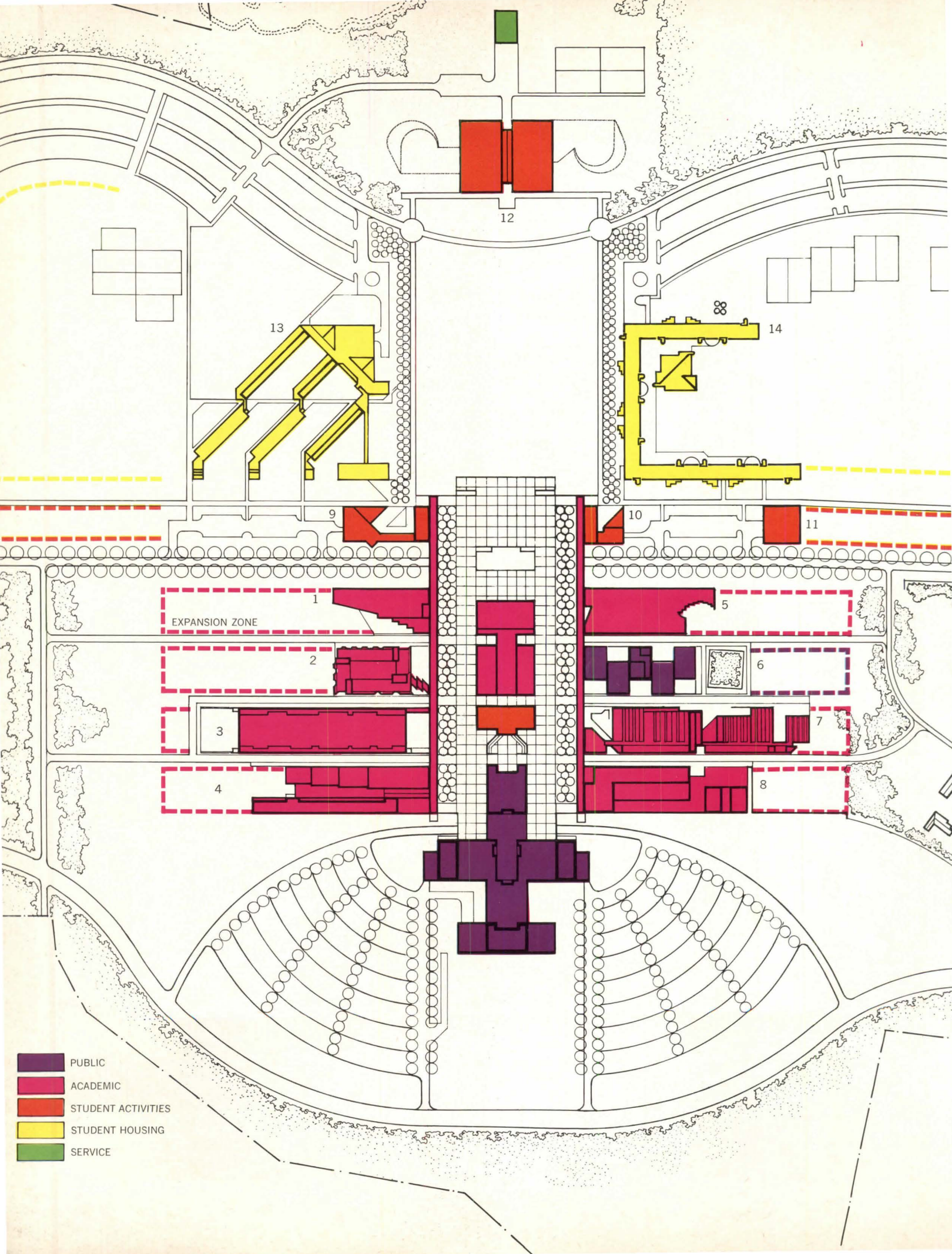
Besides separating various kinds of automobile traffic, the circulation system separates pedestrian traffic from vehicular. There are no roads to cross between the dormitories and the campus core, and the "streets" between academic buildings will be used only for emergency vehicles or for deliveries too large for the under-plaza corridors.

The college and its public

The dominant forms of the theaters rising above the formally organized west parking lot symbolize the vital connection between the program at Purchase and the public. The location of this special college, which combines liberal arts with intensive fine arts training, was determined in large part by the need for a responsive audience. The site is near enough to Manhattan (45 minutes by car) to draw some attendance from there, and to take advantage of the invaluable pool of professional talent there. But it should find an eager public closer by, in Westchester County, N. Y. and adjoining Fairfield County, Conn.—two of the most affluent counties in the nation, with a combined population of about 1.7 million.

The blocklike forms of the theaters—at once logical functionally and willfully sculptural—mark one end of the axial sequence of buildings and spaces

Most construction on the Purchase campus will be concentrated near the center of the 500-acre rural tract. Facilities shared by the whole college—theaters, library, gym—will be lined up on a central axis. Planting and parking areas along the axis will be formally laid out, but roads and paths elsewhere will follow the natural terrain. The campus will be crossed by three parallel road systems, for students (A), service vehicles (B), and visitors attending performances (C). Truck traffic will enter from the north, passing through a group of service buildings (D).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STUDENT ACTIVITIES
STUDENT HOUSING
SERVICE

designed by the Barnes office. East of the theaters is a plaza 900 ft. long and 400 ft. wide; the dimensions may seem grand for a college community of this size (maximum projected enrollment: 6,000), but the space is divided by buildings housing typical town-center activities: a post office and a library—the latter extending out *under* much of the plaza.

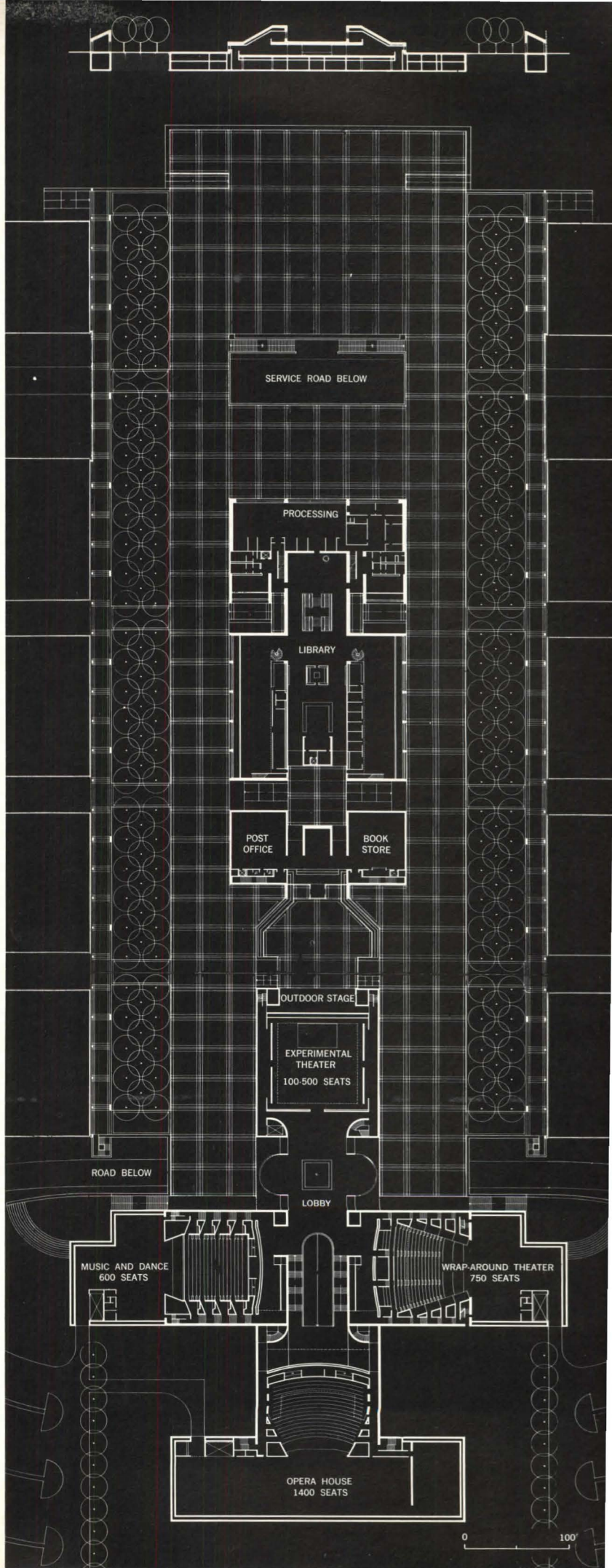
Enclosing the plaza on the north and south are the brick arcades to which the academic buildings are connected. Each discipline has a building lot 130 ft. wide, extending out an indefinite distance from this arcade and separated from the adjoining lot by a 30-ft.-wide "street." The buildings cannot infringe on this right-of-way, but they can be set back from it (or from the arcade). Most of the buildings have small courts opening off the streets, individually designed within ground rules set up by Landscape Architect Peter Rolland.

Although the architects were urged to provide numerous entrances to their buildings along the streets, the streets are in fact alternate routes—at their best in fair weather—to the covered system of arcades and interior corridors.

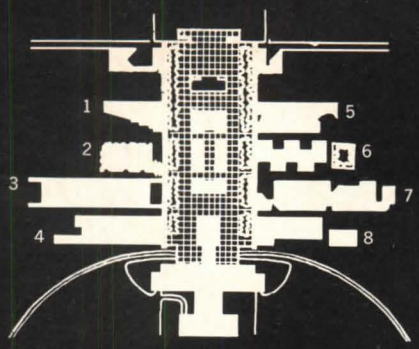
The system of building lots gives each discipline equal frontage on the plaza, but all other dimensions are variable. Area, bay sizes, and story heights can be adjusted to meet internal needs—and space needs for visual and performing arts are quite specialized and diverse. The open-ended lots also allow for expansion in any discipline without upsetting the order of the overall plan—or upsetting campus activity, either, since construction would take place at the outer edges of the complex.

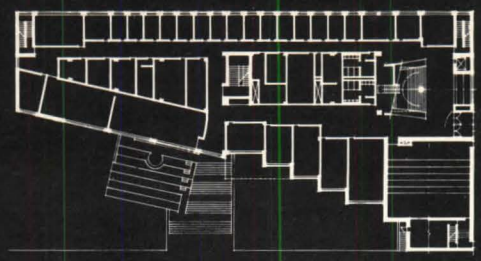
While individual architects have been given a free hand on the *shaping* of their buildings, and on treatment of interiors, they have had to limit surface materials outside to just three: gray-brown brick, gray-tinted glass, and dark gray anodized aluminum. Barnes wanted no exposed structural members, color variations, or transparent corners to distract from the contrasts in "volumetric quality" among the buildings.

The need to cover all solid surfaces with brick, without spending extra money, has called for some ingenuity. For the first group of dormitories, for in-



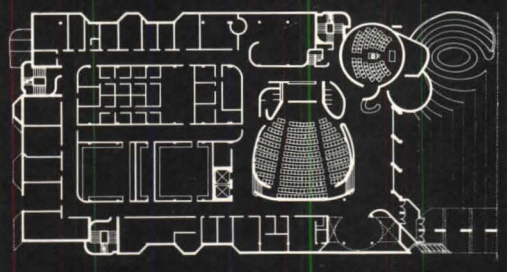
The master plan by Edward L. Barnes accommodates diverse academic buildings extending out from the axial plaza: 1 Social science, Venturi & Rauch; 2 Natural science, Paul Rudolph; 3 Dance instruction, Gunnar Birkerts & Associates; 4 Music instruction, Barnes; 5 Humanities, Venturi & Rauch; 6 Art museum, Philip Johnson and John Burgee; 7 Visual arts instruction, TAC; 8 Theater arts instruction, Barnes. East of the core will be common facilities by Barnes: 9, 10 Student activities; 11 Infirmary; 12 Gym. The first residential complexes will be: 13, Giovanni Pasanella; 14, Gwathmey, Henderson & Siegel. The core structure, by Barnes, is shown in detail, right. The library extends out under the plaza (section, top), as do theater facilities. The experimental theater will be a "black box" with no fixed plan; the music and dance theater, for chamber concerts, ballet, and drama, will have steeply raked seating, score desks; the wrap-around theater will have side platforms for performers or seating; the opera house will have a roll-away organ and a movable acoustical canopy for orchestral concerts. All theaters will share a grand lobby accessible from the drive below.





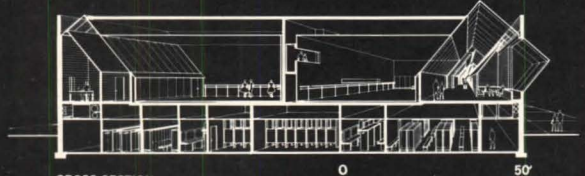
PLAN

1 Social science, Venturi & Rauch. The building hugs the arcade and has a flat east wall, with regularly spaced small openings. With the Humanities building, across the plaza, it is meant to form a uniform east wall for the whole academic complex. The west side of the building steps back in plan in response to internal needs, leaving space for a terraced court off the pedestrian street, outside the lower-level student lounge. A grand stair in the lobby lead to the two upper floors.



PLAN

2 Natural science, Paul Rudolph. This four-story structure will be set back from the arcade behind a court with an oval, tiered seating area. Fixed common elements—lounges, reading room, lecture hall, and circular planetarium—will be near the entrance. The central lab block and the offices flanking it, which face the streets, can be expanded to the north. The interior will have much exposed steel structure and mechanical equipment, in contrast to the smooth brick-clad exterior.



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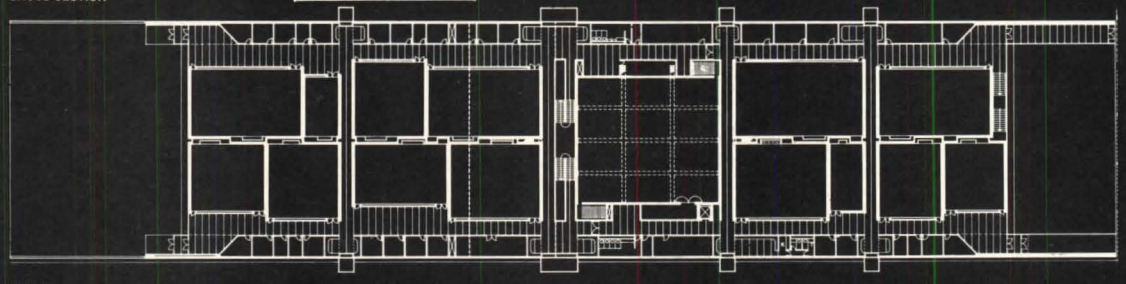
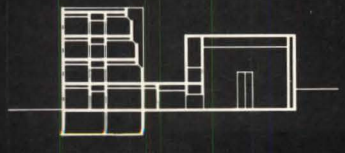


PLAN

3 Dance instruction, Gunnar Birkerts & Associates. All dance studios are at plaza level, with administration and dressing rooms below (section, left). The two main corridors are lined with offices; lounges at intervals have big, projecting windows. Daylight from above the corridors bounces off sloping walls to light the studios evenly. A planted sunken court at the arcade end lets light into lower-level offices. A passage under the building is lighted through a stairwell above it.



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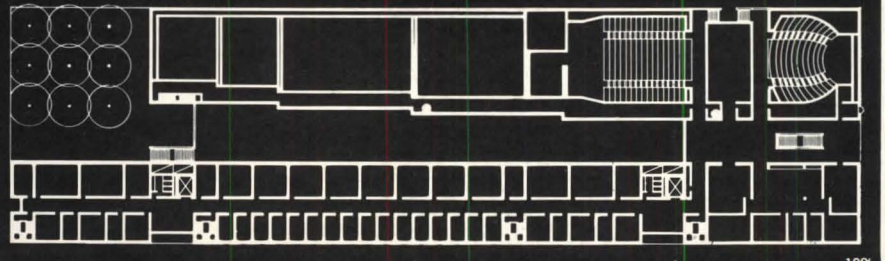
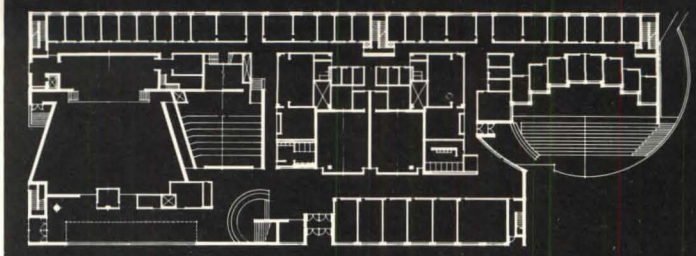


PLAN

4 *Music* instruction, Edward Larrabee Barnes. A four-story individual practice wing is separated from a parallel wing of ensemble rehearsal rooms and lecture halls by a wide central corridor (with an open deck above) leading from the arcade to a small, planted court to the north. Rehearsal room roofs step down toward the north as their sizes decrease. Each private studio has a window or a skylight, a slight sacrifice of acoustical control to make long hours of practice more enjoyable.

5 *Humanities, Venturi & Rauch.* Because of its location, the building has been treated as a "background" structure—with a flat, regular facade to the east, matching the one across the plaza, and another flat wall to the west, facing the sculptural museum. Large glass areas in this wall relate the lobby to the pedestrian street. The plan is organized in three bands—offices to the east, windowless group spaces in the middle, seminar rooms and classrooms to the west.



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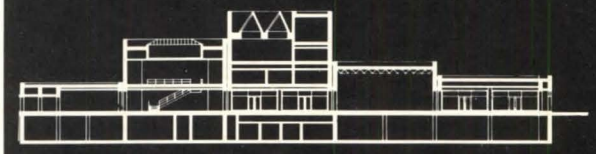
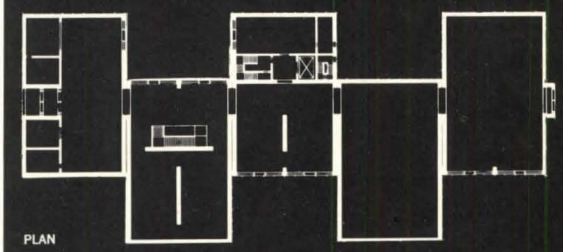


SECTION

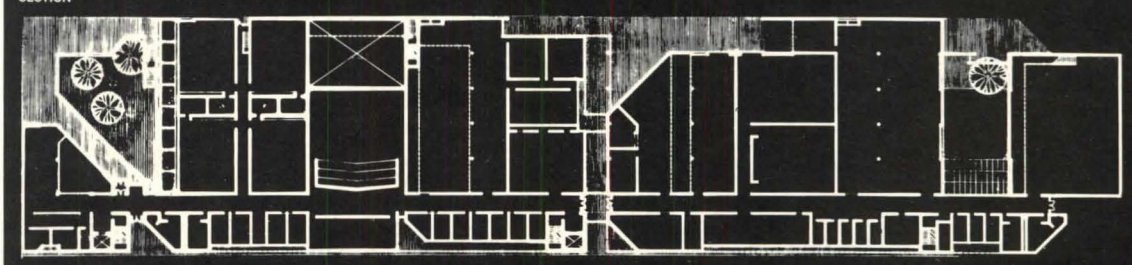
6 Art museum, Philip Johnson and John Burgee. The building will include galleries for a permanent collection (a gift of Roy R. Neuberger) loan collections, and temporary exhibits; it will also have basement study-storage spaces and shops where students can learn conservation techniques, exhibit design and production. It takes the form of five massive blocks, staggered in plan to leave open courts. The south gallery overlooks an old family cemetery on the site.



PLAN

SECTION

7 Visual arts instruction, the Architects Collaborative. Studios, shops, and labs of various heights and volumes rise to a roofline of saw-toothed monitors. A strip of corridors, offices, and stairways, with a lower roofline, runs along the street to the west. Large courts to the east are placed to complement the courts of the adjacent art museum and the open space of the cemetery. A passage through the building at midpoint borrows light from a roof terrace above the shops.



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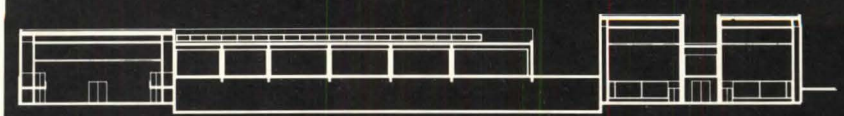
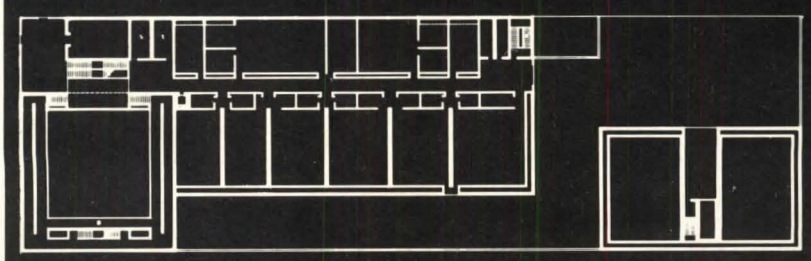


SECTION

8 Theater arts instruction, Edward Larrabee Barnes. Drama classrooms and rehearsal rooms are on the main floor, film studios and support facilities on the lower level. Twin TV-film studios at the south end are separated by a mobile TV dock. A laboratory theater with flexible lighting and movable seating for 300 is located just off the arcade. Like the recital halls in the Music building across the plaza, this workshop theater can be used for occasional public performances.



PLAN

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stance, Gwathmey, Henderson & Siegel have designed a standardized spandrel beam made by casting concrete inside a permanent formwork of large, hollow bricks standing on end.

One serious technical problem that all of the architects had to cope with was aircraft noise from Westchester County Airport, one runway of which ends less than one mile from the campus core. The extra cost of sound-proofing buildings on this site was carefully weighed against the beauty and convenience of the tract (and its *availability*) before the land was acquired. The architectural solutions to the sound problem here include many double-envelope structures and much use of thick concrete roof slabs and extra-thick glazing.

Step-by-step development

Construction of the campus had to be phased to correspond to the growth of the student body and faculty to full strength over a period of two or three years. It was not practical to build the campus conceptually—that is, starting at the core and working outward. Instead, construction has started along the south side, with the museum, the humanities building, the first student activities building, and the first dormitory group; the library and the gym are also under way. These will form a nucleus of contiguous buildings that can function while construction proceeds to the west and north.

The first dormitory group, designed to house 800 students, will have to accommodate many academic functions initially. The long-range program calls for a library and academic subcenters—one for each 200-student section. But for the first few years, other spaces will have to double as teaching spaces—lounges as rehearsal rooms, the dining hall as a theater. All of the common rooms are oriented inward toward the portion of pasture land that will be enclosed by the U-shaped structure.

Individuality and order

The concept of the Purchase plan makes the design of its individual parts fascinating as architectural problem-solving. What really matters, of course, is how the whole development will serve the academic community that will grow there.

Certain aspects of the plan are bound to work well: the tight-knit core of buildings in the midst of a rural landscape; the central plaza combined with major common facilities; the separation between various kinds of traffic; the underground service system in the core; the immediate access to the landscape at the open ends of pedestrian streets.

But the plan imposes severe limitations on the layouts of individual buildings. Not only must each one be linear, but its main entrance must be at one end. Expansion can take place only at the other end, so that circulation can only become more extended. Numerous passages through the buildings from street to street will ease the problem by providing a network of alternate routes for the large proportion of traffic that will move *between* buildings.

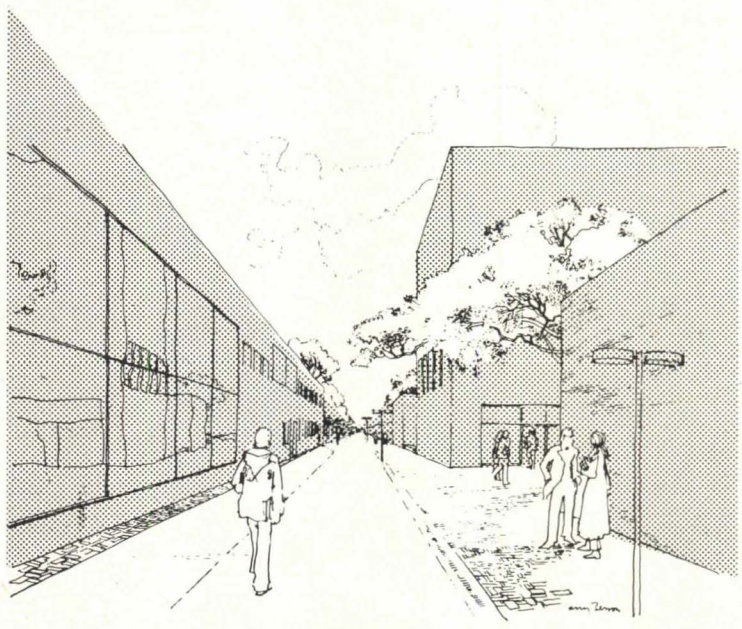
What the core lacks, in spite of its density, is a continuous, weatherproof circulation system. There are enclosed links—essential for moving musical instruments and costumed performers between buildings—but these are too roundabout for general use.

Lining up the academic disciplines along the plaza—giving all of them equal units of space but radically different buildings—should make the campus layout highly comprehensible. With his *laissez-faire* attitude on form and his rigid rules on materials, Barnes is obviously trying to steer a course between the insipidness of a Lincoln Center and the chaos of an Expo.

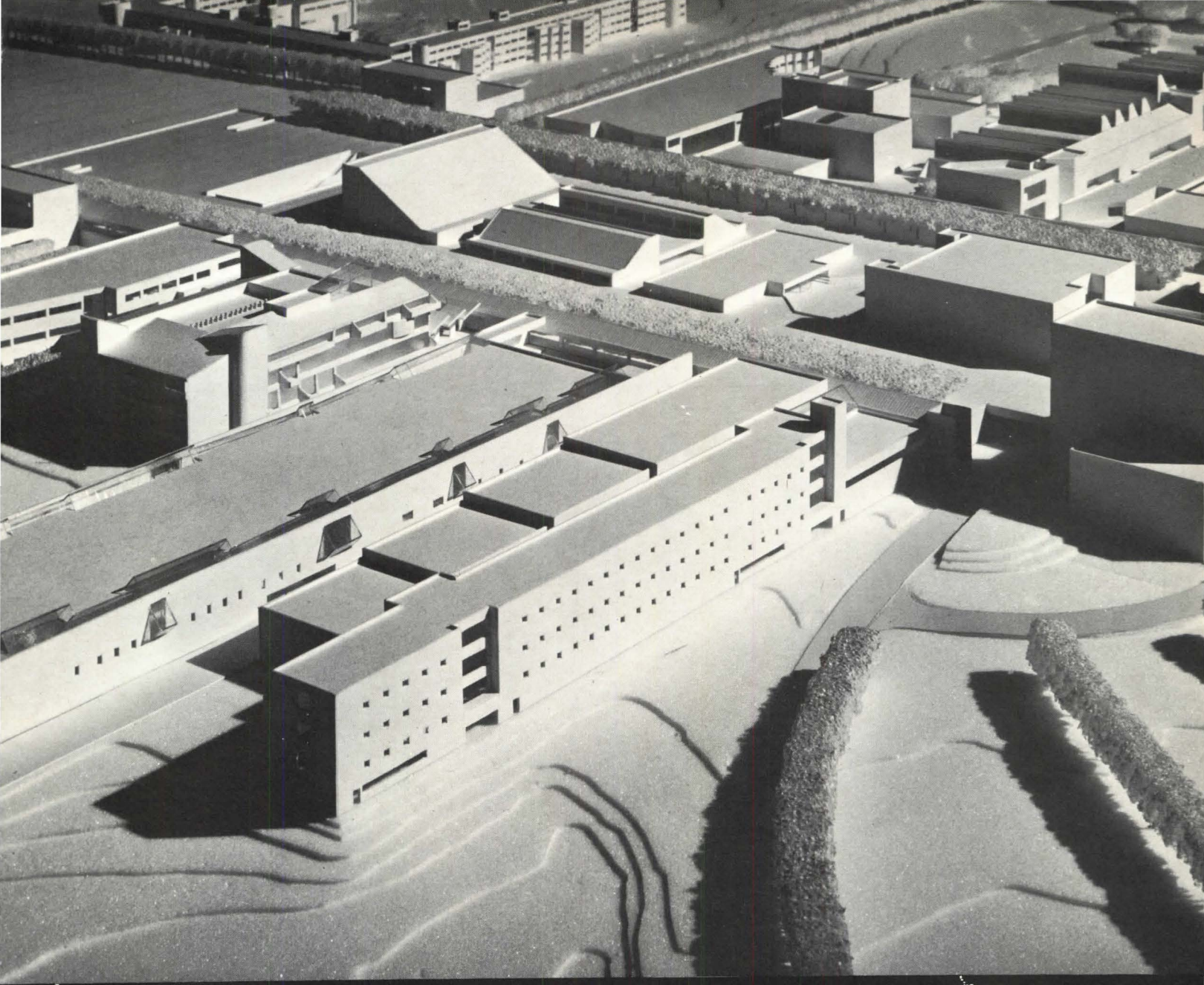
His precautions against chaos seem to be the stronger ones. He has limited conflict between forms by arranging the buildings so that none of them is ever seen whole (except from the air). Even his own central buildings are submerged, to varying degrees, below plaza level.

The other buildings are seen only in foreshortened views along the streets or behind the 20-ft.-high arcade that screens them on the plaza side. The plaza might have been more exciting—and the overall concept more explicit—if the arcades had been laced through the academic buildings, not erected in front of them. Then they all could have had fronts lined up along the plaza like stores on Main Street.

When Barnes decided to give the plaza a neutral lining, was he shying away from the logical expression of his overall scheme? Or was he wise to rule out a facade competition among star architects? Perhaps that was the only way he could leave them really free.—JOHN MORRIS DIXON



The strongly contrasting forms of the academic buildings (model photo) confront each other across 30-ft.-wide pedestrian streets (above, street between humanities and museum). The streets lead straight out to the open landscape from the formal central plaza (right). Along the axis of the plaza are theaters, book store, and library; along the edges, three rows of lindens and a brick arcade.
MODEL PHOTOS: Louis Checkman.



CAMPUS WITHIN A CAMPUS

The new Academic Complex and Art Center at the University of Wisconsin in Madison is one of the most sensitive and inventive pieces of urban design to be found on any U.S. campus.

This is so not only because the building group is, in itself, a handsome work of architecture—which it is—but, more importantly, because of the way it relates to its surroundings, both natural and man-made. In spite of its considerable volume, the complex seems to add space to the campus rather than encroach upon it.

Harry Weese, the architect, made a number of initial decisions in planning this project that were fundamental to its success:

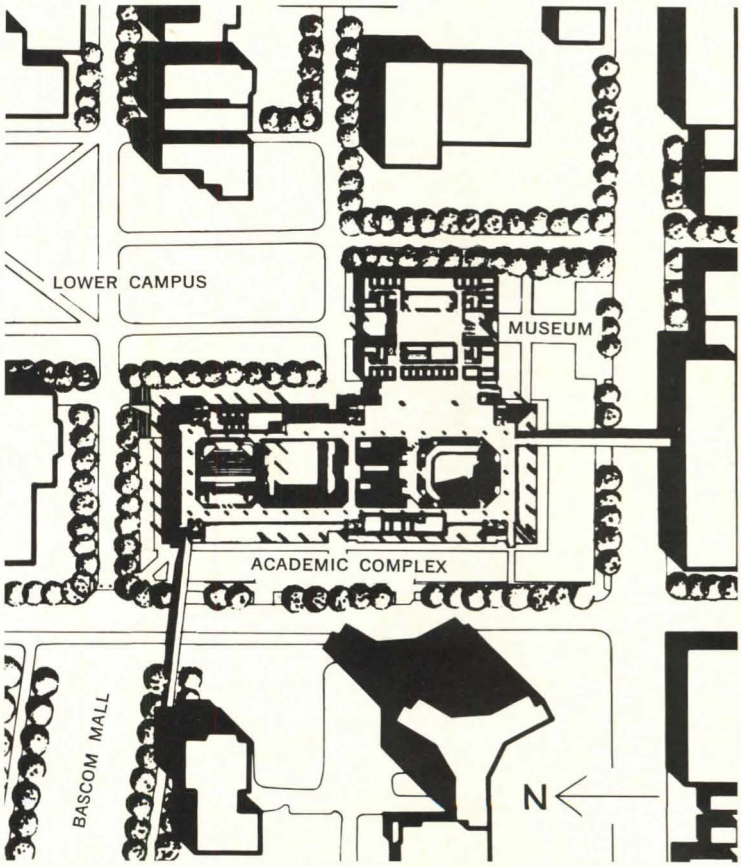
First, he decided that the four separate departments housed in the new complex—art, art education, history and music—should, in fact, be brought together in a single continuous structure, rather than be dispersed in four separate towers, as the University had initially planned.

Second, he decided that the resulting single building had to stay within the cornice line (and the treetop line) of the existing quadrangle to the north.

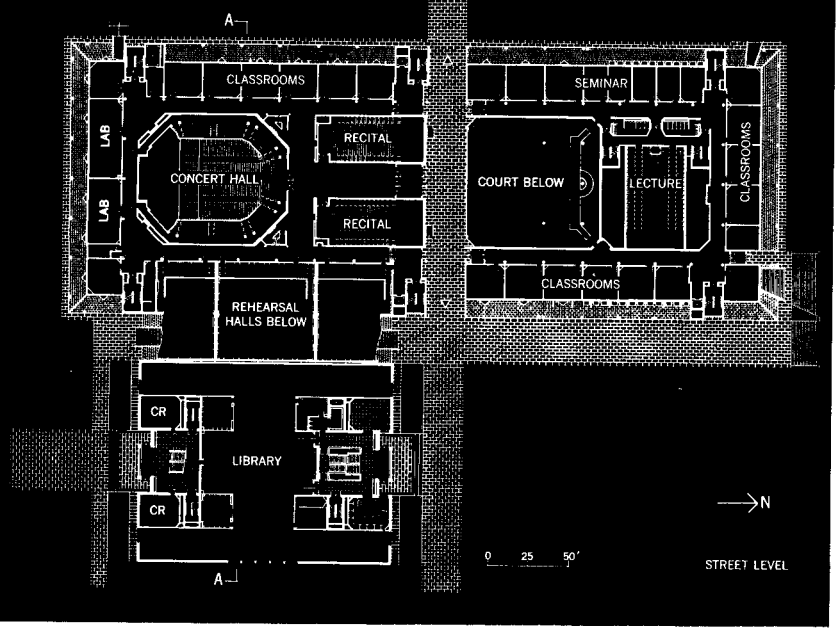
Third, he decided that the pivotal location of the site called for a walk-through building—a kind of pedestrian thoroughfare on several levels.

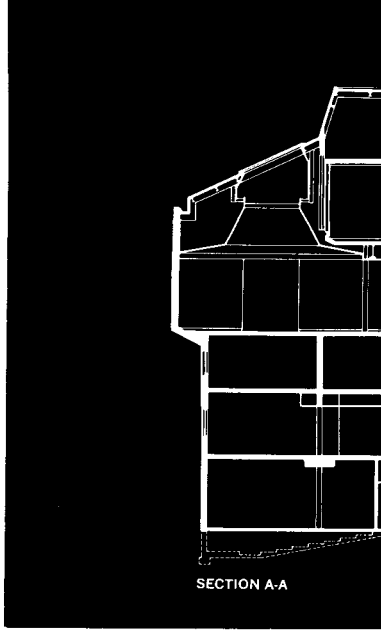
And finally, Weese recognized that the building would be highly visible even from above on this hilly campus—and so he designed a lively roofscape that acts as a "fifth facade," especially when seen from Bascom Mall, which runs up the slope to the west.

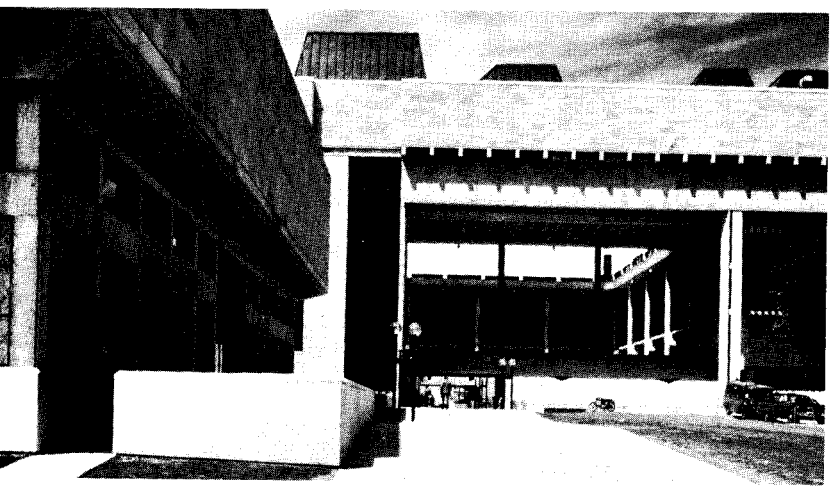
The structure that is the result of these decisions is, according to Weese, "horizontally layered from the cornice line down." The section on the following pages explains its rather complex arrangement.



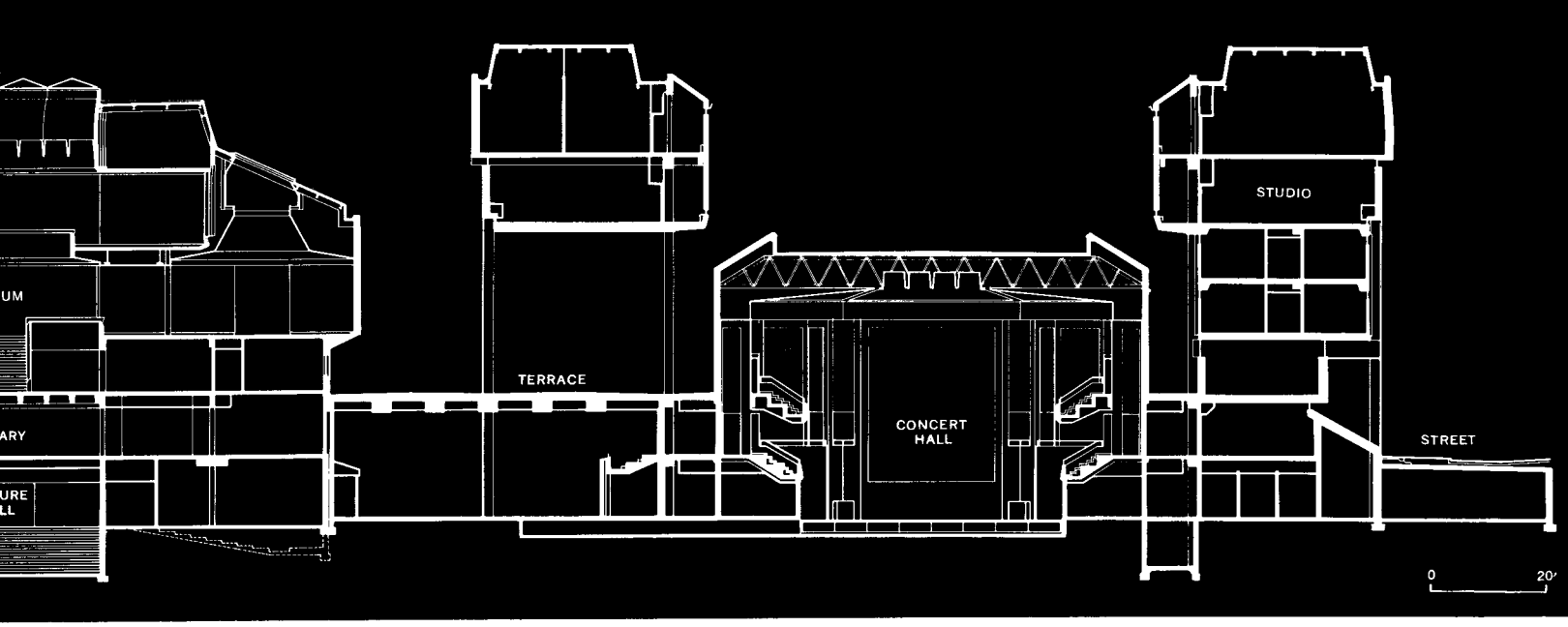
A concrete bridge spans the busy street between the foot of Bascom Mall and the new Academic Complex at the University of Wisconsin. Extensive open terraces at bridge level carry pedestrian traffic to various parts of the new multipurpose building and to other buildings on the Lower Campus beyond it. Tall colonnades on all sides support two top floors of art studios, many lighted by tall, copper-clad monitors. Two stories of offices are slung between the columns above the terrace.







At street level, a passage leads directly through the complex (plan and photos, left) between the music department to the south and the history classrooms to the north. The Elvehjem Art Center occupies an almost-detached wing to the east (above left). Rooms at street level and on the floor below are lighted by windows in the sloping stone base of the academic complex (photo left and section, above right). The roof of the concert hall block (right) serves as a sculpture court for the surrounding art studios. On all parts of the complex the cast-in-place concrete structural frame is clearly distinguished from infill walls of limestone, stucco, and copper.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Basically, the layers of the larger academic block work out as follows: at the top are two levels of art studios, the uppermost topped by mansard-like roof projections. Below the studios are two floors of offices, divided among the various departments. Beneath them is the largely open terrace level, which is joined by a footbridge to the mall on the upper campus. Below terrace level are two floors of classrooms and practice rooms, lighted by openings in their sloping walls.

Rising from terrace level in the interior courts of the academic block are two separate building volumes—one containing a concert hall and two recital halls, the other housing history lecture halls. Between these stone-clad volumes, the central court penetrates two stories below the terrace to the lowest level of the structure. The roofs of the two interior blocks provide two other courts, high above terrace level where the light is good for displaying sculpture.

Adjoining the academic block is the Elvehjem Art Center—"again a layered building," says Weese, "with a library at grade, lecture center below grade, art history at terrace level, and the Brittingham Galleries at the top, accessible through a main sculpture court."

Apart from the fact that a unified complex—instead of four separate towers—could be kept low in silhouette and hence harmonious with the existing campus, there were obvious economies in putting the four diverse academic departments into a single, continuous building. Utilities and vertical circulation, for example, are shared, and there is enough flexibility in plan to permit shifts in space allocation between departments in the future. Spreading departments out in horizontal layers reduces the need for vertical circulation; for the art department, it makes possible a vast amount of extra-high and top-lighted studio space that could not have been obtained in a separate art building.

The exterior finishes of the complex—applied consistently to all of its parts—are cast-in-place concrete and local limestone. The curtain walls of the office floors and the lively projections on the roof are clad in copper. As in all of Weese's work, the detailing is neat and expressive—quite reminiscent of the best work being done in Northern Europe.

—PETER BLAKE

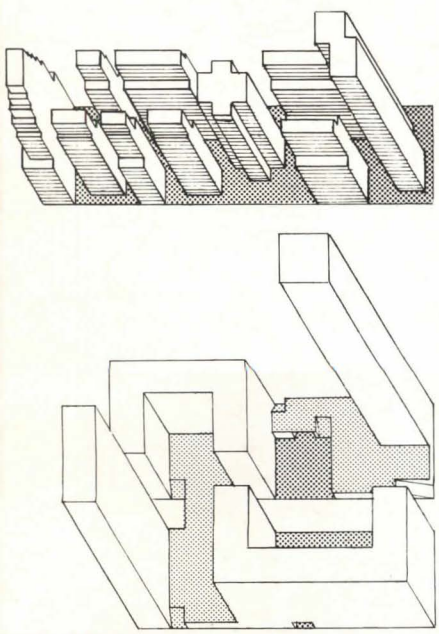
The top floor of the academic complex provides high studio space with clerestory lighting (top right). Odd-shaped windows in the corridors outside the studios (top opposite and preceding page) overlook the roof of the concert hall (interior, middle right). The central stairwell of the Elvehjem Art Center (middle right and bottom opposite), which will double as a sculpture court, leads visitors up to exhibition galleries occupying the top two floors of the structure. Library, lecture hall, and art history department spaces on the lower floors are reached through separate entrances.

FACTS AND FIGURES

Academic Complex for Art and Art Education, History and Music, and Elvehjem Art Center, University of Wisconsin, Madison, Wisconsin. Owner: Wisconsin State Agencies Corporation. Project Architects: Harry Weese & Associates. State Architect: Shinji Yamamoto. Engineers: The Engineers Collaborative (structural); Samuel R. Lewis (mechanical and electrical). Consultants: Bolt, Beranek & Newman (acoustical); Edison Price (lighting). General Contractor: Corbetta Construction Company. Building Area: 384,057 sq. ft. Construction cost: $10,915,114.
PHOTOGRAPHS: Balthazar Korab.

ZONING IS A 3-DIMENSIONAL WORD

A continuing study of the physical implications of New York City's zoning will bring some changes for New York and some attention from other cities



1. TWO POSSIBLE FUTURES

On September 17, the Board of Estimate in New York City adopted—without comment or controversy—a series of changes in the city's zoning resolution. No one at the public meeting spoke up either for or against the changes, which mainly concern the ways in which towers may be located on their sites in the city's highest density residential districts.

What makes the amendments significant is not just that they are the first attempt to make usable the open space surrounding any one of these towers, but that they are also the first attempt to consider a building's relationship to nearby buildings and streets: the much-heralded 1961 zoning ordinance introduced the idea of a bonus for a plaza, but made no acknowledgement of the urban context, and of the possibility of repeating *ad nauseam* what might be quite digestible in smaller portions. Unswerving application of the '61 law has led, in residential areas, to the useless bits of "plaza" adorning the city's most expensive apartment buildings, and in commercial areas to the empty expanses along upper Sixth Avenue and lower Park.

The new regulations cover the highest residential densities in the city, and the mixed residential-commercial zones, which together make an unbroken grid over all of Midtown's north-south avenues and all its major crosstown streets. The regulations will thus be responsible for what happens, in physical terms, to a highly visible part of New York City. But their significance is more than this; these amendments, and the larger study from which other amendments will follow, "go to the substance of what makes architecture in this city," says one of the city's top architect-planners; "it isn't brutish architects or rapacious builders, but the zoning ordinance that designs buildings."

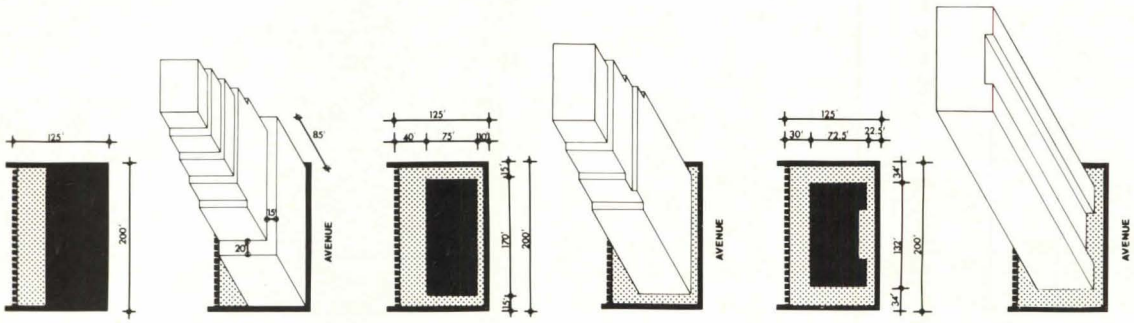
The zoning study that led to these amendments is the work of Raquel Ramati, a young Israeli architect who joined the Urban Design Group of the City Planning Department two months after that group was started in 1967.

An early project of hers was a comprehensive analysis of the existing zoning, with various lot sizes and types (corner lot, interior lot, avenue lot, through lot) studied for development at R8, R9 and R10 densities. (R8 maximum is about 50 units per 10,000 sq. ft.; R10 is double that.) The result was an exhaustive graphic survey of all possible setback situations.

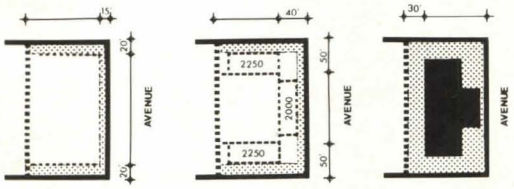
One pair of these drawings (left, 1) clearly indicates the direction of her thinking: the first shows the theoretical ultimate development of a typical block zoned R10 along the avenue and R8 in mid-block. (Actually R8 is not economical to build, and the likelihood of the block being fully developed in this way is slim.) The second shows the development (*not* now possible under existing zoning) of two blocks, with public and semi-public open space, commercial space along the street and parking under the open space. How to get from here to there was—and is—the problem.

The zoning after '61

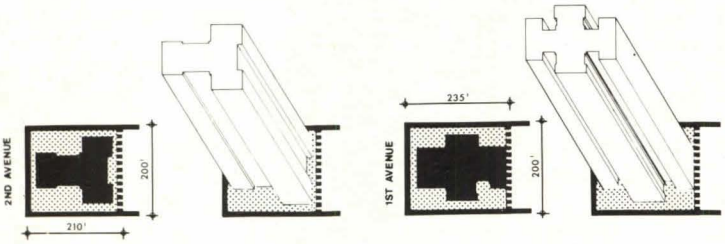
The physical determinism of zoning is clear. Until September 17 of this year, one could build in an R9 or R10 district in one of three ways (2)—regular setback, alternate setback, or tower. (For a variety of economic reasons, including the prestige factor, the tower has been preferred,



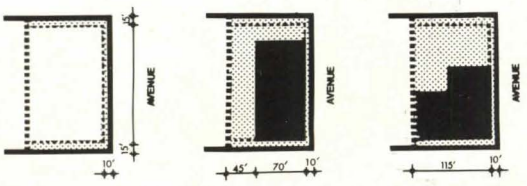
2. HIGH RISE ALTERNATIVES SINCE THE 1961 ZONING



3. TOWER REGULATIONS—1961



4. TOWERS DESIGNED BY THE 1961 ZONING



5. TOWER REGULATIONS—1970

1 (top): The theoretical, although unlikely, development of a typical residential block in New York City; (bottom): a hope for the future. 2: Residential alternatives since 1961—regular setback, alternative setback and tower. 3: Tower restrictions, from 1961. 4: Results, in existing buildings. 5: A new flexibility from the 1970 amendments.

since the time it was first allowed in 1961.) "Any building is as much influenced by zoning as by architecture," says Raquel Ramati; "zoning is the grammar in the language of architecture."

A tower, of course, was as rigidly controlled as a building with setbacks. The tower could not occupy more than 40 per cent of the site, had to be set back from the street and avenue by certain distances, and could not occupy more than certain square footages within 40 and 50 feet of the streets (3). It thus tended to occupy the rear part of a site, back from the avenue, leaving left-over bits of plaza at the front and sides. The shapes of particular buildings were almost preordained (4). "The builders had been pressing us," says Miss Ramati, "saying that the zoning was inflexible, and it was." The recent changes are an attempt to ameliorate the situation, with advantages to builder, architect and community.

The changes in '70

The changes regarding towers do the following: (a) they establish a uniform setback zone, whether the tower has a base or not (the setback of 10 ft. from a wide street and 15 ft. from a narrow street formerly applied only to a tower *with* a base); and (b) they abolish limits on the amount of floor area permitted within various distances of the street. The result is simply that a building may be placed anywhere on the site, and the remaining open space consolidated into a significant area for real benefits to the neighborhood (5).

In addition, by special permit, a tower can be built up to the street line (6)—if the lot runs the entire width of the block along the avenue, if an arcade is built,

and if a public open space of at least 4,500 sq. ft. (minimum dimension of 40 ft.) is provided on the site. (No driveway can encroach on this open space.) For a special permit to be granted, the City Planning Commission must find that the change will "enhance the architectural relationship" of the building to its surroundings, will "improve the relationship" of the open space to *its* surroundings, and will not obstruct anyone's access to light and air.

Reaction thus far

What do the changes mean? Raquel Ramati explains the multiple advantages: developers will find it more economical to build, architects will find it more challenging to design, and the people who live in or near the new buildings will enjoy more usable open space at ground level. "I think high density is good," she says, "*if* there are amenities." She mentions that on Sutton Place the densities—above R10—are not oppressive because of the many small parks. "Big open spaces are not the answer in high density areas."

Architects who know about the changes are enthusiastic about the new freedoms (although they feel that the changes don't go far enough; one architect, in fact, suggests that the whole zoning ordinance should be overhauled). The few architects who do most of the city's high-density luxury housing were consulted during the months in which the study was being made and the proposals were being written. The AIA's local Commission on Urban Design, however, was unaware of the changes even after they were officially adopted. "They weren't brought to our attention to review," says James Rossant; "I imagine we'd have backed them."

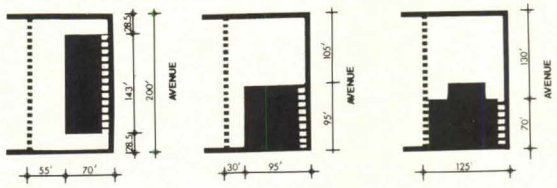
Walter McQuade, a Commissioner of the City Planning Commission (and an architecture critic) looks to the new regulations to "install a stronger architectural system along the avenues —and this may spare the side streets. Every session we have," he says, the owner-developers try to "torpedo into the mid-blocks."

No one suggests that the changes will make for more housing. Richard Roth Jr., who agrees that the new regulations are "excellent, on the right track," nevertheless admits that luxury housing is rather "off the track at the moment—a builder doesn't make the same money on an apartment building as on an office building." Although the housing that would be built on these sites is only a minute fraction of the housing needed by city residents, the same zoning regulations will be applied to improve subsidized highrise housing.

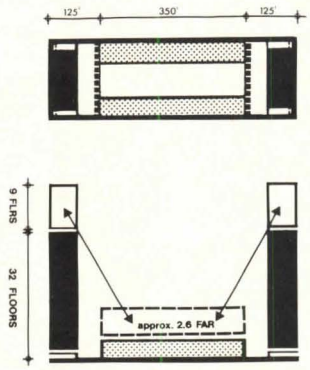
"Relocation is the problem throughout the city," says Miss Ramati. "The average relocation load on a typical R10 site of 20,000 sq. ft. is about 100 units. A new R10 building provides 250 units, but where do the present residents go? Few residents on these sites can afford the new rents, as high as $150 a room."

Since 1961 some 30 sites have been assembled in R10 areas, to await more propitious times for redevelopment. The city's policy is to encourage private enterprise in housing; it views dislocation as "painfully unavoidable."

An architect from one of the offices doing a great deal of new building in New York City sees it this way: "Whether we like it or not, the great thing about New York is that things are getting torn down all the time. It's like a new town all the time. I don't



6. ADDITIONAL POSSIBILITIES



7. SAVING THE BROWNSTONES

6: Other possibilities for the placement of residential towers, to be granted by special permit. 7: Not yet enacted, a plan to save midblock brownstones by zoning, with the brownstones transferring unused F.A.R. of about 2.6 to the owner on the avenue.
DRAWINGS: By members of the Urban Design Group, City Planning Department; except drawing 1, by Frank Israel.

like it in many cases, but I'd rather see it this way than see the city die." Undoubtedly, those who don't benefit from New York's constant rebuilding (and in fact suffer from it) view "a new town all the time" with less exhilaration.

How do builders view the changed zoning? Samuel H. Lindenbaum Jr., a lawyer who represents almost the entire "development community," says that anything increasing the flexibility of zoning "has to be helpful." He concedes that some builders are worried about maintenance and security in a quasi-public open space, but he points out that the space can be legally shut off at night.

In many cases, however, says Lindenbaum, the amendment permitting one to build up to the lot line won't be a big enough incentive, and since the change is purely discretionary, a developer will choose to build as he did previously. (In particular, wrapping commercial space into an L-shaped building, turned away from the avenue, loses the value of avenue frontage.) The only real incentive to development, says Lindenbaum, is to increase the floor area, thus spreading the cost of the land and the foundations. "And the real clue to building in Manhattan," he says, "is to change the R8's to R10." But he considers the recent amendments a good beginning. They won't make for more building, he feels, but they are "a first step in reconsidering the zoning, and a sign that people are now thinking about these problems."

Further developments

Other zoning questions are being explored in the continuing study.

Greater site coverage is one such subject; it is being studied, says Raquel Ramati, partly because of community objections to high-rise, and partly because observation of certain older buildings reveals a very high coverage without adverse effect—"some buildings have a Floor Area Ratio of 20, but you don't feel it," she says. Since the F.A.R. would be constant, a larger coverage would mean a lower bulk.

Another subject is "split-lot" zoning, and here the City Planning Department is exploring ways in which midblock bulk could be transferred to the avenue front. One tentative proposal is that owners of brownstones be allowed to sell their unused F.A.R. of about 2.6 to the owner on the avenue (7). He could then add extra floors to his building while the midblock would remain low and good brownstones would be preserved. (Once the air rights were transferred, any new buildings on these midblock sites would be limited to brownstone height.) The legislation on split-lot zoning is now being written.

Changing the regulations on small sites is another change that Miss Ramati proposes—increasing the site coverage from 50 per cent (which gives an uneconomical floor) to 70 per cent in exchange for various provisions: open space above the street, or a direct connection to the subway, or a public plaza under the building. About half of the vacant or "soft" sites in the city are small (i.e., less than 20,000 sq. ft.), "but we're not pushing these changes now," says Miss Ramati; "if it isn't economical to build 250 units, it isn't economical for 100."

Pooling of the required plaza spaces is another subject being investigated, in the hope of turning the present left-over strips into useful parks, large and small. A park's usefulness is not a function of its size; there are many pleasant places carved out of minimal square footage, just as there are many small spaces wasted.

For sites fronting Fifth Avenue, however, where the existence of Central Park across the street makes additional park space redundant, Miss Ramati is studying a different formula in which a bonus might be offered to the developer in return for his contributing to the maintenance of the existing park.

And on other avenues, there are other situations. On Second Avenue, for instance, which has many "soft" sites and many antique shops, perhaps a bonus can be contingent on rehousing the shops inevitably displaced.

Other considerations

Thus far the study addresses itself only to residential zones and mixed residential-commercial zones. But many other changes have been made in the last few years to refine the results in commercial zones, including incentive zoning in the theater district. The office tower provisions of the 1961 ordinance still stand, although they too are now being studied. Asked about the sequence in which residential and commercial towers were explored, Miss Ramati explains that when she arrived at the Urban Design Group, "everything else was taken; I got residential as my responsibility."

The two could not be done together, says Raquel Ramati, because their amenities are so different. But although the amenities are different, the principle is the same: an attempt to bring about certain amenities in the public interest, by encouraging the entrepreneur in his effort because it is also in his own interest.

Interestingly, the City Planning Department lost another attempt at a *quid pro quo* arrangement with the builders of luxury apartments in early October, when the Board of Estimate vetoed the so-called Special Lower Third Avenue Development District. (In this case zoning was to be used not for physical ends but for social.) The proposal would have upgraded to R10 a portion of Third Avenue between St. Marks Place and 14th Street; and in exchange for the increased density a developer would have set aside 15 per cent of his floor area for low and moderate income units, or would have paid to help acquire nearby sites for public housing. The proposal received a 4-3 endorsement from the City Planning Commission but met opposition from at least two sides—from those who wanted *more* low and moderate income units, and from those who wanted the R10 designation without any such requirement.

In the final vote by the Board of Estimate, only Mayor John V. Lindsay voted for it. Many persons believe that the proposal will be revived in some form, before long, although not necessarily for the same area.

Used for either physical or social ends, zoning can be an extremely powerful device. It can be used negatively, as a denial of permission—as it is most often used—or more positively as a series of trade-offs within the operating realities.

In the new regulations concerning towers, New York City is very much operating within the existing realities, hoping to get something from the developer of housing while granting him an easier time of it. Undoubtedly this will work as predicted. Unfortunately, another result is also predictable—the dislocation of many persons from sites being redeveloped. —Ellen Perry Berkeley

SYNANON CITY

BY ROGER MONTGOMERY

High on a hillside overlooking the splendid Tomales Bay and the Point Reyes peninsula north of San Francisco, a new town has begun. Its social structure must surely be the most unusual of any of the recent American new towns. In fact, Synanon city promises, for the first time in a generation or two, a fundamental alternative to the life-style of the suburban subdivision with its nuclear families, detached houses and commercial exploitation of the land. For this more than its architecture, it deserves attention.

The settlement at Tomales Bay is the first significant building group to be commissioned by the Synanon organization. It is also the first movement of the group away from its inner-city haunts into the open landscape that has always had such magnetism for American utopians. To understand these events, one needs some knowledge of Synanon ideas and accomplishments. Chuck Dederich and the movement he founded have received extraordinary attention in the media. Another story on this remarkable man and his heroic fight to build a redemptive society for addicts, drunks and dropouts has no place here. But a few points need reiterating because they bear so heavily on the environmental design emerging at Tomales Bay.

Synanon began as an alternative to the alienated, self-destructive life-style of hard-drug addicts and drunks. That is still its main business, though Synanoners now include criminals, dropouts and straight people (including several architects) who simply find its alternative more satisfying than their former anomic existence. Synanon works. Addicts stop taking drugs and live productive lives. Drunks stop drinking. Felons stop their lives of crime and violence. The "lifestylers," as the nonaddict, noncriminal members of Synanon are known, find peace, self-realization and community.

Mr. Montgomery is a frequent contributor to the Forum. He is professor of urban design in the Department of Architecture and the Department of City and Regional Planning at the University of California, Berkeley.

The healing experience

Three main components make up the healing experience: the Game, grand-daddy of all encounter groups; the supporting tribal organization; and a protected, private life not necessarily shared with anyone else—wife, children or parents. The Synanon Game provides both the sacrament holding the group together and the psychological dynamite blasting people out of heroin or violence-dominated behavior. Synanon folk take a proprietary but skeptical view of latecomers to the encounter technique and those partially committed to it. And with good reason. For at Synanon, the encounter is at the center of everyone's life, not on the periphery as weekend therapy or amusement.

The tribe, not the family, is

Synanon's primary social group. Its membership is defined in many ways: as regular participants in a Game group, as a work group, as the group replacing the nuclear family in the social psychology of Synanon. The protected private world of the individual is its other social dimension. And its chief physical dimensions are the tribal spaces, on the one hand, and the private cell (or "cave" in Synanon jargon) on the other.

Dederich founded the organization 12 years ago in Southern California. It has grown exponentially into a national movement with about 1,500 live-in members plus another 5,000 who participate intensively in Synanon life. The two main centers are in Santa Monica and Oakland. "We always wanted a country place," explains Dederich, who has moved his personal headquarters to Tomales Bay. "We are going to build a city here. I would like to build 30 or 40 communities of 50,000 people each, scattered all across the country." (Only 100 people are now permanent occupants at Tomales Bay. The war and tight money have slowed construction.)

The nucleus of the future city occupies a site originally intended in 1916 as a Pacific Coast center of a world-wide network for the Marconi wireless. Several gutty Italianate palazzi, properly festooned with grapevines, gave ready-made living space when Synanon bought the land five years ago. (They have 62 acres, are negotiating for 1,000 more.)

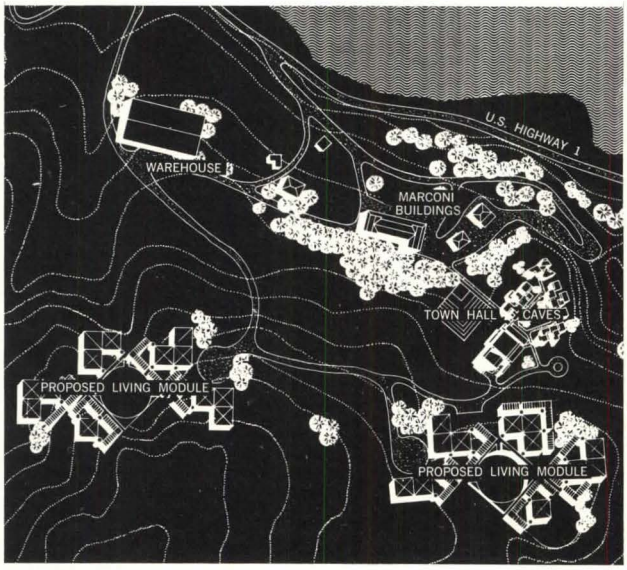
The earliest work

Architectural work began with the remodelling of the main Marconi building. The organization employed architect Ellis Kaplan, partner in the San Francisco based firm of Kaplan and McLaughlin. From the fortuitous fact that he lived next door to Synanon's first San Francisco base and offered a neighborly hand to the newcomers, his involvement has deepened to the point where he is enmeshed personally, leading the life of a Synanoner.

For the settlement's first new construction Kaplan designed a multi-purpose community building just above the old Marconi structures. He intended it to form a nucleus for the first caves. Various small spaces would be clustered around a grand, central space framed with prefab steelwork. Kaplan chose the self-help approach. The community could presumably save money, and perhaps more important, the undertaking would provide on-the-job training, and ought to reinforce through joint effort the sense of community among residents.

But something went wrong. Started several years ago, this village hall remains unfinished. Why, given the solid-sounding rationale, should this happen? It puzzles the architect as much as anyone. Is it any help to note that such half-complete "ruins" are characteristic of utopian communes? In the 1930s, the remarkable Black Mountain community in North Carolina experienced something similar—despite leading expatriate talents from the Bauhaus as architects, and despite a thriving community that valued serious design. Other utopian communes like Arthur Morgan's little group in Yellow Springs, Ohio, and the Circle Pines encampment in Michigan had similar histories. The current wave of commune building in the western states shows some of the same troubles. Somehow, building ideal communities and realizing architecture often conflict with each other.

Kaplan's later work at Tomales Bay—a cluster of caves and a grand house for Dederich—were conventionally contracted out, and the buildings have been completed. The caves, labeled "Sea Ranch South" by a local wag, provide 60 or 70 wood-framed cells. Each unit has a fine view over the bay. But more important, each cave provides privacy for sleep, personal culture, lovemaking, or just hiding out.



Left: "Kaplan's Kaves," the place for a Synanoner's private life. Above: Synanon city began with the old Marconi buildings, then grew to contain a town hall (unfinished), caves, and a prefab warehouse. The "living modules" are not yet built. Right top: Chuck Dederich, founder of Synanon, in his cave. Right bottom: the Marconi buildings, grapevine-covered, plus a Bucky Fuller dome "somebody gave us."

The function of the caves in Synanon life seems evident and correct. However, they exhibit a duality that characterizes everything built at Tomales Bay: the discrepancy between the fundamental role of the private cave in the Synanon life-style and the architect's demand for an esthetically sophisticated setting. The basic structure adheres to the West-Coast-redwood, monopitch, art-in-artlessness vernacular that Charles Moore gave Sea Ranch, California and the world. But the furnishings, the decorations, the personal imprint given by the cave-dwellers bespeak another world, one dominated by immediate comfort, by the symbols of lower-middle-class arrival, and by the random design standards forced on Synanon because they have to scrounge for everything. Realizing a Sea Ranch is contingent upon a high-style, upper-middle-class world, one that requires lots of money and thoroughly internalized elite visual standards.

More or less concurrently with the caves, Kaplan built a commodious house for Dederich and his wife. During its programming, a house for Chuck Dederich seemed reasonable to everyone at Synanon, even though it would mark him as living in a different, more conventional way. But after trying to live in his new house, Dederich converted it to caves for himself and his senior staff. Even this is not permanently satisfactory. The Synanon people are preparing another cave for Dederich in one of the old Marconi buildings. Meanwhile, the chief and his staff puzzle over what to do with the grand house: turn it into a school, a library and media center, or organize in it a sub-commune of Synanon's child-bearing young (a brood house?).

The abandonment of the Dederich house should have surprised no one. With the clarity of hindsight, nothing could be more obvious than the fundamental contradiction between Synanon's ideas and the single-family house, even one for their leader. Today, the detached dwelling symbolizes the anathema that Synanon city will combat.

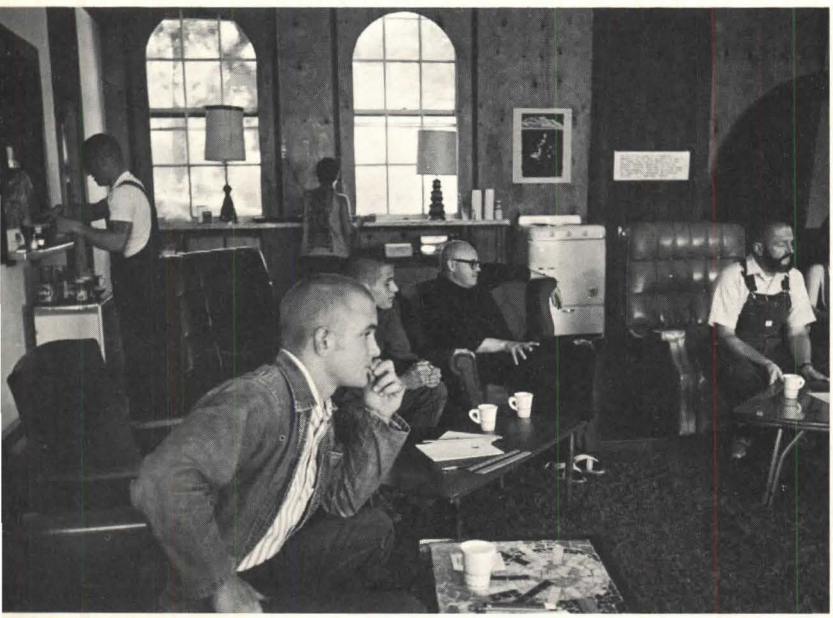
Questions concerning style

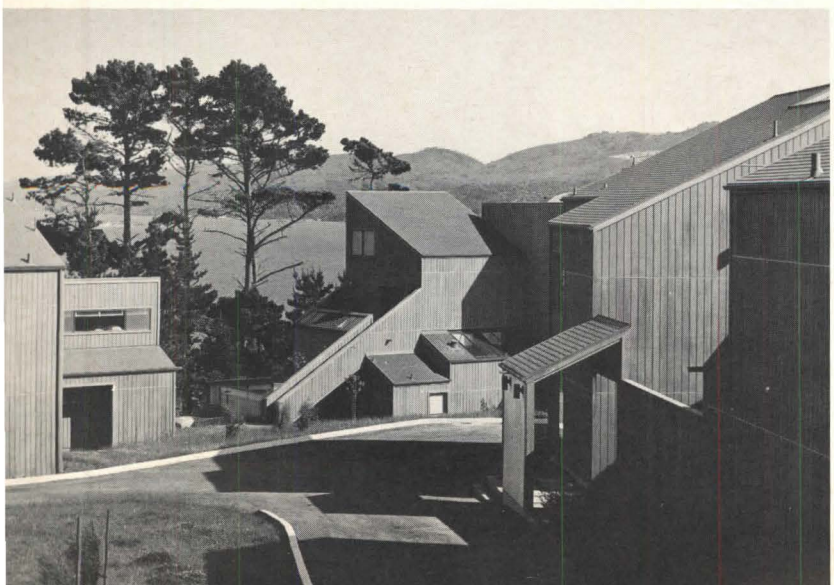
Certain other architectural matters demand consideration. These include the questions of adaptability and style both in the Kaplan buildings and in a more recently erected off-the-shelf package building. Fortunately from the standpoint of functional flexibility, the architect's concern for formalist geometry led him to design a series of plastically related spaces rather than attempt mechanically to generate highly specific forms from their presumed future use. Thus the building contains a number of relatively big, adaptable spaces. Although each is given some special quality by individualized bits of skylight, loft and service space, they have proved readily adaptable to changes in use.

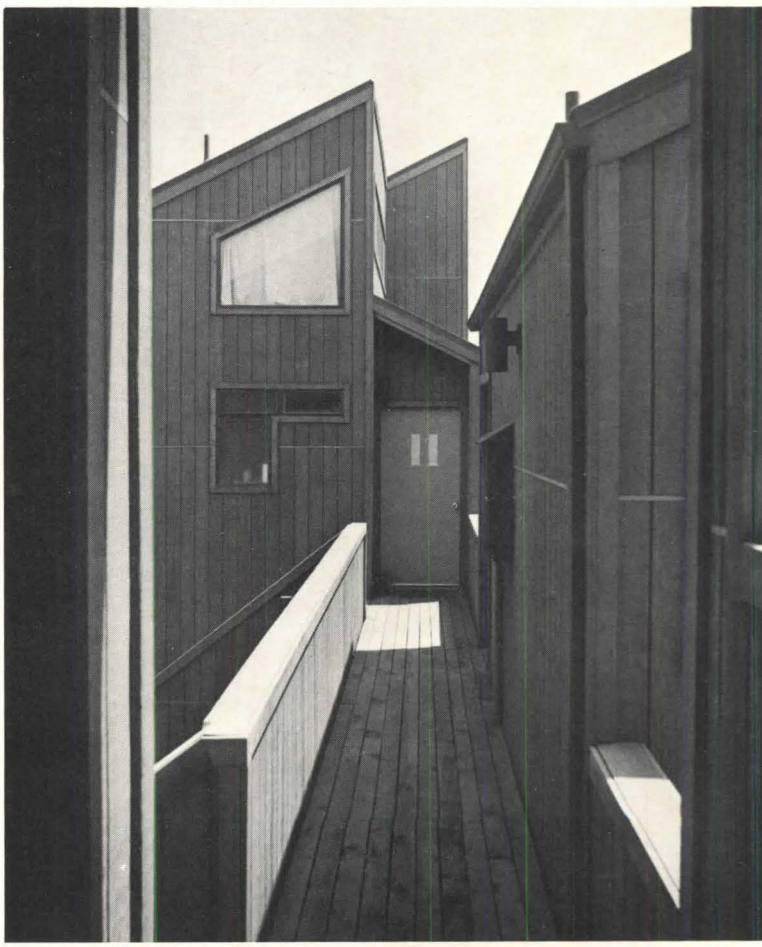
The ideas concerning style troubled this writer, a newcomer to California, hypersensitive to the strangeness of Moorish forms. Kaplan answers that the organization needed the symbolism inherent in such stylish, upper-middle-class shapes. Still, it does look a bit "chi-chi" as a setting for shaven-headed ex-addicts riding motorbikes in overalls.

Not so stylish is Synanon's newest addition to the Tomales Bay landscape, a huge prefab warehouse that dominates the approach to the site. The main dining room and kitchen will soon be transferred here, and complex interior constructions are now underway. These raise a question about the true cost of building vast, anonymous space, but this question seems minor compared with the environmental impact of this blockbuster.

It sits on a raw platform, bulldozed out of the hillside. Its scaleless, blank wall needs only a huge neon sign reading "Synanon" to confound completely







Left top: The tribe is Synanon's primary social group; the individual is the other dimension. Left bottom: The caves. At rear, center, is the house built for Dederich, no longer used as a private house. Above: Inside the cave complex: a Sea Ranch esthetic for a different clientele. Near right: Everyone has a cave, or a couple can share one. Far right: Synanon city from the shore below. Left to right: the caves on the skyline, the old Marconi buildings, and the warehouse.

Kaplan's initial aesthetics and to supplant Sea Ranch with Road America.

Dederich and his staff defend the new building with a reasonable explanation of cost. Yet the argument is unconvincing. It is as though they were playing a giant encounter game with their architect, with the Marin County planners and with the public at large. How else can this building be seen except as a challenge to good taste and an affront to those concerned with the natural landscape?

On probing, it seems unlikely that Synanon will repeat this particular environmental error. Over the last few years the group leaders have moved a long way toward articulating a community building philosophy. They have begun formally training city builders and managers. The Tomales Bay settlement is a proving ground for ideas and a training ground for a new cadre of community leadership.

The emergent physical planning ideas can be summed up in Dederich's slogan, "The single-family house is destroying the world." The new Synanon community has no nuclear families, hence no single-family houses. Instead, it consists of the two repetitive modules—cave and community facility—at the two social scales of individual and tribe. Dederich and his co-workers seem clearly aware of the almost ideal industrialized building properties of the cave idea. They are ready to try mass production.

Hint of a new pattern

In larger ecological terms, Synanon has set itself high standards of pollution control, which it feels attainable because of its low-energy consumption way of life. In terms of visual pollution, Dederich imagines that even when several tribes and thousands of people occupy the 1,000 acres at the Tomales Bay site, most of the land will be completely untouched. Highrise cave structures will cluster tightly around the several sets of tribal spaces.

The innovative social design of the emergent Synanon city has many other facets: kibbutz-like child rearing facilities, and standard 24-hour-a-day, seven-day-a-week operating cycles for all employment. (People work 12 hours a day for two weeks, then have two weeks completely free, similar to the work cycle outlined years ago by Percival and Paul Goodman in *Communitas*.) All organizing ideas seem directed at lowering the space and energy consumption per capita. The more completely these ideas are spelled out, the more clearly they stand out in contrast to the present suburban patterns.

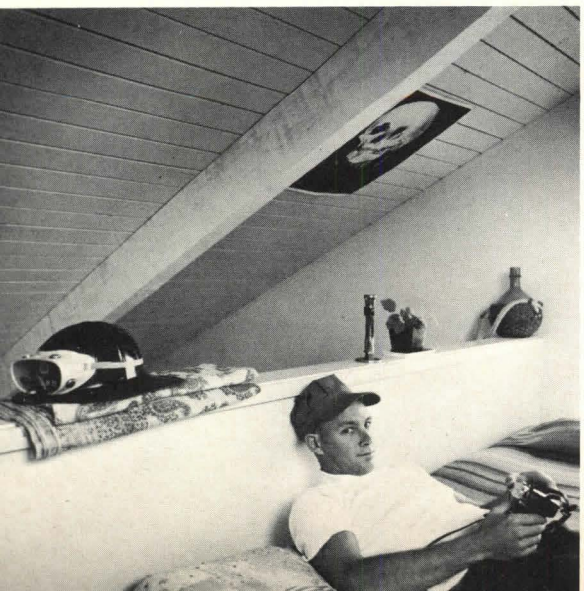
Synanon city adds up to far more than the sum of its presently problematical parts. It gives a hint of a new urban pattern derived from a new social order. It hints at a pattern based on fresh ideas about human values, not on tired esthetic formalisms that so often lie behind arguments for new towns. Whether large numbers of people adopt the Synanon values and its social order seems moot at this point and perhaps unimportant.

The real lesson from Tomales Bay comes from viewing the same chain of thought from the opposite end. Getting our society unhooked from its land-hungry, profligate urbanization patterns will take fundamental social restructuring. Synanon seems to be telling us that the cure for sprawl may lie in the same direction as the cure for heroin addiction.

FACTS & FIGURES

Synanon Caves, Tomales Bay, Calif. Owner: Synanon Foundation Inc. Architects: Kaplan & McLaughlin. Engineers: Rutherford & Chekene (structural); Conviser Associates (mechanical). Other consultants: Douglas Baylis (landscape architecture); T. V. Tronoff (roads, grading); Pierre Gaston (site drainage); Martin Roth (sanitary engineering). General contractor: Olsen Construction Co. Building area: 18,388 sq. ft. Cost: $383,000 (plus $67,000 in owner-furnished materials and equipment) excludes site development and sewage treatment plant.

PHOTOGRAPHS: Joshua Freiwald

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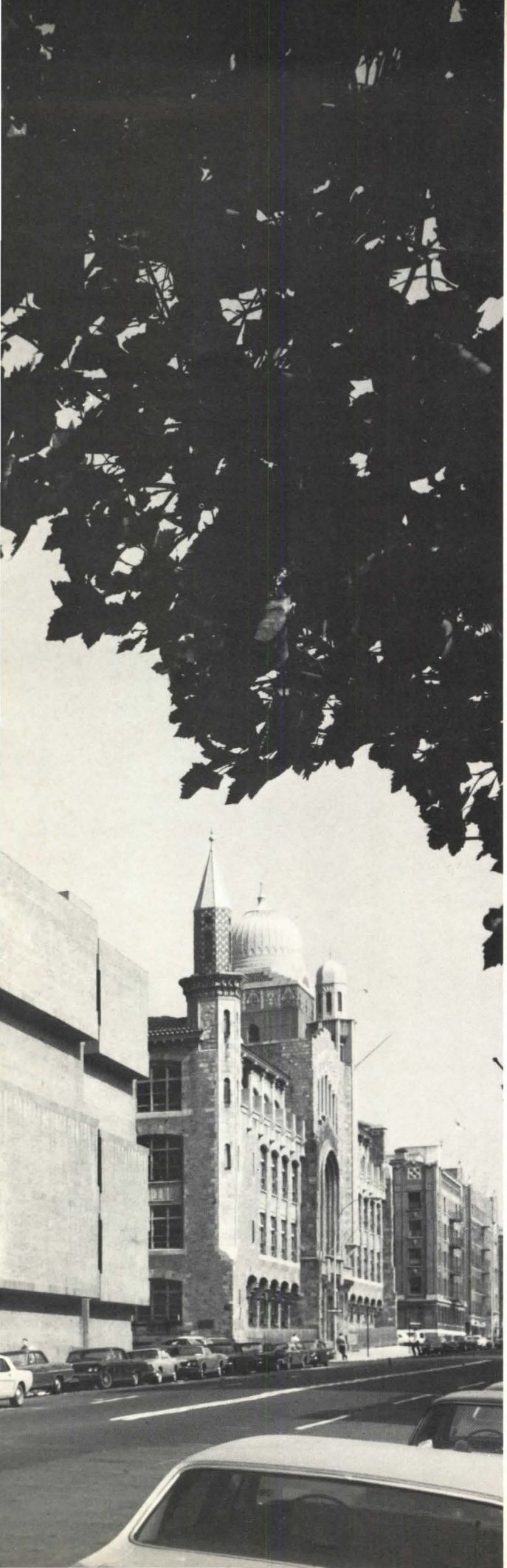


ARTICULATED LIBRARY

In an institution steeped in tradition, the new Yeshiva University Library stands strong as a clear, contemporary architectural statement. Designed by Armand Bartos & Associates, the library marks a first for the otherwise uninspiring campus high above the Harlem River in New York.

The library is also a remarkable complement to the older building next to it. A high school built in a quasi-eastern style during the 1920s, this had been the most interesting building on campus. The library seems to accomplish in mass and form what the school effects with ornament. The two are also compatible in color and dimension.

The library is essentially a concrete column and slab building with brick infill walls in a warm, brown color. Strips of terra cotta tile mounted on the edge of the concrete slabs indicate floor levels. The tinted glass windows are designed as inverse bays.

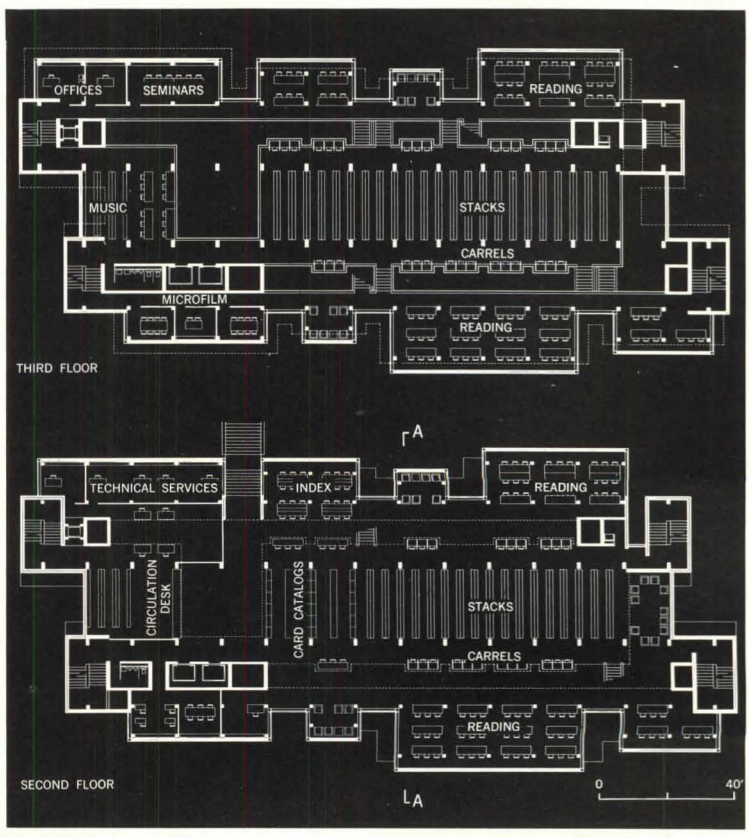
The library, now in partial use, will house 600,000 volumes from two university collections: undergraduate and Hebraica-Judaica. It also contains space for an auditorium, museum, music collection, and microfilm center.

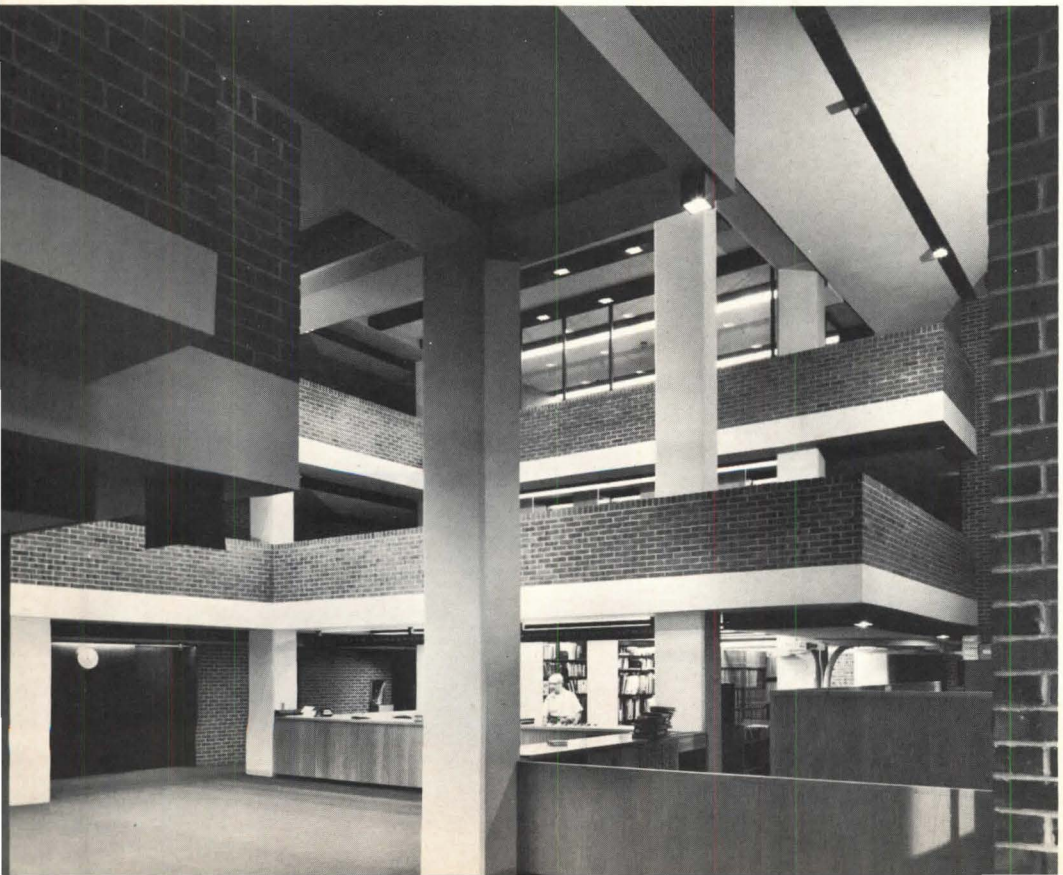
The first floor, planned for public activities, has an exhibition area surrounded by a raised gallery to the right of the entrance. To the left is a sunken public reading area.

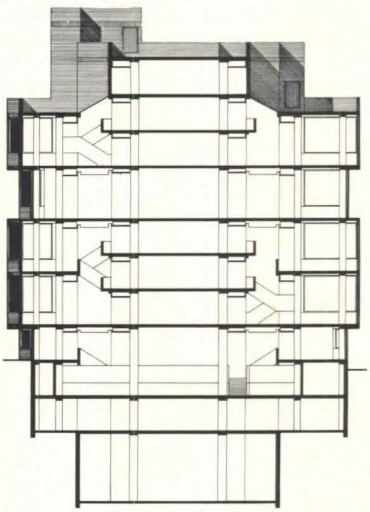
Above the first floor are the library collections, with reading areas and stacks to the right of the elevators and offices and seminar rooms to the left. The second floor, which may be reached through a rear entrance, houses the undergraduate collection and circulation desk. The fourth floor contains rare books and the Hebraica-Judaica collection; the third floor, now largely unused, can be used for expansion. The top floor houses university archives and the basement contains extra storage and mechanical facilities.

Brick dominates the interior, but cream-colored concrete and deep brown trim and fixtures lend it an almost Tudor tonality. There are two stack levels to each reading level and the inverse window bays combine with the stairs to create court-like reading areas.

The plan drew surprising praise from the university librarian: "The library reduces the need to smoke. Students do not feel confined, so no longer feel they have to escape and smoke."







SECTION A-A 0 20'

Each reading area is over 12 ft. high and has stair access to two 7-ft.-high stack levels. These stairs, plus the receding forms of the exterior walls divide the reading areas into small and varying court-like shapes. The tinted glass windows are designed to let light into the reading areas, yet control its entry into the center bookstacks. The stack forms are modulated similarly to the building's exterior.

FACTS AND FIGURES

Yeshiva University Library, 2524 Amsterdam Avenue, New York City. Architects: Armand Bartos & Associates (Armand Bartos partner in charge; Roy Friedberg partner for project management; Martin Price partner for design development). Engineers: Lev Zetlin Associates, Inc. (structural); Frank J. Sullivan & Associates (mechanical and electrical). Lighting consultant: David A. Mintz & Associates. Contractor: J. R. Stevenson Corporation. Building Area: 128,777 sq. ft. Cost: $3,230,000.

PHOTOGRAPHS: © Ezra Stoller (ESTO).

TECHNOLOGY

A SOLUTION TO GARBAGE DISPOSAL WITH PARK LAND AS THE BONUS

Garbage for Fun is the positive approach to solid waste disposal adopted by several burgeoning New York communities. With the aid of the New York State Environmental Facilities Corp., the Long Island Town of Brookhaven and Westchester County's Croton Point plan to build hundreds of acres of park and recreational facilities on former municipal dumping sites.

The first contracts, for Brookhaven, were signed last October and the first of Brookhaven's three planned sites will be phased into park development by 1972, as landfill operations end on the site. (The Croton Point scheme was the first initiated and a feasibility study was completed in 1968, but contracts were not signed at press time.)

Using garbage for recreational landfill is not an entirely new idea. There have been isolated garbage dumps converted to baseball fields in the U.S. and many German cities have "mountains" of rubble left by World War II. But the New York projects are new in scale, complexity and sophistication. They are also the first to involve an architect-planner on the project, from site selection to recreational planning, according to George A. Dudley, president of EFC (formerly the Pure Water Authority) and chairman of the New York State Council on Architecture. Without an architect, he says, the computer would have applied purely engineering criteria to site development.

Brookhaven initiated

The Town of Brookhaven and EFC initiated the project last January, when EFC commissioned engineers Pope, Evans and Robbins to prepare a comprehensive solid waste management program. Norval C. White, architect, was engaged as a consultant to the engineers and as project planner at the suggestion of EFC.

Croton Point studies (by engineers Metcalf & Eddy, and PE&R, with architect Alexander Kouzmanoff) had already demonstrated that conversion of landfill sites to recreational facilities was a feasible operation that could cost less than an alternate method of disposal alone, without park development. Nevertheless, Pope, Evans and Robbins conducted a complete study for Brookhaven.

Brookhaven is one of the largest legally defined towns in the country and has a population of 250,000 persons that has doubled several times since World War II. By 1995, the population will have grown to 650,000 persons and within 50 years, will likely exceed 1 million. Covering 250 sq. miles, the town incorporates many villages, including that of Brookhaven, across the entire width of Long Island.

The town generates an average 5 lb. of garbage daily per capita from residential, commercial and miscellaneous sources, or 4,000 tons per week. And the rate is increasing.

The engineers evaluated alternate methods of garbage disposal and sites, according to cost, safety, efficiency and community and legal requirements. Then they programmed a mathematical model of the town for computer analysis.

Why landfill disposal

Of the various methods of solid waste disposal studied, none proved as efficient, appropriate or economical as sanitary landfill.

Incineration proved expensive, almost $10 per ton. It also requires building and operating a plant. It reduces waste volume by 90%, but requires additional processing for waste that cannot be incinerated.

Composting is still largely experimental and the lowest price came in at $10 per ton. It separates refuse into broad categories depending on origin, such as newspapers, rags, ferrous metals and plastics, which are then sold or disposed of. The balance is aerated and made into compost, or fertilizer. But the market is uncertain, controls are stringent and U.S. ventures have rarely succeeded.

Other alternatives included garbage grinders, which simply transfer the solid waste disposal to liquid waste problems. Long-distance hauling by rail, truck or barge would cost $8 per ton after it was delivered to a central transfer point. Baling, shredding and compacting require expensive plants and can only be justified where land is in short supply. Recycling and salvage plants recover paper and ferrous metals, but at costs 20 to 40 per cent higher than local market value.

Pyrolysis was rejected as too expensive. Still in the developmental stage, it is the destructive distillation of solid waste by applying heat inside a vacuum. Also too costly and experimental was high-temperature incineration, which uses coke as an auxiliary fuel in an incinerator that works like a blast furnace, and reduces waste to 3 per cent its original volume.

Such techniques as fusion torches will not be commercially practical for 30 years. The process would reduce solid wastes to their constituent elements through nuclear fusion at temperatures up to 50 million C., while generating electricity.

Sanitary landfill

Sanitary landfill is a new name for an improved version of the old city dump. In contrast to more exotic methods, it is both cheap and practical.

In the phased site operations envisioned by the master plan, disposal costs will run $1.12 per ton; park development will cost $1.51 for each ton of refuse; and the combined operation (including land, equipment, facilities, labor and administration) will cost only $3.05 per ton.

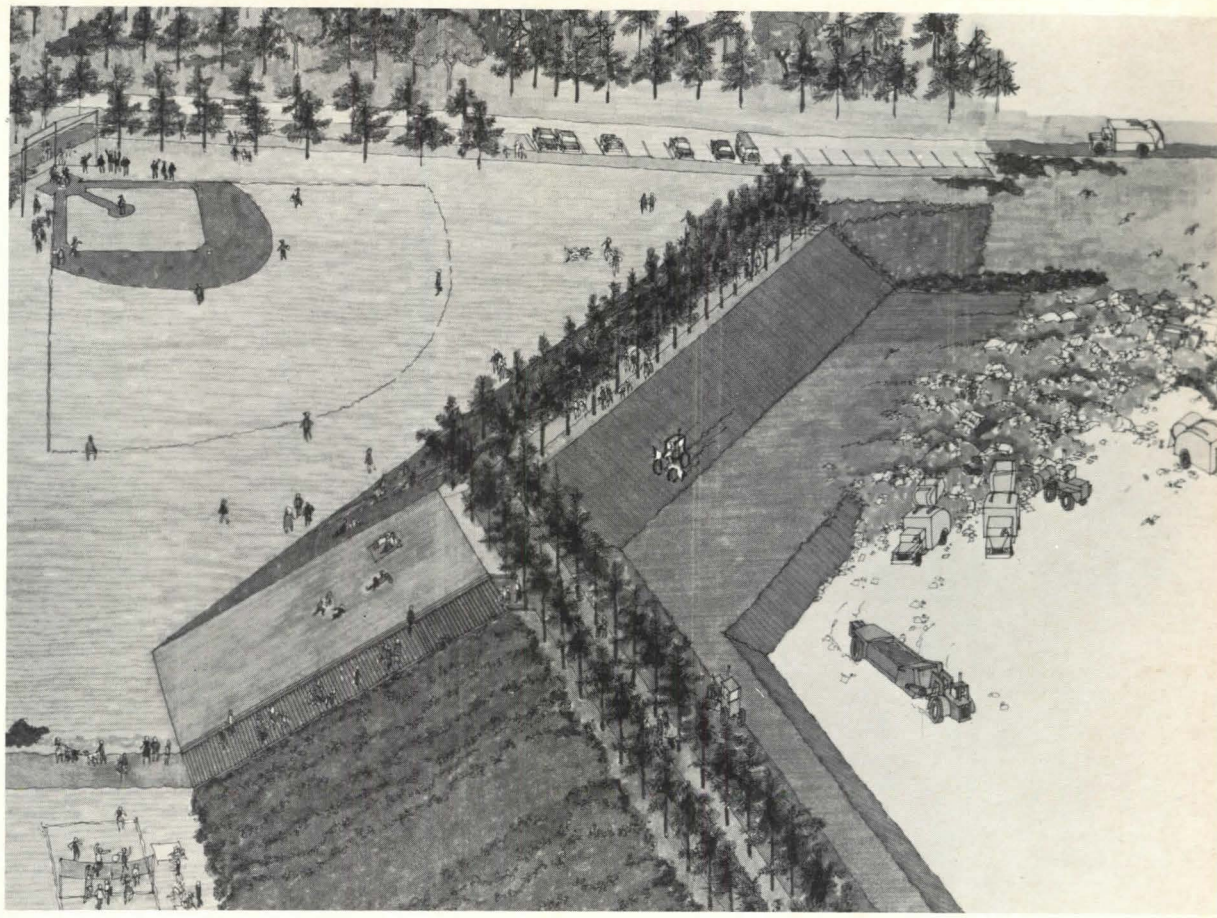
Controls on a sanitary landfill site must be stringent, but properly managed, there will be no odors, fires, health hazards, rats or insects. The process (see drawing, top page 61), however, must exclude unauthorized or off-hours dumping, which cannot be properly handled.

Gases, such as carbon dioxide and methane (which is explosive), are produced by the decomposing process. They will be controlled by gas diffusion channels (shallow trenches backfilled with gravel) and slotted pipe vents, according to the engineers.

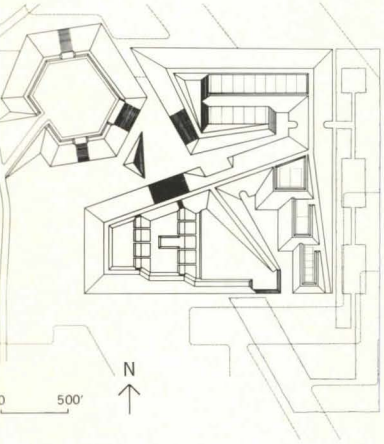
Other controls are needed for wind, scavenging, appearance and odor. Wind will be countered by having trucks dump from high points, in the direction of the wind. Fencing, policing, prompt compaction and cover will further protect against blowing and scavenging. Appearance will be aided by natural and artificial screening, plus phased site landscaping.

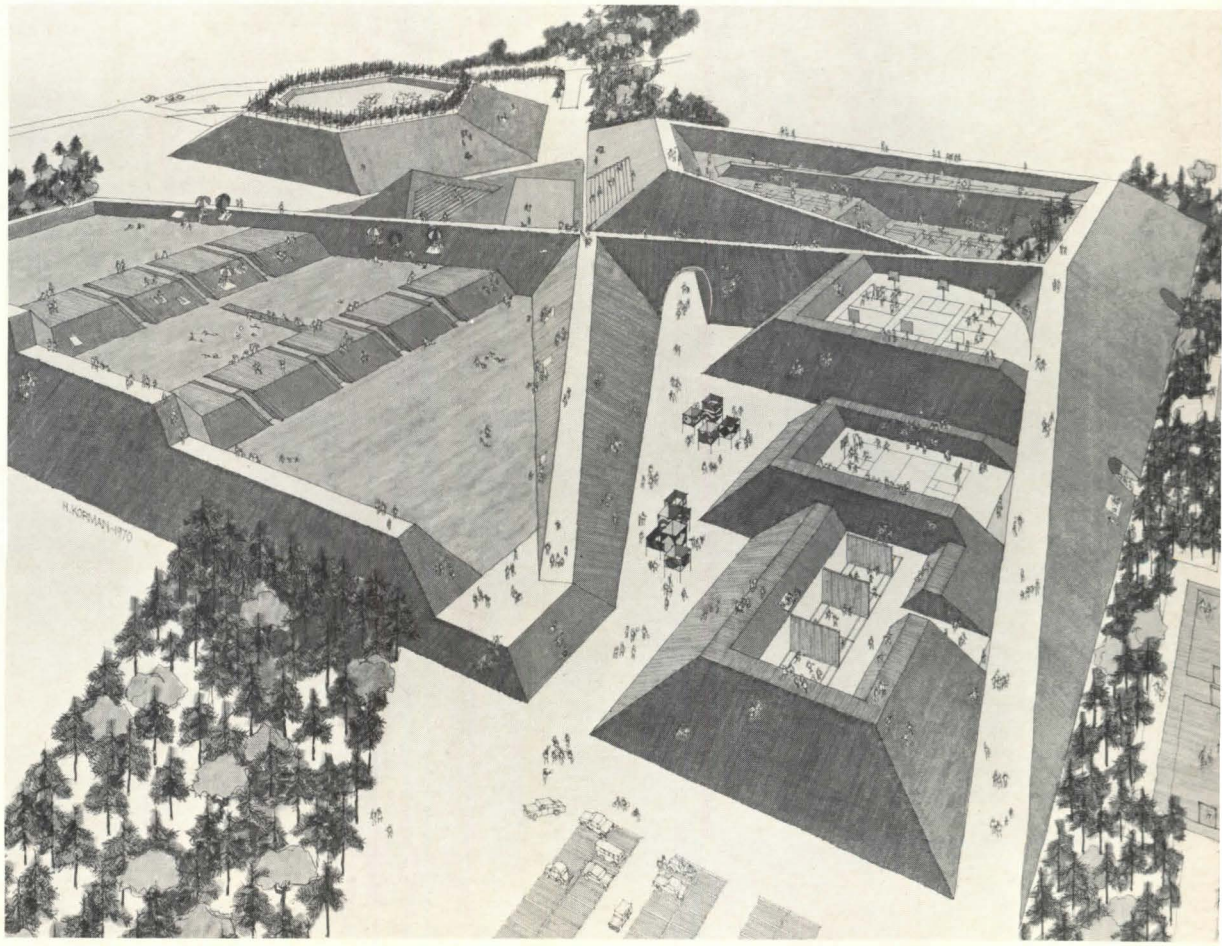
Odor must be controlled by preventing and filling cracks in the earth cover and by placing activated carbon in the tops of the slotted gas pipes. And, as odor is most severe in warm weather, summer dumping will be confined to the innermost areas of the site. Disinfectants may also be sprayed.

Sites were selected on the basis of transportation costs, the price per acre, operational landfill costs and capacity and relationship to



SANITARY LANDFILL: Disposal of solid wastes involves trucking refuse to a defined area surrounded by a landscaped earth berm for visual and operational insulation. A bulldozer then compacts the material and, at the end of each working day, covers it with soil (from the berm or nearby). When the mound reaches the berm, the berm is built up again or dumping stops and the mound is covered with a 3-ft. layer of top soil, which may be landscaped.





HOLTSVILLE: The refuse will be used to create sloped ramps and terraces for tennis courts, basketball courts, handball courts, football and baseball fields, swimming and sailing areas, etc. Parking is located high on a hill for visual obscurity and plans include an amphitheater for 7,000 persons, plus extensive underground access. The slopes are for sitting and walking. The architect planned this and the other two sites by moving scaled amounts of clay (garbage). The forms, he says, may be compared to forts or Mayan ruins.

the community. Sites also had to comply with state regulations prohibiting locations that could cause pollution through leachite entering ground or surface waters. Generally, undeveloped (non-swampy and non-tidal) sites are most suitable.

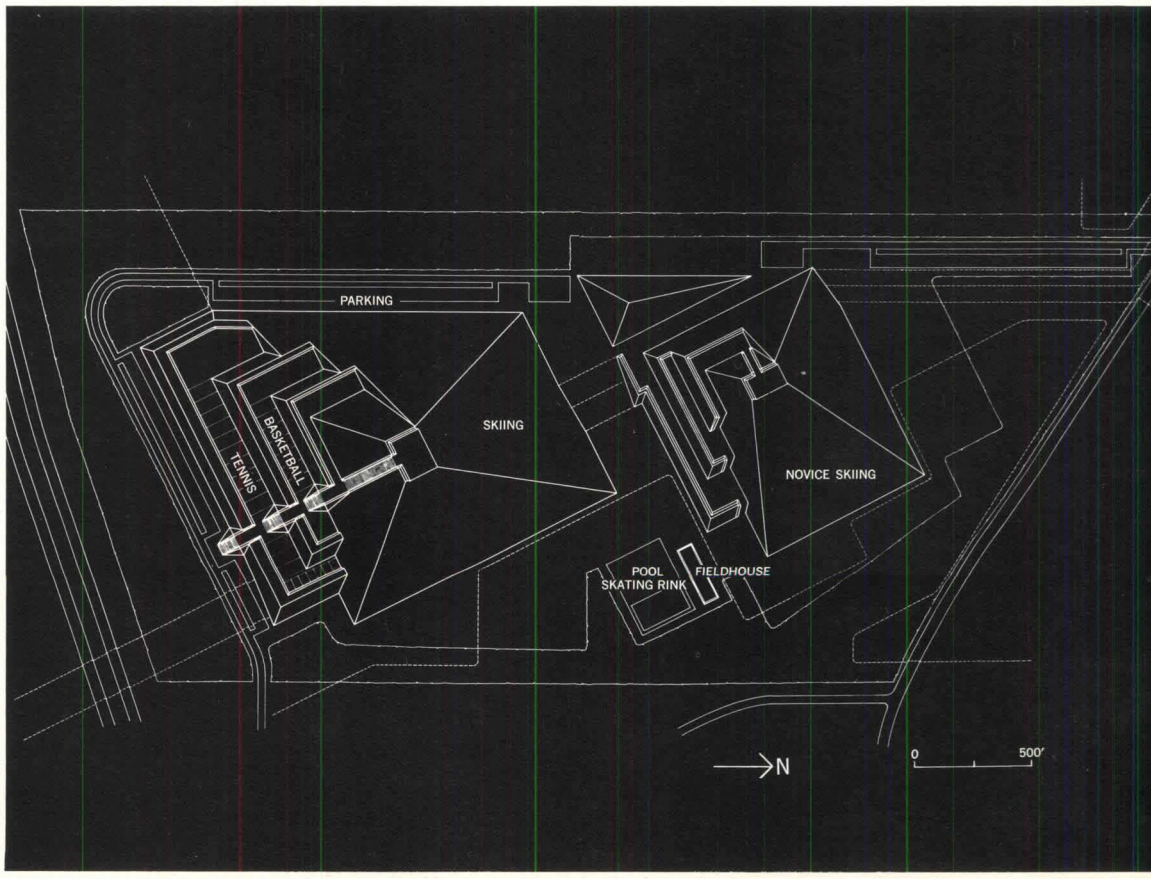
Holtsville, an existing landfill site, was chosen because it could be converted to park land in only two years. It would therefore allow early demonstration of dumping and development concepts.

Middle Island East (Rocky Point) and Brookhaven (village) were scheduled for preparation as landfill sites to relieve Holtsville operations in 1972. Middle Island East is not as accessible as Brookhaven and costs about the same, but was chosen because a new county road and a new town planned nearby will make it the center of new development.

Also included in the master plan, but not scheduled for park development, were the sites of Mastic and Manorville. Mastic is a small site presently used for collecting landclearing debris and it will continue these operations. Manorville is remote, but cheap and will take over collections from the eastern portions of the town by 1987.

New waste technology will be reevaluated and selectively applied by 1980 and thereafter as part of the master plan.

—Marguerite Villecco



MIDDLE ISLAND EAST (top): Each site was planned to demonstrate a different planning concept and this one is likened to a modern English-style park, comparable to Frederick Olmsted's Central Park in Manhattan. Undulating free-form meadows for field sports characterize this 221-acre park. The northern portion will be available for recreational use by 1978 and the rest will be open by 1995.

BROOKHAVEN: This 201-acre site is planned for two-stage park development, with winter sports the prime focus of the pyramid structures. Two pyramids, up to 240 ft. high, will have slopes of varying degrees for skiing, and will have ski lifts and snow-making capacity. The southern slopes will be terraced for tennis and other court sports and the surrounding meadows will be for field sports and picnics. The swimming area may be converted to a skating rink. The northern pyramid will be opened for recreational use by 1978, the rest by 1995.

FORUM

(continued from page 23)

profiting from polluters, reminds the voters that he has sold his stock in his family's company—the U.S. Plywood Corp.

Pierre S. DuPont 4th, scion of the DuPont chemical dynasty who is running for the House from Delaware, approaches the problem he shares with Mr. Ottinger in another way. In September his family's company was fined $3,000 in two water pollution cases. Said DuPont:

"That's absurd. Under Delaware law, it's $500 a day. If we're going to have meaningful penalties, they ought to be $5,000 or $10,000 a day . . ."

. . . AND ON THE BALLOT

Propositions on the ballots in eight states also deal with environmental pollution. These range from bond issues—for park and recreation development in Alaska and Nevada; for matching funds for sewage treatment plants in Illinois and California; for abatement of coastal oil spills in Maine—to adding an "environmental bill of rights" to the state constitution in Virginia. The bill of rights can be construed as shifting to polluters the burden of proof that environmental alterations are unavoidable. At present, citizens generally have to prove that environmental changes have been damaging to the common interest.

In Oregon, a proposition would designate 500 miles of "scenic waterways" with restrictions on shoreline development.

The two most significant propositions in terms of implications for the future, nationally, are on the ballots in Washington and California. The California proposition articulates a policy that conservationists have been pressing on the federal government for years. It would amend the state constitution to permit gasoline tax funds, now legally earmarked for highway building alone, to be diverted to air pollution research and rapid transit development.

In Washington, Initiative Proposition 256—given a good chance of passing—would ban all nonreturnable containers of soft drinks and beer by requiring at least a 5-cent deposit fee. This, it is thought, would provide enough incentive for return of the containers and encourage industry to push research on recycling of the materials. The idea came from a student at Fairhaven College in Bellingham. Fellow students, during the summer, broke all records for getting petition signatures sufficient to place the proposition on the ballot.

PHOTOGRAPHS: Page 22, Samir M. Khalil, U.A.R. Tourist Office (bottom); St. Louis Post Dispatch (top). Page 23, Australian Information Service (left). Page 64, Louis Checkman (below left); Ben Schnall (bottom left); Fred W. McDarrah (middle left); courtesy National Sculpture Society (middle right).

EXHIBITIONS

WORK IN RETROSPECT

Problem: you are a struggling little museum, and one of your trustees is a famous architect who richly deserves a one-man show. But how do you give one of your own trustees a one-man show? Answer: you camouflage him inside a three-man show. Result: WORK IN PROGRESS—ARCHITECTURE BY PHILIP JOHNSON, KEVIN ROCHE, PAUL RUDOLPH AT THE MUSEUM OF MODERN ART, NEW YORK. (Or, as somebody put it, "two decoys trying to protect one sitting duck.")

It opened on October 1, and it's a nice show—lots of good color transparencies, lots of elegant prose, lots of neat scale models, lots of pretty drawings. In short, a nice, slightly old-fashioned show, of lots of very stylish buildings.

Some interesting facts emerge: Philip Johnson is really a first-rate sculptor—his projects for a twin tower and for the Lehman Brothers office building, while possibly unbuildable in our impoverished age, are smashing. (Why they included his project for turning Harlem into a Third World community boggles the mind.) Kevin Roche knows more about scale in architecture than almost anybody else around. And Paul Rudolph emerges as one of the very few, truly inventive disciples of Frank Lloyd Wright!

So far, so good. Now for a couple of questions.

Johnson: Lehman Brothers Building

Question 1: why those three architects in particular? Well, we have answered that one in part—and, in any event, Johnson, Roche and Rudolph are as good as any in the U.S. But what about Kahn, Pei, Barnes, Venturi, Pelli, Weese, Ellwood, Franzen, Johansen, etc. etc. etc.? Is their work not "in progress?" Are they not in the Museum's Register?

Question 2: why three *architects,* rather than (say) 30 *buildings*? As our esteemed collaborator, Sibyl Moholy-Nagy, points out, no one or three architects can be expected to produce uniformly good work (clients being as terrible as they are). It's the quality of *buildings,* not the charisma of architectural stars, that really matters, isn't it?

Question 3: supposing a struggling little museum in Tokyo or London or Ottawa had put on a similar show, whose work would have been chosen? Tange, Kurokawa, Kikutake? Stirling, Price, Koralek? Andrews, Zeidler, Erickson? And might that not be some sort of reflection upon New York's MOMA, or upon the state of U.S. architecture, or both?

Roche: Bank, Columbus, Ind.

Rudolph: library, Niagara Falls

Question 4: why virtually no housing in the MOMA show (except for Johnson's Carcassonne-on-the-Harlem-River)—but plenty of posh headquarters for corporate conglomerates and their peers? No fault of MOMA, of course—just a very serious reflection upon the state of our nation: there's lots of money for high-style architectural images, but none for dull things like housing, it seems.

Question 5: was this exhibition absolutely necessary?

Well, now, it's really a happy-making show, and one could have gone to the Whitney and the Met-

ropolitan to see some of the very real and very difficult work that is being done for New York State's Urban Development Corporation. Meanwhile, the MOMA display will be on through January 3, 1971, and you can take the kiddies there during those interminable Christmas vacations.

STATUES

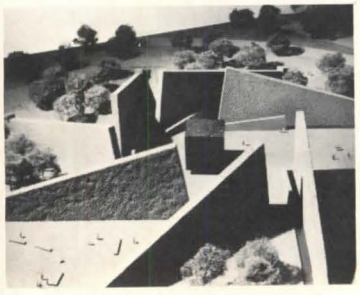
PATHS OF LEAST RESISTANCE

The Franklin Delano Roosevelt Memorial Commission has recommended three proposals and spent $285,000 in the 15 years since it was established to plan a memorial to the late President. Now it has opted (copped out?) for "the proposal that meets with the least resistance," in the words of Commission Chairman Eugene J. Keogh. The memorial will now consist of a statue of FDR in a rose garden with walkways. President Nixon has signed legislation authorizing $75,000 more to plan this anachronism.

For the politicians, one more statue of a politician in a park is a comfortable alternative to the bold, sculptural proposals previously junked: the initial competition winner by Architects Pedersen & Tilney; a scaled down version of the same; and a later design by Architects Marcel Breuer and Herbert Beckhard. Those proposals were not rejected by politicians but by the National Fine Arts Commission, which is reportedly "in touch" on the latest plan and, apparently, in favor.

FDR memorial: Pedersen & Tilney

FDR memorial: Breuer & Beckhard



QUEENS FIGHTS BACK

Women Wage War, an activist coalition of feminist groups in New York City, last month demanded the removal of "Civic Virtue" from Kew Gardens, Queens. "Virtue," as depicted by Sculptor Frederick William MacMonnies in 1922, is a self-righteous (that is, discreetly garlanded), blank-faced (but viciously armed) authoritarian figure stepping over two writhing female

Offensive "Virtue"

victims commonly acknowledged to be "Vice" and "Corruption." MacMonnie's model was a moonlighting policeman.

Virtue was banished once before—from City Hall Plaza in Manhattan in 1941—when Mayor Fiorello LaGuardia couldn't bear to look for one more day on "that big bare behind of his." No one, it seems, has ever looked upon it with approbation beyond—one assumes—MacMonnies, and perhaps the policeman.

Patricia Lawrence, a cofounder of WWW, is hostile toward the statue because, as a child, she saw little boys urinating on the women. But we wonder why she views that as "female oppression" and not simply an inspired expression of art criticism.

INDIANS

CONFLICT OF INTEREST

"When the Indian complains that 'white man speaks with forked tongue,' there is often more truth than poetry in his words," said Secretary of the Interior Walter J. Hickel, late in September during testimony before a Senate interior subcommittee. He was recommending passage of the Administration's proposal for an Indian Trust Counsel Authority, an independent agency that would represent Indian tribes and individuals in natural-resources controversies.

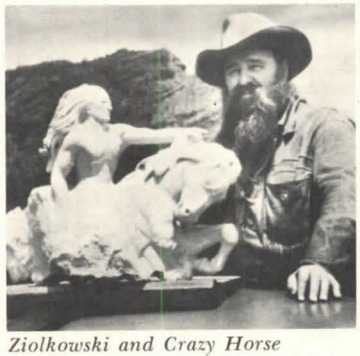
In the past, the Interior and Justice Departments have been in the extraordinary position of representing both federal agencies regulating timber, oil and water resources *and* Indians who may be claiming prior rights to them. Too often, said Hickel, the Indians have gone unrepresented.

One such suit, brought by the Pyramid Lake Paiute Tribe (May '69 issue, page 33) charges that waters from the Truckee River, which feeds their giant lake, have been diverted to irrigate the lands of white property owners, resulting in an "ecological disaster" that threatens their fisheries.

"We have consistently and repeatedly asked the United States government to do its job," said James Vidovich, chairman of the tribe, "but each time the government has refused."

Action on the Administration's proposal is not expected until the next Congress.

PEOPLE



Ziolkowski and Crazy Horse

VANDALIZED

Sculptor Korczak Ziolkowski, who is transforming a mountain in South Dakota into a monument to Chief Crazy Horse (July/Aug. issue, page 82), had eight of the ten sculptures on display in his Custer, S.D., studio destroyed by unknown vandals. A $15,000 reward, for information leading to arrest and conviction, is being offered by the Crazy Horse Memorial Commission and Chicago millionaire, Ray Krock.

Among the destroyed pieces was a bust of the Polish pianist Ignace Paderewski, which won first prize at the 1939 New York World's Fair.

HUD

BREAKTHROUGH BEGINS

Ground was broken October 22 in Sacramento, Calif., at the first of nine demonstration sites chosen by HUD for the Operation Breakthrough program.

Originally, 11 sites were chosen, but two—in Houston, Tex., and Wilmington, Del.—were abandoned when Breakthrough's budget was cut. Of the nine remaining sites, two are in Seattle, Wash., one of which is referred to as a "sub-site."

The Sacramento site-developers are Campbell Construction Co. of Sacramento and the National Corp. for Housing Partnerships. Companies producing the systems-built housing are: Alcoa; Boise Cascade; Christiana Western; FCE-Dillon, Inc.; Material Systems Corp.; Pantek Corp.; and TRW Systems.

The Sacramento project will consist of 375 units of low-and middle-income housing in a mixture of styles: single-family attached and detached houses multi-family low-rise and medium-rise apartment buildings, and town houses.

BOOST FOR NEW CITIES

A housing bill—passed by the Senate and awaiting House action—includes a new program of federal subsidies to promote the development of "new cities."

The new program, included at the initiative of the Democratic majority on the Senate Banking Committee, would authorize HUD to guarantee the bonds issued by developers and to assist in the payment of interest on such bonds or loans. Partly to meet the Administration's budgetary objections, the committee agreed to limit this assistance on payment of interest to $240 million.

The total package authorizes $2 billion for urban renewal, $445 million for public housing, $185 million for rent and mortgage subsidies for low-income families, and $750-million for mass transit.

The Senate bill also:

- Extends federal aid for the first time to local housing authorities for operating expenses.
- Permits HUD to help cover operating losses incurred by local urban mass-transit companies.
- Authorizes a program of federal crime insurance for urban property where other such insurance is unavailable.

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Get "Quality you take for granted" with Oasis water coolers, humidifiers and dehumidifiers. All products of Ebco Mfg. Company, Dept. AF-5, 265 N. Hamilton Rd., Columbus, Ohio 43213.

OASIS®

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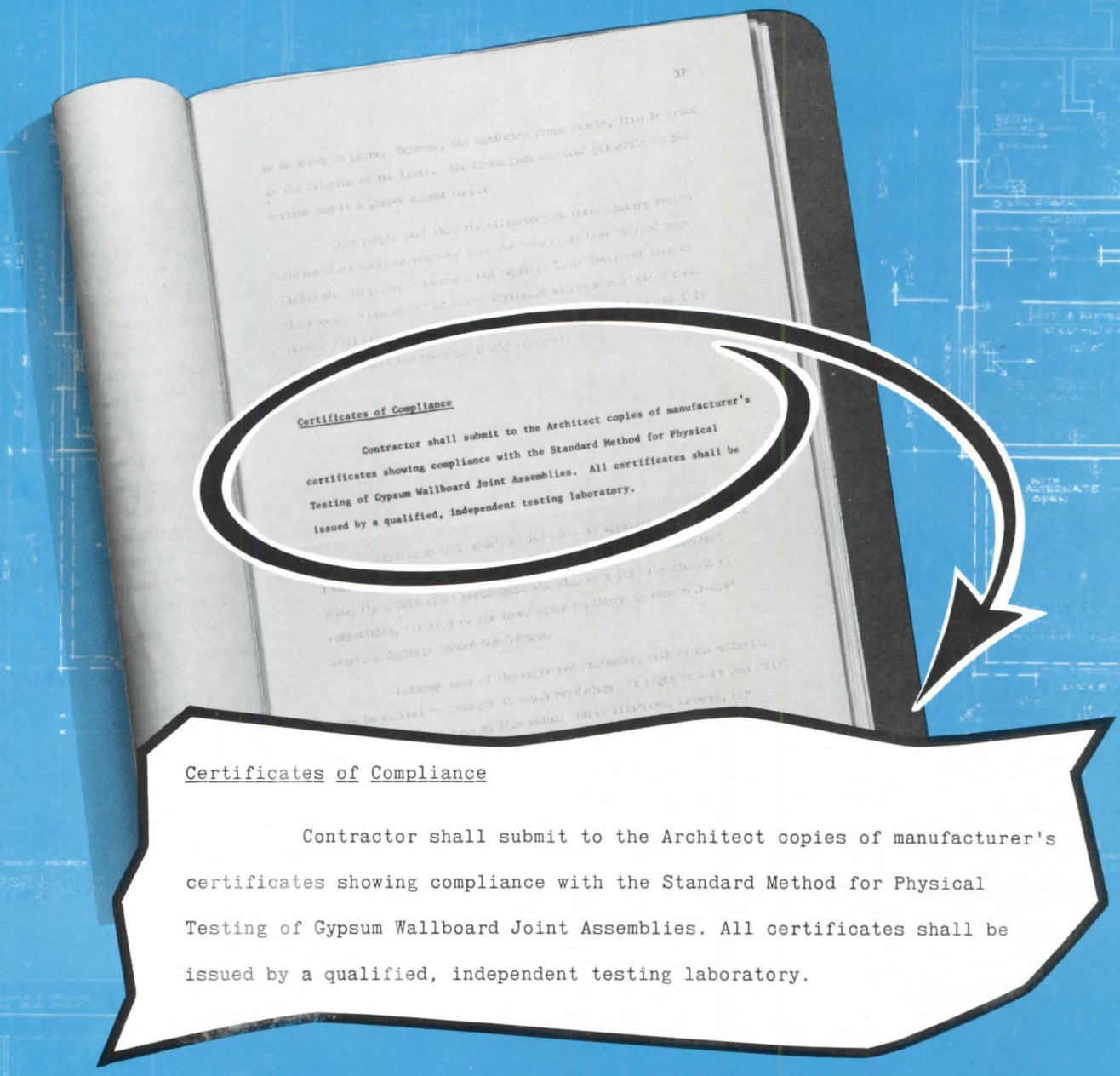
Insist that the sub-contractor furnish a letter of certification for every job he does with gypsum wallboard.



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UNITED STATES GYPSUM

On Readers' Service Card, Circle 212

On Readers' Service Card, Circle 213

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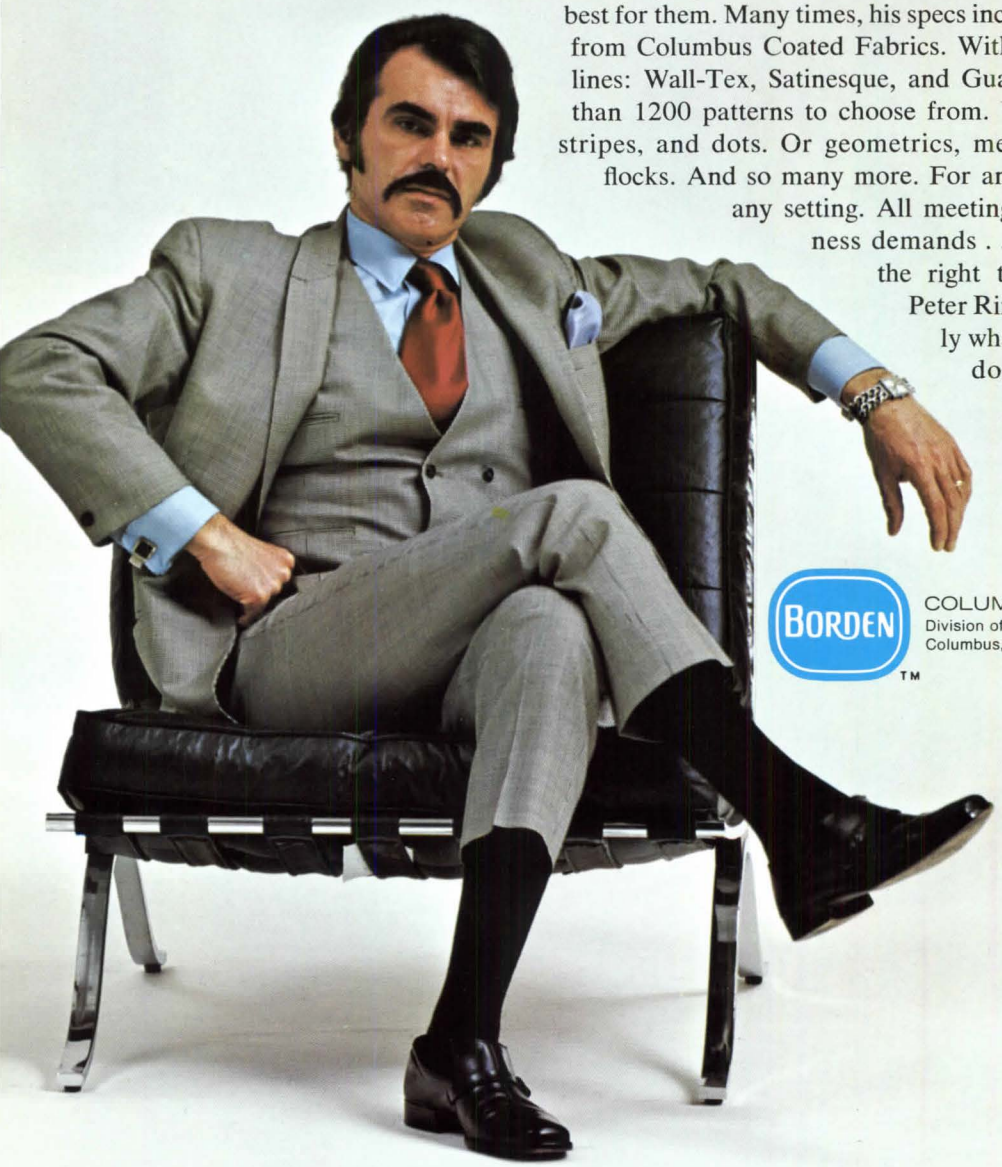

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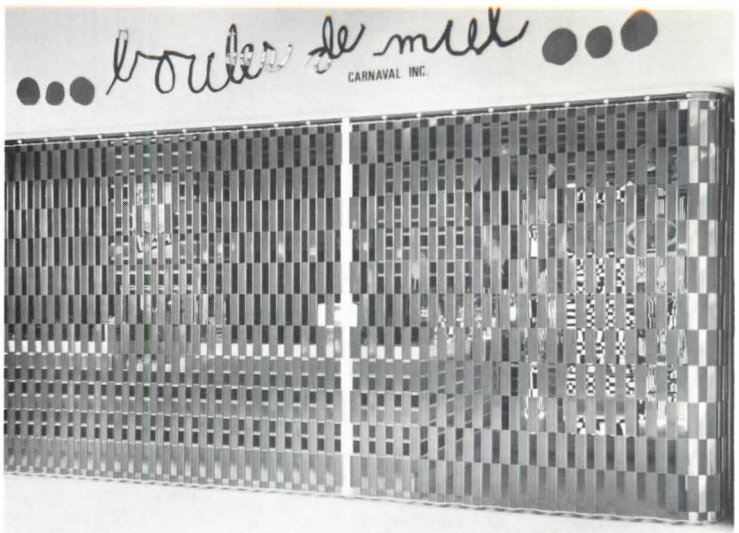
Division of Borden Chemical, Borden, Inc.
Columbus, Ohio 43216

PRODUCT REVIEW



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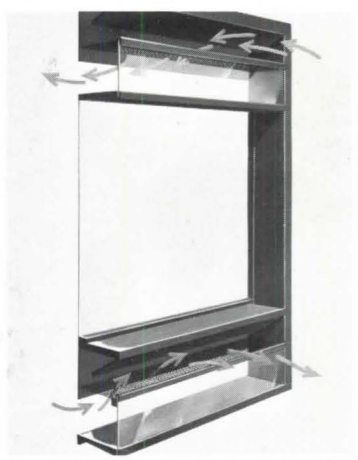
SECURITY GRILLE

A number of colors, patterns and track combinations are available in the "Centurion" maximum security, sliding grille. Centurion is constructed of aluminum sections 3 in. wide with hollow ends for 5/16 in. aluminum rods. It stacks tightly and can turn in free-form shapes with a minimum radius of 10 in. It can be used anywhere a rolling grille can be used in either horizontal or vertical position. Emblems are optional. Contact: Dynaflair Corp., Plainview, N.Y. 11803.

LEAK-PROOF WINDOW

The Ventrow window, says the Kawneer Co., can remain open in the rain without fear of leakage, even with winds up to 110 mph. The window frame is 5 in. deep and is designed to be stacked one above the other or mullioned together in horizontal rows. The ventilating unit uses a simple, baffled space having no operating hardware, no projections inside or outside the room, nor visible exterior evidence that the window is open or closed. Contact: Kawneer Co., American Metal Climax, Inc., Niles, Mich. 49120.



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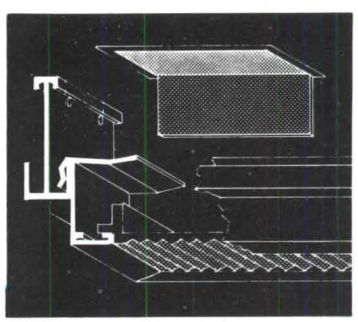

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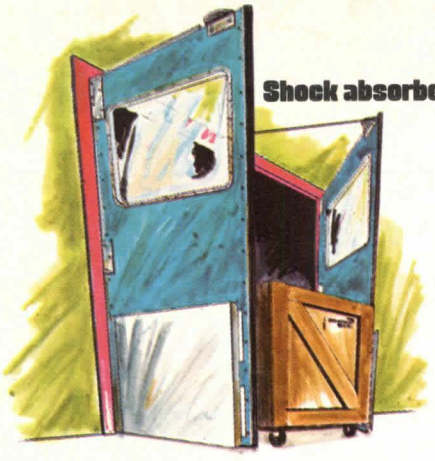
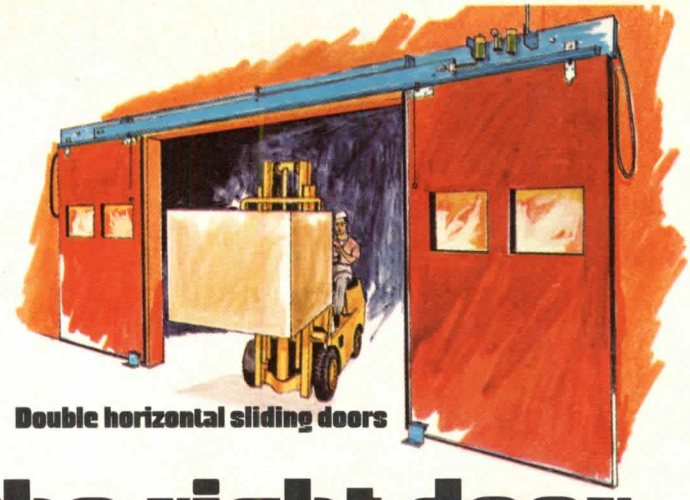
SUSPENDED CEILING

The "Mondrian Ceiling System" incorporates acoustical panels and lighting modules that come from the factory preframed in aluminum. The extruded frames have continuous flanges on parallel sides that lock easily into the inverted main tees of the system (see drawing). The panels may be lifted out to gain access to the area above the suspended ceiling. Panels come in four different textured glass cloth finishes. Contact: Owens-Corning Fiberglas Corp., Toledo, Ohio 43601.

(continued on page 73)

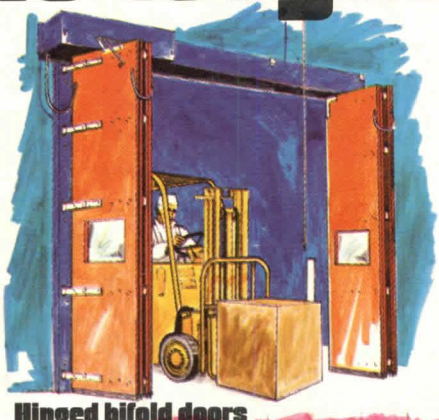


Shock absorber doors



Double horizontal sliding doors

Choosing the right door is tougher than you think...



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Each door installation encounters a number of different materials handling, temperature and building requirements. That's why we make the widest range of manual and automatic Industrial and Cold Storage Doors in the industry. Not to make your task more difficult, but to make sure that you can select the *one* door type that best suits your needs. Our specialists can help you make that selection. Send for your catalog. Specify whether Cold Storage or Industrial. Today.

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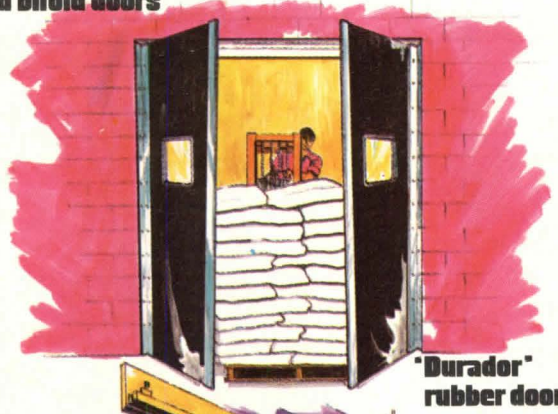
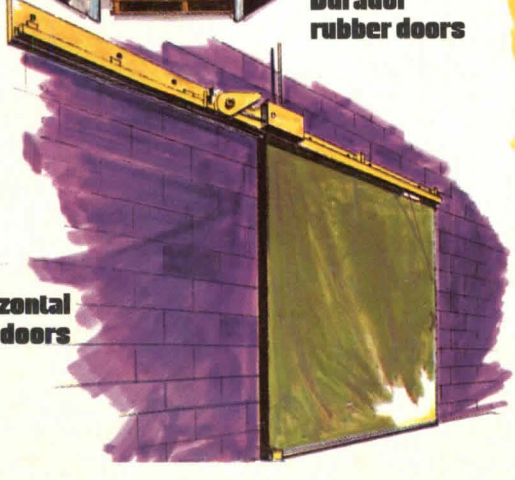


"Durador" rubber doors



Single horizontal sliding doors

Vertical lift doors

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PRODUCT REVIEW

continued from page 70

ALUMINUM FRAMING

Lightweight aluminum framing system cuts labor and costs of wood framing it would replace. Aluminum maintains framing strength, yet will not sag, warp or rot, can eliminate double wood framing requirements and cut parts 50%. Sections are precut and prepunched with a self-drilling slot fastening system for floor joists and wall studs. Contact: ALCOA, Pittsburgh, Pa.

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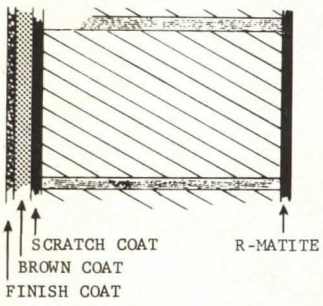

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ONE-COAT PLASTER

One coat of a new material called R-matite may be used instead of three coats of conventional plaster and provide a smooth, hard, durable surface for concrete block. Available as lime plaster, cement plaster, and white or grey stucco, the new coating cuts costs, speeds construction. Contact: Arma Research Corp., Huntington Station, N.Y. 11746.

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The distance meter shown below measures distances up to 10,000 ft. by an infrared light beam. The time it takes the beam—from a solid-state light source—to reach retro-reflector and return is converted into distance and registered directly on the dials. Includes a power unit. Contact: Hewlett-Packard Co., 1601 Calif. Ave., Palto Alto 94304.

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DESIGN ITALIANO: I MOBILI
ITALIAN DESIGN: FURNITURE

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$14.00

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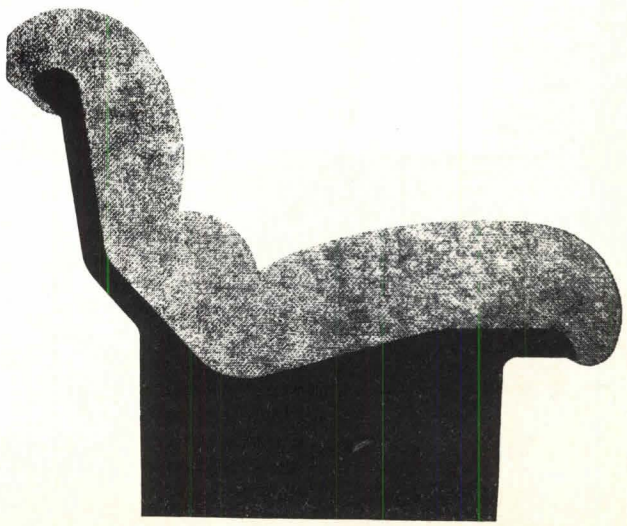
It's more than a style—it's a way of life, as the Italian word for furniture—Mobili—suggests, Italy's designers are taking their cue from the mobility of modern life. While most of the furniture in this collection consists of compact, self-sufficient systems rather than of free-standing, one-of-a-kind pieces, elegance of fine woods and gleaming chrome are as evident as vivid laquer and plastic.

Colombo, Vigano, Sotsass, Gardella, Scarpa and many, many others offer a fascinating and ingenious collection of stack-ups, horizontal wall-hungs, and transformable kitchens that offer the comforts of home to a mobile, affluent society that doesn't mind paying a good price for furniture as long as they can take it with them.



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READERS SERVICE FILE

PRODUCT LITERATURE

To order material described, circle indicated number on self-addressed Reader Service Card, facing page 70.

DOORS/WINDOWS 601

Industrial and cold storage doors, manual and power operated, with galvanized steel, aluminum or Kayon (TR) plastic skins over urethane cores. Clark Door Co. On Reader's Service Card, circle 101.

Architectural glass. 8-page color catalog. Drawn sheet, enamelled, floated plate, tinted, solar figured, Dacobel, diffusing. Properties, applications. Glaverbel (USA) Inc. On Reader's Service Card, circle 102.

4-pg. performance data sheet details acoustical, visual and structural characteristics of Acoustic Twindow (TR) new environmental control window unit, ideal for noise reduction applications. PPG Industries, Inc. On Reader's Service Card, circle 103.

Residential settings for Plexiglas skylights are shown in new 8-pg. color brochure. Single and multiple skylights can be easily incorporated into most roof systems and slanted side walls. Rohm & Haas. On Reader's Service Card, circle 104.

ELECTRICAL 602

A six-page bulletin tells how a Flexiflor underfloor electrical distribution system provides flexibility in future changes and rewiring for headquarters office building. Information on "Electrified Office Bldg." available from The Flexiflor Co. On Reader's Service Card, circle 105.

FLOOR COVERING 604

"ANTRON II the no-show carpet fiber fights dirt not profits." A three color brochure to guide specifiers in selection of carpet. E. I. DuPont de Nemours Co. On Reader's Service Card, circle 106.

Handsome, colorful, fact-filled folder on Acrilan 2000 and Acrylic carpet fiber. Gives information on static electricity, maintenance thermal insulation and flammability from Monsanto on Reader's Service Card, circle 107.

Now available from Ozite Corp. a full color architect's brochure on their new wool needlebonded carpet, SAFEGUARD. Brochure covers exclusive features as well as full architectural specifications, and performance test results, descriptions and color charts. Ozite Corporation. On Reader's Service Card, circle 108.

"Design World: A Collection of Printed Carpets." Package includes beautiful color examples and details special features of these attractive patterns. World Carpets. On Reader's Service Card, circle 109.

FURNISHINGS 605

Handsome, colorful brochure, Spectrum 75, showing furniture in room settings and as units with sizes and materials noted available from Carolina Seating. On Reader's Service Card, circle 110.

New 20-page brochure presents the traditionally-styled 1400 Series desks. Illustrates double and single pedestal desks, convertible storage units, credenzas and tables. Steelcase, Inc. On Reader's Service Card, circle 111.

HARDWARE 606

Complete details on new hospital door hardware package catalog No. 600 available from Hager Hinge Co. On Reader's Service Card, circle 112.

Fire control devices—8-page brochure contains illustrations and diagrams of complete line of fire control equipment for doors. Norton Door Closer Division, Eaton Yale & Towne, Inc. On Reader's Service Card, circle 113.

HEATING/AIR CONDITIONING 607

Silent Heating/Cooling Systems for Nursing Homes, designed to provide the draft-free, noiseless environment so vital for patient comfort, are described in a new catalog describing Valance Comfort Conditioners now available from Edwards Engineering Corp. On Reader's Service Card, circle 114.

Can the castle concept be preserved in the urban crunch?
"A Man's Home," a new 24-page publication of the Electric Heating Association, identifies and discusses the humanistic needs to which there can be an architectural response in big city apartment complexes. Electric Heating Association. On Reader Service Card, circle 115.

Bulletin 704 describes Direct Fired Gas Door Heaters for warming large openings. Details and specification information given. New York Blower Co. On Reader's Service Card, circle 116.

Full color brochure describing new type EA Incremental Comfort Conditioner System particularly applicable to hotels, motels, apartments and nursing homes. Details and specification data included. Singer Co. Climate Control Division. On Reader's Service Card, circle 117.

Catalog sheets describing the first free standing fireplace. Washington Stone Works. On Reader's Service Card, circle 118.

York Product Selection Guide—12-page book Y70-3691 contains complete listing of residential and commercial air conditioning equipment, home heating furnaces, and automatic ice-making equipment manufactured by York Division, Borg-Warner Corp. Includes specifications of each unit, covers application, type of system, method of air distribution, location of unit, special advantages, and capacity range. On Reader's Service Card, circle 119.

INSULATION 608

Three colorful Acoustical Treatment folders depicting new products for commercial building interiors are now available from Conwed Corporation. The literature pieces feature Conwed Rock Face Ceiling Panels, Movable Walls and Semi-Concealed Ceiling Panels. Conwed Corp. On Reader's Service Card, circle 120.

LIGHTING 610

Handsomely illustrated new brochure showing world wide installations of Venini specially designed lighting fixtures. Venini. On Reader's Service Card, circle 121.

METALS IN BUILDINGS 612

Four new bulletins present the latest in Julius Blum & Company's stock components. Condensed information on expansion joints; tubing, bars and shapes; ornamental screening; and railing systems is offered individually for quick reference. Julius Blum & Co. On Reader's Service Card, circle 122.

Brochure describing capabilities and applications of Rigid-Tex (R) metals. Includes applications, notes on fabricating and comparison data. Rigidized Metals Corp. on Reader's Service Card, circle 123.

COATINGS 614

Brochure explaining "Perma Crete" and its features. Illustrations of completed buildings and color chart of stucco-texture roll-on paint which bonds to metal, masonry, wood. Sanders Paint Mfg. On Reader's Service Card, circle 124.

PLUMBING EQUIPMENT 615

Cordley Products offers specification sheets, Form C-193, describing a new water cooler design. Unit appears recessed, but mounts directly to the wall for ease in installation and maintenance. Cordley Products, Div. Eaton, Yale & Towne. On Reader's Service Card, circle 125.

1970 16-page catalog on Oasis Water Coolers. Gives spec data, applications, with full-color illustrations. Includes selector guide. Ebco Mfg. Co. On Reader's Service Card, circle 126.

1970 24-pg catalog illustrates drinking fountains, plumbing fixtures and trim. Includes drawings, special application data. The Halsey W. Taylor Company. On Reader's Service Card, circle 127.

ROOFING/SIDING 616

Miraweld—color fused building panels for exterior and interior application. Catalog shows colors, typical applications, and specifications. Kaiser Mirawal. Our Reader's Service Card, circle 128.

New 16-page full color 1970 brochure contains specs, applications and warranty information on U. S. Gypsum roofing and siding products. Includes color charts, illustrations. United States Gypsum Co. On Reader's Service Card, circle 129.

WALLS/LAMINATES/ PARTITIONS 618

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BOOKS

THE RSVP CYCLES. By Lawrence Halprin. Subtitled "Creative Processes in the Human Environment". Published by George Braziller, New York City. 207 pp, illustrated. $15.00.

REVIEWED BY GRADY CLAY

New intellectual tools are not easily come by, and Lawrence Halprin in his latest book has presented an important addition for anyone in a field of creative decision-making. It clearly derives from Halprin's experience as a landscape architect with an international practice, from insights out of his wife Ann Halprin's Dance Workshop in San Francisco, and from his involvement with the existential youth culture of California.

His tool carries the simple name of *scores* and I would submit that the book is about this tool whereas the title and chapter on RSVP cycles has an aspect of being dragged onto and between covers somewhat as an afterthought to give utility and context to his concept of scoring.

Halprin arrived at the development of the score as a tool for organizing thought and actions from his exposure to musical and choreographic scores; and from his earlier attempts via "motation" in his book *Freeways* to convey in graphic form some of the dynamic aspects of urban processes. In dancing and music the word score is traditionally and universally understood: the score is a symbolic representation of a sequence of events or processes (finger-foot movements, body motions, etc.) which take place within a period of time. In a creative leap of analogizing, Halprin takes the old concept of the musical/choreographic score and expands it into an intellectual mechanism for organizing any complex sequences of human and natural processes into a comprehensive and flexible entity. It has a beginning, but—and here one cannot be certain—an end or non-ending.

In extending the word's meaning, Halprin vastly expands its utility. He writes that "the essential quality of a score is that it is a system of symbols which can convey, or guide, or control (as you wish) the interaction between elements such as space, time, rhythm, and sequences, people and their activities, and the combinations that result from them."

All scores can be put into graphic form, although words or even poetry may carry the score. Visibility is the essence in scoring (i.e., carrying out operations ordered or guided or composed by a score) since the intent of the score-maker must be readily grasped by all participants.

Aha, you say, isn't that also a definition of traditional city plans? And aren't professional planners all saying that their intent is to make plans which the public can comprehend? Halprin would snort at the idea. He is essentially anti-plan, seeing plans (distinguished from scores) as goal-oriented, whereas he sees scoring as process-oriented. Thus his critique of planning in defining his scoring becomes a declaration of turf; he is on one side with his scored processes, while goal-oriented planners and ekisticians (no mention here of Doxiadis by name but the inference is clear) are on the other.

"What we want, what we desperately need is a feeling of close and creative involvement in processes," he writes early on, and in his final emotional pages adds that "we need creative mechanisms for change." To score, rather than to plan, he asserts, is to ally one's self with the creative, the young, and the existential—"those of us dedicated to the celebration of life."

Distinctions must be made and Halprin gives it a good try. A system he sees as "a closed and defined body with a beginning and an end." It has a goal and establishes a specific way or technique of operation. Halprin then proceeds to so subdefine systems beyond recognition that he overstates his case; what systems analyst would stand for Halprin's assertion that a system "requires input but not feedback"?

What has been happening outside the covers of this book—and it sneaks only inferentially inside—is that systems have become equated in current youthful litany with Tool of the Establishment. Hence—out with systems, up with empathy, intuitive process . . . scores. One gets the impression that Halprin is using scoring in an effort to settle old scores, standing fourscore and antisquare as a kind of West Coast libertarian seeking to free creative talents from the constraints of systematic Euclidian thought. Thus the book stresses creativity over logic, visibility over secrecy, open-endedness rather than hard results, freedom of operation rather than goals, flexibilities over hierarchies, chance as well as choice. It is clear where his sympathies lie.

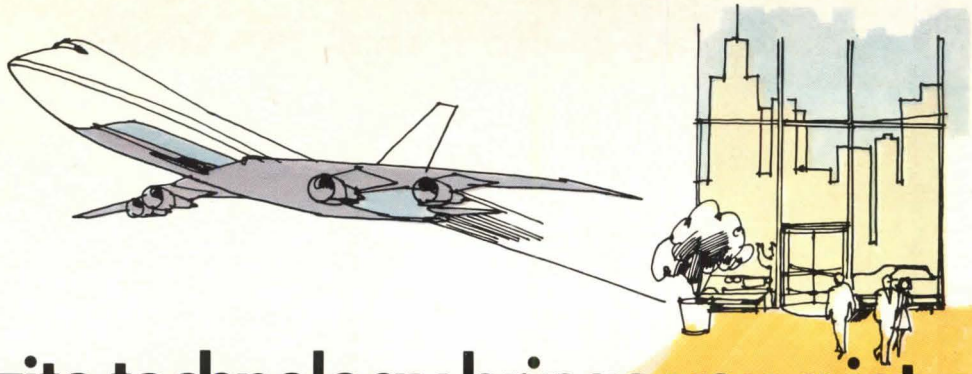
Unfortunately the idea of scoring, in the process of becoming a book, has not been sufficiently pruned and sharpened by harsh criticism. Halprin takes pains to explain what scores are and are not—but in the process scoring is watered down to become an almost universal activity:

Plans from which buildings are built are scores; so are music, mathematics, stage directions and dialogue, wind roses, shopping lists, earthquake-probability maps, football plays, Navajo sand paintings, $E=MC^2$, CPM and PERT charts, almanacs, the Apollo 11 flight plan, tarot cards and directions for performers in a happening.

At some points the score is a synonym for "plan"; at others for "game." It's a verb, it's a noun, it quick-shifts from active to passive, gerundive to indicative. Throughout most of the book it means a symbol for processes: Los Angeles' freeway grid "scores the lifestyle" of its people. Elsewhere a score is "a plot of people in space and against time." On a sketch of old Venice he observes "What an ideal situation for marine entrepreneurs! You carved out, scored your own land . . ." A Roman camp is described as "a score for a quickly erected striking force." At one point, score means environment, elsewhere it is a description of it, and still elsewhere a conceptual tool. Thus in attempting to universalize his discovery, Halprin at times comes close to making it disappear in semantic fog. Yet the originality or his leap-by-analogy is still there as his solid contribution.

Finally, Halprin sees scoring taking place as part of a formal process he identifies as the RSVP cycle, which embodies a series of processes involving resources (R), scoring (S), valuaction (V) and performance (P). Those who wish may pursue this idea through the book but it has the ring of a contrivance useful in putting scoring into a productive context but overemphasized here. Perhaps I have misjudged its utilitarian aspects. At any event the most creative insight occurred when Halprin conceived score in its new and broadened sense, and immediately sought to apply it to human processes. On that creative act alone I should think he could rest his case.

Mr. Clay, a specialist in the analysis of environmental and urban development, is Editor of LANDSCAPE ARCHITECTURE Quarterly.



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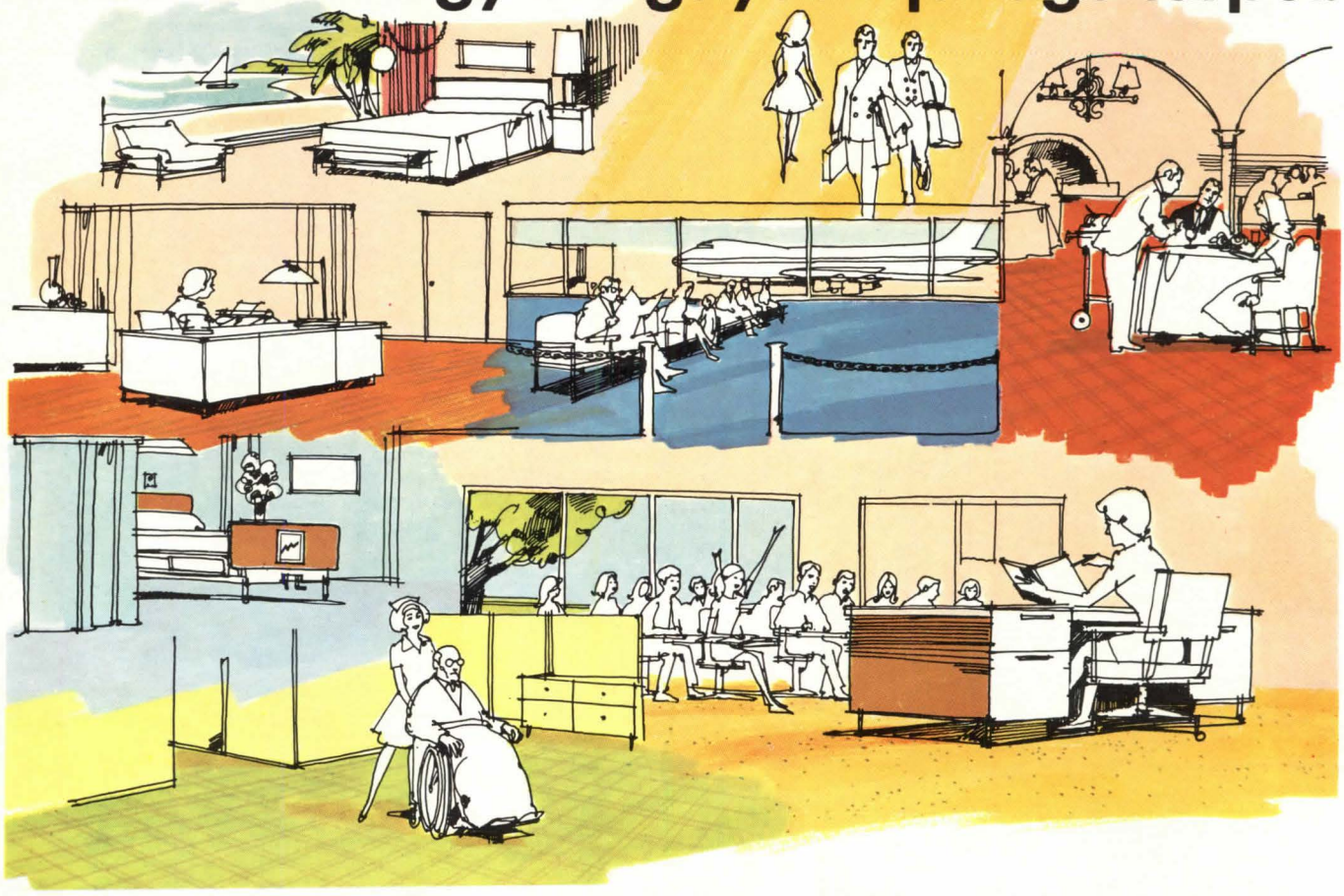

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On Readers' Service Card, Circle 220

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With actual examples of the specialized procedural forms to be used in the office

by Harry Siegel, C.P.A.

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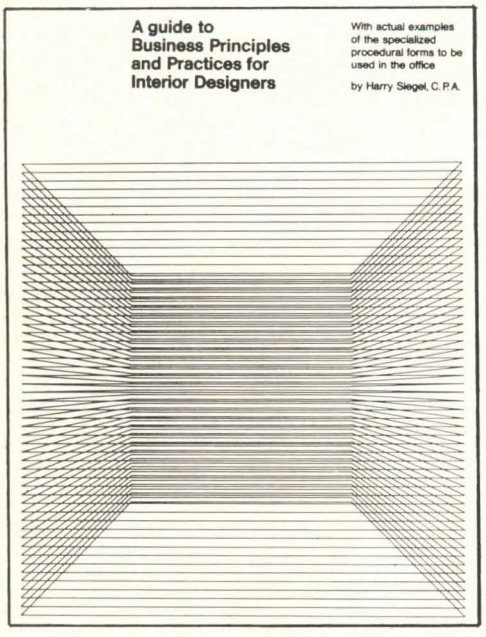

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