

Progressive Architecture

December 1978 A Penton IPC Reinhold Publication



**The Brigantine[®] commercial floor from Armstrong.
At this Massachusetts high school, good looks and
durability earn it the highest grades in its class.**

Flooring Contractor: Floors Inc., Melrose, Mass.



The place is Fall River, Mass. The educational institution is the B.M.C. Durfee High School. Where 4,000 students are tramping on 24,000 square yards of Brigantine Vinyl Corlon® from Armstrong. And where, based on similar experiences nationwide, those 24,000 square yards will be graduating summa cum laude for many years ahead.

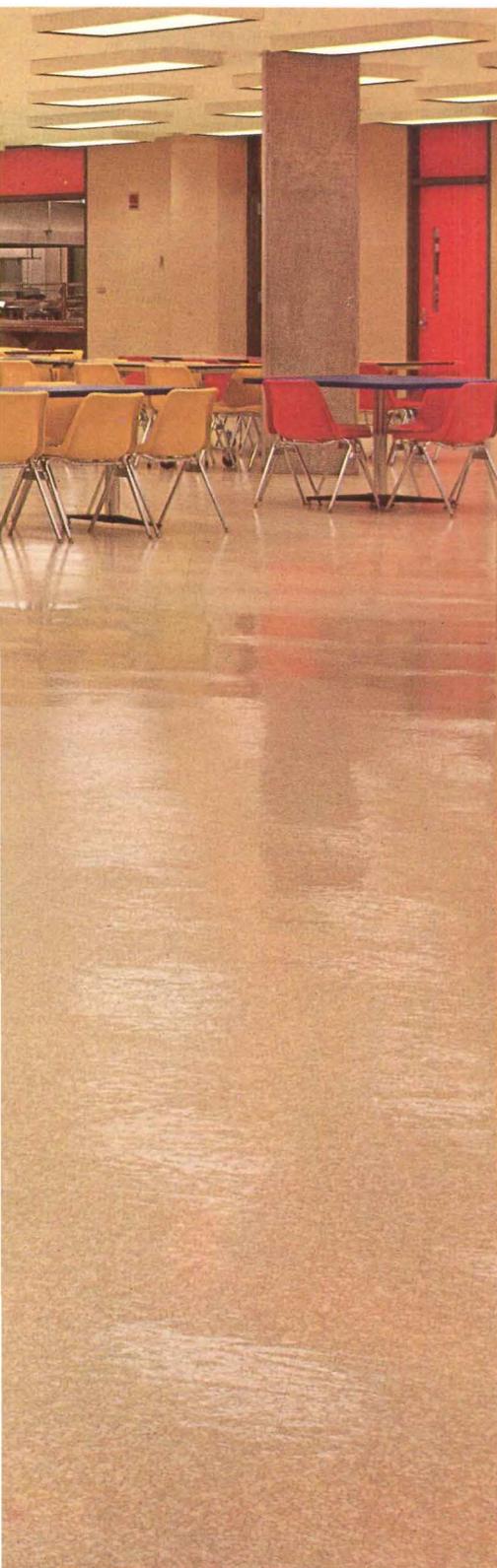
That's why, at Durfee, you'll find Brigantine in heavy-traffic areas like corridors. In heavy-work areas like classrooms. In heavy-spill areas like the cafeteria. First, of course, for its rugged vinyl composition and dense, smooth surface that makes spills and tracked-in dirt relatively simple to wipe up. But also for its deco-

erator beauty and broad spectrum of colorings that help it complement almost any commercial interior. As well as for the fact that many .090" Armstrong Vinyl Corlon floors like Brigantine are still going strong after twenty years of use.

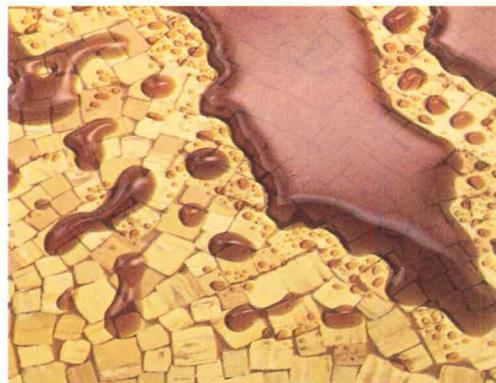
All across the nation, Brigantine is the vinyl flooring that meets flame-spread and smoke-developed requirements such as those of the Hill-Burton Act. Equally important, it's the vinyl flooring that can take a lot of punishment and keep right on smiling. But, then, that's why it's one of the most specified in the industry. To learn more, see Sweet's 9.23/Arm. Or write Armstrong, Dept. 8CFPA, Lancaster, PA 17604.

Circle No. 306, on Reader Service Card

FROM THE  INDOOR WORLD® OF
Armstrong



Rolls 6 feet wide and up to 90 feet long reduce seams to the minimum.



Stain resistant, easy to clean—unaffected by most substances likely to be spilled on floors.



Chemically welded seams help to protect against penetration of moisture and dirt and to provide a monolithic look.



Inlaid construction—color and design go through the wear layer. Sample has been milled down in 10-mil increments.



**How to put a room in the right light
for 40% less energy – at only 1.84 watts/ft²**



Responding to a need to conserve energy while maintaining effective illumination, the Armstrong C-60 Ceiling System delivers handsomely. It provides lighting of a quality superior to that of a widely accepted 4-lamp 2' x 4' troffer installation but uses 40% less energy year after year.

The performance comparison shown below is keyed to the growing recognition that the classical footcandle is an incomplete measure of lighting effectiveness. In practical office situations, light rays strike the work surface from many angles. At any given point, some fixtures are providing high-quality illumination without glare. But other fixtures are projecting light at bad angles, producing "veiling reflections" that hinder the visual task instead of aiding it.

Classical footcandles measure only the amount of light reaching a point without attempting to identify how much of it is really useful. But there is a more sophisticated measure of lighting efficiency that does. Called Equivalent

Sphere Illumination (ESI), it determines the *quality* as well as the quantity of light being supplied. It far more precisely measures how well the viewer can see what he is doing in every square foot of a specific room for a specific type of visual task.

With just one lamp per five-foot-square coffered module, the Armstrong C-60 assembly provides ESI levels greater than the conventional 4-lamp troffer arrangement but uses far less wattage.

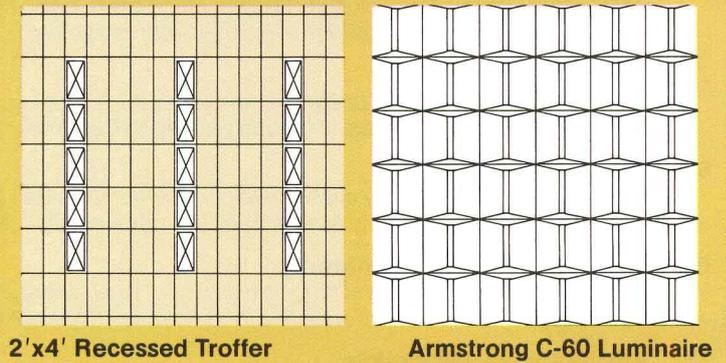
A brief comparison of the two systems is shown in the table below. That data is part of our informative new "Light Wars" show. "Light Wars" is a highly entertaining 30-minute program that includes a filmed explanation of ESI and documents how the C-60 System, in a 100,000-square-foot installation, can save as much as \$29,000 per year at today's energy costs. To see "Light Wars," or receive a free booklet on ESI and the C-60 Ceiling System, mail the coupon below.



Circle No. 307



Systems Performance Comparison*



2'x4' Recessed Troffer

Armstrong C-60 Luminaire

	Fixture	
Prismatic	lens	Prismatic
4	lamps/fixture	1
15	no. of fixtures	36
	classical footcandles	
127	initial	90
95	maintained	70
40	ESI level	44
3.07	watts/sq. ft.	1.84

*30'x30'x9' room; task—ESI pencil. All test data was supplied by independent laboratories; complete information available on request.

Armstrong
4202 Watson St.
Lancaster, PA 17604

Yes, I would like to see your 30-minute "Light Wars" presentation. Please call for an appointment. Phone: _____

Yes, I would like a free copy of your booklet on ESI and the C-60 Ceiling System.

Name _____

Title _____

Firm _____

Street _____

City _____ State _____ Zip _____

Progressive Architecture

Editor

John Morris Dixon, FAIA

Managing Editor

James A. Murphy, AIA

Senior Editors

David A. Morton, Features, Books
Suzanne Stephens, Features

Associate Editors

Martin Filler, Interior Design
Richard Rush, ARA, Technics
Eleni Constantine, News Report

Administrative Editor

Barbara McCarthy

Copy Editor

Virginia Chatfield

Editorial Assistant

Judith A. Wasson

Graphics

George Coderre, Art Director
Susan Newberry, Art and Production
David W. Scott, AIA, Architectural drawing

Production Manager

Daniel H. Desimone

Contributing Editors

Norman Coplan, It's the law
Josephine H. Drummond, Specifications clinic
William T. Lohmann, AIA, FCSI, Specifications clinic
Alvin D. Skolnik, FCSI, Specifications clinic

Correspondents

Esther McCoy, Los Angeles
Michael Franklin Ross, AIA, Los Angeles
Sally Woodbridge, San Francisco
George McCue, St. Louis
Peter Papademetriou, Houston
Ralph Warburton, AIA, AIP, PE, Miami
Stuart E. Cohen, AIA, Chicago
Carleton Knight III, Washington

Publisher

Philip H. Hubbard, Jr.

Publishing Director

James J. Hoverman

Louise Brischler, Administrative Assistant
Nancy Lee Gallagher, Special Projects Manager
Dolores Hutton, Sales Service
Wilma M. Virgil, Marketing Service
Jack Rudd, Promotion Director
Elizabeth A. Mercede, Promotion Assistant
Thomas Moran, Circulation Director
Gloria Adams, Circulation Manager
E. M. Dwyer, Customer Service Manager

Penton/IPC

Progressive Architecture is published monthly by Reinhold Publishing Company, Inc., a subsidiary of Penton/IPC. Philip H. Hubbard, Jr., President; Harry I. Martin, Vice-President. Penton/IPC: Thomas L. Dempsey, Chairman; Sal F. Marino, President; N.N. Goodman, Jr., Benjamin L. Hummel, Joseph Lipka, Paul Rolnick, Executive Vice-Presidents.

Executive and editorial offices, 600 Summer St., Stamford, Conn. 06904 (203-348-7531).

Subscription information: When filing a change of address, give former as well as new address, zip codes, and include recent address label if possible. Allow two months for change. Subscriptions payable in advance. Publisher reserves right to refuse unqualified subscriptions. Professional rate of \$10 per year is available to architectural and architectural-engineering firm personnel and architects, designers, engineers, and draftsmen employed in allied fields. Professionals outside U.S., U.S. possessions, and Canada: \$22 per year. Nonprofessional domestic rate: \$20 per year. Nonprofessionals outside U.S., U.S. Possessions, and Canada: \$35 per year. Single copy \$5, payable in advance. Send all orders and payments to Progressive Architecture, P.O. Box 95759, Cleveland, Oh 44101. Send all claims to Progressive Architecture, P.O. Box 6192, Cleveland, Oh 44101.

Indexed in Art Index, Architectural Index, Engineering Index. Publication No. 850700. Second-class postage paid at Cleveland, Oh and additional offices. Volume LIX, No. 12. Printed in U.S.A. Copyright © 1978 Reinhold Publishing Company, Inc. All rights reserved.



6 **Editorial: Silver lining over Miami**

Design and planning

49 **Introduction: Introversion and the urban context**

Revitalizing central areas of several cities are in-town malls, shopping areas of the kind found in suburban locations more often than downtown.

54 **At the core of the Apple**

The Market at Citicorp, the unusual and successful shopping mall designed by Hugh Stubbins & Associates, is uniquely suited to New York.

60 **Midlands transplanted**

Midlands Mall, urged on by client/developer/owner Dale Ball and architects Astle Ericson, has brought retail business back to Council Bluffs' center.

64 **Suburban shopping downtown?**

With no room to spread out in its urban location, The Gallery at Market East, Bower & Fradley's retail area in Philadelphia, had no place to go but up.

68 **A white ship or a black hole**

Eaton Centre, Toronto's successful downtown mall by Bregman & Hamann and the Zeidler Partnership, has office tower, shops, department store, garage.

70 **A manifesto of Manhattanism**

Delirious New York, a poetic history of New York by Rem Koolhaas, explores the dreams and fantasies that shaped the city's famous skyline.

76 **Rooms for improvement**

At the invitation of GSA, high-style architects furnished model lounges to show what can be done using only customary government sources of supply.

Technics

82 **Returning to their seats**

As auditorium/theater construction increases, more and more architects are taking an active interest in seating selection and arrangement.

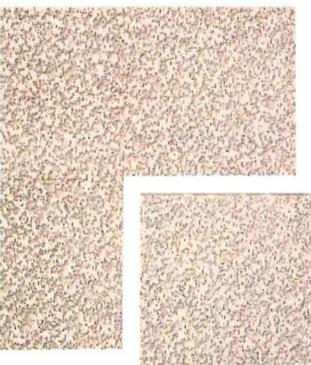
88 **A move afoot**

Many products offer attractive appearance, good wearing qualities, and a safe walking surface for merging indoor/outdoor plaza and lobby flooring.

Departments

8	Views	106	Building materials
21	News report	114	Job mart
34	In perspective	116	Directory of advertisers
36	In progress	118	Reader service card
93	Products and literature		

Cover: From the atrium in Philadelphia's new shopping mall designed by Bower & Fradley; main level is below Market St. (p. 64). Photo: Courtesy The Rouse Co.



Unique surface design of the strong Sanserra Travertone tile combines with snug-fitting grouting to create a monolithic look.



Architect: Leo A. Daly, Omaha • Ceiling Contractor: The Simpson Company, Omaha

When it comes to complementing striking architecture, nothing tops the monolithic look of the Sanserra Travertone™ ceiling from Armstrong.

The proof is fully evident here at the new Center for the Study of Youth Development in Boys Town, Nebraska, where a luxury-look ceiling was critical to the sculpted, naturally toned interior spaces. And where the deeply etched surface of Sanserra Travertone adds a final drama to the distinctive design. One of the top-of-the-line Travertone acoustical products from Armstrong, Sanserra is a fire-retardant mineral-fiber ceiling available in 12" x 12" tile and 24" x 24" regular-edged panels. The square-edged tile shown here in a concealed grid system visually minimizes joints, resulting in a clean sweep of overhead elegance. One more reason why Sanserra helps make the Travertone family first choice with architects for their first-class buildings. To learn more, write Armstrong, Dept. 8CNPA, Lancaster, Pa. 17604.



Silver lining over Miami

December 1978

Downtown Miami, previously little more than a smudge of asphalt on the city's tapestry of greenery and waterways, has recently been the object of some ambitious proposals. The keystone of the new downtown is to be a Government Center, expected to cost \$300 million. Offices for all levels of government—plus a library/museum—are to straddle the crossroads of Miami's projected \$795-million elevated transit system.

Up until last spring, plans for the center were moving along a familiar path. A master plan by Connell, Metcalf & Eddy of Miami had been adopted, and local firms were designing portions—some completed (a city police building and garage, by Pancoast, Borelli, Albaisa; first quarter of a state office complex, by Russell, Martinez & Holt—formerly Russell, Wooster Associates) and another under way (a city office building by the Pancoast firm.)

The plan turned away from the gigantic freeway structure to the west toward a loosely defined central open space. A network of elevated walks, between ground and transit levels, was laid out on strong diagonals that set the center apart from the city street grid and minimized functional divisions within it. Building designs were responding to it with obliquing angles.

Then Johnson/Burgee of New York threw down the gauntlet. Working, ironically, in joint venture with Connell, Metcalf & Eddy, they unveiled a "Mediterranean style" scheme for the library/museum (P/A, June 1978, p. 26), which violated the accepted geometry and raised a furor among local architects. It also drew unprecedented public attention to an architectural controversy.

Johnson maintains that his design fits the master plan—to the letter. It has all the required levels and access points, he says, but he could not meet program requirements with a diagonal ramp bisecting his complex.

Facing an apparent threat of a \$300-million investment in formal chaos, local architects—acting individually and through the AIA chapter—pressed for an architectural coordinator. In July, the County Commissioners appointed Robert Geddes, principal of Geddes, Brecher, Qualls, Cunningham and Dean of Architecture at Princeton.

The plan Geddes has produced appears at first to be conservative and almost simplistic. Or is it Post-Modern? On closer examination, it seems a model of urban design



GOVERNMENT CENTER PLAN

"Illustrative plan" by Connell, Metcalf & Eddy (above); revised plan by GBQC (below).

Legend

- 1 City police
- 2 City offices
- 3 State offices
- 4 County offices
- 5 Federal offices
- 6 Library
- 7 Museum
- 8 Parking
- 9 Central utility plant
- 10 Transit station
- 11 County courthouse (existing)



REVISED GOVERNMENT CENTER PLAN 100' 30m

for a real world—one that will not leave diagonal walkways ending in mid-air between construction phases. It frankly accepts the division of the center into precincts, and it accommodates disparities among them in a time-honored way: by focusing on a strongly defined open space. This central rectangle is to be defined by lines of dense trees on the west and north, a covered walk on the east and south, surrounding areas to be planted in a "Burle Marx" manner. (No spindly palms, if Geddes has his way.) The scheme is sympathetic, obviously, to Johnson/Burgee's forms at its south end, but also to the street grid that now exists—on the site and around it. Architects have now been selected for additional buildings (Hugh Stubbins Associates of Cambridge, with Collaborative 3 of Coral Gables, for the county complex; Ferendino Grafton Spillis Candela of Miami for the central utility plant). Geddes' plan—warmly received but not yet adopted as we go to press—could give them a framework for superior architecture and urban design.

John Morris Difer

Tempered Glass Doors

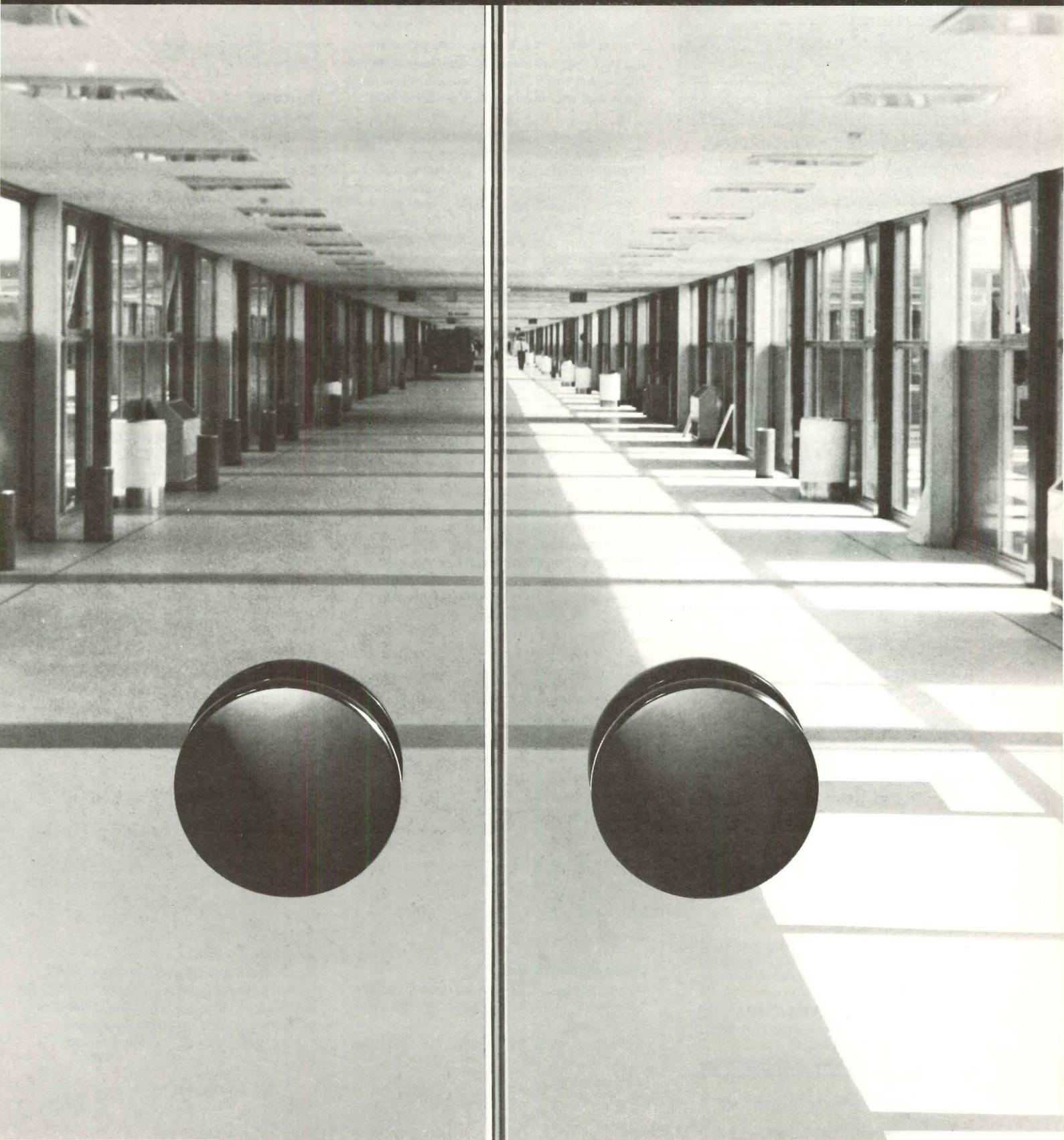
Forms & Surfaces new group of tempered glass doors includes a superb selection of contemporary doorpulls in bronze, aluminum, nickel silver, stainless steel, acrylic, nylon, laminated wood and solid wood. Excellent delivery.

FORMS + SURFACES

Forms & Surfaces

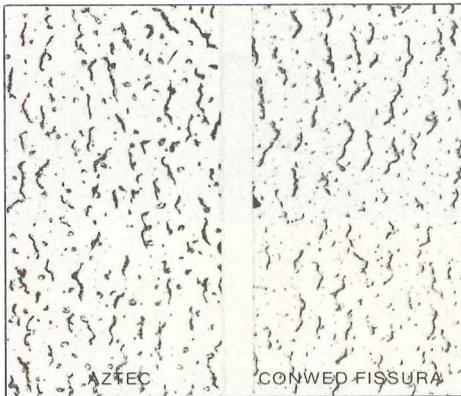
Box 5215 Santa Barbara, California 93108 (805) 969-4767

Circle No. 330, on Reader Service Card

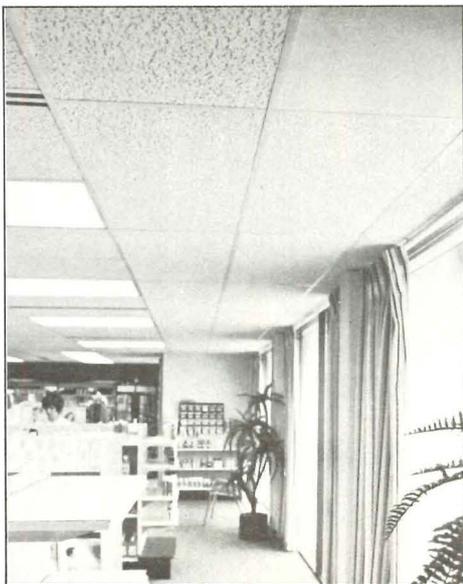


AZTEC

is the unobtrusive way to heat



Aztec radiant heating panels can be silk screened to provide an architectural blend with the acoustical ceiling tile.



Aztec low temperature electric radiant heating panels fit in or on all types of ceilings, saving energy and lowering life cycle costs. Architects gain greater flexibility in design through full use of wall and floor space.

Aztec panels have a patented crystalline surface. A superior graphite element assures uniform heat across the panel. No moving parts. No maintenance. 10 year limited warranty.

For more information on Aztec electric heating panels or for the Aztec engineering representative nearest you, call or write to:

AZTECH INTERNATIONAL, LTD.
2417 Aztec Rd., N.E., Albuquerque, N.M. 87107
505-345-5631

Toll free (except NM) 800-545-8306

Progressive Architecture

Views

Rooftop view

At last an article (P/A, Sept. 1978, p. 122) that has dealt with the roofing problem that has been plaguing owners for many years. As an owner's representative, I have been faced with more than my share of roofing failures due to thermal shock, building movement, system failure, quality control, and several yet unidentified problems.

As you so correctly point out in your article, the materials and technology presently exist to have good watertight roofing systems. Too often, we were motivated by the lowest cost rather than the quality of a system. Too often we said, "get it in-the-dry" at all costs. (Including proper installation procedures.) Until I was faced with replacing roofs that were barely out of the first year in place, did I start considering life cycle costs and proper installation techniques at all costs.

Our company has, at least in self-defense, hired a roofing consultant, developed a specification that stated materials to be used, methods for installation, a quality control program, and a justification of costs giving consideration to life cycle, energy consumption, and original construction costs. Rather than, just the estimated number of years the system was to perform.

In conjunction with the quality control program developed by our roofing consultant, we include a Performance Agreement, in lieu of a bond or guaranty. It simply states that for a five-year period the roof will be maintained in a watertight condition at no cost to the owner. Since most of our problems have occurred during this period, we have had very good results from this system.

It seems unfortunate to me that owners have accepted less than they originally specified, bid, and contracted for because of money or time. Since, ultimately their decisions cost them more of both. We will not have acceptable systems or products whether they be related to roofing or some other aspect of the construction industry until we as owners demand the quality that other products receive routinely. If we as owners expect a higher quality of construction, we will not open the designer, contractor, or material supplier to a greater liability, but instead bring everyone to a higher state of awareness and thus limit or reduce their liability.

Roger A. Henry
Mercantile Stores Co., Inc. (NY)
Columbia, SC

Air-supported material

We were delighted to see your beautiful article "A Green Y" in the August issue of *Progressive Architecture*.

Since our company manufactured the trans-

parent air supported cover over the swimming pool area of this facility, we would like to call your attention to an error in the copy to the effect that the cover was made of a Tedlar-Mylar material. Actually this was a Tedlar-coated vinyl material developed by Environmental Structures Inc. and trade-named ESIFILM. We believe this is a major breakthrough in materials having a wide variety of characteristics including long life when applied in the type of air supported structure we make.

In view of increasing interest among architects in the application of air supported structures in their designs we thought it important that the nature of the materials used be clarified.
Robert J. Reed
General Manager
Environmental Structures, Inc.
Cleveland, Oh

Correction

The vision glass on the Allied Chemical Tower (P/A, Oct. 1978, p. 78) is not "gray glass" as stated in P/A; according to the manufacturer, PPG Industries, it is a one-inch clear glass insulating unit with a low to medium reflective metallic coating applied to the second surface of the outboard panel. The characteristics of this specific type of glass, obviously, contributed to the distinctive appearance of the building as well as to its performance.

Credit: chair development

In the Sept. 1978 issue of *Progressive Architecture*, the way we carry out our projects in Bologna is described as an integral process involving product design, prototype building, prototype testing, making tools and machines on our own, manufacturing small runs of parts to test the machinery, followed by full tests of the product itself. After all these steps have been taken, we present the product to a potential client. This is the way we have developed the Vertebra System for Europe, as well as a number of new products we plan to introduce in the USA. But, in the case of the development of the Vertebra System for the American market, the credit for its manufacturing development is, to a great extent, Krueger's. They have made a large financial commitment for tooling and installed very sophisticated production and assembly equipment in their Green Bay plant. They have also tested and retested all parts until the results amply surpassed the BIFMA standards' requirements. Their devotion to our design, and their commitment to producing a wholesome and durable product has gone beyond the call of duty.

Emilio Ambasz
Center for Design Research and Development
Bologna, Italy

Guggenheim grant correction

Contrary to a report appearing in P/A (Sept. 1978, p. 42), Gordon Ashby of Inverness, Ca, has accepted a Guggenheim fellowship for a study of natural light in museum interiors.

Credit due

The photograph of the neighborhoods exhibition at the Tehran Museum of Contemporary Art (P/A, Sept. 1978, p. 42) is by David Hirsch, who collaborated on the photography and the photographic production of the exhibition.



**Primitive Encore.
In the tradition
of things
created one piece
at a time.**

In the beginning, everything was created one of a kind. Because everything was created by hand.

Today American Olean has recaptured this look in new Primitive Encore[®] Ceramic Tile. Where each tile has its own special shading and character. It's a look synthetics can't even approach.

Recommended for floors, walls and counter tops, it's highly resistant to scratching and wear. And it offers superior slip-resistance.

New Primitive[®] Encore. See it at an American Olean Color Center. (Check the Yellow Pages.) For a full color brochure, write to American Olean Tile Company, 2576 Cannon Avenue, Lansdale, Pa. 19446.

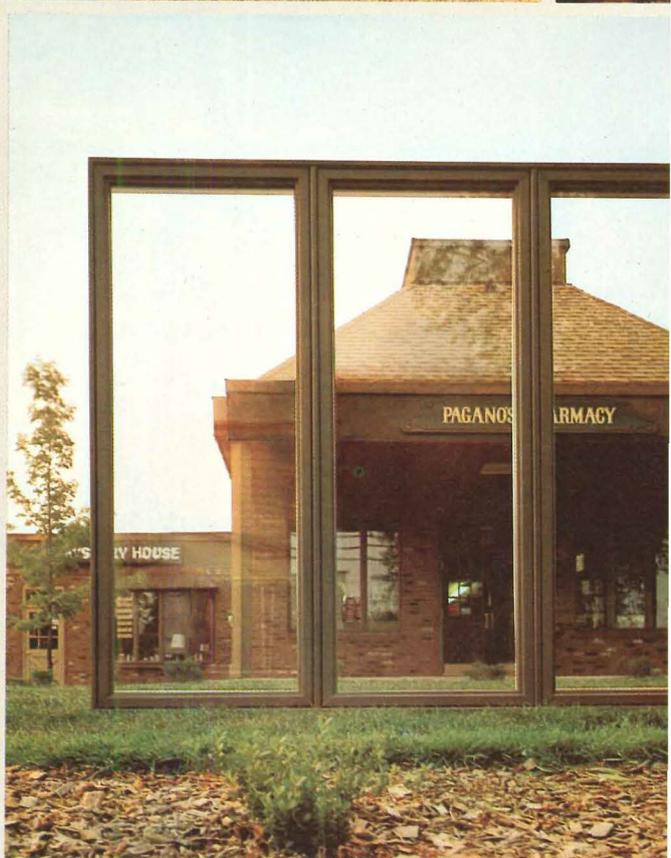
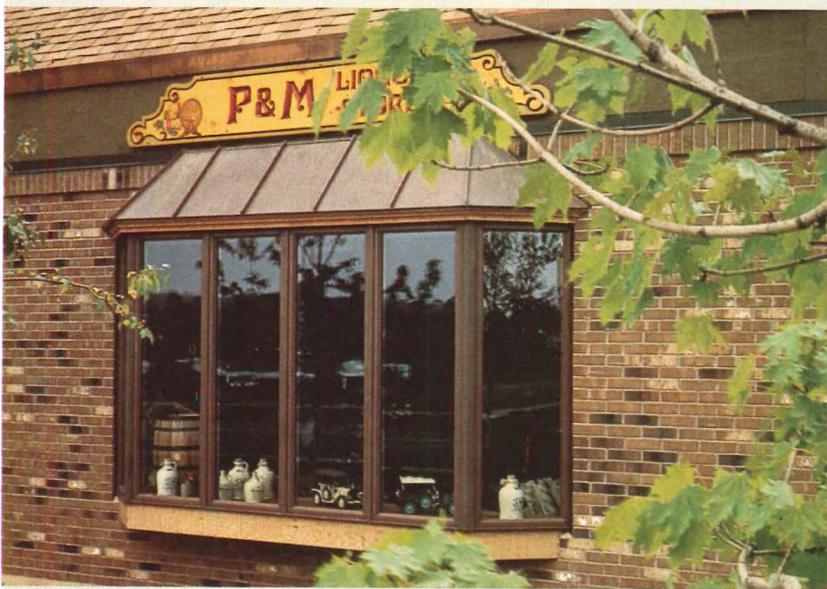
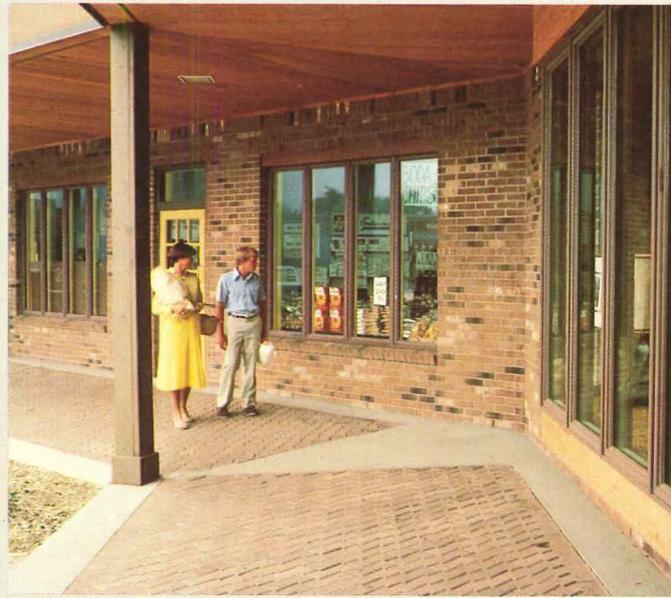
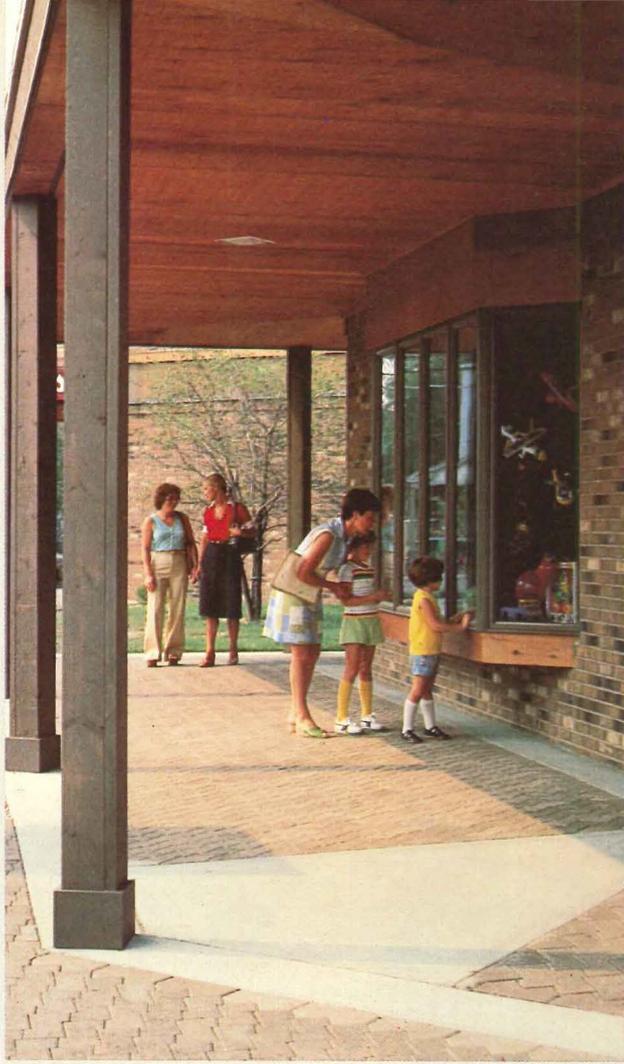


A National Gypsum Company

Shown - 8" x 8", 806 Blue. Other Encore colors and sizes and harmonizing grouts also available.

Circle No. 301, on Reader Service Card

American Olean is Ceramic Tile.



Andersen in the storefront keeps you in the forefront.

Specifying Andersen tells everyone involved you're a front runner.

It lets the client know you've taken positive action on his two biggest concerns: Energy and maintenance.

It also tells the builder and contractor you thought about them. Perma-Shield® windows and gliding doors are easy to install and build around.

And specifying Andersen is one sure way of adding to the beauty of any concept.

Take this shopping center design.

The specifics: Matte-face extruded brick. Stained cedar plywood fascia and parapet. Laminated wood beams and stress-skinned panels in roof.

The uniqueness: Customer-stopping angle bay fenestration created by Perma-Shield casements in Terratone color.

Andersen's union of wood and double-pane insulating glass—in an incredibly tight design—makes these windows year-round energy savers.

Their tough, long-lasting vinyl sheath virtually eliminates maintenance... won't need exterior painting every few years.

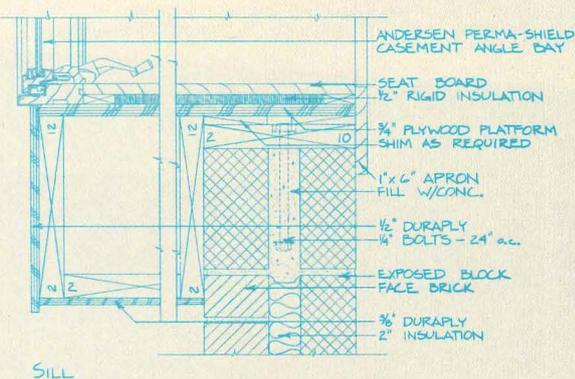
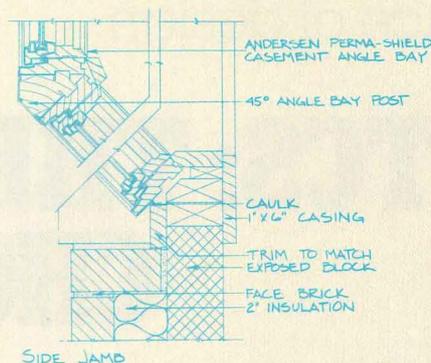
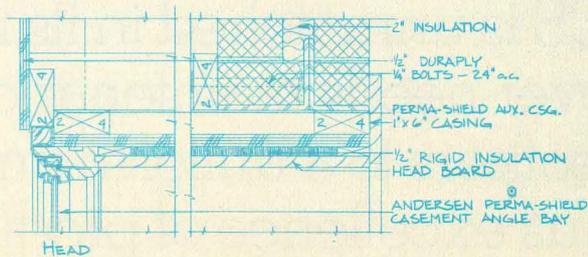
And Terratone, the warm, earthy hue, matches material and mood.

The result: A shopping center that mixes business with beauty. Efficiency with excitement.

The message: Andersen up front keeps you out front.

Specify Perma-Shield windows and gliding doors in all your future developments.

For more details see Sweet's File 8.16/An., or contact your Andersen dealer or distributor. He's in the Yellow Pages under "Windows." Or write Andersen Corporation, Box 12, Bayport, MN 55003.



Station 35 Common Shopping Center
Glastonbury, Connecticut

Architect:
Lawrence Frazier, Architects
East Hartford, Connecticut

Printing limitations prohibit exact duplication of Terratone color. Use actual sample for building specifications.

8124 Copyright © Andersen Corp., Bayport, Minn. 1978.

The beautiful way to save fuel®

Andersen® Windowalls®



FOLLANSBEE

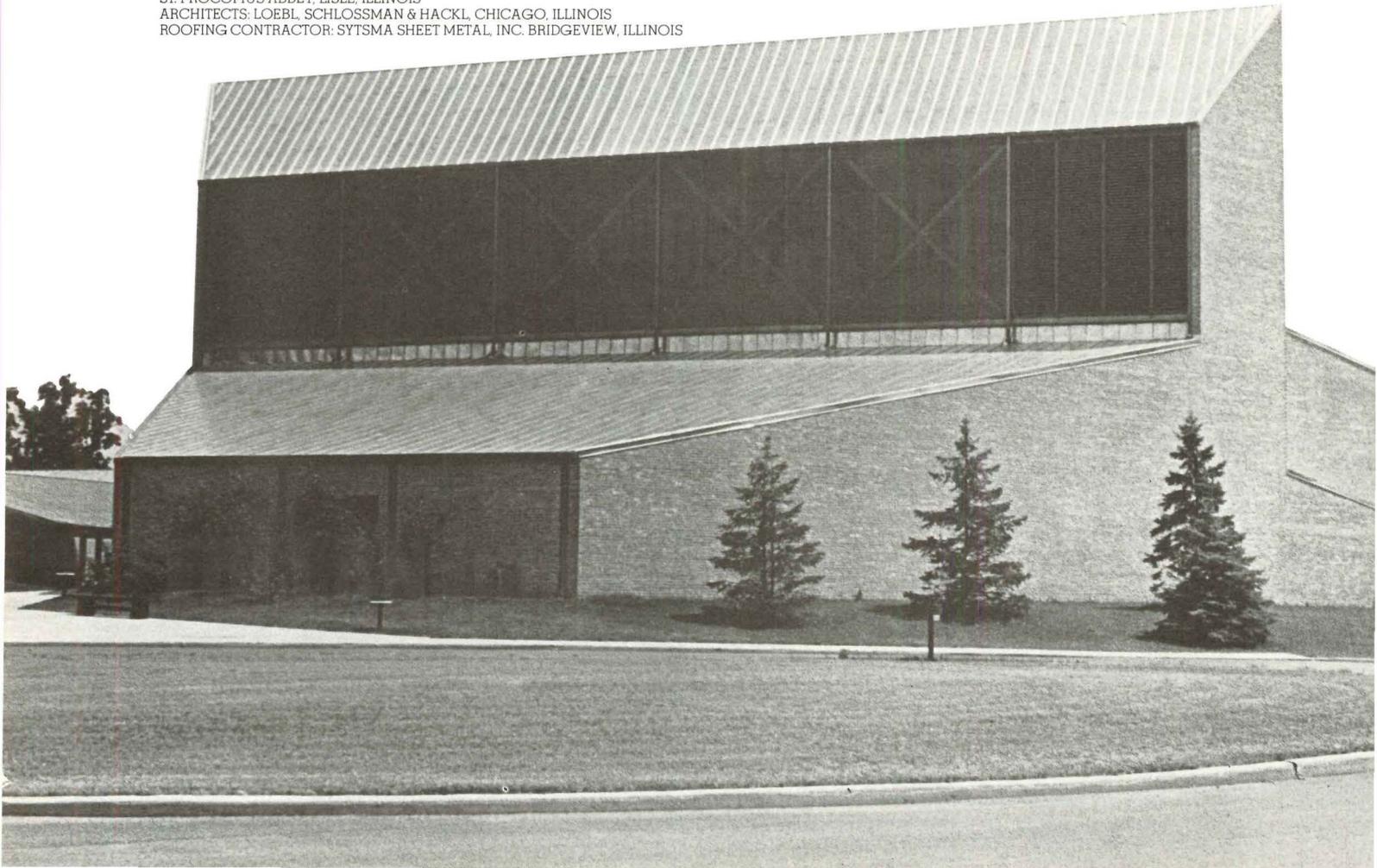
FOLLANSBEE STEEL CORPORATION FOLLANSBEE, WEST VIRGINIA
FOR FURTHER INFORMATION CALL TOLL-FREE 800/624-6906

Circle No. 329, on Reader Service Card

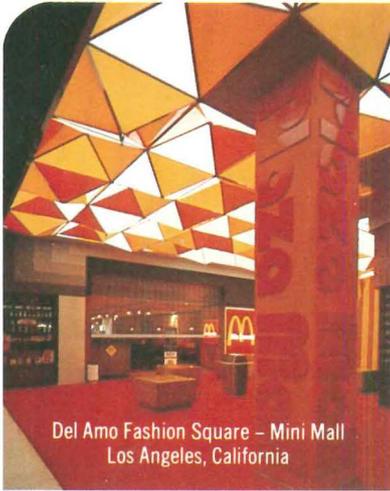
St. Procopius Abbey is an impressive example of contemporary architecture, and like many other recently erected buildings of comparable distinction, it is roofed with TCS (terne-coated stainless steel). There is an inherent logic here, for TCS is unmatched in its resistance to corrosion, never needs maintenance if properly installed, and weathers to a uniform and attractive warm gray. Thus excellence of product complements excellence of design.

TCS: THE LOGICAL CHOICE

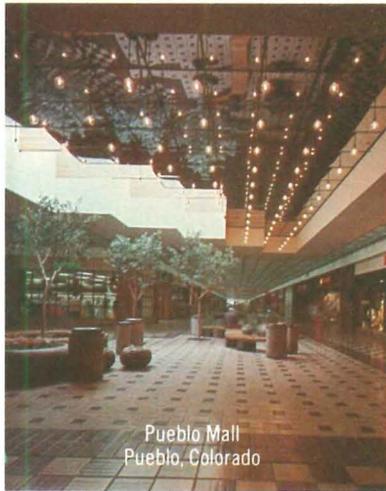
ST. PROCOPIUS ABBEY, LISLE, ILLINOIS
ARCHITECTS: LOEBL, SCHLOSSMAN & HACKL, CHICAGO, ILLINOIS
ROOFING CONTRACTOR: SYTSMA SHEET METAL, INC. BRIDGEVIEW, ILLINOIS



Ceilings



Del Amo Fashion Square - Mini Mall
Los Angeles, California



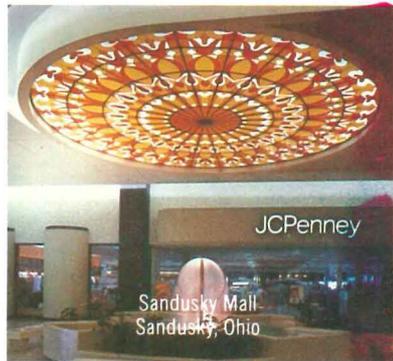
Pueblo Mall
Pueblo, Colorado



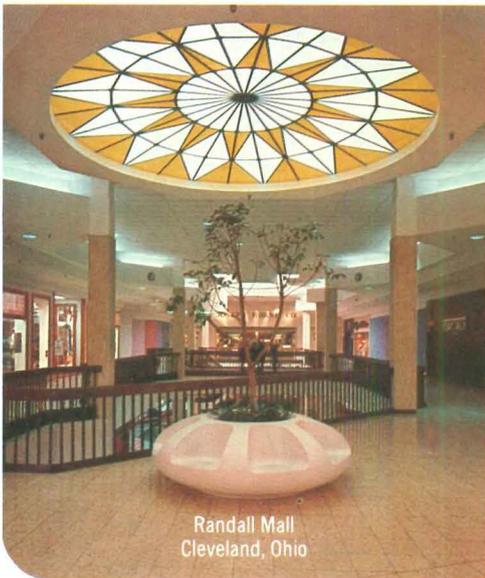
Sandburg Mall
Galesburg, Illinois



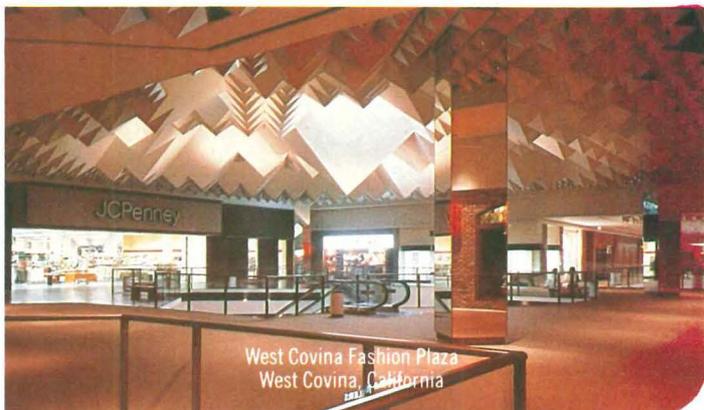
Ceilings . . .
They can help you attract tenants and shoppers, make your next mall the talk of the town. We've specialized in them for over 20 years. The results are in our new 16-page catalog. We'd be pleased to send you one on request.



JCPenney
Sandusky Mall
Sandusky, Ohio



Randall Mall
Cleveland, Ohio



West Covina Fashion Plaza
West Covina, California

Integrated Ceilings, Inc.

2231 Colby Avenue/Los Angeles, California 90064/Telephone: (213) 272-1136

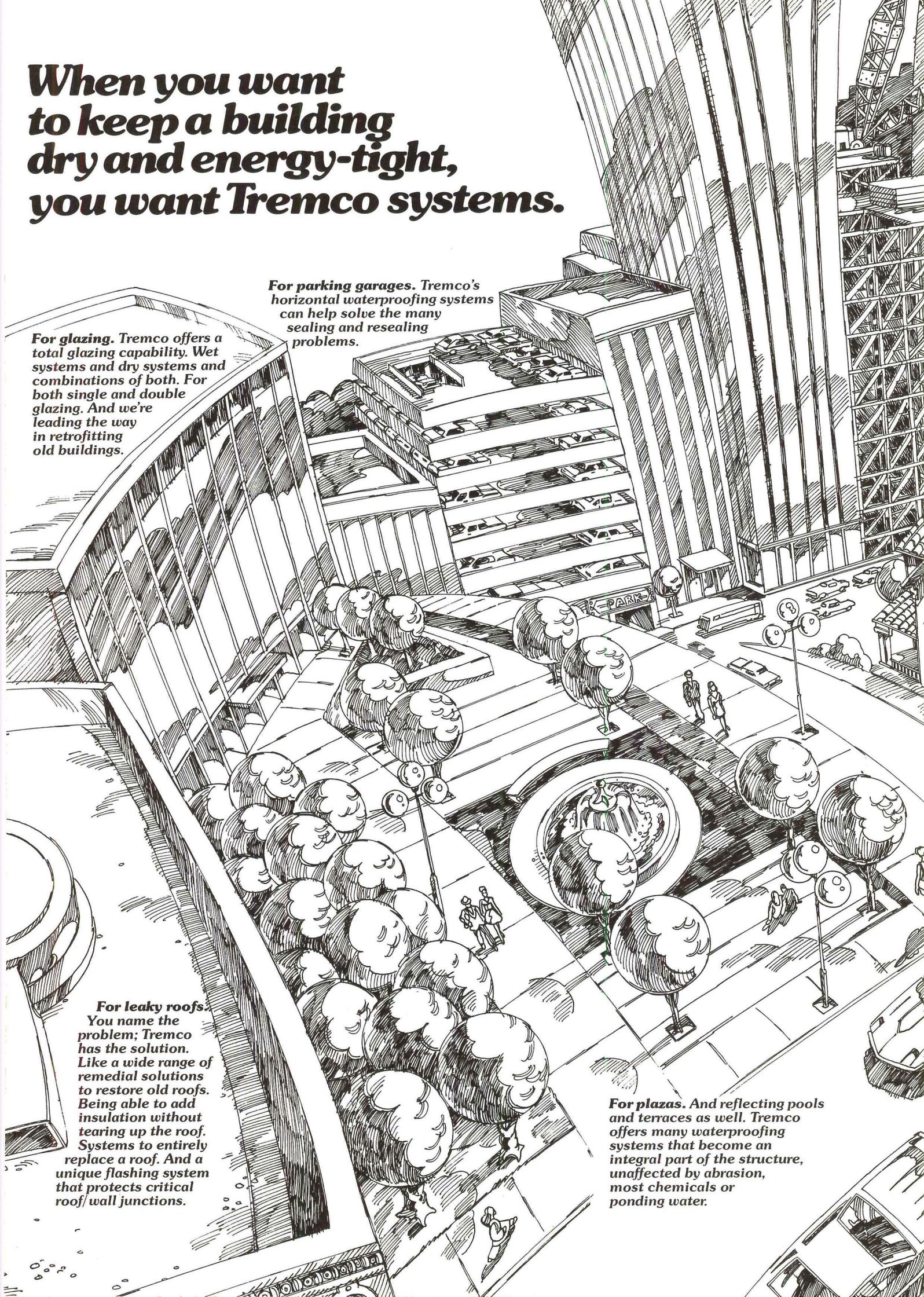
When you want to keep a building dry and energy-tight, you want Tremco systems.

For parking garages. Tremco's horizontal waterproofing systems can help solve the many sealing and resealing problems.

For glazing. Tremco offers a total glazing capability. Wet systems and dry systems and combinations of both. For both single and double glazing. And we're leading the way in retrofitting old buildings.

For leaky roofs. You name the problem; Tremco has the solution. Like a wide range of remedial solutions to restore old roofs. Being able to add insulation without tearing up the roof. Systems to entirely replace a roof. And a unique flashing system that protects critical roof/wall junctions.

For plazas. And reflecting pools and terraces as well. Tremco offers many waterproofing systems that become an integral part of the structure, unaffected by abrasion, most chemicals or ponding water.



precast panels. Most problems are at the joints. Tremco's DYmeric® seals extra-wide joints and allows dynamic movement. Our unusual two-stage sealing systems seal weather and energy in. Plus we offer the only patented fire resistive joint sealing system available today.

For sealing problems. In both old and new buildings, MONO® Tremco's superb all-around sealant, is ideal—even when sealing conditions are not. Other systems seal fire-rated ventilating systems and metal-to-metal joints under tension.

For foundations. Where ground water is a problem, Tremco has systems that keep water—even saline water—out.

Over 50 years, Tremco has pioneered systems that keep water out and energy in. For old and new buildings. From the roof to the foundation.

Tremco's people are ready to put their years of experience and job-proven techniques and ducts to work for you. Call us whenever you need expert advice, from drawing board to job. Tremco: we're all you need to remember when you want to keep buildings dry and energy-tight. Contact your Tremco man today. Write Tremco, Cleveland, OH 44104. Toronto, Ontario M4H 1G7. W. Drayton, Middlesex, England.

TREMCO

For renovation work. Tremco's know-how in working with old buildings can help you control costs. As well as provide systems for floor overlayment, acoustical treatment, coatings, wall finishes and corrosion-resistant paints.

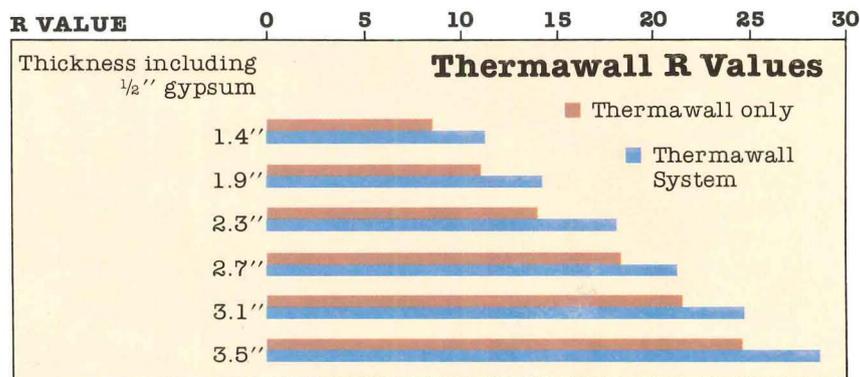
Putting up RmaxTM ThermawallTM means tearing down a few old ideas.

Conventionally, commercial wall insulation and finishing has consisted of three things. Studs, batt insulation and gypsum board. At Rmax, we have an approach that is slightly unconventional.

And simply fantastic.

Rmax Thermawall. A rigid urethane core permanently bonded to gypsum board and wrapped by highly reflective aluminum foil.

Together, it combines the most efficient insulator available with a practical, time saving method of installing finished drywall. Resulting in unsurpassed savings. Both in installation costs and future energy bills.



Our unique Thermawall Fastening System (patent pending) eliminates common studs and batt insulation. It's thinner than conventional stud walls, so you gain floor space. And at the same time solve an old problem of in-

creasing square footage for tenants.

We're helping solve a new problem, too.

Rmax Thermawall is perfect for insulating residential cathedral ceilings. It's efficient enough to achieve maximum insulation value when used with standard 2 x 6 roof rafters and R19 batts. Which eliminates the need to change construction techniques. And in turn, saves money.

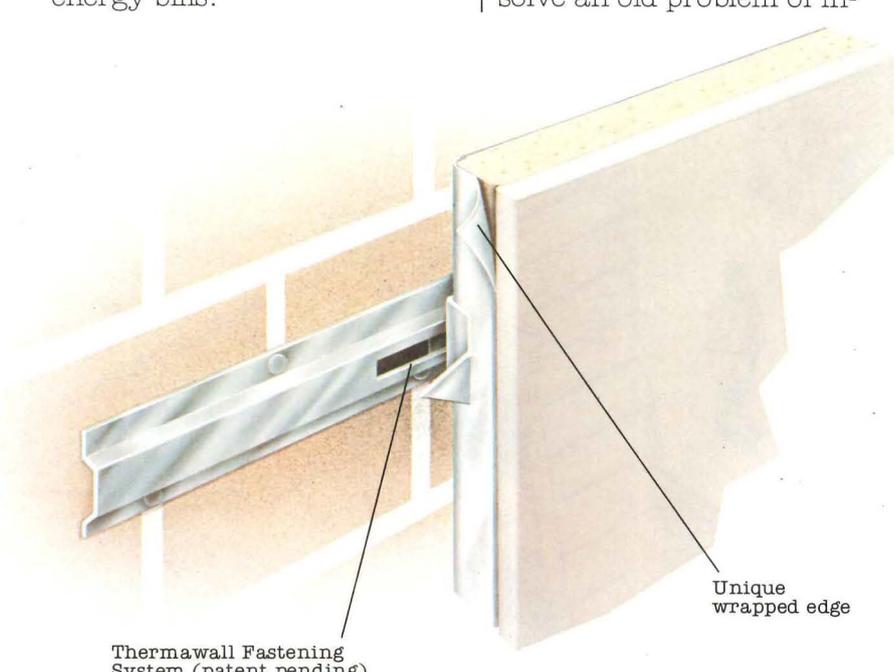
Call Rmax about an unconventional look at your insulation needs. By tearing down a few old ideas, we can help you build in more value.

Thermawall by Rmax



Rmax, Inc.,
13524 Welch Road, Dallas,
Texas 75240 214/387-4500

Rmax also manufactures a complete line of rigid urethane insulation for commercial roofing and sheathing requirements.



Thermawall Fastening System (patent pending)

Unique wrapped edge



Most schools weren't built for wheelchairs. That's why Dover developed add-on elevators.

When you're faced with the problem of providing upper-floor access to wheelchair students, call Dover.

We've developed special elevators for this situation. They can be added easily and economically to an existing two or three-story building, usually in a stairwell or at the end of a building corridor.

Car size will handle wheelchairs. Operating buttons are easy to reach. Emergency lighting and alarm systems are standard equipment. Car interior finish is attractive yet utilitarian, with stainless steel and baked enamel finishes for durability and easy maintenance.

Known as the IVO Elevators, these inexpensive models are pre-engineered for fast shipment and fast installation. They can be used in new as well as existing buildings.

For taller buildings and larger capacities Dover has a complete range of other pre-engineered Oilraulic and

Traction Elevators for conventional service or with special features to aid the handicapped.

Your local Dover Elevator representative can help you plan an elevator installation to meet your special needs. Call

him. For catalogs write Dover Corporation, Elevator Division, Dept. B, P.O. Box 2177, Memphis, TN 38101. In Canada: 126 John St., Toronto M5V2E3, Ontario.

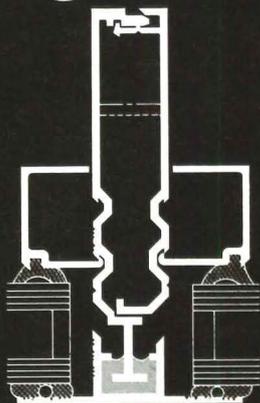


DOVER
The elevator
innovators.

Kawneer Seamless Mullion invites designers to go to great lengths.



Introducing a unique element that makes less of everything except your design opportunities.



Seamless Mullion is covered by U.S. Patents: 3,527,010 and 3,769,775.

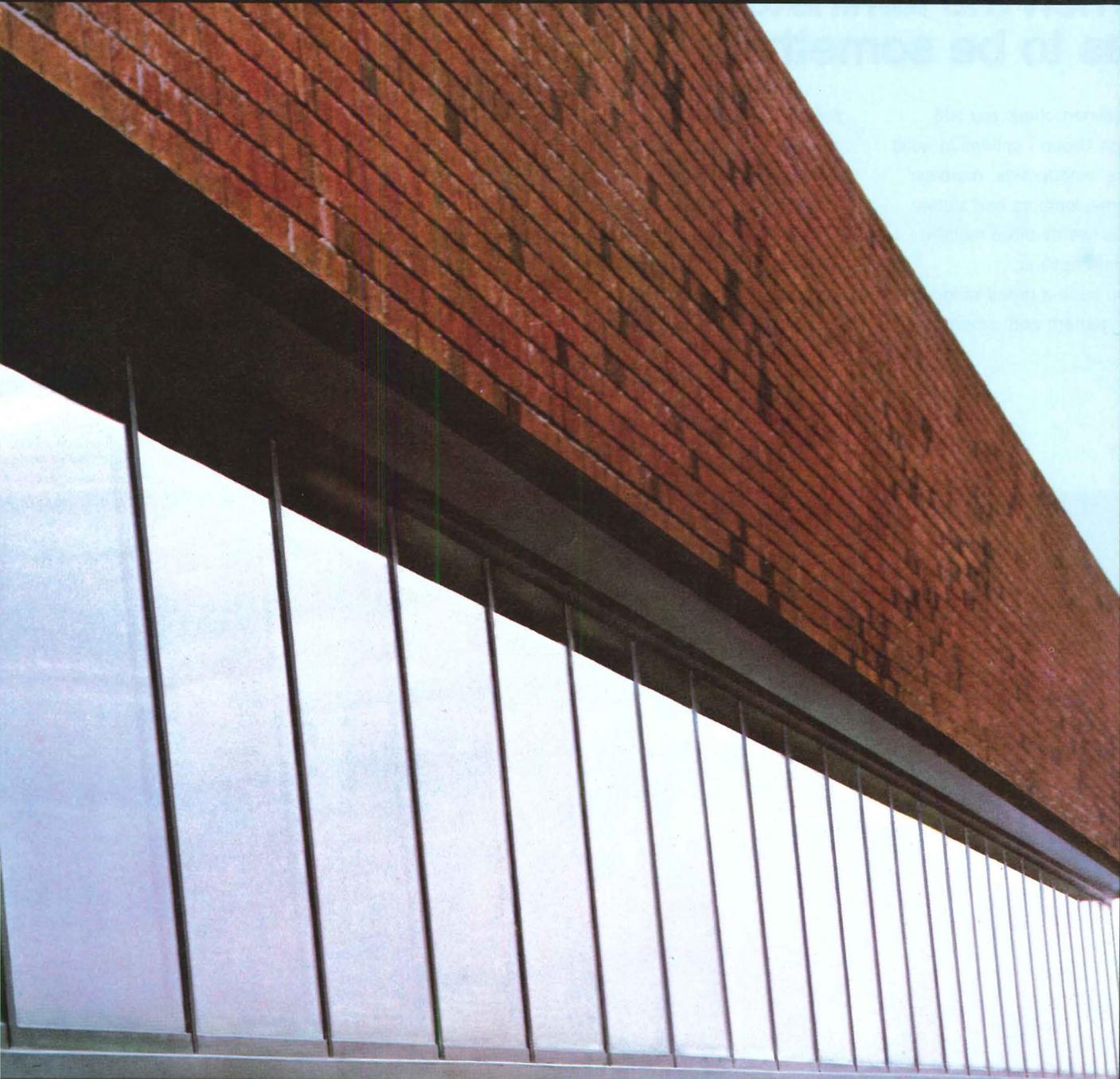
Seamless Mullion is a unitized framing system that does away with the exterior exposed seams often found in coupling mullions. But the name is only the beginning. When we removed the seam, we added a whole new range of design opportunities.

Narrow sightlines and minimum projections.

The first impression of Seamless Mullion is one of expansive cleanliness, because a proper glass bite is maintained with only a minimum obstruction of the vision area. This impression is enhanced by the extreme frontal placement of the glass with the greater part of the metal structure to the interior.

Efficient and secure.

In addition to a basic 4-inch frame depth, Seamless Mullion is also available as a thermally-broken system in 3 or 4-inch depths. The positive thermal break helps reduce conductive heat loss and virtually eliminates



Ohio Medical Indemnity, Inc., Columbus, OH
GOSNELL, ESSINGER, RETTSTATT, WEITHMAN ARCHITECTS, INC.

age caused by condensation. And, Seamless Mullion also accommodate operable vents for natural ventilation to help reduce heating and cooling costs. Small Seamless Mullion features the exclusive Kawneer Isolock[®] which creates a positive interlock of interior and exterior metal sections to enhance the structural integrity of the system.

An inside job.

Kawneer Seamless Mullion is designed for inside glazing, eliminating the need for expensive scaffolding during construction.

Seamless Mullion.

designer's element.

There's a lot more to the Seamless Mullion story than meets the eye. For more information please write or call: Kawneer Architectural Products, 1105 N. Front Street, Grand Rapids, Michigan 49120. (616) 683-0200.



KAWNEER
The designer's element

When the laminated plastic has to be something special

Wilsonart offers you 108 Design Group I options in solid colors, woodgrains, marbles, patterns, leathers and slates.

Plus twenty-three metallic laminate options.

You have a broad range of color, pattern and dimensional

possibilities to help you completely control your design statements.

See them all. Write for your free copies of Wilsonart Design Group I and metallic laminate brochures. They'll give you some most unusual ideas.

WILSONART®
WILSONART BRAND LAMINATED PLASTIC



Circle No. 357, on Reader Serv

Copyright© 1978 Ralph Wilson Plastics Co.
600 General Bruce Drive, Temple, Texas 76501
Manufacturers of Wilsonart high-pressure laminated plastics,
Chem-Surf, Tuf-Surf, Dor-Surf, Metallics and Contact Adhesive

Wall:
Wilsonart
Brushed Aluminum
6250

Credenza
and Desk:
Wilsonart
Golden Oak
7888-13
and
Wilsonart
Solid Camel
D31-6



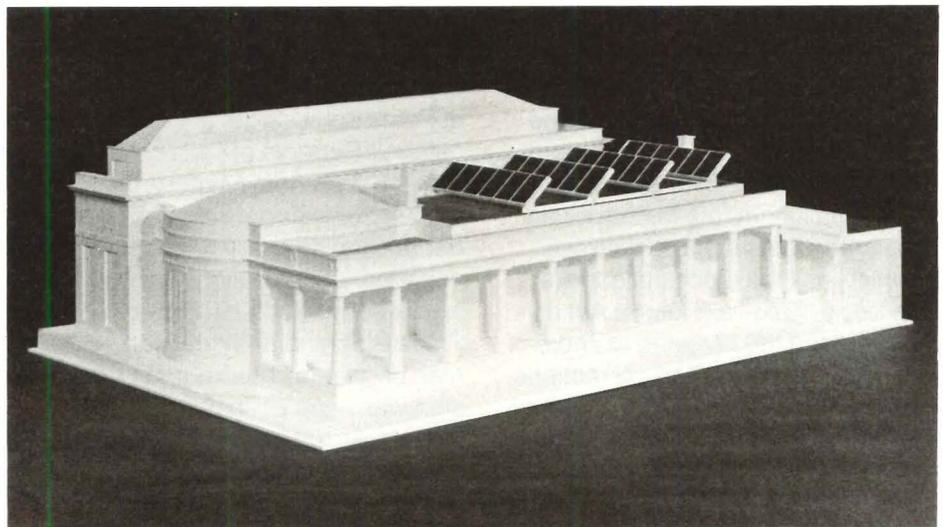
News report

Implications of energy, tax laws

The much-debated Carter energy package and tax bill passed Congress in compromise form Oct. 15. Both contain provisions of general interest to the business, industry, and design sectors and some that are of particular concern.

The new energy regulations, hailed as the first serious US effort towards a comprehensive energy policy, are intended to force consideration of alternate energy sources. But critical observers doubt the success of the piecemeal legislation in implementing energy conservation.

The controversial deregulation of natural gas from the mid-1980s, which will increase gas prices by 9 to 12 percent per year, and the coal conversion requirements for electric power and new industrial plants encourage conversion. But the abolition of the originally included stiff tax on industrial use of oil and gas will lessen the effect of these regulations. Specific tax incentives for energy conservation include: a) a tax credit for homeowners of up to \$300 for installing insulation and other energy-saving devices on existing homes; b) a 10 percent tax credit for businesses on the purchase of various items of energy-saving equipment (surprisingly, insulation is not listed); c) tax credits for homeowners of up to \$2200 for the installation of solar, geothermal, or wind energy systems in existing houses; d) an "additional" 10 percent tax credit for businesses for the addi-



A solar collector on the White House? Correct, but the President won't get the new tax breaks; his residence is federal property (detailed story, Jan. P/A).

tion of solar heating. (It's questionable whether Congress intentionally forgot that, unlike equipment used by a business, real estate is not eligible for the "personal property" 10 percent tax credit already on the books. A total 20 percent tax credit, paralleling that on energy-saving equipment, may have been intended.)

Most experts agree that the tax incentives for the installation of alternate energy sources will not, in and of themselves, have great impact. Additional financial incentives from local government and from the private sector are also needed, and architects and the public must become better informed on solar energy technology before it wins market acceptance.

Still, the solar tax credits will boost the revenues of the depressed solar industry by an estimated \$1.4 billion a year through 1985, according to the Senate Budget Committee.

Of more immediate concern to engineers, say spokesmen at the American Consulting Engineers Council, is the \$900 million authorized for retrofitting schools, hospitals, and public buildings. The money is to be appropriated in a matching-grants program, administered through individual states, and currently scheduled to expire in 1980, though Congress may extend it to 1981. The three-part program consists of a preliminary audit phase and a technical assistance phase prior to reconstruction. The ACEC hopes the massive retrofit plan will spur concern for energy efficiency and push developers to consider the life-cycle costs of a building as well as first costs.

Passed as part of the energy bill, provisions that give businesses a 10 percent tax credit for the rehabilitation of buildings 20 years old or older interest urban planners and preser-

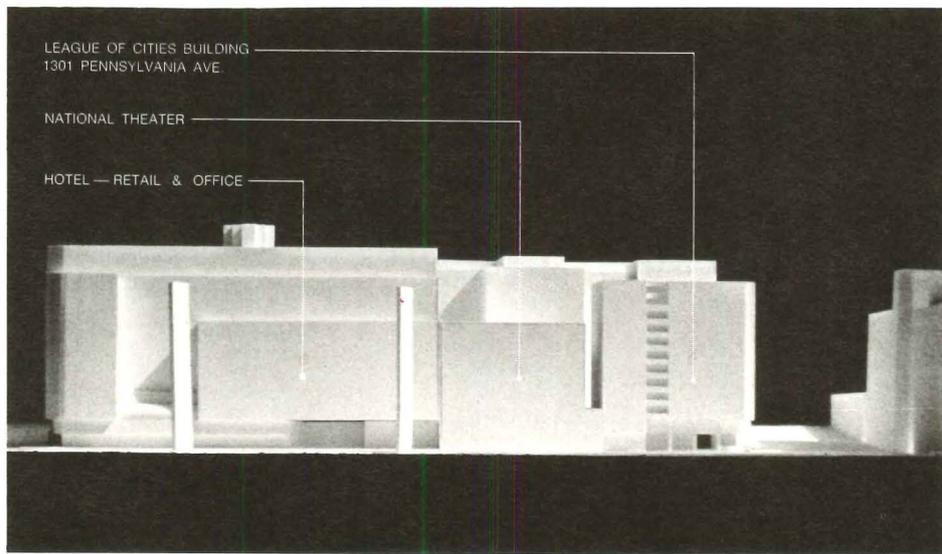
News report

vationists. The tax incentive is intended to reduce the migration of companies from the central city to the suburbs, but New York City Planning Commissioner Norman Marcus doubts that it will have more than an incremental effect on corporate relocation. Opinion at the Treasury Department and the Preservation Services Division of the Department of the Interior is divided as to whether owners of certified historic buildings will opt for the new tax credit or continue to use the amortization provision in the Tax Reform Act of 1976 which allows a tax deduction of 20 percent over a 5-year period for the rehab of historic buildings.

The new tax bill contains substantial benefits for the business sector: the maximum rate for capital gains taxes was reduced from 49 to 28 percent and the maximum rate for corporate taxes from 48 to 46 percent. Preservationists hail the technical corrections to the 1976 Tax Reform Act as clarifying and thus helping to implement that legislation. The corrections specify which properties in a Registered Historic District and a local district are eligible for the tax incentives provided by the 1976 law; loosen the provisions regarding "recapture on sale" so that developers have an incentive to rehab and then sell properties; and provide for retroactive decertification, whereby an owner who unknowingly demolished a nonhistoric building within a Registered Historic District can be exempted from the tax penalties that such demolition incurs under the 1976 law. Most important, lessees of 30 years or longer are now eligible for the tax incentives that were previously restricted to owners of record.

PADC chooses less aggressive project

The Pennsylvania Avenue Development Corporation selected the Washington, DC firms of Quadrangle Development and Marriott Corp. for the prestigious commission to build a multi-use business complex surrounding the National Theater just off Pennsylvania Ave. in downtown



Model of the Schlesinger and Mitchell/Giurgola design for Penn. Ave.

Washington. The selection of the Quadrangle-Marriott project, designed by the architectural firms of Frank Schlesinger of DC and Mitchell/Giurgola of Philadelphia, was rather a dark-horse victory; in choosing the Schlesinger-Mitchell/Giurgola design, the federally financed development corporation rejected a much-publicized plan of the National Press Club and architect John Portman of Atlanta. The Portman design was rejected in part because it would have demolished the historic National Theater building and evicted the Theater, but the board's 9-2 vote in favor of the Quadrangle-Marriott project was also reportedly influenced by the overpowering architectural design of Portman's \$165 million complex.

Quadrangle-Marriott's \$110 million, 16-story project, the first commercial development to take advantage of recent zoning changes allowing 160-ft buildings along Pennsylvania Ave., will save the theater. The complex, which will be the tallest commercial structure in DC (the previous height limit was 130 ft), will occupy the entire block bounded by 13th, 14th, E and F Sts., excepting only the theater, the National Press Building, and the new National League of Cities building, also designed by Schlesinger and funded by Quadrangle. Save for the Press Building, these structures will be linked to the interior arcade of the complex. Shops, offices, and an 830-room hotel will open into this arcade whose main entrance will be on Pennsylvania Ave. The offices and retail space will line the F St. side of the

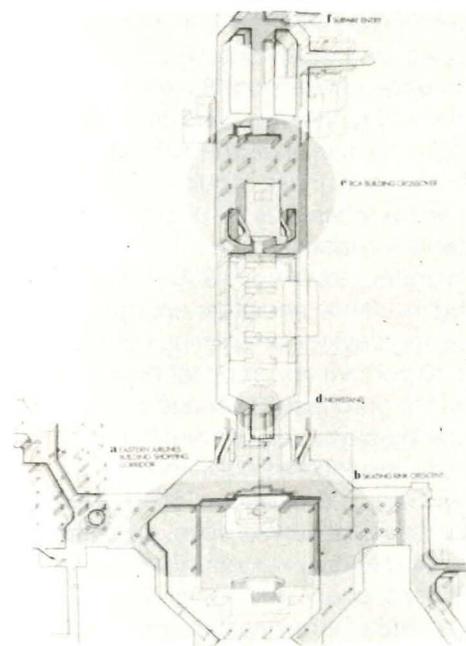
central space, while the hotel will front on the Avenue. Construction should begin in early 1980, and the scheduled completion date is 1983.

The multi-use project is the first step in the Pennsylvania Avenue Development Corporation's brief to revitalize Pennsylvania Avenue from the White House to the Capitol.

Rockefeller Center concourse redesign

The underground concourse of Rockefeller Center, a crucial but visually and physically cluttered space, will be better integrated into the multilevel Art Deco complex through a design program drawn up by Walker/Group, Inc. for Rockefeller Center, Inc.

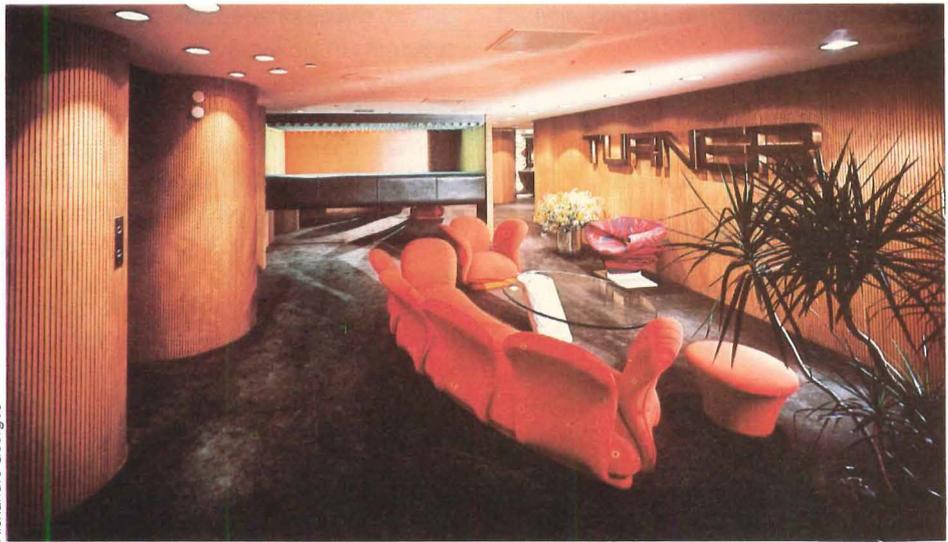
Rockefeller Center redesign by Walker/Group.



The retail concourse, joining 14 of the Center's buildings, is a key linkage, with a high occupancy rate and impressive architectural detailing; but its present lack of clarity in access and circulation prevents the concourse from fully exploiting its economic and aesthetic potential. The design solution, to be implemented over the next two years, overcomes these problems by means of minor architectural alterations in conjunction with a graphic and signage program and a ceiling design that both highlight the original Art Deco décor and articulate the concourse's functions.

The architectural changes are intended to correct congestion and disorientation in certain areas and create visual connections with other parts of the concourse. Views out to the skating area and up through the major vertical circulation elements of the RCA building will be opened.

The graphic system, designed to provide legible and consistent tenant identification and directional signage, utilizes smooth surfaces and a bronze-and-black color scheme, elements that mesh with the present textures and colors of the Center's graphics. Evenly spaced, edge-lit metal fins will be hung from the ceiling of the entire retail corridor, while the crossover areas will be set apart by sunburst ceilings of bronze-colored reflective metal panels divided by linear lighting units radiating from a central point.



Alexandre Georges



Jones

Among the several newly redesigned showrooms at Designer's Saturday were those of Turner Ltd. (top) by Terry Rowe, and Stendig Inc. (above), by Joyner/Bernardo Associates

Designers have a really big show

The eleventh annual edition of Designer's Saturday, a special weekend opening of 29 of New York's top contract furnishings showrooms, was held this year on the first weekend in October. Some 6000 design professionals from across the US, from Canada and Europe attended what by now should be called Designer's Thursday, Friday, and Saturday. The event this year had a third day added for a special student program cosponsored by Designer's Saturday and the Institute of Business Designers.

The big news of the show was that there was little news, and if there were any discernable trends at all, they were toward increased conservatism,

luxury, and quality (to say nothing of price) among the residential offerings, and a greater emphasis on design quality and cost-consciousness among the office and commercial furnishings. New to the Designer's Saturday program this year were Beylerian Ltd. and Sunar Ltd., while several older members, including Stendig Inc. and Turner Ltd., unveiled newly redesigned showrooms.

Culmination of the annual event was the presentation of the \$3000 Designer's Saturday Scholarship to the Fashion Institute of Technology (which in turn divided the award among three of its students, Marcy Barron, Chantal Paret, and Jane Ornellas) by Designer's Saturday President Leonard Eisen.

To supplement the official Designer's Saturday program, P/A and

Knoll International cosponsored an architectural orientation tour of Manhattan on "Designer's Sunday" for some 100 West Coast design professionals who had flown to New York for the no-longer-regional program. Led by architect Elliot Willensky (coauthor of the *AIA Guide to New York City*), the tour was an indicator of the widening audience of Designer's Saturday, as well as the growing *rapprochement* between architecture and interior design.

By the specialized scope and limited number of its members, Designer's Saturday continues to have a much more focused appeal than its larger national counterparts. Though its aim is not wide, it seems to be exceedingly accurate, based on the ever-increasing attendance figures. [Continued on page 24]

Architecture-related exhibits

Revolution: Russian Avant-Garde 1912–1930

**Oct. 12–Jan. 2
Museum of Modern Art**

The Russian artistic scene between 1908 and 1929 saw not one revolution, but a linked series of revolutionary transitions in form, concept, and ideology. While these radical movements were influenced by, and to some degree paralleled, contemporary Western artistic developments, the Russian artists progressed through the philosophical and formalistic spectrum with a unique intensity. In the span of two decades, their work went top-speed from figurative to abstract, from objective to nonobjective, from planar to three-dimensional; and yet from this point evolved a figurative art which Stalin was to mold into Soviet Realism.

It doesn't seem to make sense. The final reversion has to be explained not Lissitsky, El. *The New Man* (1920–21) lithograph (study for figurine).

only in terms of aesthetics but by referring to political and economic developments in Russia during this period. MOMA's current exhibit performs the remarkable feat of charting a legible, logical path through the confusion of Russian aesthetic and social revolution. It is also stunningly beautiful.

Magdalena Dabrowski, curator of the exhibit, has deployed the somewhat restrictive spaces of the Sachs Galleries to great effect. Within an informative chronological arrangement, she has done several historic pieces of installation: Malevich's "Suprematist Painting: White on White" (1918) is hung next to Rodchenko's "Black on Black" for probably the first time since their initial exhibition in Moscow in 1919. Vladimir Tatlin's watercolors, "Study for a Counter-Relief" (1914) and "Study for Board #1" (1917), recent acquisitions and the only examples of Tatlin's rare work in a Western museum, have places of honor. Naum Gabo's "Head of a Woman" (1917–20) looks down on Antoine Pevsner's "Torso" (1924–26), a tragically disintegrating work almost never exhibited. The two counter-reliefs echo each other's celluloid curves, bringing out

the way the Russians explored new materials and dimensions.

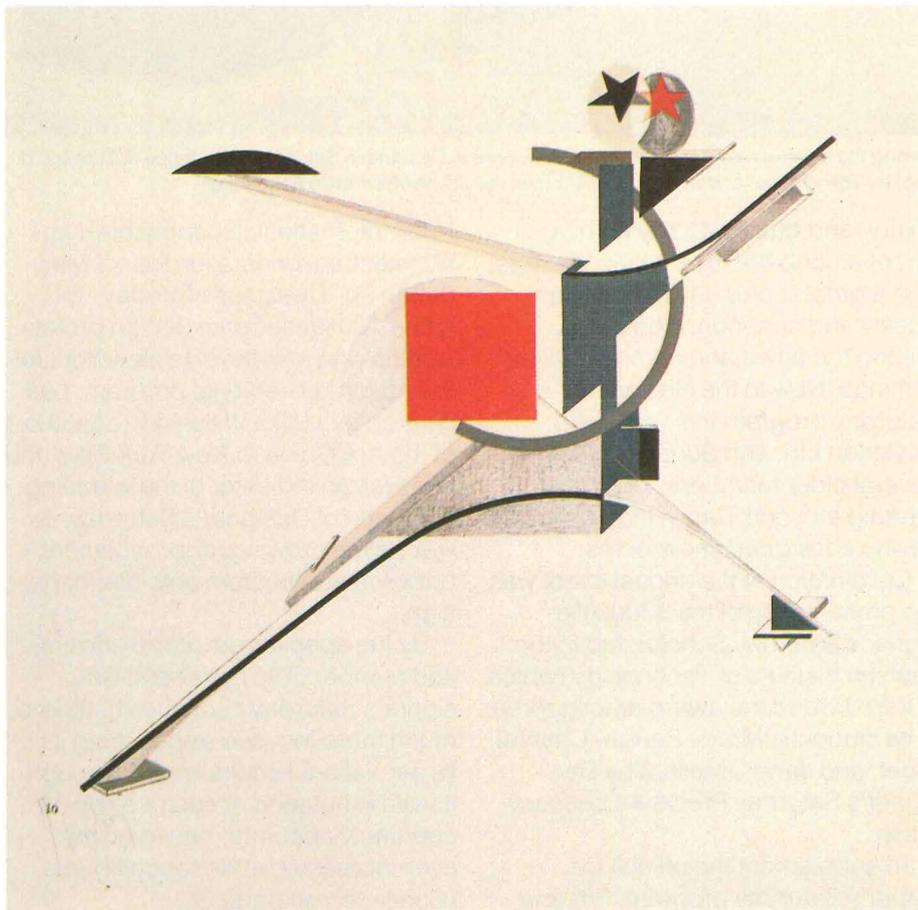
In the pre-Revolutionary period, artists experimented with multimedia and interdisciplinary genres: small books such as "Victory Over the Sun," the first futurist opera, and on theatrical productions and stage sets. Much of the work directly expresses specific and relatively short-lived artistic philosophies. The most influential was Constructivism, which developed from the work of artists like Gabo, Pevsner, and Tatlin, whose theory of the "culture of materials," according to which materials generate their own inherent form, was seminal.

Constructivism came into its own after the Revolution as artistic ideologies, under political influence, came to stress "art for the masses" and utilitarianism. Constructivists translated their pre-Revolutionary formalistic concerns into genres and materials relevant to the envisioned society of the future. The ideal artist was also engineer, and architecture was considered the ultimate interdisciplinary and mass-oriented art. Thanks to the enlightened leadership of Anatoli Lunacharsky, commissioner of education from 1918 to 1929, Constructivist architects like Melnikov, Leonidov, and the brothers Vesnin had a chance to realize their aesthetic.

Architect-trained El Lissitsky created "an interchange station between painting and architecture," as he put it, in his PROUNS, projects for three-dimensional constructions that incorporate painted planes and sculptural forms. One of the highlights of the exhibit is a complete portfolio of Lissitsky's never-realized designs for figurines to enact "Victory Over the Sun." Characters like "The New Man" imaginatively blend Constructivist principles with forms taken from the earlier Suprematist movement.

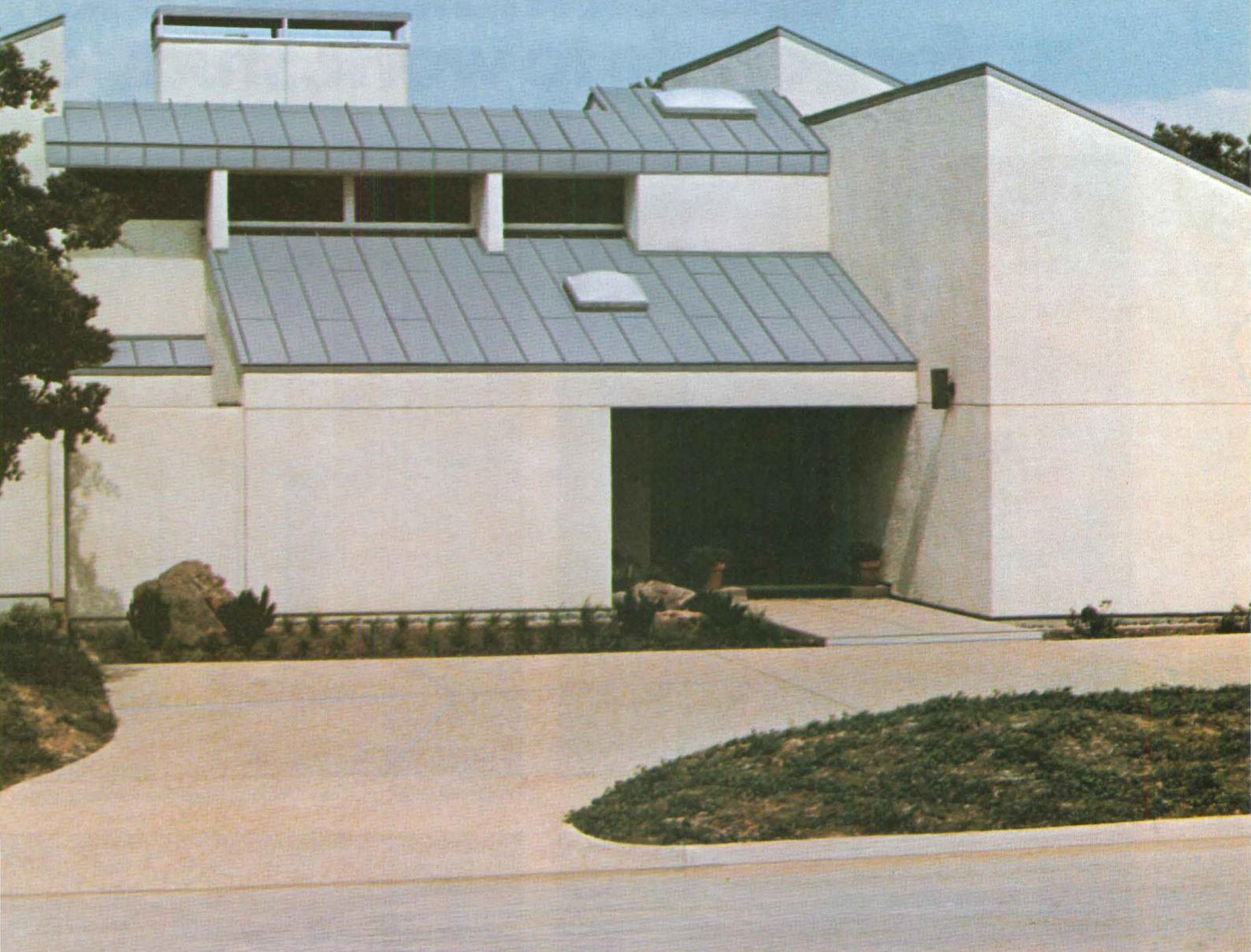
By 1929 Soviet politicians were impelling artists to return to figurative art for its greater propaganda potential. The initial results in design were extremely influential on the Bauhaus and other schools; posters like Rodchenko's for *Potemkin* treat scenes and objects in terms of form, not message. But in 1934, Soviet Realism closed in as the official artistic style, ending a period vibrant with the excitement of continuous artistic innovation.

[Continued on page 28]



Museum of Modern Art

New, factory-formed zinc roofing systems



The Coleman Residence, Arlington, Tx; Architect: David Sprague, Dallas; Installation: Coleman Metal Products, Arlington.

MICROZINC 70 reduces on-site costs in Dallas-Ft. Worth

In the Dallas-Ft. Worth area, Microzinc 70 is well-known for its beautiful pre-weathered patina — the reason it was chosen for this stunning residential design.

But Microzinc 70 is even more attractive in economical ways!

Each Batten-seam or Standing-seam LOK System is delivered in pre-engineered form. Installation is so simple that on-site labor costs are substantially reduced. No cleaning, no special soldering tools, no painting needed —and no priming should you want to paint. Once Microzinc 70 is installed it becomes still

more attractive... *no maintenance problems*; no leaks, no staining from run-off, and no rotted materials. Investigate the on-site cost savings of Microzinc 70 pre-engineered components. For further information, write today or call 615-639-8111.



Greeneville, Tennessee 37743 (615) 639-8111.

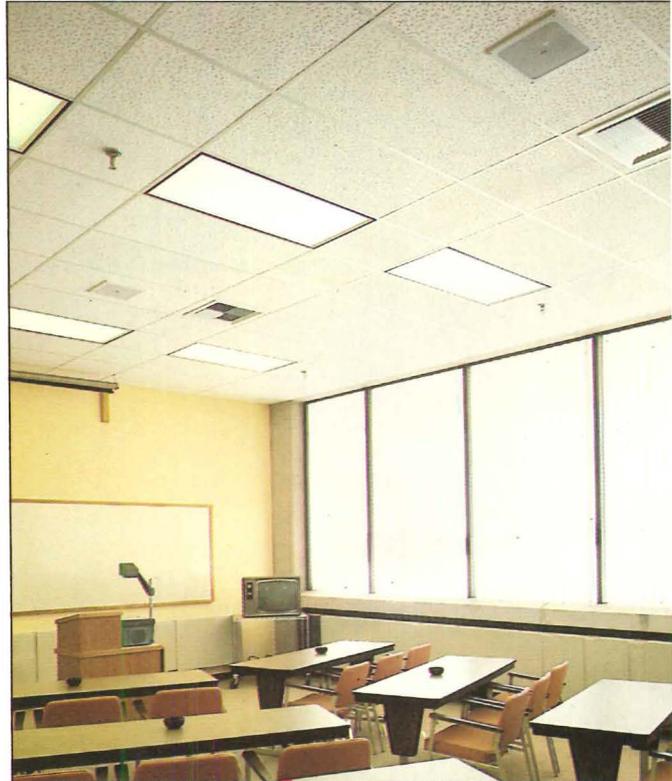


Beautiful inside, too!

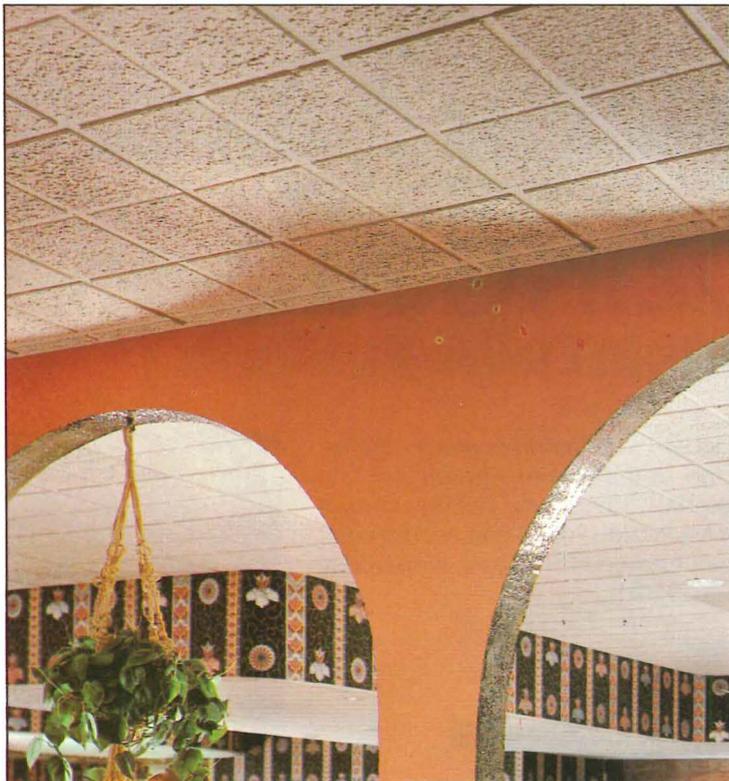
Celotex makes more kind for people to work, study, dir



High finance under a Celotex® Reveal Edge Texturetone ceiling.



English 101 under a Celotex® Mineral Fiber Fissuretone ceiling.

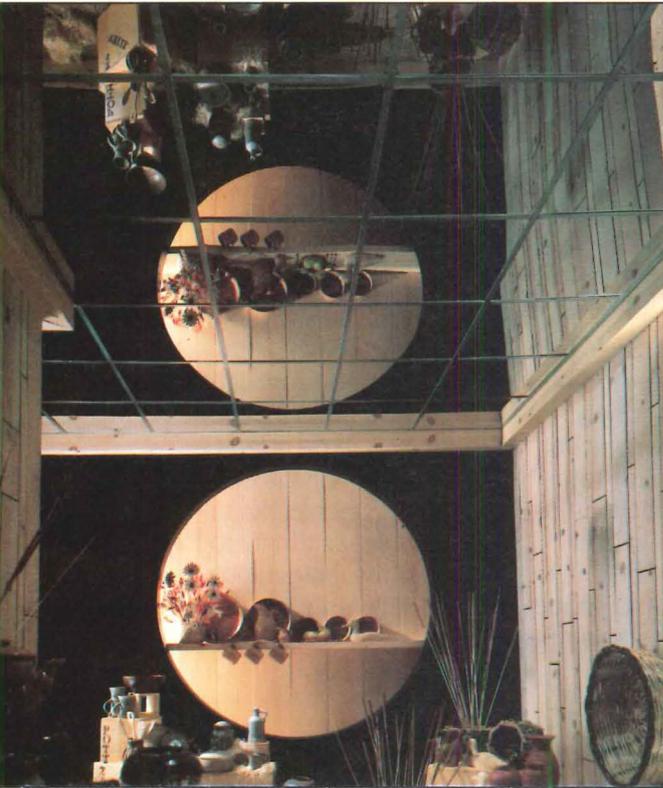


Artichokes for two under a Celotex® LeBaron ceiling.



Impressing clients under a Celotex® Marquis ceiling.

ceilings than anybody hop, love and laugh under.



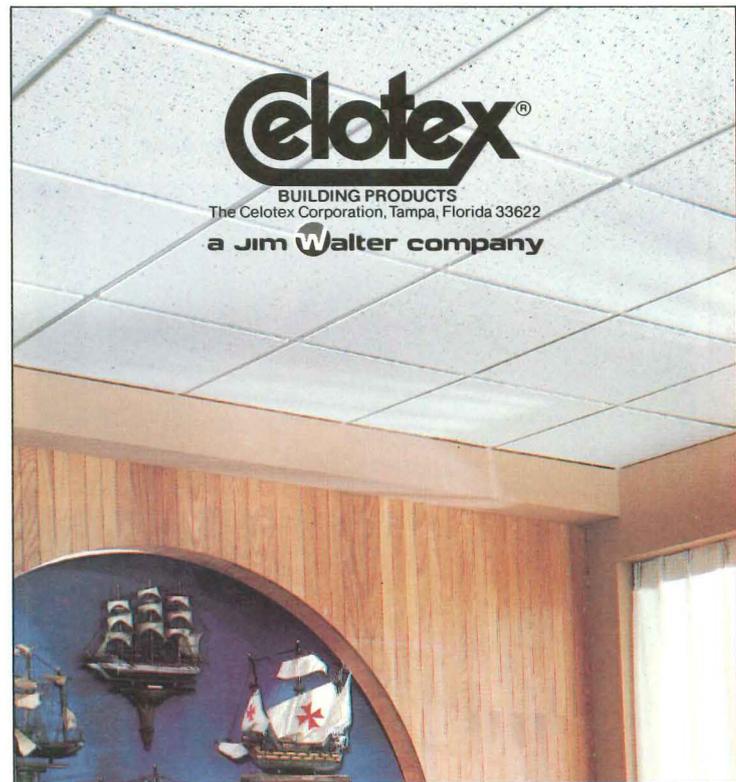
Dining under a Celotex® Image ceiling.



Making plans under a Celotex® Mosaic ceiling.



Buying and dealing under a Celotex® Fissured Grande ceiling.



Waiting for the dentist under a Celotex® Reveal Edge Fissuretone ceiling.

The Architecture of Sir Edwin Landseer Lutyens (1869–1944)
Oct. 13–Jan. 7, 1979
Museum of Modern Art, New York

This collection of photographs of 16 works of this major English architect surveys the scope and development of his career in a regrettably cursory fashion. Guest director Allan Greenberg, whose photographs comprise the majority of the exhibit, is to be complimented, however, on presenting this architect, slighted by much of the Modern Movement for his allegiance to traditional forms, in MOMA.

It's good to see Lutyens' witty and elegant combinations of local architectural elements, whether English, American, or Indian, with eternal Gothic and Renaissance forms. His work, alternately Romantic, eclectic, monumental, or imperial in tone, according to the demands of the commission, is always sincere—and as a result often appropriate.

Lutyens' masterpiece, the Viceroy's



Lutyens' War Memorial, Etaples, France (1920).

Allan Greenberg (MOMA)

House in New Delhi, exemplifies his ability to create stylistic blends that capture the requisite atmosphere. The huge projecting cornice derives from the Indian *chujja*—but it's also reminiscent of Michelangelo's cornice on Palazzo Farnese in Rome. In one courtyard Lutyens uses a Serliana to create a scene of eternity and space that's truly Eastern. The best examples

of his ability to convey emotion in an informed, intellectual manner are the war memorials that close the show. The flags on the War Memorial at Etaples evoke classical windblown draperies, but hang in dead, still air, a fitting twist emblematic of their purpose here. Lutyens deserves more attention.

Ornament in the 20th Century
Oct. 3, 1978–Jan. 7, 1979
Cooper-Hewitt Museum, New York

Twentieth-Century design is often glibly characterized as reductionist or functionalist, and "modern" elegance as ascetic. The current exhibit at the Cooper-Hewitt sets out to break this one-sided stereotype in an intentionally popular exhibit. An introduction to the countercurrent of the fantastical and complex in the modern era, *Ornament* is to be rated G.

Focusing on the extravagant, ornate, and exotic, the exhibit is a lively, enjoyable testament to the irrepressibility of the imagination.

Attention-getting pieces like the [Continued on page 30]

What do this Japanese restaurant, furniture store, and office building have in common?

Top — Kyoto Steak House; lower left — Art Van Furniture; lower right — Barr Office Building



Beautiful, economical exteriors of Foremost Steel Fascia.

More and more buildings are being finished with Foremost Fascia... pre-fabricated systems that go up fast to save time and lower construction costs. Both systems (Quick-Lock and Free-Form) carry a 20-year warranty on their Duranar® 200 finishes. Foremost's money-saving color-coated sheets are also available flat; cut to size; and fabricated to your specs. Write for complete information.

FOREMOST MANUFACTURING CO.

21000 W. 8 Mile Road/Southfield, Mi. 48075/(313) 352-7373



You set stone with your hands and your heart!



Rich Jarboe, a masonry craftsman for 20 years, knows that good stonemasonry requires both skills and commitment:

"It takes a lot of pride to set stone and marble—to do it right. It's in your heart. It's in your hands. It's what I like to do."

The work that he and other stone masons did on the East Building, an addition to the National Gallery of Art* in Washington, D.C., shows why:

"I brought my whole family here and took them through a two-hour tour of this whole place. When I walk away from this job, I'll be proud of it. I'll stand out there in the street and take a look at it. It's always going to be here for me and my family to see."

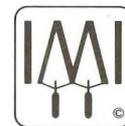
People with the kind of pride that Rich Jarboe has in his skills, and the kind of love that he has for the materials he works with ("It's natural stone. It's beautiful. It's easy to take care of.") are the foundation and strength of the masonry system of building.

Masonry craftsmen work with the finest materials ever devised for building—brick, block, stone, marble, tile, terrazzo, mosaics and plaster. Their skills match the materials. Together they create a building system that is beautiful, permanent, requires little maintenance, provides excellent fire protection, has great structural capabilities, is remarkably flexible, helps make buildings more thermally efficient, and is economical.

There are thousands of reasons why your next building should be masonry. Rich Jarboe is one of them.



Craftsmen: The Heart and Hands of Masonry



**International
Masonry Institute**

(The Bricklayers' International Union and the
Mason Contractors of the U.S. and Canada)

823 15th Street, N.W., Suite 1001
Washington, D.C. 20005
(202) 783-3908

*I.M. Pei and Partners, architect.
Weiskopf & Pickworth, structural engineer.
Atlas Tile & Marble Works, Inc., marble contractor.
Local #2, D.C., Stone and Marble Masons,
International Union of Bricklayers and Allied Craftsmen.



Cooper-Hewitt Museum

Lalanne's Hippo Bathtub (closed) 1968.

Beatles' Rolls typify the exhibit; in the furniture display, a brass hippopotamus bathtub by Lalanne stands gaping before a gilded mirror. Unfortunately, less aggressive pieces, such as the elaborate wooden Rohlf's chair, get slighted by their proximity.

An exhibit with such a broad theme as its organizing principle runs the risk of fragmentation. *Ornament* doesn't engage any specific subject deeply enough: it goes for instantane-

ous visual appeal rather than insight. The architectural section, for example, contains some fine drawings by Graves, Maybeck, Ferri, and others—all hidden behind color blowups of the Woolworth and Chrysler buildings. Throughout the exhibit, the dating is inadequate. Perhaps the most serious flaw is the failure to interrelate the sections, so that the exhibit lacks cohesion.

Two Collections/Two Buildings by Claes Oldenburg
Sept. 18–Nov. 26
Whitney Museum, New York

If one had to identify Claes Oldenburg, most metamorphic of artists, with two images, they would be the Geometric Mouse and the Ray Gun. The mouse, a square and two circles, is familiar as sculpture and sketch, and as far back as 1965 Oldenburg thought of expanding the concept into a three-dimensional form that allows the viewer to experience it from within as well as from without: a building. Perhaps because mice are conventionally collectors, the building con-

cept evolved into a museum housing Oldenburg's treasure trove of found objects, altered objects, and studio objects in felicitous disarray. The Ray Gun Wing was an extension of the Mouse Museum, to house the increasing collection of right-angle forms.

Constructed at the Whitney (and previously in Chicago, Phoenix, St. Louis, and Dallas) in black corrugated aluminum, the Ray Gun Wing is a Venturian "duck," while the Mouse Museum is appropriate to the objects it contains because both are interdependent parts of Oldenburg's syncretic mode of creation. In both collections and buildings Oldenburg disassembles the visual components of an object, reassembling them to hyperbolize certain aspects of the object. Inspired by such artifacts as plastic fruit or a leg-shaped ballpoint pen, Oldenburg raises kitsch to art.

But what Oldenburg has captured in these pieces is somehow part of the essence of the last decade. The objects in the Mouse Museum are dated 1960s artifacts, and while now this sense of distance adds to the collec- [Continued on page 32]

The Secret of the Hickman Gravel Stop System:

Our Exclusive Patented COMPRESSION CLAMP.

Our continuous clamp is securely fastened to the water dam . . . creating a leakproof grip on the roofing felts so tight there's never been a reported failure in a Hickman Gravel Stop. See our catalog (7.3 Hi) in Sweet's.

Hickman's FREE "Roof-Line" . . . 1-800-438-3897



Available in Canada

HICKMAN
ALUMINUM CONSTRUCTION PRODUCTS

W. P. Hickman Company □ 175 Sweeten Creek Road
 P.O. Box 15005 □ Asheville, N.C. 28803 □ (704) 274-4000

Immediate reference on Bally Walk-In Coolers / Freezers and Refrigerated Buildings is in your Sweets Catalog 11.23b/Ba

It's a 28-page section of detailed technical information about Bally Walk-In Coolers/Freezers and Refrigerated Buildings, for everyone involved in design and specification. Includes over 130 photos, drawings and charts. Provides weight and size data, refrigeration and electrical capacities, details about floors and doors. And it lists the Bally representative nearest you. Or, send today on your letterhead for the 182-page Bally Working Data Catalog.

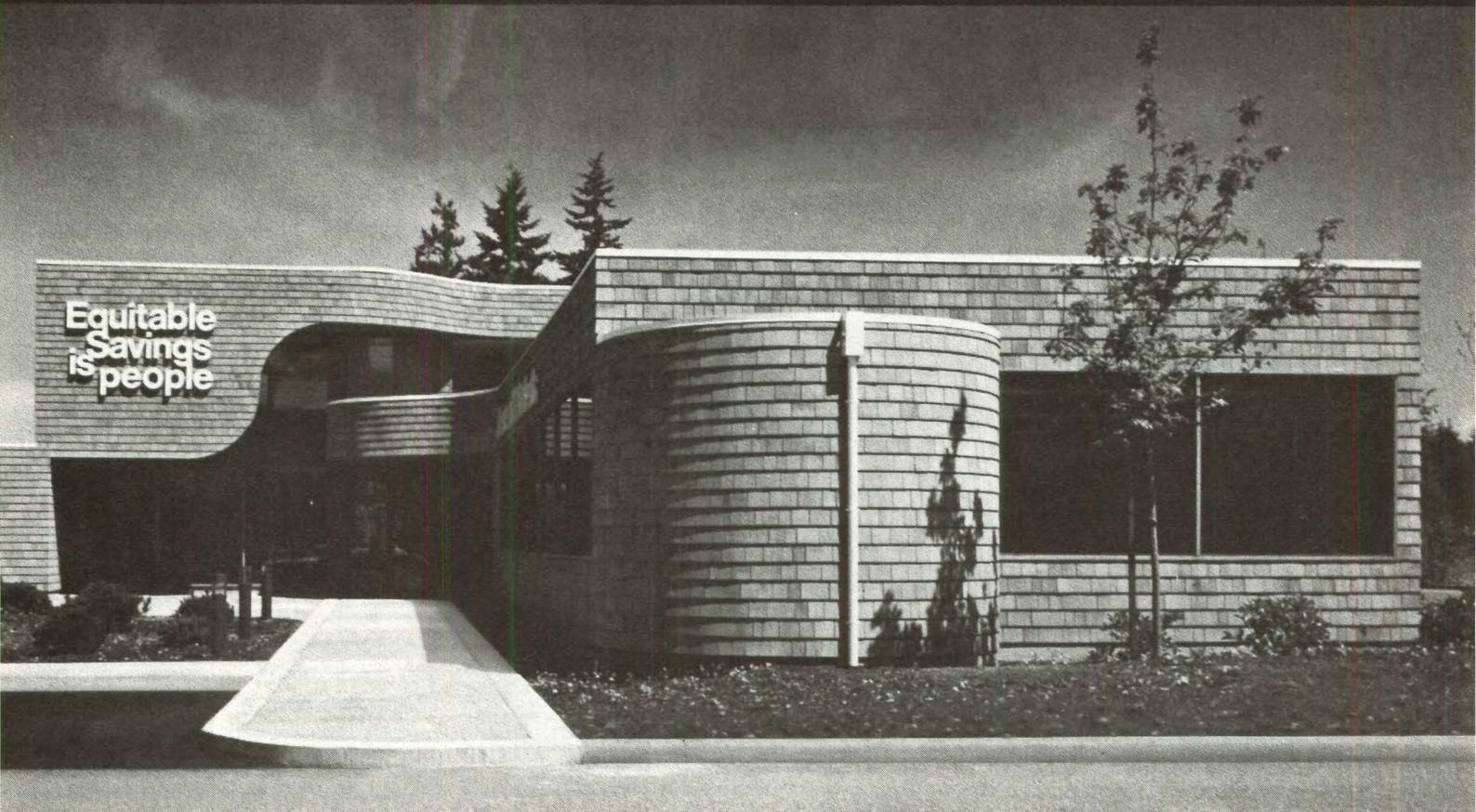
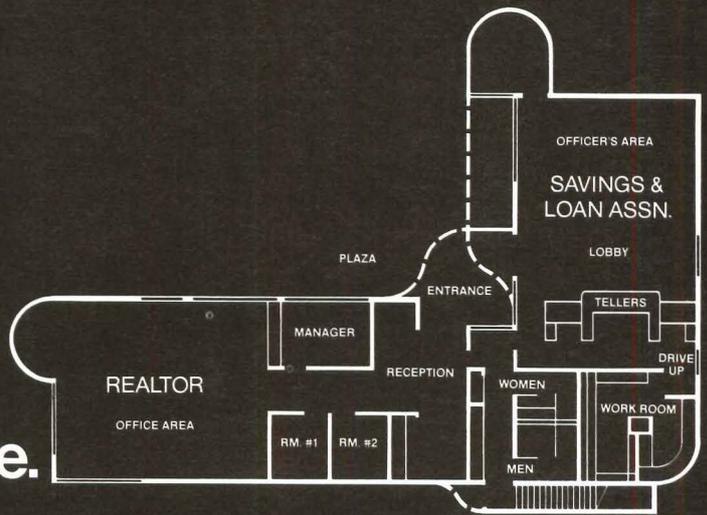
Bally Case & Cooler, Inc.
 Bally, PA 19503

NOW GUARANTEED FOR 10 YEARS

© 1977

Address all correspondence to Dept. PA-12.

Red Cedar takes a curve with ease.



Office Building, Puyallup, Washington. Architects: Chillless Nielsen, A.I.A.

The natural ability of red cedar shingles to carry out novel design is apparent on this office building.

Here, their rich color and texture add inviting warmth to strikingly contemporary lines, helping to create a smooth-flowing continuity between the building's two basic wings.

"Red cedar shingles allowed us maximum flexibility in sheathing the building's compound curves within a realistic budget. In addition, their use helped achieve compatibility with the surrounding neighborhood."

Equally important, red

cedar is highly insulative. And it retains its natural good looks for years with minimum maintenance.

For information on "How to Specify," write us at Suite 275, 515-116th Avenue N.E., Bellevue, WA 98004. (In Canada: 1055 West Hastings Street, Vancouver, B.C. V6E 2H1).

These labels under the bandstick of red cedar shingle and shake bundles are your guarantee of Bureau-graded quality. Insist on them.



Insulative ("R") values of roofing products shown below. Source: ASHRAE Handbook, and California Energy Design Manual.

Cedar Shakes (Heavy)	1.69
Cedar Shakes (Medium)	1.15
Cedar Shingles	.87
Built-Up Roofing, Slag	.78
Asphalt Shingles	.44
Built-Up Roofing, Smooth	.33
Asbestos Cement Shingles	.21
Slate	.05

tion's charm, there may come a time when the exhibit ceases to relate to popular culture. Then, ironically, the Mouse Museum will become not a parody of a museum, but a real collector's piece.

Urban design conference held

The First National Conference on Urban Design was held Oct. 18-21 at

the Citicorp Center in New York. Sponsored by *Urban Design* magazine, the conference was directed by Ann Ferebee, editor of *Urban Design*, and chaired by architect and writer Jonathan Barnett, who described the conference as "both a progress report on the state of urban design and an opportunity for practitioners to compare notes." The very holding of the conference, a spectrum of professionals from all across the nation, was a favorable comment on the field's advances and the meeting's value as an information pool.

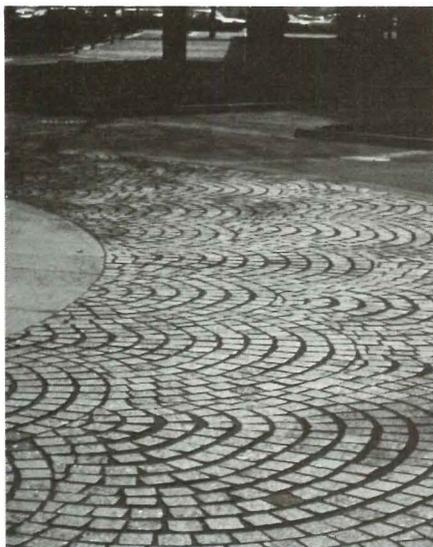
The multitude and diversity of top-

ics, information, and types of expertise assembled also created problems, however. The tightly packed schedule offered little time for anything other than straightforward presentations of case studies by the various speakers and panel members. The chance for interchange and for the exploration of the broader issues involved in any specific field was extremely limited by these time restrictions and by the format of the panels and workshops.

To some degree larger questions were consciously avoided by the participants and organizers. The relationship between urban design's role in the private and public sectors, the ways in which these potentially conflicting interests can be reconciled or traded off, was implicitly at issue in the organization of the conference, yet rarely broached in the discussions. Thursday was devoted to the private sector, with morning panels on "The relationship of urban design to developer and public" and a presentation on the exemplary Citicorp Center, followed by workshops on "urban design and the private entrepreneur," etc., and similar topics. Friday was given over to urban design in the public sector. Presentations by city planners Joseph Riley, mayor of Charleston, SC, and Allan Jacobs, former director of city planning in San Francisco, were followed by a panel on "the relationship of the urban designer to local and federal government and to the public." Afternoon workshops discussed the role played by local and city governments, currents in educational programs, and the use of zoning and taxation as a tool for urban design. But despite the awareness evinced by this two-part organization of the division in the field and its inherent conflicts, questions such as that posed by one observer: "Does this open situation, in the final analysis, inevitably have a plutocratic resolution?" were not directly addressed.

The conference was a first attempt to comprehensively examine the range of current urban design. If it was occasionally fragmented, that is a reflection of the fragmented nature of the profession, and a comment on the need for more such meetings. Copies of the *Proceedings* of the conference are available from RC Publications, 6400 Goldsboro Rd., Washington, DC 20034 at \$25.00 a copy.

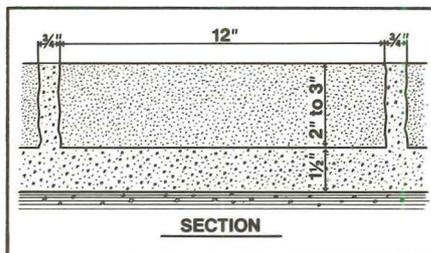
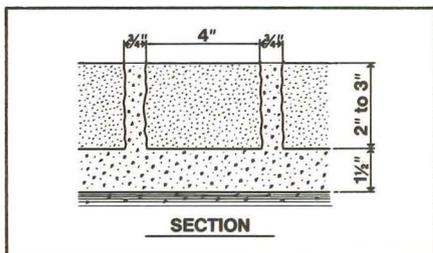
Granite. Beautiful for heavy traffic areas.



Architects: Lawrence Halprin & Associates



Architect: Joe Karr & Associates, Chicago, IL



Cold Spring granite is a natural for landscape applications. Its warm colors and natural textures blend beautifully with the environment. And at the same time, granite provides the designer with the flexibility he needs to create areas of unusual and lasting beauty.

At Cold Spring we now have a wide variety of Module Pavers and Durax Blocks available. For more information, plus a packet of full color literature illustrating our products in use, call toll free **800-328-7038**. In Minnesota, call (612) 685-3621. Or write to the address below.



Cold Spring Granite Company, Dept. PA-12 202 South 3rd Avenue, Cold Spring, MN 56320

The disabled need not be handicapped... if buildings are properly designed.

Barrier-free design is often the lowest cost answer—as well as the most sensible one. At Bradley, we've listened to the experts and created Bradley products that will accommodate everyone—including the disabled. We've also incorporated washroom product designs that address vandalism and water conservation.

Send for your free copy of our

new barrier-free products catalog that contains basic washroom design criteria plus specifications on our new products. A 30-minute film, "Barrier-Free Washroom Design" is also available for viewing. Contact your Bradley representative or write: Bradley Corporation, 9101 Fountain Blvd., Menomonee Falls, Wisconsin 53051.



Circle No. 314, on Reader Service Card



Bradpack[®] Wash Center



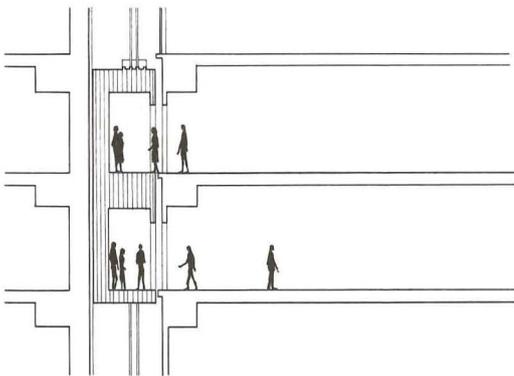
Barrier-Free Washfountain



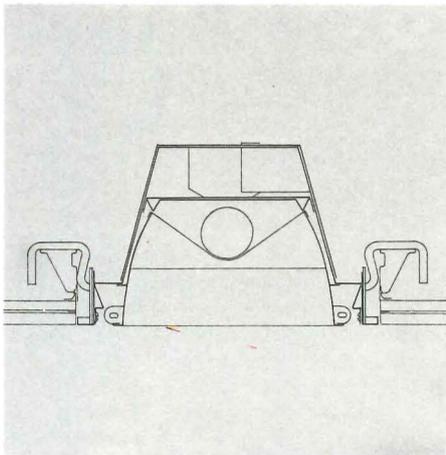
Modesty Module[®] Shower

Another
right idea
from  Bradley

In perspective



DOUBLE DECK ELEVATOR



SINGLE TUBE PARABOLIC LUMINAIRE

High-tech high tech

Time has, for many, eroded the practice of architecture to the process of selection and organization rather than invention and imagination. It is the rare architect indeed who can fashion of conventional parts a truly innovative design. At the other extreme is the architect whose budget is so fat that he can create innovative design from use of unconventional parts. True luxury in design is the choice to use conventional techniques where appropriate and invent where necessary. The inventions, therefore, take on meaning for those of us disciplined by budget. They are not invention for its own sake but are applicable in a larger context.

The architecture of high-rise buildings has a unique place in the spectrum of building design. At once highly visible landmarks on the skyline and technically rigorous to construct, they consume tremendous effort and tremendous funds.

Because of their size, they can improve upon existing product technol-

ogy at a single stroke. For a building the size of the Sears Tower or the World Trade Center, the architect can design and create a new building product economically justified by the large number of elements used in the building. The role of these buildings often is, and most certainly should be, to lead our culture towards more effective building technology.

In the excitement and magic of the opening of a new building, innovative product technology melts into the total experience much as the recipe and ingredients of a good cake disappear into the sweetness of the first bite. The Centre Pompidou uses nearly all of the current techniques available for fire protection, a fact missed in the discussion and excitement of its brazen bare bones. (See April Technics: Innovation in steel.)

Citicorp, Citicorp

New York's new Citicorp tower has appeared as an example in many of this year's Technics articles. Its unique mail distribution system, "supermail," was discussed in the July "Internal Distribution" article; its security system is referenced in October Technics; and its flush fitted electrified cellular floor system in November. This month another Technics article shows the plaza and lobby flooring used in the building. Such broad mention shows the spirit of invention, an attitude which pervades the building. Here are more inconspicuous examples:

Roof: The roofs on the lower levels, as well as the crown of the building, use an inverted protected membrane roof. (See September Technics.)

Computerized Central Control: 2500 sensors throughout the building monitor and control HVAC, electrical systems, lighting, security, life safety, sprinkler systems, and elevators. The result? The energy cost curve of the building has flattened out. Energy usage has tapered as its cost has risen. (See October Technics.)

Double Deck Elevators: Piggyback elevators are a first in New York for Citicorp. The building's unique relationship to the subway line below it made ideal use of the "double deck" elevator car. Twenty elevator shafts received 40 cabs. Conventional elevators would have required at least 36 shafts.

Lighting: A single-tube parabolic luminaire was custom designed by Joseph Loring and Associates for use in the office space in the building. The lensless fixture retrieves its heat of operation for reuse and provides 58-70 footcandles of light with only 1.85 watts of power per sq ft of floor area. Since its creation for the building, the product has been brought into mass production by a major manufacturer.

Cladding: The aluminum cladding on the building is rolled from high-purity aluminum from Japan. The clear anodizing was done in Minneapolis and fabrication in Long Island. The result is a soft sheen as sweet as any on the Manhattan skyline. (See February Technics: Wall panels.)

Tuned Mass Damper: A 400-ton block of concrete 30' x 30' x 6' at the top of the building rides a thin layer of oil over a flat stainless steel surface. The lateral movement of the block is controlled by springs and an anti-yaw device. The block's inertia, therefore, serves to dampen the acceleration and oscillations caused by wind. The tuned mass damper conserves steel that would normally have been used to make the frame more rigid.

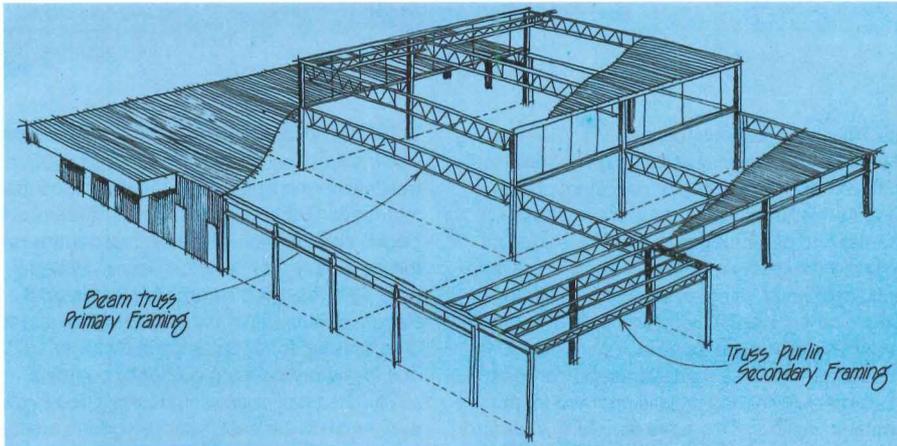
The choice to innovate is not without risk. The newest products and inventions include the possibility of last-minute adjustments to a greater degree than do the time-tested products and techniques. A recent article (*Engineering News Record*, Aug. 17, 1978) discusses the modification to the Citicorp structure as it was nearing completion.

Author, author

Easley Hamner, the project architect for Hugh Stubbins, calls innovation: "The response to a newly perceived need." In this case, the men involved who showed great perception are electrical engineer Joseph Loring, structural engineer William Le Messurier, and project architect Easley Hamner. The result is not a grossly spectacular engineering tour de force. It is a finely tuned organization of elements serving the architect's needs to create place and form for the building and the city. It is a building befitting our profession in our age. [RR]

For a list of suppliers of components, see Building materials, p. 106.

LANDMARK.TM IT'S A SYSTEM YOU DESIGN WITH. NOT AROUND.



We know you're not thrilled at the prospect of working within the strict confines of most pre-engineered structural systems.

But, at Butler, we have some systems that might just change your mind about systems.

Landmark, for example.



Coca-Cola Bottling Co.,
Charlotte, North Carolina
Architect: Odell Associates, Charlotte, North Carolina

It's a flexible system combining a flat roof look with all the inherent advantages of systems construction. Large, open bays, straight columns and open web trusses for utility access are Landmark characteristics.

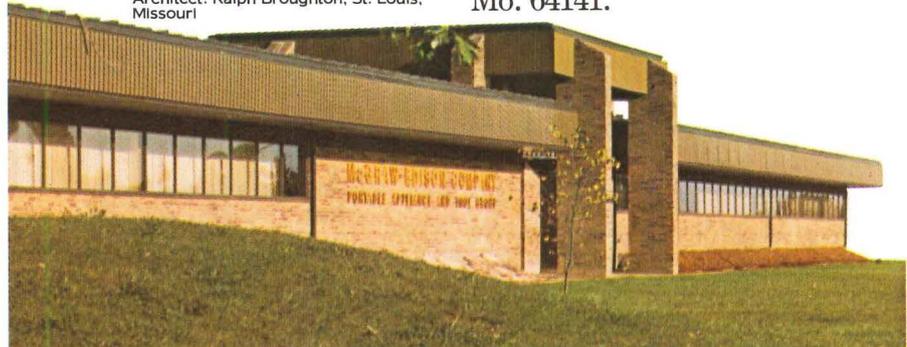
The basic system consists of columns and open web trusses.

The columns are available in one-foot increments from 13 feet through 29 feet. Bays of up to 50 feet are standard, as are single slope spans of up to 80 feet. And multiple stories are possible.

Components are factory engineered and delivered to the site for immediate erection. Parts bolt together. Field labor costs are cut to a minimum.

Landmark also features an exclusive, machine applied double-lock, standing seam roof that acts like a single membrane covering the entire building. It's designed to allow for expansion and contraction and carries a

McGraw Edson, Columbia, Missouri
Architect: Ralph Broughton, St. Louis, Missouri



U.L. Class 90 wind uplift rating. It can be fully insulated.

Designing with our system gives you a definite time advantage, too. Not only is construction simpler and, thus, faster but pre-engineered parts have predictable costs. So you can figure in-place costs from preliminary drawings and take advantage of fast track construction.

The Landmark system is not wishful thinking. It's here. Right now. Some of its exciting applications are shown in this ad. But what you can do with it is limited only by your imagination.

For more information about Landmark, see Sweets Catalog, Pre-engineered Buildings 13.6/Bu.

We also have some other architectural systems that should interest you. We invite you to send for our free book, "Architectural Building Systems" Write: Butler Mfg. Co., BMA Tower, Dept. B-646, Kansas City, Mo. 64141.



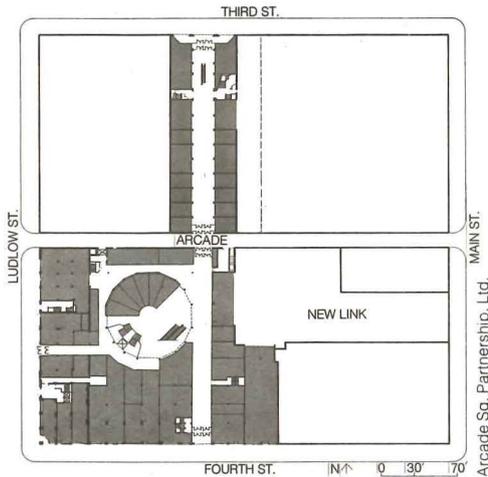
Send for our free book.



SYSTEMS YOU DESIGN WITH.

68108

In progress



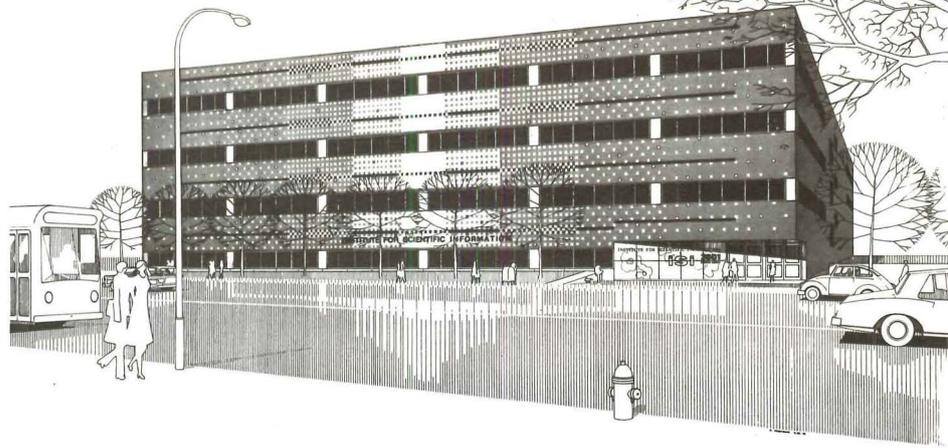
1 Arcade Square, Dayton, Oh

Dayton's turn-of-the-century Arcade Square, a now-rundown group of structures that once housed the city's farmer's market and governmental facilities, is being revitalized as a high-quality food and retail mall by the Arcade Square Ltd. Partnership. City-Wide Development Inc. of Dayton teamed up on the \$9-million project with consultants Halcyon Ltd. of Ct, who provided the retail concept and are now handling leasing. The city is contributing another

\$5.3 million. Architects Lorenz and Williams, Inc. of Dayton drew up a redesign scheme that calls for renovation of the three floors of shops (and subsequently of the upper floor apartments) and construction of a new arcade unit linking the existing rotunda, the hub of the complex, to Main St., a major artery. The rotunda, whose now-covered glass dome, 90 ft in diameter, will be reopened as a skylight, will become the central produce mart; a gazebo composed of six orange-section units is planned for the center of its floor. To ensure a uniform standard of appearance, a design control area has been established in all rental units to a depth of 4 ft behind the leaseline. The Arcade, an eclectic mix of Dutch and Classical Revival styles, was originally built at a cost of \$2 million by Dayton industrialist E.J. Barney to a design by architect Frank Andrews.

2 ISI Corporate Headquarters, Philadelphia

The Institute for Scientific Information (ISI), a multinational corporation providing secondary information for scholarly scientific literature, has begun construction of its new headquarters at the University City Science Center, Philadelphia, Pa. Designed by architects Venturi & Rauch of Philadelphia, the \$6.5 million structure is scheduled for occupancy in October 1979. The four-story building presently contains 132,000 sq ft of space, but is designed to allow expansion to the east; service spaces are located at the east wall of the building, leaving the rest of each floor free for uninterrupted office space. Continuous bands of windows, almost completely encircling the building, alternate with bands of tan brick on the façades. Colored porcelain-enameled steel panels in ISI's colors of blue, black, and orange articulate the bands.



KALWALL® SYSTEMS . . . are BOTH **LIGHT TRANSMITTING** — light transmission range 3% to 83% — AND **INSULATED** — U-Factors .40, .24, .15, and even .06 — WITH **SHADING COEFFICIENTS** from .85 to less than .06! They weigh only 1½ pounds per square foot, and are only 2¾ inches thick. They transmit natural, diffused sunlight; and keep heated (and cooled) air in.

Kalwall Systems
SAVE BOTH
HEAT ENERGY
AND
ELECTRICAL ENERGY!

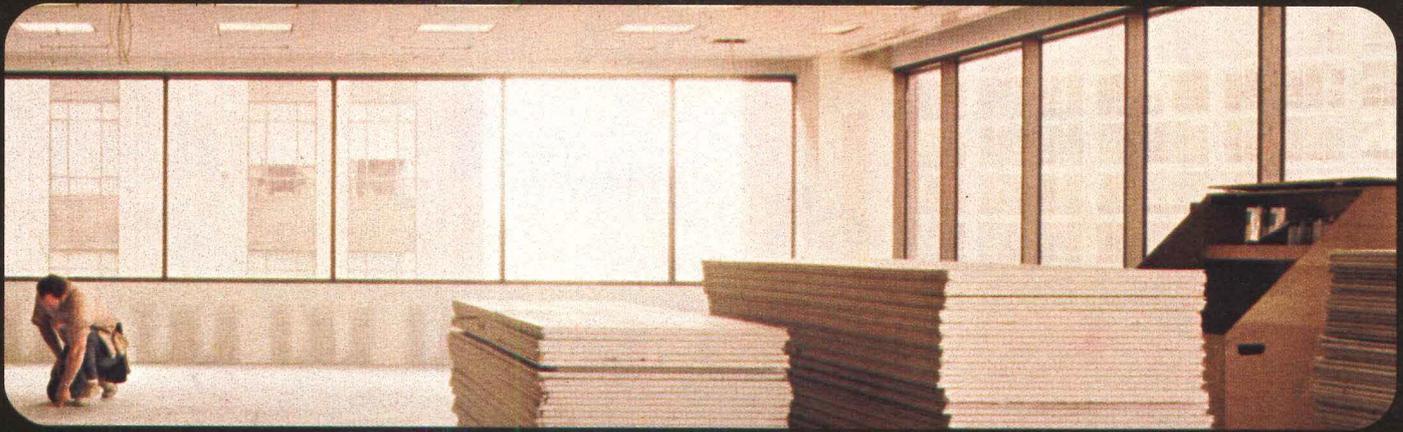
And Kalwall Systems can be a wall — a roof — or a window replacement. Design potentials are enormous. And many buildings using the Systems have won awards. Phone or write for full color literature that explains the Systems in detail. Kalwall Corporation, P.O. Box 237, Manchester, New Hampshire 03105. Phone 603-627-3861.

Patented

C.F. Murphy Associates, Architects

ultrawall[®]

Movable Partitions



everything goes in first...



Ultrawall Partitions can wait til last.

Vinyl-covered ULTRAWALL partitions frequently start out looking like they cost more than standard fixed partitions. But when moving-in time comes, you'll find material and labor savings have made ULTRAWALL costs very attractive indeed!

So if you are comparing prices, be sure to add in the cost to cut and fit carpet and ceiling into many cubicles around fixed partitions. Then consider the simple way ULTRAWALL goes up: carpeting, ceiling, lighting and other items are installed an entire floor-at-a-time! Core and perimeter walls are finished

in one overall operation before partitions are installed. Doors, reversible frames, base, finish trim and even glazing can be handled easily, efficiently by the same partition crew. And every time you reallocate space, ULTRAWALL partitions pay for themselves all over again. Also consider the possible qualification for investment tax credit and accelerated depreciation advantages.

■ Call your U.S.G. Representative or write to us at 101 S. Wacker Dr., Chicago, Ill. 60606, Dept. PA-128.

UNITED STATES GYPSUM //
BUILDING AMERICA

**Fed up with
alphabet soup?
Make instant KroyType.**

Press-on letters may be good and cheap.

But they're also good and messy.

Too many of some letters. Not enough of others. Never the ones you want when you need them most.

KroyType™ gets you out of the soup. Instantly.

You set KroyType on an adhesive backed, repositionable tape. Placement is quick, dry. Automatically spaced and aligned by the Kroy Lettering Machine in a variety of type styles and sizes. And similar in cost to press-on letters. Just 3¢ an inch.

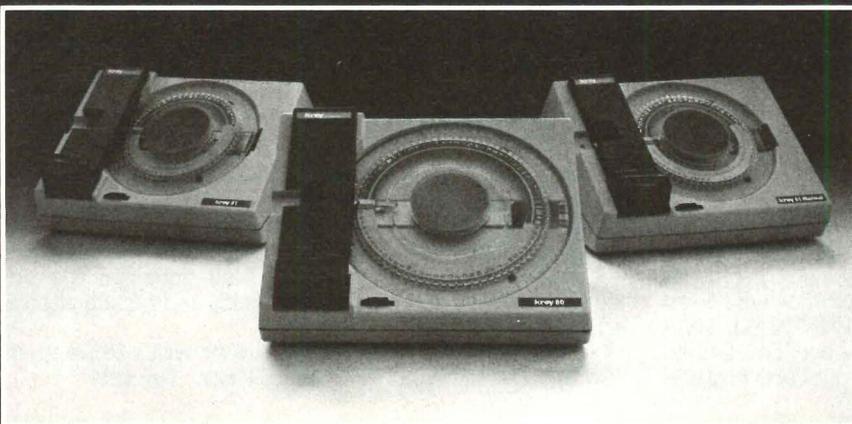
Just what you need for callouts, title block data and presentation drawings. Compatible with all equipment used for blueline reproduction.

Take a few minutes to talk type with a Kroy representative. We'll fill you in on KroyType.

PHONE 800-328-1306 TOLL FREE

(In Minnesota, call 612-770-6176.)
Or circle the reader service number.
We'll send you our new KroyType brochure. Free!

Circle No. 341, on Reader Service Card



kroy

KROY INDUSTRIES INC.
GRAPHIC SYSTEMS DIVISION
1728 Gervais Avenue
St. Paul, MN 55109

HERE'S THE QUICKEST WAY TO FIND THE GRINNELL FIRE PROTECTION SYSTEM THAT'S RIGHT FOR YOU.

The Grinnell Condensed Catalog gives you pertinent, at-a-glance information on the complete line of Grinnell fire protection products.

To order your free copy, simply clip and mail the coupon below.



GRINNELL
GRINNELL FIRE PROTECTION SYSTEMS COMPANY, INC.
Protecting Life and Property Since 1850



Please send me a free copy of the Grinnell Condensed Catalog.

Mail to: Grinnell Fire Protection Systems Company, Inc.
10 Dorrance Street
Providence, Rhode Island 02903

NAME _____

FIRM NAME _____

FIRM ADDRESS _____

CITY _____

STATE _____ ZIP _____

No. 333, on Reader Service Card

Problem Wall? Flexi-Wall!

Flexi-Wall® is the one-step process in covering walls for renovation or new construction. Goes up like wallcovering ... over many surfaces ... hiding blemishes, bridging gaps. Dries hard as plaster. Easy to put up, easy to clean, easy on the budget. In 23 colors. Problem wall? Flexi-Wall! Write for samples. Flexi-Wall Systems, P.O. Box 88, Liberty, SC 29657.

FLEXI-WALL® Plaster in a Roll™

- Approved for hospitals
- Class A flame spread rating
- GSA Contract #GS-00S-64549
- HUD Contract #OAH(CO)M-2268

No. 328, on Reader Service Card



Model RPF-3001 Colorama

Nature's Colors

AGGREGATE OR
TERRAZZO

Add depth, beauty and fresh appeal to drinking fountains

Use your imagination ... and our palette of 10 distinctive colors. Choose Aggregate for river-bed or mountain-stream hues. Or classic Terrazzo with large marble chips, in shades of white, gold, green, beige, grey or oxblood. Obviously genuine, not an ersatz imitation among them. And you select the finish to provide the texture you desire.

Best of all, these natural materials have the gift of permanence and durability. And Williams' quality engineering assures you of dependable performance with minimum maintenance, even in highest traffic locations.

Above: Pedestal fountain, Colorama aggregate with exposed aggregate finish. Vandal resistant design. Nickel bronze bubbler locked to stainless steel receptor. Automatic flow regulator. Matching step.

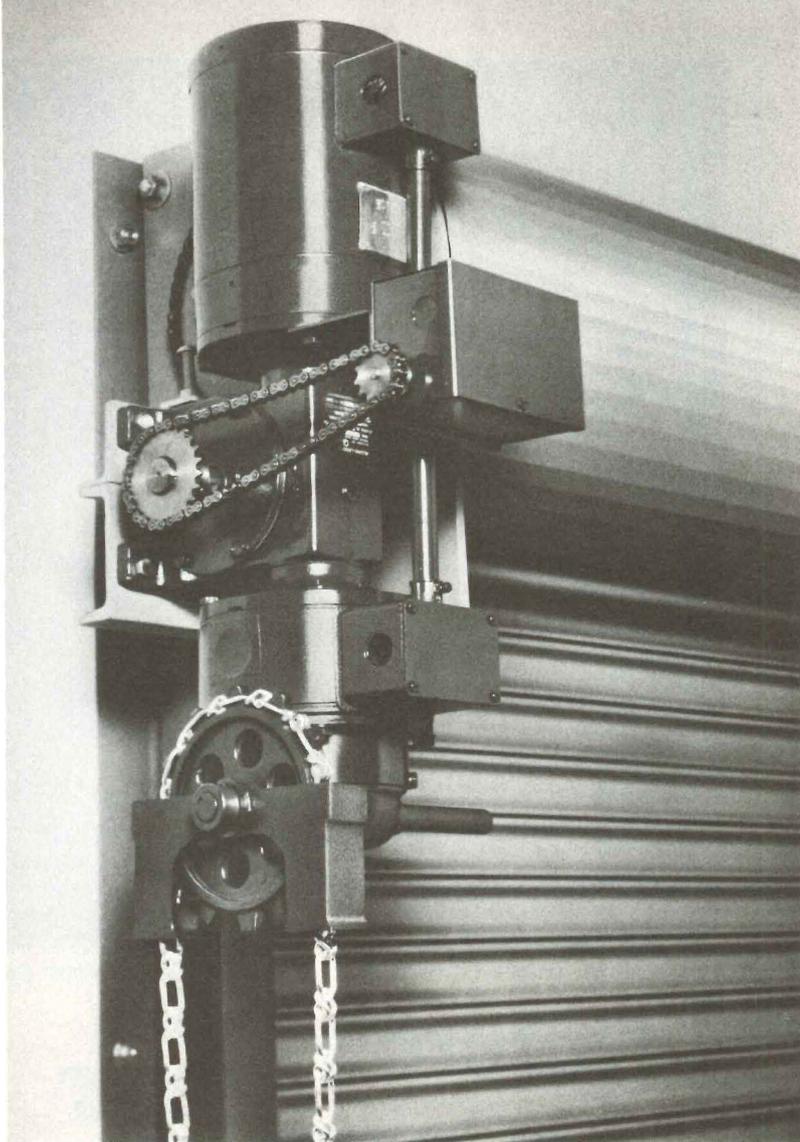
Also available: Wall-mounted fountains, barrier free design.

ARCHITECTS: Send for colorful catalog illustrating color and design selections. Custom colors available.

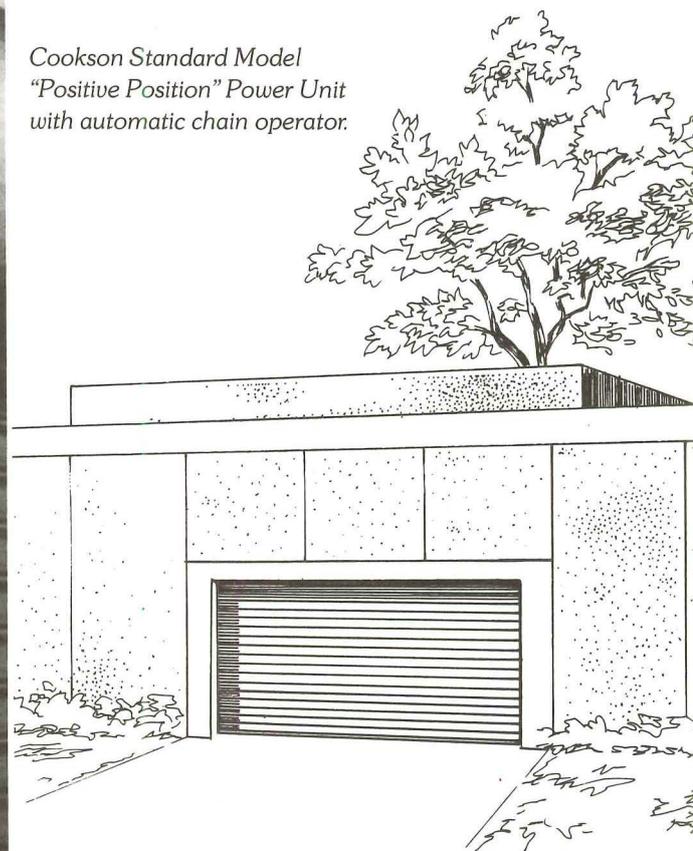
WILLIAMS

STERN-WILLIAMS CO., INC. • P.O. Box 8004, Shawnee Mission, Kansas 66208

Circle No. 359, on Reader Service Card



Cookson Standard Model
 "Positive Position" Power Unit
 with automatic chain operator.



Cookson Power Operator Models 13 and 21 are protected by U.S. Patent No. 3,853,167.

No one has a positive-acting power unit as simple, as fail-safe, as foolproof as Cookson

Only Cookson gives you completely automatic interchange from motor-driven operation to manual. In case of a power failure or electrical breakdown, you don't have to go through a lot of rigamarole to get your door open or closed. The door automatically changes to manual operation.

When power is restored, the manual operator automatically disengages. No guess work, no levers, arms or chains to pull. No gears to engage. No electric interlock required. Simple. Fail-safe. Foolproof.

And Cookson power units are easy to operate, even by inexperienced users: when the motor isn't working, just pull the

chain operator. It's as simple as that.

Cookson also gives you the best in motor reliability: our standard motor unit is 1-1/2 H.P., not the usual under-powered, home-made units that give you only 3/4 H.P. or less. With Cookson you get more motor for your money than with any other door manufacturer.

And from Cookson you can get the most comprehensive compilation of rolling door, grille and counter door data ever assembled.

See our catalog in Sweet's (8.7Co). The Cookson Company, 700 Pennsylvania Ave. San Francisco CA 94107. (415) 826-4422.

 **Cookson Rolling Doors**
 Best way to close an opening.

We've Put **STATIC CONTROL** Into The Carpet Backing!

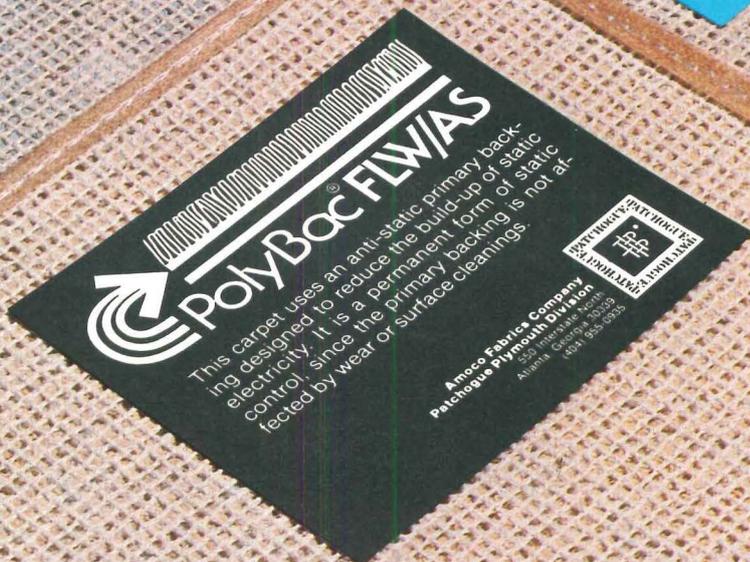
The shockingly simple answer to the snap, crackle of static electricity in carpeting: build static control permanently into the primary backing.

Naturally, the solution to this uncomfortable problem is by Patchogue Plymouth, whose synthetic backings have solved carpet problems for a generation.

Now, anti-stat backing, in a number of versions, give carpet another dimension. Used with the proper face yarns, they do away with the snap, crackle — and open new uses for carpeting. Ask about them. You've needed them for a long time.

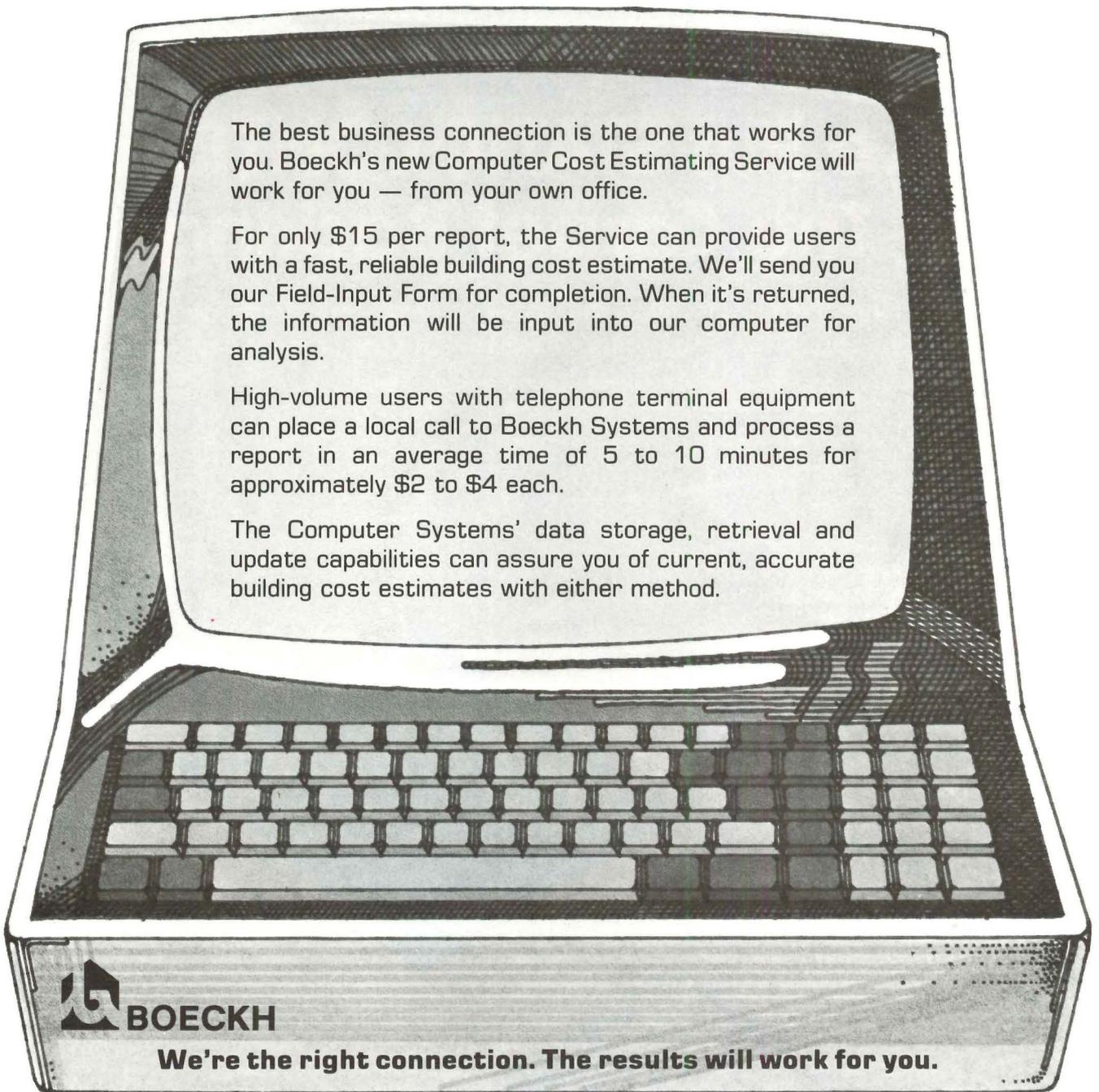


Amoco Fabrics Company
Patchogue Plymouth Division
550 Interstate North
Atlanta, Georgia 30339
(404) 955-0935



THE BOECKH CONNECTION

Computer Cost Estimating Service



The best business connection is the one that works for you. Boeckh's new Computer Cost Estimating Service will work for you — from your own office.

For only \$15 per report, the Service can provide users with a fast, reliable building cost estimate. We'll send you our Field-Input Form for completion. When it's returned, the information will be input into our computer for analysis.

High-volume users with telephone terminal equipment can place a local call to Boeckh Systems and process a report in an average time of 5 to 10 minutes for approximately \$2 to \$4 each.

The Computer Systems' data storage, retrieval and update capabilities can assure you of current, accurate building cost estimates with either method.



BOECKH

We're the right connection. The results will work for you.

BOECKH PUBLICATIONS
 Div. of American Appraisal Assoc., Inc.
 525 East Michigan Street
 Milwaukee, Wisconsin 53201
 Tel. (414)-271-5544

PA 12/78

I do not have a terminal. Please send information for use of the **Computer Cost Estimating Service**.

Residential Commercial/Industrial

Name _____ Title _____

Company _____ Type of Business _____

Street Address _____

City _____ State _____ Zip _____

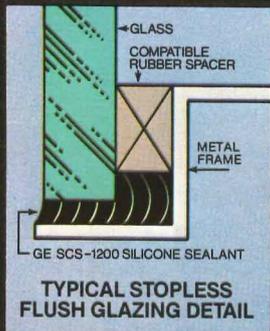
Telephone No. _____
Area Code

I have a terminal. Please send information for use of the **Interactive Computer Cost Estimating Service**.

Residential Commercial/Industrial

**The GE Silicone Seal.
The difference
between stopless
flush glazing**

and glazing with stops.



Now it's possible to flush glaze windows without mechanical stops or fasteners and, at the same time, meet extreme wind load and water penetration standards. All you need is General Electric Silicone Construction Sealant 1200.

That's because high-modulus silicone sealant, and only silicone, has the strength and resilience to keep its bond to glass and aluminum without mechanical aids. And GE silicone forms an unobtrusive, weathertight seal that holds even after years of joint movement, tem-

perature extremes, wind, rain, ozone and UV.

That's why GE silicone sealant is used in tough structural glazing jobs, like Ernest W. Hahn, Inc.'s executive offices (above left) near Los Angeles. GE silicone 1200 was the only sealant able to pass rigorous performance tests, exceeding all wind load and dynamic water penetration requirements established for this installation.

For more information, write: Section 448, Silicone Products Dept., General Electric Co., Waterford, NY 12188.

Executive Offices, Ernest W. Hahn, Inc. (left)
Architect: Reel Grobman, Los Angeles, CA
General Contractor: Ernest W. Hahn, Inc., El Segundo, CA
Glazing Contractor: Model Glass Co., Irvine, CA
Curtainwall Mfr.: R.P.S. Architectural Systems, N. Hollywood, CA

GENERAL  ELECTRIC

Circle No. 358, on Reader Service Card

Shoppers to attract, traffic to flow packages to carry. This is the place for Stanley automatic entrance

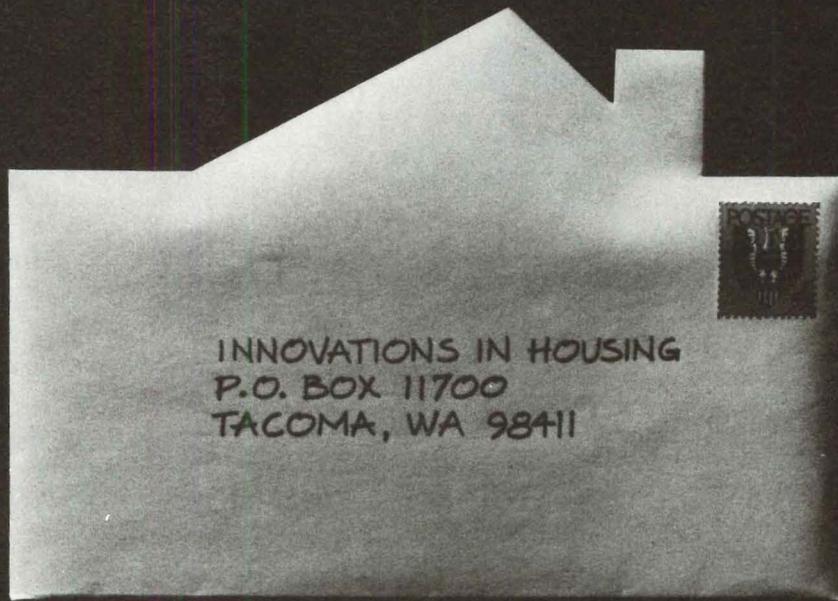


SHOPPING HRS
MON.-FRI. 9:00-5
SAT. 9:00-9
SUN. 12:00-5

Retail stores and shops find it good business to ease the way for busy customers. Bulky packages, umbrellas, children in tow. These are the problems that Stanley automatic doors are designed to answer. They're also engineered to provide architectural flexibility and years of trouble-free service. Everything, in fact, you expect from the original and world's foremost maker of quality automatic doors. Stanley Magic-Door, Division of The Stanley Works, Farmington, CT 06032.

Circle No. 353, on Reader Service Card

STAN
helps you do the



**Send us your best house design.
If it wins, we'll build it.**

Architects, engineers, designers, builders, and students:

Can you design an innovative, appealing, flexible, economical and energy-efficient single family house that shows noteworthy aesthetic and structural uses of softwood plywood?

Then we want you to enter it in our design contest.

First prize is \$5,000, plus the chance to see your ideas constructed and featured in *Better Homes & Gardens* and *Progressive Architecture*. Citations of Merit will also be awarded to the most outstanding entries.

You can get rules and entry forms three ways. Send in the coupon. Call

(206) 272-2283. Or write to Innovations in Housing, Dept. PA-128, P.O. Box 11700, Tacoma, WA 98411. Deadline for entries is March 30, 1979.



A design competition sponsored by the American Plywood Association, Better Homes & Gardens and Progressive Architecture.

**Innovations in Housing, Dept. PA-128
P.O. Box 11700
Tacoma, WA 98411**

Please send me _____ entry forms.

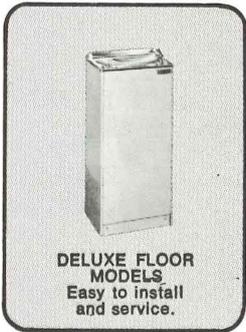
Name _____

Address _____

City _____

State _____

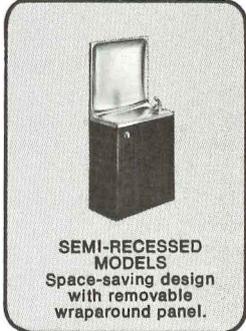
Zip _____



DELUXE FLOOR MODELS
Easy to install and service.



DELUXE WALL MODELS
Regular or compact versions fit tight to any wall surface.



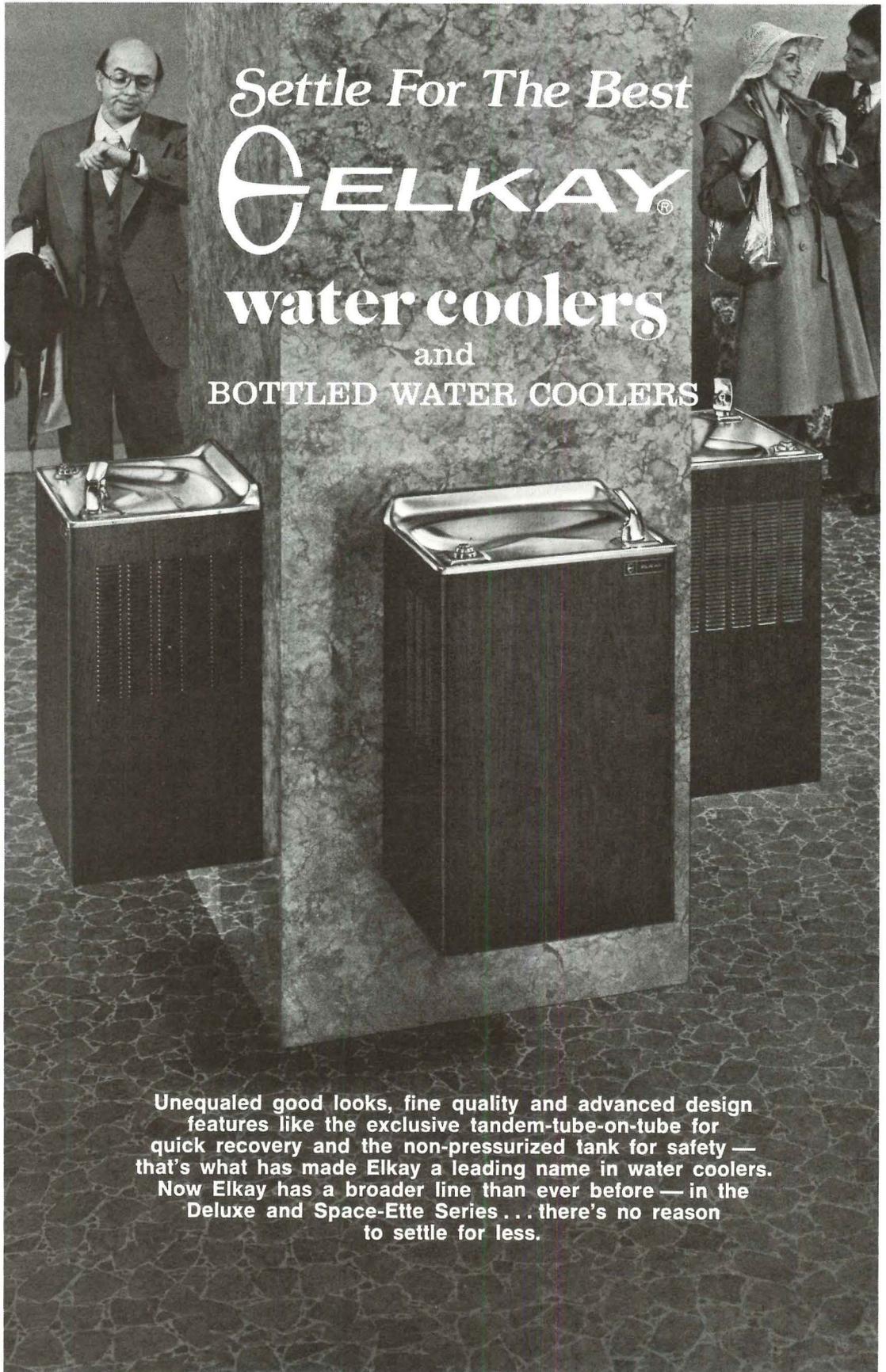
SEMI-RECESSED MODELS
Space-saving design with removable wraparound panel.



WHEELCHAIR SERIES
Ample underclearance. Models meet all state and federal requirements.



COMPACT BOTTLE WATER COOLERS
Serves cold or hot water. Available with refrigerated storage compartment.



Settle For The Best
ELKAY
water coolers
and
BOTTLED WATER COOLERS

Unequaled good looks, fine quality and advanced design features like the exclusive tandem-tube-on-tube for quick recovery and the non-pressurized tank for safety — that's what has made Elkay a leading name in water coolers. Now Elkay has a broader line than ever before — in the Deluxe and Space-Ette Series . . . there's no reason to settle for less.

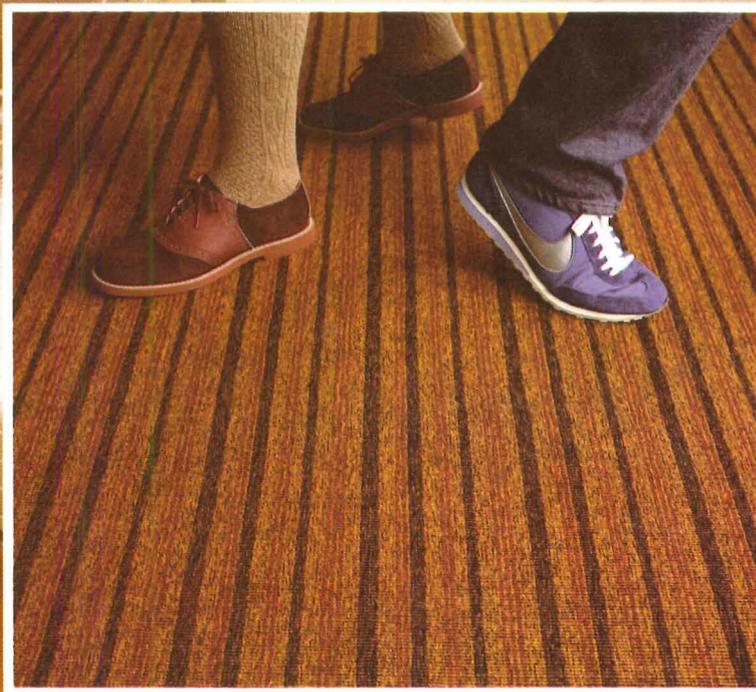
SEE YOUR LOCAL
ELKAY REPRESENTATIVE
FOR COMPLETE INFORMATION
OR
WRITE US:

ELKAY MANUFACTURING COMPANY

2700 SOUTH 17TH AVENUE, BROADVIEW, ILLINOIS 60153

PHONE (312) 681-1880

In 1978, 2,000 students started giving this new Bigelow carpet a workout.



But after 8 graduations, the specifier knows this carpet will still be bright and beautiful. That's Beauty & The Bottom Line.

School carpet has to go beyond aesthetics! Bigelow's record of performance led the specifier to choose Campus in Brookland—Cayce High School, Columbia, SC. Campus stands up under the heaviest traffic without losing its "just installed" appearance and texture. And because Bigelow carpet absorbs impact noise and is easy to maintain, you can keep soundproofing and maintenance costs at a minimum. Bigelow's Campus also offers built-in static reduction.

Campus is available in numerous color combinations of heathers and stripes. The design possibilities are up to you. Bigelow's staff of professionals is ready to assist you with any project requirements.

After more than 150 years of producing quality carpet, Bigelow knows how to put great performance and beauty into the product. So when you decide on carpet, select Bigelow.

For further information on Bigelow Contract Products, write or call for our **"Proven Performers" Booklet:** Bigelow Contract Department, Bigelow-Sanford, Inc. P.O. Box 3089, Greenville, SC 29602, 803-299-2000.

Name

Title

Address

City State Zip

Bigelow 

Beauty up front, performance down the line.

A SPERRY AND HUTCHINSON COMPANY

Let the sun shine in.

Brighten things up with MODUSPAN[®], the space frame that opens new horizons for interior design. Pictured below: The Orange Park Mall in Jacksonville, Florida. Where our space frame experts provided the design and technical assistance needed to turn an architect's vision into reality. For more information about Moduspan... call the Unistrut Service Center nearest you. Or see our catalog in Sweet's. It'll shed some light on your latest design.

Architect: Thompson Ventulett Stainback & Assoc.,
General Contractor: Ira H. Hardin Co., Atlanta, Georgia

UNISTRUT

GT

Circle No. 355, on Reader Service Card

Introversion and the urban context

Before the suburban shopping mall: Kansas City's Country Club Plaza of 1922.



Mott

Can the prototypical shopping mall that reached fruition in suburbia be easily transplanted to downtown? P/A looks at the in-town mall in a context of retail and design trends marking this nation's patterns in its culture of consumption.

Take a socio-economic manifestation such as a suburban shopping center, insert it into a problem area like a decaying part of downtown, dress it up with good design, and you have salvation. Or so cities hope when they contemplate planning the in-

town shopping mall complex.

If the in-town shopping mall proves to be successful with the public, few want to take issue with the good news. With suburban sprawl and moribund downtowns still prominent cankers on the American landscape, one hardly wants to ask questions of the miracle drug that promises cure: unless, of course, side effects begin to appear. P/A has taken four very successful town shopping malls to analyze for social, architectural, and urban design implications: these economically successful examples, after all, offer paradigms for

other enterprises proliferating in their wake.

The development of the shopping center can be traced at least as far back as the 1920s when it first assumed the form of a low-rise agglomeration of shops along existing city streets. Kansas City's Country Club Plaza, for example, initiated by businessman J.C. Nichols in 1922, planned by Philadelphia architect Edward Delk, and designed in the Spanish Moorish style, is one of the outstanding early examples of the genre. With 155 shops and stores today, the plaza is still a re-



A specialty shopping center spontaneously generated: Los Angeles' Rodeo Drive district puts people on their feet in downtown.

markable ensemble, although it has admitted some inferior architectural intrusions in recent years.

When the shopping center began to sprout in the suburbs after World War II, the pedestrian/vehicular separation implicit in the clustering became more developed. But it was not until Victor Gruen enclosed the common space at Southdale Mall in Minneapolis in 1956 that the new, full-fledged prototype had emerged. This model would spawn its own mutant kind of urbanity in nonurban situations.

The idea of taking this economic entity and agglomeration of shops and reinserting it into urban situations would not occur, however, until certain shifts in consumer habits had taken place and some incentives had been offered to private developers. The attraction for developers was heightened by rising construction costs and the increasing saturation of the suburban market. Pressure from environmental groups, communities, and even local governments against the unchecked growth caused by building a shopping mall out at the intersection of two highways has also mounted. The governmental method for slowing the proliferation occurs in a twofold manner: delays and refusals to approve permits for needed infrastructure or zoning on one hand; the alliance between local and federal governments to lure developers back to the city with specific incentives on the other.

HUD's \$1.2 billion-over-a-three-year-period Urban Development Action Grant program, which calls for private investment plus housing and jobs for low- and moderate-income people, can be harnessed to clear land, to buy land, and to loan money to private developers. Cities are also offering tax abatement, tax increment programs, and special zoning incentive arrangements.

With this kind of help, private developers indeed do well, as the projects examined in the following pages demonstrate. Rouse claims a \$250-per-sq-ft of average gross sales at The Gallery in Philadelphia; Citicorp in New York reports business is about \$200 per sq ft at The Market; Cadil-

lac Fairview says its sales at Eaton Centre, Toronto approximate \$300 per sq ft; and Midland Mall in Council Bluffs, Ia states it averages \$110 per sq ft. In the shopping center business, anything over \$100 a sq ft is doing quite well. No wonder HUD community planning and development official Richard Fleming advises, "The guts of downtown revitalization is retail." But is retail the true answer? If so, is the shopping mall the best form for it to take? Will it, in fact, enhance the urban experience, or push it into commercialized banality? A glance sideways to suburbia can make one paranoid.

Suburban coordinates

According to William Kowinski ("The Mall-ing of America," *New Times*, May 1, 1978), the construction of shopping malls has advanced remarkably in the 1970s in spite of normally discouraging factors. Events like the recession, the gas shortage, the energy crisis, and environmental regulations slowed growth only a little. Construction is up 14 percent in the last year and projected to be up 35 percent in the year ahead. Suburbs will get 75 percent of the action, regardless of enticements by cities.

Enclosing the mall was a significant move with typological impact: as Kowinski points out, from then on it became the norm as shopping-center owners realized not only could they keep out the bad weather, but also other undesirable elements like noise, dirt, violence. Strip joints, pool halls, sleazy bars, and other fixtures, normally a part of the urban scene, do not find a place in the malls of America.

Paradoxically in the new suburb, where development of tract houses, commercial strips, and shopping centers had managed to dissolve any holistic perception of the natural world or community cohesiveness, shopping malls now *simulate* that. Skylit roofs permitting sunlight to cast its golden rays onto brick-paved plazas, fountains, trees, and small-scale shops lined up along the indoor street or court formulate a new "natural" world, more humane, cleaner, more controlled than the real one beyond the asphalt parking lot.

A mall becomes a packaged re-created small town, as sociologist Richard Francaviglia of Antioch College makes clear in comparing the mall with Disneyland (*Places*, October 1974). Thus the mall becomes the receptacle of fantasies based on American small towns of the past, the type that no longer exists for many suburbanites in search of that place.

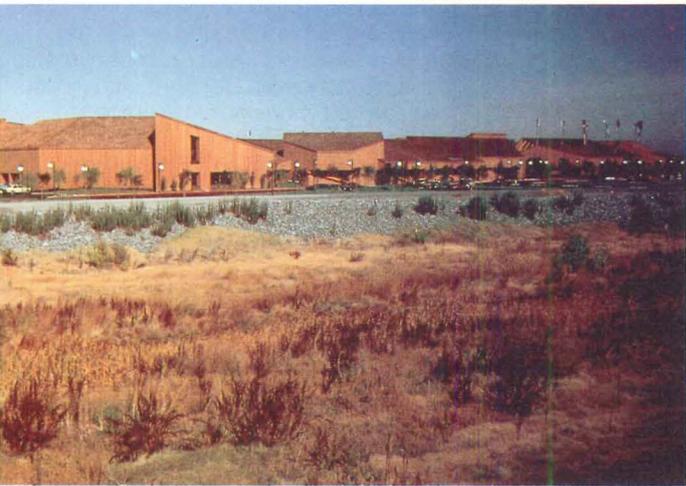
While Victor Gruen once contended that malls act as correlatives of plazas and urban squares of civilizations past, these malls do not function that way politically. They are still owned by private developers. The owners can and do actively discourage people or events that may interfere with contented consumption. Recently in Philadelphia, it is reported, about 1000 people tried to demonstrate on some mayoral issue at The Gallery. Then they demonstrated over the fact that they were not allowed to demonstrate in a space that had been paid for in part with public money. Owners want their public to be able to come to the mall and have "fun": shopping-as-entertainment rules merchandising philosophy.

Special worlds

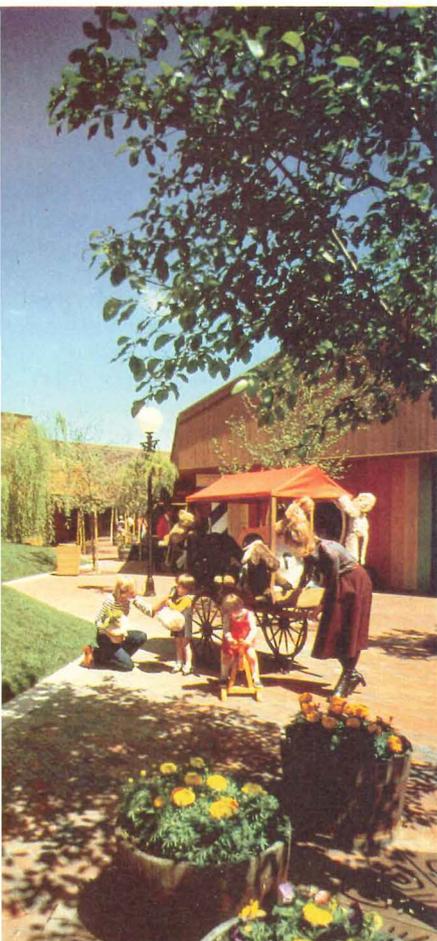
This shopping-as-entertainment theme has encouraged the diversification of shopping centers from a bunch of stores arranged around a parking lot to interior worlds where consumers can go and spend all day shopping, eating, playing pin-ball machines or listening to concerts. At the same time this entertainment aspect explains in part the parallel trend toward the creation of smaller specialty centers. A specialty center, such as Willow Grove in Concord, Ca (p. 51), writes sociologist Nina Gruen (*Urban Land*, Jan. 1978), offers a mix of retailing goods and services that are nonessential. Because the center attracts a clientele for its unique character, "The magnetism of a successful specialty center is generated by the personality of the complex as a whole." Most centers diverge perceptibly in design from a regional shopping center: the design tends to be more intimate in scale, more natural in its use of colors and materials (shown by



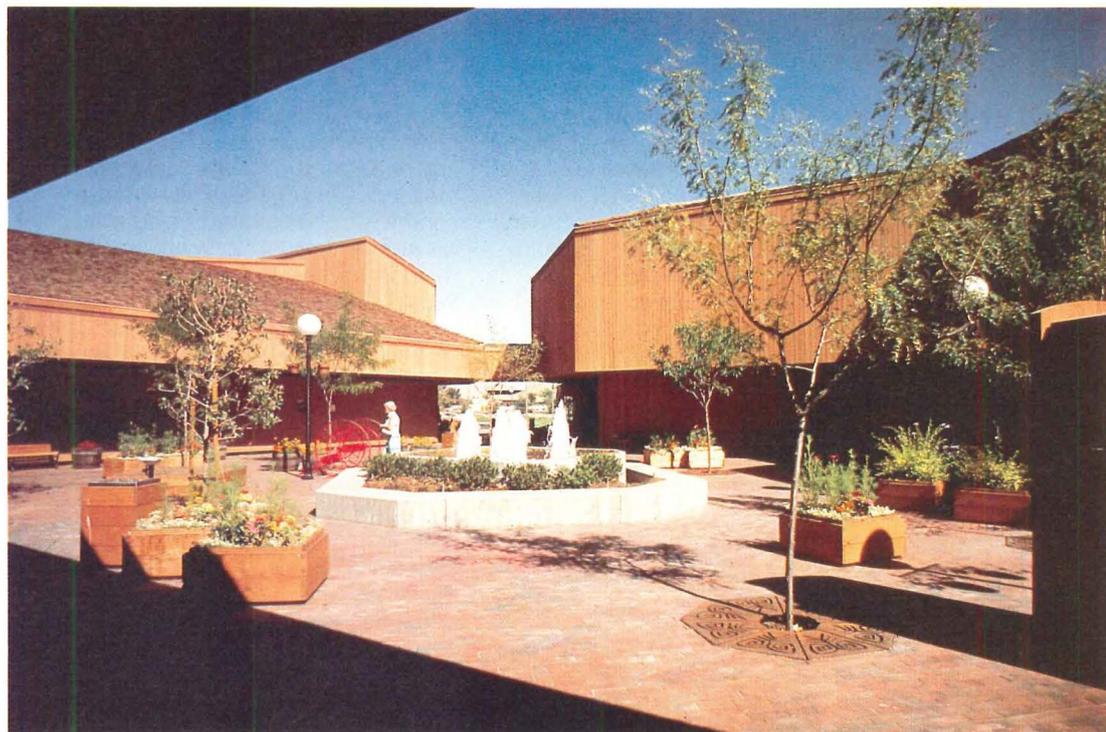
Photos: Robert L. France



The parallel trend to large regional malls are smaller, more intimately scaled and detailed ones: (left top and above) au naturel Market Place, Westport, Ct by Lawrence Michaels; and (left) The Willows, in Concord, Ca.



Photos: Wayne Thorn



The Willows, designed by Leason Pomeroy, is a specialty shopping center with an outdoor mall and interior skylit spaces. The design of the wood-frame discrete structures for specialty shops follows a village concept in its planning, with riding, hiking, and biking trail system incorporated into the scheme, plus theater adjacent.

Introduction: Shopping malls



Nostalgia sells: San Francisco's Pier 39 re-creates Disneyland by the sea

the Market Place in Westport, Ct, p. 51) and attempts to fit into the landscape. Aesthetics count a lot.

But a specialty center benefits by tying in with a recreational experience, as in placement near a tourist attraction such as the waterfront or an amusement park. Both the Lake Buena Vista shopping center near Disneyworld, Fl and San Francisco's Pier 39 illustrate this thrust.

Because of the desire to extend the shopping experience, to keep potential buyers lingering longer at shopping malls, "theme" merchandising is a motif interwoven into the specialty mall concept. Melvin Gamzon, an economist with Economics Research Associates in Boston, points out that the newest trend in merchandising revolves around food, partly because the shopping/entertainment experience can be naturally lengthened in this manner. Michael Buckley, president of Halcyon, the organization that dreamed up the gourmet food theme at Citicorp's Market, is coming up with similar thematic merchandising concepts for other projects such as Dayton, Ohio's Arcade, now being renovated by architects Lorenz & Williams.

Gamzon suggests that the more closely architectural treatment and the merchandising converge, the better the theme comes across. Buckley confirms this notion, especially when a historic structure's original use can somehow be harnessed. Because of the success this convergence has already given projects like Ghirardelli Square and The Cannery in San Francisco, and most recently the wildly popular Faneuil Hall in Boston, the recycling of buildings in downtown areas marches hand in hand with specialty shopping centers and theme merchandising.

The past as commodity

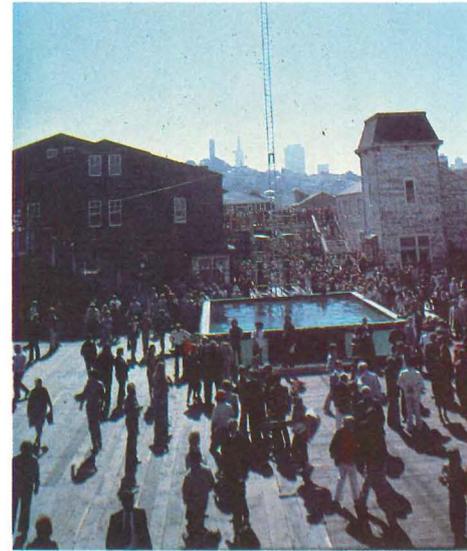
In fact, the Faneuil Hall Marketplace project, one of Rouse Company's major initial forays into cities following its incredible winning streak in suburbs, has convinced the company to try the same thing in New York and Baltimore. Rouse is even going to try the same architect—Benjamin Thompson & Associates—and same kinds

of locations—old waterfronts—even if, as reportedly the case with Inner Harbor, it has to create the historic-type structure from scratch.

Rouse wants not only a location near water, but near housing, offices, subway stops, and auto routes. For this reason, New York's South Street Seaport Museum has attracted this company's attention. The proposal, not public yet, for the six-block area includes the Fulton Fish Market, two piers, and blocks of historical buildings on land leased for 99 years from the city. Although the land is tax-exempt, improvements are not. Nonmuseum activities also must pay taxes, one of the reasons the city has so obligingly entered into joint venture with Rouse and the South Street Seaport Museum to get Urban Development Action grants from HUD for the 250,000 sq ft of retail space projected for the old buildings.

The project could go adrift as it proceeds through hearings. Already opposition has mounted. The question that concerns community groups, preservationists and museum supporters centers on the increased blending of the commercial sphere with the cultural one. At what point will all the commercial functions begin to destroy the historic character of the Seaport, the very things the unusual museum—a collection of historic blocks of buildings—was supposed to preserve? A few shops make the place special, but too much commerce, too much tourism might create a Disneyland by the Sea.

There is also the danger, becoming increasingly evident with recycling into retail projects across the country, that standardization can take over even "unique" historic buildings. As Andrew Kopkind (in *The Real Paper*, February 19, 1977) puts it "Ye Olde" design is the new kitsch of advanced capitalism, self-conscious for all of its charm, and boring for all its originality. Something happened to the rootedness of the old buildings [at Faneuil Hall] when they were scrubbed and arranged and organized." Because the buildings are related to a "timeless, airless, placeless standard that exists outside any specific



context, restoration redevelopments are interchangeable in design as well as content—and for similar reasons. Common denominators must be found, cues must be provided, signs must be posted to tease out expenditure."

Is the consuming public too preoccupied with eating popovers to notice the historic buildings anyway? Perhaps the authentic structure is superfluous to nostalgic engagement. Vague associations seem to do as well to get across the gist of the idea. The Pier 39 project in San Francisco, with its 23 restaurants and 105 shops, points directly to the final bastardization of this process. Rather than saving old buildings, the developer just assembled new ones out of shards and fragments of warehouses torn down. The result is another ersatz fishing village by the water.

New interior worlds in town

The recycled buildings, or simulations of such, may form escapist colonies of remnants of things past. But their introversion and separation does not often approach the denial of the street and the existing urban fabric that some of the new in-town shopping centers or multi-use megastructures seem capable of. Old buildings after all are very much integrated into the urban fabric of the city, one of the reasons they can attract development. But in the face of a limited number of ideal locations or buildings to convert, newly built in-town malls—usually part of a larger urban project—gather momentum. Their basic formula for success is borrowed from the suburban prototype—with all its slickly packaged, inward-turning, cleaned-up features.

Of the four malls published in the following pages, only one, The Gallery in Philadelphia, actually offers an exemplary model of an enclosed mall that feeds directly into the city movement patterns and promises to reinforce that connection in relation to new development. The others make attempts, but still raise questions. And there still looms the danger of the suburban malady—little is left to chance.

Not enough investigation has taken

place about what makes a great *urban* retail space—like the arcaded Rue de Rivoli begun by Percier and Fontaine during the age of Napoleon. What keeps Milan's Galleria di Vittorio Emanuele (designed by Guiseppe Mengoni in 1867) from being claustrophobic? What makes Rockefeller Center's urban spaces and shops so ideal in scale? There are design answers of course: for example, the continuation of the existing pedestrian movement patterns, instead of the siphoning away of movement from a main thoroughfare. Rockefeller Center, for example, not only added streets to New York's grid and created two pedestrian levels, both connecting with different modes of transportation, but kept much of the retail traffic perpendicular to the flow of Fifth Ave. traffic—not parallel to it (and therefore competitive with it). It is too bad that New

York's emerging network of bonus-induced covered pedestrian spaces and through-block arcades doesn't show the same sensitivity.

Over the edge

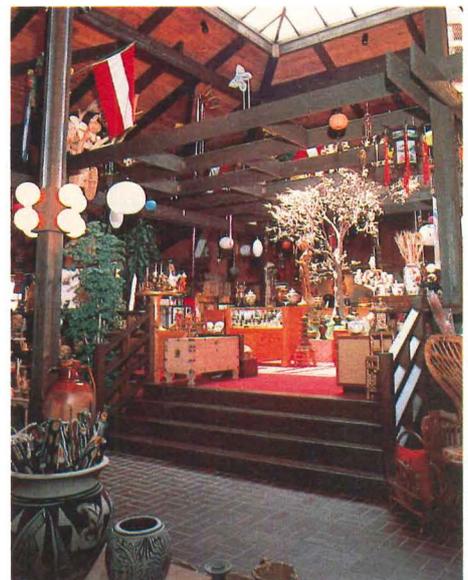
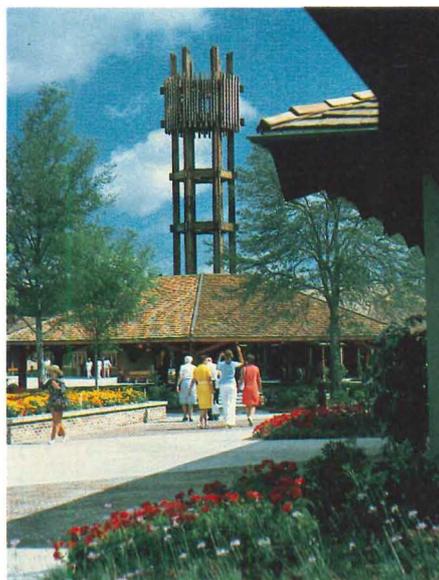
Both of the inner-city shopping mall types—recycled buildings or new enclosed skylit galleries—reflect a strong element of escapism. The culture of consumption has always focused on this motif. But the tendency toward ersatz nostalgia on one hand, and controlled, filtered worlds on the other, pushes escapism over the edge into banality. Certainly Rem Koolhaas' *Delirious New York*, excerpted in this issue (p. 70), examines that notion. But Koolhaas' themes of "Manhattanism" and "the culture of congestion" reveal that receding into history and withdrawing into mysterious interiors did form a fascinating

undercurrent in the creation of Manhattan's urban landscape. These enclaves are "insulated against the corrosion of reality."

Many of the in-town shopping centers are demonstrably seeking to recapture the excitement of that culture of congestion through a culture of consumption. They want to generate that aura of the fantastic: but today's formula for commercial success threatens it. The repetition and standardization of the historical "unique" settings makes for very predictable shops or restaurants: success breeds ever closer imitations of "the successful." On the other hand, the new shopping-mall-in-town uses the same controlled packaged formulas of the suburban counterparts to generate an urban experience to represent inside an idealized version of the street outside. This introversion becomes inversion without mystery. [Suzanne Stephens]



A better-than-reality retail approach is tried with Lake Buena Vista Shopping Village near Disney World in Orlando, Florida. Designed by Heery & Heery, the small scale village includes 30 shops and restaurants in intimate setting.



Photos: Alan McGee



At the core of the Apple

Three levels of retail space occupy the seven-story atrium.



A ray of light? A void? The Big Apple hopes to find happiness with interior shopping worlds created by New York's much-touted incentive zoning. Can it?

Twenty thousand people a day, it is estimated, pass through the Market at Citicorp. They sit, promenade, eat, and spend money—making Citicorp's shopping mall one of the retail success stories of the year. In many ways that success would be hard to duplicate, however, even in New York, where retailing forms a core

component of the city's economy.

A specialty shopping mall devoted mainly to international foods, the Market merchandising concept shows bravado. Its sixteen (currently) stores, shops, and restaurants cater to clientele with a particular penchant for European foods from croissants and fondue to Scotch salmon, avgolemono soup, or creamed herring. In fact one of the amazing things about the Market is the clientele: it looks as clean and shiny as the aluminum panels and glass of Citicorp's architecture, as respectably bourgeois as its European res-

taurants and patisseries. Just outside on the street, all of the city's messy vitality oozes forth; there you find the shopping bag ladies on the corner, the tough, transistorized teenagers at Nathan's, the beer-bellied barflies at Clancy's, the gyrating topless dancers at The Peep Show.

The Market's "stratified success"—meaning a commercial success that does not cut across class lines—is an unusual if not difficult feat to pull off for a project this size in this area. Functionally an enclave, the mall owes its popularity in large measure to what it keeps out as well as what it

offers within. Whether this isolationism should occur in "public" spaces created through the city's incentive zoning measures should be addressed at the city planning level. In the private sector, class stratification characterizes many retail enterprises, especially in New York.

For the purposes of immediate analysis it is interesting to observe the ways the filtering process operates, linked with both the merchandising image and the architectural image.

Image conquers all

The issue of image could be said to form a cornerstone of the architectural design solution to Citicorp, influencing the bank's decision to include a shopping mall in the innards of the sleekly monumental steel frame and aluminum-paneled body. Image, the desire for high visibility, and a "distinctive" kind of architecture led Citibank to build the Hugh Stubbins & Associates-designed 914-ft tower with its single pitched roof and its 123-ft stilts dropped at the center of each perimeter wall. A lot of money was poured into the dramatic architectural profile Citibank wanted—\$150 million, of which \$40 million was spent on the most expensive land assemblage in New York's history.

But the location in terms of image was a bit off—not on Park Avenue, where the older headquarters for Citibank is located, but behind it on Lexington at 53rd St. The Big Apple has its own peculiar man-built topography: glamorous sections lie chic-by-jowl with sleazy ones. Although this section of town backs up the corporate office row of Park Ave. and borders the fashionable residential areas of Turtle Bay and Beekman Place, it has metamorphosed over the years from boutiques, posh restaurants, and small theaters to pizza parlors, discount stores, and porn palaces. Part of the reason for the downward drift was large-scale assemblage that had been taking place on Third Ave. Firms like Madison Equities had moved in with vigor during the 1960s, intending to replace the low-scale commercial uses there with offices. When the office market fell apart, a holding action in the form of short-term leases to places like Pizza/Fotomat (now there's a combination!) became the order of the day.

Trading for tradeoffs

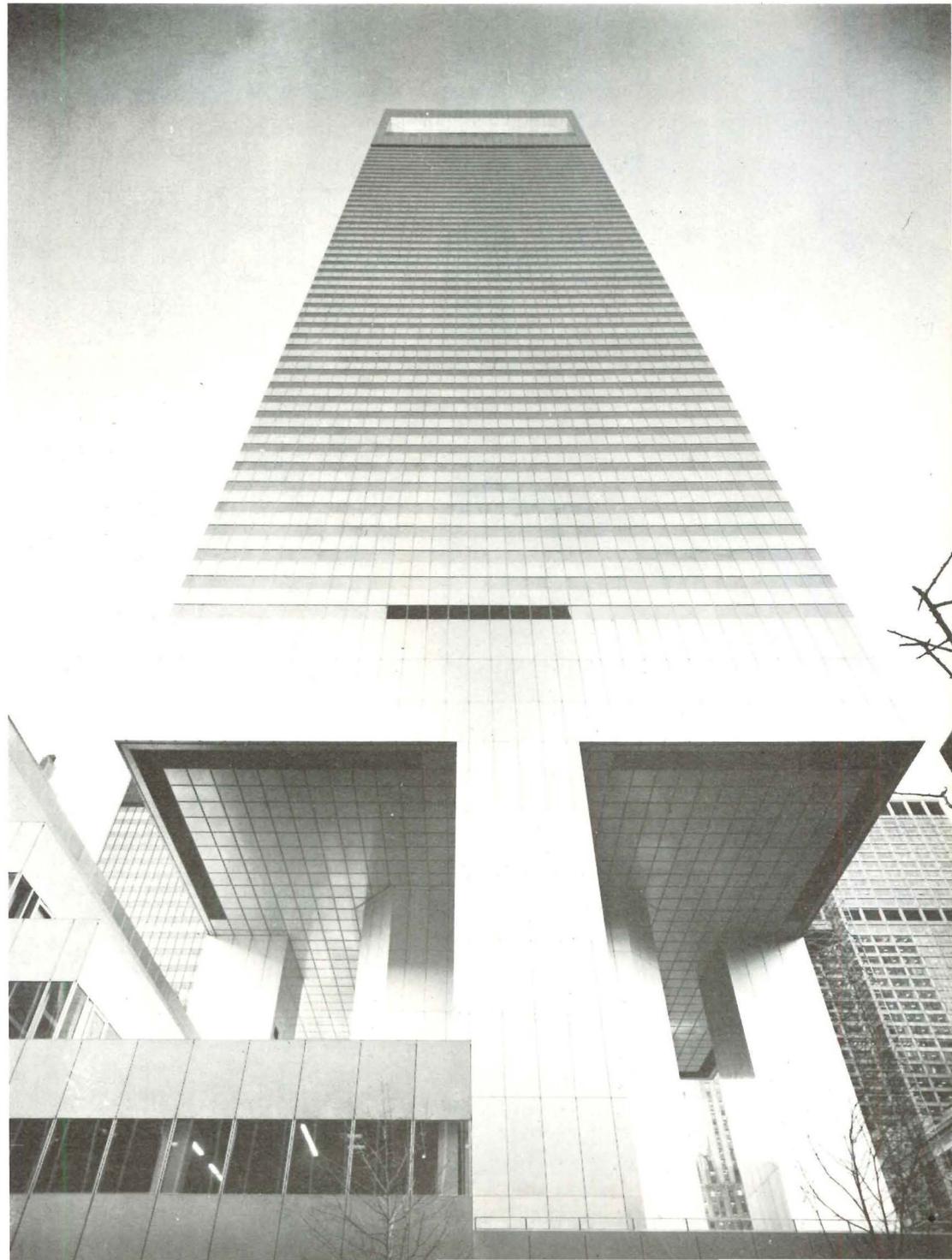
Into the scene came Citibank. It needed all the floor area it could get. Its desires were probably conditioned as much by the floor area it could lease for the 21 rental floors at \$20 a sq ft as the bulk needed to apply to the tower to get it tall enough to be noticed. The city allowed a ratio of floor area to the size of the site of only 15:1 in this zone. With the complex system of incentives the city had been developing, Citibank could raise that to 18 FAR by including plazas, a through-block passage from 53rd to 54th St., plus a separately bonused "covered pedestrian space" (even though the two merge indistinguishably here) with three levels of retail space and a connection to

the subway. (For a more detailed description of these amenities, see "Microcosms of Urbanity," P/A, Dec. 1975, p. 37–51.)

Citibank and Stubbins architects hoped that if the tower included apartments on top of the offices in the "hat" of Citicorp, the city could be convinced to allow the building to qualify for the 21.6 FAR allowed new mixed-use development in the Fifth Ave. Special District. The city wasn't willing to budge on that issue. Fortunately for the bank, floor area zoning calculations did not affect height. While keeping usable floor area to 1.3 million sq ft—by not filling in the floors of the 160-ft hat—and by putting the building on ten-story stilts to free the ground of congestion, the bank ended up with a building as tall as if it were 70 stories. Actually, 46 stories are placed in the tower, plus the eight in the low-rise portion. The tower thus qualifies as the third



Citicorp from 54th Street (below); surrounding neighborhood (above).





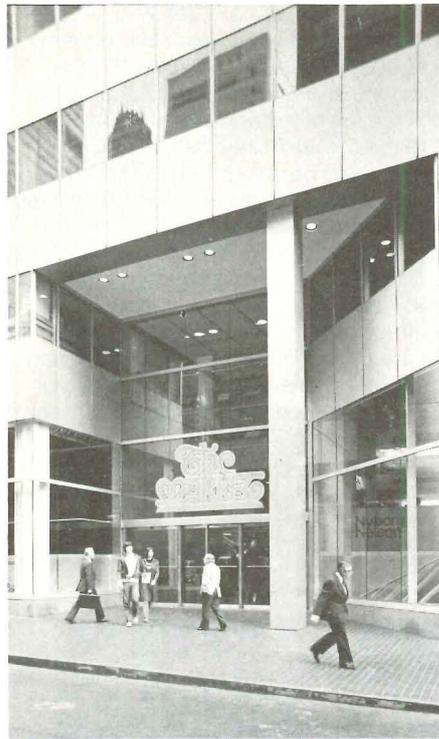
Context outside: 53rd and Lex (above, below).



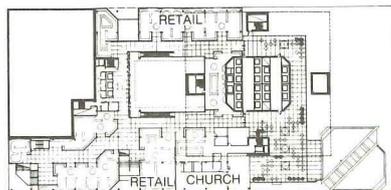
Facing Citicorp across Third: more low-rise.



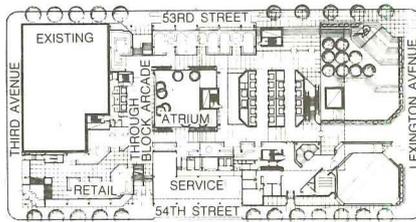
Anonymous façade along 54th.



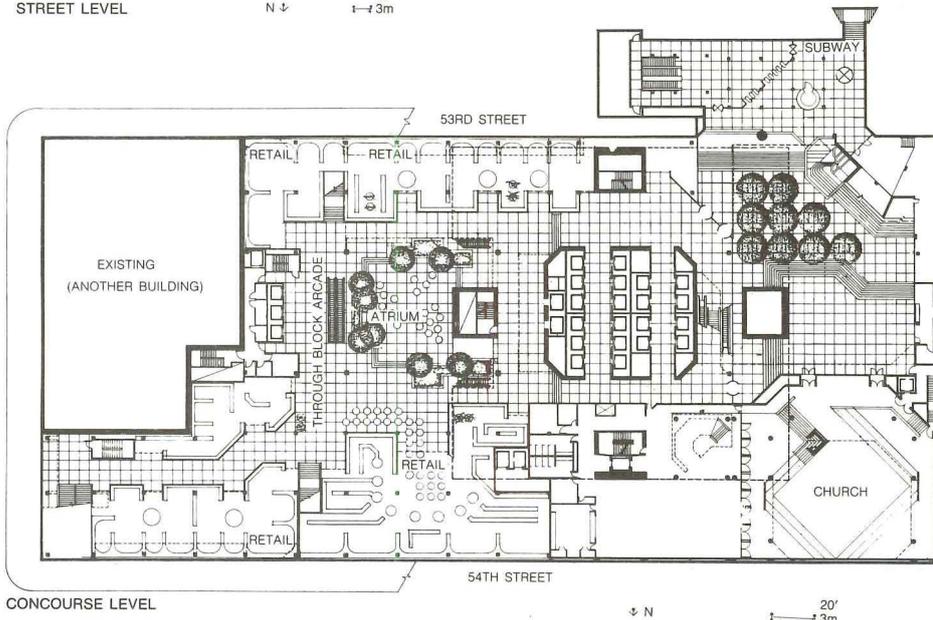
Entrance to The Market, 53rd.



SECOND LEVEL



STREET LEVEL



CONCOURSE LEVEL

highest one in Midtown after the Empire State and the Chrysler Buildings, taller than the 850-ft, 70-story RCA Building at Rockefeller Center.

The Citicorp profile is arbitrary to say the least. As Ada Louise Huxtable put it: "The arbitrary form is not part of a subtle and total geometry. . . . Even with its finesse it brutalizes the eye." In return for its visibility, Citicorp found itself the proud parent of a plaza (soon to be finished), the shopping mall, a subway connection, and even a nonbonused church for St. Peter's, part of a deal Citicorp made in the purchase agreement for the land on which the old church stood.

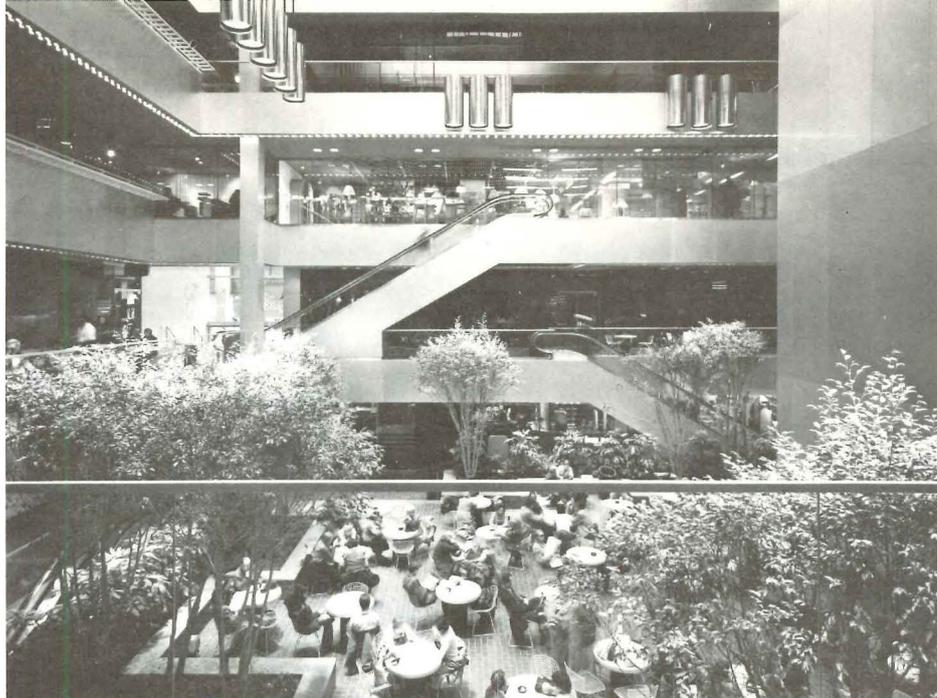
Church leaders, however, wanted the new church to remain on the old site, 54th and Lexington, to stand free of the tower, and link directly to open space. Thus the opportunity to insert the shops directly next to the subway entrance at 53rd and Lexington, the most likely spot for retail uses, had to be forfeited. What with not being literally on top of the subway entrance, and what with the deterioration in the area, using conventional leasing strategies the bank would have been *lucky* to give away its retail footage on the inside of the "covered pedestrian space" to Chug N' Chew or Pizza/Fotomat. As it turns out, Citibank did make some generous arrangements, but at least with the sort of enterprises that would enhance the high-class image of the institution and its architecture.

No McDonald's

A firm named Halcyon was enlisted to consult on the retailing concept. Specializing in marketing, construction management, and leasing, Halcyon had recently figured out how Aetna Life Insurance was going to inject some economic vitality into its Hartford, Ct Civic Center Shops surrounding the new arena there. Halcyon and its architect-trained president, Michael Buckley, quickly showed its ability to conjure up special retail mixes in downtown. Buckley convinced Citibank that the international aspect of its banking enterprises, as well as New York's own



From the second level of the Market: Cleanliness and croissants.



international and ethnic character, should be reinforced with the retail uses at Citicorp. The retail businesses conveying the international aura fastest and most concretely are food-oriented: Citicorp could win its way to the public's heart through its stomach. To carry out this concept Halcyon put together a team of designers, promotion experts, and even restaurant consultant George Lang.

Besides going after high-quality specialty food establishments, Halcyon and Citibank pursued Conran's, an English chain of emporia dealing in modern-design, moderate-priced household items. In turn for acting as the "anchor," Conran's got to have a corner entrance at 54th and Third, its own escalator to connect its three levels of retail space, and a rental rate about half of what the other stores pay (conceded to be \$12 per sq ft or under). In return, Conran's had to take the top (third) level of the retail space to solve one of the worst headaches in a vertical shopping mall—unloading the upper floors.

Designing for traffic

The design solution addresses the problem of generating traffic on two levels fairly successfully: the architects placed the lowest floor below grade so that it can be reached by descending a few stairs from the street or ascending a few steps from the subway. The second level of the mall is then only about a half flight up from Third Ave. and, because of the grade change, at street level along the Lexington Ave. side. The logical entry to the Market, however, would have occurred at the corner of 54th and Third: now pedestrians can only enter the first level of the Market there. Conran's comes between them and the second level. If they want to enter the Market's second floor directly, they must go to an inconspicuous side entrance on 54th St. Not surprisingly the leasing of the second level has moved more slowly than the first. Nevertheless, a newsstand/smokeshop and a gourmet deli (elegant counterparts to the standard fixtures of most office buildings) occupy the space, with another gourmet outlet soon to open. Halcyon re-

ports that negotiations are underway with a wine store and a copperware store in the two remaining spaces.

The levels of 65,000 sq ft of leasable space are organized around a 90' x 100' atrium, 85 ft high. The circulation, essentially a square spiral where multiple exits break away from a direct path, means less accidental traffic than might occur with a direct route circulation. For example, a linear skylit mall stretching from 53rd and Lexington to 54th and Third, double-level and key-hole in section would have short-cut the city's grid for pedestrians, at the same time linking to the existing movement patterns created by the grid. Now one enters the Market to enter the Market, not pass through it.

Architectural communication

Not much of the exterior gives a clue to offerings within; not much about the architectural treatment beckons to passersby. Like a suburban mall, you must go knowing what is ahead. Despite the toniness of the aluminum skin on the tower, the elevations along 54th St., Third Ave., and 53rd St. scarcely look any less anonymous than a new bank on Park Ave. The variety of small stores and cafés on Third or the 19th-Century brownstones and townhouses containing galleries, boutiques, and cafés that once proliferated in the area, including that block on 54th St., have been replaced by standard curtain walls. On the Lexington Ave. side, where the tower hovers mutely and rather menacingly over the church and plaza, the architectural scale and expression is totally alien to New York's historic urban fabric. But then "urban fabric" is something given only lip service in Midtown, something planners, developers, and architects claim they are keeping by tearing down old brownstones with shops and building new high-rises with shops.

Inside, the architecture of the Market maintains the banklike restraint of the exterior, here counterbalanced by boutiques, restaurants, people, and trees. The compactness of the atrium fosters bustling activity albeit very cleaned up. Trees are lit

by spotlights hanging in the atrium for the many moments when the sun's rays do not enter the skylight, and the space begins to take on a grayish cast reinforced by the expanses of aluminum paneling. Nevertheless, considering the whole thing could have been travertine marble veneer, sprayed stucco, fake brick, or ersatz wood, the machine-tooled look, though gloomy at times, comes as a relief.

To add vitality and life to the setting, all of the restaurants in the mall actually perform as *shops* with their interiors open to view. Because of this need, design review controls were established: for example 80 percent of stores and restaurant walls fronting the atrium must be transparent, certain materials can and cannot be used. The design review board, made up of Halcyon and Citibank, also maintains control on the first four feet into the shop, plus signage, graphics, and skylight treatment at the rear of first-floor spaces.

Interior travesties

Despite this watchful eye, some restaurants give one pause. The kitsch simulation of a rusticated wall and other egregious "Old World charm" effects of Hungaria Restaurant, for example, or the Coney Island tackiness of the décor for the Oyster Bar definitely do not fit the image. Because of the kind of transparent connection between shops and restaurants and the atrium space, the most successful restaurant and shop interiors are ones maintaining the continuity with it through use of sleek, simple lines and materials.

On the other hand, however, one can understand restaurants wanting an identity associated with the country whose cuisine they are proffering. Old World trappings and bric-a-brac help create that ambience in other situations, but fail miserably here. The retreat from design vocabulary of the mall to the simulated corner of Budapest or London simply does not work the way it can in a regular city restaurant. Those other restaurants out on the street don't have to be like stores; they can be closed and impermeable with only an awning or a menu to hint at the re-created worlds

The Market at Citicorp



within. By the time one enters those domains, the fantasy level can begin to take over. The perceptual knowledge here that outside the restaurant awaits the shopping mall simply dissolves the chance for that suspension of disbelief.

Thus, as brilliant as the marketing concept is, certain design questions remain unresolved. Were there to be a repeat performance of this kind of thing, these questions should be faced.

Benefits versus costs

Acknowledging the uniqueness of the particular success at The Market, the inevitable question arises. *What* about the concept could and should be applicable elsewhere? Clearly the city and Citibank benefit from the special kind of shopping enclave: out-of-towners have added inducement to come to New York, office workers are given a higher quality choice of restaurants to serve them in a congested and developed area of midtown, nearby neighborhood residents, mostly affluent, have an indoor park, plus more choice in small food shops. Other shops in the area are upgrading their stores, pointing to The Market's traffic, the guards from Citicorp that seem to form a strong presence in the vicinity as well, plus the dwindling numbers of hustlers in doorways.

Citibank benefits from its image, both in providing an enclosed public space filled with people and in an unusual, popular retail operation. Naturally, the city is happy to have some of its incentive zoning amenities for which developers receive extra floor area do so smashingly well—especially after the well-publicized disasters of the retail space at the Galleria and Olympic Tower. Now they have a symbol of success to say “see, it can be done.”

But is it a useful paradigm? Let's not fool ourselves. The Market at Citicorp is a very special situation, one not easily replicated, one not guaranteed to have as high-quality offspring. First, Citibank is a rich institutional client. It wanted something from the city and was willing to pay for it. A normal developer would have to take a look at the overhead costs of the Market space. Eas-

ley Hamner at Hugh Stubbins' office reports the construction costs to be \$56 per sq ft raw. The overall package, however, including the cost of land, brings costs to \$115 a sq ft. Add to that figure a percentage for the costs of money, maintenance, and security, and you have a Rolls Royce.

Citibank's leasing arrangements do not sound like giveaways; reportedly they offer long-term leases of 10 to 25 years at about \$25 per sq ft average, or five percent of gross revenues. Most of the retail operations are now into their percentages of “override,” a very healthy sign. Citicorp pays for tenant finishes such as ceilings and flooring for retail shops 15 ft wide or less. The others have to go it on their own, even installing lighting and air conditioning, besides the kitchen equipment, etc., all of which can range between \$40 and \$80 per sq ft. Nevertheless, the tenants have access to special loans. Thus if the success of the Market is guaranteed in this situation, private developers may find the situation exceptional.

At the same time, the question has to be asked whether New York would benefit from more Markets in terms of urban design. The introversion so strongly implicit in the design solution and expressed in the architectural character of the exterior elevations, despite the mix of activities within, suggests otherwise. The social filtering that takes place, however inadvertent, obviously raises questions regarding the public nature of “public” spaces. Equally significant for debate is the one aspect of bonus zoning. To get the amenities put back on the street by developers, the city trades open space in the air. Bonus zoning means taller, bulkier buildings, period. The public amenities on the street have shifted in character too: bonused “public” open space on the street—plazas and arcades—is increasingly moving into the interior of the tall buildings in the form of covered pedestrian spaces, theaters, restaurants, and retail spaces. Open space amenities are moving from the true public domain, the street, to inner sanctums where private and public domains blur. Thus this “public” space is becoming in-

creasingly “privatized”: staked out territories where it is not unusual that persons find themselves inadvertently paying for this amenity through the price of a cup of coffee even if access is “free.”

The commodity aspect of this kind of public oasis colors one's judgment. This interiorization and privatization process reveals not a world of the “real,” the subconscious, and true self of the city, but a world that is an idealized projection of how the city would like to see itself viewed. Thus, this oasis is a simulation of a New York street or plaza, kept clean under tight control. Restrained enough for a corporate world, safe enough for out-of-towners, clean enough for New Yorkers tired of the “real” world, this is a consumer's fantasy of internationalism and of New York. It presents a real problem because its popularity with the middle classes (which the city needs more of) lies in this subtle exclusivity created through the lack of true open relation to the street and through the chicness of its culinary divertissements. But in the end, the space becomes claustrophobic: Not being able to see the outside world, or be aware of the weather, one finds this oasis, for all its milling people, free concerts, and chocolate-covered strawberries, begins to take on a deathly pall. The predominance of gray-toned aluminum panels does not help, but the eerie oppressiveness really comes from the secure, sealed-off aspect that converts this “core of the apple” into a high-gloss tomb. [Suzanne Stephens]

Data

Project: The Market, Citicorp Center, New York.

Architects: Hugh Stubbins & Associates, Hugh Stubbins, partner in charge; Easley Hamner, project manager; Harold Goldstein, production; Emery Roth & Sons, assoc. architects.

Program: design 65,000 sq ft of leasable space for 20 restaurants and food shops around a 90' x 100' atrium, 85 ft high. First three floors are for retail uses; top four to be leased for offices. Mall is part of 1.3 million-sq-ft 59-story corporate headquarters complex and is tied to new church erected on part of site.

Site: 74,810 sq ft, almost all of city block, in Midtown Manhattan at 53rd and Lexington.

Structural system: steel frame with aluminum panels and double-glazed reflective-glass curtain wall.

Mechanical system: steam heating; individual a/c units fed by chilled water system of building.

Major materials: steel, aluminum panels, glass, quarry tile, gypsum board (see Building materials, p. 106).

Consultants: Halcyon Ltd., Michael Buckley, president, project development director for The Market; D.I. Design & Development, design consultant; The George Lang Corp., conceptual and restaurant consultant. LeMessurier Associates/SCI and Office of James Ruderman, structural engineers; Joseph R. Loring & Associates, mechanical engineer; Designetics, lighting; Sasaki Associates, landscape architects; Vignelli Associates, graphics.

Costs: \$150 million for 1.3 million-sq-ft project, including land acquisition costs.

Client: Citicorp.

Photography: Norman McGrath.

Client: Citibank.

Photography: Norman McGrath.



Kitsch creeps in: The Hungaria (above) designed by owner/consultant George Lang; Classy and glassy restaurants (below).



Healthworks by Walker Group, Tournebroches by Joel Cook (above, l, r); Alfredo's by Tucci and Segretti; Auberge Suisse by Interior Concepts (below, l, r).



Midlands transplant

Combining aspects of political reaction to urban renewal, financing, and design, a new mall signals a downtown rebirth.

If we didn't learn anything else from our recent past, two lessons may have sunk into our thinking. One is that urban renewal, per se, is neither good nor bad categorically. That depends on content and execution. The other is that unwisely located shopping centers too often sound the death knell for shaky or declining central business districts. Council Bluffs, Ia, is enjoying the benefits of those lessons.

Midlands Mall, designed by Astle, Ericson & Associates of Omaha, Ne—across the Missouri River—is supplying the benefits to Council Bluffs' 68,000 people. But not without years of complicated work and differences of opinion. Urban renewal was not an accepted route to many lowans in the early 1960s. Led by civic leader and bank owner Dale Ball, efforts to get urban renewal moving hit lots of resistance. But downtown Council Bluffs was dying, even without threat by outlying shopping malls.

It was dying because of its proximity to larger and better-endowed Omaha, and the interstate highways crossing the river. Many lowans preferred to zip across to Nebraska for tax, convenience, and liquor reasons. Having a crumbling downtown (economically and physically) had become an accepted fact in Council Bluffs. It is reported that, at one point at least, school graduation functions had to be held in Omaha for lack of space in Council Bluffs. The urban renewal proponents, facing an apathetic if not hostile community, were attempting what appeared to be impossible. They wanted to level a "superblock," the heart of downtown Council Bluffs, and start over with a new mall. Considering the proliferation of actively bad malls, especially the tackier suburban types, it's not hard to see why qualms existed. Perhaps outdated, deteriorating, and undistinguished isn't always worse than new, cheap, and banal. Council Bluffs has neither. It has Midlands, and Council Bluffs is pulling through.

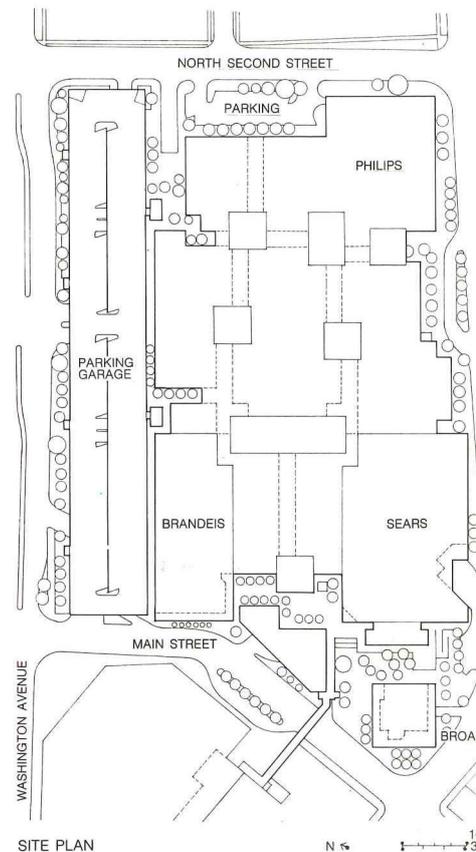
When Dale Ball first began promoting a downtown center urban renewal effort, he had little company. But the city joined the cause, and soon it was moving ahead, despite relatively vocal opposition. Federal assistance was approved, provided the developer could adequately solve the soil conditions problem—Indian Creek runs under the site. After a referendum forced by opponents was won, the mall was clearly on its way. At this time Ball, owner of First National Bank and president of the Midlands Corporation, had no intention of becoming the developer for the mall. But protracted searches had produced insufficient developer interest or guts. No one came forth with the commitment, skill, money, or nerve to try it. So Ball just went on, until what was needed was cash on the line. Once again, no encouraging developers on the horizon.

Not willing to forfeit the project, Ball put his bank on the line, in temporary joint venture with Northern Natural Gas Co. Other trying circumstances, such as elections, reciprocal easements, multiclient approval, and just plain leasing, added to Ball's burden—and Astle Ericson's. Ball made 27 trips to Sears headquarters in Texas alone, to convince them to break their recently established tradition not to locate downtown. He succeeded.

If Ball is an outstanding client/developer/owner (and he is), he never gave short shrift to architect Neil Astle. He has stated in Council Bluffs *The Nonpareil* interviews that "the single, most important decision I made in the whole process was selecting Neil Astle as architect. . . ."

Attacking the soils problem, the architects and engineers determined that prime commercial areas must all be above the creek floodplain. It was decided to put them all on one level above 1015.5 mean sea level. Steel tube pilings were driven to bedrock, filled with concrete, and connected to the haunched floor slab on grade, all well before leasing was anywhere near complete. The final program remained flexible until very late in construction, owing to leasing negotiations.

One at a time, leasing agreements were



SITE PLAN

completed, the mall's retail, banking, and office space filled out, and Astle Ericson was able to begin nailing down some of the myriad loose ends. Still, several major pieces shifted late in the game, and redesign efforts were still going on until close to opening day.

The orchestration

Astle, best known for his skillful houses in the recent past, brought his firm's organizing and detailing care to Midlands as well. Opting for concrete and concrete block in structure and major walls—for code and economic reasons—the architects used exposed waffle slabs for most ceilings, with visual relief by high space frames and clerestoried, skylighted areas for circulation nodes/lounging areas. In some loca-

One entrance to retail mall (background, right) is through plazas serving other office functions. Clerestories above high lounge areas glow with banners and a clock (below, and center right). Stepped pool (bottom right) in another lounge node opens off of retail circulation area, with hanging wood light shields. From massing of the units to care in details, Midlands incorporates a design emphasis and involvement which unifies. All elements, down to the clock and wood/canvas adornments, were designed by the architects to promote and complete that unification process.



Midlands Mall Shopping Center

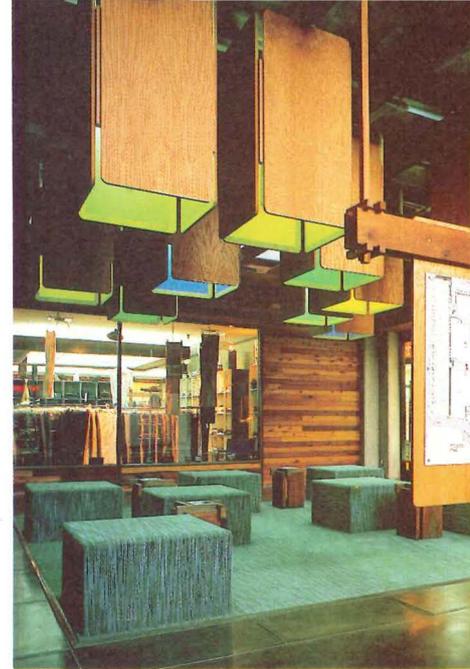
At the scale of an individual space, each piece was considered. Circulation (near right), shops and circulation (far right), a tenant's office (center, below), and bank (bottom, right), are carried out by Mall architects, including almost all of the hanging elements shown.

tions, "dropped" ceiling planes (open wood frames) occur below the waffle slabs. Detailing of these recalls the painstaking care characteristic of Astle's residences, but it doesn't stop there.

Next, an observant visitor may notice that a degree of order exists in the individual shops, from lighting to signage, which carries throughout the mall. A broad band of cedar spells out locations for all signs and introduces the other noticeable major interior material, wood. Cedar and oak are used in many locations, adding warmth to the mall and shops. Store interiors are purposely brighter, with more subdued and selective lighting in mall circulation areas. Astle intends shops to be inviting, while lighting varies from location to location outside them, creating more visual interest.

While Astle Ericson did not do all interiors (that was up to tenants), it's not difficult to spot the ones for which they were responsible. Again, the wood detailing and cohesion set them apart noticeably. But the architects also involved themselves in every other aspect that enlivens and enriches the whole facility. Astle designed the long, hanging banners which brighten certain spaces, and his wife Claudia crafted them on the sewing machine. Loving care was showered on hanging wood canopies and the delightful suspension system for those and other devices. Clearly the most striking object of all is the 7-ft clock, created by the architects, in an interlocking wood cage. Donated by the local PTA, it is the dominant feature of one of the lounging nodes. Some office spaces in adjacent areas of the mall complex were also done by Astle Ericson; those are also easily identified: detailing is minimal around glass partitions; hanging ceiling frames and furnishings are complementary and spare, as well.

Building exteriors are concrete frame with infill of concrete, glass, or metal paneling. Various public outdoor walking or sitting amenities offer many routes of approach, punctuated by large trees and plantings. Major entrances are accented and sheltered by high space frame.





Sears (top), one of the "anchors" of Midlands, finally reentered the downtown scene. Outdoor space frames (left) and office structures (for the People's Gas Company above) frame an entry to the retail mall. Spaces between buildings in the \$3.5 million complex are planted with large trees and lined with pedestrian circulation.



The results?

It seems clear that the mall complex embodies the urban but humane aspects Astle intended. It was to be a success in business terms, but his overriding aspiration was to create space for people. "The emphasis is on life within the shell, not on the shell itself," Astle said. But while this is not an extravagantly expensive complex, by comparing it to other less sympathetic developments around the country, an observer will easily spot the quality in *this* shell. It is not a casual assembly—a gaggle of pieces—but a thoroughly composed and restrained arrangement of parts, from building scale through spatial experience to detail. And the life within *does* finish the concept, bringing life to the intentions.

But in a broader context, what does this mean? In the first place, there are thousands of cities like Council Bluffs. They may have different sets of problems, but certain guidelines can be applied to them all. If a deteriorating or stagnating midsize city adopts an attitude of status quo, it may well see itself going down the drain. If it struggles, as Council Bluffs did, it's all a matter of *how*.

No better finish could be written; Midlands Mall is a success. The architect/developer/city consortium has, in fact, launched a new Council Bluffs. One stroke—no matter how broad—does not necessarily *make* a city. But this one could make this city, and only continued effort and leadership can maintain the momentum. Midlands has begun a rebirth and others are already joining in.

Council Bluffs is a typical—not a big—city. If the lessons it is learning can teach us anything, they have to do with determination, or persistence, coupled with hard work and, most importantly, talent. It's a lesson to be emulated by many other such communities. In financial terms, Midlands is said to be averaging \$110 per sq ft. That says it's successful. Even in the bigger picture, it sure is. [Jim Murphy]

Data

Project: Midlands Mall Shopping Center, Council Bluffs, Ia.

Architects: Astle Ericson & Associates, Inc.; Richard F. Roti & Associates, Inc., parking consultants.

Program: complete shopping mall to replace major section of deteriorating downtown center.

Site: superblock in central business district.

Structural system: cast-in-place reinforced concrete slab on grade spanning between piles 24'-0" o.c. both directions; 3'-0" waffle slab roof and space frames.

Mechanical system: five central mechanical areas; central (gas) loop system provides hot and chilled water to each.

Major materials: concrete frame, concrete-block walls, glass-and-metal panel exterior infill (see Building materials, p. 106).

Consultants: Raymond G. Alvine & Associates, Inc., mechanical; Walter D. Rudeen & Associates, Inc., structural.

Client and general contractor: Midlands Corp.

Cost: \$3.5 million.

Photography: Joel Strasser.

Suburban shopping downtown?

In Philadelphia a new shopping mall combines the best attributes of both urban and suburban retail shopping.

They said it would never work. Were the Philadelphia Redevelopment Authority and The Rouse Co. really serious about building a new suburban style shopping mall in the heart of the city's seedy and troubled east Market Street? Although the street had been Philadelphia's main retail core since the 1700s, it had declined drastically in recent decades. It had little to offer other than the large Gimbels, Strawbridge and Clothier, and Lit Brothers stores; the last couldn't hold out, and closed its doors last year. All of these were flanked by blocks of fly-by-night discount stores and fast-food outlets, reflecting conditions that were hardly conducive to new development.

The planned new Gallery at Market East was a risk. Designed by Bower & Fradley (succeeded by Bower Fradley Lewis Thrower), it was to have 125 shops and restaurants in a huge (405,000 sq ft of gross building area with 205,000 sq ft of gross selling area) glass-enclosed mall. To attract the 50,000 shoppers a day needed to support it, the mall would have to draw not only on Philadelphia's 2 million population, but on the entire 4.9 million residents of the metropolitan region. Could suburban shoppers be lured back into the city? For that matter, could tenants, edgy about downtown crime and sagging retail sales, be attracted to it, and would they be willing to pay higher rents than those of suburban malls? (Leasing The Gallery took 50 percent more effort and 30 percent more time than a suburban mall does.)

The Gallery has been opened just over a year now, and its stunning success during that period shows no signs of letting up. Just how successful is it? Scott Toombs of Rouse Philadelphia, Inc. (a wholly owned subsidiary of The Rouse Co., which has built 64 suburban malls) puts it this way: "In a shopping mall, to gross \$100 per sq ft is average, \$150 is considered a hot property, but we have three that gross over \$250, and one of them is The Gallery."

(The others are a suburban mall in Paramus, NJ and Faneuil Hall Market Place in Boston.)

With so much seemingly against it from the beginning, why should The Gallery be so successful? The answer seems to lie primarily in its design and planning and not, as with many other urban and suburban shopping malls, in amenities that could contribute to its success—such as attractive location or association with other natural "draws," like various services, hotels, or office blocks. The Gallery has none of these. Anchored by a new Gimbels at one end and by the renovated Strawbridge and Clothier at the other, it offers only retail shopping in otherwise downtrodden surroundings (which are, however, superbly connected to the city's major transportation arteries).

But The Gallery has something none of the other malls have. It has been planned and designed to make use of the most important attributes of both suburban and urban shopping. Like the suburban shopping center, it offers on-site parking, separate (underground) truck access, and unified architectural treatment. Also, like the suburban centers, it provides the requisite skylights, large indoor plants, and fountains, but in this case with a real difference. The skylight atrium isn't just a glass-topped hall but a mammoth, glass-enclosed court surrounded by four levels of restaurants and shopping. In places, the interior is a forest of 40-ft trees (real trees planted in the ground, not in pots); in other places vines hang from the roof. The fountain is huge, with a high waterspout that can be turned off during the frequent *classical* music concerts that can be, and are, enjoyed from the terraced seating around the reflecting pool.

Because of the cramped, inner-city site, the mall could not spread over the land as the usual windowless two-story suburban ones do. It had to go up. It not only went up, but its verticality has been emphasized. Where possible, the soaring column lines are not interrupted. Long, colored banners hang in the atrium. Elevator cores are exposed, and their

glass cabs land in a pool of water. The theatrical quality of the atrium, which is not unlike that associated with Portman hotels, was consciously sought. At the level of design detail, however, the space is restrained, making no pretense at being "high design." The architects and developers operated on the notion that it would be not only impossible but probably crazy to try to emulate suburban malls. Consequently, vast glazed walls open onto the streets wherever possible, to bring their animation inside. This is not a sealed fortress of smart boutiques. On the interior, the main, below-street level of the mall has been treated as a street. Brick pavers are used throughout, and street-type lighting (with directed beams) is used rather than the usual overall illumination so that shoppers passing in and out of shadow will add more vitality to the interior street activity. In these public areas the lighting has been kept low so that the brighter illumination in the surrounding shops will highlight the activity there when seen from the mall.

In terms of planning, The Gallery and the stores flanking it represent the kind of urban-design scheme that is often talked about but rarely seen completed. Accomplishing the scheme took the combined efforts of a particularly enlightened city redevelopment agency, of developers, architects, and owners who had the vision to see its value. The urban plan actually began 20 years ago, in 1958, when the city planning commission under Edmund Bacon published the first renewal concept for east Market Street. Although that scheme was altered over the years, the commitment to the idea has prevailed. The first completed phase came in 1972 with the opening of the 1234 Market St. office building designed by Bower & Fradley. Like The Gallery, that structure was also seen as a piece of urban "connective tissue." But it was purposely designed as a background building connecting Daniel Burnham's John Wanamaker store on the west and Howe & Lescaze's PSFS building on the east.

No less unique than The Gallery's planning and architecture, however, were the



Entrance to main, lower level, looking east.



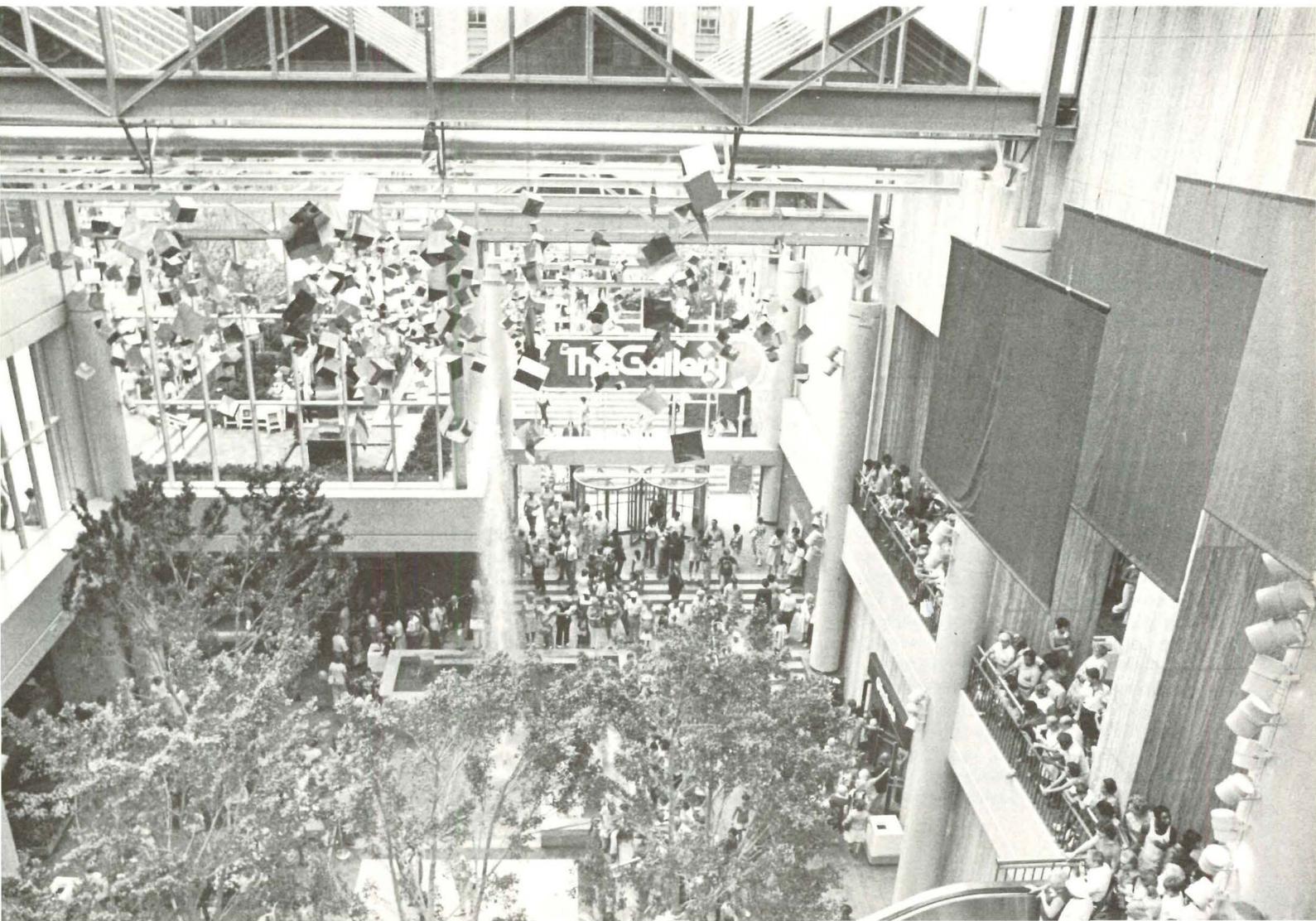
Gallery's main entrance (above) is at north side of Market St.; atrium (below), looking south.

financial means by which it came about. It may be the only development in the country that was built, and is now owned, by a city redevelopment agency, which also acted in the capacity of construction manager. When the project came about, the mortgage market was bad. A tall office building that was planned for The Gallery's site was called off in 1973, but in the following year the redevelopment authority approved proposals from The Rouse Co. for an enclosed multilevel mall and from Gimbel's for a new department store. The rede-

velopment authority built the mall's shell, paying two-thirds of the cost with federal urban renewal funds. In exchange for a 99-year lease on the shell, The Rouse Co. paid one-third of the cost and completed the retail space.

In the next phase of The Gallery, an L-shaped hotel tower of 500 rooms is planned to rise over the east and north sections of the mall bridging 9th St. along Filbert St. But Gallery II will be up before that. Last month the city announced its joint venture with The Rouse Co. and J.C.

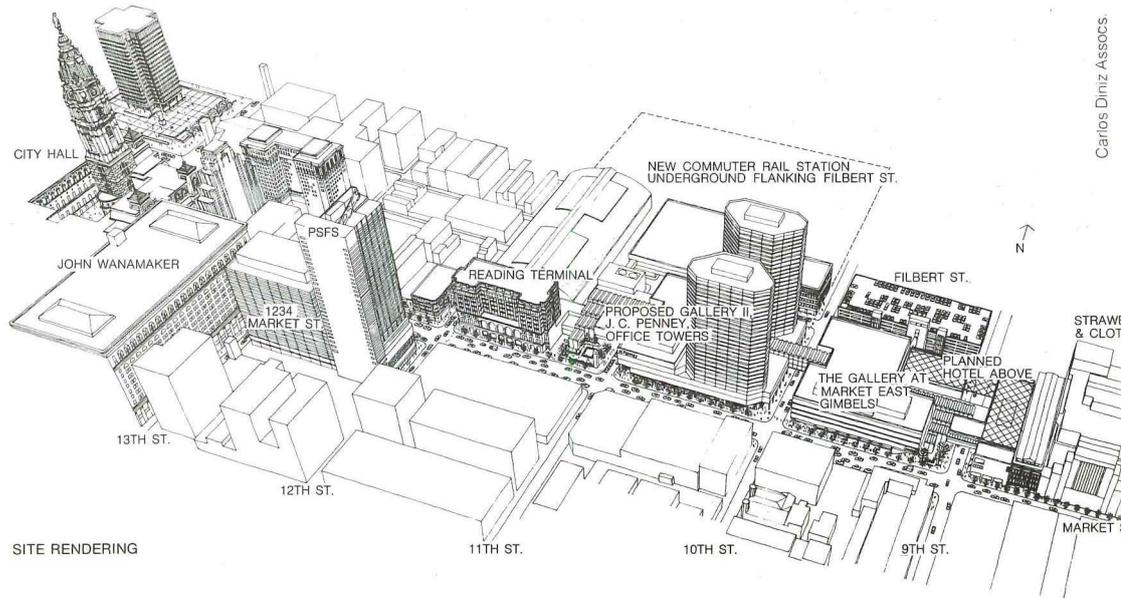
Penney Co. to build a new 225,000-sq-ft department store and a 190,000-sq-ft multilevel Gallery II shopping mall along Market St. extending from Gimbel's at 10th St. to the Reading Terminal at 11th St. Architects are Cope Linder Walmsley in joint venture with Bower Fradley Lewis Thrower. Twin office towers, to be developed by Cadillac Fairview Corp. of Toronto and Vernon Barge Co. of Dallas, will be constructed over Gallery II at 10th St., the first scheduled to open in 1983 along with the new gallery. When the new underground



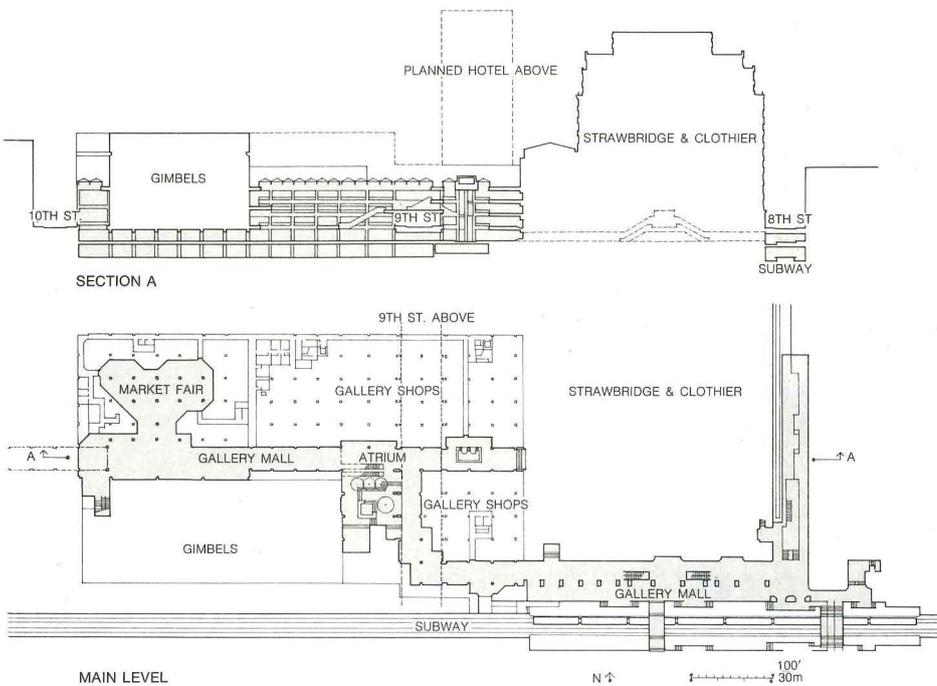
The Gallery at Market East, Philadelphia, Pa



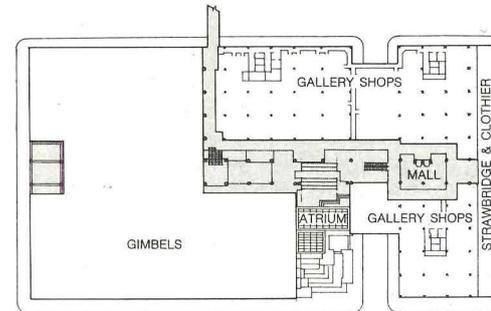
Glass-enclosed elevators in mall descend to pool of water.



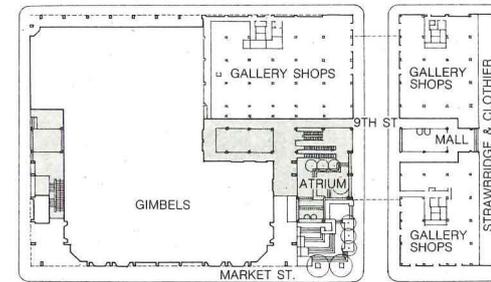
SITE RENDERING



MAIN LEVEL



THIRD FLOOR (TYPICAL OF SECOND FLOOR)



STREET LEVEL

commuter rail station extending from 10th to 12th Sts. is completed in the early 1980s, the entire complex and 1234 Market will be connected to the subway lines, commuter rails, the suburban rail station, and Pennsylvania Station at 30th St. The Reading Terminal, designed by the Wilson Brothers in 1893, will be saved and incorporated into the gallery mall for retail uses.

The entire Market St. East scheme is the kind of urban planning and design that one has come to expect to see only in drawings. But in Philadelphia, these kinds of schemes seem to get realized. At least they have since the days when Edmund Bacon headed the City Planning Commission (1949-1970), when this project was initiated. If there are still any lingering doubts about "where" Market St. is going, The Gallery at Market East, and soon Gallery II, offers strong clues. [David Morton]

Data

Project: The Gallery at Market East, Philadelphia, Pa.

Architects: Bower & Fradley (succeeded by Bower Fradley Lewis Thrower); John A. Bower, Jr., partner in charge of design; Roger B. Lewis, Robert T. Mannel, project architects.

Site: main retail shopping street in city core.

Program: a retail shopping mall of 205,000 sq ft of selling area for 125 shops and restaurants.

Structural system: cast-in-place concrete foundations, structural steel frame, lightweight concrete floors on metal deck.

Major materials: preformed insulated exterior wall panels, coated aluminum and coated galvanized steel interior wall panels, paving tile, gypsum-board partitions, painted and clear anodized aluminum window frames (see Building materials, p. 106).

Mechanical system: three fan systems, each a dual supply and return, high-pressure supply to

variable volume boxes, with electric reheat, low-pressure distribution to spaces. Main return located in 10' x 18' continuous plenum at skylight.

Consultants: Leonard Wegner Assocs., mechanical, electrical; A&R Engineering, structural; Collins DuTot Partnership, landscape; Sylvan R. Shemitz & Assocs., lighting; Peter Corsell Assocs., technical; Wilbur Smith & Assocs., vehicular design; RTKL Assocs., tenant criteria, Market Fair design.

Clients: Redevelopment Authority of the City of Philadelphia, owner, construction management; The Rouse Co., developer.

Construction management: Redevelopment Authority of the City of Philadelphia.

Cost: \$43,000,000; \$90.53 per sq ft including shops fit-out and landscaping.

Photography: architects, except p. 65, Brad Bower; p. 66, 67 top and middle right, The Rouse Co.



The Gallery's main entrance is at the atrium facing the north side of Market St. (above, detail at right). Entry stairs descend outside, and descend further inside to bring shoppers to main, below-street mall.



Four-level atrium (left, below) on opening day.



A white ship or a black hole

Bruce Kuwabara

A retail development can be interpreted on many levels—from marketing to urban design. The following is one assessment of a successful shopping mall in Toronto.

"Anything that enters a hole does leave the Universe. Nothing inside a black hole can communicate with anything outside. The gravity is so strong that no known form of energy can break its grip. It's a one-way trap in time and space." Terrence Dickenson, "Graveyards of the Galaxies," *Weekend Magazine* July 23, 1977.

The phenomenon of black holes in the universe provides an entertaining analogy to the market planning of high density concentration of commercial office and retail space, such as Toronto's new Eaton Centre, and the effects of these massive centers on the rest of the city. It has been rumored that Eaton's Department Store, a giant star in the Canadian retail galaxy, has been weathering severe financial storms. Certainly a good deal has been lost to its arch-rival, Simpsons-Sears. Thus the plan for Eaton Centre is a kind of colossal explosion, almost a last-gasp attempt to recover a majority share of the retail market. In the succeeding eruptions, layers had to be thrown off including Eaton's old Queen St. store, its warehouses that existed on this superblock site, and a high-grade College St. store.

The retailing problem facing the architects, Bregman-Hamann and the Zeidler Partnership, focused on the placement of one million sq ft of retail space on the site in a scheme allowing for three levels of shops. The solution reflects an interesting pattern in marketing: Generally speaking, the more expensive chic European shops are located on the third level directly under the skylight. This level seems like a sort of heaven for the affluent shopping in a calm, well-lit setting with full-grown trees and a restrained floor tile pattern. Of the 125

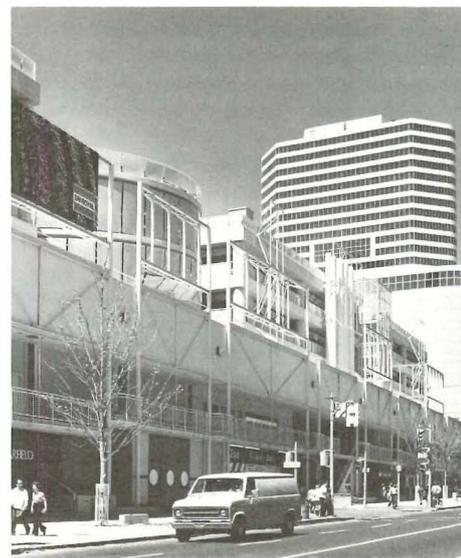
Author: Bruce Kuwabara is an architect in Toronto from whose original analysis these excerpts were taken.

shops built in Phase 1A, only 15 are under the skylight.

The second level, taken over by medium-priced chain stores, is underground or at grade, depending on whether you enter from Dundas or Queen St. Whichever the case, only partial glimpses of the skylight are revealed to view. The first level is really underground no matter where you are. Here the shopper, in a world dominated completely by low-priced discount chain stores and fast-food restaurants, receives only a suggestion here and there of the skylight (heaven) above. On this level, wilder floor patterns, skimpier, scrubbiest trees, and closed-circuit TV depictions of the oil paintings hung upstairs characterize the space. On the upper level, the shopper arrives by car at the parking garages wrapped around the upper levels of the mall; on the first level, the masses of shoppers arrive by the subway. Everyone who has to eat, however, must descend to these lower depths. Although the architects have suggested that the design precedents for the Eaton Centre are taken from the Milan Galleria and the Cleveland Arcade, the lower levels are straight underground concourse.

If there is a metaphor for the building, it is a ship, replete with its steerage class. Actually the metaphors of both the ship and the machine are consciously conveyed by sheer length and height of the building, its dominant white color, metal tube railings, curved glazing. The machine metaphor is also extended by the pervasive exposure of the mechanical systems of the building inside the mall, as well as by the attempted constructivist detailing, railings, stairs, exposed elevator cabs, etc. However, the architects' intention—to promote reading the structure of the building as a framework for diverse commercial infill—didn't come off because the developer requested that the glass line of the stores project beyond the structure.

In urban design terms, the Centre does raise other issues. The pull of pedestrians through the mall with the two large department stores functioning as anchors works very well because of the subway



View from Yonge Street.

connection. However, the Mall is dead-ended, blocked by Eaton's. As a result, there is no connection between the Mall and the subway after the store closes.

A major concern was that the Centre would siphon activity from the main street outside. The city requested that the project retain the same number of shops Yonge St. previously had—so 17 of the eventual 250 stores face the street. But since the established retailers have moved into the Centre, they have been replaced by lower grade businesses. A study of Yonge Street's revitalization shows the Centre to be a mixed blessing: while it draws people to the Mall, it does not share that traffic with the street. Sin strip is starting to aggregate outside along with undesirable persons discouraged from hanging about the white ship or the "black hole" within. □

Data

Project: Galleria Mall, Eaton Centre, Toronto, Canada (excluding Eaton's Department store).

Architects: Bregman & Hamann and the Zeidler Partnership; Sidney Bregman, coordinating partner, Eberhard Zeidler, design partner.

Client: The Cadillac Fairview Corporation Ltd./T. Eaton Company Ltd.

Site: fifteen acres on five-block area in downtown, fronting on busy shopping street (Yonge St.) formerly occupied by warehouses.

Program: design multiuse complex, 3.9 million-sq-ft center (first phase only); 6 million sq ft when completed) for active area downtown. A high-rise office tower, five-story mall and shopping garage, department store and 125 shops now completed. The Galleria Mall, 860 ft long, is 90 ft high and varies in width from 28 to 56 ft.

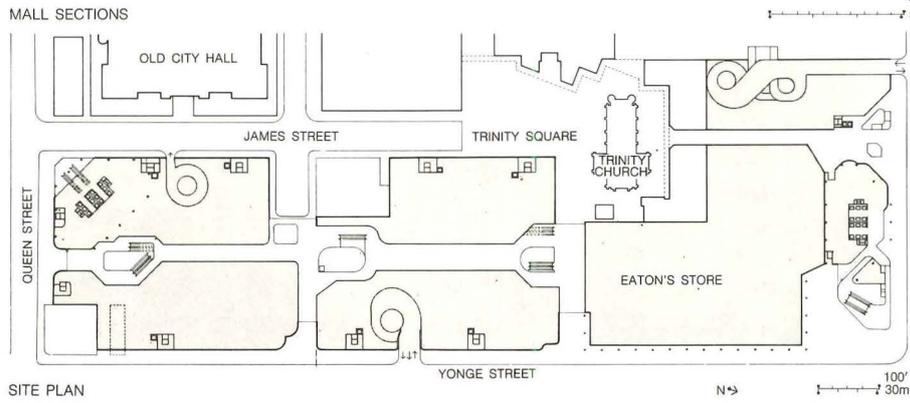
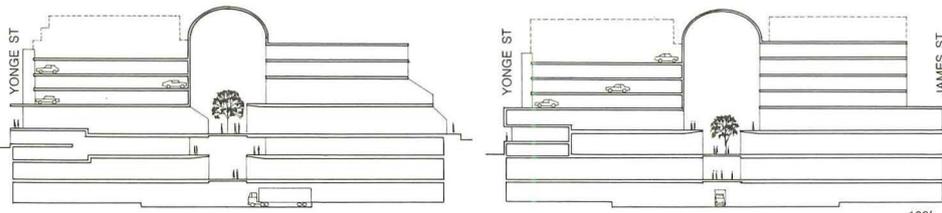
Structural system: concrete foundations and floors with steel framing (exterior steel framing elements hung by tension cables).

Major materials: concrete, metal siding, pre-cast concrete, acrylic glass, glass, brick (see Building materials, p. 106).

Consultants: C.D. Carruthers & Wallace, Consultants Ltd., structural; H.H. Angus & Associates, The E.C.E. Group, mechanical and electrical; Rolf Jensen & Associates, fire safety.

Construction management: The Foundation Company of Canada, Ltd.

Photographs: Ian Sampson.



Dundas St. entrance (above); Mall (below).



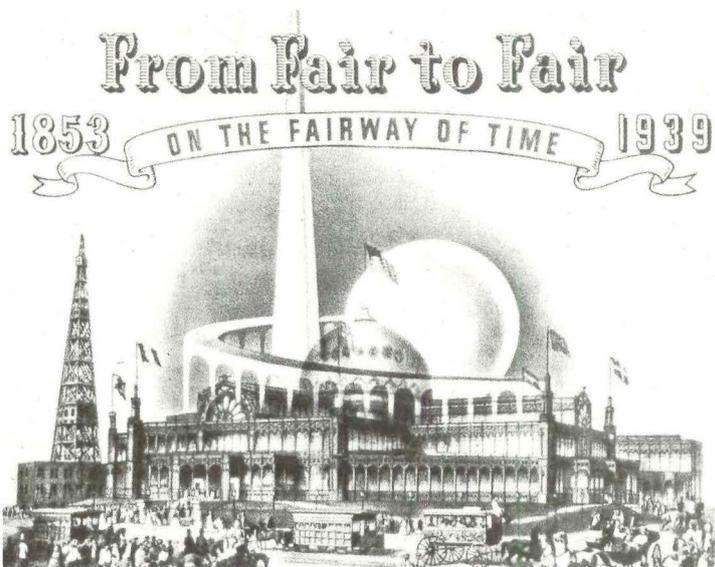
A manifesto of Manhattanism

Rem Koolhaas with Zoe Zenghelis



"Movie stars who have led adventure-packed lives are often too egocentric to discover patterns, too inarticulate to express intentions, too restless to record or remember events. Ghostwriters do it for them. In the same way, I was Manhattan's ghostwriter. (With, as will be seen, the

added complication that my source and subject passed into premature senility before its 'life' was completed. That is why I had to provide my own ending.)" Rem Koolhaas, from *Delirious New York*. Above: The City of the Captive Globe, where each science or mania has its own plot.



The globe and the needle begin and end Manhattanism: Crystal Palace and Latting Observatory, Trylon and Perisphere (left). "Needles" at Coney Island's Luna Park, opened in 1903 (above).

Delirious New York by Rem Koolhaas has just been published by Oxford University Press.* A very brief sampling follows.

Manhattan's urban landscape is widely understood to be the result of the political, economic, and social forces that shaped its dense accretions of towering blocks. Often overlooked, however, are the dreams and fantasies that spurred its builders, architects, and planners. Rem Koolhaas' poetic history of New York focuses on these human obsessions that generated Manhattan's compelling configuration, particularly its identifying trademark: the New York skyline. These obsessions with staking out new territory in the air, with technology, and with fantasy, Koolhaas reveals lurking consciously and unconsciously in the minds of those who made New York. The physical expressions of these dreams and fantasies, Koolhaas argues, were most vivid in the skyscrapers of the 1920s and 1930s—especially in Manhattan's most representative urban artifact: Rockefeller Center. [Editors]

Manhattanism

How to write a manifesto—on a form of urbanism for what remains of the 20th Century—in an age disgusted with them? The fatal weakness of manifestos is their inherent lack of evidence. Manhattan's problem is the opposite: it is a mountain range of evidence without a manifesto. *Delirious New York* was conceived at the intersection of these two observations: it is a retroactive manifesto for Manhattan.

Especially between 1890 and 1940, a new culture (the Machine Age?) selected Manhattan as laboratory: a mythical island where the invention and testing of a metropolitan lifestyle and its attendant architecture could be pursued as a collective experiment in which the entire city became a factory of man-made experience, where the real and the natural ceased to exist. *Delirious New York* is an interpretation of that Manhattan which gives its seemingly

discontinuous—even irreconcilable—episodes a degree of consistency and coherence, an interpretation that intends to establish Manhattan as the product of an unformulated theory, *Manhattanism*, whose program—to exist in a world totally fabricated by man, i.e., to live *inside* fantasy—was so ambitious that, to be realized, it could never be openly stated.

The grid

The grid is, above all, a conceptual speculation. In spite of its apparent neutrality, it implies an intellectual program for the island. In its indifference to topography, to what exists, it claims the superiority of mental construction over reality. Through the plotting of its streets and blocks it announces that the subjugation, if not obliteration, of nature is its true ambition. All blocks are the same; (consequently) the grid makes the history of architecture and all previous lessons of urbanism irrelevant. It forces Manhattan's builders to develop a new system of formal values, to invent strategies for the distinction of one block from another. The grid's two-dimensional discipline also creates undreamt-of freedom for three-dimensional anarchy. It defines a new balance between control and decontrol in which the city can be at the same time ordered and fluid, a metropolis of rigid chaos. With its imposition, Manhattan is forever immunized against any (further) totalitarian intervention. Since the number of blocks is forever fixed, the city cannot grow in any conventional manner. Its planning, therefore, can never describe a specific built configuration that is to remain static; it can only predict that whatever happens will have to happen within the 2028 blocks of the grid.

The needle and the globe archetypes

The Latting Observatory and the dome of the Crystal Palace (both part of America's first world's fair, in Bryant Park in 1853) introduce an archetypal contrast that will appear and reappear throughout Manhattan's history in ever-new incarnations. The needle and the globe represent the two extremes of Manhattan's formal vocabulary

and describe the outer limits of its architectural choices.

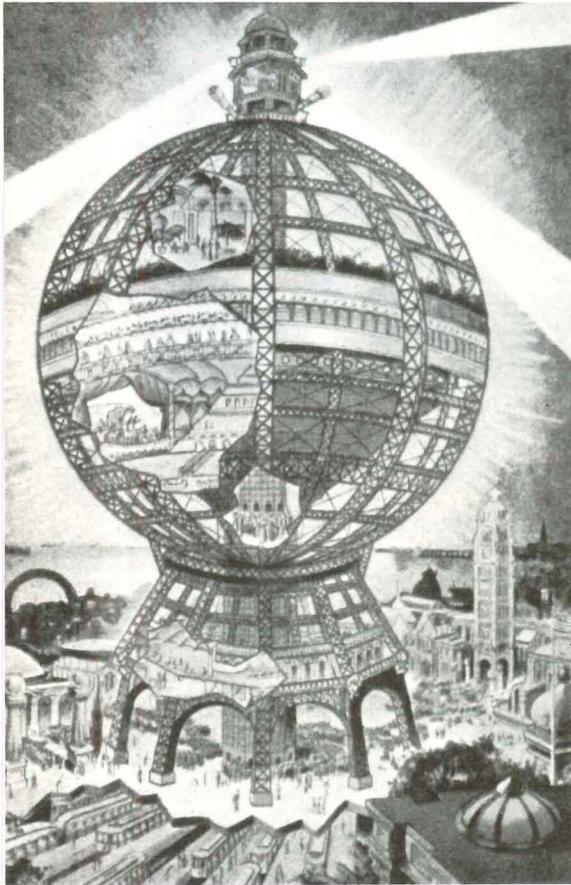
The needle is the thinnest, least voluminous structure to mark a location within the grid. It combines maximum physical impact with a negligible consumption of ground. It is, essentially, a building without an interior. The globe is, mathematically, the form that encloses the maximum interior volume with the least external skin. It has a promiscuous capacity to absorb objects, people, inconographies, symbolisms; it relates them through the mere fact of their coexistence in its interior. In many ways, the history of Manhattanism as a separate, identifiable architecture is a dialectic between these two forms, with the needle wanting to become a globe and the globe trying, from time to time, to turn into a needle.

Coney Island is a fetal Manhattan. The strategies and mechanisms that later shape Manhattan are tested in the laboratory of Coney Island before they finally leap toward the larger island. In 1903, the year the new Williamsburg Bridge injects more visitors into Coney Island's already overtaxed system, Frederic Thompson and Elmer Dundy open a second park—Luna. Dundy is a financial genius and entertainment professional; Thompson, at 26, has dropped out of architectural school, frustrated by the irrelevancy of the Beaux-Arts system to the new age. The center of Luna Park is a large lake lined by a forest of needlelike structures, specimens of Moon architecture. Thompson's genius is to let these needles proliferate at random; to create an architectural spectacle out of the drama of their frenzied scramble for individuality; and to identify this battle of the spires as the definitive sign of other-worldliness, the mark of another planet. Even if it is on the Moon, Thompson has created the first City of Towers, functionless except to overstimulate the imagination and keep any recognizable earthly realities at a distance.

In 1906, Maxim Gorky visits the USA. His visit is a fiasco. To cheer him up, friends take the Russian to Coney Island. He is horrified. His disgust represents the mod-

*© 1978 by Rem Koolhaas.

Delirious New York



ern intellectual's dilemma: confronted with the masses, he suffers from an acute distaste for the apparently mindless preferences of exactly that segment of society to whose welfare he is politically committed. This fundamental misjudgment and a subsequent series of similar misreadings guarantees the taste-making establishment's early disqualification for further participation in the experiment Manhattan. Their sensibilities offended, they propose to raze the City of Towers, to restore the surface of the earth to its "natural" state, a thin layer of grass. The debate about the park is a confrontation between the reformist urbanism of healthy activities and the hedonistic urbanism of pleasure. It is also a rehearsal of the later showdowns between modern architecture and the architecture of Manhattanism. For the coming century, the battle lines are drawn.

Oblivious to the contest, literally rising above the debate, is the circular silhouette of a phantom structure that proves—if nothing else—Coney's continuing fertility as a breeding ground for revolutionary architectural prototypes. Early in 1906 advertisements appear in New York papers announcing "the largest steel structure ever erected." The Globe Tower will be the most voluminous building ever proposed in the history of mankind; it combines in a single *Gestalt* the opposites—needle and sphere—that have been the extremes of Manhattan's formal vocabulary since

1853. It is impossible for a globe to be a tower, but the sphere is to be so colossal that simply by resting on the earth it can claim, through the height of its enormous diameter, to also be a tower. It is the American genius of Samuel Friede, inventor of the Globe Tower, to exploit the Platonic solid in a series of strictly pragmatic steps. For him the globe, ruthlessly subdivided into floors, is a potential source of unlimited square footage. The capacity is for 50,000 people at one time. Every 50 ft there is a station consisting of a main attraction embedded in subsidiary amusement paraphernalia. To stimulate continuous use, the middle zone also contains a hotel floor. Implicit in Friede's horizontal arrangement is a social stratification; ascent in the globe coincides with increased refinement and elegance of facilities.

A total of eight socles will support the globe; otherwise, the hovering monument will not directly interfere with life on earth. Because it has severed all connections with nature, the immensity of its interior precludes any references to external reality. The Globe Tower can reproduce that part of the world it occupies 5000 times. In the light of this colossal discrepancy, it must be seen as the essence of the idea of Skyscraper, the most extreme and explicit manifestation of its potential to renew the earth and to create other worlds.

Globe 2

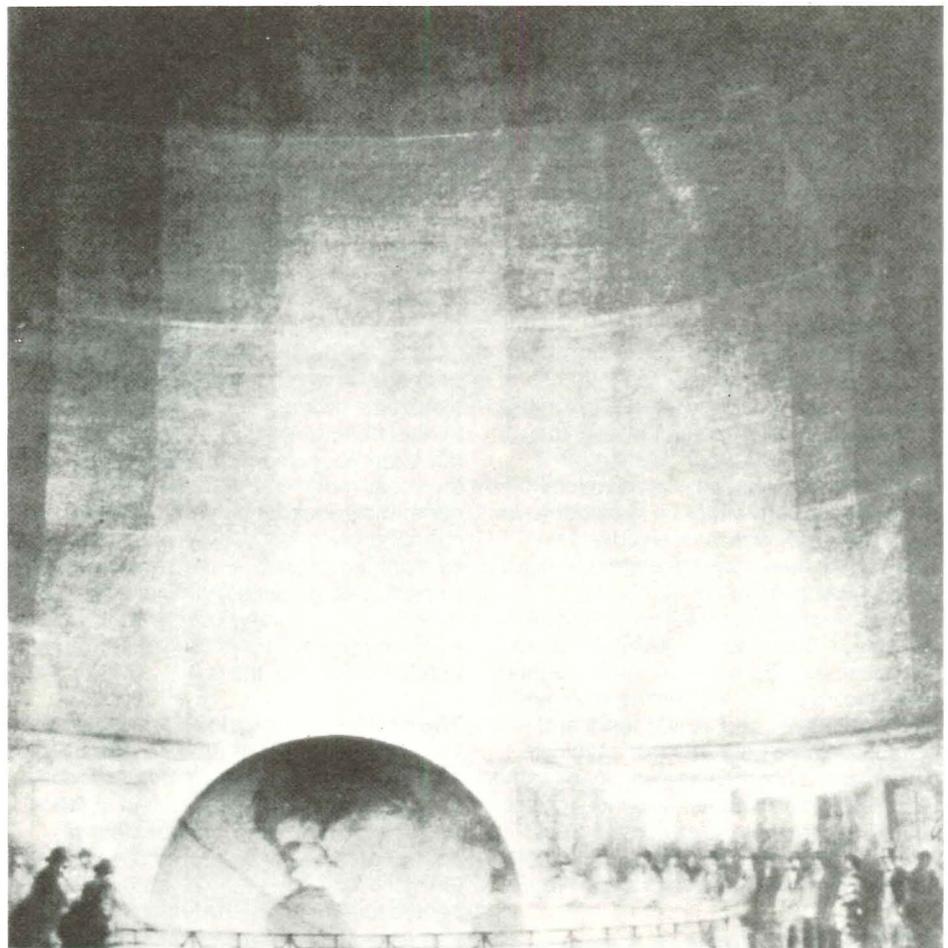
In 1928, Colonel Patterson, owner of the *Daily News* comes to Raymond Hood. He

wants to build printing works on 42nd St. combined with a negligible amount of office space for his editors. A builder so far only of towers, Hood consummates here his overwhelming love for the sphere. He designs "a circular space, 150 ft in circumference, to be enclosed by a wall of black glass which rises, unbroken by any windows, to a black glass ceiling; in the center of a brass-inlaid floor, a cup-shaped well from which light—the sole illumination of the room—is to stream." "Bathed in this light, a 10-ft terrestrial globe is to revolve—its even revolutions reflected darkly in the nightlike ceiling above," noted Hugh Ferriss. The lobby is, after all, a three-dimensional realization of that murky Ferrissian void—the pitch-black womb of Manhattanism, cosmos of charcoal smudges—which has given birth already to the Skyscraper and now, finally, to a Globe. The lobby is in fact a veritable chapel of Manhattanism.

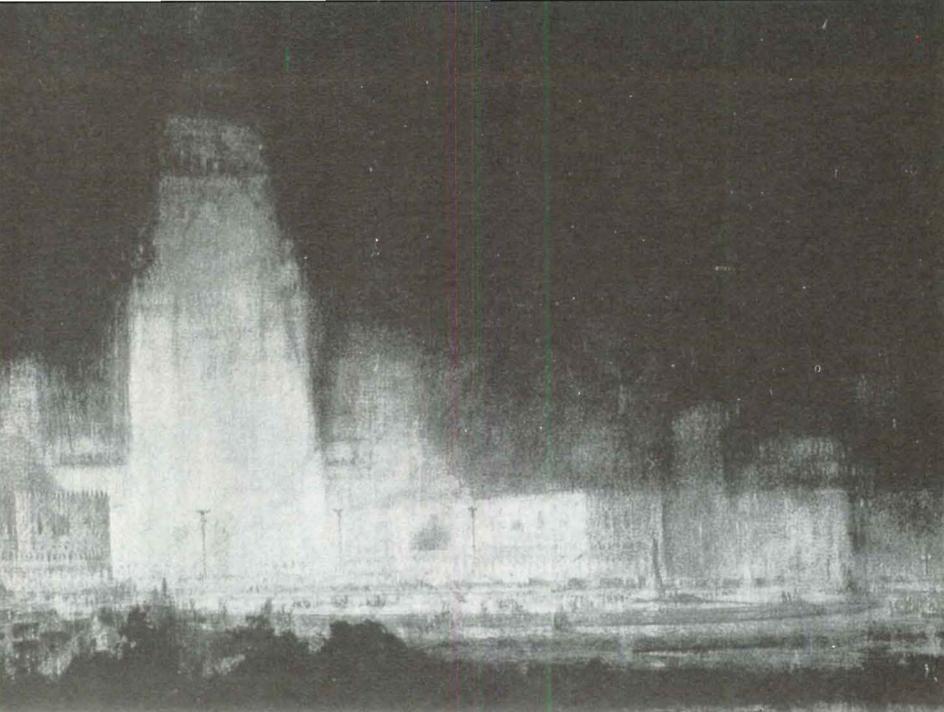
Manhattanism perfected

The seed of Rockefeller Center is a search, begun in 1926, for new accommodation for the Metropolitan Opera. The Opera does not have the means to construct its own new headquarters, let alone finance the surrounding mountain range of what is to be the largest planning operation ever conceived in Manhattan. John D. Rockefeller, Jr., offers to take responsibility for the further planning and actual executing of the entire operation. In 1929 the Great Crash shatters the assumptions on which

Coney Island's proposed Globe Tower (left); Raymond Hood's *Daily News* Lobby (below), 1929.



From Hugh Ferriss: *Metropolis of Tomorrow*



Regional Plan Assn., New York



Hugh Ferriss' 1929 representation of what was to become Rockefeller Center (above), and a post card view of the real thing, completed 1931–1940.

the Center is based: from a financially reasonable enterprise it becomes commercially irrational. The original impetus becomes more and more implausible, while demand for the type of office space the scheme provides also evaporates. What is left after the collapse of all predictions is only the Center's zoning envelope—a colossal volume that now somehow has to be made desirable for new forms of human occupancy through the originality of the architects and builders. There is a metaphor: Ferriss' Mountain. There is a series of strategies and a construction industry specialized in realizing them. Finally, there is the doctrine of Manhattanism—the creation of congestion on all possible levels.

For Hood, Rockefeller Center is a test of the doctrine, the strategies to establish it, and the individuals committed to it. What all the men on the building committee have in common is their involvement in the previous unconscious stages of Manhattan; in different degrees they are responsible for developing Manhattan's already existing architecture. Now they have to carve the final Manhattan archetype from the invisible rock of its zoning envelope. The Mountains will become architecture. Rockefeller Center is the fulfillment of the promise of Manhattan. All paradoxes are resolved. From now on the Metropolis is perfect.

Climax

Consolidated Edison—Manhattan's electricity generator—has its own pavilion at the 1939 world's fair, *City of Light*. Like the Perisphere, this contains a miniature Metropolis, but without the predictive pretensions of Perisphere's *Democracy*. The *City of Light* is a model of Manhattan "from skyline to subway" that compresses the Metropolis' 24-hour cycle of day and night into 24 minutes. But beyond this 1000-percent intensification of life in the Metropolis, the model exhibits an even more disturbing innovation. Manhattan has been bent. The spine of the grid has been forced into a slight curve, so that its streets converge at a point somewhere in the dense crowd that has rushed to witness

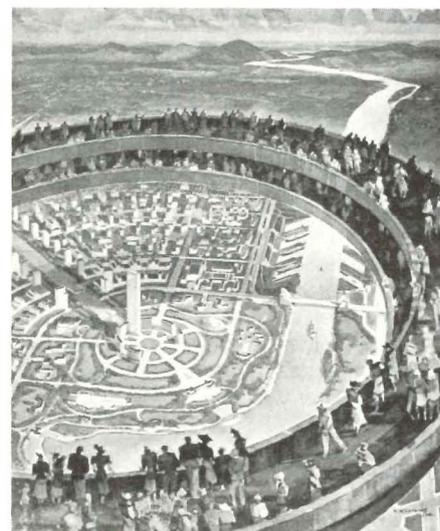


Con. Ed.'s *City of Light* (above), and *Democracy* (below), both at 1939 New York World's Fair.

the spectacle. Among the multiple anxieties of the late 1930s, Manhattanism runs out of time; the definitive Manhattan can only be realized as a model. This model is a simulacrum of the Culture of Congestion completed; its presence at the fair suggests that Manhattan itself is doomed to remain an imperfect approximation of its theoretical model.

Democracy—a Metropolis of the Future—and *City of Light* have a single architect: Wallace K. Harrison. The fact that one man is responsible for two such wildly divergent spectacles, whose incompatible implications deny each other, illuminates the acute crisis of Manhattanism like a fake thunderbolt. Harrison, with *City of Light*, conceives the apotheosis of Manhattanism—be it in cardboard—while with *Democracy* he seems to have forgotten all its doctrines. Harrison is Manhattan's last genius of the possible. It is his tragedy that after World War II the possible has become less good. No longer can architects count on the businessmen's phantom calculations that make the impossible inevitable. The postwar architecture is the

accountants' revenge for the prewar businessmen's dreams. The revolutionary formula of Coney Island has returned to haunt Manhattan. The result is the cheap Skyscraper: that is unfortunately the last contradiction in terms Manhattan resolves.

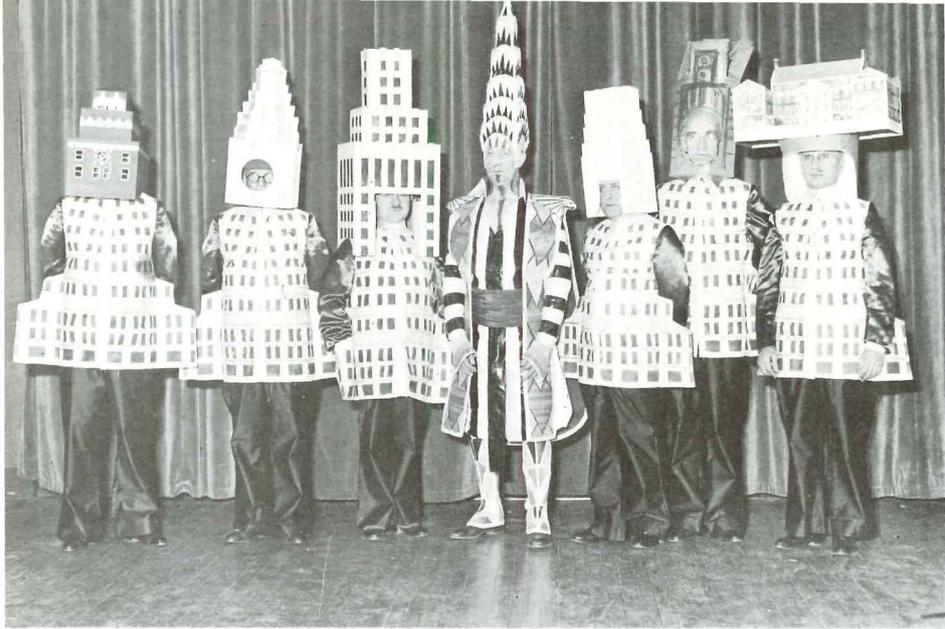


Delirious New York

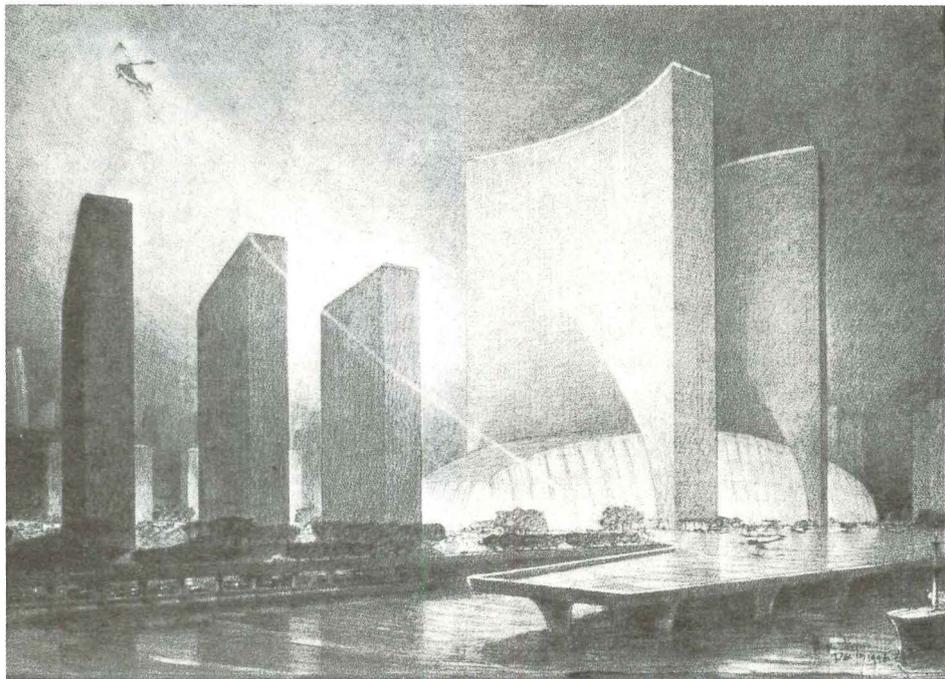
In the name of Modernity, Harrison—like a reluctant liquidator—seems to strip Manhattan, step by step, of its architectural assets; but at the same time—in the name of Manhattanism—he preserves always some of its essence and resuscitates its most persistent echoes. At first sight, X-City (1946) is a straightforward version of Le Corbusier's Ville Radieuse. But its centerpiece is an impossible coupling of elements that any European would surely have kept separate: an idiosyncratic composition of two slabs, curved in plan, straddling an auditorium that is curved in both plan and section. Those curves—since *City of Light* the secret symbols of a bent, definitive Manhattan—become Harrison's trademark. After X-City they recur obsessively in the UN; not only is the roof of the auditorium curved, but inside there is a dizzying collection of curved balconies that stun the visitor with the impact of their unexpected sensuality. The park around the slabs is landscaped on a single theme: that curve. The line of flagpoles flying all the nations' flags in front inflects suddenly in the middle toward the main slab to form Harrison's longest curve in Manhattan. The same curve returns in his Socony-Mobil Building (the entrances are formed as if the curtain wall is lifted like a veil to form a curve) and the Corning Glass Building (where the interior "escapes" from the main volume in the form of a curved extension of the mirrored lobby ceiling). Harrison's oeuvre is a secret—and perhaps even agonized—dialectic between rigidity and freedom. His first architectural impulse is always to propose some curvilinear antithesis to the rigidity of Manhattan, but then that liberating impulse surrenders to the ultimate logic of the grid. Only the curve remains—the discreet signature of his loyalties divided between the old and the new.

Post-mortem

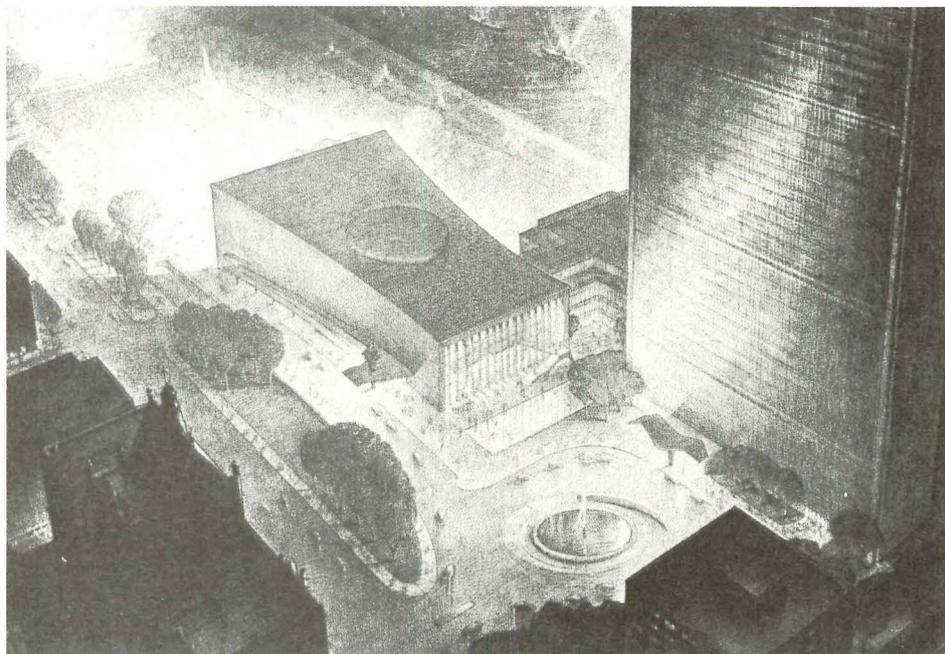
Manhattan's knowledge was stored in the brains of architects who made the businessmen foot the bill—ostensibly for their myths of hyperefficiency, but in fact for the creation of a Culture of Congestion, distilled by the architects from the desires of the population. As long as its tribal secrets were preserved by a cabal of sophisticated architects posing as philistines, they were safe, safer than they would have been as explicit formulas. But such a method of preservation insures its own extinction: never revealing their true intentions, not even to themselves, Manhattan's architects took them with them to the grave. They left all their masterpieces with no testament. Manhattan had become, by the late 1930s, an enigmatic heritage that the next generation could no longer decipher. That made its architecture susceptible to the ravages of European idealism, as the Indians had been to syphilis; it had no defense mechanism against the virulence of any explicit ideology.

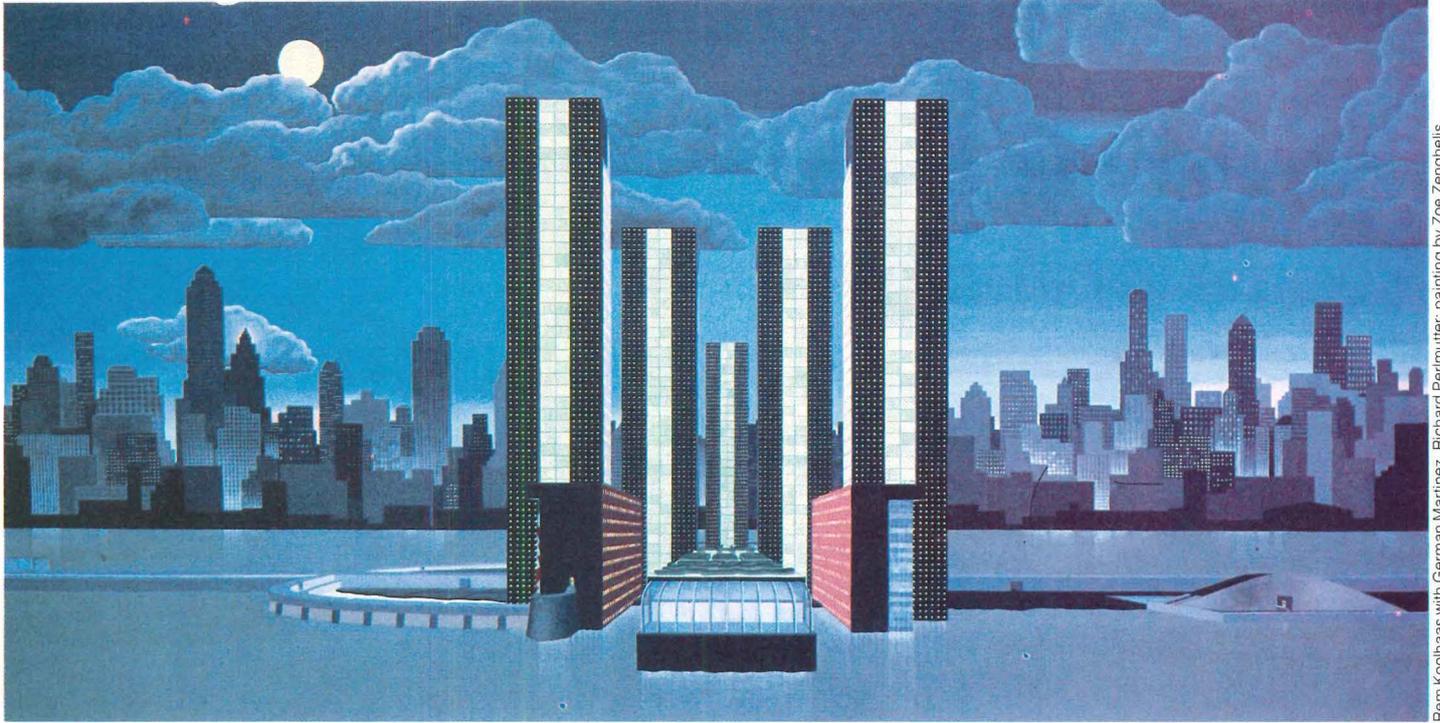


Their dreams died with them: at costume ball in 1930s, from left, A.S. Walker as Fuller Bldg., Schultze as Waldorf-Astoria, E.J. Kahn as Squibb Bldg., Van Allen as Chrysler Bldg., R. Walker as 1 Wall St., Ward as Metropolitan Tower, Freedlander as Museum of City of New York.



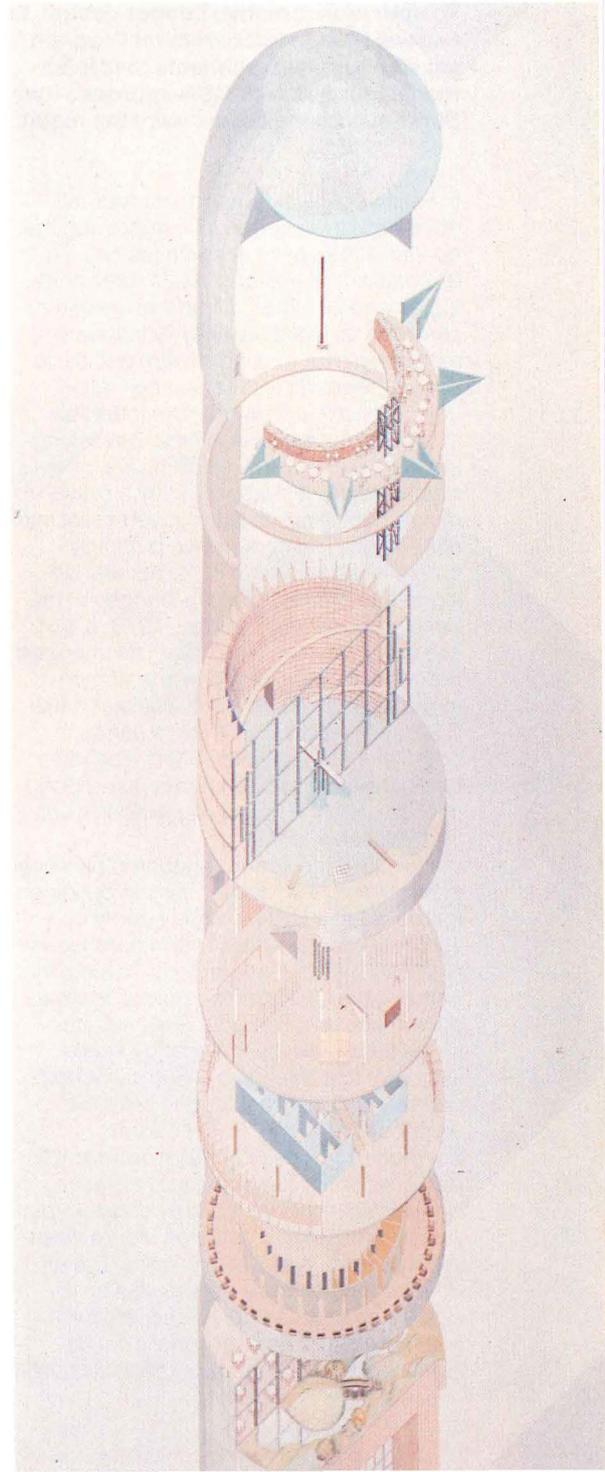
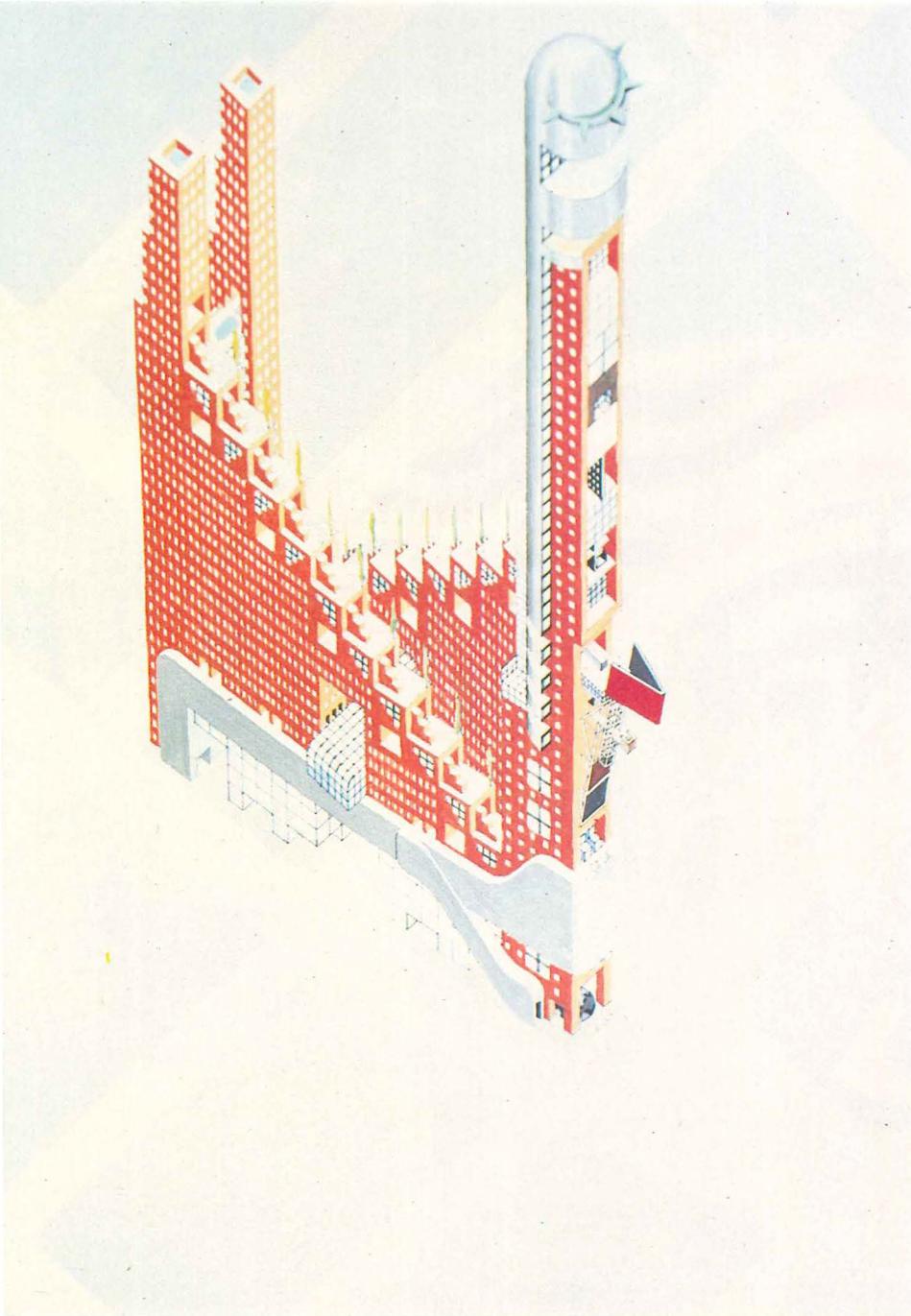
Wallace K. Harrison's X-City, 1946 (above), and final version of UN, 1947–1953 (below).





Rem Koolhaas with German Martinez, Richard Perlmutter; painting by Zoe Zenghelis.

Koolhaas' vision of New York: Welfare Palace Hotel (above); Elia and Zoe Zenghelis' Hotel Sphinx for Times Square (below).



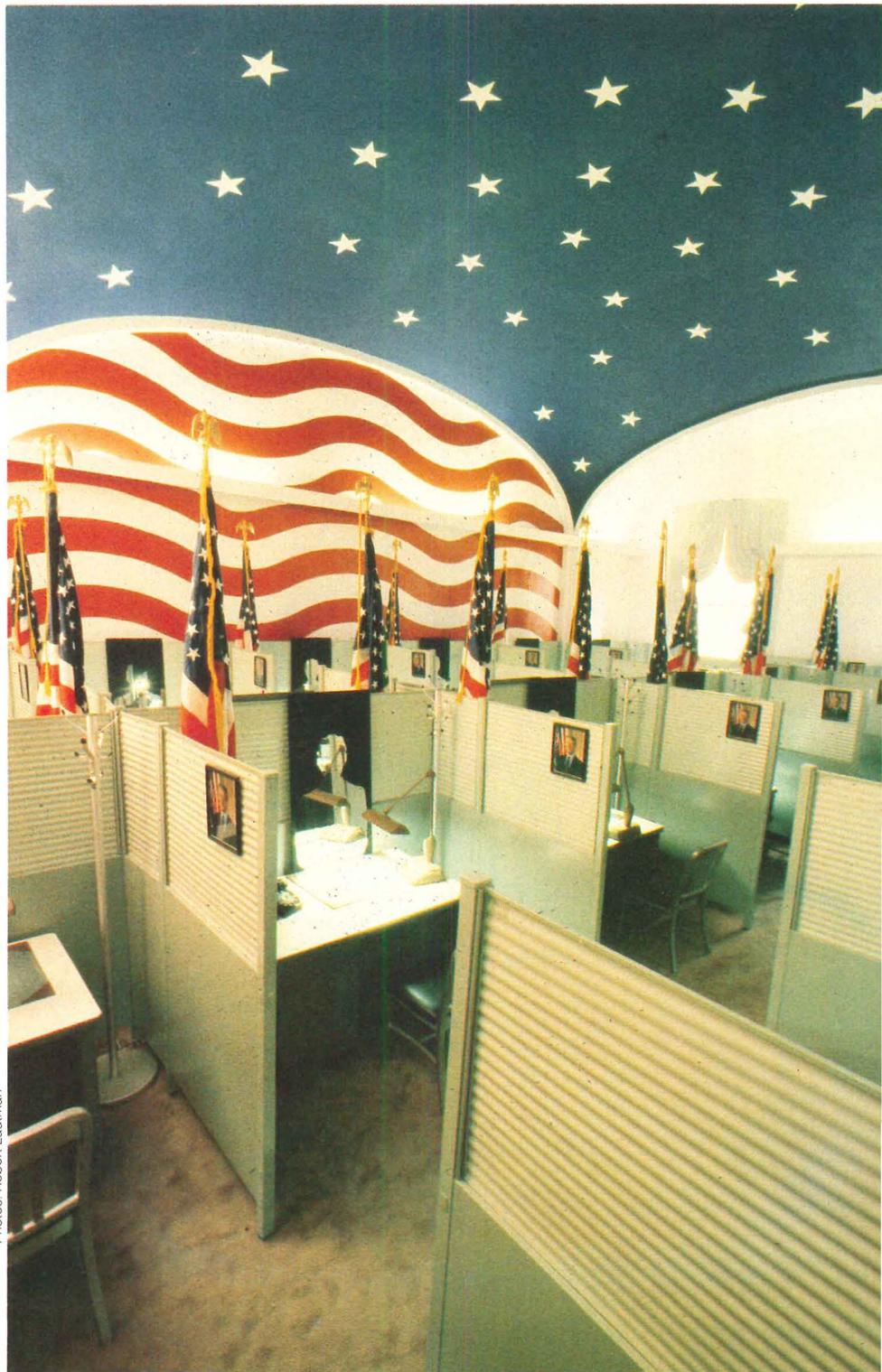
Rooms for improvement

To spur more creative interior design, the Federal Design Improvement Program asked high-style architects to furnish model lounges with GSA-approved items. Some surprising rooms were the result.

In case you haven't heard, our federal government is interested in improving the quality of the design it commissions. To dramatize those efforts, it has been holding an annual series of Federal Design Assemblies, at which agency functionaries responsible for making design decisions can get together to discuss their successes and their failures. The fourth of those convocations was held in Washington this fall (P/A, Nov. 1978, p. 32), and was made more noteworthy by a brave experiment toward better government interior design. The conference planning committee decided to invite several designers to create delegate lounges at the Pension Building (P/A, Nov. 1978, p. 36), site of the Design Assembly. The intended purpose of these rooms was to demonstrate what could be done with standard GSA-approved furnishings, a common complaint among government agencies being the impossibility of designing good interiors with the much-disparaged offerings available to them.

The GSA, the scandal-haunted purveyor of everything from paper clips to buildings for the world's largest office supply consumer, must approve all such purchases made by the US Government. To simplify matters, the GSA has two guides to what can be chosen: The GSA Supply Catalogue (listing things the agency keeps in stock), and the Federal Supply Schedule (listing things that can be ordered on special request). Both sources, but those sources only, were open to the designer and three architects asked to participate in this intriguingly conceived project: Joe D'Urso, Charles Moore, Stanley Tigerman, and Susana Torre. The announcement of those names was an encouraging surprise, for the government has more often than not sought out designers of established reputation and pre-

Stanley Tigerman satirized stereotype of dehumanizing governmental office interiors (below).



Photos: Robert Lautman

dictable result, and not those in the forefront of innovative design, as these four are.

It eventually fell to the designers themselves to solicit donations of furnishings from the makers of the products they wished to use. Though this chance to advertise their GSA-sanctioned wares was not lost on most manufacturers, Joe D'Urso found it impossible to get what he wanted, and he withdrew from the project one month before it was scheduled to open. The three remaining participants were each given two rooms to redesign, and the results were as diverse as they were startling.

By far the most controversial scheme was that of Stanley Tigerman, who used the opportunity to launch a scathing lampoon on the stereotyped image of dehumanizing office interiors created by the federal bureaucracy. Both Tigerman lounges shared a similar stars-and-stripes motif. Alternating red and white bands billowed across the walls under high, vaulted ceilings painted in the age-old representation of the "celestial soffit": white stars against a dark blue sky. In one room, Kafkaesque rows of battleship gray desks—by Metal-Art, Inc., focus of one of the congressional GSA investigations—were ranged in rigid repetition. Each cubicle, set off by frosted glass partitions, was identical: desks were installed backwards (many had visible defects), and every workstation had its own American flag and framed color portrait of Jimmy Carter. Confronting each desk was a mirrored silhouette of head and shoulders against a black background, enabling the imaginary bureaucrat to engage in that reputed governmental inevitability: talking to oneself.

The other lounge by the Chicago architect was a maze of eye-level partitions built of paper bricks (made from pads of forms and file cards, wrapped in plastic) and held together with—you guessed it—red tape. The reaction of some of the organizers was summed up by project coordinator Dennis Reeder, who observed that Tigerman's efforts were "more representative of what we want to move away from, rather than where we want to be going."

The rooms designed by Moore Ruble Yudell of Los Angeles (the latest of the many professional partnerships of Charles Moore, working this time in collaboration with John Ruble and Robert J. Yudell) were considerably more lighthearted than Tigerman's rooms, though they seemed just as baffling to some observers. One lounge, the "Garden Room," was painted sky blue, with outdoor furniture (including umbrella tables) set amidst a multi-level landscape of cut-out plywood trees and cactuses. In a corner stood a grove of topiary trees: the designers had specified plastic, but had to settle for live ones instead. The second MRY design was the "Locker Room," in which GSA-issue steel mesh lockers formed the columns for familiar Moore aediculas, these with plywood pediments and painted capitals. Raised in a place of honor was a symbolic water cooler, shrine of office loafers, its large



Arched mirrors in Susana Torre lounge (above) allude to rooms' original enfilade configuration.

glass bottle dispensing, not water, but white wine.

The best, and certainly the most applicable, of the design solutions were by Susana Torre (P/A, May 1977, p. 76). She produced two interiors of consummate richness and simplicity, qualities which for most designers become mutually exclusive. After researching the original plans of the Pension Building, Torre and her associate, Richard Velsor, decided to allude to the enfilade configuration of the assigned spaces as they were first constructed. The architects used large, arched mirrors set directly across from one another, recreating the effect of interconnected rooms, an illusion that was at once historical and metaphorical. Old, white-painted street lamps were curiously complementary to the generous spaces and looked quite at home with the Victorian detailing that Torre wisely decided to emphasize, underscoring the architectonic character of the rooms.

Colors and furnishings in both lounges were minimal and relaxing, an excellent backdrop for people, but with character and presence as well: these were no bland, institutionally modern settings. A

similar range of colors—beige carpeting segmented with wide bands of brown, and cubical modular seating in black and plum—was used in each of the spaces. One of the Torre lounges was meant to be a conference room, with circular tables surrounded by Emilio Ambasz's and Giancarlo Piretti's Vertebra chairs (P/A, Sept. 1978, p. 99). The other lounge was a favored gathering place among Design Assembly delegates, who flocked there to eat their box lunches, shifting the easily movable modular seating units around to suit their needs.

To be sure, there is a valid place for humor in all the arts—architecture and interior design not least among them. Yet as is always the case with humor, you must consider your audience. Here was a golden opportunity for some extremely talented avant-garde architects to address some highly influential clients in the potential that first-rate design can have. But among the Design Assembly lounges, only those designed by Susana Torre made the most of the chance to speak meaningfully to those people for whom better federal design is no laughing matter. [Martin Filler]

"Garden Room" by Moore Ruble Yudell (below) used outdoor furniture and cut-out plywood "trees."





CARPET BEAUTY THAT LASTS!

The carpet shown here is "IRONCLAD" by Patcraft made of Zeflon 500™ Solution Dyed Nylon that locks colors into the fiber so they won't fade or streak. The dye lots match exactly... The rich, heathery pile... mellow and slightly textured... creates a luxurious wool-like look.

IRONCLAD is permanently shock resistant and soil repellent. It carries a 5-year wear warranty... a life-long Zefstat® anti-shock warranty... a Performance Certification label... and comes in plain colors and handsome coordinated stripes.

... and that's what makes it a PATCRAFT CARPET!

Du Pont TEFLON®
carpet protector



Zeflon 500™ is a trademark of
Dow Badische Company.
Zefstat® is a registered trademark
of Dow Badische Company.



MILLS INC.
Box 1087 • Dalton, Ga. 30720

**A new
aid to
drafting**



**Eliminate
time
consuming
hand lettering with TypitonTM**
(Pronounced Type-it-on)

Typiton is a versatile, pressure sensitive vellum which has a unique surface that takes a clear, sharp impression from a typewriter — **without the need of a special ribbon**. When applied to a drawing, it **will not deteriorate with the passage of time** and will copy clearly on all Diazo reproduction equipment — **without casting a shadow** — appearing as though it had been drawn directly onto the original.

For repetitive work, any master title block, drawing or text can be duplicated onto as many Typiton sheets as required with many of the dry tone office copiers. Additionally, Typiton is particularly compatible with offset printing, making it highly suitable when large quantities of copies are needed. The original work is simply offset onto Typiton which is applied to as many drawings as necessary.

Supplied in packs of 25 sheets of 8 1/2" x 11", Typiton pays for itself many times over by saving tedious hand lettering time and duplication of work.



Contact your local Drafting Supply House — or

**TYPITON Division
AMEROEPAN CORPORATION**
50 Old Hill Road, Hamden, CT 06514
203 — 281-1334

Dealer inquiries invited

Circle No. 309, on Reader Service Card

Manifesto for a magnificent disaster.

Le Corbusier, it was "a magnificent disaster." To Rem Koolhaas, New York is "a mythical island where the invention and attendant architecture could be pursued as a collective experiment." His book is an interim report on that experiment, a heady celebration—in words and drawings and photos new and old—of the sparkling metropolis on the Hudson.

**DELIRIOUS
NEW YORK
Rem Koolhaas**

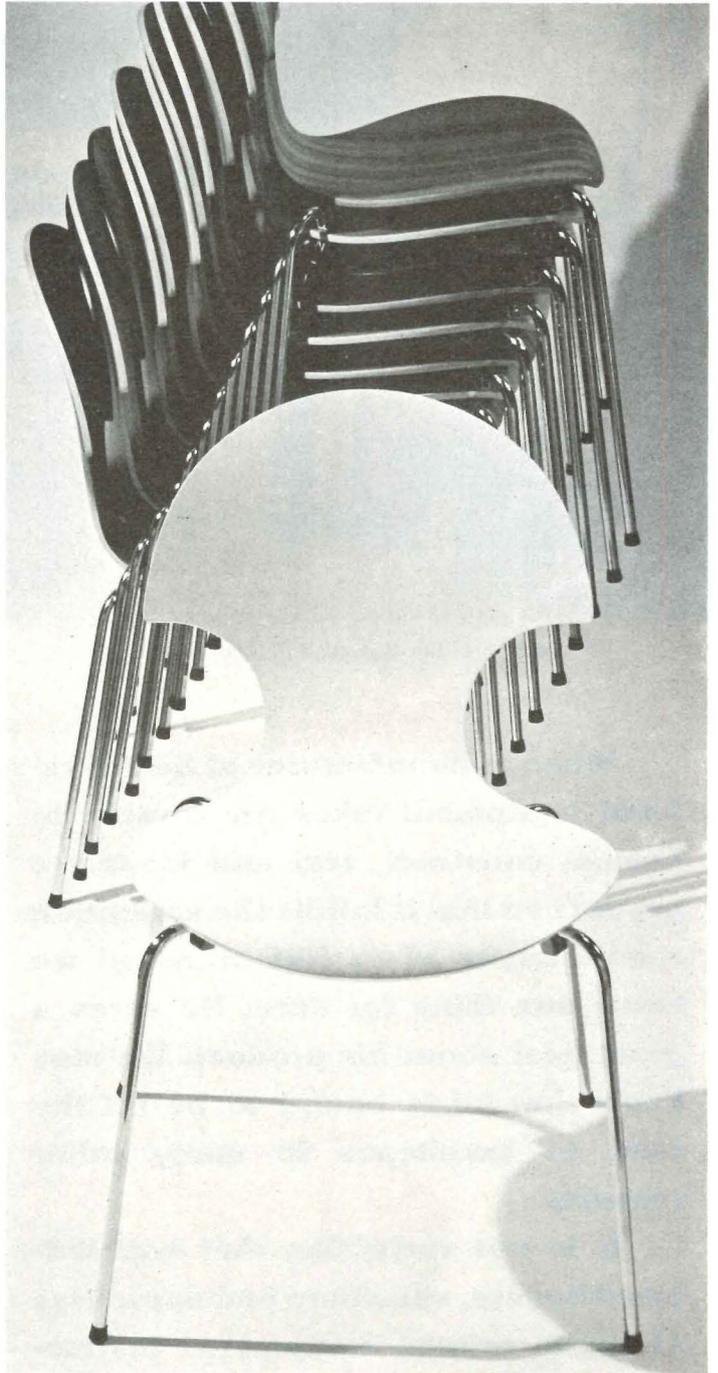
with 400 illustrations
(in color), \$35.00



OXFORD UNIVERSITY PRESS
200 Madison Avenue, New York, N.Y. 10016
Publishers of Fine Books for Five Centuries

Circle No. 346, on Reader Service Card

Functional Art:



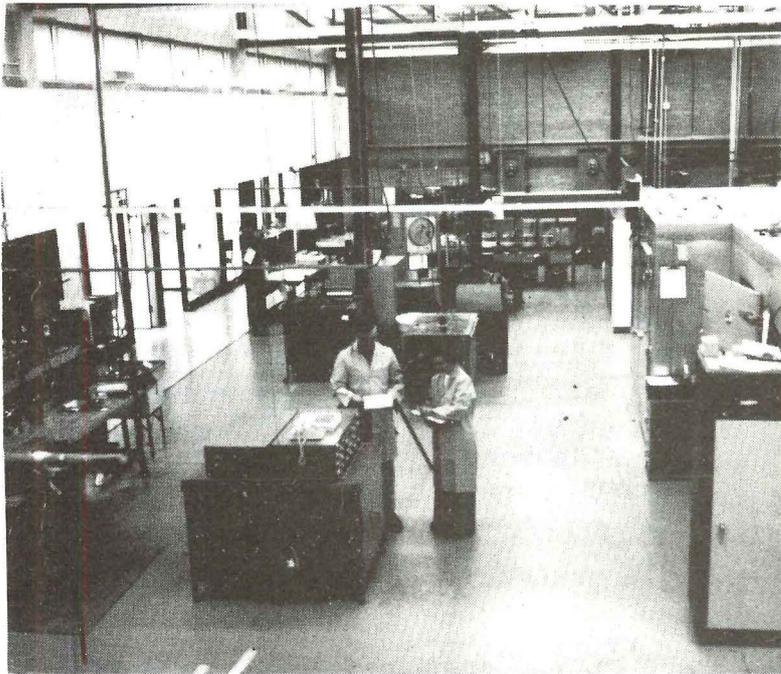
The Violin Chair

Not only is this chair unique in design, it is durable and stackable. Ergonomically formed, the Cado Violin Chair provides long term seating comfort and support. Construction consists of (12) hardwood layers laminated for maximum endurance. Available in teak, oak, mahogany veneers, or white, brown, or black varnishes. Lightweight but sturdy, the Violin Chair is ideal for contract seating requirements.



CADO/ROYAL SYSTEM, INC., P.O. Box C-60, 57-08 39th Ave., Woodside, N.Y. 11377.
SHOWROOMS: 979 Third Ave., N.Y. 10022/Atlanta/Cincinnati/Los Angeles/San Francisco/
Denver/Dallas/Houston/Seattle/Miami.

Circle No. 362, on Reader Service Card



Section of the NSF testing laboratory

When a manufacturer of health related equipment takes the trouble to design, construct, test and inspect a product so that it fulfills the sanitation requirements of an NSF standard we know one thing for sure: He cares a great deal about his product. We also know that he is bound to be on the road to excellence in many other respects.

It is not surprising that sophisticated buyers, specifiers and approvers of health related equipment* instinctively prefer a product that displays the NSF seal.

*Among the NSF-listed products specified by American and foreign architects are food service equipment, plastic pipe and plumbing system components, filters and devices for swimming pool sanitation, and individual aerobic wastewater treatment plants.

NSF

National Sanitation Foundation—an independent non profit, non governmental organization dedicated to environmental quality. Offices and laboratories: NSF Building, Ann Arbor, Mich. 48105 (313)-769-8010

Circle No. 344, on Reader Service Card

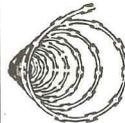
FOR CONSTRUCTION SITE SECURITY SPECIFY RAZOR RIBBON

Patent No. 3,463,4

These days it takes more than a Lock and Key to prevent costly theft and vandalism. The answer is 24 hours a day — Total Security fence topping — Specify . . . Razor Ribbon, "The Mean Stuff" and stop costly losses and work interruption immediately.



CRITICAL AREAS deserve all the protection available, during construction and after completion of a project. Your clients deserve the best — deserve the best. Stop vandalism, theft and mischief with Razor Ribbon coil fence topping.



OUR FENCING SECURITY CONSULTANT is available request to help you with planning and installation, obligation. Call Steve Garner for details and action.

AMERICAN SECURITY FENCE CORP

A subsidiary of American Tube Co.
P. O. Box 6633, Phoenix, Arizona 85005 (602) 272-6606

Circle No. 303, on Reader Service Card

WHAT'S THE RIGHT CHEMICAL FOR CURING, HARDENING OR SEALING CONCRETE?



Ask the Symons experts.

Abrasion resistance? Moisture penetration resistance? Natural dust free surface? When concrete surfaces need curing, hardening or sealing, it's easy to specify a Symons chemical compound that offers the right combination of benefits for your particular job. Economical Symons Quad Cure® tough Symons Cure & Hard, versatile Symons Cure & Seal, smooth Symons ACS Sealer—they're all explained in our big, detailed catalog, "Chemicals for Curing, Hardening and Sealing Concrete."

Write today for your free copy.



Cost-saving concrete forming systems by
SYMONS

SYMONS CORPORATION
200 E. Touhy Ave., Dept. 8L94
Des Plaines, IL 60018 USA • 312 298-3200 • TWX #910-233-3500

Circle No. 364, on Reader Service Card

FOR CRITICAL AUDIENCES ONLY.



YALE CENTER FOR AMERICAN ARTS—ARCHITECTS—HERBERT S. NEWMAN ASSOCIATES, AIA—PHOTO—NORMAN McGRATH



One performance after another, you'll find the Castelli name catching on. The **Axis 4000** seating system is an integral part of any theatre experience. It provides the kind of dramatic impact demanded by varying programs. With interchangeable parts and accessories to accommodate critical audiences everywhere.

 **CASTELLI**
FURNITURE

CONTRACT AND RESIDENTIAL • 950 THIRD AVENUE, NEW YORK, NY 10022 (212) 751 2050
1150 MERCHANDISE MART, CHICAGO, IL 60654 (312) 828 0020

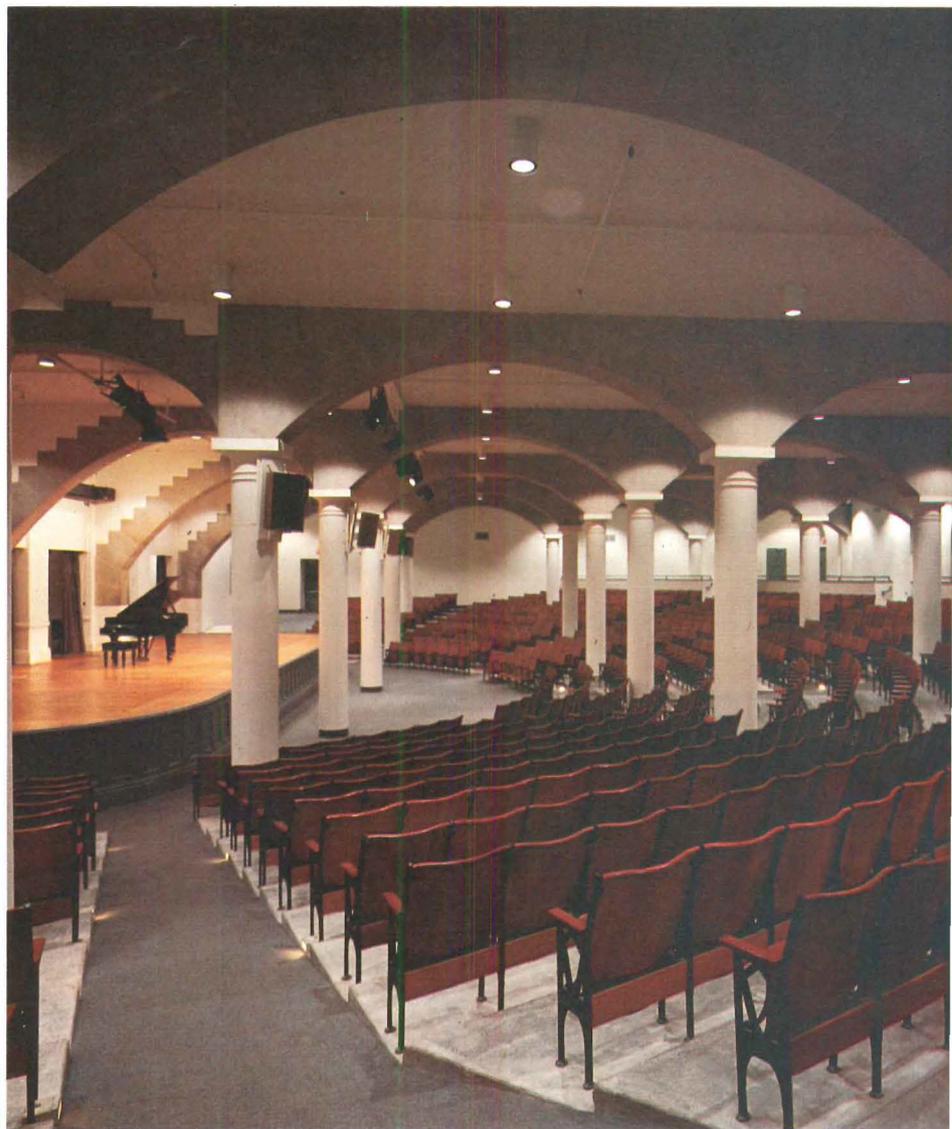
Returning to their seats

The specification of auditorium seating was a seat-of-the-pants operation for many architects and interior designers. But now, because of increased activity in auditorium and theater construction, they are getting into the act once again.

The periodic rise and fall of activity in various building types (and even the periodic emergence of new ones) can be seen as an interesting—if incomplete—indicator of architecture and design trends over the years. A good example of that cyclical movement can be seen in theaters and auditoriums, the construction of which has had its ups and downs over the past three decades. In the late 1940s, during the great post-war construction boom, there was a marked increase in school buildings at all educational levels; and rare was the new school that did not contain at least a modest auditorium.

This boom-within-a-boom went on for some 20 years, until the triple-threat of recession, revision of federal funding for education, and a falling birthrate all combined to bring activity in school construction to a virtual halt. With theaters, there has been an almost opposite development. In the late 1940s and early 1950s, theater construction fell off sharply under the direct competition of television, which was then made available for the first time to a mass audience. But by the 1960s, the burgeoning culture boom in the US and the resurgence of movie-going among a younger generation spurred activity in that building type once again. Municipalities, cultural organizations, and educational institutions vied with one another to erect the most comprehensive, innovative, or at least the most impressive, token of America's newly discovered interest in the performing arts. Through those changing times, architects seemed to have lost interest in the specification of auditorium seating. As firms grew larger in the 1960s, the team approach to design became more prevalent, and auditorium seating became more than ever the province of design specialists.

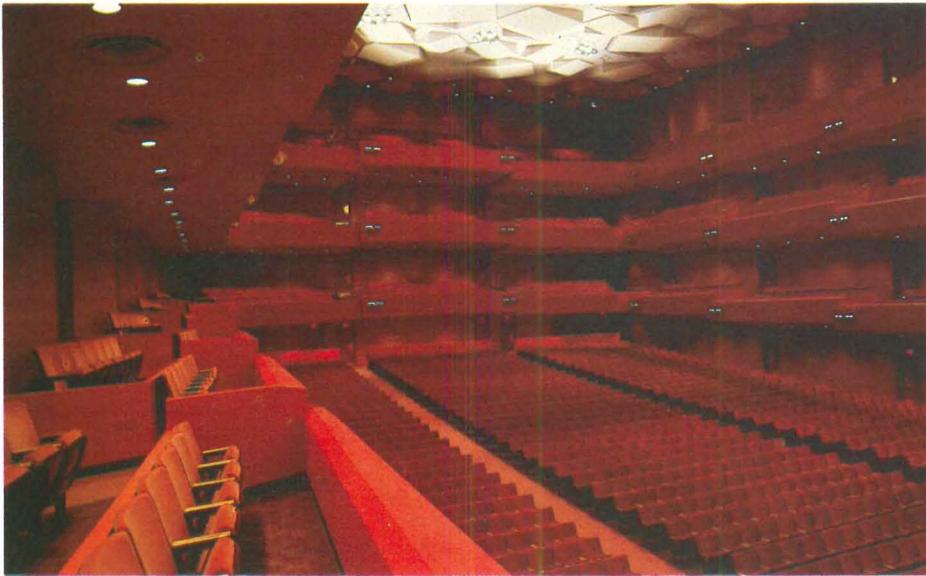
The Great Hall of Cooper Union, New York, originally designed in 1859 by Frederick A. Peterson, and reconstructed in 1975 by John Hejduk. Auditorium retains refurbished 19th-Century seating.



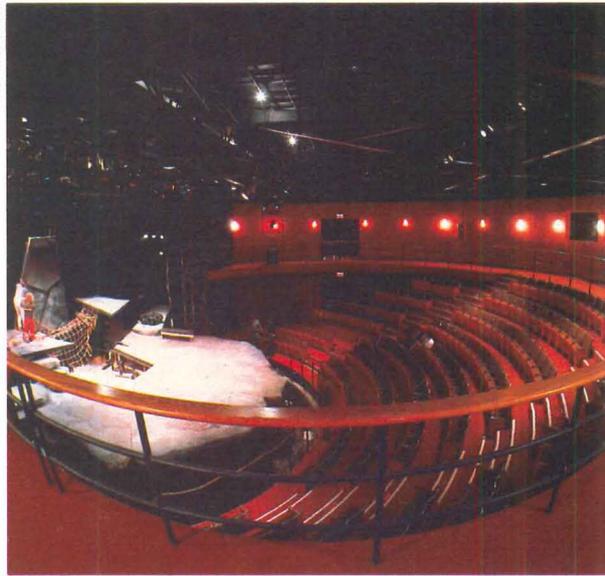
Sian Ries

But things have changed quite a bit. The manufacturers of auditorium seating in the US rather uniformly report an increased interest among architects for auditorium seating specification information. At one time, the average architect was willing to hand over the task to a specialist or even to the manufacturers themselves, indicat-

ing the area to be filled and the number of seats required by the client, and asking for a suggested installation scheme. Whatever the reasons for this change—be they the increased time many architects have had to devote to such things, or changing methods of practice among a new generation of architects, or a feeling of greater mastery through knowledge of all aspects of design—the results are clear. More co-



Norman McGrath



Norman McGrath

Three recent auditoriums by Hardy Holzman Pfeiffer Associates, one of the leading designers of concert halls and theaters in America today: Orchestra Hall, Minneapolis (top left), seating by American Seating Co.; Agnes DeMille Theater, North Carolina School for the Arts, Winston-Salem (top right), seating by Heywood Wakefield; Boettcher Concert Hall, Denver Center for the Performing Arts (right), seating by Airborne/Arconas, custom designed for Boettcher Hall by Morrison & Hannah.

herently designed auditoriums and theaters can come about only when assembled by people who know not only how to do it, but what to think about as they go about doing it.

The seven basic areas of concern in specifying auditorium and theater seating are these: acoustics, comfort, design, durability, maintenance, safety, and visibility. Here are some capsule descriptions of what the specifier will need to know in each of those important categories:

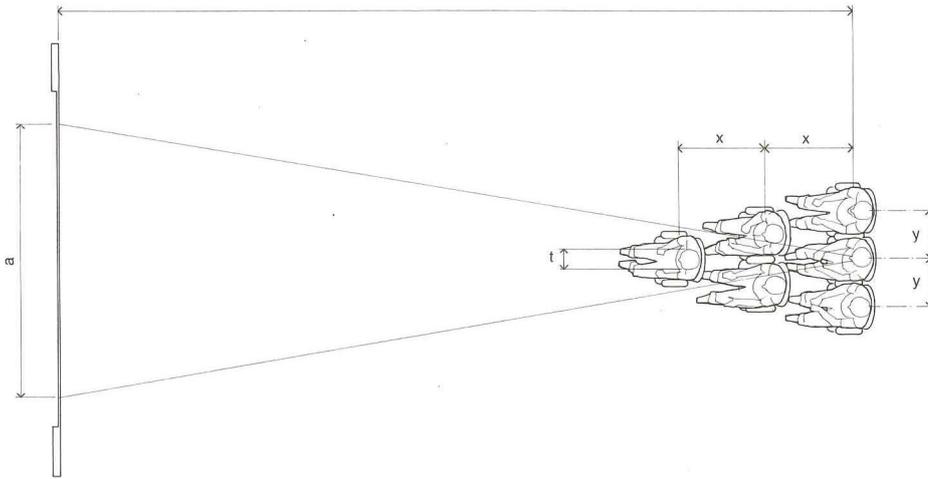
Acoustics

The sound absorptive/reflective properties of auditorium seating (whether the seating is heavily padded and upholstered or made of uncovered molded plywood or plastic) is one of the most important contributing factors in creating the acoustics of a concert hall, theater, or auditorium. This is even more the case in the redesign of such spaces, which is frequently for the express purpose of acoustical improvement. Short of a full-scale reconstruction of a hall, one of the few variables at the acoustician's disposal is the modification of the auditorium's seating. Since a concert hall can contain several thousand seats, those seats can become the dominant physical factor in sound dispersal. Of more basic importance is the configuration of the hall itself, and in truth the seating within it can only modify what exists there essentially. The acoustical qualities of auditorium seating vary greatly and can be made to vary even more at a client's request. Thus, early consultation with an acoustics specialist will help the architect



Norman McGrath

Auditorium seating



to better understand the impact that his proposed specification will have on the acoustics of the space being designed. The limits set here by physical laws are no less real than those imposed by architectural structure, and to ignore them can be as risky as it can be potentially disastrous.

Comfort

User responsiveness to an auditorium can effectively center around how comfortable it is to sit through the movie, concert, opera, or lecture being presented there. The increased awareness of ergonomics has not escaped the designers of auditorium seating, though less has been made of it in this fairly small industry than has been by the makers of office seating, for example. To European theater designers, American auditorium seating had long been thought to be *too* comfortable, in the sense of providing a potentially soporific setting at the expense of keeping the sitter mentally alert: which is a bit like saying that theater audiences should also be barred from dining before a show or taking a drink at intermission, two other known sleep inducers. The fact is that seating comfort comes not from padding but from structure, and some of today's less plushly upholstered seats are considerably more comfortable than their softer predecessors. "Auditioning" seats in various installations, and keeping records of seats encountered when off the job are the best ways of familiarizing oneself with this admittedly subjective aspect of specification.

Design

The finicky architect, known to prefer one chair over another for the more felicitous placement of a screw, will have a much easier time of it now than 20 years ago in finding auditorium seating that is up to his otherwise satisfiable standards of design. The influence of Europe has had a lot to do with this, and now it is possible to find a wide selection of auditorium seating that is quite handsome when seen singly, and not like much of that used in the past, when one would be grateful when the house lights went down so as not to have to see

the seats for an hour or so. The choices are wide and preferences are personal, but approach the decision with greater confidence than ever before.

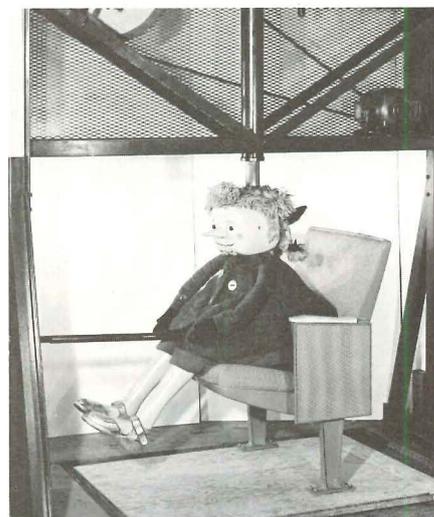
Durability

The life of an auditorium seat can be guessed by the potential audience of the hall: longer for a DAR auditorium or medical school amphitheater than for a junior high school auditorium or sports arena. But save for the most protracted abuse, the vast majority of auditorium seating is amazingly durable, as witness the original seating that still exists in some 50-year-old movie houses. The rigorous testing performed by manufacturers, plus the rating standards of many institutional or governmental purchasers of large-scale seating, make this pretty much a case of looking at the research and deciding on the most favorable figures for your installation.

Maintenance

The expected upkeep capability of the client must be kept in mind, as well as the

Symbolic of the rigorous testing to which auditorium seating is subjected by manufacturers is American Seating Co.'s "Squirmy Irma" (below) which simulates high-abuse conditions.



Staggered auditorium seating: How to calculate
For a given row spacing x and seat spacing y the unrestricted width of view of the stage (a) seen from any seat is proportional to the distance (d) of that seat to the stage; i.e., $a = kd$ where k is a constant $y \div x$, t being the thickness of one head: e.g. if $x = 900$, $y = 500$ and $t = 200$ then $k = 0.33$. Thus at 9m from the front of the stage: $a = 0.33 \times 9 = 3m$; i.e., 3m width of the stage can be seen without interruption which is one-third of the average 9m proscenium opening. The value of staggering becomes progressively less the more oblique is the seat to the line of sight through the focus of the stage. If rows are straight, heads in front will be more obstructive. Using the constant k the uninterrupted view can be found for any seat in the auditorium, assuming that seats are directly facing the focus of attention. (From *Theatre Planning*, edited by Roderick Ham, University of Toronto Press)

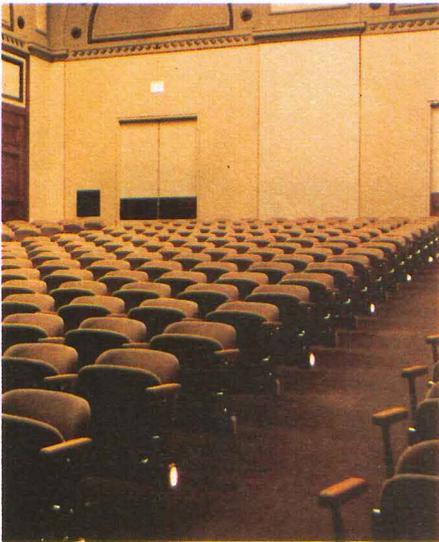
traffic estimates for the auditorium, in determining how easy a certain type of seating will be to maintain. The dirt-resistant properties of the upholstery, whether smoking or the consumption of food and drink will be permitted, the distance between rows and the angle of the floor's slope (allowing access to cleaning personnel), size of maintenance staff, and frequency of cleaning are all important considerations. Given their experience with and exposure to all kinds of unforeseen maintenance problems, the auditorium seating manufacturers are the best source of information on what to expect from a certain choice of seating for a given type of installation.

Safety

The frequency of theater fires in the early years of this century led to very strictly regulated coding requirements for theaters and auditoriums. As a result, it is standard to perform flammability tests on auditorium seating to determine the fire resistance of upholstery fabrics, interliners, padding, and frames. Ease of exit from rows of seats during an emergency is another important consideration, and a key one in working out the relationships between seating and emergency exits. More minor considerations include exposure and sharpness of hardware, especially among age groups where fidgeting and "exploring" are to be expected. State or municipal regulations are the designer's chief guide here, though common sense and a critical eye are also essential when considering this most important of all specification criteria.

Visibility

The relegation to the ash heap of history of the old saw "Lady, will you please remove your hat?" is as much due to improved auditorium design methods as it is to the demise of the millinery industry. Staggering rows of seats, using seats of slightly varying widths, raking the angle of the floor are all effective methods of ensuring good sight lines for members of an audience. This is one area in which the well-trained



Norman McGrath



"American" seating configuration usually has one or two aisles, as in Chicago Board of Trade (above left), seating by Castelli. "Continental" seating extends from wall to wall, as in AT&T auditorium in New Jersey (above right) and Kimbell Art Gallery in Fort Worth (below), seating in both by JG Furniture.

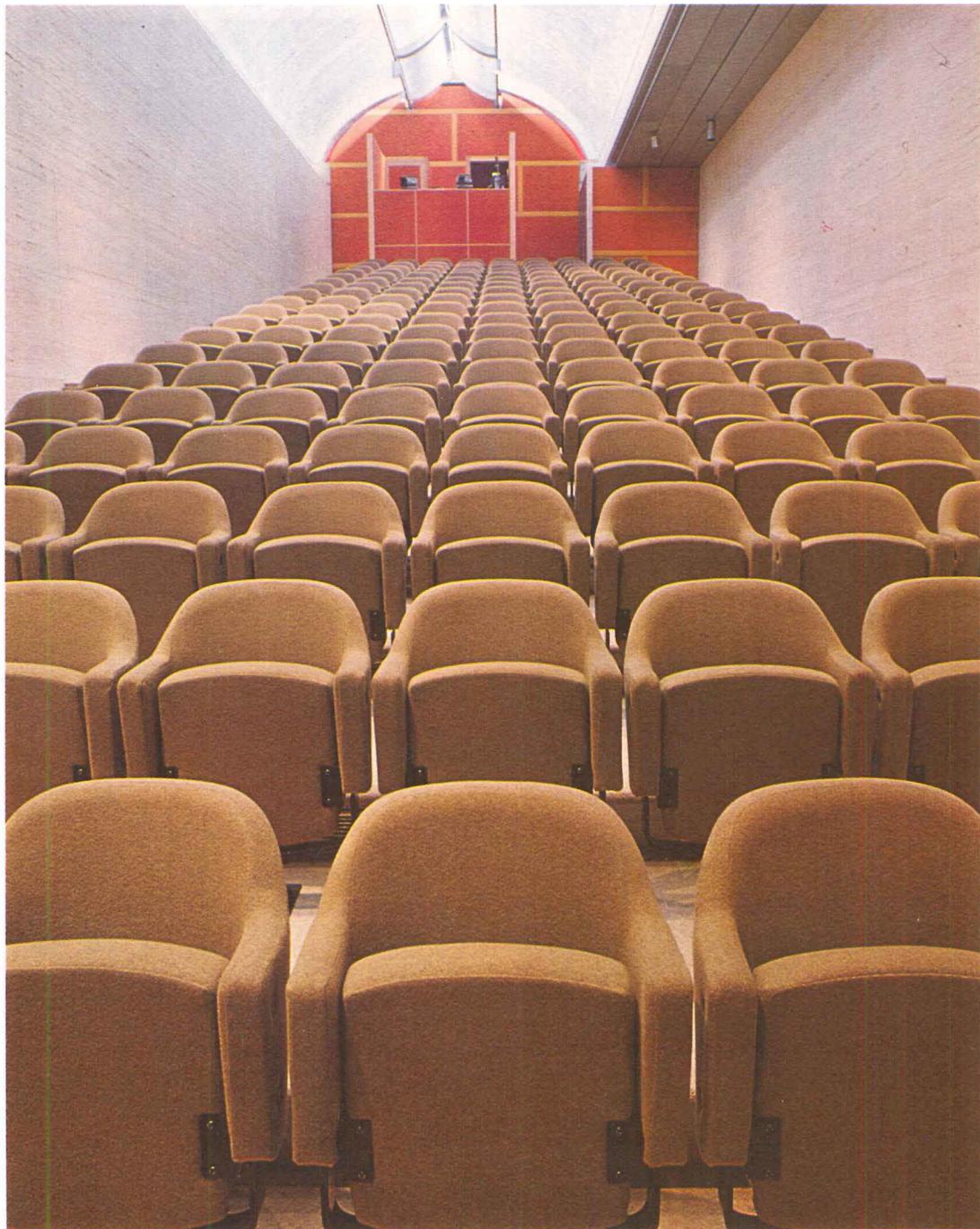
architect should have a distinct advantage. The development of the surrounding space in concert with seating requirements should make the best vantage point of every user of the hall a real, and superable, goal to attain.

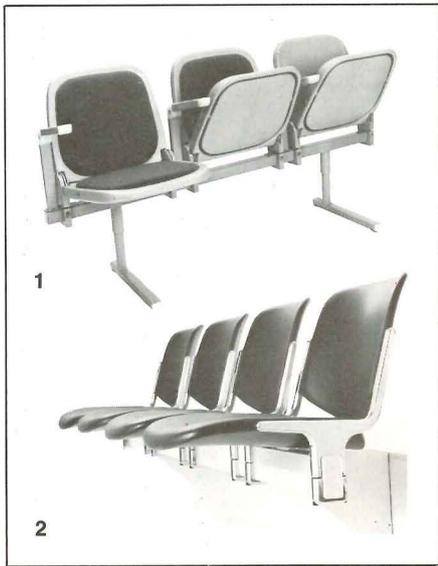
Putting it all together

Keeping these seven major specification criteria in mind, the architect must then proceed with several other important considerations if an effective auditorium design is to be achieved. The first of these is the necessity to keep seating specifications in mind from the earliest possible phase of the design process. Too often, the choice of auditorium seating becomes a costly afterthought because sufficient advance planning was not given to the client's requirements. In general, the major requirement of the auditorium client is seating capacity, and all other aspects of design specification take a back seat to that profit-oriented motive. If everything else is sacrificed to that one end, the final result could well be a space that fails to provide comfort, sightlines, safety, or any of the other essential requirements, leaving the client with the options of costly renovation or even costlier public rejection of the theater or auditorium.

What can the architect do about this? Part of the successful architect's abilities has always been the ability to draw a client into considering what is really desired, establishing priorities, and expressing preferences among the multiplicity of possible design solutions. It is to the architect's benefit to begin encouraging this process early on, so that there is sufficient time to incorporate the client's ideas into an overall scheme that can accommodate the ideal conception within the realities of program, budget, site, and schedule. And doing it as soon as possible is in keeping with the advice of P/A's recent Interior Design Roundtable (P/A, Sept. 1978, p. 70), which urged that the early attention given by architects to other factors be extended to their interior design responsibilities too.

Who can best advise the architect unfamiliar with the whys and wherefores of



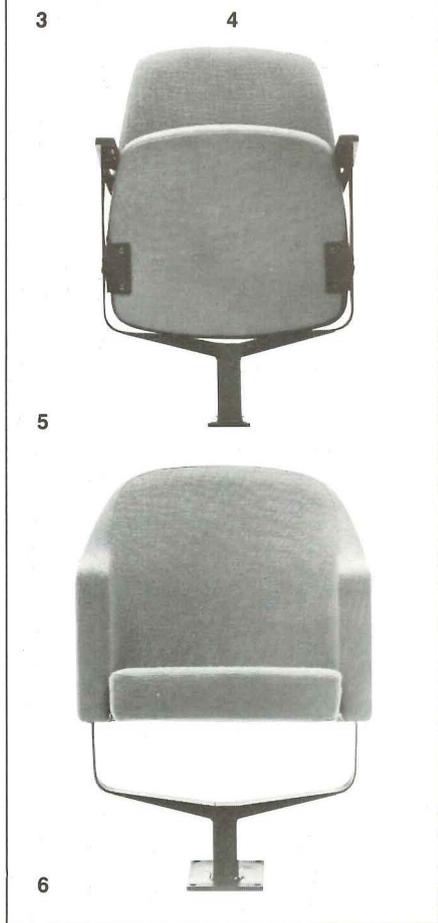


Current seating offerings: **1.** Uni-Max system, American Seating. **2.** Axis 3000 system, Castelli. **3, 5:** 62 63 series, JG. **4, 6:** Westminster series, JG. **7.** King Lounger, and **8.** Quad-riline series, both by American Desk Mfg. Co.



The fire resistance of seating is one of the most important factors in determining auditorium safety. Burn tests (above) cosponsored by American Seating Co. (chairs), E.I. du Pont de Nemours & Co. (test facility), and Performance

Seating Materials, Inc. (cushioning foams) show the comparative flammability of standard polyurethane foam cushioning (left) and the much lower flammability of neoprene foam cushioning (right) under identical conditions.



auditorium seating? The manufacturers' representatives of the major auditorium seating makers are far and away the most knowledgeable sources for specification information. This is especially true now, when the proliferation of auditorium seating types, and their increasing specialization for precise installation uses, can make the job of selecting correct seating a rewarding task for the careful, but a hazardous one for the uninformed. Too often a client has a certain type of seating in mind without realizing that the setting he wants it for might be totally inappropriate for such seating. That preference might be passed on to the architect, who, grateful for any expression of choice by the client, might uncritically go along with the idea, however unsuitable (and potentially disastrous) the selection might be. The major pitfall architects must keep in mind is that fixed auditorium seating is extremely expensive to modify or replace once it has been installed, so in its specification and installation it is of paramount importance to be safe rather than to be sorry.

The kind of multidisciplinary awareness required for the successful design of a workable, comfortable auditorium environment makes this a natural growth area for architects. As coordinator of the design decisions to be made in each of the seven areas listed above, the architect is in an ideal position to bring together the physical and the aesthetic, the practical and the poetic aspects of one of man's most important building types, the dual nature of which neatly parallels that of the architectural profession itself. [Martin Filler]

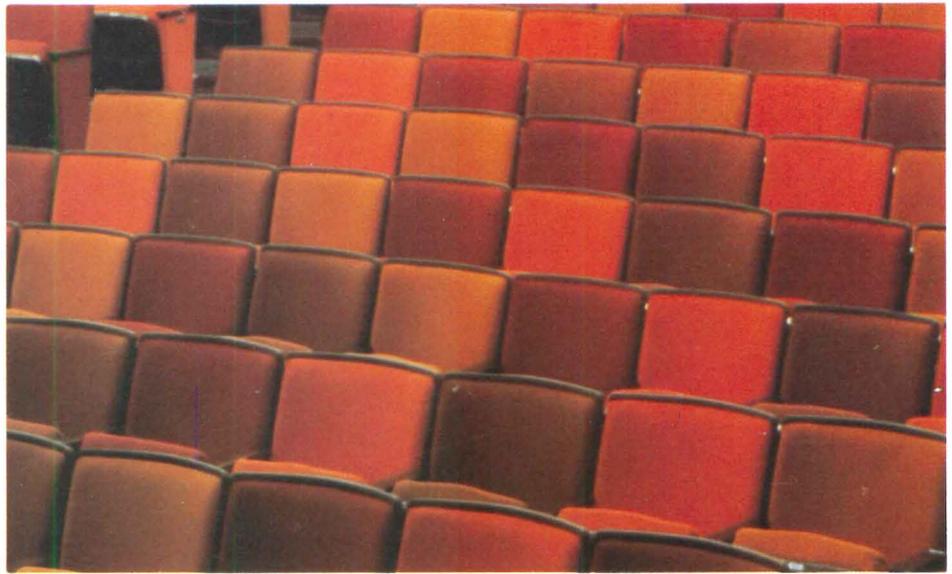
Acknowledgments

We wish to thank the following individuals and manufacturers for their help in preparing this article: American Desk Manufacturing Co.: Ray Barnes. American Seating Co.: Joseph McEvoy, Richard L. Nolan, Laurie van der Stoep, Laura Hanish—Hanish Associates. Castelli: Peter Conant, Janice Henley, Sandro Longarini. DuPont: Marjorie Reiners. JG Furniture: Matthew Pizsel, AIA, Ronald Roussel. For auditorium seating product and literature information, see page 93

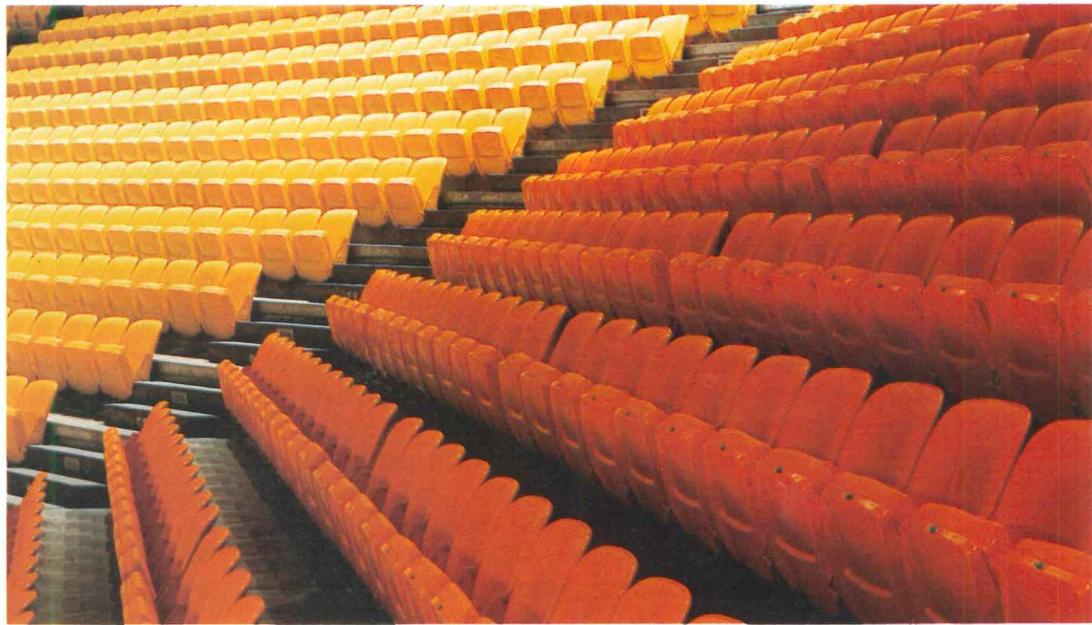
The use of color as a design tool in auditorium seating shows that the profession has come a long way since the days when seating was generally seen in a color spectrum ranging from maroon to brown. Here are six colorful installations by American Seating Co. (1, 3, 4), Castelli Furniture (5, 6) and JG Furniture (2), which illustrate some of the imaginative ways in which auditorium seating can be used to create a number of different interior design effects.



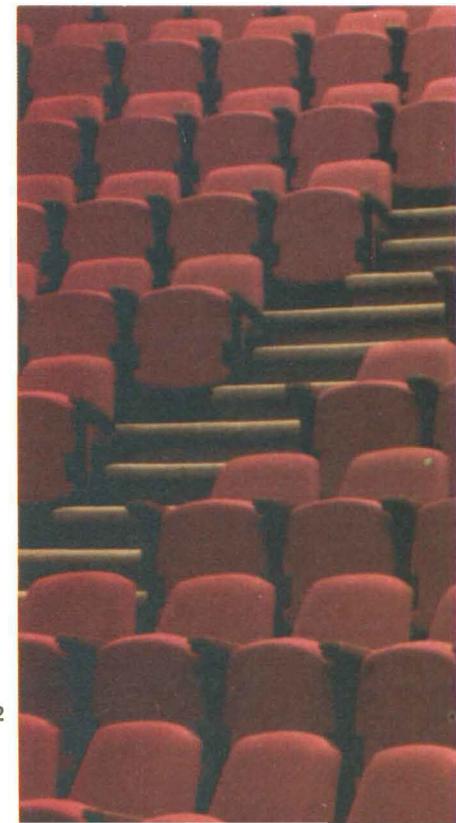
1



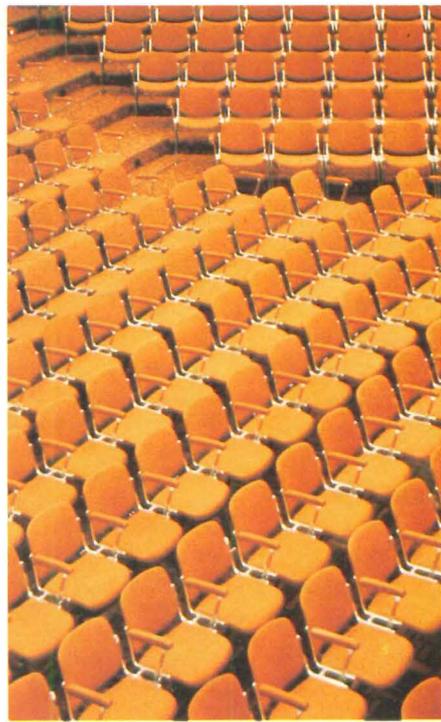
3



4



2



5



6

A move afoot

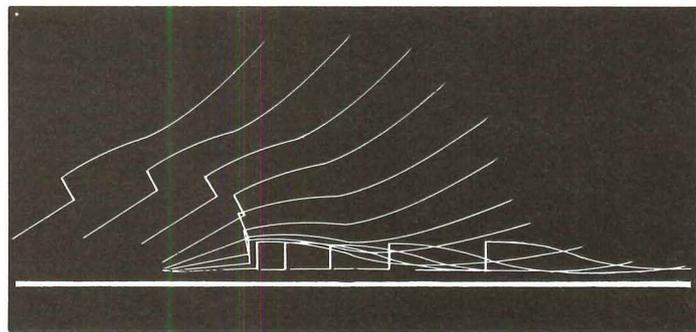
A single paving material in plaza and lobby floors brings spatial richness to the entrance experience. Modern examples choose from a wealth of products. Floor designs must be as safe as they are splendid.

Architects I.M. Pei, Philip Johnson, Hugh Stubbins, and Kevin Roche all agree. Their agreement couldn't be more basic. It's the floor! The paving materials used inside their buildings on the ground floor regularly terminate at the curb outside. Architects as diverse and talented as these must see an innate and undeniable architectural quality to be gained from extending the indoor paving material to the street.

Only a select few paving materials can be used effectively both outside and inside a building. Many perfectly satisfactory interior materials will not withstand weather. Kevin Roche cites extensive lobby traffic as a reason to bring outside in. Many durable exterior products cannot be easily maintained or are harmful to furnishings within the building. In a successful plaza/lobby, the exterior paving therefore acquires the refinement generated from the interior space, and the interior floor must take on the security and permanence of the exterior. If both interior and exterior walls have a positive color and textural relationship to the same floor surface, a positive relationship probably exists between the inside and outside wall surfaces. An added restriction for the plaza/lobby floor is that it must relate to these walls. The result is a rich potential for spatial continuity between the inside and outside of the building.

There is more than meets the eye when the shoe hits the paving. In addition to maintenance, durability, and aesthetics, there is the simple matter of friction forces between the shoe and the walking surface. Thousands of people each year suffer slips and falls; older people chance serious injury and even death. As grave as the problem is, it is only in the very recent past that efforts have advanced our knowledge to the brink of usefulness.

Some buildings are approaching effective designs for safe entry at the expense of material consistency. Others aim for elegance at all costs. The good architectural solution is not beyond reach but requires that we exercise the proper precautions. Let's look.



Paving notebook

Pounding the paving in Boston, New York, and Chicago is as good a classroom as any of the architecture of the plaza and lobby floor. The modern high-rise was born and bred in these cities and ideas have a way of flourishing in them. The paving vocabulary which some of these buildings have used is shown on the facing page.

Terrazzo: Lever House in New York (1952) was probably the first example of a building which used exterior placement of terrazzo. Its near neighbor, Union Carbide, also by SOM (1960), followed with its pink terrazzo extending to the curb. The Prudential Tower in Boston by Charles Luckman & Associates is a 1960s version of terrazzo plaza work. **(6)** The two Illinois Center buildings, by Mies in Chicago, are early 1970s examples.

Stone: Across the street from Lever House, Mies preferred granite in the Seagram building. Across town, Eero Saarinen matched his cladding with granite paving stone at the CBS Building. **(2)** Johnson & Burgee sequenced McKim Mead & White's pink granite with their own granite facing and paving on the addition to the Boston Public Library. **(4)** At the opposite corner of Copley Square, I.M. Pei's delicate granite pavers outside the Hancock building yield to larger blocks on the interior. A granite paving solution is used in C.F. Murphy's Chicago Civic Center (now the Daley Building). The Chicago Federal Center, a Mies complex, is granite facing and flooring as is the more recent Monroe Center building, a C.F. Murphy design. Travertine marble, more popular inside than out, has a plaza/lobby application at the Marine Midland Bank in lower Manhattan and at Chicago's recent Connecticut Mutual Life, both by SOM.

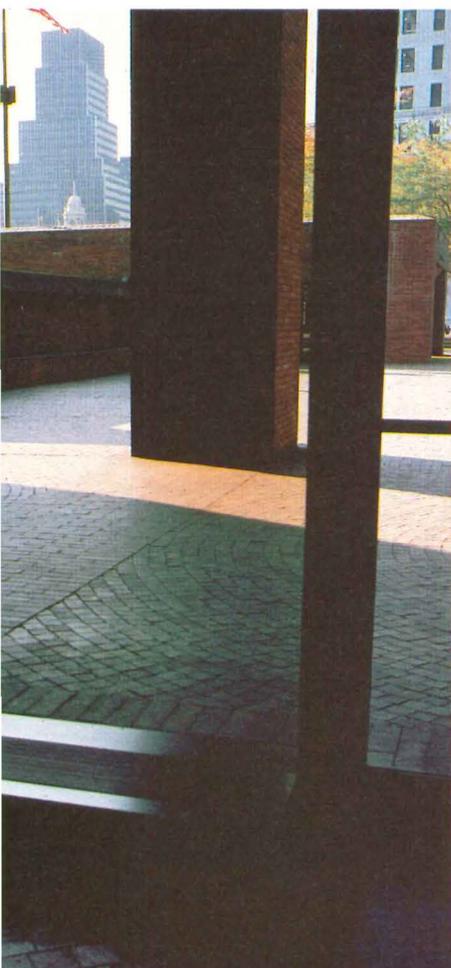
Brick and tile: Brick and ceramic tile pavers have found an increased market in recent years. Roche, Dinkeloo's Ford Foundation masterwork in New York uses flashed, round-edge brick pavers in spite of a granite cladding on the vertical planes. **(5)** Brick pavers at the Christian Science complex in Boston by I.M. Pei & Partners, Araldo Cossutta Associated Architect, extend the pavement from its plaza fountain to the lobbies in the supporting buildings. **(3)** Gruzen & Partners made extensive use of patterned paving brick at the new Police Headquarters in lower Manhattan and its three-acre landscaped brick plaza. **(1)** New York's new Citicorp building by Hugh Stubbins & Associates reaches inside with its imported thin-set tile.



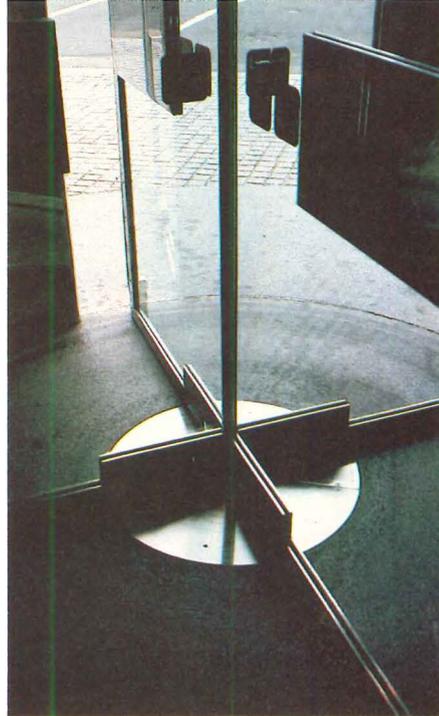
1



2



3



4



5



6

Photos: Richard Rush

Dressing up a structural slab

Stone: Peter Pirozzi is president of Peter Bratti Associates, a New York City stone-setting specialty contractor and engineer. Among their many projects, the Bratti company installed the granite paving at the Seagram building and the addition to the Boston Public Library. Pirozzi calls granite: "the Tiffany of the stone industry." It is the most expensive—but many feel the most durable—paving product available. Granite paving blocks are usually square, ranging from 2 ft to 5 ft on a side at 1¼ in. thick. The weight of granite is estimated at 168 pounds per cu ft, and it is certainly easier to lay in sizes men can maneuver easily.

Three finish surfaces are available: flame or thermal finish (the most coarse), polished (the finest), and honed (ground down but not polished). The Chicago Federal Building uses thermal finish on the outside pavement and honed on the inside floors and walls. Purists who prefer the same finish outside and inside probably choose honed. It is finished enough to use inside and rough enough to resist slipping outside.

There are two schools of practice on the setting of stone pavement. The joints can be grouted or sealed allowing the water to drain off the whole paved surface, or they can be left open allowing the water to drain through the joints into the sand and/or gravel drainage bed below. Another possibility is corner support of the slabs using small plastic chairs which both raise the slabs and space them. When used over a slab with habitable space below, a waterproof membrane is needed which will follow the pitch to drain.

Each system has its believers. William Lohmann of C.F. Murphy Associates in Chicago doesn't trust a sealed joint. Maintenance is needed periodically and nature will sooner or later prevail. He prefers to set mortarless exterior pavement using a sand or gravel bed and a thick mortar bed inside the building. Of course, a transition situation exists between the two floor-types.

Pirozzi lays 99 percent of his granite floor material in a mortar bed. He alludes to the freeze-thaw heaving problem which accompanies poorly drained sand or gravel beds. He prefers the joint maintenance to the occasional shifting pavement slabs. Open joints also include the possibility of clogging with debris.

In production, granite slabs may warp slightly. A thick mortar bed accommodates such variations. A sand and cement mortar mix is worked into place with screeds and given the necessary slope. A dust coat of cement is applied and then the stones are placed and pounded to reach the proper slope. A joint of ¼ in. is normal unless the edges of the blocks have been ground to great accuracy and can accommodate a closer fit.

Recent acquisitions by Mideast states have escalated the cost of travertine marble. It is not as strong as granite, so the paving blocks are smaller, meaning more



Futurus Inc.



NBS

Richard Rush



The Ford Foundation, New York, Roche & Dinkeloo

Dr. Robert J. Brungraber is shown (center) operating his invention, the NBS-Brungraber Portable Slip-Resistance Tester. The machine measures the static coefficient of friction between a shoe sole and a walking surface, wet or dry. Water can cause a slip. Architects can dry the shoe with (left) a heavy duty carpet or (right) a rubber mat designed into the floor of the revolving door.

joints. Tight joints inside and wide joints on the exterior are used in Chicago's Connecticut Mutual Life Building. Travertine setting methods are similar to granite with the exception of corner support. Inside, the travertine surface holes are usually sealed for maintenance reasons.

Slate is another stone which can be laid as an indoor/outdoor pavement. Large-block installation is similar to the granite methods described. Smaller "tile" sizes use the tile methods.

Brick and tile: Brick and tile represent a totally different range of paving color and texture from that of stone pavement. Alan Yorkdale of the Brick Institute of America stresses the potential of mortarless joints in brick paving. Bricks are more porous than most materials, and water is less likely to stand on the surface or generate large "run-offs." Leaving out the mortar joints cuts construction expenses. A more precise brick is used, and breakage and weathering damage can be controlled by ease of replacement. Damaged or cracked bricks disappear visually, anyway, in a sea of joints. Bricks can be placed on the face or the edge. If a kord brick is used, the holes are concealed by using the brick on its edge. A paving brick is designed to be laid flat and is a dense, durable, SW (severe weather) brick.

Tile can make a very attractive first cost case against stone pavement. Quarry tile and paver tiles are priced by Pirozzi in the range of \$3 to \$7 per sq ft installed. Travertine starts at around \$7.50 to \$9 per sq ft, while granite begins at \$11 and rockets to \$23 depending on the size, finish, and mode of installation. Ceramic tile is also priced attractively but is not commonly used for exterior applications in this country. All tiles can be used glazed or unglazed. Exterior glazed tiles are not recommended by Pirozzi in severe weather conditions because of shaling problems. Inside, of course, glazes range over the rainbow of colors. Sizes and shapes are also varied (see P/A, March 1978, p. 94). Thin-sliced bricks also are available which look like bricks but are laid like tile. Thin-set application speeds construction.

The two basic setting methods for tile are thick-set and thin-set. Thick-set consists of a mortar bed normally 1 1/4 in. in thickness, with a sand-cement mortar. The drainage slope is usually taken up within the mortar bed. If a latex liquid is substituted for water in the mortar mix, a much thinner sand mortar can be used. The Citicorp building in New York employs an English tile set in a latex-portland cement mortar bed.

The term thin-set refers to a mortar bed 1/4 in. thick or less. Including the latex-portland cement version mentioned above, two types of adhesive (commonly used inside) are available: organic and inorganic. Because the setting bed is so thin, the drain slope must be taken up in the structural slab, a possible drawback. The adhesive application techniques are faster than cement mortar, a definite strength. An organic adhesive can triple the area covered by conventional mortar techniques per day, at attractive costs per sq ft. *The 1978 Handbook for Ceramic Tile Installation* is published by the Tile Council of America and is an excellent source of detailed information on the subject of tile floors.

Bituminous binders have also seen good service in plaza applications. The Christian Science buildings in Boston have asphaltic mortar bed, with cement and sand swept into the joints. The Police Headquarters plaza also employs a bituminous binder with latex-portland cement joints. The bituminous binder is preferred in these large plaza locations for its resilience.

Terrazzo: Terrazzo surfaces have been designed as outdoor/indoor pavement for many years. Marble chips in concrete topping can be ground down and polished for excellent appearance. Problems occurred immediately, however, with the first outdoor applications of polished terrazzo at Lever House and Union Carbide in New York. The finely ground early surfaces proved to be too slick outside when wet. To alleviate the problem, both plazas received baths with glacial acetic acid, which etched the surfaces and increased

traction. More recent indoor/outdoor applications have left exterior terrazzo in a rough, exposed aggregate form termed "rustic" terrazzo.

Foul weather enemies of safety

Ugly, beat-up floors which are hard to maintain are problem floors. Slippery floors are something else. An architect who consciously creates an unsafe floor must have trouble sleeping at night. The safety aspects of pavement design at first glance seem to be the natural enemy of the single material approach to plaza/lobby flooring.

Consumer groups, insurance agencies, shoe manufacturers, floor manufacturers, and floor-polish manufacturers all collect data on slip resistance. Very little of the data has reached the architect. Peter Armstrong of the Consumer Product Safety Commission calls the problem: "something that is relatively low on the public's priority list." His commission estimates that 84,000 people wind up in the emergency room each year as a result of injuries from floors and flooring materials.

There are several good reasons why progress has been slow. One is the difficulty in quantifying the human gait. The human gait varies slightly in people of different sizes or physical and mental conditions. ASTM Special Technical Publication 649 was released this year and is co-authored by Carl Anderson and John Senne; its title is *Walkway Surfaces: Measurement of Slip Resistance*. Page 105 in the pamphlet summarized conclusions reached by the authors concerning the expectation of slipping: "the chance of dangerous, irreversible slip was confirmed to be the greatest at two distinct points (1) instantaneously as the heel tip first contacts the floor before the foot is planted firmly and while it is still moving forward and (2) momentarily after the foot has stopped and while the subject's weight is shifting onto the heel during its rock forward to lie flat on the floor."

Shoe heel and sole materials have varying properties, as do floor surfaces. Friction characteristics change when the con-

tacting materials are old or new, wet, dry, or dirty. The chore is to arrive at a general coefficient of static friction between the shoe and the floor. Even more critical, especially to insurance groups, is the on-site determination of slip resistance.

Thirty years or so ago, researchers for Underwriters Laboratories invented a laboratory machine called the James machine which has been the standard for slip resistance. When floor polish manufacturers had trouble in the past in claiming certain waxes were "skid resistant," ASTM Standard D-2047 was developed. The Chemical Specialties Manufacturers Association, in conjunction with ASTM Committee D-21, established a coefficient of friction of .5 as the performance standard for a floor polish. A leather shoe-sole was specified for the test, and the James machine used. In other words, the polish manufacturer must prove that the application of the floor polish will not make the floor more slippery dressed than it was naked.

The new portable tester: In the last three years, research at the National Bureau of Standards by Dr. Robert Brungraber and Sanford C. Adler has analyzed slip-resistant characteristics for walking and standing surfaces. The early research included the problems of bathtub safety (no doubt spurred by the spill of a prominent Ohio astronaut), and has become part of ASTM Standard F-462. To accomplish the work, a portable slip-testing machine was invented by Dr. Brungraber. The lightweight device has proven to be consistent with the James tester results and will certainly change the face of the paving surface of the future. A surface can be tested under actual conditions of building use.

The first research task is to establish a surface consistent enough to act as a universal benchmark (for the bathtub work, glass was used). All materials will be tested new and old, wet and dry, with reference to this base material. When all the testing is complete, a slip-resistance standard will emerge which will for the first time quantify the problem and increase building safety.

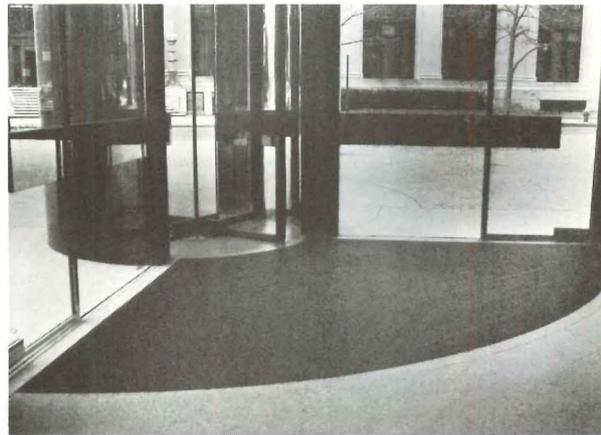
What to do until the numbers come

Chicago's Federal Building complex is a Mies van der Rohe design. The smooth floor surface is granite. Visiting the building today, a student of Mies would be horrified. Taped to the floor are a set of long rubber mats which extend from the entry to the elevator lobby. This building is not alone. The Hancock tower in Chicago also uses a set of temporary mats on its interior.

The problem is simple: outside the building the paving must have traction wet or dry; inside, paving can be polished if a transition material dries the shoe. If a rubber mat has to go somewhere, the question is where? Kevin Roche & John Dinkeloo have used a rubber mat inside the revolving door itself at the Ford Foundation building. Hugh Stubbins' office followed suit at the new Citicorp building. I.M. Pei has designed a rubber mat inside the Hancock building space which fans out from the revolving door. A granite slab oc-



Photos: Richard Rush



At Chicago's Dirksen Building (left), rubber mat is taped to the floor, sandbagging Mies' lobby design. The Hancock building in Boston (right) tries to skirt the problem.

curs at the floor of the door. The rubber mat in Pei's solution is larger and appears easier to service than the others.

The Franklin Concourse of the Sears building in Chicago reflects the lesson learned by the designers of the Chicago Hancock building. As you enter the building, the floor surface changes four times! The exterior, covered sidewalk is broomed black concrete (good traction), the floor of the revolving door is smooth granite to protect rubber blades on the door base (you are holding on to the door's push bar if you start to slip). Once you are in the building, a drainable bristly rug extends well into the building in sets of removable panels. Once the shoe is dry, it is lovingly embraced by smooth travertine.

The surface itself: Carborundum can be added to the glaze on a tile surface. Coarse aggregate and a rough pattern can be raked or broomed into concrete (as a slab, tile, or paver). A highly textured joint surface pattern in brick or tile can have the same effect as a tire tread. Pei's tight pattern of coarse-surfaced granite pavers has good traction and drains well on the exterior of Boston's Hancock building. Exterior mortarless joints in slabs or pavers have the advantage of draining a surface quicker than a large expanse of sloped paving with sealed joints.

A number of floor-covering materials are available which have more architectural quality than temporary rubber mats. A rug material commonly used in airplane boarding ramps is available; it is made of tough tire products. An increased designer market would undoubtedly increase the material color and texture choices. An indoor/outdoor tile product also exists which uses a set of raised circular bumps to drain off water, drying the rubber surface which meets the foot.

Conclusion

A slip-resistant surface is not enough. A pavement with too much friction can also cause stumbling, as can two adjacent surfaces with significant variations in friction, angle, or elevation. It is not the materials which are unsafe. It is our orchestration of



Sears Tower paving (above) caters to slip issues.

them. It may appear difficult to accomplish a safe entry from a wet exterior to a dry interior with a single paving material. The guidelines are simple. The next rainy day go down to your favorite office or bank building and watch what happens to people. P.S.: Take your rubbers. [Richard Rush]

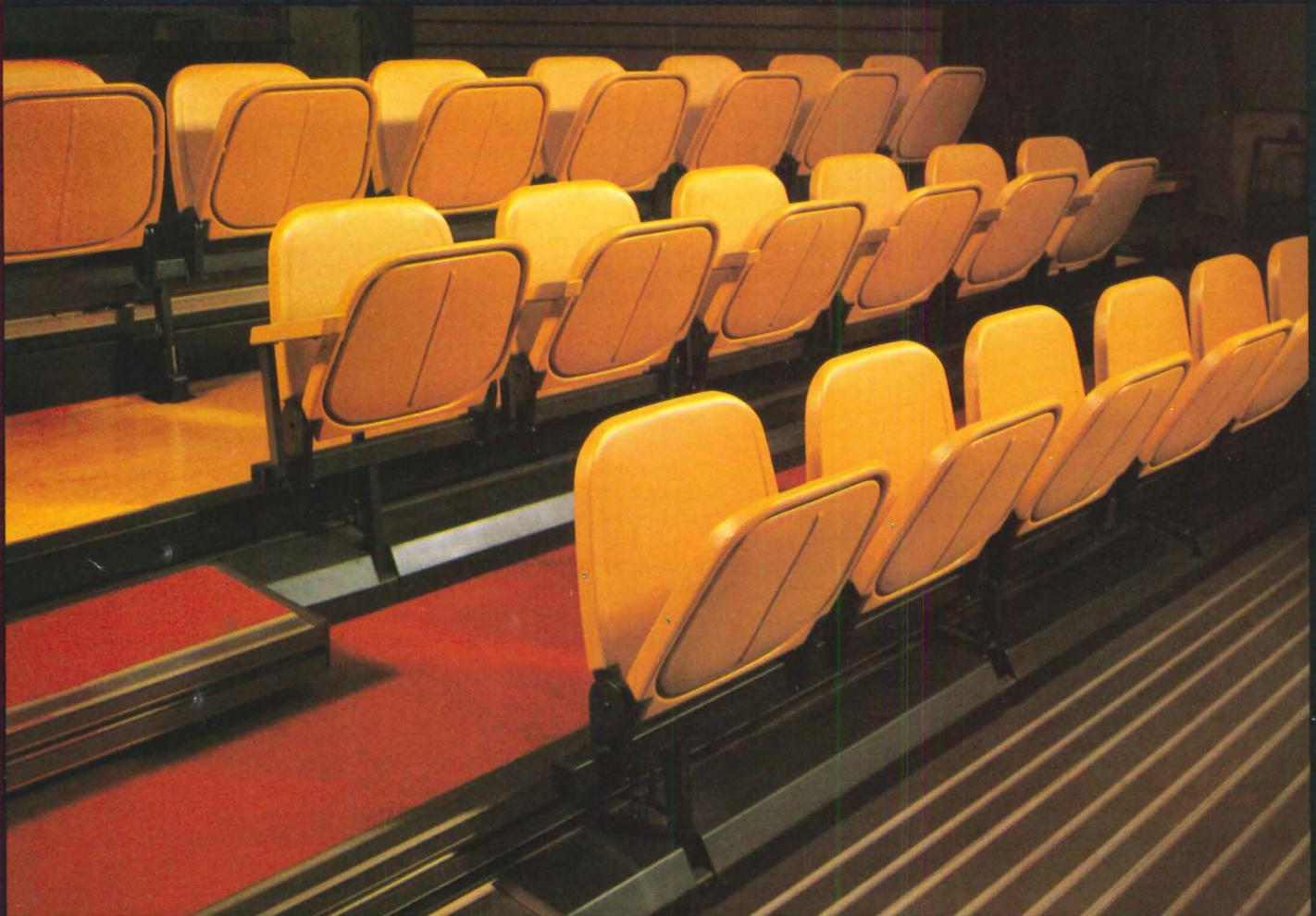
Acknowledgments

We wish to thank the following building professionals, organizations, and manufacturers, for their help in preparing this article: American Bultrite; American Olean; Azrock; Bowmanite; Peter Bratti Associates, Peter Pirozzi; Buckingham-Virginia Slate Corp.; BIA, Allan Yorkdale; Dr. Robert J. Brungraber; Building Stone Institute; Cold Springs Granite; Franciscan Tile; Burke Industrial Flooring; Araldo Casutta; Ceramic Tile Institute; Consumer Products Safety Commission, Peter Armstrong; Futurus Inc.; Gail Ceramics; Gruzen & Partners, Peter Samton; Hastings Tile; Hollytex Carpet Mills; Hugh Stubbins & Associates; Indiana Limestone Institute of America Inc.; IML; Iron Rock; Kevin Roche; Laticrete; C.F. Murphy Associates, William Lohmann; Masonry Institute of Michigan; National Bureau of Standards, Sanford C. Adler; NCMA; Pacific Clay Products; PCA; I.M. Pei; Ro-Tile; Skidmore, Owings & Merrill; Tile Council of America; Underwriters Laboratories.

For plaza/lobby product and literature information see page 94.

The ultimate in space utilization . . . and seating people.

unimax



Press a button . . . unimax extends and chair modules set up automatically! After the event, return the system to the stored position just as easily . . . by pressing a button. Set-up and take-down time is virtually eliminated. "Clean Sweep" design speeds up cleaning between events and minimizes labor time and cost. For complete details on unimax . . . the ultimate in space utilization and seating people, contact the Leader in Public Seating.

AMERICAN SEATING

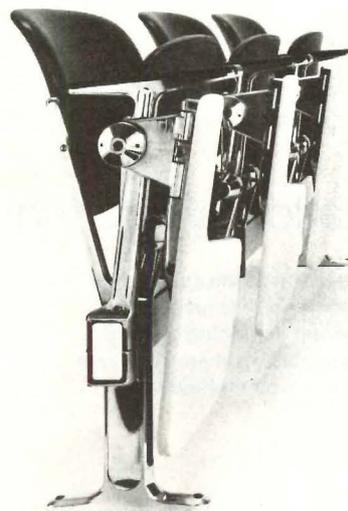
901 Broadway, N.W., Grand Rapids, Michigan 49504 • 616/456-0600

Circle No. 310, on Reader Service Card

Products and literature



Pedestal tip-up seating.



A multiple seating system.

Auditorium seating

The items below relate specifically to the interior design article on auditorium seating beginning on page 82 of this issue. They are grouped below for the reader's convenience.

Products

Pedestal tip-up seating designed by Peter Dickinson is made by JG Furniture Co. The center pedestal floor- or riser-mount chairs consist of an attached, fully upholstered back and a hinged, upholstered seat which returns to an upright position perpendicular to the auditorium floor. The chairs, 31 1/4 in. high, are only 15 in. wide when folded, but expand to a width of 25 in. JG Furniture Co.

Circle 101 on reader service card

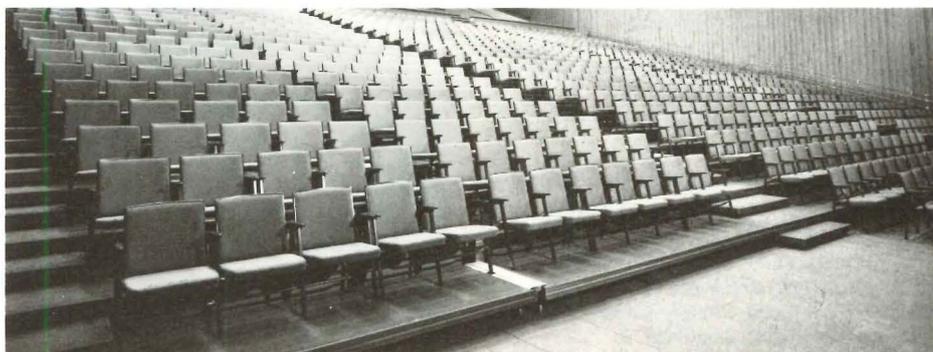
A multiple seating system from Castelli Furniture has a patented folding seat mechanism which regulates the tablet return speed for noiseless folding. Axis 400 is available in a variety of woods and/or upholstery fabrics. Castelli Furniture Inc.

Circle 102 on reader service card

Telescopic seating systems allow for more flexible use of large spaces. Attached to the wall, recessed, or mounted on movable units, the chair platforms are available with all aluminum, aluminum nose and riser with carpeted walking surface, or hardply tread with steel nose and riser. Accessories can be supplied and engineering assistance is also available. American Desk Manufacturing Co.

Circle 103 on reader service card

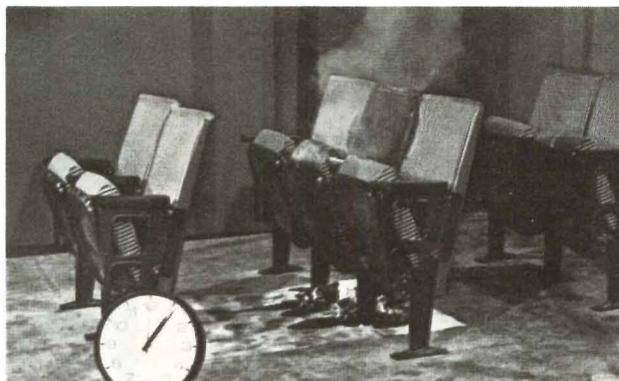
The 35 M Series of theater-auditorium seating, manufactured by American Seating, has a series of interchangeable components to enable clients to select the most appropriate features for their particular purpose and combine them. Different back styles are designed to work with either floor-type, riser-mounted, or free-floating, bar-beam standards. The complete range of available components is illustrated in a



Telescopic seating systems.



The 35M series.



Fire-resistant foam cushioning.

free color brochure. American Seating.
Circle 104 on reader service card

Fire-resistant foam cushioning material, unaffected by vandalism, is available in forms to fit specifications. "Neoprene" foam can be formulated to optimize density, resiliency, and flammability. E.I. du Pont de Nemours and Co., Inc., Elastomer Chemicals Dept.
Circle 105 on reader service card

Interliners which reduce fire hazards in upholstered furniture are recommended for auditorium seating and other situations where the cushioning will not be ripped or slashed. Made of thin layers of cellular polychloroprene, the "Vonar" interliners enclose the cushioning mability. E.I. du Pont de Nemours & Co., Inc., Elastomer Chemicals Dept.
Circle 106 on reader service card

Literature

Seating installation brochure. A free, eight-page illustrated brochure lists examples of on-site engineering and installation services done by the EMS Group, Lantz International Corp. EMS specializes in stadium and auditorium seating, and open-office installations. Lantz International Corp.
Circle 201 on reader service card

Seating brochure. Auditorium seating models designed for theaters, stadiums, and lecture rooms are described in a free brochure. The illustrated pamphlet lists five types of standards, four seats, and seven backs which can be combined to produce eleven chairs. The list is only representative of the manufacturer's line of [continued on page 94]

Products continued from page 93

auditorium seating, available upon request. American Desk Manufacturing Co. Circle 202 on reader service card

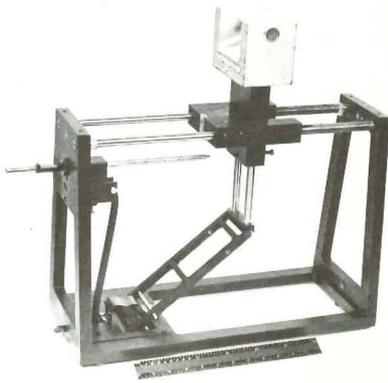
Plaza/lobby flooring

The items below relate specifically to the technics article on plaza/lobby flooring beginning on p. 88 of this issue. They are grouped here for the reader's convenience.

Products

Slip-resistance tester. The NBS-Brungraber portable slip-resistance tester measures the static coefficient of friction between shoe soles and a flooring surface. Designed for the in-place evaluation of the slip-resistance of floors and walkway surfaces, the tester is built on an as-ordered basis. Slip-Test Inc. Circle 107 on reader service card

Clay tiles. Handmade clay tiles in various patterns and colors are available for installation in residential areas and public spaces. Protected with Hastelite, a patented sealer, the tiles stand up to heavy traffic. Hastings, the manufacturer, also carries a full line of asphalt and concrete pavers. Hastings Pavement Co. Inc. Circle 108 on reader service card



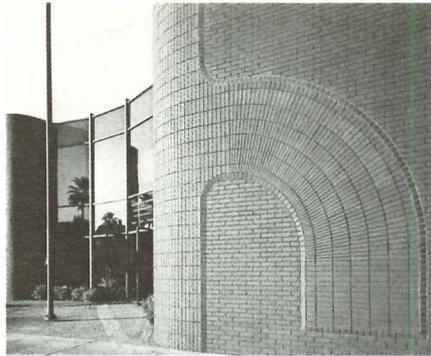
Slip-resistance tester.
Clay tiles.



Decorative brick. Clay bricks only $\frac{7}{16}$ in. thick save weight when used on façades and are also suitable for pavement surfaces. "Mini-Bricks" apply to a variety of substructures and have an installed depth of only 1 in., so that they can be installed around existing doors and windows without creating depth problems. Pacific Clay Building Products. Circle 109 on reader service card

Various types of ceramic tile designed for low maintenance are available from Francisan Tile manufacturers. Intended particularly for commercial environments. Interpace Corp. Circle 110 on reader service card

An anti-slip epoxy resurfacer for use over metal, wood, and concrete floors is easy to apply and resists common chemicals and traffic wear. Trembond is available from Tremco. Circle 111 on reader service card



Decorative brick.



Six new ceramic tiles.



Split-tile ceramic pavers.
Imitation cobblestones.



Six new ceramic tile colors are available from American Olean in various sizes of tile. Suitable for interior and exterior walls, moderate-use residential and commercial floors, and exterior floors in areas not subject to freezing, the "Encore" tiles will be available in early December. American Olean Tile Co. Circle 112 on reader service card

Ceramic tile. Large as well as small sized clay tile are available in the Normandie ceramic paver line. The tile can be used in high-traffic situations and withstands temperatures below -30°C (-22°F). The rustic-appearing tile is available in a range of colors. Metropolitan Ceramics, Inc. Circle 113 on reader service card

Split-tile ceramic pavers. An innovative split-tile manufacturing process permits extruding and firing of thin, strong, double-paver tiles without warpage. "Ironrock" pavers can be used indoors or outside, on vertical or horizontal surfaces. They are slip-resistant and resist stains and absorption. Metropolitan Ceramics. Circle 114 on reader service card

Imitation cobblestones of Indiana limestone with rounded edges to give the appearance of traffic-worn, aged cobbles are available for use in outdoor walkways and landscaping. Naturally a variegated buff and gray color, the stones range in width from 3 in. to 5 in. and from 6 in. to 14 in. in length. They are set on a 6-in. bed of gravel and the joints filled with loose sand. Indiana Limestone Co. Inc. Circle 115 on reader service card

Slate flooring and flagging in blue-black comes in various sizes, thicknesses, and surface finishes for use on inside and outside floors. Both sawed flooring slate for mortar bed applications (interior or exterior) and gauged slate floor tile for thin-set applications (interiors) are available. Unit floor plans come in different dimensions to fit various scales of application. Buckingham-Virginia Slate Corp. Circle 116 on reader service card

Literature

Paver maintenance. A free booklet on the treatment and maintenance of paver brick, Mexican tile, slate, and other natural stone is available. The booklet outlines the physical makeup of various types of flooring and specifies the exact steps to be taken in the treatment of each type prior to and during use. Data are provided on recommended products. Hillyard Chemical Company. Circle 203 on reader service card

NBS Technical Note 953 is a government publication describing a new portable tester for the evaluation of the slip-resistance of walkway surfaces. Prepared by Robert J. Brungraber of the NBS Institute for Applied Technology, the 51-page booklet describes the NBS-Brungraber tester (see products section) and its development. Copies of Technical Note 953 are available at \$2 each from: U.S. Government Printing Office, Washington, DC 20402. [continued on page 96]



**These guys
don't make
glaring mistakes.**

**They bought
precise light control
by Holophane.**

Some owners rarely give a second thought to lighting – "If it's bright, it's right."

But that's wrong. Because the best lighting is controlled lighting. The kind of lighting knowledgeable architects and engineers recommend for clients like Oliver's Meats. They know that Holophane® offers precise light distribution with minimum glare. Excellent for large department stores, schools, auditoriums, offices – and butcher shops.

Efficient use of energy is another benefit of controlled lighting by Holophane.

And choices range from HID luminaires to prismatic lens fluorescent fixtures. They all deliver illumination which can reduce eyestrain and promote better worker productivity while giving products more customer appeal.

Learn more about our commercial lighting line by calling your local Holophane representative. He'll show you the latest in attractive high quality lighting. And provide the ESI, VCP and cost data you'll need to prevent glaring mistakes.

Or contact Chris Keller,
Johns-Manville Sales Corporation,
Holophane Division, P.O. Box
5108-PA-12, Denver, CO 80217.
Phone 303/979-1000.



Johns-Manville

Circle No. 339, on Reader Service Card

Literature continued from page 94

Life-cycle costs of various building materials were compared in a study by the independent firm of Edward G. Scharf and Sons. The study, commissioned by the Tile Council of America, found that ceramic tile had the lowest reported installation cost and life-cycle cost of any permanent or long-use wall finish. On floors, ceramic tile also was found to have the lowest life-cycle costs of any floor finish tested. Copies of the survey are available. Tile Council of America, Inc.

Circle 204 on reader service card

Walkway Surfaces: Measurement of Slip Resistance, a collection of papers presented at the Symposium on Pedestrian Friction held in Denver, Co, on 30 June 1977, is available from The American Society for Testing and Materials. The publication was edited by Carl Anderson of American Olean Tile Co., and John Senne of John Senne & Associates, Inc. The 105-page booklet contains eight papers on the testing of slip resistance. Copies are available for \$8 each from: The American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa 19103.

An Overview of Floor Slip-Resistance Research with Annotated Bibliography, the second of a series of reports describing the results of a government study on slip-resistance, is available from the U.S. Government Printing Office. National Bureau of Standards Technical Note 895, the publication's official title, consists of a paper by Robert J. Brungraber of the NBS Institute for Applied Technology which deals with various aspects of the problem and the present status of government efforts to establish standards in this area. Copies of S.D. Catalog No. C13.46:895 are available at \$2.30 each from: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Removing Stains from Concrete is the subject of a Portland Cement Association publication. The pamphlet describes methods, precautions, and treatment for the removal of various types of stains. Portland Cement Association. Circle 205 on reader service card

The 1978 Handbook for Ceramic Tile Installation, published by the Tile Council of America, includes information on installation materials, installation guides, and installation methods. The handbook is not intended as a specification, but as a means for simplifying and standardizing installation specifications for ceramic tile. It is regularly revised. Copies of the handbook are available for \$1 each from: Tile Council of America, P.O. Box 326, Princeton, NJ 08540.

The Indiana Limestone Handbook, put out by the Indiana Limestone Institute of America, covers general information on limestone, recommended standards and practice, product use, case histories, specifications, and cleaning and maintenance definitions. The 128-page handbook, issued every two years, is supplemented periodically with technical papers and information brochures. It is free to architects and engineers. For a copy, write on pro-

fessional letterhead to: Indiana Limestone Institute of America, Inc., Stone City Bank Bldg., Suite 400, Bedford, In 47421.

"Concrete information," a series of pamphlets available from the Portland Cement Association cover such topics as "suggested specifications for heavy-duty concrete floor topping," "resurfacing concrete floors," and "removing stains from concrete." These and other publications can be ordered from The Portland Cement Association, 5420 Old Orchard Rd., Skokie, Il 60076. Write for their free annual *Cement and Concrete Publications Catalogue*, listing prices.

Brick paving, colored mortars, and the cleaning of brick masonry are covered in free brochures available from the Brick Institute of America. The following technical notes provide reference sources: Technical Notes on Brick Construction, #8 Revised; Technical Notes on Brick Construction nos. 14, 20, and 29. Write to: Marketing Division, Brick Institute of America, 1750 Old Meadow Rd., McLean, Va 22101.

The National Concrete Masonry Association catalog lists current NCMA publications and audio-visual presentations. The free catalog includes order forms for a complete spectrum of publications and visual aids; prices listed are those available to architects, engineers, and manufacturers who are members of NCMA. National Concrete Masonry Association. Circle 206 on reader service card

The Stone Information Manual, recently reissued by the Building Stone Institute in a 1978 edition that will be valid for the next four years, is available free to architects and engineers (list price \$25). The Manual is designed to provide basic information in concise form on every geologic type of natural stone available. Member firms are listed by the type of stone they provide. Write on professional letterhead to: Building Stone Institute, 420 Lexington Ave., New York, NY 10017.

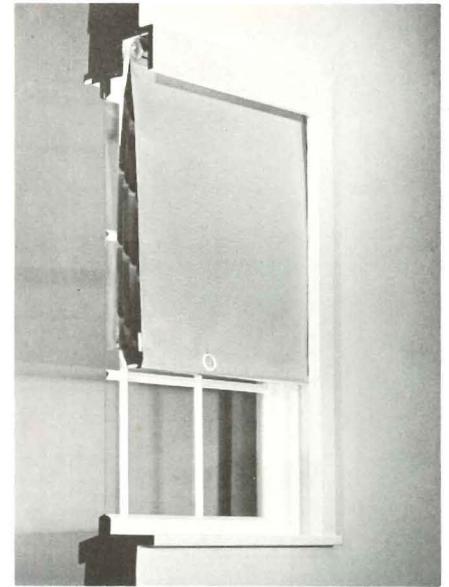
Ceramic brochure. A 16-page color brochure shows American Olean's complete line of 43 colors and 47 ceramic mosaic stock patterns. Trim shape assembly details, pre-grouted systems, and architectural specifications are included, as are various applications. Free to trade only. Write on professional letterhead to: American Olean Tile Co., Lansdale, Pa 19446.

Azrock Floor Products lists the various types of floor tile available from the company in their 20-page catalog. Products include vinyl composition tile, asphalt tile, cove base, adhesives, and accessories. The company also provides tile samples, a specification guide, and an architect's file folder upon request. Azrock Floor Products Div., Uvalde Rock Asphalt Co. Circle 207 on reader service card

Other products

Insulating shades. The IS High R insulating shade is a patented product which slows heat loss at windows in residential and commercial structures. The five layers of plastic film which compose the shade are contained in a guide

frame of wood or plastic, creating a unit whose resistance to heat loss is comparable to that of an insulated wall (R-15). The blinds are described in a free brochure. Insulating Shade Co., Inc. Circle 117 on reader service card



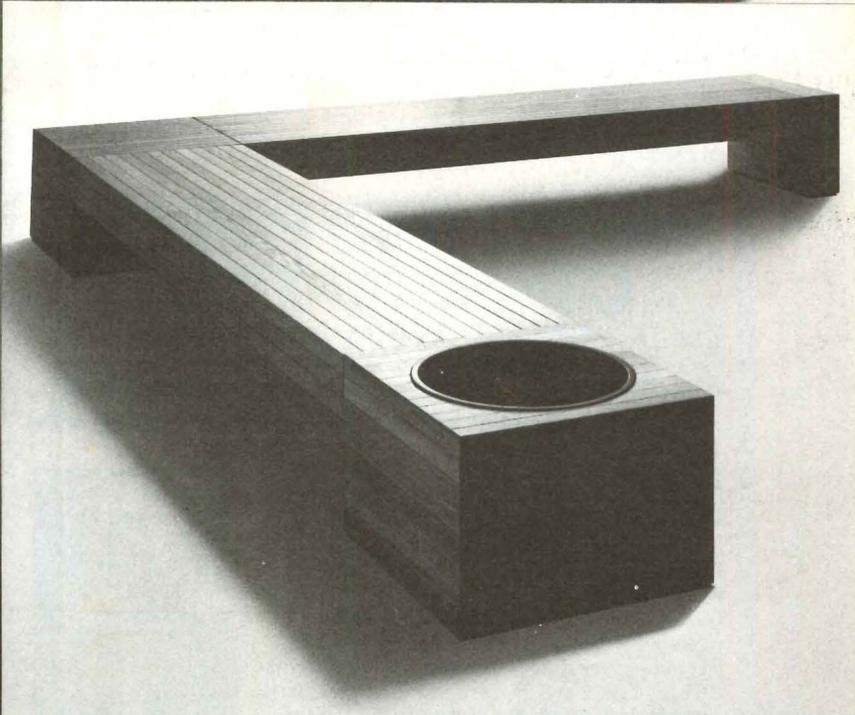
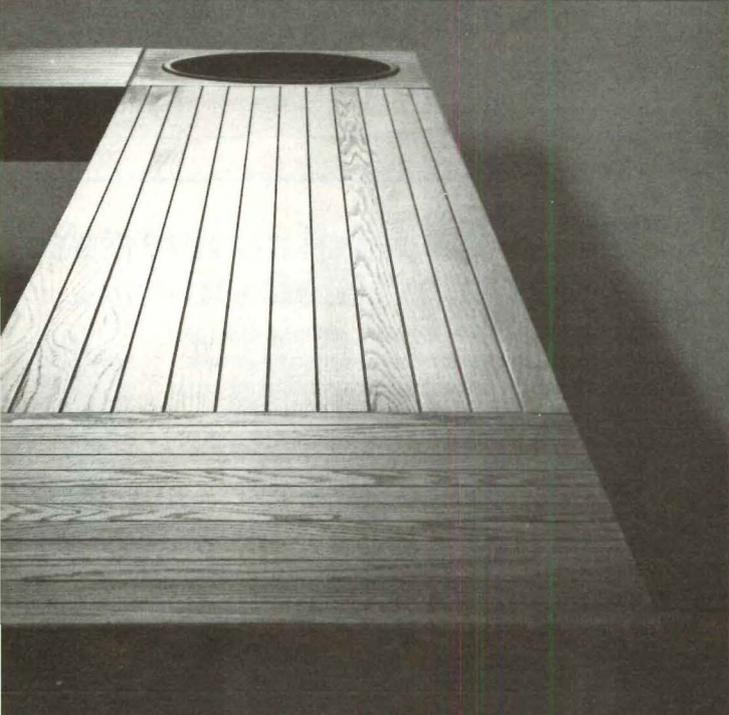
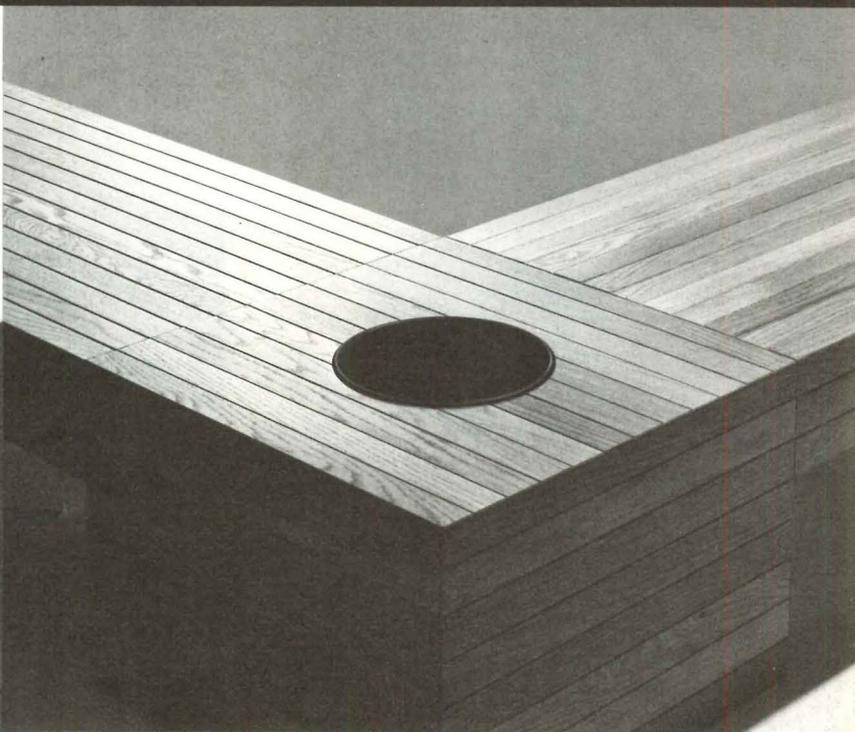
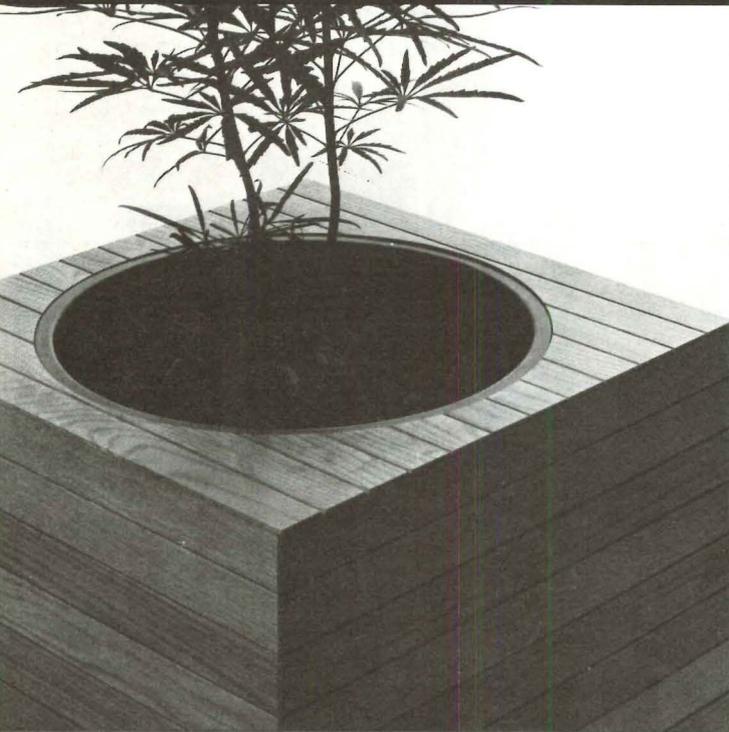
Insulating shades.

Belgian-linen fabrics and screen-printed warps laminated to make wallpaper are contained in the "Monte Carlo" collection. Another wallcovering in the collection uses a new printing technique, employing expandable dyes, that creates the appearance of embroidery. Schumacher Co. (Sample book at \$25 is available by writing to the company at 939 Third Ave., New York, NY 10022.) Circle 118 on reader service card

Intercom systems that augment surveillance and provide two-way communication with all areas of large complexes is an effective answer to security problems. The Talk-A-Phone systems allow one security officer to view all entrances and talk to visitors through an intercom from a control station. Systems available can have as many as five stations operating off a single master-control station. Talk-A-Phone Co., Inc. Circle 119 on reader service card

Customlike carpeting. A new double-dye technique for tufted carpeting economically produces geometric designs that resemble woven carpet. Dense 1/10th gauge construction in nylon controls static. The cut-pile carpets come in six color patterns and are warranted for five years of wear. The Siesel Co. Inc. Circle 120 on reader service card

An interlocking composite floor-ceiling system compatible with most structural framing systems currently on the market allows for fast, low-cost assembly. The Comjoist system has a Sound Transmission Classification of 56dB and a three-hour fire rating. It is designed for use in apartment, condominium, and other multi-unit housing or office space. Roll Form Products, Inc., Comjoist Division. Circle 121 on reader service card [continued on page 102]



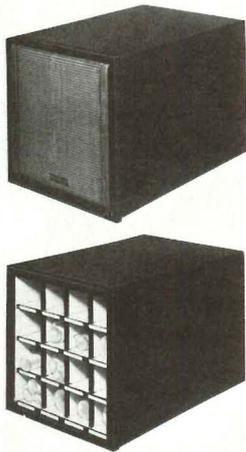
Architectural Elements 600 Series

The new 600 Series is a collection of coordinated benches, planters and accessory units in oak and teak, handsomely detailed and scaled for large interior spaces. Modular units can be assembled in an unlimited variety of arrangements.

Forms & Surfaces Box 5215 Santa Barbara, CA 93108 (805) 969-4767

FORMS + SURFACES

Circle No. 331, on Reader Service Card



A file for rolled documents, which offers individual compartment storage for up to 25 different rolled sheets, has been designed by Bankers/Box Records storage systems. The Roll/Storfile is made of corrugated fiberboard with a roll-up door in woodgrain plastic. The files can be stacked three high. Bankers Box/Records Storage Systems.
Circle 122 on reader service card



Noise control panels are said to provide relatively inexpensive, efficient sound absorption. The easily installed Eckoustic® Functional Panels reduce background noise and reverberation in schools, restaurants, and similar areas. Brochure describes panel construction, and offers guidelines for calculating panel requirements. Eckel Industries, Inc.
Circle 123 on reader service card

Period fixtures and hardware for preservation-oriented projects are available by mail order from The Renovator's Supply. The \$1.25 catalog offers over 600 old-style items such as wrought iron hardware, lighting, building supplies (moldings, mantels, etc.) decorative accessories, and other items. Order catalog from The Renovator's Supply, 71 Northfield Rd., Millers Falls, Ma 01349.

WATER AND ENERGY CONSERVATION—THE BIG PLUS WITH MOEN FAUCETS.

Moen gives your clients the first full line of energy-conserving fittings. Now our faucets, valves, and shower heads include special features that automatically save water, energy needed to heat water and sewer usage charges.

One big saver is the famous Moen cartridge that's on every Moen product. It cuts water flow 50% over two-handle controls. The Flow-Rator™ aerator, standard on all Moen faucets, saves up to 25% of water compared to other single-handled faucets with conventional aerators. A Flow-Rator is also standard on Moen shower heads for even further savings.

You already know Moen for quality, reliability, convenience and superb styling. Now's the time to get to know us as the thriftiest water delivery appliance you can specify. Check Sweets for details. Or send for our free folder, "Automatic Single-Handle Savings by Moen." Contact: Moen, a Division of Stanadyne, Elyria, Ohio 44035.



There's only one. **MOEN**



Circle No. 343, on Reader Service Card

"The aristocrat of architecture in the United States today..."

[Johnson] is scholarly, witty, brilliant, eloquent ...He infuriates his critics because he knows so much more than they do about history and criticism; he infuriates some of his fellow professionals because he is always [roughly] one quantum leap ahead of them; and he infuriates some of the younger generation, because he is so much younger in spirit than they are."
—New York Magazine

Philip Johnson: Writings

Preface by Vincent Scully
Introduction by Peter Eisenman
Commentary by Robert Stern
\$25.00



OXFORD UNIVERSITY PRESS
200 Madison Avenue
New York, N.Y. 10016



Circle No. 345, on Reader Service Card

INTRODUCING TOMORROW'S DOOR CLOSER

Now available only from Rixson, the remarkable Century 2000 . . . so easy to specify . . . so economical in every respect.

Designed without compromise, in the Rixson tradition.

- No sizing or spring adjustment required. Simple selection of proper closer:
Regular Closer — for most interior door applications.
Heavy Duty Closer — for high frequency interior doors.
Exterior Closer — with new, high efficiency control.
- Unique hydraulic backcheck system. Pre-set at 75°, field adjustable between 50-180°, regardless of arm application or degree of opening.
- Facilitates uniform opening and closing forces throughout building
- Exclusive fluid filtering hydraulic system assures smooth closing action
- High style: narrow projection *with* narrow stile
- Heavy metal cover and cold-rolled steel arm
- Multiple spring backup system
- Exceptional quality plating and finishing at reasonable price

And many more advantages, including independent stroke and on/off latch valves . . . precision cast closer body . . . accommodation for reveals to 8" . . . U.L. approval and five-year warranty.

Ask the door control specialists:

RIXSON-FIREMARK

ARCHITECTURAL AND
FIRE/LIFE SAFETY PRODUCTS

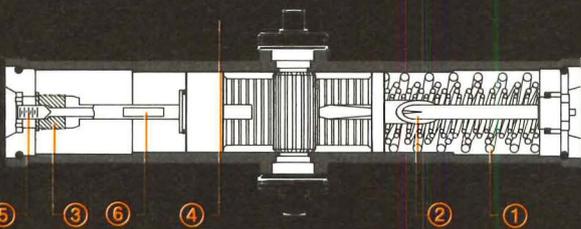
9100 West Belmont Ave., Franklin Park, Illinois 60131 and Rexdale, Ontario 312/671-5670

A SUBSIDIARY OF
CONRAC
CORPORATION

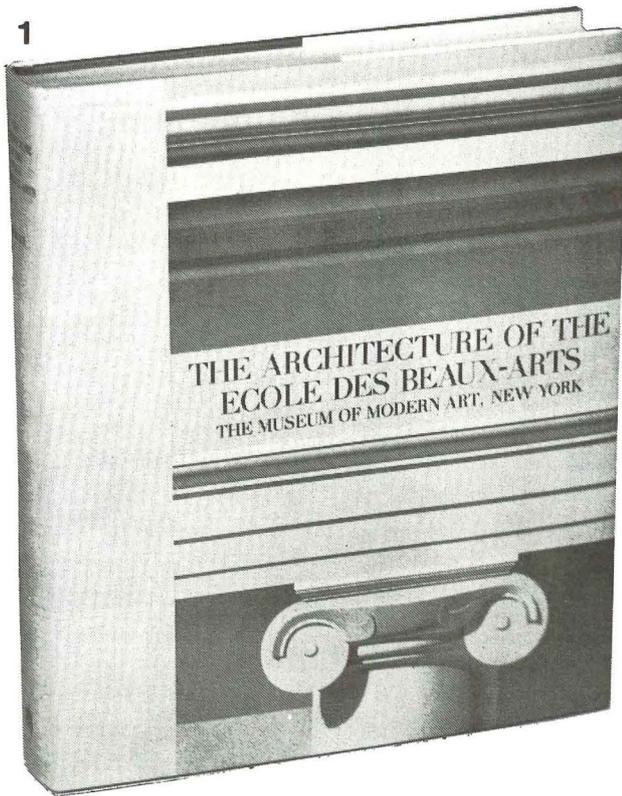
Circle No. 352, on Reader Service Card

Rixson's Century 2000

- ① Multiple spring system
- ② Unique hydraulic backcheck
- ③ Fluid filtering system
- ④ Heavy Steel arm
- ⑤ Independent stroke valve
- ⑥ On/off latch valve



Here, for the first time in this century, is an opportunity to re-examine the philosophy of the Beaux-Arts school of architecture.



P/A Book Store

Each book has been selected for its usefulness to you in your professional practice. Prices slightly higher in Canada. Foreign orders must be accompanied by payment. It is not necessary to send payment with the order. Circle appropriate numbers on the Reader Service Cards in the back of this issue, add your name and address and mail. Local sales tax must be included with payment. Prices subject to change.

For faster service, send the card in an envelope to:

Mrs. Eleanor Dwyer
Progressive Architecture,
600 Summer Street,
Stamford, Ct. 06904

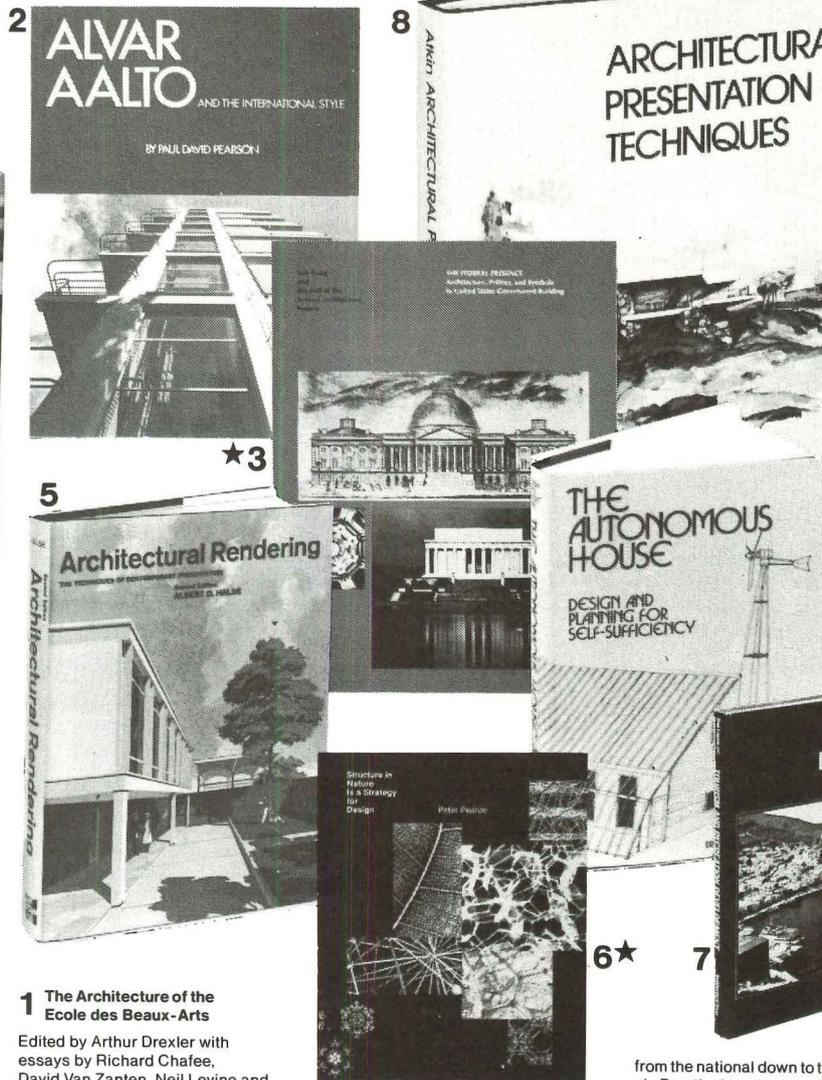
P/A Back issues

A limited supply of the following issues of P/A are available at \$5.00 per Copy:

- November Reclaiming the past/Underfloor systems
- September Interior design Built-up roofing
- August Color minimalism/Innovations in Housing/Bathing & fitness
- June Taste in America
- April Barrier-free design
- March University buildings/Graves house/ Ceramic tile

Send both to:

Mrs. Eleanor Dwyer
Progressive Architecture
600 Summer Street
Stamford, Ct. 06904



1 The Architecture of the Ecole des Beaux-Arts
Edited by Arthur Drexler with essays by Richard Chafee, David Van Zanten, Neil Levine and Arthur Drexler
423 pp., illus. . . . \$45.00

The most comprehensive analysis and documentation of Beaux-Arts architecture ever published. Includes large-scale drawings of elevations and plans and photographs of major French and American Beaux-Arts buildings (including Pennsylvania Station and Grand Central Terminal).
Circle B601 under Books.

2 Alvar Aalto and the International Style

By Paul David Pearson, 240 pp., illus. . . . \$27.50
Although Aalto's heritage is being carried on by those he worked with and personally influenced, he left no written legacy of his design philosophy. This timely critical study fills that void by analyzing his personal form of expression as the last great leader of 20th century architecture.
Circle B602 under Books.

NEW★

3 The Federal Presence Architecture, Politics & Symbols in U.S. Government Building

By Lois Craig & the Staff of the Federal Architecture Project
580 pp., illus. . . . \$37.50
This profusely illustrated reference is not only a major pictorial resource for the architectural historian, but a sort of American album, a scrapbook of a special aspect of our cultural history. Includes an extensive bibliography of pictorial and written sources.
Circle B603 under Books.

4 The Autonomous House

By Brenda and Robert Vale, 224 pp., illus. . . . \$10.00
Two architects offer practical solutions to the design of a house that

operates independently within its environment. This "Autonomous House" is not linked to utility lines for gas, electricity, water, or drainage; but instead uses the energy of sun, wind and rain to service itself and process its waste.
Circle B604 under Books.

5 Architectural Rendering: The Techniques of Contemporary Presentation

By Albert O. Halse, 326 pp., illus., 2nd edition, 1972 . . . \$29.00
This completely up-dated revision of the most widely used guide to architectural rendering covers all working phases from pencil strokes to finished product — and shows how to obtain the desired mood, perspective, light and color effects, select proper equipment and work in different media.
Circle B605 under Books.

NEW★

6 Structure in Nature Is a Strategy for Design

By Peter Pearce, 245 pp., illus. . . . \$45.00
An innovative and completely illustrated approach to architectural and environmental design, based on a study of responsive and adaptive structures in nature (molecules, crystals, living cells) that conserve energy and materials.
Circle B606 under Books.

7 Tourism and Recreation Development: A Handbook of Physical Planning

By Fred Lawson & Manuel Baud-Bovy, 220 pp., illus. . . . \$39.95
This comprehensive book sets out step-by-step planning techniques for tourist resorts and recreational parks,

from the national down to the local. Practical measures are provided for conservation and development.
Circle B607 under Books.

8 Architectural Presentation Techniques

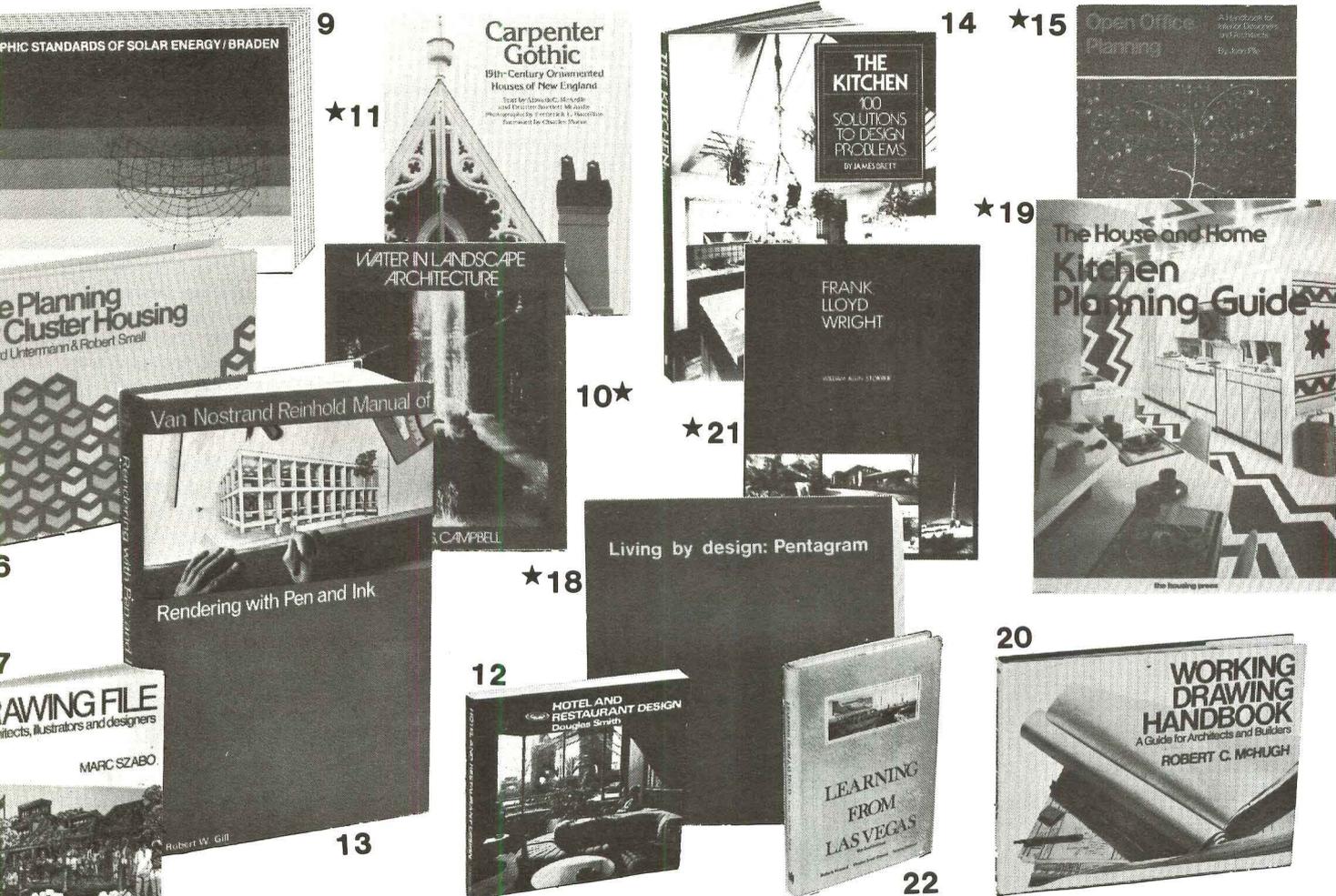
By William W. Atkin, 196 pp., illus. . . . \$15.95
This book includes procedures ranging from simple sketching to pen-and-ink to drawings, photographs, simulations and various combinations achieved with overlay techniques and modern rendering methods.
Circle B608 under Books.

9 Graphic Standards of Solar Energy

By Spruille Braden, 224 pp., illus., \$19.95
A timely design reference for those involved in the structure of our environment. The author provides energy-conscious design systems for commercial and residential buildings providing quick and efficient information of data from design working drawings.
Circle B609 under Books.

NEW★
10 Water in Landscape Architecture

By Craig S. Campbell 128 pp., illus. . . . \$15.95
This profusely illustrated first published work that details substantial detail with the technical as well as the aesthetic of fountain design. Covers hydraulic principles, practical applications, environment and equipment.
Circle B610 under Books.



PHIC STANDARDS OF SOLAR ENERGY / BRADEN

Planning Cluster Housing
by Undermann & Robert Small

Van Nostrand Reinhold Manual of
Rendering with Pen and Ink
by Robert W. Gill

DRAWING FILE
for Architects, Illustrators and Designers
by Marc Szabo

9 **Carpenter Gothic**
19th-Century Ornamented Houses of New England
by Bruce M. Gardner & Robert M. H. Davidson
Photographs by Frederick S. H. Davidson
Foreword by Charles Moore

★11 **WATER IN LANDSCAPE ARCHITECTURE**
by Campbell

10★ **Living by Design: Pentagram**
by Peter Gourd

12 **HOTEL AND RESTAURANT DESIGN**
by Douglas Smith

14 **★15** **THE KITCHEN**
100 SOLUTIONS TO DESIGN PROBLEMS
by James Siret

★19 **FRANK LLOYD WRIGHT**
A Complete Catalog
Second Edition

★21 **Learning from Las Vegas**
by Robert Venturi, Denise Scott Brown, and Steven Izenour

20 **WORKING DRAWING HANDBOOK**
A Guide for Architects and Builders
by Robert C. McHugh

Open Office Planning
A Handbook for Interior Designers and Architects
by John Pile

★19 **The House and Home Kitchen Planning Guide**
by the Housing Press

20 **WORKING DRAWING HANDBOOK**
A Guide for Architects and Builders
by Robert C. McHugh

★ **Carpenter Gothic**
19th-Century Ornamented Houses of New England
by Bruce M. Gardner & Robert M. H. Davidson
Photographs by Frederick S. H. Davidson
Foreword by Charles Moore
\$24.50

★11 **Water in Landscape Architecture**
by Campbell
\$15.95

★13 **Rendering with Pen and Ink**
by Robert W. Gill
\$7.50

14 **The Kitchen**
100 Solutions to Design Problems
208 pp., illus. . . . \$25.00
Whether its style is contemporary, colonial or country, today's kitchen must be designed to function as a convenient, congenial living center. This collection of 100 successful ways to design kitchen spaces explains the particular design problem for each kitchen area and illustrates the solution with superb photographs.
Circle B614 under Books.

NEW★
15 **Open Office Planning**
A Handbook for Interior Designers and Architects
By John Pile, 208 pp., illus. . . . \$15.95
Presents a systematic approach that requires the use of specific methodology in organizing the physical layout of an open office with the primary purpose of facilitating communication among the staff.
Circle B615 under Books.

16 **Site Planning for Cluster Housing**
By Richard Undermann & Robert Small
306 pp., illus. . . . \$23.50
An invaluable guide to planning low-rise, medium-density cluster housing environments. Also covers jurisdictional and technical considerations of site planning, and includes more than 600 drawings and photos that illustrate design principles and techniques.
Circle B616 under Books.

17 **Drawing File for Architects, Illustrators and Designers**
By Marc Szabo
251 pp., illus. . . . \$13.95
This book provides over 200 pages of figures — in the most common and natural positions, activities, and types of wearing apparel, as well as dozens of drawings of boats and cars, all of

which can be copied freely — by direct tracing, photostats, or photocopying machine. The pages tear out easily to form an easily accessible fingertip scrap file.
Circle B617 under Books.

NEW★
18 **Living by Design**
By the Partners of Pentagram
300 pp., illus. . . . \$15.00
Introduction: Using Design is by Peter Gourd. This informative book on the use of design covers product design, environment design, identity design, interior design, graphic design, living by design, exhibition design. (Soft bound)
Circle B618 under Books.

NEW★
19 **The House and Home Kitchen Planning Guide**
By the Housing Press
190 pp., illus. . . . \$18.95
Happily combining detailed information for both the home owner and professional builder, this lavishly illustrated book provides in-depth discussions on all facets of kitchen design and building. Before-and-after drawings make both the problem and solution explicit and easy to understand.
Circle B619 under Books.

20 **Working Drawing Handbook**
A Guide for Architects & Builders
By Robert C. McHugh,
166 pp., . . . \$12.95
This guide is a step-by-step presentation on how to produce working drawings as an integral aspect of communication between designer and builder. Includes convenient check-lists, budgeting information, and data on dimensioning that helps minimize chances of errors.
Circle B620 under Books.

NEW★
21 **The Architecture of Frank Lloyd Wright**
A Complete Catalog
Second Edition
By William Allin Storrer,
456 pp., illus. . . . \$15.00
This second edition, which documents all of the buildings designed by Wright, replaced a number of photographs with new ones that show the buildings to better effect, changed some copy in the text, and incorporated factual information that has come to light since the original publication in 1974.
Circle B621 under Books.

22 **Learning from Las Vegas**
The Forgotten Symbolism of Architectural Form
Revised Edition
By Robert Venturi,
Denise Scott Brown
and Steven Izenour
244 pp., illus. . . . \$17.50
Includes the full texts of Part I of the original, on the Las Vegas Strip, and Part II, "Ugly and Ordinary Architecture, or the Decorated Shed". This book created a storm of controversy in its original edition, calling on architects to be more receptive to the tastes of common people.
Circle B622 under Books.

JANUARY 1979

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

23 **Graphic Calendar 365 . . . \$12.50**
Bold and contemporary, this much-acclaimed calendar is a marvelous addition to architectural offices, a standard for designers, and needless to say, a must for the near-sighted. Comes in heavy, black tube with coordinated label for gift mailing. 12 sheets, each 45" x 32" bound with 3 metal eyelets for hanging.
Circle B623 under Books.



Building materials

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

Midlands Mall Shopping Center, Council Bluffs, Ia (p. 60). Architects: *Astle Ericson & Associates, Inc., Omaha.* Concrete waffle roof system: Ceco. Color in concrete slab topping: L.M. Scofield Co. Roof insulation: Styrofoam by Dow Chemical, with IRMA System. Storefronts: Kawneer. Management core doors: Crawford. Hardware: General (w/Lockwood cores); Norton. Cedar and oak finish: Danish Oil. Paint and stain: Watco; Pratt & Lambert. Space frame:

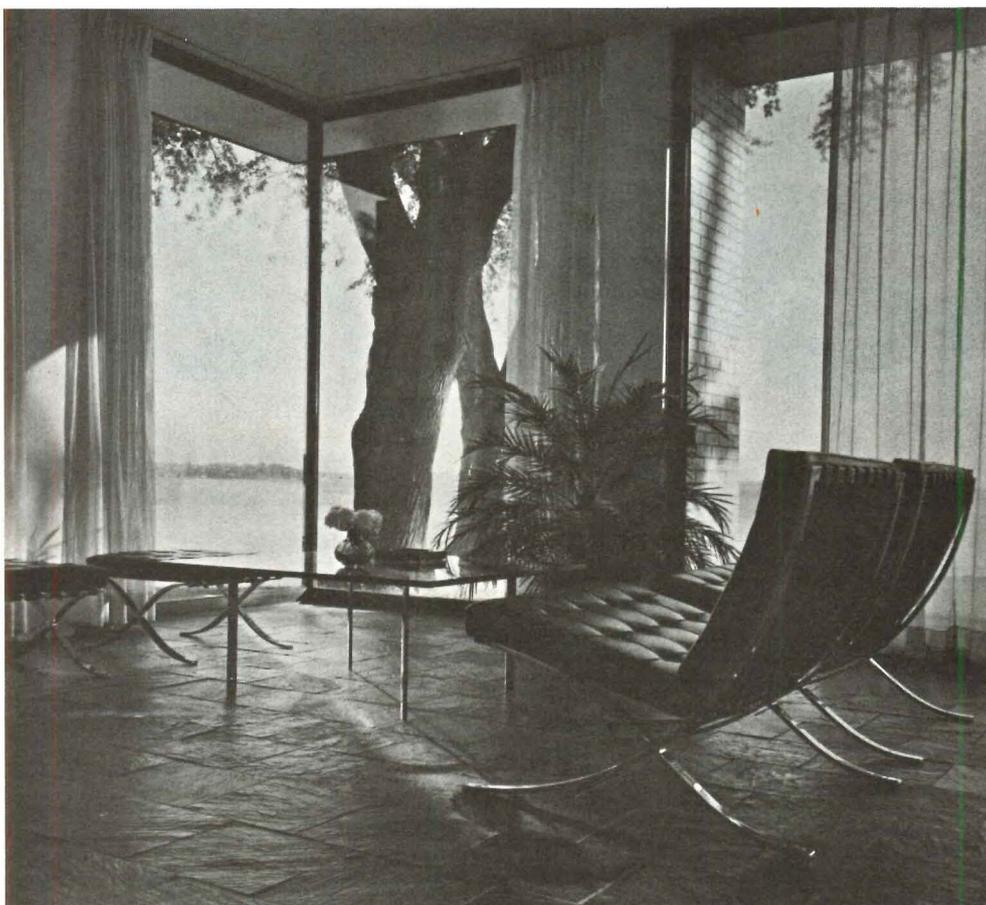
Unistrut. Elevators: Dover (parking garage); Otis (Brandeis Co.). Exterior lighting: Architectural Area Lighting. Interior lighting: Lightover, Lithomia, Marco, Major Halo. Electrical distribution: GE. Plumbing fixtures: Kohler. Mechanical systems: Kawnee (boilers), Chrysler Air Temp (chillers), Mammoth (rooftop units at mall), Marley (cooling towers), Armstrong (pumps). Skylights: Naturalite.

Citicorp, New York, NY (pp. 34, 54). Architects *Hugh Stubbins & Associates, Cambridge, Ma.* Supermail: Mosler Telelift, Lear Siegler. Central computer control: F&M System, Inc. Plaza and lobby floor: Hawkins Paver, supplied by Van der Laan. Roof: The Dow Chemical Co. Elevators: Otis Elevator, Parkline. Lighting: Lightolier. Cladding: Flour City Architectural Metals. Tuned

mass damper: MTS Corp. Electrified cellular floor: H.H. Robertson.

The Gallery at Market East, Philadelphia, Pa. (p. 64). Architects: *Bower & Fradley (succeeded by Bower Fradley Lewis Thrower), Philadelphia, Pa.* Structural steel: Bethlehem Fabricators. Lightweight concrete metal deck floors: Rollform. Preformed insulated exterior wall panels: H.H. Robertson. Metal interior wall panel coating: PPG; DeSoto. Paving tile: Structural Stoneware. Ceiling surfacing: Levolor Lorentzen. Built-up roof: Celotex. Insulation: Owens-Corning. Windows: Hankins & Johann. Doors: International-Ellison Co. Paint: M.A. Bruder Co. Elevators, escalators: Montgomery Elevator Co.

Toronto Eaton Centre, Toronto, Canada, (p. 68). Architects: *Bregman & Hamann, and Zeidler Partnership.* Concrete foundation and floors: Richvale Block & Ready-Mix. Steel framing: Great West Steel Industries; Frankel Steel. Mall roof glazing: Lord & Burnham. Aluminum and glass curtain wall and windows: Pilkington-Kawneer. Brick facing: Metropolitan Brick. Metal siding: Robertson Wall System. Precast concrete: E & M Precast Ltd. "Lexan" plastic surface: C.G.E. Ceramic tile flooring: Gail Ceramics, Olympia Tile Border Tile. V.A.T. flooring: Flintkote. Terrazzo tile: Gem Campbell. Quarry tile: Gail Ceramics, Buchtal. Ceiling: Donn Products. Acoustic tile: Johns-Manville. Metal strip ceiling: Hunter Douglas. Built-up roofing: Heather & Little. Bituminous damp-proofing: Cutback Asphalt Emulsion. Sheet-rubber membrane waterproofing: Lexcan Industrial Supply. Liquid waterproofing: Hydrozo Coating. Fiberwall insulation: Fiberglass Canada. Foam-board insulation: Dow Chemical. Metal stud partitions: Bailey Metal Products. Gypsum board partitions: Canadian Gypsum. Toilet partitions: General Steel Wares. Steel windows: Modern Railing & Metal Craft. Flush metal doors: S.W. Fleming & Co., Ltd. Metal overhead doors: Overhead Doors, Richard Wilcox. Baked enamel elevator doors: Otis. Revolving doors: Pilkington-Kawneer, C.J. Rush. Locksets, door closers, and panic exits: Sargent. Hinges: Stanley Works of Canada. Exterior paints: Mobil Vinyl. Interior paints: Pratt & Lambert, Glidden Paint, Tone Craft. Public address system: Executone Ltd. Mall benches: J. Hauser Iron Works, Ltd., Jones Wood Specialties, Central Industries. Fountain: Crystal Fountain. Elevators and escalators: Otis. Exterior and interior mercury vapor lighting: Holophane, Lightolier. Incandescent mall light: Revel. Fluorescent fixtures: Wilson, Electrolier, Peerless. Electric switchgear and panel boards: Federal Pioneer Ltd. Wiring devices: Canadian General Electric. Water closets, tubs, lavatories: American-Standard. Flush valves: Jenkins. Pipe: Sayer, Comstock. Sprinklers: Grinnell Sprinklers. Hot water boilers: Automatic Steam Products. Heat recovery boilers: Trane. Double-duct high-velocity mixing boxes: Connors. Mixing boxes, wall heaters: Chromalux. Centrifugal water chillers, heat pump: Trane. Evaporative refrigeration condensers: Marley. Ducts: Sayers, Comstock. Diffusers: Harts & Cooley, Leonard. Condensate & centrifugal pumps: Armstrong. Control system: Honeywell. Air filters: American Air Filter.



Richard R. Moger AIA
Rouse Residence
Clayton, N.Y.

The Natural Balance
Between Architecture and Nature.

BUCKINGHAM® SLATE

The rich, natural beauty and texture of Buckingham® Slate flooring achieves contemporary style and feeling. Blends interior areas with the outside environment with timeless dignity and enduring traditional values. See our catalogs in Sweet's Architectural File or B.S.I. Stone Catalog.



BUCKINGHAM-VIRGINIA SLATE CORPORATION
4110 Fitzhugh Ave., Richmond, Va. 23230
Telephone: 804-355-4351

Circle No. 361, on Reader Service Card

To go to space, Rockwell International came to Clearprint.

Rockwell International specifies the finest quality drafting paper — Clearprint Paper — for its projects like the Space Shuttle Orbiter.

Because Clearprint won't ghost. It's tough, it won't crack, or yellow with age.

But don't just take our word. Send in the coupon, and put Clearprint Paper to the test.

Then you'll know why companies like Rockwell International specify the paper we perfected in 1933 — Clearprint Paper.

The Space Shuttle: designed to be the keystone of the nation's space program through the 1990's, the Space Shuttle is the first re-usable space transportation system. Rockwell International Space Division is integrating the system and developing the payload carrying Orbiter stage for NASA's Lyndon B. Johnson Space Center. One of a series covering historic Clearprint design events.

**Come to Clearprint
for free samples.**

Name _____

Title _____

Firm Name _____

Address _____

City _____

State/Zip _____



Clearprint Paper Co., 1482 - 67th Street
Emeryville, California 94608

Circle No. 320, on Reader Service Card

PA

New LCN EQUALIZER™ reduces opening force as much as 75%. Gives elderly, invalid and people with handicaps a big assist.



Without EQUALIZER
Opening force required:
14 lb. pressure
Closing force: 8-1/2 lb. pressure

The LCN Equalizer is a heavy duty closer with a built-in tandem air cylinder that, when activated, partially neutralizes the closer spring pressure. The force required to open the door is significantly reduced making it easier for elderly, frail and handicapped people to enter and exit. When air pressure is released, full hydraulic spring power is returned to provide complete door control under all



With EQUALIZER
Opening force required:
4-1/2 lb. pressure
Closing force: 8-1/2 lb. pressure

conditions. Designed for exterior applications or drafty interior locations, the Equalizer meets handicapped opening force requirements at an economical cost. Models for top jamb surface mount (push or pull side) and concealed in transom application. Actuator switches, optical sensors, control boxes and compressors available.

Send for FREE LCN brochure which describes problems and solutions of barrier free opening force requirements for handicapped people.



LCN CLOSERS, Princeton, IL 61356
LCN CLOSERS OF CANADA, LTD., Mississauga, Ontario L5G4L5

Annual index January- December 1978

Articles are listed chronologically by subject matter, followed by an alphabetical list of contributing authors and architects.

Architectural history

A manifesto of Manhattanism: Delirious New York (Dec.), p. 70.

Architectural research

Performance Design of Safer Windows (Michael Brill, BOSTI, Inc.), P/A award (Jan.), p. 106.

Low-rise Housing for Older People: Behavioral Criteria for Design (John Zeisel, Gayle Epp, Stephen Demos, Polly Welch), P/A award (Jan.), p. 107.

The Koreshan Unity Settlement (Architects Design Group of Florida), P/A cit. (Jan.), p. 108.

Radiation Therapy Facilities: Social and Behavioral Issue for Design (Don Conway, John Zeisel, Ph.D, Polly Welch), P/A cit. (Jan.), p. 109.

Outdoor Environments for Exceptional Education (Gary T. Moore, Uriel Cohen, and Team 699), P/A cit. (Jan.), p. 110.

U.S. Senate: Space Availability and Utilization report (Richard Ridley + Associates), P/A cit. (Jan.), p. 111.

Architectural theory

Introduction: The 25th P/A Awards (Jan.), pp. 65–67.

The voice of the pipe column (July), p. 7.

How High is Tech?: Introduction (July), p. 45.

Plying colors: Introduction (Aug.), p. 51.

A manifesto of Manhattanism: Delirious New York (Dec.), p. 70.

Barrier-free design

Equal opportunity for the handicapped (Feb.), p. 6.

Accessible and perceivable (Apr.), p. 6.

Bearing down on barriers: Introduction (Apr.), pp. 63–64.

Design for access (Apr.), pp. 65–71.

A place in which the soul can dance: Joseph E. Cole Recreation Center, Washington, DC (Apr.), pp. 72–75.

Fanciful and functional: Illinois Regional Library, Chicago (Apr.), pp. 76–81.

Extra sensory perceptions: House near New York (Apr.), pp. 82–85.

Hearing is believing: Auditorium and Music Building, Kentucky School for the Blind, Louisville (Apr.), pp. 87–89.

A playground for all children: Barrier-free playground (Apr.), pp. 90–91.

De-institutionalizing for the blind: Life Learning Center for the Blind Retarded, Boston (Apr.), pp. 92–93.

Hidden barriers: Perceptual factors (Apr.), pp. 94–97.

Commercial/shops (see also mixed-use)

Jessie St. Substation, San Francisco, Ca (W.A. Werner Associates), P/A cit. (Jan.), p. 89.

Where the elite meet: Delmonico's, New York (June), pp. 60–63.

They did it all for you: McDonald's (June), pp. 64–67.

Ripon pavilion: First National Bank of Ripon, WI (July), pp. 54–57.

Fighting the system: Hiram's at the Locks, Seattle, Wa (Aug.), pp. 63–65.

Keeping it personal: Francesco + Aldo Piccaluga, Inc. (Sept.), pp. 78–81.

Keeping it clean: Ward Bennett (Sept.), pp. 82–85.

Bold discretions: TAC Interiors (Sept.), pp. 86–89.

Something for everyone: Daroff Design, Inc. (Sept.), pp. 90–93.

Big-time on 57th Street: Stephen Kiviat—James Rappoport (Sept.), pp. 94–97.

Introversion and the Urban Context: Introduction (Dec.), p. 49.

At the core of the Apple: The Market at Citicorp, New York City (Dec.), p. 54.

Suburban shopping downtown?: The Gallery at Market East, Philadelphia, Pa (Dec.), p. 64.

A white ship or a black hole: Toronto Eaton Centre, Toronto, Canada (Dec.), p. 68.

Community/recreational facilities

Pavillon Soixante-Dix, St-Sauveur, Quebec (Peter D. Rose with Peter Lancken and James V. Righter), P/A award (Jan.), pp. 70–71.

Gymnasium-Bridge, Bronx, NY (Steven Holl), P/A cit. (Jan.), p. 81.

A place in which the soul can dance: Joseph E. Cole Recreation Center, Washington, DC (Apr.), pp. 72–75.

A playground for all children: Barrier-free playground (Apr.), pp. 90–91.

Responsive readings: Old Pine Community Center, Philadelphia, Pa (June), pp. 74–77.

A green Y: Portland Metro Fitness Center, Portland, Or (Aug.), pp. 52–57.

It was a real gas: Gas Works Park, Seattle, Wa (Nov.), pp. 96–99.

Educational facilities

Petromin Refining Training Centers, Saudi Arabia (Perkins & Will), P/A award (Jan.), pp. 74–75.

The new college try: Introduction: Campus architecture (Mar.), p. 53.

Hail Columbia: Fairchild Center, Columbia University, New York (Mar.), pp. 54–59.

Beneath the halls of ivy: Avery Library extension, Columbia University, New York (Mar.), pp. 60–61.

Saving traces: Hogan Hall, Columbia University, New York (Mar.), pp. 62–63.

Making it legal: Jerome L. Greene Hall, Columbia University, New York (Mar.), pp. 64–65.

Activism in concrete: Student Union, San Francisco State College (Mar.), pp. 66–69.

More Gothic than revival: Science Center, Wellesley College, Wellesley, Ma (Mar.), pp. 70–75.

Fanciful and functional: Illinois Regional Library, Chicago (Apr.), pp. 76–81.

Hearing is believing: Auditorium and Music Building, Kentucky School for the Blind, Louisville (Apr.), pp. 87–89.

De-institutionalizing for the blind: Life Learning Center for the Blind Retarded, Boston (Apr.), pp. 92–93.

Opus posthumous: Yale Center for British Art, Yale University, New Haven, Ct (May), pp. 76–82.

O.R.U. architecture?: Oral Roberts University, Tulsa, Ok (June), pp. 52–55.

Great leap forward: Angela Athletic Facility, St. Mary's College, Notre Dame, In (July), pp. 58–61.

The reading factory: Michigan City Public Library, Michigan City, In (July), pp. 62–65.

Aurora Auraria: Auraria Learning Resources Center, Denver, Co (July), pp. 66–67.

Big yellow schoolhouse: Liberty Elementary School, Columbus, Oh (Aug.), pp. 58–62.

Unmessy vitality: State University College Library, Plattsburgh, NY (Oct.), pp. 80–83.

From the ridiculous to the sublime: New Mexico Union, University of New Mexico, Albuquerque

Government buildings

Practicing what they preach: California State Office Building competition (Feb.), pp. 70–73.

Rooms for improvement: Federal Design Assembly lounges, Pension Building, Washington, DC (Dec.), p. 76.

Hotels/Resorts

Leaving the natural behind: Introduction (Feb.), p. 45.

Upward and inward with time: Catskills resort architecture (Feb.), pp. 46–51.

A star for Tinseltown: Bonaventure Hotel, Los Angeles (Feb.), pp. 52–56.

Megaform comes to Motown: Detroit Plaza Hotel, Detroit, Mi (Feb.), pp. 57–61.

A come-back with kudos: The Biltmore Hotel, Los Angeles (Nov.), pp. 66–71.

Houses/Housing

"The Pink House," Friendship, Md (Edward Mills), P/A first award (Jan.), pp. 68–69.

Kornaza Residence, Montauk, NY (Chimacoff/Peterson), P/A award (Jan.), pp. 72–73.

Graves Warehouse Renovation, Princeton, NJ (Michael Graves), P/A cit. (Jan.), p. 78.

Lovett Square, Houston, Tx (Wm. T. Cannady & Associates), P/A cit. (Jan.), p. 79.

Maison Truc, Mt. Kisco, NY (Robert S. Livesey), P/A cit. (Jan.), p. 82.

The Babylon Apartments, Miami, Fl (Arquitectonica), P/A cit. (Jan.), p. 83.

Ghent Square, Norfolk, Va (Barton Myers Associates), P/A cit. (Jan.), p. 86.

Braemar Ridge, North Vancouver, B.C. (John Perkins Associates), P/A cit. (Jan.), p. 87.

Vacation House, Djerba, Tunisia (Jorge Silvetti of Machado-Silvetti Architects), P/A cit. (Jan.), p. 91.

Habitat as a means to architecture: Profile: Adele and Antonio Santos (Feb.), pp. 62–69.

Living in a work of art: Snyderman House, Fort Wayne, In (Mar.), pp. 80–87.

Extra sensory perceptions: House near New York (Apr.), pp. 82–85.

Inside 'Our Town': River Hills Plantation, South Carolina (June), pp. 56–59.

The home is still a castle (June), pp. 68–69.

Our blue heaven: Armstrong Concept Houses (June), pp. 70–73.

Getting it right the first time: Interior design: Benjamin apartment, New York (June), pp. 78–79.

Purveyors of taste: Schwarting loft, New York (June), pp. 80–85.

Optimum box: Hopkins House, London, England (July), pp. 50–53.

Casa moderna: Kislavitz House, Long Island, New York (July), pp. 72–75.

Everyman's casa: Villas Florestas, Tijuana, Mexico (July), pp. 76–79.

Innovations in Housing: First annual awards (Aug.), pp. 66–71.

Poetic pragmatics: Emilio Ambasz (Sept.), pp. 98–101.

Industrial/Utility buildings

Petromin Refining Training Centers, Saudi Arabia (Perkins & Will), P/A award (Jan.), pp. 74–75.

Chem-Fleur Factory Addition and Renovation, Newark, NJ (Michael Graves), P/A award (Jan.), pp. 76–77.

Morgenstern Warehouse, Los Angeles, Ca (Eric Moss and James Stafford), P/A cit. (Jan.), p. 84.

Trim tech: Herman Miller Ltd., Bath, England (July), pp. 46–49.

It makes scents: Icart Building, Barcelona, Spain (Oct.), pp. 60–63.

Interior design

Bending with the times: molded plywood (Feb.), pp. 74–77.

Two for the show: Gary Shirtmakers and Swirl showrooms, New York (Mar.), pp. 76–79.

An artful streetscape: New York School exhibition, Albany, NY (May), pp. 72–75.

Where the elite meet: Delmonico's, New York (June), pp. 60–63.

Getting it right the first time: Benjamin apartment, New York (June), pp. 78–79.

Purveyors of taste: Schwarting loft, New York (June), pp. 80–85.

The machine of the myth: AT&T Long Lines headquarters, Bedminster, NJ (July), pp. 68–71.

Fighting the system: Hiram's at the Locks, Seatle, Wa (Aug.), pp. 63–65.

The other side of architecture (Sept.), p. 7.

Designer's Saturday 1978 (Sept.), pp. D1–D24.

Interior design: What is it? Who does it?: Introduction (Sept.), p. 69.

Interior design: Patterns of change: P/A Roundtable (Sept.), pp. 70–73.

Where categories collide: Frank O. Gehry & Associates, Inc. (Sept.), pp. 74–77.

Keeping it personal: Francesco + Aldo Piccaluga, Inc. (Sept.), pp. 78–81.

Keeping it clean: Ward Bennett (Sept.), pp. 82–85.

Bold discretions: TAC Interiors (Sept.), pp. 86–89.

Something for everyone: Daroff Design, Inc. (Sept.), pp. 90–93.

Big-time on 57th Street: Stephen Kiviat—James Rappoport (Sept.), pp. 94–97.

Poetic pragmatics: Emilio Ambasz (Sept.), pp. 98–101.

Leaving it better than they found it: Vignelli Associates (Sept.), pp. 102–105.

Splendid spinoff: Interior design: Aye Simon Reading Room, Solomon R. Guggenheim Museum, New York (Oct.), pp. 68–71.

Rooms for improvement: Federal Design Assembly lounges, Pension Building, Washington, DC (Dec.), p. 76.

Law (Bernard Tomson and Norman Coplan)

Consolidated arbitration involves risks to architect (Jan.), p. 116.

'Continuity' key to malpractice cutoff date (Mar.), p. 110.

Stemming architects' expanding liability

Part I, (Apr.), p. 118.

Part II, (May), p. 114.

Bernard Tomson: 1909–1978 (July), p. 93.

Negligence, not human error, decides liability (Sept.), p. 136.

Landmark designation (Nov.), p. 112.

Mixed-use buildings/centers

Westlake Park, Seattle, Wa (Mitchell/Giurgola Architects), P/A cit. (Jan.), p. 80.

Megaform comes to Motown: Detroit Plaza Hotel, Detroit, Mi (Feb.), pp. 57–61.

Niagara rises: Rainbow Center Mall and Winter Garden, Niagara Falls, NY (Aug.), pp. 72–81.

Backstage along the Strand: Adaptive reuse in Galveston, Tx (Nov.), pp. 72–77.

Museum and exhibition spaces

Museums with walls: Introduction (May), p. 61.

Esprit grows in Brooklyn: Brooklyn Children's Museum, Brooklyn, NY (May), pp. 62–67.

Cultural hybrid: Tehran Museum of Contemporary Art, Tehran, Iran (May), pp. 68–71.

An artful streetscape: Interior design: New York School exhibition, Albany, NY (May), pp. 72–75.

Opus posthumous: Yale Center for British Art, New Haven, Ct (May), pp. 76–82.

Industrial aesthetics: Museum of Natural History and Science, Louisville, Ky (May), pp. 83–85.

Too much is never enough: Ballantine House, Newark Museum, Newark, NJ (May), pp. 86–89.

Simply sensuous: Southern Alleghenies Museum of Art, Loretto, Pa (May), pp. 90–93.

P/A on Pei: Roundtable on a trapezoid: East Building, National Gallery of Art, Washington, DC (Oct.), pp. 49–59.

Splendid spinoff: Interior design: Aye Simon Reading Room, Solomon R. Guggenheim Museum, New York (Oct.), pp. 68–71.

Office buildings/Offices

Monroe Centre, Chicago, Il (C.F. Murphy Associates), P/A cit. (Jan.), p. 85.

Office building for a sawmill, Vancouver, B.C. (RIA Architects), P/A cit. (Jan.), p. 88.

Goebel Collectors' Club, Stamford, Ct (Robert Wagenseil Jones & Associates), P/A cit. (Jan.), p. 90.

Practicing what they preach: California State Office Building competition (Feb.), pp. 70–73.

Where categories collide: Frank O. Gehry & Associates, Inc. (Sept.), pp. 74–77.

Keeping it personal: Francesco + Aldo Piccaluga, Inc. (Sept.), pp. 78–81.

Prime square-footage: Developer office building (Oct.), pp. 72–79.

Learning to love a landmark: Chrysler Building, New York (Nov.), pp. 78–80.

Performing arts facilities

Hearing is believing: Auditorium and Music Building, Kentucky School for the Blind, Louisville (Apr.), pp. 87–89.

Planning and urban design

Plan Alternatives for the National Register Historic District, Murfreesboro, NC (Henry Sanoff, AIA, Brad Smith, Larry Liberatore, David Polston, School of Design, North Carolina State University), P/A first award (Jan.), pp. 92–93.

The Nebraska Capitol Environs Plan, Lincoln, Ne (College of Architecture, University of Nebraska, Thomas S. Laging, Roger L. Schluntz), P/A first award (Jan.), pp. 94–95.

A Guide to Understanding and Administering the Massachusetts Wetlands Protection Act (Elizabeth Kline, James C. Colman, co-directors Wetlands Project), P/A award (Jan.), pp. 96–97.

Shahestan Pahlavi, Tehran, Iran (Llewelyn-Davies International), P/A award (Jan.), pp. 98–99.

Lowell National Cultural Park, Lowell, Ma (The Lowell Team: David A. Crane & Partners/DACP; Gelardin/Bruner/Cott; Michael Sand & Associates), P/A cit. (Jan.), pp. 100–101.

Urban Street Furniture Manual, Detroit (Johnson, Johnson & Roy, Inc.), P/A cit. (Jan.), p. 102.

Qanat Kosar Housing Community, Lavan New City, Tehran, Iran (The J.G. White Engineering Corp.), P/A cit. (Jan.), p. 103.

Lower Waller Creek Development Plan, Austin, Tx (Myrick-Newman-Dahlberg, Inc.; Taniguchi, Shefelman, Vackar & Minter, Inc.; Freese & Nicholas, Inc.), P/A cit. (Jan.), p. 104.

East Cambridge Urban Design Proposal, Cambridge, Ma (Jean Bellas, Thomas C. Levi, Phillip A. Szujewski), P/A cit. (Jan.), p. 105.

Inside 'Our Town': River Hills Plantation, South Carolina (June), pp. 56–59.

Niagara rises: Rainbow Center Mall and Winter Garden, Niagara Falls, NY (Aug.), pp. 72–81.

Boston: reflections on regeneration (Oct.), p. 6.

The magic fountain: Piazza d'Italia, New Orleans (Nov.), pp. 81–87.

Silver lining over Miami (Dec.), p. 6.

Religious buildings

Leaving it better than they found it: Vignelli Associates (Sept.), pp. 102–105.

Faithful geometries: Holy Trinity Ukrainian Catholic Church, Kerhonkson, NY (Oct.), pp. 64–67.

Cultural overlay: Karne-Choling Meditation Center, Barnet, Vt (Nov.), pp. 88–91.

Restoration and remodeling

Jessie St. Substation, San Francisco, Ca (W.A. Werner Associates), P/A cit. (Jan.), p. 89.

Industrial aesthetics: Museum of Natural History and Science, Louisville, Ky (May), pp. 83–85.

Too much is never enough: Ballantine House, Newark Museum, Newark, NJ (May), pp. 86–89.

Preserving ironies: Introduction (Nov.), p. 65.

A come-back with kudos: The Biltmore Hotel, Los Angeles, Ca (Nov.), pp. 66–71.

Backstage along the Strand: Adaptive reuse in Galveston, Tx (Nov.), pp. 72–77.

Learning to love a landmark: Chrysler Building, New York (Nov.), pp. 78–80.

The magic fountain: Piazza d'Italia, New Orleans (Nov.), pp. 81–87.

Cultural overlay: Karne-Choling Meditation Center, Barnet, Vt (Nov.), pp. 88–91.

From the ridiculous to the sublime: New Mexico Union, University of New Mexico, Albuquerque (Nov.), pp. 92–95.

It was a real gas: Gas Works Park, Seattle, Wa (Nov.), pp. 96–99.

Technics

Skin deep: Exterior wall panels (Feb.), pp. 83–91.

Tile—now and forever: Ceramic tile (Mar.), pp. 94–102.

Innovation in steel: Structural steel (Apr.), pp. 104–113.

Innovation in concrete: Reinforced concrete (May), pp. 100–109.

Who's afraid of wallcoverings?: Interior technics: Wallcoverings (June), pp. 90–94.

Internal distribution systems: Materials handling (July), pp. 86–91.

Glorifying the body: Bathing and fitness equipment (Aug.), pp. 84–89.

Facts on a hot built-up roof: Built-up roofing (Sept.), pp. 122–129.

Protecting buildings from people: Security systems (Oct.), pp. 88–95.

A tour de floors: Underfloor systems (Nov.), pp. 104–109.

Returning to their seats: Interior technics: Auditorium seating (Dec.), p. 82.

A move afoot: Plaza/lobby flooring (Dec.), p. 88.

Technics (Specifications clinic)

Temporary facilities (Jan.), p. 115.

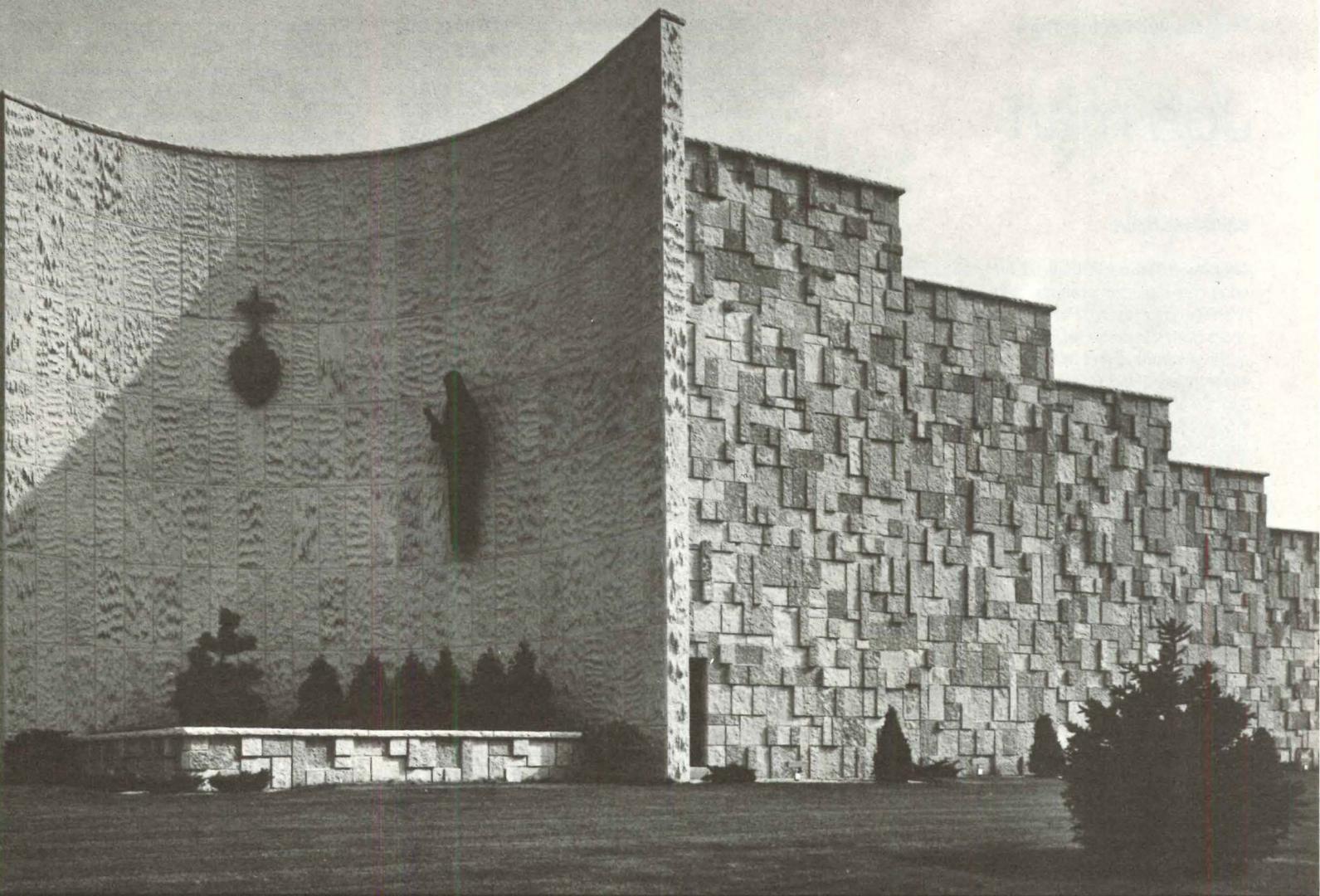
Operation and maintenance manuals (Apr.), p. 103.

Does CSI Division 3 really work? (May), p. 99.

Consulting engineers' specifications

(July), p. 85.
Shop drawings, product data, and samples (Aug.), p. 83.
Developing fast-track documents (Sept.), p. 121.
The making of a specifier (Nov.), p. 103.
Contributing authors
Catlin, John H.: Design for access: Barrier-free design (Apr.), pp. 65–71.
Cromley, Elizabeth: Upward and inward with time: Catskills resort architecture (Feb.), pp. 46–51.
Goldstein, Barbara: Trim tech: Herman Miller Ltd., Bath, England (July), pp. 46–49; Optimum box: Hopkins House, London, England (July), pp. 50–53.
Jones, Michael A.: Design for access: Barrier-free design (Apr.), pp. 65–71.
Kuwabara, Bruce: A white ship or a black hole: Toronto Eaton Centre, Toronto, Canada (Dec.), pp. 68.
Margolies, John: Upward and inward with time: Catskills resort architecture (Feb.), pp. 46–51.
Miller, Nory: Fanciful and functional: Illinois Regional Library, Chicago (Apr.), pp. 76–81.
Morgan, William: Hearing is believing: Auditorium and Music Building, Kentucky School for the Blind, Louisville (Apr.), pp. 87–89.
Wright, Bruce N.: Megaform comes to Motown: Detroit Plaza Hotel, Detroit (Feb.), pp. 57–61.
Architects, designers, engineers, planners
Alfredo Associates: Our blue heaven: Armstrong Concept Houses (June), pp. 70–73.
Ambasz, Emilio: Poetic pragmatics (Sept.), pp. 98–101.
Architects Design Group of Florida, Inc.: The Koreshan Unity Settlement, Estero, FL, P/A cit. (Jan.), p. 108.
Arquitectonica: The Babylon Apartments, Miami, FL, P/A cit. (Jan.), p. 83.
Ashkouri, Hisham: A playground for all children: Barrier-free playground (Apr.), pp. 90–91.
Baker/Banta/Cutri and ELS Design Group: Practicing what they preach: California State Office Building competition: 2nd place (Feb.), p. 72.
Bell, A. Dean: Innovations in Housing: First annual awards: Merit Award (Aug.), p. 69.
Bellas, Jean; Levi, Thomas C.; Szujewski, Phillip A.: East Cambridge Urban Design Proposal, Cambridge, MA, P/A cit. (Jan.), p. 105.
Benham-Blair & Affiliates: Practicing what they preach: California State Office Building competition: First place (Feb.), p. 71.
Bennett, Ward: Keeping it clean (Sept.), pp. 82–85.
Benowitz, Paul and Fernandez, Secundino: A playground for all children: Barrier-free playground (Apr.), pp. 90–91.
Booth Nagle & Hartray: Our blue heaven: Armstrong Concept Houses (June), pp. 70–73.
Bower & Fradley (succeeded by Bower Fradley Lewis Throter): Suburban shopping downtown?: The Gallery at Market East, Philadelphia (Dec.), p. 64.
Bregman & Hamann and The Zeidler Partnership: A white ship or a black hole: Toronto Eaton Centre, Toronto, Canada (Dec.), pp. 68.
Brill, Michael; BOSTI, Inc.: Performance Design of Safer Windows, P/A award (Jan.), p. 106.
Broome, Oringdulph, O'Toole, Rudolf, & Associates: A green Y: Portland Metro Fitness Center, Portland, OR (Aug.), pp. 52–57.
Cannady, Wm. T. & Associates: Lovett Square, Houston, TX, P/A cit. (Jan.), p. 79.
Cantalops, Luis; Martinez, José Antonio; Torres, Elias: It makes scents: Icart Building, Barcelona, Spain (Oct.), pp. 60–63.
Chimacoff/Peterson: Kornaza Residence, Montauk, NY, P/A award (Jan.), pp. 72–73.
Clay, Paffard Keatinge: Activism in concrete: Student Union, San Francisco State College (Mar.), pp. 66–69.
Cohen, Uriel (see Moore, Gary T.)
Colman, James C. and Kline, Elizabeth, Wetlands Project, Massachusetts Audubon Society: A Guide to Understanding and Administering the Massachusetts Wetlands Protection Act, P/A award (Jan.), pp. 96–97.
Conway, Don; Zeisel, John; Welch, Polly: Radiation Therapy Facilities: Social and Behavioral Issue for Design, P/A cit. (Jan.), p. 109.
Crane, David A. & Partners/DCAP, The Lowell Team, Gelardin/Bruner/Cott, Sand, Michael & Associates: Lowell National Cultural Park, Lowell, MA, P/A cit. (Jan.), pp. 100–101.
Daly, Kevin J.P.: Innovations in Housing: First annual awards: Special Merit (Aug.), p. 71.
Daroff Design, Inc.: Something for everyone (Sept.), pp. 90–93.
Dattner, Richard & Associates: A playground for all children: Barrier-free playground (Apr.), pp. 90–91.
Davis, Teeters, Ambrosino, Lum, Hoshi, Bryan and Bazjanac: Practicing what they preach: California State Office Building competition: Third place (Feb.), p. 73.
Demos, Stephen (see Zeisel, John)
Diba, Kamran of DAZ Architects: Cultural hybrid: Tehran Museum of Contemporary Art, Tehran, Iran (May), pp. 68–71.
Durand, Earl Jr.: Innovations in Housing: First annual awards: Merit Award (Aug.), p. 70.
ELS Design Group and Baker/Banta/Cutri: Practicing what they preach: California State Office Building competition: 2nd place (Feb.), p. 72.
Epp, Gayle (see Zeisel, John)
Ericson, Astle & Associates, Inc.: Midlands transplant: (Dec.), p. 60.
Farrell/Grimshaw Partnership: Trim tech: Herman Miller Ltd., Bath, England (July), pp. 46–49.
Fernandez, Secundino and Benowitz, Paul: A playground for all children: Barrier-free playground (Apr.), pp. 90–91.
Ferri, Roger (since registered) and **Kimball, L. Robert** (architect of record): Simply sensuous: Southern Alleghenies Museum of Art, Loretto, PA (May), pp. 90–93.
Fisher/Friedman: Our blue heaven: Armstrong Concept Houses (June), pp. 70–73.
Ford Powell & Carson: Backstage along the Strand: Adaptive reuse in Galveston, TX (Nov.), pp. 72–77.
Freese & Nichols, Inc., Myrick-Newman-Dahlberg, Taniguchi, Shefelman, Vackar & Minter: Lower Waller Creek Development Plan, Austin, TX, P/A cit. (Jan.), p. 104.
Friday Architects: Responsive readings: Old Pine Community Center, Philadelphia (June), pp. 74–77.
Geddes Brecher Qualls Cunningham: Philadelphia tailoring: Prime square-footage: Developer office buildings (Oct.), pp. 74–75.
Gehry, Frank O. & Associates, Inc.: Where categories collide (Sept.), pp. 74–77.
Gelardin/Bruner/Cott; The Lowell Team, Crane, David A. & Partners/DCAP; Sand, Michael & Associates: Lowell National Cultural Park, Lowell, MA, P/A cit. (Jan.), pp. 100–101.
Gorman, Mixon & Blood: Faithful geometries: Holy Trinity Ukrainian Catholic Church, Kerhonkson, NY (Oct.), pp. 64–67.
Graves, Michael: Chem-Fleur Factory Addition and Renovation, Newark, NJ, P/A award (Jan.), pp. 76–77; Graves Warehouse Renovation, Princeton, NJ, P/A cit. (Jan.), p. 78; Living in a work of art: Snyderman House, Fort Wayne, IN (May), pp. 80–87.
Gruen Associates: Niagara rises: Rainbow Center Mall and Winter Garden, Niagara Falls, NY (Aug.), pp. 72–81.
Gwathmey Siegel Architects: Two for the show: Interior design: Gary Shirtmakers and Swirl showrooms, New York (Mar.), pp. 76–79; Casa moderna: Kislavitz House, Long Island, NY (July), pp. 72–75.
Haag, Richard Associates: It was a real gas: Gas Works Park, Seattle, WA (Nov.), pp. 96–99.
Halsband, Frances & Kliment, R.M.: Saving traces: Hogan Hall, Columbia University, New York (Mar.), pp. 62–63.
Hammond Beeby & Babka: Ripon pavilion: First National Bank of Ripon, WI (July), pp. 54–57; Chicago middle-tech: Prime square-footage: Developer office buildings (Oct.), pp. 76–77.
Hansen, Daryl E.: Innovations in Housing: First annual awards: First award (Aug.), pp. 67–68.
Hardy Holzman Pfeiffer Associates: Esprit grows in Brooklyn: Brooklyn Children's Museum, Brooklyn, NY (May), pp. 62–67.
Harney, George Edward: Too much is never enough: Ballantine House, Newark Museum, Newark, NJ (May), pp. 86–89.
Hisaka, Don M. & Associates: Big yellow schoolhouse: Liberty Elementary School, Columbus, OH (Aug.), p. 58–62.
Holl, Steven: Gymnasium-Bridge, Bronx, NY, P/A cit. (Jan.), p. 81.
Hopkins, Michael and Patricia: Optimum box: Hopkins House, London (July), pp. 50–53.
Johnson, Johnson & Roy, Inc.: Urban Street Furniture Manual, Detroit, P/A cit. (Jan.), p. 102.
Jones, Robert Wagenseil & Associates: Goebel Collectors' Club, Stamford, CT, P/A cit. (Jan.), p. 90.
Kahn, Ely Jacques: Getting it right the first time: Interior design: Benjamin apartment, New York (June), pp. 78–79.
Kahn, Louis I. (completed after his death by Pellecchia & Meyers): Opus posthumous: Yale Center for British Art, Yale University, New Haven (May), pp. 76–82.
Kemble, Roger: Innovations in Housing: First annual awards: Merit Award (Aug.), p. 69.
Kent Cooper Partnership, The (now The Cooper-Lecky Partnership): A place in which the soul can dance: Joseph E. Cole Recreation Center, Washington, DC (Apr.), pp. 72–75.
Kimball, L. Robert (see Ferri, Roger)
Kiviat, Stephen-Rappoport, James: Big-time on 57th Street (Sept.), pp. 94–97.
Kliment, R.M. & Halsband, Frances: Saving traces: Hogan Hall, Columbia University, New York (Mar.), pp. 62–63.
Kline, Elizabeth and Colman, James, Wetlands Project, Massachusetts Audubon Society: A Guide to Understanding and Administering the Massachusetts Wetlands Protection Act, P/A award (Jan.), pp. 96–97.
Koolhaas, Rem: A manifesto of Manhattanism: Delirious New York (Dec.), p. 70.
Kouzmanoff, Alexander: Beneath the halls of ivy: Avery Library extension, Columbia University, New York (Mar.), pp. 60–61.
Laging, Thomas S., Schluntz, Roger L., and the College of Architecture, University of Nebraska: The Nebraska Capitol Environs Plan, Lincoln, P/A first award (Jan.), pp. 94–95.
Lambert, Phyllis and Summers, Gene: A comeback with kudos: The Biltmore Hotel, Los Angeles (Nov.), pp. 66–71.
Lanken, Peter with Rose, Peter D. and Righter, James V.: Pavillon Soixante-Dix, St-Sauveur,

- Quebec, Canada, P/A award (Jan.), pp. 70–71.
- Levi, Thomas C.** (see Bellas, Jean)
- Liberatore, Larry** (see Sanoff, Henry AIA)
- Livesey, Robert S.**: Maison Truc, Mt. Kisco, NY, P/A cit. (Jan.), p. 82.
- Llewelyn-Davies International**: Shahestan Pahlavi, Tehran, Iran, P/A award (Jan.), pp. 98–99.
- Louis & Henry, Inc.**: Industrial aesthetics: Museum of Natural History and Science, Louisville, Ky (May), pp. 83–85.
- The Lowell Team**: Crane, David A. & Partners/DCAP, Gelardin/Bruner/Cott, Sand, Michael & Associates: Lowell National Cultural Park, Lowell, Ma, P/A cit. (Jan.), pp. 100–101.
- Martinez, José Antonio; Cantallops, Luis; Torres, Elias**: It makes scents: Icart Building, Barcelona, Spain (Oct.), pp. 60–63.
- Massachusetts Audubon Society; Kline, Elizabeth and Colman, James**: Wetlands Project: A Guide to Understanding and Administering the Massachusetts Wetland Protection Act, P/A award (Jan.), pp. 96–97.
- Meier, Richard & Associates**: An artful streetscape: Interior design: New York School exhibition, Albany, NY (May), pp. 72–75; Splendid spinoff: Interior design: Aye Simon Reading Room, Solomon R. Guggenheim Museum, New York (Oct.), pp. 68–71.
- Metcalfe, Tristram III**: Innovations in Housing: First annual awards: Merit Award (Aug.), p. 70.
- Mills, Edward**: 'The Pink House,' Friendship, Md, P/A first award (Jan.), pp. 68–69.
- Mitchell/Giurgola Architects**: Westlake Park, Seattle, Wa, P/A cit. (Jan.), p. 80; Hail Columbia: Fairchild Center, Columbia University, New York (Mar.), pp. 54–59; Unmessy vitality: State University College Library, Plattsburgh, NY (Oct.), pp. 80–83.
- Moore, Charles and Oliver, Richard B.**: Extra sensory perceptions: House near New York (Apr.), pp. 82–85; The magic fountain: Piazza d'Italia, New Orleans (Nov.), pp. 81–87.
- Moore, Gary T.; Cohen, Uriel; and Team 699**: Outdoor Environments for Exceptional Education, P/A cit. (Jan.), p. 110.
- Moore, Ruble, Yudell; Torre, Susana; Tigerman, Stanley**: Rooms for improvement: Interior design: Federal Design Assembly lounges, Pension Building, Washington, DC (Dec.), p. 76.
- Morphosis**: Everyman's casa: Villas Florestas, Tijuana, Mexico (July), pp. 76–79.
- Morris, S.I. Associates**: Houston high style: Prime square-footage: Developer office buildings (Oct.), pp. 78–79.
- Moss, Eric and Stafford, James**: Morgenstern Warehouse, Los Angeles, P/A cit. (Jan.), p. 84.
- Murphy, C.F. Associates**: Monroe Centre, Chicago, P/A cit. (Jan.), p. 85; Great leap forward: Angela Athletic Facility, St. Mary's College, Notre Dame, In (July), pp. 58–61; The reading factory: Michigan City Public Library, Michigan City, In (July), pp. 62–65; Aurora Auraria: Auraria Learning Resources Center, Denver, Co (July), pp. 66–67.
- Myers, Barton Associates**: Ghent Square, Norfolk, Va, P/A cit. (Jan.), p. 86.
- Myrick-Newman-Dahlberg; Taniguchi, Shefelman, Vackar & Minter; Freese & Nichols**: Lower Waller Creek Development Plan, Austin, Tx, P/A cit. (Jan.), p. 104.
- College of Architecture, University of Nebraska; Laging, Thomas S.; Schluntz, Roger L.**: The Nebraska Capitol Environs Plan, Lincoln, P/A first award (Jan.), pp. 94–95.
- North Carolina State University, School of Design** (see Sanoff, Henry AIA)
- Oliver, Richard B. and Moore, Charles**: Extra sensory perceptions: House near New York (Apr.), pp. 82–85.
- Pei, I.M. & Partners**: P/A on Pei: Roundtable on a trapezoid: East Building National Gallery of Art, Washington, DC (Oct.), pp. 49–59.
- Pellecchia & Myers**: (see Kahn, Louis I.)
- Perez, August & Associates; Moore, Charles; Urban Innovations Group**: The magic fountain: Piazza d'Italia, New Orleans (Nov.), pp. 81–87.
- Perkins, John Associates**: Braemar Ridge, North Vancouver, B.C., Canada, P/A cit. (Jan.), p. 87.
- Perkins & Will**: Petromin Refining Training Centers, Saudi Arabia, P/A award (Jan.), pp. 74–75.
- Perry, Dean, Stahl & Rogers, Inc.**: More Gothic than revival: Science Center, Wellesley College, Wellesley, Ma (Mar.), pp. 70–75.
- Piccaluga, Francesco + Aldo Inc.**: Keeping it personal (Sept.), pp. 78–81.
- Pinto, Alberto**: Where the elite meet: Delmonico's, New York (June), pp. 60–63.
- Polston, David** (see Sanoff, Henry AIA)
- Portman, John & Associates**: A star for Tinseltown: Bonaventure Hotel, Los Angeles (Feb.), pp. 52–56; Megaform comes to Motown: Detroit Plaza Hotel, Detroit (Feb.), pp. 57–61.
- Predock, Antoine**: From the ridiculous to the sublime: New Mexico Union, University of New Mexico, Albuquerque (Nov.), pp. 92–95.
- RIA Architects**: Office building for a sawmill, Vancouver, B.C., Canada, P/A cit. (Jan.), p. 88.
- Ridley, Richard + Associates**: U.S. Senate: Space Availability and Utilization report, P/A cit. (Jan.), p. 111.
- Righter, James V. and Lancken, Peter with Rose, Peter D.**: Pavillon Soixante-Dix, St-Sauveur, Quebec, Canada, P/A award (Jan.), pp. 70–71.
- Rolls, Harold**: Cultural overlay: Karme-Choling Meditation Center, Barnet, Vt (Nov.), pp. 88–91.
- Rose, Peter D.** (see Righter, James V.)
- Sand, Michael & Associates; The Lowell Team, Crane, David A. & Partners/DACP; Gelardin/Bruner/Cott**: Lowell National Cultural Park, Lowell, Ma, P/A cit. (Jan.), pp. 100–101.
- Sanoff, Henry AIA; Smith, Brad; Liberatore, Larry; Polston, David; North Carolina State University, School of Design**: Plan Alternatives for the National Register Historic District, Murfreesboro, NC, P/A first award (Jan.), pp. 92–93.
- Santos, Adele and Antonio**: Habitat as a means to architecture: Profile: Adele and Antonio Santos (Feb.), pp. 62–69.
- Schluntz, Roger L.; Laging, Thomas S.; The College of Architecture, University of Nebraska**: The Nebraska Capitol Environs Plan, Lincoln, P/A first award (Jan.), pp. 94–95.
- Schorr, Barnett Co.**: Fighting the system: Hiram's at the Locks, Seattle, Wa (Aug.), pp. 63–65.
- Schwartz, Jon Michael**: Purveyors of taste: Schwarting Loft, New York (June), pp. 80–85.
- Sea Pines Inc.**: Inside 'Our Town': River Hills Plantation, South Carolina (June), pp. 56–59.
- Silvetti, Jorge of Machado-Silvetti Architects**: Vacation House, Djerba, Tunisia, P/A cit. (Jan.), p. 91.
- Sitzer, Alan Associates, Inc.**: The machine of the myth: Interior design: AT&T Long Lines headquarters, Bedminster, NJ (July), pp. 68–71.
- Smith, Brad** (see Sanoff, Henry AIA)
- Smith, Gary**: Innovations in Housing: First annual awards: Merit Award (Aug.), p. 71.
- Stafford, James and Moss, Eric**: Morgenstern Warehouse, Los Angeles, P/A cit. (Jan.), p. 84.
- Stern, Robert A.M.**: Making it legal: Jerome L. Greene Hall, Columbia University, New York (Mar.), pp. 64–65.
- Stubbins, Hugh Associates, Inc.**: Leaving it better than they found it: Vignelli Associates (Sept.), pp. 104–105; At the core of the Apple: The Market at Citicorp, New York City (Dec.), p. 54.
- Summers, Gene and Lambert, Phyllis**: A comeback with kudos: The Biltmore Hotel, Los Angeles (Nov.), pp. 66–71.
- Szujewski, Phillip A.** (see Bellas, Jean)
- Taft Associates**: Backstage along the Strand: Adaptive reuse in Galveston, Tx (Nov.), pp. 72–77.
- Taniguchi, Shefelman, Vackar & Minter; Myrick-Newman-Dahlberg; Freese & Nichols**: Lower Waller Creek Development Plan, Austin, Tx, P/A cit. (Jan.), p. 104.
- Team 699** (see Moore, Gary T.)
- The Architects Collaborative**: Bold discretions (Sept.), pp. 86–89.
- Tigerman, Stanley & Associates**: Fanciful and functional: Illinois Regional Library, Chicago (Apr.), pp. 76–81; Rooms for improvement: Interior design: Federal Design Assembly lounges, Pension Building, Washington, DC (Dec.), p. 76.
- Toole, Robert**: A playground for all children: Barrier-free playground (Apr.), pp. 90–91.
- Torre, Susana; Moore, Ruble, Yudell; Tigerman, Stanley**: Rooms for improvement: Interior design: Federal Design Assembly lounges, Pension Building Washington, DC (Dec.), p. 76.
- Torres, Elias; Cantallops, Luis; Martinez, José Antonio**: It makes scents: Icart Building, Barcelona, Spain (Oct.), pp. 60–63.
- Urban Innovation Group; Moore, Charles; Perez, August & Associates**: The magic fountain: Piazza d'Italia, New Orleans (Nov.), pp. 81–87.
- Van Alen, William**: Learning to love a landmark: Chrysler Building, New York (Nov.), pp. 78–80.
- Venturi & Rauch**: Backstage along the Strand: Adaptive reuse in Galveston, Tx (Nov.), pp. 72–77.
- Vignelli Associates**: Leaving it better than they found it (Sept.), pp. 102–105.
- Wallace, Frank**: O.R.U. architecture?: Oral Roberts University, Tulsa, Ok (June), pp. 52–55.
- Ward, Jasper**: Hearing is believing: Auditorium and Music Building, Kentucky School for the Blind, Louisville (Apr.), pp. 87–89.
- Welch, Polly; Zeisel, John; Epp, Gayle; Demos, Stephen**: Low-rise Housing for Older People: Behavioral Criteria for Design, P/A award (Jan.), p. 107; Radiation Therapy Facilities: Social and Behavioral Issue for Design, P/A cit. (Jan.), p. 109.
- Werner, W.A. Associates**: Jessie St. Substation, San Francisco, P/A cit. (Jan.), p. 89.
- Wetlands Project, Kline, Elizabeth and Colman, James, Massachusetts Audubon Society**: A Guide to Understanding and Administering the Massachusetts Wetlands Protection Act, P/A award (Jan.), pp. 96–97.
- White, J.G. Engineering Corporation**: Qanat Kosar Housing Community, Lavizan New City, Tehran, Iran, P/A cit. (Jan.), p. 103.
- Zeidler Partnership and Bregman & Hamann**: A white ship or a black hole: Toronto Eaton Centre, Toronto, Canada (Dec.), p. 68.
- Zeisel, John; Epp, Gayle; Demos, Stephen; Welch, Polly**: Low-rise Housing for Older People: Behavioral Criteria for Design, P/A award (Jan.), p. 107; Radiation Therapy Facilities: Social and Behavioral Issue for Design, P/A cit. (Jan.), p. 109.
- Zuk, Radoslav**: Faithful geometries: Holy Trinity Ukrainian Catholic Church, Kerhonkson, NY (Oct.), pp. 64–67.



drama in stone

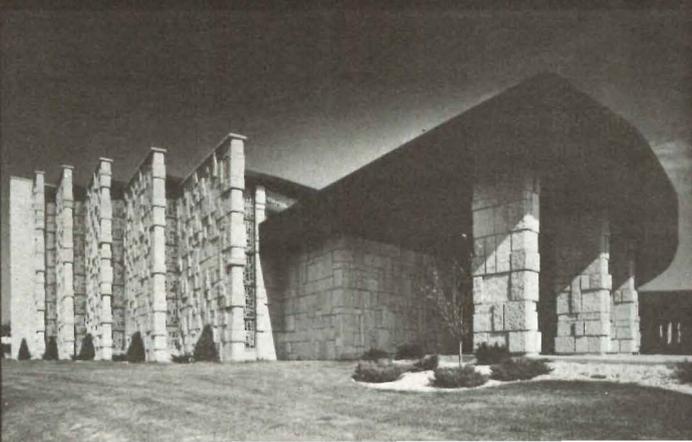
St. Margaret Mary Parish, Milwaukee, Wisconsin

This is a superb example of the use of natural stone in contemporary exterior and interior design. Stone creates surface interest allowing an architectural play of light and shadow. Aesthetically pleasing, stone is cost competitive and maintenance free. Combining economy and ease of installation, natural stone emerges into an architecture that is solidly constructed, tightly engineered and responsive to the energy crisis. These are the hallmarks of this architectural design of truth, tranquility and strength.

Architect: Rugg, Knopp & Lambert, Inc., New Berlin, Wisc.

Building Stone Institute • 420 Lexington Avenue, New York, NY 10017

Circle No. 365, on Reader Service Card



Job mart

Situations Open

Architect/Planner: Small A/E firm of Independence seeks person preferably: Master degrees in Architecture and City Planning with minimum two years demonstrable design experience. Duties require developing and managing projects individually from predesign client contact to job completion. Salary 14K-17K annually. Reply: Crowley, Wade, Milstead Inc., 3200 S. M-291, Independence, Mo 64057.

Assistant Professor: TN, Knoxville, 37916. University of Tennessee seeks Asst. Professor for Restoration/Preservation courses in Sch. of Architecture. B.Arch and advanced degree in preservation preferred; teaching experience and/or field experience desirable. January 1979. Send vitae and names of 3 references. AA/EOE. Apply Dean Hanson.

Chief Code Enforcement Officer: City of DeKalb. A department head position responsible for the enforcement of the building, housing, building and housing maintenance, plumbing, electrical and rooming house code requirements. Serve as secretary to the Board of Appeals. Selection based upon combination of education, skills, experience and training. Salary negotiable. Send resumes to City Manager, 200 South Fourth Street, DeKalb, Il 60115. Closing date is December 31, 1978.

J.L. Constant Distinguished Professorship: The School of Architecture and Urban Design invites applications for the DISTINGUISHED PROFESSORSHIP. The 7-year position commences August 16, 1979, at a yearly salary of \$35,000. Applicants should have a distinguished record in the profes-

sion of Architecture, scholarship and teaching. The chaired professor's activities include conduct of scholarly research, direction of graduate students and teaching of advanced courses. Closing date of applications is January 29, 1979. Direct inquiries to Charles H. Kahn, Dean; School of Architecture and Urban Design; 114 Marvin Hall; Lawrence, Ks 66045. An Equal Opportunity Employer.

Dean: College of Architecture and Urban Planning, University of Washington. For detailed information: Committee on the Deanship, University of Washington, 316 Administration Building—AH-20, Seattle, Wa 98195, Tel. (206) 543-6616.

Dean: College of Engineering Technology Temple University. Applications and nominations are invited for the position of Dean of the College of Engineering Technology at Temple University. The College is organized into the Departments of Architecture, Civil and Environmental Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology. It offers bachelor's degree programs in Architecture and bachelor's and associate's degree programs in five areas of Engineering Technology. Founded in 1969, the College has grown rapidly and currently enrolls about 1,000 students. To accommodate this growth, the College recently moved into a new nine story building, designed and constructed to the College's specifications. Candidates should have a doctorate or equivalent in an appropriate field, significant professional accomplishments, and substantial teaching and administrative experience in an institution of higher education. Demonstrated ability for leadership in the areas of teaching, professional practice, and community service is required. Send applications and nominations to: Dr. Robert L. Intemann, Chairman, Search Committee, Sullivan Hall, Temple University, Philadelphia, Pa 19122. *Deadline:* December 31, 1978. Temple University is an equal opportunity, affirmative action employer.

Dean: Of the Faculty of Architecture. The University of Manitoba, Winnipeg, Manitoba invites applications and nominations for the position of Dean.

The Faculty of Architecture consists of two undergraduate Departments: Environmental Studies and Interior Design and three graduate Departments: Architecture, City Planning and Landscape Architecture. It has a complement of 45 full-time faculty and a support staff of 11. Student enrollment 509 undergraduate and 202 graduate. Candidates should have superior academic and professional qualifications, qualify for the rank of professor, have relevant administrative experience with strong leadership ability. The position is available April 1, 1979. Candidates for the position should forward curriculum vitae and names of three referees to: Professor R.A. Johnson, P.Eng., President and Chairman, Selection Committee, Room 200 Administration Building, University of Manitoba, Winnipeg, Manitoba R3T 2N2. Responses will be received until January 1, 1979.

Director: School of Architecture at Montana State University invites applications for Director effective July 1979. Responsibilities include fiscal administration, long-range planning, curriculum development. Send application, vitae, references to: Search Committee, College of Arts and Architecture, Montana State University, Bozeman, Mt 59717. MSU is an equal opportunity/affirmative action employer and encourages applications from women and minorities.

Faculty: Two positions available Spring 1979-Fall 1979. One position will have primary responsibility teaching environmental systems (HVAC courses (two) and working with 5th year student design studio. Second position will have primary responsibility teaching design studio and one of the following: a) environmental systems (HVAC etc.), b) structures, c) building technology. Master's required or equivalent, registered architect/engineer desirable. Send resume to Kenneth Carpenter, Chairman, Department of Architecture, Ball State University, Muncie, In 47306. Application deadline December 31, 1978. Ball State University Practices Equal Opportunity in Education and Employment.

Faculty: Two positions beginning September 1979 at Instructor or Assistant Professor level. Teach undergraduate environmental control systems (HVAC, electrical, plumbing, etc.). All design and working drawings. Requires M.Arch. or equivalent + registration (or near); or Ph.D. (or near) + design background. Teaching and professional experience desirable. (2) Teach design studio years 1-5; area specializations include construction, landscape, urbanism, graphics. Requires M.Arch. or equivalent + registration (or near). Teaching experience desirable. Send resumes to: Search Committee, School of Architecture, Montana State University, Bozeman, Mt 59717. Montana State University is an equal opportunity affirmative action employer."

Faculty: University of Notre Dame with a Professional Program in Architecture, Rome Study Program and Graduate Program in Environmental Studies, seeks senior and junior faculty for AY 1979, Fall. M.Arch. required. Combination of the following preferable: Registration, Ph.D. or D.ate, professional, academic, Peace Corps or foreign experience. Forward in confidence inquiries and applications including vitae and three references to Robert L. Amico, AIA, Chairman, Department of Architecture, Notre Dame, In 465 (219) 283-6137, by November 15th. UND is an equal opportunity affirmative action employer.

ARCHITECTURAL OPPORTUNITIES

Our continued growth as one of the nation's largest designers and builders of hospitals enables us to offer several unique and challenging opportunities for experienced architects. An environment where an individual's success and growth is based on his performance and capability to produce positive results should be of interest to you if you are seeking career and personal growth.

Candidates for these positions should be degreed architects experienced in all phases of architecture with several years of practical experience.

We offer a 100 percent company paid comprehensive benefit package and an attractive working environment in our suburban St. Louis headquarters.

For further details write R. E. Coleman in full confidence or call (314) 567-9000 to arrange a confidential interview.



HBE Corporation

717 Office Parkway
St. Louis, Mo. 63141

An Equal Opportunity Employer M/F

Education Writer/Materials Researcher: Detail head position available for person with a minimum of ten years experience in specifications and materials research for major projects. Computer knowledge of CSI format and computer associated specification systems. Career opportunity with potential for individual committed to performance through team approach. 75- interdisciplinary firm of architects, engineers, designers, and planners. Salary commensurate with experience. Full benefit program. Uni-communitary. Submit resume in confidence to: Lind Meyer, Drawer 310, Iowa City, Ia. An equal opportunity/affirmative action employer. M/F.

Engineering Director/Administrative Architect: Growing South Texas firm seeks responsible architect with strong experience in business development, willingness to pursue marketing with design administration/supervision in 50% of professionals' time. Excellent opportunity for growth and advancement. Send resume, references, work examples to: Valley Total Design Co., P.O. Box 2085, Harlingen, Tx 78550 Attn: J. Carter Howald, President.

Resident Architectural Department: We are a registered architectural firm which specializes in the design and construction of medical facilities. In the past 29 years we have built over 1,500 medical buildings throughout the United States and overseas. Our national reputation for excellence and integrity is beyond reproach. We are seeking for an outstanding individual with design ability and superior administrative ability to manage the Architectural Department consisting of about 30 professionals. For the right individual a proven record of accomplishments, we offer an excellent position in a sound and financially strong firm. Excellent pay, stock options and fringe benefits. Marshall Erdman and Associates, 5117 University Avenue, Madison, WI. Tel. (608) 238-0211.

Positions Wanted

Architect: Over 20 years experience in all phases of design from client contact to project administration and inspection. Free to travel or relocate. Currently in 5 Southwestern states. P.O. Box 1000, Phoenix, Az 86040.

Architect: Ten years U.S. experience, medium to large projects; design, production, site supervision. Currently associate/office manager ten percent southwest architectural firm. Seeks challenging design/management position with American Architecture/Engineering/ Development firm in the Middle East. Bilingual, bicultural, unmar-ried. U.S. citizen, relocate M.E. Available. Reply Box 1361-253, Progressive Architecture.

Architect: Western Canadian 20 years in practice. Excellent design and community awards background. Politically, socially and economically well educated. Strong developer and cost orientation. Seeking new horizons. Objective—relationship with American or international firm seeking expansion stake in future western Canadian market. Reply Box 1361-254, Progressive Architecture.

Architect/Project Designer: 41, British qualified, 10 years experience design and execution of projects from inception to completion Europe, Middle East and Gulf area, imaginative, widely

travelled, seeks prominent position with American international firm, preferably in California. Fluent in English Arabic, French, Danish. Reply to: G.H. Ringvall, Grundtvigs Sidevej 5, 1865 Copenhagen V, Denmark.

Architectural Services

Architectural Computer Services: Software development services for architectural, engineering and construction management applications. Specializing in the solution of unique information processing problems and investigations in the areas of computer graphics, space planning, data analysis, and cost estimating. Write Robert J. Krawczyk, 211 East Delaware Place, Chicago, Ill 60611, or call (312) 944-4450.

International Plastics Consultants, Research and Development: Specializing in low and moderate cost housing systems for developing countries and for domestic markets, applications of plastics in building and architecture, specification writing, university lectures, variety of other services. Armand G. Winfield Inc., 82 Dale St., West Babylon, NY 11704, (516) 249-2462.

Rendering Services: Top professional rendering service coast to coast. Architectural, urban, landscape, interiors, industrial, advertising illustration in pen and ink or color for the best reproduction. Portfolio by appointment. Allow maximum time for job completion. Please call Mark de Nalovy-Rozvadovski (203) 869-4598, 25 Birchwood Dr., Greenwich, Ct 06830.

RitaSue Siegel Agency: Ms. Woody Gibson introduces creative architects, interior designers and urban planners to our international clients. RitaSue Siegel identifies and evaluates industrial and graphic designers. You are invited to submit confidential resumes. Our clients pay all fees. 60 W. 55th St., NYC 10019, (212) 586-4750.

Slate Roofs: "A handbook of data on the constructing and laying of all types of slate roofs." Written in 1926 and now reproduced. Completely relevant today. Many details. Send \$5.25 to Vermont Structural Slate Co., Inc., P.O. Box 98, Fair Haven, Vt 05743.

Tree Stamps: TREELINE's top quality line of rubber stamps offer the quality of hand drawn trees with the convenience of tree stamps. Write for free catalog. TREELINE, 52 Raleigh Road, Department B, Belmont, Ma 02178.

VISTA needs volunteers for architecture, planning, housing, weatherization, and solar energy projects. One-year commitment; your expenses paid; singles & couples. Information: Linda Friedman, VISTA, A-2, Washington, DC 20525. An Equal Opportunity Program.

Notice

Please address all correspondence to box numbered advertisements as follows:

Progressive Architecture
% Box
600 Summer Street
Stamford, Ct 06904



AUTOMATIC SNOW CONTROL with GUARANTEED Reliability

The patented Hume system sets state-of-the-art performance standards for in-ground automatic snow melting. So reliable, it's backed by a full five-year pipe system warranty. Our latest illustrated brochure contains full details and system specifications. Send for your copy today.



HUME SNOW MELTING SYSTEMS, INC.
4405 FERNLEE AVENUE • ROYAL OAK, MICHIGAN 48073
(313) 549-2830

Circle No. 334, on Reader Service Card

DiAZiT® PRESENTS
The Centsible Whiteprinter
(blueprinter)



CENTSIBLE because it's the least expensive full width 45" (115cm) Whiteprinter available with printing speeds up to 20 fpm (6m/m) and convenient instant on/off operation.

Be Sensible / Get All the Details
CALL TOLL FREE (except N.C.) 800-334-6641 or

Send for descriptive literature on the most complete line of moderately priced whiteprinters (blueprinters) on the market today.

DiAZiT
COMPANY, INC.
U.S. #1, Youngsville
N. C. U.S.A. 27596

Circle No. 323, on Reader Service Card

Advertisers

American Olean Tile, Div. of National Gypsum Co. 9 <i>Lewis & Gilman, Inc.</i>	Eastman Chemical Products, Inc.OBC	Stanley Works, Magic-Door Div. 44
American Plywood Association 45 <i>Cole & Weber, Inc.</i>	Elkay Mfg. Co. 46	<i>Keiler & McKinlay Advertising</i>
American Seating Co. 92 <i>Hanish Associates, Inc. Mass Communicators</i>	<i>Post, Keyes, Gardner, Inc.</i>	Stern-Williams Co., Inc. 39 <i>Ad Mar Co., Inc.</i>
American Security Fence Corp. 80 <i>Howard Walrath Advertising</i>	Flexi-Wall Systems 39 <i>Cook, Ruef, Spann & Weiser</i>	Symons Corp. 80 <i>Y&R/Buchen, Reincke Inc.</i>
Ameropean Corp. 79 <i>Slater/Banks Advertising, Inc.</i>	Follansbee Steel Corp. 12 <i>Group Marketing & Communications, Inc.</i>	Tremco, Inc.14, 15 <i>Carr Liggett Advertising, Inc.</i>
Amoco Fabrics Co., Patchogue Plymouth Div. 41 <i>Wolfson & Co.</i>	Foremost Mfg. Co. 28 <i>John H. Rosen Advertising, Inc.</i>	Unistrut—GTE Sylvania 48 <i>Doyle, Dane & Berbach, Inc.</i>
Andersen Corp.10, 11 <i>Campbell-Mithun, Inc.</i>	Forms & Surfaces, Inc.7, 101 <i>Sherrill Broudy Associates</i>	U.S. Gypsum Co. 37 <i>Marstrat, Inc.</i>
Armstrong Cork Co.IFC, 1, 2, 3, 5 <i>Marsteller, Inc.</i>	G.E.—Silicone Products Dept. 43 <i>Ross Roy of New York</i>	Wilson, Ralph Plastics Co. 20 <i>Holmes/McKone, Inc.</i>
Aztech International Ltd. 8 <i>Unified Arts</i>	Grinnell Fire Protection Sprinkler Systems Co., Inc. 39 <i>Hutchins/Darcy, Inc.</i>	
Ball Corp., Metal & Chemical Div. 25 <i>Charles Tombras & Associates, Inc.</i>	HBE Corp.114 <i>D'Arcy-MacManus & Masius</i>	
Bally Case & Cooler, Inc. 30 <i>Beaumont, Heller & Sperling, Inc.</i>	Helios Tension Products, Inc.IBC <i>Hisata Design Associates, Inc.</i>	
Bigelow Sanford 47 <i>AC&R Advertising, Inc.</i>	Hickman, W.P. & Co. 30 <i>John H. Rosen Advertising, Inc.</i>	
Boeckh, Div. of American Appraisal Associates, Inc. 42	Hume Snow Melting Systems, Inc.115 <i>Denham & Co.</i>	
Bradley Corp. 33 <i>Hoffman, York, Baker & Johnson, Inc.</i>	Integrated Ceilings, Inc. 13 <i>Integrated Ceilings Agency Svcs.</i>	
Buckingham Virginia Slate106 <i>Riddick Advertising Art</i>	International Masonry Institute 29 <i>Henry J. Kaufman & Associates, Inc.</i>	
Building Stone Institute113 <i>Siesel Co.</i>	Johns-Manville, Holophane Division 95 <i>Broyles, Allebaugh & Davis, Inc.</i>	
Butler Mfg. Co. 35 <i>Valentine-Radford Advertising</i>	Kalwall Corp. 36 <i>Synerjenn Advertising</i>	
Cado/Royal Systems, Inc. 79 <i>Johns/Presser Associates, Inc.</i>	Kawneer Architectural Products18, 19 <i>Garrison, Jasper, Rose & Co.</i>	
Castelli Furniture 81 <i>CA Advertising</i>	Kroy Industries 38 <i>Chuck Ruhr Associates Advertising, Inc.</i>	
Celotex Corp.26, 27 <i>Mike Sloan, Inc.</i>	LCN Closers108 <i>Alex T. Franz, Inc.</i>	
Clearprint Paper Co.107 <i>Hoefler, Dieterich & Brown, Inc.</i>	Moen/Division of Stanadyne102 <i>Carr Liggett Advertising, Inc.</i>	
Cohama Specifier Contract FabricsOBC <i>Mel Richman, Inc.</i>	National Sanitation Foundation 80 <i>Connolly Co.</i>	
Cold Spring Granite Corp. 32 <i>Kerker & Associates, Inc.</i>	Oxford University Press79, 102 <i>Franklin Spier, Inc.</i>	
Cookson Co. 40 <i>George E. Church Advertising</i>	Patchogue Plymouth Div., Amoco Fabrics Co. 41 <i>Wolfson & Co.</i>	
Diazit Co., Inc.115 <i>Neste Associates</i>	Patcraft Mills, Inc. 78 <i>M. Finkel Associates</i>	
Dover Corp., Elevator Div. 17 <i>Caldwell/Bartlett/Wood</i>	Progressive Architecture Bookstore104, 105	
du Pont de Nemours, E.I. & Co., Inc.— Orchem, Zepel 78	RMax, Inc. 16 <i>Richards Group, Inc.</i>	
<i>Batten, Barton, Durstine & Osborn, Inc.</i>	Red Cedar Shingle & Handsplit Shake Bureau 31 <i>Cedarcrest Advertising</i>	
	Riverside Cement Co.105W <i>David W. Evans, Inc.</i>	
	Rixon-Firemark, Inc.103 <i>Motivation Dynamics</i>	

Advertising Sales Offices

Stamford, Connecticut 06904:

600 Summer Street 203-348-7531

James J. Hoverman
Publishing Director

Harrington A. Rose, Eastern Sales Manager
Francis X. Roberts, Charles B. Selden,
District Managers

Chicago, Illinois 60601:

2 Illinois Center Bldg
Suite 1300 312-861-0880
Tony Arnone, District Manager

Cleveland, Ohio 44113:

614 Superior Ave W 216-696-0300
John F. Kelly, Western Sales Manager

Los Angeles, CA 91436:

16255 Ventura Blvd, Suite 301 213-990-9000
Philip W. Muller, District Manager

Atlanta, Georgia 30326:

3400 Peachtree Road, NE-Suite 811
Lennox Tower 404-237-5528
Harmon L. Proctor,
Regional Vice President

Houston, Texas 77081

2100 West Loop South, Suite 510 713-961-7841
R.W. Whit Jones, Representative

United Kingdom

Reading, RG10 0QE, England
Wood Cottage, Shurlock Row (073 581) 302
Cables:
TEKPUB, Reading
Malcolm M. Thiele, Managing Director, U.K.

Verviers, Belgium

1 rue Mallar
Andre Jamar, Representative

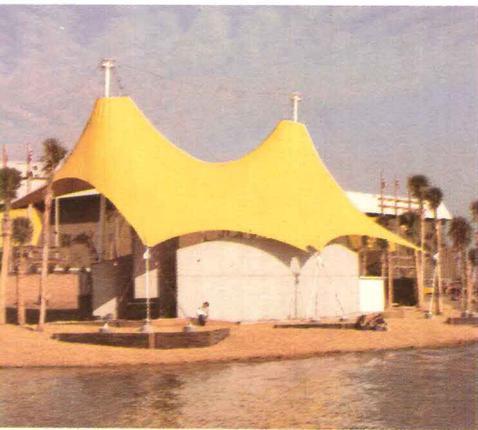
Tokyo, Japan 160

Bancho Media Service
15 Sanyocho, Shinjuku-ku
Genzo Uchida, President

RHYTHMICAL

An Eye-Catching Stage Shelter by Helios Tension.

This tensioned membrane stage shelter at the Florida State Fairgrounds in Tampa is both beautiful and practical. The curved sides forming a backdrop and shelter for performers, it serves as a highly visible landmark for the fairgrounds. Its exciting curvilinear shape though light and delicate in appearance is exceptionally strong. It has been thoroughly engineered to withstand the rigors of hurricane force winds, rain and ultraviolet rays of the sun.



When your imagination calls up dramatic soaring shapes or great enclosed spaces, Helios Tension Products are the people to bring your ideas into existence. We are specialists in helping architects produce innovative membrane structures. We can tell you if your design concept can be built and exactly how. Our expertise includes design and engineering, fabrication and erection. We offer a total comprehensive service unmatched in the U.S.

If you have a project in mind, or simply would like more information, write to us: Dept. P12, Helios Tension Products, Inc. 1602 Tacoma Way, Redwood City, CA 94063. Telex 345590 (415) 364-1770

HELIOS TENSION PRODUCTS, INC.
Soft Shell Structures Division

Circle No. 335, on Reader Service Card



Caption: Amphitheater Stage Shelter, Florida State Fairgrounds, Tampa. Project Architects: Robbins & Associates, Architects, Inc.

COHAMA SPECIFIER
CONTRACT FABRICS

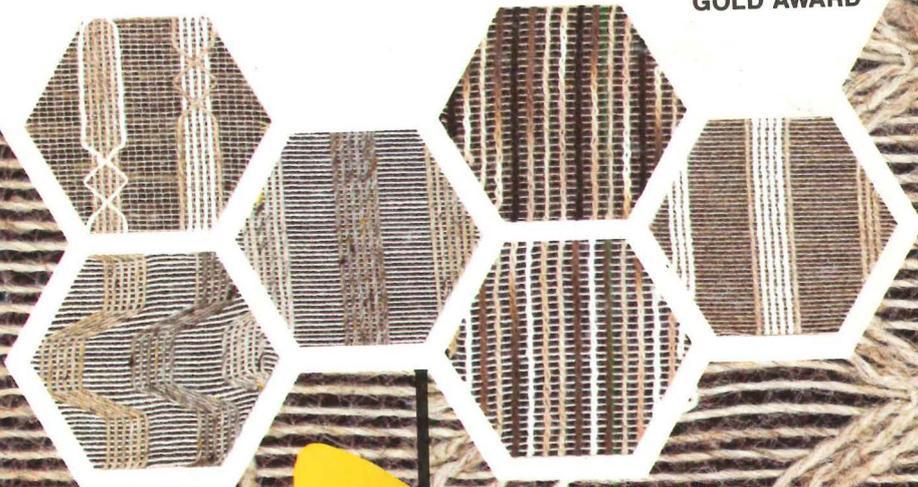
OPEN UP INNER SPACE
with SPACE PLANNERS
CASEMENT
COLLECTIONS I and II

in VEREL®
MODACRYLIC FIBER

8 Designs • 48 Colorways



GOLD AWARD



Weft insertion collections of architecturally designed casements styled with a blend of Verel* modacrylic fiber for inherent and permanent flame resistance. Designed exclusively for architects, designers and decorators. Select from 8 patterns and 48 natural color combinations.

**See These Award Winning Casements
In Our Showrooms or Inquire Through
Our Sales Representatives**

*VEREL is Eastman's trademark for its modacrylic fiber

Circle No. 326, on Reader Service Card

COHAMA SPECIFIER
CONTRACT FABRICS

295 Fifth Avenue, New York, N.Y. 10016 • 212-564-6000
UNITED MERCHANTS AND MANUFACTURERS, INC.