

# Progressive Architecture

December 1971, A Reinhold publication





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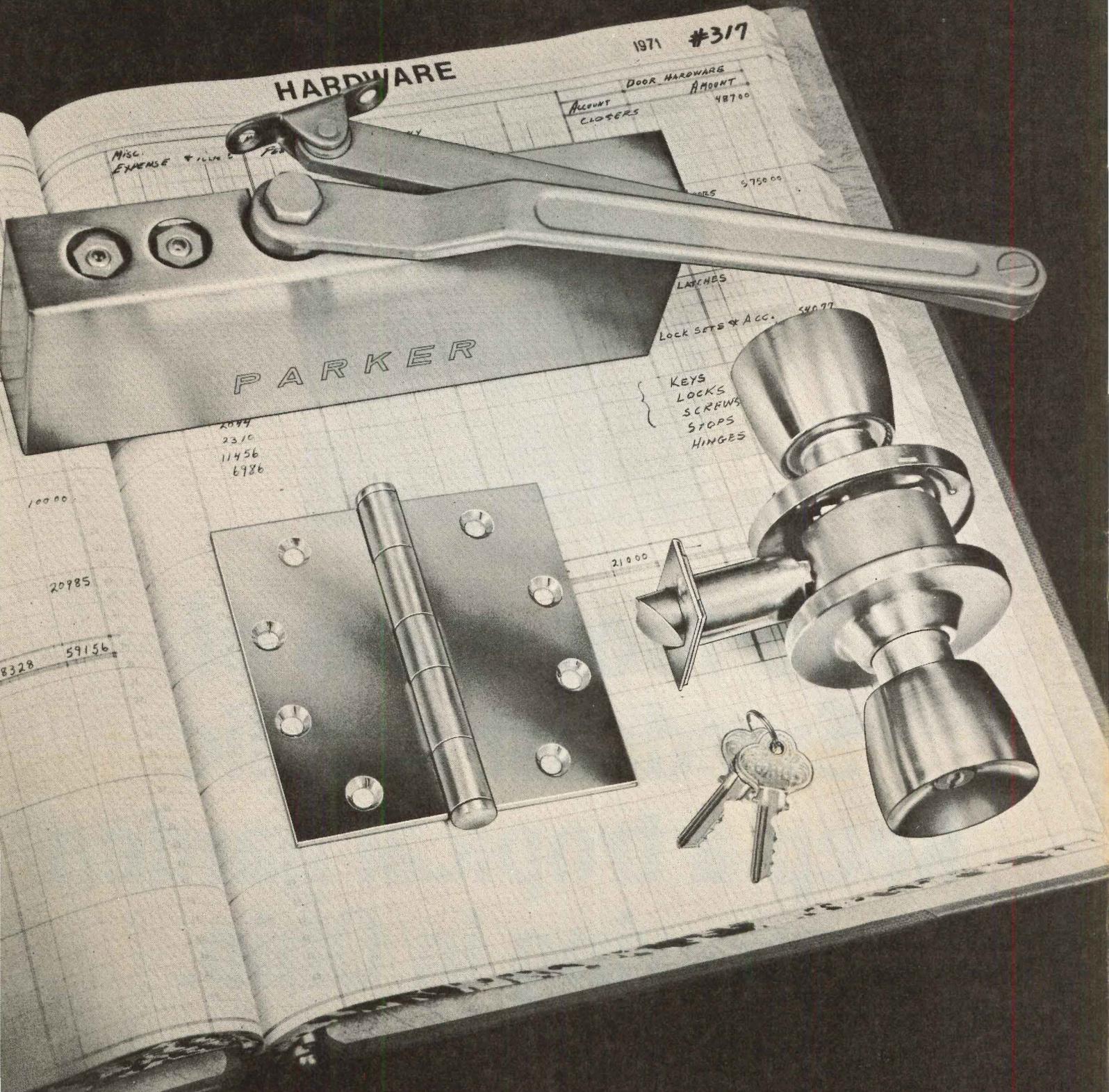
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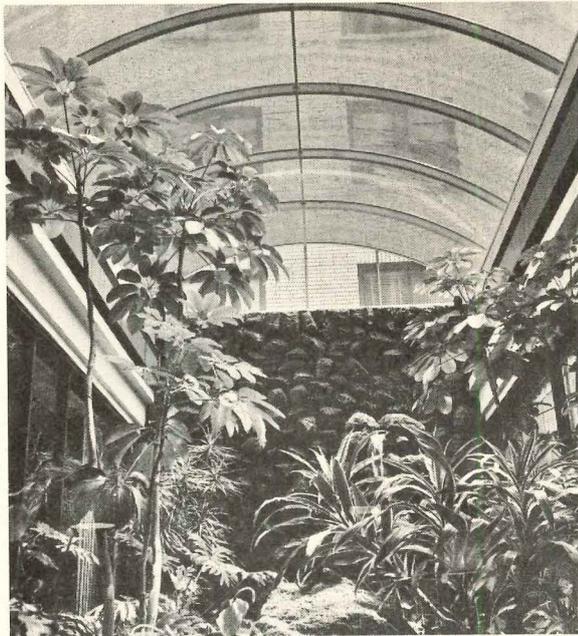
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Architect: Barbitta-James & Associates, Inc., Akron, Ohio.  
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December 1971

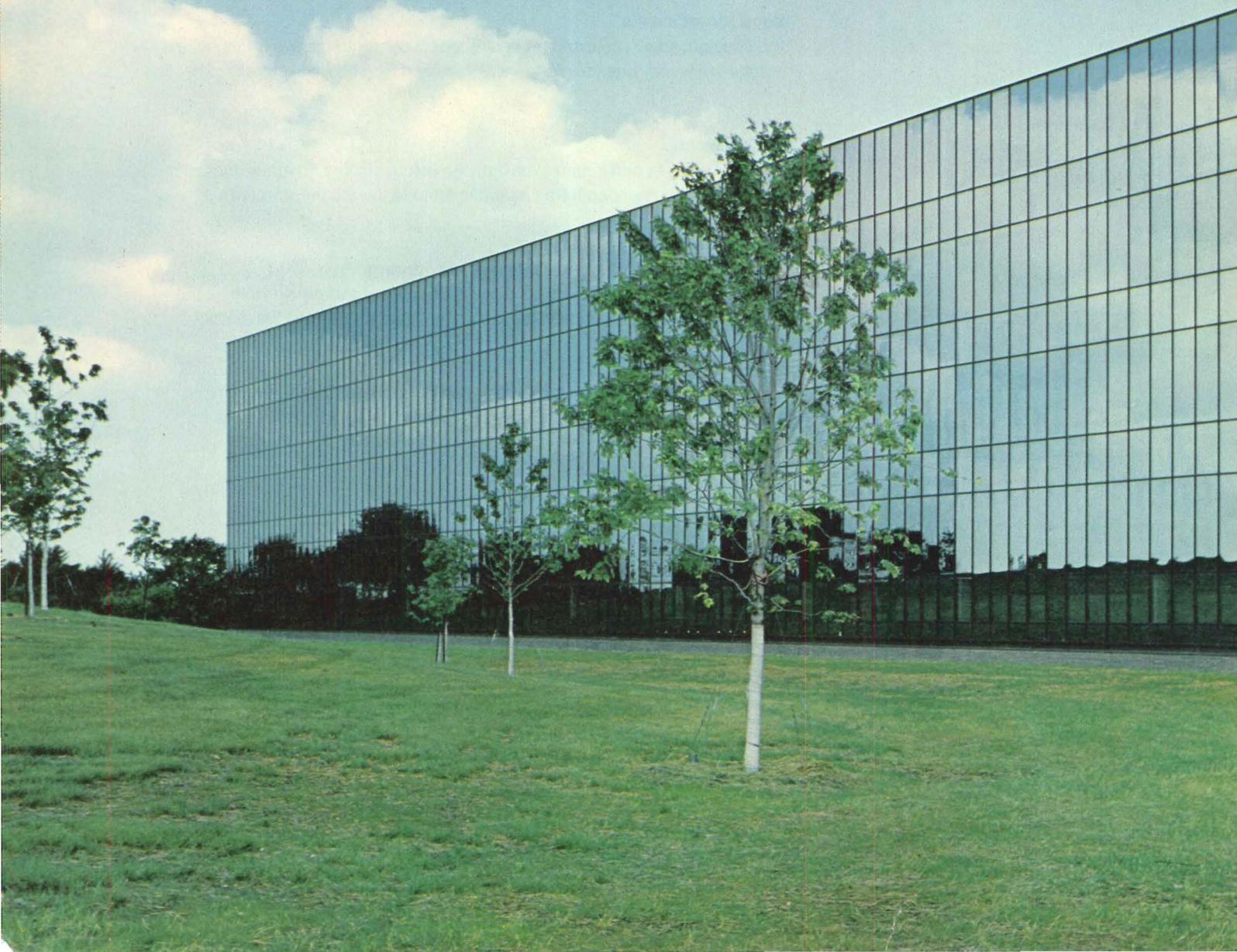
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**Cover:** Detail of baptistry window designed by Jean-Jacques Duval for St. Madeleine Sophie Church, Bellevue, Wash.; Gotteland & Koczarski, architects; photo by James R. Clark.



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Architect: Deeter Ritchey Sippel Associates, Pittsburgh

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# Views

## Support for life support

Dear Editor: Your October publication is useful to those of us involved in formulating environmental legislation. I hope you will continue to keep me abreast of the activities of *Progressive Architecture*.

*Edmund S. Muskie*  
United States Senate  
Chairman, Subcommittee on  
Air and Water Pollution

Dear Editor: Your October issue was indeed thought provoking, and contained excellent detail which will be of valuable assistance to me as I study proposals before the Senate dealing with this subject.

I would very much appreciate your keeping me informed in the future. Your ideas and suggestions will enable me to be more effective in the Senate.

*John V. Tunney*  
U.S. Senator, Calif.

Dear Editor: You are quite right. This great planet of ours is confronted by an environmental problem which can only be eliminated through total citizen involvement. It is good to know that architectural professionals are already doing their part to plan for the future in this way.

*Vance Hartke*  
United States Senator, Ind.

Dear Editor: I congratulate you and Mr. Fred S. Dubin on an excellent issue. I view this issue as a syllabus to action. I would assume that it is the first in what will be monthly installments.

I concur with Mr. Dubin that the a/e profession must share its knowledge with a/e students as well as support the efforts of our educational institutions. I am directing the third year design courses (emphasis on

environmental control and site planning) at the University of Illinois, Chicago Circle, and I would like to make available to every student a reprint of this issue.

*Bruno Ast*  
Department of Architecture

Dear Editor: Enjoyed receiving the October issue and I commend you for this fine public service feature.

More American magazines need to follow your example. Keep up the good work!  
*Hugh Monaghan*  
Hatboro, Pa.

Dear Editor: Your October issue was perhaps the most relevant publication to problems facing the profession and society that I have ever read.

*George M. Blackburn III*  
Lago Vista, Tex.

## Rural Advocacy

Dear Editor: Your readers might like to know that a very full account of the activities of the Community Development Group at N.C. State University (Rural Advocacy, P/A Sept. 1971, p. 136) appeared in "Design and Community" published in 1970. It is available for \$3 a copy from The Student Publications of the School of Design, North Carolina State University, Raleigh.

*Jerry Simmons*  
San Francisco, Calif.

## A rose by any. . . .

Dear Editor: I would be even more honored to have my work published in the same issue as John Portman's splendid hotel, if you had got my name right. (P/A, Sept. 1971, p. 162).

*Daniel Solomon*  
San Francisco, Calif.

## The mint

Dear Editor: I am a senior in architecture at Louisiana State University, and I have recently completed a study for the Department of Architecture and the Baton Rouge Bureau for Lath and Plaster entitled, "A History of the United States Mint, New Orleans, Louisiana." I read with great interest the item concerning the New Orleans Mint in News report (Sept., 1971, p. 54). I was consulted by the Tulane students in the early stages of that project for information concerning the history of the Mint and for photographs of the original drawings. It was a worthwhile service project for both Tulane students and Louisiana.

However, I disagree with their proposal to utilize the old New Orleans Mint for commercial developments. The New Orleans Mint is almost 135 years old. It is definitely the oldest public building in the city of New Orleans, probably the oldest Federal building in the South, architect William Strickland's most southern venture, and the oldest existing U.S. Mint institution (Charlotte Mint, designed by William Strickland, was also built in 1838, but it was destroyed by fire in 1844 and rebuilt).

A building of such rich architectural, historical, and numismatic heritage deserves more recognition and rehabilitation than has been made available. Proposed uses such as a commercial development are a definite violation of the integrity and character of the Mint. Because of its role in the development and economy of New Orleans, the Mint must be preserved as a logical and integral part of the historical sources of the State of Louisiana and the United States of America. This must be undertaken before it is too late.

*Charles J. Collins, Jr.*  
Baton Rouge, La.



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	Reinforced Concrete Bid	Structural Steel Bid
Concrete & Reinforcing Steel (Tower Only)	\$ 720,490	\$ 20,241
Structural & Miscellaneous Steel—Deck	36,000	900,086
Masonry (Including Core Walls)	29,206	74,124
Stone and Granite	326,909	846,980
Plastering—Fire Proofing	27,500	123,000
Shop Drawings & Special Supervision	49,850	21,875
Electrical	359,481	294,585
TOTALS	\$1,549,436	\$2,280,891

A \$731,455 difference!

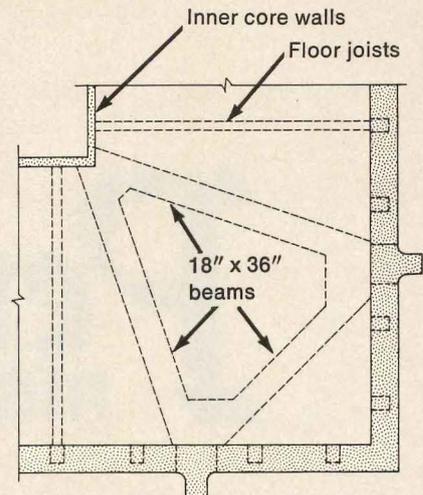
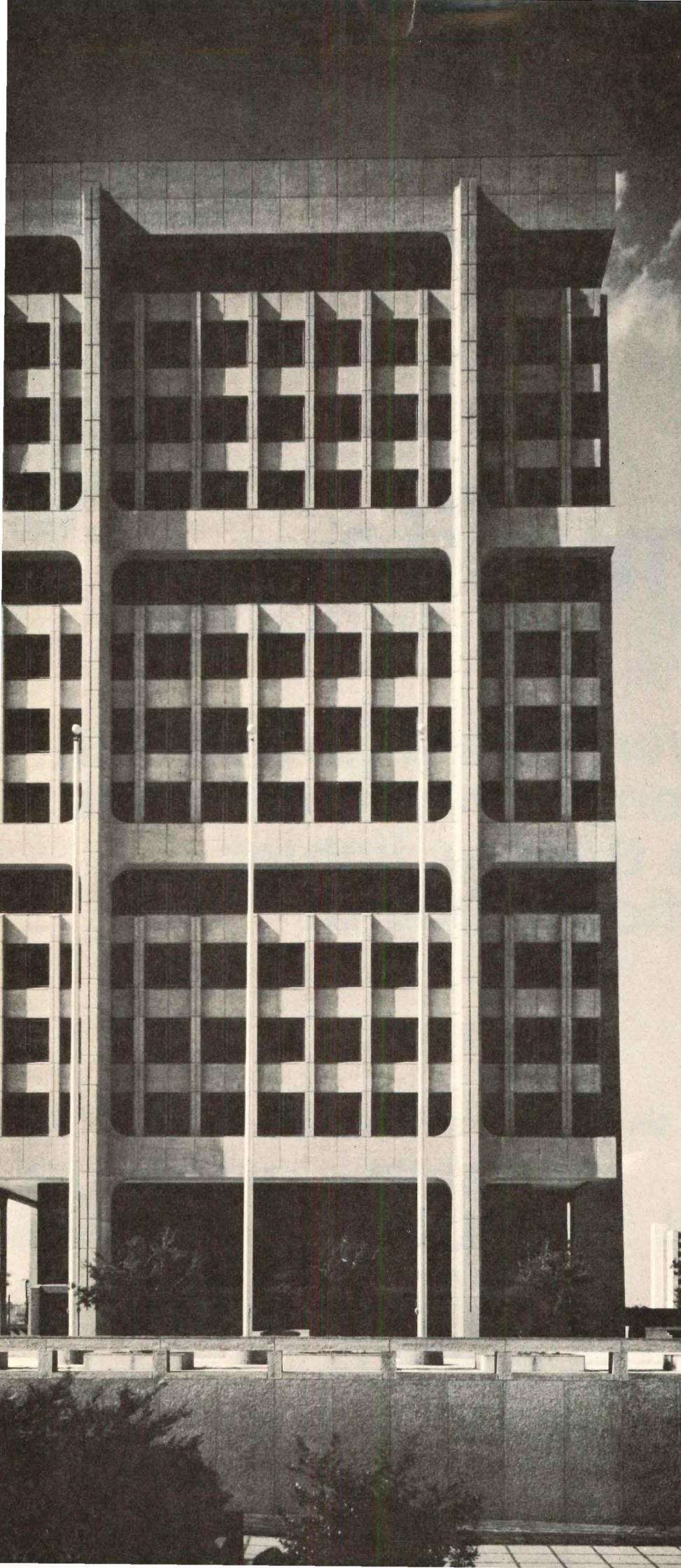
Grade 60 reinforcing steel's 50% greater yield strength provided sizable savings. The structural flexibility of monolithic reinforced concrete was equally important to this unique design. Gassner/Nathan/Browne and Haglund/Venable, Architects Associated combined two structural systems to achieve the building's strong individuality: an exterior bearing wall . . . and a super frame which relieves the bearing wall at every fourth floor by transferring the load to eight massive exterior columns.

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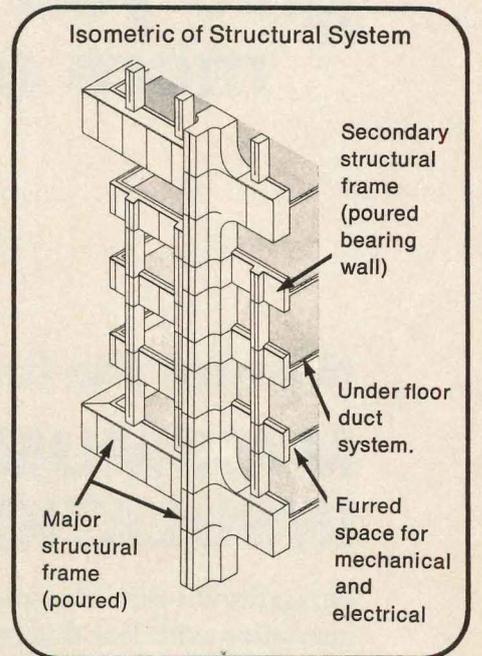
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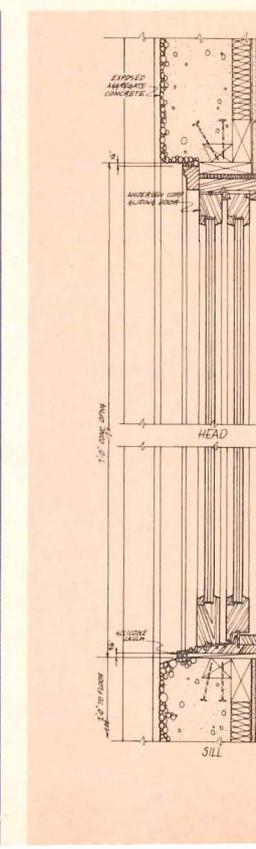
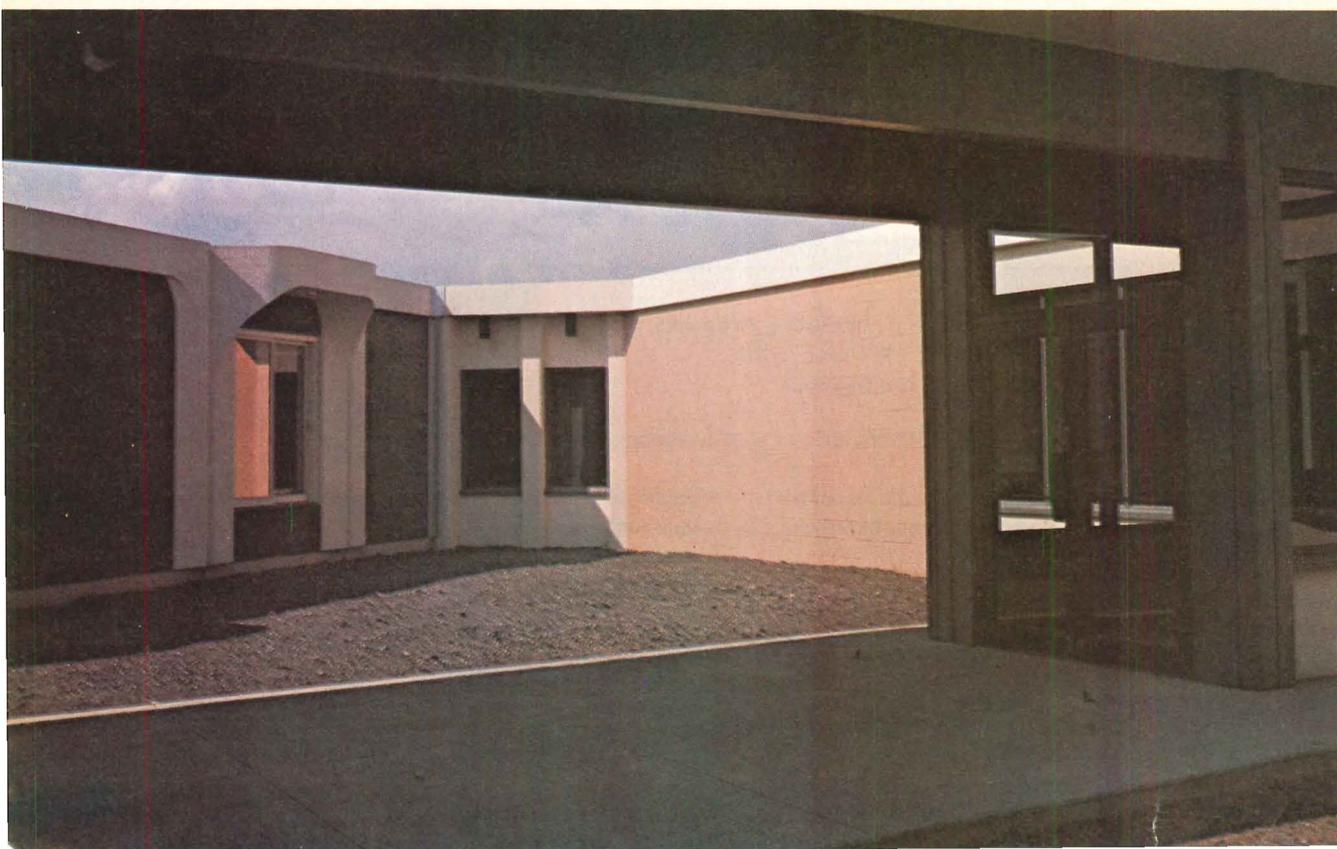
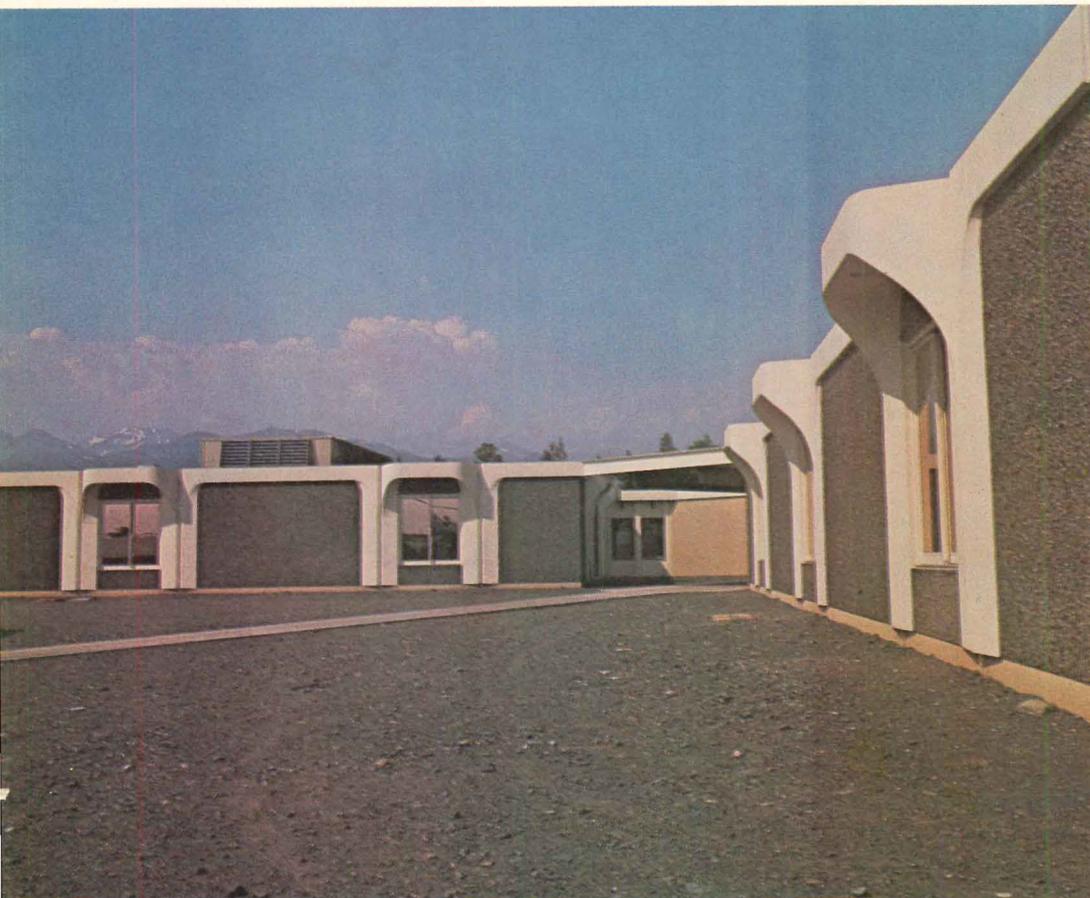
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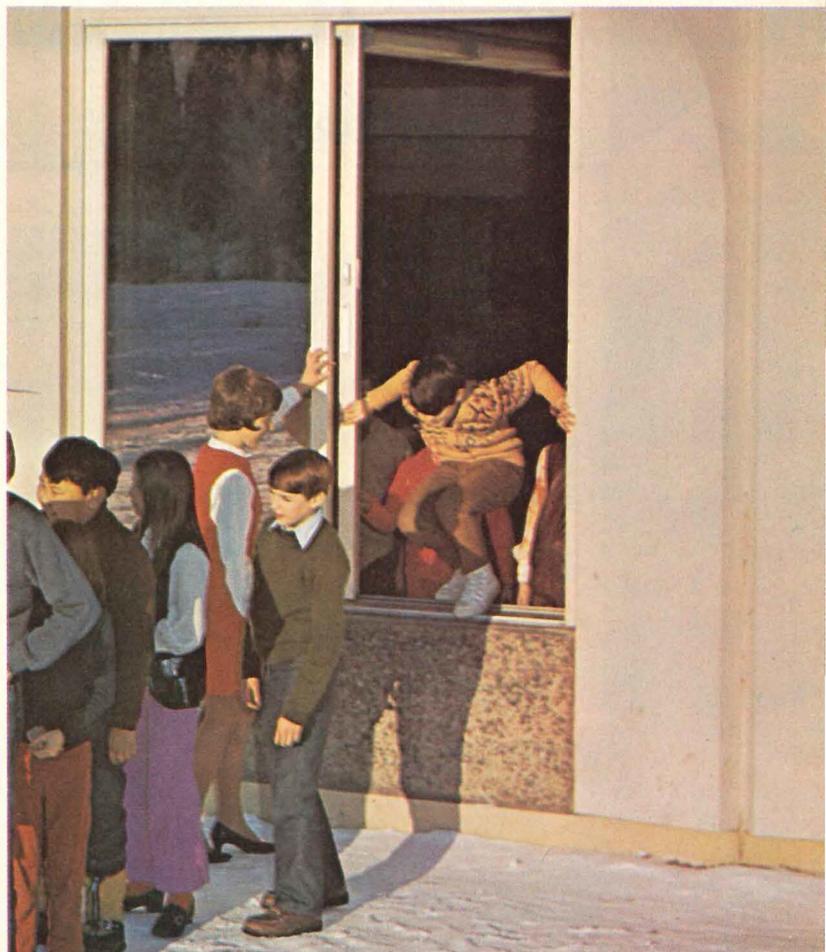
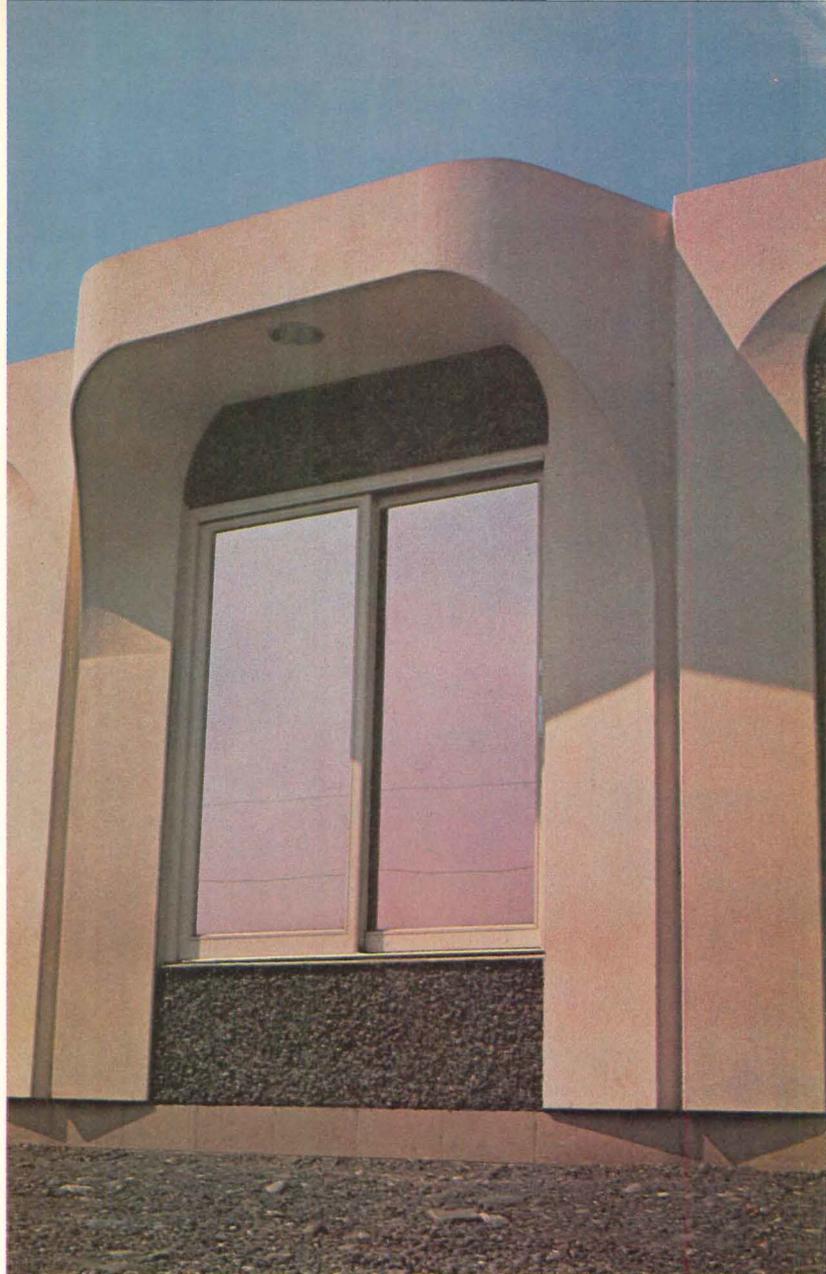
For details on all Andersen Windows and Doors (even Window-Doors) see Sweet's File (Sections 6/An and 8.4/An) or your nearest Andersen distributor.

Wonder Park Elementary School, Anchorage, Alaska. Architect: D. J. Coolidge, Anchorage, Alaska. Consulting Architect: Ralph M. Alley, AIA.



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The Bazaar was created by Callister & Payne, Community Planners; and August Rath, architect.



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*Robert R. Butler*

Building Superintendent

And he's talking about more than 5000 faucets. Delta faucets.

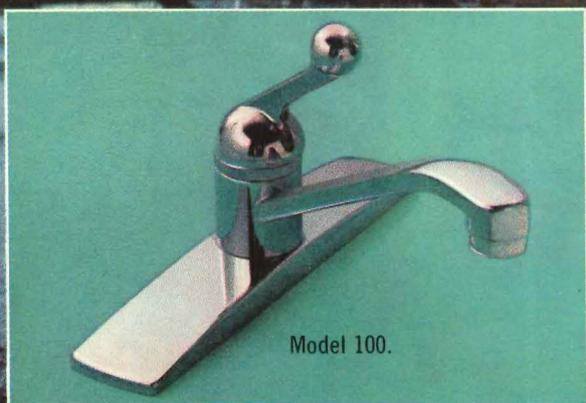
The success of Chicago's famous Marina City is no accident. It's the result of specifying Delta single-handle faucets exclusively in the building complex.

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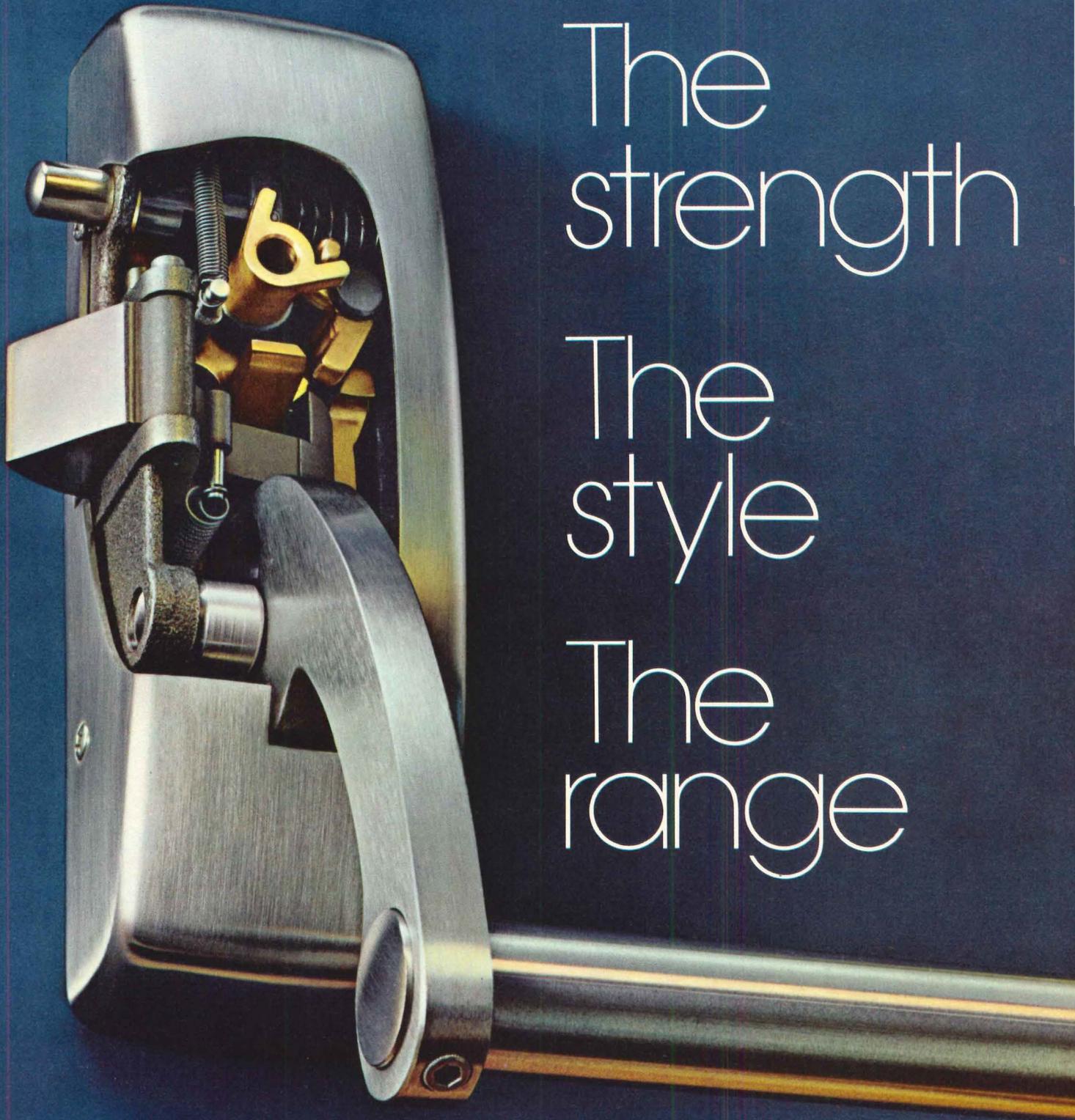
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## Progressive Architecture

# News report

### L.A. art museum moves from temporary Wright building

The Los Angeles Municipal Art Gallery, which has for some years made its home in a building designed by Frank Lloyd Wright, has moved into a new home on the same site. In the process, the old building was removed, but that isn't the architecturally historical outrage it might have been, for Wright designed the building to be temporary in the first place.

It was built in 1948 to house a traveling exhibit of Wright's work that was touring the country. Wright designed the pavilion to house his own show, and the building stayed longer than the exhibit. It became the home of the Municipal Art Gallery, and at the same time became a more or less permanent structure by default. The Art Gallery only recently got around to constructing a new building to replace the old one.

The new gallery building is the work of Dennis Wehmueller and Arthur Stevens, a small Los Angeles firm. Of poured concrete construction, with a waffle slab roof, it is a two-level building, with gallery spaces above and storage below; an auditorium is also part of the lower level. The concrete, for the most part, is bush hammered, but stock form liners were used to create decorative trim on the exterior walls and the columns were sandblasted lightly. A sprayed-on finish was applied to the waffle slab ceiling surfaces.

### Press produces variety of concrete panels

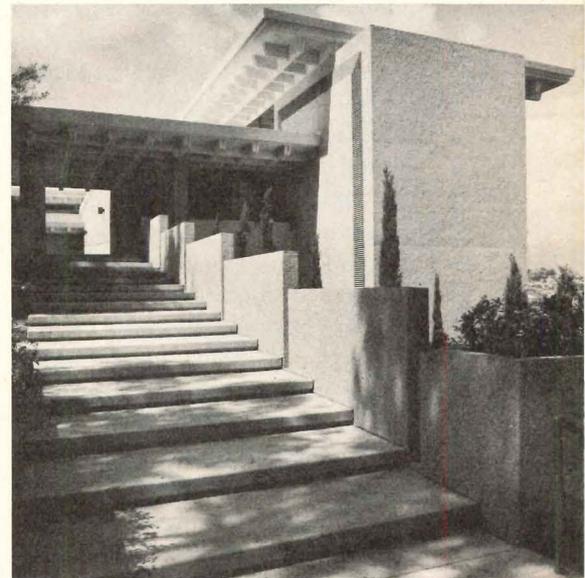
One of the limitations of most mass produced building systems has been that, in order to achieve any economies of mass production, large numbers of a small range of elements must be produced. A British company appears to have licked that problem: a system of huge 5000 ton hydraulic presses, says Go-Con Concrete Ltd., can produce concrete panels in varying sizes (up to 20' x 9' x 10" thick) at the rate of 15 panels an hour. What's more, says the company spokesman, the process cuts the cost of producing concrete components by at least 25 percent.

The secret, of course, is in mechanization. Only eight people are needed to operate the press, producing a quantity of panels the company says usually takes 45 people. Panels of different sizes and shapes, with or without door and window openings, mosaics or sculptured forms can be produced using the same mold and without interrupting the process.

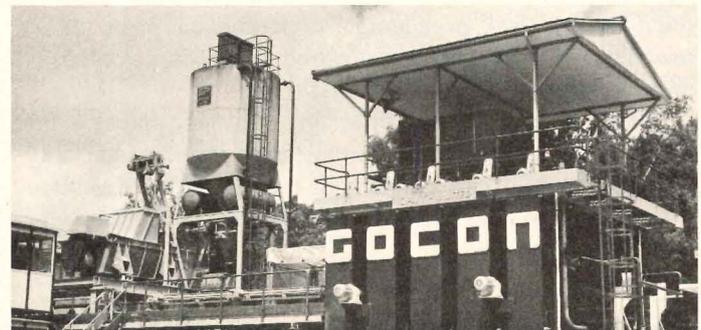
In the press, a very wet concrete mix is consolidated to re-  
[continued on page 30]

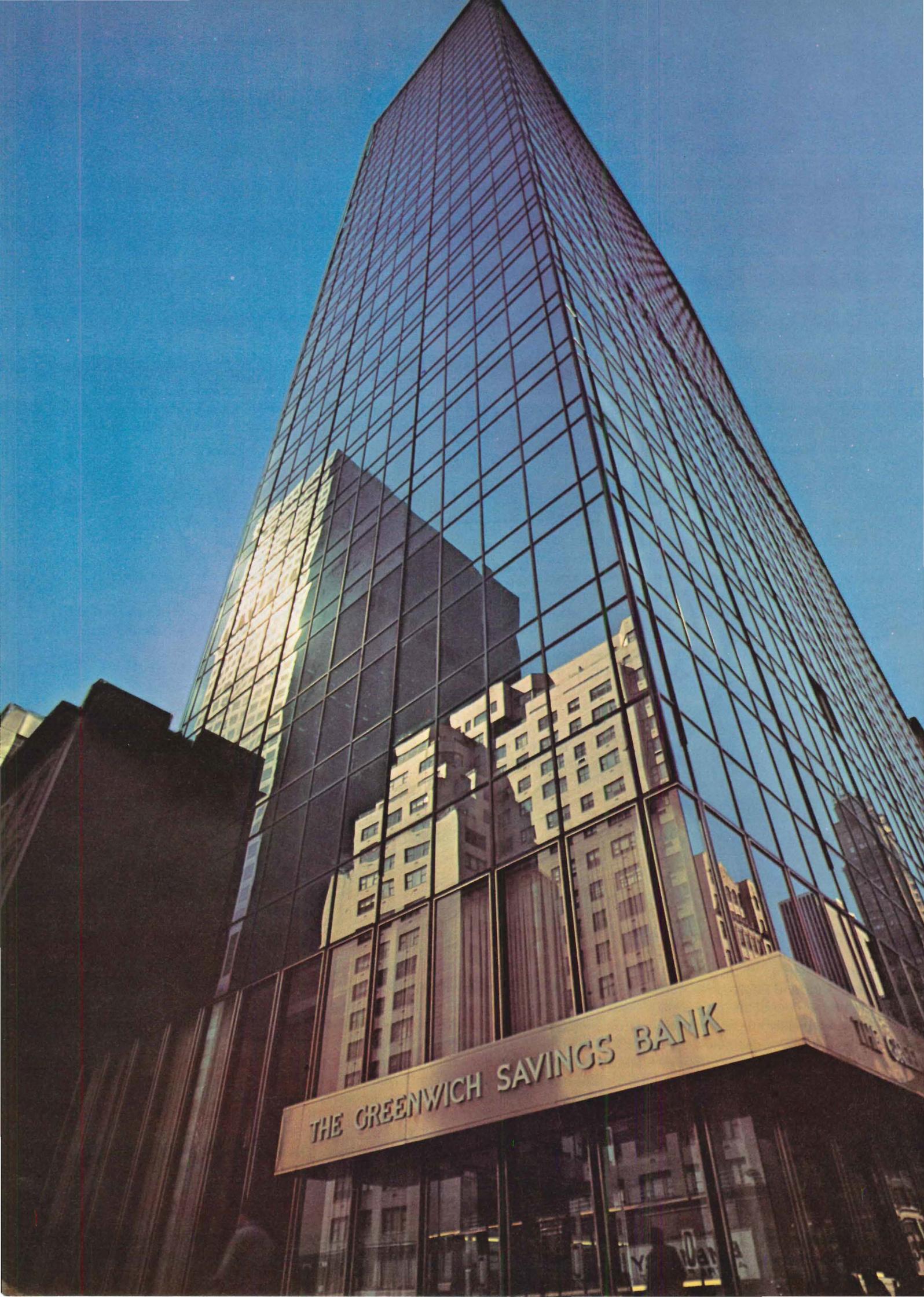


Los Angeles art museum



Concrete press





THE GREENWICH SAVINGS BANK

# How Vari-Tran® is helping The Greenwich Savings Bank save on cooling.

When The Greenwich Savings Bank people built their new midtown Manhattan office building, naturally they had efficient operation in mind. The building architects, Kahn & Jacobs, were also concerned with aesthetics.

By using Thermopane® insulating glass made with Vari-Tran® reflective glass in vision areas and tempered coated Vari-Tran in spandrels, the owners and architects achieved their goals.

Vari-Tran provides more year-round comfort because it reflects most of the sun's light and heat. This

greatly reduces cooling needs. Not only is less capacity required, but also fewer ducts, fans and other equipment. This cuts down substantially on operating costs. For The Greenwich Savings Bank, it is estimated that some \$10,000-\$15,000 a year will be saved.

Kahn & Jacobs is particularly pleased with the building's appearance. It's the first building in New York to be completely sheathed in a curtain wall of reflective glass. Its mirrored surfaces produce fantastically interesting effects as they continually reflect the ever-changing sky

and surroundings.

The reflective Vari-Tran coating is on the airspace surface of the Thermopane units and inner side of spandrels.

If you're planning a new building, Vari-Tran can help you look good while saving money, too. Get a computerized cost analysis of glazing alternatives today. Contact your L-O-F Architectural Representative or Architectural Dept., Libbey-Owens-Ford Company, Toledo, Ohio 43624.



**Hi-Performance Glass**

*The glass that cuts building costs*

For: The Greenwich Savings Bank. Architect: Kahn & Jacobs, New York City. General Contractor: George A. Fuller Co., New York City.  
Glazing Contractor: David Shuldiner, Inc., New York City.

Table 1

**Firms reporting difference in volume of work in 1971 compared with '70**

	Size of firm				
	1—4	5—16	17—29	30—69	70, over
Decrease	30.6%	34.2%	29.7%	26.1%	33.3%
Same	6.3	3.4	6.3	2.2	0
Increase	63.1	62.5	64.1	71.7	66.7

Table 2

**Firms reporting change expected in volume of work in 1972**

Change predicted	All firms	Size of firm reporting				
		1—4	5—16	17—29	30—69	70, over
<b>Increase</b>						
10% or less	14.6%	15.8%	13.0%	16.7%	16.3%	18.8%
11-20%	19.1	20.3	17.6	12.5	20.4	43.8
21-30	9.7	9.8	9.3	8.3	16.3	6.3
31-40	1.3	1.1	1.7	1.4	0	0
41-50	4.0	3.9	4.3	2.8	4.1	0
over 50	2.2	2.6	2.1	2.8	0	0
<b>Same</b>						
	30.4%	31.7%	31.1%	27.8%	22.4%	12.5%
<b>Decrease</b>						
51-100%	1.4%	1.7%	1.2%	1.4%	2.0%	0 %
41-50	2.6	2.0	2.7	6.9	2.0	0
31-40	1.6	1.1	2.1	1.4	2.1	0
21-30	6.3	3.9	7.4	11.1	10.2	6.1
11-20	4.6	3.7	5.4	4.2	2.2	12.5
10% or less	2.2	2.4	2.1	2.8	2.0	0

Table 3

**Offices reporting actual and predicted change**

Volume of work in 1971 [construction \$]	Actual change in 1971 over 1970		Change predicted for 1972 over 1971	
	Increase	Decrease	Increase	Decrease
	Under \$3 million	45.1%	49.3%	47.5%
\$3-6.99 million	65.4	29.3	46.8	18.4
\$7-11.99 million	70.1	24.8	56.9	17.6
\$12-19.99 million	82.3	15.0	50.9	23.3
\$20-34.99 million	79.4	19.1	51.3	9.2
\$35-49.99 million	88.2	8.8	67.6	16.2
\$50-79.99 million	81.0	14.3	70.8	0
\$80 million & over	90.6	9.4	73.5	20.6

Data for these tables came from 1191 architectural firms in all parts of the country, ranging in size from one man practices to firms with more than 200 professional staff members

Table 4

**Principal types of buildings designed in 1971**

	Size of firm owners, professional staff	Proportion of firms designing these buildings	
		1970	1971
Commercial low-rise	1—4	56.8%	63.8%
Residential, private, single		49.2	54.7
Residential low-rise		25.1	36.8
Industrial		23.2	25.1
Commercial low-rise	5—16	52.7%	59.3%
State/local educational		41.2	41.3
Residential, private, single		32.0	39.3
Residential low-rise		29.9	38.0
Commercial low-rise	17—29	64.1%	66.2%
State/local educational		48.4	50.0
Urban design/redevelopment		31.3	41.9
Residential low-rise		31.3	35.1
State/local educational	30—69	52.2%	56.9%
Commercial low-rise		52.2	49.0
Industrial		50.0	49.0
Educational, private		30.4	45.1
Commercial low-rise	70, over	44.4%	61.1%
Residential, private, single		11.1	43.3
Residential low-rise		22.2	37.0
State/local educational		55.6	35.2

Table 5

**Average volume of work by size of firm**

Size of office owners/prof. staff	Average volume of work In ten-thousands \$		Increase
	1970	1971	
1—4	\$ 29	\$ 59	103%
5—16	79	119	51
17—29	299	350	17
30—60	306	519	70
70, over	1418	1734	22

Table 6

**Offices predict volume of business in 1972**

	Increase	No change	Decrease
New England	47%	29%	24%
Middle Atlantic	42	31	27
East North Central	55	27	18
West North Central	46	28	26
South Atlantic	57	28	15
East South Central	48	40	12
West South Central	55	36	9
Mountain	60	28	12
Pacific	51	32	17

them business doubled. The amount of work done by most of these offices in 1970, however, was very small. The smallest gain was made among offices having 17-29 owners/professionals on the staff, an increase of only 17 percent. Work done by all architectural offices in 1971 represented a 58 percent increase over 1970.

According to the 1191 offices reporting, there will be a further increase of 17 percent in 1971 (table 5). Most optimistic about the coming year are those offices in the Mountain States where three out of every five offices forecast an increase and only 12 percent see a decrease. In 1971, the volume in this region was well below the national level (table 6). The least optimism is in the Middle Atlantic States where only two out of every five firms see an increase and 27 percent expect a decrease. In this region the 1971 volume was well over the national level.

In each of the nine geographic areas, more than half of the architectural offices have been designing low-rise commercial buildings in 1971. In each of the five southern and western regions, half (or nearly half) of all offices have been doing single family houses. In the East North Central and Middle Atlantic regions, one out of every three offices has been doing industrial work, while a similar proportion in New England have been engaged in urban design and redevelopment. In the West North Central, two out of every three offices have been doing work on public educational buildings.

In comparing the work done by architectural firms in 1971 to that of 1970, an increase in construction investment is reflected in 7 of the 18 major building types: commercial, low-rise (1-3 stories); hospitals/health, private; single family houses; residential, low-rise (1-3 stories); residential, high-rise (4 stories up); community planning and design (non-government); urban design and redevelopment. For these seven, there is a higher average volume (construction dollars) of business per architectural office, and a larger proportion of offices are doing the designing (table 7). The greatest increases were in community planning and design (non-government) and in urban design and redevelopment.

Only public educational building remained unchanged, with the same proportion of architectural offices averaging about the same volume of business.

Public buildings were off in the past year: Federal government office and service (off 5 percent), hospitals and health facilities (off 15 percent), and miscellaneous building (off 10 percent); miscellaneous state and local building (off 10 percent). For all other building types, rather than any great change in construction investment, though there was an increase, work simply appears to have been redistributed among the architectural offices. For 6 out of every 10, more offices did the work, but the average volume of work per office was lower. For the other building types, the average volume per office was higher, but the work was done by fewer offices.

On balance, there is reason for more optimism than has been justified for some time. Possibly the volume of business for architectural firms in the coming year will increase more than predicted; the present tint of rose might become a red glow. Pessimism was justifiably rampant a year ago, yet in 1971, two out of every three offices experienced an increase in their business volume, and overall it increased by 58 percent. From a firmer platform at this time, we launch into a new year with fewer misgivings than prevailed as 1970 closed.

Table 7

**1971 Business volume of offices in geographic regions**

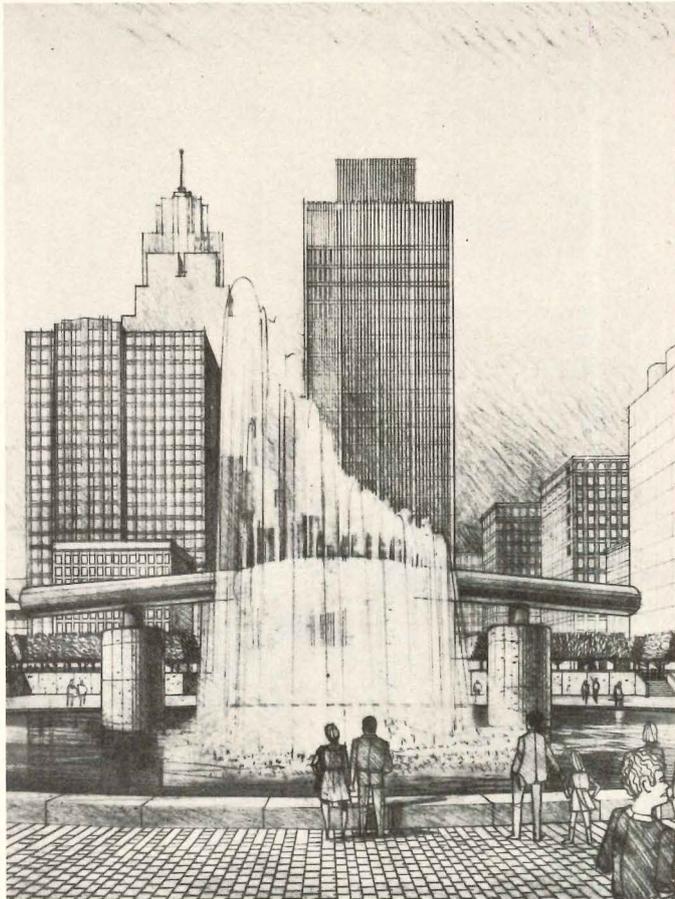
Region	Under \$3-million	\$3-11.9 million	\$12-34.9 million	\$35-79.9 million	\$80-million and over
New England	41%	32%	16%	6%	5%
Middle Atlantic	27	30	25	8	10
East North Central	37	37	17	6	3
West North Central	31	49	12	5	3
South Atlantic	27	49	15	7	2
East South Central	35	46	17	0	2
West South Central	40	38	17	3	2
Mountain	45	39	11	5	0
Pacific	47	32	17	3	1
All States	37	38	17	5	3

Table 8

**Distribution and volume of work**

[Dollars in ten-thousands]

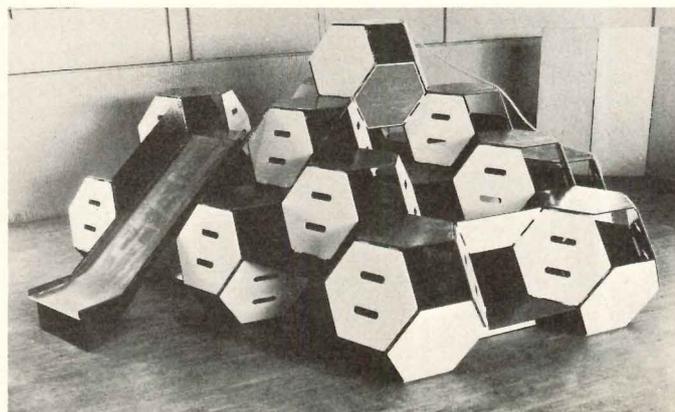
	1970		1971	
	Offices doing work	Average \$ volume per office	Offices doing work	Average \$ volume per office
<b>Commercial</b>				
Low-rise	54.9%	\$ 148	61.1%	\$ 168
High-rise	13.6	1346	17.3	1125
Industrial	29.2	134	26.8	156
<b>Community</b>				
Planning & design, non-government	9.1	743	13.4	1197
Urban design & redevelopment, including public housing	12.7	452	21.7	580
<b>Federal government</b>				
Office and service	4.5	404	5.6	284
Hospitals/health	3.2	702	3.5	497
Defense and space	3.0	141	3.2	230
Other (not including housing)	2.4	454	1.9	464
<b>State and local government</b>				
Office and service	12.4	280	14.7	235
Educational	35.8	394	35.4	402
Hospitals/health	10.1	337	10.6	563
Other (not including housing)	9.1	301	12.3	177
<b>Institutional</b>				
Educational, private	18.0	205	18.4	324
Hospitals/health, private	18.6	399	20.6	613
<b>Residential</b>				
Private, single	37.0	41	43.2	89
Low-rise (not including public housing)	27.5	333	37.0	442
High-rise (not including public housing)	8.8	539	13.8	635



Detroit fountain



Polyhedron Hill



move most of the water and air; this leaves the panel with enough cohesion to allow handling by a large rigid vacuum lifter, which removes the panel from the press for curing outside the mold. The mold itself is an intriguing piece of machinery. The base and upper platen are larger than the largest panel to be made. The edges of the mold can be moved in and out, changing size from one panel to the next. The entire process is controlled electronically from a single console.

The first installation will be in Yugoslavia next spring; a second press will be installed in a Scandinavian country by summer. Go-Con officials have talked with government officials and private builders in this country.

**Fountain scheme for Detroit civic center plaza shown**

An "engine for water" is how sculptor Isamu Noguchi describes his design for a fountain for Detroit's Civic Center Plaza Park. He is still refining the form but, in concept at least, the fountain will consist of a 200-ft diameter basin of water above which will be the sculptured structure, spanning 100 ft from opposing granite piers with a central ring 30 ft in diameter. From this structure, which will be 18 ft above the basin, water will jet upward and downward to produce a cloud of water. Computer controlled lighting and water displays will add to the effect.

The \$2 million fountain, to be known as the Horace E. Dodge & Son Fountain, was a gift from the late Anna Thomson Dodge. Noguchi was selected for the project by an 11-member committee chaired by Robert F. Hastings.

**San Francisco CDC designs mobile playground**

For about three years, the Community Design Center in San Francisco has been working with the idea of a mobile play environment. One possible solution was a colorful inflated rubber mound for climbing, jumping and sliding; another was a modular scheme involving five trailers full of play devices. Neither of those schemes bore fruit, but last year the project started up again and the result was named Polyhedron Hill.

The name is quite descriptive: hexagonal (and half-hexagonal) panels of plywood are joined by hinges to form truncated octahedrons, which are stacked into hills for climbing and tunneling. Slides, bridges, mirrors, chalkboards, benches and other accessories are added to the hill, offering a wide variety of activities for children.

The other beauty of Polyhedron Hill, according to the CDC, is that it is totally mobile. It can be carried on a truck and set up in a matter of hours to make a playground of a vacant lot or closed street. CDC staff member David S. Gast designed the play structure, which was built by staff members, friends and other volunteers.

**OAE becomes first independent architectural union**

One out of five isn't what you'd call an auspicious beginning, but it was enough to make the Organization of Architectural Employees rejoice. The San Francisco group, which until now had been a union in the making, won one of the five union elections it had scheduled at Bay Area architectural firms; another ended in a tie. Hartzka and Knowles (by a vote of 16 to 2) now becomes the first and only architectural firm in the country organized under National Labor Relations Board regulations.

To OAE, the one victory is an important step. But the fact remains that in the other four firms, the fledgling union was

not approved. At Skidmore, Owings & Merrill the vote went 59 to 23 against OAE; at Fisher-Friedman & Associates 6 to 3 against; and at Howard Friedman & Associates 3 to 2 against. The tie vote was at Wurster, Bernardi and Emmons (7 to 7); it could be broken by an NLRB ruling on a challenged vote. At the three firms where OAE was voted down, the union, according to NLRB regulations, must hold off on further organizing activities for a year.

### U of Cincinnati adds large lecture hall

By using large—10 x 14—screens, a new 850-seat lecture center at the University of Cincinnati provides what the architect describes as “an individualized approach to communication with large audiences.” The screens are designed to handle color television, slides or films, singly or simultaneously; the hall is set up for large group instruction.

The screens are above a fore-thrust lecture platform; images are projected from a rear projection room and can be magnified to any desired size by the instructor. Presentations can be controlled from the lectern or from an off-stage master control room. According to the architect, Russell Myers, a partner in Glaser & Myers and Associates, the building’s designers, the theater creates the same visual relationship between student and instructor in large groups as a conventional classroom would for a smaller group.

The building also includes seven classrooms for up to 60 students each. These are linked to the lecture theater by a closed circuit television system, bringing the theater’s total audience to 1200 students.

The theater is an integral part of the University’s Brodie Science Center. Connected to the theater building is an Educational Media Center where audiovisual materials for the lecture center are prepared.

### Proposed community to be built around race tracks

Two tracks—one for horse races, the other for auto races—are the heart of a 689-acre recreational, residential, commercial and industrial development proposed for Mountain View, Calif. by Stolte, Inc. The development, which would take two years to complete once approved, is expected to cost around \$100 million.

Besides the race tracks, the complex would include a shopping center, hotels, light industry and garden apartments for about 3000 residents. About 90 percent of the project would be left as open space.

The combined racing facility would be built around an earth berm grandstand with seats on both sides. On one side would be a 5/8 mile trotting track surrounded by a mile long flat racing oval; seats for 20,000 people would be provided. On the other side of the grandstand would be seats for around 100,000 people, overlooking a two mile paved track for auto racing. A tri-oval speedway and a road course would be provided for racing buffs.

Stolte, Inc. says that aesthetic, economic and environmental needs are being considered in their proposal. Tyler-Williams and Associates are architects and planners.

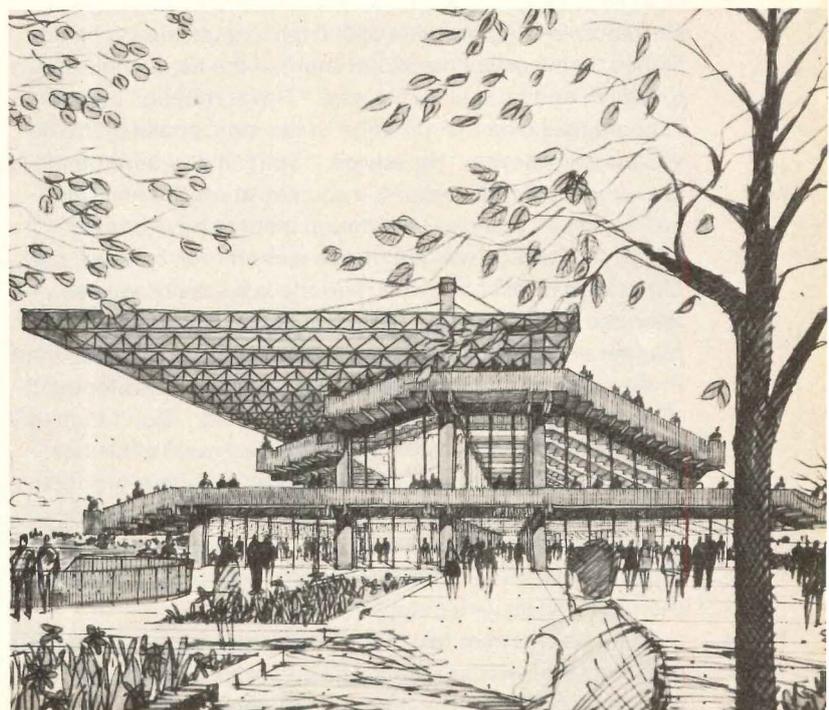
### Central States AIA considers a piece of the action

A piece of the action conjures up pictures of fast talking promoters, aggressive developers and shady speculators. For the architectural profession, it carries two meanings: one, the [continued on page 32]



Cincinnati's multi-media hall

Grandstand is community center



traditional sense of a share in the profits, and the other, the more professionally palatable idea of greater participation and control in the project. Both were stressed in Kansas City recently at the annual convention of the AIA's Central States Region; the theme was "A Piece of the Action."

A couple of things were quite clear at the conference. One was that the phrase means something different to different people, and the other was that almost everybody wants to know how to get it. Interpretations vary. Robert Hastings, AIA national president, who gave the Institute view at a luncheon meeting, talked primarily of construction management—an additional service the architect can offer, bringing an additional fee and additional control. But for the other speakers, a piece of the action involves more direct participation in the development process.

Keynote speaker Vincent G. Kling emphasized that the architect should begin building equity in projects. One way is to take part of his fee in cash and leave some in the project to grow. Another is to co-venture or speculate on anything from front end time to profits to whole projects, depending on what one can afford. Kling's firm is moving towards more and more participation in development: He has set up his own construction firm and is moving into land acquisition, with the eventual goal of a sizable real estate development project.

Following Kling's keynote talk and Hastings' official view, the remainder of the speakers dealt more or less with techniques. Herbert Lembcke of John Portman Associates outlined the Portman approach to architecture and development and handed out some advice. Successful real estate development, he pointed out, is a matter of knowing the market, planning, timing and merchandising; the architect/developer must "keep sight of the parameters within which he can build something." Before construction starts, he must know what the potential will be.

Palo Alto, Calif. architect John Law told how he does it with a small firm (his wife writes specs). Now specializing in housing and small office projects, architect/developer Law got started by leaving part of a \$5000 fee in a restaurant he designed; in two years his \$2000 share of the action had grown to \$3000, and he was on his way. "The architect," Law said, "should take over the 'creation of the idea' phase of the development process." His advice: "Start small where the risk is low; develop a track record. If you can show the ability to make a profit, you can get enough clout to have control."

The conference was set up like a good rock concert: the big draw was last on the bill, and the last session was as well attended as the opener. The speaker was attorney, urban planner and graduate architect Paul B. Farrell, Jr., who went through his 10 rules for successful real estate development (P/A, March 1971, p. 86) and added an 11th: "Don't trust any of the bastards in the business." The real meat of his talk, however, was a quick lesson in analyzing income-producing real estate projects. What he presented, he said, was the principal method used by all rational lenders and developers: a project's value has nothing to do with construction cost and everything to do with potential income.

There were one or two in the audience who may have been put off by the constant emphasis on profits and greater returns, and some who might not be ready for the attendant

risks. But proof that everybody wants a piece of the action could be seen in the 500 architects who were busily scribbling their collective way through Farrell's sample problems in real estate analysis.

#### Floor slabs built like roads in Florida housing project

To save time in the construction of 100 new housing units near Homestead Air Force Base in south Florida, architects Smith, Korach, Hayet, Lippack, Haynie and Associates took a look at the way roads are built and decided that was for them. The road-building techniques are being used in construction of the floor slabs and foundations.

H. Maxwell Parish, an associate in the firm, describes the process: "We actually have a condition where our rough grade is rock base, and our finished grade is only a couple of inches above that. Therefore our house slab has an integral footing on top of the existing rock grade. This gives us an opportunity for the fill under the slab to be placed with road grading equipment—graders and scrapers—and then rolled with normal road building rollers to give it excellent compaction. Then they go back with the grader and cut the edge of this raised area to the shape required for the inside edge of the footing, clearing away the rest of the fill, leaving it ready to come back and set the one form on the outside. It can then be poured as a slab very quickly." Adds Parish, "I don't know whether this is truly a unique method of construction or just unique in south Florida."

#### Calendar

Jan 24-27. Semi-annual meeting of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE), Fairmont Roosevelt Hotel, New Orleans, La.

Jan 24-27. The International Air-Conditioning, Heating, Refrigeration Exposition at The Rivergate, New Orleans, La. The exposition is co-sponsored by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) and the Air-Conditioning and Refrigeration Institute (ARI).

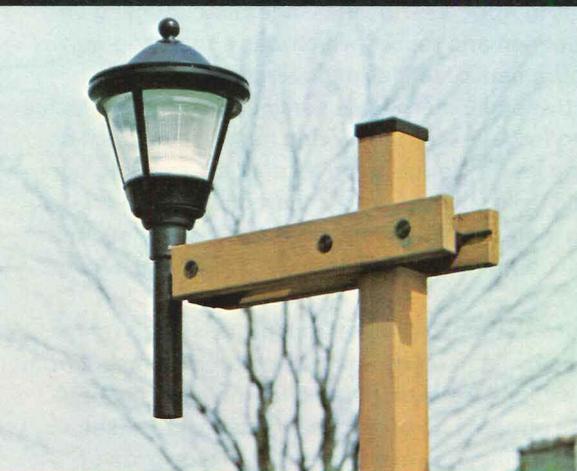
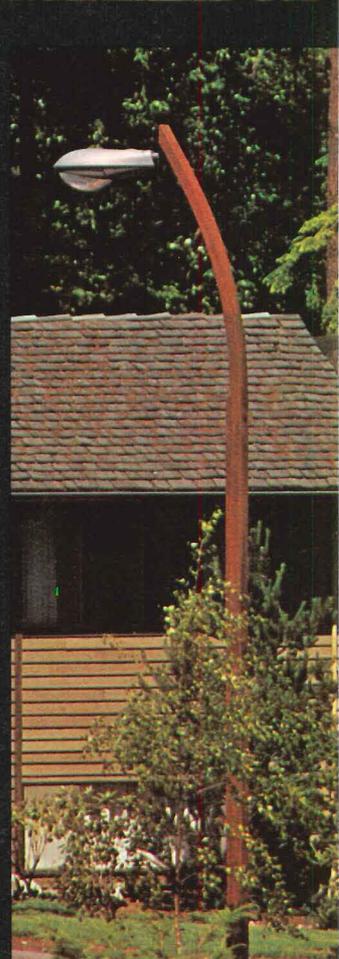
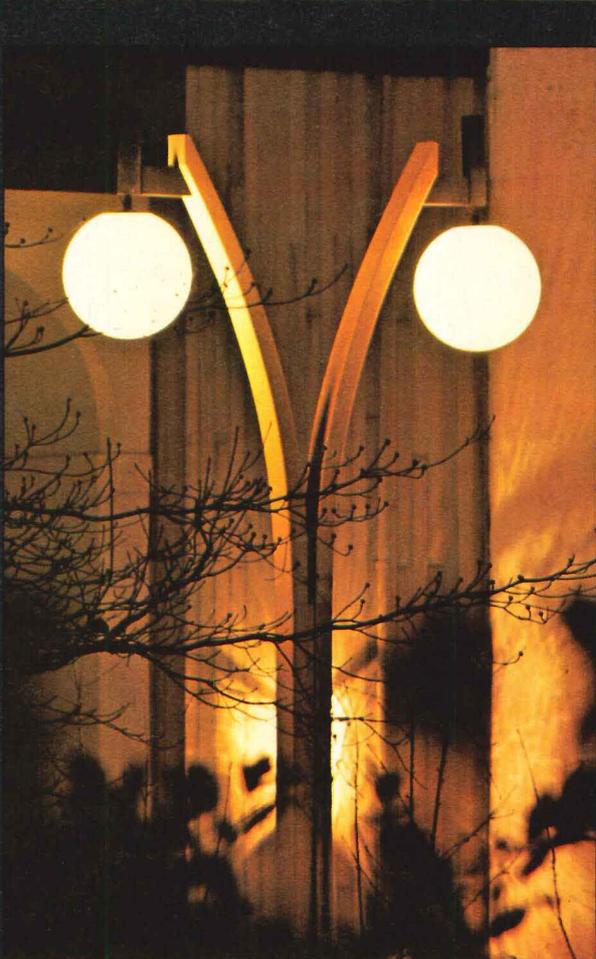
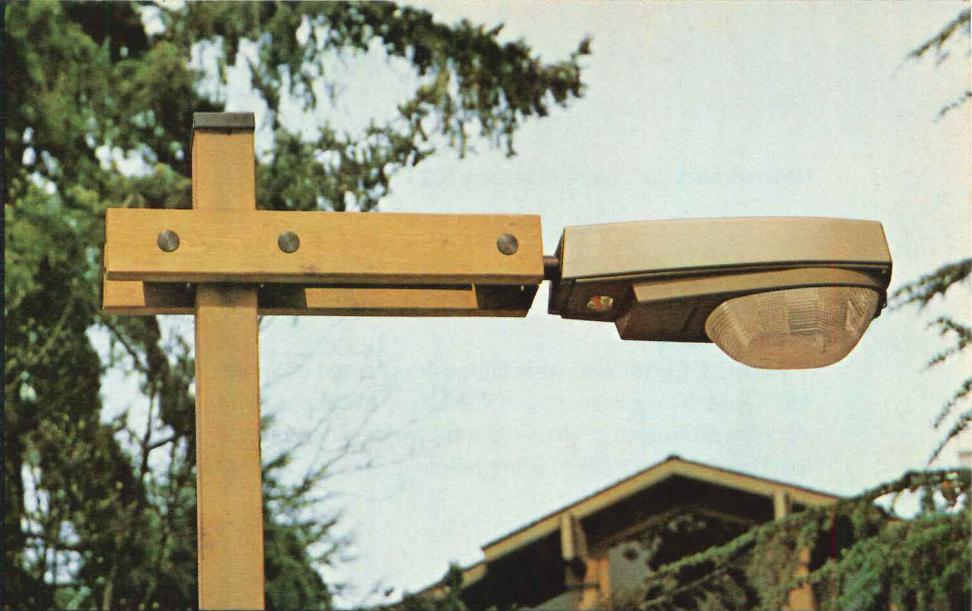
March 14-15. GATE-Southwest Research Institute Energy Conservation Forum, Hilton Palacio del Rio Hotel, San Antonio, Tex.

March 21-23. National Conference on Control of Hazardous Material Spills, Astroworld Hotel Complex, Houston, Tex.

#### Awards

A dozen architects were cited in the Annual Architectural Exhibition of the New Jersey Society of Architects. Receiving awards for completed or preliminary projects were: **Ballou-Daly-Levy** (office building, Ridgefield Park); **Convery & Cueman** (branch bank building, Lafayette Township); **Eckert & Gatarz** (golf clubhouse, Middlesex County Golf Course, East Brunswick and First Charter National Bank, Cranbury Road Branch, East Brunswick); **The Grad Partnership** (Headquarters for IBM Data Processing Division, White Plains, N.Y.); **J. Robert Hillier** (residence, Princeton and The Magic Muse—A Travelling Exhibit); **Holt & Morgan** (Spring Grove reconstruction and addition, Lawrence Township); **Kent D. Seyffer** (residence, Saddle River); **Romeo Aybar** (Houses on the Cliff, Edgewater); **Allan M. Blauth** (House in the Woods, New Hope, Pa.); **Epple & Seaman** (proposed Speedwell Lake Elementary School, Morristown); **Gruzen & Partners** (Jersey City State College Student Union, Jersey City); **UNIPLAN** (East Orange Middle School, East Orange).

The Architect's Service Award of the California Council AIA [continued on page 34]



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was given to George J. Hasslein, FAIA, dean of the School of Architecture and Environmental Design, California State Polytechnic College.

Anton J. Egner and Associates was named as winner of the 1971 Award for Excellence in Planning and Design by the New York State Division of Housing and Community Renewal. The firm received the award for the planning and design of McGraw House, Ithaca, N.Y.

## Washington report

### The code breakers

The stunning, but not really sudden, decision to drop ethical prohibitions against bidding for professional services by the American Society of Civil Engineers has thrown every major professional group into a furious re-study of its own ethical codes. ASCE's decision to drop "Article 3" from its Code of Ethics was announced in letters to each of the society's members from President Oscar S. Bray late in October. The decision as to whether to "invite or submit priced proposals under competitive bidding conditions" is left "to each engineer to determine individually and independently in his own best judgment."

Specifically, said ASCE, "It will not be a matter of agreement among our members, or between the Society and its members. It will not be considered unethical to submit or invite such bids in the future."

Removing "articles" from the Society's code will apparently also remove the very real threat of action by the U.S. Department of Justice against the organization (and presumably against others of similar nature), based on interference with free play of business considerations. ASCE will, however, continue to "urge" its members not to open their doors to such practices.

ASCE's action came at a time when professionals had chalked up another major victory in their long fight against bidding requirements by U.S. government agencies, a provision in the just-approved annual military construction appropriations bill instructing federal agencies to continue "to follow accepted practices in obtaining architect-engineer services." Massive opposition from professional groups had also forced the Environmental Protection Agency to retreat somewhat by delaying until Nov. 30 the time set for comments on an announced plan that would permit municipalities to use "turnkey" contracts for design, construction and operation of waste treatment facilities.

Other professional organizations, including the AIA and the Consulting Engineers Council, had been advised of ASCE's decision before it was announced to members. In early November they began immediate studies of their own ethical code provisions. There was no doubt of their dismay that ASCE had not chosen to fight. "We were prepared to back (ASCE) to the hilt if it had chosen to resist the pressure from DJ," said a top officer of one group, "because we have been convinced that the non-bidding attitude is right for professionals. Now, we'll probably have to go along, and remove the prohibition from our own code of ethics."

There was no doubt, also, as to ASCE's reasons for retreat

on this point. In a carefully written message to members more than a month ago, alerting them to considerations by the Society's Board of Direction, ASCE Executive Secretary, William H. Wisely, said that "assuming that DJ is contemplating a civil suit that would enjoin [ASCE] from retaining Article 3 as an ethical standard," the organization had three alternatives, all of them unpleasant: (1) to offer voluntarily to delete the Article from the code; (2) to await filing of a suit, then seek a "consent decree," carrying an implication of guilt among other things; (3) to fight in the courts—with a "doubtful" outcome, considerable expense, and the possibility of a treble-damage suit against the Society, its officers and members, if the case was lost—plus inevitable misinterpretations in the public mind.

ASCE's action now casts a heavy shadow over a year-long effort by the professional societies to obtain special legislation that would exempt A-E's from any need to bid. Bills, aimed at this objective, have been introduced in Congress every year for several years. Last session's attempt, HR 16443 authored by Texas' powerful Rep. Jack Brooks, chairman of the House Government Activities subcommittee, did get through the House, and died in the last minute rush in the Senate. But it caused a further airing of the problem and the objections in numerous hearings, and it was credited by most observers for the success of an amendment to last year's military procurement bill, which, in effect, prohibited any calls for such bids, and with the general reluctance of federal agencies to adopt bidding procedures.

The long battle over bidding started with an "opinion," filed with Congress in April, 1967 by the General Accounting Office. In that opinion and report (which was concerned with general procurement practices of government agencies), Comptroller General Elmer Staats commented on the practice of negotiating for A-E services, saying he found no justification in existing law or Congressional intent for anything but bidding on all items and services procured by the government. What's more, added Staats, his office would no longer approve such contracts (and without GAO approval, bills can't be paid).

That brought a storm of protest from professionals, some soul searching by them, and finally the pointed comment from GAO that it wouldn't insist on bidding for the moment, but that Congress ought to do something to clarify the situation.

The soul searching, however, did result in a revision of AIA's ethical section (Article 6) concerning this matter—a change approved at the Institute's 1970 Boston meeting. That change in wording made the "Article" extremely vague, in the opinion of many. It now says, in effect, that after an architect has been "selected" by an owner on the basis of his professional qualifications, he may "settle" his fees with the client by negotiation.

Far less specific than the wording in ASCE's code, the AIA ethic may not be considered by the Justice Department to be restrictive in the same sense. Nevertheless, it is a fact that Justice requested and obtained from AIA copies of its ethical code some months ago, and that the federal agency has been making similar studies of codes of organizations of many kinds, including that of accountants.

Hence AIA's top echelon is now conducting a careful study of the implications of the ASCE actions, and considering whether it should change its code further, or even drop the Article entirely. [E.E. Halmos]

Different floors in your buildings lead different lives. Some get walked on, spilled on, wheeled on and even dropped on.

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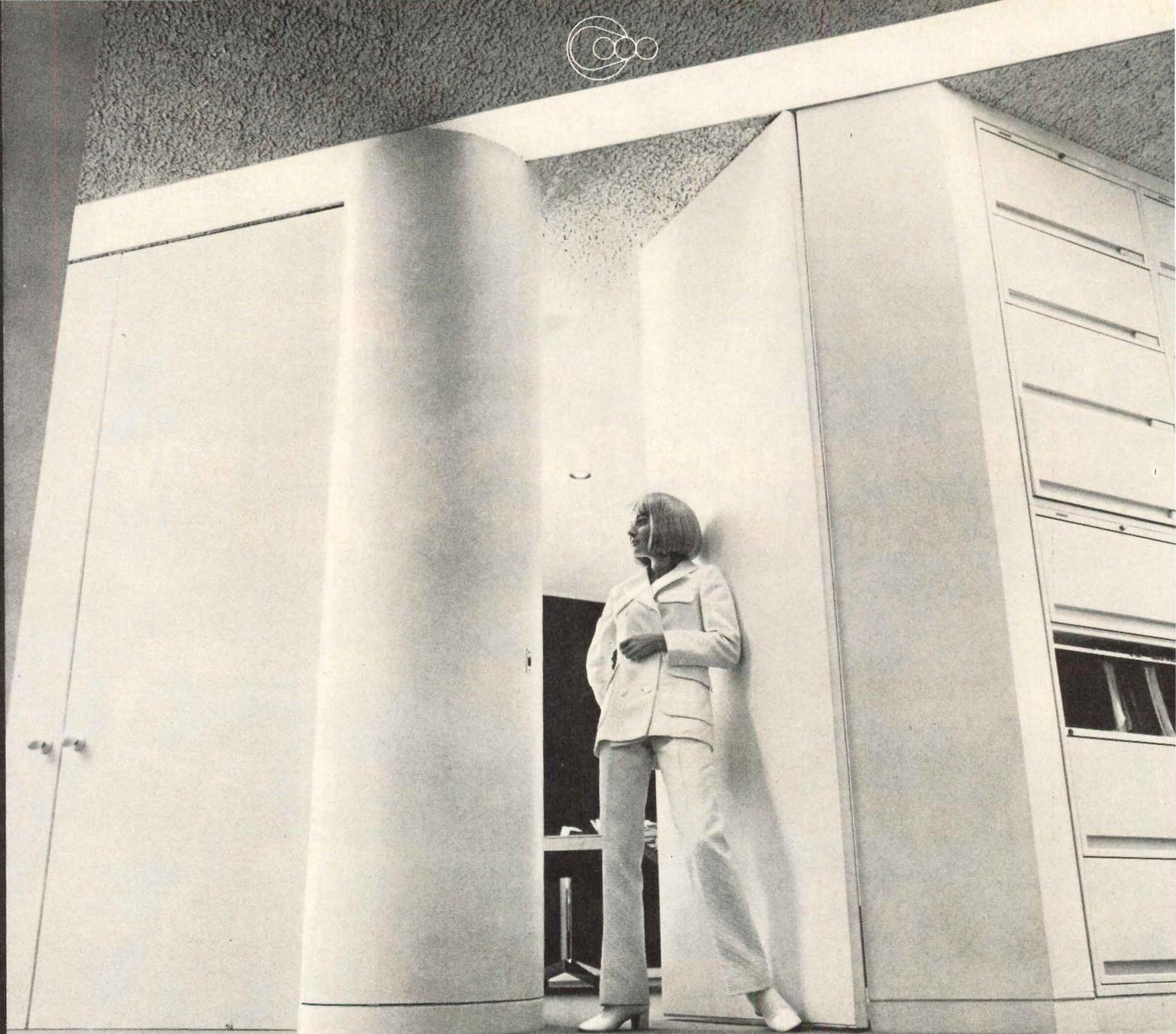
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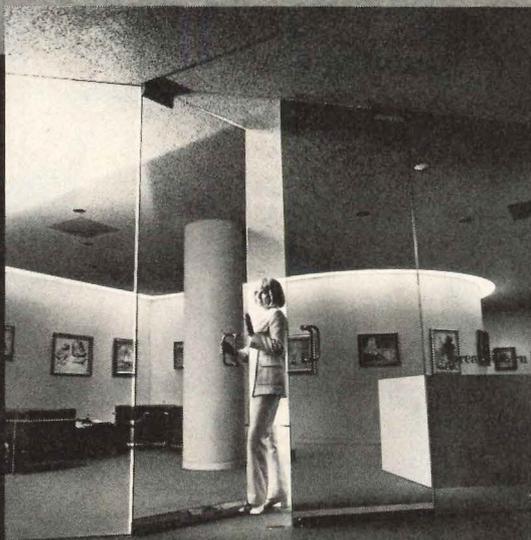
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*Architect: Charles Sink, Denver, Colorado  
Designer: Unimark International, New York, New York  
Hardware Dealer: Hardware Inc., Denver, Colorado*

## Contemporary



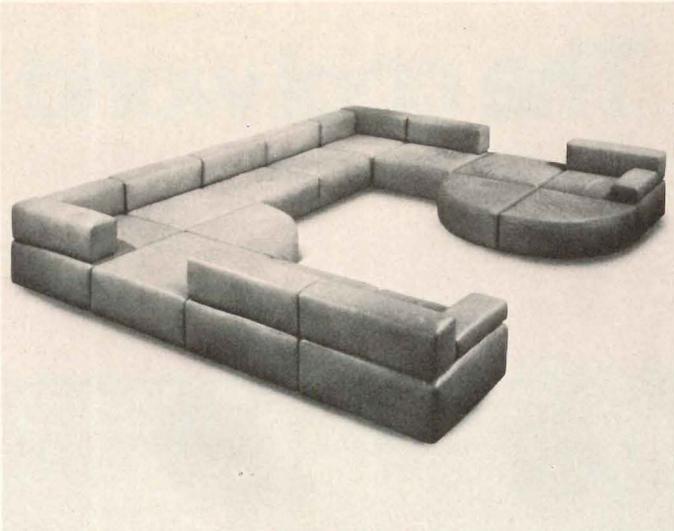
*The Great Western United Corporation, Denver, Colorado*

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# Products and literature



Cubo cluster seating

Herewith a few of the highlights from "Designers Saturday," an open house held in mid-October by a group of New York contract furniture firms to present their newest designs (items 101 through 105).

**Cubo cluster seating.** Soft and squashy, this flexible furniture is based on a 32" square seating module, with floating arm and back elements that are locked in place by concealed steel connections. Dust-trap pockets between seat and back are eliminated. Upholstery filling is self skinned molded polyurethane wrapped in a puffy coat of dacron. If necessary, covers, which come in varied vinyl, leather or COM, can be changed in minutes. Recessed ebony steel legs are fixed with lock nuts to a laminated wood foundation. Harvey Prober.  
*Circle 101 on reader service card*



Board room table

**Board room table.** With the simple look of a board and two sawhorses, this segmented table is available in varied lengths. Oak or high pressure laminate. Designed by Dave Woods for JG Furniture Co., Inc.  
*Circle 102 on reader service card*

**Hospital chair.** Equipped with just about anything patients could require, this highback chair has adjustable headrest and seat, is available with such optional equipment as a front table, hanging side table, holder for transfusion equipment and adjustable lamp with holder. On a chrome-plated steel frame, with light grey linoleum tables. Fritz Hansen Inc.  
*Circle 103 on reader service card*

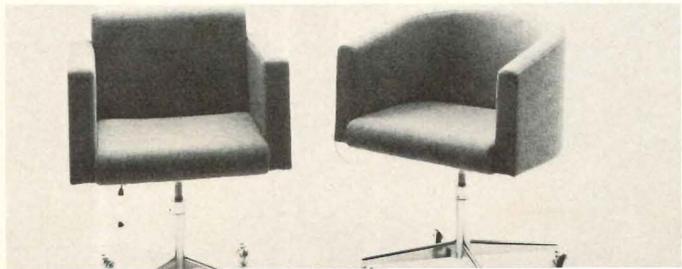


Hospital chair

**Swivel tilt armchairs.** Imported from Finland, these office chairs are completely upholstered, come with polished chrome cruciform base, on casters. Available in wools, vinyl or COM. Stendig Inc.  
*Circle 104 on reader service card*

Swivel tilt armchairs

**Massive.** Simple in shape and form, massive in scale and, according to its makers, modest in price, Massie furniture, designed in Holland by Jan des Bouvries, includes three- and four-seat sofas, a love seat, chair and ottoman. Foam filled and easily moved on concealed casters. ICF.  
*Circle 105 on reader service card*



[continued on page 41]

# The cool world of Glaverbel Grey.



When the outlook is sweltering sun,  
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On Reader Service Card, circle no. 340



**Products** continued from page 39

**Electric eye sink.** Water flows automatically when hands interrupt the self-contained electric eye beam in this sink, stops when hands are pulled from the flow. Unit includes preset water temperature, adjustable pressure regulation; exposed control knobs eliminate contamination. For hospital and medical application as well as public facilities. Basins available in vitreous china, porcelainized cast iron or stainless steel in standard oval or square configuration. Qualco.

*Circle 106 on reader service card*

## Literature

**Solid state dimming.** These high power fluorescent light dimmers have been certified by the Underwriter's Laboratories, can dim incandescent alone or in combination with fluorescent. Four models are available in 40- and 80-lamp capacity in 120V, and 277V. Lutron Electronics Co., Inc.

*Circle 107 on reader service card*

**Church and courtroom furniture.** Church furnishings, from pews in colonial, modern, gothic and cantilevered contemporary designs to carvings, accessories, stained glass and lighting suggestions are offered by this company (their furnishings equip the church featured on page 54). Courtroom furniture includes spectator seating, jury seating, judges benches and all other courtroom needs. Sauder Manufacturing Co.

*Circle 108 on reader service card*

**Textile-face wallcoverings.** Acrylic coated wallpaper with a decorative textile face, String-A-Long is strippable, stain repellent, soil and fade resistant and flame retardant. Woolly-feeling vertically strung strings have been used in varied color effects ranging from one color on solid ground to a variety of bright yarns mixed to blend or contrast. Contract folio for architects, designers and specifiers offers mini-chip samples in 323 colorways across 10 patterns, as well as necessary technical specifications and data. Combeau Industries.

*Circle 109 on reader service card*

**Air pollution control.** Major forms of air pollution and their effects on the environment are defined in this manual, which specifies the most effective methods of control for prevailing types of atmospheric contamination. Definitions of common engineering terms, air pollution control standards and control equipment are offered. Letterhead request to Vari-Systems, Inc., 1295 W. 78 St., Cleveland, Ohio 44102.

**Water coolers.** Bulletin describes more than 46 water coolers in many variations. Included are units with built-in refrigerators, high capacity units for crowded areas, others for special industrial applications. Ebco Manufacturing Co.

*Circle 110 on reader service card*

**Corner and wall protection.** Designed for hospital and other institutional use, corner guards, bumper guards and related products are described in a 20-page booklet. Construction Specialties, Inc.

*Circle 111 on reader service card*

**Electric-heat controllers.** Greater capacity in smaller packages is offered in these electric heat controllers. Advances in solid-state circuitry has, according to the maker, resulted in zero-voltage switching, true modulating control that reduces thermal shock to the heating element for longer life, better temperature control. Bulletin from Honeywell.

*Circle 112 on reader service card*

**Sound system.** "Ontario Motor Speedway Incorporates the World's Most Powerful Sound System," is the self-explanatory title of this 16-page brochure. It details the technical problems and the answers provided for the 30,000 watt system, the largest facility of its kind in the world, covering more than 700 acres with a seating capacity for 140,000 persons. Altec.

*Circle 113 on reader service card*

**White architectural concrete.** Six examples of the use of white concrete, both cast-in-place and precast, are featured in a 12-page brochure. Sections on form, texture and color are illustrated with completed buildings. Techniques for creating color and texture combinations are offered. Trinity White Division, General Portland Cement Co.

*Circle 114 on reader service card*

**Melt the snow.** The copper tube snow-melting systems are described in a booklet offering application suggestions. The support and embedment of the coils, the placement of expansion loops and various other steps in creating and maintaining efficient systems are given. Revere Copper and Brass.

*Circle 115 on reader service card*

**Flame resistant carpet fiber.** Nomex is a nylon fiber developed for flame resistance and low smoke generation and recommended where extra fire safety is required. It has received a Class A rating from the NFPA. Carpets are either woven or made with tufts of the fiber locked in place by a back coat of Neoprene, which is also flame resistant and low smoke generating. Brochure from E.I. du Pont de Nemours & Co. Inc.

*Circle 116 on reader service card*

**Interfacing activity tables.** Tables of various sizes and shapes—round, half-round, rectangular, square, trapezoidal, tri-table and seminar—are pictured in this brochure. The varied ways in which the units can be interfaced with one another are illustrated, as well as the activities made possible by the interfacing system. American Seating Co.

*Circle 117 on reader service card*

**Fire protection.** Cabinets, hose rack units, valves, hose and hose accessories, nozzles, standpipe equipment and extinguishers are illustrated in a 48-page catalog. Elkhart Brass Manufacturing Co.

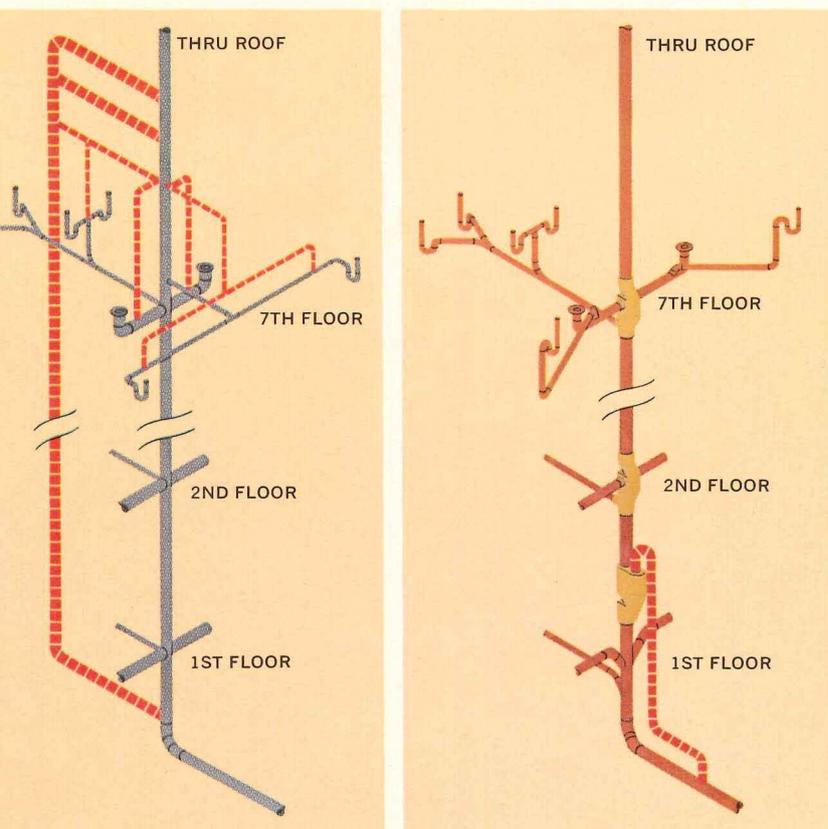
*Circle 118 on reader service card*

**Acoustical wall treatments.** Fiberglass acoustical insulating materials for wall use are described in a brochure which also illustrates installation details. A variety of products and systems to control reverberant sounds in such applications as auditoriums, gymnasiums, interior landscaped spaces and industrial areas are suggested. Owens/Corning Fiberglas Corp.

*Circle 119 on reader service card*



# Copper Sovent single-stack plumbing system. The new way to cut multi-story drainage costs.



The simplicity and economy of the Copper Sovent system (right) are dramatically shown in this graphic comparison with the traditional two-pipe system. One contractor, on a recent 200-unit job, returned a credit of \$13,000 to the Housing Authority, based on savings with Sovent.

But that's just the beginning. Forty additional major installations are being planned right now, for a grand total of more than 8,000 apartments.

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For a detailed design handbook on the Copper Sovent single-stack plumbing system, write us: Copper Development Association Inc., 405 Lexington Ave., New York, N.Y. 10017.

Even though the Copper Sovent single-stack plumbing system is a major construction breakthrough, it's really very simple.

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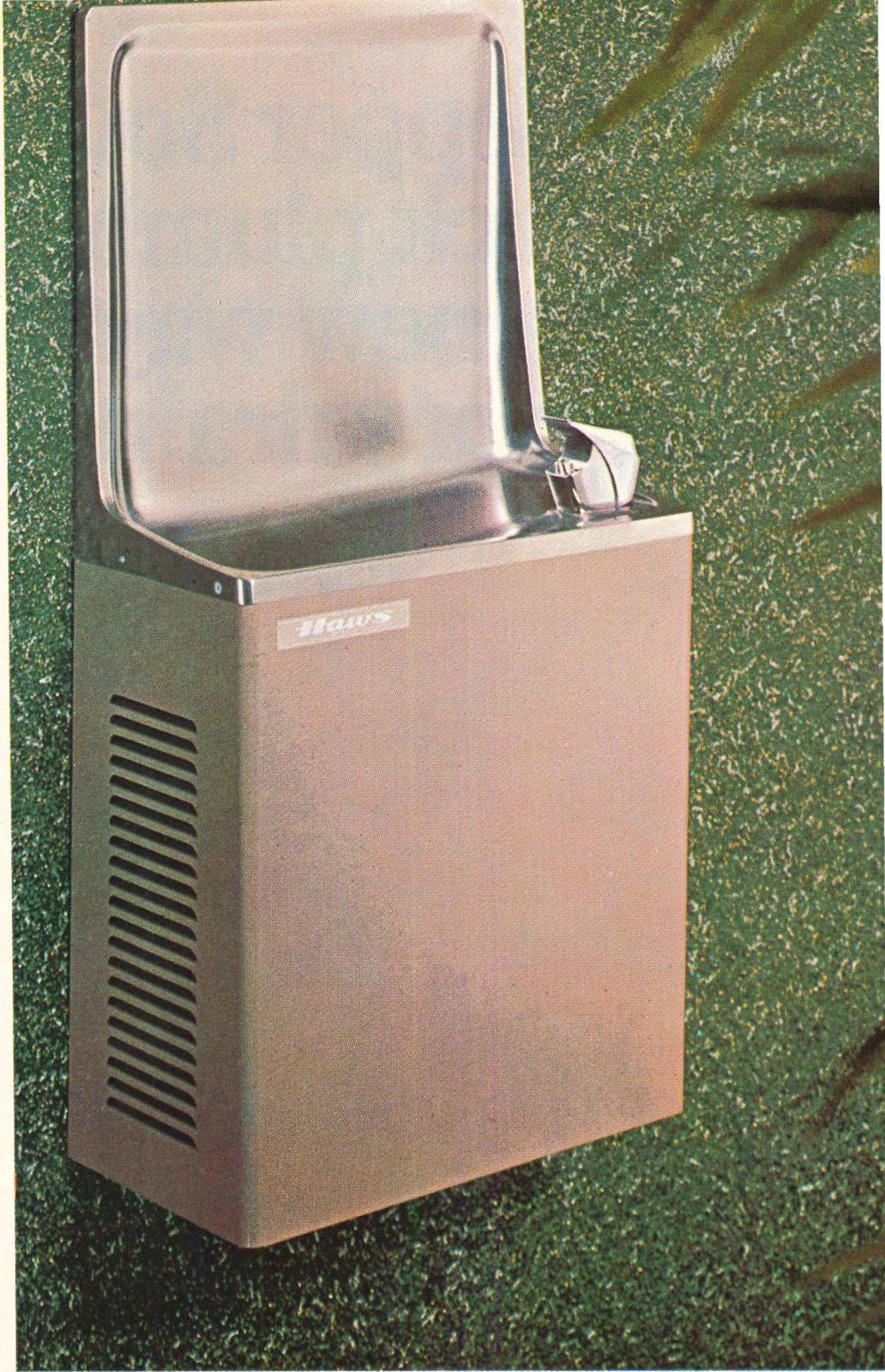
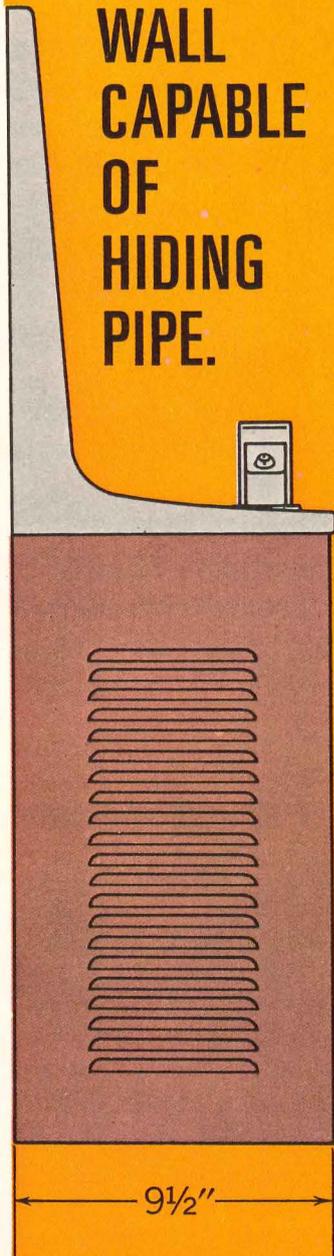
There's more room in your budget too because the Copper Sovent system is easier and cheaper to install.

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On Reader Service Card, circle no. 342

# Progressive Architecture

December 1971

**Everybody knows** that the decisions that shape a city, or a nation, are made in the political arena, and everybody has been pushing the architect into politics. The argument is basic: the architect is the one person qualified by training and experience, as well as by some innate sensitivity, to influence or make decisions affecting the physical growth and planning of cities.

Sometimes, of course, architects get carried away with this argument and extend it to matters of war and peace, racial problems and the other ills that man is heir to, forgetting that an architect is no more uniquely concerned about war or injustice than is the corner grocer. But on problems of physical growth and planning, the architect does have something to offer and, in the past few years, he has been having more and more of a say in these vital decisions. AIA spokesmen are constantly testifying before Congress or government commissions and, on a local level, before state and municipal bodies. Individual architects are serving on local design review boards and bringing their experience to bear on urban problems in other ways, seeking to influence the decision-makers. In some cases they are even becoming the decision-makers.

Now there's a warming thought: someone in office who shares his fellow professionals' concerns for people, historic buildings, urban beauty, the quality of life. But there is something slightly romantic about the whole thing. Here is the knight in shining armor—the architect—riding off beneath the banner of his concerns and sensitivity, to make the city a fit place to live in. "What I end up doing," says Joseph Shaughnessy, Jr., an architect who is a city councilman in Kansas City, "is doing battle with developers who come into old neighborhoods to rape them."

What Shaughnessy is getting at is that although he is an architect by training and professional experience, he is "totally unhooked" from architecture as a councilman. Architecture, as a matter of fact, is not why he ran for office: he was very involved in racial problems and his neighbors put him up for the council seat. But, and he readily admits this, his concern for old neighborhoods is related to his architectural experience.

He is totally unhooked from architecture, he says. What then is he hooked to? Politics: "I've been bitten by the political bug." Which illustrates one reason the romantic view of the architect as urban politician is just that—a romantic view. It's simple: you can influence politicians and remain an archi-

tect, but if you become a politician, you're a politician. Many things change at that point. What you do changes; so does how you do it and who you do it with (or to); and so does the public label you're stuck with from then on. To the public you're not the architect who became councilman, you're the councilman. It's that label that counts, too, suggests another architect who moved into politics, and has now moved out again. "It was startling to see how much import people attach to these positions," says Bill Breen, who served on the town commission and then as mayor of Decatur, Ga. "I didn't, but now that I've seen how the public regards them, I see that they can have real influence."

They can indeed. It's no secret, especially to an architect who is into politics, that he'll have far more influence over the shape of his city, over its development and physical quality, as mayor or councilman than he ever had as architect. Shaughnessy and Breen both point this out, and so does Tom Hume, who recently ran, unsuccessfully, for mayor in Stamford, P/A's home town. This realization, he says, was an architectural awakening; his political awakening came when local party leaders pointed out that he had all the right qualifications and should be a candidate.

Time is another problem that crops up in a realistic look at architects in politics. The time needed to do a good job as mayor or councilman plays havoc with an architect's practice. That's why Breen didn't run for re-election; he had been spending half his time on mayor's duties (Decatur isn't a large town) and wanted to get back to his practice. Shaughnessy says the demands of being a councilman in Kansas City, a city of half a million people, are fantastic.

Full time or part time, however, this sort of political involvement can be rewarding for the architect and vital to his city. That basic argument is correct; by virtue of training and experience and sensitivity, the architect does have a lot to offer a community, as a concerned individual or as a candidate. It's just that in offering it as a candidate, he should have it very clear in his mind that the concerns that made him an architect and led him to politics—old neighborhoods, open space, environmental design, social injustice or whatever—are not as important to anyone else as they are to him. They may guide his thinking, but what's going to count at city hall is what he can do, and what he can do depends on his skill as a politician. [The editors]

# A post-Vatican perspective

Robert H. Mutrux, AIA

**Church design these days spans a wide range of attempts to be relevant both to theology and to society. The author has narrowed the topic here to how architects deal with recent changes in Roman Catholic liturgy and requirements**

In the 13th Century a Burgundian monk traveling through France marveled that new churches seemed to cover the land "like a blanket of snow." Indeed, between 1170 and 1270 some 15,000 Christian churches were erected of which no less than 150 were of the stature of cathedrals.

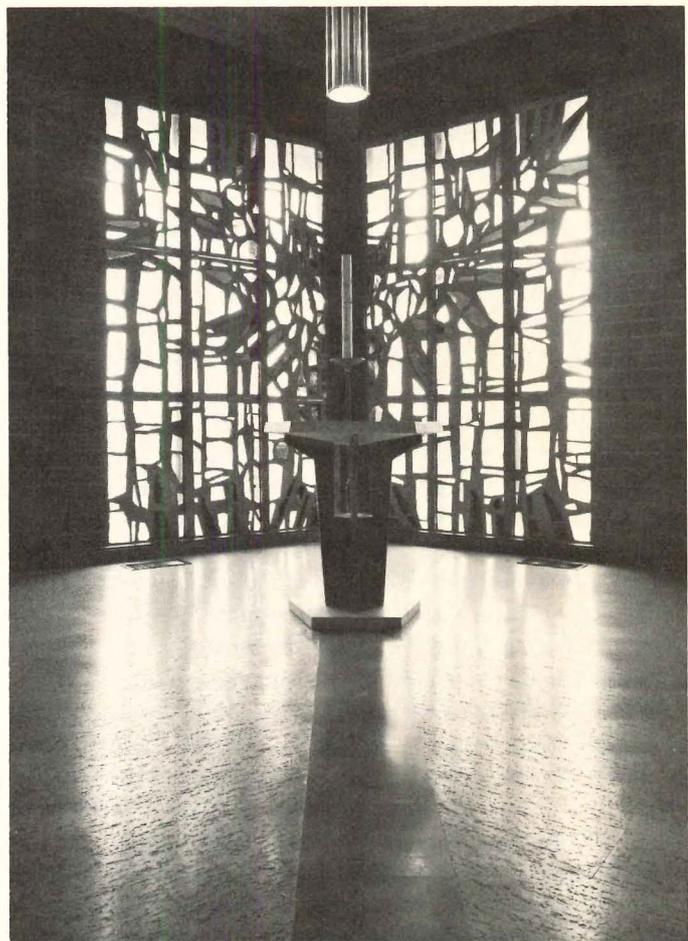
The monk's observation, however, was undoubtedly inspired less by actual statistics than by his innate sense of piety. Certainly churches were far outnumbered by the medieval fortresses which, even today, dominate the horizon from Brittany to Gascony and from Picardy to Provence.

The monk would react differently to the contemporary scene. His poetic simile would inevitably be fouled as a result of modern man's devotion to other gods, any of which might claim his whole attention. Moreover, he would experience some difficulty in finding today's church because, among the architectural forms which characterize the contemporary scene, the church is hardly the most prominent.

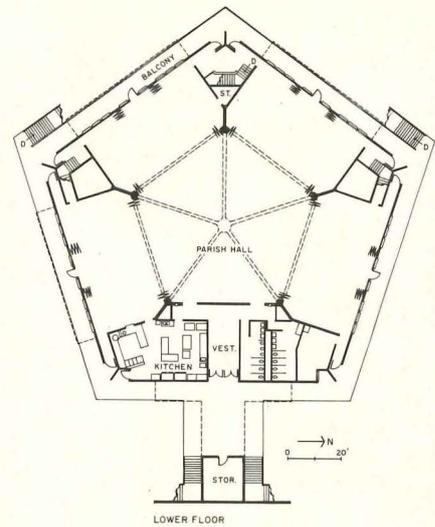
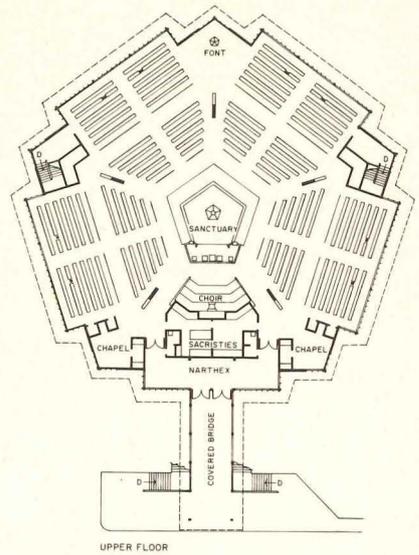
Despite the fact that it is all but crowded out by commercial, industrial, educational and recreational structures, despite the ravages of urban renewal, despite the apparent diminution of enthusiasm for the religious life per se, the church continues to exist, both as an architectural form and as a community of faith. There are some 350,000 churches in the United States today; those who seek them out can find a rich abundance of contemporary examples. Would our peripatetic monk distinguish them from the rest and record them for posterity's quotation? Or would he lose sight of them in the flood of colonial, pseudo-byzantine, contrived gothic, false romanesque and neo-classic structures, each one reflecting, in varying degree, the tenets of one of our 251 denominations?

Obviously no one can tell. Yet it is possible to rise above the contradictions and confusions of today's scene and discern the significant change in church design that has taken place

**Author:** Robert H. Mutrux is a senior associate, Fletcher-Thompson, Inc., architects and engineers of Bridgeport, Conn.



Pentagon shape of St. Madeleine Sophie Church is direct expression of post-Vatican planning. The raised sanctuary with Altar of Sacrifice is at center, with pews for 900 worshippers arranged in four bays around it. The baptistry area, on axis with the Altar, becomes an important part of the liturgical grouping. Architects Gotteland and Koczarski took advantage of the sloping site to put the nave above the ground-level parish hall. Exterior is reddish brick with cedar shingle roof. Several artists and craftsmen completed the interior: Jean-Jacques Duval, stained glass behind baptismal font; Harold Balazs, crucifix and Stations of the Cross; Norbert Sorger, altars, font, Tabernacle and all other appointments.



#### Data

**Project:** St. Madeleine Sophie Church, Bellevue, Wash.

**Architects:** Gotteland and Koczarski AIA.

**Site:** wooded residential area.

**Program:** Roman Catholic church for 900 worshippers, parish hall, classrooms.

**Structural system:** lower level is reinforced concrete with post-tensioned beams meeting at center; five brick pillars support wood roof beams.

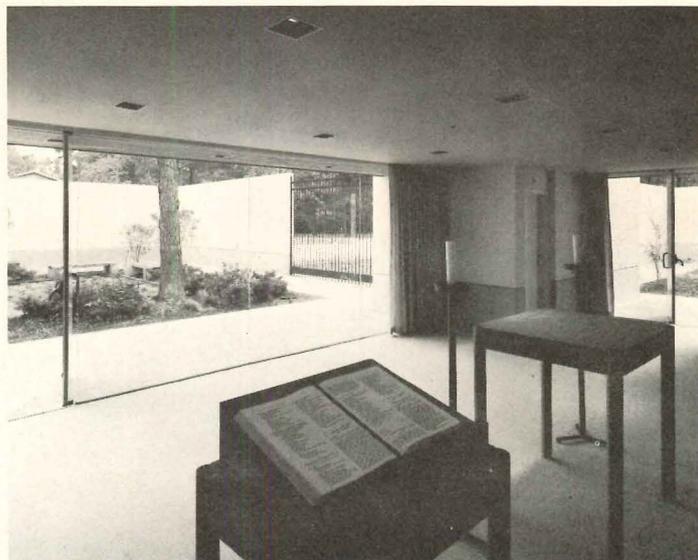
**Major materials:** concrete, brick, wood; interiors have dark-stained furnishings and paneling.

**Cost:** \$609,400 including paved parking.

**Consultants:** Anderson, Bjornstad & Kane, structural engineers; Valentine, Fisher & Tomlinson, mechanical and electrical.

**Photography:** James R. Clark.

A post-Vatican perspective





within the last two decades—a change which, chronologically at least, is closely related to the recent Vatican Council.

It is a movement which merits the consideration of the scholar, the archeologist and the theologian because it reflects a change in our sociological and technological as well as our religious history. It is a movement which, though it has yet to attain the proportions of an architectural blizzard, has clearly left an imprint in the work of all denominations. It is most evident in the sheer bulk of the work of the Roman Catholics who, in a curious negation of our strong Protestant heritage, represent a fifth of the nation's population.

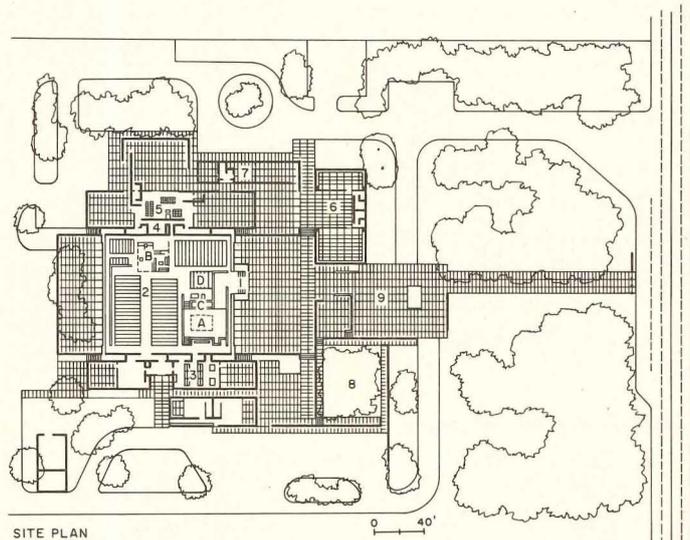
The Roman Catholics, however, did not pioneer the design of today's church. The Second Vatican Council, which dominated the news in this field from 1962 to 1965, was as much the result as the cause of today's intellectual activity in the structure of worship and its reflection in the forms of architecture. The Lutheran church had pursued this course not only in Germany but in the United States long before the councils were ever discussed.

In any case, the Council lost no time in giving the movement its whole-hearted blessing; its "Constitution on the Sacred Liturgy" provided ample guidelines for the architect and the artist. The guidelines, granted, are quite general in tone. For all the volumes, written and as yet unwritten, on the theological impact of the Council's deliberations, the revolutionary changes in the liturgy and the resulting freshness in the atmosphere of the mass, only two concrete factors arise which do not rest upon the dictates of the local prelate.

The first appears somewhat intangible, yet it is the key to the basic intent of the "restored" liturgy: a directive that the architecture of the church in all its aspects be designed to stimulate *maximum participation* in the mass *by the congregation*. The second is the simple requirement that the mass be celebrated by the *priest facing the congregation*.

Within this broad framework the treatment and interrelation of the numerous physical elements which characterize the Roman Catholic service, formerly rigidly prescribed, are allowed a surprising degree of freedom. The size, shape and material of the main altar, the form and location of the altar of reservation, the character of the baptismal area are left to the judgment of the priest and the ingenuity of the local artist. The crucifix is greatly reduced in size and in importance, sometimes even eliminated in favor of the processional cross.

"Upper room simplicity" is the term architects Curtis and Davis use to describe design of Our Lady Queen of Heaven church, a wood and brick complex interspersed with courtyards, walks and gardens. The worship space, termed "main paschal room," shows deliberate understatement of traditional focal points and lack of embellishments. The altar, without a rail, becomes a supper table. The Stations of the Cross have been shifted to a nearby courtyard, the glass is clear and the roof is flat to evoke a feeling of old Jerusalem. The room can be converted quickly to an auditorium for lay meetings and space has been made for projectors, television and radio.



**Legend:** 1 narthex, 2 main paschal room (a baptistry, b sanctuary, c pipe organ, d choir) 3 sacristy, 4 meditation chapel (Tabernacle), 5 daily mass chapel, 6 parish hall (future) 7 Stations of the Cross 8 courtyard, 9 motor court.

#### Data

**Project:** Our Lady Queen of Heaven Church, Lake Charles, La.

**Architects:** Curtis and Davis; Robert Biery, project architect.

**Site:** 400' x 700', heavily wooded.

**Program:** Roman Catholic church for 1200 families expressing "the union of the people in social community."

**Structural system:** steel truss and steel joist roof supports, brick walls over a concrete base.

**Major materials:** white brick and ½ in. glass for walls; cedar for roof, fascia and ceilings.

**Photography:** Frank Lotz Miller.

The once prominent pulpit, too, has been minimized; it now matches the simple lectern which accommodates the lay reader.

The canopy, which in other times assumed the form of a huge baldachino, a wall-mounted tester or a column-supported ciborium, though still recommended, has been all but abandoned in the parish edifice. The statues which were once mandatory are not prohibited, but are strongly discouraged.

The result has been an infinite variety of religious experiences both in the rearrangement of existing structures and in the planning of new ones. Radial seating has preempted the rigid "railroad" pattern of centuries past. The rectangular floor plan has given way to the circle, the ellipse, the triangle, the pentagon, even the "escargotique" spiral. The sloping floor, formerly frowned upon as too theatrical, is now *de rigueur*; the chill of two millenia of limestone and terrazzo floors is relieved by the hushed intimacy of carpeting.

Today's church is a full orchestration of all the elements that create a living, moving symphony of forms, no longer frozen in dogma and ritual, but released in the warm light of a new era. In this context the apparent vagueness of the Vatican directive has been a master stroke ensuring, hopefully for all time, the continuing vitality of the church interior.

### Two schools of expression

Needless to say the sentimental attachment of older parishioners to the church to which they have long been accustomed, plus the high cost of alterations of any consequence, have forced the limitation of changes, in many cases, to a mere token acknowledgement of the new liturgy. Designers of new church structures, almost without exception, have embraced the invitation to creativity and have expressed their enthusiasm in a wide range of local and individual interpretations. Although the renewed liturgy has yet to leave a definite imprint, the direction provided by the "Declarations" has given birth to two clearly defined schools of expression.

The first is led by those architects (and the far-seeing pastor accompanied by his newly authorized laymen's committee) who have elected to reject, out of hand, every echo of the past and to seek a totally new mode of architectural expression. This group has consciously limited the use of traditional elements to a bare minimum and relies as much as pos-



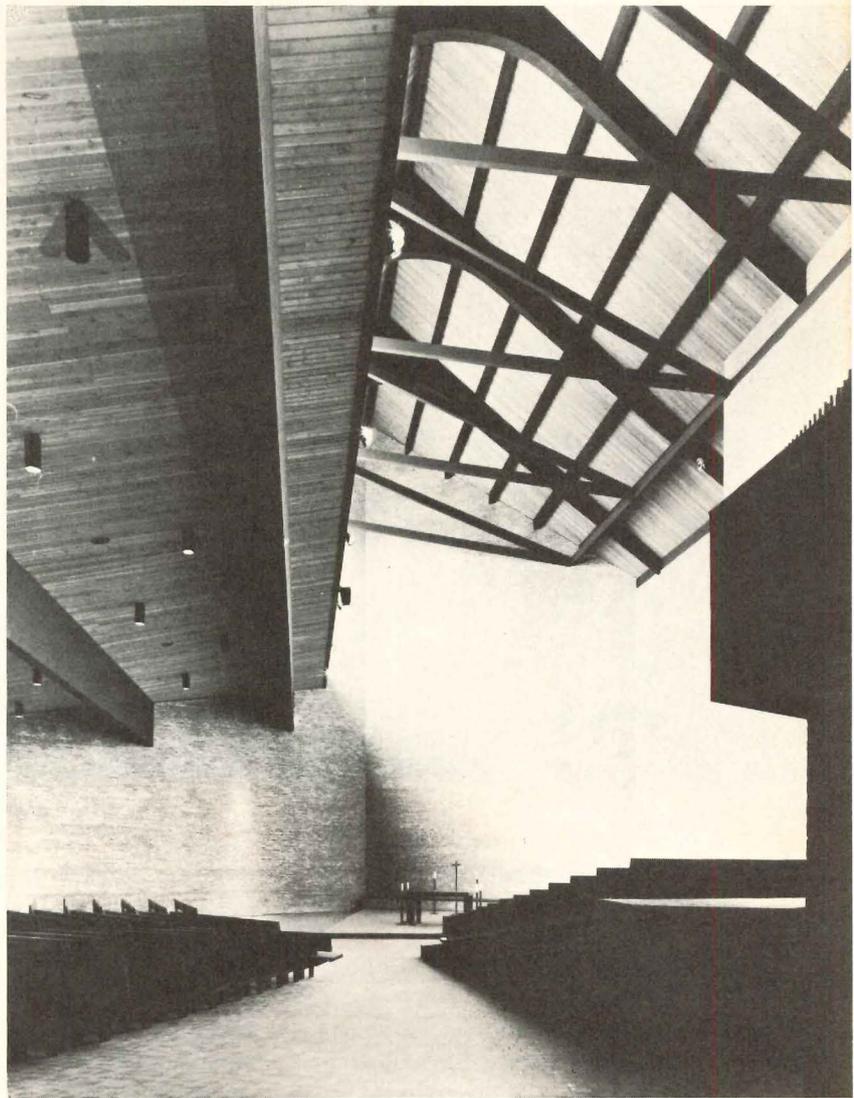
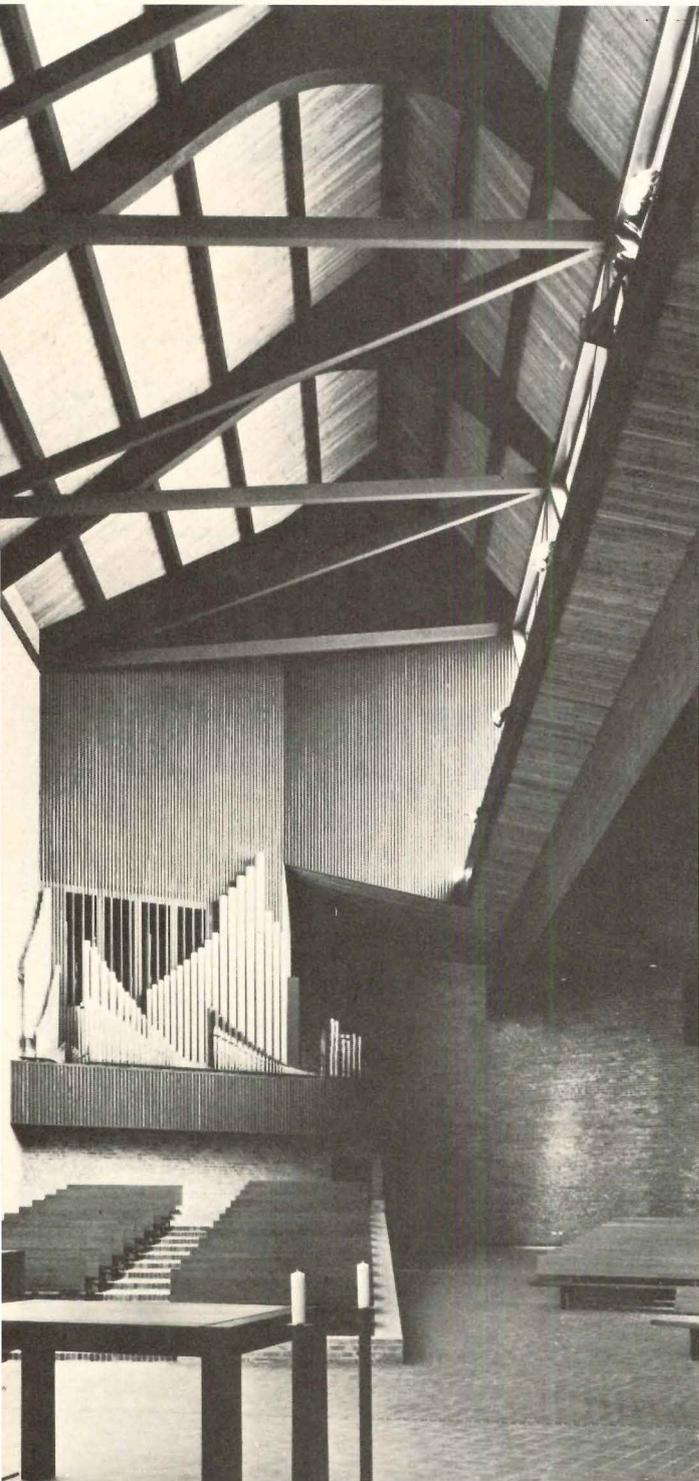
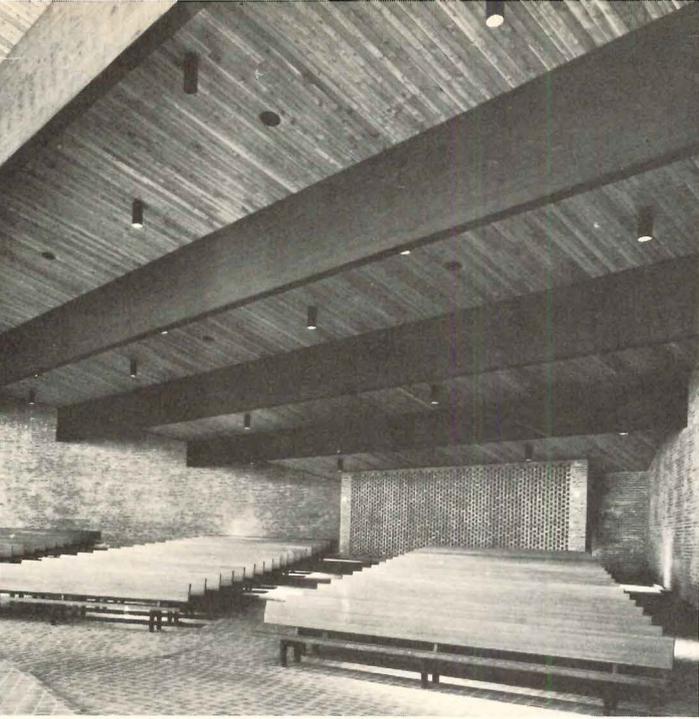
sible on a sophisticated play of light on a new geometry of forms and surfaces. The atmosphere is one of austerity, highly conducive to meditation. It is an openly intellectual approach, a breath of fresh air into the dark incense-laden recesses of the past, and would be warmly welcomed by St. Bernard de Clairvaux and St. Francis of Assisi, not to mention the entire Protestant hierarchy. The overall effect is one of powerful simplicity; there are no extraneous intrusions of "art for art's sake."

This group is following unconsciously in the footsteps of Le Corbusier who, though not a Catholic but an avowed atheist, made this century's most significant contribution to religious architecture. This supremely creative Swiss, along with Germany's Dominikus Bohm, anticipated the "*nouvelle architecture* of Vatican II by a full decade.

Nowhere is this philosophy in church design better expressed than in the work of Justus Dahinden in Switzerland and that of Felix Candela in Mexico. Examples in the United States include the St. Madeleine Sophie Church, Bellevue, Wash. and Our Lady Queen of Heaven, Lake Charles, La., both illustrated on preceding pages.

The second school is composed of those who choose frankly to retain the broad spectrum of elements which tradition offers to complement the mass and, rather than to minimize them, revitalize them (with a noticeable lack of restraint) with modern techniques. The cold light of reason is replaced by an atmosphere of participation at the emotional level. Here the vernacular enters into the architecture as well as the idiom of the mass in an expanding vocabulary of colors, forms, materials and textures. Sculpture, stained glass, tapestries and mosaics recall the pageantry of the medieval church. In addition, the Gregorian chant and the Blue Book Hymnal have been replaced by the music of the guitar in its appropriate setting. It is an architecture in which the B-minor mass and the Messiah would seem strangely out of place, but where "Jesus Christ Superstar" would be an unquestioned success.

This new ambience, in terms of modern communications, is the response of the architect and the artist to the human desire for sensual stimulation, regardless of age. It is, however, primarily an undisguised appeal to that troublesome and prolific generation which, for the moment, is notoriously a-religious but which, if the church is to survive, must provide the



St. Procopius Abbey and Church represents two important trends in Roman Catholic practice. The first is austerity that emphasizes the play of light on geometric forms and the second is ecumenism that opens this monastery not only to nearby Catholics as a church but to lay groups and Christians of all denominations. Brick and wood are principal materials in the 800-seat church; four laminated beams span the congregation's seating area (top left) while five laminated pitched beams span the altar area. The refectory (across page) is equipped with round tables to promote relaxed conversation among the 110 monks. The abbey also has its own heating plant, sewage disposal, reservoir, kitchen, laundry, garage and guest rooms.

#### Data

**Project:** St. Procopius Abbey and Church, Lisle, Ill.

**Architects:** Loebl, Schlossman, Bennett and Dart.

**Site:** 80 acres in suburban area.

**Major materials:** concrete, brick, wood.

**Photos:** courtesy Weyerhaeuser Corp.



### A post-Vatican perspective

nucleus of tomorrow's congregation. Ascension Church in Hamden, Conn. is one example of this trend.

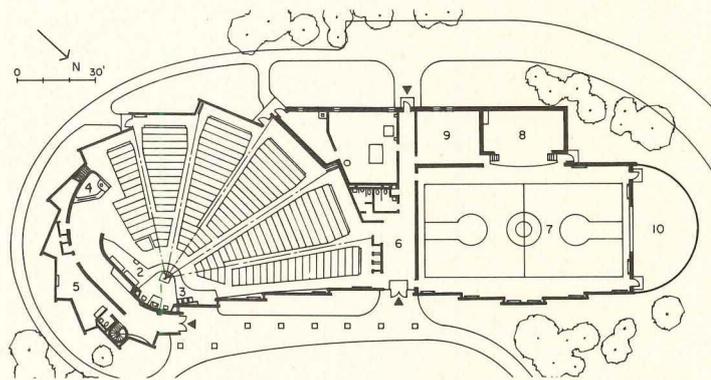
On the one hand the intellectual elite who form the first group have made a cult of the barren union of form and function at the risk of paying the cost in human vitality. The architect's architect may argue that a steel truss athwart the sanctuary is structurally as pure, and hence as spiritually significant, as the Gothic arch. By no stretch of the imagination, however, does it (to use a term gleaned from a pamphlet issued by St. Ignatius Church in New York) "induce religious fervor." The undisciplined abundance of attention-demanding art objects that characterize the work of the second group, on the other hand, might not only detract but actually interfere with the mass.

There is actually no conflict between the two approaches. The apparent ambiguity is merely two of many ways of making an age-old statement in terms of the times; they are 20th Century man's acknowledgement of a force well beyond human measurement and comprehension.

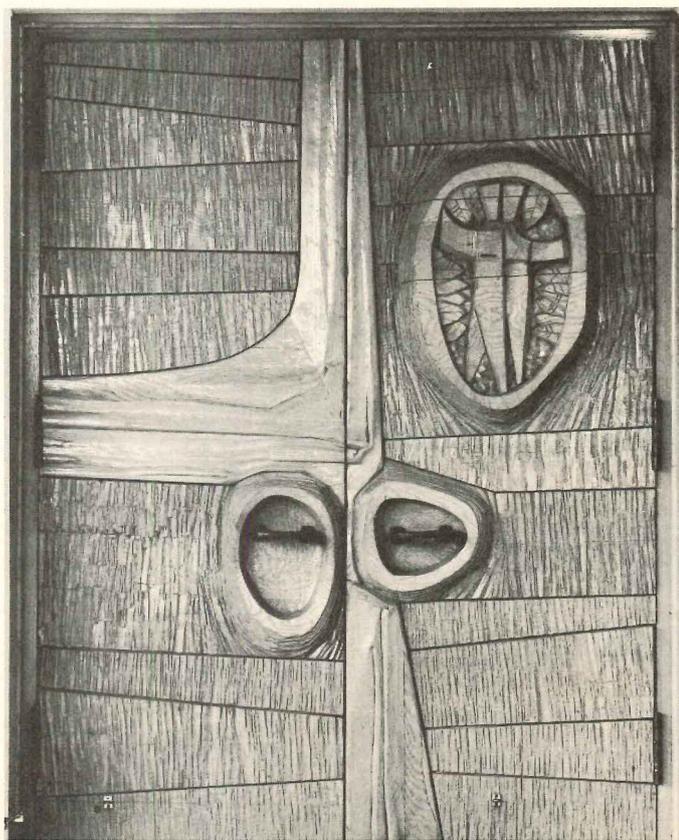
The integrity of either school cannot be challenged; proof of this is that both enjoy their share of loyal adherents. Both, incidentally, share one ground in common. In outright defiance of Pope John's plea to "Open a window," they have closed it tight in favor of year-round air-conditioning.

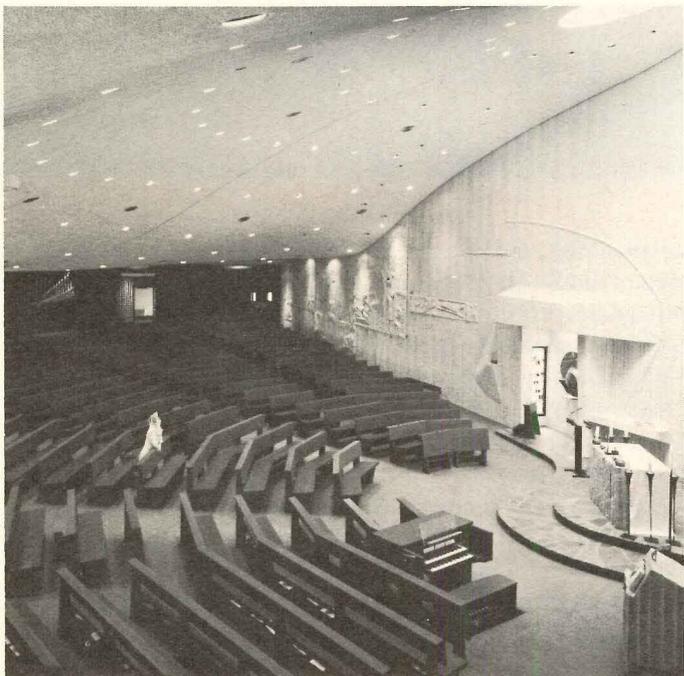
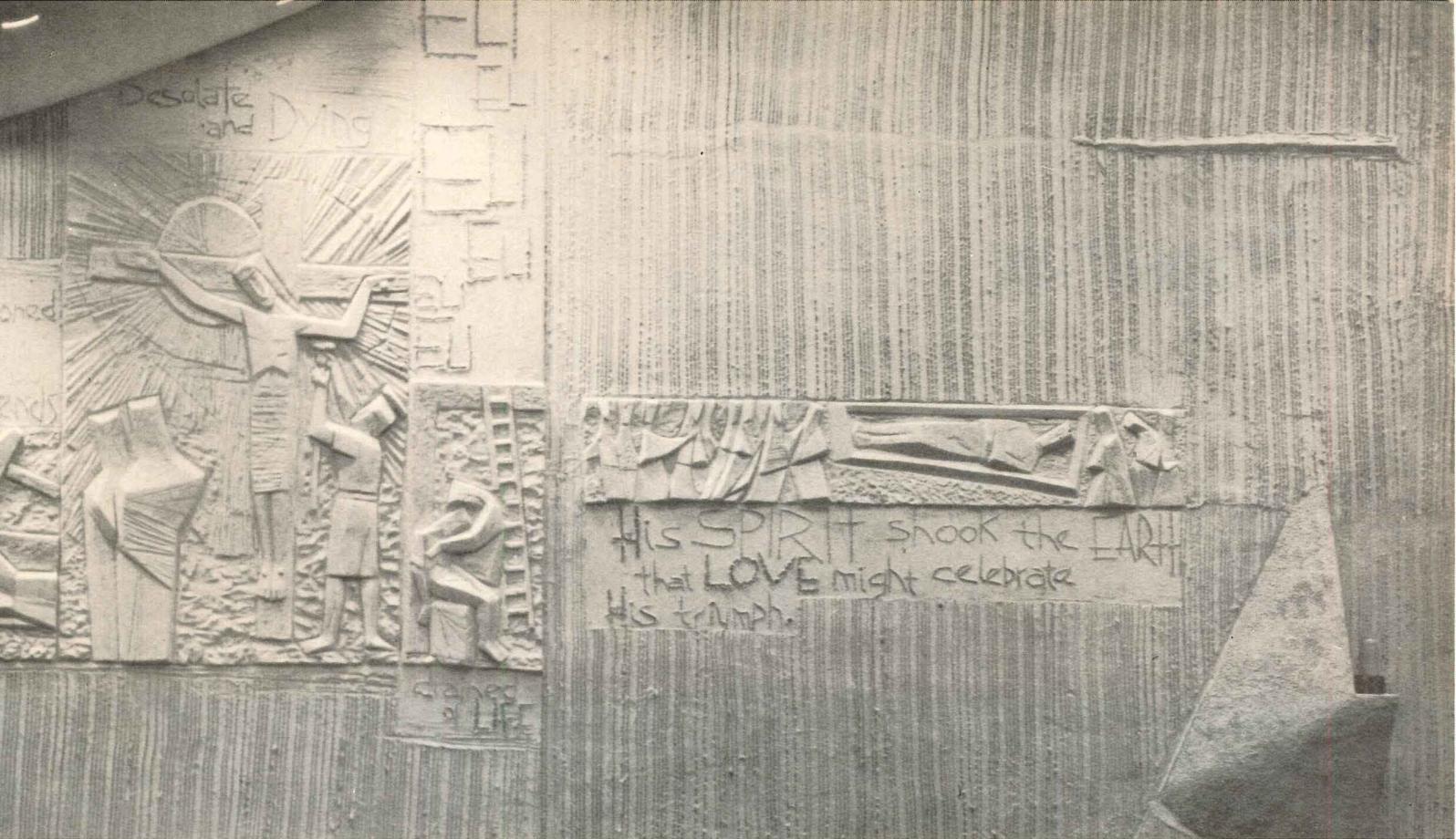
What is the significance of today's statement on religion? Does it respond to our universal longing for "relevance" at the spiritual level? Or does it merely add sounding brass and tinkling cymbals to the current cacophony?

Does it presage a new flowering of ecclesiastical design? A rebirth of the architectural spirit of the past? Or is it merely a last hollow burst of false glory, before the church disappears underground, as predicted in the Apocalypse? A generation, a century hence, we may have the answer.



Legend: 1 Main Altar, 2 Altar of the Word, 3 Altar of Reservation, 4 baptistry, 5 sacristy, 6 lobby, 7 hall, 8 stage, 9 kitchen, 10 terrace.





A full range of traditional elements executed in nontraditional media and styles—from stained glass to cloth banners—by a single artist puts Ascension Church into the “modern embellished” category. Sculptor-designer Don Shepherd carved the Stations of the Cross (above) directly into the wet wall plaster. His carved oak doors (far left) include Adam and Eve; the windows between the wall panels are a combination of stained and clear glass. Altars are granite.

The 24 precast, prestressed wall panels were designed as eccentrically loaded columns so that they support the roof without need for an additional structural frame. The panels range from 30'-6" to 77'-6" and were tilted up without formwork.

**Data**

**Project:** Ascension Church, Hamden, Conn.

**Architects:** J.G. Phelan and Associates.

**Site:** 40 acres in rural-residential area.

**Program:** Roman Catholic church and parish hall.

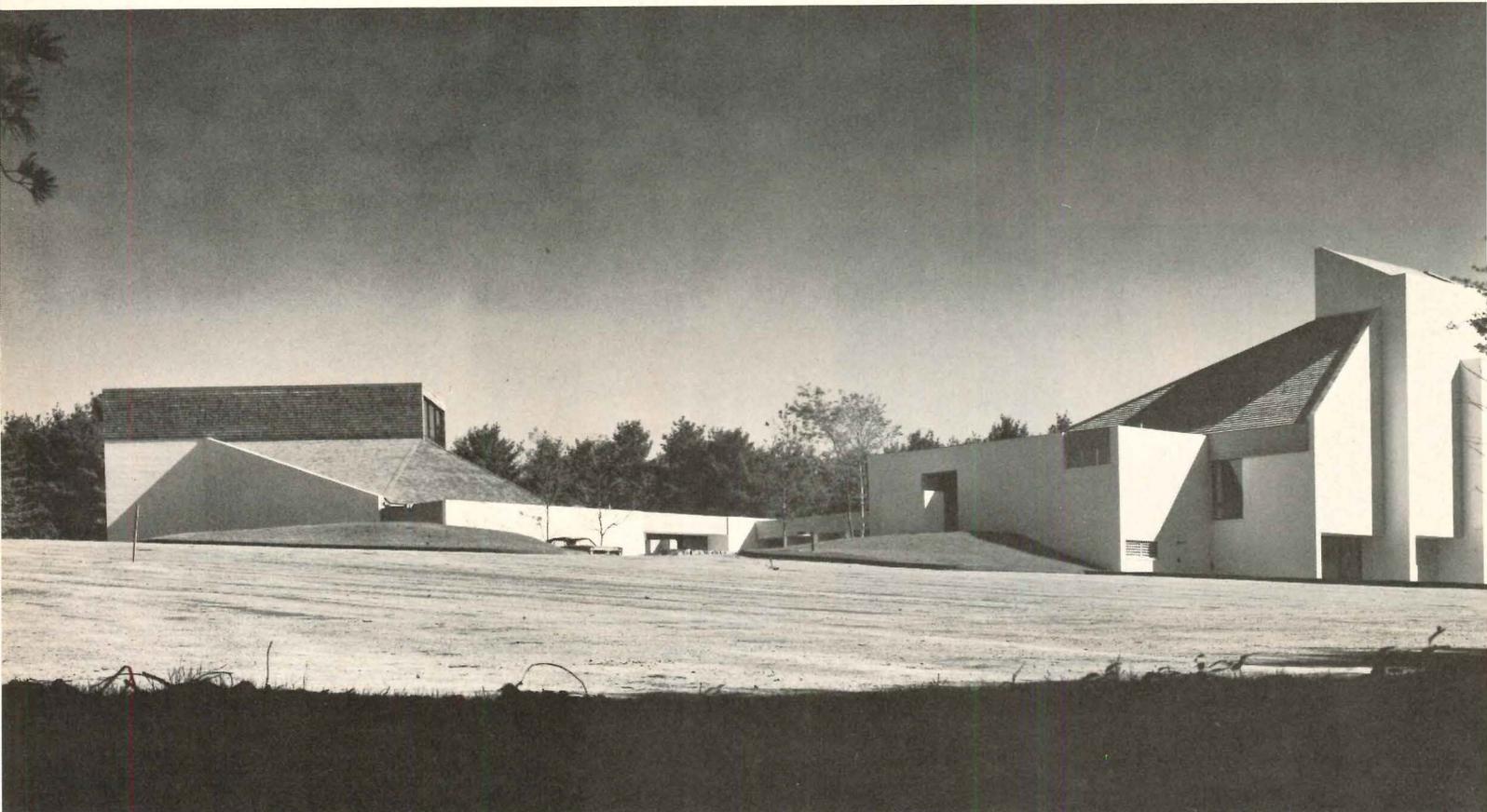
**Structural system:** precast, prestressed concrete wall panels support the roof.

**Major materials:** concrete, glass; interior walls and ceilings are plaster; nave is carpeted.

**Consultants:** Fletcher-Thompson, Inc., engineers; Walter E. Damuck, lighting; Jonynas & Shepherd Art Studio, art, windows.

**Photography:** J. Grimes, far left; Cunningham-Werdnigg.

# Together



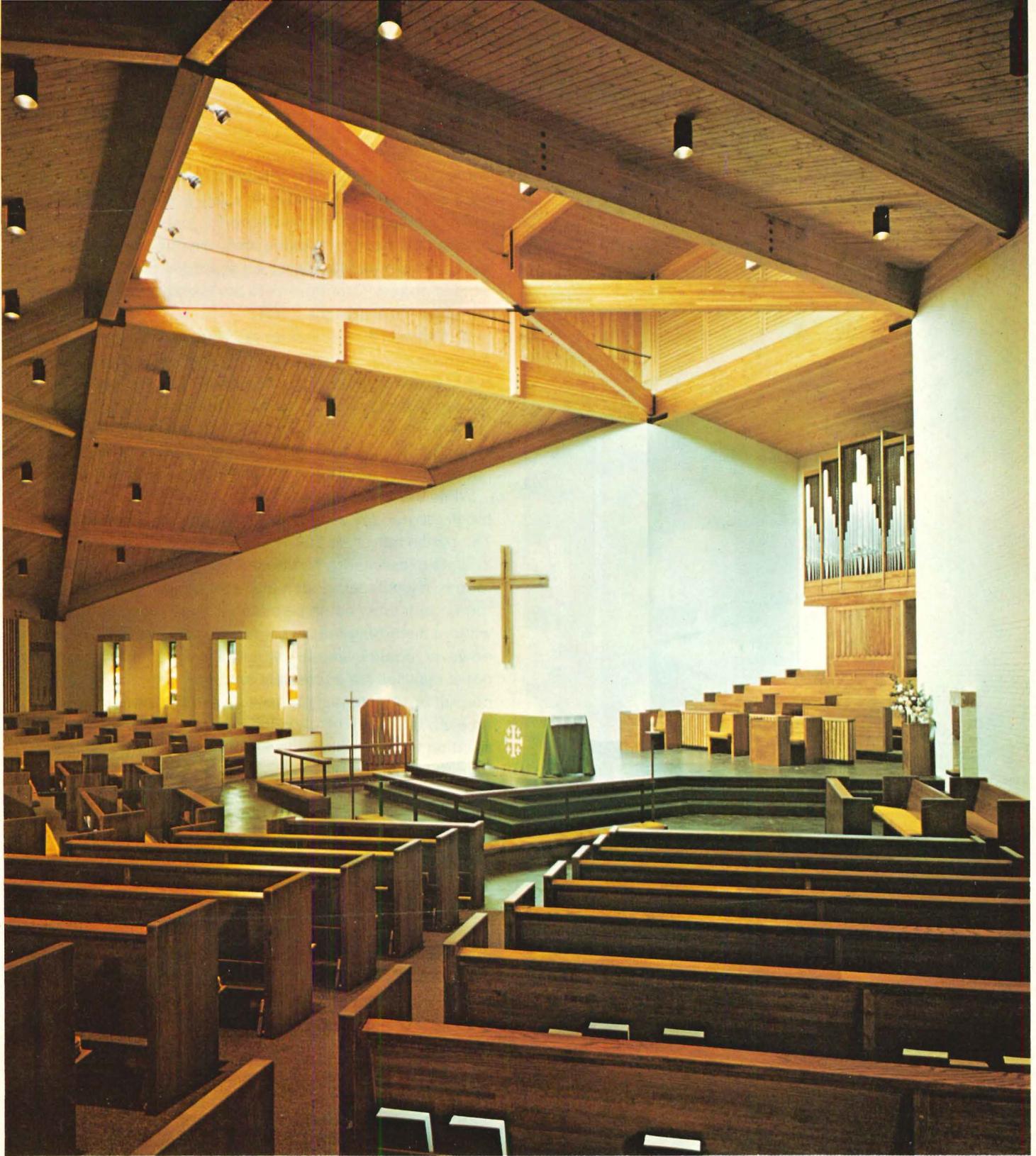
**While Protestants discuss ecumenism at national and world committee levels, the movement toward cooperation and consolidation is showing up at local levels. One example is a two-church, two-sanctuary complex that shares school, social and administrative facilities on one site**

Church movements toward ecumenism, like many other advances in relationships between people, are popular topics of conversation these days. But to take these movements out of committee and into practice, a combination of rare qualities is required: the conviction to bring together two previously disparate factions in a common course of action; the staying power to carry that course through the discussions into ac-

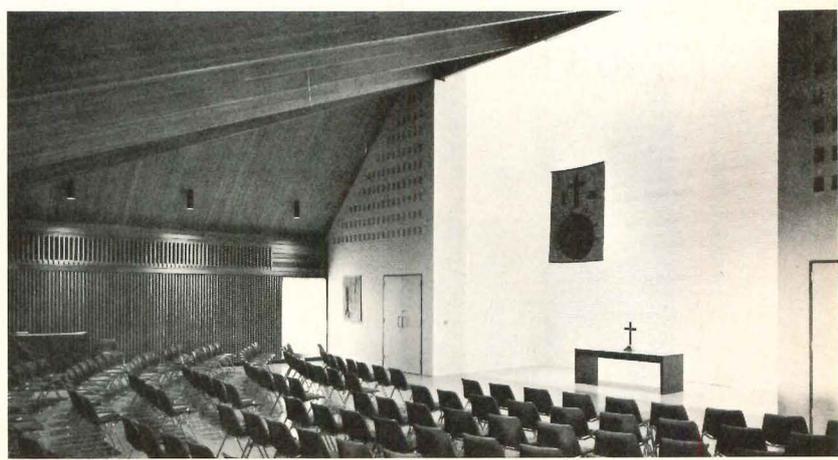
tual planning; and, making the plan a reality. The congregations of the St. Matthew's parish (Episcopal) and the Wilton Presbyterian Church are worshipping in such a reality. Ecumenical commitment is the overriding ingredient in this joint use facility, designed by the SMS Architects.

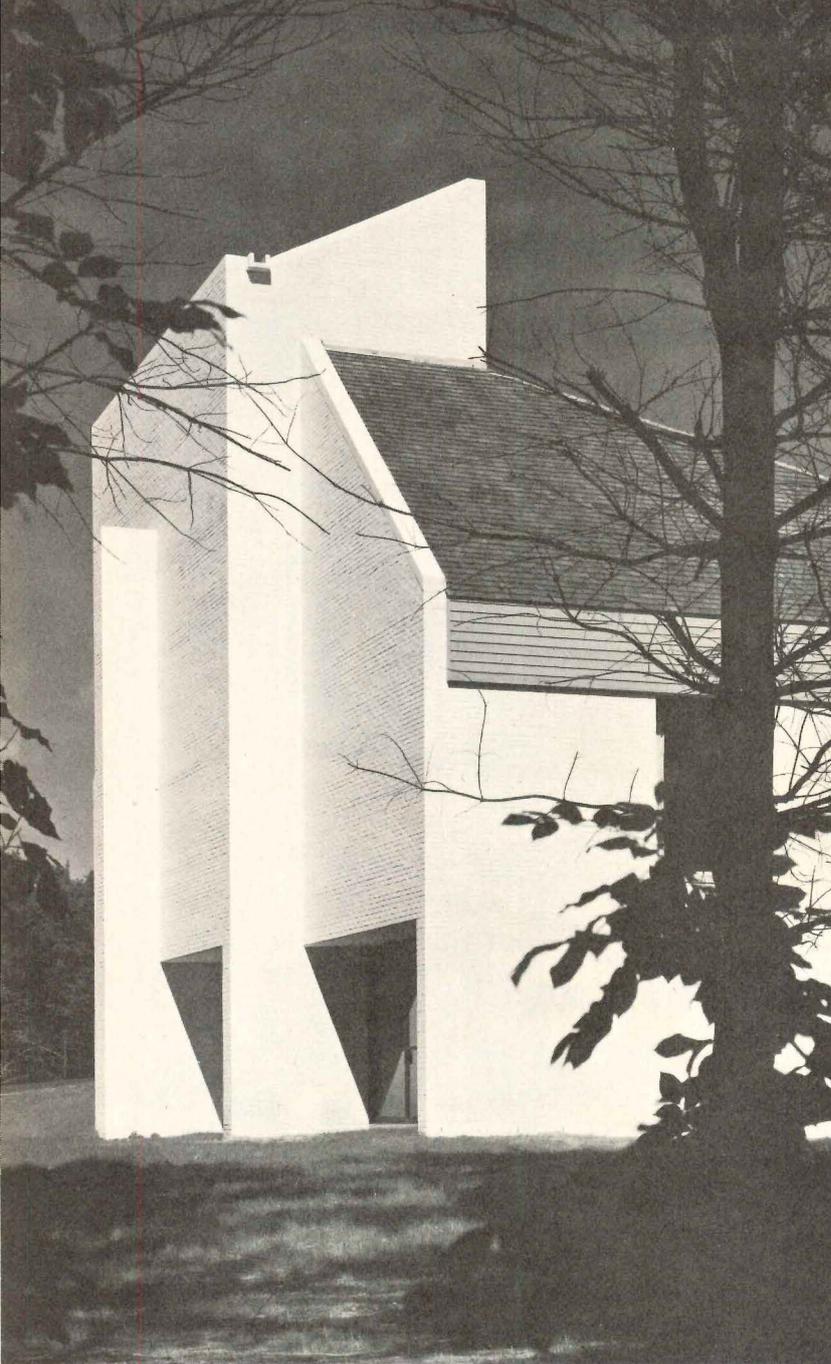
Prior to entering a joint building venture, the two Wilton, Conn. churches faced familiar problems. The Presbyterians were holding services in the local school; the Episcopalians occupied a fine old church which they had outgrown and could not expand. So, in 1968, the architects began working with both congregations to provide separate worship spaces linked by common educational, administrative and community use areas.

The site, eight acres of dense pine woods, slopes to the

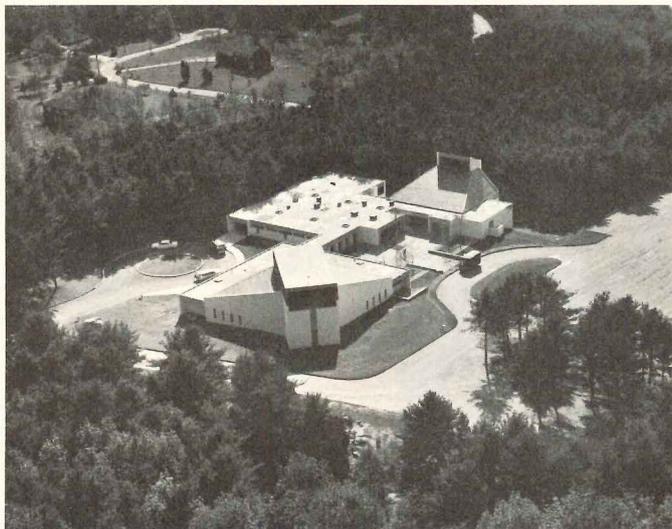


Episcopal sanctuary (top) and Presbyterian parish hall (right) face each other across a court accented by a multi-directional cross (below). While the Episcopal worship space is planned as a sanctuary, the parish hall will house varied activities.





Presbyterian parish hall (above, and background below) is joined to Episcopal sanctuary (foreground, below) by common lounge, administrative, community use and educational areas.



## Together

west, the trees effectively screening the complex from the road bordering the property. Primary access through a central entrance court is from the north, away from the road and adjacent to the main parking area. On one side of the court is the Episcopal sanctuary, which seats 350 plus a choir of 30. Shared spaces form the link to the Presbyterian parish hall on the opposite side of the court.

St. Matthew's rector suggested that the feeling of gathering around the altar should be an important element of the Episcopal worship space. To accomplish that, seating was arranged in three segments around the altar, which is under a large clerestory. The organ and choir are in an apse beyond. Major materials in the sanctuary are wood decking and laminated beams, white brick for walls, oak woodwork and carpet.

While the Episcopal sanctuary is a formal worship space, the Presbyterians elected to begin with a multiple use area. The parish hall seats 250, and was left flexible to accommodate experimental forms of worship and serve as an auditorium, a youth center or a place for church dinners. Later a formal sanctuary could be added to the Presbyterian side without disturbing the present complex. Both congregations, however, could eventually worship in the same space. Educational facilities are accessible from both worship spaces and consist of 12 potential rooms. Eight of the classrooms (four on each level) can be consolidated into larger spaces by opening folding walls. These facilities can be expanded independently as required.

Rector Roger Douglas of St. Matthew's parish has found that the completed complex functions very well. "I am constantly amazed at the many ways it can be used, and the subtle manner in which it brings us together in an ecumenical atmosphere," he says. "The architects have succeeded far beyond our wildest dreams. The church is truly a beautiful place, an inspiring place, a place to lift our spirits as well as drawing us closer together as a community." In the true ecumenical spirit, two congregations have converted discussion into action. The results of the marriage of that determination with architectural skill speak for themselves. [JM]

## Data:

**Project:** St. Matthew's Episcopal/Wilton Presbyterian Church Joint Building Project.

**Architect:** SMS Architects, Willis N. Mills, Jr., partner-in-charge.

**Interiors:** SMS Architects.

**Landscape architect:** George Cushine.

**Program:** provide separate worship spaces for two church congregations, with shared educational, administrative and community use areas.

**Site:** Wilton, Conn.; eight wooded acres, adjacent to intertown road.

**Structural system:** concrete foundations, brick bearing walls, steel beams and deck (floor), laminated wood beams and wood deck (roof).

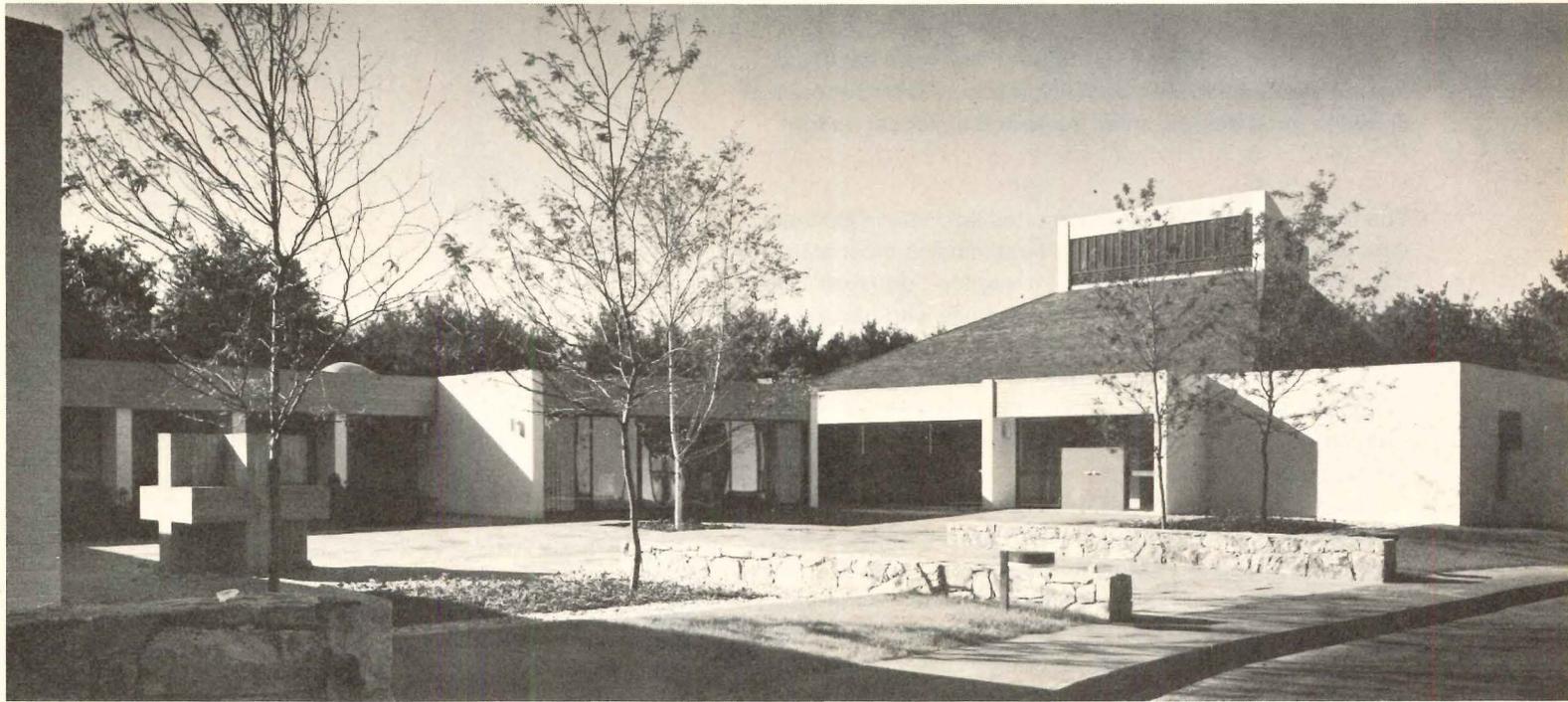
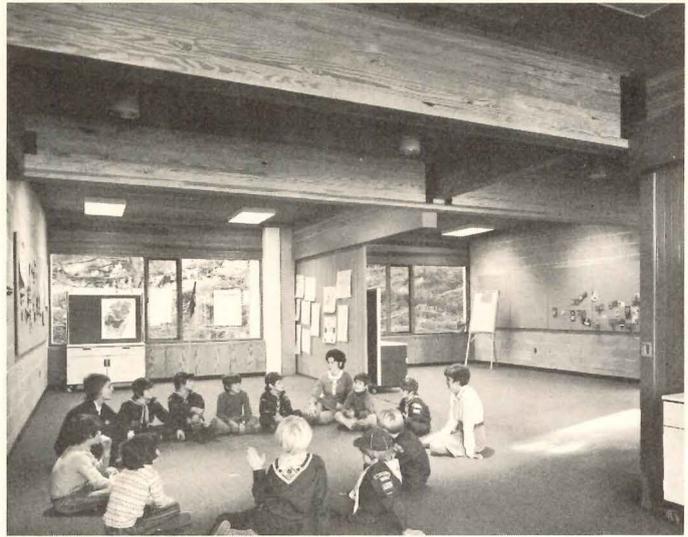
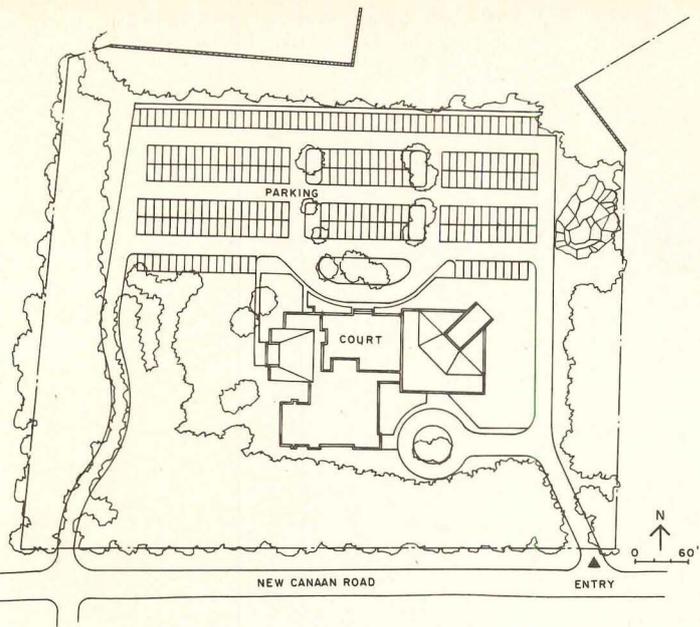
**Mechanical system:** oil fired, low pressure forced air heating, some supplemental convectors in educational areas.

**Major materials:** painted brick, wood shingle roof, laminated wood beams, wood deck and acoustical tile ceilings, brick and gypsum board interior walls, carpet and vinyl asbestos tile on concrete floors.

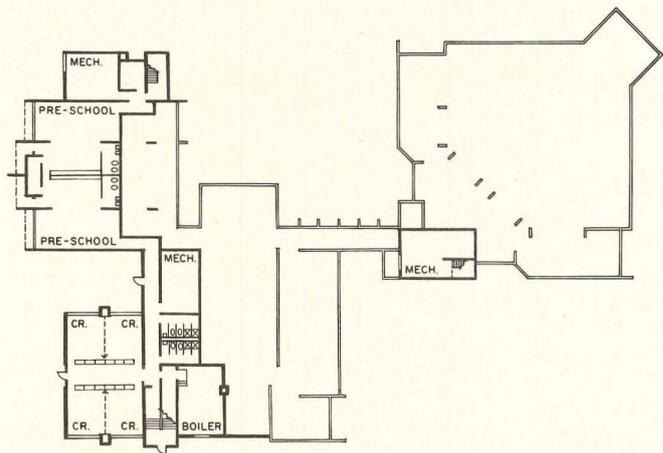
**Costs:** \$1.15 million (\$25/sq ft for parish hall/church school and \$45/sq ft for sanctuary).

**Consultants:** structural, Viggo Bonnesen; mechanical, Sanford O. Hess; acoustical, Harold Mull.

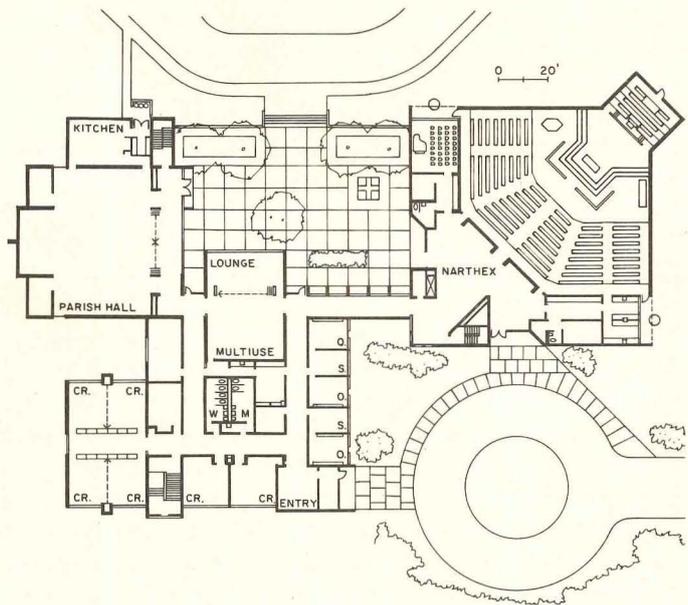
**Photography:** Precision Photography, Martin Tornallyay.



Educational spaces (top, right) are given flexibility through the use of folding walls. Interior finishes of exposed wood, painted brick, carpet and concrete block create an informal atmosphere with pleasant views into the surrounding pine woods.



LOWER FLOOR



# Wood for art's sake

**In an era when buildings for 'cultural' use have achieved unprecedented bulk and banality, it is rare to find some that combine good design, small scale and a modest budget**

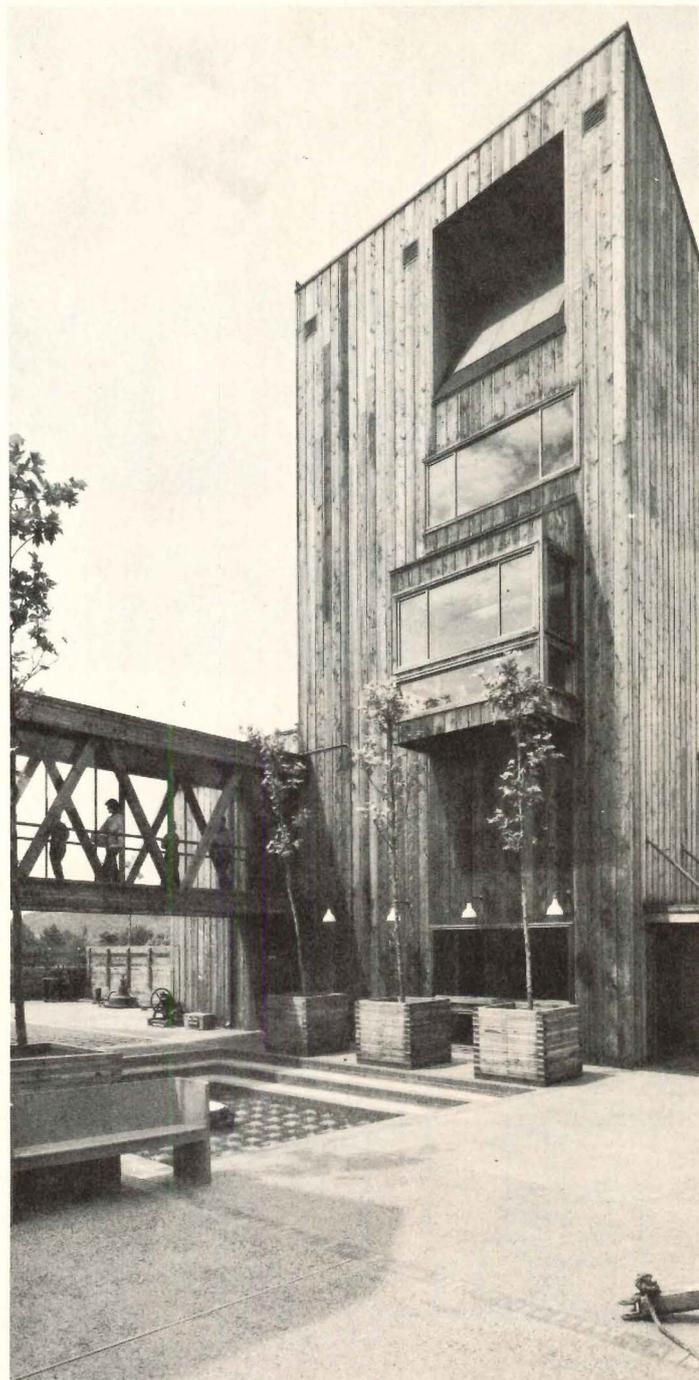
The Douglas County Museum opened its doors in Roseburg, Ore. two years ago amidst considerable furor; most of the local people did not like it because it was too "unusual." Those who did like it were, not surprisingly, those who had, up to that point, spent the most time in it; the construction workers. Early in the job they realized that the place had some indefinable, pleasing quality to it, and they literally fell in love with the building, which is evidenced by the workmanship throughout the structure.

Now that the museum has been open for a while, visitors are beginning to have the same feelings, and they are beginning to recognize that some quite serious and sensible planning went into the complex. Architects Backen, Arrigoni & Ross made the most of the gently sloping site to completely do away with the need for stairs; one can enter onto a ramp at grade level and go through all of the different display areas within the cluster of buildings, pass through both the courtyard and the open display area, and never go up a step.

In designing the museum, the architects wanted to capture some of the essence of the early grist mills, farm buildings, granaries and water sheds that were typical to Douglas County, for the museum is a repository of rare artifacts once used in that pioneer farming, lumber and mining part of Oregon. Even the suspended, mid-level, glassed-in bridge, which connects the units as it traverses the courtyard, takes its inspiration from earlier bridges that were once common throughout the county.

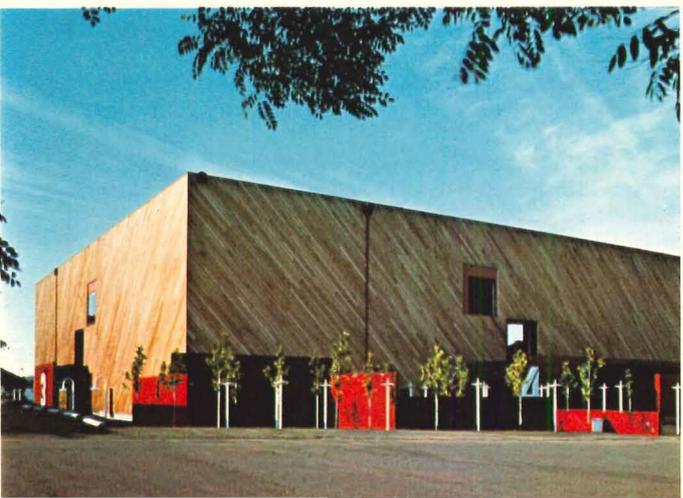
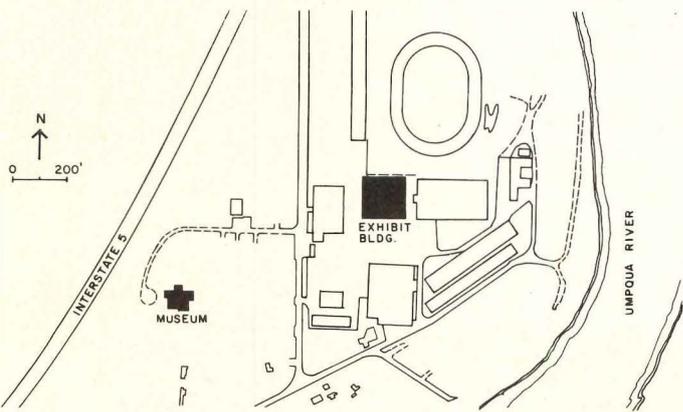
Within the four-level complex of four towers, the display areas are concentrated on the common second level, with balconies or the bridge overlooking the outdoor display areas. The low-cost structures—\$21 a sq ft—enclose a flexible interior display space that is achieved through the use of movable hung panels. The design of the towers is based on a system of 34' x 34' modules, or "display pods," more of which can be added on the site as demand for display space grows. The major tower stands as the pivot point around which the pods can expand outward.

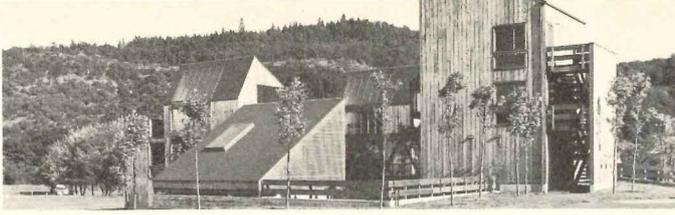
The complex, which won an AIA Bay Area award of merit in



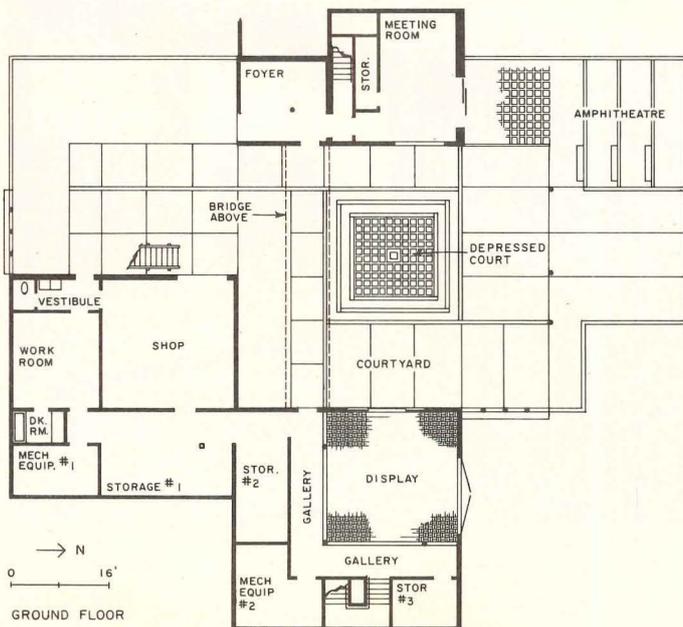
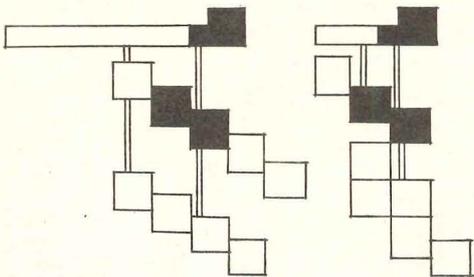
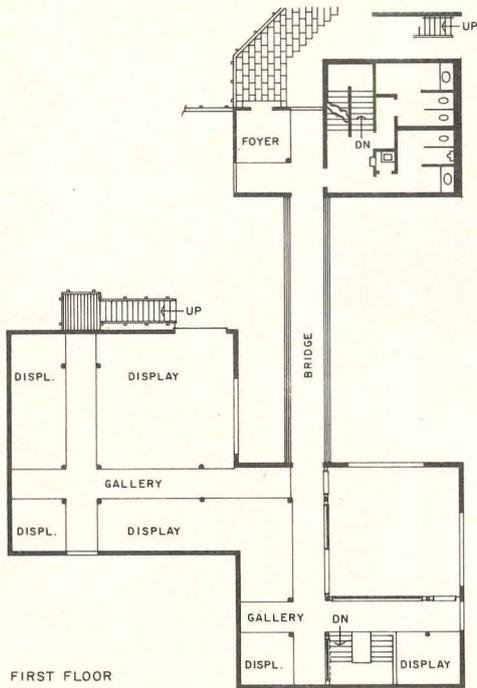


Douglas County Museum (top and left) is designed as a series of modular display pods, yet suggests earlier structures typical of the area. Nearby Douglas Hall (bottom) is a multi-purpose facility for sports and additional exhibits.





Essentially a two-level complex, the museum's tallest wing (above) houses third and fourth level curatorial offices and rare book storage. Modular system allows for expansion.



#### Data

**Project:** Douglas County Museum, Roseburg, Ore.

**Architect:** Backen, Arrigoni & Ross.

**Program:** a 7000-sq-ft museum with library and research center not requiring stairs for access to display areas, with flexible interior and expandable design, to be constructed at low cost.

**Site:** an open field surrounded by hills on the county fairgrounds.

**Structural system:** wood frame modular units connected by suspended, wood truss bridge.

**Mechanical system:** gas heat, electric cooling with perimeter regulators, gas-fired hot water heating.

**Major materials:** concrete foundation, wood frame with clear-stained exterior cedar siding, gypsum on interior, asphalt shingle roof, anodized aluminum windows.

**Costs:** \$178,000 including landscaping, excluding furnishings.

**Consultants:** Becker & Berridge, landscape; Charles & Braun, mechanical; Otto Avvakunouits, structural.

**Client:** Douglas County Fair Board.

**Photography:** Marshall L. Schultz.

## Wood for art's sake

1969, also includes a library and research center, a meeting room opening onto an amphitheater of terraced lawns, curatorial and administrative offices in the main tower, and the two enclosed courtyards. The structure itself is wood frame, finished with rough-sawn, clear-stained cedar siding on the exterior, painted white on the interior and accented inside and out with red and blue panels.

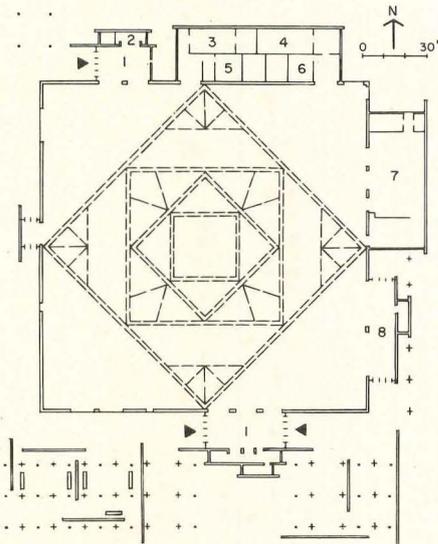
### Douglas Hall

With the success of the museum, architects Backen, Arrigoni & Ross were invited back to Douglas County to design a new multipurpose building, Douglas Hall, which was completed last June. On the same site, about 400 yds from the museum, the building forms a simple, yet bold, background for the complex form of the museum as seen from the nearby freeway. Its simple box shape is a direct response to the program, which was so inclusive—boxing, tennis, exhibits, concerts, fair activities, conventions—that no particular shape for one specific activity or group of related activities could have

satisfied the requirements. Therefore, the extent of the building in plan and section—156' x 165' x 40' high—was imposed by the activity requiring maximum space: tennis.

In juxtaposition to the simplicity of the exterior skin is the concentric-square structural system that supports the roof and allows a completely columnless interior of almost 26,000 sq ft. The entire laminated-wood truss system was prefabricated on the ground, then raised at its four support points by four large cranes and positioned on columns within the walls. The wood wall panels, minus the cedar siding and interior gypsum board, were lifted into place in a manner similar to that in which concrete tilt-up panels are lifted, so that, in effect, all of the major components of the building were prefabricated.

In keeping with the museum, Douglas Hall was also finished with clear-stain cedar on the exterior, painted white inside, and accented with red and blue panels. The client specified the use of wood for both buildings to reflect Oregon's foremost industry, lumber.



Douglas Hall is sized for activity requiring major space: tennis. Legend: 1 entry, 2 tickets, 3 men, 4 women, 5 men's dressing, 6 women's dressing, 7 kitchen, 8 exit.

### Data

**Project:** Douglas Hall, Roseburg, Ore.

**Architect:** Backen, Arrigoni & Ross.

**Program:** 26,000-sq-ft multipurpose building for exhibitions, sports, fairs, conventions, etc.

**Site:** 400 yards from the Douglas County Museum, on the county fairgrounds.

**Structural system:** wood frame, 156' x 165' x 40', free span topped by a concentric glu-lam truss system that was built on ground and lifted by its four support points to be placed on columns within the walls.

**Mechanical system:** factory packaged heating-cooling-ventilating unit; acoustical system of fiberglass cylinders hung from ceiling.

**Major materials:** concrete foundation with slab floors covered in plastic turf, laminated wood truss, wood frame with clear-stained exterior cedar siding, gypsum on interior walls and ceiling, built-up roof of 3-ply fiberglass, aluminum frame windows.

**Costs:** \$606,000 including sitework.

**Consultants:** Charles & Braun, mechanical; Jenö Papp, structural.

**Client:** Douglas County Fair Board.

**Photography:** Marshall L. Schultz.



## Mansfield Art Center

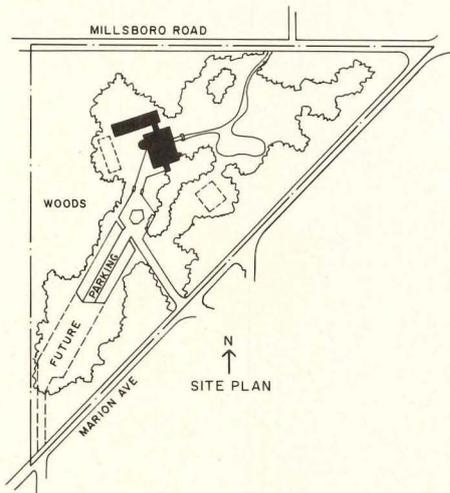
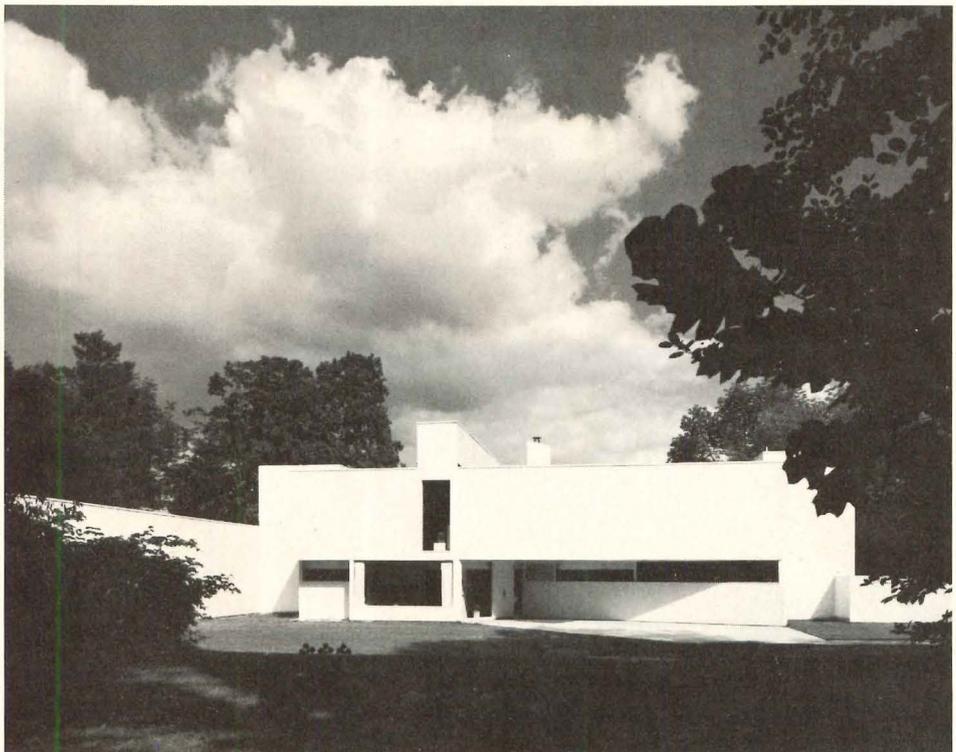
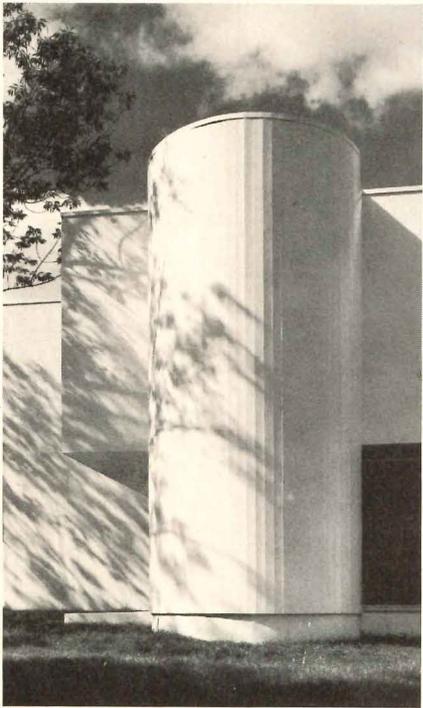
"They're all very nice, but do they ever get built?" is a comment often heard about past P/A design award winning projects. It may come as a surprise that many do get built, and some exactly as designed, such as the Mansfield (Ohio) Art Center, a citation award winner in this year's program (P/A Jan. '71, p. 82).

Because of the nature of the building as an art center, architect Don Hisaka felt that, given the site, the programmatic content of the structure could be extended visually so the building itself could become a piece of art. The site, which is triangular and heavily wooded around the perimeter, and which houses no other buildings on its eight acres, provided an ideal setting in which to carry out a strong design concept for a sculptural form set in isolation, surrounded only by trees. Its natural pattern of tree growth provided three distinct development areas: one for the building; a second, some distance away, for parking; and a third as a prominent vista of





Painted white to emphasize its sculptural qualities, the wood-clad Mansfield Art Center was designed to fit its natural site, with no trees removed or relocated.



## Wood for art's sake

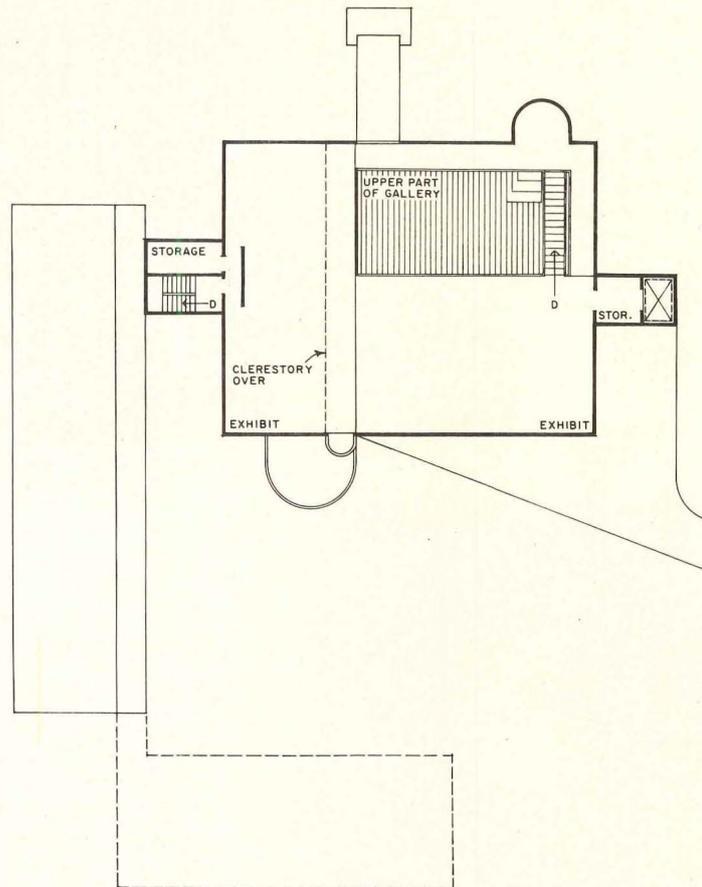
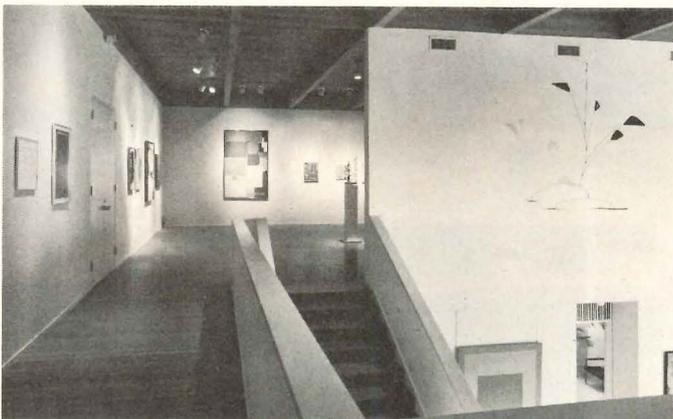
the building from the main intersection at the east corner of the site. Through careful planning no trees were relocated or removed—one, unfortunately, was lost in construction—and the site has been restored to its original condition.

The 10,000-sq-ft wood frame building with flush wood exterior siding was completed, with site work included, on the modest budget of only \$27 per sq ft. Functionally, the art center is organized into two wings; one for teaching studios and the other housing exhibit, gallery, sales and rental spaces, a library, storage room and administrative offices.

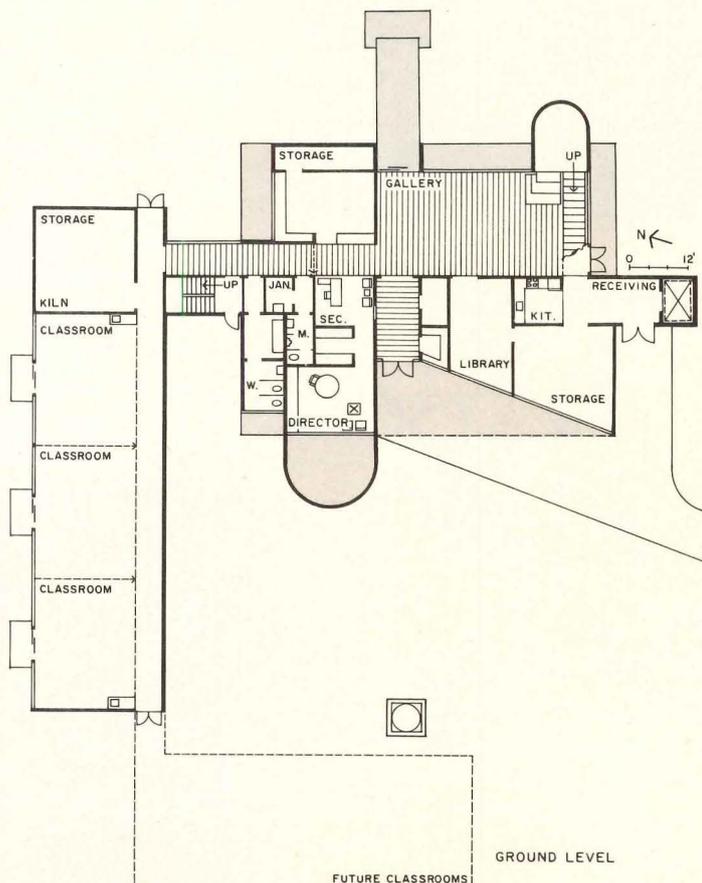
The one-story, flexibly partitioned studio wing, with a clerestory running its entire length, is oriented to the north light. This part of the building is minimally finished on the interior, in sensible recognition of the use to which it will be put. Eventually, additional studios and classroom space will be constructed on a right angle to the existing ones to form the third side enclosure of a planned sculpture-court entrance.

Because of the money saved through sparse detailing of the studio wing, a proportionately greater amount of the budget was available for use in the exhibit wing. A clerestory runs across the building to bring natural, north light into the upper level exhibit area and into a two-story gallery—the focus of the wing—that is oriented toward an open meadow. An interesting method for installing wall-hung art has been devised for the drywall partitions in the galleries: quarter-inch plywood, covered in off-white burlap, is laid over the walls. Nails can be hammered into the panels without affecting the original walls behind, and the plywood can be easily and quickly replaced when necessary. Flexible-head-unit lighting is mounted on sliding tracks attached to the laminated wood ceiling between natural-finish cedar beams. There are natural-finish white oak floors upstairs, but downstairs dark green Vermont slate has been used to accentuate the sculptural forms of the off-white walls. Throughout, the architect has worked in carefully placed windows to give subtly controlled views of the surrounding meadows, woods and courtyard.

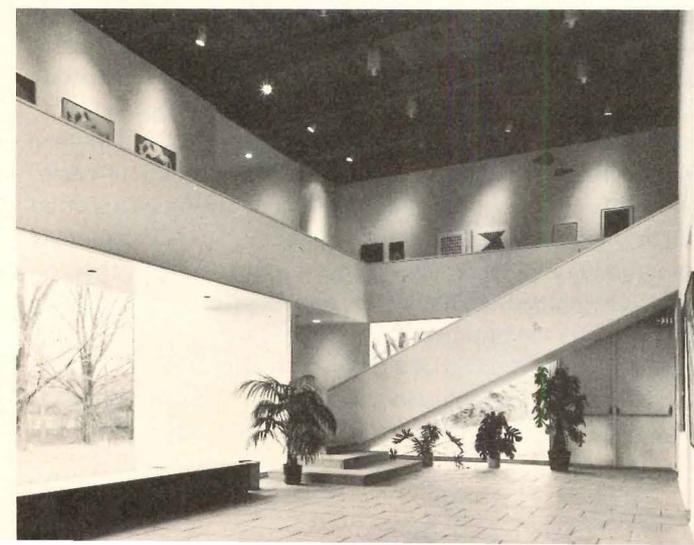
The exterior is cedar tongue-and-groove vertical wood siding painted white. According to the local newspaper, some townspeople were bothered that the building was not simply stained and left natural, but the architect insisted on white to reinforce its sculptural qualities. Some critics, our P/A jury in particular, were disappointed that the building was made of wood, but Don Hisaka, like an increasing number of architects, is getting tired of cinder blocks and concrete. [DM]



UPPER LEVEL



GROUND LEVEL



Interior walls of the wood frame art center are fronted with burlap-covered plywood panels that protect walls and can be replaced after a season's nail holes.

#### Data

**Project:** Mansfield Art Center, Mansfield, Ohio.

**Architect:** Don M. Hisaka & Associates, E. Dean Cox, associate.

**Program:** a 10,000-sq-ft art center including classrooms, sales and rental spaces, administrative facilities and flexible exhibit areas to be built within modest budget.

**Site:** 8 acres in a semi-residential area, on a triangular lot, heavily wooded around perimeter.

**Structural system:** wood frame construction with laminated beams and wood deck bearing on wood frame.

**Mechanical system:** exhibit wing is air conditioned and heated by central gas-operated unit, studios are heated by roof mounted unit heaters.

**Major materials:** wood structural system, laminated wood ceiling and wood floor natural-finished, walls of off-white burlap backed with plywood, exterior is flush wood vertical siding painted white.

**Costs:** \$270,357 including sitework.

**Consultants:** George Evans & Associates, Inc., mechanical; R.M. Gensert Associates, structural; William B. Ferguson, electrical.

**Client:** Mansfield Fine Arts Guild, Inc.

**Photography:** Thom Abel.

# Society's child

**Over the past two years and most recently at Attica, inmates are showing their discontent with prisons as correctional institutions through rioting, vandalism, demands for better treatment. The following discussion of prisoner art shows the need for rehabilitation of people in such institutions and the necessity for a change in attitude towards punishment**

Prison is a total institution and, as with other total institutions such as the armed forces, monasteries and mental hospitals, one's life is contained within the physical limits as well as within the behavioral limits these particular societies establish for themselves. These behavioral limits are less broad than those of society, and the individual's freedom of choice is limited, if not altogether nonexistent. Within the confines of the prison, the inmate is told when to go to sleep, when to wake up, when to eat, talk, smoke and use the lavatory. He is stripped of all responsibilities that normal society deems him responsible for. In effect, the adult inmate is reduced to the role of a child in relation to the guard who has the authority to grant permission for these tasks.

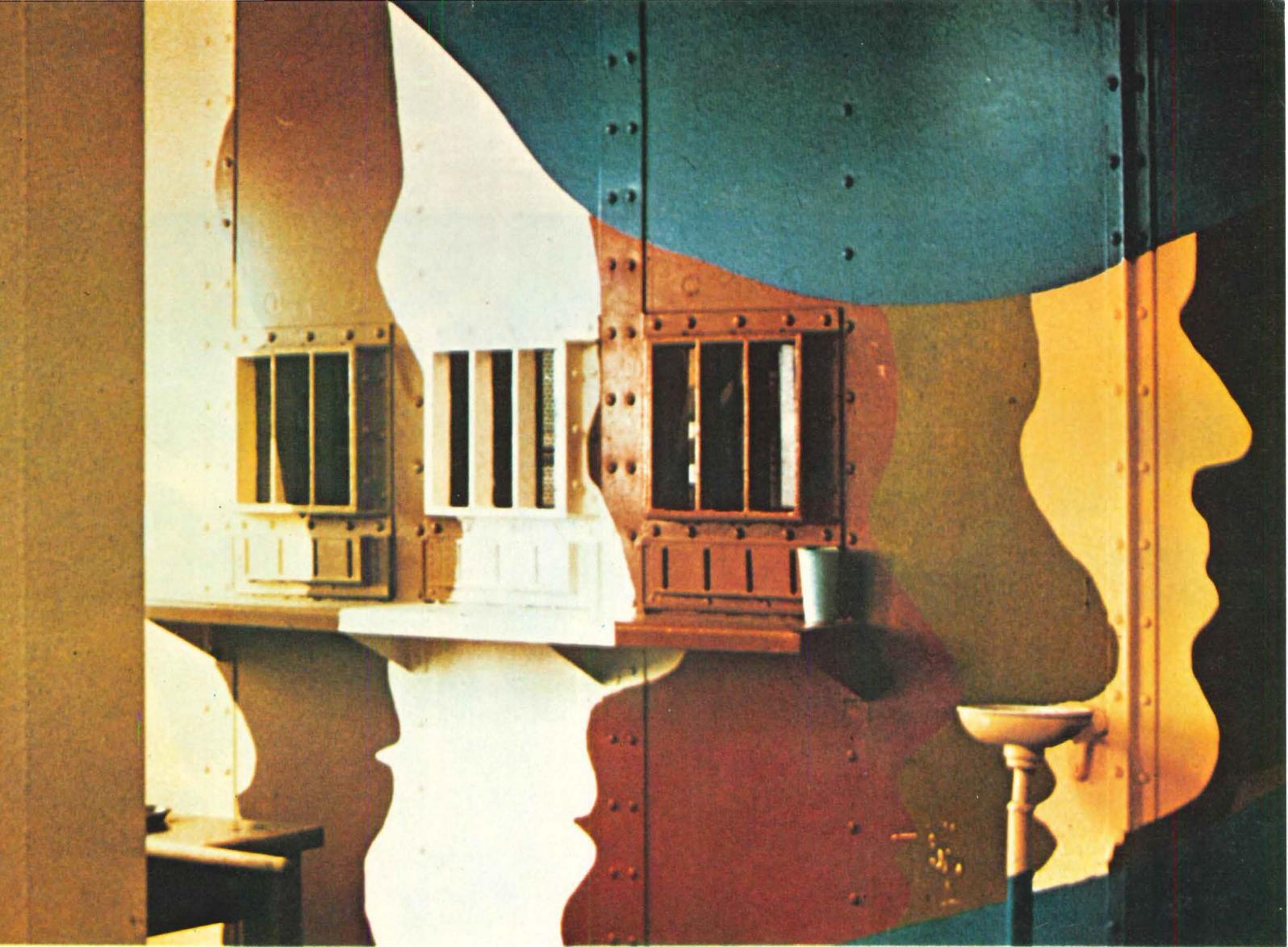
In his book, *Asylums*, Erving Goffman discusses the importance of small rituals in the repetitive and regimented existence of a total institution. The seeking of such small pleasures and necessities on the part of the inmate assumes an exaggerated importance in the everyday routine, and the granting of such favors at the discretion of the guard is used as leverage to obtain acceptable (passive) behavior. The institution society has established serves to intensify the experiences outside the prison that led the inmate to crime, thus reinforcing his dependency and removing him further from becoming a functioning member of society by placing him in the role of a child. One of the explanations of crime held by Neo-Freudian psychiatrists is that the person committing a crime has not developed an integrated, socialized level of personality formation. He responds with childish characteristics of I want what I want, when I want it.

The normal relationships and encounters of the adult world, which are part of the mechanism that reinforces our sense of self and personal worth, are removed in a total institution. Deprived of the opportunity for the feedback they provide, the inmate is left only with society's and the institution's definition of him as a failure in an adult society.

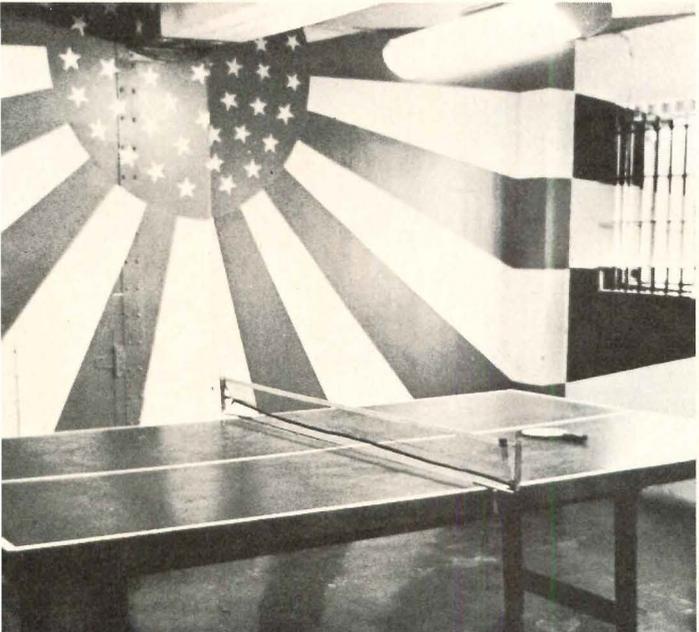
In a series of articles in the *New York Post*, author Joe Feurry relates inmate's stories—half truths at best—as told to each other. The most frequent story concerns great sexual conquests of women, which portray the inmate as a virile lover, while in truth, the inmate is serving time for molesting a young boy. Other inmates talk of planning the "Great American Crime" or of ways of making fast money once released. As one guard pointed out, the inmate has failed at home, failed at school and on the job and finally failed at crime because he cannot even succeed in breaking the law. Such an extraordinary sense of failure cannot be faced as reality by most of the inmates, for it is void of hope and offers no alternatives. As a consequence, many spend their time with thoughts of "what if. . ."

Recently, a group of Tulane University students, under the direction of a Vista worker, rehabilitated the visitors' section of Parrish Prison in New Orleans. The students provided the designs, the prisoners did the work, and local merchants donated the paint. After the students left, the prisoners decided to paint some areas of the prison in which they lived. The results of their efforts were extremely different from those of the students. This raises the question of why the difference and what could be learned from it. The answer does not lie in the simplistic notion that design students are more sophisticated than prison inmates, but rather in the nature of the communication of feeling and emotion that takes place.

Art has long been used by therapists, when treating children, as a nonverbal method of communication, for the art of the child often expresses more of what he feels than literally what he sees. In the child's socialization process, he learns to view the world as society says the adult sees it. In learning this process, the child's art changes from one characterized by unconventional color, exaggerated size and two-dimensional spatial relationships, to a perception grounded more in the adult reality, which includes the ability to censor undesirable emotion. The rehabilitation of the prison shows the child-adult contrast well—the controlled, manipulated design of abstract form and color by the design students and the enormous, curving painted flowers by the inmates. That there was no attempt on the part of the inmates to imitate the designs of the students speaks first of a different set of motivations for the drawings. Second and more important, it speaks of an unwillingness to accept and emulate the examples offered. Usu-

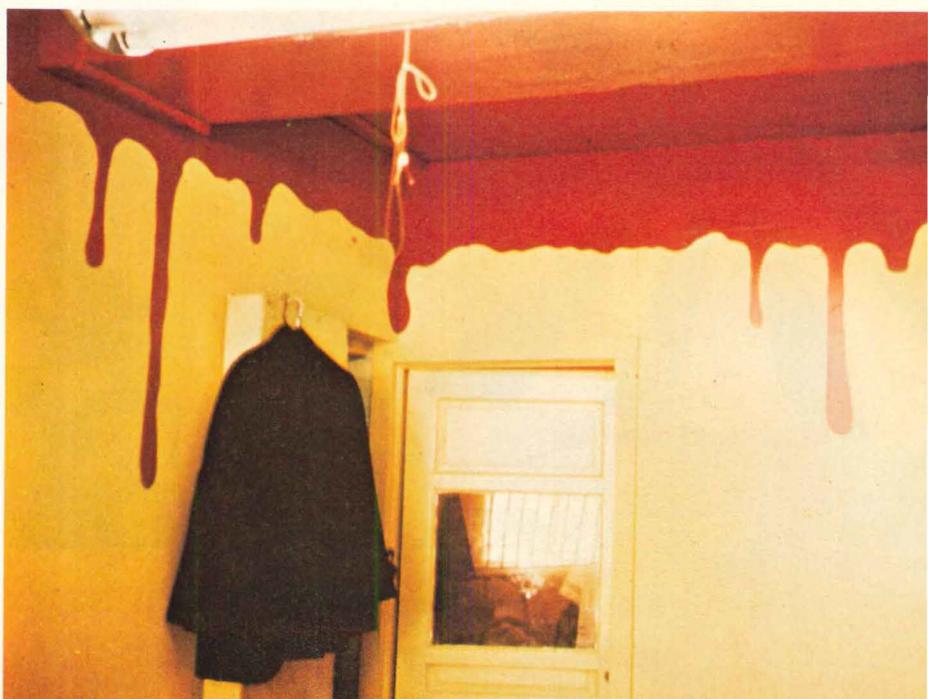


The students' work is typical of the imitative process that takes place in learning. Termed "slick" by criminal psychologist Dr. Emmanuel Hammer, the designs deal with form and color which, in their abstraction, communicate little about who designed them or what their intent was. The response can be in formalistic terms only—that of color, form and composition.





The prisoners' work shows two extremes of emotion. The first is the gentle, unaggressive quality of the flowers; the second, the violence and rage of the dripping blood. The coexistence of both emotions shows the tenuous emotional balance of the inmates who are psychically whipped into submissive (child) roles by the institution, which increases their hostility and rage.



ally a child learns through imitation of others until he is able to innovate. But, unlike this child, the prisoner has rejected society, and his refusal to learn from others or take what is offered indicates his need to operate outside of a prescribed framework, as he did in breaking the laws of society.

The students' designs begin with the American flag motif. It is the good citizen symbol, the emblem of the enemy pushed full blast at the prisoners as if to say that what these guys need is to learn a little more about the American way of life. Criminal psychologist, Dr. Emmanuel Hammer, feels that the symbol, when overstated in this way, may elicit from the inmates a revulsion to the stereotypes of society who, the prisoner feels, do not understand or in any sense "know" him. Its placement on the wall opposite the visiting windows leaves no choice for the inmate, standing on his side of the wall, except to look at the flag while talking to a visitor.

Opposite the flag in the visitors' room, a series of profiles repeat, one over the other, the suggestion of communication overheard and hushed whispers seeking some privacy. The colors of the faces range from white through beige, yellow and brown, to black—with one red face inexplicably standing out. The spectrum of color has the Jiteral interpretation—intended or not—of movement toward integration, whether of races or of self.

On the opposite side of this profile wall is the prisoners' section of the visiting area, painted with large flowers and pale green stems on a bright blue background by the prisoners. The drawing is childlike, almost primitive in its quality, and perhaps also speaks well of the ability of the institution to subjugate the inmate. The flower is the antithesis of the knife or the gun, an attempt at gentleness and the absence of aggression. The flower with its largeness and unlikelike colors of white, beige, red and black has a fairytale quality, indicative of the fantasy realm where many inmates spend their time avoiding the reality of their situation and the rage and hatred associated with it. These flowers are rootless, growing as they do from a cement floor without any indication of life support, in much the same way many of the inmates experienced their own pasts. Theirs was a youth where they didn't quite belong at home or at school, where there was little feeling of acceptance or connection with people who mattered, such as parents. The various colors of the flowers, besides being unlikelike, are inharmonious suggesting, according to Dr. Hammer, that the emotional tone of the inmate is not integrated. The prisoner starkly experiences one emotion after another with little continuity—anger, fear, gentleness, in much the same way as does a child. The flowers also speak of hope in that they grow without roots, but have very fragile stems to hold them upright.

In contrast to the gentle, unaggressive quality of the prisoners' visiting area is their recreation room. Also done by the inmates, the ceiling drips with red paint symbolizing blood that spills onto the walls in violence and rage. It is both the symbol of the crimes that have touched their lives and of the rage toward a system that can only punish them. It reveals the rage of being denied the same opportunities and material benefits given to others—a rage that is further intensified by the psychic whipping of the inmate's self into a submissive role by the institution. On the wall is the word red written in green—



an attempt to "cool it," to regain some control. But in the struggle of control versus impulses, the violence in the individual overcomes any attempt at control. The dripping red ceiling, like the enormous flowers, is a response free of emotional constraints, unlike the stylized responses of students' work. It is closer to the personal statement of what art really is than is the work of the students, yet it lacks the aesthetic shape to hold the emotional tone. It is basic, honest communication about the despair of the human spirit. And as the child in the adult dies, so, too, will this quality in his art. [SLR]

# Double deck elevating

Henry J. Pasternak

**Although the idea of double-deck elevators is four decades old, their full advantages are just now being realized in several structures under construction. The author describes the background, advantages, limitations, circuitry and some of the caveats for this method of high rise service**

At some point in new construction—as buildings soar higher, as they expand in square footage and as population density grows—the law of diminishing returns becomes operative. Elevators become physically incapable of transporting passengers within prescribed weight/time parameters. But even before reaching this point of physical saturation, the building becomes economically unprofitable simply because the amount of hoistway space required for elevators cuts sharply into building revenues.

In an 80-story building proposed for Chicago, the point of diminishing returns was reached, engineers realized, when the structure was put on the drawing boards. Then the architects and engineers discovered that the 80-story tower as first visualized would have required almost 100 conventional elevators to serve the building's vertical transport demands. More than one elevator per floor—an economic absurdity!

Today in many of our newer skyscrapers, banks of six and eight elevators travel 40 to 60 stories before discharging their first passenger and then serve a mere five to six stories. Another economic absurdity.

With rental space in large cities such as New York, Philadelphia and Chicago now going at \$12 to \$14 and even more per sq ft, building owners have been taking a long hard look not so much at initial installation costs or even operating costs of new buildings, but at the revenues that could be derived from space irretrievably lost to elevator shaftways. And to avoid lifetime loss of thousands of square feet of space, architects and builders are turning to the double-deck or tandem elevator.

Simply defined, the double-decker is a single frame containing a set of cabs, one above the other, the lower normally serving odd-numbered floors, the upper cab serving even-

numbered floors. In short, two cabs driven by a single motor monitored by the same controls rise and descend in one elevator shaftway. Fewer single cabs translate into fewer elevator cores and hence into more usable or rentable area.

The concept of double-decking has been examined in precise detail from standpoints of safety, speed, convenience, initial equipment costs, operating economy and finally compared with conventional single-deck transportation to determine what revenues could be gained in utilization of space.

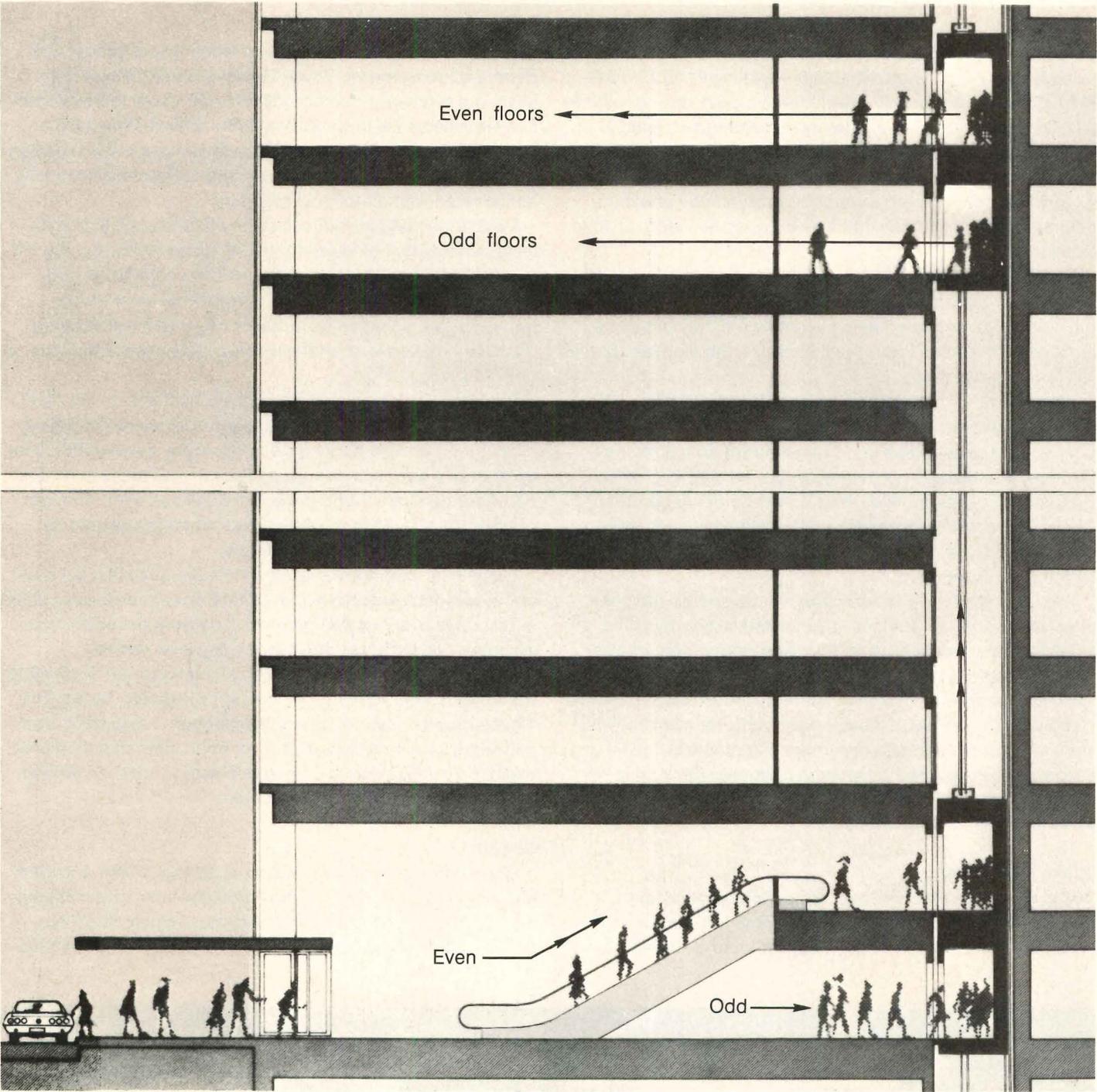
## Advantages and limitations

Double-decking offers some distinct operative advantages. A double-decker gives a somewhat smoother, more comfortable ride—as does a limousine with its long wheel base. Double-deckers theoretically provide faster round-trip traffic since they make only half the stops of conventional elevators. In one building studied, the double-deck elevators provided 123 percent more handling capacity over single-deck elevators with lower round-trip interval or waiting time. However, more powerful, hence costlier equipment is often needed to power the heavier double-decker. And tandems pose some apparent logistical problems. But it is in space utilization that sizeable cost advantages accrue and the reason why double-decking has become the most rapidly growing innovation in vertical transportation.

A 50-story building was chosen for one cost study. For its particular configuration, 34 conventional single deck elevators, segregated into five groups—three banks of six cars and two banks of eight cars—would have been required. In an alternate proposal using double-decking, 24 elevators, arranged into three eight-car groups, would have been required. The reduction in elevator core resulted in a saving of 14,000 sq ft of rentable area. At the very conservative rental rate of \$8 per sq ft, the floor space saved would have been worth \$112,000 per annum. Such savings could hardly escape the budget conscious architect or builder.

Already, the first operative double-decker of our time has been installed in the 25-story Time-Life building in Chicago, completed in 1969. Others are being installed or planned for installation in: John Hancock Life Insurance building, Boston; Canadian Industrial Bank of Commerce building, Toronto, scheduled for completion in 1971 with five double-deckers for lower floors; Sears Roebuck building, Chicago, which when

**Author:** Henry J. Pasternak is assistant director, Vertical Transportation, Abbott, Merkt & Company, Inc.

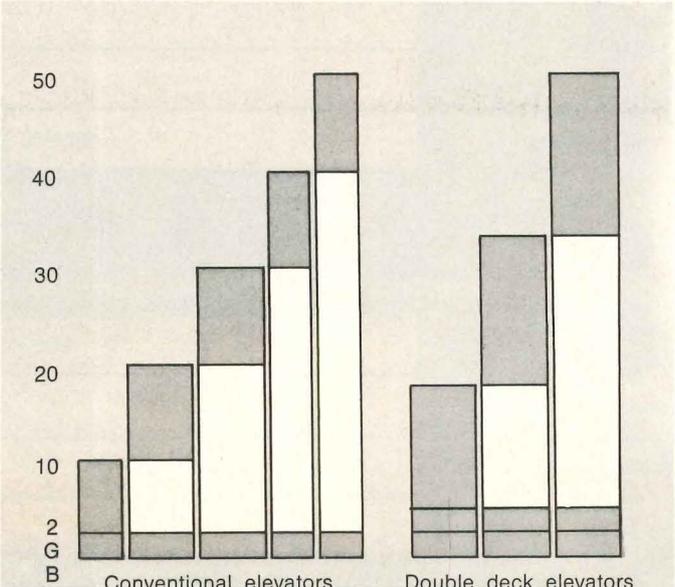


completed will be the world's largest privately owned office building; Standard Oil (Indiana) building in Chicago. By 1975 at least 150-200 double-deck units will be in service or under construction in this country, it is forecast.

**Not an entirely new concept**

Actually double-decking now coming into vogue is not an entirely new concept. The Cities Service building at 60 Wall Street, New York, completed in 1932, had provisions for double-decking with the lower cab going to a subway level. However, when the subway entrance was not built, the double-deckers were reconverted to single decks and have been operated conventionally ever since.

Before installation of elevators is undertaken, standard criteria are employed to select the number, size, location and



## Materials and methods: Double-deck elevating

other specifications. Ideally, elevators in a building with diversified tenancy should be capable of handling 11 to 12.5 percent of total occupancy in five-minute up-peak period (usually 8:30 to 9 a.m.). In a single tenancy (a building occupied almost entirely by life insurance personnel, for example) standard specifications call for elevators capable of transporting 17 to 25 percent of total occupants within a five-minute up-peak period with average intervals between elevators of 20 to 30 seconds.

Using these criteria, cost comparisons can then be made between single- and double-deck arrangements. The larger, the higher, the more dedicated to single tenancy (meaning more people to each floor) the building is, the more adaptable it is to double-decking.

Paradoxically, the installation of tandem elevators in Chicago's Time-Life building violated many of the standard parameters for double-decking. From a purely space savings standpoint, Time-Life is not large or tall enough to provide substantial cost economies utilizing the tandem approach. Conventional single-deck elevators could have been more economical were it not for the extremely high density traffic factor in the building.

The Chicago Time-Life structure, which houses the company's subscription services, is occupied largely by some 2800 clerical employees working within rather rigid time parameters and moving in and out of the building in battalion-sized numbers in the morning, at lunch and at closing. Hence 12 double-deckers were installed, primarily for mass movement and not to achieve a maximum of rentable or usable spaces. Thus one basic advantage of double-decking is achieved—one elevator carrying twice as many passengers while halving the number of stops.

### Whole new game

Introducing double-deckers into construction is tantamount to introducing a whole new game into vertical transportation—and new rules have had first to be explored, tenta-

tively adopted, then refined. Basic to the whole concept of double-decking are two lower levels: a lower lobby whose elevators serve odd-numbered floors; an upper lobby whose elevators serve even-numbered floors. Broad staircases or, desirably, moving stairway service would have to be provided between the lobby and mezzanine and elevator traffic clearly demarcated with directional graphics.

Double-decking introduces some obvious logistical problems, notably that of interfloor travel, going from, say, the 7th to the 12th floor and going from the lower level or an odd-numbered floor to the top floor. Another problem which double-decking magnifies is that of travel between floors at peak loading hours when the whole building is either filling up or evacuating.

Solutions are being found for these problems. In the most practical, passengers entering the lower elevator cannot signal even-numbered floors (and upper lobby passengers going up cannot signal odd-numbered floors). The car buttons for odd-floors are cut out on the upper deck and even-floor car buttons are cut out in the lower deck when the elevator is loading passengers at ground levels.

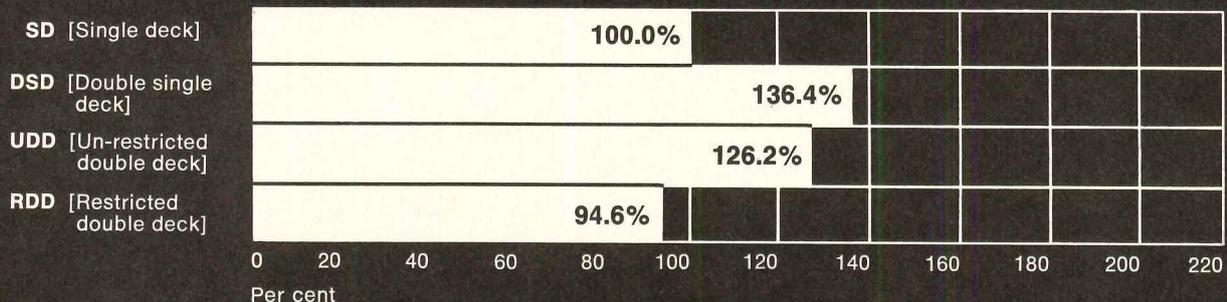
Once in motion, the car buttons in each deck that were cut out at the lobbies become reactivated when the elevator stops in response to an up call, permitting passengers entering on an upper floor to press a button for any level desired.

Traveling down, there is no logical approach for separating passengers and reducing the number of elevator stops. The elevator system cannot determine whether a registered down call requires service to the lobby or to an intermediate odd or even floor. Therefore, any prospective down passenger has the service of either of the two decks.

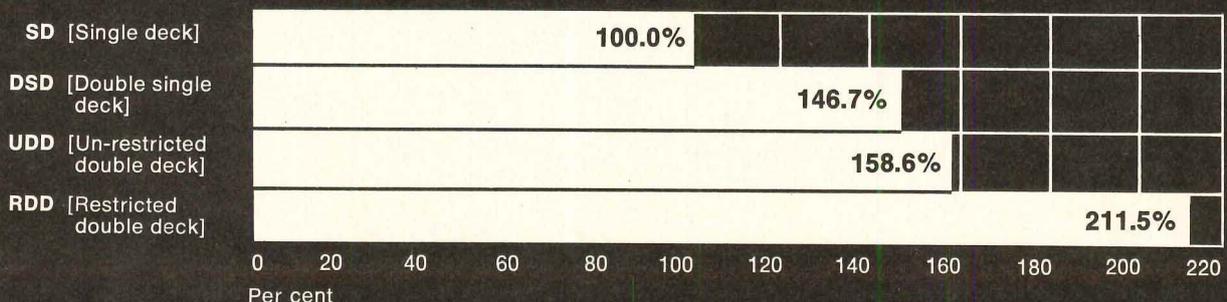
### Circuitry

Double-deck circuitry, however, is arranged with a feature called "co-incident stop" which provides improved efficiency for handling car and hall calls. The "co-incident stop" feature provides the means whereby the elevator can serve two

#### Performance comparison up peak round trip time



#### Performance comparison up peak 5 minute handling capacity



**Performance comparison up peak**

	1 Loading at lobby	2 Space requirements	3 Probable stops	4 Round trip time	5 Minute handling capacity
Single deck]	100.0%	100.0%	100.0%	100.0%	100.0%
Double single deck]	200.0%	156.0%	124.2%	136.4%	100.0%
Unrestricted double deck]	200.0%	100.0%	124.2%	126.2%	146.7%
Restricted double deck]	200.0%	100.0%	62.5%	94.6%	211.5%

**Performance comparison up peak**

	6 Building population	7 Required handling capacity	8 Number of elevators required	9 Interval
Single deck]	1530	260	8	25.4
Double single deck]	1530	260	5.44	50.8
Unrestricted double deck]	1530	260	5.05	50.8
Restricted double deck]	1530	260	3.78	50.8

Handling capacity =  $\frac{300 \times \text{no. passenger per trip}}{\text{interval}}$

**Vertical traffic**

Loaded cars — both directions  
interfloor traffic

	Round trip time	Interval	Handling capacity each direction
Single deck	302.6	50.5	13.6% [+ 123%]
Double deck	338.1 [+ 11.2%]	56.4 [+ 11.2%]	6.1%

Approximately 5 passengers per minute per elevator  
interfloor traffic

	Round trip time	Interval	Handling capacity each direction
Single deck	183.6	30.6	5.1% [+ 24.4%]
Double deck	231.4 [+ 26.2%]	38.6 [+ 26.2%]	4.1%

Approximately 5 passengers per minute per elevator  
or traffic 25% of total traffic

	Round trip time	Interval	Handling capacity each direction
Single deck	209.5	34.9	4.5% [+ 18.4%]
Double deck	249.6 [+ 19.2%]	41.6 [+ 19.2%]	3.8%

calls at the same time. This efficiency can be shown in the situation whereby a down traveling passenger in the upper deck going to the sixth floor and an entering hall passenger at the fifth floor are served by a single double elevator stop.

To expedite traffic during peak loading hours, the double-deckers could be programmed to maintain a strict even-odd stop pattern, if there is no need for interfloor traffic during these periods. And for the interfloor passenger on a lower (say, 7th) level who wishes to go to the top (say, 60th—an even) floor, the recommended solution is to provide sufficient overhead in the shaftway to permit the lower deck to serve the top landing.

Under conditions where one set of doors does not open while others do, an illuminated sign in the deck notifies passengers that others are being served. This forestalls confusion when the car stops and a door does not open. Since the psychology of passenger behavior on double-deck elevators is a new and nebulous area, the initial double-deckers are equipped with both selective and nonselective door operation.

If operated on a nonselective basis, the doors open every time the elevator stops. Operated selectively, the doors of each deck open only if there is a legitimate car or hall call for that deck. And in the deck where the doors do not open, an illuminated sign indicates "Serving other passengers."

In skyscrapers requiring two or more banks of double-deckers, provisions for crossover or transfer service between a lower rise and higher rise group of elevators becomes a problem. Each building must be studied individually to arrive at the proper solution based on the amount of service required. Whatever the solution, the crossover operations should be designed so that they provide a minimum of possible stops of the two elevator groups.

Still another problem posed by double-deckers revolves around the load weighing and load by-pass operation. Should an elevator start by-passing hall calls when only one of the decks is full or should it continue to pick up calls with the remaining deck? To meet varying needs, elaborate systems of comparing loads in each deck are under development.

**Caveats**

While the entire area of double-decking is still near-virgin territory under exploration, some basic caveats have already been determined:

Equal floor heights must be maintained in double-deck structures.

Traffic entering at lower levels must be segregated into cabs serving odd- and even-numbered floors.

Directional graphics must be clear and ample.

Space must be provided for oversized driving and hoisting equipment.

Individual cabs must contain instructional signs indicating which operation is in effect.

Heavy generators of traffic such as cafeterias should not be located with any group of elevators.

The basic principle of double-decking—a saving in net rentable area—is valid. It is up to the architectural and engineering professions to provide the answers as to where and when they will be provided.

# Electrical safety in hospitals

Clarence Tsung

## Pros and cons of the isolated power system, one method of controlling the hazards caused by the use of electronic equipment in hospitals, are presented

Changing techniques in medical and surgical procedures and development of electronic diagnostic and therapeutic equipment in hospitals have done much to elevate the level of medical care in the world. However, these new techniques, procedures and equipment also have the potential to create major hazards. Recognition of the hazards of electrical shock to the patient has not paralleled the advances in medical electronic technology.

Several professional organizations within the medical equipment and instrument fields have recently recognized the need for improved safety standards for medical equipment of all types. These groups have established safety committees to develop electrical standards on medical devices. The National Fire Protection Association's (NFPA) Committee on Hospitals, which was formed almost 40 years ago, deals with "safety from fire and explosion hazards in hospitals, flammable anesthetics, medical gases, emergency electrical systems, protection of persons in hospitals from the hazards of electrical shock or other untoward electrical effects and burns, and fosters awareness of the various hazards attending the use of associated specialized equipment and procedures." This Committee has published several hospital standards. Those dealing with electrical safety are "Standard for Essential Electrical Systems for Hospitals," NFPA 76A, 1970; "Standard for the Use of Inhalation Anesthetics (Flammable and Non-flammable)," NFPA 56A, 1970; "Standard for High-Frequency Electric Equipment in Hospitals," NFPA 76CM, 1970; "Manual for the Safe Use of Electricity for Hospitals," NFPA 76BM, 1970 (manual only, not a standard).

The National Electrical Code, which is NFPA 70, contains a completely revised article 517, retitled "Health Care Facilities" in its 1971 edition. Article 517 of the 1968 edition of the NEC was entitled "Flammable Anesthetics." The new edition has deleted all references to the now famous "isolated power systems" as applied to electrically susceptible patient areas, including angiographic laboratories, cardiac catheterization laboratories, coronary care units, dialysis units, emergency room treatment areas, human physiology laboratories, in-

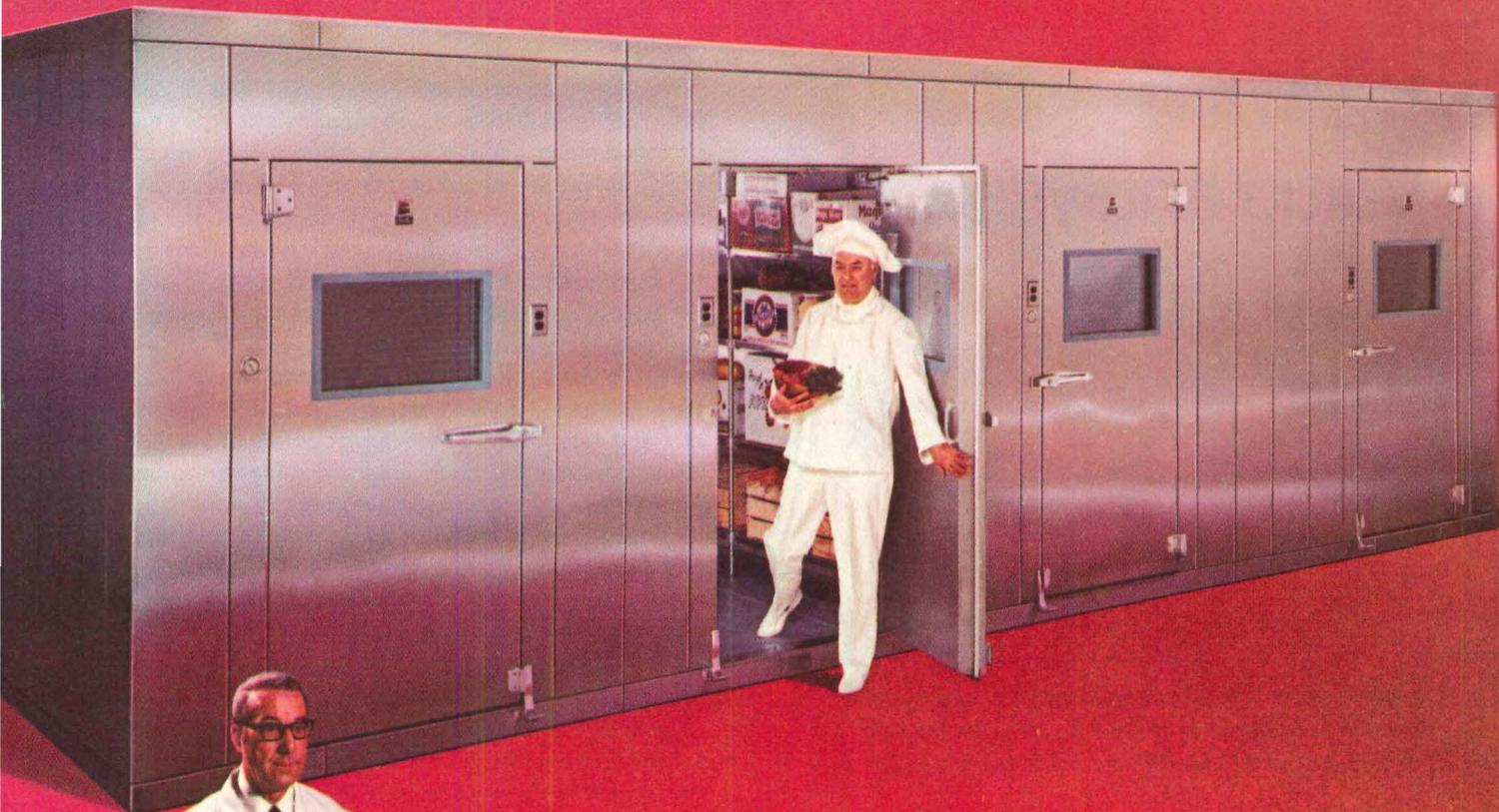
tensive care units and post-operative recovery rooms. Isolating systems, i.e., the isolating transformer, the dynamic line isolation monitor and the equalizing ground bus continue to be a mandatory requirement in operating and delivery rooms.

The basis for the deletion of the term "isolated power system" in the Code stems from some doubts regarding its technical adequacy, economic feasibility and from fears of commercial exploitation. However, paragraph 517-51 of the same code states "the potential difference between any two conducting surfaces within the reach of a patient or those persons touching the patient shall not exceed 5 millivolts under normal operating conditions or in case of probable failure."

A qualified electrical engineer knows that this requirement can be met only if all exposed metal in the patient's electrical environment is completely eliminated. This is the so-called "double insulation" system. At the present time it is not economically feasible. In order to try to limit to 5 millivolts the potential difference between the various devices surrounding a patient, the "isolated power system" is the closest practical means available to the hospital at a reasonable cost. It should be pointed out that even with the use of the "isolated system" no one is in a position to guarantee that there won't be more than 5 millivolts difference in potential. It is advisable, therefore, to have additional equipment that constantly monitors the potential difference between the grounded devices.

With a conventional grounded system for a hospital room without an isolating transformer and a dynamic monitor, the electric current flow in the ground wire could be as high as 20 amperes. With an isolated system, the maximum possible ground current that could flow in the system before an alarm is sounded would be only 2 milliamperes. Furthermore, the patient would most likely be susceptible to only a small fraction of it. It is generally agreed that a properly functioning isolation system does provide electric hazard protection from all macroshock, i.e., milliamperes range. However, it does not necessarily eliminate all microshock, i.e., microamperes range hazards, which may be caused by current leakage from components of the power system and medical equipment, improper installation and lack of general maintenance.

**Author:** Clarence Tsung is an associate of Syska & Hennessy, Inc., Consulting Engineers, New York City



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There's an  
evolution in the  
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# Value analysis

Harold J. Rosen, PE, FCSI

**A method of examining the design and construction process in order to reduce costs, value analysis is regarded as a vital tool for the specification writer**

Two recent experiences, one concerning a seminar devoted to controlling construction costs at an American Hospital Association meeting, the other at a Health, Education and Welfare workshop on value analysis, stressed the need for examining the design and construction process to reduce costs. Foremost was the exploration of new techniques such as systems building and construction management as a means of controlling and reducing costs. As a participant in both seminars, I explored the role of the specifier and his involvement in cost control.

Value analysis is a relatively new term which has been developed principally through the Department of Defense, with emphasis on cost reduction. It is an attempt to develop the least costly product without sacrificing quality or function.

For the specifier, cost control or value analysis involves the elimination of unnecessary costs by re-examining all of the areas covered by specifications in order to locate those that increase costs without adding to the value of the project. Every statement incorporated into a set of specifications carries a dollar sign alongside of it. Since the contractor must comply with specifications, he must estimate and be paid for all of the requirements set forth.

There are a number of areas where the specifier can control costs or apply value analysis: in the selection of materials; by including specification information under proper technical sections; by analyzing the project to determine the extent of tests, shop drawings and samples; by handling the subject of "or equal" products on a more equitable basis.

In the selection of materials, the first installed costs must be calculated against the maintenance costs measured against the project criteria. These costs are easily assessed so that a break-even point can be established that determines the material to select. Of greater significance is an evaluation of current specifying habits for cost reduction. For example, with modern latex paints, two coats of paint might suffice where three coats of oil paint were previously specified. In certain locations ¼-inch window glass might suffice where ½-inch plate glass has been used before.

Protection of surfaces during construction is less expensive if specified on a performance rather than on a description basis. If floors are specified to be covered during construction, the contractor must include this cost as specified. However, if it is written in performance language that floors be turned over to the owner in satisfactory condition, the contractor provides whatever protection is needed and the cost of complete temporary protection spelled out in a descriptive specification is saved.

By providing specification information in the proper technical sections increased costs are avoided. Contractors generally let subcontracts based upon content of the technical sections. If an item has been specified in the wrong section, the contractor may not have time during the short bidding period to recategorize it. The subcontractor inheriting this section must obtain a price from another party and must include overhead and profit to cover the item. This then is passed along to the general contractor, increasing the construction cost. It is better to write narrow scope sections allowing the contractor to award several small sections than it is broad scope sections.

Samples and shop drawing submissions and testing requirements should be carefully analyzed. Elaborate submissions and tests cost money. If a project has only 100 cu yds of concrete, for example, the specifications for testing should be less elaborate than for a project with several thousand yards. Manufacturers' literature may sometimes suffice in place of physical samples and the data contained therein can be evaluated far better than a physical sample. The number of shop drawings should also be reviewed so that they do not get out of hand.

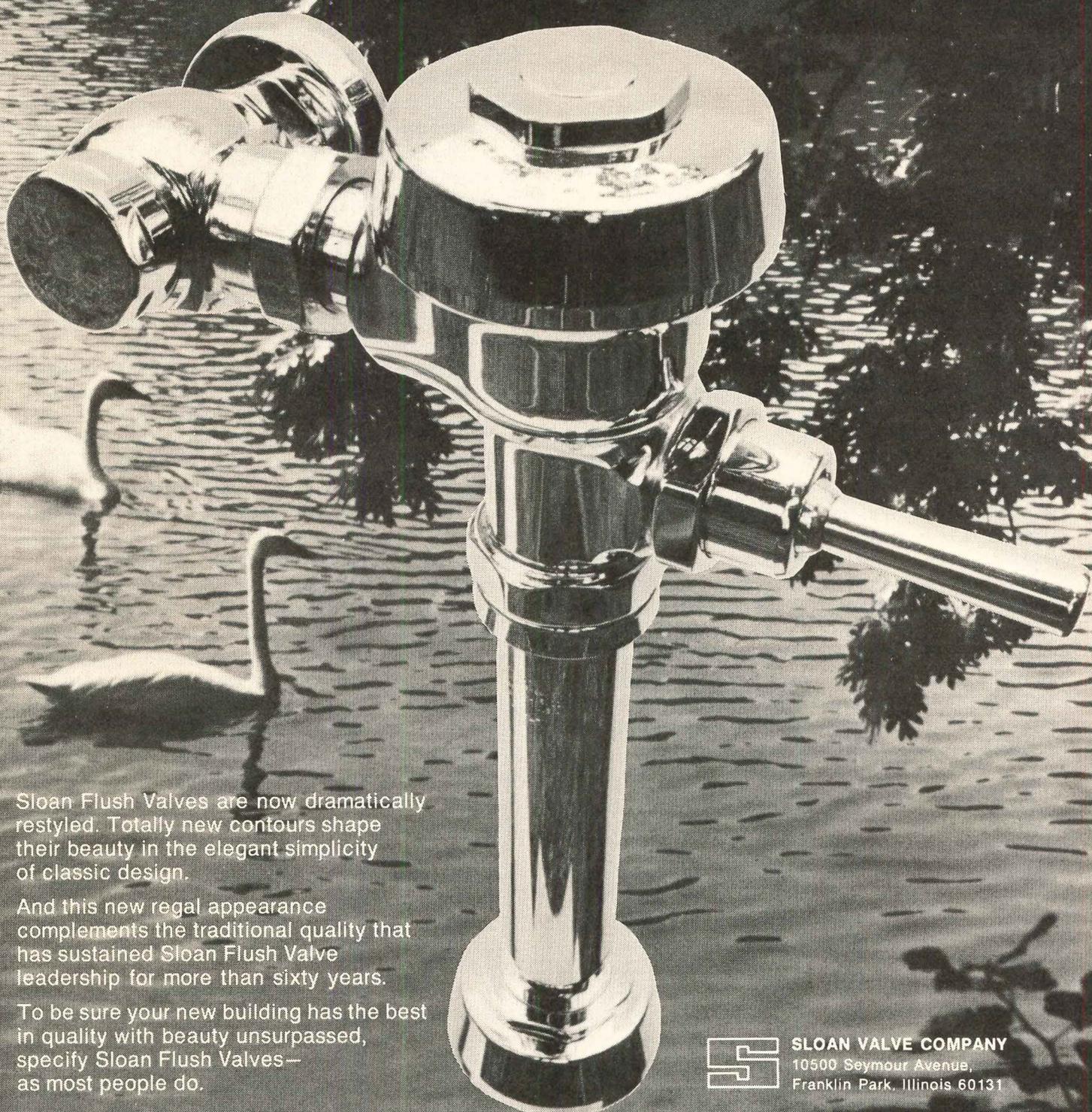
Competitive bidding helps to control and reduce costs. When items are specified and only one product is indicated, a premium may be paid for it. Where an item is unique and there is nothing comparable, the cost can be controlled if, after a fair price has been determined, the owner purchases it separately and delivers it to the contractor for installation.

When the term "or equal" is used in conjunction with other brand names, substitutions can be avoided during the construction phase by limiting its use to the bidding period only. The problems inherent in the use of the "or equal" clause in many specifications stem from the fact that the auction continues after the bidding period. Contractors offer "or equal" products after the contract has been awarded and the owner does not get the benefit of the competition. By limiting this clause to the actual bid period, bidders are required to submit proposed "or equal" products for consideration by the architect, and, if he approves, the product is added to the specifications by addendum. The language for obtaining approval on brands other than those specified is added to the General Conditions and bidders are advised to submit requests about 15 days prior to receipt of bids so that the architect can evaluate the equality. If he finds the brand or product equal to that specified, he issues an addendum advising all bidders so that the item is bid competitively.

Unnecessary costs can be eliminated by value analysis—an examination of specification requirements and specification language to insure the lowest possible cost consistent with the demands of the project.

**Author:** Harold Rosen is Chief Specifications Writer of Skidmore, Owings & Merrill, New York City.

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# Zoning regulations to control population?

Bernard Tomson and Norman Coplan

## The validity of a zoning ordinance that regulates population until specific municipal facilities are available is questioned in this controversial case

In last month's column, we discussed efforts of suburban and rural communities to match new residential development to their available municipal facilities and services. We described one such effort by the town of Ramapo, N.Y., which adopted a zoning ordinance requiring any residential developer, prior to obtaining approval of a subdivision plat, to obtain a special permit. This permit would only be issued if the land to be developed had available to it a certain minimal amount of public facilities such as sanitary sewers, drainage, recreational facilities, public school sites, roads and firehouses. The town had adopted a capital budget and capital improvement plan which provided for the development of these facilities over an 18-year period, and if a particular tract of land did not have a certain proportion of the requisite facilities and services, the developer would be required to wait for the special permit until the facilities called for by the plan were constructed.

As pointed out, the trial court sustained the validity of the zoning ordinance on the ground that such restriction was reasonable and necessary in meeting the needs of the community as a whole. Upon appeal, however, the Appellate Court reversed the initial decision and ruled that the ordinance was invalid and unconstitutional. Under the laws of the State of New York, a town may adopt a zoning ordinance "in accordance with a comprehensive plan designed to lessen congestion in the streets, to secure safety from fire, flood, panic and other dangers, to promote health and general welfare, to provide adequate light and air, to prevent the overcrowding of land, to avoid undue concentration of population and to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements." Upon the appeal, the town of Ramapo contended that this broad authorization justified its zoning policy limiting residential development to the availability of municipal services and facilities. The aggrieved real estate developer contended that to require him to wait to develop his land until facilities and services were available was confiscatory and not within the powers granted to local communities by the state.

The Appellate Court acknowledged that the extraordinary

growth in suburban population in recent years has given rise to complex physical, social and fiscal problems and that communities have been hard pressed to solve these problems. The court further asserted that laudable as this objective may be, it cannot be accomplished at the expense of constitutionally protected property of others. The court said:

*"The most compelling argument that can be made on behalf of the town is that the delegated power to regulate and restrict the density of population authorizes the challenged time controls. In my opinion, however, there is a vast difference between regulating population density through such techniques as minimum lot requirements or limitations on multi-residential housing and controlling the time and rate of population growth. In essence, respondent asks us to uphold an ordinance which restricts the free mobility of population until a designated area has available certain necessary municipal facilities. I can find no authority to allow enactment of such an ordinance.*

*"It is not difficult to envision the tremendous hardship and chaotic conditions which may result if many of our upstate municipalities decide to delay the exodus of city residents desirous of leaving their crowded environs and moving into such upstate rural regions."*

The Appellate Court further concluded that the concept of phasing residential development through time controls of land use involves an unacceptable discrimination. The court pointed out that under the ordinance in question, certain plot owners in a residential district would be allowed to build earlier than others. The court concluded that "the constitutional requirement of equal protection before the law requires that a regulated use within an established zoning district must be applicable to all property located within the district."

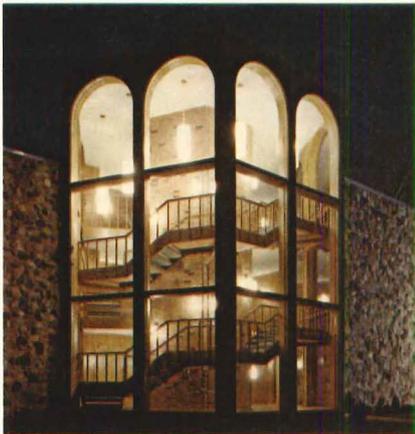
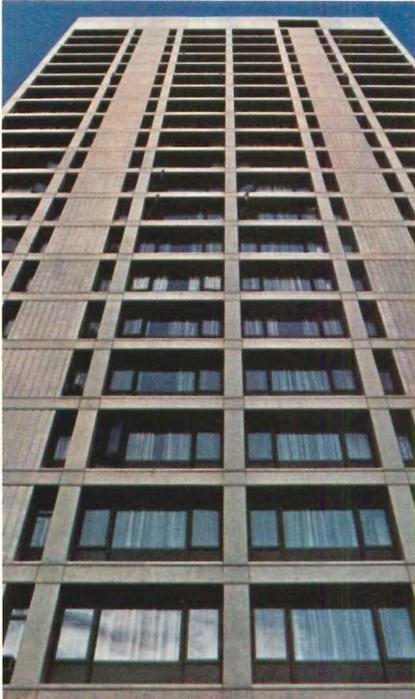
The court also took cognizance of the position of many authorities on suburban development who have suggested that new types of controls are needed to prevent urban sprawl and the problems associated with it. However, it felt that the consequences of allowing municipalities to place time controls on their expansion are so far-reaching in their ramifications that such a statutory system should be explicitly authorized by the state legislature. The court concluded that a statutory scheme based upon time controls to restrict the population development of the town was an usurpation of power by the town as such authority had not been delegated by the state.

The Appellate Court was not unanimous in its conclusion. In a dissenting opinion, a minority of the court concluded that the Town Board, in adopting a control over residential development, was providing for the orderly growth and development of the town while keeping in mind the public health, safety and welfare.

The dichotomy between the opinions of the trial court and the minority of the Appellate Court on the one hand, and the majority of the Appellate Court on the other, is illustrative of the conflicting interests of property owners who may be caused great hardship by restrictive zoning, and the interests of communities to avoid urban sprawl and chaotic conditions. This case involves significant new ground and probably will be further appealed.

**Authors:** Bernard Tomson is a County Court Judge, Nassau County, N.Y. AIA. Norman Coplan, Attorney, is Counsel to the New York State Chapter of the AIA.

# More Environmental Control with Shatterproof Insulating Glass



1. Residential Complex, The Children's Hospital Medical Center, Boston, Mass. Architects: The Architects Collaborative, Cambridge, Mass.

2. Imperial House Apartments, Kenosha, Wisconsin Architect: Sheldon Segel, A.I.A., Milwaukee, Wisconsin

3. Delta Airlines Waiting Rooms, Standiford Field, Louisville, Kentucky Architect: Pierce, Wolf, Yee & Assoc.

4. Ashland Ski Bowl, Ashland, Oregon Designer: Robert L. Bosworth, Medford, Oregon

5. Bismarck Municipal Airport Terminal, Bismarck, North Dakota Architects: Ritterbush Brothers, Bismarck, North Dakota

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# The facts of life

**Design with Nature** by Ian McHarg. New York: Doubleday and Co., Inc., 1971. 197 pp. \$5.95 paperback.

Reviewed by Malcolm B. Wells, architect/conservationist/generalist/writer/lecturer/consultant. Mr. Wells describes himself as a sterilized vegetarian who won't accept commissions to design buildings in swamps, on flood plains or in other valuable ecological areas. He is director of the South Jersey Peace Center, and of the Economic Development Corp. of the Black People's Unity Movement of Camden, N.J.

In spite of the President's attempts to pin recession on the tail of the ecology movement, the movement itself continues to grow and prosper; it is very much "in" today. No self-respecting architect or planner fails to salt his conversation with a generous sprinkling of environmental catchwords. He may not understand, or even give a damn, about the miracle we call Creation but he wants very badly to seem involved. And now, at last, involvement can seem to be his for the low, low price of only six dollars. He need do no more than leave this new paperback in a prominent location on his waiting room coffee table. Three simple words on the book's cover—*Design with Nature*—will say it all; they will imply to even the slowest witted of his visitors that his office is squarely in the vanguard of the great ecology/conservation/environment crusade. *Design with Nature*: it's perfect; it's the most unarguable title imaginable, freighted as it is with implications of vast commonsense and righteousness. No one can fail to be impressed by the display.

But there's a catch involved—a big one—and this review would be almost criminally negligent if it failed to carry this warning:

do not leave your visitors alone with this book for more than five minutes! That will give them just enough time to flip through its hundreds of beautiful photos and maps, and to skim some of their captions. Those five minutes will be just enough time to reinforce their interest in "ecology," to convince them of your concern, and to put them in a proper mood for your meeting. *If you allow them to read further you and I will be exposed as the bumbling charlatans we really are.* Dealers in contemporary façades and monuments. The McHarg message is so potent, in fact, that in fairness to its readers, a warning, like that on a pack of cigarettes, should have been printed on its cover: the Attorney General has determined that reading this book is dangerous to your practice.

It doesn't matter who you are—you can be an architect, a planner, a developer or a farmer—if you're involved with land management, once you read this book you'll curse yourself for your role in the tragedies it presents. From ghettos and suburbs to dying rivers and filthy air your responsibility will come through loud and clear.

At first, I tried cursing the book. I'd bought the \$20 hard cover version in 1969, the very week that it first appeared, the very week that construction had started on an ocean-front house I'd designed. And right there in chapter two, in that unanswerable earth-logic that is McHarg's, I saw my work utterly condemned. I'd followed local codes to the letter, I'd checked on seashore architecture in back issues of—um—certain architectural magazines, and I'd examined what were said to have been the most successful examples of architecture in the area. But I was all wet. Not only had I placed the house on the untouchable dune, I'd managed, with the very

best of intentions, to improve the rest of the site into ecological failure. In the name of ecology I'd tried to impose my own strange, man-centered kind of order on what had looked to me like an utterly ruined site. How I cursed McHarg at first! He'd shown me what I was and I hadn't liked it.

*Design with Nature* is showing a lot of other people, too, and that's a hopeful sign. But don't think for a minute that this is a book about seashores and fields and forests. It's one of the most relevant of all books for city planners, city architects and city politicians, too. It is a book of vast principles and it deals with everything from energy and power, crime and disease, transportation and land-use to history and law, chloroplast and wildlife, earth science and recreation—the whole interwoven wonder that is life on our planet. But it's not a how-to-do-it book; that would be too restricting. Step-by-step plans for a brighter tomorrow might be great for a year or two until we'd choked on them. They'd have spelled the end of architecture. *Design with Nature* is the beginning of architecture, filled with the great principles that never change; the facts of life.

Most of us are beginning to realize, if only because our fifth-graders tell us so, that it's wrong to build on flood plains. And that filling in wetlands is a no-no. But how many of us *really* know why? Aren't we too often unequipped to defend such ideas when the chips are down? Consider. "The arguments that are normally mobilized in plaintive bleeding-heartism are clearly inadequate to arrest the spread of mindless destruction. Better arguments are necessary." And, "... it is important to distinguish noise from information." That's the beauty of this book; it provides those

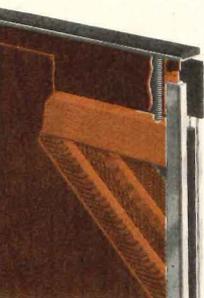
[continued on page 82]

# Movable Kwik-Wall creates a beautiful look of permanency



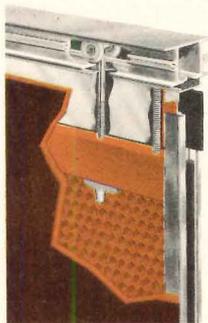
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Books continued from page 80

arguments, it has the information. It lays the foundations for laws under which "acts of God" can more fairly be ascribed to criminal negligence. We can no longer say we didn't know better. Layer by layer McHarg builds his case. From chapters entitled "Sea and Survival" and "The Plight" he takes us through chapters "On Values" and on "Processes as Values" to "The Metropolitan Region," "Process and Form," and finally to "The City..." Each layer is as carefully set down as are the layers in the beautiful maps he so patiently develops in searching for the best of all possible human responses to the land in question. His view goes beyond "... the reverence for some life that Schweitzer proposed; it does not end with those creatures having a utility to man, but encompasses all matter and all creatures. That which is, is justified by being; it is unique, it needs no further justification."

They call McHarg a landscape architect and an ecologist. I call him one of the prophets. This is a great book, a fact that's been amply attested to by far better reviewers. Louis Mumford's introduction is almost embarrassing in its praise. He puts McHarg with Hippocrates and Thoreau. I put him, if I may, with Wright and Jeffers, too, and with Ehrlich and with the highest part of that spirit in today's best kids who aren't having any more of our wars, thank you, or our bigotry or our destructiveness. But there's a danger in using too many superlatives; they start to sound like television. So let me offer you a few lines from the first chapter, which is largely autobiographical. If they don't hook you, forget it.

"The world is a glorious bounty. There is more food than can be eaten if we would limit our numbers to those who can be cherished, there are more beautiful girls than can be dreamed of, more children than we can love, more laughter than can be endured, more wisdom than can be absorbed. Canvas and pigments lie in wait, stone, wood, and metal are ready for sculpture, random noise is latent for symphonies, sites are gravid for cities, institutions lie in the wings ready to solve our most intractable problems, parables of moving power remain unformulated and yet, the world is finally unknowable.

"How can we reap this bounty? This book is a modest inquiry into this subject. I returned to Scotland with some dreams, some parchments, a wife, son, and pulmo-

[continued on page 86]

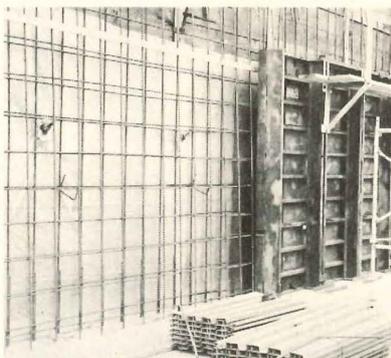


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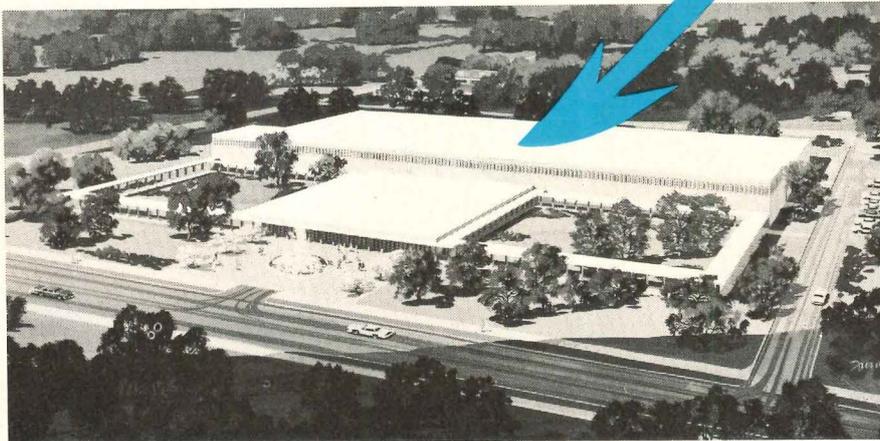
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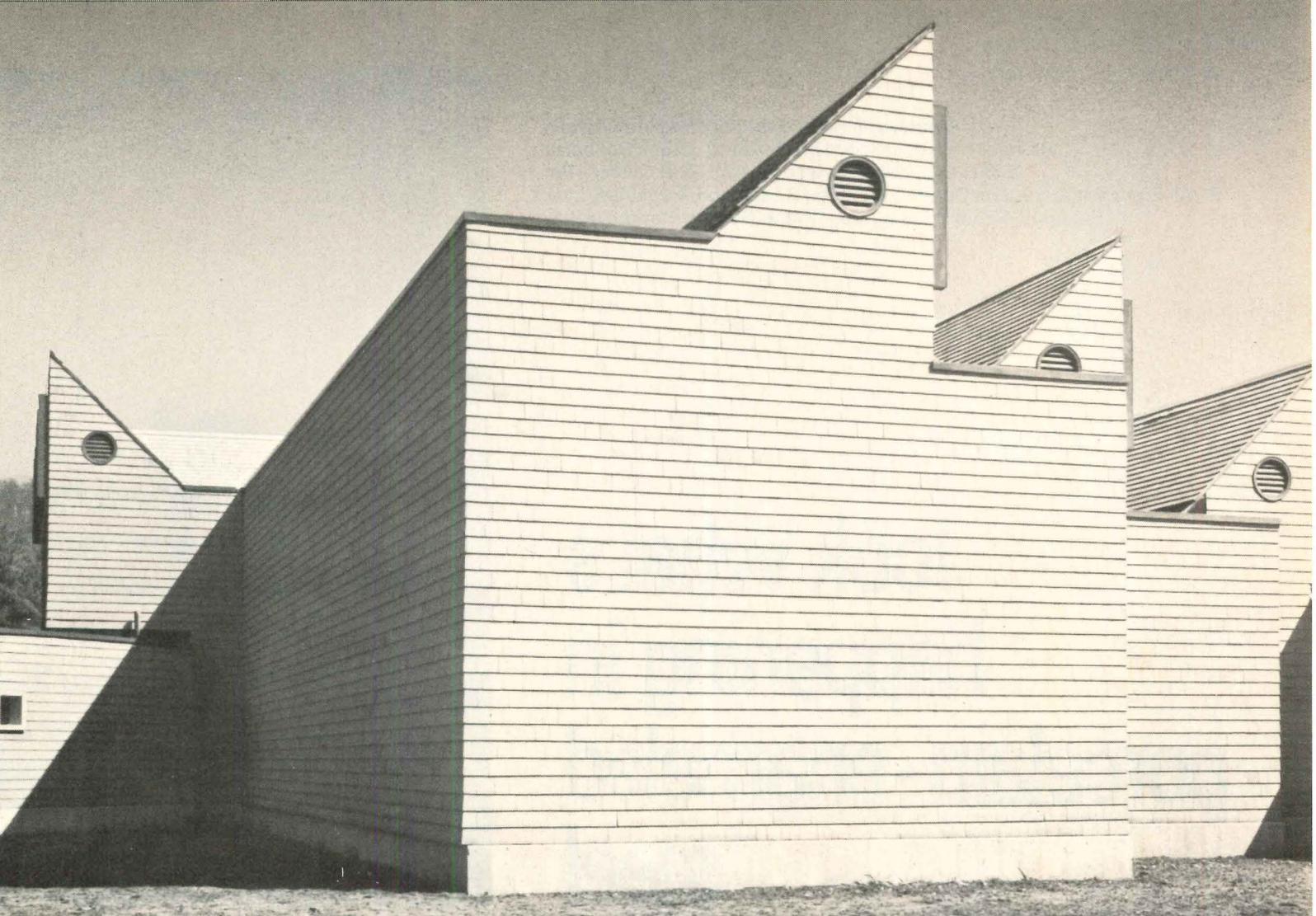
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nary tuberculosis . . . elaborate and crippling surgery was thought necessary to provide a 'cure'. . . . Purely by accident I learned that beds in a Swiss sanatorium were maintained for British parachutists . . . I felt a small movement in that shriveled prune that was my spirit. . . . In a short time I was advised that no surgery was contemplated. . . . sun and sea, orchards in bloom, mountains and snow, fields of flowers, speak to the spirit as well as the flesh or at least they do to me. The instincts that had chosen the countryside over Glasgow and its entrails were only confirmed by experience."

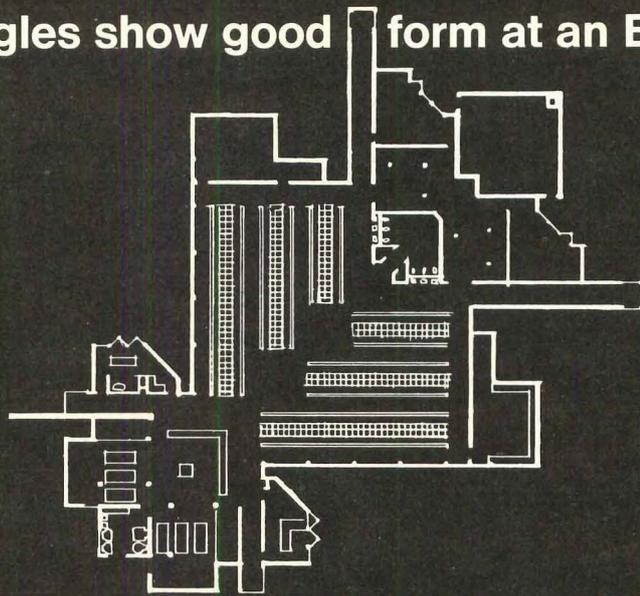
But "It is not a choice of either the city or the countryside: both are essential, but today it is nature, beleaguered in the countryside, too scarce in the city which has become precious. . . . If we can create the humane city, rather than the city of bondage to toil, then the choice of city or countryside will be between two excellences, each indispensable, each different, both complementary, both life-enhancing. Man is in nature."

But McHarg is not all sweetness and light, not by a long shot. He can shift from the most poetic kind of compassion to a thundering rage, made all the more compelling by his thick Scottish accent. I always enjoy the reports of his appearances, now in England, now in Australia, now back in the United States. The reports are always the same: "stuns his audience," "fiery Scott," "anger and prophecy." His energy seems boundless. He wears me out. A year or so ago it was my good fortune to have lunch with the man. It took almost a week to recover. In our two hours together McHarg stormed and joked and pleaded his way across the panorama of world affairs, now cross-examining me, now lecturing, now eagerly listening; his food untouched, his guest open-mouthed. A full day with him would probably paralyze me; a day with me would probably bore him to death, so great is our genius-gap. *Design with Nature* is a distillation of the McHarg, too much to digest in a single sitting, but as Mumford said, ". . . it is rather a book to live with, to absorb slowly, and to return to, as one's own experience and knowledge increases."

*Design with Nature* isn't perfect, of course. In addition to paragraphs some of which sound a bit like this: the dysgenetic negentropy of the physiological morpho- [continued on page 100]



**Red cedar shingles show good form at an Eastern boys' school.**



*Holderness School Locker Facility, Holderness, New Hampshire. Certigrade Shingles No. 1 Grade, 16" Fivex. Architects: Perry, Dean and Stewart.*

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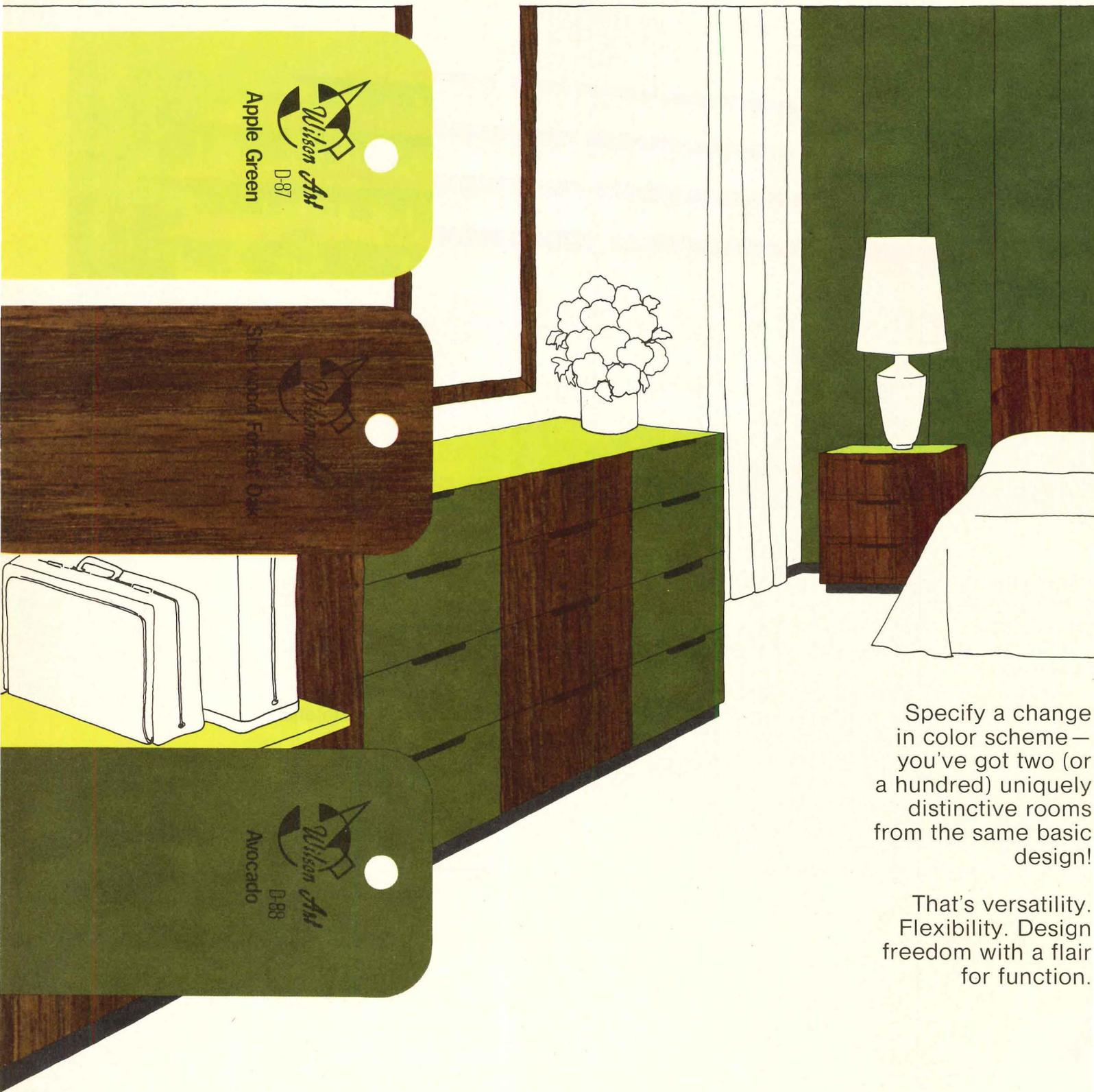
Bethlehem supplies special enameling steel sheet as well as galvanized sheet to manufacturers who coat architectural panels. Your local manufacturer will be glad to work with you on technical details. Bethlehem Steel Corporation, Bethlehem, PA 18016.

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Interior Designers: Strobel and Rongved, New York, N.Y.  
Enamel panels by AllianceWall Corporation, Alliance, Ohio

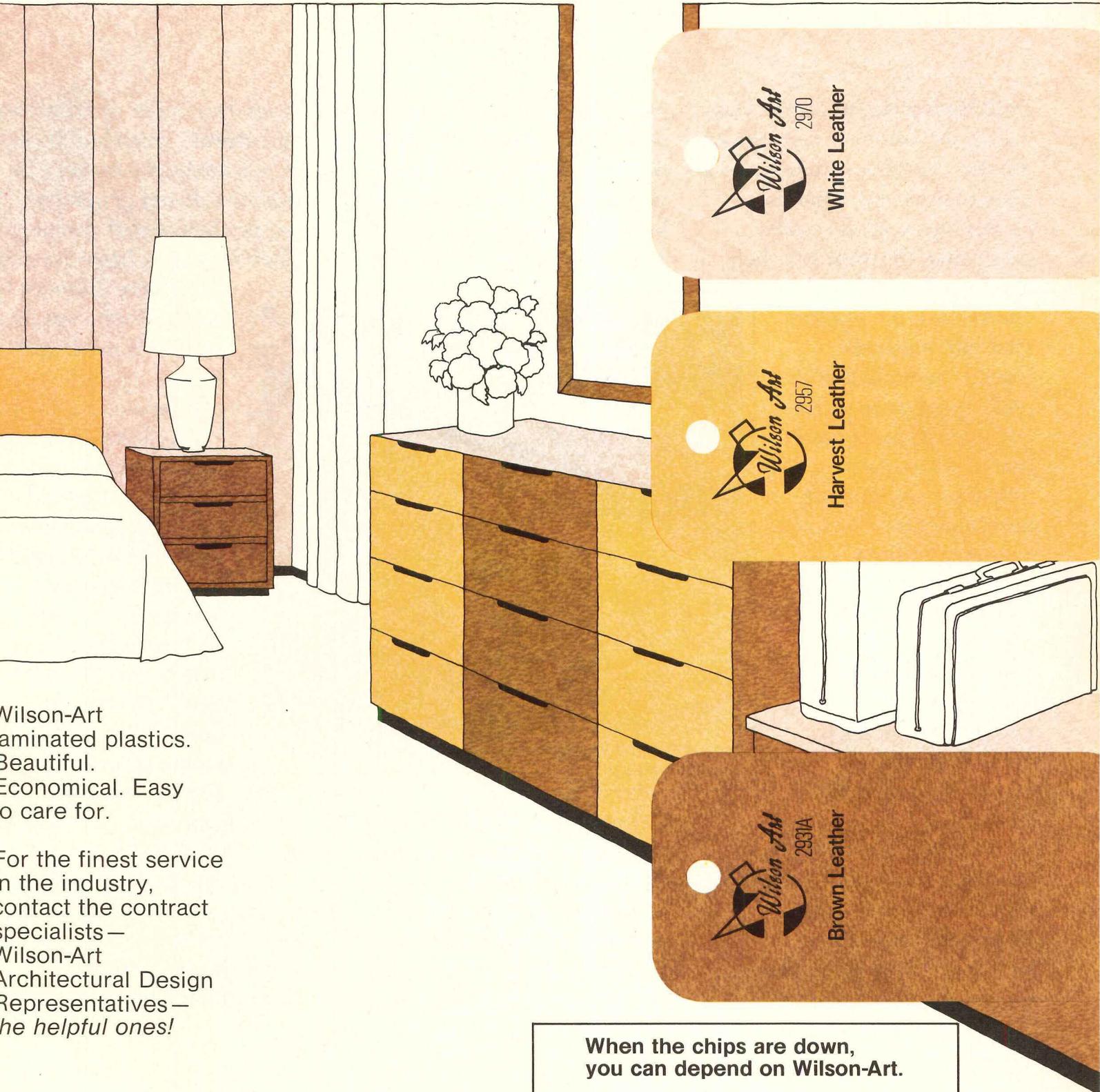
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# Two ways you can assure th

Built-up roofing, of course, has just one function—to waterproof the space inside a building. It's a nonstructural bituminous membrane, soft and easily penetrated in warm weather, brittle and easily cracked in cold. For this vital but relatively fragile component of a roofing system to do its job, it must have a base that provides these minimum engineering requirements:

- strong, uniform attachment
- rigid, continuous support
- physical and chemical stability
- slope for drainage

Fire resistance, of course, is also highly desirable.

Pittsburgh Corning has two materials that fully satisfy these requirements: Tapered Foamglas® Insulation and Celramic® Roof Deck. Basis of both is closed-cell glass, which is

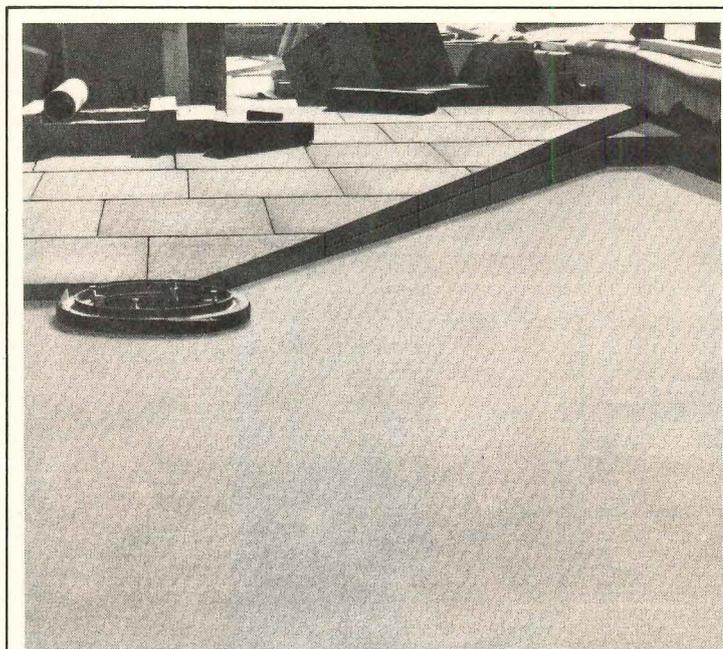
incombustible, inert and impermeable to moisture. A kind of natural selection tells you which to use. When you already have a deck, choose Tapered Foamglas; when you don't,

gious structures; apartments; and utilities. Such buildings, as you know, are massive in framework and generally require heavy roof decking. They're usually high-rise and often have different roof levels. Roof areas are relatively small and broken up with equipment.

These conditions, plus limited space at the jobsite, make Tapered Foamglas the choice. It's delivered to the job in the exact amount needed, in factory-tapered sections that are easy to handle and apply. No serious disruption of sidewalk and road traffic, no big ground operation, no

operating penalty for variations in roof level and size.

And the moisture-proofness, dimensional stability, incombustibility and high compressive strength of Tapered Foamglas allow it to meet th



Factory-tapered Foamglas sections automatically slope the deck for drainage.

Celramic Roof Deck. Whether you have a deck or not depends on the building type:

*Tapered Foamglas for institutional and public service buildings, including medical, educational, research, and reli-*

# Integrity of built-up roofing.

Minimum engineering requirements for built-up roofing.

*Celramic Roof Deck* for manufacturing, commercial, and campus buildings, including factories, warehouses, industrial parks, airport

hangars, shopping and distribution centers, and campus schools. Typical characteristics of such buildings are light or medium framework, low profile, uniform roof level, big roof area, and ample space at the site.

These characteristics permit efficient batching operations and uninterrupted placement of 5,000 to 15,000 sq. ft. of roof fill per day.

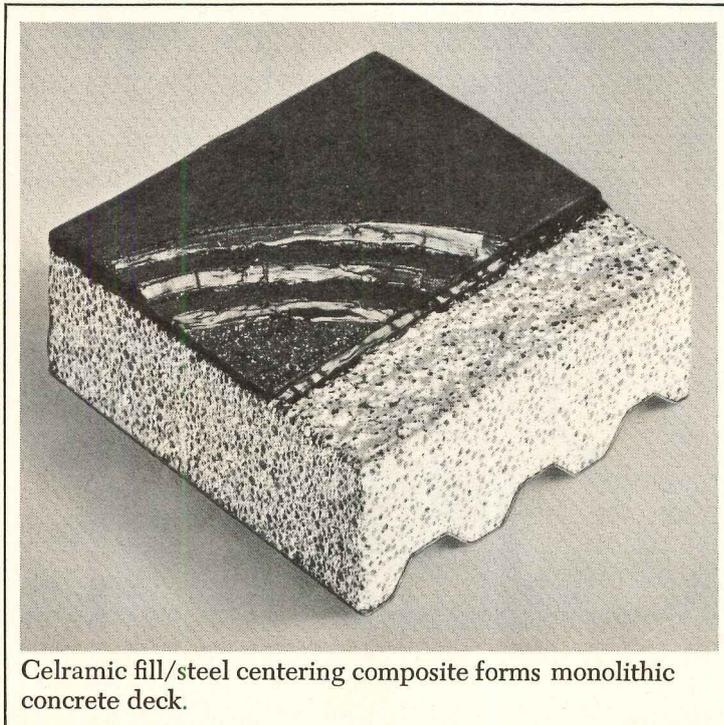
*Celramic Roof Deck* is the ideal choice for

each operation. It consists of Celramic concrete insulating fill and galvanized steel centering as a composite that provides a totally integrated deck. It perfectly complements light framework, and it has a two-

hour fire rating (ASTM E-119).

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Deck, get in touch with our nearest representative. Or write to Pittsburgh Corning Corporation, Dept. PA-12, Three Gateway Center, Pittsburgh, Pa. 15222.



Celramic fill/steel centering composite forms monolithic concrete deck.

concrete base. No shrinkage or residual moisture problems, no long curing time (48 hours is typical). Easy to slope for drainage, too.

To learn more about Tapered Foamglas and Celramic Roof



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Meeting-goers at the Sunkist Growers building in Sherman Oaks, California are enjoying perfect sound from the 1000th installation of an Altec Acousta-Voiced sound system in their magnificent new board room.



Holy Trinity Catholic Church in Norfolk, Virginia was the 999th installation. Burden Hall at Harvard University in Cambridge, Mass. was the 998th. And the Landmark Hotel in Las Vegas was the 997th. Too bad everybody can't be number 1000, but they all do have perfect sound with their Altec Acousta-Voiced sound systems.

Altec Acousta-Voicing is the only complete process that individually "tunes" a sound system to the specific shape and size and acoustical surroundings of the room it's working in—no matter how big or how small. The result is perfect sound—clear and distinct sound—to every seat. With 1000

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Sunkist's board room by Hannon Engineering, Inc.  
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Landmark Hotel by Rugar Electronics Co.

# A little essay of sorts about The Noise Explosion, and what can be done about it, by U.S. Plywood.

Noise (someone brilliant once said) is sound at the wrong time in the wrong place.

There's too much of it today. And it's getting worse.

As a nation, we haven't made a Federal case of it. Yet.

But we're making a national *cause* out of it. The Environmental Protection Agency in Washington, D.C., has now established an office to find out just how noisy the United States is, and how much noisier it's likely to get.

Well, if you ever had a gaggle of typewriters — or a giggle of secretaries — outside your office... or been hit by Rock from parties in the apartment across the hall... and even though the door is closed, the noise seeps in maddeningly:

Then *you* don't have to wait for official reports to be concerned about the disturbing effect of The Noise Explosion on the American environment.

We're concerned at U.S. Plywood.

And we're doing something about it.

We're building Weldwood Acoustical Doors: one of the most technologically advanced noise-controlling systems in the world.

Doors that do more with less. Because they don't depend on sheer bulk for sound control.

Our Acoustical Door Systems have been designed to employ unique materials and methods of construction. Each is only 1 $\frac{3}{4}$ " thick, yet Weldwood's exclusive process enables them to equal *or exceed* the effectiveness of thicker acoustical doors.

And with their superior engineering our acoustical doors are still competitively priced.

In addition to efficiency and economy, there is also versatility.

You can specify from a wide range of attractive hardwood door faces (as well as



from your choice of many other materials) to complement any decorative scheme.

Even though it is a sophisticated noise-controlling unit, the Weldwood Acoustical Door is simple to install. It offers a variety of accessories, including perimeter sealing, threshold sealing, and astragals matched to the face and finish of the door.

Weldwood sound-isolating STC-28, STC-36, STC-40

and STC-49 Acoustical Door Systems all function on our *multum in parvo* principle of more noise-control from less door.

All provide predictable sound control between rooms for a broad range of building applications.

Contact the Architectural Salesman at your local U.S. Plywood office for detailed information.

If this little essay made sense, wait till you see our masterwork:

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ogy in aluminosilicate clays at Aldobrandini and Mondragone. . . . The photographic reduction of the text and illustrations has shrunk the type to smaller-than-newspaper-type size and has made some of the maps almost undecipherable. None of which is any argument at all for not reading this book. It seems certain to become *the* primer on architecture and planning.

[Ian McHarg was a member of P/A's Design Award Jury. See Jan. 1972 issue for a full report. Ed.]

**The Architecture of Poland** by Brian Knox. New York: Praeger Publishers, 1971. 161 pp. (text) 215 illustrations. \$18.50.

This book covers Polish architecture from its medieval beginnings to buildings completed in 1969, ranging from the great brick churches of the Baltic coast to 16th-Century buildings in the Renaissance style in Cracow and to Polish neoclassical country houses. It is arranged to be of help to the traveler, and should be.

**Community Centers and Student Unions** by Eugene D. Sternberg and Barbara E. Sternberg. New York: Van Nostrand Reinhold, 1971. 315 pp. \$27.50.

A sensitive and inquisitive approach to the use as well as to the design of community centers is presented in this book, which offers what its authors view as the best examples of this kind of building built in recent years. Generously illustrated with photographs and plans, the running text poses provocative questions concerning the social and planning philosophies that lie behind the location, programming and operation of different types of community centers. Regarding student unions, defined as "the community center of the college," solutions offered by the Sternbergs—a husband and wife architect-planning-sociology team—are varied and flexible, ranging from location and design to their essential role in student and community life.

The pros and cons of community center planning which separates society—rich from poor, black from white, young from parents, old from everyone else—are examined with institutional plans which aim to transcend these differences offered. For

example, the chapter on "Centers for the Elderly" asks "Why separate the elderly their own clubs and centers?" and suggests drawing them into a varied center the whole community, mixing young people and children with senior citizens.

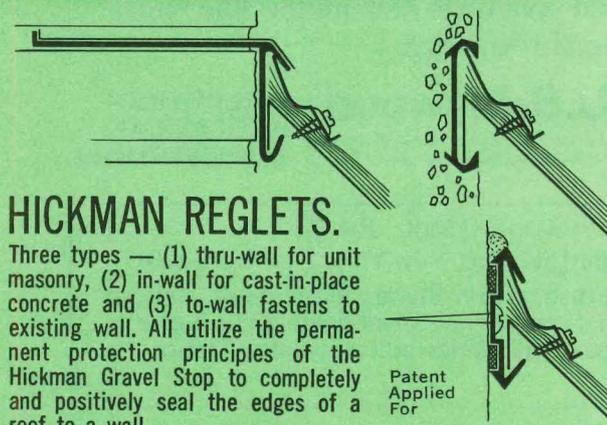
The book is an excellent overview of a controversial area of design and planning one that offers fresh insights, and a broad imaginative philosophy.

**Ernst Neufert Architects' Data.** Edited and revised by Rudolf Herz. Translated from the German. Hamden, Conn.: Archon Books, 1970. \$22.50.

Published in Germany as *Bauentwurf: lehre*, this is the first English edition of the book which has had 26 revisions and updatings in the German editions. Fundamental design data and basic technical information are presented, with plans, sections, forms and types given in simple dimensioned diagrams drawn to scale. It is particularly valuable for use in that part of the design process which is concerned with the perception and definition of a problem and the design brief.

Metric and nonmetric dimensions have been given throughout the text.

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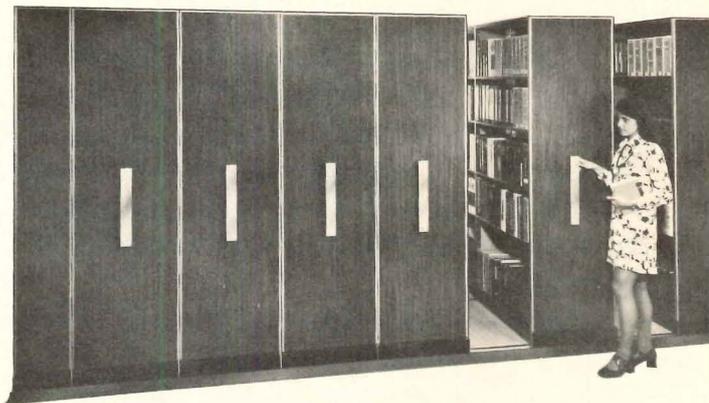
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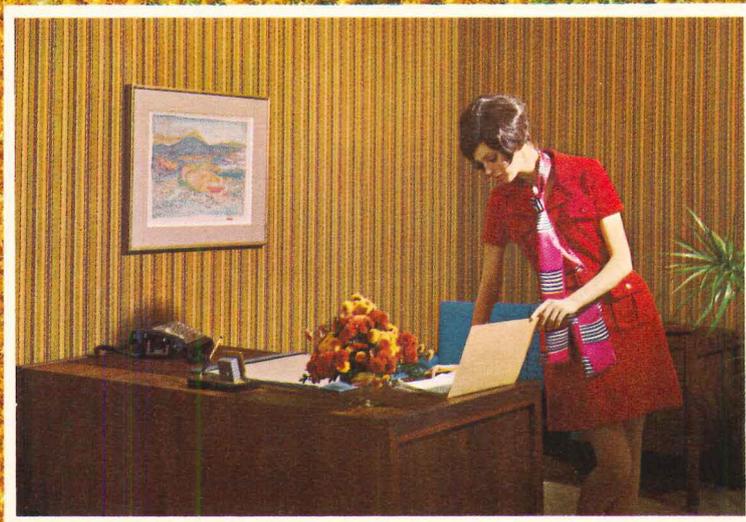
shopping centers, apartments, and hospitals.

Contact: Wallcraft Contract Interiors, Div. of E. T. Barwick Industries, Inc., 5025 New Peachtree Rd., Chamblee, Ga. 30341.

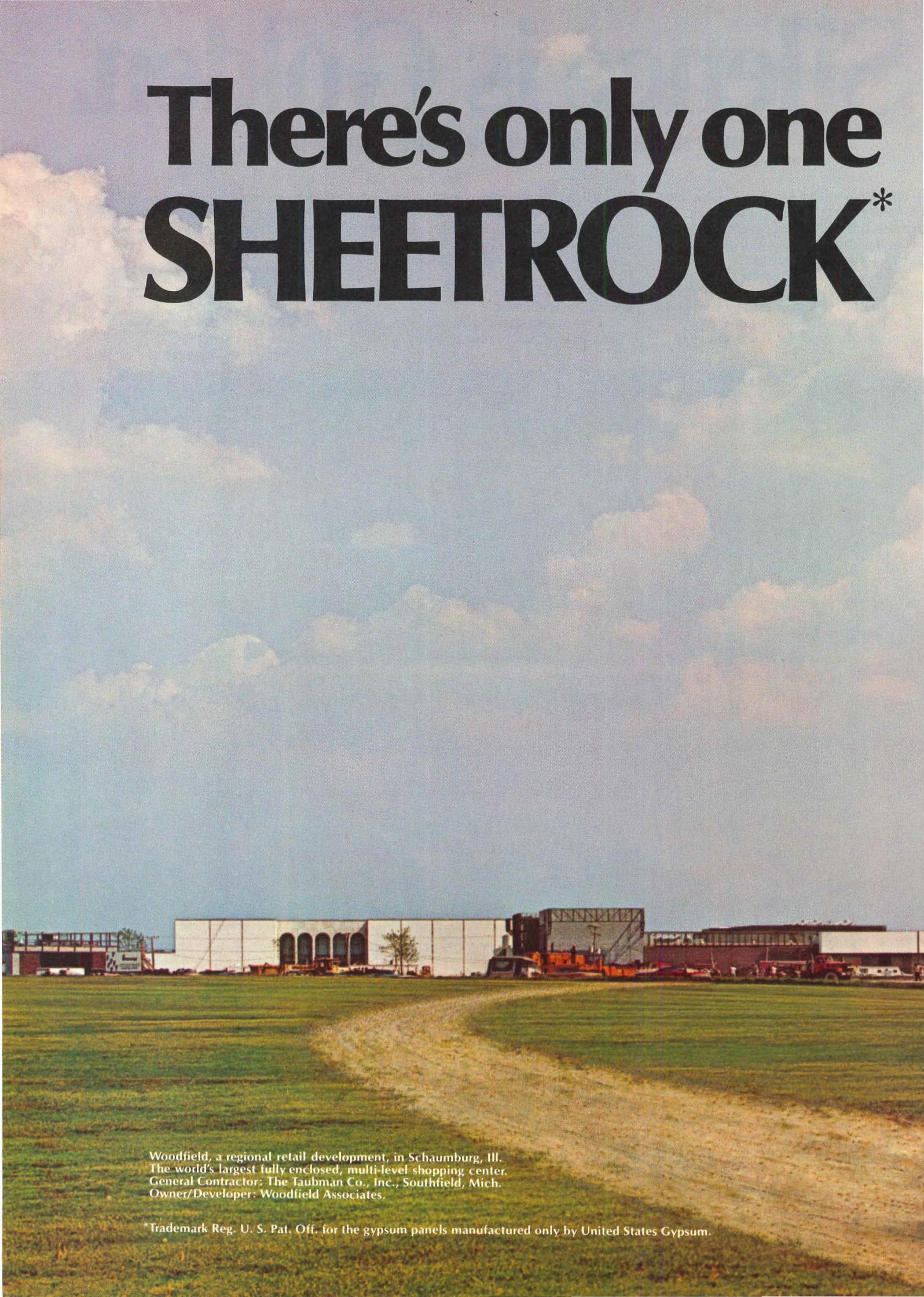


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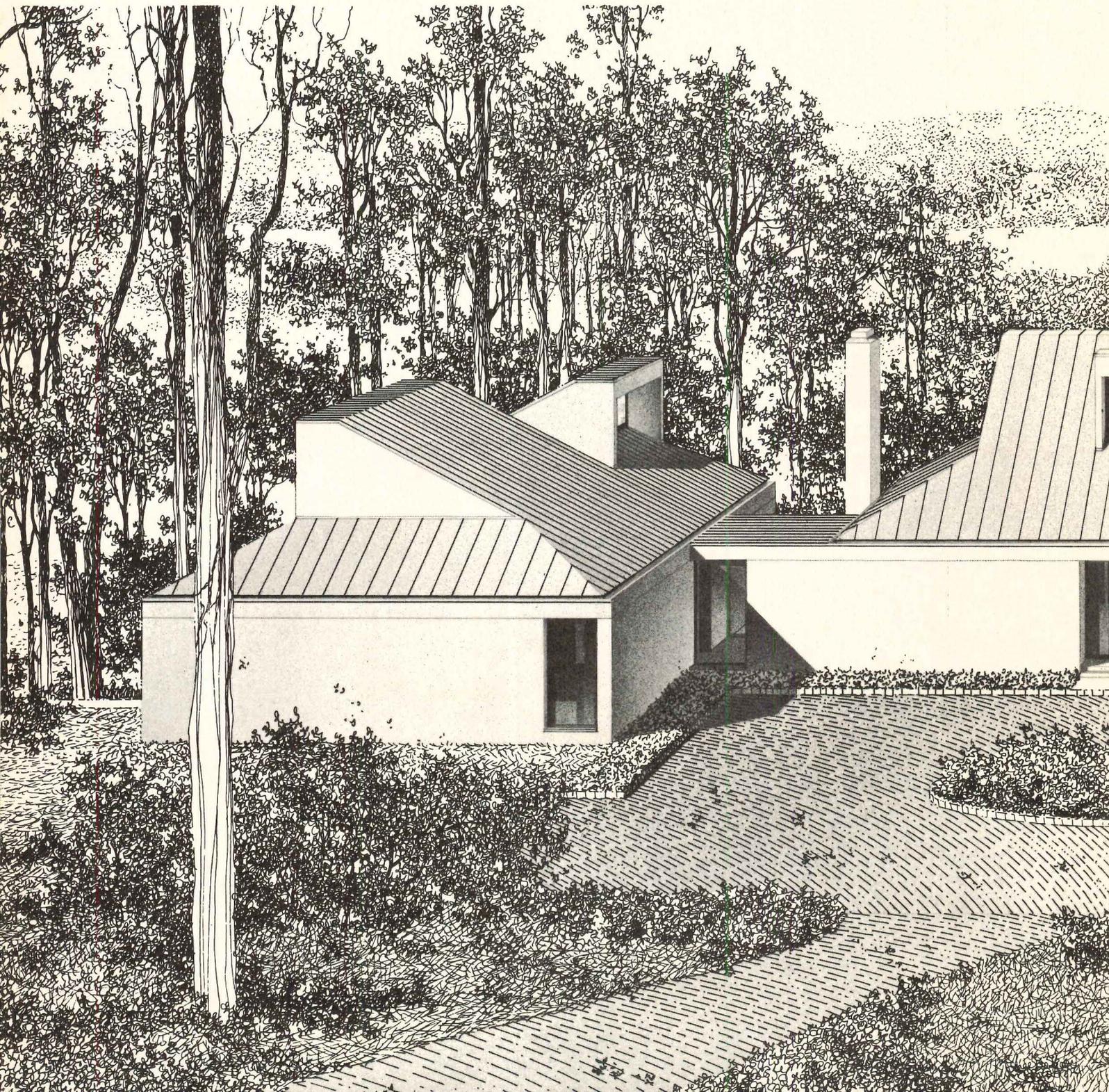
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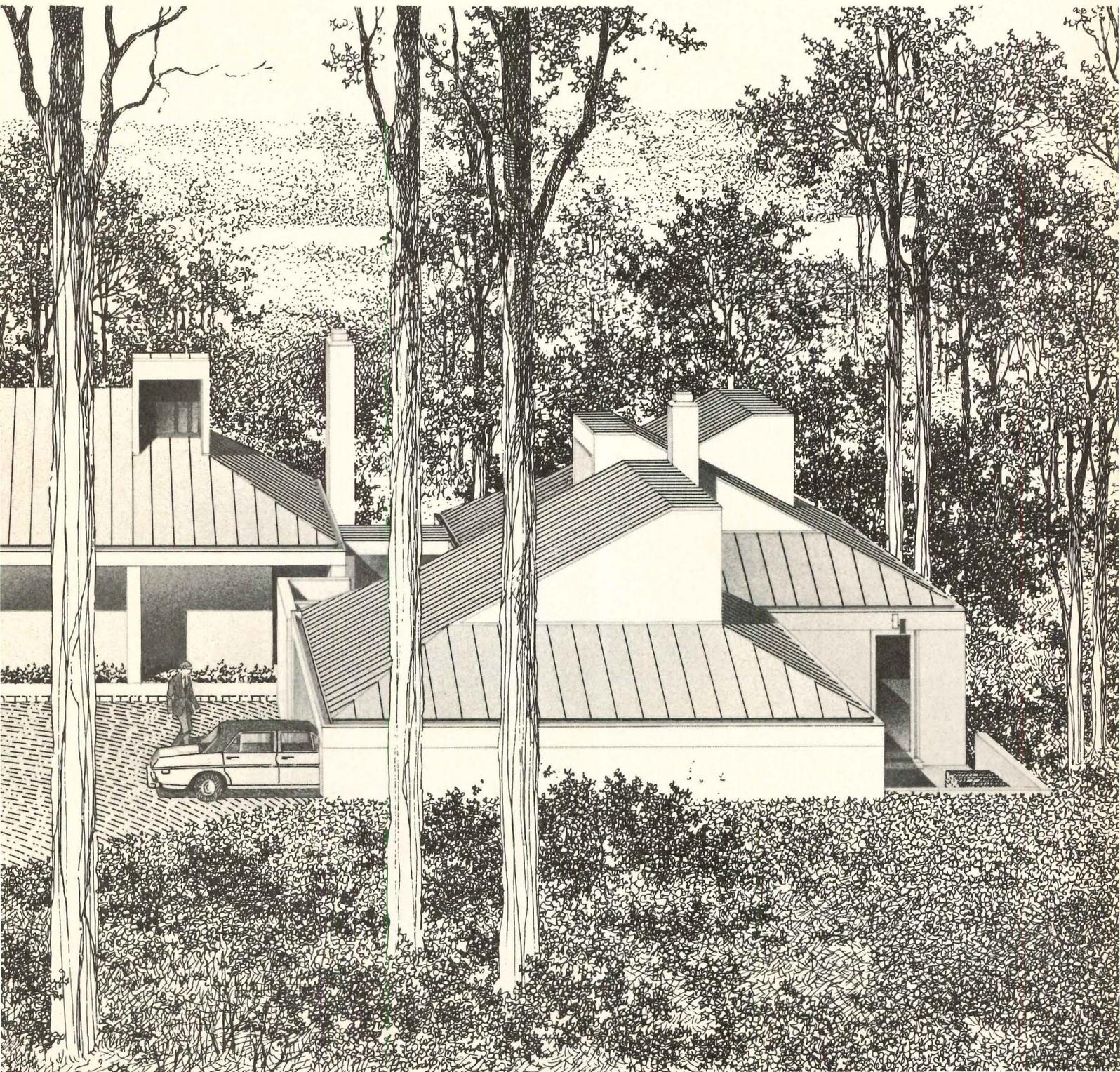
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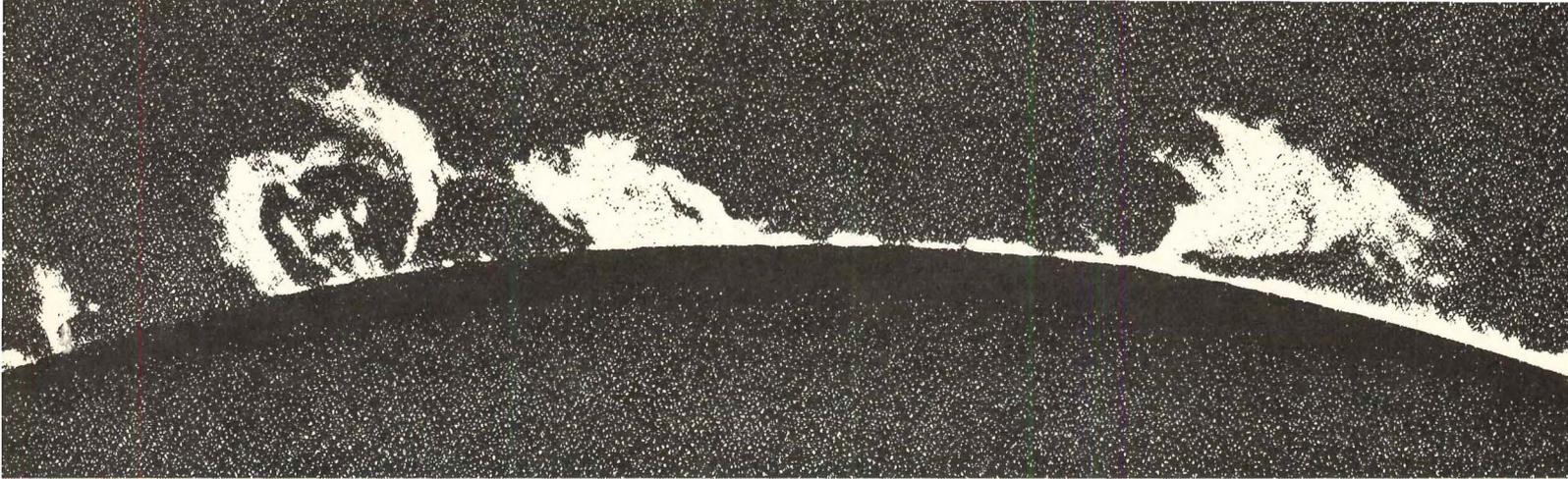
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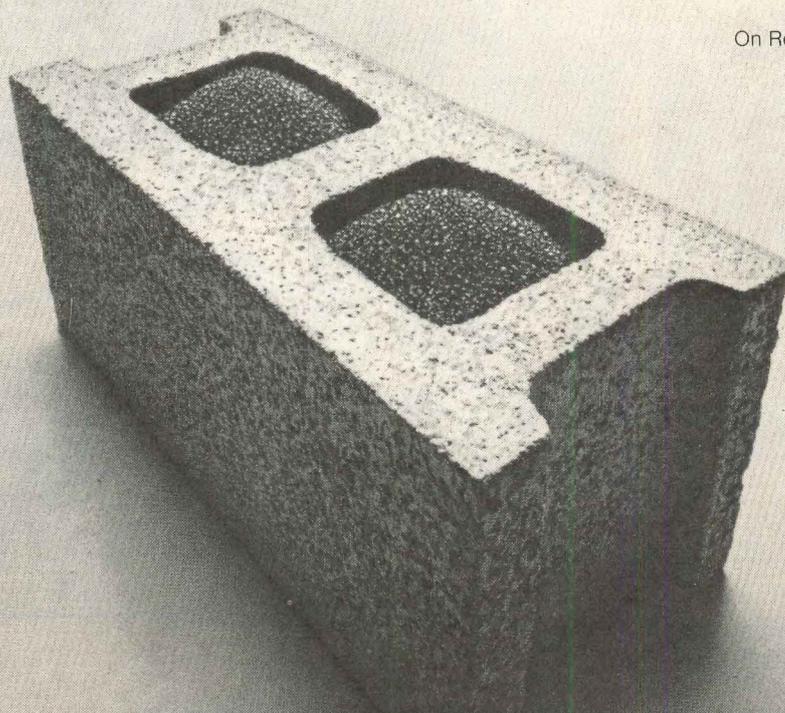
Wall Thickness, Inches	Type of Block	Block Only	
		Uninsulated	Insulated
6	Lightweight	.40	.26
	Heavyweight	.33	.17
8	Lightweight	.53	.36
	Heavyweight	.33	.12
12	Lightweight	.46	.25
	Heavyweight	.46	.25

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**Just say Grace.**

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Lake Travis, Tex. vacation house

Nemeroff house, Houston

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**A good idea whose time has come, again:** Regency Hyatt House, O'Hare Airport, Rosemont, Ill. (Sept.)

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**Pollution architecture:** sewage treatment plant, Düsseldorf, Germany (Oct.)

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**Which waste disposal system?** (Oct.)

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**Simplicity leads to complexity:** Imperial Chemical Industries, Stamford, Conn. (Mar.)

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**A building for dreamers:** Armstrong Styling and Design Building, Lancaster, Pa. (June)

**People first, then mountains:** Samsonite Corporate Headquarters, Denver, Colo. (June)

**The computer said 'mirrors':** Control Data Corporation Headquarters, Bloomington, Minn. (July)

**Continuing a romantic tradition:** Pinellas County Judicial Building, St. Petersburg, Fla. (Aug.)

**Dissolving the concrete shell:** Fuji Heavy Industries Labor Union Assembly Hall, Tokyo, Japan (Sept.)

**Buildings that save a watt, and more:** (Oct.)

Philadelphia United Fund Building, Philadelphia, Pa.

Municipal Building, Tempe, Ariz.

Blue Cross and Blue Shield headquarters, Durham, N.C.

Toledo Edison Building, Toledo, Ohio

Norfolk, Va. Civic Center

### Office practice

**Arup Associates and the group practice experiment** by Michael O'Hare (Apr.)

**Geriararchitecture:** C. Randolph Wedding Associates (June)

**Can a 54-year-old architectural firm find romance and happiness with an interactive computer system?** by Clifford D. Stewart and Kaiman Lee (July)

### Recreation

**All-American monument:** the sports stadium (Nov.)

Superdome, New Orleans, La.

Jackson County Sports Complex, Kansas City, Mo.

Riverfront Stadium, Cincinnati, Ohio

Wayne County Stadium, Detroit, Mich.

Philadelphia Veterans Stadium, Philadelphia, Pa.

North Jersey Stadium (proposal)

**Single wythe Y:** family-oriented YMCA, Hamden, Conn. (Nov.)

### Schools

**Closing off the open plan:** (Feb.)

Evergreen (Colo.) Jr. High School

Mt. Hope (N.J.) Elementary School

Southwest Elementary School, Columbus, Ind.

Manse Road Senior Public School, Scarborough, Ont.

Branford (Conn.) Intermediate School

Systems Schools, Racine, Wis.

Minot-Hemenway Replacement School, Boston, Mass.

**Education as business:** (Feb.)

Singer Learning Center, Cherry Hill, N.J.

Early Learning Center, Stamford, Conn.

**Education: more or less?** Interviews with Ivan Illich and Mary Willis (Feb.)

**Interior design:** The portable desk (Feb.)

**Schools in a hurry** by Charles B. Thomsen, AIA (Feb.)

**The new old school:** (Feb.)

Eastridge Elementary School, Denver, Colo.

Plano (Ill.) High School

Montview Elementary School (Proposed), Denver, Colo.

**Up from institutionalism** (Feb.)

Newark (N.J.) Day Care Council Community School

Infill schools, Boston, Mass.

Giddings Elementary School, Cleveland, Ohio

School District Museum, Bronx, N.Y.

Armenian Church Cooperative School, Water-town, Mass.

Proposed street schools, Philadelphia, Pa.

Harlem Prep, New York City

**With a little help from my friends:** (Feb.)

Pacific High School, Calif. (domes)

Antioch/Columbia College, Md.

**Composite truss spans hockey rink:** Wesleyan

University Hockey Rink, Middletown, Conn. (Apr.)

**Concrete complex within a complex:** University of

Louisville Health Sciences Center (Apr.)

**The student underground:** (Apr.)

University Union, University of Northern Iowa, Cedar Falls

Cornell University Store, Ithaca, N.Y.

**Computer planning the community college** by

Donald G. Rapp and Dan D. Drew (July)

**Due process:** Faculty of Law Building, University of Windsor, Windsor, Ont. (Sept.)

### User needs

**The flatwriter:** choice by computer by Yona Friedman (Mar.)

**Who's going to live here, anyhow?** (May)

### Miscellaneous

**Reflections:** the research of continuity by Wojciech G. Lesnikowski (Apr.)

**Ten rules for profits in land development** by Frank B. Farrell, Jr. (Mar.)

**The absolutely constant incontestably stable architectural value scale** by Malcolm B. Wells (Nov.)

**The pioneer concrete buildings of St. Augustine** by Carl W. Condit: Flagler College, Alcazar Hotel, Grace Methodist-Episcopal Church, Flagler Memorial Presbyterian Church (Sept.)

**Can building codes help protect the environment?** (Oct.)

**Energy:** crisis amidst plenty (Oct.)

**Mt. Trashmore:** community turns trash into playground (Oct.)

**Politics and pollution:** life support by law (Oct.)

**Society's child:** art behind bars (Dec.)

### Architects, designers, engineers, planners

**Gordon S. Adamson & Associates:** Faculty of Law Building, University of Windsor, Windsor, Ont. (Sept.)

**Advanced Civil Systems Division of Grumman Aerospace Corporation:** waste treatment and water reclamation facilities (Oct.)

**Aerojet-General California Corporation:** pneumatic transport system (Oct.)

**Egon Ali-Oglu:** Early Learning Center, Stamford, Conn. (Feb.)

**Rex Whitaker Allen & Associates:** P/A Design Award, hospital, Eugene, Ore. and P/A Design Award, hospital, Madera, Calif. (Jan.)

**Anderson, Johnson, Henry, Parrish:** Pinellas County Judicial Building, St. Petersburg, Fla. (Aug.)

**G. Anekstein and A. Riskin:** Harry S Truman Center, Jerusalem, Israel (Sept.)

**Arup Associates:** office profile (Apr.)

**Backen, Arrigoni & Ross, Inc.:** P/A Design Award, apartments, Santa Ana, Calif. (Jan.)

**The Ballinger Company:** a spin-off works both ways (Apr.)

**Balzhiser, Rhodes, Smith & Morgan:** P/A Design Award, hospital, Eugene, Ore. (Jan.)

**Luís Barragán:** three Mexican projects: Egersdal house and stables, San Cristobal; Talpan Court; Las Arboledas Subdivision (Aug.)

**Vladimir Bazjanac:** computer simulation (July)

**Welton Becket & Associates:** Contemporary sort-Hotel, Walt Disney World, Fla. (Aug.)

**Ron Bedford and Bart Kaltenbach:** Newark (N.J.) Day Care Council Community School (Feb.)

**Gunnar Birkerts & Associates:** P/A Design Award, IBM-MIS Computer Center Facility, Sterling Forest, N.Y. (Jan.)

**Bower & Fradley:** P/A Design Award, high school and middle school, Philadelphia, Pa. (Jan.)

**Brunswyck & Wathelet:** Le Chateau, Brussels, Belgium (Sept.)

**Brust & Brust:** systems schools, Racine, Wis. (Feb.)

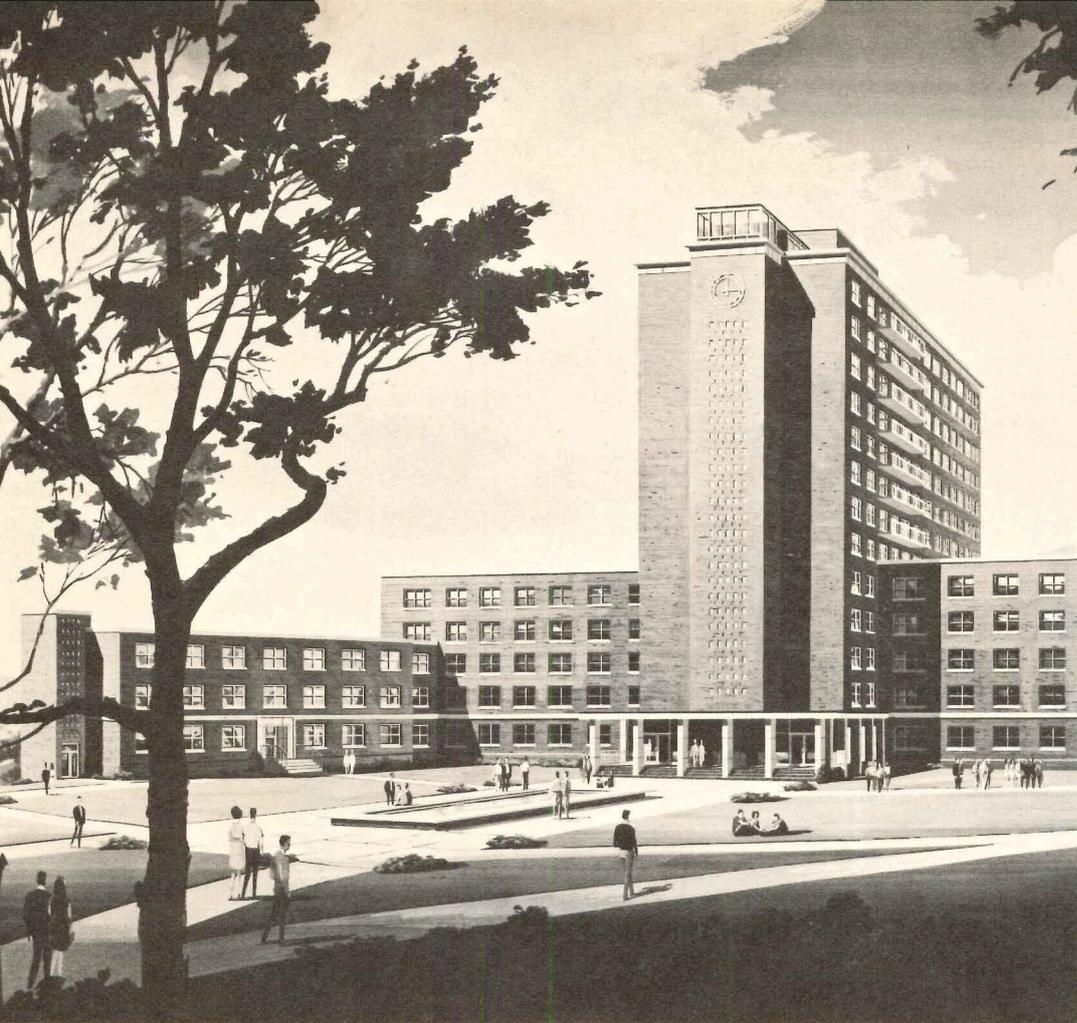
**Cambridge Seven Associates:** Brattle Truc, Cambridge, Mass.; remodeled shops, Cambridge, Mass. (Sept.)

**Carlin, Pozzi & Associates:** Branford (Conn.) Intermediate School (Feb.)

**Carrère and Hastings:** Flagler College, Alcazar Hotel, Grace Methodist-Episcopal Church, Flagler Memorial Presbyterian Church, St. Augustine, Fla. (Sept.)

**Caudill Rowlett Scott:** P/A Design Award, high school and middle school, Philadelphia, Pa. (July)

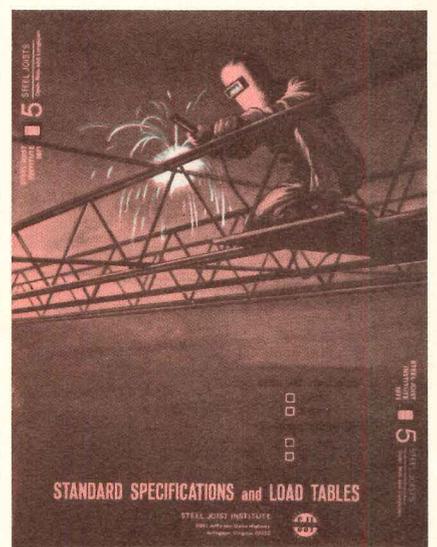
[Continued on page 112]



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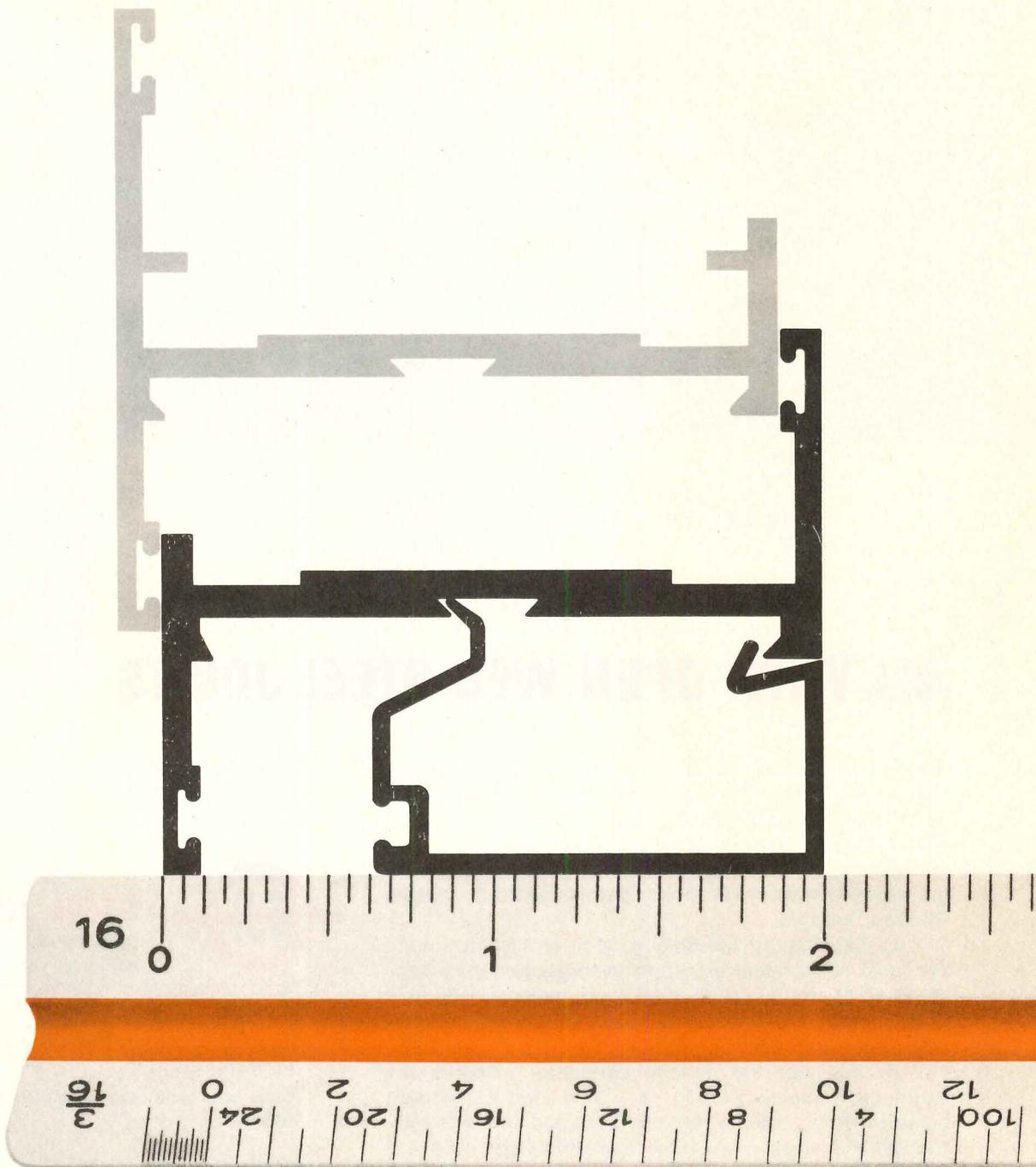
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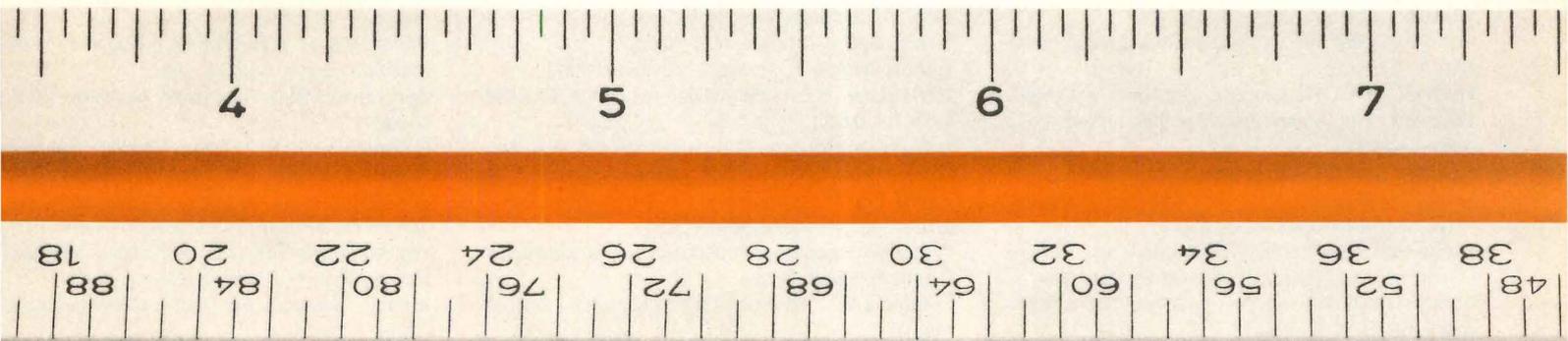
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systems schools in Merrick, L.I. (Feb.)  
**Clemmer and Horton Associates:** W.H. Plemmons Student Center, Appalachian State University, Boone, N.C. (Sept.)  
**Edward Colwell Collins:** rural Connecticut house (May)  
**Community Design Associates:** P/A Design Citation, community map, Pittsburgh, Pa. (Jan.)  
**Community Development Group:** seven projects in N.C. (Sept.)  
**Copper Development Association:** life-protecting sprinkler system (Oct.)  
**Craig, Zeidler & Strong:** Manse Road Senior Public School, Scarborough, Ont. (Feb.)  
**Curtis & Davis:** Our Lady Queen of Heaven Church, Lake Charles, La. (Dec.); Superdome, New Orleans, La. (Nov.)  
**Curtis & Rasmussen:** lobby, St. Petersburg Hilton, St. Petersburg, Fla. (Aug.)  
**Dallek, Inc.:** Faberge headquarters, New York City (June)  
**Detroit City Plan Commission:** P/A Design Award, two projects (Jan.)  
**DHI Enterprises:** Getty Square Plaza, Yonkers, N.Y. (Sept.)  
**Felix Drury:** West Point Pepperell guest house, Langdale, Ala. (May)  
**Dubin Mindell Bloome Associates:** waste disposal system (Oct.)  
**Merle Easton:** proposed street schools, Philadelphia, Pa. (Feb.)  
**Environments, Incorporated:** a spin-off works both ways (Apr.)  
**Farkas, Barron & Partners:** single and double random retrieval systems for executive decision-making (July)  
**Finch-Heery:** Riverfront Stadium, Cincinnati, Ohio (Nov.)  
**Sepp Firnkas:** new building system in concrete (Nov.)  
**Earl R. Flansburgh & Associates:** Cornell University Store, Ithaca, N.Y. (Apr.)  
**John Fowler:** Habidu at Seal Harbor, Me. (May)  
**Samuel Glaser & Partners:** Minot-Hemenway Replacement School, Boston, Mass. (Feb.)  
**Michael and Kemper Goodwin:** Tempe, Ariz. municipal building (Oct.)  
**Gotteland & Koczarski:** St. Madeleine Sophie Church, Bellevue, Wash. (Dec.)  
**John P. Grady:** P/A Design Citation, catalog house (Jan.)  
**Herb Greene:** Lovaas house, Lexington, Ky. (May)  
**William C. Haldeman:** Eastridge Elementary School, Denver, Colo. (Feb.)  
**Hammel Green & Abrahamson:** P/A Design Award, two schools, New York City (Jan.); Harlem Prep, New York City (Feb.)  
**Hardy Holzman Pfeiffer Associates:** The Cloisters, Cincinnati, Ohio (May); Southwest Elementary School, Columbus, Ind. (Feb.); School District Museum, Bronx, N.Y. (Feb.)  
**Harrison & Abramovitz:** The Fiberglas Tower, Toledo, Ohio (Mar.)  
**Hedman, Mackintosh & Steinglass:** vacation house, Allendale County, S.C. (May)  
**Clovis Heimsath:** Barrow house, Tex.; vacation house, Lake Travis, Tex.; housing study for Republic Modular Homes, Inc.; Nemeroff house, Houston, Tex. (Aug.)  
**Hellmuth, Obata & Kassabaum:** American Zinc Co., St. Louis, Mo. (Mar.)

**Henningson, Durham & Richardson:** Control Data Corporation, Bloomington, Minn. (July)  
**Higgins & Root:** The Deluxe Check Printers building, Campbell, Calif. (Sept.)  
**Don M. Hisaka & Associates:** P/A Design Citation, Fine Arts Center, Mansfield, Ohio (Jan.); Giddings Elementary School, Cleveland, Ohio (Feb.)  
**Housing Systems Associates:** proposed foam plastic system (Nov.)  
**J.L. Hudson Co.:** interior design, lobby of St. Petersburg Hilton, St. Petersburg, Fla. (Aug.)  
**Hunter Rice & Engelbrecht:** University Union, University of Northern Iowa, Cedar Falls (Apr.)  
**Jarvis-Putty-Jarvis:** Plano (Ill.) High School (Feb.)  
**JFN:** computers for office use (July)  
**Kahn & Jacobs:** Crossroads Office Building, Rochester, N.Y. (Mar.)  
**Kazuo Kazikawa:** Hiratsuka City Hall, Japan (Sept.)  
**Lamar Kelsey & Associates:** Evergreen (Colo.) Jr. High School (Feb.) Montview Elementary School, Denver, proposed renovation (Feb.)  
**Kivett & Myers:** Jackson County Sports Complex, Kansas City, Mo. and proposed stadium for North Jersey (Nov.)  
**Vincent G. Kling & Partners:** Armstrong Styling and Design Building, Lancaster, Pa. (June); Norfolk (Va.) civic center (Oct.)  
**Marvin E. Knedler:** First National Tower, Ft. Collins, Colo. (Mar.)  
**Josef F. Krawina:** Maison d'Iran, Cité Internationale de l'Université de Paris (Sept.)  
**James Lambeth:** Lambeth residence, Fayetteville, Ark. (May)  
**ITT Levitt & Sons and AWT Systems, Inc.:** water reclamation systems (Oct.)  
**Loebl, Schlossman, Bennett & Dart:** Samsonite Corporate Headquarters, Denver, Colo. (June); St. Procopius Abbey and Church, Lisle, Ill. (Dec.)  
**Herman Miller, Inc.:** The Decision Resource Service (July)  
**Mitchell/Giurgola Associates:** Philadelphia United Fund Building (Oct.)  
**Arthur Cotton Moore:** Canal Square, Georgetown, Washington, D.C. (Apr.)  
**Muchow Associates:** modular design study (May); P/A First Design Award, Bennett residence, Sun Valley, Idaho (Jan.)  
**George Nelson:** Peoples Trust, Fort Wayne, Ind. (Nov.)  
**Herbert Newman:** The Pro Shop, West Side Tennis Club, Forest Hills, N.Y. (Sept.)  
**Odell Associates:** Blue Cross and Blue Shield Headquarters, Durham, N.C. (Oct.)  
**Robert Ostrow:** rowhouse renovation (May)  
**Christopher H.L. Owen:** Owen residence, Block Island, R.I. (May)  
**PARD TEAM:** Coolidge Bank and Trust Co., Harvard Square Branch, Cambridge, Mass. (Nov.)  
**Patton Fire Protection and Research Inc.:** Life-protecting sprinkler system (Oct.)  
**William F. Pedersen:** Imperial Chemical Industries, Stamford, Conn. (Mar.)  
**Perkins & Will:** Mt. Hope (N.J.) Elementary School (Feb.)  
**Perry, Dean & Stewart:** in-house computer system (July)  
**J. Gerald Phelan & Associates:** Ascension Church, Hamden, Conn. (Dec.)  
**Lee Harris Pomeroy Architects-Planners:** Casagmo, Ridgefield, Conn. (May)  
**John Portman & Associates:** Regency Hyatt House, O'Hare Airport, Rosemont, Ill. (Sept.)  
**Donald G. Rapp & Dan D. Drew:** Community College Space Planning System (July)

**Reed & D'Andrea:** Robie house, Campton, N.H. (May)  
**John Lyon Reid:** Greenwich (Conn.) High School (Nov.)  
**Emery Roth & Sons:** 77 Water St., N.Y.C. (M)  
**Harold Roth & Edward Saad:** branch YMCA, Hamden, Conn. (Nov.)  
**Samborn, Steketee, Otis & Evans:** Toledo (Oh) Edison building (Oct.)  
**Saphier, Lerner & Schindler:** computers for the office (July)  
**Erich Schneider-Wessling:** apartments, Düsseldorf, Germany (Sept.)  
**Seiler, Nakrosis & Kerner:** Granit Hotel and country club, Kerhonkson, N.Y. (Sept.)  
**Morrice Shaw:** Cottlesbridge house, Victoria, Australia (May)  
**Skidmore, Owings & Merrill:** Oregon Technological Institute Building (Sept.)  
**Smith, Hinchman & Grylls:** University of Louisville Health Sciences Center (Apr.)  
**The SMS Partnership:** Singer Learning Center, Cherry Hill, N.J. (Feb.); St. Matthews Parish (Episcopal)/Wilton Presbyterian Church joint building project, Wilton, Conn. (Dec.)  
**Daniel Solomon:** Orange Julius, Concord, Calif. (Sept.)  
**Rene Stapel:** parking garage, Brussels, Belgium (Sept.)  
**Eugene Sternberg:** Denver (Colo.) General Hospital (June)  
**Hugh Stubbins, with George M. Ewing Co. and Stonorov and Haws:** Philadelphia Veterans Stadium, Philadelphia, Pa. (Nov.)  
**Don Stull:** Infill schools, Boston, Mass. (Feb.)  
**Stull Associates:** Unity Bank, Roxbury, Mass. (Nov.)  
**Minoru Takeyama Architect and the United Architects:** The Fuji Heavy Industries Labor Union Assembly Hall, Tokyo, Japan (Sept.)  
**Charles Tapley & Associates:** P/A Design Citation, wooded retreat in Tex. (Jan.); P/A Design Citation, suburban greenbelt, Tex. (Jan.)  
**James Terrell (with Environmental Design Group):** Standard Paint Store, Orange, Conn. (Aug.)  
**Ben Thompson:** Quincy Market restoration, Boston, Mass. (Sept.)  
**ML/TW Turnbull Associates:** Golden West Savings and Loan, Marin County, Calif. (Nov.)  
**Unthank Seder Poticha:** P/A Design Citation, tennis courts, Eugene, Ore. (Jan.)  
**Vallan, Giriodi & Raimondi:** proposal for a psychiatric hospital, Sardinia (Apr.)  
**Sim van der Ryn:** living room, Berkeley, Calif. (Aug.)  
**Rafael Villamil:** P/A Design Citation, site development, East Islip, L.I. (Jan.)  
**Jan Wampler:** Armenian Church Cooperative School, Watertown, Mass. (Feb.)  
**Warner Burns Toan Lunde:** Wesleyan University Hockey Rink, Middletown, Conn. (Apr.)  
**Wascon Systems, Inc.:** wet pulp waste disposal (Oct.)  
**C. Randolph Wedding:** office profile (June)  
**Wells/Koetter:** P/A Design Citation, modular housing system (Jan.)  
**Wilmsen, Endicott, Greene, Bernhard & Associates:** P/A Design Citation, State Office Building, Salem, Ore. (Jan.)  
**Montgomery Winecoff & Associates:** Electra Records, New York City (Nov.)  
**Wolf Associates:** North Carolina National Bank, Charlotte, N.C. (Nov.)

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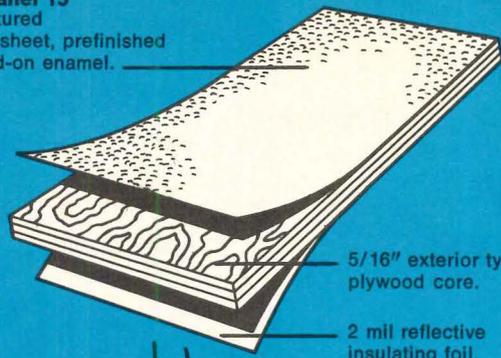
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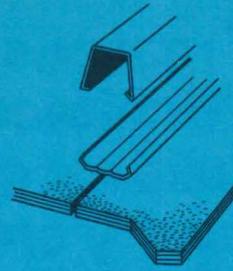
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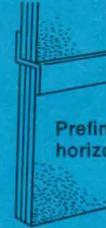


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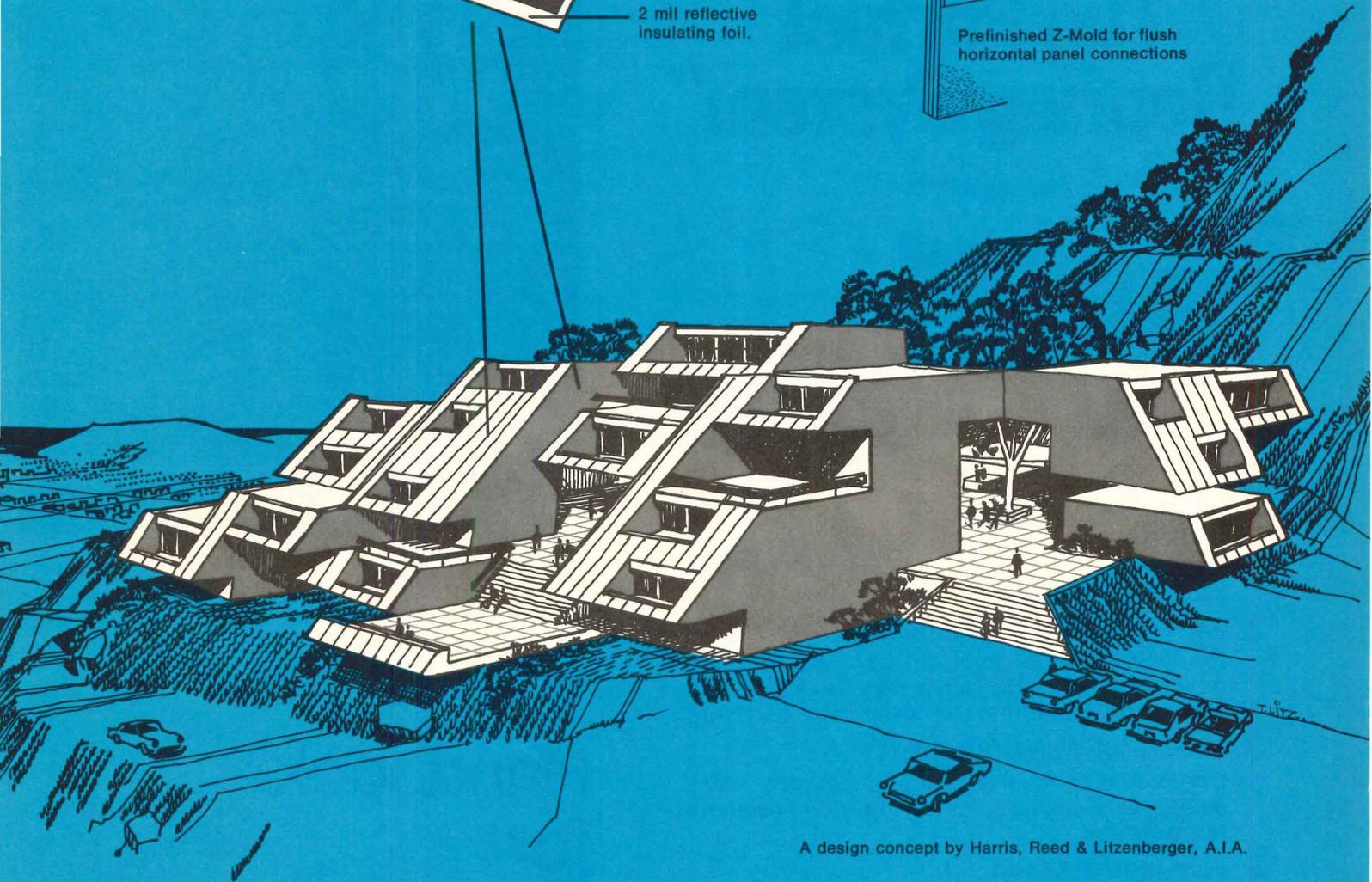
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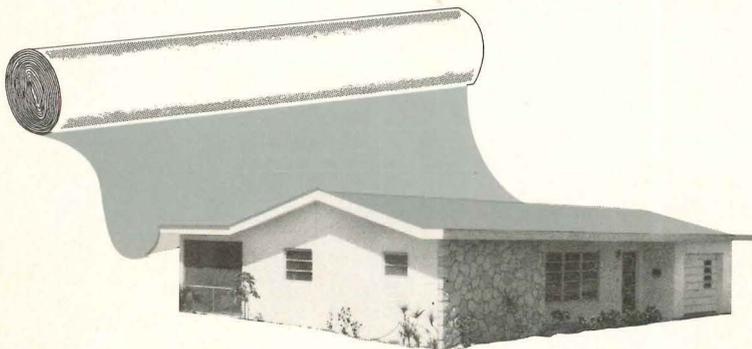
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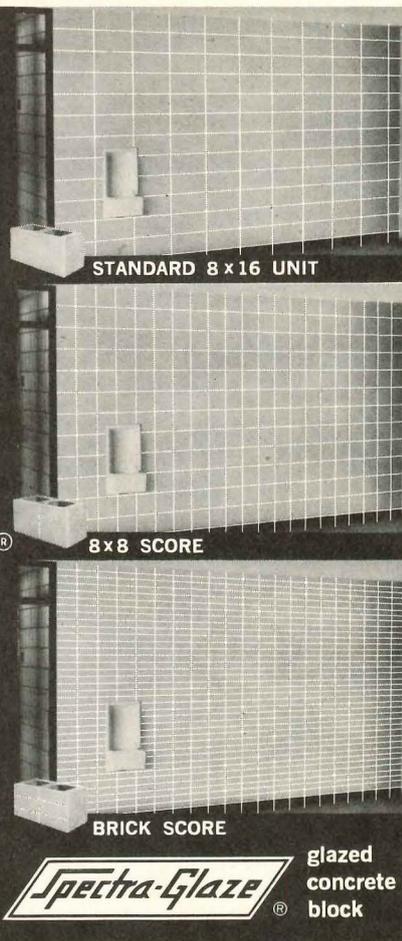
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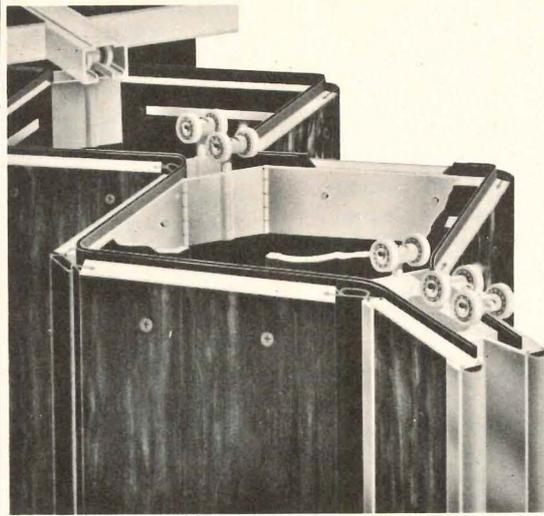
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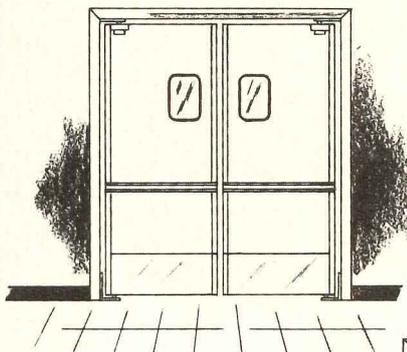
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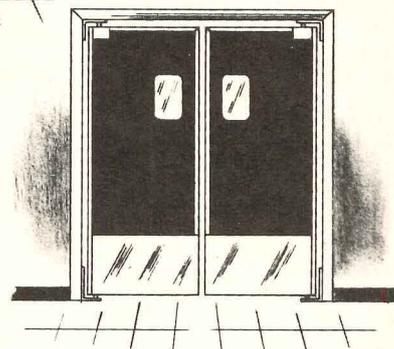
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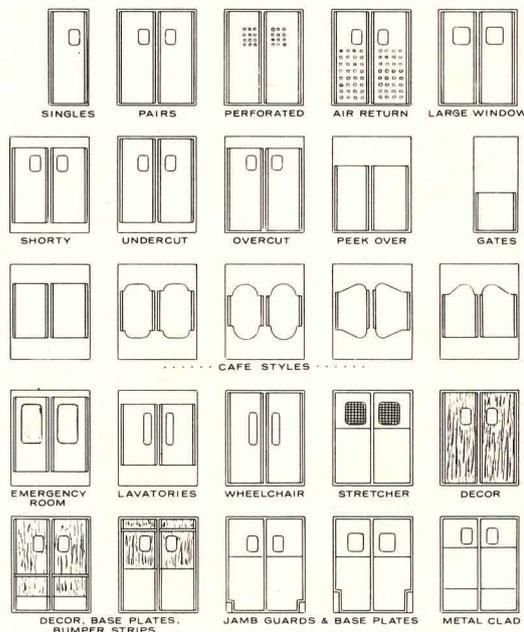
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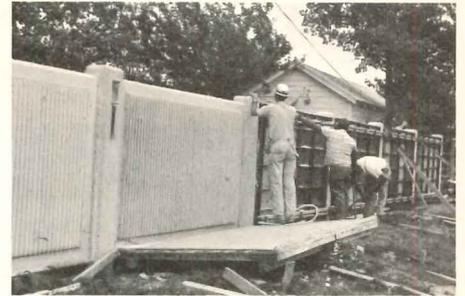
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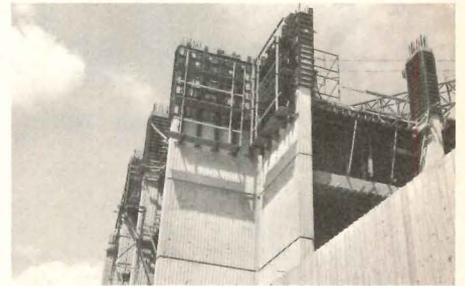
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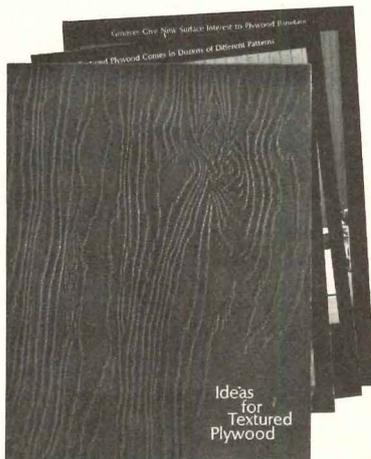
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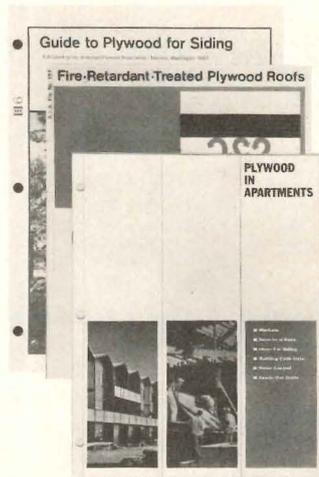
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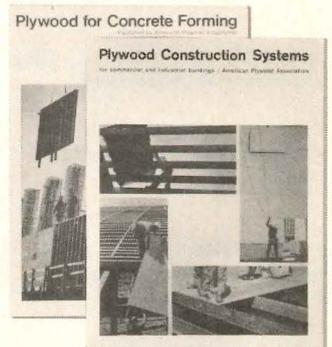
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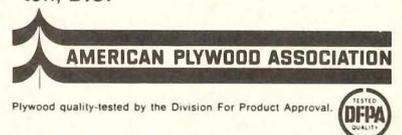
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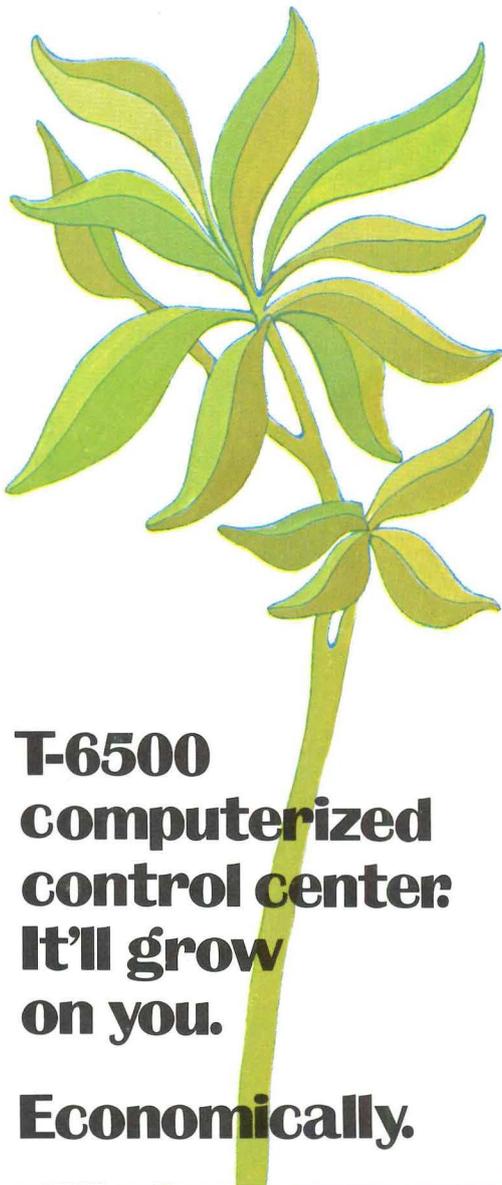
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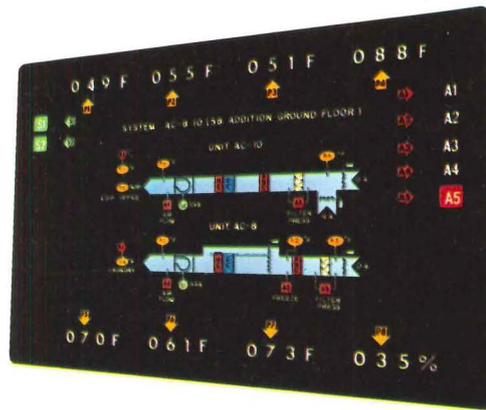
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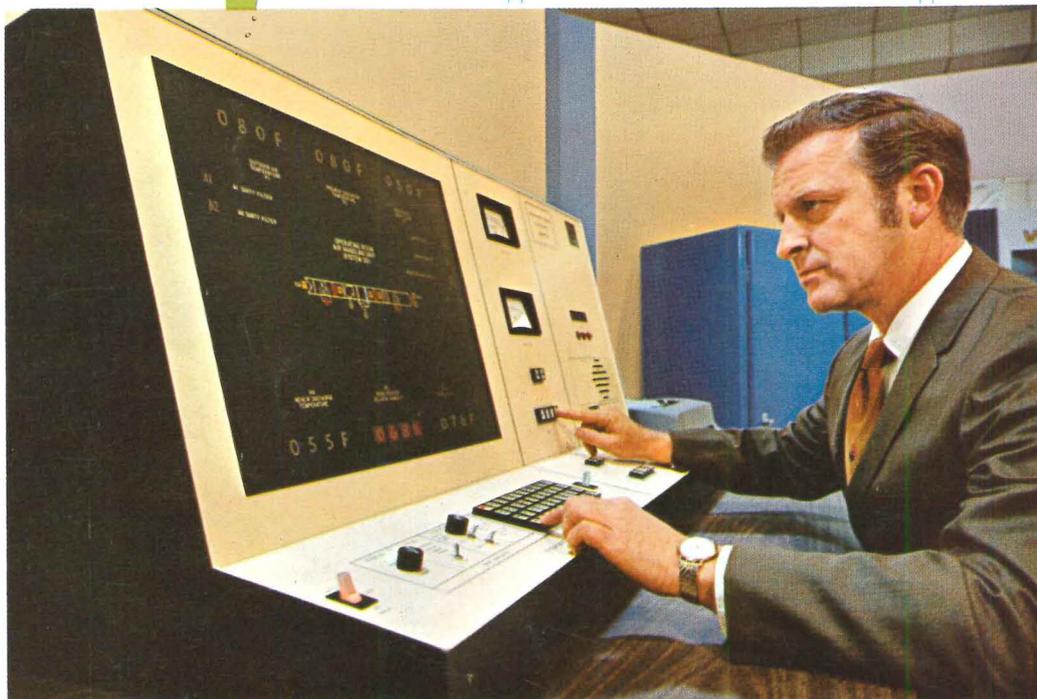
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