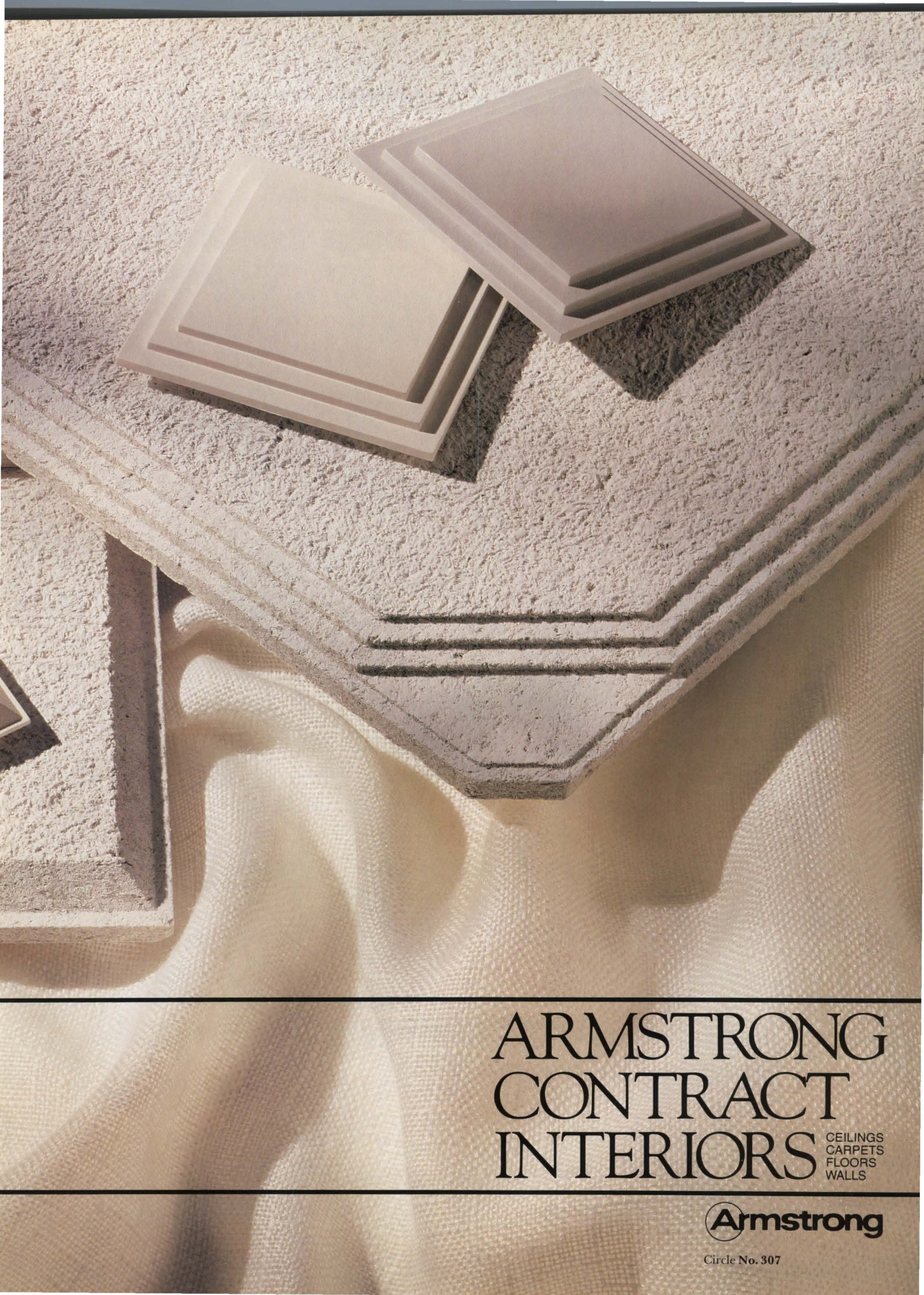
Progressive Architecture

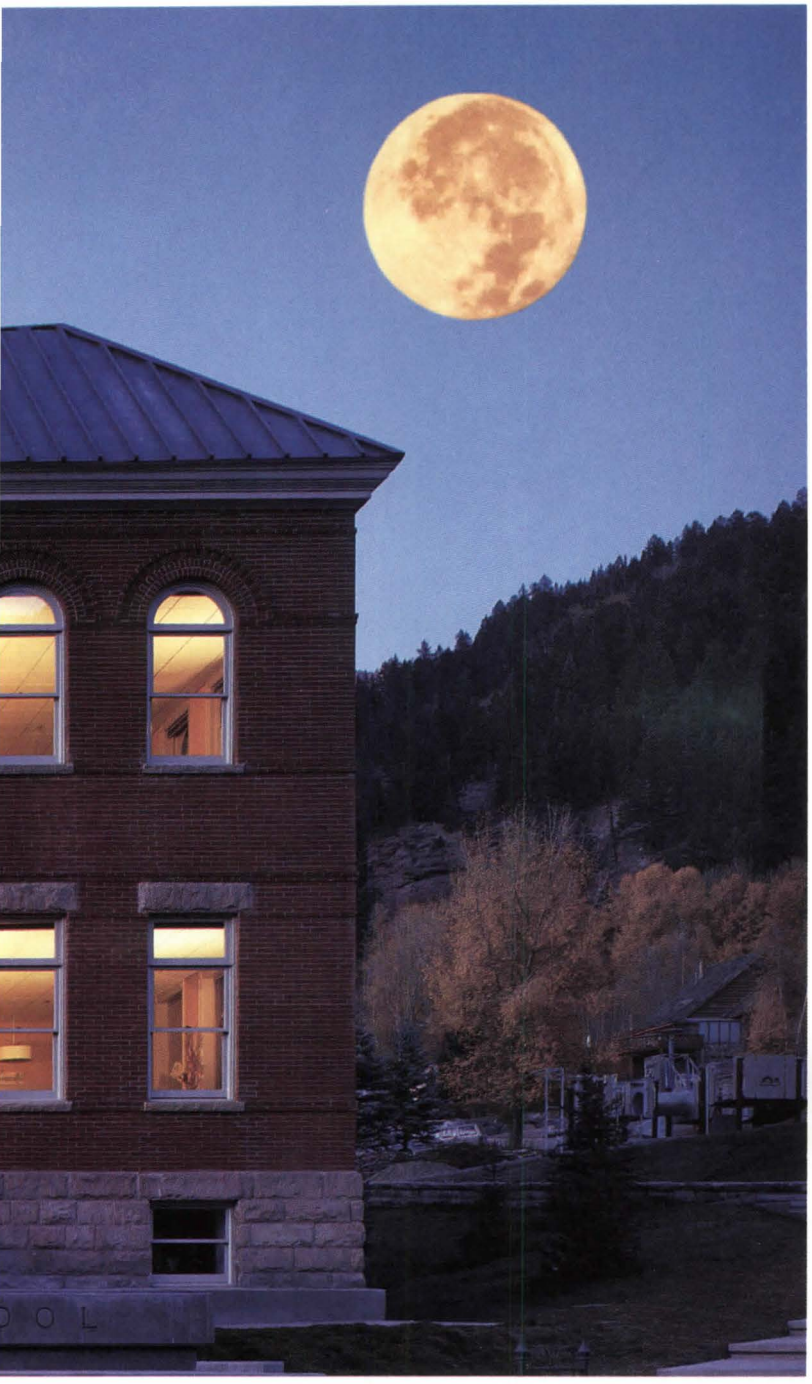
NOVEMBER 1989

CIRRUS.® SOFT-SPOKEN CEILINGS WITH AN ACCENT.

The only lightly textured ceiling panels available with grid accents. Choose classic step or beveled detailing in white, onyx, platinum, or haze. For a brochure on all your design options, call 1 800 233-3823 and ask for Cirrus.



THIS SCHOOL OFFERS AN ADVANCED COURSE IN WINDOW TECHNOLOGY.



When they decided to renovate and reopen the 93 year-old elementary school in Telluride, Colorado, they decided to install Marvin Magnum windows.

Smart. Magnums are among the best-performing wood windows in the world. Whether it's positive wind load, negative wind load, air or water infiltration, they'll handle all the weather the Rocky Mountains can dish out.

Because we make windows to order, we could incorporate Magnum performance features into historically accurate replicas. At the same time, we could include custom features such as a special brick mold casing and a durable polycron exterior finish.

Our made-to-order approach meant our windows fit better. And, working closely with the contractor, we were able to deliver on schedule.

The entire project was a textbook exercise in the benefits of using made-to-order windows in renovation. And when it comes to making windows to order, we wrote the book.

For more information, call us toll-free at 1-800-328-0268 (in Minnesota, dial 1-612-854-1464; in Canada, 1-800-263-6161). Or just write Marvin Windows, 8043 24th Avenue South, Minneapolis, MN 55425.

MARVIN WINDOWS ARE MADE TO ORDER.

Circle **No. 342** on Reader Service Card

Choosing Sides

Hexsign™ Lavatory and Taboret™ Faucet. Side with better design and color on your next project. Kohler's distinctive shapes and exciting color range are not just for residential use. Enameled cast iron fixtures and cast brass faucets stand up to heavy usage in commercial applications. The cost stays within budget. And everyone knows Kohler's reputation for quality.

When you can have so many designs in so many colors, why go white? Make your project look as good as it functions, by simply choosing Kohler.

THE BOLD LOOK OF **KOHLER**®

For assistance with your specifications, call your Kohler® distributor or write: Kohler Co., Dept.TW4, Kohler, Wisconsin 53044.

NOVEMBER 1989

Progressive Architecture

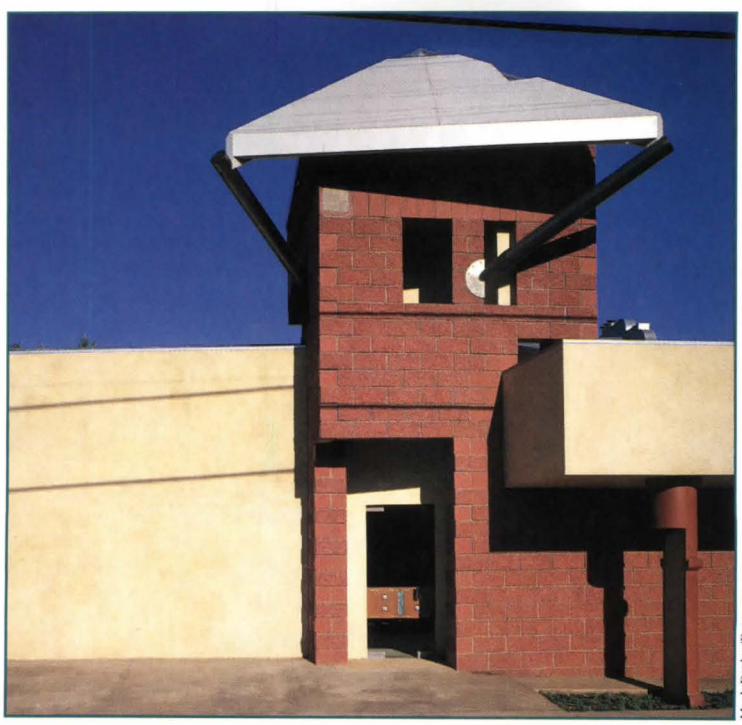
Penton Publishing
Progressive Architecture (ISSN 0033-0752) is published monthly, except semimonthly in October, by Reinhold Publishing, A Division of Penton Publishing, 1100 Superior Ave., Cleveland, OH 44114: Philip H. Hubbard, Jr., President; Robert J. Osborn, Vice President; Penton: Thomas L. Dempsey, Chairman; Sal F. Marino, President and CEO; Daniel J. Ramella, Senior Vice President; Philip H. Hubbard, Jr., Group Vice President. Executive and editorial offices, 600 Summer St., P.O. Box 1361, Stamford, CT 06904 (203-348-7531). FAX 203 348 4023

ABP MPA

ARCHITECTURAL DESIGN

Editor in charge: Jim Murphy

TECHNICS



Mark Darley/Esto

Subscription information: Send all subscription orders, payments and changes of address to Progressive Architecture, P.O. Box 95759, Cleveland, OH 44101 (216-696-7000). When filing change of address, give former as well as new address and zip codes, and include recent address label if possible. Allow two months for change. Publisher reserves right to refuse unqualified subscriptions. Professionals include architectural and architectural-engineering firm personnel and architects, designers, engineers, and draftsmen employed in allied fields. Subscription rates for U.S. professionals are $36 for 1 year ($45 in Canada, $80 for foreign); $55 for 2 years ($75 in Canada, $140 for foreign); $80 for 3 years ($100 in Canada). U.S. student subscription for 1 year is $36. Subscription rate for U.S. nonprofessionals is $45 for 1 year ($60 in Canada, $90 for foreign). Single copies are $7 in the U.S., $8 in Canada, and $12 for foreign except Information Sources issue, $12 in U.S., $12 in Canada, and $20 for foreign. Permission to photocopy is granted for users registered with the Copyright Clearance Center (CCC), provided that the base fee of $1 per copy of the article plus $0.50 per page is paid directly to CCC, 21 Congress St., Salem, MA 01970. (Code No. 0003-0752/89 $1.00 + .50) Indexed in ArchiText Construction Index, Art Index, Architectural Index, Engineering Index. Second class postage paid at Cleveland, Ohio, and additional mailing offices. Volume LXX, No. 12. Printed in U.S.A. Copyright © 1989 by Penton Publishing Inc. POSTMASTER: Send address changes to PROGRESSIVE ARCHITECTURE, 1100 Superior Avenue, Cleveland, OH 44114.

DEPARTMENTS

Cover:
The Café La Ville, one of the follies in the Parc de la Villette in Paris, by Bernard Tschumi Associates (p. 65). In the background, the renovated 19th-Century Grand Halle. Photo: J.M. Monthiers

Adams Rite would like to clear up some common misconceptions about electric strikes.

"So this expert saves me $35 on the electric strike.
Of course, it's gonna cost $350
to remake the door."

Misconception #1:

All electric strikes are alike.

They're no more alike than all doors and jambs are. Some are very expensive — and unless you're installing them in your local penitentiary, you might be better off with a lower cost alternative. Others are cheap, but they can't stand up to the day-in, day-out traffic for which they are often intended. Adams Rite, on the other hand, has a wide selection of moderately priced electric door strikes made with the same high quality we're famous for.

Misconception #2:

Electric strikes provide security.

No electric door strike provides real security, no matter how good the intentions or how well it's designed. Even the best strike is only a traffic control device — because it mates with a short–throw latch bolt that any experienced intruder can jimmy in seconds. For *real* security, you want a deadlock. Check the ones the State Department installed to protect U.S. embassies around the world.

Misconception #3:

Electric strikes are just another kind of hardware.

They're a hybrid, actually — half hardware and half electrical appliance. As a result, it's important to work with an electrician whenever possible to ensure that the electric circuit is designed to meet the power needs of the strike.

Misconception #4:

One size fits all.

We wish it were true, but we've got a 32–page Electric Strike Manual (Subtitled "More Than You Want To Know About Electric Strikes") that explains why it isn't. Write for your copy if you're interested.

Misconception # 5:

Fail safe means security.

"Fail safe" is often misunderstood. Most people think it means that a door with a fail safe device will remain locked when the power is off. Just the opposite is true. A fail safe electric strike will remain *unlocked* when the power is off. A fail *secure* electric strike, however, will keep the door locked during a power failure, or any other time there is a break in power.

Misconception #6:

The buzzing sound means you're safe.

The buzzing noise is simply the sound the AC current makes when the strike is actuated. As a happy coincidence, it also signals the person who wants in that the button is pushed. With DC current, there's no buzzing noise. (Another happy coincidence for continuous duty strikes that are "on" for 8 or 10 hours a day.)

Misconception #7:

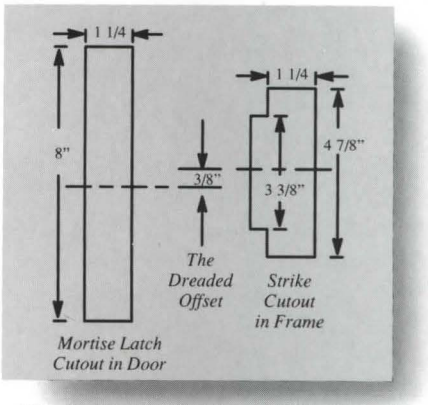
Any electric strike can be made to fit standard ANSI–prepped doors.

If money is no object, then relax. Most electric strikes can be made to fit most doors. But don't be surprised if it costs $350 or more to install a strike into a standard ANSI A115.1 prep (which was designed for non–electric strikes).

The new Adams Rite 7900 Series of electric strikes for hollow steel frames are the first electric strikes specifically designed to fit the ANSI 3/8" offset preparation — and at a reasonable price.

The 7900 is offered to mate with most popular mortise latches, in 6, 12, 16, 24, or 48 volt models. They all meet or exceed BHMA's toughest grade one specs. The fail secure ones are fire–rated for A–label doors.

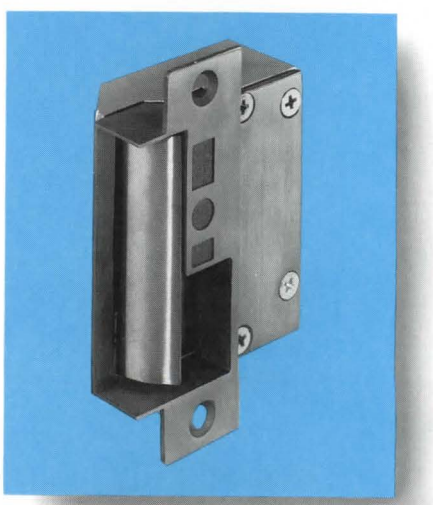
Our 7900 Series is the latest



The Problem: Matching 3/8" offset of a standard ANSI prepped door.

advance in electronic access. But don't forget that Adams Rite has an electric strike to fit most any type and size of door and jamb. We also have electric deadlock actuators and electrified exit devices. Our field reps will be happy to help you match just the right hardware to your requirements.

For complete information and specifications on any of our products, call or write today. And if we've missed your favorite misconception, just let us know and maybe we can add it to our next list.



The Solution: The new Adams Rite 7900 Electric Strike.

ADAMS RITE MANUFACTURING CO. ®

Originators of the M.S.® Maximum Security Deadlock.

4040 South Capitol Avenue, P.O. Box 1301, City of Industry, CA 91749, (213) 699–0511 Telex: 3710777 Cable MSLOCK Fax: (213) 699–5094

Circle **No. 305** on Reader Service Card

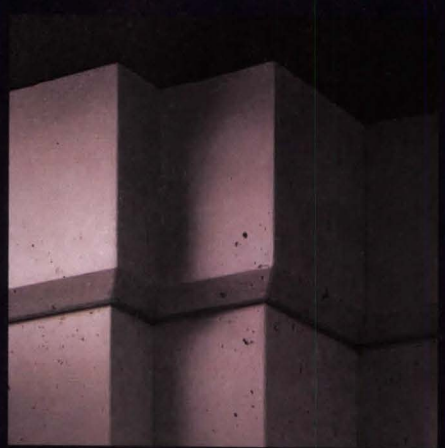
Forms+Surfaces

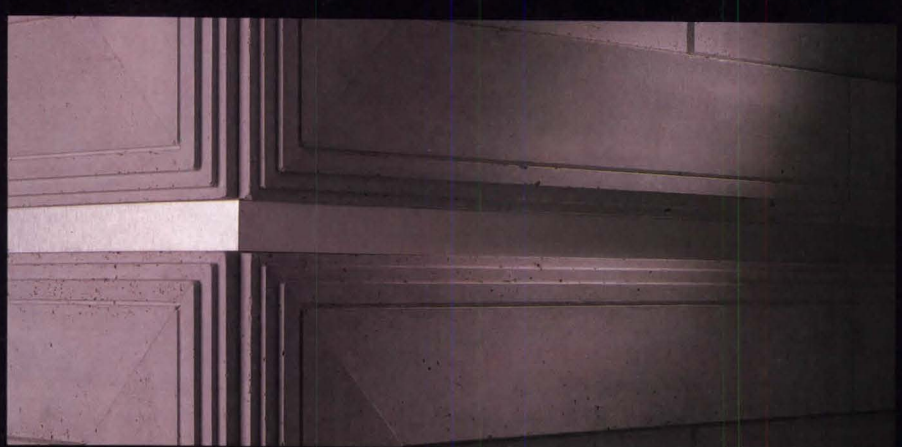
Paleo™ (Pā-lē-ō)

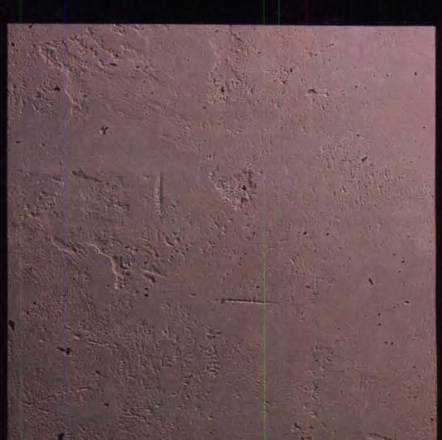
A dramatic new system for enriching and defining vertical interior surfaces.

Prefinished panels and mouldings in assorted sizes, textures, styles and colors. All very easy to install.

Incombustible, mineral composition meets Class I fire test standards.







For more information, contact:
Forms + Surfaces
Box 5215
Santa Barbara, CA 93150
(805) 969-7721
Fax (805) 565-1578

Circle No. 323

Homelessness and Housing Hardships

Discussion of efforts to deal with our outrageous housing shortage can dramatize the huge difficulties we face in attacking it.

"FINDING affordable housing for all segments of the population is a crisis that immediately confronts this country. Come see a variety of architectural and design solutions, from suburban single-family homes to urban emergency shelters; and hear thought-provoking ideas from experts on the subject." So read the invitation to an excellent symposium held in New York last month as part of the annual Designer's Saturday program (this event sponsored by Formica Corporation, with *Interiors*, *Architecture*, and *Progressive Architecture* magazines).

Moderator Daralice Boles, who had been senior editor in charge of P/A's October 1988 issue on the housing crisis, reviewed some of the efforts published then and updated the audience on accomplishments since. A panel of experts then discussed today's housing situation from their special points of view. The frame of reference for most of this discussion was New York, but the housing situation is essentially similar in all major U.S. cities.

Homelessness during a period of prosperity is no accident, maintained Robert Hayes, recent president of the Coalition for the Homeless. As the product of public policies, according to Hayes, the housing crisis calls for a change in those policies: "There is no way on earth that the private market alone can supply this housing." Contractor Charles Uribe compared housing costs to military outlays: A single Stealth bomber, for instance, equals 2000 new units or 4300 rehabbed ones. City councilwoman Ruth Messinger pointed out that the problem with funding is not simply a shortage of money. Some $27 billion in public funds is spent in New York every year; the problem is how it is used. All agreed that complex regulations burden urban work with delays and unjustifiable costs.

Broader implications for the city and region were sketched in. Hayes reiterated the established fact (too easily forgotten) that no progress in such areas as education, health, or mental health is feasible without decent housing for those we would help. Developer Bruce Ratner observed that the economic health of the region depended on availability of acceptable housing, not just for the poor but for the working population generally.

Regarding efforts to solve the housing problem, there was justifiable pride in the hundreds of low- and moderate-income units now under way—most of them under a city program that requires developers to provide such housing in return for permission to build profitable complexes of other kinds.

Although none of these speakers predicted significant Federal action, all of them seemed hopeful that the challenge would somehow be met. I am sorry to admit that I am not so convinced.

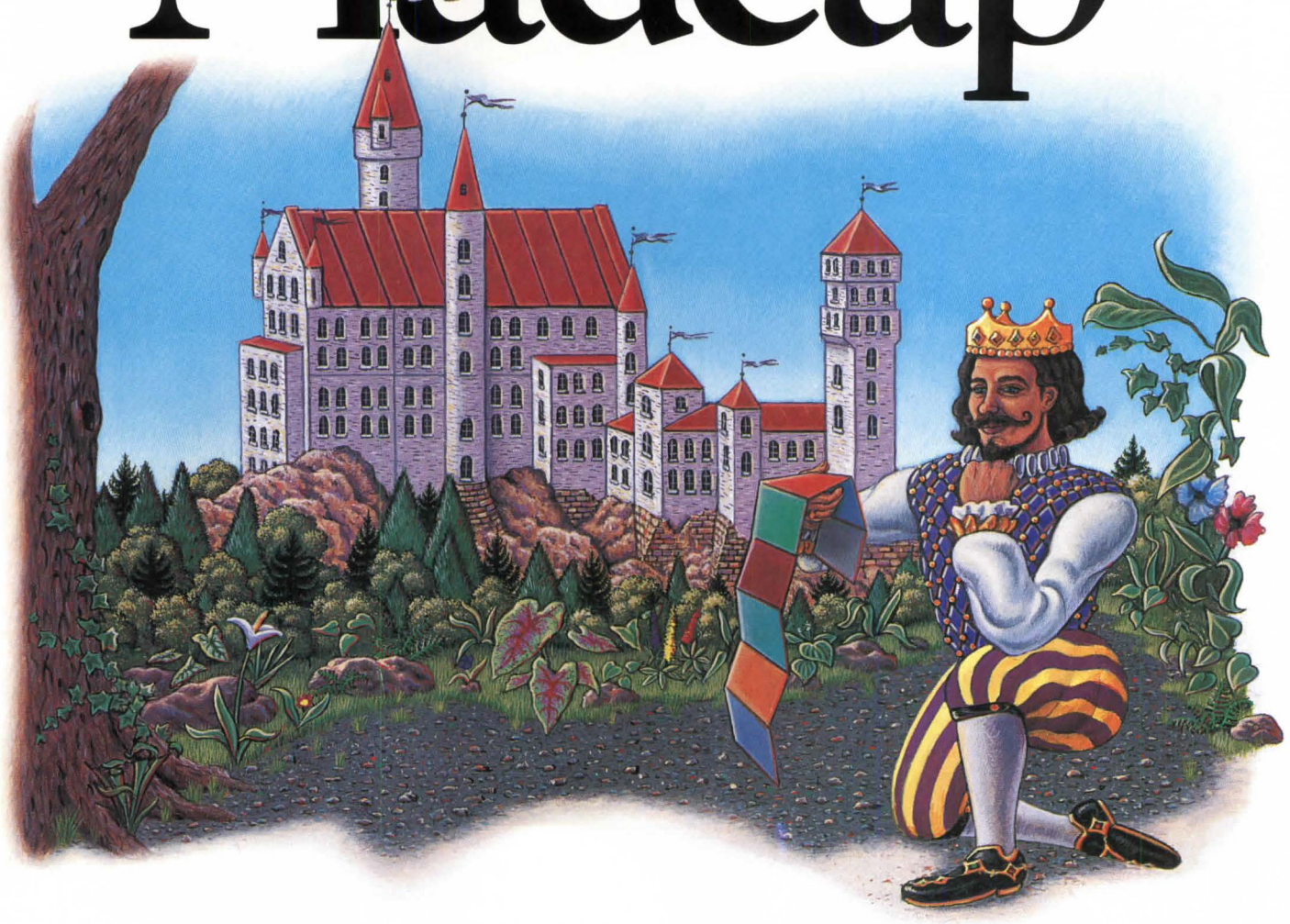
It's not that we don't have the means to give all Americans adequate places to live. We have, in fact, never lacked the means—yet today an estimated 3 million Americans are homeless, and many millions more live in units that are deteriorated and/or seriously overcrowded. And in many of our urban areas—as well as our most prosperous suburbs—people with respectable "middle" incomes have to make inordinate economic sacrifices for minimally adequate housing.

The economic, political, and social forces that have created these hardships are not going to be easily overcome. Discussed or alluded to at that symposium was a truly daunting array of obstacles: the indifference of a public bent on tax-cutting—and the resulting positions of its elected representatives; the excessive costs of borrowing in a debt-ridden society, where the smart money is being enticed by leveraged buyouts and such; the not-in-my-backyard opposition to low- or moderate-income housing developments, with strong neighborhood organizations to prevent encroachments; a construction industry that has been able to do without low- or moderate-income housing—at least up to now; a burdensome tangle of regulations and approval processes, which hardly anybody defends but nobody dismantles.

The kind of drastic shift in priorities that this crisis demands has usually happened only in crises such as war, depression, or civil uprisings. Last month, we had a massive march of the homeless on Washington, but it did not have the impact of, say, the urban riots of the 1960s. As long as the majority of voters consider the housing situation acceptable (or inevitable), there will be little governmental response.

Massive investment in housing is needed if we are to reverse this deepening crisis, and P/A will be supporting constructive efforts at any scale. But short of a basic change in national policy, our society is going to be cursed for many years to come by its failure to provide decent housing for millions of its citizens. ■

Madcap



Go crazy with colorful Kraton® SBS modifieds!

If you're nuts about color, high performance Kraton® SBS modified asphalt roofing products are going to drive you stark-raving mad! They're available in a fantastic variety of colors from leading roofing materials manufacturers, so you get to pick the colors that are right for your low-sloped rooftops. And you get the performance you want at almost one-tenth the weight of ballasted EPDM for even greater design flexibility.

Get in touch with the reality of Kraton SBS, America's fastest growing asphalt modifier, by calling us at 1-800-323-3405. Or, write: Shell Chemical Company, Manager, Elastomers Communications, One Shell Plaza, P.O. Box 2463, Houston, Texas 77252.

Shell Chemical Company

Shell Chemical Company manufactures KRATON® rubber; the company does not manufacture roofing products. It makes no warranty, expressed or implied, that the manufactured roofing products shall conform to any minimum performance specifications.

Views

Korean War Memorial
As the designers of the Korean War Veterans Memorial, to be built on the Mall of our nation's capital, we are disappointed in the account provided by Thomas Vonier in the August P/A News Report (p. 22). We have come to expect from P/A a level of reporting which is serious, original, and thorough. However, Mr. Vonier's review suggests that he seems quite unaware of the contextual, architectonic, and figural intentions and subtleties embodied by the project. He has not contacted any of us for an interview; had he done so, he would have discovered first that the Memorial was designed with a contextualist attitude based, in part, on framing views from the Mall to the Memorial and on view alignments from points within the Memorial across and along the Mall to other prominent locations: the Vietnam Veterans Memorial, the Lincoln Memorial, and the Washington Monument. Mr. Vonier's reference to our desire to achieve a "ghostly quality" with the eight-foot granite figures is quite accurate, but many other of our concerns and intentions—such as the symbolic and metonymic content of the forced perspective path, the trinity of white marble inlays, the red granite parallel, the gnarled sycamore stand, and the kineticism of ascension and descension—go unmentioned. Second, he would have learned that in addition to being faculty members in the College of Arts and Architecture at Penn State University we are experienced practitioners with professional identities, and we hope he would not have characterized us solely as "Penn State designers."

While we agree that, like any schematic design, this project needs refinement (refinement which we intend to provide), we believe that the Memorial design is appropriate to its place and purpose. With more thorough investigation into the project's content and detail, perhaps Mr. Vonier will also begin to agree.
Veronica Burns Lucas, ASLA
Don Alvaro Leon, Architect
John Paul Lucas, AIA
Eliza Pennypacker
Oberholtzer, ASLA

Design for Landscape
Thanks for the July 1989 issue on "Landscape." Hurray for you and my friends! A bold issue that will endure for a long time. I hope the momentum builds. We (AKA: Landscape Architects) need this journalistic pressure to remember design should always be spelled with a capital "D."
Tom Nelson, Landscape Architect
Portland, Oregon

Awards Model Credit
The modelmaker for the award-winning West Hollywood Civic Center design (P/A, Jan. 1989, pp. 107–109) was GRI Models of Wakefield, Massachusetts.

Eisenman Architects Credits
For the Eisenman Architects projects shown in the October P/A (pp. 90–99), the following individuals should have been credited: Begona Fernandez-Shaw and Nuno Mateus, project designers, Banyoles Hotel; Nuno Mateus, project designer, Housing Festival, The Hague; Richard N. Rosson, project architect, Carnegie Mellon Research Institute and Pittsburgh Technology Center; Michael Burkey (of Richard Trott & Partners), project manager, and Richard N. Rosson and Thomas Leeser (Eisenman Architects), associates-in-charge, Columbus Convention Center. An additional client for the Banyoles Hotel is the Consorci Pel Desenvolupament de la Vila Olimpica i Parc de la Draga Banyoles.

Light without glare.

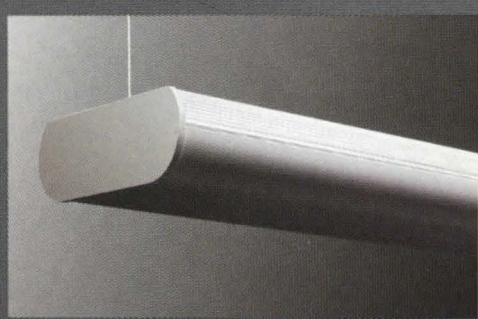
This picture shows the light from the Peerless Open Office Fixture.

Look at the soft shadows and smooth, pleasant light on every wall, every corner of the ceiling, every work surface.

Then think about what you don't see in the photograph. Glare bouncing off the VDT screens, or any other surfaces—desktops, papers, telephones.

Or glare from the fixtures. They're never brighter than the lightest part of the ceiling. Look right at the lens. You see a soft, crystalline glow that defines the light source and makes the light level seem higher and the room seem more cheerful. It's a continuous line of light, never darkened by a shadow from a fixture join, lamp socket or ballast. There's a whole new optical technology behind it.

The technology goes beyond the lens, into the housing. All the optics fit into slim, graceful aluminum extrusions that can be extended out into clean, true runs of any length.



The Peerless Open Office Fixture

No other fixture in the world can light an open office so well. Ask us for a booklet called "Lighting the Open Office." We'll send you photo comparisons and hard engineering data.

The Open Office Fixture represents a quantum leap in lighting comfort. Investigate it, and make an effort to see it.

PEERLESS®

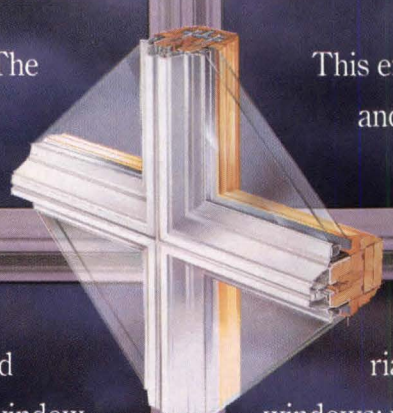
PEERLESS LIGHTING, BOX 2556, BERKELEY CA 94702-0556. (415) 845-2760. FAX (415) 845-2776

Circle No. 346 on Reader Service Card

AND YOU THOUGHT ANDERSEN WAS JUST A HOUSEHOLD NAME.

Presenting Flexiframe® windows. The custom-made commercial window from the company you may have thought didn't even make one: Andersen.

Flexiframe windows offer a nice change from common aluminum. They're made with a glass-fiber-enhanced polymer, a version of our Perma-Shield® window.



This enhanced polymer material is so strong and corrosion-resistant, it's actually used along the seacoasts as a substitute for structural steel.

On the inside, Flexiframe windows offer yet another revolutionary material you don't usually find in commercial windows: wood. Our warm Ponderosa pine gives

office interiors a feeling cold aluminum can't match.

And since Flexiframe windows are custom-made, they can be built to your specifications in 1/16" size increments.

So if you believed we just made windows for homes, you may never think of us quite the same again.

For more information on using Andersen® Flexiframe windows in your next commercial project, just call 1-800-635-7500 and ask us for the name of your local Andersen commercial representative.

Or you can write to Andersen Commercial Group,℠ Box 12, Bayport, MN 55003.

ANDERSEN COMMERCIAL GROUP℠

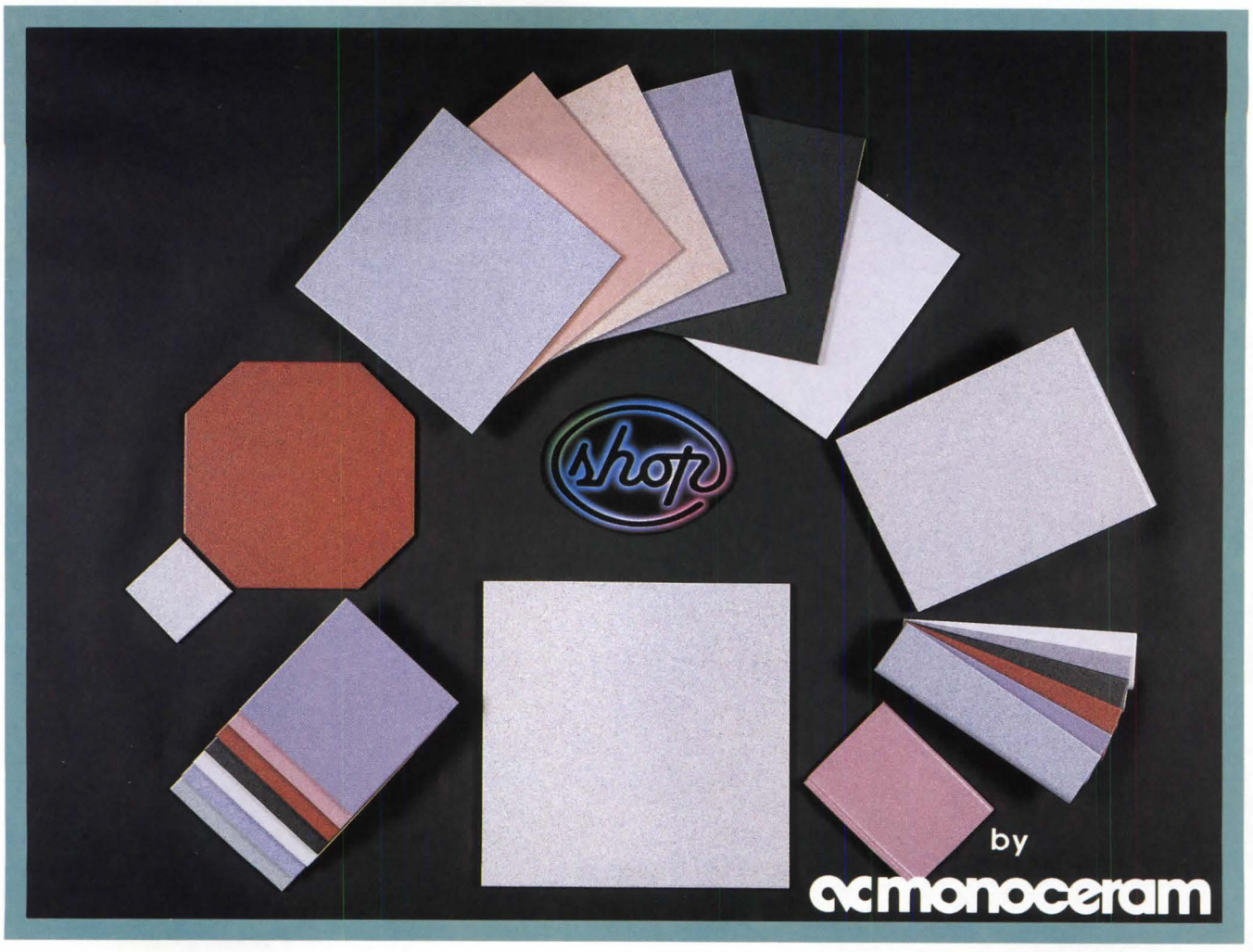
Andersen AW Windows · Gliding Doors

Circle No. 306

TILE GROUP ITALIA

INTRODUCING "SHOP." AN INNOVATIVE, GLAZED CERAMIC TILE FOR VISIONARY ARCHITECTS AND DESIGNERS.

"Shop." When you specify ceramic tile, remember this name. "Shop" is durable. It features an extreme superficial hardness, the ability to withstand high abrasions and a total resistance to staining. Architects and designers can rest assured that "Shop" is applicable to most interior projects. And "Shop" is beautiful, as well. With twelve standard designer colors, a wide range of sizes and special pieces, "Shop" offers an unprecedented level of design autonomy. For more information, call Tile Group Italia. Let's talk "Shop."



Tile Group Italia
P.O. Box 616 • Elk Grove Village, Illinois 60009-0616 • 708/439-6644 • 708/439-6876 FAX

COUNTRY FLOORS®

CERAMIC TILES & TERRA COTTAS from Portugal, France, Spain, Italy, Holland, Finland, England, Mexico, Peru & the U.S.

WT COLORATURA CUSTOM COLOUR SERIES • Handmade to order in the USA

For our full colour catalog send $10.00 (U.S.) to your nearest representative.

ALABAMA
Webber Tile Company Ltd.
1067 Woodley Rd.
Montgomery, AL 36194

Ceramic Harmony Int'l. Inc.
1015 Airport Rd., S.E., #204
Huntsville, AL 35802

ARIZONA
Colonial Tile & Design
7106 East 1st Street
Scottsdale, AZ 85251

CALIFORNIA
Materials Marketing
8110 La Jolla Shores Drive
La Jolla, CA 92037

Country Floors, Inc.
8735 Melrose Ave.
Los Angeles, CA 90069

Tilecraft, Ltd.
The Galleria, Space 226
101 Henry Adams
(Kansas) St.
San Francisco, CA 94103
Also in San Rafael,
San Jose & Walnut Creek

CALIFORNIA
The Studio
1925 State Street
Santa Barbara, CA 93101

COLORADO
Materials Marketing
852 S. Jason St., Unit 1
Denver, CO 80223

CONNECTICUT
Westport Tile
175 Post Road West
Westport, CT 06880

DISTRICT OF COLUMBIA
Ademas
721 8th Street S.E.
Washington, D.C. 20003

FLORIDA
Classic Tile & Bath
3620 Silver Star Road
Orlando, FL 32804

Country Floors, Inc.
94 N.E. 40th Street
Miami, FL 33137

GEORGIA
Sandsy Tile Corp.
351 Peachtree Hills Ave., N.E.
Suite 227
Atlanta, GA 30305

ILLINOIS
Hispanic Designe
6125 N. Cicero Avenue
Chicago, IL 60646

ILLINOIS
Hispanic Designe
1309 Merchandise Mart
Chicago, IL 60654

INDIANA
Hispanic Designe
Fortune Park Business Center
8770 Guion Road, Suite J
Indianapolis, IN 46268

KANSAS
International Materials
4585 Indian Creek Parkway
Overland Park, KS 66207

KENTUCKY
Studio One, Inc.
508 Washington Street
Shelbyville, KY 40065

MAINE
Keniston's
269 Commerical Street
Portland, ME 04101

MASSACHUSSETTS
Tile Showcase
One Design Center Place
Suite 639
Boston, MA 02110

Tile Showcase
820 Boston Tpke. Rd.
Route 9
Shrewsbury, MA 01545

Tile Showcase
291 Arsenal Street
Watertown, MA 02172

MICHIGAN
Virginia Tile
22201 Telegraph Road
Southfield, MI 48075

Virginia Tile
6575 19 Mile Road
Sterling Heights, MI 48078

Virginia Tile
1700 Stutz St., Suite 22
Troy, MI 48084

MINNESOTA
Hispanic Designe
International Market Square
275 Market St., Suite 111
Minneapolis, MN 55405

MISSOURI
Ceramic Tile Services
1610 Hampton
St. Louis, MO 63139

NEVADA
Nevada Tile Center, Inc.
433 Martin Luther King Blvd.
Las Vegas, NV 89106

NEW YORK
Country Floors, Inc.
15 East 16th Street
New York, NY 10003

NORTH CAROLINA
Tile Source
809 Post Street
Greensboro, NC 27415
Also in Winston-Salem

OHIO
Studio One, Inc.
Pendleton Square
1118 Pendleton Street
Cincinnati, OH 45210

The Thomas Brick Co.
27750 Chagrin Boulevard
Cleveland, OH 44122

Tiles of Columbus
1217 Goodale Boulevard
Columbus, OH 43212

OKLAHOMA
Country Tile Design
2309 East 69th Street
Tulsa, OK 74136

PENNSYLVANIA
Country Floors Inc.
1706 Locust Street
Philadelphia, PA 19103

Tile & Designs, Inc.
229 Spahr Street
Pittsburgh, PA 15232

TEXAS
Materials Marketing
4109 Todd Lane
Austin, TX 78744

French-Brown Floors
7007 Greenville Avenue
Dallas, TX 75231

Materials Marketing
1909-F Hi-Line Drive
Dallas, TX 75207

TEXAS
Materials Marketing
3433 W. Alabama
Houston, TX 77027

Materials Marketing
123 W. Rhapsody
San Antonio, TX 78216

VIRGINIA
La Galleria
4752 Euclid Road
Virginia Beach, VA 23462

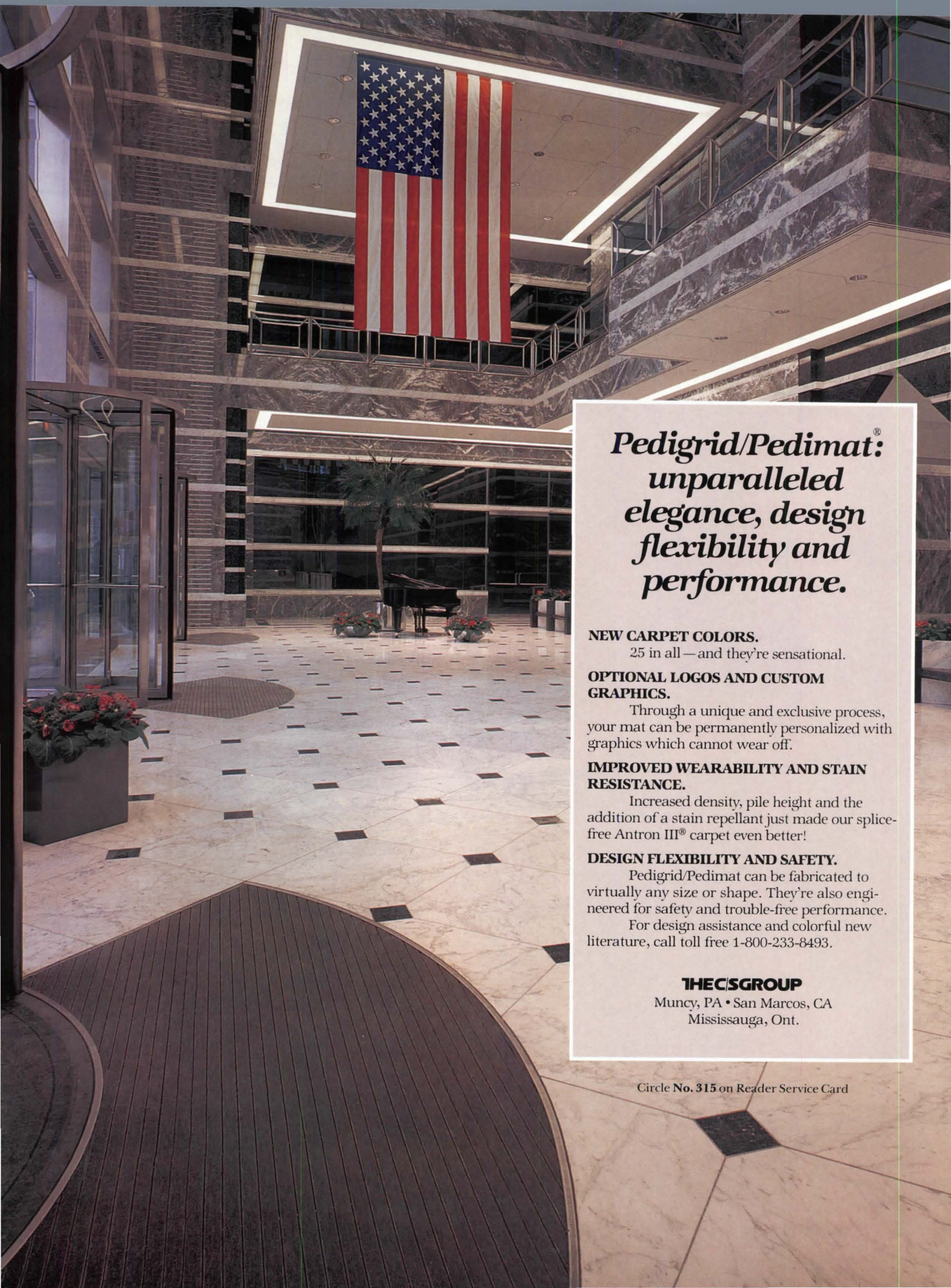
CANADA
Country Tiles
321 Davenport Road
Toronto, Ontario M5R 1K5

Country Tiles
5337 Ferrier,
Montreal, Quebec H4P 1L9

Also in Sydney, Melbourne, Perth & Adelaide, Australia.

15 East 16th St., NY, NY 10003 (212) 627-8300 • Country Floors • 8735 Melrose Ave., LA, CA 90069 (213) 657-0510

Circle No. 317 on Reader Service Card



Pedigrid/Pedimat®: unparalleled elegance, design flexibility and performance.

NEW CARPET COLORS.
25 in all—and they're sensational.

OPTIONAL LOGOS AND CUSTOM GRAPHICS.
Through a unique and exclusive process, your mat can be permanently personalized with graphics which cannot wear off.

IMPROVED WEARABILITY AND STAIN RESISTANCE.
Increased density, pile height and the addition of a stain repellant just made our splice-free Antron III® carpet even better!

DESIGN FLEXIBILITY AND SAFETY.
Pedigrid/Pedimat can be fabricated to virtually any size or shape. They're also engineered for safety and trouble-free performance.

For design assistance and colorful new literature, call toll free 1-800-233-8493.

THE C/S GROUP
Muncy, PA • San Marcos, CA
Mississauga, Ont.

Circle **No. 315** on Reader Service Card

P/A News Report

James F. Wilson

I.M. Pei's Meyerson Symphony Center, Dallas.

Pei's Dallas Hall Opens

The Morton H. Meyerson Symphony Center in downtown Dallas opened in early September, with a series of concerts designed to show off the flexible acoustics of its 2062-seat Eugene McDermott Concert Hall. Designed by I.M. Pei & Partners with acoustician Russell Johnson of Artec Consultants, and built by contractor J.W. Bateson of Dallas, the center is a public-private venture built for an estimated $81.5 million (some 64 percent over the original budget).

The Meyerson is meant to be a bold civic gesture: Dallas Symphony officials repeatedly called it a symbol of resurrection for the city, which is emerging from a severe recession that dragged local banks, developers, and oil

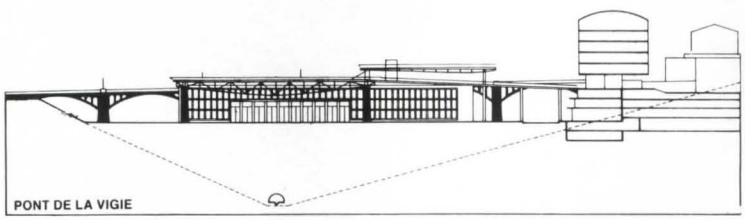
(continued on page 26)

Design Conference in Finland

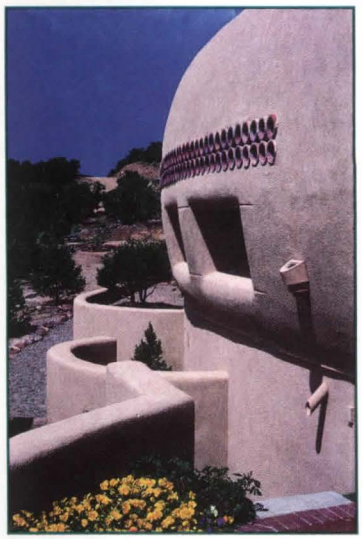
The AIA Committee on Design continued its look at the topic "Synthesis: Architecture, Craftsmanship, and Design" recently by joining the Finnish Association of Architects for their annual International Conference on Architecture, Urban Planning, and Design, held at the new Espoo Cultural Center (1988, Arto Sipinen). Also participating were the Association of Collegiate Schools of Architecture and the Finnish Association of Designers.

The concept of a total work of art, "Gesamtkunstwerk," formulated in the late 1800s, found a strong empathy in Finland. Succeeding architectural movements, from the National Romantic Style at the turn of the century to today's regional Fin-

(continued on page 24)



In Progress (p. 37) features urban reclamation projects by Bernard Tschumi Associates in Lausanne (above) and Queens.



Charles Monteath

Pottery House, Santa Fe, 1985, after Frank Lloyd Wright.

Doing the Wright Thing

Unbuilt architectural projects are a great legacy. They offer historical context, and in the case of speculative designs, pure architecture unsullied by client or cost. But some unrealized designs by Frank Lloyd Wright are proving to be a lot more than just an academic's treasure trove: Los Angeles developer Charles Klotsche is turning them into finished luxury houses with the added cachet of Wright's name.

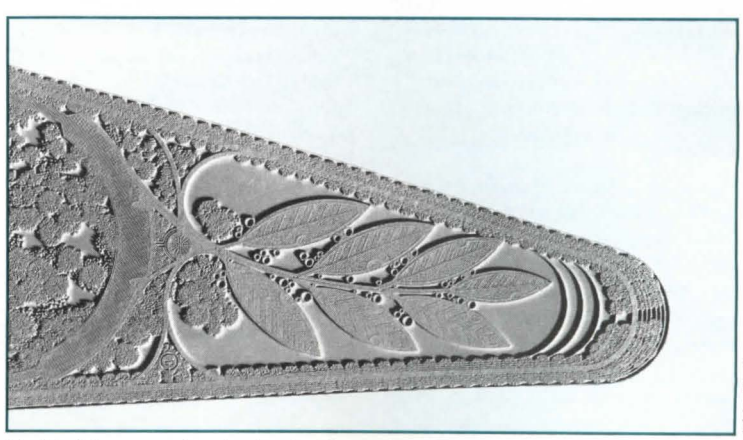
In the early 1980s, Klotsche approached the Frank Lloyd Wright Foundation—specifically his late widow, Olgivanna—with the idea of realizing some of

(continued on page 24)

An Olive Branch for Peace Garden

A design by architect Eduardo Catalano, inspired by an olive branch, was chosen unanimously from 930 entries as the winning proposal for the National Peace Garden to be built at Hains Point in Washington, D.C. Catalano's answer to the open competition's challenge "to establish a major symbolic expression on behalf of peace" in the United States overcomes the risk of triteness in so literal an approach.

(continued on page 32)



Adrian Catalano

Model of Peace Garden site: inspired by an olive branch.

Pencil Points

Antoine Predock was awarded *top honors* by an international jury attending the Buenos Aires Biennial of Architecture. Predock took the International First Prize for his Arizona State University Fine Arts Center (P/A, Jun. 1989, p. 65) from among 800 contenders.

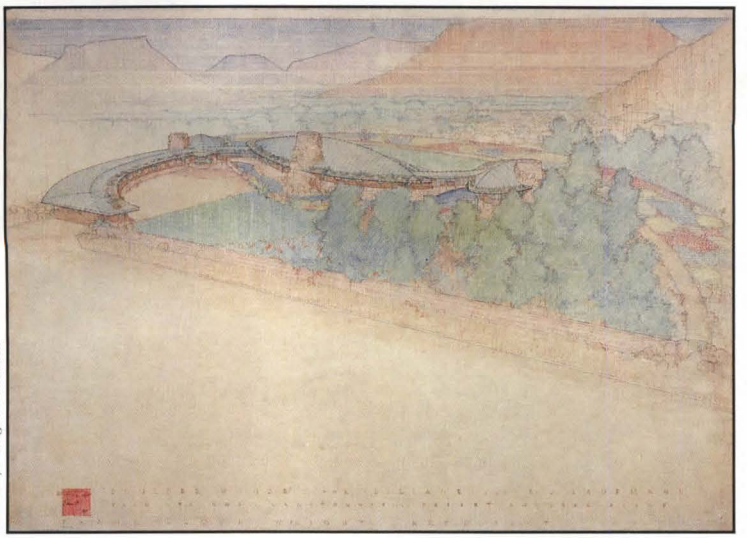
The recent New York landmark designation of the Seagram Building "delighted" its owner, the Teachers Insurance and Annuity Association, but they came out fighting against the additional landmarking of the building's most famous tenant, the Philip-Johnson-designed Four Seasons restaurant. They say that the restrictions attached to the landmark designation interfere with the landlord-tenant relationship.

The AIA and the National Trust for Historic Preservation have sent a team of architects, architectural historians, and preservation specialists to St. Croix to assess damage from Hurricane Hugo to buildings listed on the National Register of Historic Places. The team will help determine what buildings are salvageable.

In response to the less than all-out crusade against AIDS by the government or the American public, the New York organization Visual AIDS is sponsoring "A Day Without Art" on December 1. Nearly 500 non-profit institutions nationwide plan to participate either by organizing events, lowering lights, or closing down; among them are the Museum of Modern Art, New York, the Akron Art Museum, and the Museum of Contemporary Art, Los Angeles.

The Waterfront Center awarded Top Honor in its 3rd annual Excellence on the Waterfront competition to three Cincinnati riverfront projects. Winning entries were: Cincinnati Gateway by artist Andrew Leicester, Golden Valley, Minnesota, and Meyer, Scherer & Rockcastle Ltd., Minneapolis (P/A, Sept. 1988, p. 23); Cincinnati Riverwalk by Rogow + Bernstein, Los Angeles; and Bicentennial Commons at Sawyer Point by Glaser Associates, Cincinnati.

Three designers are among the "25 Americans on the Cutting Edge" in *Newsweek's recent* cover story on "The Innovators": Martha Schwartz of The Office of Peter Walker and Martha Schwartz (P/A, Jul. 1989, p. 56), architect/urban designer Peter Calthorpe (P/A, May 1989, p. 88), and designer-of-all-trades Bran Ferren.



Frank Lloyd Wright Foundation

Developer Charles Klotsche will build a version of Wright's Boulder House.

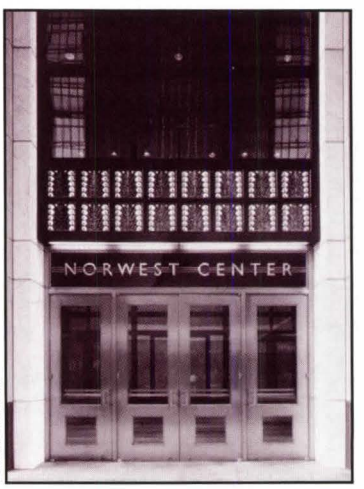
Wright *(continued from page 23)*
Wright's unbuilt designs. After initial concerns over preserving the sanctity of Wright's designs were resolved, the Foundation let Klotsche lease the exclusive rights to plans of the Pottery House, designed between 1929 and 1941 for a couple in El Paso, Texas. The Foundation also stipulated that Taliesin Associated Architects be the architects-of-record.

Klotsche chose the Pottery House because it was Wright's only adobe residence. Taliesin architect Charles Montooth says that it was not a complete design: There were three significantly different conceptual sketches. Montooth faced the task of design development, which he likened to the job of an archaeologist: "excavating a ruin—exploring what was in Mr. Wright's mind." He calls the final design "inspired by and based on" Wright's original. Although Klotsche built the house in Santa Fe instead of El Paso, both men feel that the desert sites are similar enough.

Now Klotsche and Montooth are collaborating again, this time on the Boulder House, which Wright designed for Mr. and Mrs. Edgar Kaufmann for a site in Palm Springs, California. The house has three parts, roofed in copper and joined by glass passages; it is named for boulders—found on site—that Wright planned to build into its footings. Klotsche again changed the site, this time to Malibu, which he says is a substantially stronger market, although he was very careful to preserve Wright's east-west orientation (and to make sure the new site had the namesake boulders). Construction will cost about $1.25 million.

Care tempered by entrepreneurism characterizes the changes that Klotsche and Montooth have made in both houses. Size increases—to accommodate modern kitchens and baths—are handled proportionately (the same way Wright changed size, stresses Montooth). Interior finishes are chosen with the help of local market research; no Wright furniture is included because, Klotsche says, the owners want to "insert some sort of personal statement." And the buyers are willing to pay for the privilege of that personalized Wright house: Klotsche expects to clear about $3 million on the Boulder House.

Andrea E. Monfried ■



Christian M. Korb

Norwest Center, honored for environmental graphics.

Environmental Graphics Awards

The Society of Environmental Graphic Designers (SEGD) has honored 14 projects in its annual competition, which recognizes "excellence in the planning, design, and execution of sign systems and architectural graphics." In this year's competition, the first open to non-members of SEGD, 163 entries were received. The winning projects and graphic designers follow.

Awards of Excellence were given for Solana, Westlake/Southlake, Texas (Skidmore, Owings & Merrill; see P/A, April 1989, p. 65); Norwest Center, Minneapolis, Minnesota (Calori & Vanden Eynden/Pentagram; see P/A, March 1989, p. 74); and 33 West Wacker Drive construction barricade, Chicago, Illinois (Mobium Corporation).

Receiving Honor Awards were The Stein, Waltham, Massachusetts (Daly & Daly, Inc.); Trattoria Dell'Arte, New York (Milton Glaser, Inc.); Hynes Convention Center, Boston (Jon Roll & Associates; see P/A, May 1989, p. 65); The Boulevard, San Diego, California (Graphic Solutions); The Silver Diner, Rockville, Maryland (Mount & Company); Shea Stadium, Flushing, New York (de Harak & Poulin Associates); Asia Society, Washington, D.C. (Kiyoshi Kanai, Inc.); and Old Pasadena, Pasadena, California (Wayne Hunt Design, Inc.).

Receiving Honorable Mentions were the Rivercenter, San Antonio, Texas (Communication Arts), and the Murray Hill Marketplace, Beaverton, Oregon (Gerald Reis & Company). ■

Finland *(continued from page 23)*
nish Modernism, have all stressed the unity of the arts. The opening lecture by Finnish art historian Riitta Nikula set the background for Finland's search for a national style at the end of the last century. Influences from French Art Nouveau, Viennese Jugend, and Richardsonian Romanesque were combined with forest and animal motifs from the rural vernacular into the National Romantic Style. Most important, however, were the handicrafts' theories of Morris and Ruskin, which "gave dignity to the vernacular and was an internationally respectable theory" that taught the young Finnish architects to value their heritage.

The integration of vernacular tradition with Modernism, pioneered by Aalto, continues to be the driving force in Finnish design, as seen in works presented by Antti Nurmesniemi (product and interior design), Irma Kukkasjarvi and Kristiina Nyrhinen (textiles), and Lauri Anttila (Minimalist art works based on forest themes).

Architect Georg Grotenfelt, whose small-scaled works directly employ rural construction techniques, warned of the loss of national symbols as the vanishing agrarian culture is replaced by an increasingly international

Gerald Moorhead

Cultural Center, Espoo, by Arto Sipinen, site of Finnish conference.

urbanism. "Architecture is not a cocktail of impressions from the magazines," he said, but must support and transmit culture through a deeply-rooted reality in social circumstances.

The work of European and American architects and designers filled out the program. City-scaled urban park projects by Elias Torres Tur of Spain, steel and glass shop interiors by Eva Jiricna of Britain, and the complex conceptual methods of Wolf Prix of Vienna all described the intimate involvement of the designer in the smallest aspect of a project. Their European approach, in contrast to the Finnish, is based more on total design by the architect rather than a harmonious product by several designers. Projects shown by Margaret McCurry and Tod Williams served to contrast the differences between American and European professional methods and client relationships.

A provocative lecture by Spiro Kostof recounted the failures of international Modernism, cautioned against the "exceedingly private communication" of Post-Modernism, and advised that architecture must be practiced with a social conscience. His observations of architecture nearing a new fin-de-siècle were directed at the "liberating novelties" of today's revolving stylistic fashions. The Finns, he said, are largely unaffected by "the current collision of design trends."

Bringing the conference up to date with trends in Finnish architecture, Professor Juhani Pallasmaa reiterated that Modernism is integrated in the Finnish lifestyle, so that the issues today are not of architectural style but the effects of materialism on the culture. After a period of artistic decline in the 1960s and early 1970s, Finnish architecture has revived in the last decade through an interest in the same early Modernist sources that initially brought the new architecture to the young nation in the late 1920s. ***Gerald Moorhead*** ■

The author is an architect in Houston and is Contributing Editor of Texas Architect *and* CITE.

Roberto Schezeh

I.M. Pei.

Pei Wins New International Prize

It was hardly a surprise that I.M. Pei was named the first architect winner of a new international prize in the arts. Heralded as a complement in the arts to the Nobel prizes in other fields, the Praemium Imperiale, sponsored by the Japan Art Society, has bestowed $100,000 on each of six leaders in the arts world. For the field of architecture, the award duplicates to the dollar the Pritzker Prize, which Pei won in 1983. (But this new program can have as many as two architecture winners a year.)

Other winners of the new prize were: Willem De Kooning, 85, U.S., painting; David Hockney, 52, England, painting; Umberto Mastroianni, 79, Italy, sculpture; Pierre Boulez, 64, France, music; and Marcel Carne, 83, France, film/theater. The inclusion of only Western Europeans and Americans (neither of the two born in the U.S.) can be explained in part by the deliberate exclusion of Japanese during the early years of this program and by the establishment of recommending committees in the U.S., England, Germany, France, and Italy.

Since these awards are for "lifetime achievement," it is little wonder that most of the winners are elderly and some no longer very productive. The 72-year-old Pei is in some ways the ideal candidate, with 40 years of accomplishment behind him and three prominent new works, on three continents, reaching completion this year: the Grand Louvre in Paris (P/A, June 1989, p. 37); the Meyerson Symphony Center in Dallas (this issue, p. 23), and the Bank of China tower in Hong Kong (P/A, May 1989, p. 43). And even though his firm name has recently been changed to Pei, Cobb, Freed & Partners, he apparently has plenty of energy for future challenges.

Since the sole architecture expert on the U.S. selection committee was the critic Ada Louise Huxtable, a tireless supporter of Pei's work, his American recommendation to the Japanese judges was to be expected. And who else in the world, after all, would rate such an honor? Looking over the list of those who have received the Pritzker, the Gold Medals of the AIA and RIBA, etc., one could find personal favorites (there will be other years), but few as generally esteemed as Pei.

These first Praemium Imperiale awards were formally presented October 27 at Meiji Memorial Hall in Tokyo.

John Morris Dixon ■

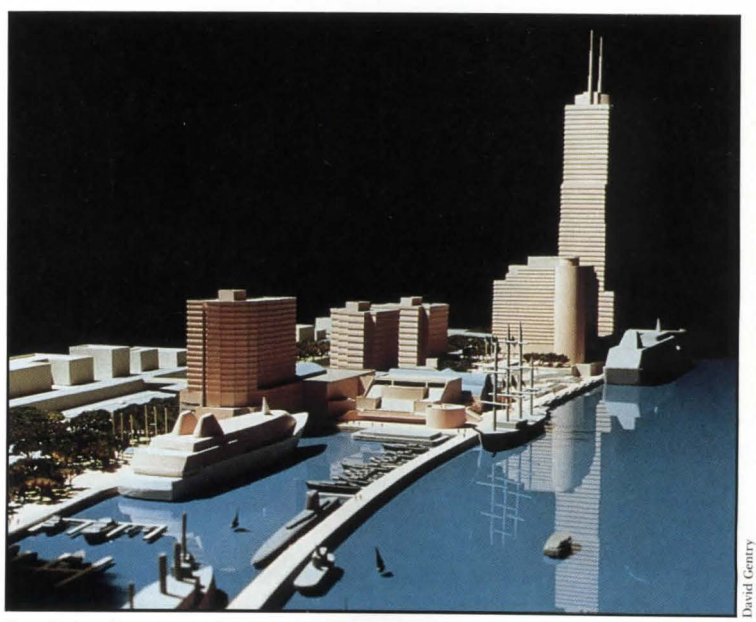
New Master Plan for Penn's Landing

In what city officials hope is the beginning of the last episode in one of the longest running urban design operas in America, a new master plan and developer have been announced for Penn's Landing in Philadelphia. After nearly 30 years of unrealized plans and false starts, it appears that construction is imminent.

The latest master plan for Penn's Landing, a 37-acre parcel of Delaware River waterfront bounded by Market Street on the north and Lombard Street on the south, is the work of John Bower of Bower, Lewis, Thrower Architects, a firm long associated with Market Street development as master planners of Market Street East. The plan is the winning submission to a hastily-called competition staged by the Penn's Landing Corporation this spring; a previous developer bowed out of the project just before an Urban Development Action Grant was to expire. The winning development team, The Welcome Partnership, is a joint venture of Rose Associates, Inc. of New York, Asbell & Associates, of Philadelphia, and Ira S. Davis, also of Philadelphia.

The strength of the Bower plan is its flexibility. It does not rely, as have many earlier schemes for Penn's Landing, on a single monolithic idea or grand gesture. Rather, it seeks to knit together existing fragments from previous plans for the site—most notably the "Great Plaza" (a large, stepped, semicircular public park) and the Port of History Museum—into a coherent composition using phased construction.

(continued on page 26)



David Gentry

Penn's Landing proposal, with 52-story tower at right.

Penn's Landing *(continued from page 25)*

Phase I, expected to begin in 1990, is highlighted by a pedestrian bridge at Walnut Street that crosses heavily-traveled Interstate 95 and Delaware Avenue, culminating in a "Crystal Pavilion." The design of the "Crystal Pavilion" remains in schematic form, but early renderings depict a glazed atrium more reminiscent of Battery Park City's Palm Court than Paxton's Crystal Palace.

From an urban design perspective, the most contentious aspect of the new plan is the placement of a 52-story speculative office building at the terminus of the important Market Street East axis. Some Philadelphians object to the location of any building at that point, although acknowledging the intersection of William Penn's original plan for Philadelphia and the Delaware River with a tall structure is likely to prove the right decision. One wonders, however, if a speculative office building merits so honorific a site and whether the chunky structure depicted in the Bower master plan can ever be given the grace and verticality that the site demands.

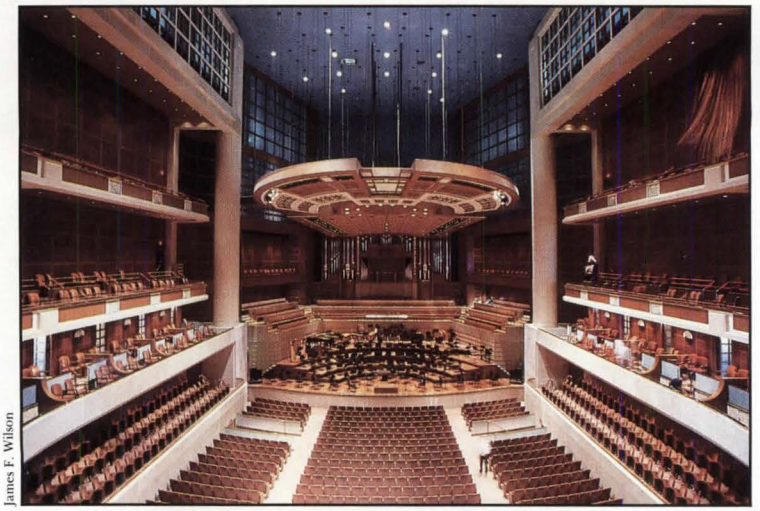
In the end, the plan's chief virtue may be that it can be implemented. Unlike New York's South Street Seaport and Baltimore's Inner Harbour, the new Penn's Landing is conceived less as a permanent festival site than as an extension of the city to the water's edge. After three decades of often rancorous debate, it is a surprisingly humble aspiration. ***Donald Prowler*** ■

The author is an architect on the faculties of the University of Pennsylvania and Princeton University.

Dallas *(continued from page 23)*

fortunes into oblivion during the 1980s. And the gesture worked, at least partially: Dallas Symphony officers announced during the festivities that, with a line of credit from the Dallas offshoot of a North Carolina bank, they had raised enough from ticket sales and private donations to cover the association's $43.2-million share of the Meyerson's construction costs, calming worried city officials.

The Meyerson's spaceship-slammed-into-a-warehouse geometry was determined by two main factors. The first was the double-cube massing of the concert hall; this had been specified by the committee that hired Pei (who walked onto the scene after an earlier competition deadlocked)—they wanted



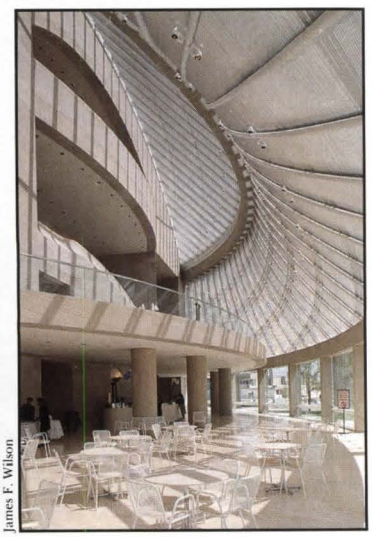
James F. Wilson

Symphony Center's concert hall, with moveable acoustical panel at center.

their new hall to rival the Concertgebouw in Amsterdam and the Musikvereinsaal in Vienna, both high-sided shoebox halls. Pei decided early to set this into a broader base containing the lobby spaces and service areas.

The second factor generating the design was the center's location at the edge of a freeway in the partially developed Dallas Arts District. Pei decided to rotate the concert hall within the base, which sits square to the street front, presenting a wall of glass to the nearby Dallas Museum of Art by Edward Larrabee Barnes (P/A, April 1984, pp. 127–136) and the heavily used streets in between, while the rest of the building would be clad in Indiana limestone, like Barnes's museum. The rotation of the concert hall shows in the form of the curtain wall facing the museum, reflecting its figurative distortion in the skewed "conoid" shape, in which every glazing panel is unique. The effect is a building that is surprisingly curvaceous where it presents itself to the public.

Inside, the resulting public spaces, wheeling against the circulation path from the underground parking garage, are bright and seemingly infinite: Looking upward from the lobby past the circular balconies, one sees no two surfaces in the same plane. With its travertine floors, brushed limestone walls, and miraculously sharp-edged columns, there is all the dynamism, and a little of the anonymity, of Pei's East Wing of the National Gallery in Washington, D.C. The center of the space, under a massive tied arch, is a ceremonial stair to the concert hall, reminiscent of the stair in Garnier's Paris Opera, which Pei used, with baroque churches, as his model.



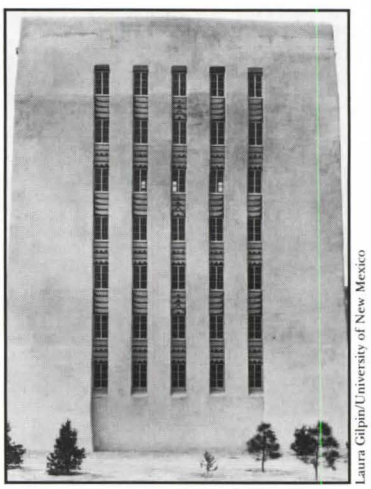
James F. Wilson

Symphony Center lobby.

If the Meyerson's lobby extends Pei's familiar Modernist grammar, the concert hall, which is given its architectural expression primarily by Pei associate Charles T. Young, is something else again. With its deep-toned gridded wood walls, brass accents, red terrazzo floor, and backlighted-onyx panels, all under a blue ceiling and a giant moveable acoustical canopy, the hall is part Wright, part Olbrich, part 1920s atmospheric theater, and a thorough surprise. Behind the scenes, the show is dominated by Johnson's wizardry: Moveable concrete doors opening into a roof-level reverberation chamber and fabric panels around the room create an intense, warm sound that had some concert-goers in tears.

"We tried to give a sense of architectural order to the hall that Mr. Johnson had designed as optimal acoustically," says Young. "When we disagreed, we gave in wherever a change we proposed would have had a negative acoustical effect." Records show that disagreements were, in fact, frequent, although Pei has tried to downplay them in recent interviews; he still disparages Johnson's initial design for the acoustical panel. (He calls it "The tongue.") Even as the opening concert series progressed, architect and acoustician sparred about the height at which it should be placed. Other adjustments may need to be made as well: At least one mink-clad patron has taken a very unfunny pratfall stepping from the entrance onto the steep and slippery orchestra aisle.

In Texas, Dallas is the city that works: The money people and the politicians line up behind projects that other cities find undoable, and, often as not, the projects happen. Whether or not the Meyerson Symphony Center will make Dallas a cultural mecca, it is another monument to a city that has been creating itself from scratch for over a century. ***Joel Warren Barna*** ■



Laura Gilpin/University of New Mexico

University of New Mexico Library by John Gaw Meem.

John Gaw Meem in Albuquerque

John Gaw Meem wasn't the first to take the adobe, vigas, and tile from the Native American and Spanish colonial building traditions and resuscitate them as the Pueblo Revival style. But in his long and successful career, Meem mastered the style, updated it, and purveyed it so successfully that he is often mistakenly credited with its very invention. To honor Meem (1894–1983) and celebrate the University of New Mexico's centennial, the Albuquerque Museum has mounted "The Pueblo Revival Architecture of John Gaw Meem," the largest architecture exhibition ever to have originated in the Southwest. The 400-piece show opened August 13, and runs through November 19.

As its title suggests, the exhibition focuses on the Pueblo Revival work for which Meem is best known, although his firm also produced examples of the

(continued on page 28)

Long after everything else has gone to ruins, it's worth noting that the entrance still makes a monumental impression.

Kawneer has a complete line of aluminum entrance systems, each a timeless classic in its own right.

Kawneer

The designer's element.

Circle No. 331 on Reader Service Card

Laura Gilpin/University of New Mexico

UNM Student Union interior from Meem exhibition.

Meem *(continued from page 26)*
American Colonial, Gothic Revival, and Art Deco styles. On exhibit are original drafting tables, tools, furnishings, and architectural details, plus drawings, plans, and photographs from Meem's voluminous archive at the University of New Mexico's Zimmerman Library. The photographs are not mere records, for Meem hired Ansel Adams, Laura Gilpin and other first-class photographers and gave them full freedom when documenting his buildings.

Born in Pelotas, Brazil, the son of Episcopalian missionaries, Meem worked as an engineer and banker until a bout with tuberculosis sent him packing to a Santa Fe sanitarium in 1920. Inspired by his artistic and cultural surroundings, Meem decided to become an architect himself and studied at the Atelier Denver, a branch of the Beaux Arts Institute of Design in New York City. The success of Meem's first major architectural commissions, including the addition and remodeling of Santa Fe's La Fonda Hotel and the Colorado Springs Fine Arts Center, led to his selection as the consulting architect to the University of New Mexico in 1933.

During the Depression years, the UNM secured sizable sums for campus construction from New Deal programs. Meem not only enjoyed the freedom to design such masterpieces as Zimmerman Library and Scholes Hall, but also had tinsmiths, woodworkers, and other craftsmen at his disposal to execute his designs.

Although the exhibition focuses on Meem's UNM achievement, it also considers some of the many private and ecclesiastical commissions he filled from the 1930s to his retirement in 1959. Indeed, Meem's success was so pronounced that in the 1950s and 1960s, Santa Fe and Albuquerque developers began copying the most superficial characteristics of Pueblo Revival when turning out tract homes, offices and even airports, thus turning a style that started out as a curiosity into one intrinsically linked with the Southwest.

Sally Eauclaire ■

The author is a freelance writer and curator who lives in Santa Fe.

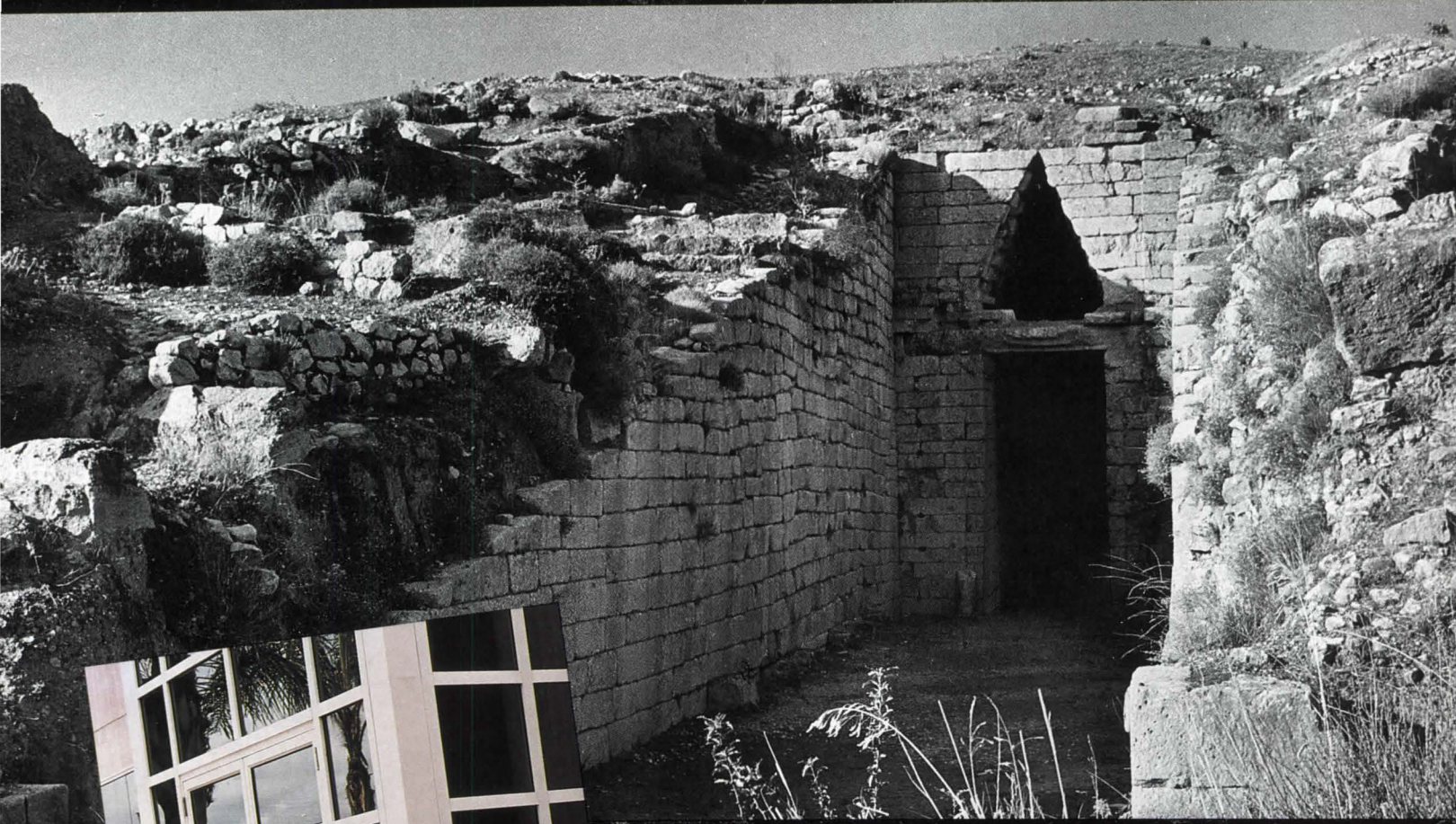
Small Town as Urban Prosthesis

The city of Colton, California, has awarded Joseph Valerio, a Chicago architect, the commission to design 100 housing units for senior citizens. His proposal, first among 137 competition entries, fulfills a double role: It creates a micro-community and shows that suburbs can benefit from the dense development inevitable in San Bernardino County. The settlement comprises the archetypes of the small town: a grid of streets, communal buildings, and residential blocks, compressed onto a single city block, itself a fragment of downtown Colton.

Valerio wrote that an accurate re-creation of a traditional town center would have been fruitless; this center, he hopes, will provide an urbanity valid for today, with models from the past reconfigured and rendered abstract. He set nine apartment buildings on two axes and modulated them with arcades, *brise soleil*, and pyramidal roofs. Common buildings punctuate the settlement's

(continued on page 30)

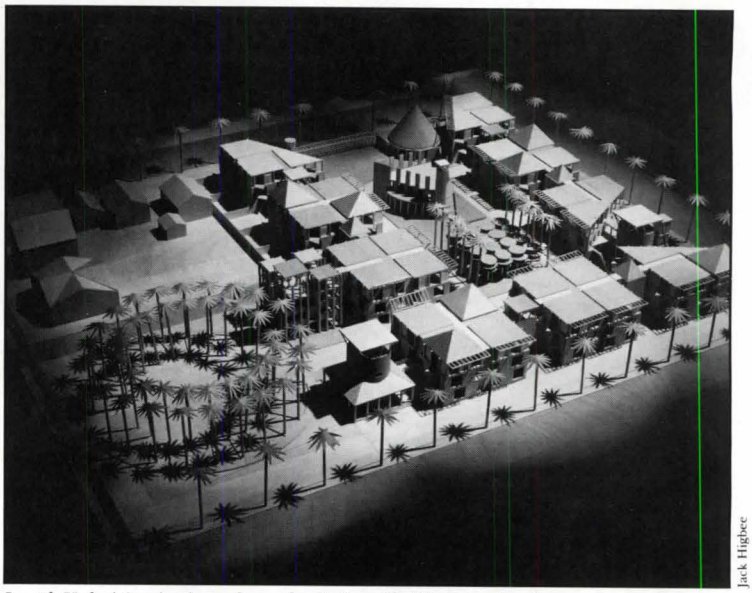
It is not merely a coincidence that all architectural treasures are remembered for their entrances.



An exceptional building
deserves an exceptional entrance.
Which is why Kawneer aluminum entrance systems
are part of the world's most memorable architecture.
They make a building extraordinary.

Kawneer
The designer's element.

Circle No. 332 on Reader Service Card



Jack Higbee

Joseph Valerio's winning scheme for Colton, Calif. senior housing.

Small Town *(continued from page 28)*
gridiron and double as focal points for the surrounding neighborhood.

Valerio used the street grid as a datum, showing that it can accommodate his eccentric buildings and the crowded developments that will soon follow. By engaging his project to its context, Valerio fulfilled the second agenda set by the Colton Redevelopment Agency, which sponsored the design competition. The CRA recognized that haphazard growth had despoiled Colton, and it sought housing proposals that suggested a new image for the city. To review the competition entries, four community representatives joined four teachers and architects: Donlyn Lyndon, Robert Wellington Quigley, and Dana F. Cuff from California, and Hilario Candela from Florida. This panel nominated five firms for the final review: Miller Pollin, David Smotrich & Partners, the Kagan Company, Rick Erickson and John Campbell, and Joseph Valerio.

Without qualifying the creativity of Valerio's solution, one can say that the lives of senior citizens are the design source for the architect's project. Their day-to-day needs (the basis for the program written by the CRA) marked a series of rituals: from the apartment to the laundry, and then the garden, occasionally a visit from the grandchildren, or meditation in the chapel. From these patterns, Valerio configured a series of buildings in a new town for Colton's aged.

They offer Valerio a clientele that is rare today: a community that shares an address and a pattern for living. In return, he resurrected a place that is vanishing: the traditional small town. On the scale of a single city block, this reciprocity works admirably. However, applying his model on a larger scale could be risky; common ideals and rituals are rare in suburbia. Valerio's plan reveals an irony of our times: Perhaps the only small towns we can build are simulations for those old enough to remember the originals. ***Philip Arcidi*** ■

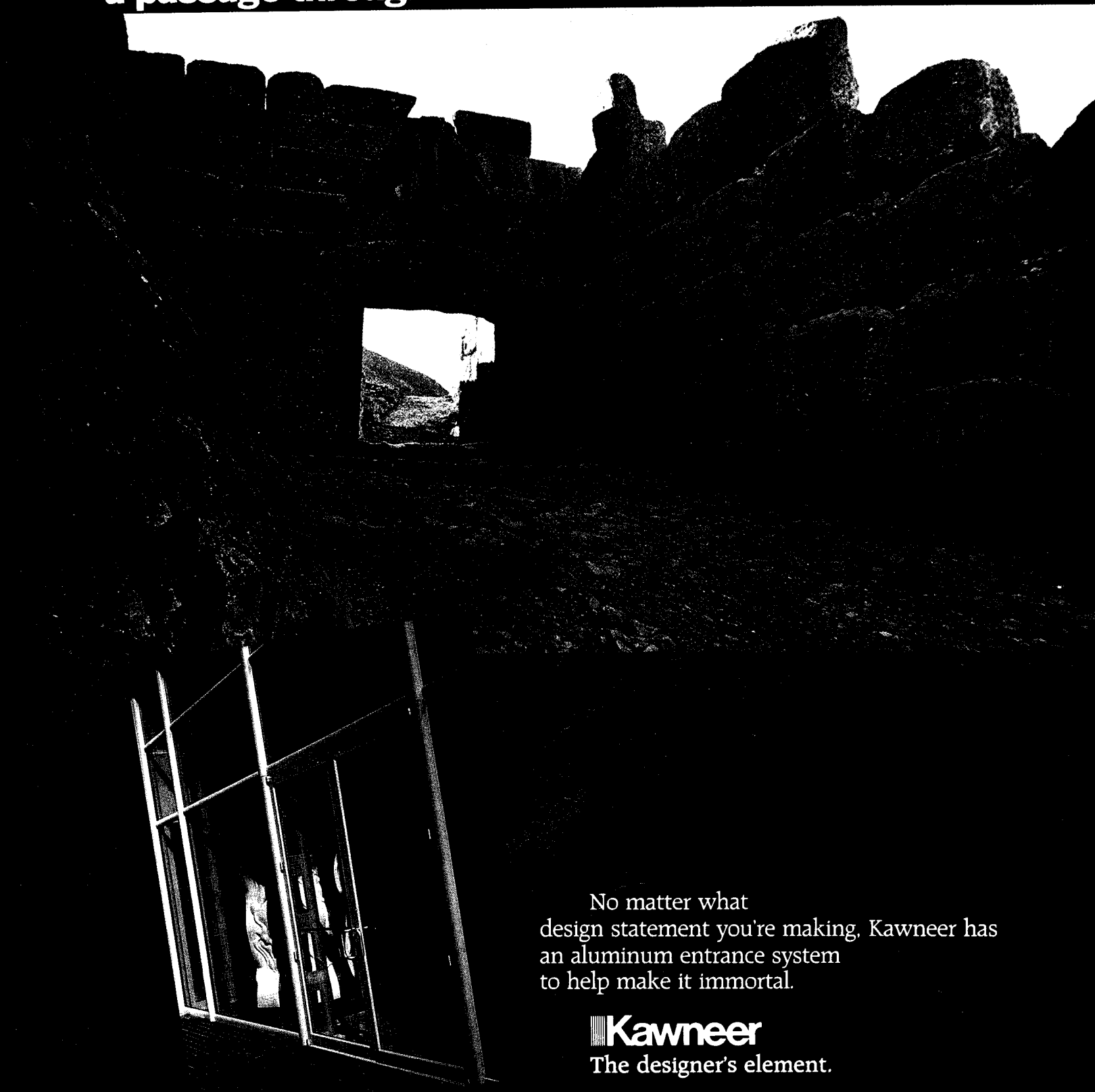
Swedish Meeting on the Workplace

The industrial workplace faces design challenges brought on by the emergence of new technologies and the global restructuring of the means of production. These issues and their influence on the technical, social, and cultural responsibilities of architecture and engineering were addressed during a seven-day symposium held in Sweden titled "Industrial Architecture and Engineering Design: When People Matter."

The symposium, organized by the Conseil Internationale du Batiment and the Union Internationale des Architectes, was held in Stockholm and Gothenburg, August 27 to September 2. Funding was provided by the Swedish Council for Building Research and the Swedish Work Environment Fund. More than 200 architects, social scientists, engineers, industrialists, and students from over 20 countries participated in an interdisciplinary and cross-cultural critique of the changing social and physical environment wrought by the changing nature of industrial production. The extent to which the architect is conditioned by or can interpret and direct these changes toward positive social

(continued on page 32)

Artistry is what transforms an entrance from a passage through a building into a passage through time.



No matter what design statement you're making, Kawneer has an aluminum entrance system to help make it immortal.

Kawneer
The designer's element.

Circle No. 333 on Reader Service Card

Swedish *(continued from page 30)*

good was an ever-present point of debate.

Given Sweden's status as host country, a decided emphasis was placed on its exemplary socio-technical industrial culture. Participants in the seminar became acquainted with Swedish industrial culture not only through the symposium's lectures and workshops, but also through field trips that ranged from small, high-tech "tele-cottage" industries to the Volvo factories.

Swedish architect Ralph Erskine gave a broad presentation of his work and philosophy, emphasizing that the architect's main concern should be the provision for human need over style and form. From the cardboard factory at Ostanfors of 1953, to the IBM-Gothenburg Complex currently under construction, Erskine's work consistently goes beyond the socially responsible provision for people and takes great delight in the expression of form. Erskine closed by stressing the need for architects to focus on issues of quality of life over quantity of material consumption.

Kenneth Frampton offered an insightful view into the political and cultural aspects of the symposium's topics, noting that our reactions to modern industrial culture are still very much conditioned by a collective sense of loss of a mythical pre-industrial world idealized by William Morris. The contradictions posed by the division of labor are as much a source of alienation today as they were in the time of Morris. This division of labor has led us today into the "technocratic trap" of the legitimization of non-responsibility. Frampton went on to emphasize that the architect should not abdicate the scope of his responsibilities in light of the contemporary tendency toward specialization: "In our world of divided labor, one of the last figures to remain undivided is the architect. From this undivided vantage point it is essential that one should challenge constantly the supposedly value-free criteria that isolates issues from the end." ***John Loomis*** ■

The author is an associate with KCA Architects and an assistant professor of architecture at City College of New York, where he teaches a design studio/seminar on the industrial workplace.

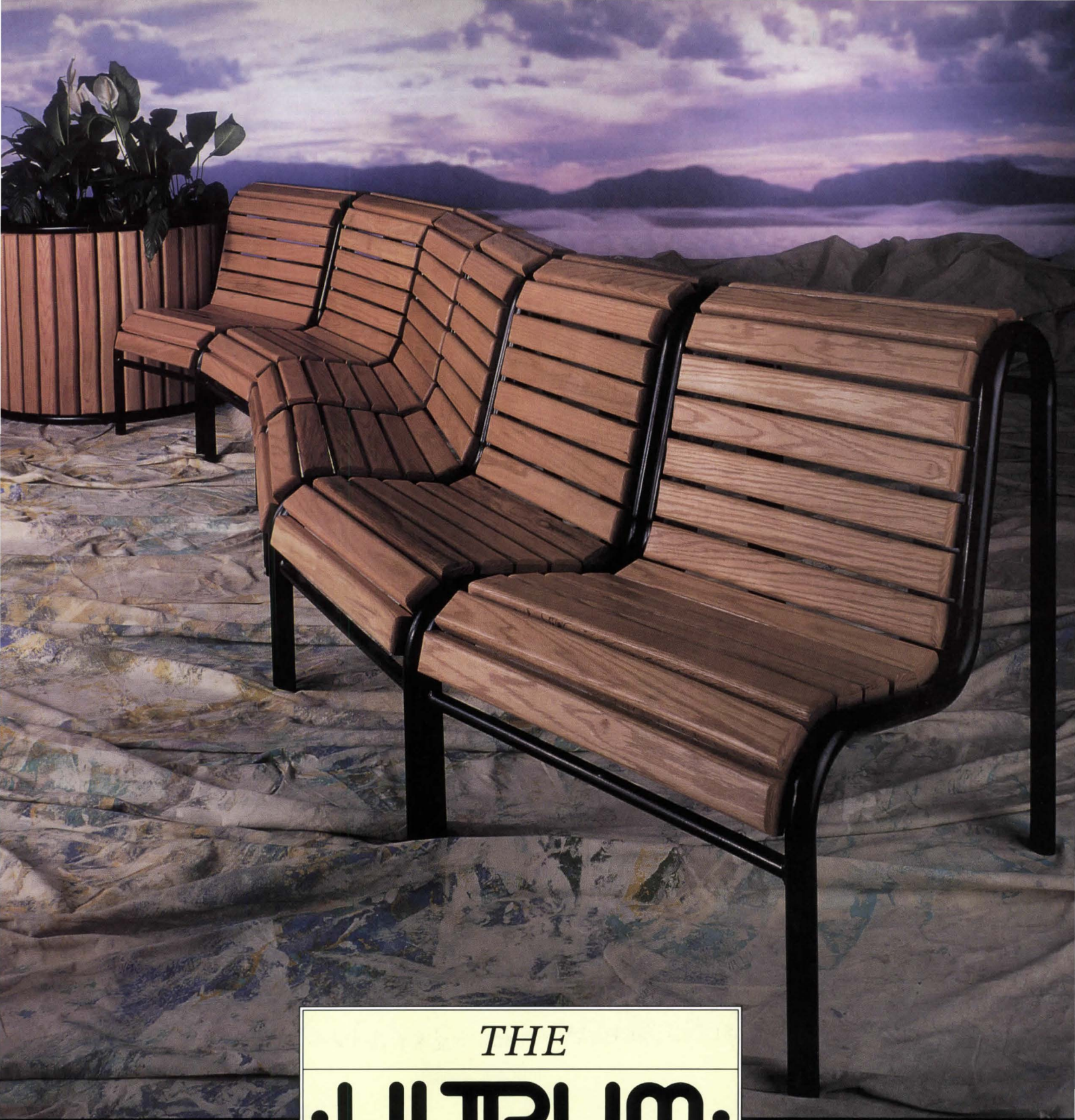
Peace Garden *(continued from page 23)*

Catalano, a professor emeritus of architecture at MIT, proposed a design that involves a system of partially paved parterres defined by the patterns of seven olive branch leaves. These terraces, each planted with a ground cover, are to be surrounded on three sides by an elevated, tree-lined promenade that will extend pedestrian pathways around the end of Hains Point. The promenade will serve as a balcony from which to view the entire setting. The pathway is intended to keep pedestrians, runners, and cyclists who circulate around the southern end of the point from intruding on the tranquility of the garden itself. Not incidentally, this elevated path will also bolster the existing seawall, which is in need of repair; the swollen Potomac River has flooded the site several times in recent memory. The main entrance to the Peace Garden will be through a glass-domed gate structure at the north end of the site.

Hains Point is a prominent feature adjacent to Washington's monumental core. Due south of the axis between the White House and the Capitol building, within view of the Washington Monument and the Lincoln and Jefferson memorials, the wedge-shaped 12-acre site juts into the Potomac River. Part of land reclaimed by dredging begun in the late 1800s, Hains Point is arguably the last major monumental site in Washington. Unfortunately, noise from nearby National Airport and Bolling Air Force Base will likely interfere with the intended tranquility of the place; perhaps the dense buffer of trees proposed in Catalano's design will help.

Jurors for the competition were architects Gunnar Birkerts and E. Fay Jones, landscape architects Hideo Sasaki and Meade Palmer, urban design commentators Grady Clay and J.B. Jackson, sculptor Athena Tacha, and art historian Peter Selz. The professional advisor was Paul D. Spreiregen, FAIA, who served in that capacity also for the Vietnam Veterans Memorial.

The competition was sponsored by The Peace Garden Project, a Berkeley, California, non-profit group. Funds for construction and maintenance of the garden, which will occupy National Park Service land, are to be raised from private sources. ***Thomas Vonier*** ■



THE

·ULTRUM·

COLLECTION

From beautiful hand-rubbed wood finishes to the contemporary and contour styles of our wood series line, Ultrum offers today's most exciting site furniture collection. For our new full-color catalog, contact your Ultrum sales representative or write GameTime, Inc., P.O. Box 121, Fort Payne, AL 35967. 205/845-5610, telex 782-534, FAX 205/845-2649.

Circle No. 325 on Reader Service Card

Tech 21® PANEL SYSTEMS... FAST & EFFECTIVE FOR NEW CONSTRUCTION

METALITE™

APPLICATIONS

- Cladding pre-engineered metal buildings
- Mechanical equipment enclosures
- Parking garages
- Industrial uses

FEATURES

- Lightweight 4 PSF
- Energy efficient Dryvit® Systems
- Corrosion resistant
- Dryvit technical & customer service support

COMPONENTS

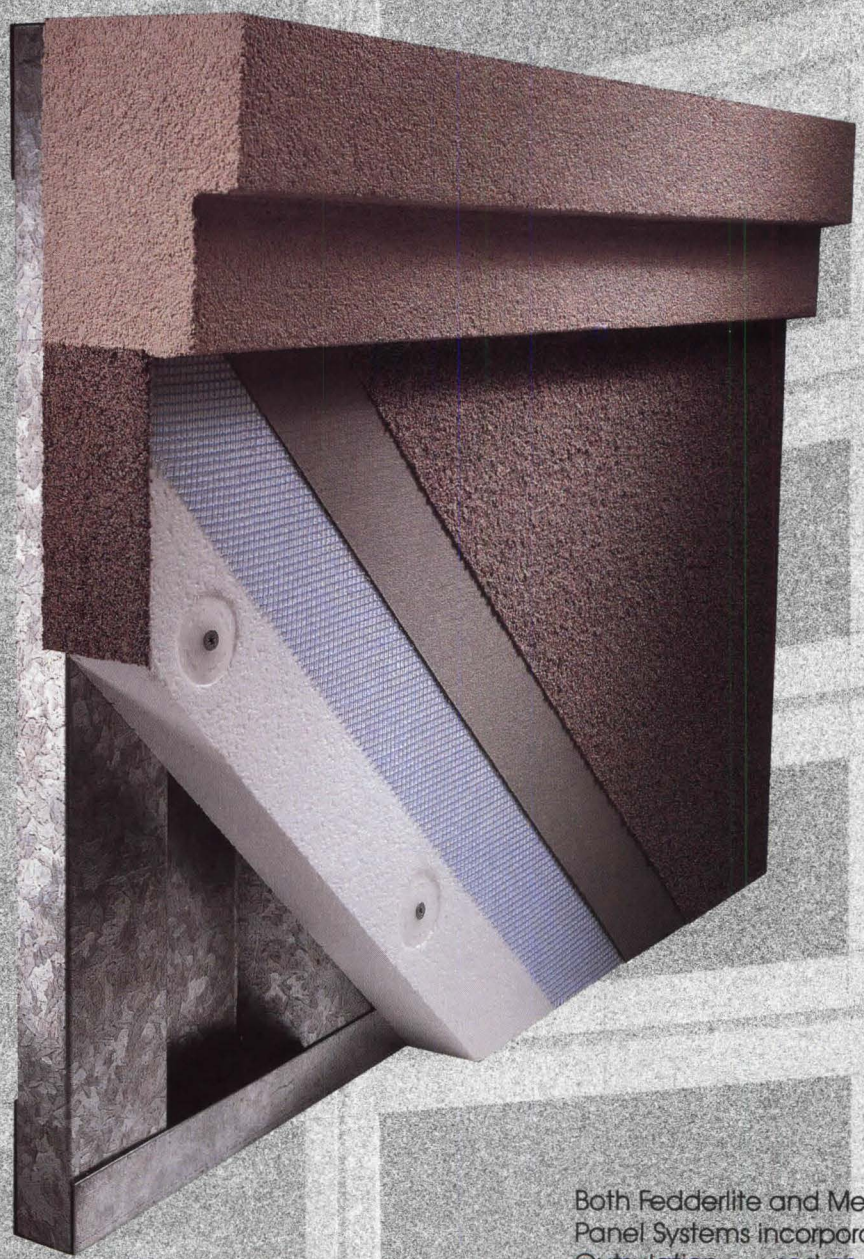
- Mechanically fastened Dryvit Outsulation® or Exsulation® System
- Modular 22 gauge roll-formed steel backing & closures

ATTACHMENT

- Welded or bolted to structural supports

PANEL MANUFACTURERS

- Independent Tech 21 Metalite contractors



Both Fedderlite and Metalite Panel Systems incorporate Dryvit Outsulation — used on over 80,000 buildings new and retrofit. Respected worldwide as the

New Innovations in Panelization Technology from the Leader...

AND THE RETROFIT OF OLDER BUILDINGS

FEDDERLITE®

APPLICATIONS

- Recladding glass & aluminum curtain wall
- Facing concrete shear walls
- Retrofit of brick, concrete & masonry
- Fascias, spandrals

FEATURES

- Ultralightweight 1.5 PSF
- Energy efficient Dryvit Outsulation
- Dryvit shapes & finishes
- Dryvit technical & customer service support

COMPONENTS

- Adhesively fastened Dryvit Outsulation System
- Integral steel or aluminum channel reinforcements

ATTACHMENT

- Mechanical, to recommended substrates

PANEL MANUFACTURERS

- Independent Tech 21 Fedderlite contractors

proven leader in quality exterior insulation and finish systems. Call or write for additional information on Tech 21 Panel Systems.

dryvit®

Dryvit Systems, Inc.
Headquarters
One Energy Way
P.O. Box 1014
West Warwick, RI 02893

Toll Free Number
1-800-4-DRYVIT

Never fill up again.

The new high-mileage-precision-technical-pen.

marsmagno

You'll never fill up again from a bottle of ink. New Marsmagno is the first disposable technical pen that meets Staedtler's high standards–and yours, too.

Marsmagno is so convenient. It cuts out time-consuming chores like cleaning and refilling. There's no messy maintenance. No ink bottles, cartridges, or replacement nibs to keep around.

Marsmagno is a high-mileage pen because it holds more ink. No refillable pen has a tank so large. This is ultrafine, jet black, *genuine* drawing ink. It produces opaque, high-contrast lines. The tank is factory sealed and stays that way until you activate it. So the ink is fresh. And the pen starts instantly.

Marsmagno is a precision technical pen. Engineered from two proven technologies, it combines the best of the Sprint plotter pen with features Marsmatic is famous for. So Marsmagno has a specially activated cartridge. Superior air-pulse ink feed system. Double sealing cap. And color identification for all seven point sizes.

710 SK7

710 SK4

Plus a proven stainless steel point to ensure consistent line widths. Marsmagno is truly a high-performance technical drawing pen.

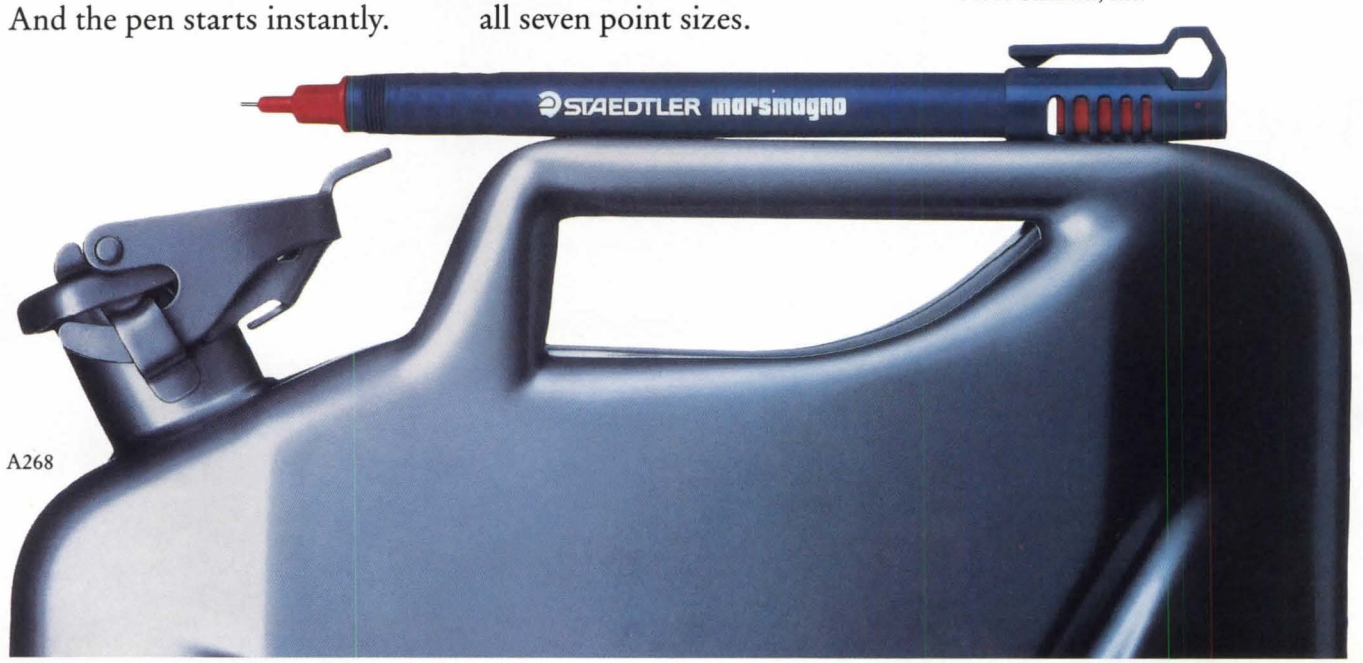
Use Marsmagno on drawing paper, vellum, illustration board, and tracing paper. It's available in seven popular American Standard line widths, 4x0 through 2½. Choose individual pens, or convenient sets of four and seven pens. Marsmagno is so economical–at just $8.95*, a single pen costs less than some replacement points!

Get Marsmagno now at leading art and drafting supply dealers.

*Suggested list price.

STAEDTLER
a reputation by design

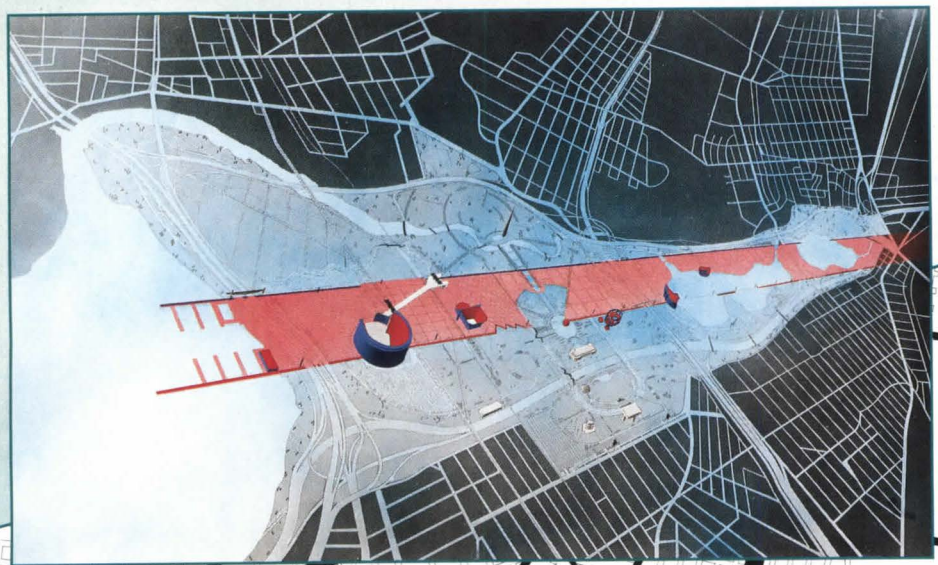
P.O. Box 2196, Chatsworth, CA 91313
(818) 882-6000



A268

In Progress

Beyond Parc de la Villette (see p. 65) Bernard Tschumi Associates is developing two daring—and quite different—urban reclamation strategies.



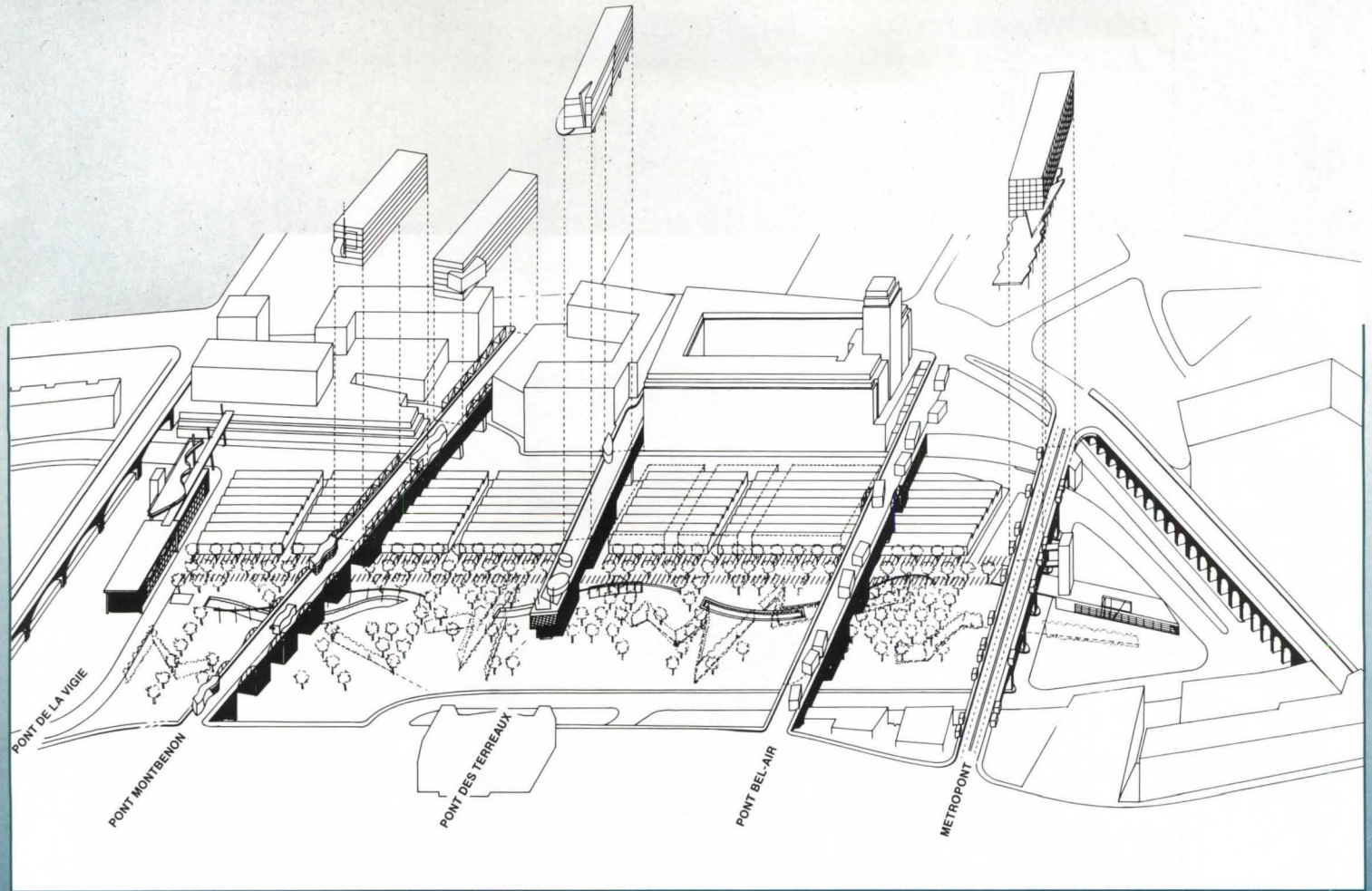
BIRDS' EYE PERSPECTIVE

Flushing Meadow Corona Park Concept Plan, Flushing Meadow, New York. A task force (see right) convened by New York state and city bodies has been charged to remake Flushing Meadows—site of the 1939 and 1964 World's Fairs—into the city's "premier park for the 21st Century." Though the 1225-acre tract is the site of major amenities such as Shea Stadium, the Queens Museum, and the National Tennis Center, the park's entrances and exits are ill-defined, and connections between its centers are poor. Operation of these centers is hampered by airplane and traffic noise and the lack of adequate parking, restrooms, and food concessions. As the task force's design member, Bernard Tschumi has proposed three chief organizing—and regenerative—elements.

A north-to-south mall, bracketed by axial walkways, extends the four-mile breadth of the park. It contains most of the extant centers and provides a spine for additional recreation and service components. The picturesque "green meadows" in the east and west portions are consolidated via the "forest walk," a meandering, intensely planted pedestrian and biking path. Key support systems include a new ring road for internal circulation and parking along the mall.

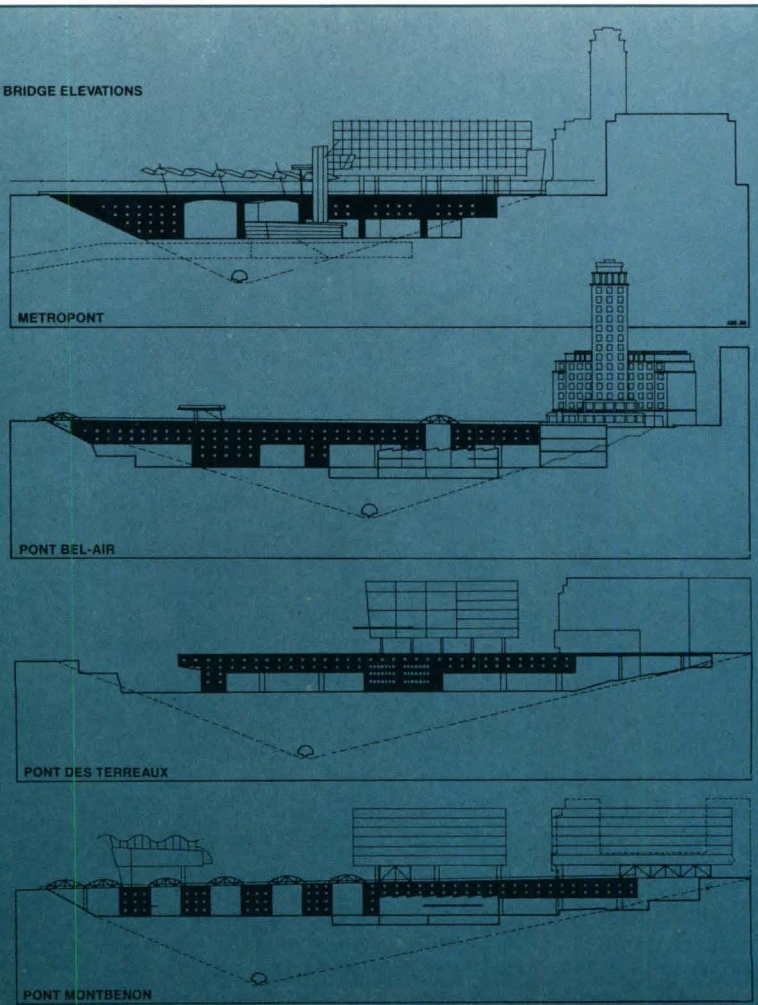
The Flushing Meadow Corona Park Corporation Task Force:
Concept Plan Chair: Bernard Tschumi, Bernard Tschumi Associates.
Site Analysis Chair: Karen B. Alschuler, Skidmore, Owings & Merrill, New York.
Program Chair: William R. Alschuler, Future Museums.
Consulting Artist: Mary Miss.
Landscape Design Chair: Nicholas Quennell, Quennell Rothschild Associates.
Task Force Chair: Alan J. Plattus, Yale University.

(In Progress continued on p. 38)



AXONOMETRIC SITE PLAN

BRIDGE ELEVATIONS



In Progress *(continued from p. 37)*
Bridges of Lausanne, Lausanne, Switzerland. Close to this hilly city's center, a site once occupied by small industry is being vacated. A private landowner commissioned architect Mario Botta to design a large portion of the site, which stretches above an active railway tunnel. But city fathers intervened and held a competition, won in February by Bernard Tschumi and Luca Merlini, both natives of Lausanne. If approved, the project is scheduled to be built—by Tschumi and others—over a 15-year period beginning in 1992.

Tschumi's urban design comprises five bridges—latter-day versions of Florence's Ponte Vecchio—which take advantage of Lausanne's topography with mixed-use buildings that house commercial and public spaces on street level, and government, office, and residential functions arrayed above or below it. Conceived as "fragments" of the city, the bridges' tiered configuration is analogous to that of Lausanne, where "constructions become means of access" between city levels. Land under the bridges is zoned for small industry and a park.

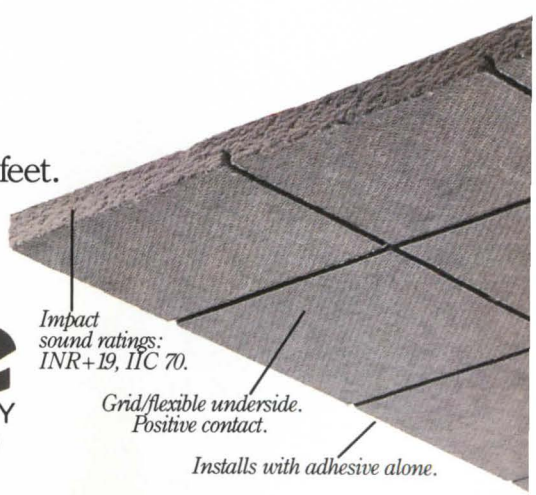
ComfortBase lets your slab-dwellers feel like they're walking on air.

Homasote takes underlayment into the Space Age. Our new ComfortBase is designed for carpet and other floor covering systems, and applies directly over concrete slabs or floors. It brings additional sound-deadening, thermal resistance and resilience to any application.

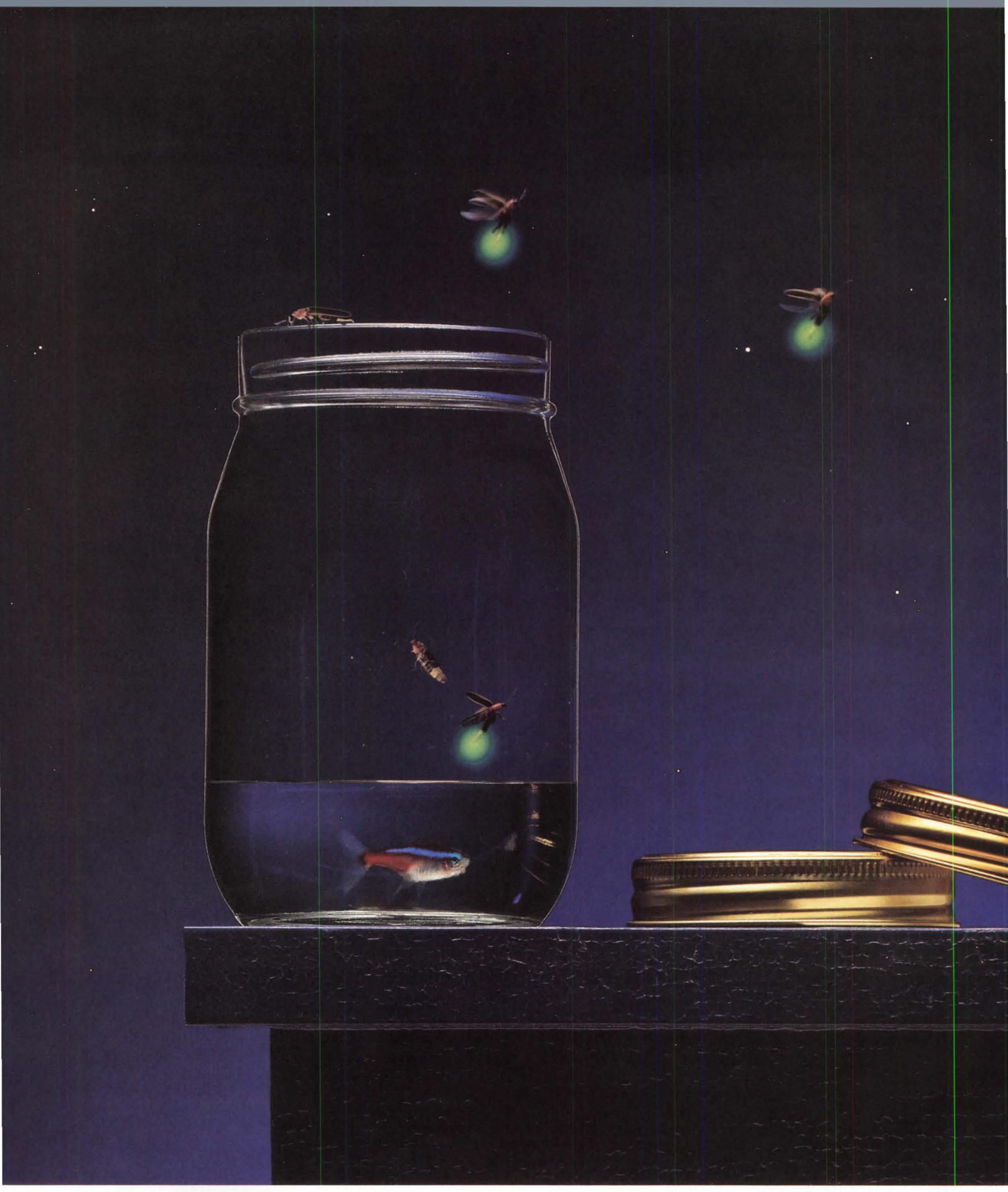
Specify Homasote ComfortBase for all your concrete slabs. And enhance the cushion between concrete and bare feet.

For a free sample and more information, call **800-257-9491, ext. 32** (in NJ, call 609-883-3300, ext. 32).

homasote
COMPANY
P.O. Box 7240, West Trenton, New Jersey 08628-0240
FAX # 609-530-1584



Circle **No. 328** on Reader Service Card



PUT SOME SPARKLE IN YOUR INTERIORS.

Spark some excitement in your designs with intriguing surfaces from Nevamar. SPARKLE SERIES—Laminates in five mysterious metal-flake colors featuring Nevamar's exclusive ARP SURFACE.® Great with today's innovative lighting techniques. PURE METALS™—Anodized aluminum surfaces in traditional metallic colors, exclusive patterns, brushed and polished tones. New Sparkles and Pure Metals. They could spark some dazzling ideas for you. For samples, call 1-800-638-4380. In Maryland, call 1-800-233-9485. Nevamar Corporation, 8339 Telegraph Road, Odenton, Maryland 21113.

Sparkle Series

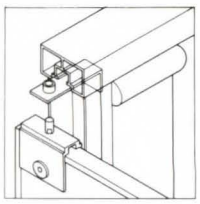
NEVAMAR®
DECORATIVE SURFACES

Pure Metals (shown ½ scale)

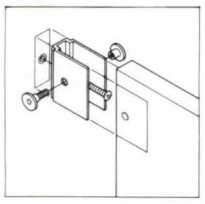
Circle **No. 345** on Reader Service Card

The Beginning of a New Era in Strength and Beauty for Bathroom Partitions, Fitting Rooms, and Shower Units.

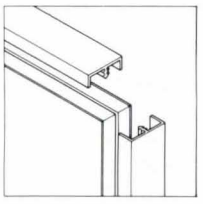
THE DESIGN COUNCIL · 1986 DESIGN AWARD · AN OUTSTANDING BRITISH PRODUCT ·



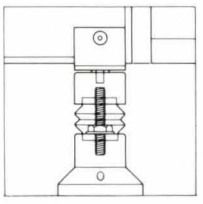
The top hinge incorporates a hinge pin which locates with a nylon bush in the hinge bracket. The hinge is factory fitted. Black rubber bumpers are fitted to the top and bottom of door jambs.



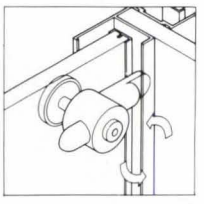
A pre-drilled epoxy coated aluminum wall bracket which is plugged and screwed to the wall.



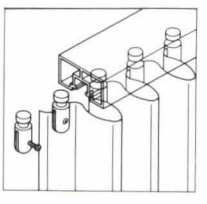
The non-removable extruded aluminum edge trim is available in anodized or epoxy powder coated aluminum. Plastic laminate panel facing or to specification.



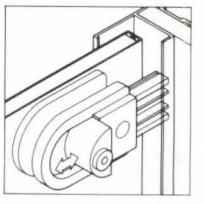
Adjustable foot with screw adjuster hidden by bellowes-type sleeve. Made from black glass-filled nylon, it also acts as the hinge pivot.



Black glass-filled nylon Lotus lock body with a red rubber bumper incorporating an emergency release facility.



Black glass-filled nylon curtain runners which are non-removable once the headrail is fitted.



Black glass-filled nylon Combat lock with a red rubber bumper incorporating an emergency release facility.

Now Available

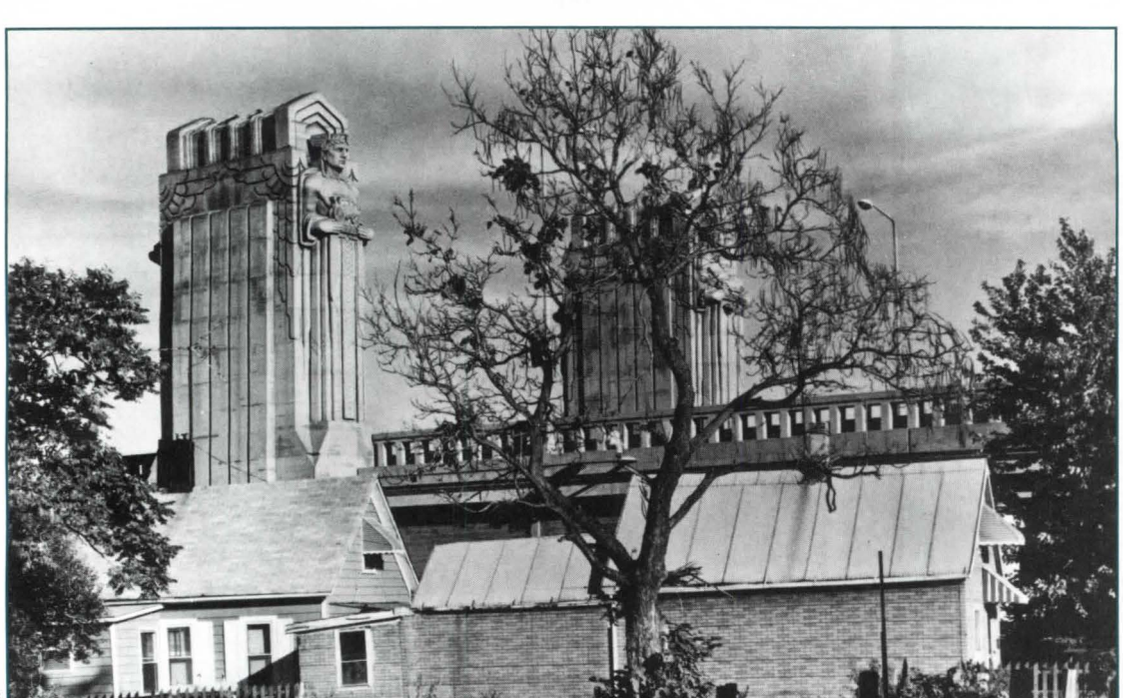
CORIAN®
Solid Beauty That Lasts

Thrislington Cubicles

Thrislington Cubicles, 11739 Sheldon Street, Sun Valley, California 91352: Telephone (818) 504-0806: Telefax (818) 504-0913: SEE US IN SWEETS!

Circle **No. 356** on Reader Service Card

P/A Calendar



Cervin Robinson

"Guardians of Traffic" photograph from "Cervin Robinson: Cleveland, Ohio" at the Cleveland Museum through January 28.

EXHIBITIONS

John Gaw Meem
This exhibition of over 400 drawings, plans, models, and furnishings traces the evolution of Pueblo Revival architecture and documents the career of its leading advocate, John Gaw Meem. Albuquerque, New Mexico, Museum. (See page 26.)
Through November 19.

Peter Eisenman
An exhibition titled "Snakes & Ladders" includes recent works. (P/A, Oct. 1989, p. 90.) Max Protetch, New York.
Through December 2.

Jean Nouvel
This exhibition of Nouvel's recent work offers a chance to see some of the projects responsible, perhaps, for the enlivened state of French architecture today. AIA Headquarters Building, Washington, D.C.
Through December 3.

Paolo Soleri
A retrospective of unrealized single-structure communities, enormous beehive-shaped dwellings, and other visions by the Arizona architect are on view. Academy of Sciences, New York.
Through January 28, 1990.

Case Study Houses
"Blueprints for Modern Living: History and Legacy of the Case Study Houses" documents and celebrates the highly influential case study program initiated by *Arts & Architecture* magazine in 1945. Full-sized reconstructions, drawings, photos, and models of the experimental houses are on exhibition. Museum of Contemporary Art, Los Angeles.
Through February 18, 1990.

Edible Architecture
This is an exhibition which brings together the respective talents of architects, interior, graphic, and industrial designers, and bakers. Drawings and baked realizations are to be displayed; an auction at Sotheby's and sale of "designer cookies" at Bloomingdales will benefit DIFFA. Steelcase Design Partnership, New York.
November 15–December 12.

Neil Denari
Works, both built and proposed, by the Los Angeles architect are on show. Art and Architecture Exhibition Space, San Francisco.
November 16–January 18, 1990.

Cervin Robinson
Cleveland's Museum of Art commissioned the architectural photographer to document the city through seasonal changes over a two-year period. One hundred gelatin silver prints are on exhibition. Museum of Art, Cleveland.
November 22–January 28, 1990.

Josef Paul Kleihues
"Museum Projects" is an exhibition that documents works by the German architect done over the past 16 years. Arthur A. Houghton, Jr., Gallery, Cooper Union, New York.
November 29–December 22.

COMPETITIONS

New York Police Complex
The City of New York is sponsoring a design competition for a "state-of-the-art" police training complex slated for a nine-acre site in the Bronx. Six firms will be chosen for the competition from an open call for applicants. Contact Adrienne Bresnan, NYC Department of General Services, One Centre Street, New York, New York 10001.
Request for Qualifications deadline November 30.

Bronx Affordable Housing
"Visions of Home: New Affordable Housing in the South Bronx" is a national competition (open to architects and architecture students) sponsored by the Bronx Museum of the Arts. A $30 fee is required for the entry package. Contact Visions of Home Competition % Philip Verre, Chief Curator, Bronx Museum of the Arts, 1040 Grand Concourse, Bronx, New York 10456-3999 (212) 681-6000.
Registration deadline December 1, Submission deadline February 5.

NGA Glass Awards
Categories for the fourth annual National Glass Association "Awards for Excellence" include commercial, residential, and interior design with glass, craftsmanship, and specialty glazing. Projects completed between January 1, 1984 and December 31, 1989 are eligible. Contact NGA Awards for Excellence Competition, 8200 Greensboro Drive, #302, McLean, Virginia 22102.
Submission deadline December 15.

Rotch Travelling Scholarship
A stipend of $17,000, to be used for international travel, is awarded to the winner of this two-stage design competition. For eligibility requirements contact Hugh Shepley, Rotch Travelling Scholarship, 40 Broad Street, sixth floor, Boston, Massachusetts 02109.
Application requests due January 2, 1990.

Quaternario 90
The Quaternario Foundation has announced Quaternario 90, the second biennial International Award for Innovative Technology in Architecture. Contact Paolo Ceccarelli, Instituto Universitario di Architettura di Venezia, Tolentini, Santa Croce 197, 30135 Venice, Italy, telephone 5221119/5237400, FAX 5200108.
Submission deadline January 13, 1990.

CONFERENCES

ASLA Annual Meeting
This year's gathering of the American Society of Landscape Architects takes place in Orlando, Florida. Educational sessions, symposiums, and other events will be tied together under the theme "Space for Tomorrow." Contact Landscape Architecture Foundation, 4401 Connecticut Avenue, N.W., fifth floor, Washington, D.C. 20008 (202) 686-0068.
November 18–21.

Architecture Film Festival
The Fourth International Biennial Festival of Films on Architecture, City Planning, and Urban Environment will be held in Bordeaux, France. Films and video tapes will be shown in both competitive and noncompetitive categories and as the basis for audio-visual forums. Contact FIFARC, BP 85, 33 024 Bordeaux, France 56 52 97 88.
November 30–December 2.

Deschwanden's Shoe Repair, Bakersfield, Ca.

No matter what they look like outside, busi

In America, businesses come in all shapes and sizes. But there is one thing most of them share: a strong preference for Du Pont Certified Carpets.

Nothing startling there. After all, these carpets offer the kind of tough, unyielding performance that keeps clients satisfied.

sses prefer Du Pont Certified Carpet inside.

So when you specify Du Pont, your client's comfort level is apt to be a lot higher. And that can come in mighty handy when you're trying to sell a hot new design.

Go with Du Pont Certified. That way, your clients will get the carpets they really want. And the designs they truly deserve.

Du Pont Certified. The Carpets American Business Is Built On.

DUPONT
Flooring Systems

Circle **No. 318** on Reader Service Card

NAME ONE OTHER DOOR COMPANY THAT LETS YOU STEP OUTSIDE THE ORDINARY.

If you're looking for something a bit unique in a door, look to Marvin. We offer the broadest, most complete line of patio doors on the market today.

There are traditional wood and clad wood sliding doors. Terrace doors. Retro doors. Even two French door styles (in-swinging and out-swinging).

Pick one you like and combine it with our sidelites. Or transoms. Or design your own custom divided lite pattern. The possibilities are virtually endless.

With all the design opportunities available, you can design a door that will truly make your projects distinctive.

You can even match the lite pattern you've chosen for your windows and make your entire home that much more unique.

All with the quality you've come to expect from Marvin: the latest energy-efficient glazing options (including Low-E glass with Argon), an optional low-maintenance clad exterior in four different colors, and tight, precise weatherstripping throughout.

All in beautiful, fine-grained Ponderosa pine that's been carefully selected, milled and treated to protect against rot and decay. And all with the fastest delivery in the business.

If you're ready to step outside the ordinary, there's really just one next step to take. Go to the phone and call us toll-free at **1-800-346-5128** (in MN, 1-800-552-1167; in Canada, 1-800-263-6161). Or write Marvin Doors, Warroad, Minnesota 56763.

You'll find it's a step in the right direction.

MARVIN DOORS

Circle **No. 341** on Reader Service Card

Sometimes overnight is absolutely, positively too late.

We're not knocking the other guys, but sometimes you need to get it there right away. The very same day. Today, not tomorrow.

With TWA's Next Flight Out® delivery service, you're in business.

Even as you read this, TWA planes are about to take off. We can make sure your small package is on the next flight out to any one of over 100 U.S. cities. And we'll deliver it door-to-door or airport-to-airport. Same day. Seven days a week.

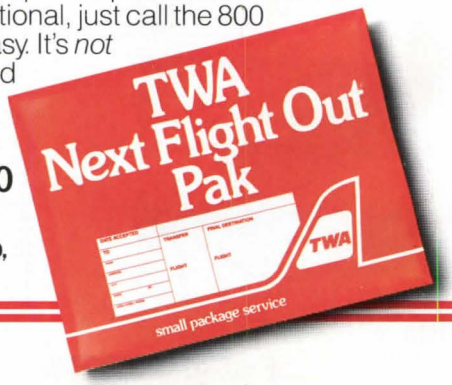
We'll give you our money-back guarantee and Frequent Flight Bonus miles, too (exciting details when you call).

We also deliver next day to Europe and second day to the Middle East.

So for anything up to 70 pounds domestic and 50 pounds international, just call the 800 number. It's that easy. It's *not* that expensive. And most of all, it's fast —very, very fast.

1-800-638-7380

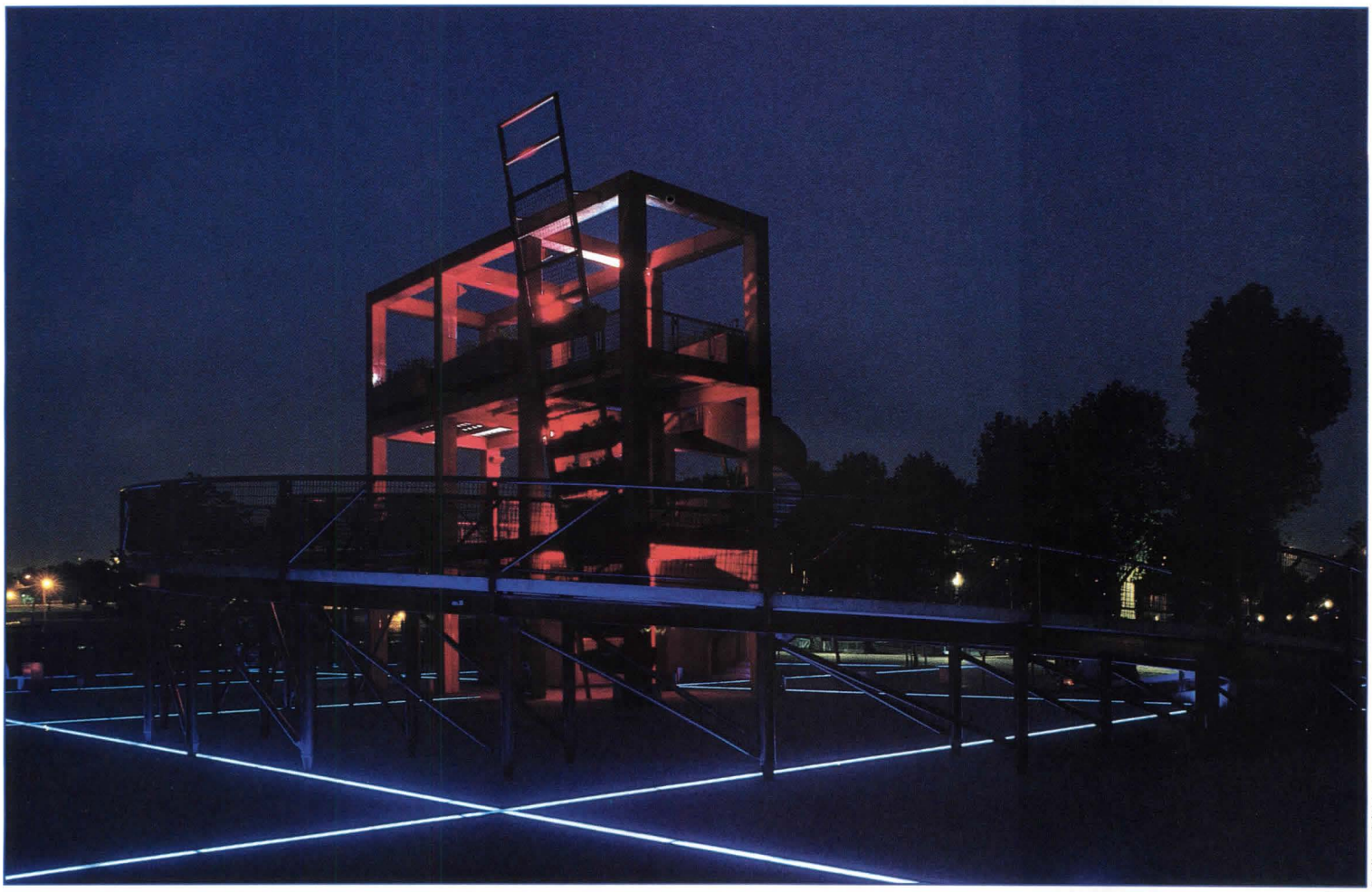
For information or immediate pick-up, ask for Agent 226.



Circle **No. 357** on Reader Service Card

A Non-Unified Field Theory

Halfway through construction, Bernard Tschumi's urban park at La Villette can be seen as a courageous experiment in the reclamation of a post-industrial wasteland within Paris.



Deidi von Schaewen

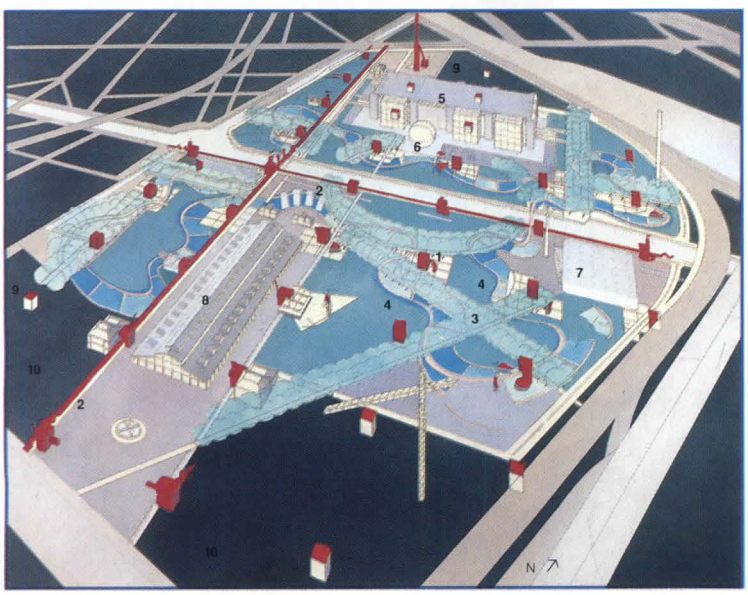
By night, lighting inlaid in the paving surrounding a folly (above) reiterates the somewhat futuristic and resolutely urban themes of the park.

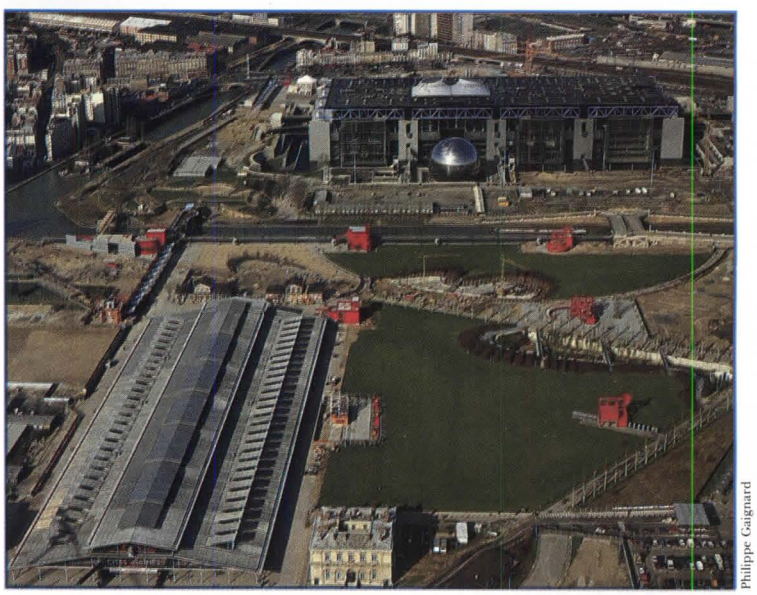
REAMS have been written about Bernard Tschumi's park at La Villette. Touted as the first "deconstructionist" project to be built, it has been expounded at length by Tschumi in numerous texts, analyzed by theoreticians and philosophers from Princeton historian Anthony Vidler to the father of French post-structuralism, Jacques Derrida. But now, as construction of the $130 million first phase of the park has been completed, and Columbia's Dean Tschumi launches into its second and final phase, La Villette has conclusively crossed the line separating rarified theory from implemented architecture—and so moved from the stimulating province of the few into the public domain: However inspiring the intellectual grounding of the park, ultimately for most people what is realized on the site is all there is.

From that perspective, undoubtedly the most interesting aspect of Tschumi's design is its significance as an urban strategy for the reclamation of a vast, post-industrial tract within the city boundaries. The 125-acre site of the park, occupied until the mid-1970s by the slaughterhouses of Paris, is a paradigm of the problem that now besets many Western cities whose industrial base has moved else-

Parc de la Villette
Paris

Peter Mauss/Esto





Philippe Gaignard

BIRD'S EYE VIEW OF PARC DE LA VILLETTE

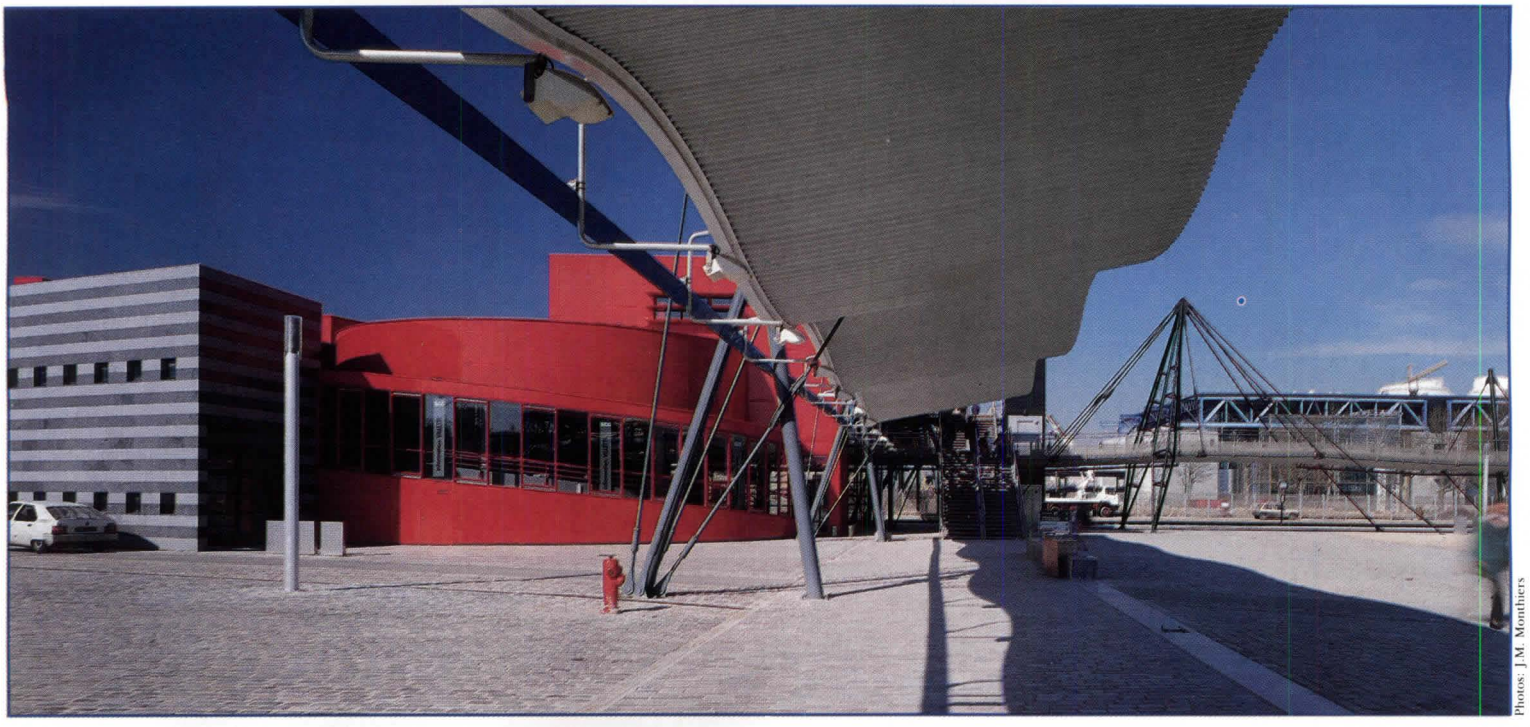
1 FOLLIES
2 COVERED WALKWAYS
3 ALLEES
4 "CINEMATIC" PATH
5 MUSEUM OF SCIENCE AND INDUSTRY
6 GEODE THEATER
7 ZENITH CONCERT HALL
8 GRANDE HALLE
9 HOUSING SITES
10 "CITY OF MUSIC" SITES

A bird's eye perspective (above, left) illustrates Tschumi's systems of points, lines, and surfaces as superimposed on the site. It is bisected by the Ourcq Canal, which connects Ledoux's recently restored customs house rotunda to the west with the eastern suburbs. One of the chief axes, strung with follies, accompanies the waterfront on two levels (top). Another channel skirts the park's northwestern boundary. The aerial photograph (above, right), taken in 1988, shows existing buildings, including Adrien Fainsilber's looming Museum of Science and Industry (commissioned by Giscard d'Estaing in 1979, inaugurated in 1986) and its geodesic-domed theater which dominate the park's northern sector. In the southern part are the 1867 Grand Halle, now reused for temporary expositions, and the "Zenith," a 6,500-seat rock concert hall. Most of the point-grid follies house communal or commercial functions; the one at right, however, is solely a belvedere.

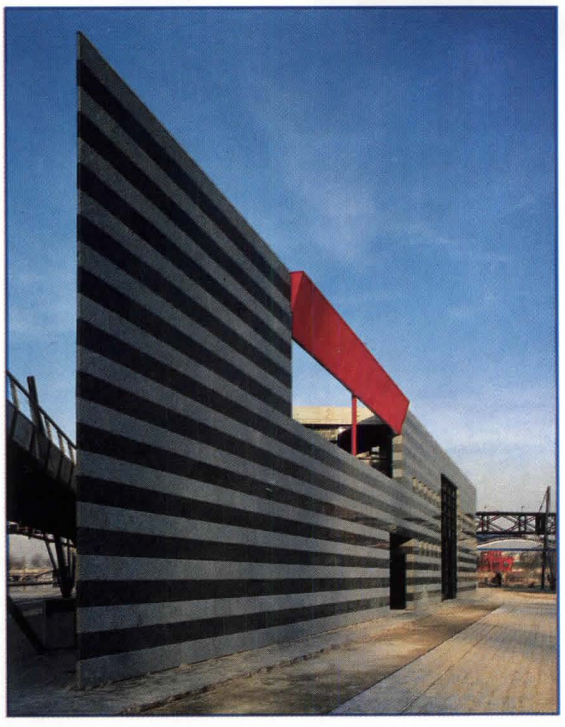
where or become obsolete, leaving blighted wastelands for which new uses must be found. "It's those areas that one has to reinvent," Tschumi says. "La Villette was the first project that on a large scale looked at those sites [as places where] you couldn't be contextual. You had to start almost from scratch."

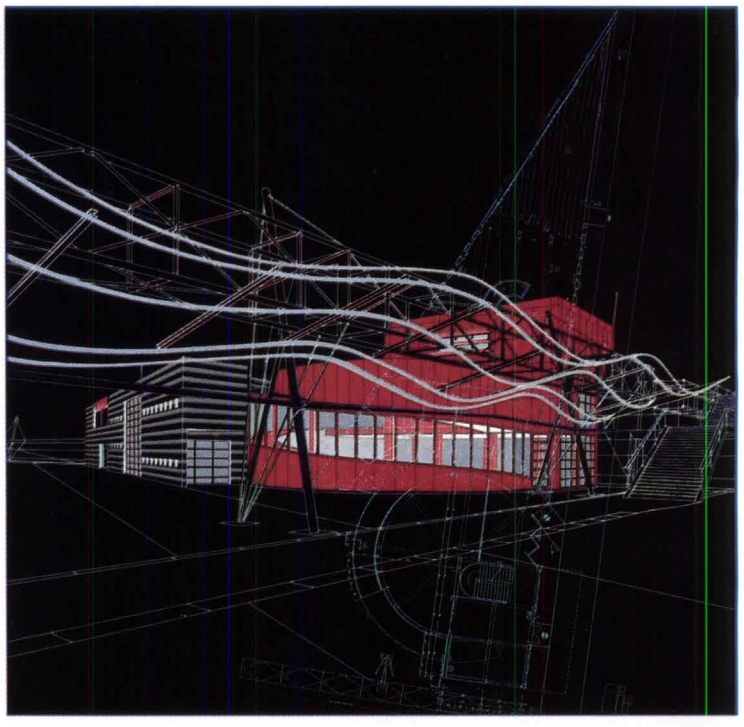
Given France's powerful public sector and its socialist—and architecturally ambitious—president, it's not surprising that Paris should pioneer such an urban experiment. Factor in the French passion for philosophy, their romance with high-tech, and their penchant for what critic Peter Blundell Jones aptly terms "institutionalized culture," and you have the makings of the park.

In 1982, Mitterrand's government organized a competition for the overall design of the site. The program charged competitors to create an "urban park for the 21st Century," and listed diverse commercial and cultural functions including museums, cinemas, restaurants, day care centers, video studios, and art workshops. In March 1983, at 39, the Franco-Swiss Tschumi, by then based in New York, won the commission—budgeted at a whopping $200 million out of $1.5 billion allotted all the *Grands Projets*—besting 470 rivals from 36 coun-



Photos: J.M. Monthiers





Tschumi's absorption in ways that technology can bear on tectonics and concept resulted in the striking structure of the covered walkways, whose design was greatly advanced by Peter Rice (see box, facing page, and Selected Details, p. 135). Their joint fascination with apparently non-stable systems gave rise to the canted, seemingly unbalanced supports of the axial walkways' 15-foot-wide cantilevered canopies. On a pragmatic level, the number of posts was halved so that subterranean ducts from the 19th Century infrastructure could be used for water and electrical lines. The north-south walkway (characterized by undulating concrete slab, top) intersects with the axis along the Ourcq Canal whose elevated walkway (facing page, bottom left) aligns with the bridge and follies' upper levels. When it transpired that additional one-foot clearance was needed to allow fire truck access, the pyramidal suspension structure and a small steel bridge were inserted to raise the ceiling at two points. Though Tschumi disclaims hierarchy here, certain primacies exist: At the meeting of the axes (facing page, top and bottom right) stands the most prominent folly, containing the visitor's information center and restaurant (layered plan and perspective, above right). To maintain its folly scale, the red structure is intersected with a banded granite-clad triangular mass (above left).

tries. Other participants were awarded smaller building and landscaping projects within the framework proposed by the winner.

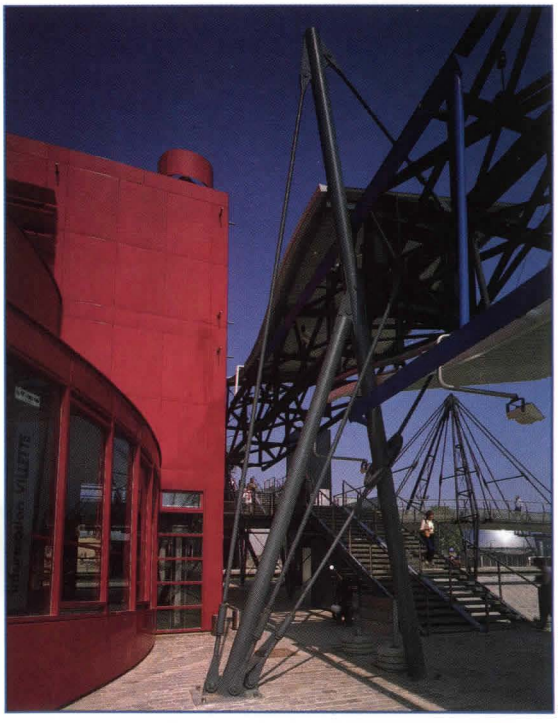
In response to La Villette's location in the northeastern corner of the city, bounded by Paris's *Peripherique* ring road on the east, and flanked by the blue-collar neighborhoods of the 19th Arrondissement in all other directions, "our attitude was literally to consider (the site) as part of the city," Tschumi explains. "For me the name 'park' was always a bit of a misnomer. The 19th-Century landscape tradition in France is fascinating but obviously was not to be applied in that context." Besides a sensitive edge condition to consider, there were several sizeable buildings already on the site, among them Adrien Fainsilber's Museum of Science, Technology and Industry, and an original 19th-Century steel market hall slated to become an exposition space. Others, like the dual-building City of Music by Christian de Portzamparc, a rock concert hall, and two housing clusters of approximately 700 units were projected.

And so, opposed to both Baroque formalism and the Olmstedian picturesque approach, Tschumi resorted to "deconstructionist" realism with its notions of cultural disjunction and dissociation, de-

(continued on page 70)

J.M. Monthiers

Richard Bryant



Peter Mauss/Esto

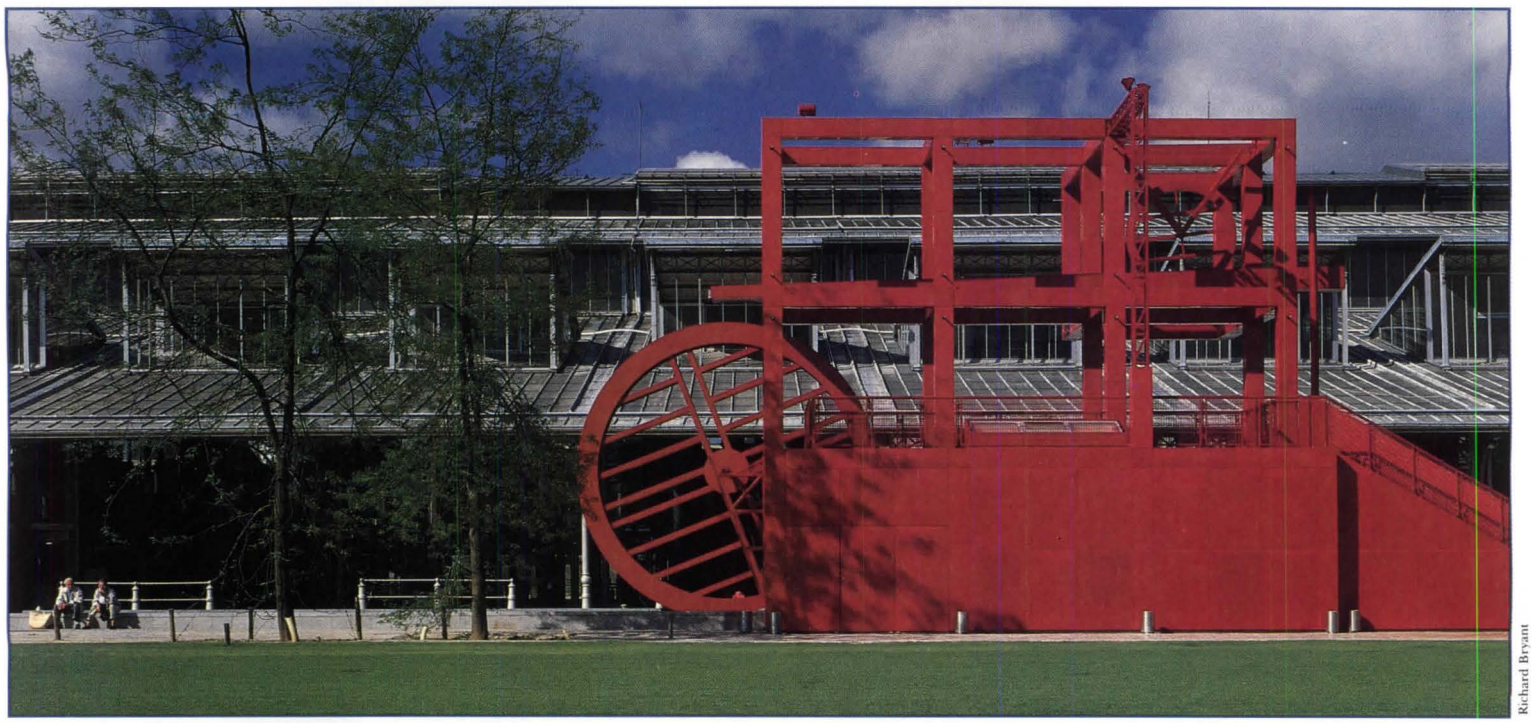
The Engineer as Artisan

England has produced some of the world's greatest engineers—people such as Thomas Telford and Joseph Paxton—and some of its strongest opponents to the mass-production and mechanization wrought by engineers—people such as John Ruskin and William Morris. Peter Rice, the engineer who worked with Bernard Tschumi at La Villette, manages to combine the two.

Rice stands within the modern engineering tradition of minimizing the number and size of elements (which, in Rice's case, involves a heavy reliance upon tension rather than compression members) and appearing to defy the forces of wind and gravity (which, in Rice's work, is characterized by angled supports and hung structures). La Villette shows him at his most daring. Unlike the symmetrical structures that he has designed for architects such as Richard Rogers (see P/A, Aug. 1985, pp. 67–74), Rice's dynamic forms here meet Tschumi's demand for asymmetrical structures from which walkways and canopies hang (see p. 135). Such structures mark the advanced front of modern engineering.

But Rice also harkens back to the craft tradition of Ruskin and Morris. He bemoans our loss of control over the means of production, making architects and engineers passive consumers of mass-produced components rather than the active innovators of new technology. Like Ruskin and Morris, Rice calls for a revived pursuit of craft, and for a renewed involvement in the making (and revealing) of that which goes into our structures. But Rice offers a new twist on this old arts and crafts idea. Rather than reject the machine, he embraces it, seeing in modern technology the means to regain control. Just as information has become more accessible, so too can technology become more malleable, more customized, more understandable through the use of computers and automated fabrication methods.

By revealing how structures are fabricated and assembled, Rice demystifies technology that is usually hidden and little understood. His structures do not just function; they explain themselves. By pushing the capabilities of materials and methods, he encourages us to question the presumed limits of what we can do. Such is the irony in what engineers such as Rice have accomplished. They show us that the way to move forward *involves* going back to a very old idea: that we really understand only that which we make. ***Thomas Fisher*** ■



Richard Bryant

J.M. Monthiers

Peter Mauss/Esto

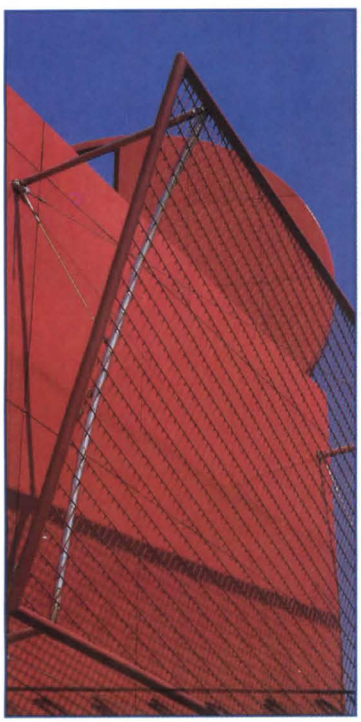
A café folly anchors the apex of the park's triangular "prairie" (facing page, top). Its logo is mounted on a warped, expanded-steel frame (facing page, left). In the background, the PVC/polyester double skin of the "Zenith" rock concert hall can be seen. Originally considered a temporary stand-in for a projected hall, the fabric and steel structure, designed by architects Philippe Chaix and Jean-Paul Morel, is likely to stay. The Grand Halle (in background, top), a surviving example of Paris's 19th Century metal architecture, was designed by a student of Les Halles architect Baltard, and renovated by architects Bernard Reichen and Philippe Robert. The folly in the foreground houses a first aid station on ground level, but chiefly it's intended as a stage for open air performances oriented toward the meadow. Its "mill" wheels (now dry) are one of three water features that characterize the follies in its line. Others include the cascade of water in a children's folly (facing page, center), and the spiral-stair fountain of the folly placed in between (facing page, right). Tschumi designed several of the follies' interiors, including those above. At left, one of the children's workshop follies in which the flooring completes the geometry of the structure. At right, the video-oriented information center sited at the intersection of the chief axes.

(continued from page 68)

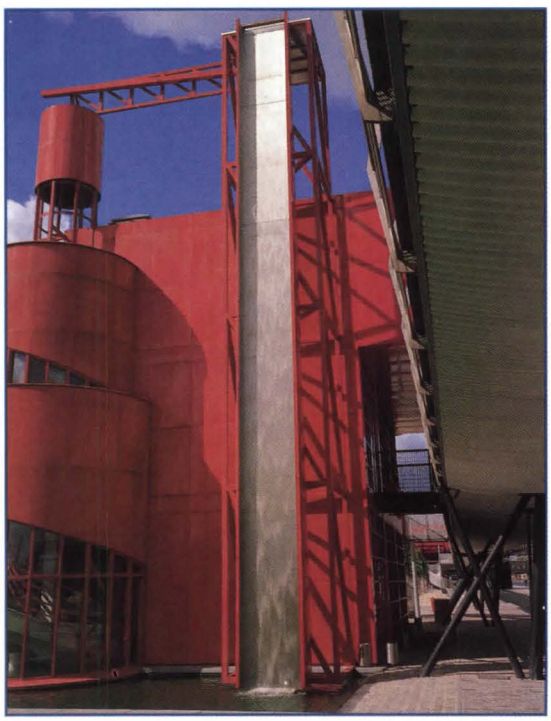
rived from post-structural critical theories which had preoccupied him since the early 1970s. He proposed to lay hold of the land with three autonomous systems—of points, lines, and surfaces, corresponding to objects, movements, and spaces—to be superimposed on the site without an overriding order or hierarchy.

In an expository essay published in *Paris 1979–1989*, a book documenting the French capital's remarkable architectural boom, Tschumi posited that "in contrast to the Renaissance or 19th-Century spatial organization, the Parc de la Villette presents a variation on a canonical modern spatial theme, the open plan." Thus, the architect's system of points is arrayed on a 400-foot grid that blankets the site. The points themselves are represented by follies, concrete- or steel-frame structures clad with bright red porcelain-coated steel—each a Neo-Constructivist variation on a 36′ x 36′ x 36′ cube, variously intersected with cylindrical, or triangular volumes. The industrial aesthetic, striking color, and "strict repetition" of the follies was "aimed at developing a clear symbol for the park," Tschumi wrote, "a recognizable identity as strong as the British telephone booth."

Richard Bryant



Peter Mauss/Esto



Peter Mauss/Esto

J.M. Monthiers

Their functions, in theory, are interchangeable, adhering to the architect's intent to divorce form from function, and from meaning.

The system of lines, or movements, comprises two strong cartesian axes marked by covered walkways whose thrilling, seemingly unstable structure, developed in collaboration with engineer Peter Rice, dominates the park. One walkway, covered with cantilevered, undulating concrete slab, connects the park's north and south entrances and features a bridge that crosses a canal en route. The other, also a covered walkway supported by a single row of canted posts, accompanies the canal waterfront on the ground level. Its roof serves as an elevated path, which intersects with the north-south axis at bridge level. Elsewhere, over 70 mature chestnut trees were transplanted to form allées that border the park's grassy "prairies." In contrast to the axial movement afforded by these, a serpentine "cinematic route" meanders through the site, marked with blue terrazzo paving and dense shrubbery. The disparate lines intersect at various points, offering an enjoyable sense of discovery through surprising vistas, which allow visitors to reorient themselves in the terrain.

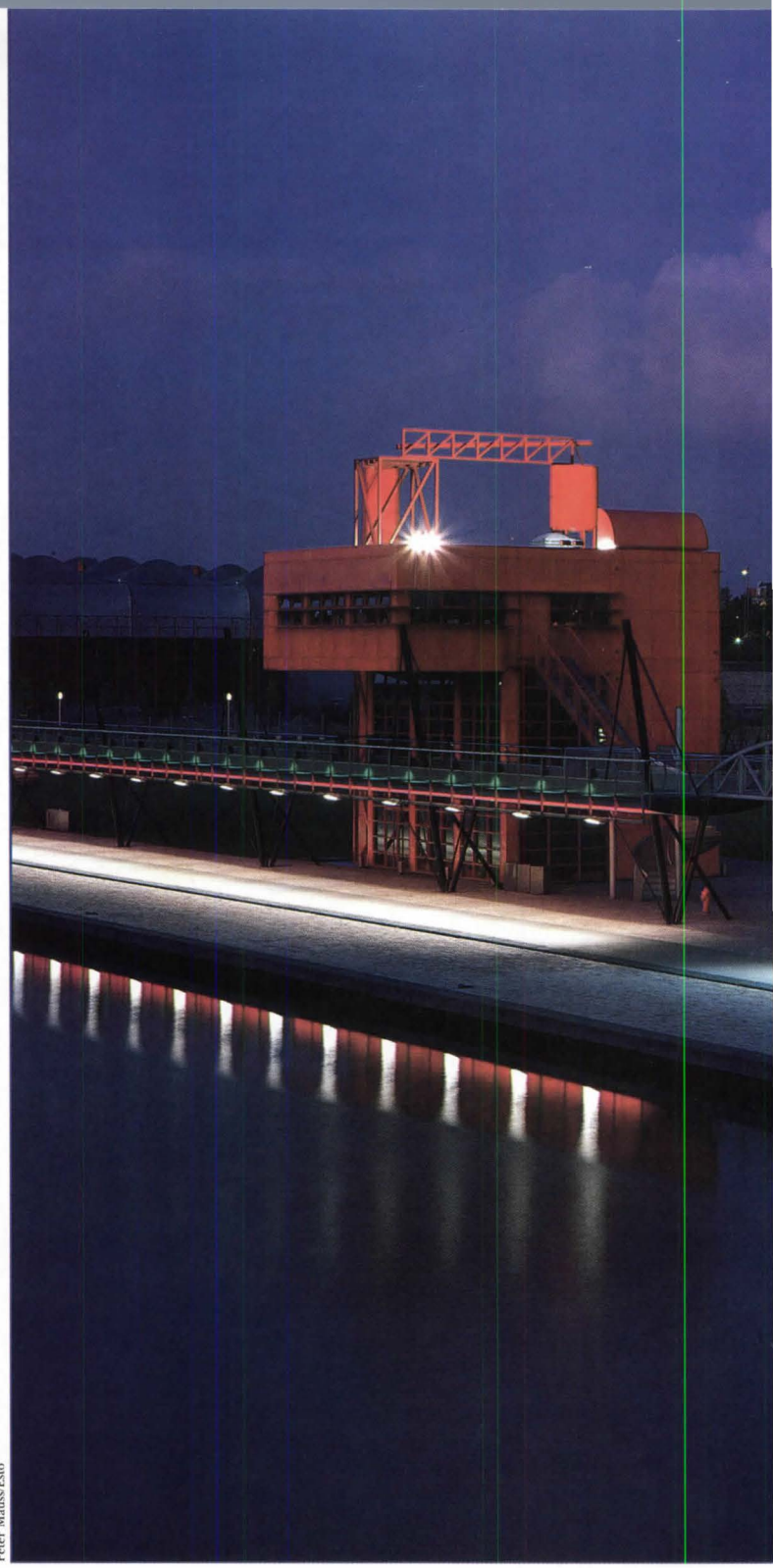
As the curvilinear path weaves across the straight lines, amorphic sections are created. These are the sites of La Villette's sunken gardens, some already planted, which were designed by diverse architects and landscapers. Rich in the play of water and vegetation, these gardens contain the moments in which La Villette comes closest to offering the respite of more traditional parks. Everywhere else, notwithstanding its broad lawns and delightfully unobstructed wateredge, La Villette rigorously denies such bucolic pleasures.

Tschumi has often referred to his fragmented construction at La Villette as "the largest discontinuous building in the world," and readily acknowledges its kinship to those objects, isolated in space, of Le Corbusier's Plan Voisin. Beyond the pedigree lies pragmatism: The scattered follies and circulation network successfully encompass a vast area with low-density construction, and the multiple frameworks do well to accommodate existing buildings on the site.

In evaluating La Villette, it is only fair to note that at this time, but 9 of some 30 follies are in place (four more are nearing completion), and crucial portions of the walkways—those extending to the south and east ends of the axes—are yet to be built. All the same, there is a vacuousness to certain areas, especially those intended to

Richard Bryant

J.M. Monthiers



Peter Mauss/Esto

be distinctly urban in character, that is quite disturbing. Some of the lifelessness has less to do with Tschumi's design than with the administration of the park. The Grand Halle, for instance, has become a popular venue of trade fairs. For security reasons, three sides of the glass and steel structure are inaccessible. As a result, a long cobbled stretch between the halle and the covered walkway is robbed of activity and interest. It is to be hoped that Christian de Portzamparc's City of Music, currently under construction, will help to define the south entrance square, now barren, and often littered with the junk brochures spawned by the trade fairs. There's less hope for the north entrance, where a hideous concrete desert fronts Fainsilber's museum. Even the new housing just completed there has the visage of an instant slum. It only compounds the problem that the municipality of Paris and the French government seem unable to agree on who should pick up the park's maintenance tab. Several of the follies are locked; all could do with a wash. And only one of three built folly water features is operating.

"Reality is fantastic," Tschumi declares: It has forced him to refine his concept. "La Villette tried to do too many things," he says. Certainly the built project is much sparser than the wonderfully intricate competition drawings would have led one to believe. But Tschumi is right in that reality may correct that too. Now there is talk about erecting additional housing on park land. Loathe to admit as much in France, Tschumi is prepared to go on record here that infill housing probably won't hurt the distinctive character of La Villette. (French politicians, says he, "don't read P/A.")

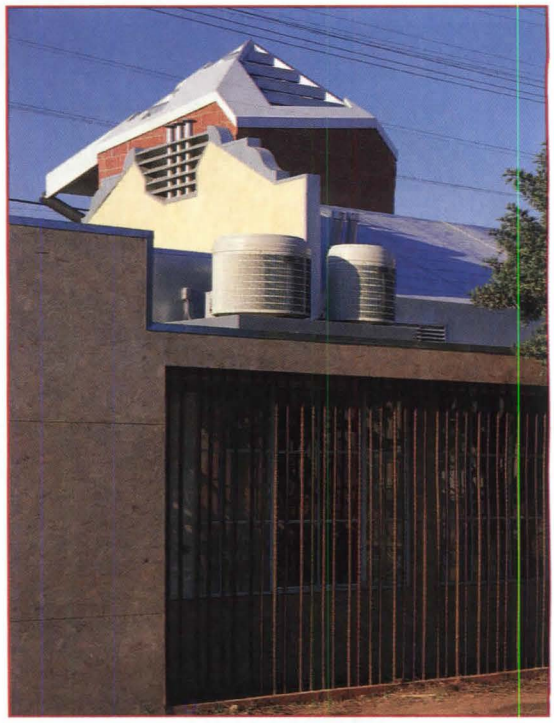
From its inception, La Villette purported to invent new kinds of spatial and urban experience, particularly those that reflected the tensions and cacophony of city life in the late 20th Century. On that score, the park disappoints—ironically, it is not complex or dissonant *enough*. But that is moot criticism: Tschumi would not be the first architect whose vision was diluted by reality. And it is doubtful that architecture can invent the program for such a large urban area. Without doubt, Tschumi has risen to the challenge of conquering a problematic site. With bold architecture he has succeeded in creating a powerful—if thinly spread—framework. Once that framework is completed, real life (with its unpredictable program and unruly economics) should be allowed to fill in the gaps. ***Ziva Freiman*** ■

A bamboo grove (facing page, top left and center) was designed by landscape architect Alexandre Chemetoff, in collaboration with Daniel Buren, Martine Renan, and Bernard Leitner. Sunken below park grade, its contours are defined by the curvilinear "scenic" path. Aluminum truss catwalks connect the raised banks. The garden boasts over 40 varieties of bamboo, set amid concrete irrigation canals, and near a climate-modifying thermal-mass retaining wall. Large-diameter concrete pipes cross certain portions, acquiring the presence of sculpture. Elsewhere, a stepped horticultural garden, similarly defined by the cinematic route, was designed by Gilles Vexlard. Besides an intricate irrigation system, it contains the beginnings of a vine arbor suspended on steel poles and wire. A water, light, and music park by Alain Pelissier, composed of spray- and vapor-producing beams set in a terraced terrain, is nearing completion. Still to come are a palimpsest-like garden designed by Peter Eisenman and Jacques Derrida; housing by Aldo Rossi in the southern sector; hothouses by British architect Cedric Price, sited along the northern sector walkway, and an electronic games arcade by Jean Nouvel along its southern portion. Above, a view of Tschumi's unfussy waterfront furnished with swiveling steel seats by Philippe Starck.

Project: *Parc de la Villette, Paris.*
Architect: *Bernard Tschumi Architects, Paris, New York (Bernard Tschumi, chief architect; Jean-Francois Erhel, associate architect; Luca Merlini, Alexandra Villegas, Christian Biecher, Marie-Line Luquet, design assistants; Ursula Kurz, landscape).*
Client: *French Government, Etablissement Public du Parc de la Villette (Serge Goldberg, president, 1984–1989; René Loubert, president, 1989).*
Site: *125 acres. Former location of Paris slaughterhouses with two preexisting structures (converted into the Museum of Science and Industry and the Exhibition Hall).*
Program: *Both phases: 30 follies (restaurants, cinemas, video workshops, day care centers, bars, health clubs) totalling 186,000 sq ft; galleries and bridge totalling 70,000 sq ft; landscape 70 acres.*
Major materials: *prefabricated concrete, porcelain-coated steel, painted steel, aluminum, and granite (follies); steel structure, aluminum roof, prefabricated concrete slab (covered walkways and bridge); aluminum catwalks, reused paving stone, blue terrazzo (promenades).*
Consultants: *Colin Fournier, planning; Setec-TP, landscape; Tschumi-Erhel Architects Associés, interiors; Peter Rice, RFR, Hugh Dutton, Setec-Batiment, structural; Setec-Batiment, mechanical.*
General contractor: *Société Nouvelle Coignet.*
Costs: *$200 million (both phases).*

Lindblade Tower
Paramount Laundry
Culver City, California

A Different Drummer



Two dilapidated buildings are reborn for new uses as architect Eric Owen Moss moves into less fashionable Culver City.

THE wartime needs of the early 1940s resulted in surpluses that remain with us today. Among those survivors are the many structures built to house various industries and support functions required by the military effort. Culver City, California, was the home of some of these activities and the buildings they spawned, many of them now in disrepair.

Architect Eric Owen Moss has given two such warehouse structures from this period new roles. As usual, Moss has created a strong and provocative aesthetic out of what, in less skilled hands, could be inelegant formal elements. One part of the vocabulary, the clay pipe columns, has been seen before in his University of California/Irvine Housing Office (P/A, May 1989, p. 92), complete with the elbow bend marker column. Partly because of the given elements, however, the similarities between the earlier project and this one are few.

The two former warehouses are also dissimilar to each other. Both are on what is optimistically named (at least in this section) Ince Boulevard; the one at the corner of Lindblade is a 6000-sq-ft one-story block, while the other started as a 20,000-sq-ft building with a three-story volume. A parking lot behind the buildings serves them both through a driveway between them. Moss has used the vitrified clay pipe columns with cores of reinforced concrete on both buildings, and he has handled them with his typical irony and wit. Both buildings incorporate existing, reused, and new components. But there, even in these two adjacent buildings, the parallels end.

Lindblade Tower takes its name from the tower-like element (facing page, bottom) that marks a point over the entry and near the corner of Ince and Lindblade. Immediately next to it is the larger Paramount Laundry Building (aerial view, facing page), a very dissimilar structure. On the back side of the Lindblade Tower (above, right), the Moss offices are clad in oriented strand board, with closely spaced steel reinforcing bars protecting the glazing at the entry. Each end wall peak of the existing corner building has been detailed to recall parts of the area's historic forms.

Lindblade Tower

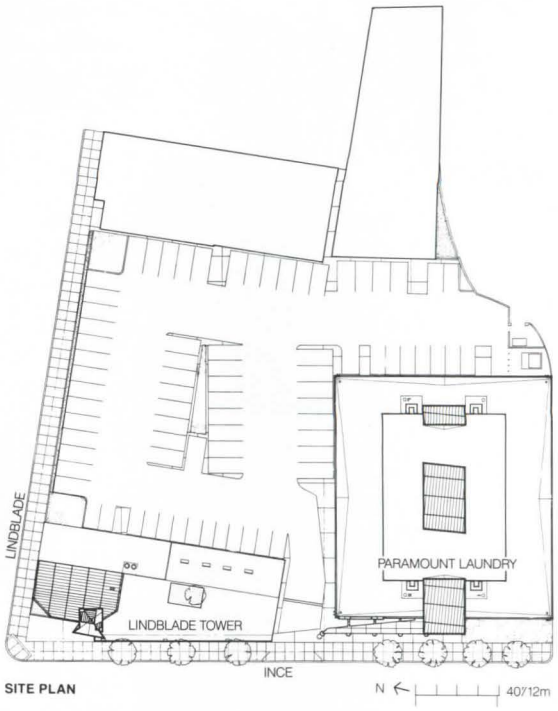
Paradoxically, the smaller of the two structures is the one incorporating the word "tower" in its name, because of the symbolic accent erected at the street corner it anchors. Although not a truly lofty element, the tower was created to provide a formal entry to both the building and the block. It is intended to signify a change in texture from the relative chaos of the neighborhood, the commercial streets, and the Santa Monica Freeway to the north. Its red split-face concrete block further sets it apart from the cement plaster walls of most of the building. Two separate functions share the facility, one a work space for a local film company with headquarters across the street, and the other is the office for architect Moss.

The tower is a paradox in itself, being partly covered, partly open, at least visually; a portion of the roof is closed, and another portion is open to a skylight below it, located over the entry door. From the inside, this creates a dramatic sense of ambiguity between being inside and being out. Where the roof is open to the skylight, wood roof beams are covered with galvanized steel; the covered section is factory-painted white steel.

At the north end of the building, original wood roof trusses have been repaired and left exposed, and the roof is of modified standing-seam galvanized steel sheets. The gable ends formed by this higher portion have been selectively stylized to recall elements of the area's history. The signature clay pipe columns and their concrete cores along the west wall have been "cut" in half for the lower part of their height, and outdoor lights appear in the cutouts. The rear entry façade, marking the architects' offices, is clad in 24-foot sheets of oriented strand board coated with a clear gray sealer. Closely-spaced untreated steel reinforcing rods form a protective screen over steel sash windows beside the door.

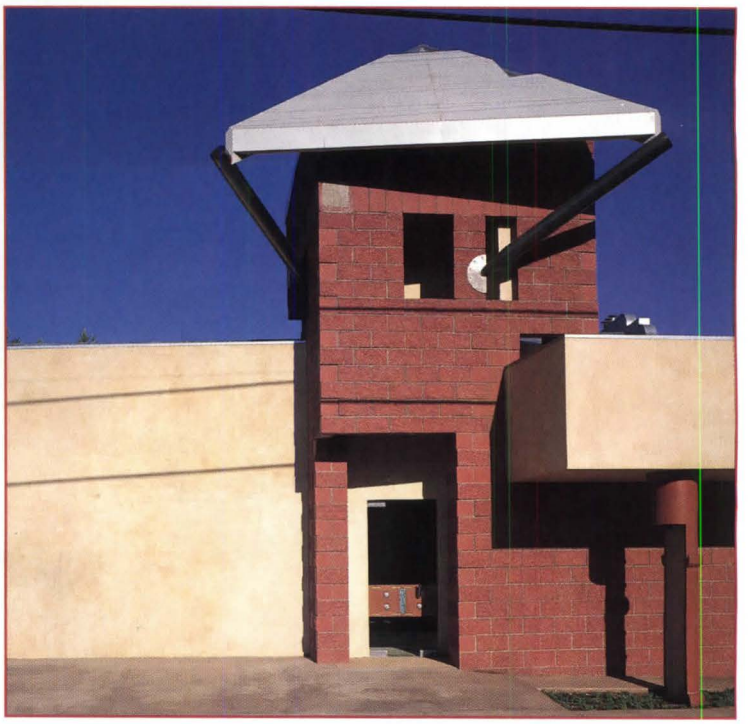
For the film company, the program called for continuous spatial flexibility to arrange and rearrange areas for various activities and meetings. Power, telephone, and computer terminals have been located at close intervals throughout the floor and walls. A small, intricately detailed courtyard punctuates the space, bringing in light, and a glazed overhead door opens one whole side of the court for fresh air. For all of its individually complex episodes (and presumably busy functions), the interior carries a serenity brought about, at least in part, by very skillful attention to detail and the effects of light.

L.A. Aerial © 1989



SITE PLAN

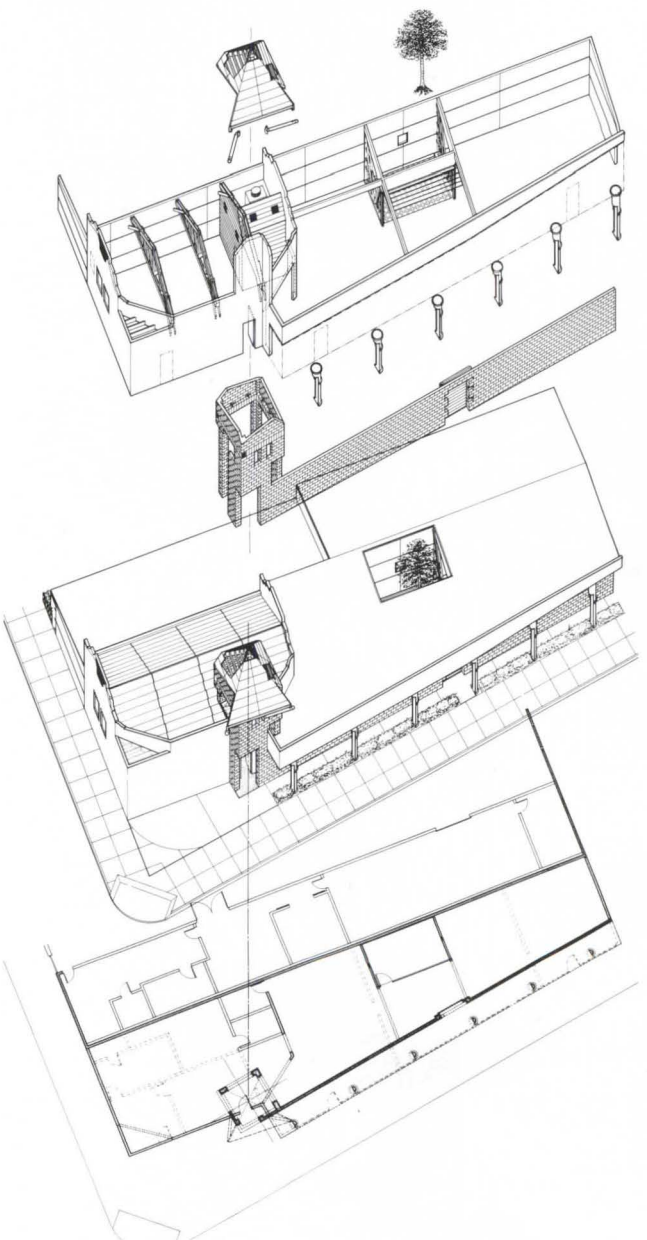
Todd Conversano



Viewed from inside the entry, the tower is partly under an opaque roof and partly under a skylight (above). Outside (above, right) the detailing vocabulary is one that is characteristic Moss. Supports for the tower roof land at unpredictable locations; doors are fitted with heavy wood door pull plates, and the lower portions of clay tile columns are sliced in half.

The space on the inside was intended to be as open as possible, allowing the film production company to rearrange it endlessly to accommodate various meetings and other activities. Existing trusses in this area were repaired and retained, one of them disappearing into a metal-clad volume (facing page, bottom) which houses the restrooms and mechanical equipment. Beyond that is the open courtyard (facing page, top), with a roll-up garage door, opening up one full side of the court. At the south end of the court, the architects have devised a visually delightful assembly of pulleys, pivots, and wires forming a lattice, which could allow climbing plants to form a soft screen.

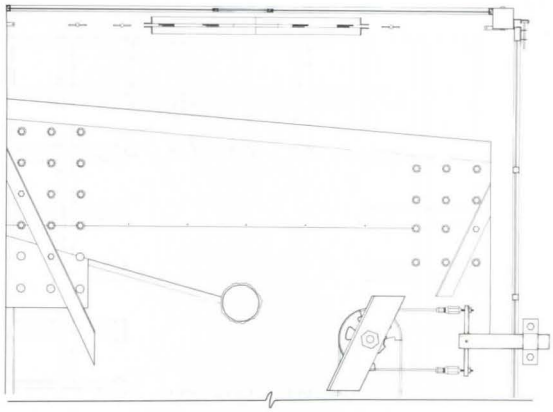
Project: *Lindblade Tower, Culver City, Calif.*
Architects: *Eric Owen Moss, Architect, Culver City, Calif. (Eric Owen Moss, principal; Jay Vanos, associate; Scott Nakao, Alfred Chow, Carol Hove, and Jennifer Rakou, project team).*
Client: *Frederick Norton Smith.*
Site: *corner lot, with existing industrial building, in an industrial area.*
Program: *Renovate 6000-sq-ft existing warehouse into two units of office space.*
Structural system: *grade beam foundation with poured in place concrete slab, split face concrete block and wood frame walls, wood trusses and roof deck.*
Major materials: *concrete block and exterior plaster, 24-gauge galvanized sheet metal, prepainted sheet metal, oriented strand board, gypsum board, and concrete (see Building Materials, p. 128).*
Mechanical system: *two gas-fired forced air units, four electric condensers for cooling.*
Consultants: *Gordon Polon, structural; Greg Tchamitchian, mechanical; Mike Cullen, electrical; Steve Ormenyi, landscape.*
General contractor: *Scott Gates, Kevin Kelley.*
Costs: *not available.*
Photos: *Mark Darley © ESTO, except as noted.*

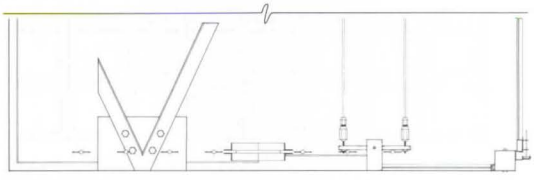


AXONOMETRIC AND PLAN

N ← 30'9m

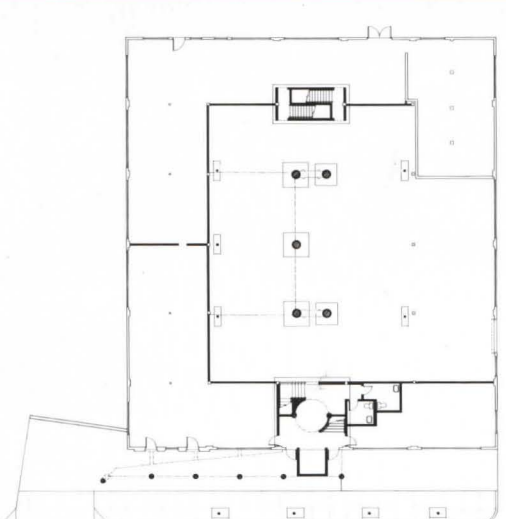
J. Scott Smith





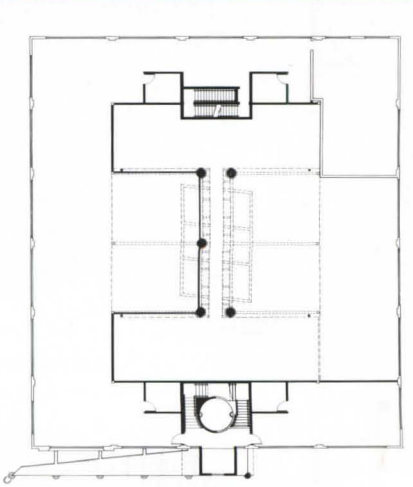
DETAILS AT COURTYARD WALL

A segmented-arched window is one of the most expressive elements of the front façade, and it pulls generous amounts of light into the front stair and hall. The three-story space (above) is one of two primary features of the building, the other being the lofty main area beyond the stair (facing page). This powerful space is focused on the combination of a high central volume and the bridge that bisects its vertical dimension. Taller concrete-filled clay pipe columns rise up to carry deep laminated wood girders, which in turn carry the bridge through cut and reconstructed truss chords.



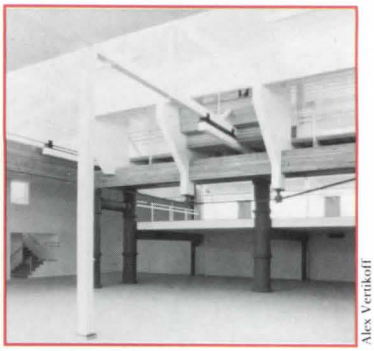
FIRST FLOOR PLAN

N 20'6m

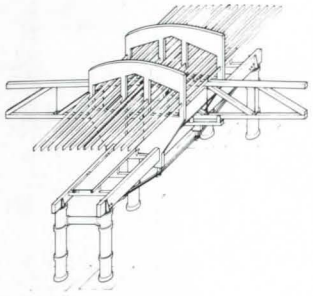


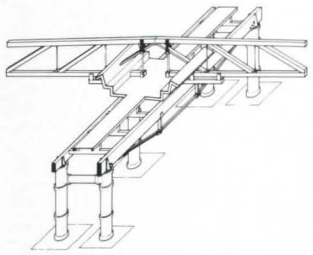
SECOND FLOOR PLAN

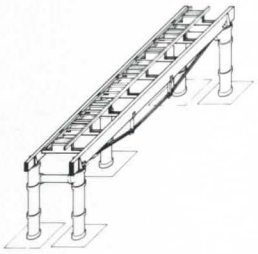
Ron Pollard

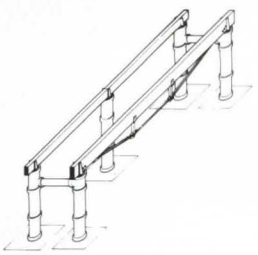


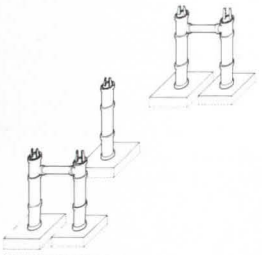
Alex Vertikoff





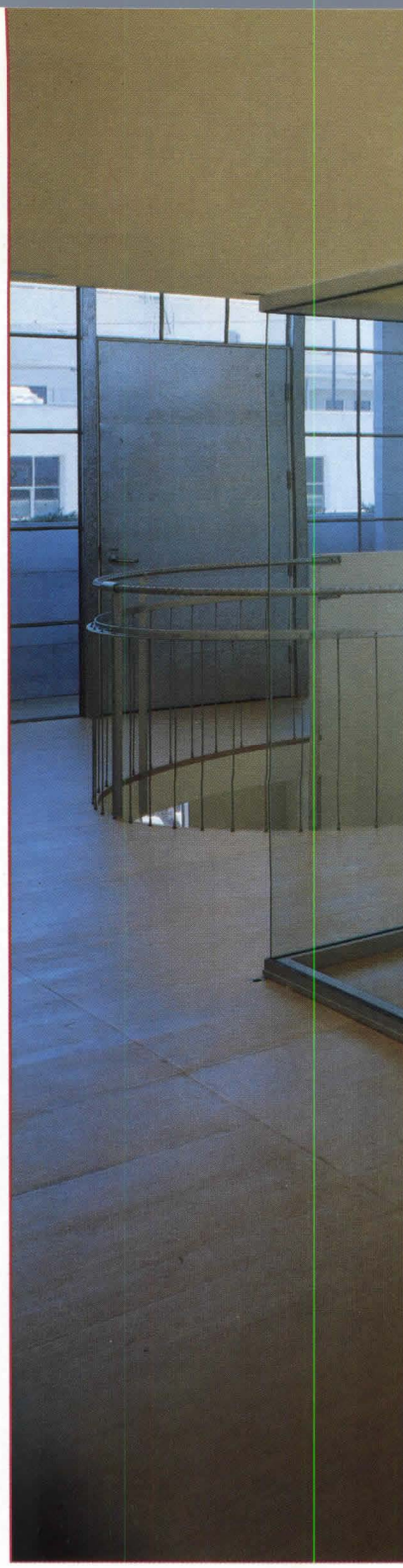






BRIDGE ASSEMBLY

Ron Pollard



By cutting the bottom chords of the existing trusses, the architects were able to run a circulation path through (above), connecting the segments of the third floor. New black steel suspension devices were constructed to restore the structural integrity of the trusses, and benches were included to allow impromptu meetings. Conference rooms enclosed almost entirely with glass (top, right) seem to float in the broad space. At the end of one of the laminated girders, some more inventive engineering created this sculptural method to connect into the wall (facing page, bottom).

(continued from page 78)

line of the bottom chord of the existing trusses. In order to allow headroom through the trusses for a connection between the east and west third floor additions, a four-foot section was removed from the bottom chords, and a steel tube and support hanger arrangement replaced them, to allow a circulation path between the two. This bridge and its support structure becomes the focal point of the impressive space itself, incorporating more of the clay pipe columns. Located on either side of the bridge are wood benches that take advantage of space between the trusses to encourage more casual conversations.

As in Lindblade Tower, most of the space within the Paramount building was intended to be flexible, to be outfitted as future tenants' needs dictated. Two stairs were required to satisfy fire codes; and in some areas, conference spaces have been defined only by clear glass enclosures. Tenants Sussman/Prejza have not fully settled in.

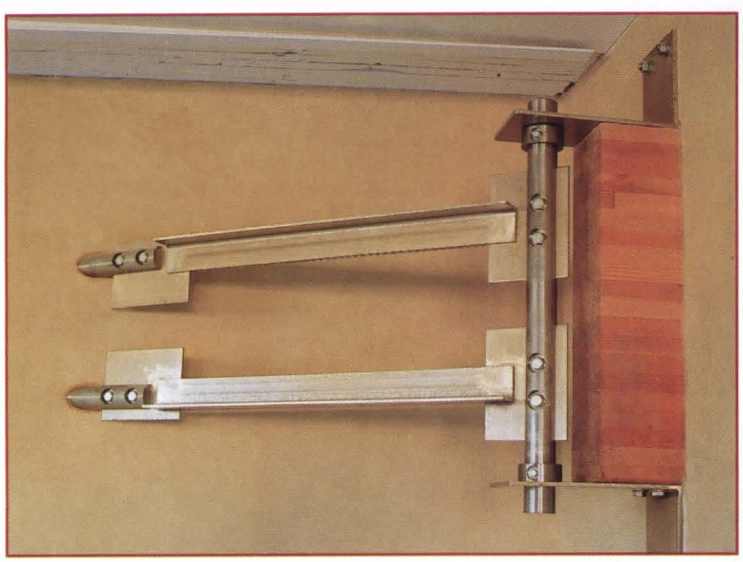
In Concert

Although Paramount and Lindblade could hardly be more different in overall expression, the carryover of clay tile columns and the use of sheet metal—sparing in Lindblade, prominent in Paramount—are key in making them into a joint composition. But the more important, and less tangible, tie is the unmistakable design dexterity of the Moss office. Both buildings exhibit a spatial and textural richness, again in quite different ways; both share a level of detail and care sometimes carried well beyond the level normally associated with the materials being crafted.

While Los Angeles has nurtured many firms of considerable design reknown, none looks at a problem quite the way Moss does, and few produce built work that mixes skill with audacity as successfully as he does. There is a certain "Beauty and the Beast" aura to Moss work that inevitably ends up winning the hearts of most of us in the audience.

Jim Murphy ■

Ron Pollard



Project: *Paramount Laundry Building, Culver City, Calif.*
Architects: *Eric Owen Moss, Architect, Culver City, Calif. (Eric Owen Moss, principal; Jay Vanos, associate; Dennis Ige, project architect; Scott Nakao, Alan Binn, Carol Hove, Greg Baker, Dana Swinsky, Todd Conversano, Jerry Sullivan, Craig Schultz, and Isabelle Duvivier, project team).*
Client: *Frederick Norton Smith.*
Site: *mid-block 45,000-sq-ft lot in an industrial neighborhood.*
Program: *after gutting existing structure, it was reconstructed for additional floor area and refinished to provide a main lobby, production and warehousing space, offices, and conference rooms.*
Structural system: *existing concrete foundation, floor slab, and walls, with steel, wood, cast reinforced concrete columns, wood trusses, girders, and framing.*
Major materials: *custom integral colored plaster (exterior), brown coat plaster (interior), sheet metal, vitrified clay pipe columns, birch plywood floors, and fir framing (see Building Materials, p. 128).*
Mechanical system: *gas-fired 350,000 btu/h air handler.*
Consultants: *Joe Kurily, structural; Paul Antieri, mechanical; Mike Cullen, electrical; Steven A. Ormenyi & Associates, landscape.*
General contractor: *Scott Gates Construction.*
Costs: *$1.3 million.*
Photos: *Mark Darley © ESTO, except as noted.*

P/A Inquiry: Aging in Place in the 1990s

The concept of total life care for the elderly is undergoing extensive reexamination as new clients and new concepts break traditional norms in the industry.

THE life care business is changing, at a pace that surprises even the most experienced individuals in the industry. New players have entered the field, bringing with them new ideas drawn from their original areas of expertise—be it real estate development or hotel construction. New approaches to life care—most notably the concept of "assisted living"—have expanded the options available to the elderly, prompting many older centers to renovate or expand. A new emphasis on regional markets has shifted attention from the traditional strongholds of California, Florida, and Pennsylvania to the Central and Southeast states.

The current boom is demographically driven. The Census Bureau states that by the year 2030, the 65-plus population will double from 31 million to 65 million. Today, only about 2 percent of that population live in total life care centers. Significantly, however, life care residents live about 20 percent longer than the elderly population at large, and the life style and services they enjoy have become the standards by which all forms of elderly care are judged.

The concept of total life care itself has its origins in Quaker communities established in Pennsylvania several decades ago. The type is defined by a community contract, as well as architectural design issues. Thus one definition offered in *Continuing Care Retirement Communities: Political, Social, and Financial Issues* (Haworth, 1986) states that "a life care community is a long-term care alternative providing a package of services, including housing, health care, and social services, to the elderly. More specifically, a CCRC (1) provides independent living units, either apartments, rooms or cottages; (2) guarantees a range of health care and social services, which may include intermediate or skilled nursing care, usually available on the premises; (3) requires some type of prepayment, generally an entrance fee and/or monthly fees; and (4) offers a contract that lasts for more than one year or for life and that describes the service obligations of the community and financial obligations of residents."

That last phrase is the clincher. Life care is an elective arrangement not typically covered by insurance or government benefits. Those who live in life care communities are those who can afford to do so. "The CCRC is thought of among professionals as the Cadillac of long-term care," says Victor Regnier, an associate professor in architecture and gerontology at the University of Southern California. And yet, argues Deborah Cloud of the American Association of Homes for the Aging, life care communities are "not out of reach of the middle-class. This is by no means purely an upper income option any more," she maintains. AAHA's new long-term healthcare insurance program is one of several new measures designed to make continual care more affordable to all who need or want it.

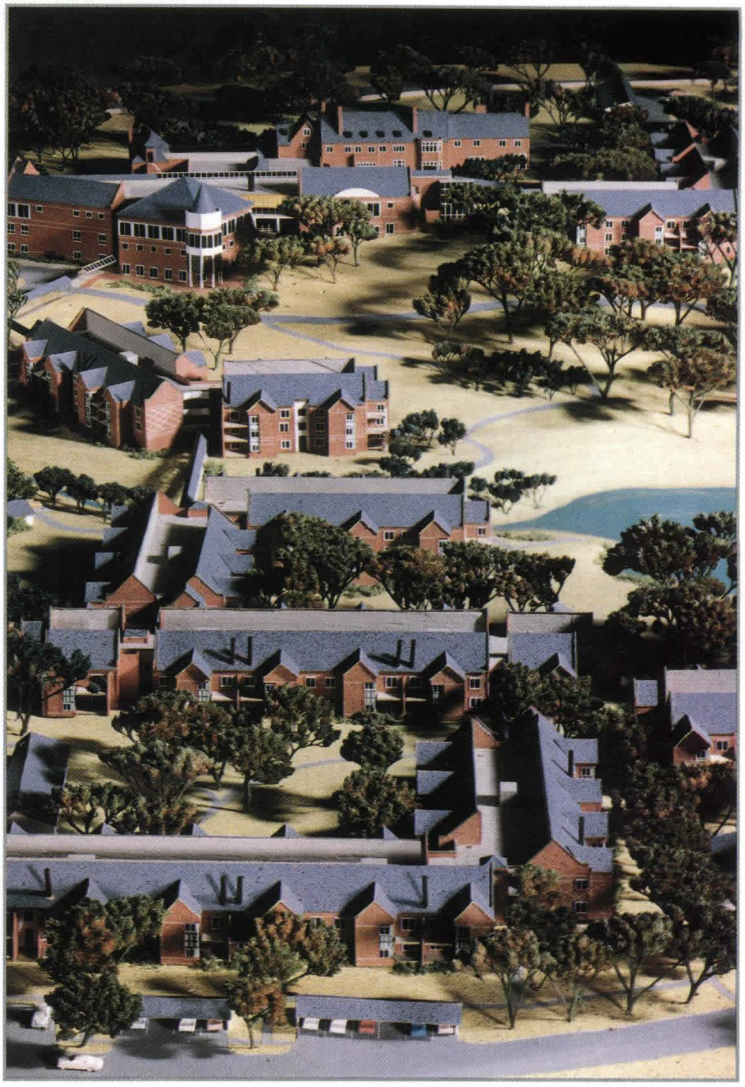
It is the buying power of AAHA's traditional constituency—middle class elderly Americans—that has drawn new players from the commercial worlds of hospitality or real estate to the traditionally nonprofit arena of life care. While nonprofit sponsors still operate over 95 percent of all life care communities, most are small, local operations. Thus it would be easy for "outsiders" to capture the lead in life care and, by sheer volume of construction, change the balance of the business. The Marriott Corporation, for example, is now developing a prototype which it plans to implement nationwide. In the 20 months since it entered the field, the Hyatt Corporation has completed five life care centers, more than most nonprofit sponsors will ever build. Other new players from the real estate business—among them Trammel Crow and Lincoln Properties' subsidiary, Linpro—are equally ambitious, although their commitment to the field, strong now when the office market is weak, may not stand the test of time.

Indeed, many observers question the commitment of for-profit life care providers. "We view the for-profit developments with some concern," says Cloud. "Stability is not a customary feature of the commerical sector." On the other hand, for-profit developers are only the latest arrivals on a scene that was already changing. Architects experienced in the life care field, for example, speak of new middle men, from development consultants to facility operators, who can facilitate the process—or separate designer from end user and reshape the parameters of the program to reflect economic goals, not social or individual needs. Some of the new for-profit developments have dispensed with the life care contract altogether, operating instead on the condominium model and thereby changing the very definition of life care.

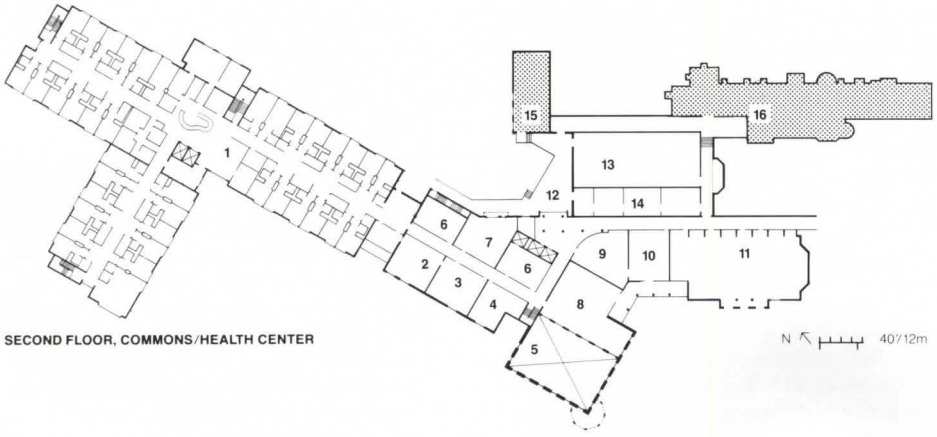
THREE-STORY RESIDENTIAL QUADRANGLE

Photos: Matt Wargo

COMMONS BUILDING AND CAMPANILE



MODEL WITH COMMONS BUILDING AT REAR, RESIDENTIAL QUADRANGLES IN FOREGROUND



SECOND FLOOR, COMMONS/HEALTH CENTER

1 SKILLED CARE FACILITY
2 SKILLED CARE DINING
3 OFFICES
4 STAFF LOUNGE
5 SWIMMING POOL
6 STORAGE
7 SHIPPING/RECEIVING
8 RECREATION
9 BEAUTY SHOP
10 DAY CARE
11 CRAFT STUDIOS
12 LOADING DOCKS
13 MECHANICAL
14 CRAFT SHOPS
15 REPAIR SHOPS
16 BASEMENT SERVICES

CAMPUS PLAN

Although The Quadrangle in Haverford, Pennsylvania is one of the first life care ventures undertaken by the Marriott Corporation, its relatively low key, traditional campus plan owes more to the Quaker group that initiated the project ten years ago. Nevertheless, the few changes made by the hotel chain are telling: According to Gil Rosenthal, partner in charge of project design for Wallace Roberts Todd, Philadelphia, Marriott required that corridors connecting the 309 apartments to the commons building be enclosed, a move that counters the fresh-air approach to life care typical of the Society of Friends. Moreover, Marriott tied the 36 assisted living units to the 43-bed skilled care facility, instead of linking them to the residential portion of the project, as the Quakers had planned. The organization of units in loose quadrangles owes much to the nearby campus of Haverford College, while the architecture itself is a much simplified version of the manor house at the center of Quadrangle's 67-acre campus.

TYPICAL 1-BR UNIT

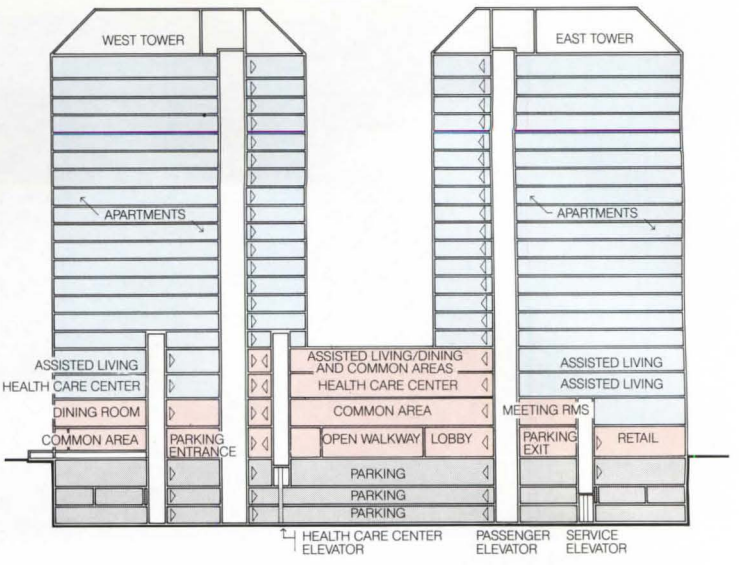
TYPICAL TWO-BEDROOM UNIT

HIGH-RISE

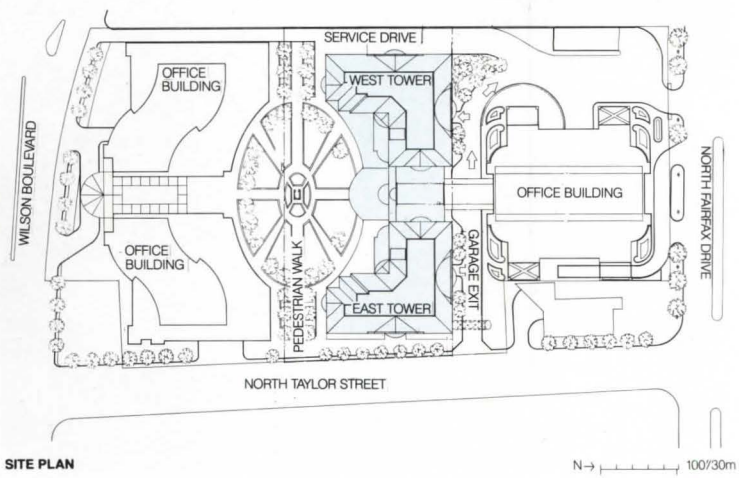
Set on a tight 1.5-acre site between new office buildings, the Marriott Jefferson in Arlington, Virginia, could be considered a prototype for urban life care. AAHA statistics suggest that high-rise life care may be slightly more conducive to the notion of "aging in place" than the traditional campus where residents are typically moved at least once. But, warns Glen Tipton, partner in charge of the Jefferson's design for Cochran, Stephenson & Donkervoet, Baltimore, the increased complexity of a high-rise runs from fire-safety concerns to the question of whether apartment elevators should bypass nursing floors. The Jefferson stacks 325 one- and two-bedroom apartments atop 57 assisted living and 31 skilled care units, together with the usual congregate facilities and three levels of underground parking.

Don Sambrook

MODEL OF MARRIOTT JEFFERSON



WEST-EAST SECTION



SITE PLAN

From Health Care to Hospitality

The notion of "catered living" has supplemented—or some would say supplanted—that of "continual care," long the *raison d'être* of life care communities. Although Marriott and Hyatt are providing for assisted living and nursing care either on site or through arrangements with existing local facilities, their marketing downplays the traditional selling point for total life care communities, namely the continuum of care that extends from independent living through assisted living to skilled nursing. Instead, they market a hotel environment, accentuating services such as laundry, maids, etc. And they've added a few perks drawn directly from the hotel business. Hyatt, for example, will provide private dining, using the resident's linen, china, and silver if desired, and guest apartments are available for overnight visitors.

The shift in emphasis from health care to hospitality is having an impact not only on the services offered but on the architectural envelope in which they are provided. Take for example the Wintergarden, Hyatt's contribution to total life care. "We make the Wintergarden a focus area, like atriums in our hotels," says Ron Kollar, assistant vice president of planning for Classic Residences, a subsidiary of Hyatt headed by Penny Pritzker and dedicated to life care construction. "We put events there like coffeeshops, and they become crossroads, so that Suzy runs into Jane and that community spirit is fostered." Hyatt's attitude towards unit design is similar. "We want a warm, intimate, residential feeling, not just an endless corridor of rooms," says Kollar.

tion hits at the essential paradox of the life care community, one which applies to for-profit and nonprofit developments alike. Is it a nursing home with apartments attached, or a townhome development geared to the elderly? Is its model the centralized hospital or the suburban subdivision?

Life care's great strength has been its ability to mix models. Yet, from the standpoint of zoning and building codes and requirements, that very hybrid nature is the source of much frustration. A case in point is the assisted living unit, considered by many to be the most significant new development in life care design. An outgrowth of the notion of personal or in-home care, the ALU bridges the gap between independent living and skilled nursing, serving those who are somewhat frail and may need assistance in dressing, eating, bathing, and other daily functions.

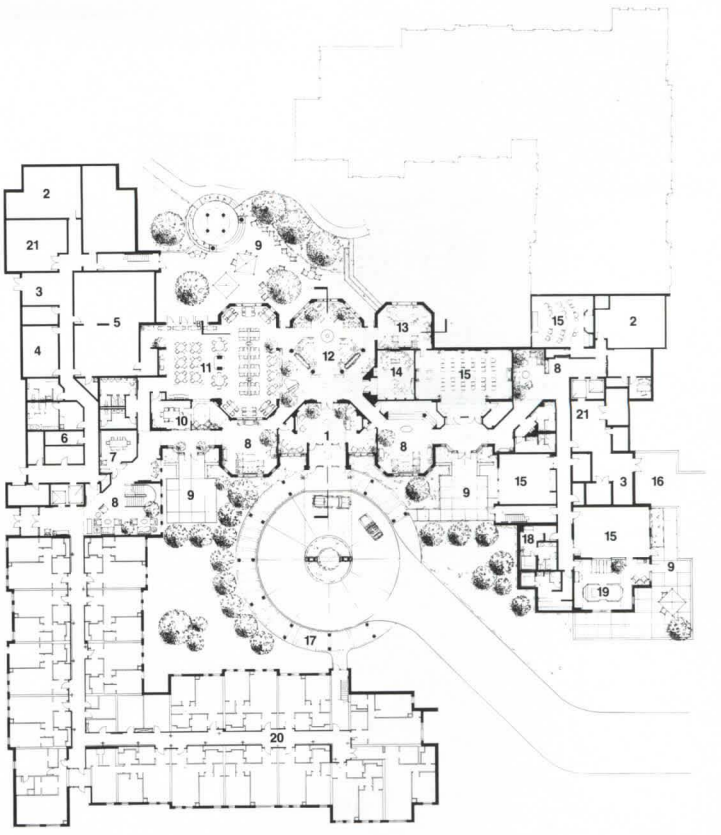
The regulatory problems of the ALU depend upon who's building them—and where. If these units are attached to a nursing facility on site, says Regnier, then they are typically required to meet standard nursing home regulations. If, on the other hand, they are conceived as part of a residential development—on one floor of an apartment building, say—then they escape those potentially onerous requirements. While the distinction seems minor, consider the difference a few extra inches can make. "This regulatory issue is really insidious," says Regnier. "If you change the props—eight-foot corridors instead of the usual six, and forty-four inch entry doors—you are making a nursing home."

The key word is residential, for Kollar's descrip-

RENDERING OF TEANECK CLASSIC RESIDENCE BY HYATT

SUBURB HOTEL

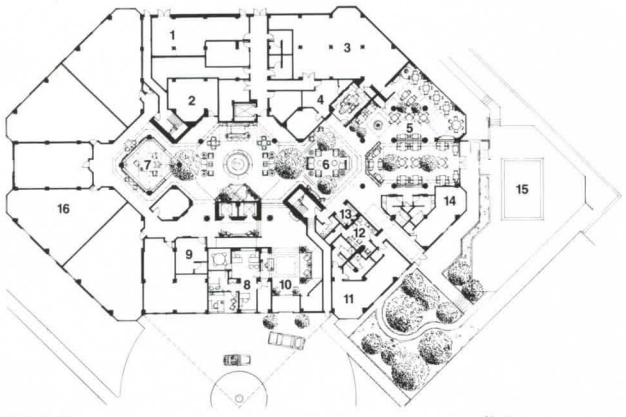
Developed by the Hyatt Corporation with Forest Cities Enterprises of Cleveland, the Classic Residence in Teaneck, New Jersey, is the hotel chain's flagship for life care. The $30-million, 223-unit rental complex occupies a 5.4-acre site on a former college campus. Although the configuration of the L-shaped wings was set before Hyatt took over the site, which had been zoned for elderly housing, the architects Jude T. Fusco Associates of Southfield, Michigan, and interior designers Culpepper McAuliffe & Meaders of Atlanta were able to completely redesign the central common building. This "manor house" departs from the life care norm in its organization as a series of rooms that residents move through, as opposed to the usual corridor arrangement. The plan, says James Culpepper, more closely approximates a residence, a feeling that is reinforced by careful choice of interior finishes. Seventeen assisted living units are located on the ground floor of one wing, and 45 units have been reserved for moderate-income Teaneck residents.



1 ENTRANCE
2 STOR./MAINTENANCE
3 RECEIVING
4 LAUNDRY
5 KITCHEN
6 HOUSEKEEPING
7 CONSULTATION ROOM
8 LOUNGE
9 PATIO
10 PRIVATE DINING
11 DINING
12 WINTERGARDEN
13 CLUB ROOM
14 LIBRARY
15 ACTIVITY ROOM
16 SERVICE AREA
17 PERGOLA
18 LOCKERS
19 JACUZZI
20 LIVING UNITS
21 MECH./ELECTRICAL

FIRST FLOOR PLAN

N 40'/12m



FIRST FLOOR PLAN

N 40'/12m

1 MECHANICAL
2 ACTIVITY ROOM
3 KITCHEN
4 EMPLOYEE CAFE
5 RESTAURANT
6 WINTERGARDEN
7 LIBRARY
8 OFFICES
9 WELLNESS CENTER
10 ENTRANCE
11 HEALTH CLUB
12 BEAUTY SALON
13 MAIL ROOM
14 CRAFTS ROOM
15 POOL
16 LIVING UNITS

URBAN HOTEL

Although its vast atrium echoes the signature element of Hyatt hotels, the Classic Residence by Hyatt in Dallas is something of an anomaly in the hotel's fledgling life care division. Eager to get into the life care business as fast as possible, Hyatt bought and converted a four-year-old luxury apartment building on Dallas's North Central Expressway. While the building's unusually large units and generous lobby made adaptive reuse possible, the atrium proved problematic. "It's more commercially than residentially scaled," says project head James Culpepper of Culpepper McAuliffe & Meaders. In addition, says Culpepper, the atrium made it impossible to include assisted living units, which require visual access from a central station. The complex lacks any skilled nursing facility, although Ron Kollar of Hyatt says the company plans to make arrangements with a nearby facility, thereby guaranteeing continual care for those who want it.

Ron Rizzo/Creative Sources

WINTERGARDEN IN DALLAS CLASSIC RESIDENCE BY HYATT

ELEVATION: MEDICAL BUILDING, WHITE HORSE VILLAGE

20'/6m

Iris Eyes

FROM FOREGROUND: SKILLED NURSING, COMMONS, GARDEN APTS, VILLAS AT LEFT REAR

VILLA UNITS WITH ATTACHED CARPORTS

Photos: David Gentry

VILLA CLUSTER AROUND COMMON COURT

DENSE CAMPUS

Now beginning phased occupancy, the $34-million White Horse Village in Edgmont Township, Delaware County, Pennsylvania, is in many ways a classic late-1980s life care center. As defined by life care programmers Oberfest Associates, and designed by Bower Lewis Thrower/Architects, both of Philadelphia, for the Longwood Group, the Village fills its 84-acre site with a mid-rise medical building that houses 57 beds in skilled nursing and 40 assisted care units; a one-story commons building attached to T-shaped apartment buildings that house a total of 102 two-bedroom, one-bedroom and studio units; and four clusters of garden apartments totaling 80 one-bedroom units. The scheme, BLT's first life care center, *departs from the* norm in its collection of four villa clusters. Where the traditional campus plan of the late 1970s and early 1980s would have distributed independent living units in a more informal plan, these 116 two-bedroom semi-detached units, some of which have attached carports, are grouped around central courtyards, engendering a strong sense of neighborhood that is appropriate to this higher-density development.

New Sites and Solutions

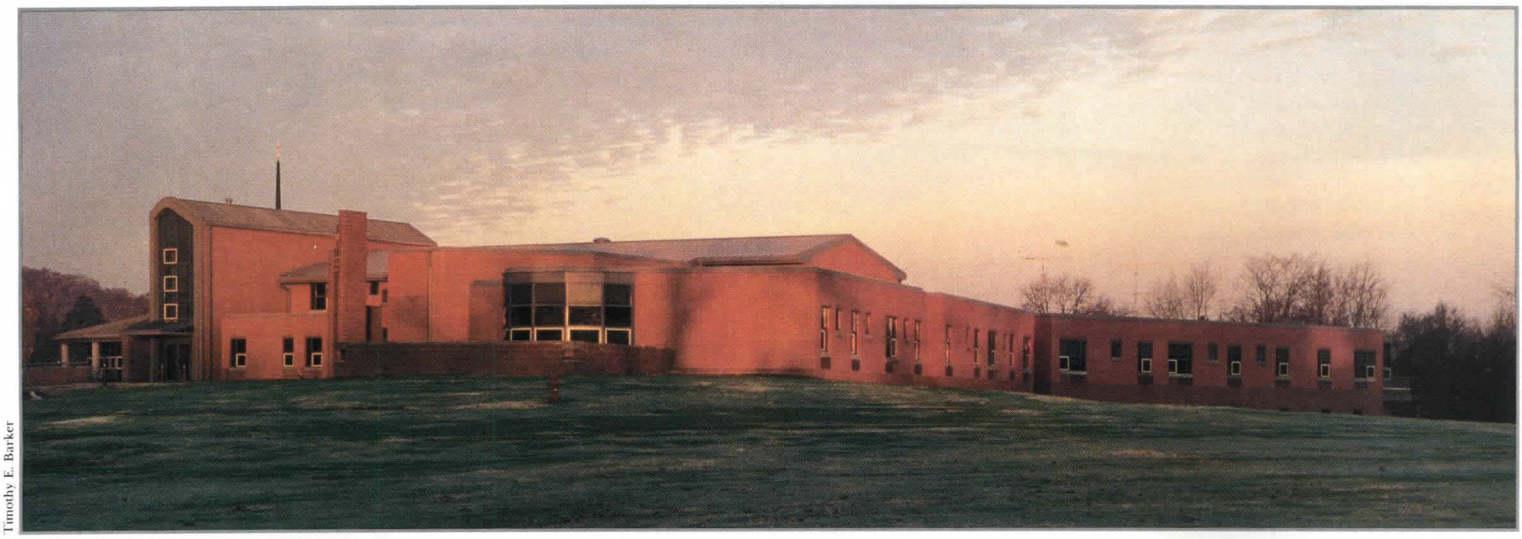
Life care facility site plans, too, have grown increasingly sophisticated in response to more complex programs and more difficult sites. The stand-alone campus in a rural setting that was all but *de rigeur* in the 1970s and early 1980s is far less common today. The shift to suburban and urban sites is in part a reflection of economic reality as land values continue to rise. Marriott's short history is illustrative: While the chain's first major life care center, the Quadrangle, occupies a 67-acre site in rural Pennsylvania, the company is now concentrating on sites that average 7 acres, says Quadrangle's project architect Gil Rosenthal of Wallace Robert Todd (page 85).

But the shift to suburb or city also signifies the industry's recognition that transplanting the elderly to remote rural campuses may do more harm than good. The strongest market for any life care facility is most likely drawn from its immediate surroundings. Regionalism is very much in, and the architecture of the newest centers reflects that urge. Thus the Quadrangle draws on the architecture of nearby Haverford College, whose alumni are a targeted market, while a facility planned for Maryland echoes Annapolis (page 91).

Chief among the new models is an old one—the small town (pages 90–91). The planned town of Seaside (P/A, July 1985, pp. 111–118; May 1989, pp. 86–87) has influenced life care communities with predictably uneven results. And yet, in spite of the speed with which the "new old town" can be rendered banal, it remains a compelling and logical image for life care, one which can accommodate denser development while also furthering the concept of community. Common functions—from the beauty parlor to the games room to the podiatrist's office—act as a "town center." Rethinking the "bungalow" as a "townhome" transforms the living units from a random collection of cottages into a coherent neighborhood.

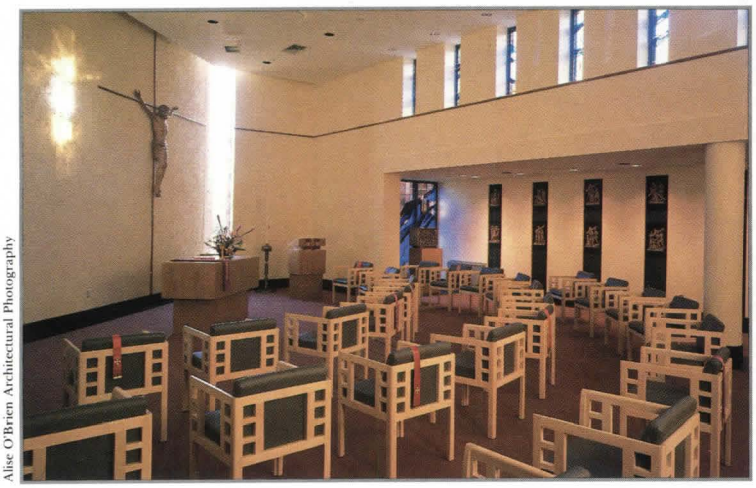
But the stumbling block that has prevented the real revival of small towns in suburban America likewise lurks in life care. Contemporary codes rarely permit the complex mix of functions that is the very essence of small town life. Cochran, Stephenson & Donkervoet, Architects, for example, have already confronted this conundrum at Crab Creek, where they want to revive the notion of apartments over the store. And the idea of opening up life care facilities to the surrounding community—a move which would give the idea of building a town center reality—raises a host of new regulatory concerns, starting, predictably, with the problem of parking.

Thus regulations conspire to keep the elderly isolated, in spite of substantial research that urges the opposite. *And yet the* notion of integrating life care facilities into their communities continues to win advocates. According to Regnier, some 20 percent or more of life care facilities run day care centers—for the young as well as the old. Others have opened their kitchens to local meals-on-wheels organizations, or turned over their meeting rooms to the local Boy Scout troop. Says Regnier, "It's not just a matter of providing services to people who can pay for them, but of helping a community solve its problems." Here, beyond both health care and hospitality, lies the leading edge of life care. ***Daralice D. Boles*** ■



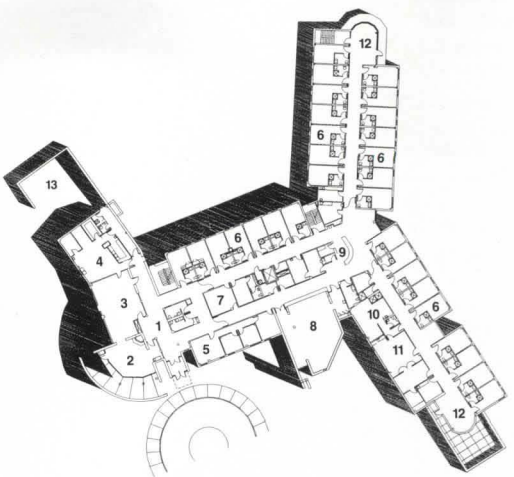
Timothy E. Barker

ST. CLEMENT CENTER WITH ENTRANCE CORRIDOR TO LEFT REAR, RESIDENTIAL WINGS IN FOREGROUND



Alise O'Brien Architectural Photography

CHAPEL



1 ENTRY FOYER
2 COMMON ROOM
3 DINING ROOM
4 KITCHEN
5 ADMINISTRATION
6 RESIDENT ROOMS
7 LIBRARY
8 CHAPEL
9 NURSES' STATION
10 BATH
11 PHYSICAL THERAPY
12 DAY ROOMS
13 SERVICE

FIRST FLOOR PLAN

N ↗ 100'/30m

Timothy E. Barker

COMMON ROOM AND ENTRANCE CORRIDOR FROM SOUTHWEST

RURAL RETREAT

Although it accommodates only 30 residents, the St. Clement Health Center is a complete life care center, serving not only active elderly but those requiring constant medical care. The $3.5-million facility was designed by The Pearce Corporation of St. Louis to house retired members of a missionary publishing order and occupies a portion of the monastery grounds. According to George Nikolajevich, the principal in charge of design, the architects considered an atrium plan but abandoned it in favor of a scheme that opens to the rural landscape. The resulting radial residential wings are organized around a central nurses' station and chapel. The entrance atrium is treated as an indoor street where residents take their exercise in winter. Repetitive sleeping cells are individuated through varied window sizes and combinations.

SUBURB

The initial phase of Harris Retirement Village in Harris, New York, developed by the community hospital and a private developer, will include 200 owner-occupied dwellings on a 35-acre site adjacent to the hospital, which will supply "a la carte" medical care, a meals program, and long-term nursing care in one wing. As designed by David Smotrich & Partners, New York, townhouses and terrace units fill a simple block plan. The terrace units are scaled-down clapboard cottages with two stacked flats—both entered at grade. Elements of New England small towns, including main street and the village green, are evident in the first phase. Achieving a complete town—and avoiding a subdivision—depends upon execution of all 1000 units together with commercial spaces planned along the main street.

SITE PLAN, PHASE ONE

N → 300'/100m

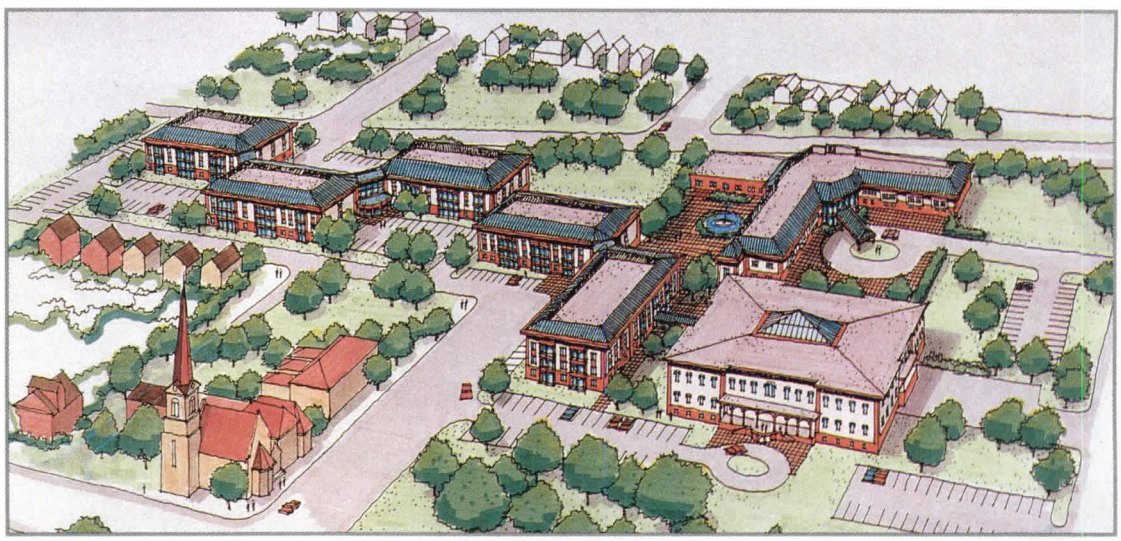
TYPICAL UNIT PLAN

20'/6m

PERSPECTIVE OF TYPICAL UNIT

URBAN INFILL

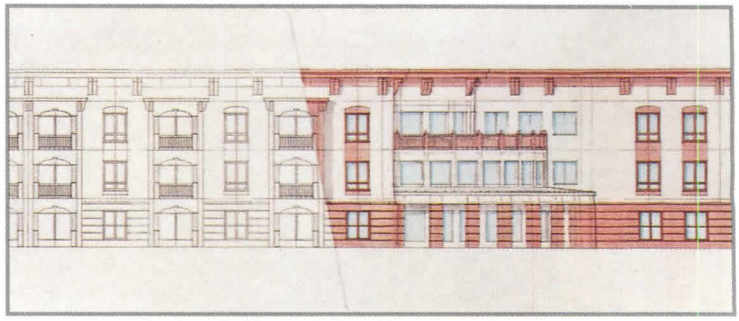
The notion of incorporating a 150-unit/85-bed life care facility into the existing town fabric guided Cochran, Stephenson & Donkervoet of Baltimore in the design of Park Village in Williamsport, Pennsylvania. Surrounded by single-family houses, a church, and a historic park, the interconnected low-rise apartments and nursing building take their architectural cues from an existing Italianate hotel dating from the mid-1800s, which will be converted to house one and two-bedroom units, a dining hall, and other community facilities.



PERSPECTIVE WITH LEONARD HOTEL RIGHT FOREGROUND, NURSING BUILDING BEHIND

SECTION THROUGH COMMON BUILDING

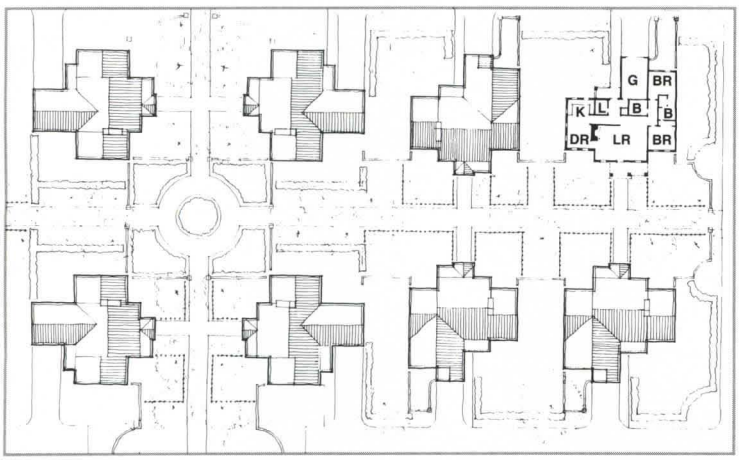
20'/6m



EAST ELEVATION, RESIDENTIAL BUILDING

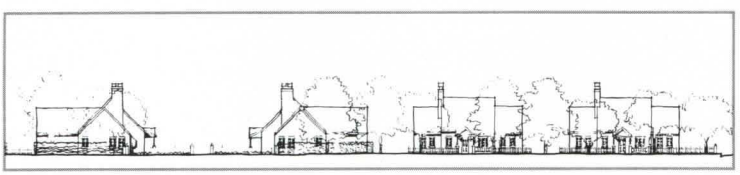
20'/6m

MAIN STREET ENTRANCE TO TOWN CENTER



SITE PLAN

N ↑ 40'/12m



ELEVATION, GREENWAY

LIFE CARE COMMUNITY

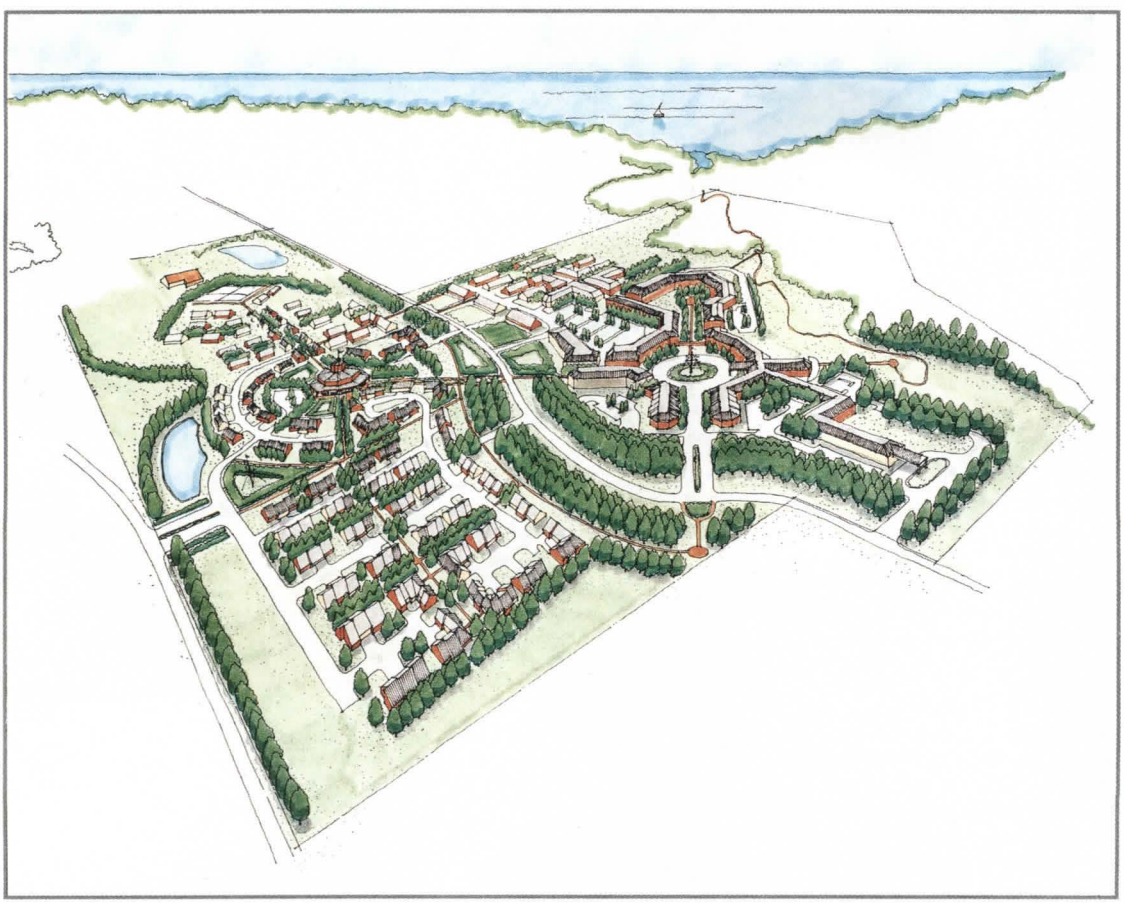
1 ENTRANCE
2 COMMUNITY/ACTIVITY CENTER
3 ASSISTED LIVING
4 HEALTH CENTER
5 APARTMENTS
6 TOWNHOMES
7 INDOOR POOL
8 RESOURCE/CONSERVATION AREA
9 NATURE/EXERCISE TRAIL
10 PAVILION/PICNIC AREA
11 GARDEN PLOTS
12 FORMAL GARDENS

ACTIVE ADULT COMMUNITY

13 ENTRANCE
14 RECREATION CLUBHOUSE
15 COTTAGES
16 TOWNHOMES
17 OUTDOOR POOL
18 TENNIS COURTS
19 RESOURCE/CONSERVATION AREA
20 NATURE/EXERCISE TRAIL
21 GARDEN PLOTS
22 BARN
23 COMMUNITY DOCK
24 FORMAL GARDEN

SITE PLAN

N ↑ 400'/120m



PERSPECTIVE: ACTIVE ADULT COMMUNITY LEFT; LIFE CARE COMMUNITY RIGHT

SMALL TOWN

Plans for Crab Creek, a combination life care complex and active adult community near Annapolis on Maryland's Eastern Shore, reflect not only the increasing density of life care developments but their new role model, the American small town. The two portions of the program are treated as separate but equal elements on the 110-acre site. Residents of both mingle in a town center where common facilities—such as a beauty salon, doctors' offices, café and post office—are treated as store fronts along a main square with apartments above. The health center with its 120 nursing beds is set apart in an arrangement that reflects marketing realities. "People want to know nursing care is available, but they don't want to see it every day," says Glen Tipton, principal in charge for project architects Cochran, Stephenson & Donkervoet, Baltimore. The architects and their client the Leimbach Development Corporation hope to open the town center to the surrounding community. Tipton worries, however, that zoning codes, which typically enforce the segregation of uses, will not permit the kind of integrated community they are envisioning.

Chicago Players, Home and Away

Chicago architects Krueck & Olsen apply their subtle geometries and colors in their first nonresidential structures, two widely separated office buildings for the same Chicago client.

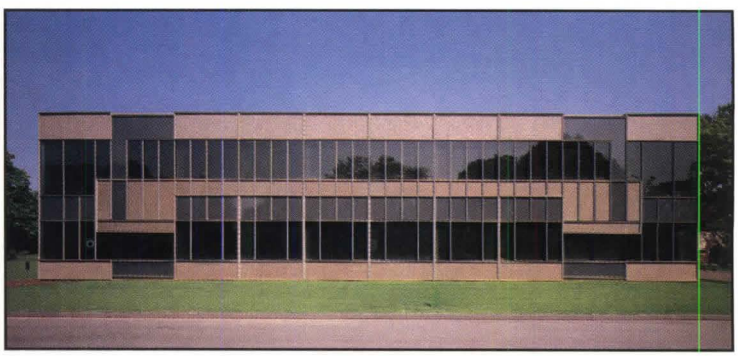
SINCE its founding in 1980, the firm of Krueck & Olsen has been known mainly for an extraordinary, AIA-Honor-Award-winning house (P/A, Dec. 1981, pp. 62–67) and a series of high-budget apartment interiors (example, P/A, Dec. 1987, pp. 74–81). Rich as these projects were in design opportunities, partners Ronald Krueck and Keith Olsen—both alumni of I.I.T. and of the offices of C.F. Murphy and Hammond, Beeby & Babka—could not feel successful until they carried out some solid commercial commissions.

In Hewitt Associates, they found a client in some ways similar to those of the first Chicago School. Like the clients of Sullivan and Root, Hewitt is in the forefront of its business world, in this instance developing employee benefits packages for companies all over America. And to meet their mushrooming needs, all Hewitt wants is convenient, comfortable office space, with an image of dignity and no ostentation. Their 1978 national headquarters in the Chicago suburb of Lincolnshire was designed by Hammond, Beeby & Babka as a casually composed low-rise structure with spandrel panels of cedar (P/A, Oct. 1978, pp. 76–77).

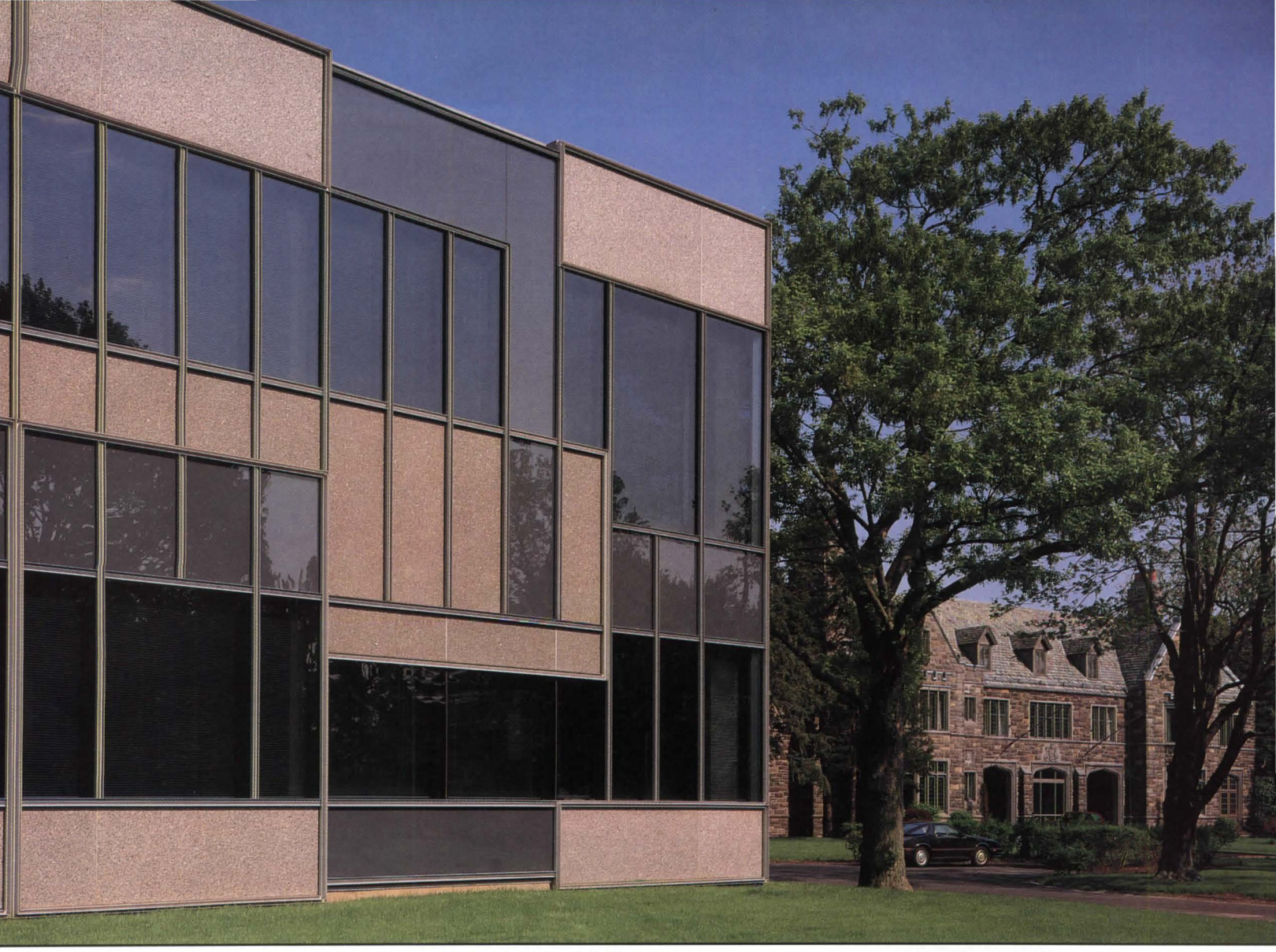
Krueck & Olsen's association with Hewitt started quite humbly: Because Keith Olsen had been HBB's project architect for that headquarters building, Hewitt asked the young firm to help with some ongoing facilities management; when the time came for new construction, the working relationship was already well established. Although the architects had been acquiring a national reputation for design innovation, Hewitt turned to them for the time-honored reasons of Chicago business, just to get practical facilities.

Hewitt at Rowayton, Connecticut

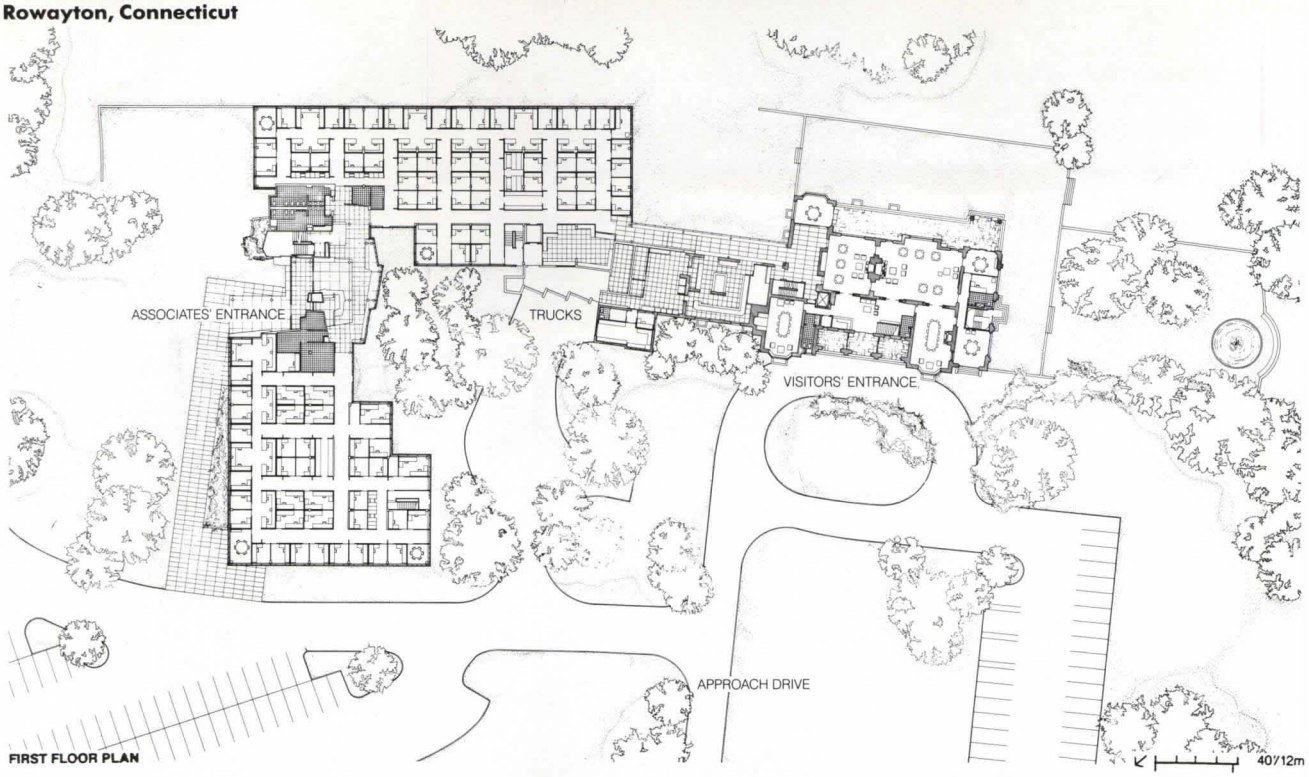
A 15-acre former estate on the Connecticut shore forms a delightful, yet demanding setting for Hewitt's Eastern Regional Center. Chosen for access both to New York and to the many corporate headquarters of the Connecticut suburbs, the tract had previously been the subject of a prolonged dispute between its corporate owner and the community. Although these owners had won permission to build offices on this site, Hewitt opened extensive dialogue with the community, in which the architects participated, which affected this building's loca-



The simple volumes of Hewitt's Connecticut building are clad in a curtain wall laid out to suggest overlapping planes, using glass of two kinds, granite of two colors, and various framing extrusion in two colors. The façade seen as one approaches (above right and facing page, top) is laid out symmetrically, acknowledging the original mansion's front. On an adjoining façade (facing page, bottom), the pattern erodes as it approaches the more transparent employee entrance. A photo of the east side (right) shows the illusion of projections in a raking view.



Hewitt Associates
Rowayton, Connecticut



FIRST FLOOR PLAN

tion, massing, and vehicular access. Even so, one neighbor delayed construction with an unsuccessful lawsuit.

From Hewitt's point of view, it was crucial to retain the positive qualities of the mansion and its parklike grounds for its highly professional staff of 350 and its corporate visitors. The main house had previously been adapted for a variety of school and business purposes and needed some restoration.

For such strict Modernists as Krueck & Olsen, a significant challenge was designing a formally compatible office building—while putting an economical envelope around a set of repetitive working cells. Fortunately, the Tudor style of the mansion had a kind of proto-Modern character—with large openings, fieldstone walls, and continuous string courses—which was easier to relate to than, say, a Georgian house.

Recognition of the main house is found in the new building volumes: While the new structure is much larger, those approaching along the entrance drive see first a wing that has almost the same measurements as the main block of the mansion. The only wall of the new structure that is longer than the original house is one that faces down a well-wooded slope.

For the exterior walls of the offices, the architects developed a design based on overlapping planes, using various colors of glass and cut stone, so that walls would dissolve into a composition of reflective rectangles. The scale and proportions of spandrel panels are carefully related to the windows of the mansion, and the colors of both glass and granite reiterate the palette of the mansion's stone walls and slate roofs. Jogs in the lines of foundation and parapet—and curtainwall framing members of subtly differing projection—divide the façades into conceptual bays related dimensionally to the mansion's projections.

In the process of breaking down the mass of the new offices (and decentralizing the surface parking, as well), the architects split the offices on either side of a large transparent employee entrance lobby. In this central space, Krueck & Olsen were able to develop more of their distinctive variations on Miesian sources, which had had virtuoso demonstrations in their previous work. Here they could intro-

The principal employee entrance (left center in plan) is announced by a projecting stair landing (right) that introduces some of Krueck & Olsen's characteristic use of angles, in plan and in the steel supporting brackets. In the lobby (facing page), a simple program of circulation on two levels, a main stair, and an information desk has been developed into a rich spatial experience, involving windows with various tints of gray glass, clerestories, and delicate steel railing, with wall planes and exposed structural members painted in near-white hues.

Hewitt Associates
Rowayton, Connecticut

Just inside the employee entrance ("associates" entrance, in Hewitt's terms), a reception desk is identified by an angular granite slab that plays on the subtle angles used throughout this lobby. Seen through variously tinted and angled areas of curtain wall, the rubble stone walls and slate roofs of the original mansion form a kind of mural.

Hewitt Associates
Lincolnshire, Illinois

Nick Merrick, Hedrich-Blessing

duce some of their characteristic angles, in both plan and section. The stair next to the main entrance projects in a cantilevered volume that is akin to the forms and custom furniture of the architects' rigorously Modern apartments, yet suggests in this context a Tudor oriel.

Hewitt at Lincolnshire, Illinois

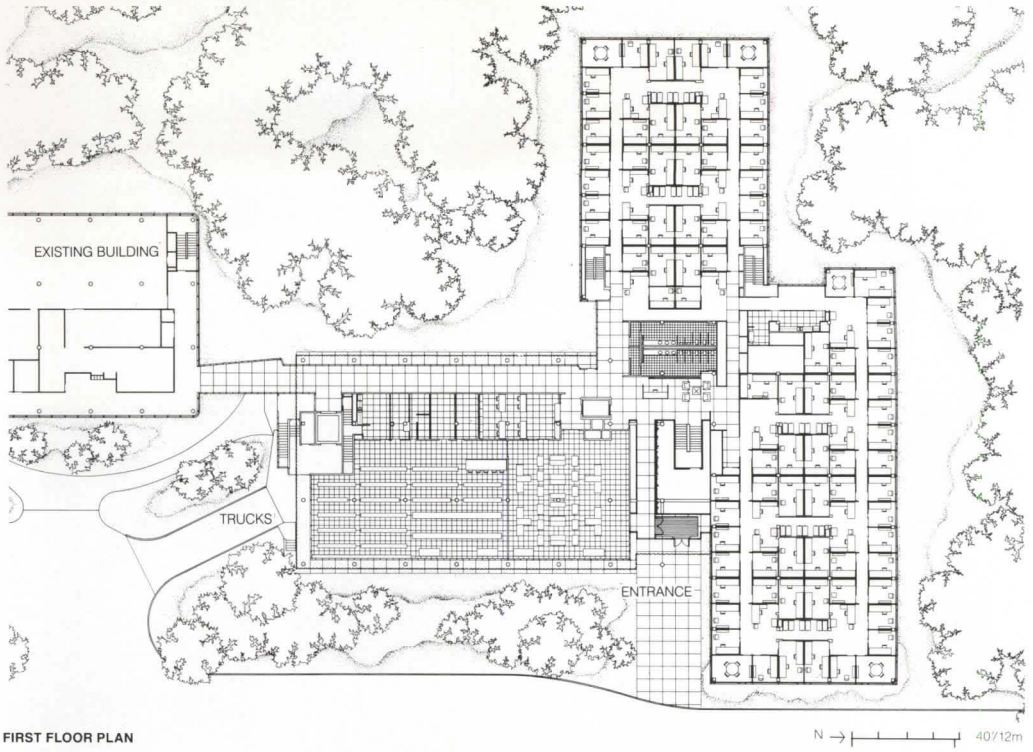
While an Eastern headquarters was going up in Connecticut, Krueck & Olsen were also executing another building at Hewitt's national headquarters site in Illinois. Here, in a suburban office district with less constricting zoning and community pressure, the form of the building was determined largely by internal needs.

The primary concern in the design of the buildings at both locations was efficient office space tailored to Hewitt's needs. The company gives all of its professional personnel individual offices, typically 10′ x 10′; on the typical floor, rows of these offices alternate with corridors, some widened to accommodate secretaries and shared office equipment. Any expression of hierarchy has been avoided; all corners are assigned to conference rooms, rather than individual offices. Inside each private office, the architects have provided simple built-in counters—wall-to-wall—for voluminous spread sheets and other data. Given the regularity of these office areas, the architects tried to keep the corridors short and provide strong orientation cues.

Curtain walls here are not as richly developed as they might have been. An intention to have glazing in layers has resulted in placing the second-floor glazing about six inches forward of the third floor glass; and above the building entrance glazing and spandrels appear in separate planes. A scheme of the architects to develop a theme of overlapping rectangles, using brightly colored curtain wall framing members, was deemed too flashy by the client. As it is, the patterns of the glazing are quite handsome, but it takes careful observation to make out dark framing members against dark glass. For the spandrels, many materials were considered before it was agreed to use the cedar boards that made the earlier building here so distinctive.

Following the precedent of the first Hewitt headquarters building on this Illinois site, exterior walls here have panels of cedar boards set within a metal framework. Approached through the densely-wooded site (top left), the new building appears as a Modernist composition of hovering volumes. Seen at closer range around its main entrance (photos right), the structure shows mullion patterns related to those of the Connecticut building. The architects' proposal for mullions in distinct colors did not prevail in the final design.

Hewitt Associates
Lincolnshire, Illinois

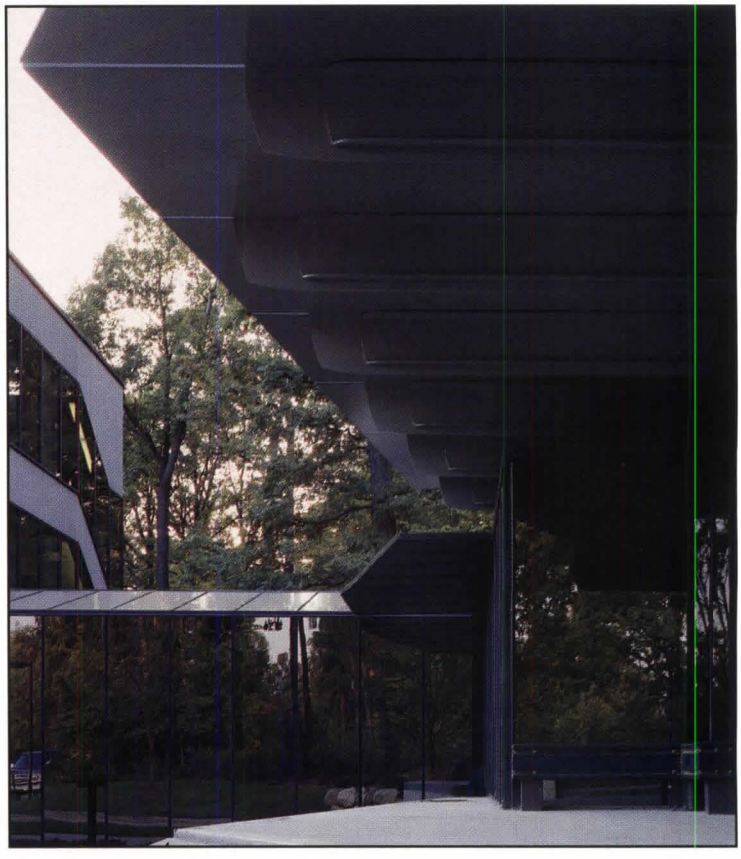


FIRST FLOOR PLAN

The result, at Lincolnshire, is to wrap a no-nonsense interior in a notably understated envelope. As on the older adjoining building, the wood gives a hint of very disciplined rusticity, well attuned to the idea of business in the suburbs. And the building as a whole suggests the serious, self-effacing Modernism seen more often in the 1950s, when clean offices rising on natural suburban sites were widely thought to herald a better life for all Americans.

The Two Hewitt Buildings

While these two new buildings are intentionally unspectacular, they are worth studying for their meticulous, freshly considered fulfillment of characteristic 1980s programs. In these buildings, professionals with reams of paperwork can spread it out conveniently and unselfconsciously; they can enjoy exposure to the fine landscapes that the suburbs can still offer; and as they move about the buildings, their senses can be caressed by abstract compositions of planes in evanescent colors. From the point of view of design, as such, these commissions have been an opportunity for Krueck & Olsen to demonstrate—outside of the favored environment of high-budget residential work—what their coolly disciplined extension of the Miesian design vocabulary can accomplish. ***John Morris Dixon*** ■



In the three-story lobby of the Illinois building (facing page) the architects were able to develop a composition of floating planes painted in their typical bleached hues, all washed by skylights and downlights. At one end of the new building (above right) the architects introduced some of their signature angles in a glazed connection to the 1978 headquarters and an adjoining truck dock. The assertive cantilevered beams of the truck dock canopy make a sculptural event of this service facility.

Project: *Hewitt Associates Eastern Regional Center, Rowayton, Conn.*
Architects: *Krueck & Olsen Architects, Chicago.*
Client: *Hewitt Associates.*
Site: *15-acre estate overlooking Long Island Sound, with existing 36,000-sq-ft mansion.*
Program: *76,000-sq-ft office wing; reuse of mansion for dining, conference rooms, etc.*
Structural system: *Cast-in-place concrete foundations and lower floor; structural steel with composite floors.*
Major materials: *aluminum-framed curtain wall, granite panels (see Building Materials, p. 128).*
Mechanical systems: *perimeter baseboard heating, with hot water from central boiler; A/C by decentralized fans.*
Consultants: *Richard Coates and Preiss Breismeister, consultant architects during planning and zoning phase; Civil Environmental Design Associates, landscape; Thune & Associates, structural; Peter Szilagyi & Associates, electrical.*
Contractor: *Schal Associates.*
Cost: *withheld at owner's request.*
Photos: *Nick Merrick, Hedrich-Blessing.*

Project: *Hewitt Associates, 98 Building, Lincolnshire, Ill.*
Architects: *Krueck & Olsen Architects, Chicago.*
Client: *Hewitt Associates.*
Site: *42-acre, flat, heavily wooded tract, with client's original 160,000-sq-ft headquarters plus secondary office building of 90,000 sq ft.*
Program: *140,000-sq-ft office building connected to original, includes 40,000-sq-ft computer center and training facilities.*
Structural system: *cast-in-place foundations and lower level; steel superstructure with composite floors.*
Major materials: *aluminum curtain wall with cedar board panels (see Building Materials, p. 128).*
Mechanical systems: *perimeter baseboard heating from gas-fired boiler; a/c from central fan room, heat recovery chillers.*
Consultants: *John Guillou & Associates, civil engineering; Getty, White & Mason, structural; Brian Berg & Associates, mechanical; Dickerson Engineers, electrical.*
Contractor: *Schal Associates.*
Costs: *withheld at client's request.*
Photos: *Timothy Hursley, except as noted.*

P/A Technics
Deterrence by Design

From locks and alarms to neighborhood planning, criminologists and behavioral scientists are revising and refining theories about the role of building and environmental design in crime prevention.

DURING the spring of 1964, sociologists Lee Rainwater and Roger Walker, architects Oscar Newman and Roger Montgomery, and members of the St. Louis Police Academy met around a conference table at Washington University to discuss problems of crime and vandalism at the Pruitt-Igoe housing project. Through these discussions and in subsequent interviews with tenants emerged the theory of defensible space—a set of postulations about how people perceive personal and community territory, and are willing to intervene against social or criminal trespass on it.

Eight years later, Pruitt-Igoe was torn down and Newman's book *Defensible Space*[1] was published (P/A, Oct. 1972, pp. 92–105). Charles Jencks and others were later to mark the demolition of Pruitt-Igoe as the death knell of Modernism and the ringing in of Post-Modernism. He didn't mention Newman's book.

Today Post-Modernism is expiring, while the field of inquiry set in motion by Newman has entered the mainstream of criminological examination. It has also entered the British political arena, where a book purporting to have improved on Newman's methodology has been used to attack the planned housing establishment.[2]

Another outgrowth of those 1964 discussions has followed the direction of Lee Rainwater's paper, "Fear and the House-as-Haven in the Lower Class."[3] The perception and fear of crime governs financial as well as personal risk, and thereby influences reinvestment, property abandonment, and flight to the suburbs. Fear of crime is a field of study that is developing in parallel to environmental crime prevention.[4]

With the notable exception of C. Ray Jeffery, whose book *Crime Prevention through Environmental Design* appeared in 1971,[5] criminologists as a whole had neglected or dismissed the physical environment as a factor in criminal behavior until they felt the commotion caused by Newman's breach of professional turf.[6] When criminologists did acknowledge *Defensible Space*, it was mostly to discredit it on the basis of methodological, and not necessarily theoretical flaws.

Scope of Crime Prevention

According to criminologist Patricia Brantingham,[7] in the late 1960s and early 1970s, crime prevention efforts were categorized as *punitive* (threat of punishment), *corrective* (amelioration of personal, social, or economic conditions that engender crime), or *mechanical* (physical barriers that thwart the execution of the act). More recent thinking has turned to examining opportunities for intervention in the *decision*, *search*, and *act* phases of the criminal process, and how this process differs between offenders who are opportunists (usually juveniles) and those who are rationalists (who plan their acts). Law making, the assumed deterrence of punishment, education, and social programs intervene at the *decision* phase. Architectural and urban design interventions act in the *search* phase, as do neighborhood block watches, security patrols, street lighting, and other efforts to increase the risk of being seen. Preventive measures intervening against the criminal *act* mostly involve site and building hardware.

Many writers point out that interventions in the search and act phases don't reduce crime in the systemic sense; they merely deter it at one target and displace it to another. Other writers suggest that vandalism and opportunistic crimes mainly are committed by youths who have low criminal motivation. Successful deterrence of these acts, it is argued, does deter crime in the aggregate, since the offenders aren't motivated to search for targets.

Search Phase Interventions

Newman's defensible space theory posited that crime within the residential environment was related to: 1) how well the physical environment enables residents to develop a sense of territory within which they can identify—and assume the authority and community duty to defend against—trespassers by question, confrontation, or calling police; 2) what opportunities the environment offers for surveillance of intruders by residents; 3) the location of the site with respect to surrounding land uses and transportation; 4) the image of the environment and its integration into the neighborhood at large, and how it affects residents' perception of, satisfaction with, and sense of control over their surroundings.

Herb Rubenstein and his colleagues,[8] in a report prepared for the National Institute of Justice, diagram their interpretation of Newman's ideas of behavior and deterrence in Figure 1. The complex-

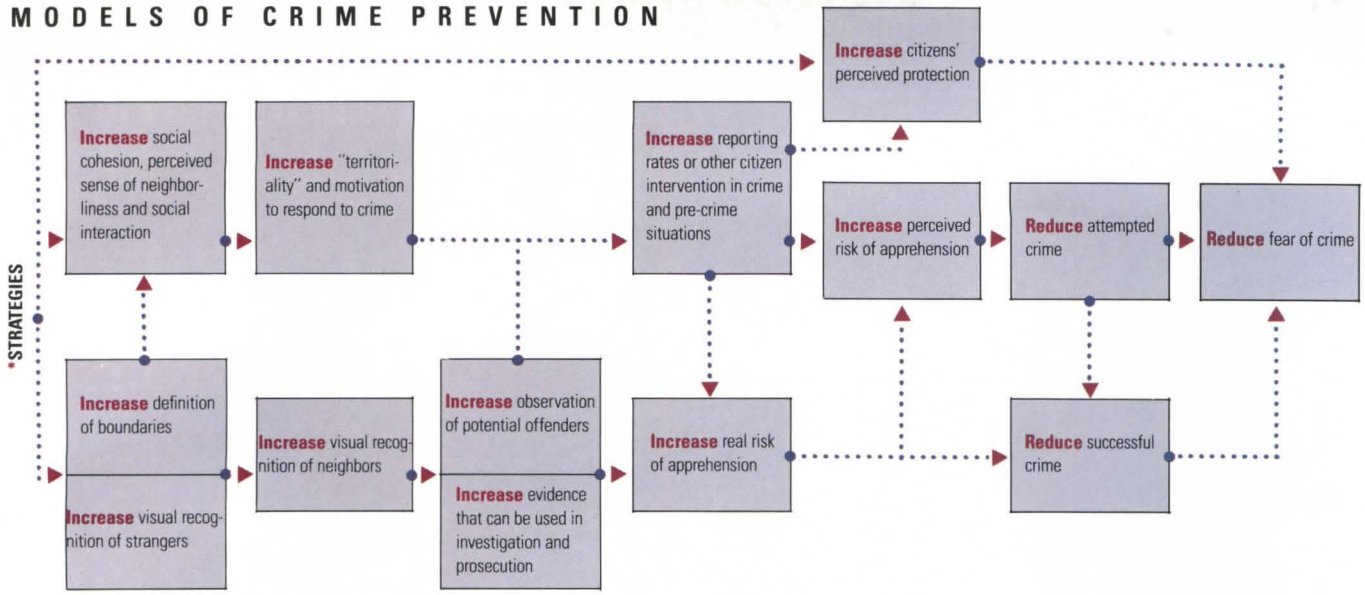
1. O. Newman, **Defensible Space** *(Macmillan, New York, 1972)*. See also O. Newman, **Architectural Design for Crime Prevention** *(Dept. of Justice, 1973)*; O. Newman, **Design Guidelines for Creating Defensible Space** *(Dept. of Justice, 1975)*.

2. The attack was made by Alice Coleman in **Utopia on Trial** *(Hilary Shipman, Ltd., London, 1985)*. For the other side of the "failure of public housing" story, see **Rehumanizing Housing**, a collection of papers edited by Teymur, Markus, and Woolley *(Butterworths, Stoneham, Mass., 1988)*.

3. L. Rainwater, "Fear and the House-as-Haven in the Lower Class," **Journal of the American Institute of Planners**, vol. 32, no. 1, Jan. 1966, pp. 23–37.

4. For current work concerning fear of crime, see: W.M. Rohe and R.J. Burby, "Fear of Crime in Public Housing," **Environment and Behavior**, vol. 20, no. 6, Nov. 1988, pp. 700–720; R. Burby and W.M. Rohe, "Deconcentration of Public Housing: Effects on Residents' Satisfaction with Their Living Environments and Their Fear of Crime," **Urban Affairs Quarterly**, vol. 24, no. 1, Sep. 1989, pp. 117–141; R.B. Taylor, S.A. Shumaker, S.D. Gottfredson, "Neighborhood-Level Links Between Physical Features and Local Sentiments," **Journal of Architectural and Planning Research**, vol. 2, no. 4, Dec. 1985, pp. 261–275; R. Taylor and S. Gottfredson, "Community Physical Environment and Crime Prevention," in A.J. Reiss, Jr., and M. Tonry, eds., **Communities and Crime** *(University of Chicago Press, Chicago, 1986)*.

5. C.R. Jeffery, **Crime Prevention Through Environmental Design** *(Sage Publications, Beverly Hills, 1971)*.



* *Improved street lighting • Increase use of shared public spaces in housing developments • Reduce number of families per entrance and number of apartments per floor in housing developments • Reduce unassigned, open space in housing developments • Increase use of cul-de-sacs and other restricted street configurations • Reduce height and size of housing developments • Increase distance of stores and houses to street • Reduce incongruities and conflicting uses of land • Increase the level of maintenance and aesthetic appeal of public and semi-public spaces • Create hierarchy of zones from public to private space • Increase use of walkways in open areas • Location of Block (residence, store) in interior of neighborhood rather than on border of neighborhood • Increase use of symbolic barriers (landscaping) in housing developments, school grounds, etc.*

Figure 1. *Community/territorial model*

ity of the network and many parallel linkages make the overall theory difficult to test. Some researchers have tried to validate the theory in the same way Newman claimed to have done, by comparing crime rates between housing complexes that exhibit good defensible space qualities and otherwise similar ones that don't. The results have not been either entirely clear or conclusive.

Rather than try to validate the theory through statistics, a number of criminologists and behavioral scientists have been studying offenders' behavior and target preferences. Most of this, but not all, focuses on residential burglary. Patricia and Paul Brantingham[9] summarize the target selection process as follows: 1) the environment emits many cues about its physical, spatial, cultural, legal, and psychological character; 2) offenders learn to use these cues to locate targets or victims; 3) these cues, cue clusters, and cue sequences (spatial, physical, social, temporal, etc.) make up a template against which targets or victims are compared and accepted or rejected; 4) successful use of the template is self-reinforcing. Templates may be conscious or unconscious in the mind of the offender, and many different templates may be used for different kinds of crimes, targets, and victims. In residential burglary, Brantingham and Brantingham suggest that the searcher first locates a general area where targets exist, then, within that area, locates subareas that offer anonymity, little likelihood of detection, and easy entry and exit by way of the street.

Richard Wright[10] relates that studies comparing the characteristics of burgled and unburgled houses consistently show that burgled houses are less "surveilable." Interviews with convicted burglars reveal that they prefer unoccupied houses and houses that can be approached and entered without being seen by neighbors. In his own studies with young British burglars, Wright found that alarms and dogs were major deterrents, followed by the appearance of occupancy and lack of cover. The appearance of unoccupancy was viewed as an attraction by 85 percent of the burglars, followed by cover (hedges and fences) and unsurveilable access (76 percent).

The presence of a car in the driveway was seen as a deterrent, and in earlier studies with older burglars, Wright[11] found this to be mentioned most often as an outward sign of occupancy. Seventy percent of burglars said it didn't matter whether or not the house had dead bolt locks. This is reflected in interviewees' remarks: "I haven't come across a lock yet that can't be taken off with a crowbar. There isn't a door that you can't open if you have a crowbar in your hand," and, "They don't think about somebody taking the window out. It's the easiest trick in the world."

Environmental psychologist Barbara Brown[12, 13] investigated territorial cues that distinguished 102 burgled houses from nonburgled houses on the same block in suburban Salt Lake City. Among her findings: 1) fewer immediately neighboring houses can be seen from burgled houses than from nonburgled ones; 2) burgled houses had fewer traces of occupancy and less often had garages that could mask the absence of automobiles; 3) burgled houses less often had owners' names or addresses on signs in the yard or on mailboxes; 4) burgled houses had fewer fences and locked gates surrounding the yard. Brown hypothesised that fences and other boundary markers and personalization displays symbolize territorial control. From this, "burglars were presumed to detect a high level of territorial concern and to assume that residents would be more defensive against intruders. In addition, the burglar might infer that residents of personalized dwellings are very community-spirited. These residents might be more likely to have concerned neighbors look after the property." Brown found this position to be supported by the study, but weakly. In discussing the results within the context of other literature, she cites studies by Repetto, who found that while only 5 percent of burglars said locks would deter them, 23 percent said they would be deterred by "neighbors checking." Among older, more experienced offenders, 35 percent revealed they would be deterred by neighbors checking.

Brown is currently interviewing incarcerated burglars using photos of burgled and unburgled houses. So far, she is able to say, "While burglars are not skilled at identifying which houses have been burglarized by others, they have definite feelings about which houses they themselves judge to be good and bad risks. Burglars believe houses have not been burglarized when they themselves would feel uncomfortable being seen by neighbors on the street in front of the house. Because bur-

6. C.R. Jeffery, "Criminal Behavior and the Physical Environment," **The American Behavioral Scientist**, vol. 20, no. 2, Nov./Dec. 1976, pp. 149–174.

7. P.L. Brantingham, "Crime Prevention: the North American Experience," Chapter 16, D.J. Evans and D.T. Herbert, eds., **Geography of Crime** *(Rutledge, London, 1989)*, pp. 331–360.

8. H. Rubenstein, C. Murray, T. Motoyama, and W.V. Rouse, **The Link Between Crime and the Built Environment: The Current State of Knowledge** *(National Institute of Justice, 1980)*.

9. P.L. Brantingham and P.J. Brantingham, **Patterns in Crime** *(Macmillan, New York, 1981)*.

10. R. Wright and R.H. Logie, "How Young House Burglars Choose Targets," **The Howard Journal of Criminal Justice**, vol. 27, no. 2, May 1988, pp. 92–104.

11. T. Bennett and R. Wright, "Constraints to Burglary: The Offender's Perspective," **Coping with Burglary** R. Clarke and T. Hope, eds. *(Kluwer-Nijhoff, Boston, 1984)*.

12. B.B. Brown and I. Altman, "Territoriality, Defensible Space and Residential Burglary: An Environmental Analysis," **Journal of Environmental Psychology**, vol. 3, 1983, pp. 203–220.

13. B.B. Brown, "Residential Territories: Cues to Burglary Vulnerability," **Journal of Architectural and Planning Research**, vol. 2, no. 4, Dec. 1985, pp. 231–243.

14. J. Jacobs, **The Death and Life of Great American Cities** *(Vintage Books, New York, 1961)*.

15. S. Angel, **Discouraging Crime through City Planning** *(University of California Press, 1968)*.

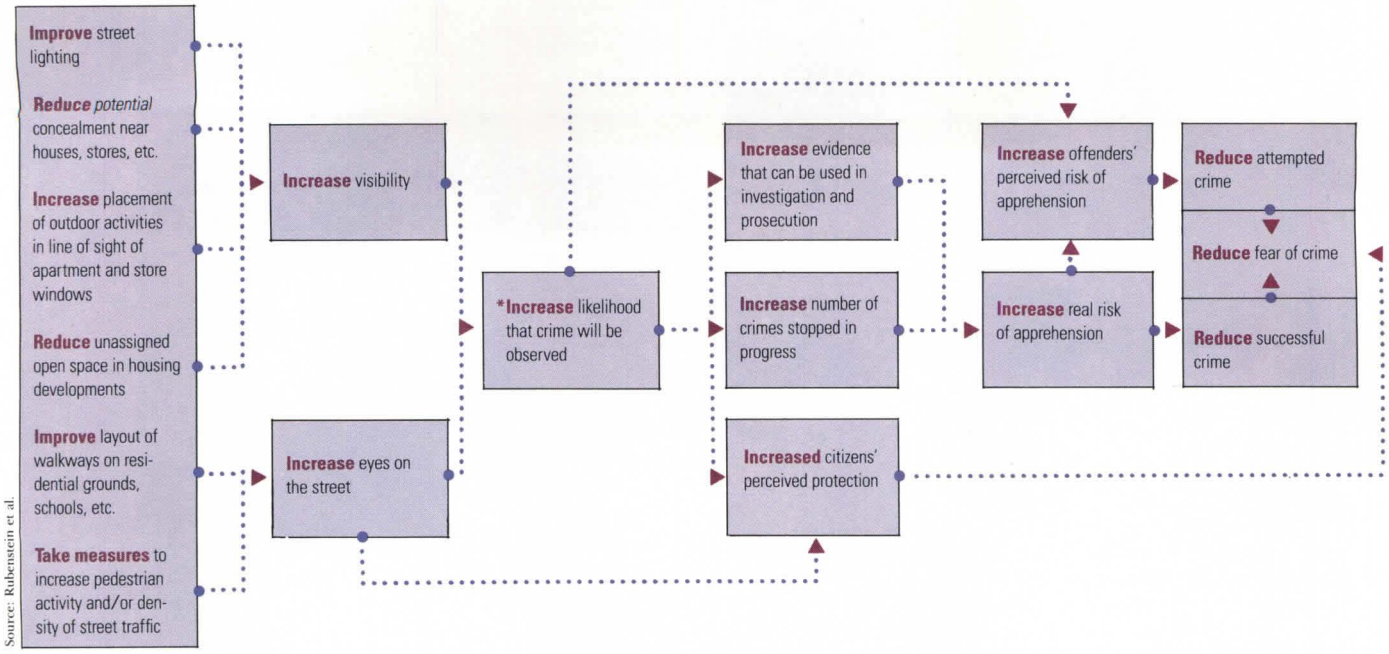


Figure 2. *Surveillance model*

**Assumes a constant probability of intervention for an observed crime*

16. D. Appleyard, **Livable Streets** *(University of California Press, Berkeley, 1981).*

17. O. Newman, **Community of Interest** *(Anchor Press/Doubleday, Garden City, N.Y., 1980).*

18. B. Poyner, **Design Against Crime: Beyond Defensible Space** *(Butterworths, Stoneham, Mass., 1983).*

19. C.C. Marcus and W. Sarkissian, **Housing as if People Mattered** *(University of California Press, Berkeley, 1986).*

20. G. Underwood, **The Security of Buildings** *(Architectural Press, London, 1984; Butterworths, Stoneham, Mass.).*

21. N. Cumming, **Security: The Comprehensive Guide to Equipment Selection and Installation** *(Architectural Press, London, 1987; Butterworths, Stoneham, Mass.).*

glars were not shown pictures of neighboring houses and therefore could not gauge the appearance or orientation of neighboring houses, it seems clear that burglars infer some neighborhood characteristics from the house itself."

Target search studies indicate that occupancy, the fear of being seen, and a host of subtler cues are important in narrowing down the target selection once a suitable neighborhood has been chosen. The fear of being seen has the greatest implications for the site planner, architect, and landscape architect. A model of the surveillance theory of deterrence is depicted in Figure 2. This differs from the community model of Figure 1 primarily by the absence of territorial and neighborliness factors. Surveillance serves as a deterrent only if the offender believes that neighbors or other observers will intervene in some way, however, so some amount of civic responsibility is implicit to the model.

It should be noted that crime statistics do not generally support the suppositions of Jane Jacobs[14] and Schlomo Angel[15] that crime is deterred with an increase in number of eyes and pedestrians on the street. Studies suggest that increases in public activity are counterbalanced by a lessened sense (diffusion) of responsibility and a diminished ability to judge what is suspicious behavior. According to the report prepared by Rubenstein et al., the weight of the literature indicates that crime generally increases with accessibility of the target and multiplicity of escape routes. This argues in favor of cul-de-sacs, loop roads, and "protected neighborhoods," as promoted in books by Donald Appleyard[16] and Newman.[17]

The study of the search phase has led criminologists to a new operational approach called *situational crime prevention*. Situational prevention focuses on patterns of different types of crime and the conditions under which they occur and attempts to manipulate the environment in ways to reduce crime opportunity. The idea was conceived in Great Britain, and in Barry Poyner's *Design Against Crime*,[18] the situational approach is presented in a series of design pattern dictums. A similar approach is taken in an excellent design guide chapter on "Security and Vandalism" in a book by Clare Cooper Marcus and Wendy Sarkissian.[19]

Interventions in the Criminal Act

Measures that make a building or site more difficult to penetrate are called *target hardening*, and these include locks, window bars, laminated glass, fences, walls, and other hardware. The deterrent theory of these devices is very simple and is diagrammed in Figure 3a. Target-hardening strategies and details are thoroughly discussed in a book by Grahame Underwood.[20] His treatment covers the site and walls, doors, windows, roofs, and interior planning considerations.

Closed circuit television (CCTV) is another hardware solution often categorized as target hardening, but its deterrent theory is rather different (Figure 3b). It is better described as monitoring hardware. CCTV monitoring stations are normally on premises and are watched over either by employees or security company personnel, who are expected to respond to suspicious behavior or crimes in progress.

Sensor systems are yet another form of monitoring hardware that may be theorized to function in much the same way as CCTV, except that the alarm system may be attended to by the police, a private security company, or some other agent of the owner. Some alarms simply ring at the site, in which case there is no sure surveillance of activities.

There are many types of indoor and outdoor sensors. These are classified as point, line (area), and volume detectors. Examples are magnetic contact door and window switches, foil-on-glass strips, and motion detectors, respectively. The full range of sensors is explained in detail and rated according to performance and application by Neil Cumming,[21] who also discusses CCTV, locks and other access controls, and lighting.

While building and monitoring hardware are the staple fare of the security industry, the deterrent effectiveness of these measures is more assumed than studied. No one questions that locks on windows and doors are essential to reducing crimes of opportunity. The significance of locks as a deterrent to "search" burglars, especially where concealment reduces the risk of being seen, is less certain, as evidenced in burglars' remarks to Wright.

Rubenstein et al. found that the limited literature on alarm systems all indicated a significant decrease in burglaries. They conclude from the literature on CCTV that these systems can deter according

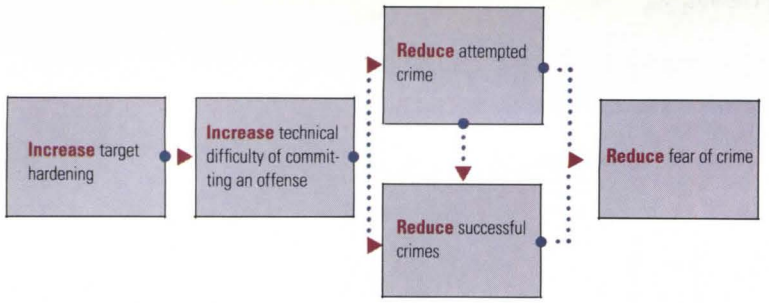


Figure 3a. *Target hardening model*

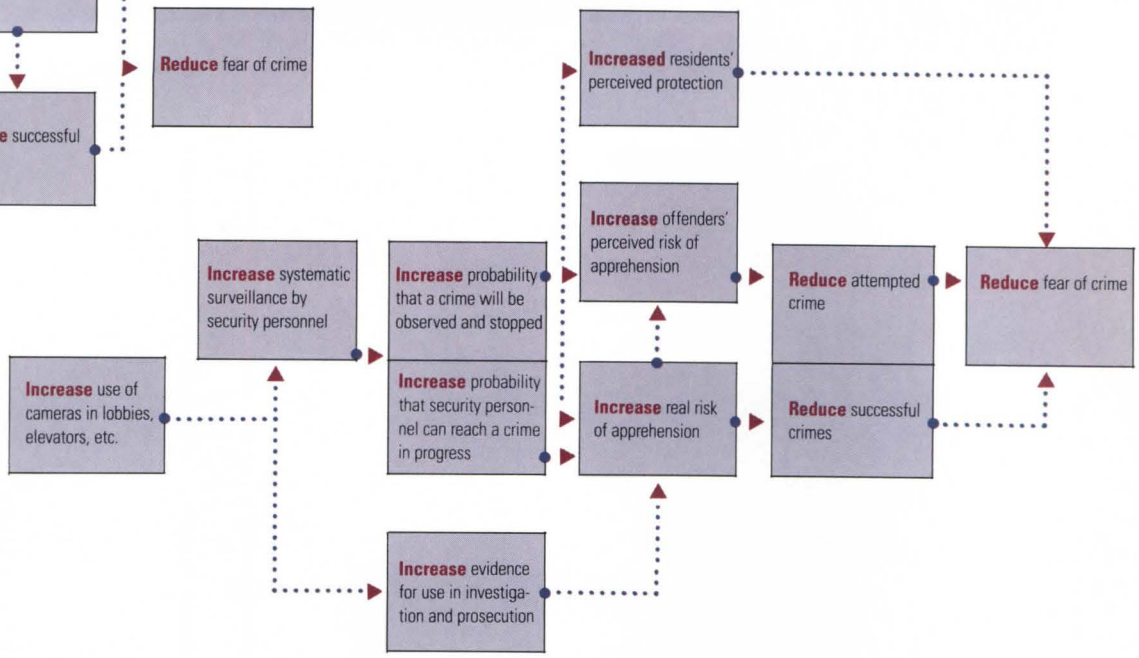


Figure 3b. *Monitoring hardware model*

to theory, provided that offenders believe that the monitors are in fact being watched.

Summary and Conclusions

What does all this mean in practice? At the sketch design phase of land development for multifamily housing, for example, the designer can draw upon the widest range of principles, beginning by favoring cul-de-sacs and loop streets over through roads and by locating units and window orientations within view of sidewalks and parking areas. At the construction documents phase for urban infill sites, on the other hand, design deterrent opportunities may be limited to specifications for lock, intercom, and detector hardware.

Regardless of project scale or phase, some means for occupants and neighbors to monitor activities outside and within the building should always be provided. The City of Vancouver has recently spelled out what measures must be taken in the problem building type of parking garages.[22] As public concern about crime increases, municipalities may take the lead in deterrent design through building codes.

The situational approach requires that the architect understand the crime characteristics of the neighborhood surrounding the building site. Designers can begin this practice by discussing new projects with the local police and security guard companies, both of which may also consent to review design development plans.

Even the most casual reader of the literature on crime prevention must be struck with how many theories have been framed and supported or disposed of so quickly. This is probably because crime statistics are readily available to test hypotheses, and this ease of validation may encourage hypothetical thinking. On the other hand, the situational approach is empirical, rather than theoretical: While it draws heavily on crime statistics and validated theory, its main aim is to break associative crime patterns, not to explain them. Poyner's design recommendations, for example, are deliberately presented in Alexander's pattern language as programmatic statements.

The history of defensible space ideas provokes the broader question, "Where are theories of architecture tested?" In the built world, of course, but who records and analyzes them? In a decade that has seen widespread abuse of the term "architecture theory," much of which is little more than a pretentious form of self-promotion, it is ironic that one of the most socially potent theories of environmental design to emerge in some years has been surrendered to criminologists for the rigor of scientific examination and validation (and to be returned in a pattern language!). Perhaps this is necessary. Who else is to separate truth from pretense? ***Kenneth Labs*** ■

Acknowledgments

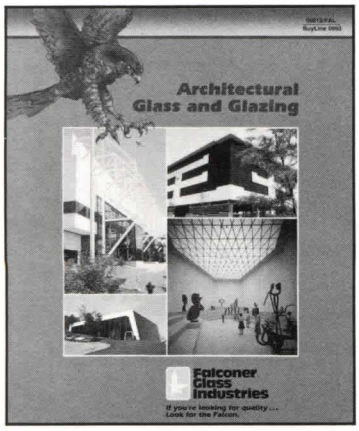
P/A would like to thank the following people for their cooperation in the preparation of this article: Susan Anderson, Social Planning Department, Vancouver, British Columbia; Carl Bickle, National Criminal Justice Referral Service; Dr. Patricia Brantingham, School of Criminology, Simon Fraser University; Dr. Barbara Brown, Dept. of Family and Consumer Studies, University of Utah; Dr. Ronald V. Clarke, Dean, School of Criminal Justice, Rutgers University; Dr. C. Ray Jeffery, Department of Criminology, Florida State University; Dr. Gary T. Moore, Center for Architecture and Urban Planning Research, University of Wisconsin; Dr. William T. Rohe, Department of City and Regional Planning, University of North Carolina; Dr. Lawrence Sherman, Editor, Security Law Newsletter, Washington, D.C.; Dr. Ralph B. Taylor, Department of Criminal Justice, Temple University; Dr. Richard M. Titus, National Institute of Justice; Dr. Richard Wright, Department of Administration of Justice, University of Missouri at St. Louis.

22. "Parking Facility Design Guidelines and Standards By-Laws," approved by Vancouver City Council, September 12, 1989.

Recommended building security library: **Design Against Crime** *(Poyner)*, **Housing as if People Mattered** *(Cooper Marcus/Sarkissian)*, **The Security of Buildings** *(Underwood)*, **Security** *(Cumming)*. Also: Peter Hopf, **Handbook of Building Security Planning and Design** *(McGraw-Hill, N.Y., 1979)*.

The AIA offers a new Building Security Design Database consisting of over 170 citations. The database can be obtained as an annotated bibliography in hardcopy, and the AIA will search keyword, author, and title requests. Call Robert Kimberlin, AIA Library, 202-626-7493.

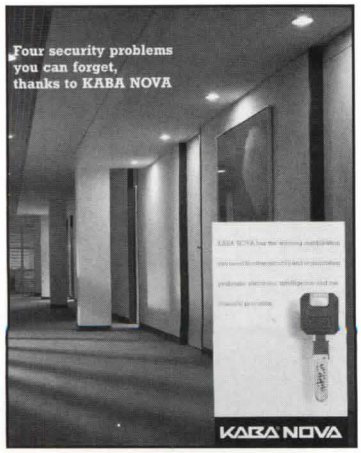
Technics-Related Products



Burglary-resisting glass, either two- or three-ply, is shown in a catalog of glass and glazing. Falconer Glass Industries.
Circle 200 on reader service card

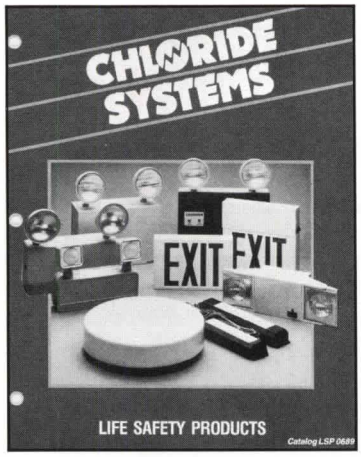
A security keypad offers numerical scrambling, a limited viewing angle, and four locking modes, and interfaces with almost any access control system. Architectural Control Systems.
Circle 100 on reader service card

Door systems featuring computerized rotating doors and metal detectors are illustrated in manufacturer's literature. Nowco.
Circle 201 on reader service card

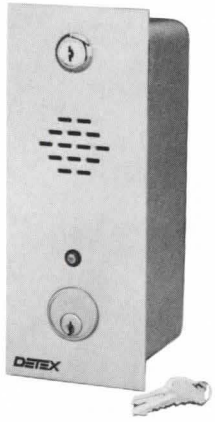


An electronic locking system features an electronic cylinder lock, an electronic key, and a command center to record usage. Lori Kaba.
Circle 202 on reader service card

A door has a bullet-resisting steel core bonded between oak-veneer plywood and is pre-hung in a steel frame. Chicago Bullet Proof.
Circle 101 on reader service card

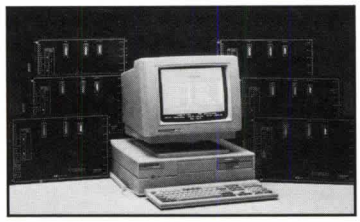


Emergency lighting is offered in tamperproof styles. Chloride Systems.
Circle 203 on reader service card



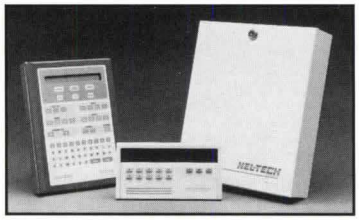
An exit alarm features a doorbell function, a 95-decibel horn, and an internal tamper switch. Detex.
Circle 102 on reader service card

A microprocessor- and computer-based security control system, integrating alarm reporting and response, video surveillance, and remote device control, is shown in manufacturer's literature. Javelin.
Circle 204 on reader service card



A computerized security management system tracks key holders and access codes and monitors alarms. Schlage Electronics.
Circle 205 on reader service card

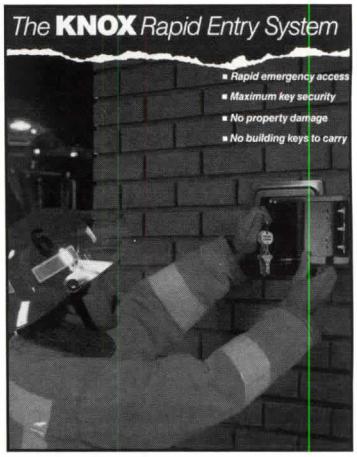
A narrow-jamb deadlatch has both electrical and mechanical locking systems. Adtec.
Circle 103 on reader service card



A derived channel security system offers alarm system protection by using telephone lines to interface between alarm systems and central monitoring stations. Nel-Tech.
Circle 104 on reader service card

An electronic keying system consists of an electronic lock trim, an access control unit, a key encoder, keys, and an emergency data retrieval unit. Computerized Security Systems.
Circle 105 on reader service card

A remote door control product allows a door to be closed with a hand-held unit and communicates door status to remote locations. Yale Security.
Circle 106 on reader service card



A rapid entry key control system features an exterior key vault, which is protected by a high-security master key. Knox.
Circle 206 on reader service card

A series of electro-mechanical locks features a one-piece investment-cast backplate, a power modulator, and a deadlatch or deadbolt. Folger Adam.
Circle 107 on reader service card

A two-door card access system, designed for smaller companies, supports one or two card readers and up to 3000 cards. Synergistics.
Circle 108 on reader service card

(See Technics, Building Security, p. 100)

Genlock Input.
Separate BNC connector allows external synchronization of camera to composite video or composite sync.

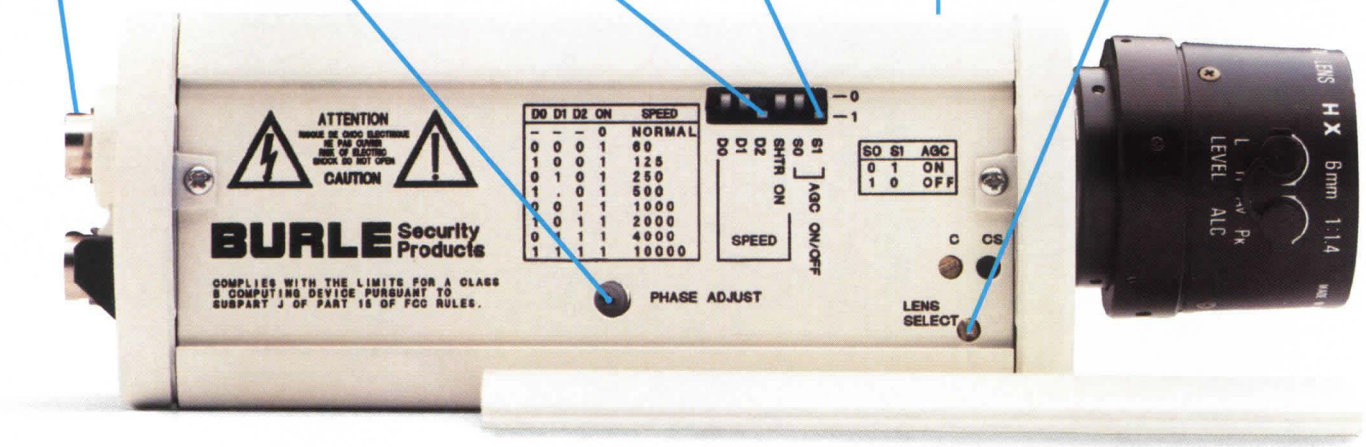
Phase Adjustable Line Lock.
Compensates for power line phase differentials to permit easy synchronization of multi-camera systems for roll free video switching.

Shutter Speed Enabler.
Easily accessible switches permit selection of 8 shutter speeds for "photo-finish" clarity of fast-moving objects.

Automatic Gain Defeat.
On/Off Switch enables camera AGC to maximize video gain when viewing low light level scenes.

Automatic Gain Control (AGC).
Built-in 20dB amplifier produces usable video down to .2 lux scene illumination. No other ½" CCD offers greater sensitivity or better picture quality.

Lens Mount Selection.
Flip a switch to easily adapt the camera to use either the new CS lens technology or a wide range of industry standard C-mount lenses.



Check the styling, then pop the hood.

BURLE's new high performance CCD.

BURLE presents the best all-around camera in its class. The new TC650 series. The new design blends well into all environments. The TC650's compact size and rugged build are evident at a glance. Engineered specifically for compatibility with multi-camera systems, the TC650 offers unsurpassed ease of installation, flexibility in operation and dependable service. For instance, our camera's Solid State Imager uses the latest CCD chip technology which virtually eliminates transfer smear, image lag and retention. We incorporated advanced 4-layer printed circuit board technology to pack more features into a smaller, more powerful unit. The TC650 camera is designed and manufactured in Lancaster, PA, comes in universal power supply options, and meets the standards set by UL, CSA, TUV and the FCC. Contact your BURLE representative or BURLE INDUSTRIES, INC., 1000 New Holland Avenue, Lancaster, PA 17601-5688.
Telephone:
(717) 295-6123.

MADE IN USA

BURLE
SECURITY PRODUCTS

The solution is a

BURLE SYSTEM

Circle **No. 313** on Reader Service Card

HEWI

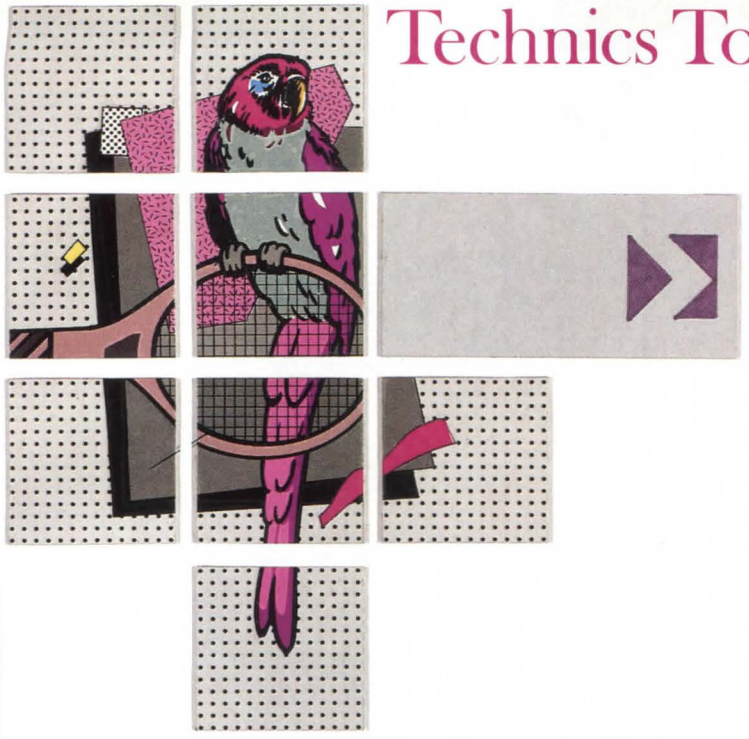
A comprehensive range:
Door Hardware, Railing Systems, Cabinet Hardware, Bathroom Accessories.
A range of high quality nylon items that allows versatility in combination and individuality of expression. Pleasant to the touch, wear resistant, colored throughout. All items are available in 13 colors.

HEWI, INC.
2851 Old Tree Drive
Lancaster, PA 17603

HEWI CANADA, LTD.
170 Esna Park Drive, Unit 14
Markham, Ontario L3R 1E3

Circle No. 327

Technics Topics



Illustrations: Mario Uribe

Wayfinding: An Orientation System for Hospitals

Hospital corridors are often referred to as mazes. Traveling through them to reach a destination can be an exhausting, frustrating experience even for a hearty soul, let alone a patient or family member distressed by illness or worry. Under normal circumstances, getting lost is merely an annoyance. In this context, getting lost might mean missing an appointment for diagnostic tests or not finding your child in the emergency room. Anxiety and stress can impair one's ability to process information, and often signs are not read. In fact, in some hospitals there are so many signs that they become visual clutter rather than adding clarity.

When Kaiser Permanente came to us three years ago with a complex one million square feet of clinics and hospital in Fontana, California, we searched for a unique solution to their problem. This is the oldest Kaiser facility in the nation, and it has grown haphazardly for years.

Armed with a study called *No More Mazes* by Carpman, Grant, and Simmons (P/A Applied Research Award, Jan. 1985), we conducted an international computer search to determine how people make their way through an unfamiliar or complex environment. We combined these research studies with our knowledge of hospital traffic flow. Our wayfinding system involves elements that are common to most hospital interior design master plans—namely, finishes, graphics and signage, color, artwork, and lighting. The difference is that we combine these elements in a totally integrated and mutually reinforcing way that enables people to make navigational decisions at critical junctions en route to destinations.

Romedi Passini, an environmental researcher, defines wayfinding as a cognitive process comprising three abilities:

- *Cognitive mapping* (information gathering and imaging)
- *Decision making* (allows us to plan a strategy)
- *Decision executing* (transforms decisions into behavioral action)

These three abilities together constitute the process of spatial problem-solving. People must be able to visualize the path to their destination and be able to formulate a travel plan in their mind's eye. As the environment becomes more familiar, people are able to recognize an increasing number of places, thereby reinforcing the path taken.

Wayfinding Facilitators

Behavioral scientists generally agree on three conditions that are prerequisites for wayfinding:

- *Degree of differentiation*: the degree of sameness or variation of interior spaces affects one's ability to recognize it and use it as a landmark.
- *Visual access*: being able to see one part of the building from another, or being able to see the lobby, an atrium, a bridge, or other features to help maintain a point of reference.
- *Complexity of spatial layout*: the number of possible routes to a destination and the frequency of intersections with jogs or odd angles affects the comprehensibility of the environment.

Signs cannot overcome the negative effects of poor visual access, a confusing building plan, and little differentiation between areas. The separation of inpatient and outpatient services and traffic should be a major goal. Sometimes a department may have to be relocated in order to straighten out a major artery rather than have it twist around circuitously. A door may need to be relocated because it is at the terminus of a major artery corridor where a landmark element should be placed.

Wayfinding Elements

We use four principal elements to guide people in our hospital work:

- *Destination Treatment*: the entrance to an inpatient or outpatient department, or to a waiting room. It can be emphasized and differentiated from all other doors in the facility by recessing it (Figure 1), enhancing the lighting, adding windows for visibility, and insetting a design in the floor that can be seen from a distance.
- *Main Artery*: The major circulation spine connecting the points of entry with various destinations and vertical circulation such as elevators or stairs. A solid color border carpet is one means to define the main artery.
- *Landmark*: A highly memorable image that can be used as a point of reference when giving directions and that would be recalled by the exiting first-time user or the repeat visitor. Examples are special types of artwork, sculpture, and outdoor views.
- *Reinforcements*: Additional supporting elements that reassure the wayfinder that he or she is on the right path. The carpet inset in front of the destination, for example, is a reinforcement, as are signage, directories, lighting, and certain types of secondary artwork.

Our goal is to direct people almost subliminally to their destination so that they hardly have to rely on signage. In the main artery corridor, we use a neutral color palette with accent colors reserved for signage, landmarks, or reinforcements. This is the opposite of what is often done. If carpet and wall coverings have color and signage or directional elements are neutral, the eye naturally is attracted to color, and disregards the signage cues.

In our system, main arteries have a different palette of materials which subliminally keeps people from stepping out of the main artery corridor. This may be accomplished by creating a "path" of patterned carpet that stairsteps in the direction one wants people to turn. Secondary and tertiary corridors are more subtle and are differentiated enough to keep people from wanting to turn into them.

The landmark images themselves, placed at critical intersections where people have to make decisions, can be directional in nature. For example, a 40″ x 60″ color photograph of a boat dock might be used at the end of a long corridor to draw people straight ahead to a directory or a landmark that contains directional signage (Figure 2). An-

(continued on page 108)

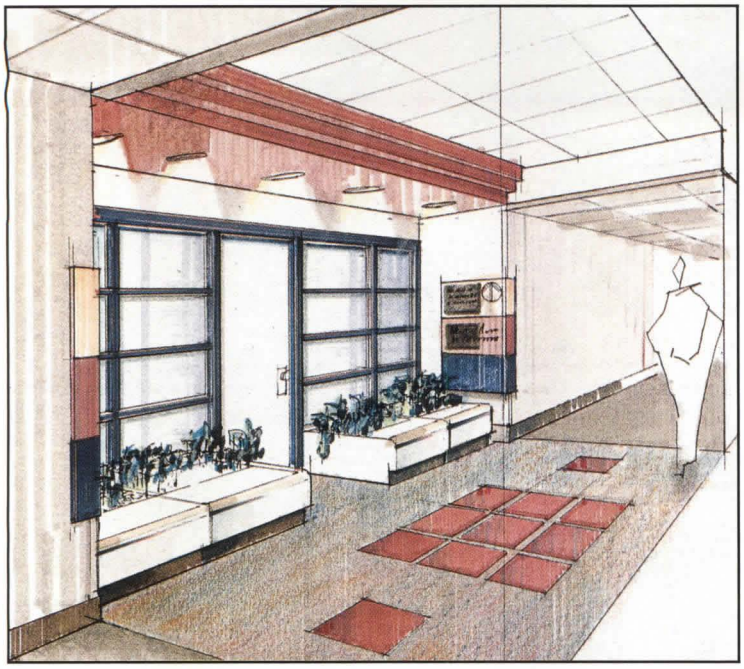


Figure 1. Destination design includes recessed entry niche, enhanced lighting, carpet inset, built-in planters, tiered soffit, and glass.

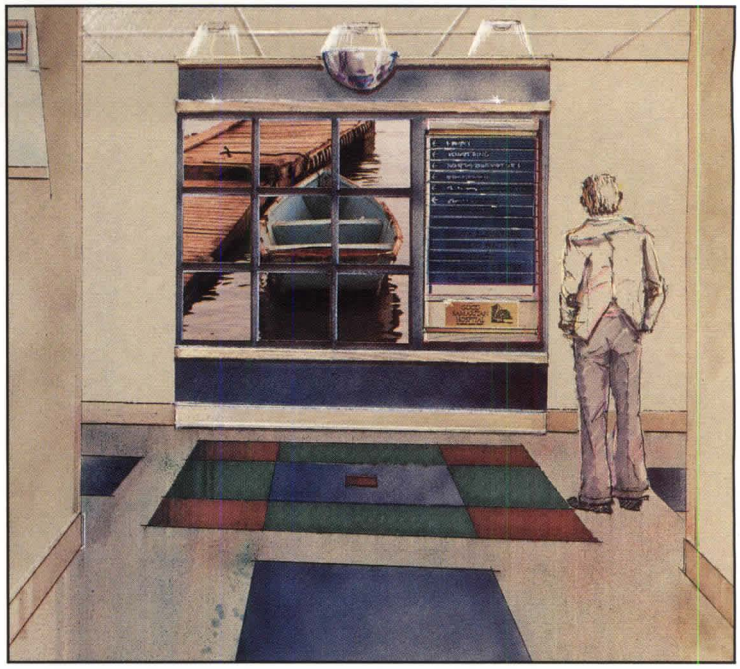


Figure 2. Landmark art image draws people down corridor and stops them to read signage panels.

Illustrations: Jain Malkin, Inc.

(continued from page 107)
other image might be a photo of a cottage with a road that winds to the right, positioned in a directional landmark at a point where most people need to turn right.

Other landmarks might be based on a theme per floor. Research has shown that people tend to remember dissimilar things that are paired together or seen out of context. In one large medical center we used this as the theme for our wayfinding images. One floor pairs local landmarks with local agricultural products. Hence we might have an image of a San Diego mission and strawberries. Another pairs parrots with tennis rackets (opposite page). The images are silkscreened onto 18″ x 18″ panels that are combined in configurations to suit the needs of individual landmark locations. Signage is a component of all of these landmark art panels.

Pointers

- Landmarks with written labels are more effectively remembered than landmarks without labels.
- Avoid jargon in signs. For example, most people know what "Radiology" is but may not know "Diagnostic Imaging."
- To focus attention on wayfinding cues, wall and floor surfaces should be neutral. This need not mean colorless or uninteresting.
- Differentiate relevant signs from unimportant ones.
- Locate signs with consistency throughout the facility. Consistent placement allows the visitor to predict signage locations.
- Analyze circulation routes carefully in order to place signs and maps at critical decision points.
- Elevator lobbies should be highlighted so that they can be seen from a distance. A large scale carpet inset, unique lighting, and special wall treatment accomplish this goal.

Research Implications for Design

Studies have demonstrated that people differ in the methods they employ to find their way around, based on their experience, personality traits, and perceptual cues. Some rely heavily on signs and others rely on an understanding of the spatial properties of the setting. Designers must supply enough cues to satisfy both types of users.

Wayfinding involves a number of decision plans made sequentially, one at a time, as people progress through space. They should not be given too much information at one location. It is less confusing to provide only what is needed to get to the next decision-making point.

A study executed to learn if color and form are remembered automatically proved that it takes considerable effort to remember color but no effort to remember position (whether an image occurs on the right or left, up or down, for example). Pictures were more readily recalled than words. The average person (as compared with designers, who are always aware of color) does not notice or remember color unless it is associated with form, such as a *red* apple. Color coding of various departments may not be as effective a wayfinding aid as a "form" symbol.

Some of the most interesting studies have been done on specific buildings such as the Dallas-Fort Worth airport and Boston City Hall. Both of these facilities have been associated with incidents of psychiatric disturbance linked to spatial disorientation, which was shown to make people angry and hostile.

One study demonstrated that traumatically head-injured persons are impaired in discrimination learning and memory retention. They show a preference for color over form dominance, which is a regression to a type of information processing typical of an earlier developmental stage. Dementia, in general, caused a preference for color dominance over form. The implication, in designing for special populations (rehabilitation units, skilled nursing facilities), is that wayfinding aids should emphasize *color* over *form*.

The designation of floors below the entry level can cause confusion, as can the relationship among floors in different buildings. Avoid having floor 3 of one building linking with floor 5 of another.

Summary

Normally we move through our environment without being aware of the many cognitive processes at work directing our path. In hospitals, a differentiated environment rich in potential landmarks located at prominent decision points in the route helps people in finding their way. ***Jain Malkin*** ■

The author is principal of Jain Malkin, Inc., an interior design firm in La Jolla, California, specializing in health care facilities. Malkin is the author of Medical and Dental Space Planning for the 1990s, *Van Nostrand Reinhold Co., 1989.*

Suggested Reading

Appleyard, D.A. "Why Buildings are Known," *Environment and Behavior*, vol. 1, pp. 131–156, 1969.

Carpman, J.R., Grant, M.A., & Simmons, D.A., *No More Mazes*, The University of Michigan, 1984.

Garling, T., *Environmental Orientation During Locomotion*, Swedish Council for Building Research, Stockholm, 1984.

Garling, T., Book, A., & Lindberg, E., "Spatial Orientation and Wayfinding in the Designed Environment," *Journal of Architectural and Planning Research*, vol. 3, no. 1, February 1986, pp. 55–64.

Lynch, K., *The Image of the City*, MIT Press, Cambridge, Massachusetts, 1960.

Park, D.C., & Mason, D.A., "Is There Evidence for Automatic Processing of Spatial and Color Attributes Present in Pictures and Words?," *Memory and Cognition*, vol. 10, no. 1, 1982, pp. 76–81.

Passini, Romedi, *Wayfinding in Architecture*, Van Nostrand Reinhold, New York, 1984.

Weisman, J., "Evaluating Architectural Legibility: Way-finding in the Built Environment," *Environment and Behavior*, vol. 13, no. 2, March 1981, pp. 189–204.

Zimring, C., "Stress and the Designed Environment," *Journal of Social Issues*, vol. 37, no. 1, 1981, pp. 145–171.

It's all in your mind.

DESIGNER SCOTT STRASSER CREATES HIS OWN PIONITE.®

It was all in his mind. Pony Skin.™ So Scott Strasser took his idea to Pioneer, the *one* company where he could specify his own design.

Pony Skin is the marriage of a brilliant idea and Pioneer's ability to recreate it in laminate form. Something we call SpecFX.™

It's the same capability we used to create Strata II®—decorative laminates like no other anywhere in the world.

For a Strata II sample chain, or more information about SpecFX, our custom laminate capability, call **1 800 777-9112** (in Maine, call 207-784-9111) and ask for Designer Services.

Employee cafeteria, Computer Associates International, Inc., Las Colinas, TX. Design by Scott Strasser, CRS/Sirrine, Inc. Dallas.

The most for your imagination™

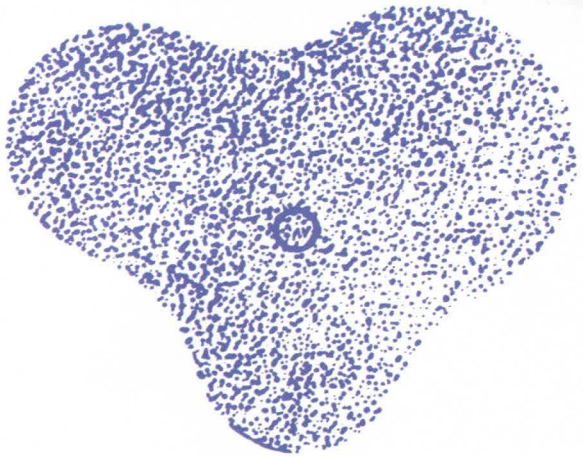
pioneer

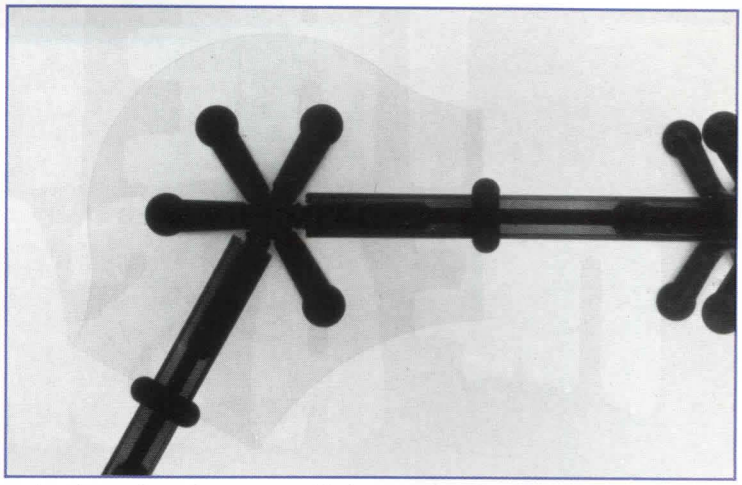
Circle **No. 347** on Reader Service Card

Stance

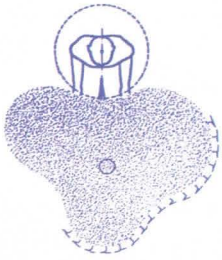
A unique ganging stack chair that is comfortable and durable in both structure and style. Component system design permits addition or removal of arms in the field. The easy-to-care-for polypropylene frame conceals a steel inner structure. It's technical innovation by design from KI. Call (414) 468-8100 or write P.O. Box 8100, Green Bay, Wisconsin 54308-8100 for more information.

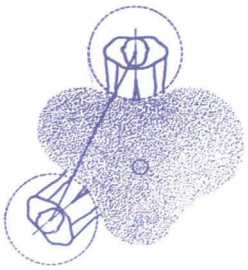
Circle No. 335 on Reader Service Card

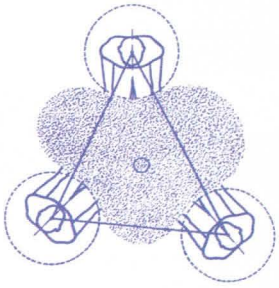




Various leg configurations connected by beams support the table tops (top). Table tops can be joined to create a unique shape (below).







This table can be an individual desk or a small meeting table.

Bio-Tables and Office Space

In the functionalist 1960s, science and technology became major players in the design of office furniture. That culture was characterized, according to Lewis Mumford, by standardization, precision, and control. Today, Japanese designer Isao Hosoe looks to reintroduce the human element, and he wants to go a lot further than ergonomics: He envisions design as a "trickster" that can provoke people to supersede uniform regularity.

Milan-based Hosoe has designed "Bio-Tables" for the Japanese company Itoki; he thinks the tables play the trickster role which shows design to be out of the realm of science and technology and instead concerned with making people comfortable in the space they occupy. Hosoe's design team, including Masaya Hashimoto, Ann Marinelli, and Alessio Pozzoli, started with research done in response to those functionalist 1960s, Edward T. Hall's *The Hidden Dimension*. The text examines a field Hall dubs "proxemics": "interrelated observations and theories of man's use of space as a specialized elaboration of culture."

Hosoe has made special use of two of Hall's contentions. First, spatial features can either keep people apart or bring them together. Hosoe's office looks for those seating arrangements which "concentrate and liberate energy." Second, Hall presents eight distance zones for personal interaction; of these, the far personal (2½ to 4 feet) and the close social (4 to 7 feet) are the areas in which office interaction usually takes place. These distances ensure that people have protected personal "bubbles" but are still close enough to work together.

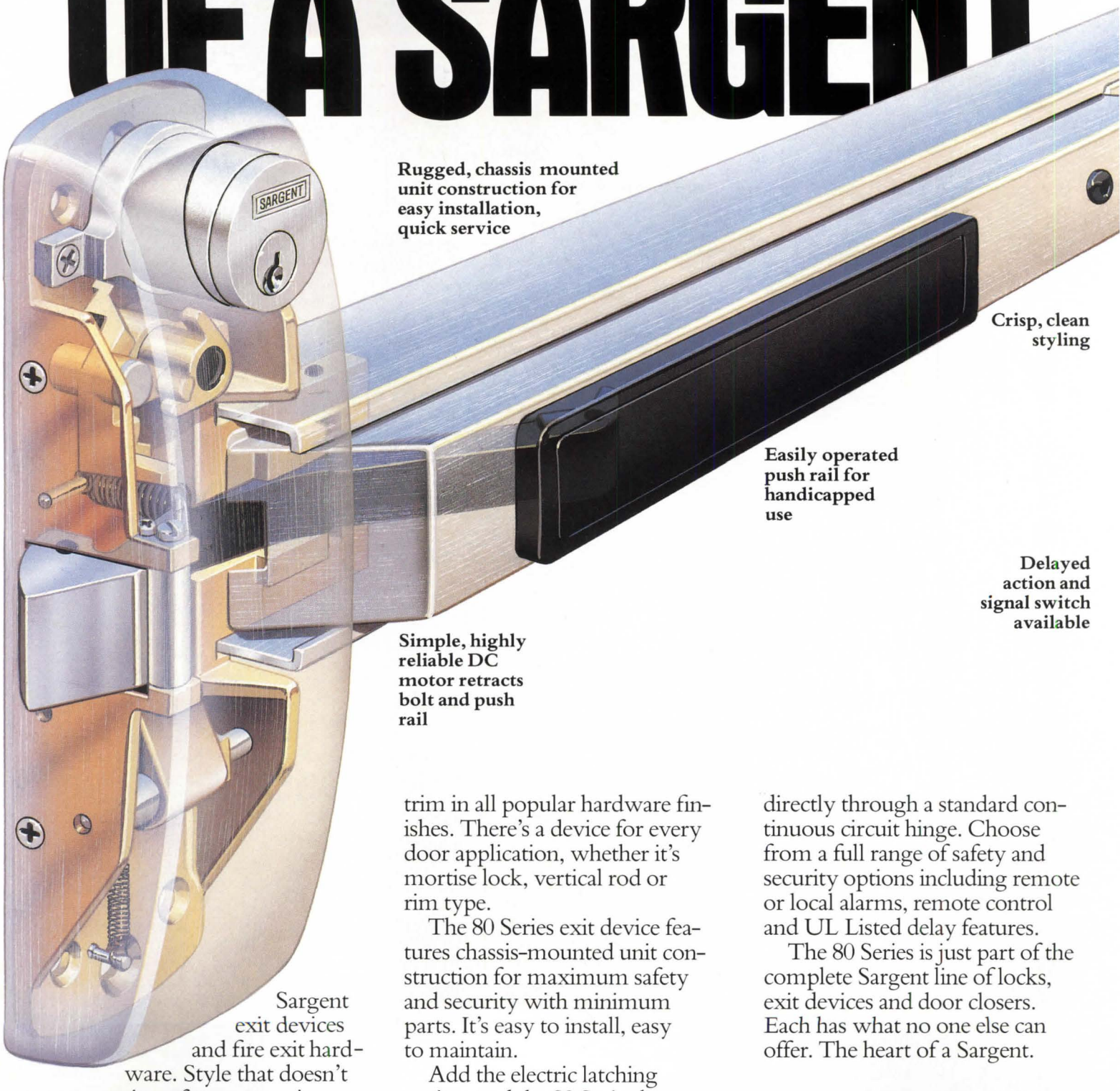
The result of this theorizing is the collection of Bio-Tables, 26 table tops that may be joined into infinite configurations, or can each function separately. The shapes are designed to appeal to the sensuous receptors of the body: Curves present "niches," which are perceived to protect personal space and maximize opportunities for direct eye contact.

Others of Hosoe's inventions enhance the sense of space found around the tables. Panels made of "Kakine," a light, translucent material, can be clamped directly to the side of a Bio-Table, giving shelter and private space to the user. The same panels are available in the semi-permanent "Noren" umbrella. The umbrella, which incorporates an overhead lighting fixture, fits into the table and creates a boundary around the table for privacy, but does not completely remove the participants from the office.

The table tops can be made of glass or marble, plastic laminated, painted or clear-finished wood. They are supported by double-L-shaped legs bound together—each table has its own leg configuration—and joined by beams. A wiring cap allows cords to be dropped directly through the table and legs to the ground—and also holds the Noren umbrella.

The Bio-Tables introduce a dynamic element which transforms the monotony of a typical open-plan office; they show a concern for the interaction between people and their environment. At the same time, it is their transgressive tendency that Hosoe desires and calls the trickster. ***Andrea E. Monfried*** ■

THE HEART OF A SARGENT



Sargent exit devices and fire exit hardware. Style that doesn't compromise safety or security. And a choice that doesn't compromise your design. Get the configuration you prefer, from handsome, low-profile push rail models to traditionally styled units, all with a wide range of trim in all popular hardware finishes. There's a device for every door application, whether it's mortise lock, vertical rod or rim type.

The 80 Series exit device features chassis-mounted unit construction for maximum safety and security with minimum parts. It's easy to install, easy to maintain.

Add the electric latching option, and the 80 Series becomes one of the most advanced exit devices available. An electric motor retracts the latch bolt and depresses the push rail. Thanks to its low voltage requirements, the device can be powered directly through a standard continuous circuit hinge. Choose from a full range of safety and security options including remote or local alarms, remote control and UL Listed delay features.

The 80 Series is just part of the complete Sargent line of locks, exit devices and door closers. Each has what no one else can offer. The heart of a Sargent.

SARGENT

ESSEX INDUSTRIES, INC.

Sargent, New Haven, Connecticut 06511
Sargent of Canada, Ltd.

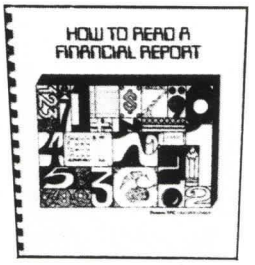
The Book Store

Take a minute and browse.

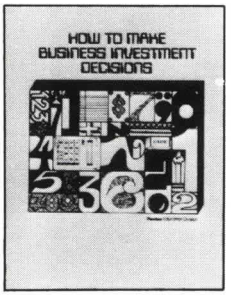
Come on into The Book Store. Take a minute to look over these current technical and engineering titles.

Indicate the ones you want on the coupon below. Send it with a check or money order and we'll pay postage. Or we'll bill you or your company including postage and handling. Either way, if not completely satisfied, you may return books postage paid for full refund within 15 days.

Browse a little. Maybe you'll find a couple of books to interest you. If the order coupon has been clipped, write to: Penton Education Division, 1100 Superior Avenue Cleveland, Ohio 44114 or call: Toll-free outside Ohio 800-321-7003; Ohio customers call 216/696-7000



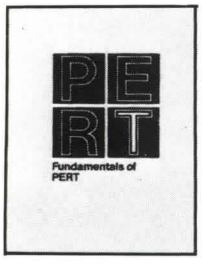
X29 How to Read a Financial Report—This course will give you a better understanding of basic accounting concepts & show how to use financial statements to assess performance and to measure the financial condition of your own operation through the use of "ratio analysis." $17.50



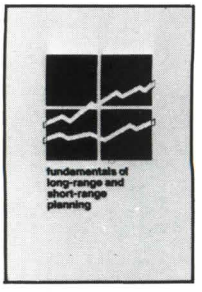
X36 How to Make Business Investment Decisions—This course will help you understand how the relationship between money and time affects management decisions. The course covers: present value concepts, how to use compound interest tables and equations to calculate the time value of money, how to use computed values to compare alternative business investment plans, and how to make the best decision based on the economic factors involved. $17.50

X05 Management by Objectives — MBO is a management method structured to emphasize what must be done, rather than how it is to be done, leaving plenty of room for creative thinking about solutions. This book, written in programmed learning format, will show you how to establish objectives, set standards for measuring performance, and conduct measurements to determine progress. $17.50

X13 Management by Exception MBX is a management method which focuses on uncovering, diagnosing, and eliminating exceptions which disrupt your planned performance. On completion you'll find your job as a manager going much more smoothly, because you'll be applying your skills and energies in areas where they will have the greatest impact on overall results. $17.50



X07 Fundamentals of PERT—PERT is used to manage a wide range of programs from simple to complex. The course covers: The basic methodology of PERT, Preparing PERT charts for complex projects, Developing time estimates for PERT activities, and finding & manipulating the critical path of a project to save time and money. $17.50



***X06* Fundamentals of Long-and Short-Range Planning** — This book is a self-study course written in the question-response-feedback style of programmed learning. The course presents detailed expansion of each step in long- and short-range planning: becoming aware of opportunities, establishing objectives, defining all premises, determining alternative courses, evaluating them, selecting a course, formulating derivative plans, implementing the plan. $20.00

Mail to: **Penton Education Division**
1100 Superior Avenue
Cleveland, Ohio 44114

Please send me the books as indicated below

- ☐ I enclose a check or money order for $_____ for postage-free shipment. (In U.S. & Canada)
- ☐ Bill my company, P.O. #_____ enclosed, including shipping & handling.

Charge my: ☐ MasterCard ☐ Visa ☐ American Express

Account No. _____ Exp. Date _____

Qty. **Title**

_____ Fundamentals of PERT @ $17.50 each
_____ Fundamentals of Long-and Short-Range Planning @ $20.00 each
_____ How to Read a Financial Report @ $17.50 each
_____ How to Make Business Investment Decisions @
_____ Management by Objectives @ $17.50 each
_____ Management by Exception @ $17.50 each

Name _____ Title _____

Company _____

Address (no P. O. Box) _____

City _____ State _____ Zip _____

Signature _____

GIVE YOUR IMAGINATION WINGS.

You see it clearly in your mind's eye. The design is flawless. An expression of your dreams. No building was ever more striking.

Now build it just the way you see it. With the glass that lets your imagination take flight — Tempglass.

No other glass fabricator gives you more design freedom. With Tempglass' unsurpassed quality and a complete array of products — reflective, heat-treated, insulated, spandrel and laminated glass, plus doors, handrails and wall systems — the sky's the limit.

So indulge your flights of fancy. Because at Tempglass, we're soaring to new heights in glass fabrication.

Tempglass Eastern, 600 Heraeus Blvd., Buford, GA 30518, 1 (800) 241-5846.

TEMPGLASS EASTERN

Solve structural design problems — quickly . . . easily . . . accurately on your PC!

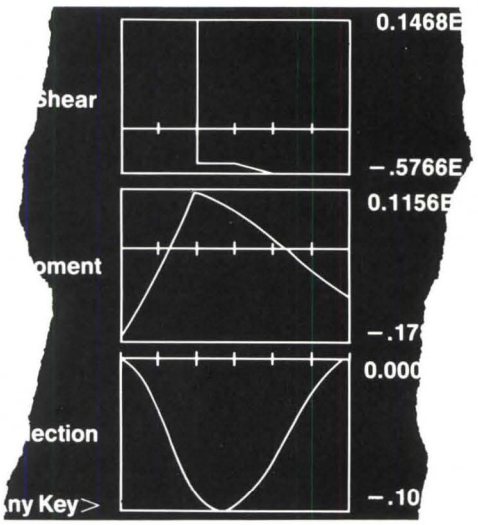
Beam Design:

QuickBEAM — a finite element program for design of simply supported, fixed, or cantilever beams. Handles up to 20 nodes with 19 connecting beam segments, distributed or point loads, moments, full or partial spans with varying cross sections.

Graphics let you view the problem showing boundary conditions, node locations, forces, moments, and distributed loads. Problem solution plots shear, moments, deflections over the length of the beam. Although the program uses finite element methods, the user doesn't need to know finite element theory **$295**

Materials Library:

QuickSHAPE — automatically retrieves properties and specs of more than 1,100 AISC shapes including channels, structural tees, and single & double angles. Provides all dimensions, weights, moments of inertia, and section modulii; then combines with these structural design programs to eliminate tedious manual calculations. Program accepts user defined properties and specs for other materials. **$295**

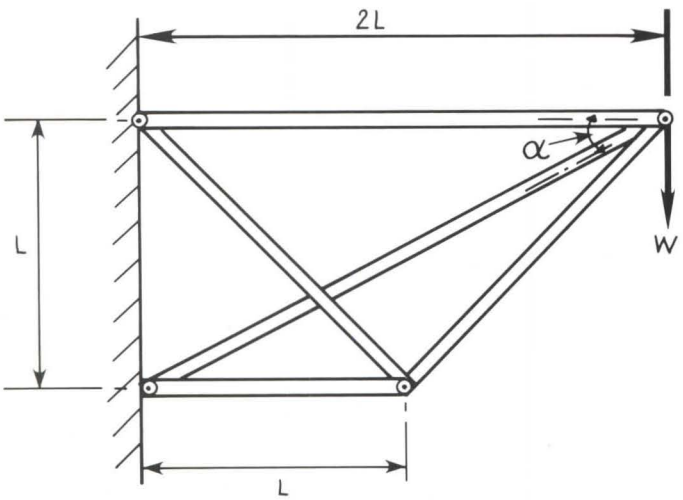


Properties Calculator:

QuickMOMENT — Calculates section properties on demand and inserts them into the structural design programs. If it's a regular shape, just select the type . . . tube, circular, trapezoid, I section, etc., enter the dimensions, and QuickMOMENT will calculate all of the section properties. You can build irregular shapes with contiguous rectangles on the computer monitor **$295**

Complete integrated beam design software package . . . includes QuickBEAM, QuickSHAPE and QuickMOMENT — four 5¼″ disks and user manual . . . . . **$795** (save $90).

Wood property Specifications are also available **$100**



Frame & Truss Design:

QuickFRAME—assists in either 2D or 3D frame and truss designs. Forces and moments may be applied at any joint. Although QuickFRAME uses finite element methods, no special training is required to use the program. QuickFRAME integrates with the Materials Library and the Properties Calculator programs listed above.

QuickFRAME 2D with 300 member capacity **$495**
QuickFRAME 3D with 600 member capacity **$995**

Column Design:

QuickCOLUMN — designs columns with either uniaxial or biaxial loads and any end conditions. Design philosophy complies with AISC codes **$195**

Stress & Strain Solutions:

Solutions for various plate, curved beam, torsional deformation and contact stresses. Plate design considers 38 different design cases with any load or support. Seven contact stress configurations are considered with 18 different cross section deformations **$295**

SATISFACTION GUARANTEED! If you're not completely satisfied with the computing power of any of these programs, just return them within 30 days for full credit or refund.

Order toll-free 800-321-7003

(in Ohio 216/696-7000)

SYSTEM REQUIREMENTS
IBM line of computers or 100% compatibles
PC or MS DOS 2.0 or higher 512K minimum memory
color or enhanced graphics

Penton Education Division
1100 Superior Avenue
Cleveland, Ohio 44114

Now there's more than one way to look at residential sprinklers.

Until now, sprinkler system designers have had a limited choice of residential sprinklers to apply to a wide range of conditions. Viking solves this problem by offering two distinctly different residential sprinkler styles in a variety of colors.

The Microfast® line employs a small frame and a unique slender bulb element in pendent and horizontal sidewall models. Available in chrome, brass & bright brass, white and Navajo white, Microfast residential sprinklers are UL listed. Color-matched flat or special adjustable escutcheons are available for all Microfast sprinklers.

The new Horizon® Residential sprinkler is a visually appealing flush sprinkler design. UL listed, the rugged Horizon Residential is available in chrome, black chrome, bright brass, white and Navajo white with matching adjustable escutcheon ring.

Both Microfast and Horizon Residential sprinklers come in 1/2" or 7/16" orifice sizes in a variety of temperature ranges and provide unmatched quality, appearance, and performance at very competitive prices.

Viking sprinklers and fire protection equipment is distributed nationally through SupplyNet. For more information on Viking's Microfast and Horizon Residential sprinklers, contact your nearest SupplyNet member distributor, call, or write the Viking Corporation, Hastings, Michigan.

VIKING

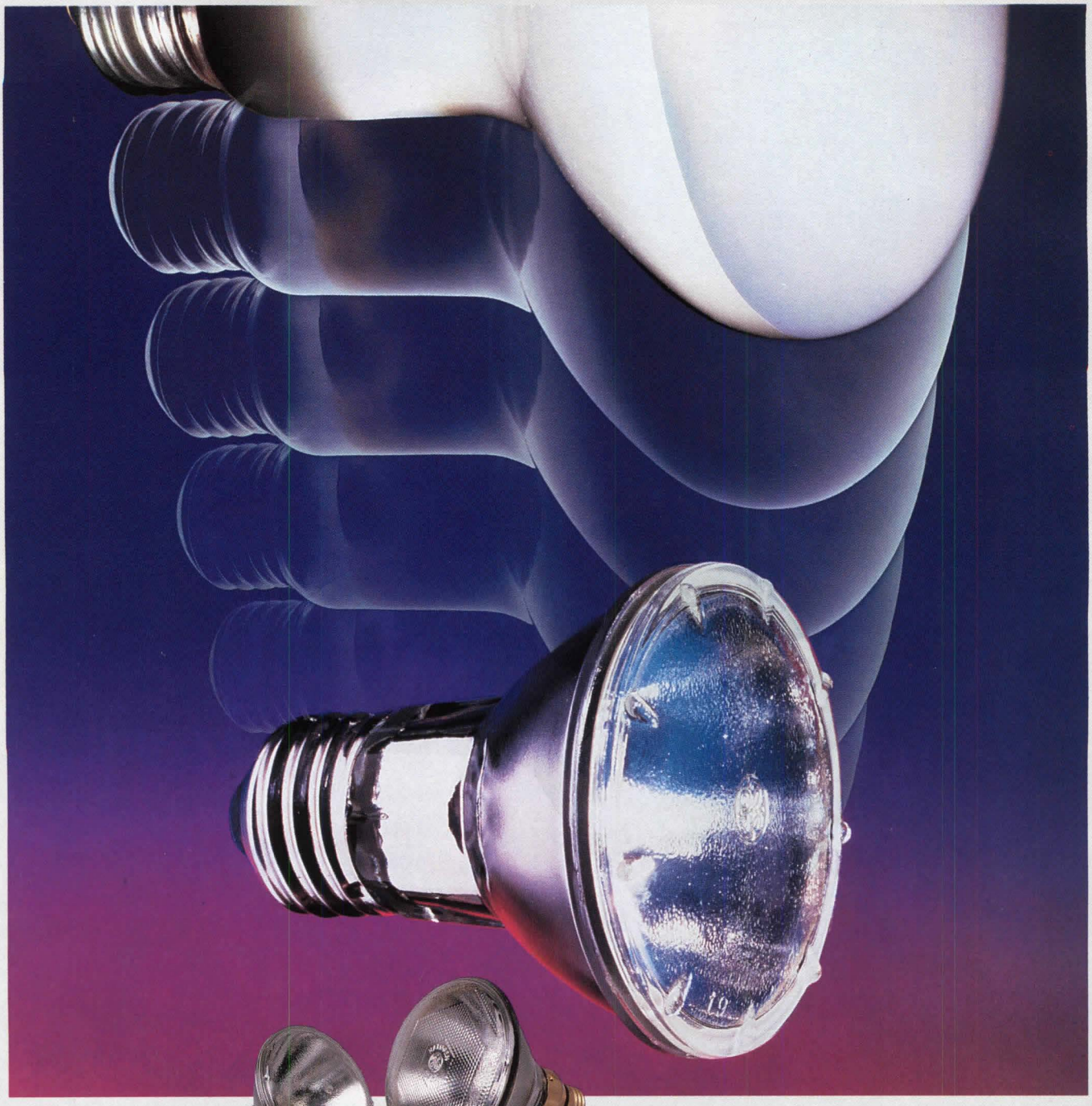
THE VIKING CORPORATION
210 N. INDUSTRIAL PARK ROAD
HASTINGS, MICH., U.S.A. 49058
TELEPHONE (616) 945-9501
CABLE: VIKING TELEX: 22-6400

SN SupplyNet Member Distributors: *Viking Sprinkler Supply,* Fairfield, NJ: Braintree, MA: *Allied Sprinkler Corporation,* New York, NY: *Southland Sprinkler Supply,* Atlanta, GA: Southern FL: Denver, CO: Addison, TX: *Fire Protection Supply Company,* Addison, IL: *Midwest Sprinkler Supply Company,* Columbus, OH: *Sprinkler Contractors Supply,* Fullerton, CA:

Viking Products Are Generally UL Listed, FM Approved or Pending.

Circle **No. 359** on Reader Service Card

GE Is The Light That Delivers Bigger Lighting Punch From A Smaller Lamp.



GE Performance Plus™ Halogen PAR lamps put design flexibility into the spotlight. And the flood.

GE Halogen PAR lamps are now appreciably smaller. So your number of display lighting options is now appreciably bigger.

One such option: Specify GE Performance Plus™ Halogen PAR20 narrow spots instead of 75R30 reflector spots and deliver three times the display light on a third less energy from smaller, less obtrusive fixtures. Flicker-free light that's whiter and crisper for dramatically enhanced colors.

More light, less energy, better colors, smaller fixtures, original design or retrofit. With GE's family of diode-free Performance Plus™ Halogen PAR spots and floods, your options keep adding up.

For more information, call GE's SpecLine toll-free at 800-523-5520.

GE is Light.

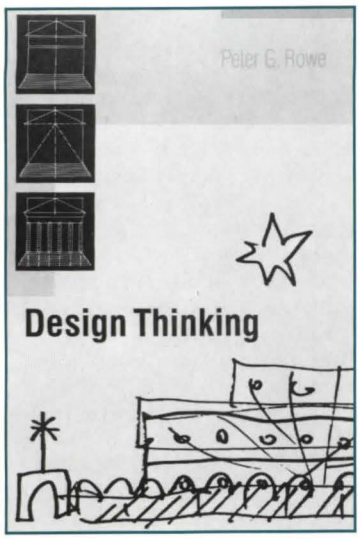
GE Lighting

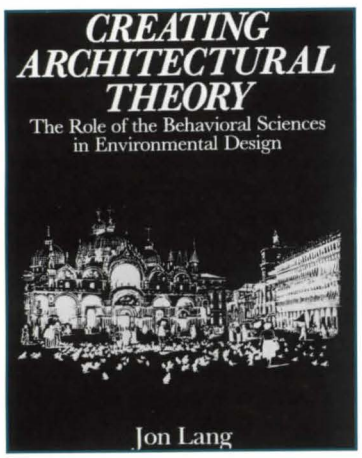
C-906

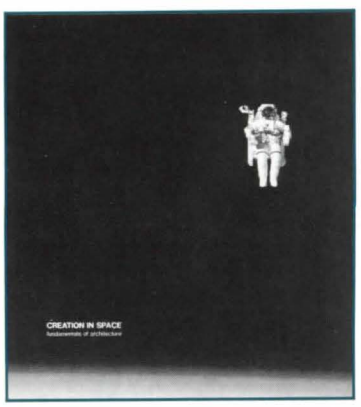
Circle **No. 324** on Reader Service Card

Books

Design Thinking *by Peter G. Rowe. MIT Press, Cambridge, Mass., 1987. 229 pp., illus., $27.50.*
Creating Architectural Theory: The Role of the Behavioral Sciences in Environmental Design *by Jon Lang. Van Nostrand Reinhold, New York, 1987. 352 pp., illus., $39.95.*
Creation in Space: a course in the fundamentals of architecture. volume 1: Architecture *by Jonathan Block Friedman. Kendall/Hunt, Dubuque, Iowa, 1989. 191 pp., illus., $31.95.*







Practice in Theory

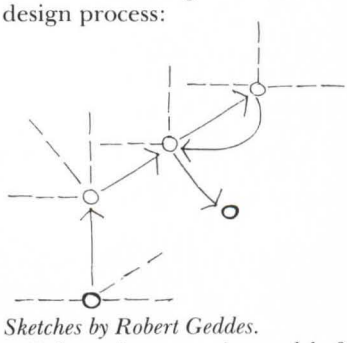
We like travel guides. They lay out territory and outline history—in the hope that we will use them on a trip. In the case of these books, the tour is through the field of architectural theory. However, the terrain is hard to describe: "The theory of architecture" is not a well-bounded field. Architecture is like society: "one work, but infinitely many things."[1] All we can hope for is a range of partial theories and critical insights. These books, by teachers of architecture, are among the best professional guidebooks of recent years.

How useful are they for us, as working architects? Very useful, indeed. They should be part of the practice manual of any office that is serious about design in our society.

Peter Rowe seeks to describe and explain "design thinking"—his term for those "rather private moments of seeking out, on the part of designers, for the purpose of inventing or creating." A patient search, yes. Joyful suffering, yes. Rowe's inquiry is less poetic; he explores the inner logic of designers-in-action that enables them to collaborate in architectural practice with colleagues, managers, other professionals, and, of course, clients. Some of this group see "design" as a "problem-solving process"; Rowe explains that they understand "problem" in a variety of ways. One may have a well-defined problem comparable to a game or puzzle, or an ill-defined problem, akin to a social and cultural situation where the goals and boundaries are not well known at the start.

Much work on the procedures of design was done in the 1960s; it is refreshingly reviewed by Rowe in a way that might contribute to the discourse—and discord—between designers, managers, and clients. Architects' professional service contracts and office practices, typically, embody a staged-process model of linear problem-solving (with a sequence of analysis, synthesis, development, and execution) that grew out of the traditional methods of 19th-Century schools such as the Ecole des Beaux-Arts and the Ecole Polytechnic. They emphasize the "parti" and its development.

But, a more helpful model, Rowe suggests, might be akin to an "information processing" model, which explores how we advance from analysis to synthesis. Our professional work in complex social and technical settings leads us to agree. The process is not simply linear. Indeed, it would help in our relationships with project managers and clients if it were understood that designers switch and return as they work, and use various analogies as guides. Among the most potent devices are literal analogies. For example, an iconic analogy might compare a building to the human body; a canonic analogy might make it a perfect cube or sphere. In an environmental behavioral analogy, one relates the building to the climate, or to the social organization of the users. The typological analogy enables one to make a building with benefit of knowledge from prior solutions, elements of composition, or building types. The tracking through a "problem" is shown in this diagram of the design process:



Sketches by Robert Geddes.

Information processing model of the design process, according to Rowe.

Is this merely "methodolatry"? Alan Colquhoun[2] believed it was, and sparked a countermovement, which dominates Rowe's book. The author explains that the designer is consumed with "knowing-how" as

(continued on next page)

Architecture: A Place for Women ***edited by Ellen Perry Berkeley. Smithsonian Institution Press, Washington, D.C., 1989. 227 pp., paper, $19.95.***
In 22 essays, we learn how women have established their presence in the field of architecture. Several authors contend that sexual equality is not yet a reality; subtle biases pervade the profession.

SITE ***foreword by James Wines; interview by Herbert Muschamp. Rizzoli, New York, 1989. 256 pp., illus., $50.00.***
A "sketchbook" documents work from the past seventeen years, and an interview suggests where James Wines and Alison Sky find inspiration. Their affinities lie with Duchamp and Dadaist art: Mundane buildings, rendered anomalous, become artistic inspiration for the unconscious mind.

George Ranalli: Buildings and Projects. ***Princeton Architectural Press, New York, 1988. 107 pp., illus., paper, $19.95.***
Inside the architect's interiors, one finds a domestic analogy to New York City—looming structures relieved by apertures and projections. The dweller enacts private rituals amid a maze of walls and passages.

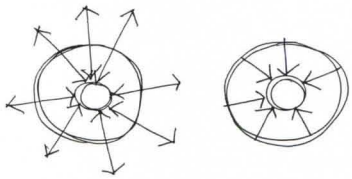
L. A. Follies: Design and Other Diversions in a Fractured Metropolis ***by Sam Hall Kaplan. Cityscape Press, Santa Monica, California, 1989. 239 pp., paper, $9.95.***
Tend Los Angeles with care, advises Kaplan. In essays from the ***Los Angeles Times,*** **he faults politicians and architects who disregard the needs of the typical Angelino. He does not propagate rebellion but writes that Lotus Land's enchantments are fragile and may be disintegrating.**

(continued from page 115)

well as "knowing-what"; his or her choice of organizing principles is shaped by historical and critical perspectives.

Sometimes, the most influential perspectives have been quite doctrinaire statements like "form follows function," or "less is more." Other perspectives have been frameworks, which provide categories for design thinking; these prove more helpful to us in architectural practice. For example, Christian Norberg-Schulz's book, *Intentions in Architecture* (1967) clearly outlined the building task, form, and technics of design practice in our culture. In our professional practice, we have always used "categorical" frameworks for design thinking, with our clients and among ourselves; we seek to make an architecture of "connections" between various disciplines of thought and the diverse fields of practice. According to Rowe, this position means "making architecture that is understandable, intelligible, and useful; thus, congruent with man's needs."

Not everyone agrees with this position, which sees the making of architecture in the light of external visions and connections to man, nature, society, and culture. To cite the position of one contender, Peter Rowe quotes Hans Hollein: "The shape of a building does not evolve out of the material conditions of purpose. A building is itself. Architecture is purposeless." The distinction between architecture and other disciplines is sharply drawn—in education, as well as in practice—and architecture is self-referential and disengaged from social purpose. Architecture is only about architecture. The two positions are now quite distinct.



The two positions of architecture, according to Rowe.

To Jon Lang, this duality exemplifies the contrasts among different types of design theory. He sees the possibilities inherent in an explanatory theory and the limitations of a prescriptive theory. In *Creating Architectural Theory*, Lang attempts to broaden our understanding of the ways behavioral and social sciences have contributed to environmental design theory.

The goal of design, Lang argues, is to solve design problems and enhance human experience. A creative work of design, one that is truly helpful to an individual and society, therefore, can only grow from one's empathy for people and a rich understanding of the environment.

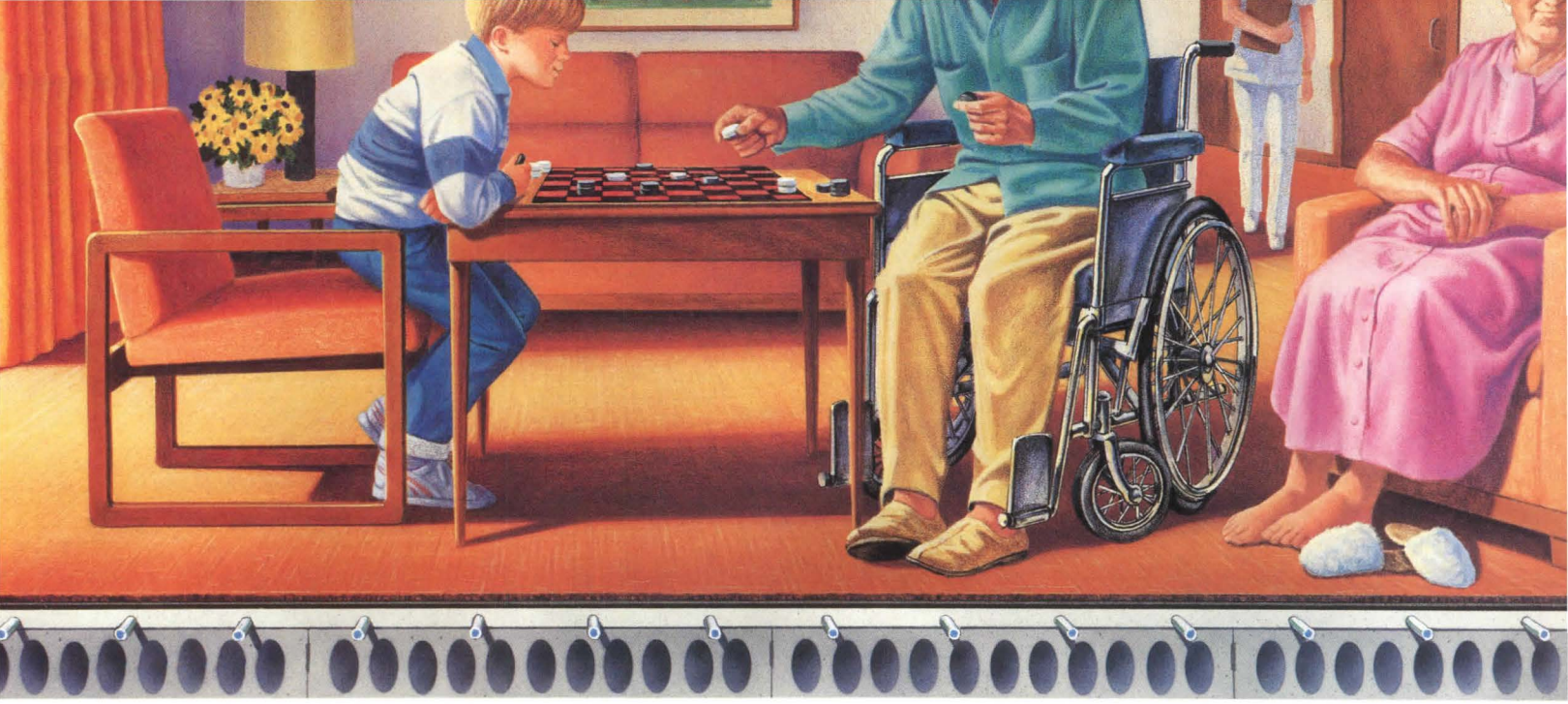
Lang points out that much Modern and Post-Modern design ideology is based on deficient concepts of people and their behavior. A significant gap exists between how we expect things to work and how they really function. It is important, he believes, to design from knowledge rather than belief; he proposes that we apply empirical science to "what is observable." In this way, the behavioral sciences can provide basic knowledge for design, enabling us to build a body of theory that extends far beyond our limited, sometimes only personal beliefs.

Lang suggests a "positive" or predictive theory, "built" with scientific methods that rely on tests, and not simply hypotheses. He hopes to enhance the architect's ability to correlate a designed environment for human behavior with an effective environment that is actually in use. In this type of design practice, one can find guidance in the methods, theories and models of the behavioral sciences.

For the practicing architect, Lang's call for the creation of a "positive" theory represents a challenge. We are all used to working with "normative" theories (as Lang describes them); they prescribe what is to be done in a given situation. By its very nature, "positive" theory cannot provide this "handbook" of guidance. Rather, it demands the commitment to study and understand problems, to generate possibilities and evaluate them as solutions.

In an office, providing adequate study time within project schedules is never easy. However, we have overcome conflicts about budgeting time by employing two aspects of Lang's theory; each is built upon the method of quantifying and understanding "what is observable." In the predesign phase of a project, we rely on the client's experience and our observations of a social institution's continued operation. This social-behavioral input leads to a design with distinct patterns of behavior that can be analyzed by post-occupancy evaluations once the building has been finished. By bracketing the major "design" phases and setting them before and after services are provided, we can

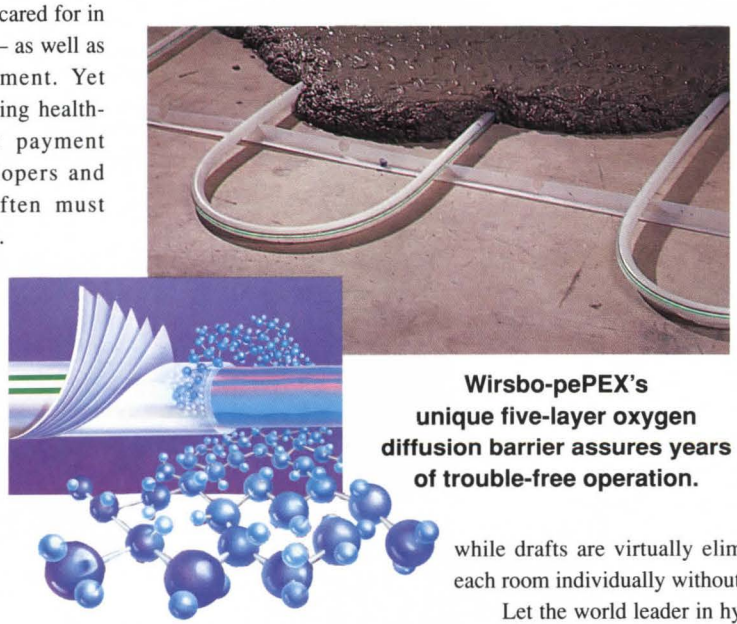
(continued on page 118)



Underfloor Heating Offers Comfort & Care For Health Care

America's aging population presents a complex challenge and opportunity for today's health-care providers. Older people have special needs. They deserve to be cared for in a warm and comfortable — as well as comforting — environment. Yet against a backdrop of rising health-care prices and strict payment controls, facility developers and owner/operators too often must balance care against cost.

A Wirsbo underfloor radiant heating system provides an ideal choice for today's nursing homes, convalescent homes, senior apartment complexes, life-care centers and hospice facilities, as well as medical centers and hospitals. Research demonstrates that radiant heat is the most comfortable form of heating available today. And, a radiant heating system using Wirsbo-pePEX crosslinked polyethylene tubing can cost far less to operate than conventional forced-air systems.



Wirsbo-pePEX's unique five-layer oxygen diffusion barrier assures years of trouble-free operation.

Forced-air works by heating air and then blowing it — often along with dust, germs and odors — into the area to be heated. *Heat is distributed by creating a hot draft.* As hot air rises, the system has to run again and again. Utility bills rise accordingly. For economy and operating efficiency, controls must be centralized even though room sizes and conditions vary. Inevitably, some people are too hot, others too cold.

Underfloor radiant heating is safe, trouble-free, economical and, best of all, comfortable. Distributing heat through the floor allows it to radiate upward evenly and cost-effectively for any size and type of room. Because air doesn't have to move to distribute the heat, dust and contaminants are kept under control while drafts are virtually eliminated. What's more, Wirsbo can zone each room individually without raising installation or operating costs.

Let the world leader in hydronic heating technology show you how to provide true thermal comfort. For information call (612) 469-4800.

Feel The Comfort

WIRSBO

5925 148th STREET WEST • APPLE VALLEY, MN 55124 • (612)469-4800 • FAX (612)469-1657

Circle **No. 364** on Reader Service Card

Statement of Ownership, Management and Circulation of PROGRESSIVE ARCHITECTURE (ISSN 0033-0752) for October 2, 1989 compliance. Published monthly, except twice in October at 1100 Superior Avenue, Cleveland, Ohio 44114 (Cuyahoga County).

The publisher of PROGRESSIVE ARCHITECTURE is Robert J. Osborn; the editor is John Morris Dixon FAIA; and the managing editor is Valerie Kanter Sisca. They are located at 600 Summer Street, Stamford, Connecticut 06904.

PROGRESSIVE ARCHITECTURE is owned by Penton Publishing, Inc., 1100 Superior Avenue, Cleveland, Ohio 44114, a wholly owned subsidiary of Pittway Corporation, 333 Skokie Blvd., North Brook, Illinois 60062.

The known bondholders, mortgagees, and other security holders owning 1% or more of total bonds, mortgages, or other securities are: none.

EXTENT AND NATURE OF CIRCULATION	AVERAGE NO. COPIES EACH ISSUE DURING PRECEDING 12 MONTHS	ACTUAL NO. COPIES OF SINGLE ISSUE PUBLISHED NEAREST TO FILING DATE
A. TOTAL NO. COPIES (*Net Press Run*)	83,961	86,933
B. PAID AND/OR REQUESTED CIRCULATION 1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTER SALES	489	501
2. MAIL SUBSCRIPTION (*Paid and/or requested*)	73,552	73,860
C. TOTAL PAID AND/OR REQUESTED CIRCULATION (*Sum of 10B1 and 10B2*)	74,041	74,361
D. FREE DISTRIBUTION BY MAIL CARRIER OR OTHER MEANS SAMPLES COMPLIMENTARY, AND OTHER FREE COPIES	5,581	7,808
E. TOTAL DISTRIBUTION (*Sum of C and D*)	79,622	82,169
F. COPIES NOT DISTRIBUTED 1. OFFICE USE, LEFT OVER, UNACCOUNTED, SPOILED AFTER PRINTING	4,339	4,764
2. RETURN FROM NEWS AGENTS	0	0
G. TOTAL (*Sum of E, F1 and 2—should equal net press run shown in A*)	83,961	86,933

SUBSCRIPTION RATES

	1 Yr
U.S. (Professional)	$36.
U.S. (Non-professional)	45.

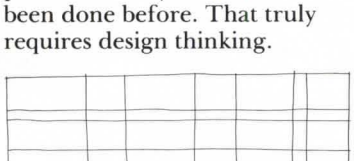
I certify that the statements made by me above are correct and complete.

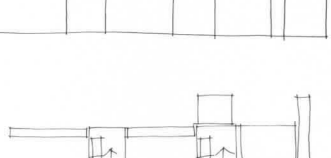
Sal F. Marino, President and CEO, Penton Publishing, Inc.

(continued from page 116)

reduce conflicts about study time and provide the feedback that contributes to the "building" of theory.

Some architects are critical of granting a major role to the behavioral sciences in a theory of design. They argue that it would relegate designers to an instrumental role; they would simply be technicians. Lang replies eloquently: It is the designer's responsibility to consider what might enhance the human experience in ways that have not been done before. That truly requires design thinking.





Design analysis of a building (Children's Seashore House, a rehabilitation hospital in Philadelphia, GBQC Architects, currently under construction), in the spirit of Jonathan Friedman's formal theory and Jon Lang's social-behaviorial theory.

If Jon Lang is a believer in the behavioral sciences, then Jonathan Friedman is a believer in architectonics. In writing *Creation in Space*, he has created a companion to the studio experience for those who "have spatial ideas and visions but lack the means to express, improve or evaluate them."

Friedman's text is organized around six carefully selected topics; he presents design exercises and accompanying texts together, to keep "the mind provoked while the hand develops its skills." The book succeeds admirably. The selected topics are clear enough to permit the text to explore design issues in depth and to offer insightful analysis. In contrast, the design exercises, involving both two- and three-dimensional design, require one to explore and discover. It is both a "handbook" and a "mindbook," emphasizing the search for the "whys" as well as the "how to's."

In correspondence with Rowe and his "information processing" model, Friedman cautions us that the study and practice of architecture requires one "to begin again and again and again." Design has four parts: thinking of issues, projecting ideas, doing, and reflecting. The designer must understand the nature of the problem, be aware of historical precedents, formulate critical intentions, and conceptualize possibilities—in short, one must be a fully engaged architect.

Robert Geddes and James Dill ■

Robert Geddes and James Dill are design principal and associate of Geddes Brecher Qualls Cunningham, Architects, in Princeton and Philadelphia. Former Dean of the Princeton School of Architecture, Geddes is now the Luce Professor of Architecture, Urbanism and History at New York University.

1. John Dewey, *Reconstruction in Philosophy* (Boston: Beacon Press, 1957).
2. Alan Colquhoun, "Typology and Design Method," *Arena*, vol. 83 (June 1967).

After architects learn about Senergy exterior insulation and finish systems, they think twice about using traditional materials like precast, brick and stucco. We have a very simple philosophy. Offer more. More design freedom. More colors. More energy savings. For more of the best call 1-800-221-WALL.

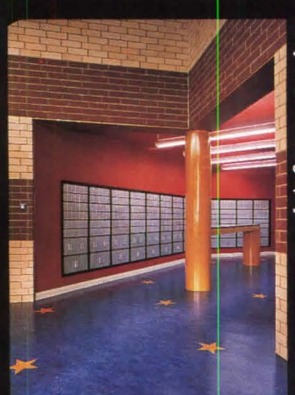
Senergy Inc., 1367 Elmwood Avenue, Cranston, RI 02910

Senergy®

Circle No. 349

To Create Floors With Impact Choose Forbo Linoleum.

Carol Ross Barney, AIA
Ross Barney + Jankowski, Inc.
Chicago, Illinois



Barry Rustin Photography

The banner that is the beauty of "Old Glory" sings throughout a suburban Chicago post office, designed so customers could locate the building easily in a warehouse-filled industrial park.

Inside, all-natural Forbo Linoleum provides the perfect medium to repeat the massive sweep of the Stars 'N Stripes, in a highly resilient floor covering that inlays beautifully without the need for heat welding, and is very easy to maintain.

Originally the architect planned to use terrazzo for the floor. Forbo Linoleum not only came in at about half the cost, it offered a versatile palette of 36 colors that never wear off the surface. Environmentally safe Forbo Linoleum also resists cigarette burns and chemicals, retards fire, is anti-static, anti-bacterial and exceptionally durable, according to international standards.

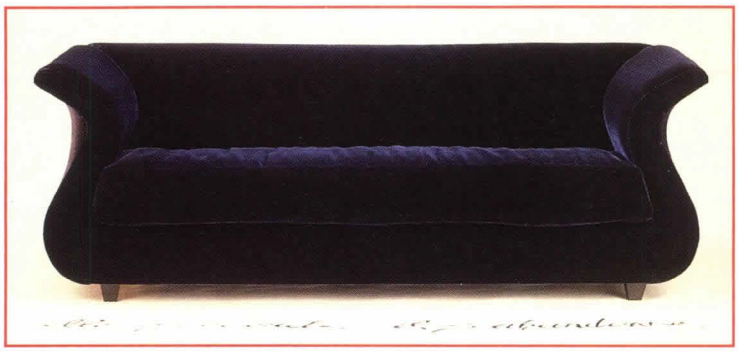
Carol Ross Barney, AIA, is founding principal of Ross Barney + Jankowski, Inc., a Chicago-based architectural firm. For a complete case history and full-color literature on Forbo Linoleum sheet and tile, contact Forbo Floor Coverings—today.

forbo

FORBO FLOOR COVERINGS, INC.
P.O. Box 32155, Richmond, VA 23294
(800) 233-0475 • (804) 747-3714

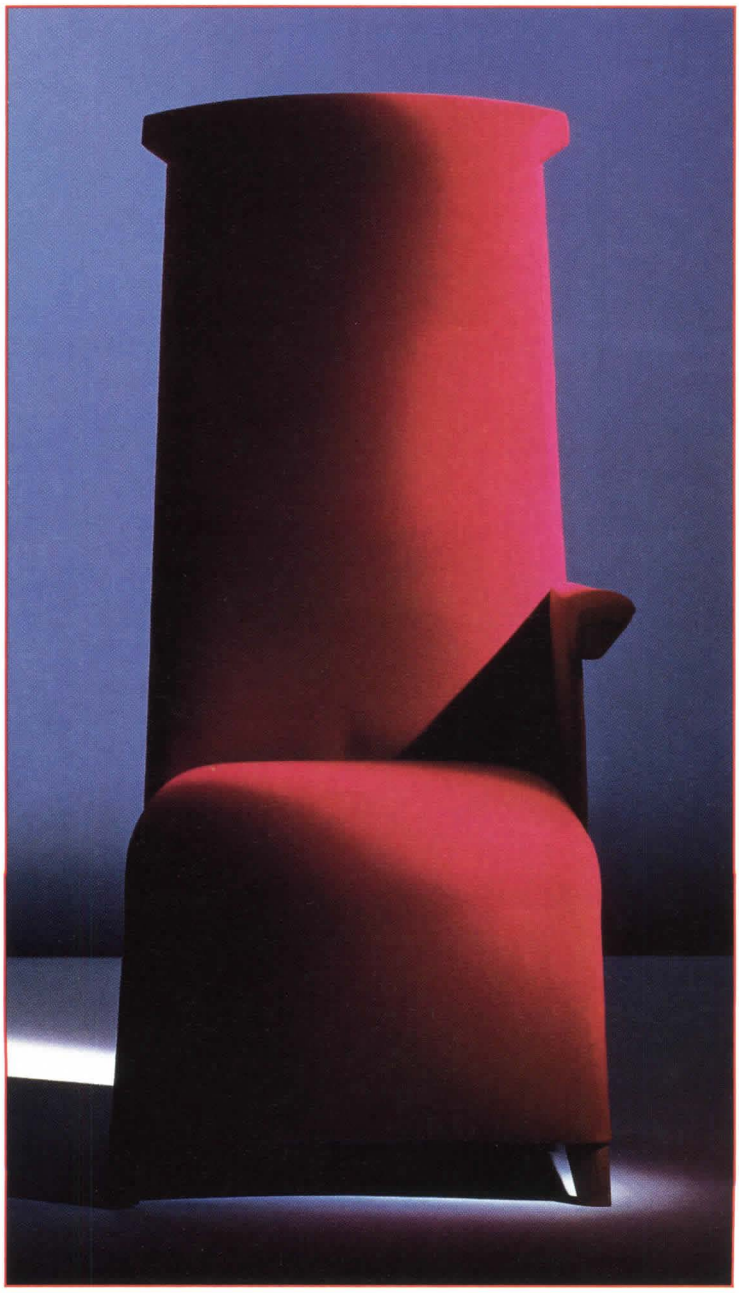
See Our Sweets Catalog
09650/FOM
BuyLine 7258

New Products and Literature



The subtly Rubenesque lines and supple texture of *elle s'écoute il s'abandonne* (right), from The Talking Objects collection, were styled by Sergio and Monique Savarese, New York designers who founded Dialogica, a design and manufacturing firm, in 1988. The designers are concerned with furniture that stirs emotion, that sets up a dialogue with the senses and the body. The sofa is made using traditional upholstery methods (Pirelli webbing is stretched over a hardwood maple frame); it is the contrast of upholstery pulled taut over the sofa back and arms and the loose, wrinkled treatment on the cushion that gives the piece its voluptuous form and poetic nature. The sofa is available in velvet (shown), cotton, or customer's own material; it is 77 inches wide, 31 inches deep, and 28 inches high. Dialogica.

Circle 109 on reader service card

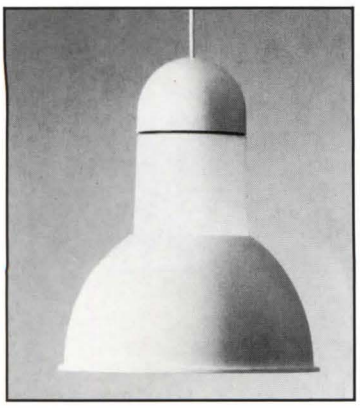


The Manolete chair (right), with its seductive posture and elongated spine, is one of the more expressive designs to come from the contract furniture industry in recent years. Spanish designer Alberto Lievore derived the chair's exaggerated proportions from toreador movements in the bullfighting ring; the chair is named after the famous 1940s Spanish toreador. Qualex foam wrapped in Dacron over a hardwood and plywood frame works to imitate the toreador's hat and stance when entering the ring; the single arm rest (it can be specified with two arms) represents his caped arm. Leather (shown) and a variety of other materials can be specified. Kron U.S.A.

Circle 110 on reader service card

Paris designer Andrée Putman has introduced her first collection of textiles for André Bon. Among the four new fabric designs is "Verone" (above). The deceptively simple striped pattern is given textural and tonal dimension through the integration of two different weaves—alternating ribbons of matte velvet and a "short-napped" satin velvet. The design was conceived, as were the others in the collection—a damask and two printed velvets— for use in both contract and residential applications; to this end, Putman appears to have achieved a successful "transitional" quality. The fabric is 66 percent cotton and 34 percent viscose and is available in nine colorways. André Bon.

Circle 111 on reader service card



This pendant luminaire from the LIMBURG GLASS line is hand-crafted from blown glass and made of three-ply opal glass. It uses incandescent or compact fluorescent light sources. BEGA.
Circle 112 on reader service card

On Call Care Management System has been introduced for use in long-term health care facilities. The system, which connects to in-place nurse call equipment, is a computer-based call identifier/locator and record keeping tool. Protex Central.
Circle 113 on reader service card

A new faucet, Futura™ Model 900, features ACCU-ZONE™ infrared-activated metering control system. Bradley.
Circle 114 on reader service card

A collection of vitreous and nonvitreous modular tiles called COLORSOUND replaces and extends the COLORSYSTEM collection and coordinates with the existing line of bathroom plumbing fixtures. Villeroy & Boch©.
Circle 115 on reader service card

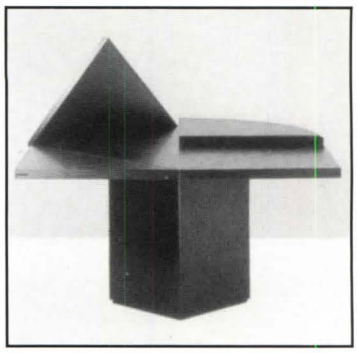
Information on spaceframes from structural system types to application possibilities is included in this catalog. Mero®.
Circle 207 on reader service card

The six side panel offerings of the Silhouette Chair are interchangeable and provide six different cut-out profiles. (This product was incorrectly identified as being from the Philadelphian collection, P/A, Sept. 1989.) HBF.
Circle 116 on reader service card

Standard-sized curved glass bow windows have been introduced and are available in Single Hung or Single Hung/Picture Unit combinations. Marvin Windows.
Circle 117 on reader service card

A variety of louvers, from standard performance to specialty versions, can be specified in several materials, weather-resistant finishes, and other options. Ruskin.
Circle 118 on reader service card

Recessed, edge-lighted exit signs have ultrasonically-welded acrylic panels with a wedge profile. Signs can be mounted in several configurations and specified in a variety of finishes. Lithonia Lighting.
Circle 119 on reader service card



A square top table called "Quadrondo" can be converted into a round surface by folding hinged flaps. Massini.
Circle 120 on reader service card

Two new pen plotters, DMP-61/62 drafting plotters offer "rapid throughput, standard eight-pen configuration, and easy user setup." Houston Instrument.
Circle 121 on reader service card
(continued on page 124)

FLEXCO INTRODUCES ITS NEWEST FLOORING PROGRAM.

Specifying Flexco vinyl and rubber flooring just got a whole lot easier. Order our new SPEC-DATA® floppy disk, and see for yourself. You'll find it all: in tiles, sheets, and treads from no-slip Flex-Tuft and Conductive flooring for hospitals and computer areas, to Radial® raised design flooring. SPEC-DATA brings everything you need to know about Flexco products right to your computer screen; so no more struggling with heavy spec books and catalogues.

SPEC-DATA is available for all IBM PC and PC-compatible word processing programs. To order the SPEC-DATA diskette, fill out and mail the coupon below to Flexco Company, P.O. Box 81368, Atlanta, GA 30366, or call 1 800 633-3151. FLEXCO®

Flexco, make my job easier! Please send me a SPEC-DATA floppy disk today. Flexco Company, P.O. Box 81368, Atlanta, GA 30366.

Name _____

Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone ( ) _____

My hardware is _____

My software is _____

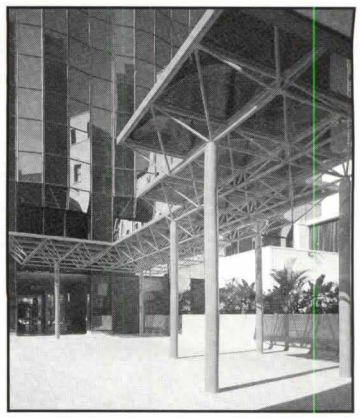
PA-11

F L E X C O

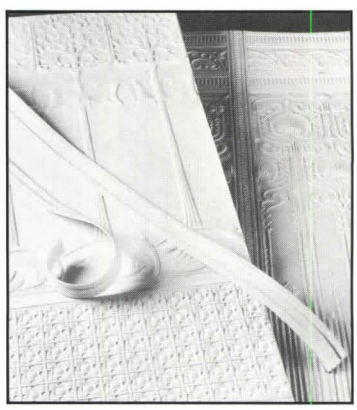
WORKING FLOORS FOR THE WORKING ENVIRONMENT.

Circle No. 320 on Reader Service Card

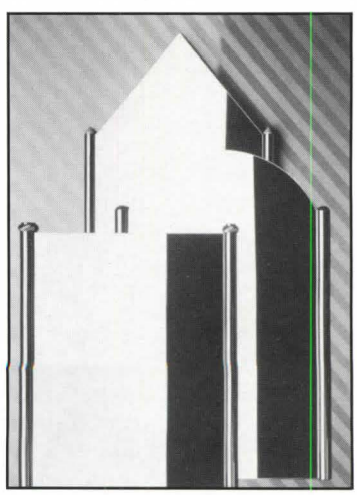
(continued from page 122)



"Harley Systems Space Frames" is the name of a new brochure which includes diagrams and design configurations for the structural system's pre-punched web parts and chords. The Ceco Corporation.
Circle 208 on reader service card



Lincrusta relief wallcoverings, offered in a wide range of designs, are meant to imitate detailed plasterwork and can be painted. Friezes and borders are also available. Mile Hi Crown.
Circle 122 on reader service card



A new line of mirrors has been designed to coordinate with all colors and finishes of the existing line of bath faucets. Dornbracht.
Circle 123 on reader service card
(continued on page 126)

TCS and the Corporate Ediface

In designing the new United Airlines Terminal at O'Hare, Helmut Jahn has made an architectural statement that is memorable for its appearance and exciting in its distinction as one of the most outstanding airport terminals in the world.

So as not to repeat the typical spiritless and dismal environment so common to such facilities, Jahn uses conceptual clarity in the choice and combination of materials.

Happily, TCS (terne-coated stainless) is used to cover the folded roof sections of the Ticketing Pavilion. Already having weathered to an attractive, warm gray, TCS quietly contributes to the overall beauty of the terminal's total visual eloquence.

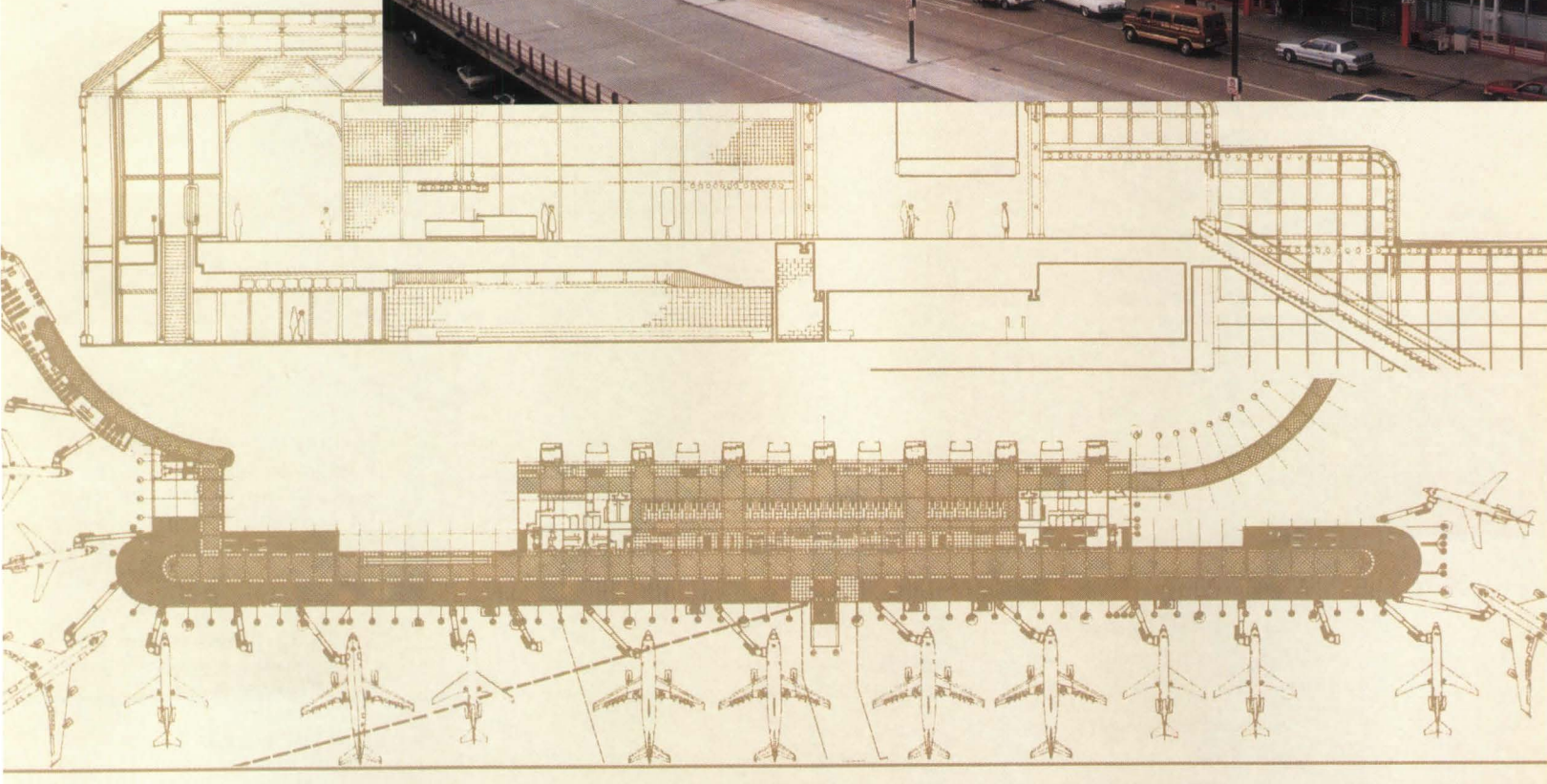
TCS is a unique roofing material. Its finest testimonial is the roster of distinguished architects such as Helmut Jahn who continue to specify it for major projects.

Requiring no maintenance, TCS promises a life span which can be measured in generations rather than years.

We feel that it deserves your consideration whenever metal roofing or weathersealing is specified.

Architects:
Murphy/Jahn,
Chicago, Illinois
Project: United Airlines
Terminal 1 Complex
O'Hare International
Airport
Chicago, Illinois
Roofer: Esko-Young,
Chicago, IL

UNITED AIRLINES



TCS
TERNE COATED STAINLESS

FOLLANSBEE
FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
Call us toll-free 800-624-6906

Circle No. 321

(continued from page 124)

Mirrored bath cabinets are featured in a new catalog, which introduces the RE:Flect Wall Mirror System. Construction and detailing illustrations and product dimensions are included. Robern.
Circle 124 on reader service card

Computer Software

Mechanical and Structural Engineering

As computer-generated design has become an accepted architectural tool, P/A begins a theme-based monthly computer software column to report on the latest technology.

Two new workstation-based software programs, MicasPlus Analysis and MicasPlus Design, allow data to flow between project phases. With MicasPlus ModelDraft, full project integration is offered. Intergraph.
Circle 125 on reader service card

Automatic Digitizing and Recognition system or AUDRE™ can be configured into the user's computer system. Entities are extracted from scanned data and recognized through automated mechanisms. AUDRE™.
Circle 126 on reader service card

A personal computer-based CAD product integrates space planning and facility management tools. Cadam.
Circle 127 on reader service card

Interactive engineering design and drafting software for surveying or civil engineering is modular; coordinate geometry, highways, and Digital Terrain Modeling are some of the modules offered.
D.C.A. Engineering Software.
Circle 128 on reader service card

Integrated graphics and database solutions for applications from engineering information to facility and process plant design and maintenance are available. Auto-trol Technology.
Circle 129 on reader service card

A desktop engineering resource called "Your Engineering Solution"™ for mechanical, structural, and electronic-related inquiries is available through the Information Systems Division's network of engineering VARs and direct support services. Fujitsu America.
Circle 130 on reader service card

(continued on page 128)

OVERNIGHT SENSATION.

OUTDOOR LIGHTING TAKES A DRAMATIC STEP OUT OF THE SHOEBOX.

INTRODUCING POLYGON FROM STAFF.

For years, innovative architects and landscape designers have been literally stuck in a shoebox when it came to choosing site lighting.

Now, with the striking new Polygon, STAFF dramatically changes the entire landscape of outdoor lighting design.

By day, its aerodynamic shape commands attention and smoothly integrates with the most contemporary design environment.

At night, the beauty of Polygon really shines. Narrow slots in its uniquely shaped reflector allow a gentle glow to transform the dark nightscape into an exciting new showcase. Type II or Type III semi-cutoff distribution makes it ideal for courtyards, parking lots, pedestrian malls, parks and building landscapes. And Polygon's dynamic new shape comes in single, double and quadruple pole and wall mounts.

Write, phone or fax now for details about Polygon, and give your latest designs our glowing complements.

STAFF LIGHTING

THE FOURTH DIMENSION OF ARCHITECTURE.™

P.O. Box 1020, Route 9W
Highland, NY 12528
Phone 914-691-6262
Fax 914-691-6289

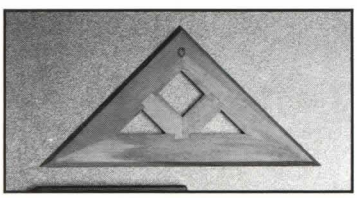
Circle **No. 353** on Reader Service Card

(continued from page 126)

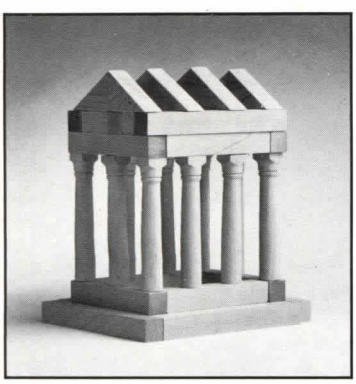
Holiday Designs

Last year's "Design for Giving" was a success (P/A, Dec. 1988). This year P/A runs the section a month earlier to beat the crowds.

Architect Giambattista Nolli's 1748 map of Rome's streets and buildings (82″ x 68″, assembled) is available in facsimile form, printed on acid-free archival paper. J.H. Aronson (914) 254-4176.



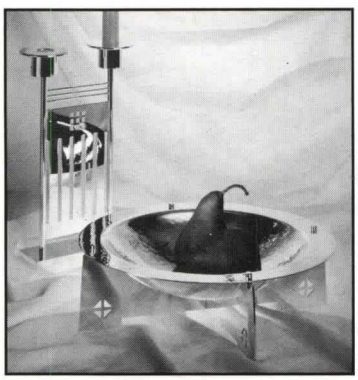
A functional polished pearwood triangle is handmade in Italy by Pierluigi Ghianda. Museum of Modern Art (800) 447-6662.



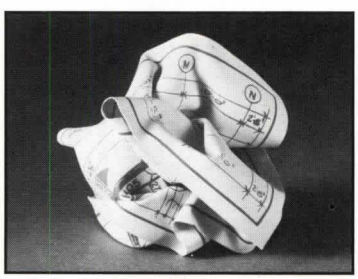
Architectural building blocks called Archiblocks come in styles from Greek to Post-Modern. Sets include a variety of maple pieces. National Building Museum (202) 272-7706.

From Jefferson's Monticello come reproductions of original furnishings as well as tableware, prints, books, and other products. Monticello Thomas Jefferson Memorial Foundation (804) 979-1776.

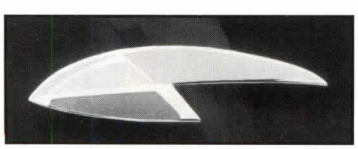
Michael Graves has designed The Archaic Vessel Collection—two vases and a bowl—with inspiration coming from forms and shapes of the Etruscan civilization. Steuben (800) 223-1234.



A hammered, silver-plated bowl designed by Charles Gwathmey and Robert Siegel and Richard Meier's double-barrel candle holder for Swid Powell are two of the products offered in the Chiasso catalog. Chiasso (312) 642-2808.



A 'blueprint' paper weight is made of cast lead and hand-crumpled sheet vinyl by the New York design firm M&Co. for an authentic aesthetic. Chiasso (312) 944-2588 or Rizzoli (212) 759-2424 or (617) 437-0700.



Nickel-plated enameled jewelry has been designed by Italian Bolidist Massimo Iosa-Ghini. ACME Studios (808) 878-2451.

Handmade Mickey Mouse jewelry in cloissone by Ettore Sottsass and others. Disney (800) 237-5751.

Leather desk accessories can be ordered in standard colors or in special leathers, called Vitello or Toscana, in a variety of colors. KnollExtra (800) 848-4400.

Building Materials

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

Lindblade Tower, Culver City, California (p. 74). *Architects: Eric Owen Moss, Culver City.* Split face concrete block: Orco Block. Vitrified clay pipe: Pacific Clay Products. Pre-painted sheet metal: Vincent Metals "ColorKlad." Plaster: LaHabra Stucco. Oriented strand board: Weyerhaeuser. Custom windows and skylight: A-Z Glass. Custom tempered door glass: Tripke Glass. Sectional overhead door: Finishline Industries. Clear sealer (exterior): Okon. Latex/acrylic paint: Sinclair Paints. Concealed hinges: Goss. Mortise locks: Schlage. Vapor-tight exterior lighting: Harvey Hubbell. Fluorescent interior lighting: Supreme Lighting. Lavatories and water closets: American Standard. Washroom accessories: Bobrick. Forced air units and condenser: Carrier.

Paramount Laundry Building, Culver City, California (p. 74). *Architects: Eric Owen Moss, Culver City.* Vitrified clay pipe: Pacific Clay Products. Steel: Airport Iron. Cement plaster: La Habra Stucco. Sheet metal: Marina Sheet Steel. Gypsum board: USG. Steel window frames: Creative Metal Works. Overhead steel door: Porvene Roll-A-Door. Carpet: Emser International. Steel studs, gypsum board: USG. Butt hinges, lever action mortise locks: Schlage. Concealed closers: LCN. Alarm system: Pacific Alarm. Sprinklers: Peterson Fire Protection. Reinforcing bars and steel angles: Tom Farrage & Co. Exterior sign and parking lighting: Kim Lighting. Interior fluorescent lighting: Prudential Lighting. Lavatories, water closets, and fittings: American Standard. Washroom accessories: Bobrick. Sprinklers: Peterson Fire Protection.

Hewitt Associates, Eastern Regional Center, Rowayton, Connecticut (p. 92). *Architects: Krueck & Olsen, Chicago.* Aluminum curtain wall and glass: PPG. Ceramic tile: Dal-Tile. Aluminum doors: PPG. Dock doors: North American Rolling Door. Vinyl tile: Armstrong. Quarry tile: American Olean. Carpet: Lees. Ceiling suspension system: National Rolling Mills. Ceiling tile: Armstrong. Roofing, single ply, and insulation: Carlisle. Toilet compartments: Global. Interior door hinges: Hager. Locksets and door closers: Russwin. Entrance mats: Pedimat. Elevator, hydraulic: Montgomery. Emergency generator: Kohler. Exterior lighting, pole and bollard: Devoe. Compact fluorescent downlights, HID, incandescent: Staff. Electric panels and distribution: Square D. Fluorescents: Metalux. Fire detection system: Edwards. Plumbing fixtures and hardware: Kohler. Flush valves: Sloan. Washroom accessories: Bobrick. Water fountains: Taylor. Sprinkler heads and controls: Reliable. Boiler stack: Van Packer. Fin-tube radiation: Vulcan. Cooling tower: Evapco. Air-handling units: McQuay. Grilles and registers: Carnes. Linear diffusers: Titus. Temperature controls: Barber Colman. Computer room a/c: Liebert. Plastic laminate work stations (desks, tables, shelves): Lamnavision. File pedestals and chairs: Steelcase. Mini-blinds: Bali.

Hewitt Associates, 98 Building, Lincolnshire, Illinois. *Architects: Krueck & Olsen, Chicago.* Metal roofing deck: Wheeling. Insulating glass: Viracon. Glass: Cardinal. Gypsum drywall: USG. Ceramic tile: Dal-Tile. Carpet: Lees. Built-up roofing: Koppers. Curtain wall sealants: Dow Corning. Roof insulation: OCF. Exterior aluminum finish: PPG, Duranar. Cedar finish: Cabots. Interior door hinges: Soss. Locksets: Schlage. Door closers: LCN. Door stops and holders: Glynn-Johnson. Floor mats: Pedimat, Construction Specialties. Elevators, hydraulic: Dover. Emergency generator: Caterpillar. Plumbing fixtures: Kohler. Flush valves: Sloan. Toilet stalls: Knickerbocker. Washroom accessories: Bobrick. Sprinkler heads: Reliable. Water heaters: Rheem. Baseboard fin-tube heating: Sterling. Cooling tower: Marley. Chillers: Trane. A/C controls: Honeywell. Air distribution: Titus. Computer room a/c: Liebert. Mini-blinds: Levolor. ■

Coming Issues

Trends in Houses

After looking at hundreds of houses as we were putting our annual December houses issue together, we began to see, amidst all the superficial diversity, some underlying trends. Modernism, it seems, has come back in a big way, although it is a chastened Modernism, one much more flexible in approach, as the fragmented and vaguely futuristic forms of Frank Gehry's Los Angeles house in the December issue shows. Other Modernist designs in December, such as David Hertz's house in Venice, California, also reveal the greater responsiveness of this work to urban conditions.

Historicism has certainly cast its net wide, with large numbers of houses sporting gabled roofs, arched windows, and columned entries. But the best of this work, such as Leon Krier's Classical tower at Seaside, Florida, pays great attention to scale and proportion and uses traditional materials and details, avoiding the cartoon character of so many houses.

A number of impressive projects stand somewhere between those two poles—Modernist houses that, in various ways, comment upon the history of Modernism. Examples in December include Dan Solomon's interpretation of San Francisco rowhouses in black shingles and perforated metal, Adele Santos's recall of Wright and Aalto in a Japanese house, and Rem Koolhaas's take on the clean forms and bright colors of Dutch Modernism in his Rotterdam house.

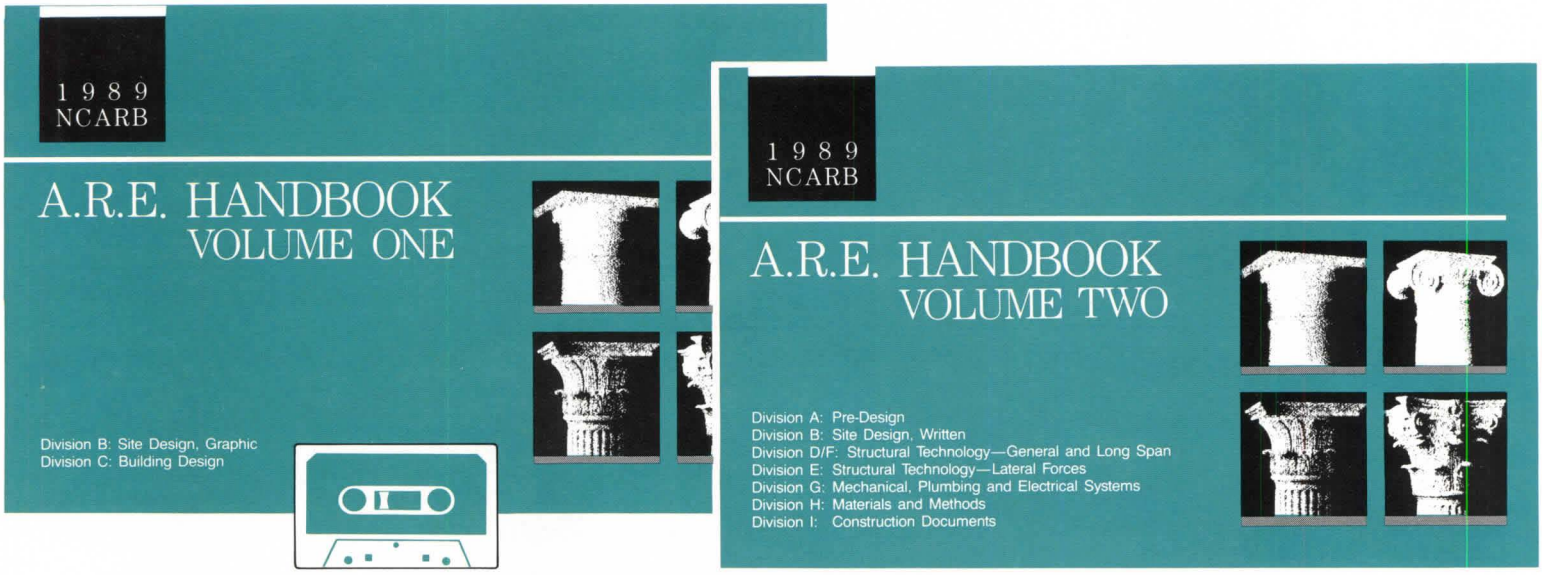
Vernacular buildings of all sorts provided another powerful influence on some of the houses in the December issue. Albin, Vasconcelos & Elisondo bow to the traditional courtyard houses of Mexico in their rambling Mexico City house, while Gerald Maffei nods to agricultural buildings in his design of a spare, metal-clad house in Texas. December, in short, will have something for almost everyone.

P/A Awards Program

The eight jurors in the 37th annual awards program met for two and a half days in P/A's offices in early October. Culling through 788 entries, they premiated less than 3 percent of the total in the three categories of architectural design, urban design, and applied research. It was an exceptionally good jury—articulate, open minded, and outspoken—that represented a variety of points of view. There was, however, a remarkable consistency in the work that they selected, suggesting that, amidst all of the apparent confusion that seems to reign in architecture today, a critical consensus has begun to form. Stay tuned for a January issue full of challenging new work and lots of good commentary.

A.R.E. HANDBOOKS DISCOUNTED!

NCARB Slashes Prices Now Thru December 15!



Now through December 15, 1989, NCARB is drastically reducing the price of the 1989 A.R.E. Handbook. If you're taking the graphic portions of the A.R.E. in December, the A.R.E. Handbook offers a comprehensive overview of what to expect.

Actual design solutions and sample A.R.E. questions give you first-hand knowledge of the A.R.E. An audiocassette of design critiques is included with Volume 1. Follow along point-by-point to understand the practical application of the grading criteria as they are applied to graphic solutions from the 1988 A.R.E.

New up-to-date narratives include developing a strategy to successfully complete the graphic exams as well as current information on new computerized testing technology developed by the NCARB.

Set of 2 was $95
NOW ONLY $60
Vol. 1 was $70
NOW ONLY $45
Vol. 2 was $40
NOW ONLY $25

Order your Handbooks now by sending your check or money order in the correct amount with the order form to the address indicated. You may charge your Handbook on your Visa, MasterCard or American Express. This offer applies only to individual orders and no other discounts apply. Specify a daytime address—no P.O. Boxes, please.

VOLUME 1

(Divisions B, Graphic and C)

- Expert critiques of design solutions from the 1988 A.R.E.
- Strategy for completing the Building Design test
- Contents of the Exam Information Booklets and Juror's Manual
- Updated bibliographies for graphic divisions

VOLUME 2

(Divisions A, B, Written, D/F, E, G, H, I)

- Sample exam questions and answers from previous exams
- Official test information booklets
- Updated bibliographies for written divisions

Order Your Discounted 1989 A.R.E. Handbooks from NCARB!

Detach and mail payment to NCARB, A.R.E. Handbooks, 1735 New York Avenue, N.W., Suite 700, Washington, DC 20006. Make checks payable to NCARB. Delivery takes 1-2 weeks.

Name _____
(Please print)

Company _____
(If applicable)

Address _____
(Daytime—No P.O. Boxes)

City/State/Zip _____

QTY	VOL	PRICE*	TOTAL
	SET	$60	
	VOL. 1	$45	
	VOL. 2	$25	

D.C. residents add 6% sales tax to total.

☐ Payment enclosed

☐ Charge my:

☐ Visa ☐ MasterCard

☐ American Express

_____
Acct. No.

_____
Expiration Date

_____
Signature

NCARB USE—DO NOT WRITE IN THIS SPACE

D/R _____ CK/MO _____

IDP/OK _____ AMT _____

AUTH _____ DUE _____

P

BUTTERFIELD AND BUTTERFIELD

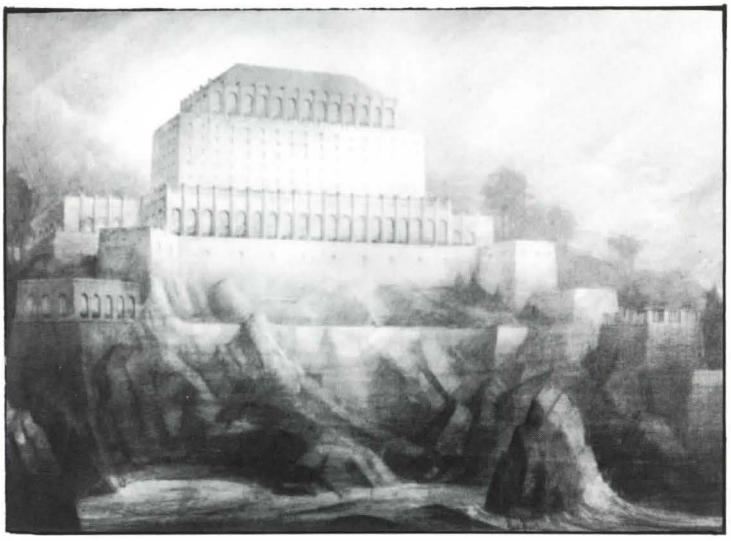
PRESENTS

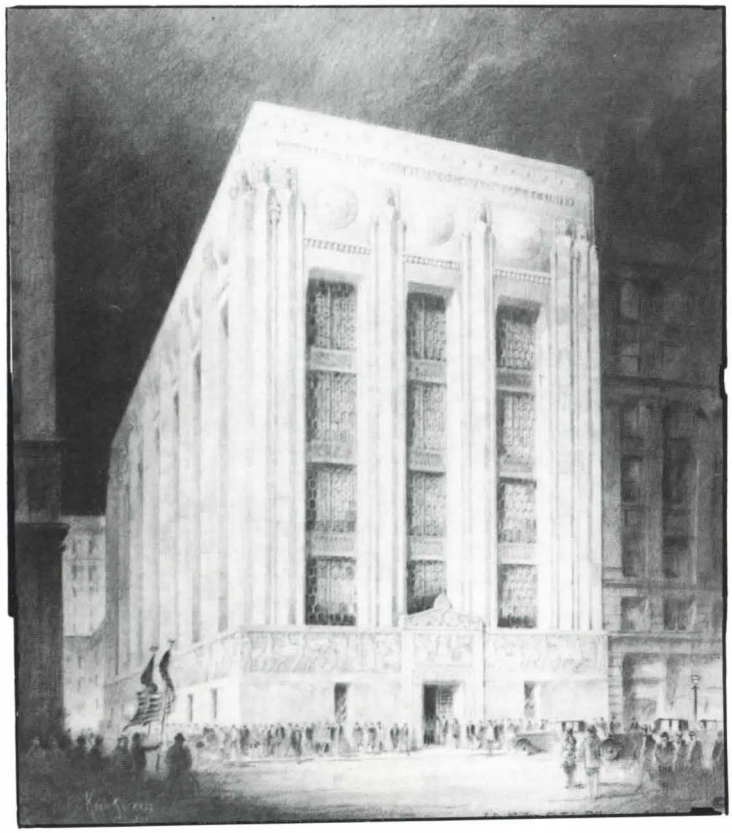
THE JOHN PFLUEGER COLLECTION

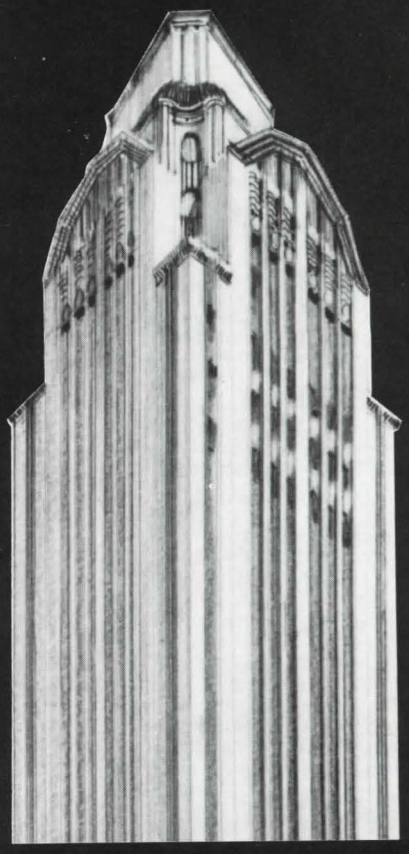
OF ARCHITECTURAL RENDERINGS, MAQUETTES, PHOTOGRAPHS AND PAINTINGS

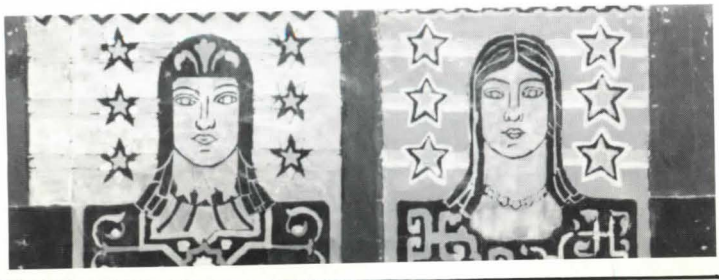
AUCTION

DECEMBER 5th









Butterfield & Butterfield

FOR INFORMATION, PREVIEW DATES, OR TO PURCHASE A FULLY ILLUSTRATED CATALOGUE, PLEASE CALL

415.861.7500 EXT. 236

220 SAN BRUNO AVE. SAN FRANCISCO, CALIFORNIA 94103

Circle No. 314 on Reader Service Card

P/A Job Mart

SITUATIONS OPEN

UNIVERSITY OF NEBRASKA-LINCOLN
College of Architecture
Department of Architecture
Faculty Openings

The Department of Architecture anticipates several tenure-leading Assistant Professorships for the 1990-91 academic year starting next August 20. (Applicants nearing completion of the appropriate terminal degree or having significant professional experience in lieu of the professional degree will be considered for appointment at the rank of Instructor on a non-tenure basis.) Candidates are expected to teach architectural design studios and additional courses in one or more of the following areas of specialization:

Architectural Programming/Post-Occupancy Evaluation The appointee will be expected to teach both graduate and undergraduate design studios which emphasize human behavior as the prime architectural determinant. Will also be expected to give lectures/seminars dealing with theory, methods, research and findings from the social and behavioral sciences as applicable to architectural problem definition, programming, design methods, and building evaluation. Minimum qualifications are a professional degree in architecture and a Master's; preference will be given to candidates with advanced degrees and professional registration.

Building Construction/Professional Practice This appointee will teach and develop courses in building construction, materials and systems, as well as the organizational, legal, and contractual responsibilities of professionals. Minimum qualifications are a professional degree in architecture, a Master's and architectural registration.

Computer Applications This appointee will teach and develop courses in computer applications for architecture. Minimum qualifications are a professional degree in architecture, a Master's and evidence of progress toward architectural registration.

Lighting and Acoustics The successful candidate will demonstrate the ability to teach lighting and acoustics from a technical as well as design perspective. The minimum qualification for this position will be a professional degree in architecture, a Master's and evidence of progress toward architectural registration.

Structural Systems Design Teaching responsibilities will include lectures on the analysis and design of structural elements and systems, with both undergraduate and graduate students. Master's in architecture required and evidence of progress toward professional registration. Experience in structural systems desired.

Candidates will also be expected to pursue exemplary scholarly or creative activities and additionally participate in advising, departmental duties, and service to UNL and community.

Send letter of interest by January 15 (or until suitable candidates apply thereafter) stating the area(s) of specialization for which you are applying, a curriculum vitae and the names of five references with telephone numbers to:

Chair, Search Committee
Department of Architecture
University of Nebraska-Lincoln
Lincoln, Nebraska 68588-0107
(402) 472-3592

Women and minorities are especially encouraged to apply. UNL is committed to Affirmative Action/Equal Opportunity in employment.

YALE UNIVERSITY SCHOOL OF ARCHITECTURE: Seeks applications for one or more senior level positions in architectural design.

DESCRIPTION: Graduate level teaching positions in architectural design beginning September, 1990. Emphasis on design guidance and criticism, with ability to lecture and conduct seminars in architectural theory, urbanism or visual studies.

QUALIFICATIONS, RANK AND SALARY: Advanced degree in architecture/equivalent professional experience, teaching experience and recognized achievements in scholarship and/or practice. The School expects to make either senior level with tenure or senior level adjunct appointments. Fully qualified applicants in the early stages of their careers who give evidence of unusual promise will be considered as well. Rank and salary will be commensurate with qualifications.

APPLICATION DEADLINE: Applications postmarked by 15 December 1989. Applicants should send curriculum vitae and names and addresses of references to:
Alan Plattus, Chairman, Search Committee
School of Architecture, Yale University
180 York Street
New Haven, CT 06520
Please do not send supporting material until specifically requested.

Yale University is an equal opportunity/affirmative action employer.

DESIGNERS/ARCHITECTS

Fastest growing young firm in Taiwan seeks talented designers/architects with 5-7 years of experience to work on highrise office buildings, hotels, and commercial projects. Experience in design development and construction documents required. Salary commensurate with U.S. standards. Two-year contracts negotiable. Be part of the exciting Pacific Rim experience. Send resume and salary history to: Kris Yao, ARTECH Inc., Architects and Designers, Room 605, No. 205, Tunghwa N. Rd., Taipei, Taiwan, R.O.C. Fax (02) 712-4300.

ARCHITECTS

Fox-Morris specializes in the placement of architectural talent with nationally recognized firms. Current openings include:

•PROJECT ARCHITECTS	to $38k
•PROJECT MANAGERS	to $48k
•CAD MANAGER	to $37k

All positions require a degree, registration a strong plus. Fee paid by client firms. For information on these and other opportunities reply in confidence to Chip Saltsman.

FOX-MORRIS
409 Washington Ave, Suite 704
Baltimore, MD 21204
(301) 296-4500

A challenging position is available with a progressive midwestern firm for a top level design Architect. The successful candidate will demonstrate exceptional skill in conceptual design and an enthusiasm for architectural excellence. Individual should be licensed and have a minimum of five years experience. This is a career position that can lead to ownership in a highly respected firm. Compensation is negotiable. Forward resume to: **P.O. Box 55809, Indianapolis, Indiana 46205.**

Midwest based manufacturer of a specialty building product needs a New York City sales person experienced in calling on architects, contractors and end users. A fast growing company with a well received product coupled with an excellent salary and commission package provides a great opportunity. Reply in confidence to Progressive Architecture, Job Mart, Box 527.

ARCHITECTURAL ILLUSTRATORS & DRAFTSMEN

A rare opportunity to join nation's top architectural illustration firm. Several artists positions available in autos, figures, landscaping, interiors and building delineation. Perspective drafting positions available with AutoCAD experience. Salaries to $100,000 + benefits, relocation paid. Send samples (will be returned), resume and salary requirements to: **ART ASSOCIATES, INC., 4635 W. Alexis Road, P.O. Box 8970, Toledo, OH 43623.**

P/A Job Mart

RESUME SERVICES

Professional Resume Services

Complete Resume Preparation
• Cover Letters • Updates • Mailing Services •
Professional, Effective, Confidential

Call 1-800-8-RESUME (anytime)

SITUATIONS WANTED

Prominent Landscape Architecture firm, Portland-Seattle, seeks merge with national multidiscipline firm as regional office in these growth markets and as LA department. Write to: **Progressive Architecture, Job Mart, Box 528.**

TO ANSWER BLIND BOX ADS

Respond to:

Progressive Architecture
Job Mart – (Assigned Number)
P.O. Box 1361
600 Summer Street
Stamford, Connecticut 06904

Advertising Rates

Situation Open advertisements: $180 per column inch, per your layout. Maximum 30 words per column inch. Maximum 6 column inches. Display style advertisements are also available in fractional page units starting at ¼ page and running to full page. Commissionable to recognized advertising agencies. No charge for use of box number.

Situation Wanted advertisements: $75 per column inch. Maximum 30 words per column inch. Non-commissionable. No charge for box number.

Check should accompany the advertisement and be mailed to **Mary Mulach, Progressive Architecture Classifieds, 1100 Superior Ave., Cleveland, OH 44114. Telephone: 216/ 696-7000, Ext. 2584. Ads may be telecopied: 216-696-8765.**

Insertions will be accepted no later than the 1st of the month preceding month of publication. Copy to be set due seven days earlier.

SITUATIONS OPEN

FLORIDA A&M UNIVERSITY. The School of Architecture has several tenure-track positions available beginning Aug., 1990. (Jan. 1990 appts. also possible.) Rank and salary dependent upon experience and qualifications. No.1: Energetic and committed person to provide leadership in teaching and research in the area of environmental technology. No.2: Part-time adjunct appt. for a distinguished practitioner with large-scale building design experience. A one-term or one year visiting appt. may be considered. Nos.3 & 4: Individuals with capabilities in one or more of the following areas—adv. design studio, arch. structures, communication technology, arc. management, environmental psych., and CAD. It is anticipated that positions will be filled well in advance of the Aug. 1990 appt. date. FAMU is an Equal Opportunity/Affirmative Action employer, and the School of Architecture is eager to recruit qualified women and minority candidates. Send vita, letter of application, and the names and addresses of 3 references to: **R.E. Shaeffer, Chr., Faculty Search Committee, School of Architecture, 1936 S. M.L. King Blvd., Florida A&M Univ., Tallahassee, FL 32307.**

ARCHITECTURAL OPPORTUNITIES

We have national openings with well known firms for Architects, Designers and Civil Engineers seeking new career growth and increased income. Call/send resume to: **ACTION EMPLOYMENT AGENCY,** 1913 Sheridan Dr., Buffalo, NY 14223, **(716) 876-3193.**

RECRUIT TOP TALENT

by advertising in the P/A Job Mart.

For rates and closing dates, call Mary Mulach

at (216) 696-7000.

DESIGN MUSEUM

Director

London's Design Museum opened in July 1989. It is a charitable foundation dedicated to the contribution of design to culture and the economy. The Museum comprises a study collection, temporary exhibitions, a review of new products, library and an extensive education programme.

A Director is now sought for early 1990. The successful candidate will be an authoritative figure in the design world. S/he will be responsible to the Trustees for the direction and overall operation of the Museum.

The salary will be up to £40,000. Interviews will be held at the Museum on 4/5 December 1989. Written applications should be sent to: Barry Mason, Administrator, Design Museum, Butlers Wharf, Shad Thames, London SE1 2YD (01 403 6933) by 15 November 1989.

SERVICES

ARCHITECTS - $25,000-100,000 GROUP ONE SEARCH

Executive Architectural Recruiters. Superb positions Nationwide at all levels with Regional and National firms. Confidential. NEVER A FEE. P.O. Box 460010, Denver, CO 80015.
(303)690-3440 or (813)969-0544

COLOR MATERIAL SCHEDULES

Compatible with your C.A.D.D. System—for all building types

Contact:
DESIGN CINCINNATI INTERNATIONAL, INC.
210 Gilman Avenue Cincinnati, Ohio 45219
513-381-0496 Fax: 513-381-2275

RitaSue Siegel Agency™

A recruiting service to find architects, interior, graphic and industrial designers, marketing and sales support people for consultants and business. Confidential. Nationwide, international.

60 W. 55 St., New York, NY 10019
212/586-4750

EDUCATIONAL OPPORTUNITIES

FULLY APPROVED UNIVERSITY DEGREES!! Economical home study for Bachelor's, Master's, Ph.D., **fully approved** by California State Department of Education. Prestigious faculty counsels for independent study and life experience credits (5,100 enrolled students, 500 faculty). **Free information** — Richard Crews, M.D. (Harvard), President, Columbia Pacific University, Department 2A6N, 1415 Third Street, San Rafael, CA 94901. Toll Free: **(800) 227-0119;** California: **(800) 552-5522;** or **(415) 459-1650.**

FAX YOUR ORDER!
To Advertise in Penton Classifieds,

FAX: (216) 696-8765

New store is built in 67 days with Southern Pine components.

There are about 188 Southern Pine parallel chord trusses in each Western Auto store.

Completing a 15,000 square-foot building from slab to move-in often takes three months or more. Western Auto stores in several states are going up in an average of 67 days with Southern Pine lumber components.

This faster completion helps provide additional profits for the owners, contractors, and suppliers because they can move on to the next job sooner.

The contractor reports that the panelized walls, glued laminated girders and Southern Pine roof trusses cost from 10% to 15% less than steel bar joists and concrete. According to Western Auto, the wood component system helps stores open 30 to 60 days sooner than competitive systems. It also makes the buildings more adaptable for future changes and expansions.

Parallel chord Southern Pine trusses span between 26 and 36 feet. Truss supplier Staton Douthit of Associated Systems in Mesquite, Texas, says his firm is "100% Southern Pine" because of pine's additional strength and fastener holding abilities.

Panelized lumber and plywood wall sections offer all-weather construction at lower costs than concrete tilt-up walls. They are registered under the name "Wood Tilt Walls" by Associated Systems.

For more information, contact the Southern Pine Marketing Council.

The cost efficiency of panelized wood roof systems means less construction time. These glued laminated girders span from 27 to 30 feet.

Southern Pine lumber components help Western Auto Stores open 30-60 days sooner.

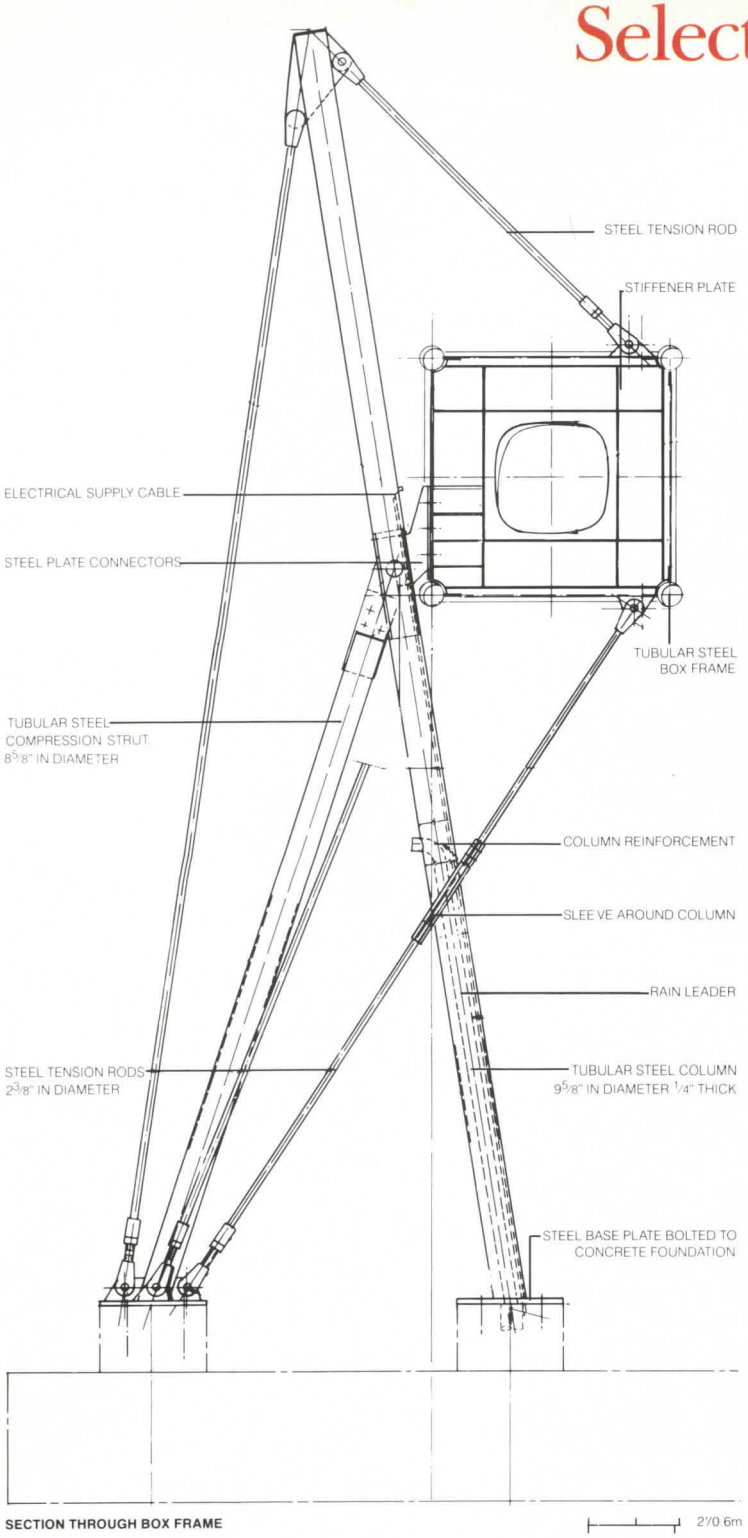
Southern Pine Marketing Council

Southern Forest Products Association
P.O. Box 52468 New Orleans, LA 70152 (504) 443-4464

Southeastern Lumber Manufacturers Association
P.O. Box 1788 Forest Park, GA 30051 (404) 361-1445

Circle **No. 352** on Reader Service Card

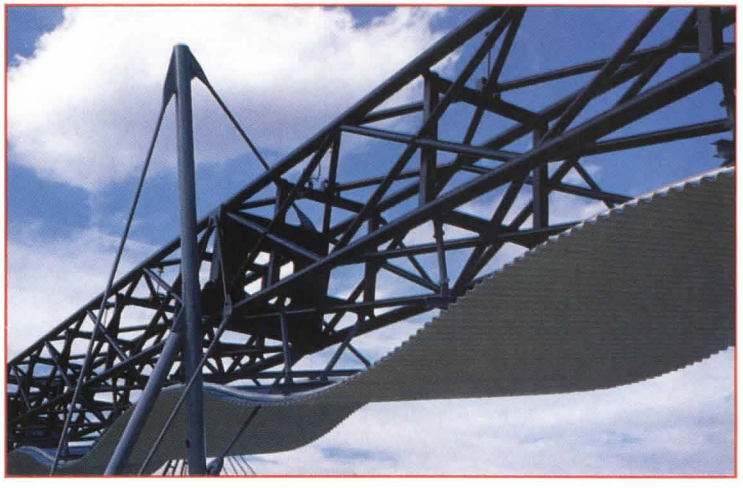
Selected Details



SECTION THROUGH BOX FRAME

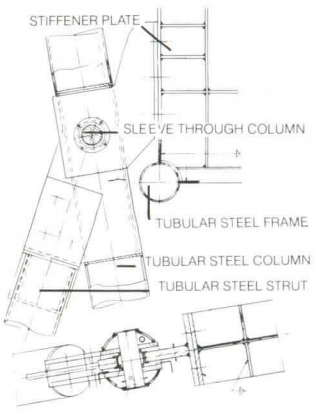
Peter Mauss/Esto

VIEW OF BOX FRAME SHOWING CABLE SUPPORT AND STIFFENER

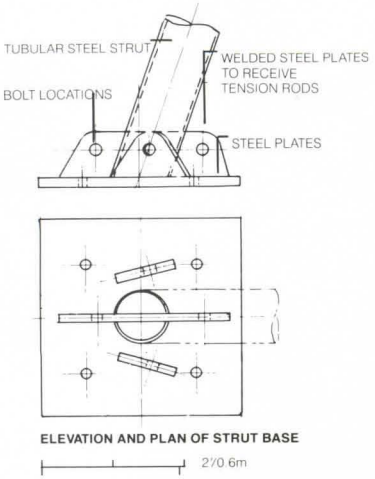


J.M. Monthiers

VIEW OF UNDULATING CANOPY SUSPENDED FROM BOX FRAME



ELEVATION AND PLAN OF COLUMN NODE



ELEVATION AND PLAN OF STRUT BASE

Canopy
Parc de la Villette
Paris

This canopy at La Villette (see p. 65–73) explores what engineer Peter Rice says is "the use of structural form to suggest a kind of structural instability." Along with architect Bernard Tschumi, Rice sought a structure that was "highly biased" to arouse a sense of wonder in its users. The canopy's vertical support consists of a leaning, tubular-steel column that is braced by a smaller steel strut and tension rods that extend to the top of the column. The undulating, corrugated aluminum canopy hangs from a tubular-steel box frame, stiffened by steel plate diaphragms. This box frame is, in turn, supported at the diaphragm locations by the tilted columns, which are connected to it by welded steel plates. Steel tension rods, which are tied back to a concrete pier foundation, also brace the box frame against racking, overturning, and wind uplift. One of the rods holding down the lower outside edge of the frame passes around each column by means of a steel collar. The canopy looks, at first glance, as if it is in a precarious state of imbalance, but further study reveals the care and ingenuity with which it is stabilized and supported. ■

P/A Advertisers' Index

Note: R or W after numbers denotes material that appears in regional editions only.

Advertising Sales Offices

Stamford, Connecticut 06904:
600 Summer Street, P.O. Box 1361
203-348-7531 *Fax 203 348 4023*

Robert J. Osborn
Vice President and Publisher

Richard A. Strachan,
Sales Manager

James J. O'Brien, Thomas K. Healy, Charles B. Selden, *District Managers*

Atlanta, Georgia 30326:
3400 Peachtree Road, NE-Suite 811
Lennox Tower
404-237-5528 *Fax 404 237 1372*
Harmon L. Proctor, *Regional Vice President*
Ronald L. Miller, *District Manager*

Boston, Massachusetts:
600 Summer Street, P.O. Box 1361
Stamford, CT 06904 *203-348-7531*
Thomas K. Healy,
District Manager

Chicago, Illinois 60601:
2 Illinois Center Bldg, Suite 1300
312-861-0880 *Fax 312 861 0874*
Patrick J. Carroll, Brian Keenan
District Managers
Gail Lisac, *Sales Service*

Cleveland, Ohio 44114:
1100 Superior Ave.
216-696-7000 *Fax 216 696 8765*
John F. Kelly, *Western Sales Manager*

Dallas, Texas; St. Louis, Missouri:
2 Illinois Center Bldg, Suite 1300
Chicago, IL 60601
312-861-0880 *Fax 312 861 0874*
Brian Keenan, *District Manager*

Denver, Colorado 80222:
4155 East Jewell, Suite 202
303-753-1901 *Fax 303 692-0219*
Albert Ross, *District Manager*

Los Angeles, California 91436:
16255 Ventura Blvd, Suite 300
818-990-9000 *Fax 818 905 1206*
Michael T. Grennan, *District Manager*

New York, New York 10168:
Chanin Building, Suite 900
122 East 42nd Street
212-867-9191 *Fax 212 867 5893*
James J. O'Brien, *District Manager*
Charles B. Selden, *District Manager*

Philadelphia, Pennsylvania:
600 Summer Street, P.O. Box 1361
Stamford, CT 06904 *203-348-7531*
Charles B. Selden, *District Manager*

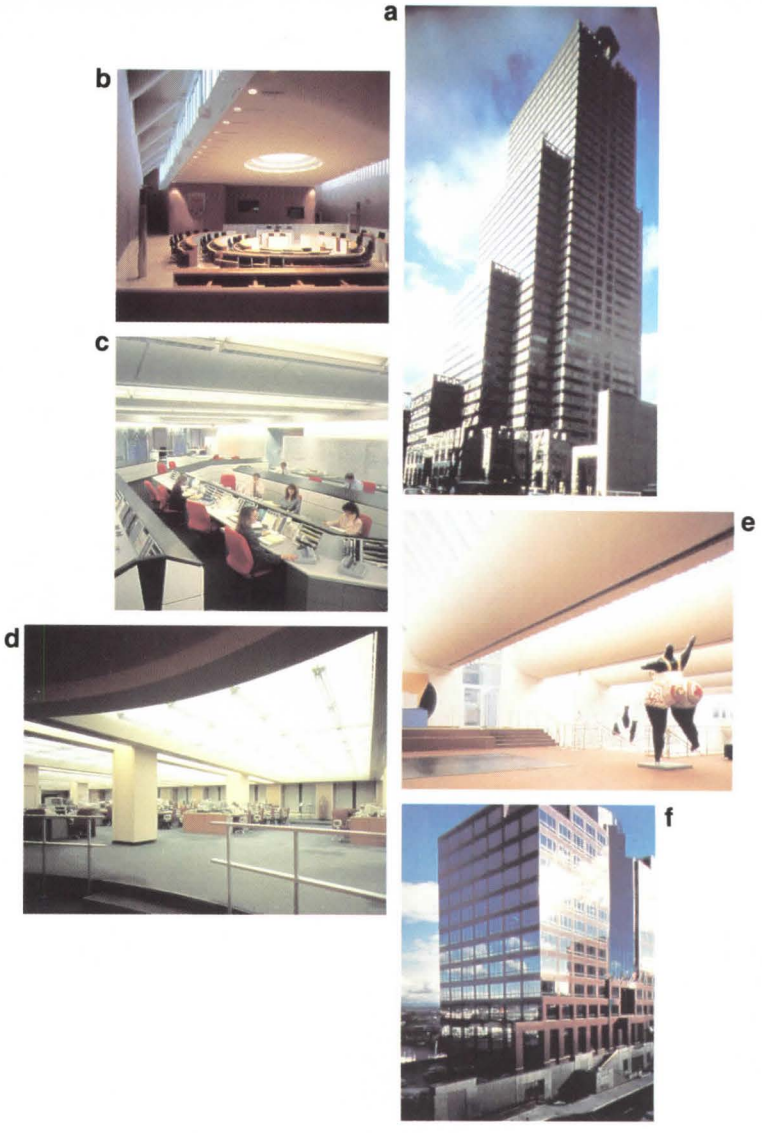
San Francisco, California 94010:
840 Hinckley Road, Suite 233
Burlingame, CA 94010
415-692-1381 *Fax 415 692-7406*
Susan M. Werner, *District Manager*

Italy:
Publizeta
Studio di Pubbicita
Via Corticella, 216/6
40128 Bologna
Telephone: 051/320309-325452
Fax: 051-320309
Roberto Zucchini

Paris, France:
Continental Europe
12 Avenue Franklin-Roosevelt, 75008
Telephone: 43 59 36 06 *Telex: 260717,*
Fax: 43 59 76 70.
Yvonne Melcher, *Manager*

Tokyo, Japan 101:
Bancho Media Service
Dai-Ichi Nisawa Bldg, 5th Fl.
3-1 Kanda Tacho 2-chome
Chiyoda-Ku
Telephone: 03-252-2721
Fax: 011-81-352-2780
Genzo Uchida, *President*

United Kingdom:
Wood Cottage, Shurlock Row
Reading, RG10 OQE, England
Telephone: 0734-343302
Telex 848800 Techno G
Fax 0-734-343848
Malcolm M. Thiele
Managing Director, U.K.



Zumtobel. A company known by the company it keeps.

a I.M. Pei & Partners, Architects,
Commerce Square, Philadelphia.

b Wilhelm Holzbauer, Architect,
State Government Building, Bregenz, Austria.

c Mitchell B. Kohn, Architectural Lighting Consultant,
A. Webster Dougherty, Philadelphia.

d Kohn Pedersen Fox Conway Associates Inc., Architects,
Bear, Stearns Co. Inc., New York.

e Hans T. von Malotki, Lighting Designer,
Wallraf-Richartz Museum, Cologne, West Germany.

f Wyatt Stapper Architects,
The Russel Building, Tacoma.

Zumtobel Lighting is now in America, ready to provide specifiers with the resources that have made it the choice of the world's finest architects, designers, and lighting consultants.

Luminaires that far exceed U.S. standards, a state-of-the-art manufacturing facility in Garfield, New Jersey, and unequalled advisory and support services make us the one lighting company in America best-suited to fulfill the unique vision of the discriminating U.S. specifier.

ZUMTOBEL

LIGHTING THE WAY

For further information and the name of your local Zumtobel Sales Representative, please contact us at: Zumtobel Lighting, 141 Lanza Avenue, Garfield, NJ 07026 FAX 201 340-9898.

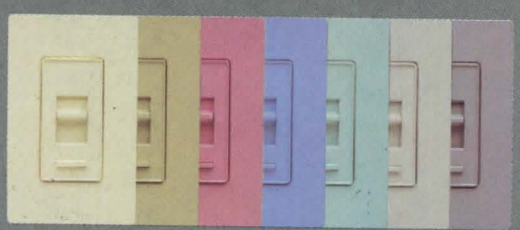
Circle **No. 366** on Reader Service Card

Lutron announces new Educational Seminars
Call today for 1990 brochure

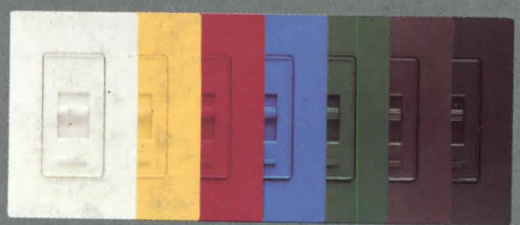
LUMÉA™

Distinctive Lighting Controls and Accessories

14 colorful choices..



7 Pastel Colors



7 Primary Colors

Decorate your home with Luméa – a complete family of:

- Slide Dimmers
- Switches
- Receptacles
- Phone and Cable TV Jacks

Luméa...the finishing touch

Call toll-free for your authorized Luméa Showroom or Distributor
(800) 523-9466, Ext 429 (USA)
(800) 222-4509, Ext 429 (PA)

Or write:
Lutron Customer Service
205 Suter Road
Coopersburg, PA 18036

LUTRON®

Circle No. 339 on Reader Service Card