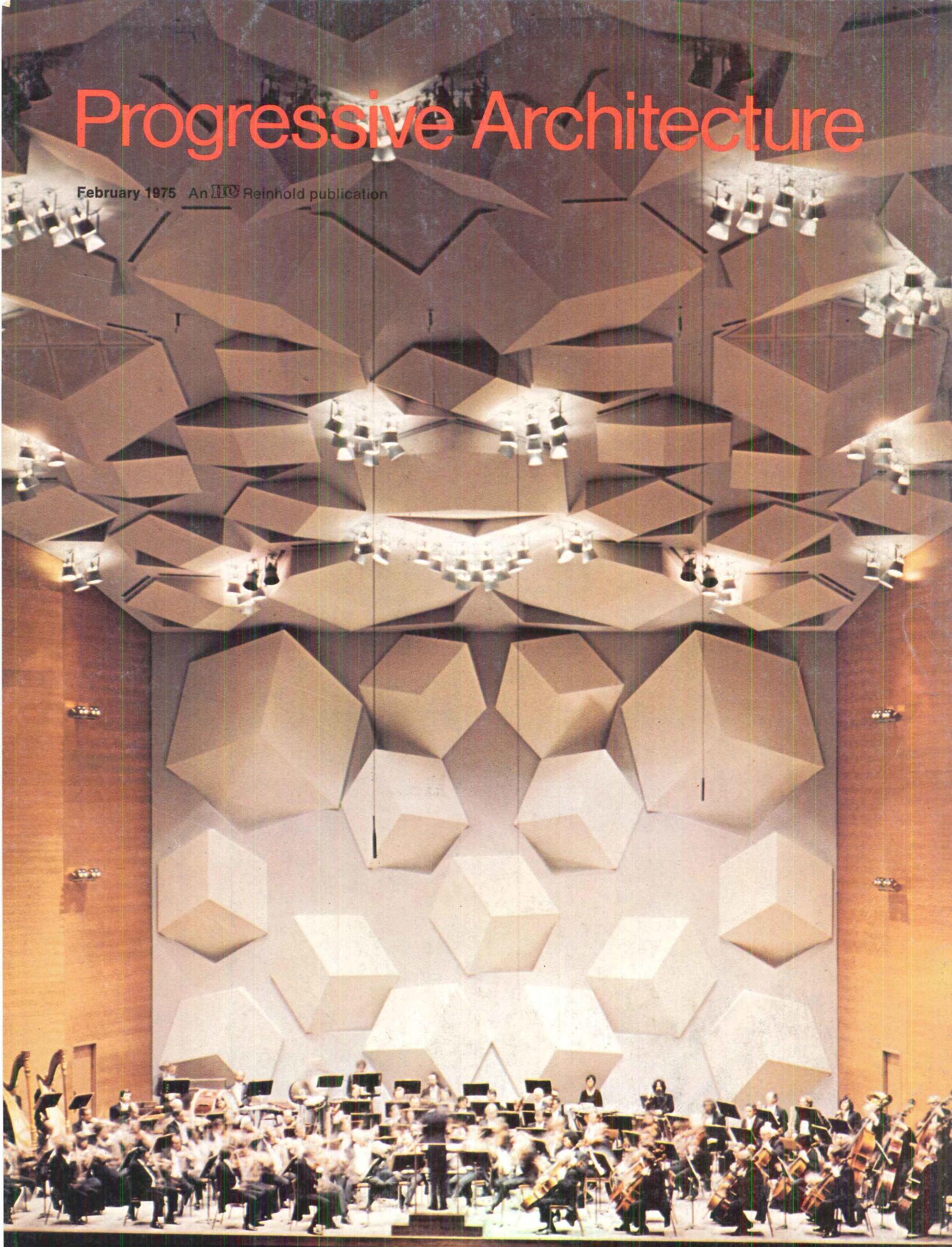


# Progressive Architecture

February 1975 An  Reinhold publication



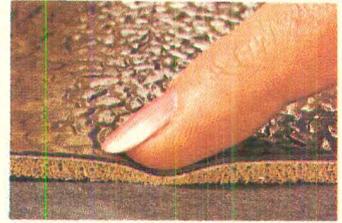


Jerry PRZEPADOWSKI



There's a lot more to Quiet Zone than meets the eye—or the ear. When you first see it, Armstrong Quiet Zone looks like a modern, attractive Armstrong Vinyl Corlon® floor. But when you walk on it, and feel its comfort, and listen to your footsteps, you might think it's carpet.

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You know how important quietness and comfort are. You know how important good design is. And you know how important practicality is.

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Install Quiet Zone. Listen to it work. More information? Please mail the coupon.

# Shh. Quiet Zone™ at work. You know it's vinyl, but you might think it's carpet.



83020 Brown



83021 White



83022 Beige



83023 Gold



83024 Green



83025 Gray-Beige

The Quiet Zone pattern illustrated here is called Grand Central.

For more information, send this coupon to Armstrong, 310 Watson St., Lancaster, Pa. 17604.

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FROM THE  INDOOR WORLD® OF  
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# Guess who just ordered sprinklers installed in all his new high rise buildings?



The GSA, the federal agency responsible for letting most government construction contracts, has just ordered that all new buildings 5 stories or more in height be equipped with automatic fire sprinklers.

And Uncle Sam isn't the only one who's sold on automatic sprinklers as a way to insure life safety. To date, Connecticut, Maryland, Massachusetts, Ohio and scores of cities, towns and municipalities have passed tough new building codes banning new construction of unsprinklered high rise buildings.

The implications are clear: whether you're a building owner or developer, an architect or specifying engineer, you should be aware of this growing trend toward life safety. Facing the future *now* and learning all you can about sprinklering properly could save you money in the future when you come face to face with one of these tough new codes.

**A question of ethics.** Occupants of high rises have the right to expect protection from a fire which could leave them stranded hundreds of feet above the reach of fire department ladders and hoses. Many fire experts agree that a modern sprinkler system is the best way to insure that kind of safety.

**Rental appeal.** Many firms are insisting that their buildings be sprinkler protected for the safety of their employees. As this trend continues, non-sprinklered buildings will be at a decided rental disadvantage. In addition, sprinklers give building owners the maximum in usable rental space and provide more rental income.

**Cost savings.** Sprinklering your next high rise will make it

safer and could save you money in many or all of the following ways: Flame

spread ratings of surface finishing materials can be increased. Fire ratings of walls, doors, roofs, floors,

beams, trusses and columns can be reduced. The distance between fire exits can be increased, leading to fewer stairways. Larger non-compartmented areas are permissible, and fire

barrier requirements can be eliminated. Smokeproof entrance closures to exit stairs can be eliminated if stairways are pressurized. The requirement for "areas of refuge" can be waived. Manual fire alarm systems may be eliminated. Fire hoses and cabinets can be eliminated. Riser piping is permitted to serve as combined sprinkler riser and fire department standpipe.

Sprinklers cost, it's true. But sprinklers save money, too. The average high rise can be sprinklered for approximately \$1 per square foot. Investigate the construction cost savings involved in your next high rise. The results may surprise you.

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February 1975

# Progressive Architecture

**Design and planning**41 **Editorial: Nonmonumental achievement**42 **HHPA's USA**

The Robert G. Olmsted theater, Artpark, and Orchestra Hall are three recently completed arts projects by Hardy Holzman Pfeiffer.

54 **Hardy Holzman Pfeiffer on America**

A discussion of HHPA's work as an architecture that understands and appreciates what is unique in built America. By Stuart E. Cohen.

59 **HHPA on the arts**

Hardy Holzman Pfeiffer present their own views of the current explosion of interest in the arts.

60 **From piano to forté**

Three old industrial projects, a mill complex, a department store, and a piano factory are converted to new uses.

68 **Skyscraper style**

Art Deco architecture of the 1920s is re-evaluated and illustrated by some of the many examples that are abundant in New York.

**Technics**77 **Specifications clinic: Sealants, part II**78 **Slouching towards Barcelona**

The inherent conflict between form and function becomes evident when an orthopedic surgeon and a P/A editor "try-on" six classic modern chairs.

86 **A muse named déjà vu**

Using multiple photographic transparencies to create designs is a university professor's technique to teach first year design students.

**Departments**

6	Views	102	Building materials
19	News report	104	Job mart
92	Books	108	Directory of advertisers
96	Products and literature	109	Reader service card

**Cover:** Orchestra Hall in Minneapolis, by Hammel Green & Abrahamson and Hardy Holzman Pfeiffer Associates (p. 50). Photo: Norman McGrath.

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### Letters from readers

## Views

### Credit due

The pictorial coverage of Desert Samaritan Hospital in conjunction with my article "How to work with the health client" (P/A, July 1974) may have left the impression that this was "my project." Although I was partner-in-charge and, therefore, have a certain pride of ownership, I certainly know that Desert Samaritan's success is due to the efforts of all CRS team members.

Specifically, this team included Paul Kennon, director of design; William Ford, project manager; John Crowder, designer; William Ferro, project architect; Travis Duncan, mechanical engineer; William Gwin, electrical engineer; and Carroll Leech, structural engineer.

Without them, "my project" wouldn't have been so successful.

*James Falick, AIA,  
Senior Vice President  
Caudill Rowlett Scott  
Houston, Tex.*

### Arab policies

Your December editorial notes the important role of large commissions recently awarded to American architectural firms by the Arab oil producing nations and mentions that these clients will not allow Jewish members of the firm to enter their country—although as yet they have not requested the removal of the Jewish partners or employees from the firms themselves.

This is disturbing news, made the more so by your lack of editorial comment on a situation where architects are allowing their personnel policies to be shaped by the politics and/or religious prejudices of their clients.

We architects often talk about our artistic integrity, but what about our moral integrity? Times are lean here, an opportunity arises to design a large project in an underdeveloped country (let's not even confront the issue of whether its purpose is military or not and how that may or may not jibe with one's political beliefs). The client makes it known (either implicitly or explicitly) that no Jewish architects are welcome at the job site, or at meetings:

it doesn't matter whether these Jews are ardent Zionists, or apolitical. Assuming the architectural firm has been nondiscriminatory in its past hiring policies it may or may not even know which of its employees are Jewish; now it must examine them and make job assignments on this basis. And as this is a very important client (and perhaps a significant percentage of the firm's work) prospective employees and possible promotions cannot help but be influenced by this issue. (Is this the right time to add an "obviously Jewish" name to the letterhead, etc. for example?)

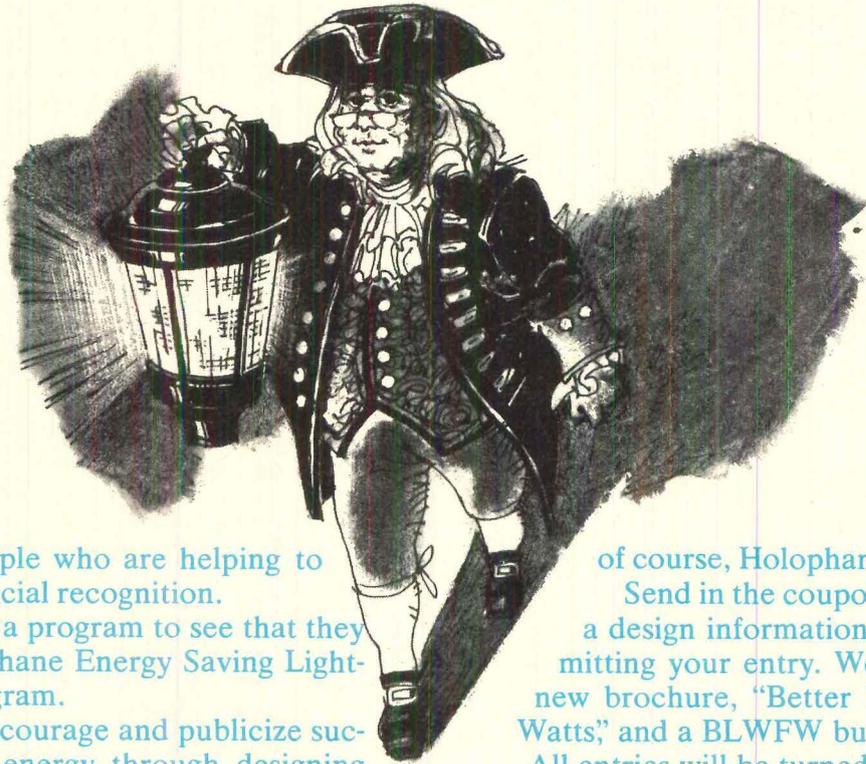
It is an insidious situation and a dangerous one, particularly at a time when many architects are fighting for economic survival. To do any kind of work (especially to get involved with a client who becomes a major source of support) often leads to difficult decisions: at what point does one decide that the social, political, or aesthetic effects of the project are so divergent from ones own that s/he can no longer in good conscience continue to work on it? And how is this balanced by a feeling of obligation to provide economic support for employees or family members who will be affected by the loss of this work? Til what point does one rationalize: "If I don't do the work, others will." . . . instead of trying to band with fellow professionals to establish some basic standards of behavior.

I believe it would be simple—and successful—if we all at least drew the line at allowing clients to meddle in our personnel policies on the basis of race, religion, or sex. Assuming the large firms now working in Arab countries are comfortable with the political and social goals of their work, I would like to believe they are at least uncomfortable in having accepted it on the basis of discriminatory personnel practice. I do believe that if they refused to continue this practice (particularly as a group) they would run little risk of losing the work, but in any case I believe the profession must exert the strongest moral pressure to halt the spread of discrimination at this highly critical period in our lives.

*Joan E. Goody, architect  
Marvin E. Goody, John M. Clancy &  
Associates  
Boston, Mass.*

[Agreed: the implications of Arab poli-  
[continued on page 8]

# Holophane is looking for people who help conserve America's energy by designing better lighting with fewer watts.



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of course, Holophane fixtures).

Send in the coupon, and we'll send you a design information form to use in submitting your entry. We'll also enclose our new brochure, "Better Lighting with Fewer Watts," and a BLWFW button for you to wear.

All entries will be turned over to an impartial panel of leading construction authorities. Those selected as most significant will be given nationwide recognition in electrical and architectural magazines, and written up in case-history literature to be widely disseminated. Handsome certificates will also be awarded.

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**Holophane**<sup>®</sup>  
Division, Johns-Manville Sales Corporation

R. C. LeVere, Manager, Technical Service, Holophane Division, Johns-Manville Sales Corp., Greenwood Plaza, Denver, CO 80110.

Dear Mr. LeVere:

Please send me an entry form for the 1975 Holophane Energy Saving Lighting Design Awards Program, your brochure, "Better Lighting with Fewer Watts," and a BLWFW button.

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PA-2

# Lime Crest Roofing Spar saves energy for Hampton Township!



Architects: Radey & Radey, Cherry Hill, N.J.

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Views continued from page 6

cies articulated so well above could be ominous. In fact, however, the Arab countries seem to be adhering to their restrictions against entry of Jews to the letter but, to our knowledge, imposing no further limitations or pressures.— Editor]

### Planning since Moses

I am completely astonished at the review of *The Power Broker* in your December issue.

In a time when many planners and architects are beginning to realize the disastrous consequences of the type of relentless linear planning most significantly symbolized by Robert Moses, it is most disturbing to see such approaches defended by Mr. Fuerst, whom you describe as Assistant Director, Graduate Program in Urban Studies, Loyola University of Chicago. Is this the kind of old-hat, leave-it-to-the-czar, you-can't-make an omelet-without-breaking-eggs planning being put into young heads at Loyola? I certainly hope not!

The keynote for planning and design is more and more coming to be participation—participation in making decisions about the future environment by the people who will be using that environment. Even the U.S. Department of Housing & Urban Development has realized this need, and insists on citizen involvement in many programs. Some environmental design and planning firms, ourselves included, have insisted wherever possible that participation by the people of the community be the first step in any program of large scale.

Such necessary involvement is denied by the retrograde, reactionary Moses power plays defended by Mr. Fuerst. Instead of attacking author Robert Caro for finally documenting the good *and* the undeniable bad consequences of what Robert Moses wished on the planning and design professions—and, by implication, on the citizens they serve—your reviewer should have lit a candle of thanks for Caro's impressive contribution.

James Burns

Lawrence Halprin & Associates  
San Francisco, Calif.

[Note: Mr. Burns is a former senior editor of P/A.]

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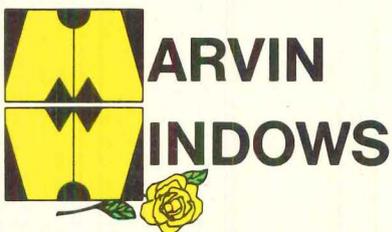
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Architect: Robert Parker Coffin, Barrington, Illinois.

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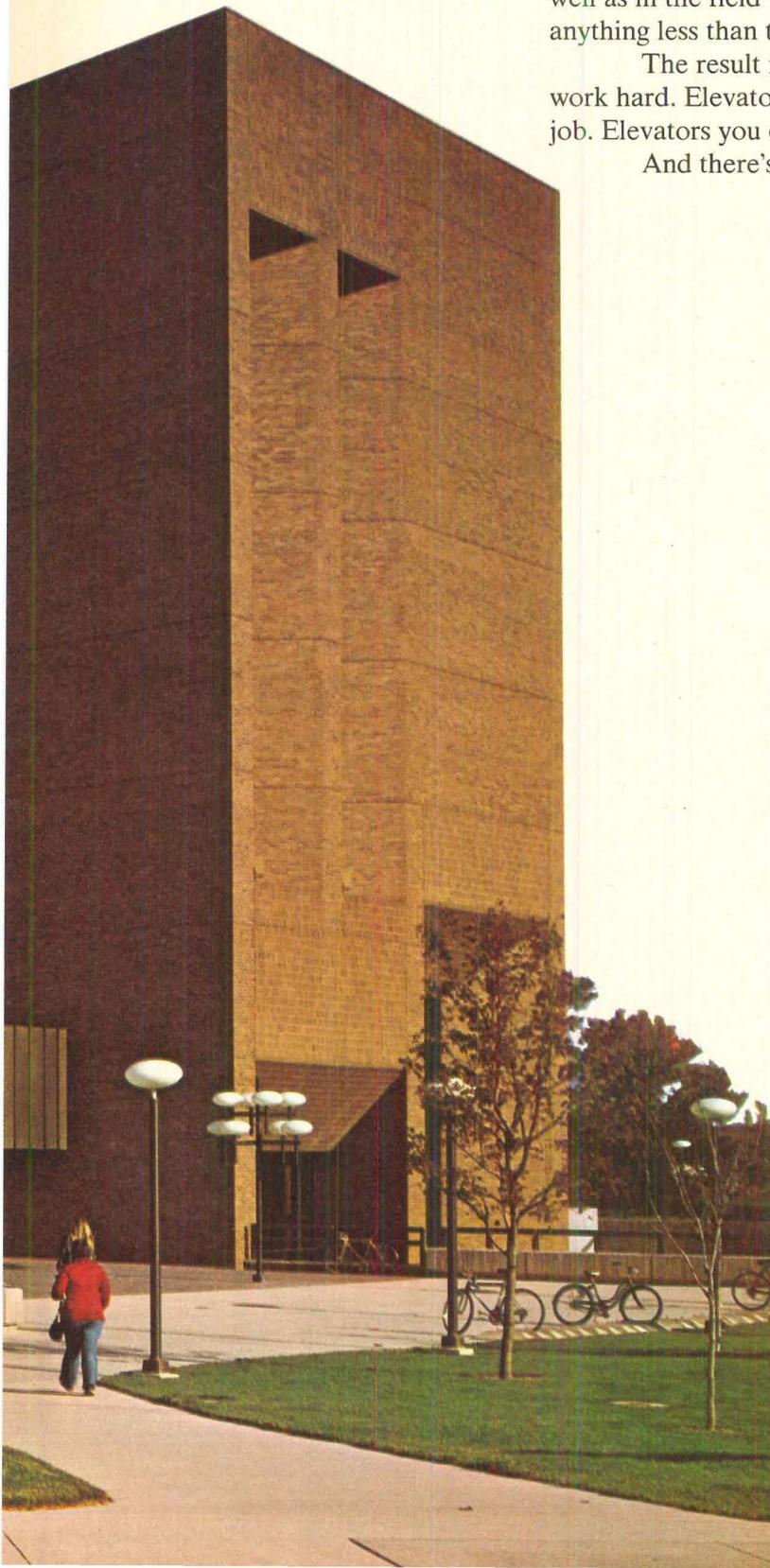
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**Below:** FIRST NATIONAL BANK BUILDING, DAYTON, OHIO. ARCHITECT: Harry Weese & Associates, Chicago. GENERAL CONTRACTOR: Turner Construction Company. DEVELOPER AND LEASING AND MANAGEMENT AGENT: Arthur Rubloff & Co., Chicago. Six Dover Gearless Passenger Elevators installed by Dover Elevator Co., Dayton.



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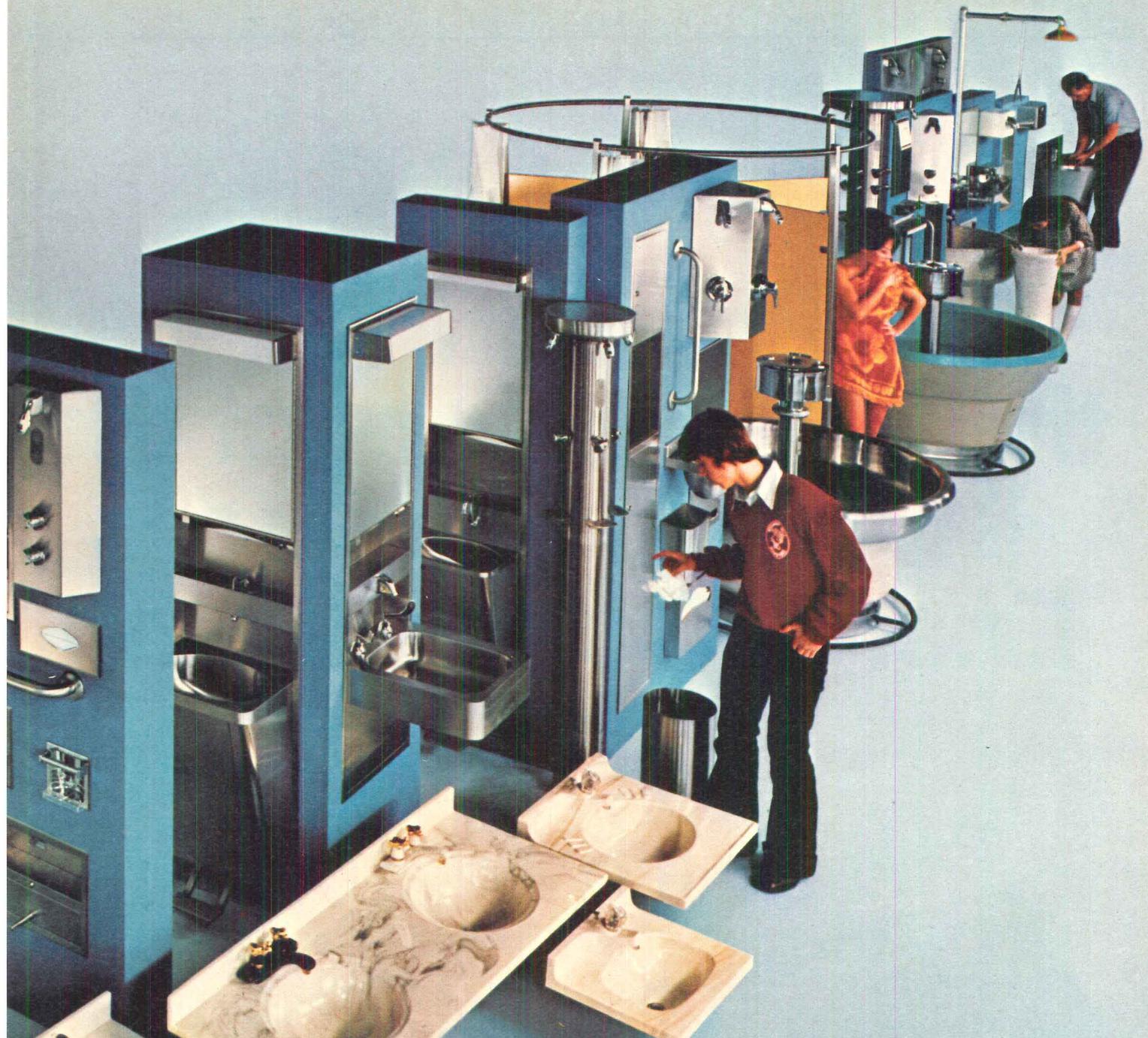
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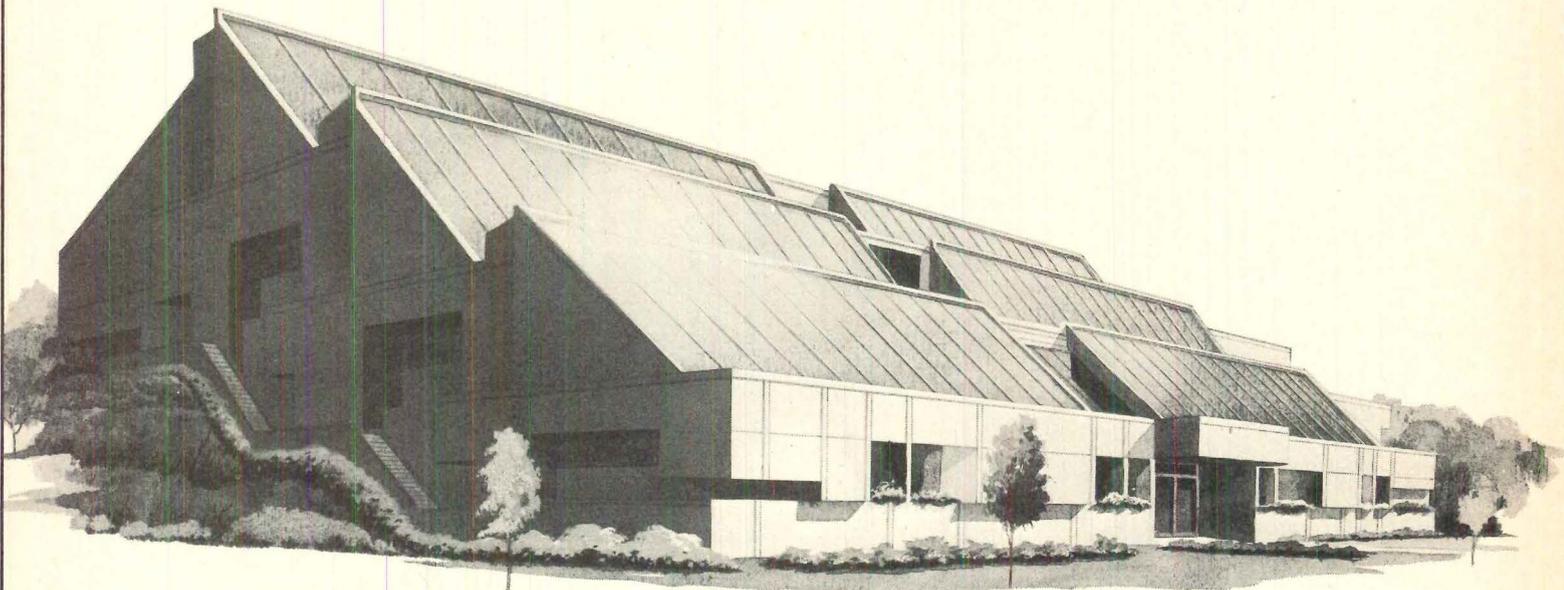
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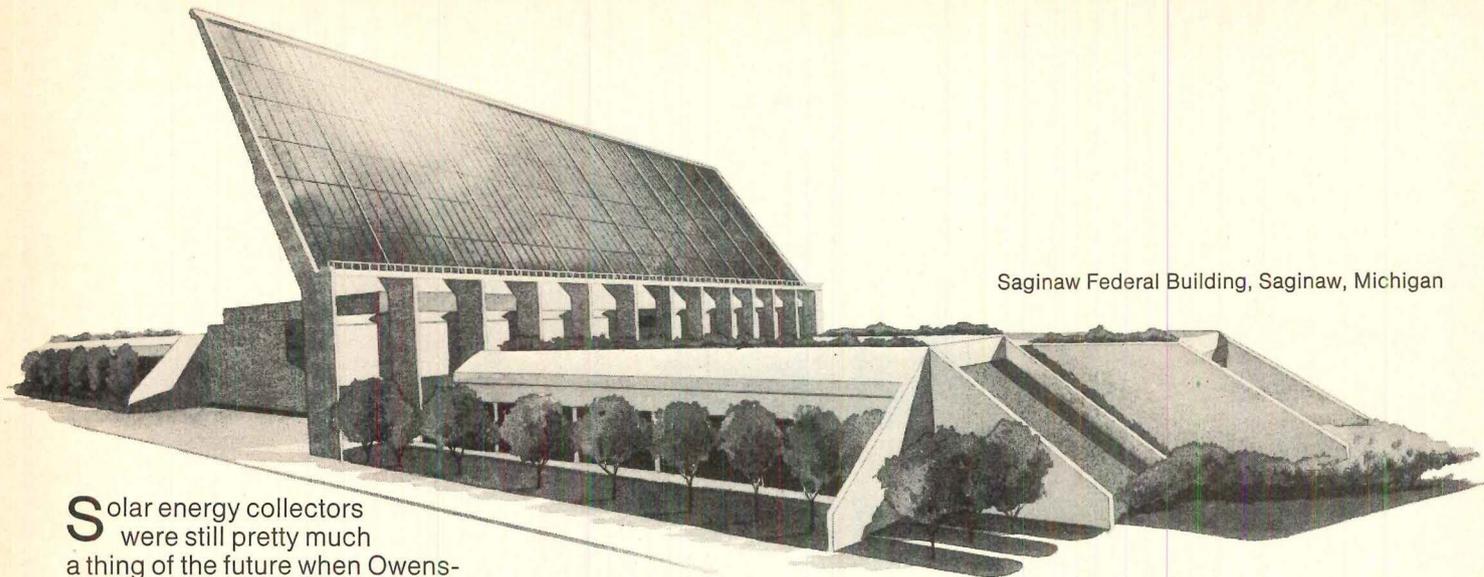
**Bradley can give people showers, wash and dry their hands, give them a drink, look good on a sink and collect the trash when they're done.**

# Presenting the 1974 winners of the Owens-Corning Energy Conservation Awards.



Desert Research Institute, University of Nevada Systems, Boulder City, Nevada

\*T.M. Reg. O.-C.F.



Saginaw Federal Building, Saginaw, Michigan

**S**olar energy collectors were still pretty much a thing of the future when Owens-Corning initiated its Energy Conservation Awards Program in 1971.

This year, both our Award Winners—plus two designs receiving honorable mention—rely heavily on the sun for their energy needs.

Look these designs over. They may suggest a way your company can conserve energy and cut fuel costs.

**Desert Research Institute,  
University of Nevada Systems,  
Boulder City, Nevada**

A 4,000 sq. ft. solar collector provides energy for 98% of the heating, 30 tons of cooling, and 96% of the hot water demand in this 8,800 sq. ft. structure. Estimated energy savings: 63,000 KWH annually.

Concrete walls and ceilings act as an insulation envelope that protects against temperature fluctuations and an uneven draw on the energy collector.

Structure is built into a hillside for perimeter shielding from heat and cold. Plant life on exterior walls gives additional shielding.

Design by Jack Miller & Associates, Las Vegas, Nevada, in association with Arthur D. Little, Inc., Cambridge, Mass.

**Saginaw Federal Building,  
Saginaw, Michigan**

An 8,000 sq. ft. flat plate solar energy collector provides energy for heating and cooling.

Fenestration is pushed into the earth, and approximately half the roof is landscaped with lawn, shrubs, trees and seating. This con-

tributes to low heat gain and loss. Design by Smith, Hinchman & Grylls Associates, Inc., Detroit.

**Two Honorable Mention  
Awards**

The Owens-Corning Energy Conservation Awards Jury found two other designs worthy of special attention.

*Science Museum of Virginia, Richmond, Virginia.* Combines a 28,000 sq. ft. solar energy collector with a heat-recovery system for heating and cooling. Expected energy operating cost: \$12,000 vs. \$50,000 for a conventional heating and cooling system. A saving of 75%.

Mechanical design by Hankins & Anderson, Inc., Consulting Engineers, Richmond, Virginia.

*Denver Community College of Denver/North Campus, Westminster, Colorado.* Combines a 50,000 sq. ft. solar collector with a heat-pump system to cut fossil fuel requirements by nearly 80%. Insulation maintaining an exterior wall U-value of .065 is used throughout.

Design by A.B.R. Partnership, Denver, Colorado.

**How the Awards Program  
works.**

Owens-Corning accepts entries in any of four building design categories:

*Institutional*—schools and hospitals, for example.

*Commercial*—office buildings, shopping centers, retail stores and similar structures.

*Industrial*—including manufactur-

ing plants, research centers, and warehouses.

*Governmental*—post offices, administrative buildings and military structures, among others.

Any registered architect or professional engineer in the U.S. is eligible to enter a design. The only requirement is that the design be a *commissioned* building project.

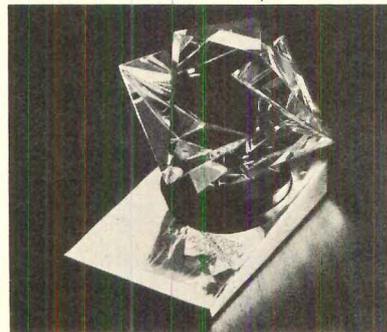
(The use of Fiberglas\* insulation—although an excellent way to conserve energy—is not a requirement.)

Winners are selected by a special Awards Jury composed of leading engineers and architects.

**Send for free Energy  
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If you'd like to know more about the winners, or their designs, write for a free brochure giving complete details.

Owens-Corning Fiberglas Corporation, Att. V.H. Meeks, Fiberglas Tower, Toledo, Ohio 43659.



The Owens-Corning Energy Conservation Award: "Triangles," a multi-faceted Steuben Crystal sculpture that captures and reflects light from triangular planes.

Owens-Corning is Fiberglas



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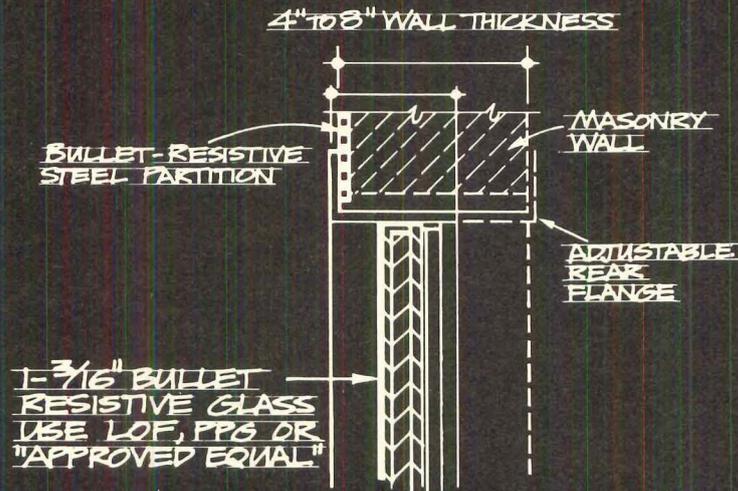
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# News report

## Contents

Calendar 37

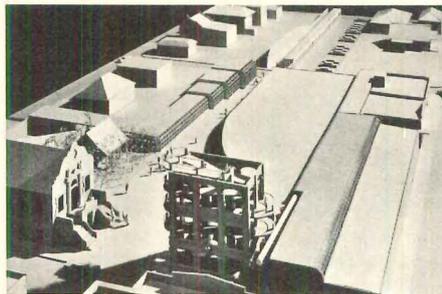
Personalities 37

In progress 38

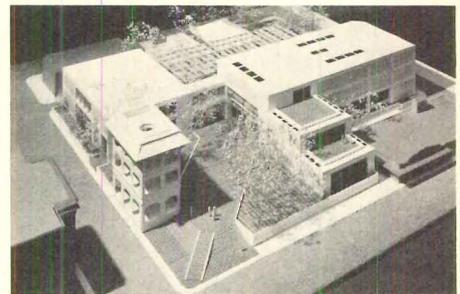
## Ten AIA grants for solar study

The AIA Research Corporation has subcontracted with eight architectural firms and two schools to develop solar energy heating/cooling systems for housing. The designs, submitted last month after four weeks' preparation, will be incorporated in a document for use by the U.S. Department of Housing and Urban Development. The Research Corporation is assisting HUD and the National Bureau of Standards in responding to the Solar Heating and Cooling Demonstration Act of 1974, which also calls for a competition to design housing adaptable to solar heating systems.

Recipients of \$7000 grants are Community Design Associates, Cos Cob, Conn.; Donald Watson, AIA, Guilford, Conn.; Giffels Associates, Detroit; Joint Venture, Denver; Massdesign, Cambridge, Mass.; RTL, Inc., Paramount, Calif.; The Architects, Taos, N. Mex.; and Total Environmental Action, Harrisville, N.H. The University of Detroit School of Architecture and Environmental Studies and the Arizona State University College of Architecture received \$3500 grants.



Stanley Tigerman



O'Neil Ford



Harry Wolf



Kempton Mooney



Robert Stern



William Turnbull

Proposals by student/professional teams for Biloxi civic complex

## Charette in Biloxi for library/museum

Six design proposals, for a cultural and civic center in Biloxi, Miss. were produced by a unique charette in Biloxi at the end of November. The "Architectural Design Festival" was sponsored jointly by the city of Biloxi and

the Mississippi State University School of Architecture.

In arriving at the design of the library/museum complex for the town's Bicentennial celebration, Mayor of Biloxi Jerry O'Keefe and William McMinn, dean of the new School of Architecture at Mississippi State decided to enlist architectural students from six regional

Photos: Frank Loiz Miller

**News report**

schools. They invited six students (and one faculty member) from the architecture schools at Auburn University, Louisiana State University, Southern University, Tulane University, Southwest Louisiana University, and Mississippi State. (Mississippi State actually sent 12.)

Six practitioners were then asked to lead the teams: O'Neil Ford of Ford, Powell, Carson in San Antonio; Kempton Mooney of Nixon, Shive & Mooney in Atlanta; Robert Stern of Stern & Hagmann in New York; Stanley Tigerman of Chicago; William Turnbull of MLTW Associates, San Francisco; and Harry Wolf of Wolf & Associates in Charlotte, N.C.

The teams were scrambled so that each included representatives from every school with an extra team formed to work on urban design. After charetting for five days, they presented their plans to a group of 400 Biloxi citizens.

From these projects, Mayor O'Keefe, McMinn, and the head of the library board will select an architect, who may or may not be one of the team leaders. If not, the chosen architect will at least have the benefit of receiving six different suggested solutions.

This "festival" may strike some as a rather circuitous route to the design of a 60,000-sq-ft library/museum on a one-acre renewal site. But the students' experience was unique: they had to work with a team of strangers, design for an unfamiliar site, talk to local people, and explain their solution to a real public.

In addition, the town learned from their visitors that Biloxi should try to preserve its regional architectural heritage, and seek to rebuild the town (after being devastated by Hurricane Camille) around these remaining assets. The architects urged keeping the present plateresque-style library on a nearby site (in fact Tigerman's team moved it to the site), and most retained Creole Cottage, the city's first public library (the small shed-like structure clearly seen in the court of the Turnbull team's project). Interestingly, however, only three groups preserved the fanciful Elk's Lodge building, adjusting it

quite extensively to new uses. Perhaps some of the architects could stand a little learning from Biloxi, too. [SS]



Faneuil Hall markets before . . . and after



**Boston markets ready for reuse**

Renovation of three of the four structures comprising the Faneuil Hall Market District near Boston's waterfront is complete and the buildings are ready to be turned over to a developer. Work on the fourth, the 233-year-old Faneuil Hall itself, which Charles Bulfinch enlarged in 1806, will be completed this fall. Architects who championed the renewal effort over the past seven years and, as part of a joint venture, worked for the Boston Redevelopment Authority in renovating the buildings, are Stahl/Bennett Inc.

Actual work began in 1970 with the north and south buildings; deadlines were set to anticipate the 1976 Bicentennial and the opening of an exhibit on 19th century Boston scheduled to open this spring. Plans for the market include using the buildings as a community focus for commercial and residential activity, as envisioned by one of this year's citation winners, Benjamin Thompson & Associates (see P/A Jan. 1975 p. 61).

**Fox Theatre  
D-day draws close**

Demolition of the "Fabulous" Fox Theatre in Atlanta is scheduled for May unless a way of economically saving the mosquelike edifice is found. News of its threatened existence came six months ago when Southern Bell Telephone Co. announced plans to purchase the site for a new headquarters. For a while it appeared as if a well-known local pornographic dealer would buy and save the building—to redeem his reputation—but when his conviction was upheld for interstate shipping of pornographic materials this hope fell through.

Atlanta architects and other interested citizens under leadership of John Busby of Jova, Daniels, Busby are carrying on efforts to save the Fox, but one of its last events may be a social for the American Institute of Architects during the AIA's national convention in Atlanta May 18-22. The Fox was built on Peachtree Street in 1929 for the Shriners as a mixed-use building—one which contains a 4400-seat auditorium for cinema and stage (the Met Opera gives a week of performances at the Fox each year during its spring tour), one of the world's largest theater organs, meeting rooms for the Shriners, and street level retail shops.



Starlit Fox auditorium

The exterior is yellow brick with onion domes and minarets. Inside plush gold and red decor carry out the Moorish theme, but the pièce de résistance is the illusion of clouds floating through the auditorium, a beguiling lighting effect. A recent 130-page feasibility study shows that the theater could produce \$115,000 this year if owned by a tax-exempt corporation.

Photo: Courtesy Stahl/Bennett

Photo: Steve Rosenthal

Photo: Floyd Jillson

## Fountainhead revisited

One film critic recently speculated that the architect is fast replacing the advertising man as the film world's leading villain/hero: Witness Paul Newman's portrayal of the architect in "The Towering Inferno."

In "Towering Inferno" (released by Warner Brothers and 20th Century Fox), a disenchanted Newman has designed a 138-story monster glass tower for William Holden, the rapacious builder. But Holden's son-in-law, Richard Chamberlain, the electrical subcontractor, has strayed from Newman's specifications, substituting cheaper and less safe wiring to help dad cut costs, and deliberately hiding the fact. When a defective wire in the basement control panel causes a flare-up, sparks travel along the main trunk to an 81st floor storeroom. There fuses catch fire and flames quickly spread to shelves of paint-cleaning solvents, etc. This spells trouble. Steve McQueen as the wise and commanding fire chief comes to put the fire out, reprimanding the sheepish architect for building as "high as you can."

Meanwhile flash fires start breaking out on other floors, and the sophisticated safety techniques like the reverse exhaust and sprinkler systems fail. Newman discovers that ducts were not fire-stopped, and corridors don't have fire doors, and he admonishes Holden, "You should have cut floors, not corners."

Nevertheless the fire, out of control, soon endangers chic urbanites in the 135th floor Promenade Room, some of whom are saved only by 1) an air lift by pulley to a nearby and much lower building, and 2) by finally blowing up the dozen or so water tanks on the top floor, drowning out the fire underneath. Somehow the structure holds up, despite the gushing water, explosions, and the fire-caused holocaust in the neobaroque restaurant (which evidently has as much authentic stonework as the gardens of Versailles) to kill almost everyone except (of course) McQueen and Newman.

Because of the star-studded cast with architect Newman in his soon-to-be-singed suede jacket and McQueen in his rubber raincoat, its many maudlin love-interest sub-plots and its cataclysmic fire and brimstone se-

quences, it's both bad and fabulous. And there's that outrageously improbable scenario.

P/A's staff headed by its technical editor have compiled the following list of improbabilities, implausibilities, and impossibilities (without which, of course, the movie wouldn't have been half as much fun):

Electrical overloads do occur, but they don't "travel"—especially when only lights are on. It would seem that if a fire did break out, the power would be turned off.

In one hair-raising sequence the gas line explodes in a fire stair. No code allows gaslines there.

Sprinkler systems seldom fail—at most, about 5 percent of the time.

Water tanks might hold 20,000 gallons—not a million as in the film. Water is stored in tanks in 20- to 25-story zones, with about 50 percent reserved for half-hour emergency capacity.

Fire departments urge people in high-rises to move out of the immediate fire zone, not to evacuate.

Despite these forgivable distortions for the sake of the plot, the film makes many valid points:

Above a certain height (75 ft) fire fighters are handicapped, and must fight the fire without direct ground support.

Total evacuation of a high rise in a short time is almost impossible.

Faulty electrical work is a major instigator of fire. Careless workmanship and inspection will allow fires to ignite and spread, or fire doors to be blocked.

Flammable interior finishes and furnishings can constitute a dangerous fire load. (In the film, however, even the *concrete* was on fire.)

Sealed glass curtain walls permit intense temperature build-up. Vertical shafts, plenum spaces between ceiling and floor, even the space caused by the glass skin expanding away from the frame will allow smoke to travel, if not well damped and stopped.

Elevators working on heat sensitive call buttons may go to the fire floor.

Security and fire sensory equipment gives good early warning but is no substitute for personnel.

Clients can and do change specs (which in the film are shown incorrectly in the form of blueprints), although they are required by normal contract terms to inform the architects.

The image of the architect in the film

Photo: Courtesy 20th Century-Fox Film Corp.

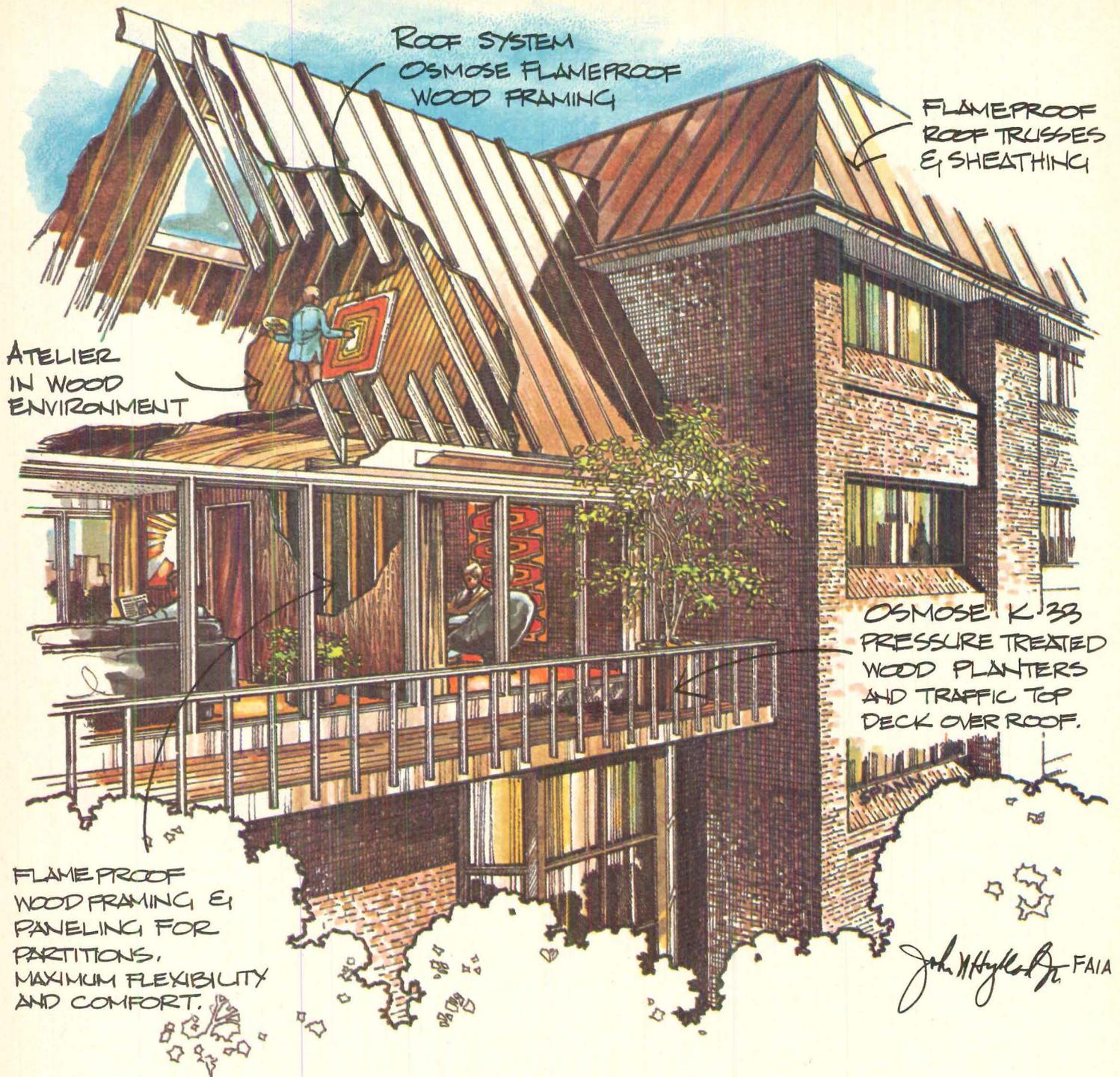


"The Towering Inferno"—Architect as villain/hero

recalls the romantic he-man, Gary Cooper's Howard Roark in "Fountainhead" (1949). But here Newman is humbled by his architectural ego-oriented errors. He also has other advantages: gymnastic ability, dare-devil courage, knowledge of fuse boxes and elevators, and, of course humility. Newman explains he thought this would be a place where people could work and live—in safety. In the end he realizes that he and McQueen must work together in the design of high rises (Newman earlier expresses a longing to build communities more compatible with nature). So while Newman is held responsible for almost everything in the building (except, at least, the faulty wiring or the desire to cut costs), he doesn't remain the fall guy all the way through.

The film, which used real firemen as extras, and the battalion chiefs of Los Angeles and San Francisco as technical advisors, was produced by Irwin Allen ("Poseidon Adventure"). Don't miss it if you've ever had destructive impulses toward high-rises [SS].

[News continued on page 23]



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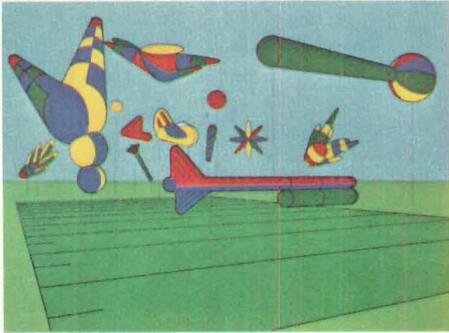
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News report



Inflato football spectacle  
Drawing: Courtesy Chrysalis East

Inflatoenviron-  
mentologists

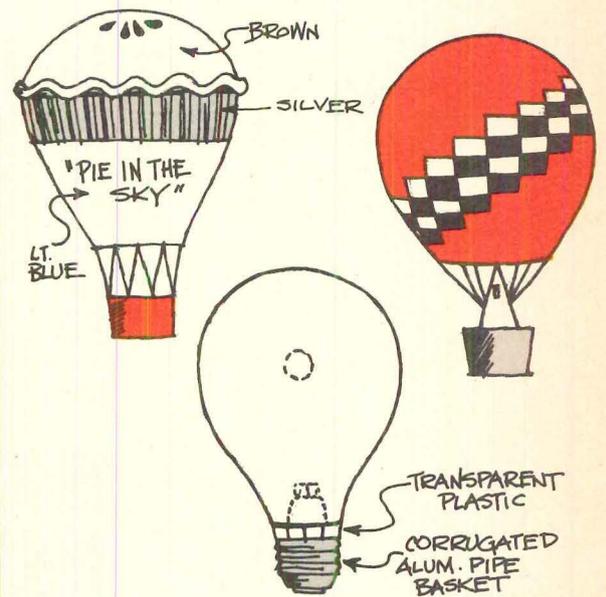
Somewhere, sometime, a surprise event conceived by Chrysalis East, the Milwaukee arm of the inventive West Coast architectural group, Chrysalis, will float into being—provided a sponsor comes forward. The display will be an “inflato air show” by Kent L. Hubbell and Joseph Valerio, who call themselves inflatoenvironmentologists.

As planned, the event will take place on a football field during halftime. Although a location for the premier is anticipated, its whereabouts remains undisclosed to preserve the element of surprise. Thereafter the show will be staged at several other games.

Inflatos are launched by hot air from a plenum deployed along the 50 yard line. Inflatable streamers and trailing ribbons will add color and sparkle to the bobbing shapes, many of which will be stitched from a silvery thin plastic membrane.

S.P.L.A.T.—  
ballooning anyone?

This time a year ago an Atlanta group of six architects from Aeck Associates, one realtor, and one engineer formed the Society for the Promotion of Levitation through Aero-Thermatics (SPLAT) and proceeded to hold a competition for the design of the society's hot air balloon. From 40 entries the winning pattern of black, orange, and white was selected and 100 hours were spent sewing the 352 pieces together—some with 50-foot seams. For nine months now, SPLAT has enjoyed airborne weekends, but the most fun re-



Ballooning . . . the maiden voyage for a Southern joint venture. Several contest entries (above) include winner.



## News report

portedly has been had by the chase crew which follows the balloon in Earth-bound vehicles over Georgia's kudzu-covered hills and brings the pilots safely home.

## Winners ribbed at P/A Awards luncheon

Philip Johnson's doubts about work he considers "para-architectural," such as design research came across clearly in his speech at the P/A Awards luncheon Jan. 17. "I only understood the projects in the front of the magazine," he told the 200 guests at New York's Plaza Hotel, meaning by this the winners in the architectural design category (see P/A Jan. 1975). Referring to the applied research First Award for an ambulatory care service study he quipped, "I may need it, but I can't grasp it."

As for recycled buildings, of which there were 3 out of 21 winners, Johnson said, "In my day we called it re-



Guests arrive for P/A Awards luncheon held in New York's Plaza Hotel Terrace Room. The event included slide showing of projects.



Research First Award winners Joseph Wehrer, Colin Clipson with editor John Dixon.



Winner William Jackson (left) with planners Eric Wheeler, Clinton Hewlitt, and architect James Whitley.



Members of the head table include jurors and publishers. Standing: winner Don Hisaka with Philip Johnson and John Dixon.

Photos: Stan Files

modeling," and research, a new category in the competition, "used to be called programming." Later on, though, he advocated allowing researchers to do the designing. "Some are quite good," he added, concluding it is mostly a matter of semantics.

Going into the history of the Awards, now in their 22nd year, he remembered when "Phil Hubbard Sr. (former

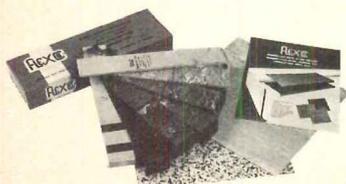
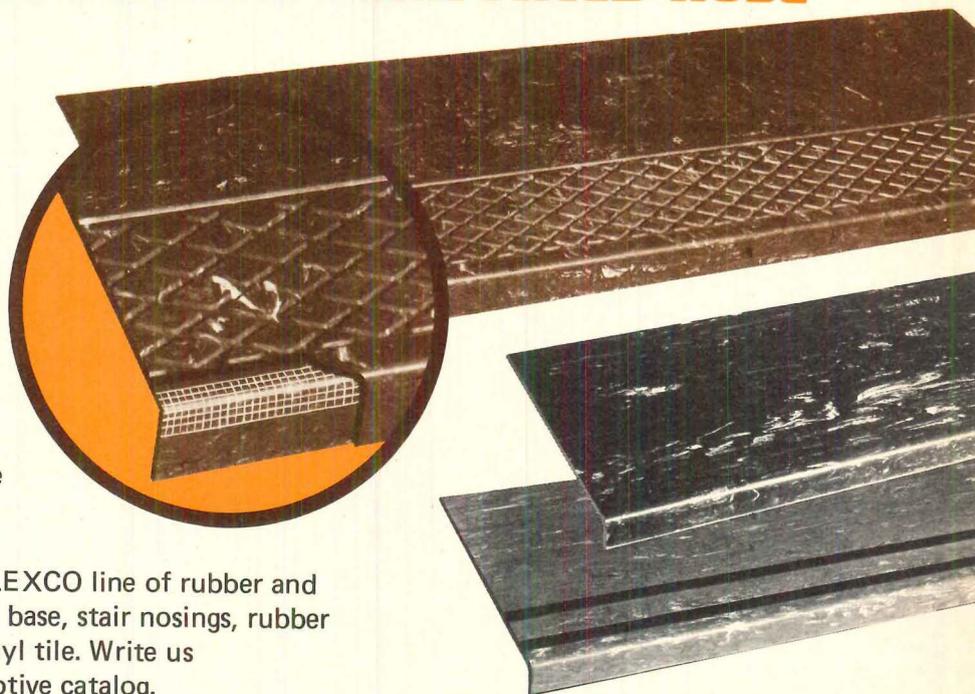
president of Reinhold Publishing) and I changed the name from *Pencil Points* to *Progressive Architecture*. Then he said, "You know, it's hard to think back when the word progress meant something." But Johnson tossed a compliment to P/A. If it weren't for the Awards, he asked, "What would we talk about the rest of the year?" [News continued on page 26]

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## Makebelieve "City" delights children

Much of the credit for a new children's exhibit in Atlanta's High Museum of Art should go to Heery & Heery's VP Mack Scogin and friends. A member of the Give-Me-Your-Apple-and-Whitewash-My-Fence school, Scogin reputedly materialized a \$150,000 show for a third of that while providing children (and adults) with an excellent vehicle for appreciating the "City" as a kinetic collection of light, line, color, shape, space, texture, balance, form, and sound. Participants in the experience wind their way through a maze of visual and tactile opportunities, varying in character from Claes Oldenburg (a soft train) to guys and dolls (a color-coded subterranean steam tunnel), with at least one visitor recalling what Robert Venturi tried to teach him about urban beauty unperceived.

On authority of the kids, "City" is a success. What weaknesses exist with



Children experience population explosion in faceted mirrors of "City" exhibit

some of the media machinery are more than offset by an imaginative use of materials (tire tiles) and a *trompe l'oeil* bag of tricks that keep people coming and going, many more than once. [Antonin Aeck]

## 12 to fill shoes of Corbu and Mies

Pier Luigi Nervi, Marcel Breuer, and Oscar Niemeyer, in that order, are the most admired architects today, according to an informal survey taken recently at the annual meeting of the Florida South Chapter of the American Institute of Architects. The question was, who today comes closest to filling the leadership roles of Mies, Corbusier, and Gropius? The top 12 names are: Pier Luigi Nervi, Marcel Breuer, Oscar Niemeyer, I.M. Pei, Pietro Belluschi, Paul Rudolph, Kenzo Tange, Felix Candela, John Andrews, Gordon Bunshaft, Minoru Yamasaki, John Portman.

## Does your building speak Italian?

Americans may not realize that many formal interiors here have an Italian flavor: monumental stone from Italy. To stress and encourage this, a mission of Italian building stone specialists re- [continued on page 30]

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See Sweet's Interior Design File.

News report continued from page 26

cently visited New York to discuss mutual concerns with U.S. architects and stone fabricators.

Italian stone was praised. But significant problems contrasted time/cost conscious U.S. management with an informal, personalized Italian style. Occasional yet real problems: changing prices and delivery dates, poor business communications, and insect infestation of wood skids used to pack stone in transit, which the U.S. Department of Agriculture may ban from the ports—along with the stone. Still, Italian stone is unsurpassed for visual splendor, and its quarrying, dressing, and shipping costs are competitive here.

## Out of court aid for unhappy owners

The National Association of Home Builders is offering assistance for new home owners, such as buyers of condominiums, who have problems with

their builders. The NAHB through its 594 state and local associations has established channels for handling complaints, to avoid expensive litigation, and will provide more information on this service to those writing the National Housing Center, 15th and M sts NW, Washington, D.C. 20005. The association also introduced a 10-year warranty program a year ago. The warranty covers both builder and consumer and is now gaining acceptance throughout the country.

## Comfort and self-defense

Comfort stations qua temples and palazzi have suffered the slanders of a rude populace in recent days. So the Prototype Comfort Station for New York's Dept. of Parks, Recreation, and Cultural Affairs by Heery & Heery, New York is an encouraging effort to relieve some of the grim solemnity and annoying vandalism associated with minding nature's imperative. It is a concrete pre-cast shell housing off-

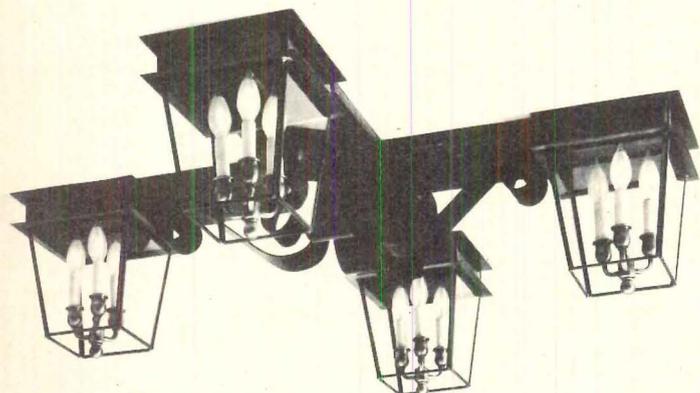


WCs for New York parks

the-shelf hardware and accessories. As a factory product, it needs only final connections to plumbing and concrete pad on site. Shell surfaces are enlivened with cheerful spray-on epoxy graphics while the interior plumbing wall uses plywood under stainless steel cover. A minimum of electric power supersedes the skylight source at night and warms plumbing in winter. The station self-ventilates. It is tough as nails.

[News continued on page 32]

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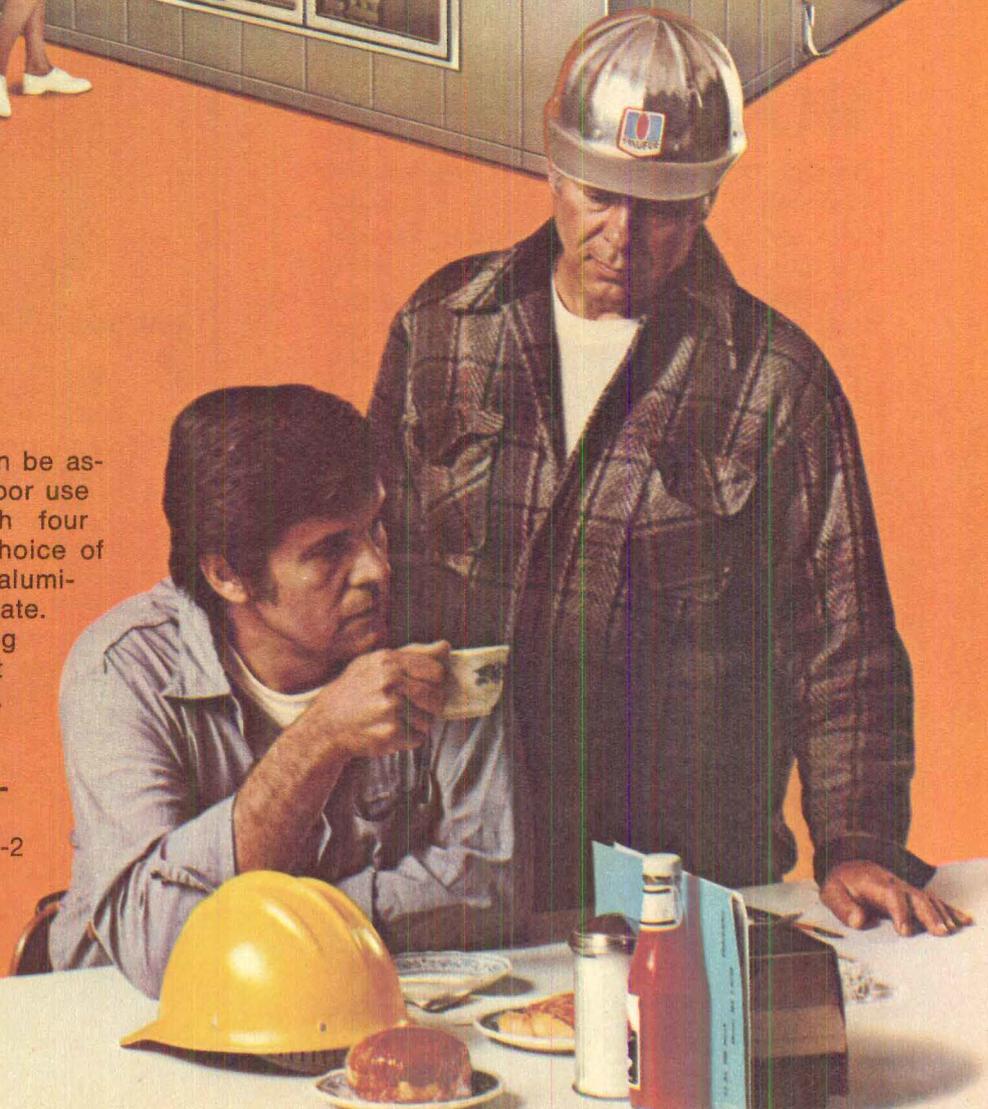


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## Aspen '75: 'Dimensions'

The 25th annual International Design Conference in Aspen, Colo., will be held June 15-21. Industrial designer Niels Diffrient, a partner in Henry Dreyfuss Associates, New York, is the chairman and Joan Bardagjy, director of research at Dreyfuss, is his assistant. The conference theme this year is "Dimensions of Experience" and will cover four major areas: physical, intellectual, emotional, and metaphysical.

## Mural cheers Babies Hospital

Patients at the Babies Hospital of Columbia-Presbyterian Medical Center, New York, may fantasize about safaris and circuses instead of restlessly waiting for the doctor. Albert Lorenz, professor at Pratt Institute, New York, volunteered to help the hospital by assigning the mural as a class project.



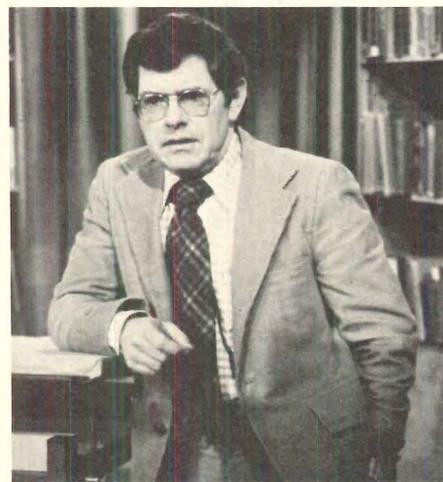
Pratt graduate Gary Rogers at work

## West Coast TV airs architecture course

"Architecture and Yankee Ingenuity," a course of 10 videotaped half-hour programs by professor Grant Hildebrand of the University of Washington's Department of Architecture, is being aired for its second run over KING-TV (Channel 5), Seattle, through March 21. The show about the "practical" side of American design is aimed at the general public and premiered last fall on Seattle's educational station, KCTS-TV. It includes discussion of barns, frame houses, Norman Bel Geddes' appliances, bridges, and factories, Ralph Knowles' concern for so-

lar energy, and a program on Buckminster Fuller.

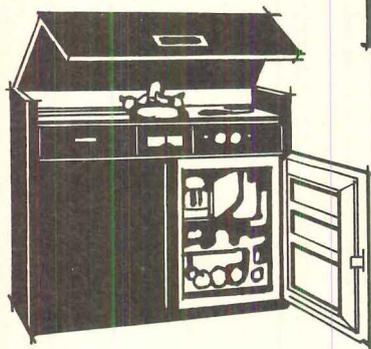
The course also is showing in Portland, Ore., starting Feb. 5 on station KGW-TV (Channel 8). Prof. Hildebrand in addition is adapting the course to book form. Inquiries about the availability of the series may be sent to Alfred McCausland, telecourses, 336 Lewis Hall, Univ. of Wash., Seattle, Wash. 98195. [News continued on page 37]



Professor Hildebrand on television set

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## Personalities

Hugh Stubbins, Cambridge, Mass., has been elected Honorary Fellow by the Mexican Society of Architects.

The Pittsburgh Chapter of the American Institute of Architects has elected the following: **John J. Ross**, Ross & Associates, president; **Charles L. Desmone**, Desmone-Szalai-Desmone, first vice president; **Ralph J. Murovich**, Ralph J. Murovich Associates, second vice president; **John A. Dencler**, Williams-Trebilcock-Whitehead, secretary; **Ann B. Ketterer**, Urban Design Associates, treasurer.

**James J. Amis**, AIA of the San Francisco firm Rockrise Odermatt Mountjoy Amis has been elected president of the East Bay Chapter of the American Institute of Architects.

**Herbert G. Daverman** of Daverman Associates, Inc., Grand Rapids, Mich., has been elected president of the Greater Michigan Foundation.

## Calendar

Apr. 9-10. Symposium on the restoration of historic concrete structures, Boston. The symposium is part of the American Concrete Institute meeting with additional sponsorship by the Association for Preservation Technology, the National Park Service, and the National Trust for Historic Preservation.

Apr. 14-16. National Interfaith Conference on Religion and Architecture, Hilton Palacio del Rio, San Antonio, Tex.

Apr. 23-28. Twenty-eighth annual meeting of the Society of Architectural Historians, Copley Plaza, Boston.

Apr. 30. Deadline for submissions to the Yale R. Burge Memorial Interior Design Scholarship Competition sponsored by the American Society of Interior Designers Educational Foundation, New York City.

May 5-8. Annual convention of the American Consulting Engineers Council, Hotel Sahara, Las Vegas, Nev.

May 18-22. Convention of the American Institute of Architects, Atlanta, Ga.

July 7-9. Third International Conference of the Design Methods Group, Berkeley, Calif.

[News continued on page 38]

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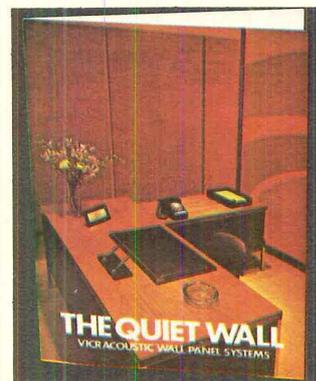


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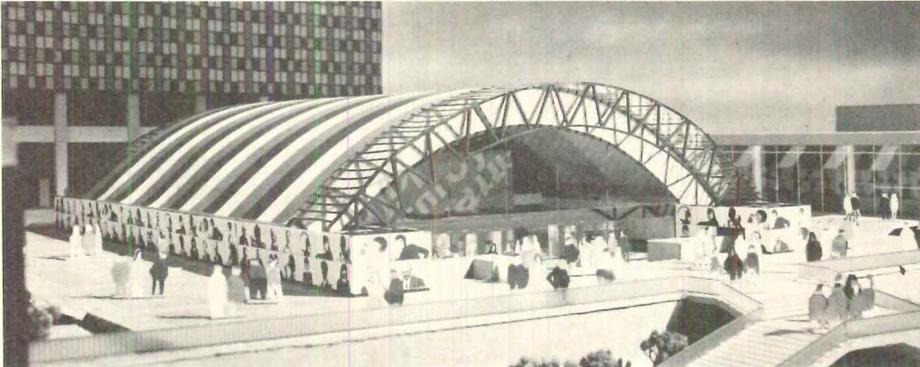
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1

Photo: Steve Rosenthal

**1 Tent/air structure combination**—A temporary, air-inflated, vinyl pavilion supported by end trusses will open April 19 for one of Boston's first Bicentennial events. It will remain on its plaza site in front of the Prudential Center for three years as a 300-seat theater for a multi-image slide show on modern Boston. The base of the structure is a 9-ft-high display fence, a sort of portrait gallery of city people. The vinyl roof is red, white, and blue. Architects: the Cambridge Seven Associates.

2



Photo: Courtesy Henry C. Beck Co.

**2 Peachtree Summit**—The first project to be built on the site of a future rapid transit station in Atlanta is a 30-story office tower by Toombs, Amisano & Wells, Atlanta. The first tower in the three-building project will be finished this summer. It is designed to include a people mover, if the city decides to build one. The transit stop will be incorporated in a two-level concourse which will join all three buildings.

**3** Coliseum entrance to Hartford Civic Center (below) and overall view of the complex (bottom)



Photo: Courtesy Vincent G. Kling & Partners

**3 Hartford Civic Center**—The \$70 million Hartford Civic Center by Vincent G. Kling & Partners, Philadelphia, in association with Harry Danos & Associates, Hartford, opened Jan. 7 after nearly four years of construction. The complex, a block from the commercial center of town and two blocks from Constitution Plaza, is made up of a 407-room hotel, offices, and retail malls, parking facilities, exhibition halls, and a coliseum. The space frame roof of the arena was assembled on the ground and hydraulically jacked up 85 ft to rest on four concrete columns.

Photo: Zaremba



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QUIET



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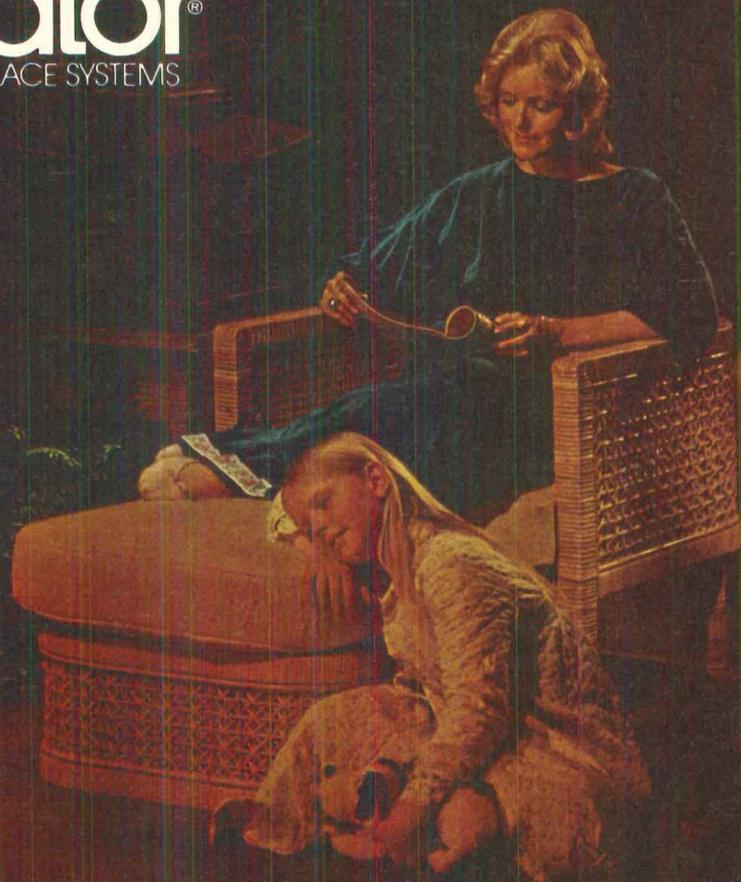
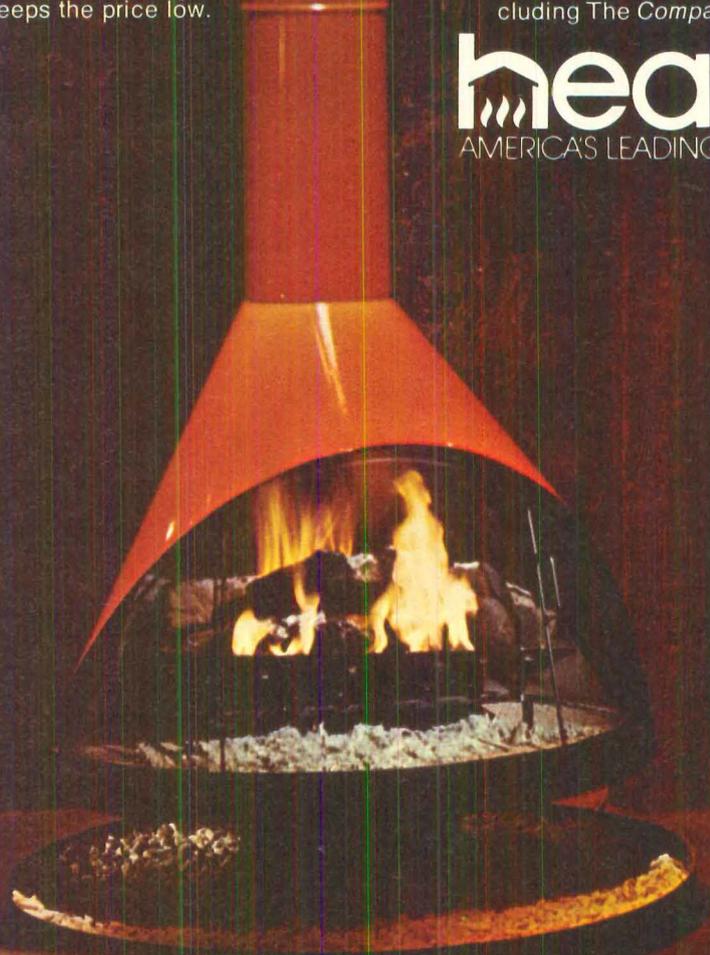
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# Nonmonumental achievement

February 1975

It's hard to be a strong advocate of nonmonumental architecture. In an earlier editorial spelling out P/A's position on design (Feb. 1973), I said among other things that we "stand for nonmonumental architecture, except for those rare situations where monumentality is really called for." But that sounds too much like being *against* something. If we're against misplaced monumentality, what are we *for*?

The subject of this month's cover, Orchestra Hall in Minneapolis, represents the positive alternative. With its color, intricacy, and wit, it challenges the ingrained American image of the concert hall as a music mausoleum.

Why has the concert hall been burdened with monumental sobriety? Even a Beethoven symphony has a scherzo; why should its setting be an uninterrupted adagio? Theaters can be playful; libraries have shed their civic trappings; museums are becoming relaxed (more on recent museums in next month's issue of P/A).

For one thing, the concert hall is inherently large; a small version would be a recital hall, something quite different. Theaters and museums, for instance, come in all sizes; new approaches tried out first at small scale can be adopted for larger and larger projects. Inevitably a major civic undertaking, the concert hall was not even entrusted to "modern" architects until they could offer a Board of Trustees style, with superscaled porticos like those that guard the concert halls of the 1960s in New York, Los Angeles, and Houston. This style climaxed in the Kennedy Center in Washington, which beats them all for oppressive scale, acreage of marble, repetitive elements, and lack of humor.

Compare any of these to Sullivan's Chicago Auditorium or Garnier's Paris Opera. These 19th-Century landmarks are monumental in many respects, but both are full of spa-

tial surprises, color, glitter, and inventive detail.

This Minneapolis hall is not quite the first concert hall to break out of the current neoclassical mold. In the past couple of years, P/A has published the superb new concert halls at Helsinki (July 1972) and Oakland (Aug. 1973). But one of these is the work of Aalto, on his home ground, and the other was adapted from a 1930s movie palace.

When the sponsors of Orchestra Hall called in New York architects Hardy, Holzman, Pfeiffer Associates (to associate with local architects Hammel, Green & Abrahamson) they obviously knew they would get an unorthodox building; they were already accustomed to the irreverent quirks of the Guthrie Theater (Rapson, 1963) and the untamed masses of the Walker Arts Center (Barnes, 1972). HHPA, as expected, gave them a structure full of ironies, ambiguities, and sly references to other styles, a building that proclaims the virtues of "messy vitality over obvious unity."

Those alternatives, you may recall, were first posed by Robert Venturi in his *Complexity and Contradiction in Architecture* (Museum of Modern Art, New York, 1966). The impact of Venturi's 1966 manifesto becomes more apparent day by day in buildings like those of HHPA. That is not to say that HHPA are blind followers of Venturi, or that Venturi would see their work as the embodiment of his principles. (I haven't asked him.) It is more a matter of the attitudes that both architects and clients bring to projects.

By all means read—or reread—Venturi as you consider the HHPA works in this issue, and the Art Deco works as well. He makes an eloquent case for their objectives.

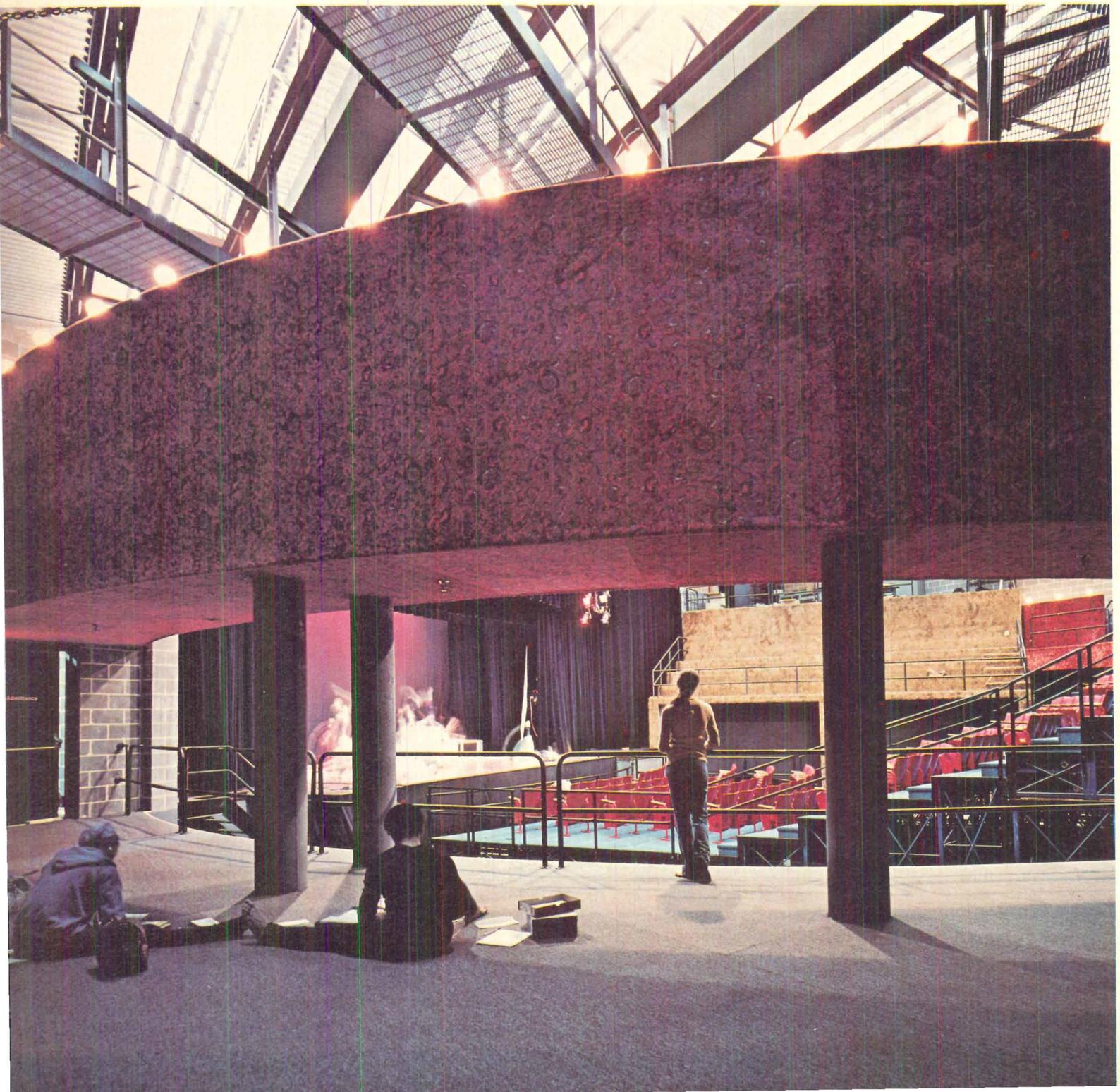
Venturi, incidentally, also had the problem of advocating a negative. He made virtue of it, titling his first chapter: "Nonstraightforward Architecture: a Gentle Manifesto."

*John Morris Difer*

Hardy Holzman Pfeiffer Associates

# HHPA's USA

For Hardy Holzman Pfeiffer, architecture is a process of give and take. It can receive images and ideas from the environment, but it may be more important for what it returns to the community. Following a presentation of three newly completed arts projects, the uniquely American aspects of the firm's work are analyzed, and the architects discuss questions of financing arts projects in America.

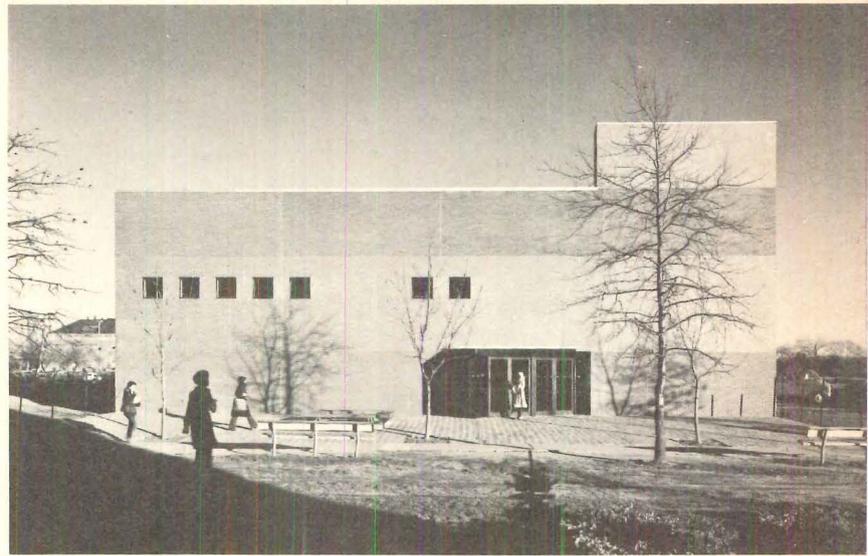


# Robert G. Olmsted theater

Norris Houghton

All that is needed to create theater, we have heard it said, are "two planks and a passion." The quotation (whose source I have been unable to uncover, Bartlett being uncooperative and the theatrical historians at odds with each other) sometimes enlarges the shopping list to three planks and adds two trestles. The passion is a constant.

The specifications of the Theatre of Dionysus at Epidauros have not been preserved for us with exactitude, but from what remains, that playhouse appears to have been an enormous but really quite simple structure. Scholars can pretty well reconstruct Shakespeare's Globe, and contem-



## Hardy Holzman Pfeiffer Associates

porary prints depict the converted indoor tennis courts that served the dramatists of the French Renaissance. Both were rather makeshift solutions, using spaces already available. The second-story loft on Montmartre in which André Antoine brought modern realism into being had not even an elevated stage and accommodated but 200 people; the converted chapel on New York's MacDougall Street wherein Eugene O'Neill and his colleagues generated the first serious 20th Century American drama held only 100.

The point at which I begin my consideration of new theaters is, I guess, determined by my Calvinist Sunday School childhood: we might call it a "manager complex." As I turn to a consideration of the problems involved today in erecting cathedrals to man's spirit as he expresses it in song, in dance, in drama, I find myself more drawn to Bethlehem than to Rome.

The rationale underpinning our labors today is, to be sure, in part the same as what animated the builders of St. Peter's: to glorify the eternal and draw all men unto it. In our case, the eternal is beauty, more specifically art, most specifically the performing arts. To put it more prosaically, by providing the best possible facilities in which to perform, we give tangible evidence of our commitment to the arts of music, theater, and dance. By creating felicitous environments for them, we make our bid for the attention and eventually the devotion of hoped for converts.

One such felicitous environment has just been created at Adelphi University by Hardy Holzman Pfeiffer Associates. It derives principally from the emphasis placed upon the spatial relationships between performers and spectators. Of course, down through the centuries that relationship has been as varied as the forms of drama men have devised.

The proscenium stage and uni-axial auditorium of the 19th and early 20th Century satisfied theater planners for most of the last 150 years. Consequently, when playhouses were built on college campuses from California to Connecticut as late as the 1920s and 1930s (and in some places considerably thereafter), it was considered sufficient to provide a hall with floor sloping toward a picture frame erected at one end enclosing the acting area. What was good enough for Drury Lane and Broadway was good enough for those campus architects. But was what Broadway had good enough—even for Broadway?

The history of the theater teaches us, however, that just as one style of presentation becomes acceptable, the seeds of revolution are sprouting to supplant it with an opposing thrust. While the big Paris stages toward the end of the last century were still echoing to the swashbuckling histrionics of Victor Hugo, André Antoine (aided by Zola) was devising in his tiny Théâtre Libre an overthrow by naturalism. And across Paris in his equally tiny Théâtre l'Oeuvre, Lugné-Poë, aided by Maeterlinck, was devising in turn the overthrow of Antoine's naturalism.

How is the university to fashion its facilities to do equal justice to *Hernani*, *Thérèse Raquin*, and *Pelleas and Melisande*? And at the same time to the works of Sophocles, Moliere, Shakespeare, and Congreve, not to mention the *Commedia dell'Arte*, Brecht, Genet, and Cole Porter? Are all of these works to be molded and mauled until they

will fit into the same outmoded box?

Theater planners can, however, look back into the past and extract certain basic principles of stage presentation common to many eras: that authors and artists have been animated by one of two opposing attitudes—the acceptance and, indeed, exploitation of the presence of performers and spectators together in the same place at the same time; or the apparent denial of this relationship in the interests of another attitude toward artistic truth. Marlowe demanded of the audience a measure of active participation, Chekhov demanded intense but passive receptivity.

At Adelphi we observe that while a proscenium arrangement can be effected to satisfy the latter attitude, the essence of the planning is directed toward affording what the great Russian director, Nikolai Okhlopkov, demanded of the theater: a "communion" between performers and spectators—in a variety of ways. Now the public may be seated traditionally in rows looking toward a raised platform on which the artists perform; now the arrangement may be reversed, with the audience on raised platform, the performers in a courtyard space before them; again the spectators may sit in asymmetrical areas, high on one side, lower on another, focusing their attention toward an arena-like space between. And other juxtapositions are possible. If this sounds "gimmicky," it is, to an extent. At the same time, the animating intent must be noted and respected. It is to jog the participants in the event—both spectators and performers—into new perspectives of each other, into closer communion, if you will.

Adelphi's theater, where economy and simplicity of materials and surfaces have been applied with taste and originality, is not too remote in feeling from those basic planks and trestles. It is far from the stable, but it is, thank God, even farther from the cathedral. Of course, like every theater building since the beginning of time, it is only the means to an end. Without passion, the planks are only planks. □

### Data

**Project:** Robert G. Olmsted Theater, Adelphi University, Garden City, New York.

**Architects:** Hardy Holzman Pfeiffer Assoc., Peter Szego, project architect.

**Program:** to provide the greatest range of performance situations within very limited budget. Theater to function as classroom and to have flexibility without complicated or expensive technology.

**Site:** suburban "sprawl" campus with motley collection of buildings in a disorderly patchwork of grass and parking lots.

**Structural system:** steel frame and concrete block. Conventional, speculative commercial-building system.

**Mechanical system:** rooftop, self-contained HVAC units.

**Major materials:** steel frame, concrete block with face brick, concrete slab on metal deck, long-span open-web steel joists, built-up roof.

**Consultants:** Irving Fishman Assoc., electrical/plumbing; LeRoy Callendar, structural; Feller Scenery Studios, Inc., theater; Robert A. Hansen Assoc., acoustical.

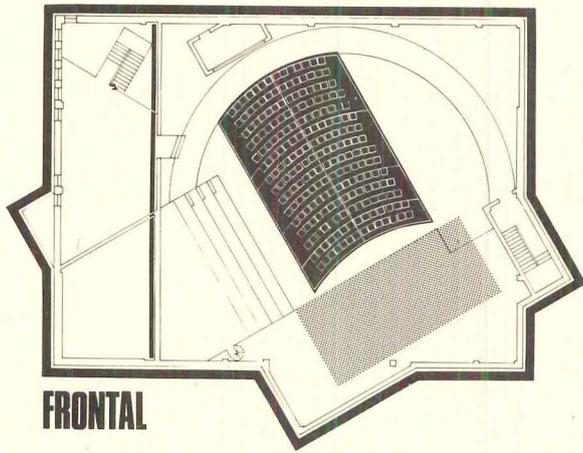
**Client:** Adelphi University.

**Cost:** \$1.3 million.

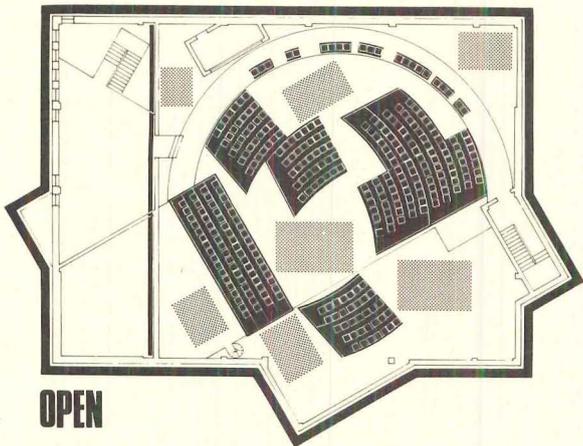
**Photography:** Norman McGrath.

**Author:** Norris Houghton is Dean of Division of Theater Arts, State University of New York, College at Purchase, N.Y.

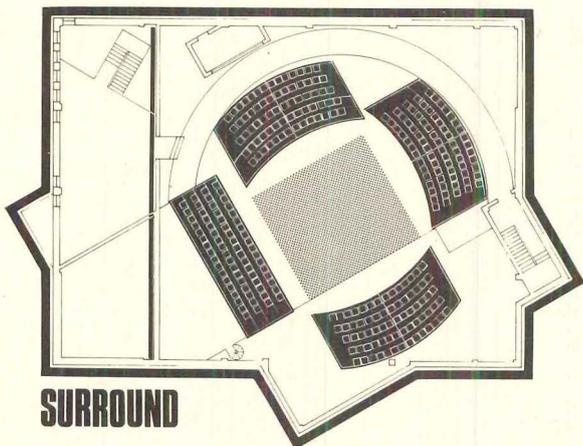
The basic principle behind the Olmsted Theater at Adelphi University derives from the emphasis placed upon the spatial relationships between performers and spectators, and specifically on "communion" between the two, in a variety of ways (see seating plan, below).



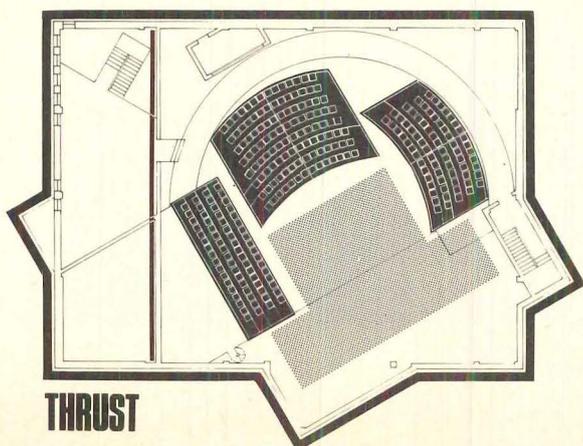
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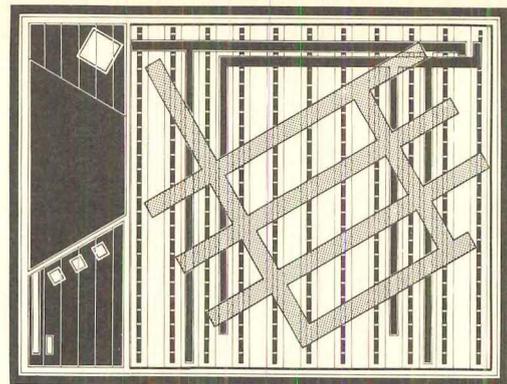
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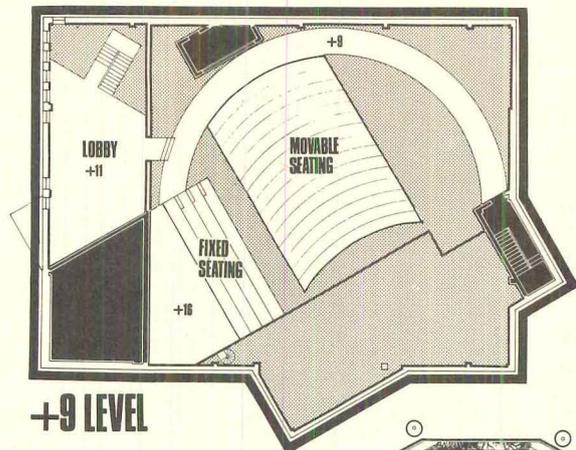


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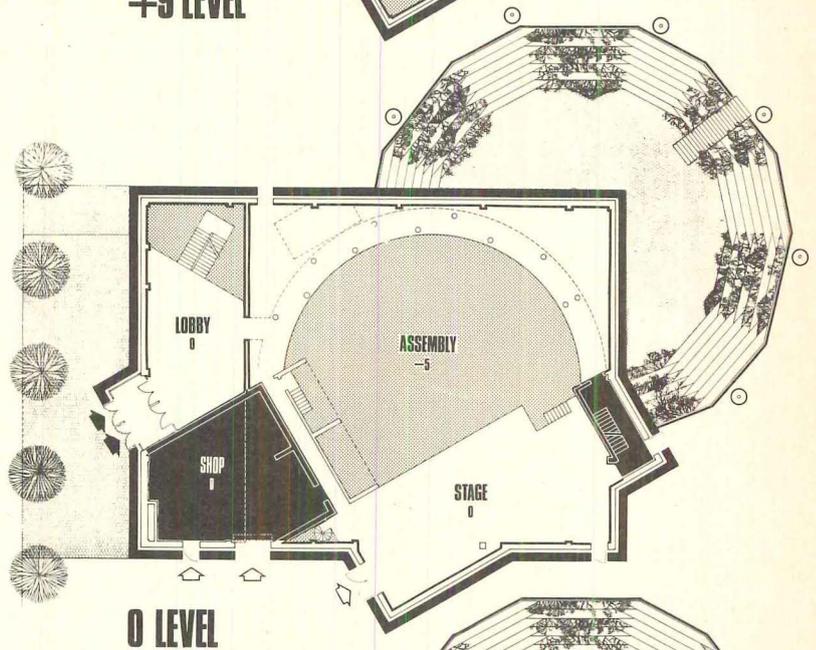


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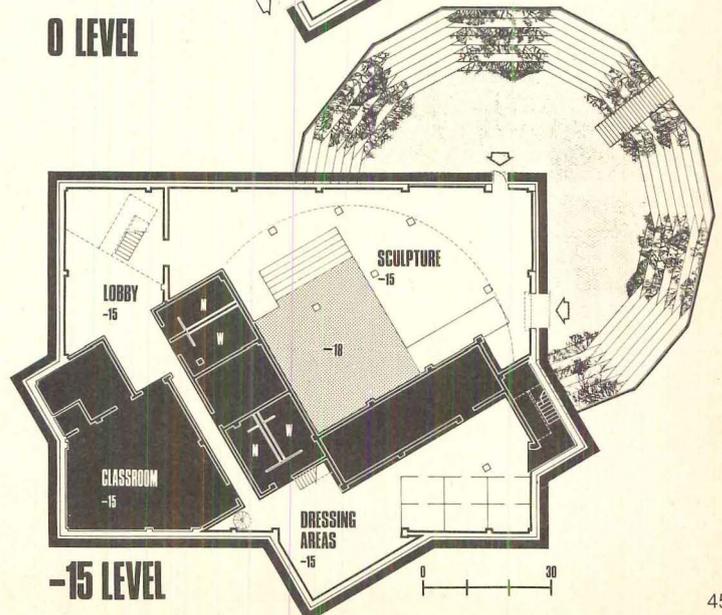
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 — CATWALK



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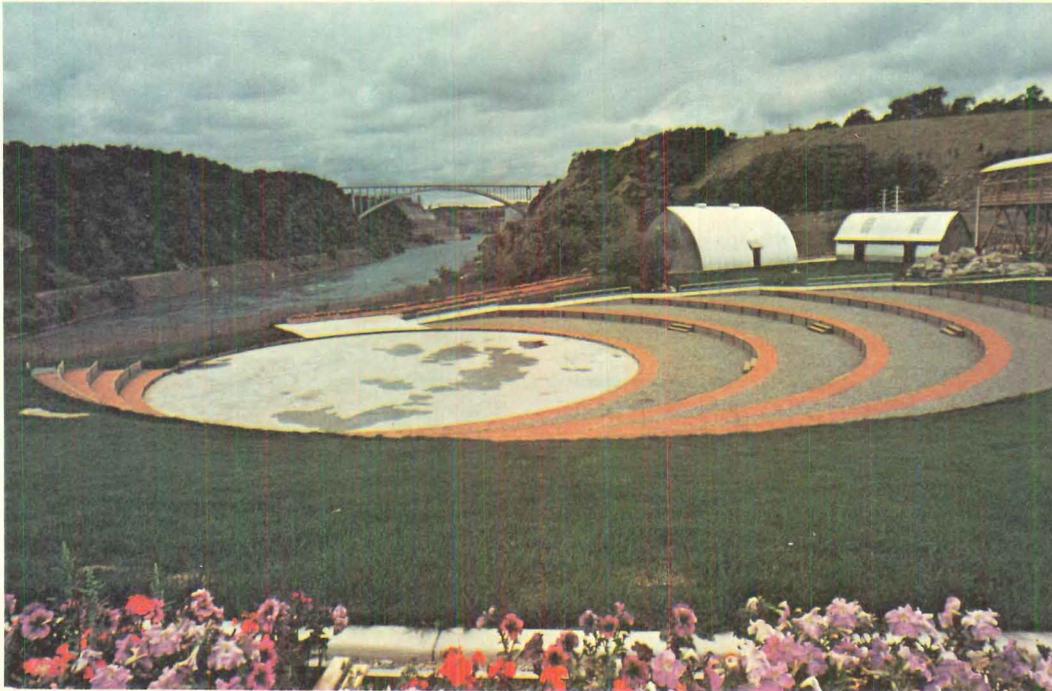
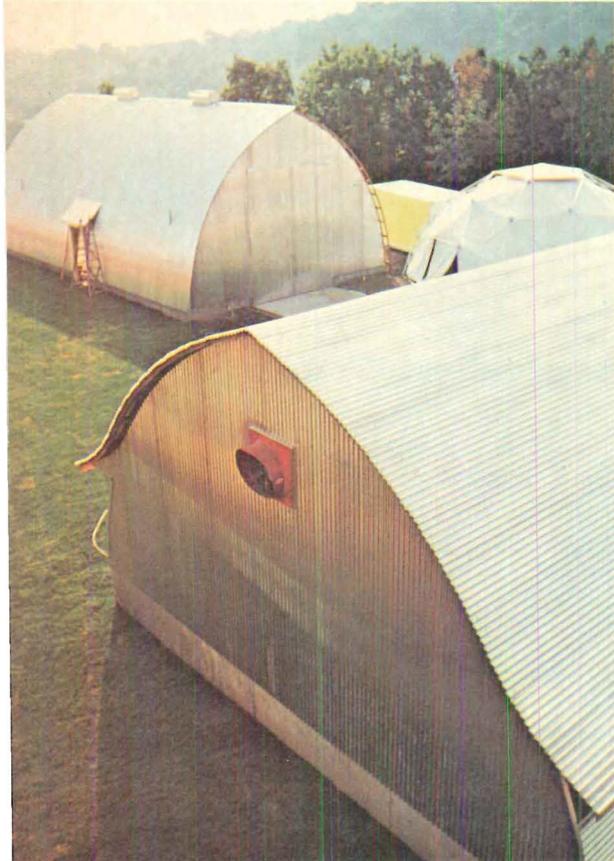
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Hardy Holzman Pfeiffer Associates

# Artpark

Nancy Tobin Willig



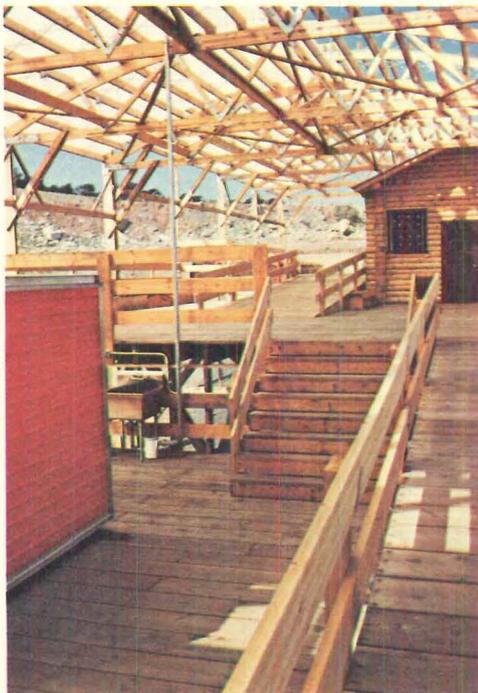
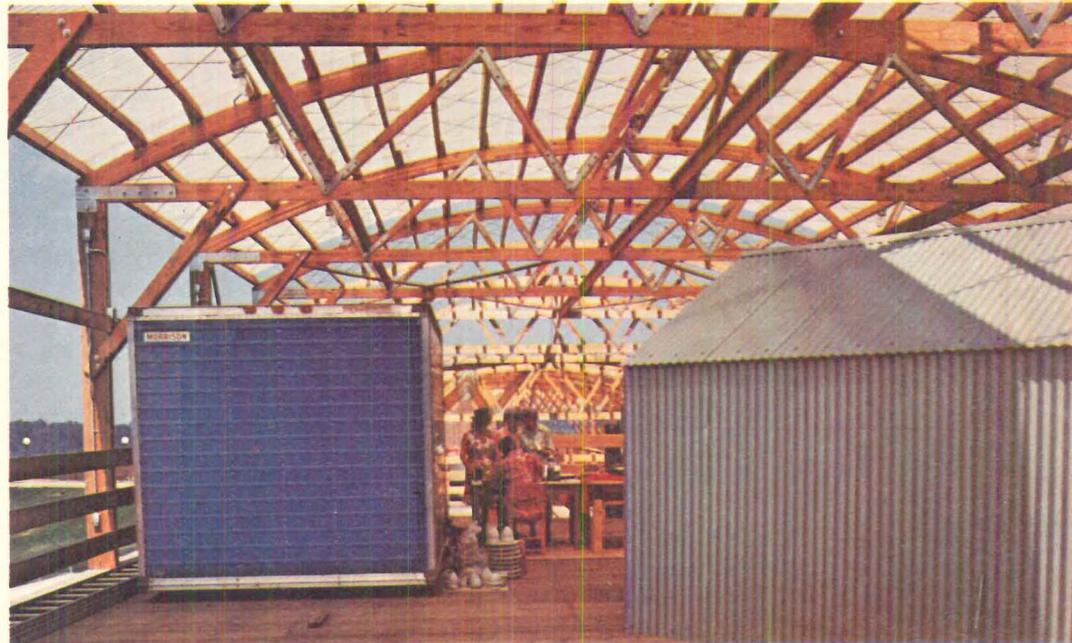
Artpark is a new word and a fresh idea. It's free outdoor culture; it's fantasy finding a real home. A child of New York's Rockefeller administration that (like the state's council on the arts) will become precedent-setting in world of arts and recreation.

Artpark is growing up in Lewiston, New York, a quiet historic country club suburb of nearby Niagara Falls. It was here, some eight years ago, that New York's State Senate Majority leader and Niagara Falls resident Earl W. Brydges decided to create a summer festival theater. The project, after passing through a number of hands, wound up in the lap of a newly appointed commissioner of parks and recreation, Alexander (Sam) Aldrich, in 1972. A multipurpose performing arts center, whose suitability was being questioned by state officials, was already under construction. In an effort to save what had become an expensive and a highly visible state-funded project, Aldrich's staff came up

with a daring idea: Why not create a park for all the arts on land surrounding the theater where the public could come, watch artists and performers at work, and rub shoulders with the creative process—Aldrich and Governor Rockefeller liked the idea; it was different, it was visionary, and it was possible.

By 1973, the state acquired rights to land adjacent to the theater to create a 175-acre site. On the broadest portion of the funnel-shaped site sat the ever-growing 2400-seat performance center, with a roll-up rear wall exposing an outdoor seating lawn for another 1500 patrons. The site—

HHPA's ArtPark in Lewiston, N. Y. offers free, outdoor culture at its ArtEI (facing page, top), Town Square (facing page, bottom left), and Amphitheater (facing page, bottom right). Facilities on the ArtEI (below) include l. to r. a highway toll booth, industrial structures, a log cabin where artists work, and an imitation red brick public toilet.



## Hardy Holzman Pfeiffer Associates

formerly a chemical dump and landfill—is one of the most visually dramatic and historically significant parcels of land in the U.S. Nestled into the side of a sloping hill on the U.S.—Canadian border, and bounded on the west by the magnificent Niagara River gorge, it was here that white settlers first moved inland nearly three centuries ago. Major battles of the French and Indian War were fought here, and the town itself was razed by the British in 1813. Revolutionary War decisions were made in Lewiston, and an Indian burial mound is on the site.

When the state began looking for someone to put Artpark together in the middle of 1973, they turned to Hardy Holzman Pfeiffer Associates because, as one state official put it, “they just seemed to understand the concept better than anyone else.” What the state wanted was a master plan for a park where the arts, like tennis or golf, would be consumed as a new form of summer recreation, where the visitor could, as one brochure described it, “discover the artist in himself.” The architects were charged with a double duty, to develop the entire park with a variety of facilities, and to attract and satisfy the widest possible audience, from sophisticated viewers attending evening productions of ballet or opera to camper tourists. And, Artpark had to successfully compete with other daytime attractions clustered around the souvenir mecca of Niagara Falls. On top of all this, Artpark couldn’t neglect the 3300 Lewiston residents who were viewing the entire project with, at the least, trepidation and, at times, outright horror.

The architects responded with a unique plan that would invite a variety of visual and performing arts activities through its summer artists-in-residence programs. While Artpark is no ordinary park, as the architects tell you right away, there are a few picnic tables scattered here and there, but no barbecues or pavilions, no baseball diamonds, playground equipment, or swimming pool. Visually and aesthetically, Artpark can be weighed. As a multi-purpose arts activity center, however, it can’t be evaluated until this summer when artists, craftsmen, and performers will be working and mingling with daytime visitors.

Construction of the facilities continued during the entire past summer, becoming a nightmare for the state planners, workers, and Artpark staff. As portions were completed, they were used for programs planned through mid-September; construction was finally completed September 12.

The Hardy Holzman Pfeiffer facilities are clustered around the performing arts center and are as visually intriguing as Artpark’s concept is intellectually intriguing. The activity complex is in three parts: the ArtEI, a 300-seat amphitheater, and an adjacent brick patio “town square” area. Together, these areas provide for a wide range of work and play spaces.

The ArtEI is the most daring aspect of the project. This 500-ft-long, 40-ft-wide L-shaped elevated boardwalk is designed to serve as a workspace for artists and as a walkway for theater patrons coming from parking lots on upper levels of the sloping site. Partially covered and open-sided, it will undoubtedly be the most controversial aspect of the architect’s plan. The light timber trestle is the pedestrian circulation spine that interconnects all site activities. But there

it is “rough, spunky, and inviting with its stairways and ramps full of open-air nooks and crannies,” a place to hide where there are no secret spaces. It has a visual mystery, though, and an excitement, and even a quality of danger because of its elevation.

For residents of the Niagara Frontier area, to whom subways and “els” are no commonplace spaces, ArtEI is especially inviting. It is not graceful in the manner of the concrete and brick tiered amphitheater. It is a bit like a comical, bragging, semi-naked wrestler preening his muscle and grit. It’s rawness—the rugged beams with visible nuts and bolts and electrical fixtures—is also its curious, casual beauty. Facilities, like a bathroom built, oddly, of imitation red brick at one end of ArtEI, are balanced off by an absurdly corny log cabin at the other end, the purpose of which presently seems a mystery.

The amphitheater never has been tried—it was completed after the season had ended. This outdoor performance space is fulfilled by its setting. The beauty of the natural background—the Canadian shores and a monument to a historic British war hero—provides an elaborate set that makes synthetic backdrops unnecessary. Artpark’s Acting Director David Midland sees the amphitheater as space for music and dance, and only “certain kinds” of theater.

Connecting the “town square” patio to the amphitheater stage area, a barnlike, gleaming corrugated steel storage shed stops the eye dead. This windowless, all-weather pre-fab building is intended to serve as closet space for the stage and events taking place there. But the bulky, bright shed is a glaring bull’s-eye that blocks the view and the afternoon sun, bringing to the late hours a depressing shadow that spreads over the grassy space linking the ArtEI, the “town square,” and the amphitheater. But the odd placement of a shed or a toilet will not ultimately determine the success or failure of Artpark. It is the manner in which the original concept is carried out, and the quality of the artists and the performers, that will make the conclusive statement on the facilities, which are imaginative, and like Artpark itself, a bit of fantasy grappling with reality. □

**Project:** Lewiston Artpark, Lewiston, N.Y.

**Architects:** Hardy Holzman Pfeiffer Associates; Kurt Kucsma, Neil Dixon, project architects; James Sarfaty, supervising architect.

**Client:** N.Y. State Dept. of Parks and Recreation.

**Program:** to develop an entire state park for the programming of both visual and performing contemporary arts as distinguished from development for recreational purposes or the conservation of natural resources. Two parking lots accommodating 500 cars, constructed of Turf Top, will be used for other activities when not used for parking; a 40-ft-wide, 500-ft-long elevated ArtEI promenade connects a lower parking area and 300-seat outdoor amphitheater.

**Structural system:** ArtEI, wood frame with pre-engineered structures for artists’ work spaces; amphitheater, poured concrete.

**Major materials:** ArtEI, wood frame, log cabins, truck bodies, silos, etc; amphitheater, concrete; parking areas, Turf Top.

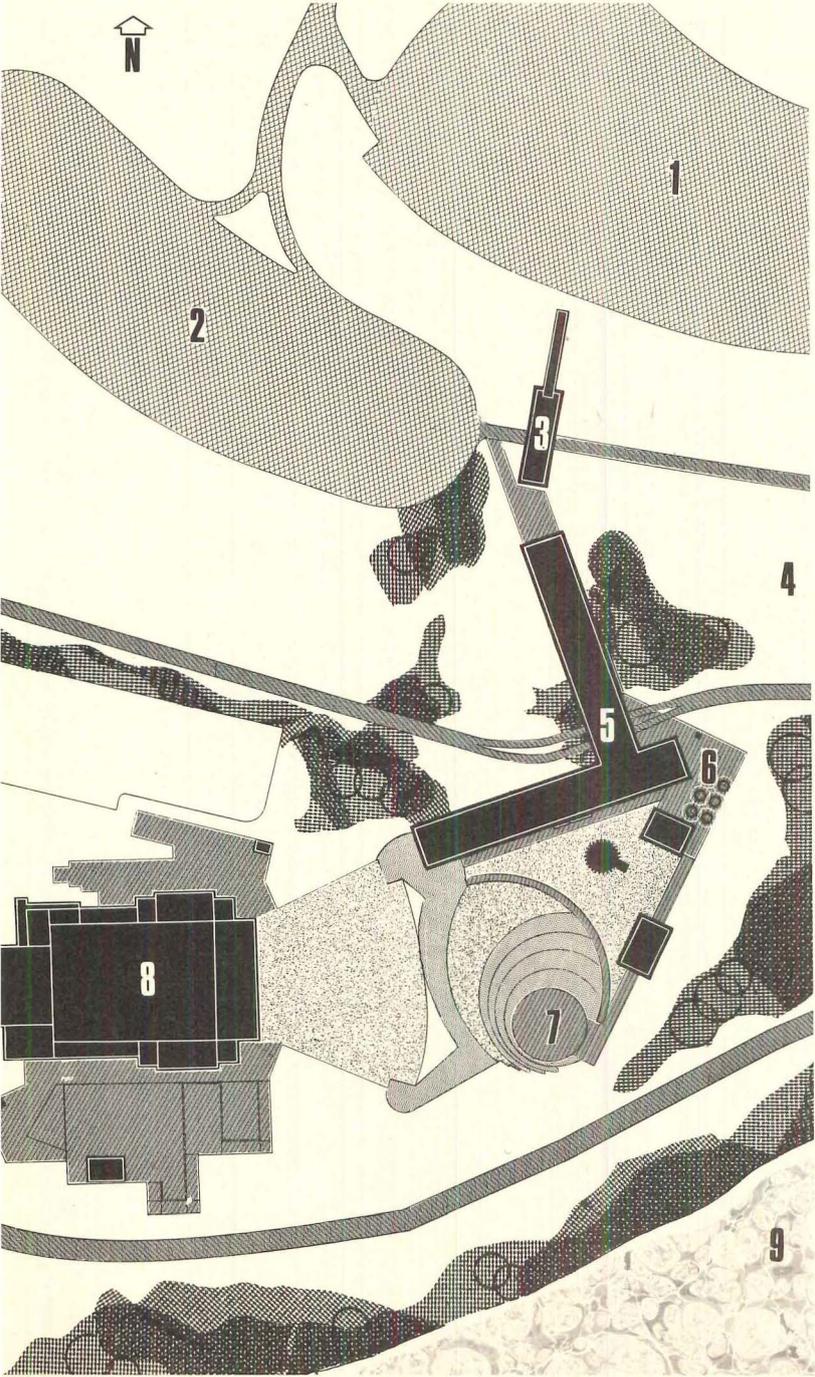
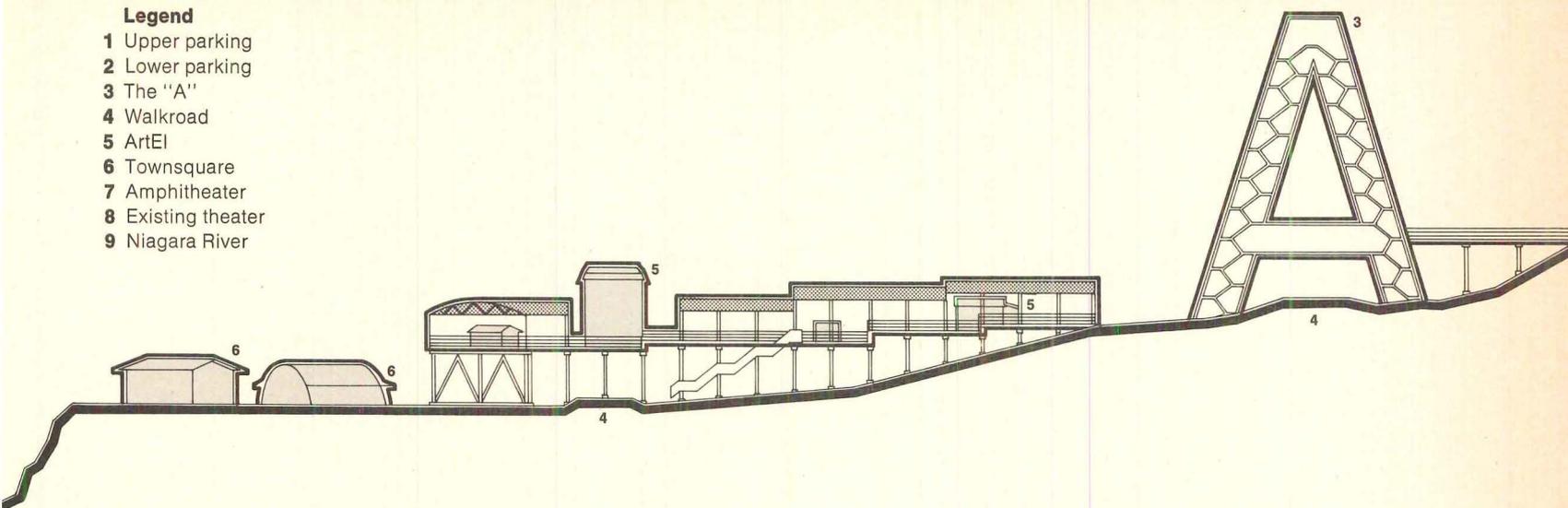
**Consultants:** Irving Fishman Assocs., mechanical; LeMessurier Assocs., structural.

**Photography:** David Hirsch, except p. 46 top and bottom right, p. 47 bottom left and right, Neil Dixon.

**Author:** Nancy Tobin Willig is art critic for the Buffalo Courier Express.

**Legend**

- 1 Upper parking
- 2 Lower parking
- 3 The "A"
- 4 Walkroad
- 5 ArtEI
- 6 Townsquare
- 7 Amphitheater
- 8 Existing theater
- 9 Niagara River



The concept behind ArtPark is that people like to watch artists perform.



**Hammel Green & Abrahamson, Inc., and  
Hardy Holzman Pfeiffer Associates**

## Orchestra Hall

It is becoming clear that Minneapolis seems to be a city that knows what it wants, and more often than not, gets it. Nicollet Mall has become a prototype for pedestrian urban malls in this country. In matters of architectural design, Minneapolis is rivaled perhaps only by Columbus, Indiana, for looking beyond its immediate locale for outstanding talent. Philip Johnson's IDS Center would be a huge urban plus in any city, Gunnar Birkerts has designed the extraordinary Federal Reserve Bank, Edward Larabee Barnes' Walker Art Center has been called the finest new museum building in the country, and Kenzo Tange has just completed a major new addition to the Institute of Arts.

It seems normal that in Minneapolis, where Hammel Green & Abrahamson of St. Paul are project architects for a new concert hall, they would work in collaboration with New York architects Hardy Holzman Pfeiffer—a firm known for its performance halls—as associate architects for design of the project (both firms participated in the early feasibility studies). Along with acoustical consultant Dr. Cyril Harris, who was responsible for the fine acoustics of New York's Metropolitan Opera House and the three theaters in Kennedy Center, and Naugle-Leck Associates, Inc., as construction supervisors, the four groups made up the basic team for the new 2600-seat Minnesota Orchestra Hall. It was constructed in only 16 months, making it perhaps the first "fast-track" symphony hall on record.

The new hall is important on several counts. The clients' decision to locate it downtown represents a firm commitment to center city. The hall, and M. Paul Friedberg's Peavey Park Plaza emerging in front of it, will become the focal point of a new redevelopment area; they are at the intersection of the planned Nicollet Mall extension and a new greenway that will connect to a park and then to the Guthrie Theater and the Walker Art Center. The hall's orientation at present seems to be toward a side street, which has disturbed some people, but the entry there is actually an auto drop-off. When the plaza is finished, the entry facing it will be clearly read as the main one.

Another, and perhaps the most significant reason this building is important, relates to the superb acoustics of its auditorium. Ultimately, little could be of more importance to a concert hall. Here, thanks to Cyril Harris, the cooperative and knowledgeable architects, and especially to some wise



Hammel Green & Abrahamson and HHPA's Orchestra Hall in Minneapolis is essentially two buildings in one. A light steel, glass, and aluminum panel cage holding administrative spaces and lobbies (facing page) surrounds the two-walled, enclosed auditorium (facing page, top right).



**Hammel Green & Abrahamson, Inc., and  
Hardy Holzman Pfeiffer Associates**

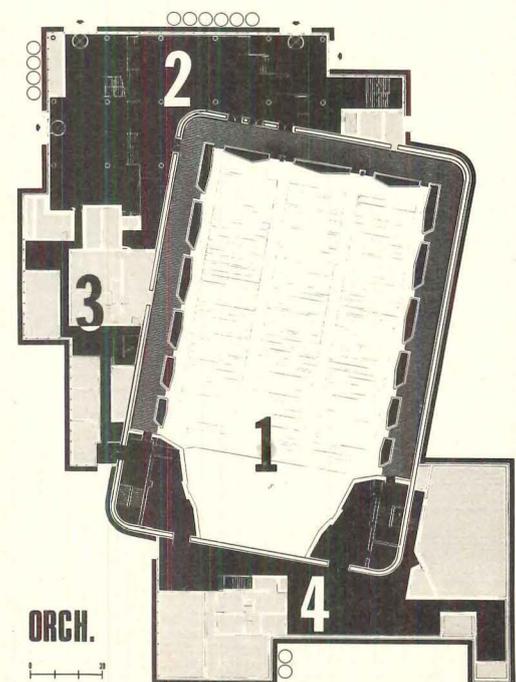
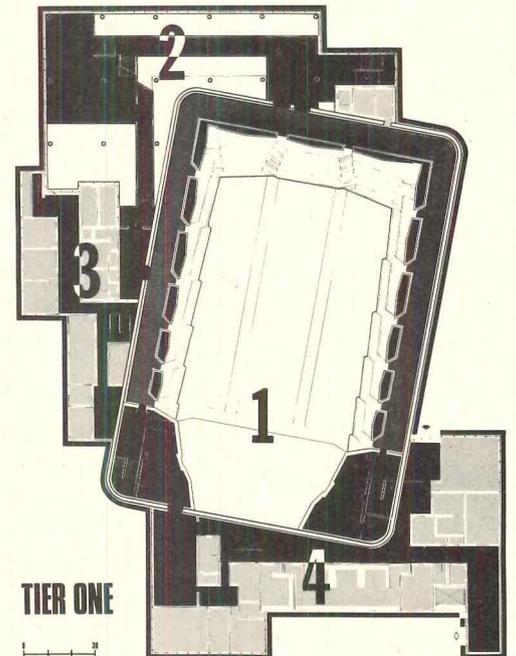
clients who stated clearly in their program that "above all, the building should help achieve that most important goal—the excellence of the acoustics," the sound is superb.

Everything about the auditorium was determined by the effect it would have on the sound. Conventional noise control techniques are used, but in addition, all heavy, noise-producing mechanical and electrical equipment is placed beyond the auditorium space in other areas. The auditorium itself is a two-walled (one of load-bearing concrete

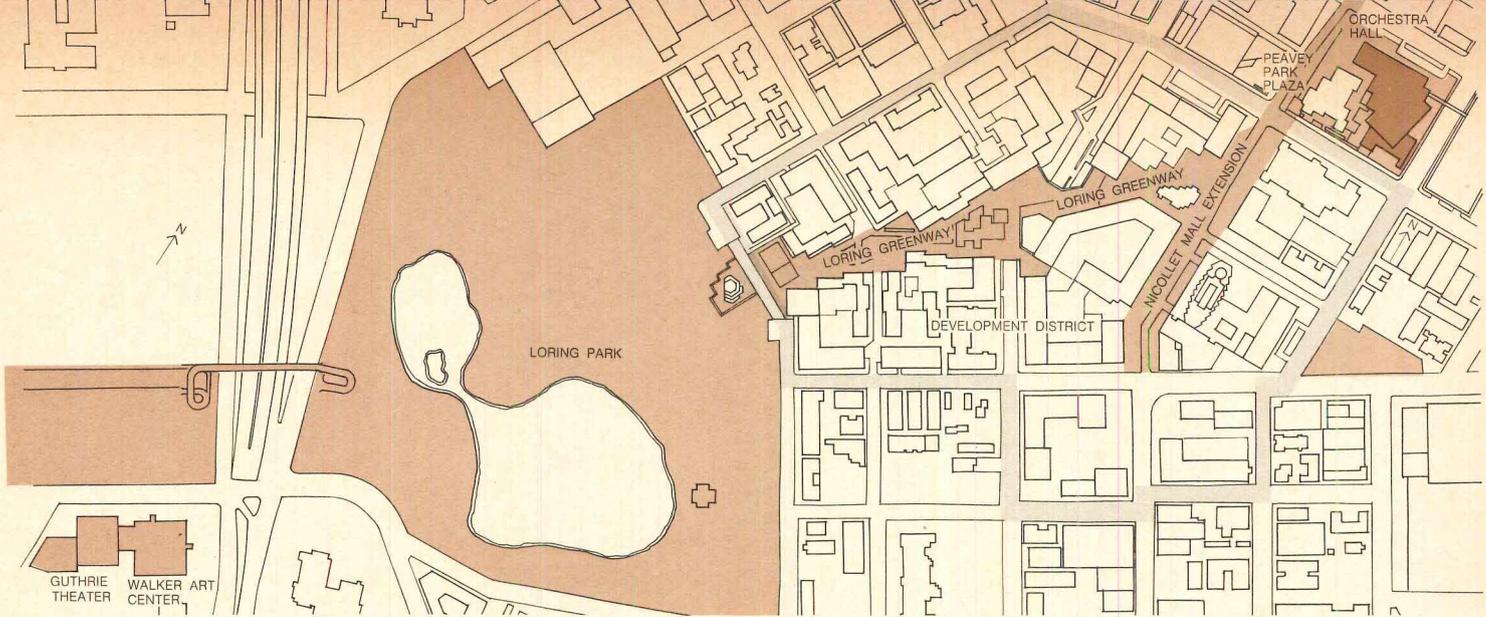
When completed, Peavey Park Plaza (below) will become the main access to Orchestra Hall for pedestrians arriving from downtown. A carpeted corridor (bottom) between auditorium's two walls stops sound.

and the other of structural steel and brick infill) sealed rectangle with carpeted (on floors and inner wall) circulation corridors between the walls. All other facilities, such as lobbies, offices, practice rooms, etc., are in appended structures separated from the outer auditorium wall by a one-inch-deep, sound-insulating airspace. To discourage patrons from bringing sound-absorbing winter wraps into the auditorium, quick-check lockers are in the lobbies.

On first sight, the auditorium looks anything but traditional, yet it is actually a very conventional hall. All of the materials "were selected to provide optimum reverberation characteristics for symphonic music," notes Dr. Harris, who adds, "I am a traditionalist, and believe in the use of traditional building materials in a concert hall." The hall is rectangular simply because traditionally that shape has proved to produce the best concert hall sound. Furthermore, the hall was directly patterned on a quite conven-



- Legend**
- 1 The Hall
  - 2 Lobby
  - 3 Administration
  - 4 Artistic



Soon, Orchestra Hall will look out on M. Paul Friedberg's Peavey Park Plaza and the Nicollet Mall extension. Eventually, Loring Greenway will tie it to Loring Park, to Walker Art Center, and the Guthrie Theater.

tional concert hall—the acoustically superb one in Kennedy Center—repeating almost identical dimensions of height, length, and width, the same number of tiers and almost the same number of seats. Both halls are encrusted inside with elaborate, sound-diffusing decorative elements, as the old music halls were, but in idioms that differ as much from each other as they do from the old halls. In Minneapolis, unlike Washington, there are no crystal chandeliers, red velvet curtains and upholstery, or gold gilt trimming. Soft rose is used for the sound-diffusing, irregularly tilted undersides and faces of the balconies. Upholstery on the acoustically designed, oak backed seats, and the carpeting, is the same color. Dark oak flooring and splayed, natural white oak paneling, like other materials, were chosen mainly for their acoustical effect.

Because there is no proscenium arch, the ceiling and back stage wall meet each other. In appearance these two surfaces are the most unconventional elements of the hall, yet they perform the same time-honored, sound-diffusing function as the highly decorated, coffered and cherub-ed ceilings in older halls. These heavily plastered surfaces of partially random, irregular cubes protruding from a pale blue-gray background present an astonishing, even shocking effect. However, they work.

The hall works so well *New York Times* music critic Harold Schonberg called it “tonally . . . one of the most remarkable concert halls in the world.” The room produces such an immense sound the orchestra must now reduce its volume. More important, it produces a gloriously rich (but to some ears a bit over-based) and extraordinarily clarified sound throughout the entire musical range—a rare combination indeed.

The auxiliary facilities appended to the auditorium are in complete and deliberate contrast to it, since their functions are so totally different. The auditorium is a soft, warm, and completely enclosed room; the other spaces, and particularly the 50-ft-high, multilevel lobby, are expansive and open to light, sheathed in a pattern of reflective and bronze glass and thin metal panels. The structure of the auditorium is concealed, but in the other spaces everything, including mechanical ducts and electrical runs, suspended bridges, stairs, and the structure, is exposed and emphasized with bright, strong colors. These spaces relate directly to the

street grid, the plaza, and to the city—their connection is strong and clear. In contrast, the auditorium is turned on a 10 degree angle to assure its visual separation from the rest of the building. The final effect of the Minnesota Orchestra Hall is of two buildings in one, but there is little doubt that the parts add up to a whole that is important, both architecturally and musically. [David Morton]

#### Data

**Project:** Orchestra Hall, Minneapolis, Minn.

**Architects:** Project Architects, Hammel Green & Abrahamson, Inc., Jerrald B. Olson, project architect; Associate Architects for Design, Hardy Holzman Pfeiffer Assocs., C. E. John Way and Kurt Kucsma, project architects.

**Client:** Minnesota Orchestral Assn.

**Program:** a new building with concert hall and auxiliary facilities for the Minnesota Symphony Orchestra, which should “enhance the total concert-going experience,” and most important, have excellent acoustics.

**Site:** at the south edge of downtown business district sharing an entire city block with the soon-to-be-completed Peavey Park Plaza facing Nicollet Ave (to be developed as an extension of Nicollet Mall, connecting to the planned Loring Greenway that will extend to Loring Park, the Guthrie Theater and Walker Art Center).

**Structural system:** the auditorium has two walls, an outside one of steel frame and brick, an inside one of concrete; circulation space is in between. Balconies are supported on cantilevered steel beams spanning from the outer wall through the inner wall to extend into auditorium. Roof over auditorium is of 48-in.-deep pre-stressed concrete single-tee units that span 99'-0"; a 4 in. reinforced topping slab provides added strength and acts as horizontal diaphragm to transmit wind loads to outer wall. Lobby and administrative areas adjoining exterior of auditorium are constructed of white structural steel frame with aluminum panels and reflective and bronze glass.

**Mechanical system:** heating—warm air low velocity, zoned and humidified to 45 percent relative humidity; air conditioning—zoned low velocity air system, dehumidified to 45 percent.

**Major materials:** reinforced poured concrete foundation; concrete and steel frame and walls; concrete on metal deck and precast plank floors; precast concrete tees, metal deck and precast plank roof; aluminum paneling and brick exterior wall surfacing; white oak paneling and carpeting on concert hall walls; gypsum board on steel stud partitioning.

**Consultants:** Dr. Cyril M. Harris, acoustical; Naugle-Leck Assoc., Inc., construction manager and contractor; Meyer, Borgman & Johnson, Inc., structural; Michaud, Cooley, Hallberg, Erickson, Inc., mechanical and electrical engineers; Jules Fisher & Paul Marantz, Inc., lighting; Syska & Hennessy, Inc., mechanical engineering.

**Costs:** \$7.5 million. (building only).

**Photography:** Norman McGrath.

## Hardy Holzman Pfeiffer on America

Stuart E. Cohen

**The author discusses Hardy Holzman Pfeiffer's work as an architecture that understands and appreciates what is unique in built America, and as one that is "collaged" from ideas and pieces peculiar to that environment.**

It is meaningless to debate whether Leonardo was more talented than Raphael. Both were talented . . . but the followers had bad luck. They came late when the feast was over through no fault of their own.  
George Kubler

There is a commonly held opinion that this century's architectural feast is over. No other single notion has more profoundly shaped the work of architects, focused that of critics, and set their shared evaluation of contemporary architecture. However, certain contemporary work suggests both vitality and the emergence of a new point of view about design. Buildings are being made to emphasize change and flexibility, people as well as institutions, and the imperfection and fallibility of both human judgment and technology. Such work connects to a self-image of our society which, even if it is not entirely true, is widely accepted. We believe we are freer of individual restrictions, roles, and expectations, more open and willing to change, more conscious of interpersonal communication, perhaps more moral and socially conscious, and more comfortable about the price of all this, which is instability and a modicum of chaos. That this new architectural sensibility has established itself may be seen in the seriousness with which we are being urged to understand and appreciate our environment rather than reject it. We are being asked to learn from Las Vegas as well as from Cape Canaveral, and to *include* these lessons in our architecture, or to respond to them as its *context* by making *ad hoc* decisions. These are the passwords of current architectural theories, and they come with sets of visual images bound to them which are as dissimilar as neon signs and spaceships. However, the process by which these visual images have become a part of contemporary architecture is the same. This process is essentially one of collage, and it, along with a heightened notion of American tradition and the new American landscape, characterizes much of the most exciting architecture in America today. Representative of the best of this work are the buildings of Hardy Holzman Pfeiffer Associates

(HHPA). Superficially, their work may seem to be concerned with grid-shift plans, pop culture, and industrial building, as self-qualifying gestures at being avant-garde. However, in the judgment of it as significant, the key question should be whether the forms and images are central to a larger architectural issue, or merely fashionable. This larger issue, the rethinking of American sources, traditions, and processes, is a serious part of HHPA's work. For this reason it is important to understand their work, and notions such as Americanness and collage provide a partial critical framework within which to do this.

Tradition is a matter of much wider significance. It cannot be inherited, and if you want it you must obtain it by great labour. T. S. Eliot

A Nation announcing itself, / I myself make the only growth by which I can be appreciated, / I reject none, accept all, then reproduce all in my own forms. / Who are you indeed who would talk or sing of America? / Have you studied out the land, its idioms and men? Walt Whitman

Nineteenth-Century America was a country in quest of itself. Today, our architecture is predominantly European and it is only recently that architects such as Hardy Holzman Pfeiffer have asked us to examine that which is traditionally and contemporarily American. Certainly, traditional elements would include the myth and reality of the American landscape, its space, wilderness, and abundance, all compacted into the 19th-Century image of the *open road*; the vastness and horizontality of this landscape, compressing the vertical scale of buildings, barns and silos, under our big sky; the development of frame construction in wood and steel; the use of wood siding; and a passion for painted rather than natural finishes.

The visual elements of our contemporary and new American landscape, an extension of our traditions, are predominantly automotive and industrial: high tension wires, highway signs, storage tanks, gas stations, neon signs, and the familiar buildings of the commercial strip. Rural America is, for those who haven't noticed, no longer surfaced in wood. It is being rebuilt, and there can be no doubt that metal siding and metal products are its new vernacular material. The once familiar wood barn has been superseded by Butler, Armco, and Star metal storage buildings which are available in baked enamel colors evocative of the painted structures they have replaced.

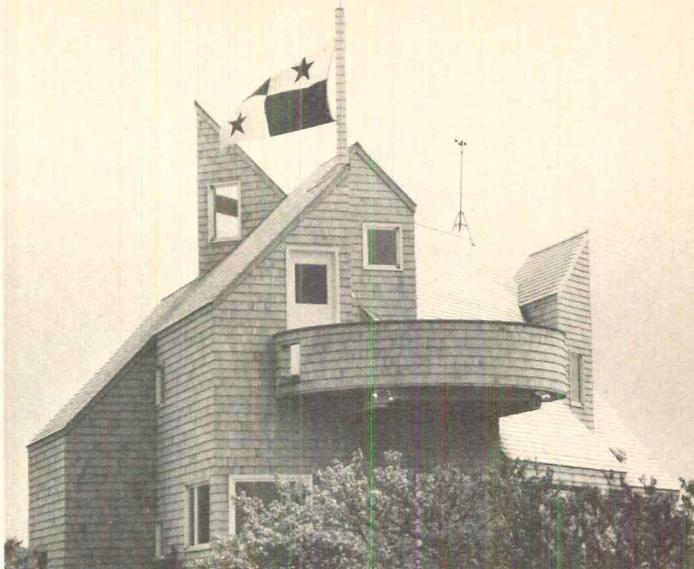
If America is a subject of HHPA's work then certainly collage is the process by which images of America are incorporated into it. Collage, as a *process*, is a design method that allows improbable things to be brought together; extending an architectural usefulness to the entire world of objects and ideas. This begins with the assumption that not only do sufficient human knowledge and materials exist to solve a specific problem, but that a solution might be found by the artful rearrangement of what is already known.

This is a point of view which is inherently anti-revolutionary. It insists on taking the world at least at face value. It is conservative and conserving, for it recycles everything. Because it makes transformations of things by rearranging them, it recognizes that in art, meaning and intention are as important as form and technique.

Collage is a process that involves understanding, evaluation, and selection. What is required is the desire to transform not the world, but the objects in it. For the result of collage is transformation, giving new meanings to the familiar and existing by altering their context. The intentional alteration of the meaning and perception of a building by an added part characterizes architectural collage.

Ideologically HHPA are, like certain other American architects, out to dump orthodox modern architecture. In their work during the past 10 years, they have substituted for modern architecture's forms an appreciation of American traditions, such as the "shingle style" house, which informs their residential work (illus. 1), and an appreciation of the industrial world of pre-engineered metal buildings as a contemporary American vernacular. By accepting the materials and details of these metal structures, HHPA have usefully sidestepped the issue of what the outside of a contemporary building should look like, an issue they sometimes publicly pretend to have no interest in (illus. 2).

HHPA describes their work as "trying to start over again" by "putting a series of objects back together." They believe in decoration, that buildings should be decorated, and that decoration creates variety, interest, and scale, in contrast to the purist-reductionist buildings of modern architecture. HHPA's work, although formal and geometric, is also a rejection of *abstract architecture*, in which forms are intended to be seen independent of cultural conventions. Theirs is a *realist* architecture, impelled by the desire to



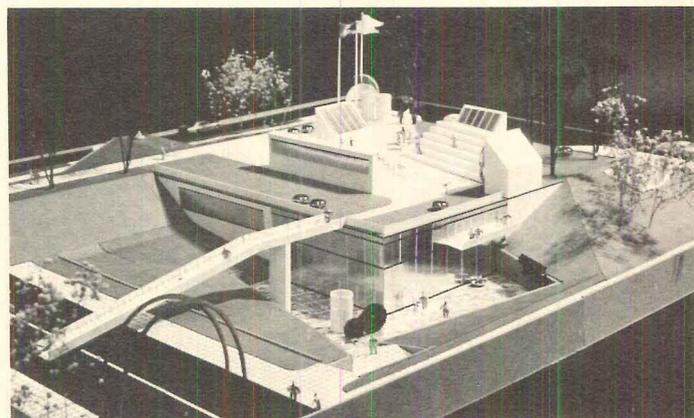
1 Hadley house.

Photo: Norman McGrath.



2 Shaw University.

Photo: Norman McGrath.



3 Brooklyn Children's Museum, first model.



4 Brooklyn Children's Museum, final model.

Photo: Gil Amiaga.

## Hardy Holzman Pfeiffer Associates

make buildings that purposefully include elements of traditional or vernacular architecture and which purposefully bring to architecture physical elements which are recognizable and familiar parts of our everyday environment. This suggests the presence of a sensibility, like that labeled *realist* in the other visual arts, with the primary intention of making art that is representational and accessible.

HHPA's work seems to proceed from a repertoire of architectural strategies and an essentially constant architectural schema which is adapted for each project. All of their buildings are containers or a series of containers, usually free standing, that make only secondary gestures in deference to their surroundings. They function to enclose and define the edges of the complex interior landscapes HHPA delight in making. As containers, these buildings are generalized—"a box someone built" or "a box on the market"—and may be constructed of conventional materials, building components, pre-engineered buildings, or existing buildings to be renovated. Because of the sense in which the enclosure is treated—as if it were always given in their designs—all of their work might be thought of as renovations, an attitude that provides for and accepts continual flexibility and change (further renovation).

In HHPA's buildings the container, or enclosing shell, is the background frame of reference, like a stage against which all the interior action, people-movement, and architectural volumes are played. The box's exterior walls and structure function as elements of understanding and orientation. Once constructed, this enclosed space is then filled up with rooms forming free-standing volumes, stairs, ramps, ducts, pipes, lights and an assortment of both large and small scale furnishings—all part of clearly understandable, independent systems. The result of this process (filling boxes with objects) is a complicated, varied, and rich interconnected fabric of residual space that forms public areas and circulation.

In most of their buildings the shapes of the residual interior spaces and enclosed rooms are the result of grid shifts in plan, what the architects like to call a "cocked grid." The use of rotated grids produces both a visual complexity and the possibility of deciphering this complexity into overlapped systems of structure, interior partitioning, and mechanical equipment. This is different from the use of colliding, transparent, or intersecting grids. In HHPA's buildings, the rotated grid systems are usually complete; each system physically emerging through, under, or over the next at the required and expected place right down to a tiny triangle of carpet which becomes both a visual event and a useful clue to understanding the building's organization.

Their emphasis on shaping the left-over space between and around the enclosed spaces in a building is described by HHPA as "residual space planning." The importance of this space in their design process is emphasized by their floor plans, which are stylized *figure-ground* drawings that make us see the shapes of the spaces in their buildings. The residual space, designed and formed intentionally, becomes a positive—an inside rather than an outside—a place with recognizable qualities and configuration. HHPA reverse the importance of enclosed rooms and movement

spaces, making the latter the more important places in their buildings. This, coupled with a passion for variety of color, texture, and materials always in contrast, make these spaces exciting places to be in. Like streets, these residual movement spaces are flanked by a diverse collection of objects, often having the appearance of having been built by different people at different times. Like "Main Street," they are the place to be, and the place from which order is intelligible. These spaces themselves are so strong and important that their architecture is secondary; alterable indefinitely at the level of details and materials; always seeming incomplete and capable of being added to.

HHPA write, "*Architecture as Environment* accepts people as an element of its design. It is malleable and responsive to change, being comfortably reused in various ways. It assumes no perfection and celebrates the random diversity of the people it is built to serve."

### Brooklyn Children's Museum

The Brooklyn Children's Museum addresses a multiplicity of childhood experiences associated with going to the museum, including the trip itself as a special outing. A concrete box both buried and bermed into the ground, its roof returns land to the community, land it occupies as an extension of the park it is built in, and as an extension of the architects' perception of the new American landscape. By creating a collage landscape of roadside and highway objects, the roof is transformed into a "memory theater" of the visual experiences that were part of traveling to the museum by car.

The project, designed over five years ago, has undergone changes that reflect the architects' change in attitude toward architecture and its acceptable elements, as can be seen by comparing the first (illus. 3) and final (illus. 4) models. The crisp forms of the angled skylights are gone; outdoor seating that provides clerestory lighting has been redesigned with standard stadium seating. Huge interstate highway signs announce that you are at the museum. A fire stair exits through a blue enameled steel storage tank, and a bright red air conditioning condenser sits atop a light steel structure, lending an industrial air to this skyway roofscape (illus. 5).

The main entrance, at one corner, is through a 19th-Century streetcar kiosk from the Queensborough bridge. Through it, you enter the side of a hill in a park, but unlike the museum's service entry—a steel culvert—it is not a tunnel and therefore our understanding of the hill we approach is transformed by it. This found object was, and still is, a point of departure for a trip "out of the city." Now a collage element, it essentially transforms entering the building into the beginning of a journey.

### ArtEI

The ArtEI, L-shaped and elevated, at Artpark in Lewiston, N.Y., is a huge timber boardwalk, reminiscent of 19th-Century seacoast structures. It connects two high points on the site and forms a pedestrian entrance to the park from the upper level. Originally this entrance was to have been via a pair of monumental stairs forming the lower legs of a giant letter "A" identifying the entire Artpark complex (see p. 49) and recalling Claes Oldenburg's projects for buildings and monuments (illus. 6). Oldenburg, describing his projects in-

volving letters, writes, "Another source of the association of letters and landscape is the map of the area one has to consult. I imagine the coordinates, for example, constructed to cover the territory they fill on the map, or a colossal alphabet spilled haphazardly. . . . The character's become landmarks of the community." The "A," was not built, but Lewiston has a big "L" on its hillside (illus. 7).

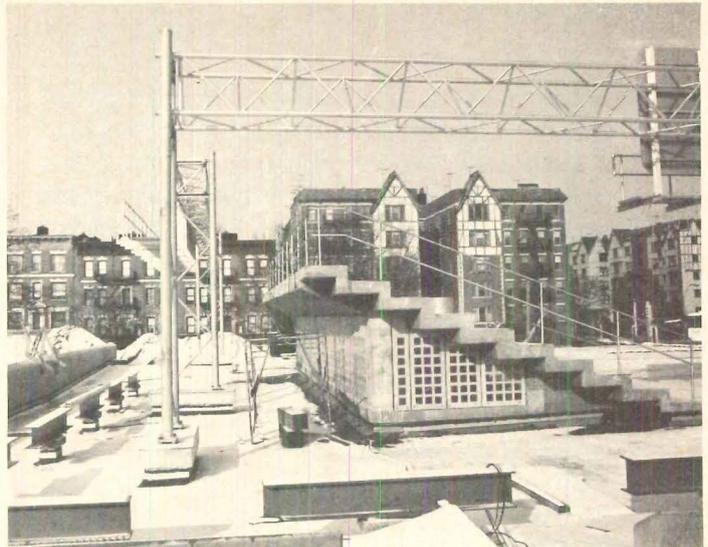
The ArtEI—both traditionally American and contemporary in its function—provides, as boardwalks usually do, spectacular views, it also replaces the vendors and penny arcades in a rather unique way that may be a subtle and humorous comment on certain new leisure-associated commercial values in our society. The boardwalk's cultural vendors are artists in residence who work and interact with the stroller spectators. ArtEI's proposition is the recreational appeal of watching *art* being made.

If the elegant wood structure connects to an old American tradition, the shelters and enclosures that pepper the boardwalk, serving as studio and storage space, connect to a very contemporary vision of America. This collection of playful oddments, like the top of the Brooklyn Children's Museum, is a collage landscape of industrial, and here agricultural, elements. These include a log cabin, a wooden silo, and an assortment of truck bodies in different colors. A streamlined pink plastic ticket kiosk, resembling a highway toll-booth, marks the beginning of a promenade that is transformed into a passing view of the American roadside. An imitation outhouse (a public toilet with indoor plumbing) has a corrugated plastic roof and walls sheathed in fiberglass imitation brick veneer siding. This *brick shithouse*, like the proverbial last straw, sits there to flush out all the true believers in modern architecture. Not only is its siding decoration, which is forbidden, but if the pink ticket kiosk is what plastic is supposed to look like, then how can it also look like brick? *Truth of Materials*, a sacred trust of modern architecture, has been purposefully broken. But it is in fun, and that is the essence of the ArtEI.

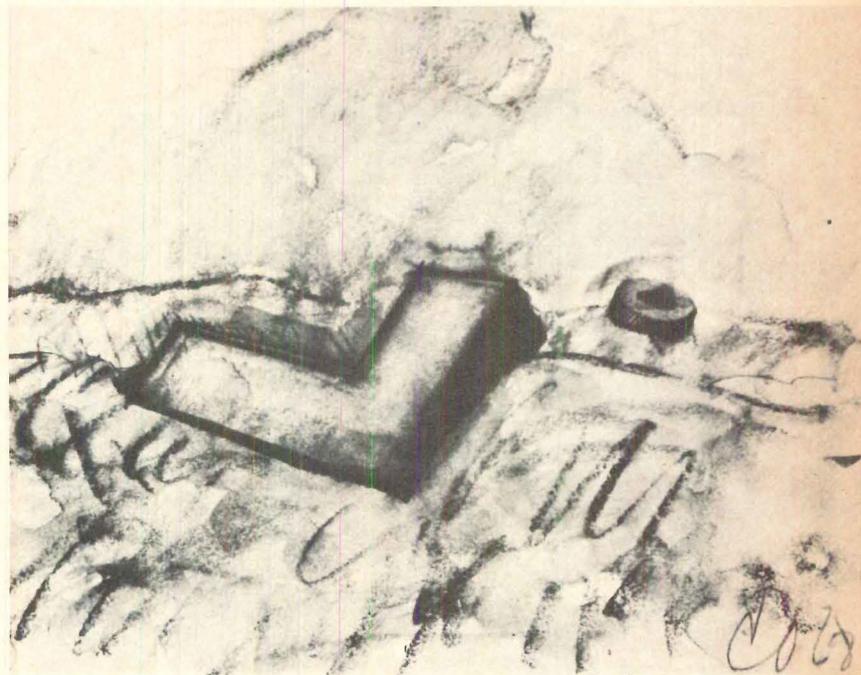
### Mt. Healthy Elementary School

The Mt. Healthy Elementary School in Columbus, Ind. is an almost perfect coincidence of a teaching program, a client, and HHPA's architectural intentions. The building, an open plan team-teaching school, is made, architecturally, from a structural grid—two long masonry walls that meet at right angles and a series of three multilevel "clusters" that correspond to standard academic subdivisions, by age, within the school. The clusters, each primary with its work, play, study, reference material areas, and enclosed core of teacher preparation rooms and toilets, have been described by HHPA as "designed to function almost as a one-room schoolhouse." Unquestionably, it is the one-room red brick schoolhouse—the embodiment of public education, the basis of democracy in America—that is the sustaining architectural metaphor of the school.

Approaching Mt. Healthy from the north and then west across the site, the closed northerly façades form a continuous brick wall that is stretched to the east and west beyond the limits of the angled volumes behind it. The extension of these two walls serves visually to detach them from the volumes behind, further emphasizing their planar quality. They are extraordinary walls, each over 200 ft long. They are both an event in the rolling landscape and an

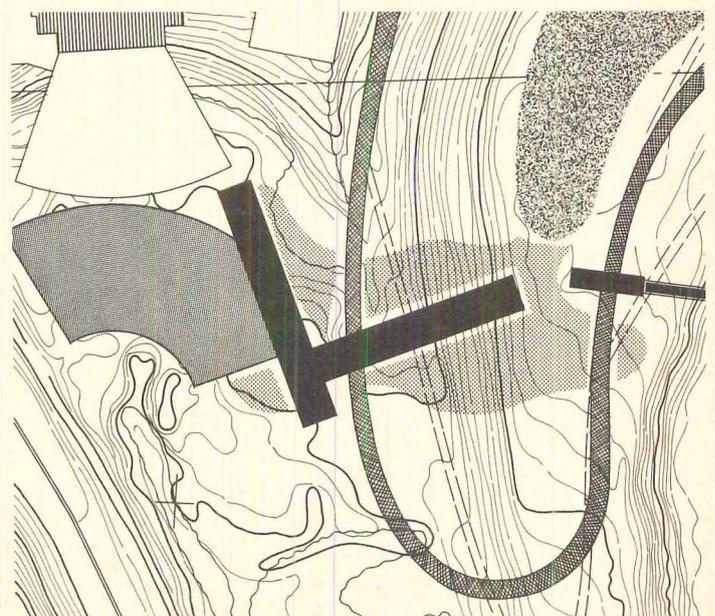


5 Brooklyn Children's Museum roofscape.



6 "L" by Claes Oldenburg.

Photo: Courtesy Ward Ritchie Press.

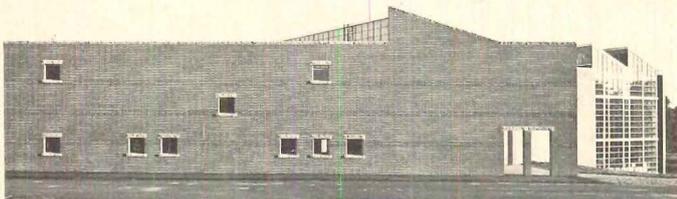


7 ArtEI site plan.

## Hardy Holzman Pfeiffer Associates

event in contemporary architecture. It is just possible that America hasn't seen walls like these since H. H. Richardson (illus. 8). Set into these red brick walls are a series of small square windows with rusticated limestone lintels and sills. These are elements of collage brought to the building; they transform the meaning of the masonry walls, making them an unquestionable evocation of the 19th-Century American schoolhouse and an unquestionable evocation of an architecture of permanence, solidity, and community.

To enter the school you pass through square openings in the northwest façade. Passing through this wall, the action of penetrating it is the symbolic beginning of an extended entry sequence. The wall projects beyond the building and you are still outside, in a wedgelike space that refers you back to the natural landscape from which you have just come. The definition of this entry space is completed by an



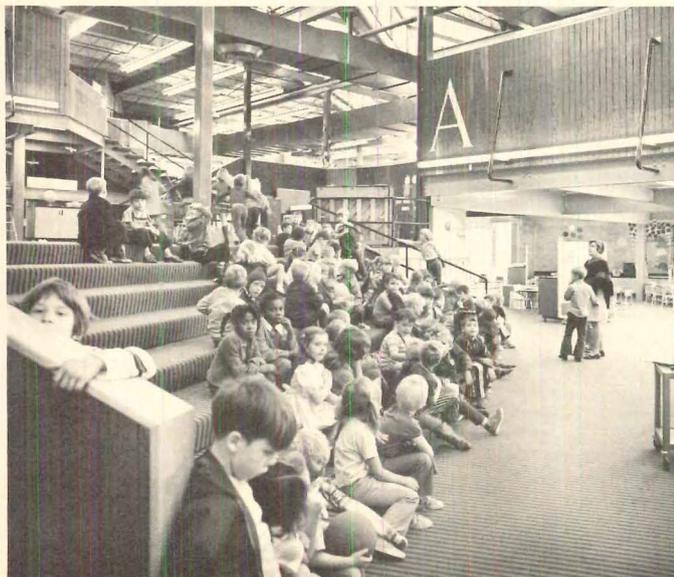
8 Mt. Healthy Elementary School.

Photo: Norman McGrath.



9 Mt. Healthy Elementary School "spine."

Photo: Norman McGrath.



10 Mt. Healthy Elementary School "cluster."

Photo: Norman McGrath.

exposed steel column and beam that emerge from the building's interior and tie into the brick wall. Here, the second important architectonic ordering device of the building—its absolutely regular steel column grid—completes itself. The last bay, which falls outside the enclosure of the building, supports no load and appears structurally redundant as a brace to the wall. It is, like the decorative orders of past architecture, the ornamentation of the entryway. It collaborates in the spatial mechanics of the entrance and symbolically exposes to view (like pilasters flanking a doorway) a system of structure—the steel frame whose visual presence is an American tradition.

The school's interior, which one would expect to be simple and clear, based on the systemization of plan elements and the repetitive "clusters," is extraordinarily complex. No one architectural element—enclosure, structure, skylights, or exposed duct work—is dominant to the point of providing a frame of reference. Running diagonally through all of this, like a clear shot from one side of the building to the other, is what HHPA refer to as the "spine." Organizationally, it separates typical functions like the teaching clusters from unique functions such as the library, music room, gym, lunch, and administrative areas. The "spine" is like Hansel and Gretel's path—the elusive place from which one finds his way about. Like the rusticated lintels, it is a collage element, for it is the American home brought into the school.

The "spine" is not so much a hall or a space as it is a place, a runner of floral chintzy carpet (illus 9), a real mind boggler, which transforms institution into home and chaos into clarity. It is unquestionably bad taste, kitsch straight from suburbia, and it is almost the ultimate in good taste—an oriental runner. It is today's "wall-to-wall oriental" that has been carried forward from Grandma's ever since Erastus B. Bigelow began running the stuff off on his steam-driven loom in 1848. Like the carpeting of the "spine," all the interior materials have a comfortable familiarity about them; and like the materials of most people's homes, they are neither expensive nor well finished. The abundance and variety of juxtaposed materials and textures create a sense of possessibility by suggesting an environment made by a continuing and incomplete additive process in which anyone can participate. The concrete block and wood paneled walls, like those of the "family room," are meant to be hung with children's drawings, posters, or anything imaginable.

The Mt. Healthy school is like a big *playhouse* (illus. 10) which, because of its geometry, is crammed full of nooks and crannies, corners to be in, roofs (platforms) to be under, and perches (mezzanines) to be on. All of these recall the special places of childhood—the bed one hid under, the closet one played in, the attic room that was a secret lookout. They connect to the deepest, most ingrained psychological aspects of being in a place, of dwelling in, possessing, and loving that place. Mt. Healthy is a joy to be in. □

**Author:** Stuart E. Cohen's architectural practice is in Chicago, where he also teaches architectural design at the University of Illinois Chicago Circle campus. The author wishes to thank Steven Hurtt for his criticism and insights into the traditions of our culture.

## HHPA on the arts

Hardy Holzman Pfeiffer Associates

America's current explosion of interest in the arts can be assumed to be a temporary phenomenon—the momentary product of a fast-receding affluence—or symptomatic of a more profound change. Some claim it is all just another consumer fad manipulated by the publishing and recording industries solely for their financial benefit. Based upon this theory the insistent prod of fashion which was used to stuff the American home with gadgets and machines is now being used to encourage the public to buy boxed sets of symphonies, bound volumes of literary classics, and framed reproductions of the great masters. If that's true, all this enthusiasm is nothing more than a superficial appeal to status which denegrates art by making it into yet another product for home consumption.

Several facts prove otherwise. Despite pinched pocket-books, Americans are reaching out in increased numbers to *participate* in arts activities. Rather than an occasional luxury for the poor, or an indulgence by the rich, such participation is growing. Not only are the formal art activities of museums and theaters gaining popular support, but so are the informal activities that are based upon immediate physical exchange, in which formal distinctions between audience and performer are made ambiguous or erased altogether. As befits a wealthy, pluralistic society, we are building for both extremes: single-purpose concert halls in a 19th-Century mode, which celebrate tradition, and theaters that have little precedent.

Support for the arts has even become good politics. State<sup>1</sup> and Federal<sup>2</sup> budgets for the arts have risen dramatically in the past 10 years, while activities once found only in major cities are proliferating across the country with legislative support<sup>3</sup>. Corporate contributions have substantially increased as well<sup>4</sup>. As a result of this expansion the arts are being used cosmetically to: generate patrons for enclosed shopping malls in off-hours; rescue the vast, marble-laden reaches of urban plazas from stifling emptiness; lure people back downtown with street festivals; recruit students through an increased curiosity about the creative process. The list goes on.

More startling than increased financial support or rising attendance figures is the emergence of the arts as a major component of planning. Whether the concern lies with permanently reviving downtown (Minnesota Orchestra Hall),



Visitors at HHPA's ArtEi.

Photo. David Hirsch.

reclaiming a ravaged landscape (Lewiston Artpark), or cementing university-community relations (Adelphi Theater), the popularity of arts activities forms an essential ingredient. Ten years ago, who would have believed a symphony orchestra could spark urban renewal, the visual arts could be a vehicle to reclaim a chemical dump, or an experimental theater could draw a university closer to its community?

There are many reasons for this newly found humanism: faltering belief in the value or feasibility of endless expansion, coupled with concern for predictions of Malthusian doomsday by pollution, overpopulation, resource depletion, and economic collapse. But there comes with all this gloom an awareness of the preciousness of life and a wish to celebrate its miracle.

Each of the three new projects presented here explores new architectural territory, but for us their true value lies in the ways in which the arts have been used as a planning base for transforming their separate communities. □

### Footnotes

<sup>1</sup>In 1964 the New York State Council on the Arts' budget was \$562,335. In 1974 the Council distributed \$15 million to 836 nonprofit organizations throughout the state. The current budget is \$34 million.

<sup>2</sup>In 1966 the National Endowment for the Arts' budget was \$2 million. In 1974 \$74 million was appropriated.

<sup>3</sup>In 1969/70 attendance at arts facilities seeking NYSCA support was 57 million. In 1972/73 it was 83 million.

<sup>4</sup>Corporate philanthropic support for the arts has increased by 160 percent since 1965—from \$22 million to \$56 million.

# From piano to fort 

**Three old industrial buildings, no longer used for their original purposes, are converted to new uses by adapting their spatial characteristics.**

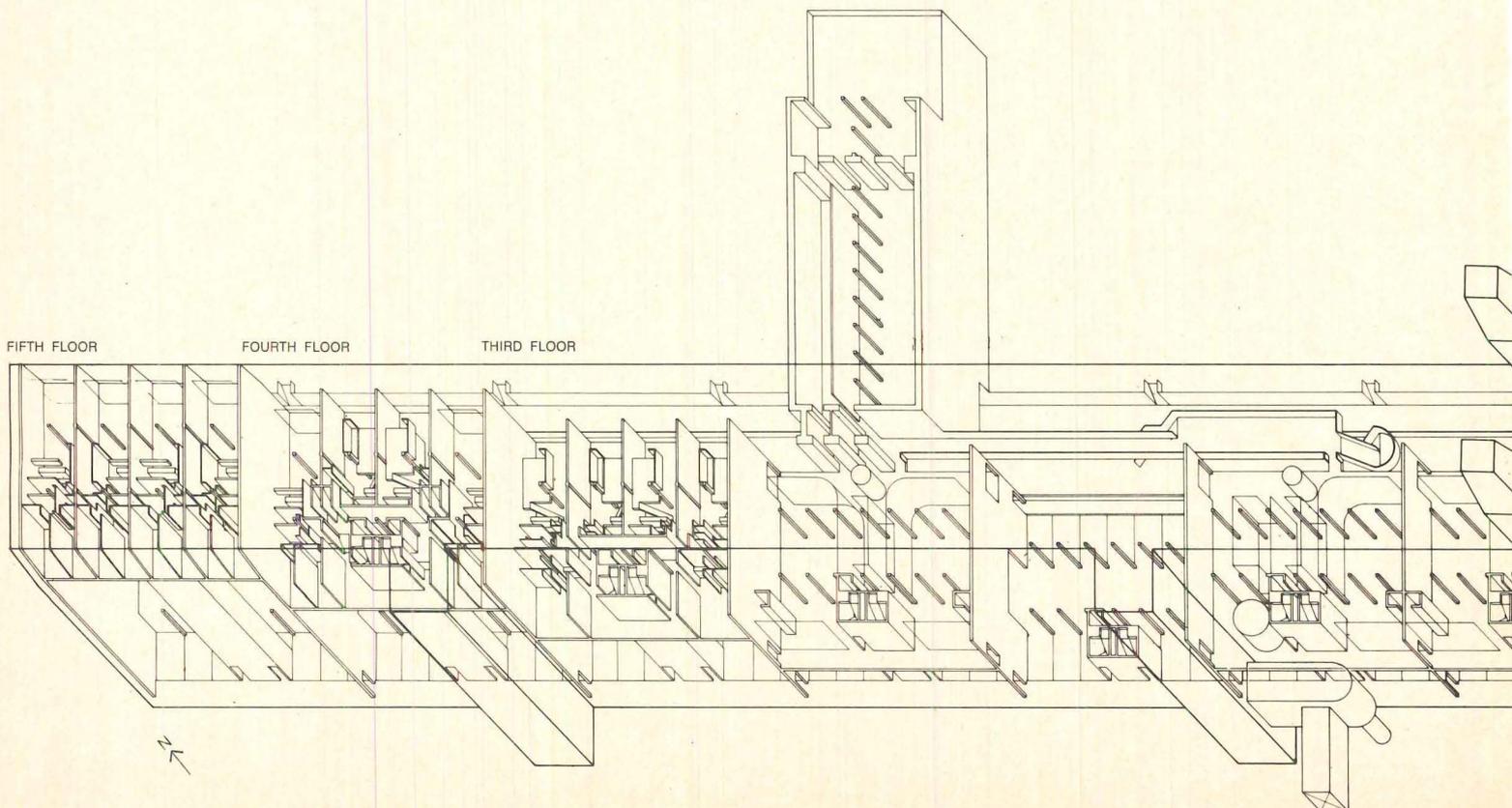
In dealing with the growth and obsolescence of our urban areas, and with the social and economic forces that bring about change, the idea of adaptive reuse has emerged. It has been shown to be an alternative to the blatant destruction of vast parts of our cities in the name of progress and to the fanaticism that seeks solely to preserve a physical place apart from its usefulness to any institution or its role in an urban setting.

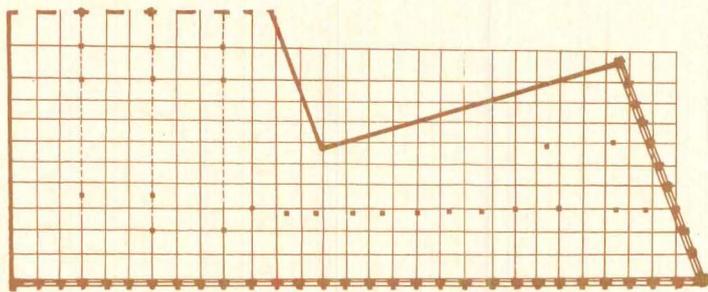
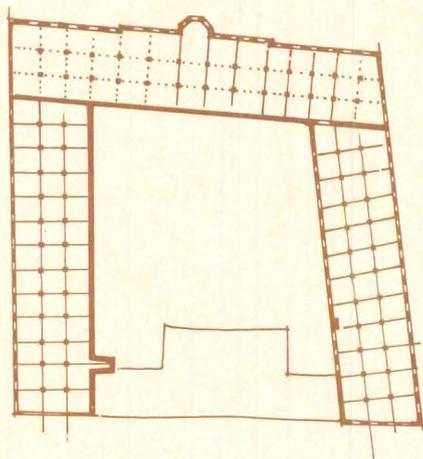
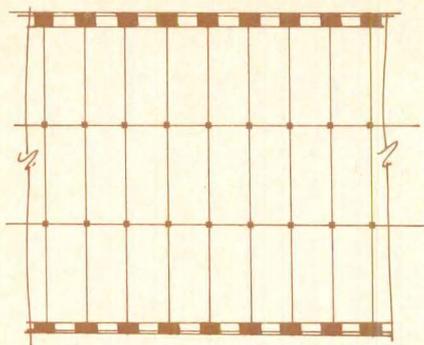
Unlike either of the other two alternatives, the reuse of buildings raises many issues, questions, and considerations, giving any specific problem a complexity that both restoration and bulldozers avoid by their extremes. The context of adaptive reuse is social and economic as well as

historical; its premise is continuity. It recognizes the city as a continually changing organism; it recognizes that the building is a physical manifestation of uses brought about by social and economic forces in the community, and it recognizes that any successful reuse of these physical remnants must tie into both the present context of the surrounding community and its future growth potential.

And too, adaptive reuse questions some of the lingering myths of modern architecture. It denies the highly elaborate notion that forms have anything to do with function and, by acknowledging the dependency of the physical world on a social and economic order, it changes the role of architecture from one of end-all solution to one of supporting, reflecting, and implementing change.

The three buildings presented here were built for industrial manufacturing and have been converted to housing with differing percentages of commercial usage. As for spatial characteristics, all three have load bearing walls with an



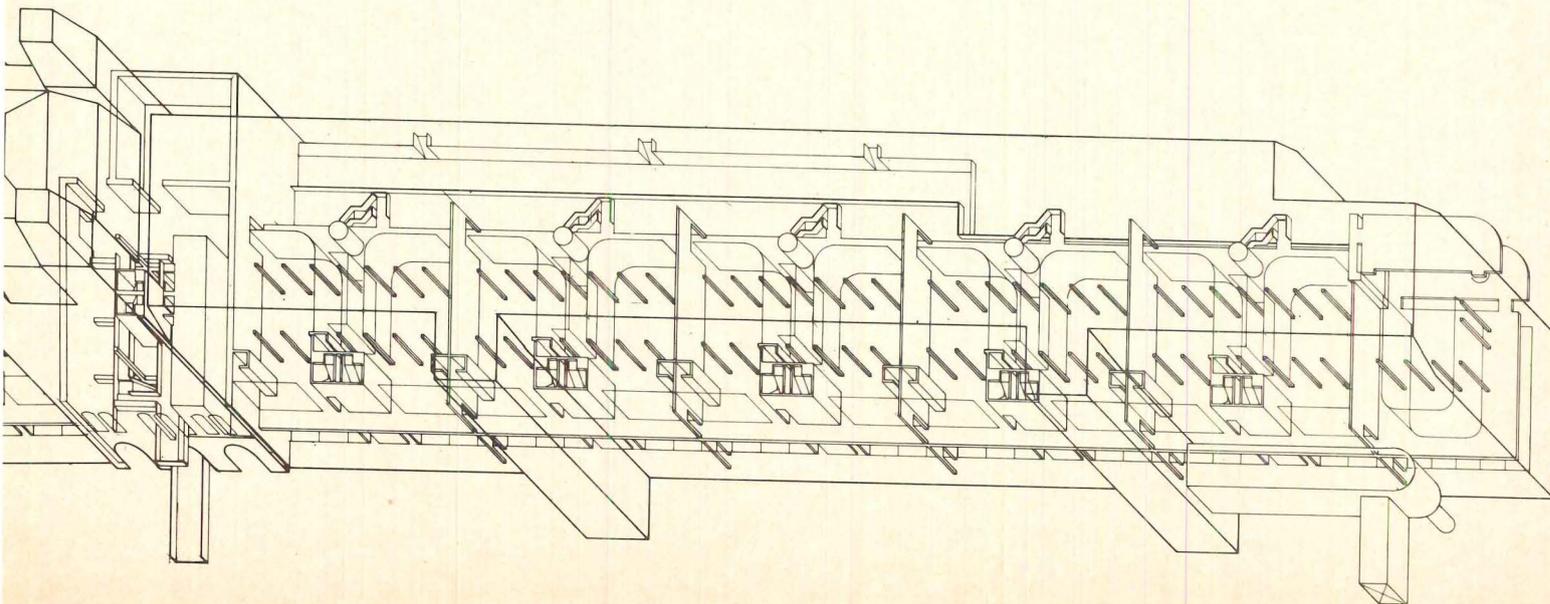


Abstract spatial types of the three buildings are identical to current buildings types. From top to bottom: Harmony Mills, Cohoes, N.Y.; Piano Craft Guild, Boston; The Cast Iron Building, New York City. Axonometric of mill # 3 (below) shows prototypical new use in the Harmony Mills complex.

internal grid of columns and beams spanning an undifferentiated interior space. Although all three were built 100 years or more ago, their spaces are identical to, and may have served as the prototypes, for, current building attitudes. With the prime difference between these two periods of building being one of technology, the older buildings are quite capable of providing an equally flexible framework for a new variety of uses. The Institute for Architecture and Urban Studies (IAUS), with a grant from the New York State Council on the Arts, undertook a study of the Harmony Mills complex in Cohoes, N.Y. in order to show its prototypical spatial characteristics and its inherent adaptability to new uses, so that the mill complex, once a strong generative force in the small community, might again find a useful purpose in the growth of the town. On a more general level, the study was also undertaken to examine the future of small towns as a viable pattern for alternative settlement and, as an abstract framework, the IAUS work could serve as a model for similar evaluations. The scope of the study covers a broad range of issues from historical development to regional accessibility, future growth, tax structures, and options for reuse. This general contextual analysis is followed by an analysis of the inherent characteristics of the building's physical organization and its relationship to the town. A third area of investigation deals with the physical prototype and its adaptability to various new uses.

## Harmony Mills

The Harmony Mills complex, covering a 17-acre site, includes nine buildings for a total of 870,000 sq ft. As can be seen in the site plan, eight of the buildings are sited in a roughly parallel manner, some contiguous to each other, on one side of N.Y. State Route 32. The ninth and largest building is situated across the road on the bluff and is connected by a pedestrian bridge to the rest of the complex. The first buildings, along with tenement housing for 300



## Interior architecture



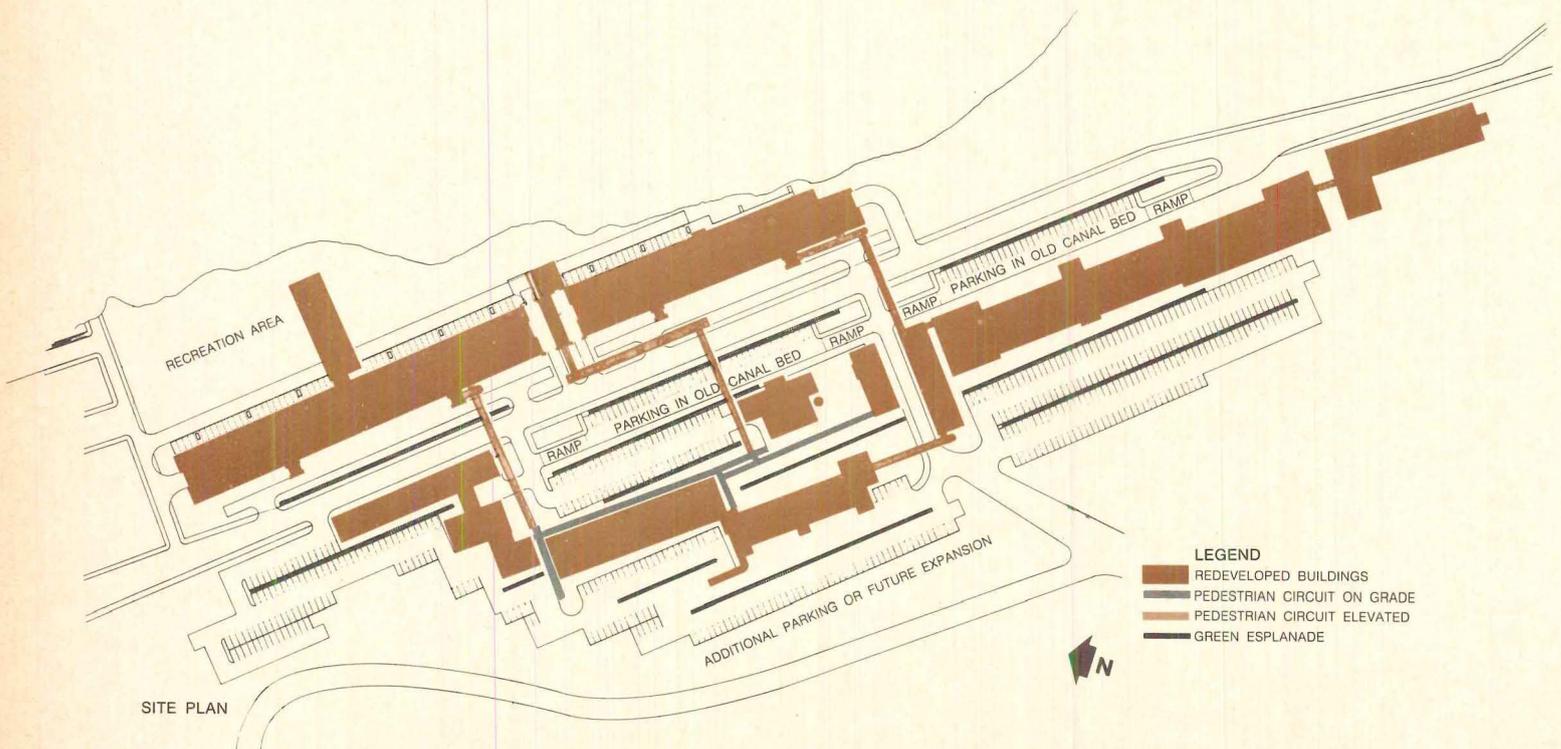
workers, were built in 1836, with expansion continuing through 1880 as the production of cotton goods flourished. Abandoned in the 1930s, after the shift of textile manufacturing to the South, the mills were sold for the minimal sum of \$2000. At present, they are operated as a tax shelter by the current owners, permitting them to offer space at about one-third of the market rate. As a consequence, the buildings are operating on a 100 percent occupied basis for light manufacturing. However, the tax shelter law, allowing accelerated depreciation over the first 13 years, will expire shortly, drastically altering the nature of the investment and threatening the continued existence of the mills.

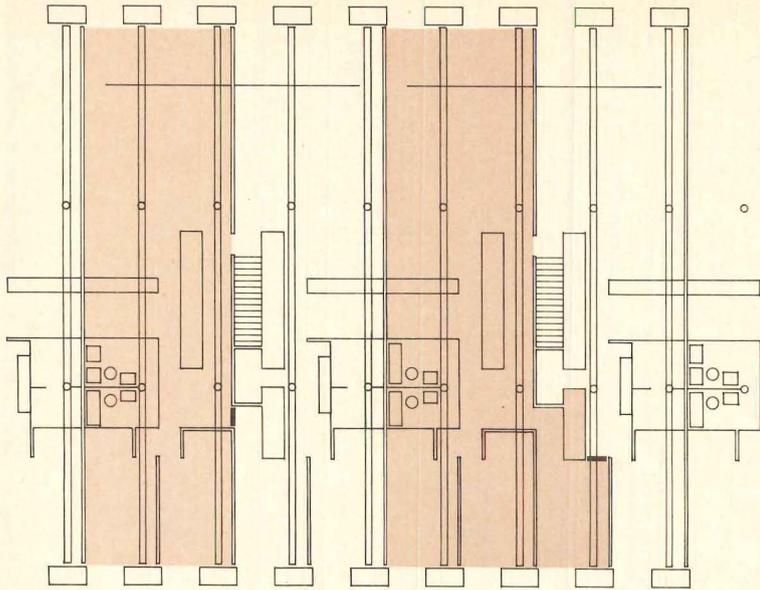
The basic approach to the reuse study was to regard the complex as a group of linked megastructures with the capability of adapting to various mixed uses. Within the complex, the upper three floors of the two largest buildings are allocated to housing, with the ground floor for commercial use and the lower level for covered parking. Institutional,

commercial, and office uses are distributed in the remaining buildings with ground level parking behind. To strengthen the physical notion of megastructure, a system of linking elements has been added to the exterior to provide vertical and horizontal accessibility and to make visible the fact that developmental changes have taken place. This architectural device is one way of dealing with the necessities of some change, of juxtaposing old and new, and of adding to, without destroying, the essential character of what already exists.

The largest of the mills was further developed to illustrate the prototypical nature and adaptability of the interior space. The lower two floors, for commercial uses and parking, demonstrate the spatial accommodation of a linear development, while the upper floors, designed for residential development, demonstrate the building's capacity to accept vertical clustering.

Residential units, ranging from studios to three-bed-

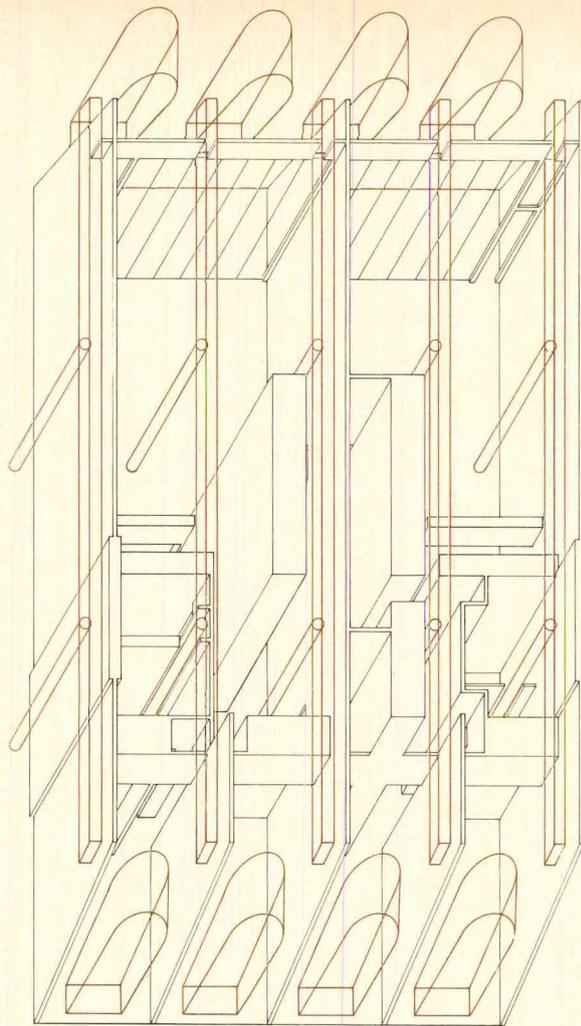




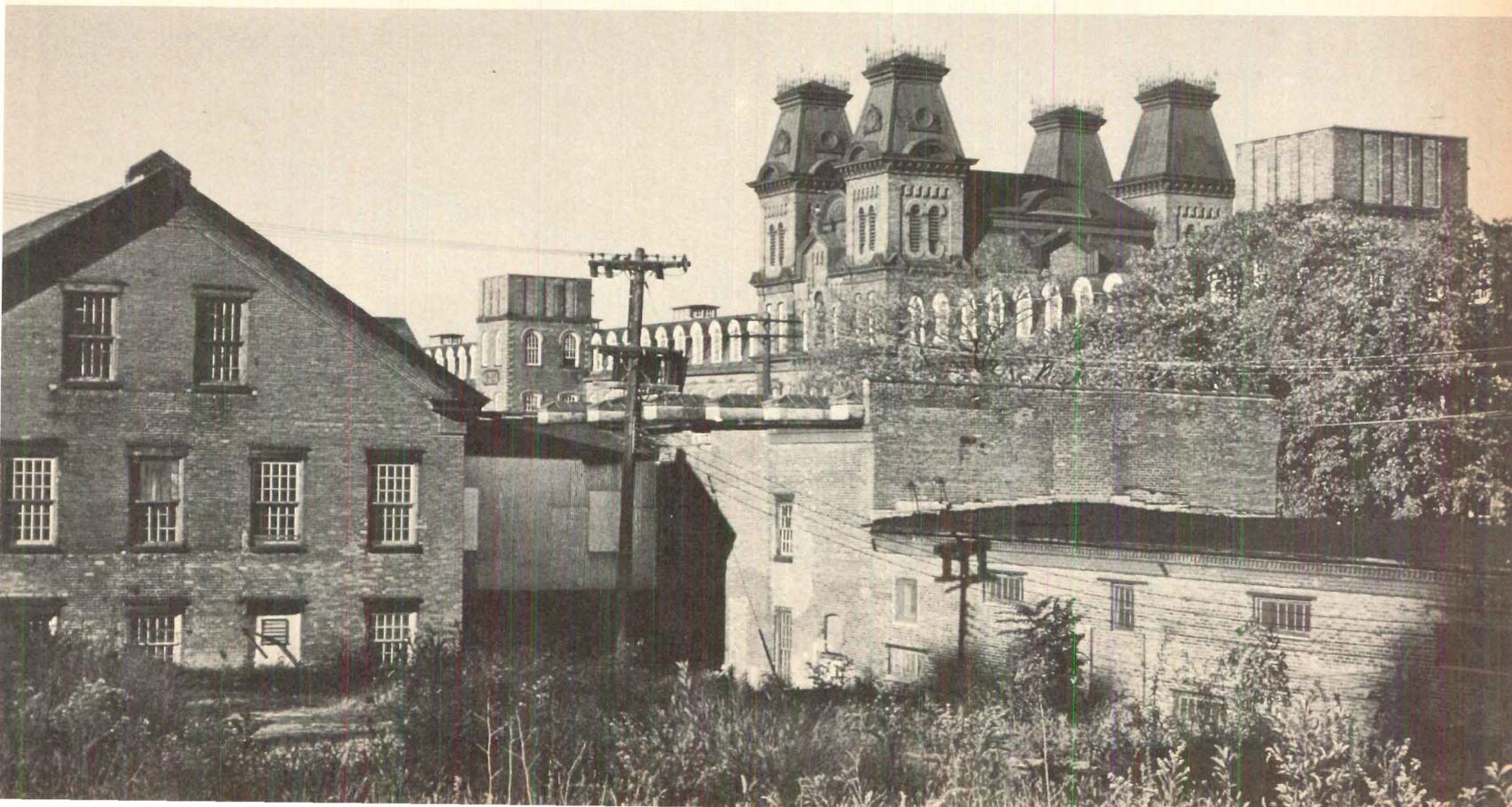
rooms, have been designed as floor-through types, to take advantage of the east-west exposure. The kitchen, baths, and laundries are located in the center of the units to solve the problem of depth. The fifth floor two-bedroom units offer the possibility of conversion to one- and three-bedrooms by shifting a removable panel from one side of a bedroom to another. Using this borrow bay system, unit types can be altered without construction changes.

**Data**

- Project:** Harmony Mills, Cohoes, N.Y.
- Architect:** The Institute for Architecture and Urban Studies. William Ellis, project director; John Bemus, Pat Jones, assistants.
- Program:** a demonstration study for adaptive reuse of the mills.
- Consultants:** Stephen Falk & Associates, cost consultants.
- Drawings:** Gregory Gall, John Metzler, Amy Tai, Richard Wolkowitz.
- Photography:** Emily DeRham.

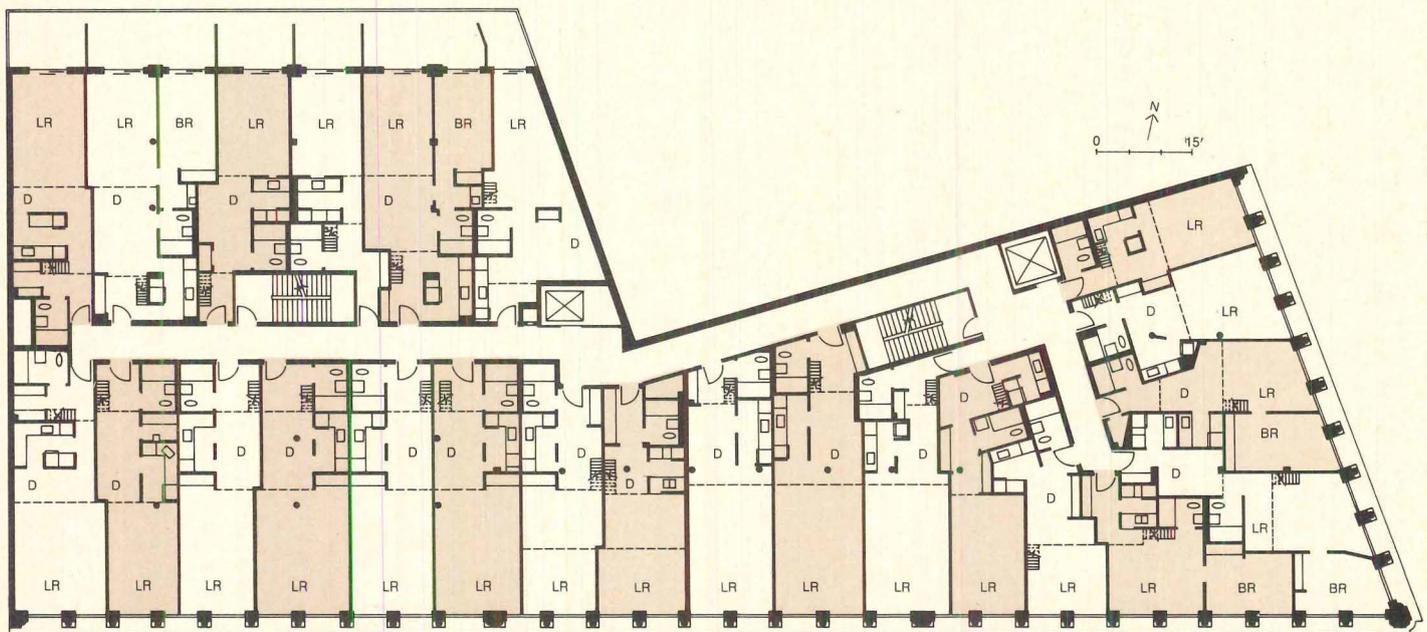
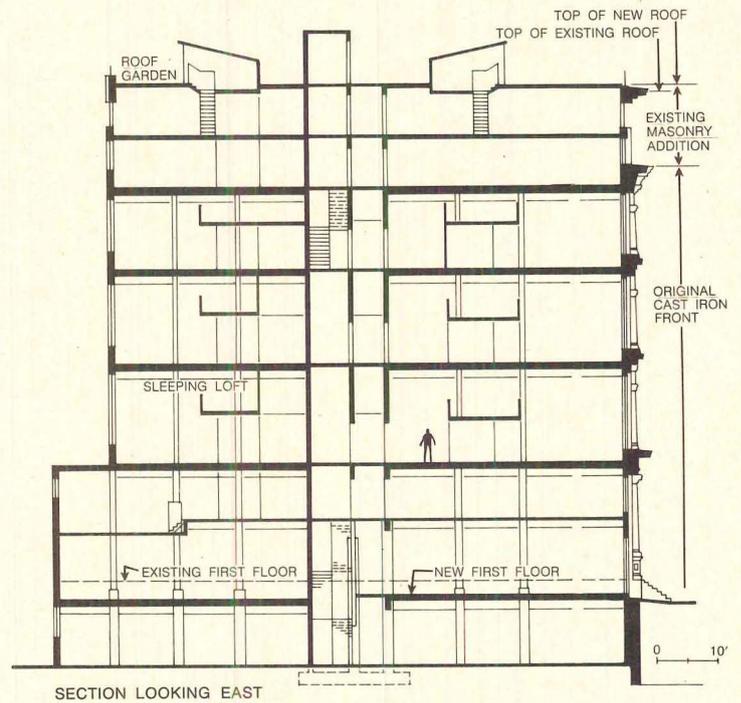


The fourth and fifth floor units (left) are set up to allow flexibility in the number of bedrooms by changing the location of a single panel. The fusion of three systems in the reuse scheme is seen as important in itself: The existing loft structure, the town house plan and the early "modern" idea of separating structure and screening (illustrated in the drawing above). All combine to denote a schism between old and new while commenting on the continuity of architecture and urbanism.



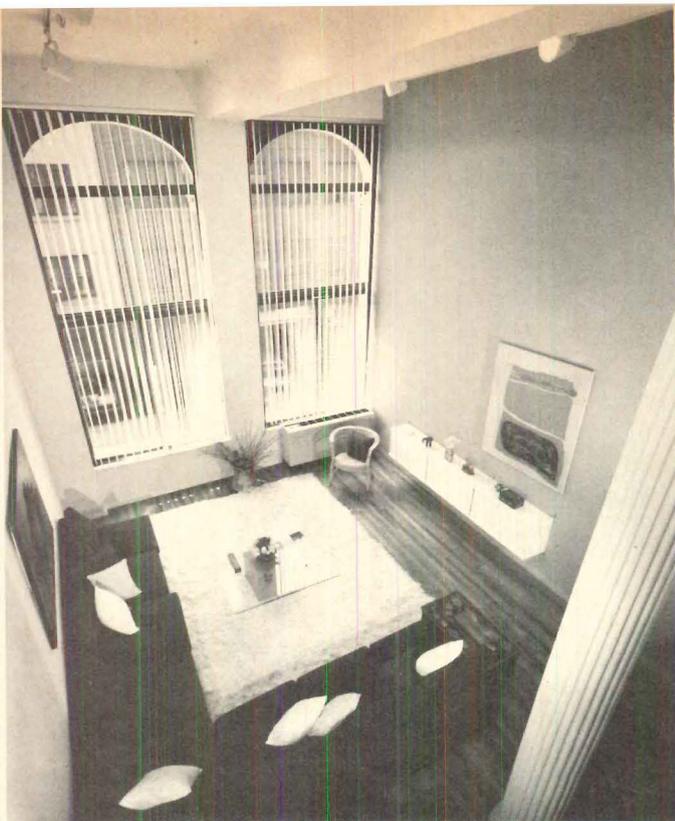
# Cast iron conversion

The old McCreary Department Store at the corner of Broadway and 11th streets in New York City, is one of the largest remaining cast iron buildings. Like many other loft-type buildings, it had fallen into disuse and was finally abandoned. Under pressure from artists groups, recent rezoning in the SoHo area of the city legally permitted living in these buildings and, with a growing demand for this loft-type living as an alternative to high-rise, expensive, drab housing, it seems natural that this building be adapted for similar uses. The developer who had bought the building, however, wanted to demolish it and build a high-rise, but with the help of the Friends of Cast Iron and local community groups who appeared before the Board of Appeals, variances were obtained to make residential renovation economically feasible. The variances allowed two additional floors to be built within the existing building bulk; one was inserted in the 20-ft-high first floor space; the second was built on the roof up to the old cornice height.



THIRD AND FOURTH FLOOR (TYPICAL)

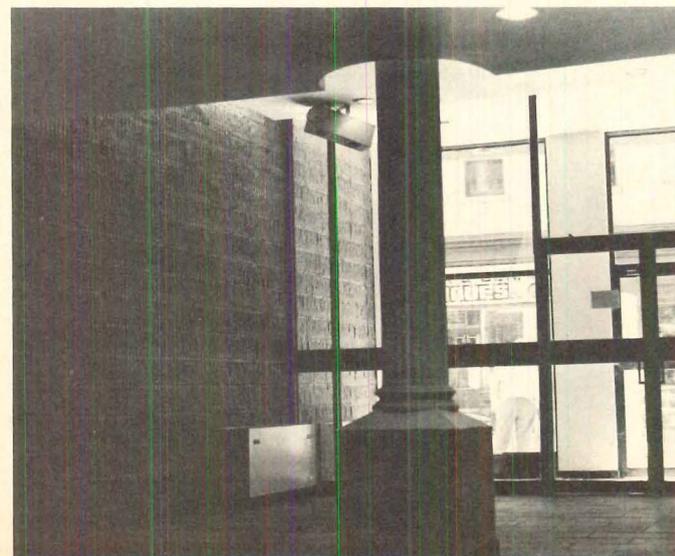




Interiors of apartments show the interesting spatial layout achieved by building in sleeping lofts in the three floors with high ceilings.



Lobby entrance (below) has Corinthian column popping up in its midst.



## Interior architecture

Because of its unusual corner site, its cast iron façades are load bearing, and the interior structure of heavy timber beams supported by Corinthian columns is on a somewhat irregular grid, due to the site's odd shape. Architect Stephen Jacobs laid out 144 units ranging from studios to three bedrooms with duplex apartments on the upper two floors and commercial spaces on the ground floor. As the rather random grid of columns seldom aligned with the exterior columns, the grid of the exterior walls was chosen (for the most part) as the module for the apartments, leaving cast iron columns to pop up where they might. Besides the standard studio and duplex type apartments, the generous height of the loft building's 3rd, 4th, and 5th floors allowed the architect to design sleeping lofts over the kitchens and baths in all of these units. Costs for this type of renovation, according to the developer, are 20 to 30 percent less than for new construction. Although the architect feels that some corners were cut, these are not evident and the tenants seem quite satisfied with what they are getting for their money.

### Data

**Project:** The Cast Iron Building.

**Architect:** Stephen B. Jacobs & Associates, David M. Lewis, job captain.

**Program:** 144 units of housing in a converted cast iron structure with ground floor commercial use.

**Site:** Broadway and 11th sts, New York City.

**Costs:** \$20 per sq ft. (approximate)

**Consultants:** Alvin Fischer & Robert D. Redlien, P.C., structural; Harold Rosen Associates, mechanical.

**Photography:** James Brett.

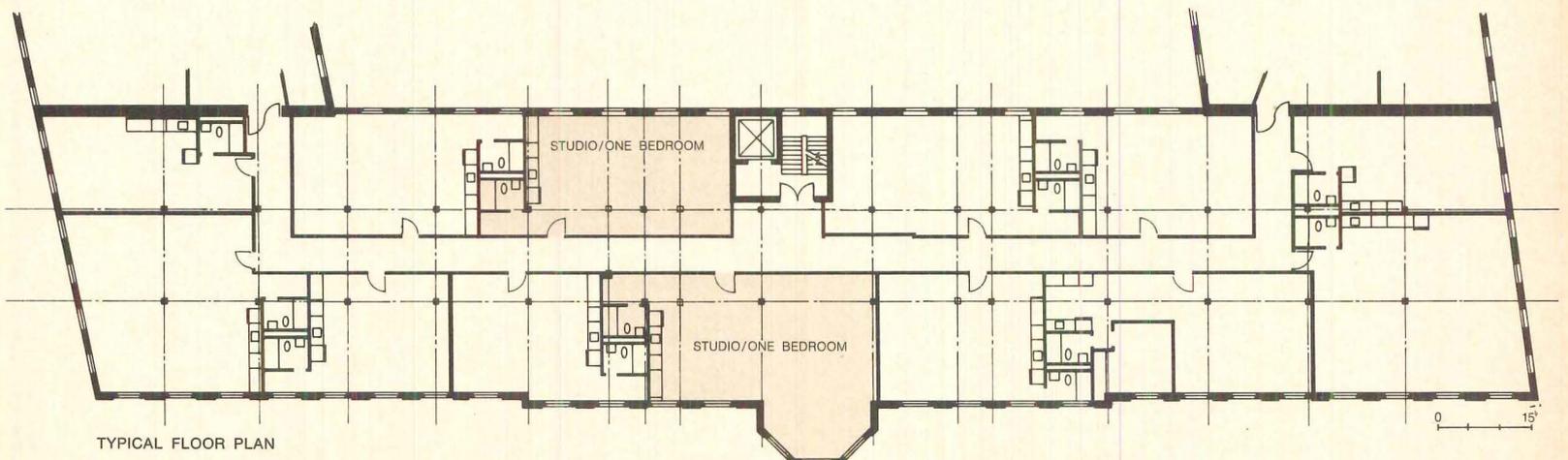


## Keyboard colossus

The Piano Craft Guild, built in 1853 by Jonas Chickering has just been converted into 174 living/working spaces for Boston's first subsidized artists community. Although partially occupied since the 1930s, the building had fallen behind in taxes and was in a state of physical neglect. Inspired by the success of the Westbeth project in New York City, architects Gelardin/Brunner/Cott did a market study to determine if there was a need for such a project and if the old piano factory could be converted for such uses. Convinced by their investigation, the architects, acting as their own developers, received a loan of a little over \$3 million from the Massachusetts Housing Finance Agency. But while the loan guaranteed that the project could happen, it imposed severe budget restrictions—a \$10.50 per sq ft limit. Brick walls were sand blasted and left exposed, as were miles of sprinklers and electrical conduit. Floors were sanded and patched where necessary; wood columns and beams cleaned and left exposed. Dormers were added to allow 36 duplex apartments on the top floor, and the base-

ment area, accessible from the lobby, was allocated for commercial use. New gypsum board and stud construction is simple and minimal, but the design does include several special features requested by the artist groups; extra large hallways and doors for moving artwork and supplies easily, tackboard walls in apartments, electrical outlets at ceiling height for spotlights, and commercial slop sinks for clean-up. Apartments range in size from 400-sq-ft studios to 1600-sq-ft three-bedroom units, and the rent structure varies according to income level. There are also some 20,000 sq ft of work space at roughly \$1.60 per sq ft.

While patched floors and little detailing may make the finished results seem a bit crude, and the enormously long corridors (150 to 200 ft) give a monotonous, institutional quality, the success of the project in fulfilling the needs of an artistic community seems assured. At the same time, the project will have some positive impact on a section of Boston that has been struggling to maintain itself as an urban residential area. [Sharon Lee Ryder]



# Skyscraper style

Rosemarie Haag Bletter and Cervin Robinson

**Long scorned as “modernistic,” often seen as camp, the commercial architecture of the 1920s—illustrated here by some of New York’s abundant examples—drew upon diverse sources in its search for popular appeal.**

Imagine architects producing buildings that are “modern,” rich in meaning, and sensuous, buildings considered to be amenities by the citizens of their cities. Imagine this architecture to be an amalgam of influences: from Sullivan and from Wright, from the progressive 1920s design of Germany, Holland, and Scandinavia and from equally progressive sources in Vienna and Paris. This is a fair description of the architecture that was first called “modern,” then “modernist,” and later—often pejoratively—“modernistic,” the style that is now called, for better or worse, “Art Deco.”

For some 40 years now, Art Deco has been damned because its architects clearly did not understand another modern architecture, that of the International Style, and because it was assigned to the wrong side of the great divide between the past and a new age. It has been damned as well because its practitioners belonged to a system of training, the Beaux-Arts, which was seen as fatuous.

Beaux-Arts training had been realistic enough when the architects of Art Deco received it in the first years of the century. It had prepared them in a specific technique for entering competitions, which were then the pre-eminent source of designs for major buildings, ones on which major careers could be based. This technique involved a fast, intuitive solution to design problems. The Beaux-Arts student worked without collaborators and had to stick to his solution. There was no training in verbal defense. By the 1920s,

**Authors:** Rosemarie Haag Bletter is an architectural historian teaching at Columbia University. Cervin Robinson is an architectural historian, photographer, and writer. They are co-authors of a book, *Skyscraper Style: Art Deco New York*, to be published in March by the Oxford University Press. Under the auspices of the Architectural League of New York, the Brooklyn Museum is now holding an Art Deco show based on their work.

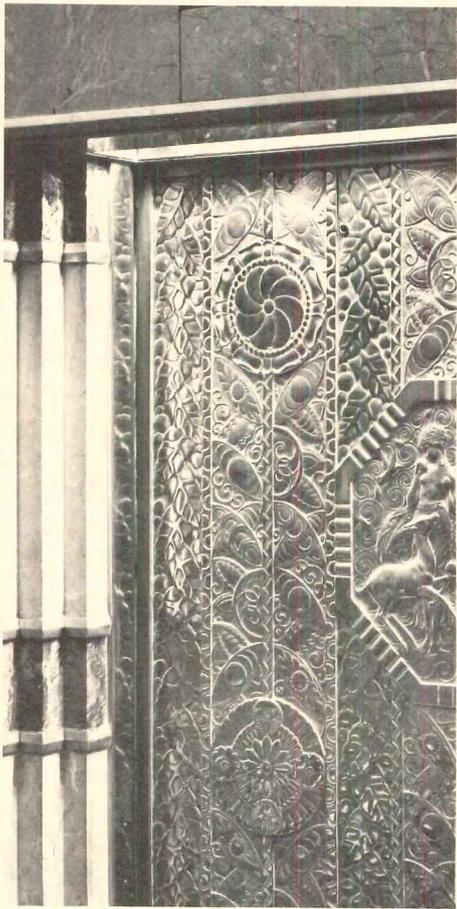
competitions no longer played the role they had—even taking into account the major one for the Tribune Tower.

The occasion for Art Deco was a building boom that started in 1925 and came to a halt in 1931. Architects were called upon to work on very large projects, primarily commercial, which required collaboration, under pressure of time, for clients who did not hesitate to demand major design changes. Inadequacies in the Beaux-Arts system began to be apparent.

The beginning of this boom coincided with the 1925 Paris exhibition (Exposition Internationale des Arts Décoratifs et Industriels Modernes) which carried a message for Francophile American architects—Francophile through their training and because of the recent war. The exhibition signified that a variety of modernist influences, most notably those from Austria and Germany, were now acceptable to the French, and so could be adopted by American architects.

Unlike the International Style, Art Deco meant to make no total break with the past. The intention was to create an acceptable modern style, a mass modern in fact. The rich textures, decoration, and bright colors of Art Deco were a conscious link with the 19th-century past. Part of what made it “modern” was the character of the ornamental reliefs used in decorative spandrels, at entrances, and in lobbies **1,2,3**. And part of its modernism came from the architects’ willing acceptance of progressive zoning laws which, to prevent the dark canyons produced by earlier skyscrapers, prescribed setbacks for tall buildings. Architects, by this acceptance, escaped what had otherwise been the inevitable alternatives in high building design: stretched classical with a cornice or Gothic with buttresses.

In designing their skyscrapers, Art Deco architects accepted much from Chicago (not least the skeleton frame as they found it). Indeed, when Beaux-Arts architects sent an exhibition of American architecture to Berlin in 1926 for showing at the Akademie der Künste, the centerpiece of the show was the work of Louis Sullivan. And Sullivan’s definition of the tall building could just as easily describe a skyscraper of the late 1920s: a street floor of shops, banks, and other services and with an entrance that “attracts the eye to its location”; the ground floor treated in a “liberal, expansive, sumptuous way”; office floors expressed uniformly because they contain similar functions; finally,



1

Art Deco adherence to Louis Sullivan's advice on embellishment of office buildings at street floor and at top is illustrated in New York office buildings: 1 Elevator doors of Goelet Building (1930-32, credited to engineering firm of C. H. Faile & Co.); 2 Glazed tile decoration at top of Park Avenue Building (1927, Ely Jacques Kahn, architect) contrasts with symbolic functionalism of Empire State Building dirigible mast in background (Shreve, Lamb & Harmon, 1931); 3 Ely Jacques Kahn's lobby of the Fim Center Building (1928-29) shows Viennese influence in horizontal banding.



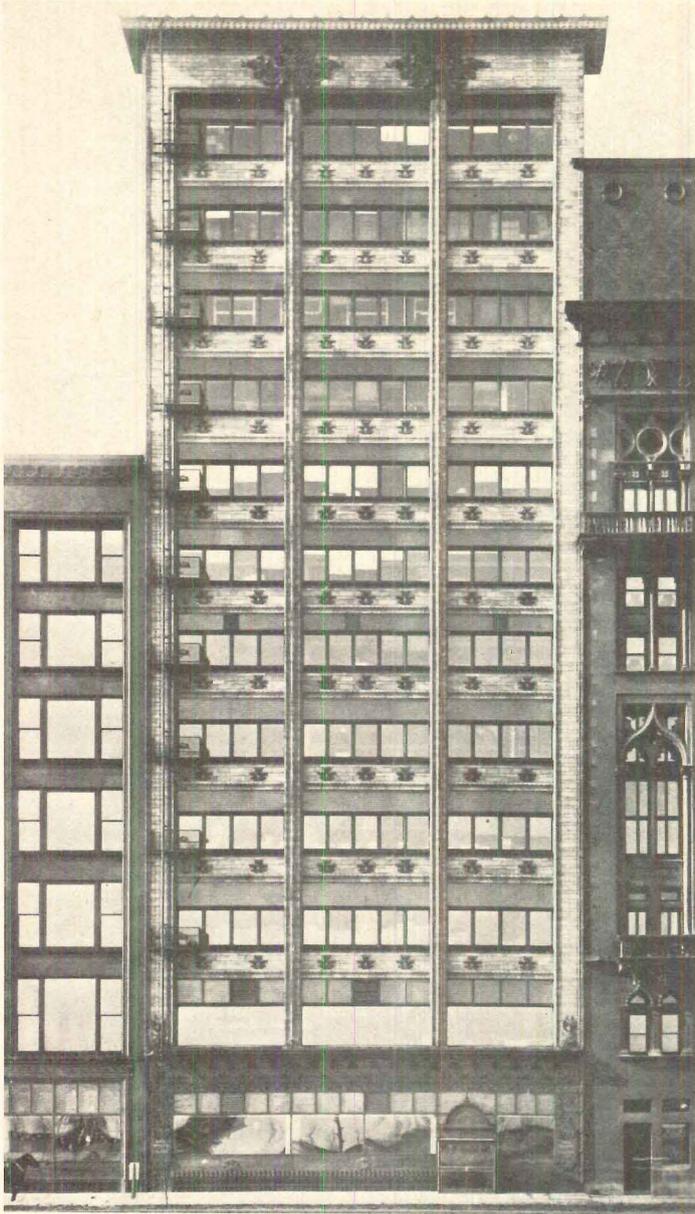
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Photos: Cervin Robinson.



3

## Art Deco architecture re-evaluated



4 Suspended-wall effect of 4 Gage Building, Chicago (Louis Sullivan, 1898–99) is recalled in 5 Kress Building on Fifth Avenue (Edward F. Sibbert, 1935). Flat ornament covers crystalline forms of 6 Bon Marche pavilion, at the Paris exposition (L.H. Boileau, 1925).

the termination treated emphatically to show that the building has clearly come to an end.

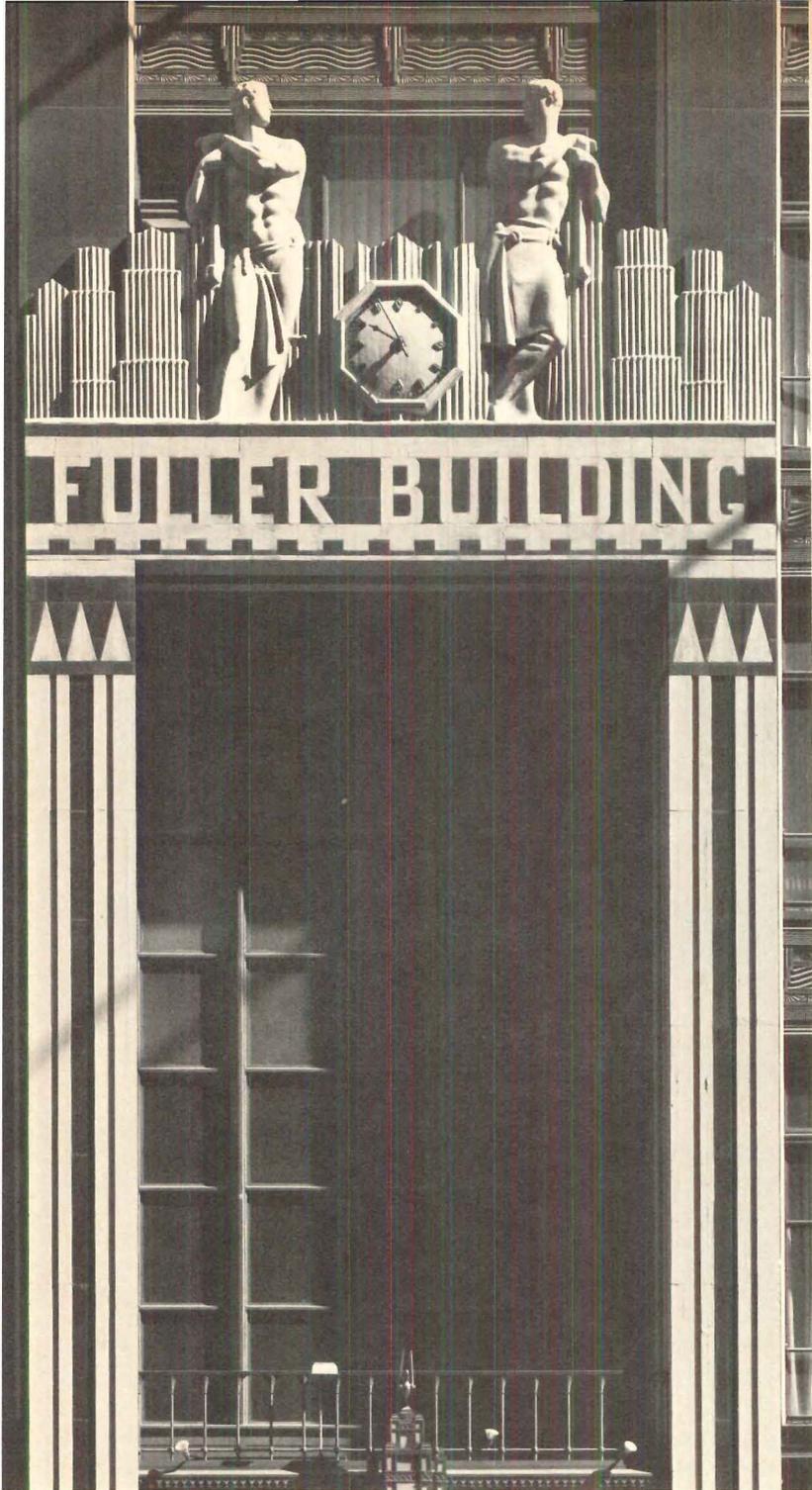
Sullivan's division of a building into three parts—ground floor, midsection, and top—is essentially classical, although his ornamental emphasis of these three areas was generally a Victorian stylization of natural detail and, on occasion, Art Nouveau abstraction. Sullivan believed the skyscraper should be "a proud and soaring thing" and that "it must be tall, every inch of it tall". In his own buildings this idea was usually expressed by piers which rose without interruption from the second floor to the attic with recessed windows and spandrels between them. Precisely this articulation is the usual thing in Art Deco.

The curtain wall had been defined in American practice as a wall "in skeleton construction . . . built between each two encased columns and usually on a girder at each floor level or thereabouts." And yet there was apparently more to the idea of the curtain wall here than that, and this may derive from the Chicago architects' interpretation of the theories of the 19th-century German architect Gottfried Semper. In speculating about the derivation of architectural



6

5 Photos: Cervin Robinson



7 Classical sources are apparent in 7 entrance to Fuller Building (Walker & Gillette, 1928–29; sculpture by Elie Nadelman) and 8 Broadway Block, small office building near Times Square (Schultze & Weaver, 1928–29).

elements, Semper had supposed that the first buildings consisted on an open framework supporting a roof, enclosed with a nonstructural filler such as wattle, hides, or textiles. Semper's writings had been discussed in Chicago and some had been translated; hence it was apparently understood that the walls of steel-framed buildings should have something of a woven character. The connection between Art Deco and Chicago practice is apparent in a comparison of Sibbert's Kress Building 5 with Sullivan's Gage Building 4. More generally the Art Deco curtain wall appeared in the form of a basket weave or other woven form 2, was given a fabric pattern or made explicitly curtainlike.

Beaux-Arts architects have always been regarded as thinking in terms of the styles, and there was a sense in which Art Deco architects understood most of design to fall



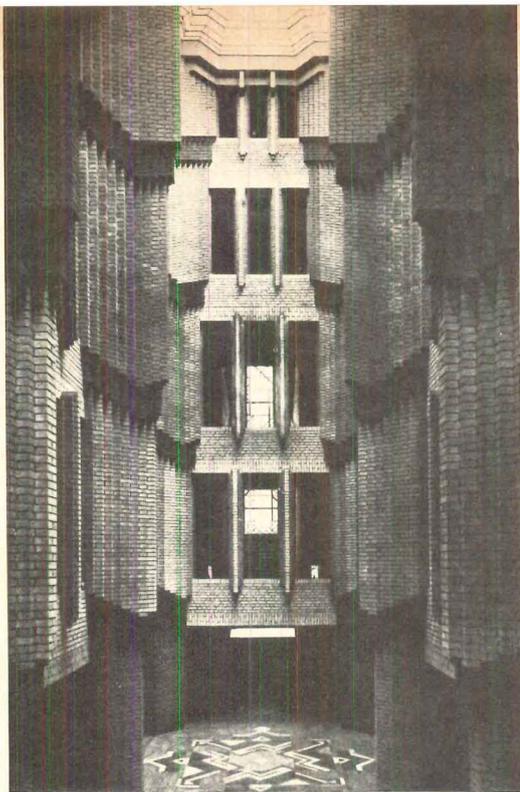
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Photo: Cervin Robinson

into either a classical category or one that was Gothicizing. At the 1925 exhibition of decorative arts in Paris, most of the pavilions were classical and centralized with an overlay of decorative panels in dazzling geometric and stylized floral patterns, the panels frequently organized in rectangular or octagonal forms 6. The official intent of the exhibition had been to compete with German design by offering the completely "modern"; its actual effect was not to introduce a new style, but to popularize several pre-existing ones. It offered modernist effects set in a classical framework.

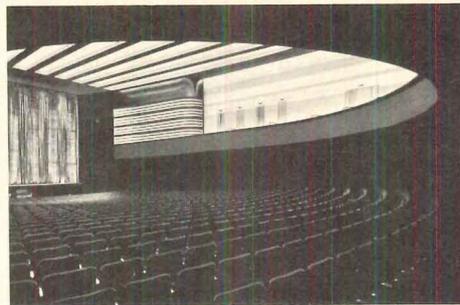
Many of the American buildings that followed were organized within a classical framework, too. This organization is most clearly seen in bank buildings of the period, but the framework also appears in a more vestigial form in much decorative detailing: on Schultze & Weaver's Broadway Block Building 8, classically articulated fluted piers terminate in irregular octagonal reliefs filled with floral patterns, the latter placed in such a way that they must be read as classical capitals. Similarly, the entrance to the Fuller Building is flanked by what on the surface appear to be geometrical light-and-dark inlaid designs 7; but they can also be taken as fluted piers and capitals.

The alternative to the classical was a verticalism which can be traced to Gothicizing sources in an arts-and-crafts tradition. The specific influence from Europe was that of the national revivals of several countries: Holland, North Germany, Sweden and Finland. This influence was of a romantic, colorful and warmly textured character, and it encompassed the work of Eliel Saarinen at one extreme and that of the German Expressionists at the other. The result can be seen in the work of Voorhees, Gmelin & Walker, where

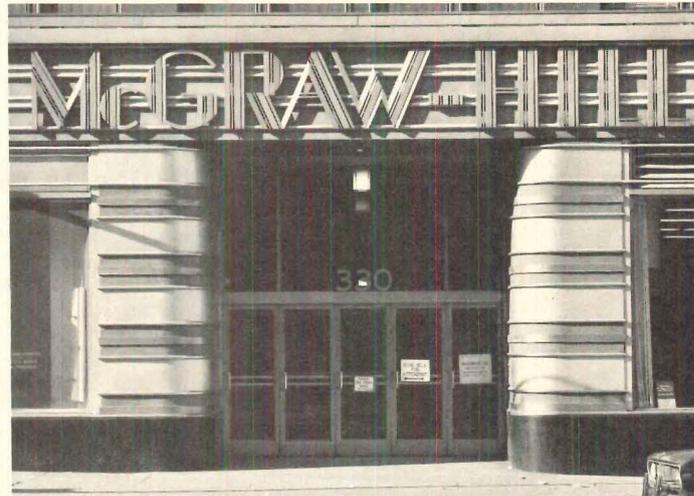


9

Angular forms and shaded brickwork of 9 I.G. Farben Dyeworks main hall (Peter Behrens, 1920–24) influenced buildings such as 10 an apartment house on Central Park West (Schwartz & Gross) where brick shades from purple at base to pale yellow at crown. Curving horizontals of 11 Universum Cinema in Berlin (Eric Mendelsohn, 1927–28) are recalled in entrance to 12 McGraw-Hill Building (Raymond Hood, 1931).



11



12

Photos: Cervin Robinson

10

Photo: Cervin Robinson



### Art Deco architecture re-evaluated

large splayed doorways, like the portals of some cathedral (albeit a cathedral of banking and commerce) **13** lead to faceted spaces surfaced in mosaics and lit by elongated windows. The use of varicolored brick with rich, hand-crafted textures **14** is also part of this tradition. The influential European source here was Peter Behrens' lobby for the I.G. Farben Dyeworks administration building of 1920–24 at Höchst **9**, a building illustrated in American architectural journals almost as soon as it had been completed. Its clustered piers, its vernacular use of exposed brick, and its application of Expressionist color theories—the brick was shaded from cool blues at the bottom to fiery oranges at the top—had considerable influence on American Art Deco work, where similar shading and piers occur **10**.

While the past can never be recovered, there are aspects of Art Deco we might imagine ourselves accepting, the arts-and-crafts influence for instance. But what is least recoverable is the role theatrical design played in this architecture. Stageset-like effects were repeatedly used to dramatize the street fronts and lobbies of Art Deco buildings. References to the theater appeared again and again in curtain-like and proscenium-like forms. It seems sometimes that critics of the period could not write a piece without mentioning either Shaw or Ziegfeld. In the 1920s, books on the subject of the theater turn out, as often as not, to be actually on the subject of set design. It was a time when architectural exhibitions were routinely put together by theatrical designers, and when a handbook on architectural study would refer to that part of architecture which would reach the layman as “the ‘stage scenery’ of architecture” and say that it was of very real importance.

The extraordinary influence of the theater and set design are hardly likely to revive, but we should note two consequences of this influence for Art Deco design: one was that the architect was thereby allowed to treat a building's lower floors, which the pedestrian faced, not as part of an overwhelming building which dwarfed him, but as something related primarily to the street; and a building's top could be treated as something to be seen on a separate occasion at a distance, its forms and colors optically adjusted for that distant view **2**. Another consequence was that Art Deco architects learned, as the playwright does, that what was not made overabundantly clear to their audience might very likely be lost. And so like any popular art form—like movies, say—Art Deco was meant to have an immediate sensuous appeal. It was, in effect, a pluralistic architecture.

What finished off Art Deco? One thing, of course, was the Great Depression. Art Deco was essentially an optimistic style which dramatized the confidence of the late 1920s. While it continued to bring a brand of cheer to apartment houses, movie theaters, and government buildings of the 1930s, the real occasion for it was by then past.

But even by 1929, a change had occurred in Art Deco. It would be easy to see this as a consequence of the increasing influence of International Style modernism, and perhaps the change was partly due to that. For instance, there was a shift to a kind of functionalism. At the top of the Empire State Building **2** a finial, derived from that of the Chrysler Building, acquired (at least symbolically) the functionalist justification of being a dirigible mooring mast. Again, the sculpted mass of Hood's News Building became justified in its transmutation to the later RCA slab as responding to the falloff of elevator stacks; no office space was to be more than some 27 feet from a window. And to support the evidence of new influence from Europe, the triple-lined, curved walls at the entrance to the McGraw-Hill Building **12** clearly derive from similar walls in Eric Mendelsohn's Universum Cinema of 1927-28 in Berlin **11**.

The real weakness of Art Deco architects may have been their lack of training in collaboration and in verbal defense of design. The Art Deco architect had no tight, theoretical framework within which he worked. His journalism made only the sloppiest link between text and illustrations, and to the Art Deco critic there was never just one good reason for doing something, there were always several, equally valid, from which he could choose. Meanwhile, advocates of the International Style, with no American buildings in their own style to discuss, spent their time on Art Deco buildings, whose architects they accused of simple failure of nerve. In the face of this hostility, and later, faced with a new system of architectural education which argued for the methodical elimination of design possibilities on a supposedly scientific model, the happy-go-lucky Art Deco architect hadn't a chance. Archetypically, he was a convivial fellow who, like Hood, was forever surprising his fellow architects by his latest solution or, like Van Alen, shocking their sense of propriety or, like Ely Kahn, talking practicalities while producing buildings of great sensuousness.

If, in the Depression years, the Art Deco architect came to seem socially irresponsible, that was only because we no longer shared his faith that the lowly messenger boy, say, might become a tycoon. We no longer believe that such a possibility should be dramatized. □

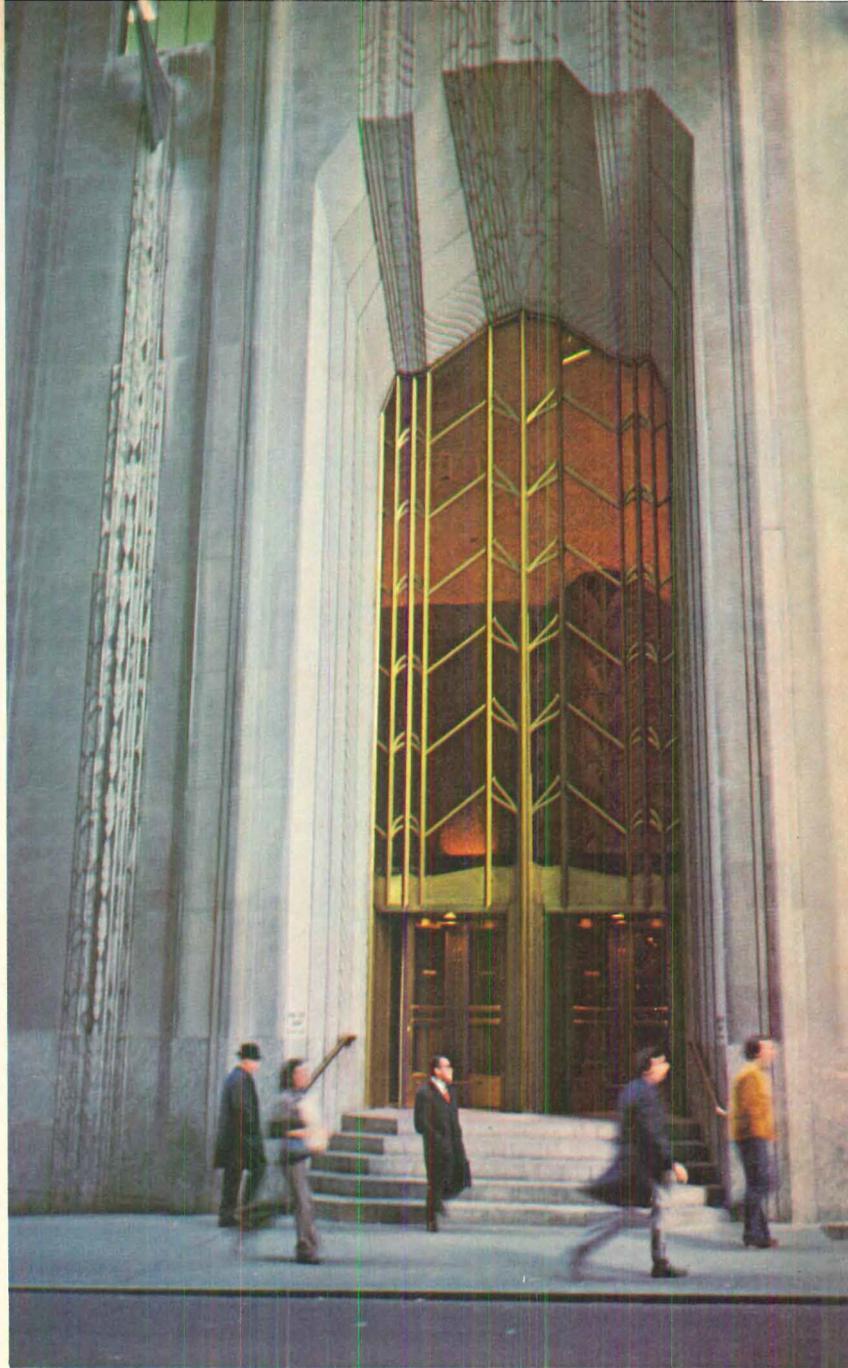
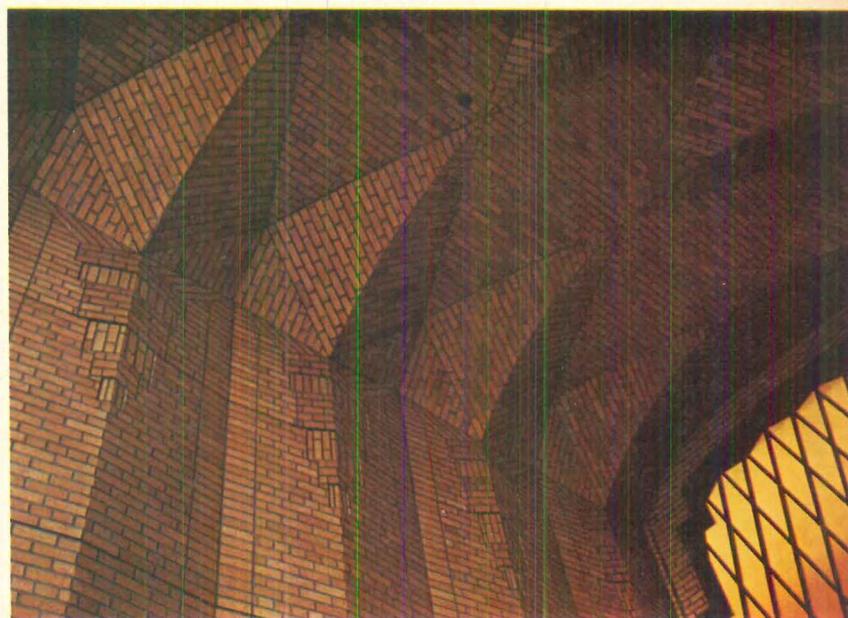


Photo: Cervin Robinson

**13**



Influence of Romantic Nationalism can be seen in tall entrance of **13** Irving Trust Company headquarters (Voorhees, Gmelin & Walker, 1929-32) and faceted brickwork of **14** Western Union Building lobby (same architects, 1928-29).

**14**



Inside, there's the warmth and beauty of our traditional wood window.

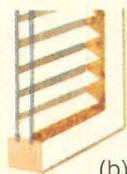
For years, wood windows have been appreciated for their warmth. In appearance. And in their natural ability to provide good insulating properties. So when we developed the cladding system for our wood windows, we were very careful about leaving both of those qualities intact. Viewed from inside the building, all of the surfaces that were meant to be wood are still wood. The exterior aluminum skin is not visible anywhere on the inside of the window. And because the skin does not penetrate the frame or the sash (a), the insulating qualities of the wood are not disturbed.



(a)

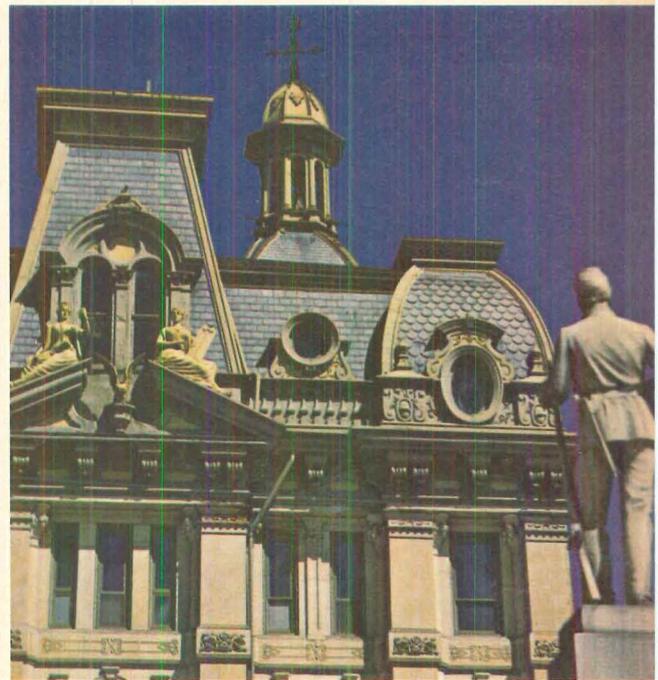
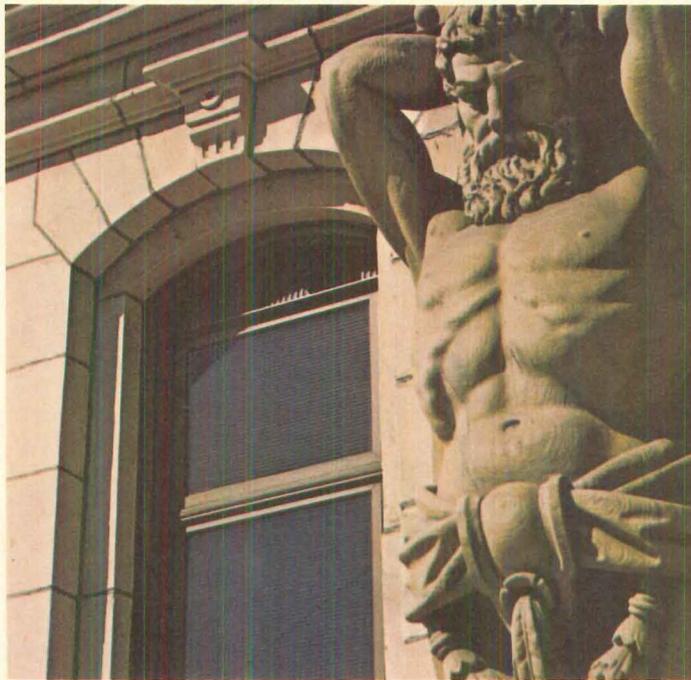
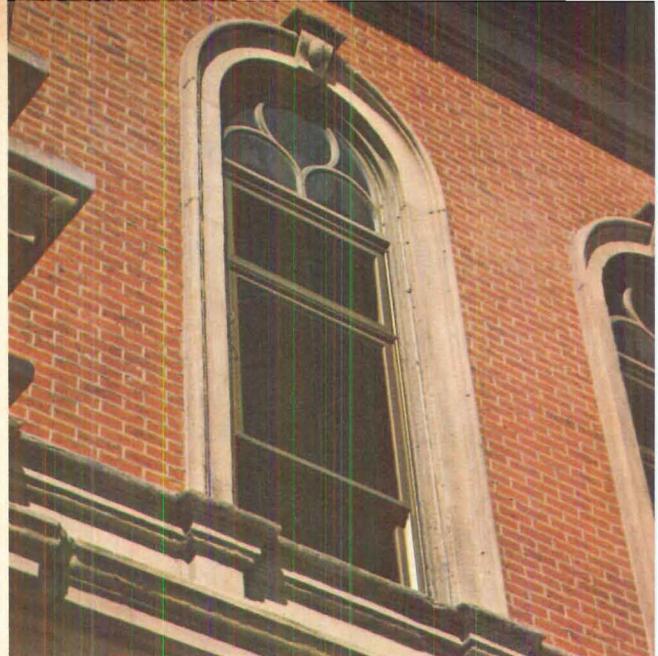
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(b)

**This Pella Clad window system combines modern convenience with traditional values, in the recently restored Wayne County Courthouse.**



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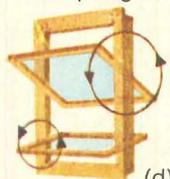
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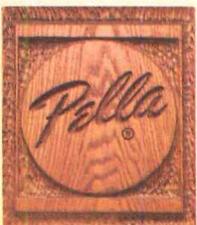
(c)

Afterward, the ease and economy of washing the outside of a ventilating window from the inside.

Window cleaning is another maintenance factor which deserves consideration. And Pella Windows have something to offer in this area also. All of our ventilating units can be cleaned, easily, from the inside. The Pella Double-Hung Window has a spring-loaded, vinyl jamb liner which allows the sash to pivot fully. And because each sash pivots at its center point (d), the weight of the sash is counterbalanced. Which makes the job just that much easier. Reglazing can also be accomplished from the inside, along with sash removal. And the same thing is true of our casement and awning windows.



(d)



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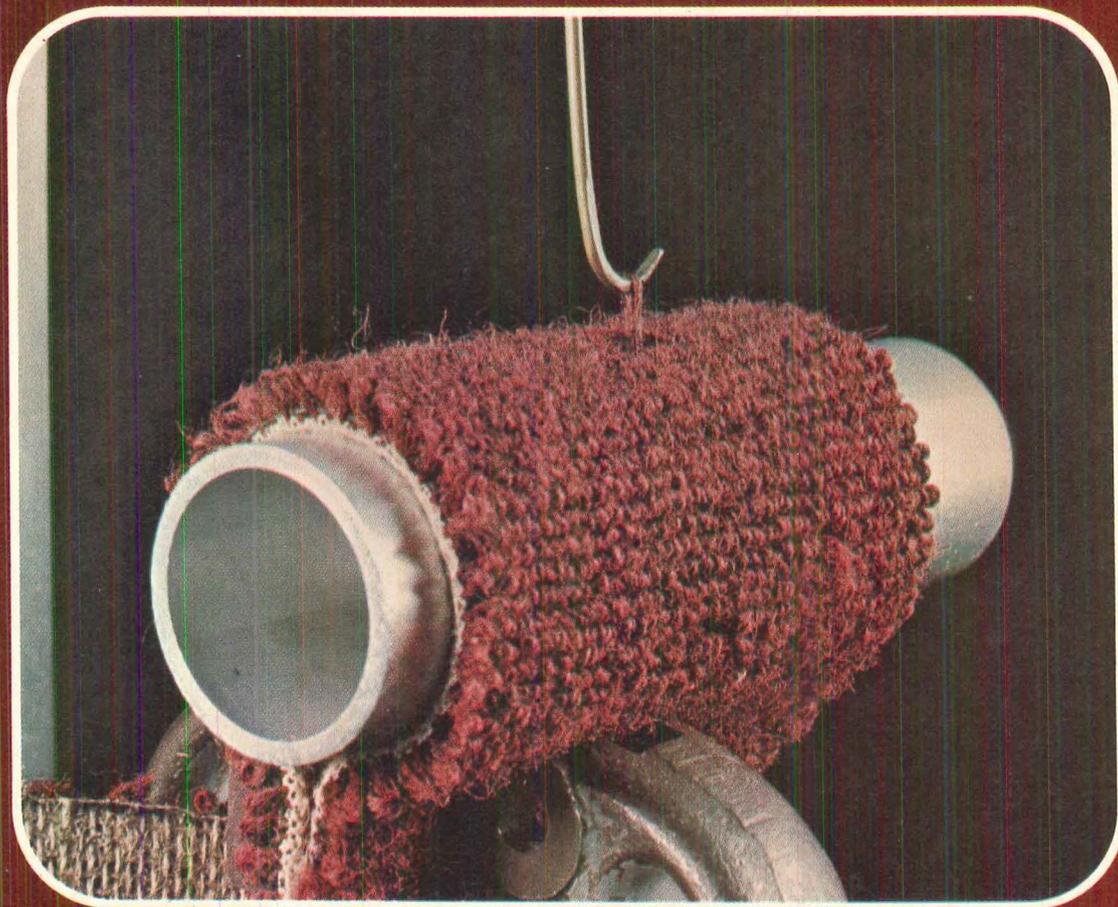
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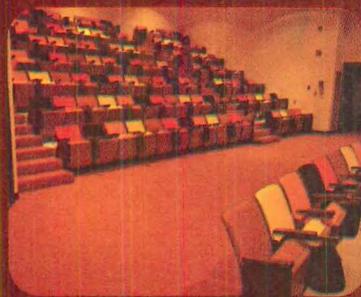
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## Sealants, part II

John P. Cook

**This concludes a December 1974 discussion about sealants. Topics covered include: proper materials selection, field application problems, and installation.**

Field application problems with sealants sometimes begin in the architect's office. Architects must know whether the joint in question is a working joint. They must also be aware of the tolerances which must be considered, especially in the casting and erection of large panels. It's easy to detail a ½-in.-wide joint, but the "as built" width of the joint may range from ¼ in. to ¾ in.

No sealant will adhere to a dirty substrate. Joints must be cleaned. With concrete joints, bonding faces should be cleaned of dust and other substances by wire brushing or sandblasting if necessary. The joints are then blown out, using oil-free compressed air. Metal and glass are cleaned by wiping with an oil-free solvent as xylene or MEK which *must* be removed by wiping with clean, dry, white cloths. After cleaning, joints should be masked off, if possible, to ensure a neat joint.

Next, the joints should be primed, as required by the sealant. Architects should insist on it. It forces the contractor to inspect the joint one more time before it is sealed and promotes clean joints ready for sealing. Prime *before* placing the back-up material (especially in slab joints, because excess primer runs down the joint faces and puddles on top of the back-up material).

After priming, place a back-up material whose diameter is 25 percent greater than the maximum joint width. The back-up should not be randomly poked in with sharp objects such as screwdrivers. The foam back-up rod should be placed accurately to depth. Another point: don't stretch the back-up longitudinally to get it into the joint. Stretching reduces the cross section of the material.

Now comes the toughest point to sell to the gun handler. The joint is now ready for sealing. To get the best joint, the caulking gun should be *pushed*, rather than *pulled* along the joint. This forces the bead of sealant out ahead of the nozzle and sideways against the joint walls, giving the best wetting action and the best adhesion. After the joint is sealed, it should be tooled to a smooth surface. Masking tape is removed before the sealant cures.

Naturally, there are failures caused by poor shape factor, omitting a bond breaker, or choosing the wrong material for the job. However, after examining several hundred failures over the years, I must conclude that the two major causes of sealant failures are poor joint preparation and improper mixing of the two component materials. If improper mixing of the two component materials is the cause of so many sealant failures, why not simply eliminate the two component materials? Because the 20-year track record of well-mixed and properly installed two component sealants is too good to ignore. The polysulfides and urethanes hold their own against single component counterparts. Listed below are thumbnail sketches of some available sealants.

*Two component polysulfide:* one stage sealing; vertical and horizontal wall joints in metal and concrete; patio and plaza joints; good adhesion to concrete, metal and glass; tolerates movements up to 25 to 30 percent; costs \$2 to \$3 per gal. to mix and place in gun.

*Two component urethanes:* same as polysulfide; better for patio and plaza joints, but have more mixing problems.

*High modulus silicones:* one component material; one stage sealing of metal and glass; only fair adhesion to concrete; excellent weatherability, gunability, colorability; require very careful joint preparation.

*Low modulus silicones:* new one component material; looks good; improved concrete adhesion; too soft for patio and plaza joints; not for continuous water immersion.

*Solvent based acrylics:* one component sealant, excellent adhesion; one or two stage weatherproofing; will self-heal in event of rupture; in exterior joints, should be used in narrower joints because of its low recovery; too soft for patios and plazas; not for water immersion.

*Butyls:* one component; gun grade materials; not for one stage sealing; movements up to 15 to 20 percent; slow curing; good aging and weathering; good for air seal in two stage sealing; good for many residential applications; good water immersion resistance.

*Latex caulks:* most properties and applications in the same range as the butyls; these are emulsions which offer quick clean up with water; fast skinning and curing rate; can be painted over almost immediately; poor water immersion resistance.

Naturally, these sketches are too brief. Within each class, the properties of available materials may vary rather widely. So how does the architect pick the proper sealant for the job? For private work, the manufacturer tests his own sealant for compliance with Federal Specifications. His technical data sheets range from excellent to misleading. Fortunately, most manufacturers value their reputations, and their data are fairly reliable.

There is no shortcut to selecting and installing sealants. The architect should obtain copies of Federal Specs and compare them carefully to the manufacturers' data sheets and his own job requirements. Such information, combined with proper design and adequate field supervision, will produce properly sealed, dry, comfortable buildings.

**Author:** John P. Cook is Prof. of Engineering, University of Cincinnati and author of *Construction Sealants and Adhesives*, 1970 New York: John Wiley & Sons.

# Slouching towards Barcelona



Thonet: Cafe side chair, c. 1870. Rietveld: Red Blue chair, 1917-18.

**The classic Modern chairs, the mythological union of form and function, are not always ideal from the viewpoint of a practicing orthopedic surgeon. P/A has undertaken, with Dr. Michael Lampert, a review.**

Most revolutions begin with a bang. When Michael Thonet, a Bavarian cabinetmaker, subjected a solid beechwood rod to steam and pressure in 1856 he heard no sharp report. The rod simply bent. With such long curved rods he eliminated the need for intricate hand-carved joinery and contours in chair construction. Mass production of standardized furniture became a reality, and Thonet seated Europe in millions of his chairs.

In the graceful, curving forms of Thonet's ubiquitous Viennese side chair, the spartan armchair, and the serpentine rocker, the forerunners of modern design saw the standards of a revolution. Despite surface differences, the chairs shared two common traits: economy of means and mass production assemblage. The one condition was neither necessary nor sufficient for the other. Nonetheless, in

the rise of the Modern movement the association of visual economy and factory process was not only perceived but enshrined in dogma. The contradictions apparent in the chairs of the early pioneers, William Morris, Charles Rennie Mackintosh, Otto Wagner, and Frank Lloyd Wright, persisted until the Modern movement faltered and lost momentum halfway through the 20th Century. Nor will the question lie still now. Why should it matter to the machine whether the forms it produces are visually ornate or simple?

One direction was to press industrial design and production into the service of traditional crafts. In his efforts to revive English crafts, William Morris established the designing house of Morris, Marshall, Faulkner & Co. in 1861, whose association of artists and craftsmen working together on varied endeavors (wallpaper, wood carving, engraved and stained glass, furniture, and metalwork) was to serve as a model for the Modern movement. From this ambitious start came the English Arts and Crafts movement and the first steps towards industrial design.

Though Arts and Crafts found sympathy on the Continent in Art Nouveau (France), Wiener Werkstatte (Austria), and Deutscher Werkbund (Germany), a very different sensibility was to triumph there: Functionalism. Europe would design forms "appropriate" to the machine, whose spare, humorless means to pure engineering ends were regarded in awe. "Heroic Materialism," or spiritual purification through aesthetic simplification, was magnetic and irrefutable. The stage was set for the rebirth of an idea as old as St. Thomas Aquinas and Plato: that is, the pursuit of divine form. A search for universal principles for the design of household furnishings sounds ludicrous today. In 1903, Henry van de Velde, the Belgium architect, cautioned that, "It will take us a long time to recognize the exact form of a table, a chair, a house."

"De Stijl," a coalition of Dutch artists and architects, proclaimed in 1918 that, "The artists of today, all over the world, impelled by one and the same consciousness, have taken part on the spiritual plane in the world war against the domination of individualism, or arbitrariness." Its contributions to this struggle were to dispense with traditional design subject matter, to reduce compositional elements to circles and rectangles, and to abandon Beaux Arts symmetry for the asymmetry of Cubism. In this spirit, Gerrit Riet-



**Project:** Barcelona chair.

**Architect:** Mies van der Rohe.

**Site:** Germany, 1929.

**Materials:** chromium nickel-plated steel bar frame, saddle leather straps, top grain leather cushions filled with foam rubber.

**Manufacturer:** Knoll.

**Remarks:** Mies designed this tour de force for the German Pavilion at the Barcelona International Exposition of 1929. The intersection of its curved legs and the proportions of its tufted leather cushions require master craftsmen to realize. So it should be: *Barcelona* is undeniably the classic monumental chair of the 20th Century, existing in what Arthur Drexler of the Museum of Modern Art calls "a bubble of time of its own."

**Dr. Lampert:** I have some difficulty sitting straight in this chair, whose angle appears to be 70 degrees. Yet the great width allows me to shift about, to grip the sides as an armrest. Also, the height of the back gives good support to the shoulders. The leather cushions are appropriately soft.

## Technics: Classic chairs

veld, a De Stijl architect, designed the *Red Blue* chair of 1917–1918, perhaps the first Modern chair.

Rietveld's chair greatly influenced the Modern movement. When shown at the 1923 general exhibition of the Bauhaus in Weimar, Germany, it aroused much attention. It is easy to see why. By separating supporting from supported elements, by causing vertical supports to sidestep horizontal members, and concealing all joinery, Rietveld had created a weightless chair. Its structure was not only minimal, but possibly nonexistent.

The architects and craftsmen of the Bauhaus took this fundamental simplicity to heart. Said its director, Walter Gropius, "An object is defined by its nature. In order, then, to design it to function correctly—a container, a chair, or a house—one must first of all study its nature; for it must serve its purpose perfectly . . ." With the development of techniques for manufacturing and forming steel and aluminum frames and steel tension springs, designers "purified" the chair, discarded overstuffed upholstery, carving, and articulated joinery, and stretched a minimal seat across bare structural elements. Thus Marcel Breuer and Mies van der Rohe gave the Modern movement its earliest masterpieces of chair design, the *Wassily* (1925) in steel tubing and the *Barcelona* (1929) in steel bar.

Time has been evasive about dating these upstarts. They fit into no instinctive chronology. Architects proudly specify them today as they did more than a decade ago when their production was resumed. Somehow, Breuer and Mies had opened a hiatus in iconological time and slipped through.

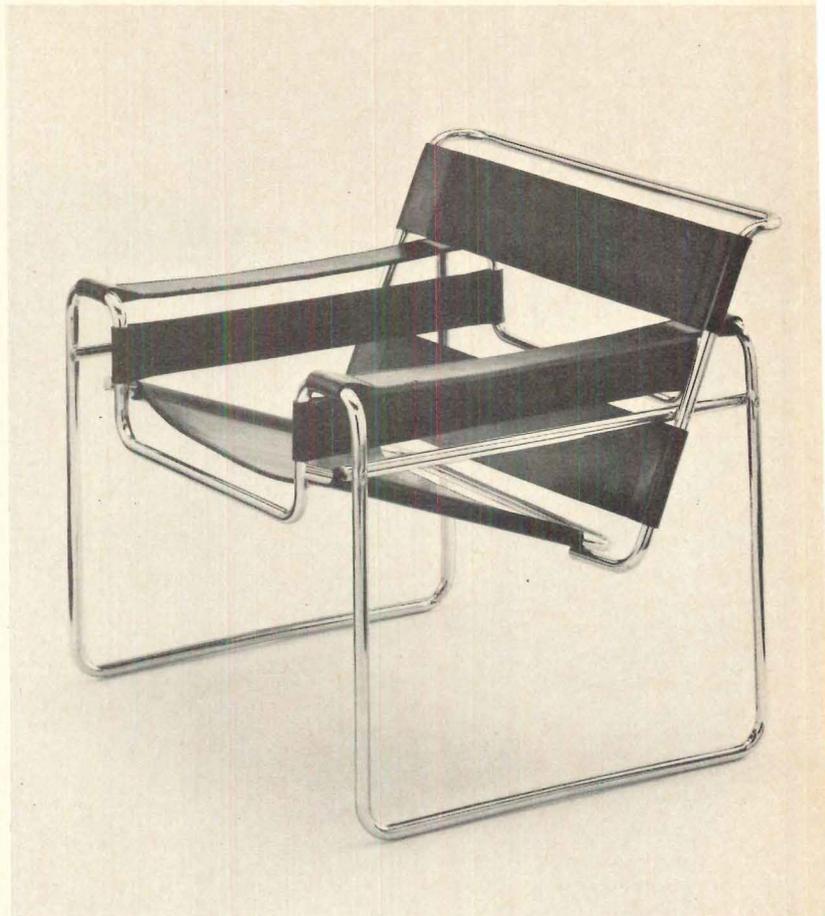
Furthermore, the artistic lie implicit in the genesis of these and other Modern chairs has never been betrayed. They so confidently emanate a commitment to functionalism and high technology that it little matters they ignore physical comforts or are constructed by costly handcrafting using the finest materials.

Should this be surprising? Bauhaus students designed many objects which manufacturers bought and mass produced. On the other hand, the design *prototypes* were often created in the tradition of European crafts, adapting new materials and techniques to a much older philosophy. (Mies was a vice president of the Werkbund.)

### Better chairs through chemistry

Since the 1920s, research in materials technology has continued to expand the architect's capacity to generate form. Plywood was bent to increase its strength by Alvar Aalto in 1926. It was molded in two directions by Charles Eames in 1940. Then, during and after World War II, rubber and plastics found their way into chair webbing, diaphragms, cushioning, shells, coverings, and adhesives. Designers like Eames, Eero Saarinen, and Werner Pantón rushed to exploit the myriad opportunities.

But the seed of yet another revolution in chair design had been incubating right in the cradle of the Modern movement, planted there by Le Corbusier. Corbu's *Grand Confort* of 1929 was to the overstuffed chair as a turtle is to a lizard. The cushions were still there, but the skeleton was turned inside out and was now an exoskeleton, surrounding them from outside. It would be more than three decades



**Project:** Wassily chair.

**Architect:** Marcel Breuer.

**Site:** Germany, 1925.

**Materials:** chromium nickel-plated tubular steel frame, leather seat, back, and sides.

**Manufacturers:** Thonet, Knoll.

**Remarks:** Breuer headed the Bauhaus workshop when he designed this chair, used to furnish Wassily Kandinsky's campus staff house. Use of bent steel tubing occurred to Breuer while riding a new bicycle, so legend says. *Wassily* was fifth in Breuer's famed sequence of six chairs in a "movie strip" in a 1926 Bauhaus journal. The text: "A Bauhaus movie lasting five years. Author: Life demanding its rights. Operator: Marcel Breuer who recognizes these rights. Better and better every year; in the end one will sit on a resilient column of air." "The last frame shows a woman sitting on "air.""

*Wassily's* construction is typical of all Modern classics. Raw tubing is cut, bent, bored, polished, and electroplated, producing six looped sections. Seven top grain Italian leather straps (each formed by two cemented pieces) are slipped on to the loops. Then the loops are bolted: back, seat, and finally sleigh runners, 12 points in all. Original straps were canvas, but Thonet substituted leather for service and appearance.

**Dr. Lampert:** People seldom sit in the designed posture of a chair, and here is an example why. I can't sit normally in the chair because of what appears to be an acute angle between seat and back. (This is difficult to ascertain. The intersection is a void which causes the sitter's pelvis to slide through, forming less than a right angle. The body center of gravity tends to collapse towards the sitter's lap.) The arms help, but I compensate by slouching forwards.

**Project:** Cesca chair.

**Architect:** Marcel Breuer.

**Site:** Germany, 1928.

**Materials:** chromium nickel-plated tubular steel frame, steam-bent finger-jointed beechwood back and seat frames, natural woven cane fabric.

**Manufacturers:** Thonet, Knoll.

**Remarks:** While appraising his new design of nested occasional tables using tubular steel frames, Breuer reportedly turned a table on its side and mentioned to colleagues that the resulting cantilevered effect might make a good chair frame. Breuer did not immediately pursue this. So Mart Stam, independently working in Rotterdam, designed the first cantilevered chair in 1926, followed soon by Mies. But Breuer's *Cesca* is currently (overwhelmingly) favored.

**Dr. Lampert:** It (side-chair version) is for desk use, apparently. Without arms, it obliges you to seek a "shelf" to lean on. I find it stiff, unaccommodating in its insistence on a fully vertical torso.

**Project:** Grand Confort.

**Architect:** Le Corbusier with Charlotte Perriand and Pierre Jeanneret.

**Site:** France, 1928.

**Materials:** chromium nickel-plated tubular steel frame, leather upholstered cushions.

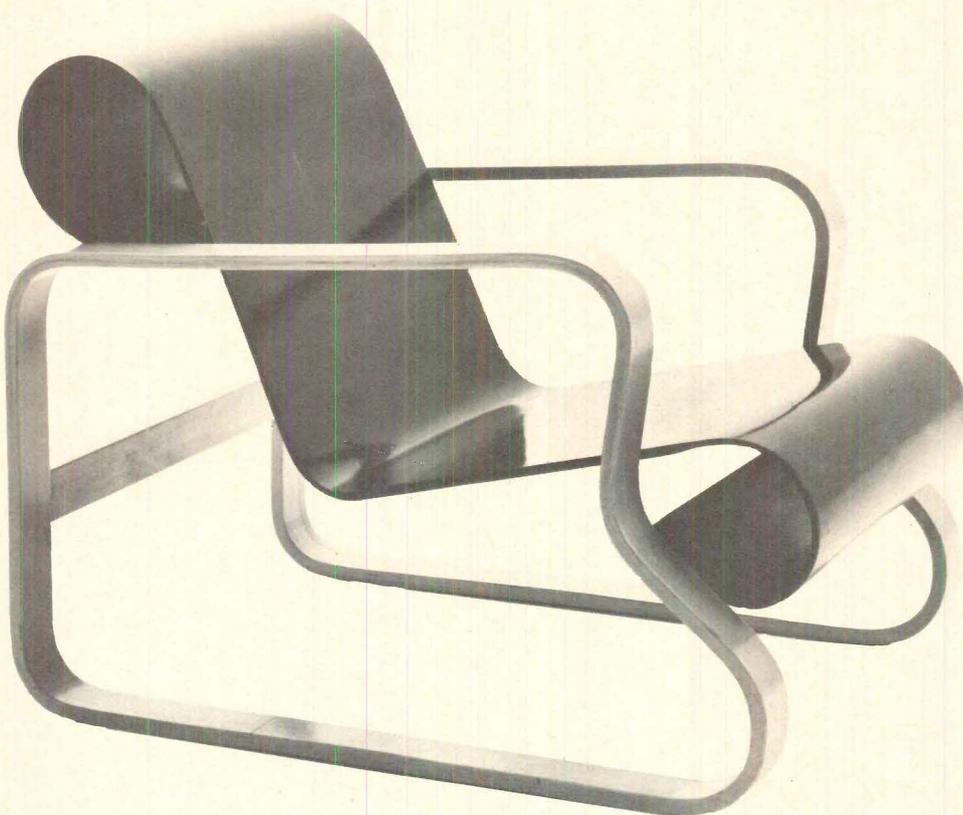
**Manufacturer:** Cassina (Milan, Italy) through Atelier International.

**Remarks:** Corbu had launched a fierce polemic on behalf of the Modern movement in 1920, when he declared, "The Engineer's aesthetic and Architecture are two things that march together and follow one from the other: the one being now at its full height, the other in an unhappy state of retrogression . . . It is a question of building which is at the root of the social unrest today: architecture or revolution." In its own way, *Grand Confort* was a polemic: a loose set of cushions restrained by a minimal frame, nothing more.

**Dr. Lampert:** The back is low but the seat allows me to sink to a level at which the back comes to the scapula, so I can enjoy the softness of the back cushion, as well as those of the arms and seat. Snug and comfortable.



**Technics: Classic chairs**



**Project:** Scroll armchair.  
**Architect:** Alvar Aalto.  
**Site:** Finland, c. 1934.  
**Materials:** molded and bent birch laminated frame, pre-formed plywood seat.  
**Manufacturer:** Artek (Finland) through International Contract Furnishings.  
**Remarks:** This chair was produced to furnish Aalto's TB Sanatorium at Paimio, and existed in alternate versions having either plain plywood or upholstered seats. Aalto experimented for more than three years with this chair, fabricating the plywood himself.  
**Dr. Lampert:** This is a hard chair with apparently no "give." The wide armrest is good; the body's stress point is directed to the midpoint of the back. I wouldn't sit in this for long periods of time. I feel like slouching forward, holding onto the arms. To me, an attractive but unyielding chair.

**Project:** Lounge chair and ottoman 670, 671.  
**Architect:** Charles Eames.  
**Site:** U.S.A., 1956.

**Materials:** rosewood veneer on molded plywood seat and back, black and polished swiveling (chair only) cast aluminum base, black leather cushions with latex foam, down, and feather filling.

**Manufacturer:** Herman Miller.

**Remarks:** Eames approached the problem of deep comfort and emerged with a fresh response to the English club chair. The solution is perhaps more articulated as interlocking parts than other Eames chairs. Nonetheless it is as deft in its handling of form as any of its more casual relations, and as good an illustration of Eames' attitude towards design problems as *performance* requirements.

**Dr. Lampert:** This is a comfortable chair: high back, sympathetic contours, well-placed armrests, and soft leather. The armrests' level keeps you in the chair so you don't slide off. The flexibility of the cushions allow you to vary the angle of your body to unload body stress at different points.





**Project:** LCM chair.

**Architect:** Charles Eames.

**Site:** U.S.A., 1946.

**Materials:** chromium-plated tubular steel frame, formed plywood seat and back with veneer of fine wood or enamel.

**Manufacturer:** Herman Miller.

**Remarks:** Eames and Saarinen won first prize for living room furniture in the inter-American competition "Organic Design in Home Furnishings" conducted by the Museum of Modern Art in 1940. Unlike other winning submissions was their use of plywood shells molded in two directions, creating subtle compound curves and great strength. By 1946, Charles and Ray Eames had designed and produced a new line of molded plywood chairs. When the Museum exhibited them in a one-man show, the LCM won immediate distinction for its technical and aesthetic success. The pragmatic Eames had provided a most elegant answer to his own question, "How do you hold two wood shells in space?"

**Dr. Lampert:** The hard shells yield slightly. Though their contours do not feel very accommodating. You sink in somewhat, yet you can't adjust much. It doesn't seem designed for extended periods of use.

before Corbu's notion was developed. However, when the Italians kicked the Bauhaus in the seat of its ideological pants, they did so with humor. Sometimes the cushions became the whole chair, as arms, legs, seat, and back merged into one continuous undifferentiated form. Others had multiple functions. Still others, lovingly handmade, looked less like furniture than like species from a cosmic bestiary. The stern Teutonic cry of form follows function was drowned in comic tears. Form will find a function!

### Modern design is good for you

What the Italians and many others recognized by the early 1960s was that function in its purest physical sense assumes no particular form, except as assigned through cultural symbolism. As human physique differs from person to person, so does the standard for comfort. Faith in a universal chair comfortable to all men fades in reviewing cultural preferences: squatting, standing with one leg tucked in the crotch, and sitting in a lotus position are all considered comfortable postures somewhere in the world.

Comfort can be described as the greatest possible relaxation of the largest number of muscles. To reach such a state of bliss would require a bed, not a chair. Since there are few occasions in a working day that allow such indulgence, we must contend with chairs, these mass produced artifacts designed for the hypothetical Average Man.

More than one civilization has seriously tried to reduce the human physique to a statistical norm. The Egyptians, Greeks, Romans, and Renaissance Europeans tried, as did Albrecht Durer. In designing objects for general use there is no alternative to this concept.

Nor has sophisticated measuring technique taken our raw anthropometric data significantly beyond the study by Nicholas Andry de Boisregard, *L'Orthopedie* of 1741, the heyday of the great cabinetmakers in Europe. This scientific inquiry related the various postures assumed by human bodies at work and play to posture defects and set forth the basic anthropometric measurements for designing chairs. Though we can design technical adjusting devices in our chairs, we cannot refine Andry's data without risking the overspecification of the norm.

Ergonomic studies do suggest certain desirable objectives in chair design. Concentrated support on the so-called "seat" bone (the tuberosities of the dorsal and posterior of the pelvis) and lumbar support would relax the spinal erectors, our overworked back muscles. In everyone's experiences there have been chairs which accomplished this and those which have not.

As so often happens, the patient sabotages the cure. Symbolism cares not a jot for ergonomics, and we select our home and office furnishings because the aura they project is so photogenic. As Emilio Ambasz, Curator of Design at the Museum of Modern Art, remarks, the Barcelona chair is not merely a machine for sitting, it is "a throne of industrial might."

In the accompanying discussions of individual classic Modern chairs, P/A has been accompanied by Dr. Michael Lampert, an orthopedic surgeon practicing in Manhattan. Rendering only what he describes as "one man's opinion," Dr. Lampert has generously given up time and posture to personally test each chair. Since readers are not told Dr. Lampert's own physical dimensions, they are freed for (or

## Technics: Classic chairs



**Project:** Panton side chair.  
**Architect:** Werner Panton.  
**Site:** Switzerland, 1960. Produced in 1967.  
**Materials:** Molded ASA terpolymer plastic.  
**Manufacturer:** Herman Miller.

**Remarks:** Panton, a Dane residing in Switzerland, worked for the noted Danish architect Arne Jacobsen until he established his own practice as an independent architect and designer. His wide-ranging investigations of design problems have touched on architecture, furniture, lamps, carpets, and fabrics. Here Panton has created a sensual form which is also one of few successful one-piece cantilevered plastic chairs.

**Dr. Lampert:** I feel as if I might tip in this chair. The balance *seems* poor even if it is actually stable enough. The material is hard, and its contours are essential to hold you in the narrow width. I don't find it comfortable.

**Project:** MAGriTTA lounge chair.  
**Designer:** Sebastian Matta.  
**Site:** Italy, 1970.  
**Materials:** black fiberglass derby hat with leather hatband, green foam rubber apple seat, soft black rubber stem.  
**Manufacturer:** Simon International (Italy), through Domus Locus.

**Remarks:** Chilean designer Matta developed this chair from an idea of his old friend Rene Magritte, the Surrealist painter. While relatively unknown at this time, the MAGriTTA is included for its memorable celebration of the "designer chair" as seat of many human fantasies. Dr. Lampert has not reviewed MAGriTTA, but a reliable source indicates it is possible to sink deep into its stem, apple, and finally, the derby hat.

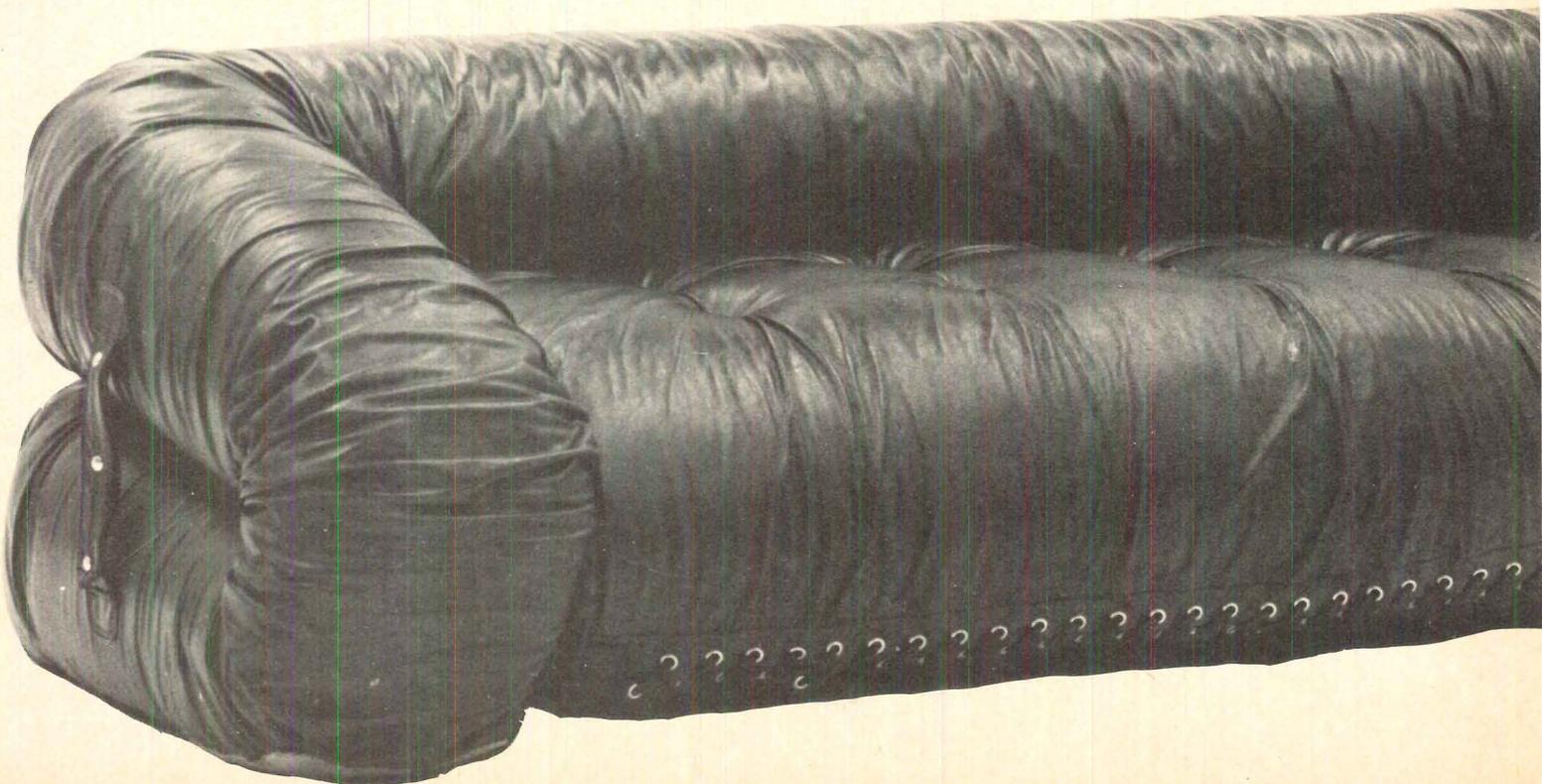
**Project:** Anfibio ("Amphibious") three-seat sofa.

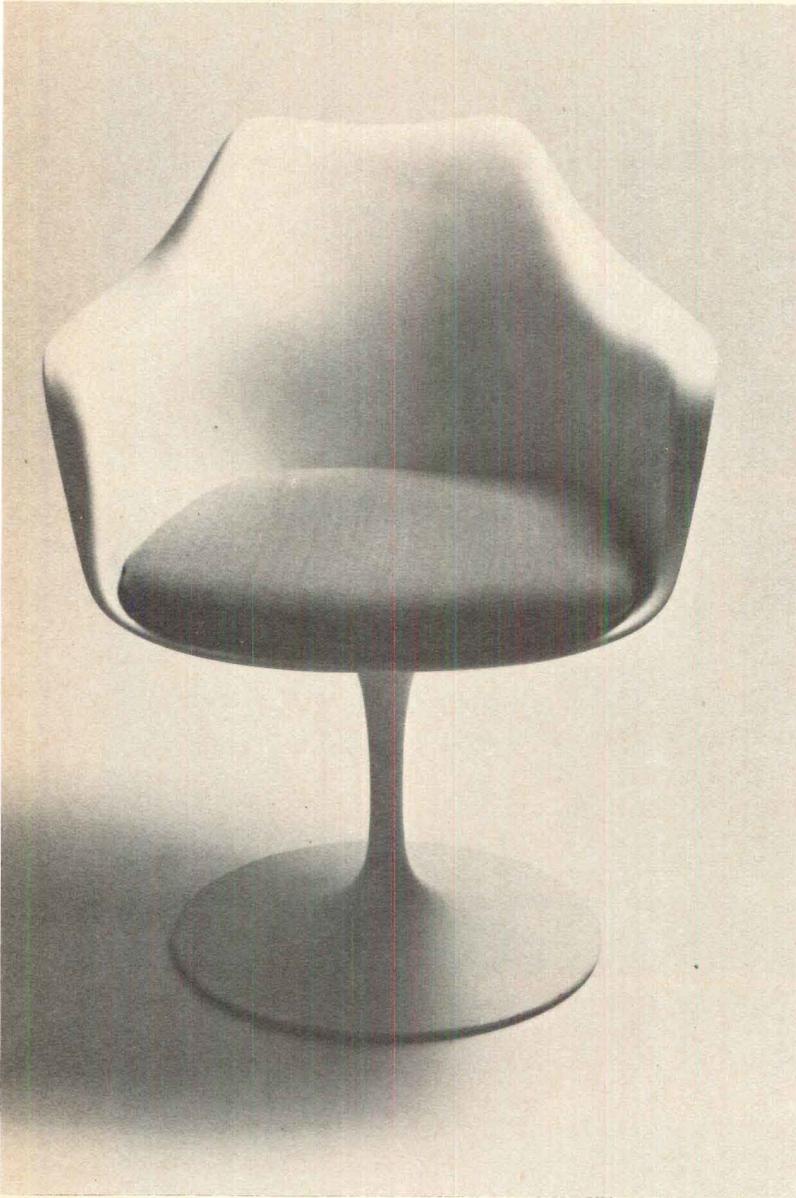
**Architect:** Alessandro Becchi.  
**Site:** Italy, 1971.  
**Materials:** steel frame, vinyl, wool, or leather cover, expanded polyurethane and dacron filling, synthetic sheepskin mattress cover.

**Manufacturer:** Giovannetti (Italy) through International Contract Furnishings.

**Remarks:** *Anfibio* is a "soft" chair which unzippers partially to create a floor level lounge and opens fully to become a bed for two persons. It ably contrasts the chairs of the Modern movement, which floated above the floor, with those of the Italian school, which may sit firmly and sensuously on the ground, self-made environments. *Anfibio* is superbly handcrafted, like the Moderns.

**Dr. Lampert:** It certainly is soft and accommodating. The back is low, but the soft leather allows you to sink—perhaps not enough. You won't slide out. The arms slope down, which is good since the oblique position of the seated body matches the attitude of the arm. Yet I don't feel as comfortable as I would imagine I should in all this leather. A person seated in the center of the sofa will miss the support of back and shoulders that is afforded in the corners. He may feel unpleasantly suspended as he rests his arms on either side of the back.





**Project:** Tulip pedestal chair.

**Architect:** Eero Saarinen.

**Site:** U.S.A., 1956–1957.

**Materials:** fiberglass shell, cast aluminum base with plastic finish, wool zippered cover on foam rubber cushion.

**Manufacturer:** Knoll.

**Remarks:** Saarinen's collaboration with Eames led him to pursue a characteristically unified solution that would require only one material, ideally one piece too. *Tulip* failed to be that solution. Fiberglass lacked adequate strength to support the seat, and a swiveling or fixed aluminum base was substituted. But in another sense *Tulip* was very successful: it fused four legs into one and gave Saarinen an alternative to what he termed an oppressive "forest of legs," found in most interiors. The stem is the chair.

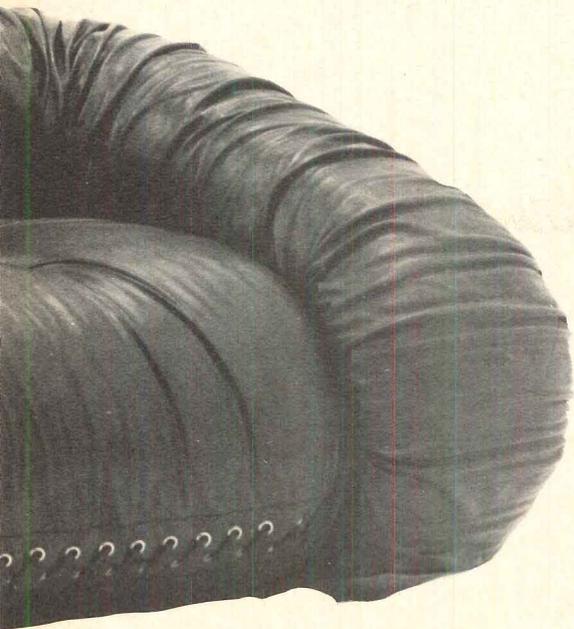
**Dr. Lampert:** This chair feels secure. The arms give support, helping you relieve some back loading by transmitting it to the shoulders. Your body is encased, with room to shift around without sliding or flopping over. I find it comfortable.

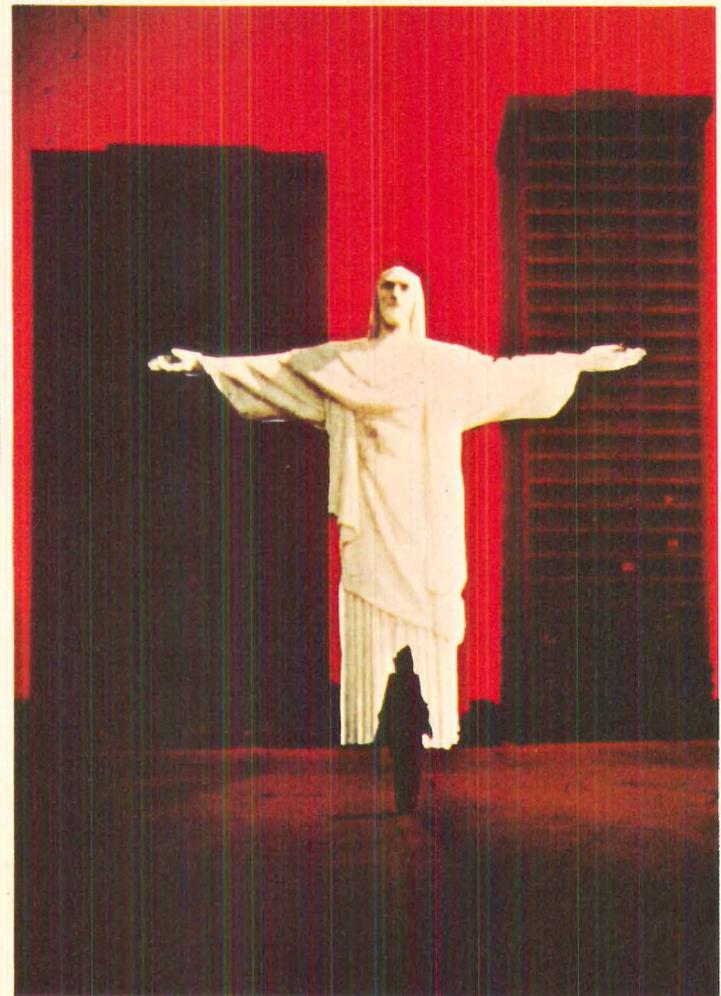
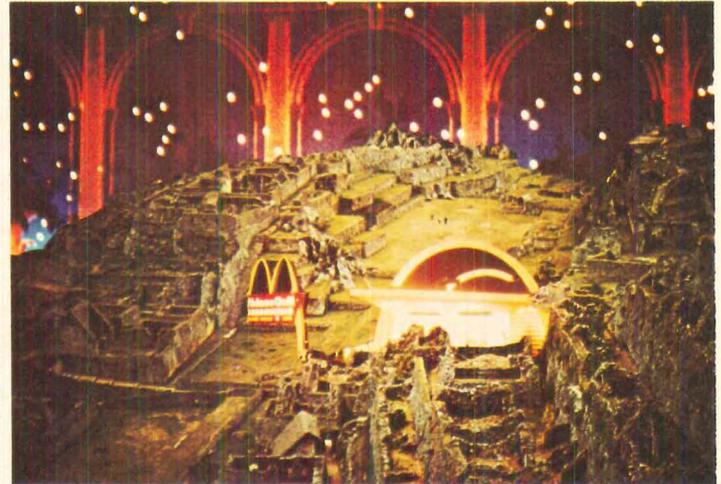
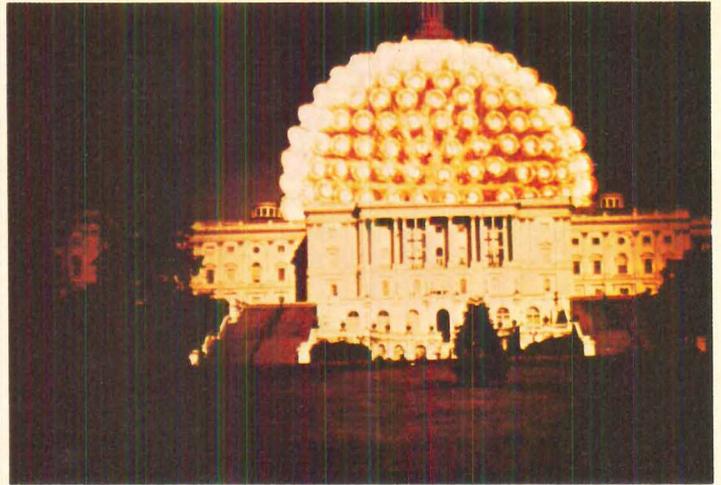
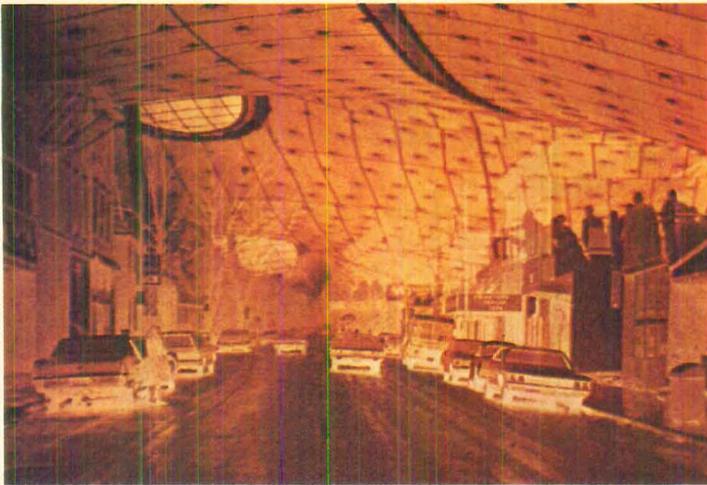
**Credits:** P/A wishes to thank the following manufacturers and distributors who provided chairs for inspection. Atelier International, 139 E. 57 St., New York, N.Y. 10022; Domus Locus, 215 W. 88 St., New York, N.Y. 10024; International Contract Furnishings, 145 E. 57 St., New York, N.Y. 10022; Knoll International, 320 Park Ave., New York, N.Y. 10022; Herman Miller, 600 Madison Ave., New York, N.Y. 10022; Thonet, 491 E. Princess St., York, Pa. 17405.

abandoned to) their own personal quest for the perfect chair. Warning: the Moderns look so perfectly machined and proportioned that architects will usually foresake their posture and buy them anyway. As Arthur Drexler, Director, Dept. of Architecture and Design, Museum of Modern Art, describes, "To believe in Modern architecture requires a leap of faith."

Dr. Lampert is not an architect. He measures chair comfort for its ability to relieve back stress, as well as leg fatigue, which most chairs handle adequately. "Once you move from a horizontal bedside position to a seated attitude, your spine loading greatly increases," he observes. "And no matter how comfortable the chair, some muscles in your body contract over a period of time and tire. So you flex and shift around. Armrests are a good idea for long periods of sitting. Back stress can be transmitted to them through shoulders and arms. Armrests also counteract the body's tendency to flop over. With arms cradled in your lap, it's hard to maintain your balance."

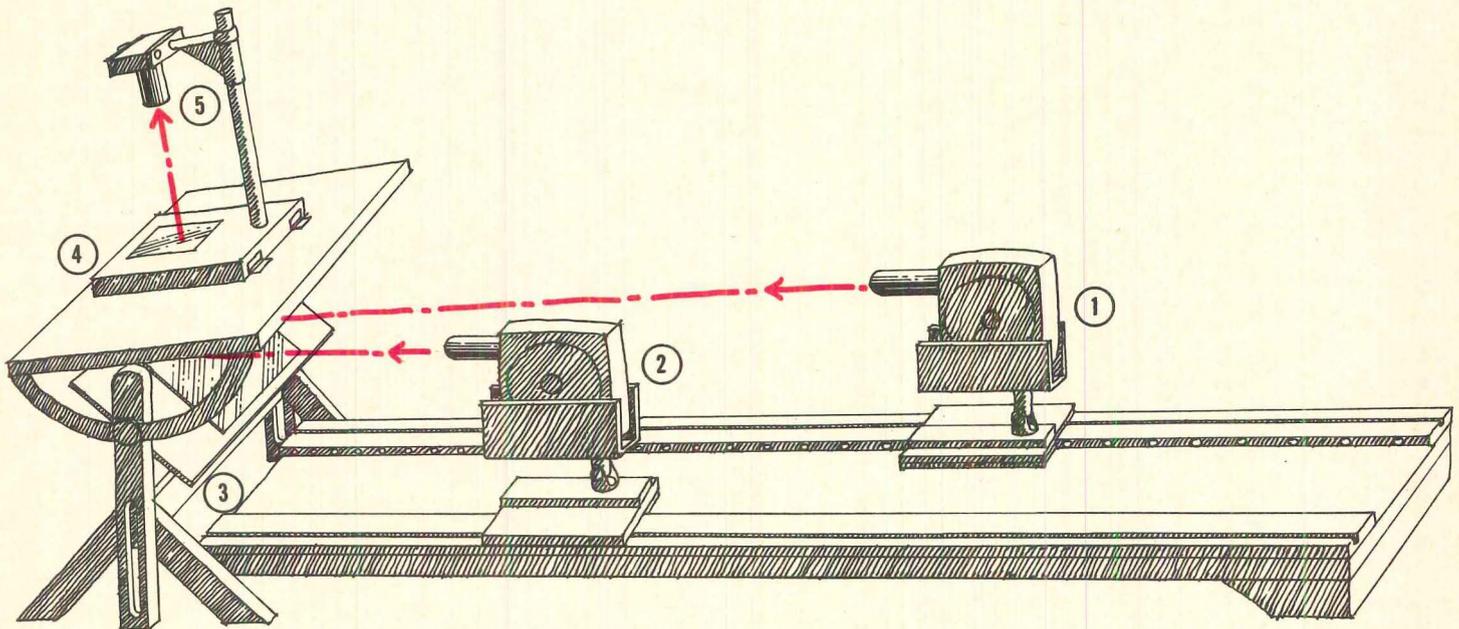
Of chair hardness, Dr. Lampert prefers more "yielding" surfaces, ones that react to the sitter's own body contours. He does not object to hard surfaces per se. But "It's difficult to sit in *any* chair for long intervals, and a chair should permit you to find some point of muscular equilibrium. Good contours and soft cushions can help." Of course, what feels comfortable to one man may not be to another. Caveat emptor. [Roger Yee]





These are student solutions to design problems using Sirlin's photo-composition apparatus. Above: Main St., Yellow Springs, Ohio. Right: Civic Center for Dayton, Ohio. Visual quotations are playful and eclectic. Sources include: Frei Otto, Buckminster Fuller, U. S. Capitol.

# A muse named déjà vu



- 1 Projector 1
- 2 Projector 2
- 3 45 deg. mirror
- 4 Focal plane with etched and clear glass plates
- 5 Camera

**A Cornell University Instructor of architectural design composes images from multiple photographic transparencies as a historic context for new students.**

What role does past aesthetic achievement play in the synthesis of contemporary design? This ancient quandary motivated Jerome Sirlin, Assistant Professor in the College of Human Ecology, Dept. of Design and Environmental Analysis, Cornell University, to develop a technique for design by photocomposition. Though the Modern movement believed it had abjured the past, many designers never abandoned the habit of filling sketchbooks with, and exposing film to, personal impressions of the historical works around them.

Sirlin has observed in his design studios that youthful conceptualizations are not infrequently handicapped by

limited visual vocabularies. This is hardly a new problem. In its prescribed study of aesthetic precedents, the regime of the Ecole des Beaux Arts mounted a frontal attack on the presumed ignorance of its students. This forced feeding of visual experience was in itself no hindrance to genuine talent. When German Modernism eclipsed French academicism, these classroom conversations with history ceased.

To give his students an easy familiarity with architectural history, Sirlin has placed an imposing transparency library of some 8000 slides at the disposal of an apparatus which permits student "sketching" by superimposing two or more projected photographic images on a focal plane. These photographs are the record of seasons of wandering through the world's great man-made sites. Now Sirlin has found a way to actively share his aesthetic experiences with beginning design students.

## Technics: Photocomposition



A pedestrian tunnel, a major thoroughfare, a stadium, and a university library experience major visual reorganizations in Sirlin's studios.

His device evokes visions of the optical experiments of a van Leeuwenhoek. Two or more slide projectors beam their images at a 45 degree tilted mirror which reflects the compound image through an etched glass plate to a camera on the reverse side of the plate. The projectors are mounted on parallel tracks which run headlong into a tilt-top drafting table. A camera is clamped above the table top which is cut out to hold the etched plate. The mirror is secured to the table legs below the camera and etched plate.

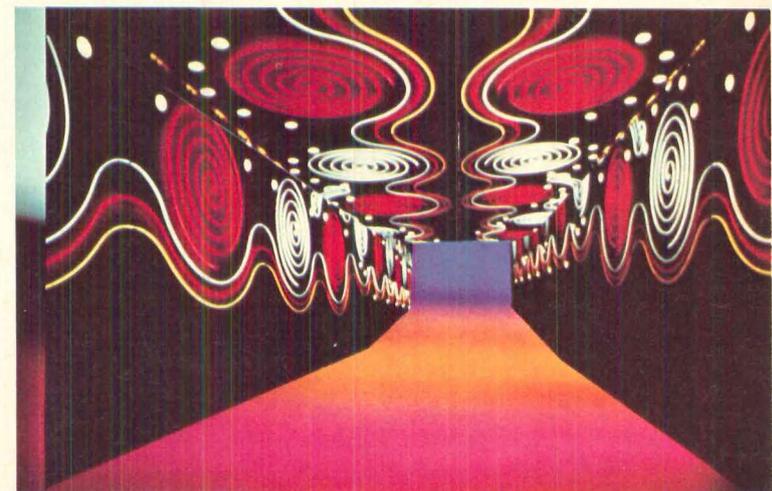
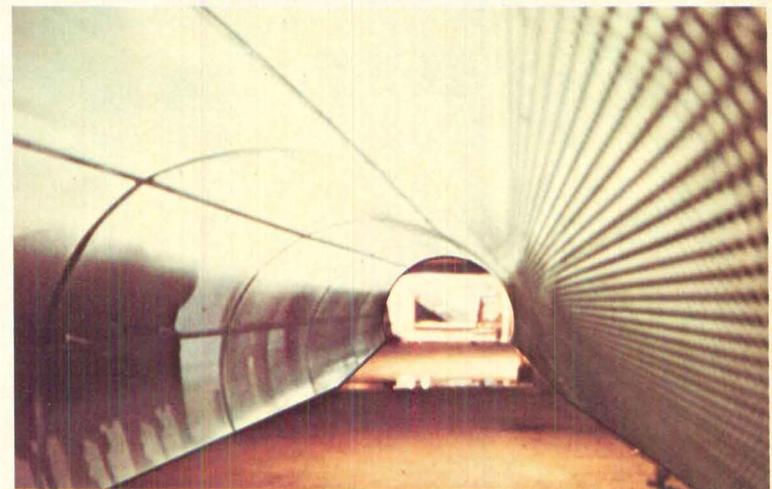
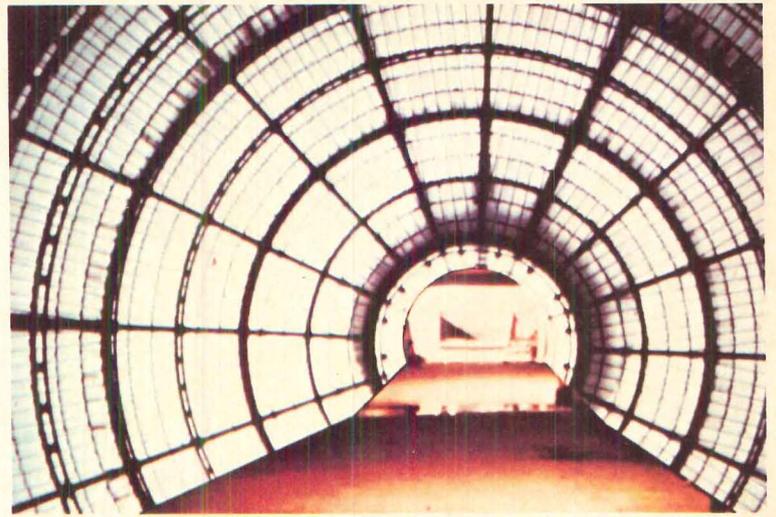
Students select from a batch of approximately 1000 slides to illustrate their verbal intentions regarding a design problem. Into views of the intended project site are inserted fragments of a Roman basilica, a Las Vegas marquee, or whatever else suggests itself to the student. The resulting collage is manipulated with rheostat, zoom lens, and tissue overlays until it reflects the student's intent. It is then ready for permanent documentation.

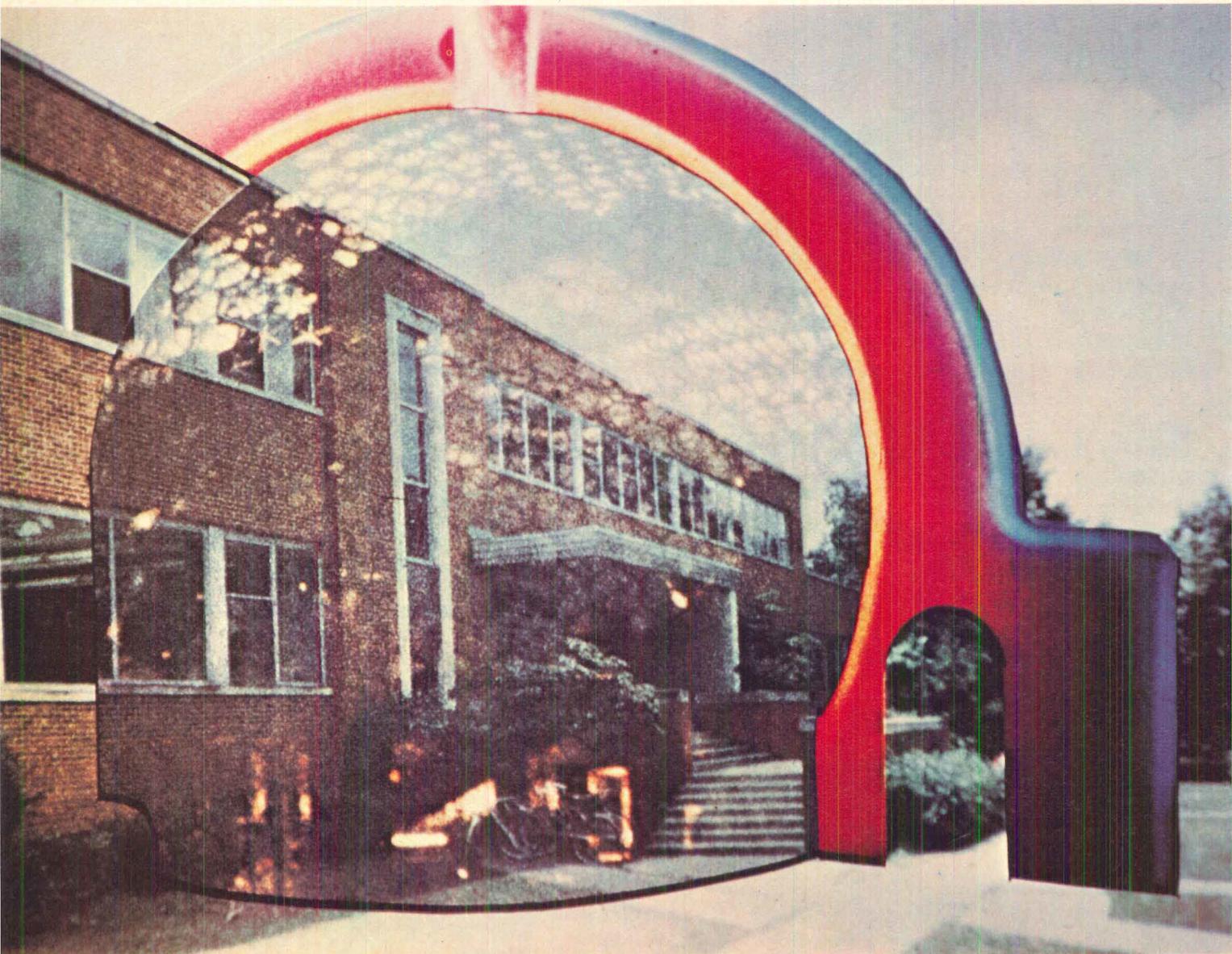
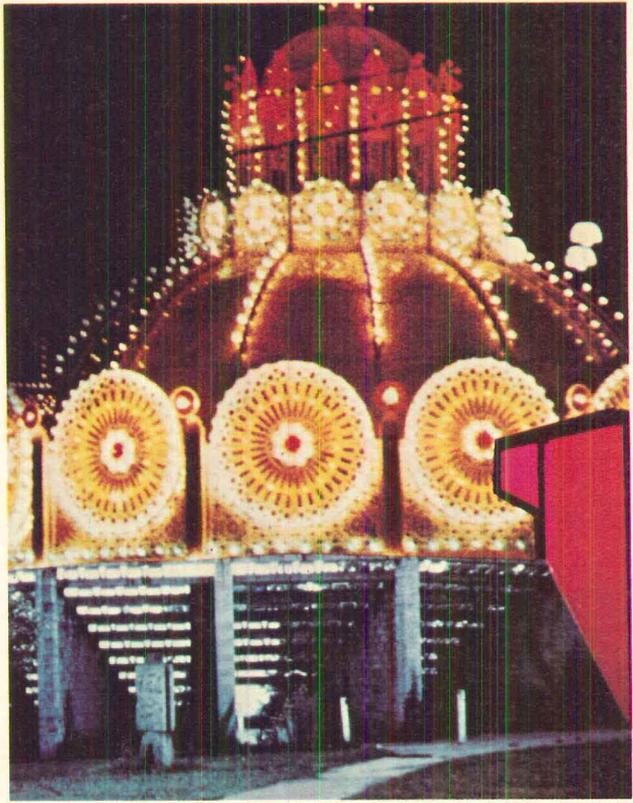
The following is consciously borrowed from cartoon animation. One inch below the hinged etched glass plate is a clear one carrying registration pins along the upper edge. A sheet of translucent white paper is placed over this to generate the image again. Then acetate sheets are positioned on the registration pins to cover clear plate and white paper. Areas to be exposed to the camera are surrounded by black ink, masking unwanted areas. Suppressed areas are similarly filled in later.

The white paper is removed, the etched plate is returned to its position above the clear one, and the first of many slides is camera ready. Each new slide is recorded on the same frame of film until the composite photograph is completed. The final image is quite sharp, due to the difference in depth-of-field between the planes of composition (clear) and exposure (etched), which softens masking edges.

Sirlin would like his apparatus to be as spontaneous as freehand sketching. It is clearly not. However, students in Sirlin's previous teaching career at Antioch were quick to learn the technique, and their efforts are illustrated here.

At times their proposals resemble a panty raid on history rather than a deliberate reflection on culture, context, and engineering. The imp in us which prompted Marcel Duchamp to paint a moustache on the Mona Lisa is irresistible. And yet, anyone who could threaten Main St., U.S.A. with Renaissance form can't be all bad. [Roger Yee]

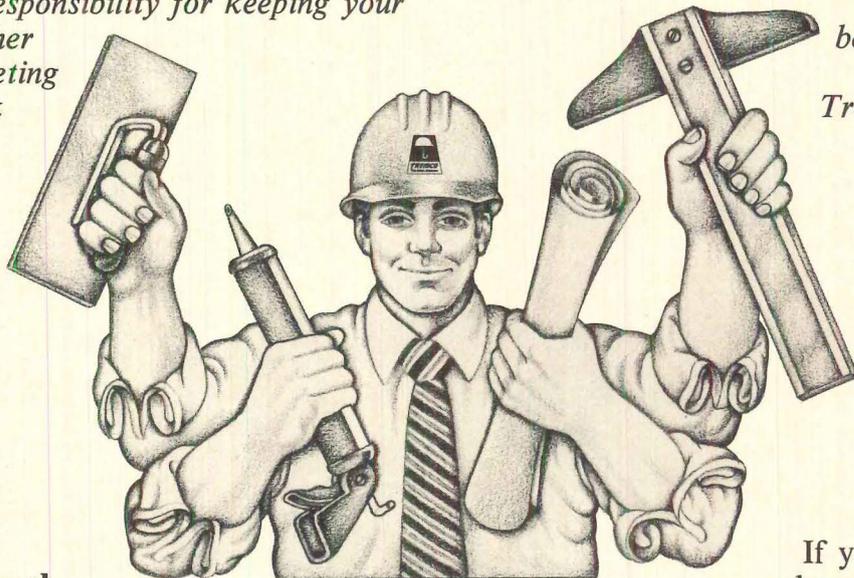




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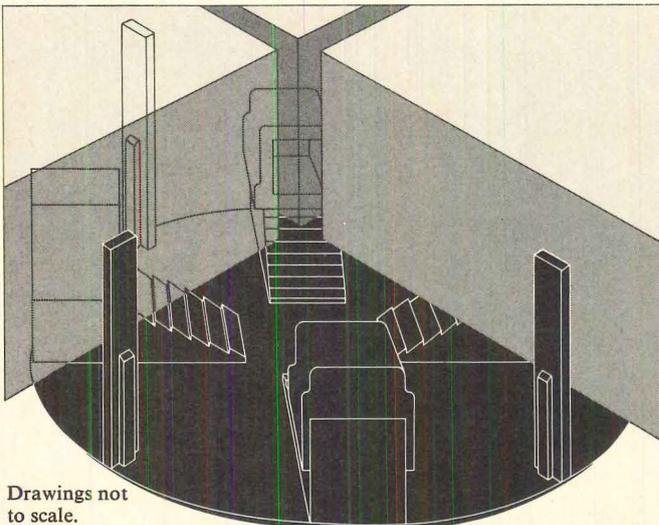
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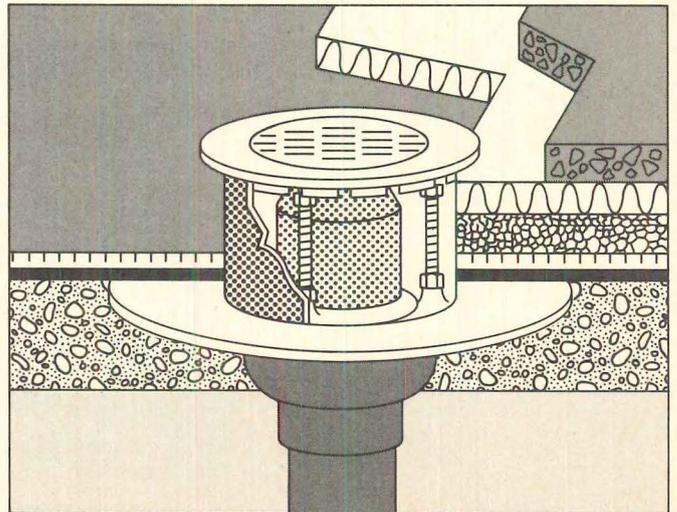
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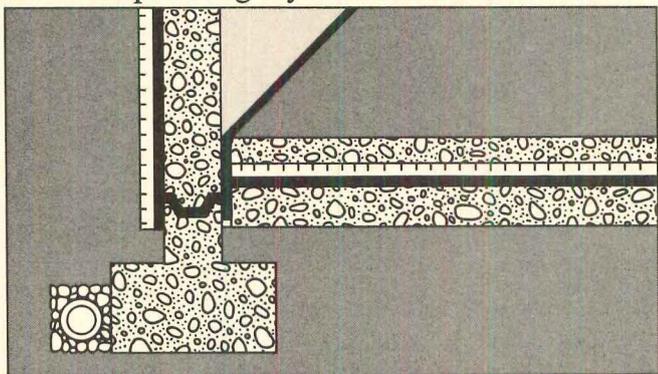
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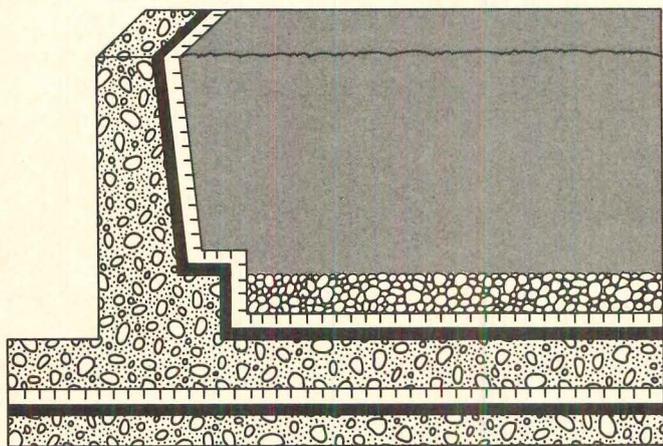
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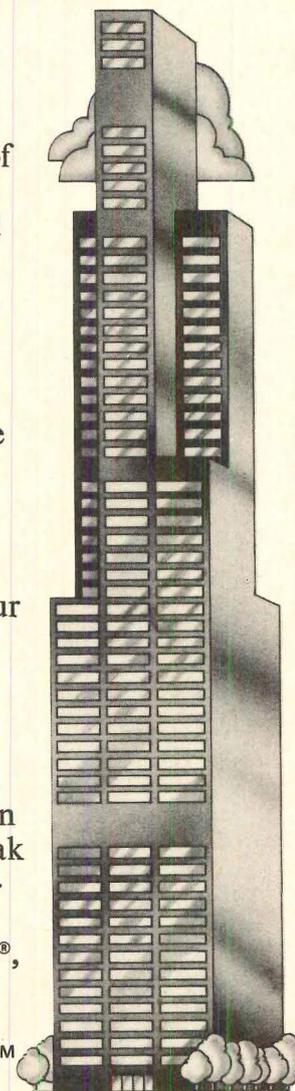
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# Museum March P/A Museums March P/A

A special issue on museum architecture, installation design, and security systems. Appraisals of new museums, including SOM's Hirshhorn in Washington, Birkerts' Contemporary Arts Museum in Houston, Rietveld's museum in Amsterdam, others.

# Museum March P/A

## Books

# Looking back

**The Architecture of Choice: Eclecticism in America, 1880-1930** by Walter C. Kidney. New York, George Braziller, 1974. 68 pp. 152 photographs, \$4.95, paper.

Recently architectural critics and architects have been rediscovering the merits of that sinful past from which the Modern Movement freed us—the Eclectic period of revival styles in the late 19th Century. But in looking over the illustrations in this book, readers will quickly realize that Eclecticism has long been architecture's Dirty Little Secret. Eclectic architecture has been almost all right in isolated examples; now it seems it is becoming a collective entity to be longed for.

As Kidney generally defines it, Eclecticism is a broad term referring to the use of historical models for architectural design, either by combining stylistic period elements, or faithfully replicating a single style. The Eclectic movement seemed to originate more or less as a reaction to the excesses of Victorian architecture—its overwrought bric-a-brac and distended mansard roofs. It received its inspiration in part from the Aesthetic Movement in England of the early 1870s, where the decorative arts began turning to antiquity, the Middle Ages, the 18th Century, and Japanese arts for their design motifs. Also figuring as an important influence was the picturesque Queen Anne Revival in England, led by Richard Norman Shaw.

The Eclectic period, in Kidney's opinion, began here in 1874 with Henry Hobson Richardson's Trinity Church in Boston (begun 1873), and his first Shavian Manorial house, the Watts Sherman house in Newport of 1874. In his book, Kidney goes on to describe other first generation Eclectics beside Richardson: Richard Morris Hunt, George Browne Post, Bruce Price, Charles McKim, Stanford White, and he discusses the showcase of the first generation's architecture, the World's Columbian Exhibition in 1893. The second generation of Eclectics, who took over in the early 1900s, also receive attention: Cass Gilbert, Thomas Hastings, Arthur Brown, Jr., Bernard Maybeck, Ernest Flagg, Henry Hornbostel, John Russell Pope, and Horace Trumbauer. Kidney also touches on the work of Gothicist Ralph Adams Cram, his partner proto-modernist Bertram Grosvenor Goodhue, and Raymond Hood, John Howells, and others. Even topics such as pertinent publications, associated artists, and events of interest are brought into discussion.

[continued on page 95]

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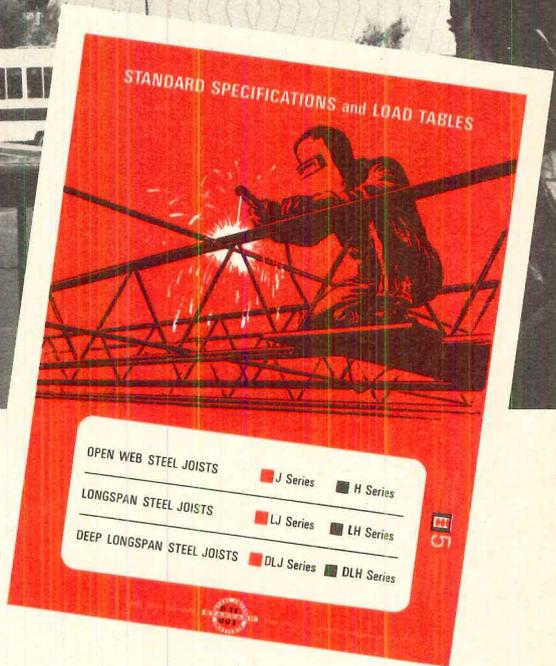
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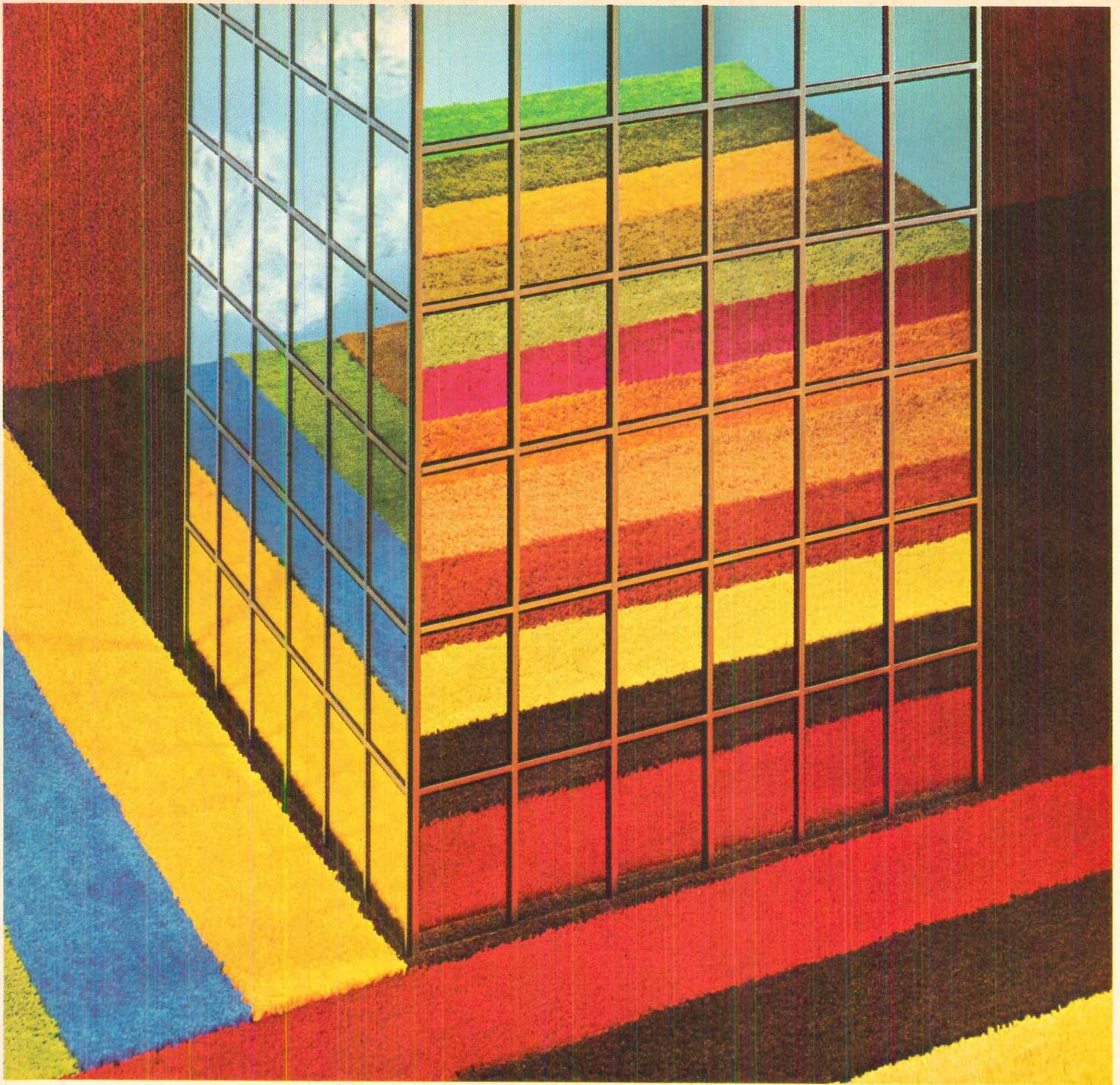
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Books continued from page 92

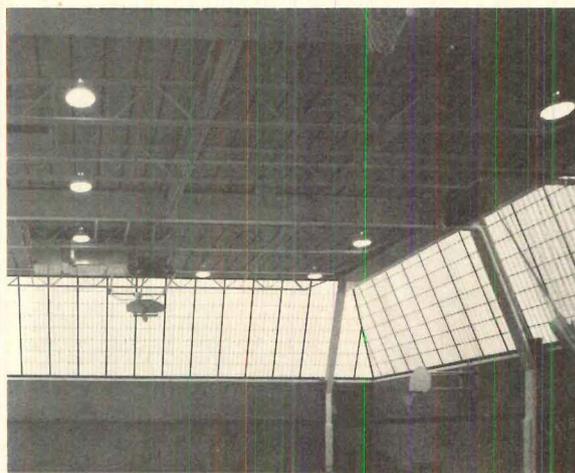
Kidney, a book editor, author, and former associate editor of P/A, has done a nice job of organizing and presenting such diverse information in a limited space. Judging from the footnotes, which include many marvelous primary (and secondary) sources, his research is extraordinarily thorough. One wishes, however, that he had written more on the subject itself. Perhaps there was a restriction on the number of pages permitted (68 pages of text), but subjects obviously get short shrift. Kidney acknowledges the brevity in his introduction, explaining that the book intends only to "cover the surface, suggest some topics of further interest, and offer a few opinions." Yet because of the book's short length, one notices that at times Kidney's literary style (strangely reminiscent of Montgomery Schuyler) gets in the way of his communicating a lot of information in little space. Furthermore, Kidney has no room to develop the stylistic variations in terms of philosophical stances or even the quality of the architectural results.

One of the major questions raised by the book however, probably could not have been easily answered by adding more pages: Why does Eclectic architecture—almost all of it—look so good today, and so much of the architecture 50 years after look so bad? Is it that attention to detail, human scale, fairly expensive materials, and craftsmanship gave the Eclectic buildings the edge? Or was there something inherent in the assumption behind Eclecticism—that most architects should copy, not originate, architectural styles? It could well be that many Eclectic architects were thus able to familiarize themselves with the subtleties of tried and true architectural design elements, and learn and apply the combinations so that they worked. They didn't suffer the pressure of the followers of the Modern Movement to be original; to constantly invent new forms, or even to use vocabularies of the Modern Movement with which they were as yet not comfortable.

One would like to think the reasons are so simple. Naturally they are not. Montgomery Schuyler writing in the 1880s and 1890s often complained that architects of the Queen Anne or Beaux-Arts persuasion were striving after "originality and aboriginality—a purpose essentially vulgar." Even the most minute architectural detailing rarely escaped his harshly critical eye. While agreeing with the architectural merit of the best of the Beaux-Arts architects, Schuyler considered the good work of the period (much of which appears in Kidney's book) as *not* characteristic. Instead, he chastises the majority of architects for selecting forms of past architecture without analyzing them; and contends that the preponderance of mediocre buildings "date themselves infallibly as having been done sine 1876."

He should look around now. Perhaps our differing opinions about mediocrity have to do with the rarity of one type (Eclectic) and the plentitude of the other (Modern). Whatever the reasons, books such as Kidney's, one hopes, will instigate further investigation about the architectural merits of Eclecticism as a belief system and a practiced code of design elements, in relation to the Modern Movement. But additional issues needing even more extensive analysis revolve around the changing variables of architectural perception, appreciation, and criticism. [Suzanne Stephens]

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# Products and literature

**Lounge chair.** In fiberglass, it features a basic non-upholstered shell which has a separate slip-in upholstered shell giving either the upholstered or non-upholstered look. Available in 10 colors integrally applied to the fiberglass during the molding process. Requires only 1 1/2 yds of fabric. Suitable for public and private lounge areas. Cramer Industries Inc.

Circle 101 on reader service card

**Colored enamel faucets** are available in 10 strong colors and two models. "Junko," which is a blend of enamel and chrome and "Colore," which is all enamel. Both models also come in chrome. Imported from ZAZZERI bathroom fixtures of Florence, Italy, delivery is approximately three months. Fearless Faucets.

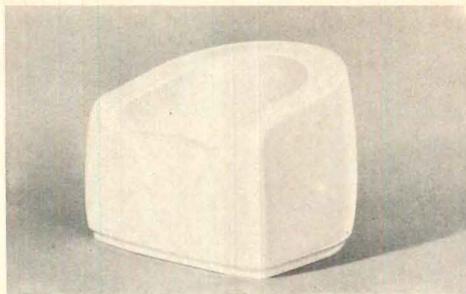
Circle 102 on reader service card

**Energy recovery unit.** Counterflow heat exchanger that consists of a folded energy transfer surface is fitted within a duct in such a way as to divide it into separate yet intermeshed passages; has no moving parts. Modular design, it is available in basic 1000 CFM modules that can be bolted together on site to produce any CFM required. Built-in drip pan and drain. Deschamps Laboratories Inc.

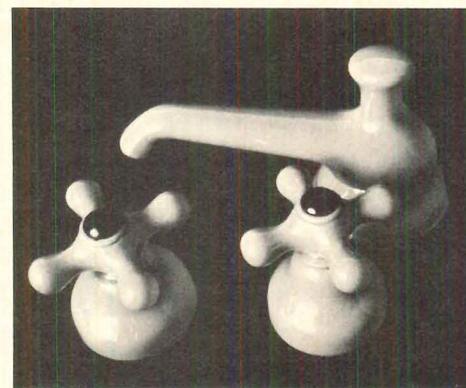
Circle 103 on reader service card

**Curvilinear secretarial desk** is part of a collection of executive desks. Available in white oak or walnut with optional features including vinyl wrapped tops and bases and vacuum formed center drawers. Hardwood House.

Circle 104 on reader service card



Lounge chair



Colored enamel faucets



Curvilinear secretarial desk

**Automatic door.** Of tempered glass, it features a cylindrical pivot stile plus a lock stile with a vinyl protector. Available in standard, master, and monumental designs using aluminum alloy with silicon treated plastic weathering, it is offered in a clear anodized finish; dark bronze or black colors are optional. Amarlite/Anaconda.

Circle 105 on reader service card

**Pre-assembled scissors stairs.** Designed for buildings in which the architect has a minimum amount of space for stairways, the crisscross pattern of the scissors are said to take up less space than other stairs. They are geared for most types of construction, including pre-cast, wall bearing, poured concrete, shear wall, and structural frame buildings, and are available with or without floor landings. Made of lightweight steel. Derrico Inc.

Circle 106 on reader service card

**Carpet.** Of 100 percent acrylic fibers, it is a Berber type of carpet suitable for commercial as well as residential use. Random slubs highlight the five natural/earthtones and three stripes in which it comes. Available in 12-ft width. Patcraft Mills, Inc.

Circle 107 on reader service card

**Environmental office system.** Embossed steel panels in a variety of dimensions and colors are fire retardant and easy to maintain, states maker. Carpet clad and vinyl clad panels are also available. Integral connecting device permits arrangement into free-form or rectilinear configuration. System includes lateral files, work surfaces, storage cabinetry, and shelves. Office Products Div., Reflector Hardware Corp.

Circle 108 on reader service card

[continued on page 98]

# color for the new washroom:



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**Dining/office chairs.** Composed of two separate parts: a gel-coated or leather covered shell which is stamped in polyester with glass fibers, and a carrying structure of wood or chrome frames. Ashwood flattened square or rectangular frames are available in natural or ebony finish and are bolted to the shells; chrome structures are formed out of one bent tube. Atelier International Ltd.

Circle 109 on reader service card

**Mobile data file.** Unit can accommodate plans and prints up to 42" x 48" in size and features walnut textured panels, brushed-chrome non-marking ball casters and a square-tube steel construction which permits expansion from smallest to largest size. Model can hold 1600 to 2400 sheets, comes in charcoal gray or wide range of custom colors. Plan Hold Corp.

Circle 110 on reader service card

**Wall cover.** Designed to provide a smooth surface over problem walls prior to applying decorative wall-coverings, it is recommended for lining over concrete, cinder or cement block walls, grooved paneling, sheet rock walls, and old plaster. Applied with a ready mix vinyl adhesive, maker states it is not necessary to fill mortar joints or minor cracks. Collins & Aikman.

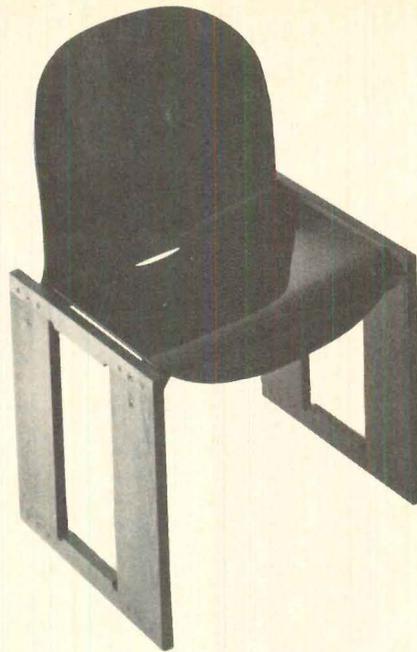
Circle 111 on reader service card

**Shower assembly.** Hydropanel unit contains sensor which corrects any change in water supply pressure, checkstops, shower head, and soap dish in surface-mounted 32-in. long stainless steel shroud which conceals the piping. Parts are corrosion-resistant and accessible from the front. Maker states panel mixes hot and cold water at a preset temperature, then delivers tempered water through the shower head at a constant, preset temperature. Designed for institutional use. Powers Regulator Co.

Circle 112 on reader service card

**Scale model kit.** Three-dimensional 1/4 in. and 1/2 in. scale models to help lay out both conventional and open plan offices are available in kits or as individual items. A'D'S Co.

Circle 113 on reader service card



Dining/office chairs



**Electric top pivot.** Unit has fully concealed/wiring for center hung electrically controlled doors, is available in four-wire and two-wire models, 3 amp, 250 volt. To be used with low voltage only, it is designed for Class II wiring applications and comes in aluminum, bronze, and steel, with standard and plated hardware. Rixson-Firemark, Inc.

Circle 114 on reader service card

**Incandescent lighting control.** Wall mounted, it is designed to carry electrical loads ranging from 0 to 3000 watts, 120 v ac and is suited for use in theaters, auditoriums, hotels, and restaurants where variable light level control is desired. It features illuminated push-button controls, a manual adjustment for elevating the dim level as required, and individual adjustments for dimming and brightening rates from one second to 30 minutes. For over 3000 watt requirements, units may be ganged for service and activated from a single low-voltage remote control; may also be operated from any number of remote control stations. Carbons, Inc.

Circle 115 on reader service card

**Coat rack.** Called Grafic Square, it comes with six special hangers and is available in five basic color combinations. Design gives maximum capacity in minimum space, and blends with any interior, according to maker. Vogel-Peterson Co.

Circle 116 on reader service card

**Whiteprinter.** Copies blue and black lines, sepias, or mylars, up to 44 in. wide by any length up to 21 ft per min, states maker. Solid state chassis, requires no warm-up or venting. Features include a super blue exposure lamp, variable speed control, forward-reverse-neutral switch positions, separate heater switch, and built-in switch for auxiliary ammonia pump. Teledyne Rotolite.

Circle 117 on reader service card

**Refrigerated cart.** All plastic, insulated food cart for transporting both frozen and refrigerated food products uses a dry ice system to hold temperatures below 40 F in the refrigerated section and at zero degrees in the freezer compartment. Features double-wall construction with 1 1/2-in. insulation, rounded corners, and elastomeric bumpers, and is suitable for hospitals, schools, and catering operations. Cambro.

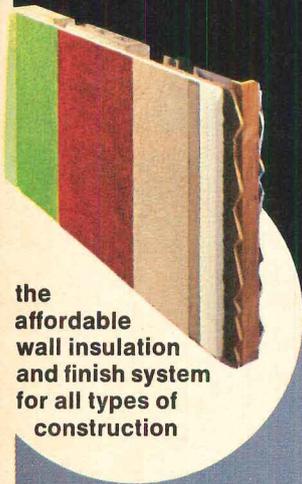
Circle 118 on reader service card

**Quartz light.** For use in patient rooms, it features a dual-voltage transformer which permits selection of low intensity for reading and high intensity for examination. It has an injected, molded housing, a color-correcting heat-absorbing lens, and a spring-balanced articulated arm with a swivel service-block mounting. American Sterilizer.

Circle 119 on reader service card

[continued on page 101]

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## Progressive Architecture



## Literature

**Tile catalog**, illustrated in 4-colors, it shows residential, institutional, swimming pool, and commercial applications of quarry, ceramic mosaic, and glazed tile, gives architectural specifications for all products. American Olean Tile Company.

*Circle 201 on reader service card*

**Convection heaters**. 16-page, 4-color brochure gives design and specifications details for architectural/commercial sill height units which are available in six colors. Emerson Electric Company.

*Circle 202 on reader service card*

**Solar energy collector**. Brochure was prepared to provide architects and engineers with data necessary to collect solar energy for heating and cooling both residential and commercial buildings. Contains performance data, rating graphs, and information on operation and application. Revere Copper and Brass Incorporated.

*Circle 203 on reader service card*

**Mobile storage**. Brochure illustrates system of adjustable shelving units mounted on roller bearings for side-by-side movement. Dimensions, capacities, and specifications are given. Lundia, Myers Industries, Inc.

*Circle 204 on reader service card*

**Water cooler catalog** illustrates many of the models that are available including wheel-chair level cooler. Descriptive data is given. Sunroc Corporation.

*Circle 205 on reader service card*

**Classroom air conditioner**. Bulletin gives capacity ratings, physical data and dimensions, and specifications of energy conserving unit designed especially for classroom or institutional use. American Air Filter.

*Circle 206 on reader service card*

**Hand-crafted ceramic tiles** from South Africa are offered to American architects and designers for the first time. Tiles come in a variety of rectangular shapes and sizes with a weather resistant high-fired transparent glaze over natural clay. Produced under controlled factory conditions to maintain uniform quality. May also be custom designed. Catalog available. Collectors' Showroom.

*Circle 207 on reader service card*

**Hardwood parquet flooring**. Produced in Thai-Teak, it may be fashioned into 25 custom designed patterns by adding wood pickets. Available in blocks of 5/16" x 10" x 10". A color catalog is available. Bangkok Industries, Inc.

*Circle 208 on reader service card*

**Patient service module** is a component of the Care/Flex Environmental System for general patient rooms and ICU/CCU installations. Module measures 4-3/4 in. Deep by 16 in. wide. Delivers power, medical gases, and communications to the patient room.

Through electronic bedside units or pillow speakers, a control center provides the patient with communications and controls, including bed positioning, states maker. Besides the patient service module, system includes a special lighting module, a series of sliding electronic bedside units, and a grouping of coordinated headwall and free-standing furniture. Full color illustrated brochure is available from Borg-Warner Health Products, Inc.

*Circle 209 on reader service card*

**Implementation guides**. Four specifiers implementation guides are intended for use by persons who are responsible for including subject provisions in construction contract documents. Topics include: Guarantees and Warranties, Substitutions, Application for Payment and Sworn Statement, and Waiver of Lien Procedure. Construction Industry Affairs Committee.

*Circle 210 on reader service card*

**Signage**. A folder of literature provides architects, designers, and building owners with a source for a line of visually coordinated signage materials and components. Brochures describe and list specifications of pressure-sensitive legends and emblems; fiber reinforced polyester signs, components and monoliths, post and panel assemblies, plaque signage, metal letters, cast tablets and plaques; finishes and enamel colors, building directories, and a line of letterstyles. Jas. H. Matthews & Co.

*Circle 211 on reader service card*

**Office furniture/work stations**. 20-page color brochure describes and illustrates the many adaptations of this modular system, gives 1/8" scale layouts, and exploded drawings detailing the components required for each assembly. Steelcase, Inc.

*Circle 212 on reader service card*

**Reflective glass**. Booklet gives performance and appearance characteristics of single-glazed bronze reflective glass used in both commercial and residential construction, gives values for light and heat transmittance and reflectance, relative heat gain and other properties. Includes cutting and glazing recommendations and suggested maintenance procedures. PPG Industries.

*Circle 213 on reader service card*

**Duct closure material**. Six-page color brochure explains how material is applied like pressure sensitive tape and heated with a common household iron to provide a permanent chemical closure on fiber-glass duct materials which have an aluminum facing. An aluminum-backed polymer is melted and pressed into the pores of the aluminum backing as well as the aluminum facing of the fiberglass duct. Johns-Manville.

*Circle 214 on reader service card*

**Commerical water heaters**. Booklet gives detailed guidelines for determining hot water requirements in a wide range of applications such as clubs, dormitories, hospitals, hotels, laundries, office buildings, and others. Both self-contained storage systems and circulating tank type systems are described. (request Form No. 105.50) Rheem Manufacturing Company.

*Circle 215 on reader service card*

## Building materials

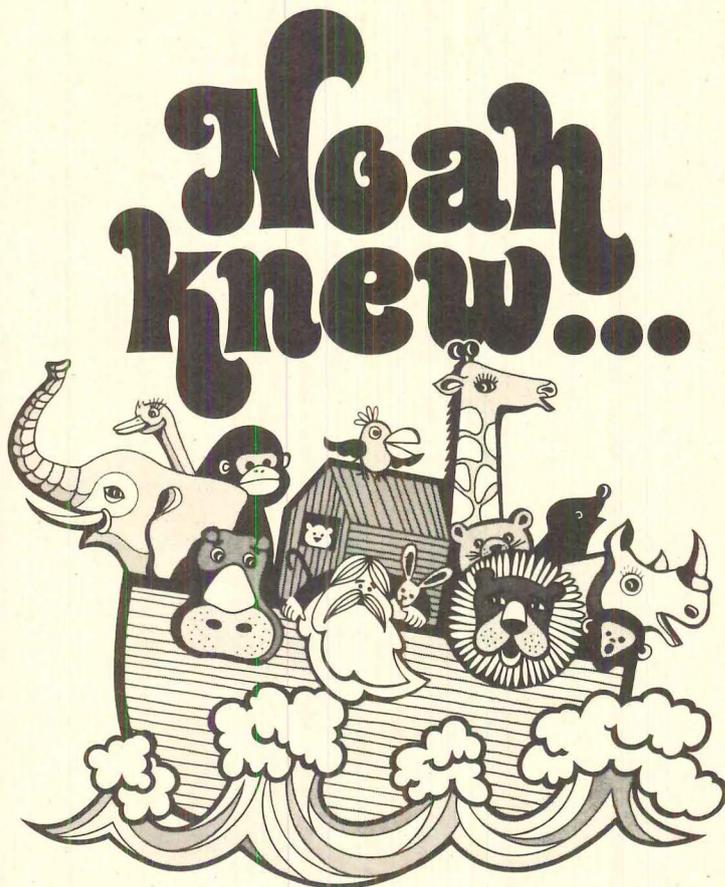
**Major materials suppliers for buildings featured this month, as they were furnished to P/A by the architects.**

**Robert G. Olmsted Theater (Adelphi Theater), Garden City, N.Y. (p. 43).** Architect: Hardy Holzman Pfeiffer Associates, New York. Face brick exterior wall surfacing: Merit Brick Co. Plastic skylights: Bohem Mfg. Co. Roof drains: Zurn Industries. Toilet partitions: Flush-Metal Partition Corp. Steel frame industrial windows: Bogert & Carlough Co. Rolling window for projection booth: Loxgreen Co. Stage floor: Heywood-Berk. Vinyl asbestos tile: Amtico. Rubber flooring: Pirelli Rubber Floor Div. Carpet: Alexander Smith, Crusader, Jorges, Stephen

Leedom. Interior doors: Pioneer Industries. Overhead doors: Balfour Rolling Doors. Zipperwall entrance door: Kawneer Co. Locksets: General Lock Co. and Russwin. Door closers: Norton Co. Hinges: Rixson. Panic exit hardware: Von Duprin. Movable seating platforms, theater rigging, and draperies: Feller Scenery Studios, Inc. Theater seating: Heywood-Wakefield, Inc. Theater lighting and controls: Kliegl Bros. Walk lights: Appleton Electric Co. Exterior light standards: Sterner Inc. Exterior radial reflectors: Pemco. Interior track lights: Gotham Lighting. Interior fluorescent lighting: Lithonia Lighting. Interior vaporproof lighting fixtures and high bay incandescent lighting: Appleton Electric Co. Electric distribution: General Electric. Electric water

heater: Ruud Mfg. Service sink: Elkay Mfg. Toilets, urinals, sinks: Kohler. Firehoses, siamese, standpipes: Elkhart Brass Co. Sprinklers: Abco-Peerless Corp. Sewage ejector pump: Federal Pump Corp. Rooftop self-contained HVAC units: Singer Co. Fire alarm system: Symplex Time Recorder Co.

**Orchestra Hall, Minneapolis, Minn. (p. 50).** Architect: Hammel Green & Abrahamson, St. Paul, Minn. Hardy Holzman Pfeiffer Associates, New York. Concrete and steel frame: Bethlehem and U.S. Steel by LeJeune. Concrete and steel walls: Portland Cement. Concrete on metal deck and precast plank flooring: Flexicon by Molin. Precast concrete tees and precast plank metal deck roofing: Robertson. Exterior Alply panels: Alco. Exterior wall fabrication: Midwest Architectural Metals Co. Exterior face brick: Streeeter, Red Range Colonials. Carpeting: Alexander Smith. Glass fiber insulation: Owens-Corning Fiberglas Corp. Foamglass insulation: Pittsburgh Corning Corp. Aluminum frame window system: Alply. Acoustical doors: Overly Mfg. Co. Flush wood interior doors: Weyerhaeuser. Overhead doors: Barcol Overdoor Co., Inc. Aluminum swing doors: Pittco Architectural Metals PPG. Locksets, door closers and panic exit: Sargent. Butt hinges: Lawrence and Hager Hinge. Exterior paint and stain on doors, frames, h.m.: Mobil. Paint and stain on interior hall doors: Benjamin Moore & Co. Paint and stain on interior plaster, gypsum board: Martin Seymour. Kitchen unit: Dwyer. Auditorium seating: American Seating. Incandescent lighting fixtures over mirrors: LPI, TSAO, Lightolier, Hubbell, McPhilben, Park. Radial wave reflectors: Prescolite. Fluorescent lighting fixtures: CGL Industries. Incandescent lighting fixtures: Holophane. Brass fascia fixtures in Hall: Simes. Ceiling lighting in Hall: Simes. Recessed downlights: Edison Price. Electric distribution: States Electric. Structural precast deck: Flexicore by Molin. Mortar at face brick: Medusa (75 C). Structural steel frame: L.L. LeJeune. Structural girts, lintels, etc.: mixture of U.S. Steel and Bethlehem Steel. Form deckings: CECO. Miscellaneous metals: Stanley Iron. Wood paneling in Hall: U.S. Plywood. Plastic laminate: Formica. Ceramic tile: Romany Spartan. Circular ceramic tile: Louis Goldey Co. Lockers: Interior Steel Equipment Co. Sealants (caulking): Tremco.



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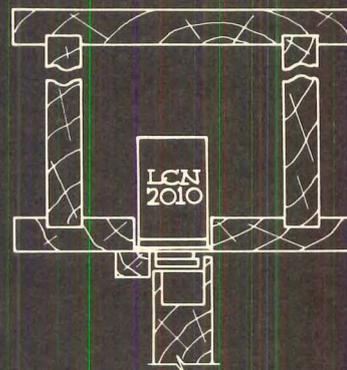
100 S. West St., Wilmington, DE 19899/P.O. Box 1711/(302)-656-9951

### Lewiston Artpark, Lewiston, N.Y. (p. 46).

Architect: Hardy Holzman Pfeiffer Associates, New York. Concrete foundation: Budget Boys Redi-Crete. Exterior fiberglass brick: Cavrok Corp. Exterior aluminum surfacing: Alcoa. Corrugated fiberglass roof surfacing system: Currulux. Aluminum roof surfacing system: Alcoa. Turf top paving: Hastings. Mo-mat paving: Air Logistics. Double hung, casement and fixed windows: Pella. Mono-fiberglass overhead doors: Clopay. Door closers: Sargent. "Pickle jars" lighting fixtures: Appleton Electric Company. Electric distribution: Niagara Mohawk. Water closets: Eljer. Tubs, lavatories and industrial wash fountain: Elkay Mfg. Co. Flush valves: Sloan Valve Co.

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**Architecture Faculty:** Full and adjunct faculty are being sought for the New Jersey School of Architecture. The School opened in September 1974 with two years in Pre-Architecture and the first year of the Professional Program. When the program is fully operational in 1976-77 it will have a 2 + 3 format leading to a Bachelor of Architecture as the first professional degree. We are seeking faculty who are committed to a comprehensive approach to problem-solving and interested in developing team-teaching concepts. Faculty are required in both Pre-Architecture and in the Professional Program and should either have teaching and professional or teaching and research experiences. It is essential that all faculty in the professional architecture studio also lecture in a specific area(s) . . . urban design, programming, environmental control systems, industrialization, computer-aided design, etc. Send your curriculum vitae and three references to Dean Harlyn E. Thompson, New Jersey School of Architecture, New Jersey Institute of Technology, 323 High Street, Newark, New Jersey 07102.

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**Assistant Professor:** Materials specialist, at Cornell University, Fall 1975. Team teaching in design studios, advising graduate students, and resource person in materials and engineering. Specialization should cover structures, building technology, materials and processes, and shop practice. Qualifications: master's degree in design materials technology or related field. Professional experience as materials consultant is desirable. To apply, send resume and credentials by February 15, 1975 to: Professor Allen Bushnell, Department of Design and Environmental Analysis, New York State College of Human Ecology, Cornell University, Ithaca, New York, 14853. An Affirmative Action/Equal Opportunity employer.

**Associate Professor of Architecture:** August 1975. Teach design studio and courses related to materials and methods of construction. Must be interested in developing construction courses within a 5-year architectural program. Professional experience desirable. Master of Architecture required. Send resume, references and salary history to: W. D. Starr, Head, Department of Architecture, University of Southwestern Louisiana, P.O. Box 476, Lafayette, LA., 70501.

**Faculty Position:** The Syracuse University School of Architecture has one full time position open for the fall of 1975. The position is in the undergraduate Architectural Design Studios. Applicants should have a strong secondary Architectural ability. Please send resumes and references to Julio M. San Jose, Chairman, Appointments Committee, School of Architecture, Syracuse University, Syracuse, New York 13210. Syracuse University is an Equal Opportunity/Affirmative Action Employer.

**Faculty Positions:** The Department of Industrial Design, the Ohio State University, 128 North Oval Drive, Columbus, Ohio, 43210, has three full time positions open for Fall, 1975. One position in product design to teach in design studios. Required: thorough understanding and experience in design development, design theory-methodology, design materials/processes/ manufacturing

and administration. Two positions in space-enclosure/interior architecture to teach in design studios. Position one requires thorough understanding and experience in design development, basic concepts in three dimensional design/structure, design materials/processes/manufacturing and professional practice, contract. Position two requires thorough understanding and experience in systematic design methods, design planning, research and analysis. Masters degree and minimum of three years in the design field necessary for all positions. Professional experience and academic degrees from industrial design, architecture, architectural planning, interior architecture or design. Some teaching experience desirable. Salary and rank commensurate with background. Equal opportunity employer. Contact Charles Wallschlaeger, Department Chairman, in care of the Department.

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[continued on page 107]

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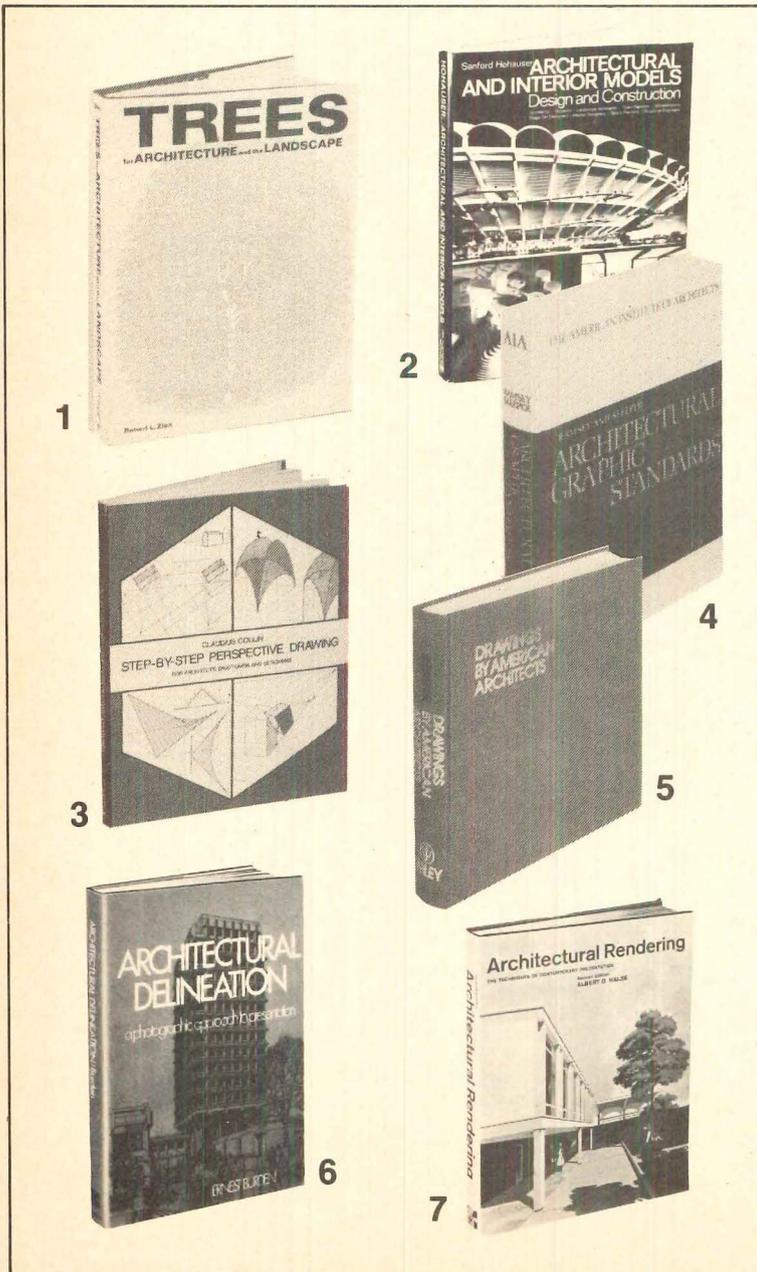
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